



**Hewlett Packard**  
Enterprise

## **HPE ProLiant DL385 Gen11 Server Maintenance and Service Guide**

Part Number: 30-84BA596C-002  
Published: April 2023  
Edition: 2

# HPE ProLiant DL385 Gen11 Server Maintenance and Service Guide

## Abstract

This document is for the person who installs, administers, and troubleshoots servers and storage systems. Hewlett Packard Enterprise assumes you are qualified in the servicing of computer equipment, trained in recognizing hazards in products with hazardous energy levels, and are familiar with the weight and stability precautions for rack installations

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## Revision history

Part number	Publication date	Edition	Summary of changes
30-84BA596C-002	April 2023	2	<ul style="list-style-type: none"><li>In the <a href="#">System components</a> topic, added the E3.S drive and the power distribution board to the image and the table.</li><li>In the <a href="#">Server options</a> topic, added GPU riser.</li><li>Updated the following spare part topics:<ul style="list-style-type: none"><li><a href="#">Drive backplane spare parts</a></li><li><a href="#">Drive cable spare parts</a></li><li><a href="#">Riser board spare parts</a></li></ul></li><li>Added the <a href="#">Power distribution board spare parts</a> topic.</li><li>Added the following preparation procedures:<ul style="list-style-type: none"><li><a href="#">Remove the middle cover</a></li><li><a href="#">Remove the front GPU cage</a></li></ul></li><li>Added the following replacement procedures:<ul style="list-style-type: none"><li><a href="#">Removing and replacing the power distribution board</a></li></ul></li></ul>

Part number	Publication date	Edition	Summary of changes
			<ul style="list-style-type: none"> <li>○ <a href="#">Removing and replacing the GPU from the front GPU riser cage</a></li> <li>○ <a href="#">Removing and replacing the GPU riser</a></li> <li>○ <a href="#">Removing and replacing the 12 E3.S drive backplane</a></li> <li>● Updated the <a href="#">Removing the system board assembly</a> topic.</li> <li>● Added the following topics: <ul style="list-style-type: none"> <li>○ <a href="#">EDSFF SSD LED definitions</a></li> <li>○ <a href="#">E3.S drive bay numbering</a></li> <li>○ <a href="#">GPU configuration drive bay numbering</a></li> <li>○ <a href="#">E3.S drive cabling</a></li> <li>○ <a href="#">GPU cabling</a></li> <li>○ <a href="#">GPU riser cabling</a></li> </ul> </li> <li>● In the <a href="#">Front panel components</a> topic: <ul style="list-style-type: none"> <li>○ Added images and tables for the following drive configurations: <ul style="list-style-type: none"> <li>- 48 SFF drive configuration</li> <li>- 24 E3.S drive configuration</li> <li>- 36 E3.S drive configuration</li> <li>- GPU configuration</li> </ul> </li> </ul> </li> <li>● In the <a href="#">Rear panel components</a> topic, added a table and rear panel image with four power supplies.</li> <li>● In the <a href="#">System board components</a> topic, changed the location of the system maintenance switch.</li> <li>● In the <a href="#">Riser board components</a> topic, added GPU riser.</li> <li>● In the <a href="#">Riser slot numbering</a> topic, added GPU riser configuration.</li> <li>● In the <a href="#">SFF drive bay numbering</a> topic, added 48 SFF drive configuration.</li> <li>● In the <a href="#">Fan and heatsink requirements</a>, updated the table to include 48 SFF drive configuration, E3.S drive configuration, and GPU configuration.</li> <li>● Added E3.S drive and GPU cabling to the following topics: <ul style="list-style-type: none"> <li>○ <a href="#">Cabling diagrams</a></li> <li>○ <a href="#">Drive power cabling</a></li> </ul> </li> <li>● Updated the <a href="#">OCP bandwidth upgrade cabling</a> topic.</li> </ul>

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## Customer self repair

Hewlett Packard Enterprise products are designed with many Customer Self Repair (CSR) parts to minimize repair time and allow for greater flexibility in performing defective parts replacement. If during the diagnosis period Hewlett Packard Enterprise (or Hewlett Packard Enterprise service providers or service partners) identifies that the repair can be accomplished by the use of a CSR part, Hewlett Packard Enterprise will ship that part directly to you for replacement. There are two categories of CSR parts:

- **Mandatory**—Parts for which customer self repair is mandatory. If you request Hewlett Packard Enterprise to replace these parts, you will be charged for the travel and labor costs of this service.
- **Optional**—Parts for which customer self repair is optional. These parts are also designed for customer self repair. If, however, you require that Hewlett Packard Enterprise replace them for you, there may or may not be additional charges, depending on the type of warranty service designated for your product.



**NOTE:** Some Hewlett Packard Enterprise parts are not designed for customer self repair. In order to satisfy the customer warranty, Hewlett Packard Enterprise requires that an authorized service provider replace the part. These parts are identified as "No" in the Illustrated Parts Catalog.

Based on availability and where geography permits, CSR parts will be shipped for next business day delivery. Same day or four-hour delivery may be offered at an additional charge where geography permits. If assistance is required, you can contact the Hewlett Packard Enterprise Support Center and a technician will help you over the telephone or by electronic means. Hewlett Packard Enterprise specifies in the materials shipped with a replacement CSR part whether a defective part must be returned to Hewlett Packard Enterprise. In cases where it is required to return the defective part to Hewlett Packard Enterprise, you must ship the defective part back to Hewlett Packard Enterprise within a defined period of time, normally five (5) business days. The defective part must be returned with the associated documentation in the provided shipping material. Failure to return the defective part may result in Hewlett Packard Enterprise billing you for the replacement. With a customer self repair, Hewlett Packard Enterprise will pay all shipping and part return costs and determine the courier/carrier to be used.

For more information about the Hewlett Packard Enterprise CSR program, contact your local service provider.

### Parts only warranty service

Your Hewlett Packard Enterprise Limited Warranty may include a parts only warranty service. Under the terms of parts only warranty service, Hewlett Packard Enterprise will provide replacement parts free of charge.

For parts only warranty service, CSR part replacement is mandatory. If you request Hewlett Packard Enterprise to replace these parts, you will be charged for the travel and labor costs of this service.

### Réparation par le client (CSR)

Les produits Hewlett Packard Enterprise comportent de nombreuses pièces CSR (Customer Self Repair = réparation par le client) afin de minimiser les délais de réparation et faciliter le remplacement des pièces défectueuses. Si pendant la période de diagnostic, Hewlett Packard Enterprise (ou ses partenaires ou mainteneurs agréés) détermine que la réparation peut être effectuée à l'aide d'une pièce CSR, Hewlett Packard Enterprise vous l'envoie directement. Il existe deux catégories de pièces CSR :

- **Obligatoire**—Pièces pour lesquelles la réparation par le client est obligatoire. Si vous demandez à Hewlett Packard Enterprise de remplacer ces pièces, les coûts de déplacement et main d'œuvre du service vous seront facturés.
- **Facultatif**—Pièces pour lesquelles la réparation par le client est facultative. Ces pièces sont également conçues pour permettre au client d'effectuer lui-même la réparation. Toutefois, si vous demandez à Hewlett Packard Enterprise de remplacer ces pièces, l'intervention peut ou non vous être facturée, selon le type de garantie applicable à votre produit.

**REMARQUE:** Certaines pièces Hewlett Packard Enterprise ne sont pas conçues pour permettre au client d'effectuer lui-même la réparation. Pour que la garantie puisse s'appliquer, Hewlett Packard Enterprise exige que le remplacement de la pièce soit effectué par un Mainteneur Agréé. Ces pièces sont identifiées par la mention "Non" dans le Catalogue illustré.

Les pièces CSR sont livrées le jour ouvré suivant, dans la limite des stocks disponibles et selon votre situation géographique. Si votre situation géographique le permet et que vous demandez une livraison le jour même ou dans les 4 heures, celle-ci vous sera facturée. Pour toute assistance, appelez le Centre d'assistance Hewlett Packard Enterprise pour qu'un technicien vous aide au téléphone. Dans les documents envoyés avec la pièce de rechange CSR, Hewlett Packard Enterprise précise s'il est nécessaire de lui retourner la pièce défectueuse. Si c'est le cas, vous devez le faire dans le délai indiqué, généralement cinq (5) jours ouvrés. La pièce et sa documentation doivent être retournées dans l'emballage fourni. Si vous ne retournez pas la pièce défectueuse, Hewlett Packard Enterprise se réserve le droit de vous facturer les coûts de remplacement. Dans le cas d'une pièce CSR, Hewlett Packard Enterprise supporte l'ensemble des frais d'expédition et de retour, et détermine la société de courses ou le transporteur à utiliser.

Pour plus d'informations sur le programme CSR de Hewlett Packard Enterprise, contactez votre Mainteneur Agréé local.

## Service de garantie "pièces seules"

Votre garantie limitée Hewlett Packard Enterprise peut inclure un service de garantie "pièces seules". Dans ce cas, les pièces de rechange fournies par Hewlett Packard Enterprise ne sont pas facturées.

Dans le cadre de ce service, la réparation des pièces CSR par le client est obligatoire. Si vous demandez à Hewlett Packard Enterprise de remplacer ces pièces, les coûts de déplacement et main d'œuvre du service vous seront facturés.

## Riparazione da parte del cliente

Per abbreviare i tempi di riparazione e garantire una maggiore flessibilità nella sostituzione di parti difettose, i prodotti Hewlett Packard Enterprise sono realizzati con numerosi componenti che possono essere riparati direttamente dal cliente (CSR, Customer Self Repair). Se in fase di diagnostica Hewlett Packard Enterprise (o un centro di servizi o di assistenza Hewlett Packard Enterprise) identifica il guasto come riparabile mediante un ricambio CSR, Hewlett Packard Enterprise lo spedisce direttamente al cliente per la sostituzione. Vi sono due categorie di parti CSR:

- **Obbligatorie**—Parti che devono essere necessariamente riparate dal cliente. Se il cliente ne affida la riparazione ad Hewlett Packard Enterprise, deve sostenere le spese di spedizione e di manodopera per il servizio.
- **Opzionali**—Parti la cui riparazione da parte del cliente è facoltativa. Si tratta comunque di componenti progettati per questo scopo. Se tuttavia il cliente ne richiede la sostituzione ad Hewlett Packard Enterprise, potrebbe dover sostenere spese aggiuntive a seconda del tipo di garanzia previsto per il prodotto.

**NOTA:** alcuni componenti Hewlett Packard Enterprise non sono progettati per la riparazione da parte del cliente. Per rispettare la garanzia, Hewlett Packard Enterprise richiede che queste parti siano sostituite da un centro di assistenza autorizzato. Tali parti sono identificate da un "No" nel Catalogo illustrato dei componenti.

In base alla disponibilità e alla località geografica, le parti CSR vengono spedite con consegna entro il giorno lavorativo seguente. La consegna nel giorno stesso o entro quattro ore è offerta con un supplemento di costo solo in alcune zone. In caso di necessità si può richiedere l'assistenza telefonica di un addetto del centro di supporto tecnico Hewlett Packard Enterprise. Nel materiale fornito con una parte di ricambio CSR, Hewlett Packard Enterprise specifica se il cliente deve restituire dei componenti. Qualora sia richiesta la resa ad Hewlett Packard Enterprise del componente difettoso, lo si deve spedire ad Hewlett Packard Enterprise entro un determinato periodo di tempo, generalmente cinque (5) giorni lavorativi. Il componente difettoso deve essere restituito con la documentazione associata nell'imballaggio di spedizione fornito. La mancata restituzione del componente può comportare la fatturazione del ricambio da parte di Hewlett Packard Enterprise. Nel caso di riparazione da parte del cliente, Hewlett Packard Enterprise sostiene tutte le spese di spedizione e resa e sceglie il corriere/vettore da utilizzare.

Per ulteriori informazioni sul programma CSR di Hewlett Packard Enterprise, contattare il centro di assistenza di zona.

## Servizio di garanzia per i soli componenti

La garanzia limitata Hewlett Packard Enterprise può includere un servizio di garanzia per i soli componenti. Nei termini di garanzia del servizio per i soli componenti, Hewlett Packard Enterprise fornirà gratuitamente le parti di ricambio.

Per il servizio di garanzia per i soli componenti è obbligatoria la formula CSR che prevede la riparazione da parte del cliente. Se il cliente invece richiede la sostituzione ad Hewlett Packard Enterprise dovrà sostenere le spese di spedizione e di manodopera per il servizio.

## Customer Self Repair

Hewlett Packard Enterprise Produkte enthalten viele CSR-Teile (Customer Self Repair), um Reparaturzeiten zu minimieren und höhere Flexibilität beim Austausch defekter Bauteile zu ermöglichen. Wenn Hewlett Packard Enterprise (oder ein Hewlett Packard Enterprise Servicepartner) bei der Diagnose feststellt, dass das Produkt mithilfe eines CSR-Teils repariert werden kann, sendet Ihnen Hewlett Packard Enterprise dieses Bauteil zum Austausch direkt zu. CSR-Teile werden in zwei Kategorien unterteilt:

- **Zwingend**—Teile, für die das Customer Self Repair-Verfahren zwingend vorgegeben ist. Wenn Sie den Austausch dieser Teile von Hewlett Packard Enterprise vornehmen lassen, werden Ihnen die Anfahrt- und Arbeitskosten für diesen Service berechnet.
- **Optional**—Teile, für die das Customer Self Repair-Verfahren optional ist. Diese Teile sind auch für Customer Self Repair ausgelegt. Wenn Sie jedoch den Austausch dieser Teile von Hewlett Packard Enterprise vornehmen lassen möchten, können bei diesem Service je nach den für Ihr Produkt vorgesehenen Garantiebedingungen zusätzliche Kosten anfallen.

**HINWEIS:** Einige Hewlett Packard Enterprise Teile sind nicht für Customer Self Repair ausgelegt. Um den Garantieanspruch des Kunden zu erfüllen, muss das Teil von einem Hewlett Packard Enterprise Servicepartner ersetzt werden. Im illustrierten Teilekatalog sind diese Teile mit „No“ bzw. „Nein“ gekennzeichnet.

CSR-Teile werden abhängig von der Verfügbarkeit und vom Lieferziel am folgenden Geschäftstag geliefert. Für bestimmte Standorte ist eine Lieferung am selben Tag oder innerhalb von vier Stunden gegen einen Aufpreis verfügbar. Wenn Sie Hilfe benötigen, können Sie das Hewlett Packard Enterprise Support Center anrufen und sich von einem Mitarbeiter per Telefon helfen lassen. Den Materialien von Hewlett Packard Enterprise, die mit einem CSR-Ersatzteil geliefert werden, können Sie entnehmen, ob das defekte Teil an Hewlett Packard Enterprise zurückgeschickt werden muss. Wenn es erforderlich ist, das defekte Teil an Hewlett Packard Enterprise zurückzuschicken, müssen Sie dies innerhalb eines vorgegebenen Zeitraums tun, in der Regel innerhalb von fünf (5) Geschäftstagen. Das defekte Teil muss mit

der zugehörigen Dokumentation in der Verpackung zurückgeschickt werden, die im Lieferumfang enthalten ist. Wenn Sie das defekte Teil nicht zurückschicken, kann Hewlett Packard Enterprise Ihnen das Ersatzteil in Rechnung stellen. Im Falle von Customer Self Repair kommt Hewlett Packard Enterprise für alle Kosten für die Lieferung und Rücksendung auf und bestimmt den Kurier-/Frachtdienst.

Weitere Informationen über das Hewlett Packard Enterprise Customer Self Repair Programm erhalten Sie von Ihrem Servicepartner vor Ort.

### Parts-only Warranty Service (Garantieservice ausschließlich für Teile)

Ihre Hewlett Packard Enterprise Garantie umfasst möglicherweise einen Parts-only Warranty Service (Garantieservice ausschließlich für Teile). Gemäß den Bestimmungen des Parts-only Warranty Service stellt Hewlett Packard Enterprise Ersatzteile kostenlos zur Verfügung.

Für den Parts-only Warranty Service ist das CSR-Verfahren zwingend vorgegeben. Wenn Sie den Austausch dieser Teile von Hewlett Packard Enterprise vornehmen lassen, werden Ihnen die Anfahrt- und Arbeitskosten für diesen Service berechnet.

### Reparaciones del propio cliente

Los productos de Hewlett Packard Enterprise incluyen muchos componentes que el propio usuario puede reemplazar (Customer Self Repair, CSR) para minimizar el tiempo de reparación y ofrecer una mayor flexibilidad a la hora de realizar sustituciones de componentes defectuosos. Si, durante la fase de diagnóstico, Hewlett Packard Enterprise (o los proveedores o socios de servicio de Hewlett Packard Enterprise) identifica que una reparación puede llevarse a cabo mediante el uso de un componente CSR, Hewlett Packard Enterprise le enviará dicho componente directamente para que realice su sustitución. Los componentes CSR se clasifican en dos categorías:

- **Obligatorio**—Componentes cuya reparación por parte del usuario es obligatoria. Si solicita a Hewlett Packard Enterprise que realice la sustitución de estos componentes, tendrá que hacerse cargo de los gastos de desplazamiento y de mano de obra de dicho servicio.
- **Opcional**—Componentes cuya reparación por parte del usuario es opcional. Estos componentes también están diseñados para que puedan ser reparados por el usuario. Sin embargo, si precisa que Hewlett Packard Enterprise realice su sustitución, puede o no conllevar costes adicionales, dependiendo del tipo de servicio de garantía correspondiente al producto.

**NOTA:** Algunos componentes de Hewlett Packard Enterprise no están diseñados para que puedan ser reparados por el usuario. Para que el usuario haga valer su garantía, Hewlett Packard Enterprise pone como condición que un proveedor de servicios autorizado realice la sustitución de estos componentes. Dichos componentes se identifican con la palabra "No" en el catálogo ilustrado de componentes.

Según la disponibilidad y la situación geográfica, los componentes CSR se enviarán para que lleguen a su destino al siguiente día laborable. Si la situación geográfica lo permite, se puede solicitar la entrega en el mismo día o en cuatro horas con un coste adicional. Si precisa asistencia técnica, puede llamar al Centro de asistencia técnica de Hewlett Packard Enterprise y recibirá ayuda telefónica por parte de un técnico. Con el envío de materiales para la sustitución de componentes CSR, Hewlett Packard Enterprise especificará si los componentes defectuosos deberán devolverse a Hewlett Packard Enterprise. En aquellos casos en los que sea necesario devolver algún componente a Hewlett Packard Enterprise, deberá hacerlo en el periodo de tiempo especificado, normalmente cinco días laborables. Los componentes defectuosos deberán devolverse con toda la documentación relacionada y con el embalaje de envío. Si no enviara el componente defectuoso requerido, Hewlett Packard Enterprise podrá cobrarle por el de sustitución. En el caso de todas sustituciones que lleve a cabo el cliente, Hewlett Packard Enterprise se hará cargo de todos los gastos de envío y devolución de componentes y escogerá la empresa de transporte que se utilice para dicho servicio.

Para obtener más información acerca del programa de Reparaciones del propio cliente de Hewlett Packard Enterprise, póngase en contacto con su proveedor de servicios local.

### Servicio de garantía exclusivo de componentes

La garantía limitada de Hewlett Packard Enterprise puede que incluya un servicio de garantía exclusivo de componentes. Según las condiciones de este servicio exclusivo de componentes, Hewlett Packard Enterprise le facilitará los componentes de repuesto sin cargo adicional alguno.

Para este servicio de garantía exclusivo de componentes, es obligatoria la sustitución de componentes por parte del usuario (CSR). Si solicita a Hewlett Packard Enterprise que realice la sustitución de estos componentes, tendrá que hacerse cargo de los gastos de desplazamiento y de mano de obra de dicho servicio.

### Customer Self Repair

Veel onderdelen in Hewlett Packard Enterprise producten zijn door de klant zelf te repareren, waardoor de reparatieduur tot een minimum beperkt kan blijven en de flexibiliteit in het vervangen van defecte onderdelen groter is. Deze onderdelen worden CSR-onderdelen (Customer Self Repair) genoemd. Als Hewlett Packard Enterprise (of een Hewlett Packard Enterprise Service Partner) bij de diagnose vaststelt dat de reparatie kan worden uitgevoerd met een CSR-onderdeel, verzendt Hewlett Packard Enterprise dat onderdeel rechtstreeks naar u, zodat u het defecte onderdeel daarmee kunt vervangen. Er zijn twee categorieën CSR-onderdelen:

- **Verplicht**—Onderdelen waarvoor reparatie door de klant verplicht is. Als u Hewlett Packard Enterprise verzoekt deze onderdelen voor u te vervangen, worden u voor deze service reiskosten en arbeidsloon in rekening gebracht.
- **Optioneel**—Onderdelen waarvoor reparatie door de klant optioneel is. Ook deze onderdelen zijn ontworpen voor reparatie door de klant. Als u echter Hewlett Packard Enterprise verzoekt deze onderdelen voor u te vervangen, kunnen daarvoor extra kosten in rekening

worden gebracht, afhankelijk van het type garanteservice voor het product.

**OPMERKING:** Sommige Hewlett Packard Enterprise onderdelen zijn niet ontwikkeld voor reparatie door de klant. In verband met de garantievoorzwaarden moet het onderdeel door een geautoriseerde Service Partner worden vervangen. Deze onderdelen worden in de geïllustreerde onderdelencatalogus aangemerkt met "Nee".

Afhankelijk van de leverbaarheid en de locatie worden CSR-onderdelen verzonden voor levering op de eerstvolgende werkdag. Levering op dezelfde dag of binnen vier uur kan tegen meerkosten worden aangeboden, indien dit mogelijk is gezien de locatie. Indien assistentie is gewenst, belt u het Hewlett Packard Enterprise Support Center om via de telefoon ondersteuning van een technicus te ontvangen. Hewlett Packard Enterprise vermeldt in de documentatie bij het vervangende CSR-onderdeel of het defecte onderdeel aan Hewlett Packard Enterprise moet worden geretourneerd. Als het defecte onderdeel aan Hewlett Packard Enterprise moet worden teruggezonden, moet u het defecte onderdeel binnen een bepaalde periode, gewoonlijk vijf (5) werkdagen, retourneren aan Hewlett Packard Enterprise. Het defecte onderdeel moet met de bijbehorende documentatie worden geretourneerd in het meegeleverde verpakkingsmateriaal. Als u het defecte onderdeel niet terugzendt, kan Hewlett Packard Enterprise u voor het vervangende onderdeel kosten in rekening brengen. Bij reparatie door de klant betaalt Hewlett Packard Enterprise alle verzendkosten voor het vervangende en geretourneerde onderdeel en kiest Hewlett Packard Enterprise zelf welke koerier/transportonderneming hiervoor wordt gebruikt.

Neem contact op met een Service Partner voor meer informatie over het Customer Self Repair programma van Hewlett Packard Enterprise.

### Garanteservice "Parts Only"

Het is mogelijk dat de Hewlett Packard Enterprise garantie alleen de garanteservice "Parts Only" omvat. Volgens de bepalingen van de Parts Only garanteservice zal Hewlett Packard Enterprise kosteloos vervangende onderdelen ter beschikking stellen.

Voor de Parts Only garanteservice is vervanging door CSR-onderdelen verplicht. Als u Hewlett Packard Enterprise verzoekt deze onderdelen voor u te vervangen, worden u voor deze service reiskosten en arbeidsloon in rekening gebracht

### Reparo feito pelo cliente

Os produtos da Hewlett Packard Enterprise são projetados com muitas peças para reparo feito pelo cliente (CSR) de modo a minimizar o tempo de reparo e permitir maior flexibilidade na substituição de peças com defeito. Se, durante o período de diagnóstico, a Hewlett Packard Enterprise (ou fornecedores/parceiros da Hewlett Packard Enterprise) concluir que o reparo pode ser efetuado pelo uso de uma peça CSR, a Hewlett Packard Enterprise enviará a peça diretamente ao cliente. Há duas categorias de peças CSR:

- **Obrigatória**—Peças cujo reparo feito pelo cliente é obrigatório. Se desejar que a Hewlett Packard Enterprise substitua essas peças, serão cobradas as despesas de transporte e mão-de-obra do serviço.
- **Opcional**—Peças cujo reparo feito pelo cliente é opcional. Essas peças também são projetadas para o reparo feito pelo cliente. No entanto, se desejar que a Hewlett Packard Enterprise as substitua, pode haver ou não a cobrança de taxa adicional, dependendo do tipo de serviço de garantia destinado ao produto.

**OBSERVAÇÃO:** Algumas peças da Hewlett Packard Enterprise não são projetadas para o reparo feito pelo cliente. A fim de cumprir a garantia do cliente, a Hewlett Packard Enterprise exige que um técnico autorizado substitua a peça. Essas peças estão identificadas com a marca "No" (Não), no catálogo de peças ilustrado.

Conforme a disponibilidade e o local geográfico, as peças CSR serão enviadas no primeiro dia útil após o pedido. Onde as condições geográficas permitirem, a entrega no mesmo dia ou em quatro horas pode ser feita mediante uma taxa adicional. Se precisar de auxílio, entre em contato com o Centro de suporte técnico da Hewlett Packard Enterprise para que um técnico o ajude por telefone. A Hewlett Packard Enterprise especifica nos materiais fornecidos com a peça CSR de reposição se a peça com defeito deve ser devolvida à Hewlett Packard Enterprise. Nos casos em que isso for necessário, é preciso enviar a peça com defeito à Hewlett Packard Enterprise, você deverá enviar a peça com defeito de volta para a Hewlett Packard Enterprise dentro do período de tempo definido, normalmente em 5 (cinco) dias úteis. A peça com defeito deve ser enviada com a documentação correspondente no material de transporte fornecido. Caso não o faça, a Hewlett Packard Enterprise poderá cobrar a reposição. Para as peças de reparo feito pelo cliente, a Hewlett Packard Enterprise paga todas as despesas de transporte e de devolução da peça e determina a transportadora/serviço postal a ser utilizado.

Para obter mais informações sobre o programa de reparo feito pelo cliente da Hewlett Packard Enterprise, entre em contato com o fornecedor de serviços local.

### Serviço de garantia apenas para peças

A garantia limitada da Hewlett Packard Enterprise pode incluir um serviço de garantia apenas para peças. Segundo os termos do serviço de garantia apenas para peças, a Hewlett Packard Enterprise fornece as peças de reposição sem cobrar nenhuma taxa.

No caso desse serviço, a substituição de peças CSR é obrigatória. Se desejar que a Hewlett Packard Enterprise substitua essas peças, serão cobradas as despesas de transporte e mão-de-obra do serviço.

# カスタマーセルフリペア

修理時間を短縮し、故障部品の交換における高い柔軟性を確保するために、Hewlett Packard Enterprise製品には多数のカスタマーセルフリペア（CSR）部品があります。診断の際に、CSR部品を使用すれば修理ができるとHewlett Packard Enterprise（Hewlett Packard EnterpriseまたはHewlett Packard Enterprise正規保守代理店）が判断した場合、Hewlett Packard Enterpriseはその部品を直接、お客様に発送し、お客様に交換していただきます。CSR部品には以下の2種類があります。

- **必須** - カスタマーセルフリペアが必須の部品。当該部品について、もしもお客様がHewlett Packard Enterpriseに交換作業を依頼される場合には、その修理サービスに関する交通費および人件費がお客様に請求されます。
- **任意** - カスタマーセルフリペアが任意である部品。この部品もカスタマーセルフリペア用です。当該部品について、もしもお客様がHewlett Packard Enterpriseに交換作業を依頼される場合には、お買い上げの製品に適用される保証サービス内容の範囲内においては、別途費用を負担していただくことなく保証サービスを受けることができます。

注：Hewlett Packard Enterprise製品の一部の部品は、カスタマーセルフリペアの対象外です。製品の保証を継続するためには、Hewlett Packard EnterpriseまたはHewlett Packard Enterprise正規保守代理店による交換作業が必須となります。部品カタログには、当該部品がカスタマーセルフリペア除外品である旨が記載されています。

部品供給が可能な場合、地域によっては、CSR部品を翌営業日に届くように発送します。また、地域によっては、追加費用を負担いただくことにより同日または4時間以内に届くように発送することも可能な場合があります。サポートが必要なときは、Hewlett Packard Enterpriseサポートセンターに電話していただければ、技術者が電話でアドバイスします。交換用のCSR部品または同梱物には、故障部品をHewlett Packard Enterpriseに返送する必要があるかどうかが表示されています。故障部品をHewlett Packard Enterpriseに返送する必要がある場合は、指定期限内（通常は5営業日以内）に故障部品をHewlett Packard Enterpriseに返送してください。故障部品を返送する場合は、届いた時の梱包箱に関連書類とともに入れてください。故障部品を返送しない場合、Hewlett Packard Enterpriseから部品費用が請求されます。カスタマーセルフリペアの際には、Hewlett Packard Enterpriseは送料および部品返送費を全額負担し、使用する宅配便会社や運送会社を指定します。

## 部品のみ保証サービス

Hewlett Packard Enterprise保証サービスには、部品のみ保証サービスが適用される場合があります。このサービスでは、交換部品は無償で提供されます。

部品のみ保証サービスにおいては、CSR部品をお客様により交換作業していただくことが必須となります。当該部品について、もしもお客様がHewlett Packard Enterpriseに交換作業を依頼される場合には、その修理サービスに関する交通費および人件費がお客様のご負担となります。

# 客户自行维修

Hewlett Packard Enterprise 产品提供许多客户自行维修 (CSR) 部件，以尽可能缩短维修时间和在更换缺陷部件方面提供更大的灵活性。如果在诊断期间 Hewlett Packard Enterprise (或 Hewlett Packard Enterprise 服务提供商或服务合作伙伴) 确定可以通过使用 CSR 部件完成维修，Hewlett Packard Enterprise 将直接把该部件发送给您进行更换。有两类 CSR 部件：

- **强制性的** — 要求客户必须自行维修的部件。如果您请求 Hewlett Packard Enterprise 更换这些部件，则必须为该服务支付差旅费和人工费用。
- **可选的** — 客户可以选择是否自行维修的部件。这些部件也是为客户自行维修设计的。不过，如果您要求 Hewlett Packard Enterprise 为您更换这些部件，则根据为您的产品指定的保修服务类型，Hewlett Packard Enterprise 可能收取或不再收取任何附加费用。

**注：**某些 Hewlett Packard Enterprise 部件的设计并未考虑客户自行维修。为了满足客户保修的需要，Hewlett Packard Enterprise 要求授权服务提供商更换相关部件。这些部件在部件图解目录中标记为“否”。

CSR 部件将在下一个工作日发运 (取决于备货情况和允许的地理范围)。在允许的地理范围内，可在当天或四小时内发运，但要收取额外费用。如果需要帮助，您可以致电 Hewlett Packard Enterprise 技术支持中心，将会有技术人员通过电话为您提供帮助。Hewlett Packard Enterprise 会在随更换的 CSR 部件发运的材料中指明是否必须将有缺陷的部件返还给 Hewlett Packard Enterprise。如果要求您将有缺陷的部件返还给 Hewlett Packard Enterprise，那么您必须在规定的期限内 (通常是五 (5) 个工作日) 将缺陷部件发给 Hewlett Packard Enterprise。有缺陷的部件必须随所提供的发运材料中的相关文件一起返还。如果未能送还有缺陷的部件，Hewlett Packard Enterprise 可能会要求您支付更换费用。客户自行维修时，Hewlett Packard Enterprise 将承担所有相关运输和部件返回费用，并指定快递商/承运商。

有关 Hewlett Packard Enterprise 客户自行维修计划的详细信息，请与您当地的服务提供商联系。

## 仅部件保修服务

您的 Hewlett Packard Enterprise 有限保修服务可能涉及仅部件保修服务。根据仅部件保修服务条款的规定，Hewlett Packard Enterprise 将免费提供更换的部件。

仅部件保修服务要求进行 CSR 部件更换。如果您请求 Hewlett Packard Enterprise 更换这些部件，则必须为该服务支付差旅费和人工费用。

# 客戶自行維修

Hewlett Packard Enterprise 產品設計了許多「客戶自行維修」(CSR) 的零件以減少維修時間，並且使得更換瑕疵零件時能有更大的彈性。如果在診斷期間，Hewlett Packard Enterprise (或 Hewlett Packard Enterprise 服務供應商或維修夥伴) 辨認出此項維修工作可以藉由使用 CSR 零件來完成，則 Hewlett Packard Enterprise 將直接寄送該零件給您作更換。CSR 零件分為兩種類別：

- **強制的** — 客戶自行維修所使用的零件是強制性的。如果您要求 Hewlett Packard Enterprise 更換這些零件，Hewlett Packard Enterprise 將會向您收取此服務所需的外出費用與勞動成本。
- **選購的** — 客戶自行維修所使用的零件是選購的。這些零件也設計用於客戶自行維修之用。不過，如果您要求 Hewlett Packard Enterprise 為您更換，則可能需要也可能不需要負擔額外的費用，端視針對此產品指定的保固服務類型而定。

**備註：**某些 Hewlett Packard Enterprise 零件沒有消費者可自行維修的設計。為符合客戶保固，Hewlett Packard Enterprise 需要授權的服務供應商更換零件。這些零件在圖示的零件目錄中，被標示為「否」。

基於材料取得及環境允許的情況下，CSR 零件將於下一個工作日以快遞寄送。在環境的允許下當天或四小時內送達，則可能需要額外的費用。若您需要協助，可致電 Hewlett Packard Enterprise 支援中心，會有一位技術人員透過電話來協助您。不論損壞的零件是否必須退回，Hewlett Packard Enterprise 皆會在與 CSR 替換零件一起運送的材料中註明。若要將損壞的零件退回 Hewlett Packard Enterprise，您必須在指定的一段時間內 (通常為五 (5) 個工作天)，將損壞的零件寄回 Hewlett Packard Enterprise。損壞的零件必須與寄送資料中隨附的相關技術文件一併退還。如果無法退還損壞的零件，Hewlett Packard Enterprise 可能要向您收取替換費用。針對客戶自行維修情形，Hewlett Packard Enterprise 將負責所有運費及零件退還費用，並指定使用何家快遞/貨運公司。

如需 Hewlett Packard Enterprise 的 CSR 方案詳細資訊，請連絡您當地的服務供應商。

## 僅限零件的保固服務

您的「Hewlett Packard Enterprise 有限保固」可能包含僅限零件的保固服務。在僅限零件的保固服務情況下，Hewlett Packard Enterprise 將免費提供替換零件。

針對僅限零件的保固服務，CSR 零件替換是強制性的。如果您要求 Hewlett Packard Enterprise 更換這些零件，Hewlett Packard Enterprise 將會向您收取此服務所需的外出費用與勞動成本。



# 고객 셀프 수리

Hewlett Packard Enterprise 제품은 수리 시간을 최소화하고 결함이 있는 부품 교체 시 더욱 융통성을 발휘할 수 있도록 하기 위해 고객 셀프 수리(CSR) 부품을 다량 사용하여 설계되었습니다. 진단 기간 동안 Hewlett Packard Enterprise(또는 Hewlett Packard Enterprise 서비스 공급업체 또는 서비스 협력업체)에서 CSR 부품을 사용하여 수리가 가능하다고 판단되면 Hewlett Packard Enterprise는 해당 부품을 바로 사용자에게 보내어 사용자가 교체할 수 있도록 합니다. CSR 부품에는 두 가지 종류가 있습니다.

- 필수 - 고객 셀프 수리가 의무 사항인 필수 부품. 사용자가 Hewlett Packard Enterprise에 이 부품의 교체를 요청할 경우 이 서비스에 대한 출장비 및 작업비가 청구됩니다.
- 선택 사항 - 고객 셀프 수리가 선택 사항인 부품. 이 부품들도 고객 셀프 수리가 가능하도록 설계되었습니다. 하지만 사용자가 Hewlett Packard Enterprise에 이 부품의 교체를 요청할 경우 사용자가 구입한 제품에 해당하는 보증 서비스 유형에 따라 추가 비용 없이 교체가 가능할 수 있습니다.

참고: 일부 Hewlett Packard Enterprise 제품은 고객 셀프 수리가 불가능하도록 설계되었습니다. Hewlett Packard Enterprise는 만족스러운 고객 보증을 위해 공인 서비스 제공업체를 통해 부품을 교체하도록 하고 있습니다. 이러한 부품들은 Illustrated Parts Catalog에 "No"라고 표시되어 있습니다.

CSR 부품은 재고 상태와 지리적 조건이 허용하는 경우 다음 영업일 납품이 가능하도록 배송이 이루어집니다. 지리적 조건이 허용하는 경우 추가 비용이 청구되는 조건으로 당일 또는 4시간 배송이 가능할 수도 있습니다. 도움이 필요하시면 Hewlett Packard Enterprise Support Center로 전화하십시오. 전문 기술자가 전화로 도움을 줄 것입니다. Hewlett Packard Enterprise는 결함이 발생한 부품을 Hewlett Packard Enterprise로 반환해야 하는지 여부를 CSR 교체 부품과 함께 배송된 자료에 지정합니다. 결함이 발생한 부품을 Hewlett Packard Enterprise로 반환해야 하는 경우에는 지정된 기간 내(통상 영업일 기준 5일)에 Hewlett Packard Enterprise로 반환해야 합니다. 이때 결함이 발생한 부품은 제공된 포장 재료에 넣어 관련 설명서와 함께 반환해야 합니다. 결함이 발생한 부품을 반환하지 않는 경우 Hewlett Packard Enterprise가 교체 부품에 대해 비용을 청구할 수 있습니다. 고객 셀프 수리의 경우, Hewlett Packard Enterprise는 모든 운송 및 부품 반환 비용을 부담하며 이용할 운송업체 및 택배 서비스를 결정합니다.

Hewlett Packard Enterprise CSR 프로그램에 대한 자세한 내용은 가까운 서비스 제공업체에 문의하십시오.

## 부품 제공 보증 서비스

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## Illustrated parts catalog

### Subtopics

[Mechanical components](#)

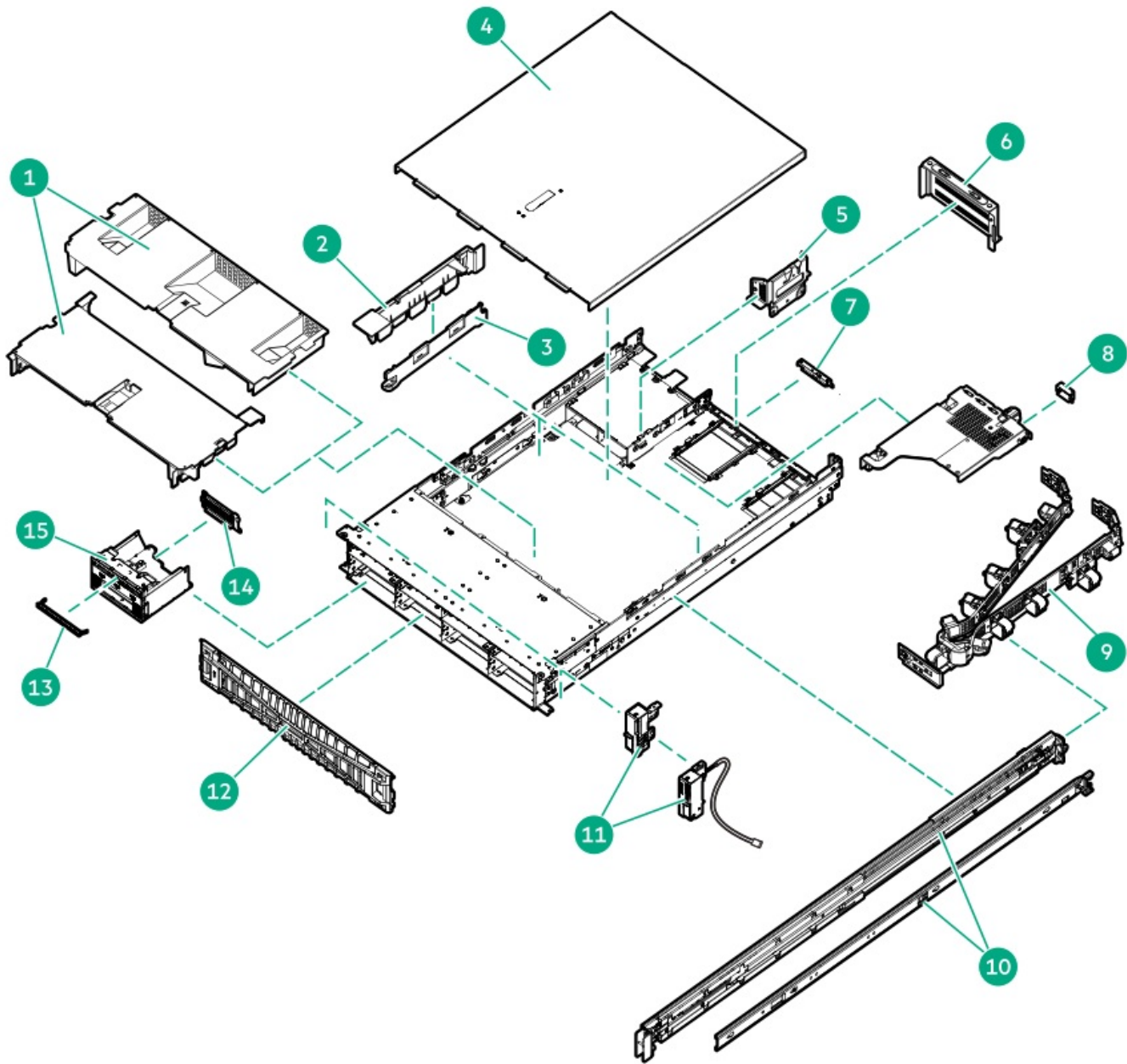
[System components](#)

[Server options](#)

## Mechanical components

Hewlett Packard Enterprise continually improves and changes product parts. For complete and current supported spare parts information, see the Hewlett Packard Enterprise PartSurfer website:

<https://www.hpe.com/info/partssurfer>



Item	Description
1	<a href="#">Air baffle spare part</a>
2	<a href="#">Cable guards spare part</a>
3	<a href="#">DIMM guards spare part</a>
4	<a href="#">Access panel spare part</a>
5	<a href="#">Secondary three-slot riser cage bracket</a>
6	<a href="#">Secondary three-slot riser cage blank</a>
7	<a href="#">OCP slot blank</a>
8	<a href="#">Boot device security cover on the NS204i-u + secondary low-profile riser cage</a>
9	<a href="#">Cable management arm spare parts</a>
10	<a href="#">Rack rails spare part</a>
11	<a href="#">Chassis ears spare part</a>
12	<a href="#">Front bezel spare part</a>
13	<a href="#">Optical drive blank</a>
14	<a href="#">Universal media bay 2 SFF drive blank</a>
15	<a href="#">Universal media bay cage spare part</a>

#### Subtopics

[Air baffles spare part](#)

[Cable guards spare part](#)

[DIMM guards spare part](#)

[Access panel spare part](#)

[Miscellaneous blank spare parts](#)

[Cable management arm spare parts](#)

[Rack rails spare part](#)

[Chassis ears spare part](#)

[Front bezel spare part](#)

[Universal media bay cage spare part](#)

## Air baffles spare part

Customer self repair: **Mandatory**

Description	Spare part number
Air baffle spare kit, includes:	P59125-001
<ul style="list-style-type: none"> <li>Standard air baffle</li> <li>High performance air baffle</li> </ul>	

For more information on the removal and replacement procedures, see [Removing and replacing the air baffle](#).

## Cable guards spare part

Customer self repair: Mandatory

Description	Spare part number
Cable guards (left and right)	P59127-001

For more information on the removal and replacement procedures, see [Removing and replacing a cable guard](#).

## DIMM guards spare part

Customer self repair: Mandatory

Description	Spare part number
DIMM guards (left and right)	P59124-001

For more information on the removal and replacement procedures, see [Removing and replacing a DIMM guard](#).

## Access panel spare part

Customer self repair: Mandatory

Description	Spare part number
Access panel	P58682-001

For more information on the removal and replacement procedures, see [Removing and replacing the access panel](#).

## Miscellaneous blank spare parts

Customer self repair: Mandatory

Description	Spare part number
Miscellaneous blank kit, includes: <ul style="list-style-type: none"> <li>• Boot device security cover on the NS204i-u + secondary low-profile riser cage</li> <li>• OCP slot blank</li> </ul>	P56489-001 <sup>1</sup>
Front 2 SFF stacked drive blank	P00729-001 <sup>1</sup>
Optical drive blank	707300-001
Secondary three-slot riser cage blank	P52440-001
Secondary three-slot riser cage bracket	P52445-001

<sup>1</sup> This is a miscellaneous blank spare kit; only the component blanks listed in this table are used in this server.

For more information on the removal and replacement procedures, see:

- [Removing the boot device security cover on the NS204i-u + low-profile riser cage](#)
- [Removing and replacing an OCP slot blank](#)
- [Removing and replacing the universal media bay 2 SFF drive blank](#)
- [Removing and replacing the optical drive blank](#)
- [Removing and replacing the secondary three-slot riser cage blank](#)
- [Removing and replacing the secondary three-slot riser cage bracket](#)

## Cable management arm spare parts

Customer self repair: Mandatory

Description	Spare part number
Cable management arm for friction rack rail #2	P24100-001
Cable management arm for ball-bearing rack rail #8	P39254-001

For more information on the removal and replacement procedures, see [Removing and replacing the cable management arm](#).

## Rack rails spare part

Customer self repair: Mandatory

Description	Spare part number
Friction rack rail #2 (left and right)	P59490-001
Ball-bearing rack rail #8 (left and right)	P60661-001

For more information on the removal and replacement procedures, see [Removing and replacing the rack rails](#).

## Chassis ears spare part

Customer self repair: Mandatory

Description	Spare part number
Right chassis ear assembly—This spare part includes the chassis ear with the front I/O and USB cable.	P56501-001
Left chassis ear	P58207-001

For more information on the removal and replacement procedures, see:

- [Removing and replacing the right chassis ear assembly](#)
- [Removing and replacing the left chassis ear](#)

## Front bezel spare part

Customer self repair: Mandatory

Description	Spare part number
Front bezel	P58208-001

For more information on the removal and replacement procedures, see [Removing and replacing the front bezel](#).

## Universal media bay cage spare part

Customer self repair: Mandatory

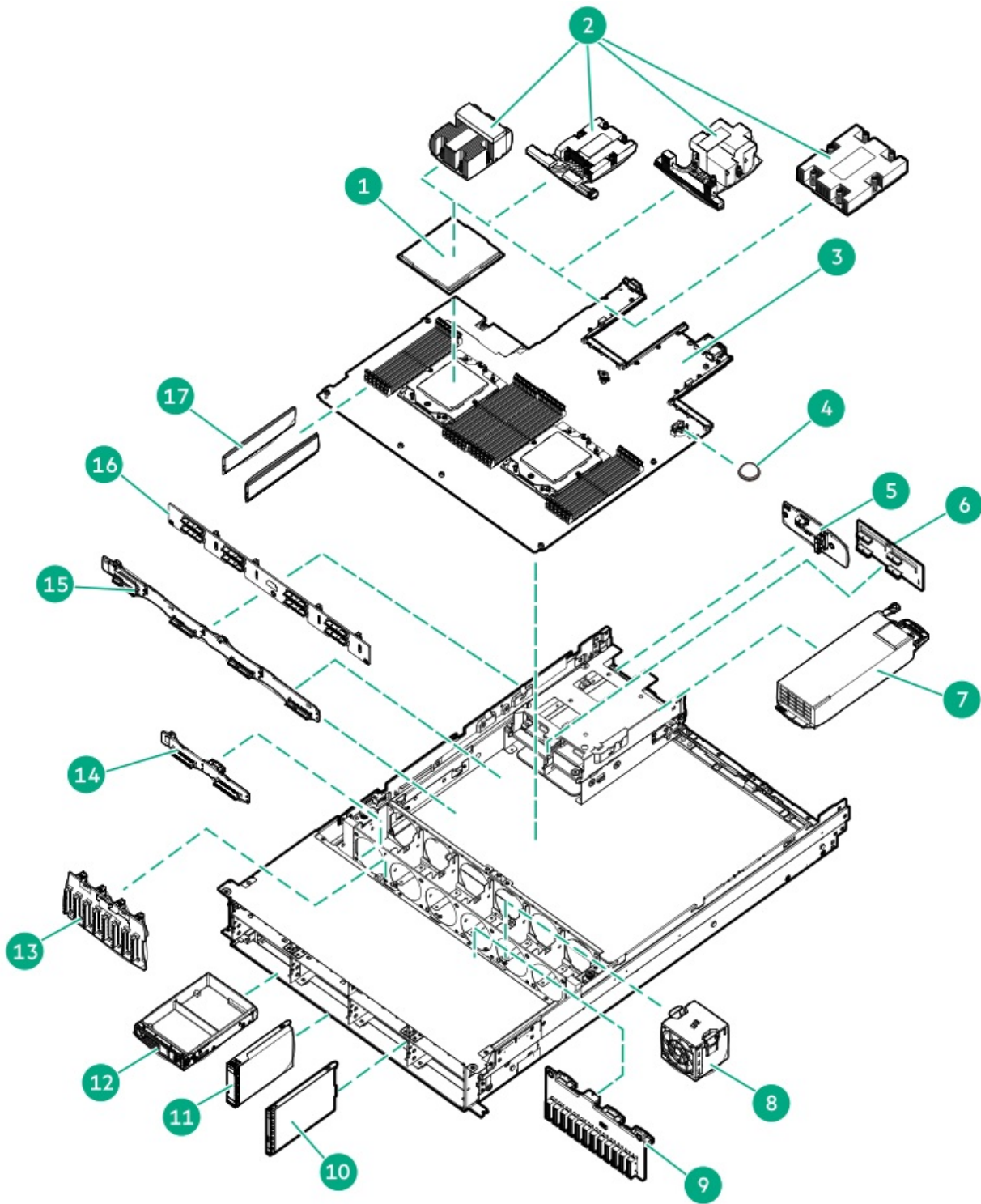
Description	Spare part number
Universal media bay cage	881696-001

For more information on the removal and replacement procedures, see [Removing and replacing the universal media bay cage](#).

## System components

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Item	Description
1	<a href="#">Processor spare parts</a>
2	<a href="#">Heatsink spare parts</a>
3	<a href="#">System board assembly spare part</a>
4	<a href="#">System battery spare part</a>
5	<a href="#">2 SFF stacked drive backplane spare part</a>
6	<a href="#">Power distribution board spare part</a>
7	<a href="#">Power supply spare parts</a>
8	<a href="#">Fan spare parts</a>
9	<a href="#">12 E3.S drive backplane spare part</a>
10	E3.S drive
11	SFF hot-plug drive For more information on the removal and replacement procedures, see <a href="#">Removing and replacing a hot-plug drive</a> .
12	LFF hot-plug drive For more information on the removal and replacement procedures, see <a href="#">Removing and replacing a hot-plug drive</a> .
13	<a href="#">8 SFF drive backplane spare part</a>
14	<a href="#">2 SFF side-by-side drive backplane spare part</a>
15	<a href="#">4 LFF drive backplane spare part</a>
16	<a href="#">8 SFF drive backplane spare part</a>
17	<a href="#">DIMM spare parts</a>
18	<a href="#">Drive cable spare part</a> <sup>1</sup>

<sup>1</sup> Not Shown

## Subtopics

[Processor spare parts](#)

[Heatsink spare parts](#)

[System board assembly spare parts](#)

[System battery spare part](#)

[Drive backplane spare parts](#)

[Power supply spare parts](#)

[Power distribution board spare parts](#)

[Fan spare parts](#)

[DIMM spare parts](#)

[Drive cable spare parts](#)

## Processor spare parts



Customer self repair: Optional

Description	Spare part number
AMD EPYC 9124 3.0G 16C 200W	P54064-001
AMD EPYC 9174F 4.1G 16C 320W	P54060-001
AMD EPYC 9224 2.5G 24C 200W	P58633-001
AMD EPYC 9354 3.25G 32C 280W	P54063-001
AMD EPYC 9374F 3.85G 32C 320W	P54072-001
AMD EPYC 9554 3.1G 64C 360W	P54062-001
AMD EPYC 9654 2.4G 96C 360W	P54058-001

For more information on the removal and replacement procedures, see [Processor replacement](#).

## Heatsink spare parts

Customer self repair: Optional

Description	Spare part number
Standard heatsink	P60415-001
Midplane cage heatsink	P59965-001
High performance heatsink	P60414-001
Max performance heatsink	P60413-001

For more information on the removal and replacement procedures, see [Removing and replacing a heatsink](#).

## System board assembly spare parts

Customer self repair: Optional

Description	Spare part number
System board assembly includes:	P60416-001
• System board	
• Metal subpan	
• DIMM guards	
• Cable guards	

For more information on the removal and replacement procedures, see [System board assembly replacement](#).

## System battery spare part

Customer self repair: Mandatory

Description	Spare part number
3.3-V lithium battery coin (CR2032)	319603-001

For more information on the removal and replacement procedures, see [Removing and replacing the system battery](#).

## Drive backplane spare parts

Customer self repair: Mandatory

Description	Spare part number
8 SFF 24G x4 U.3 NVMe / SAS / SATA UBM3 BC (midplane)	P40452-001

Customer self repair: Optional

Description	Spare part number
8 SFF 24G x1 U.3 NVMe / SAS / SATA UBM3 BC	P39781-001
8 SFF 24G x1 U.3 NVMe / SAS / SATA UBM6 BC	P62070-001
8 SFF 24G x4 U.3 NVMe / SAS / SATA UBM3 BC	P39780-001
8 SFF 24G x4 U.3 NVMe / SAS / SATA UBM6 BC	P62065-001
2 SFF 24G x4 U.3 NVMe / SAS / SATA UBM3 BC (stacked)	P39782-001
2 SFF 24G x4 U.3 NVMe / SAS / SATA UBM6 BC (stacked)	P62069-001
2 SFF 24G x4 U.3 NVMe / SAS / SATA UBM3 BC (side-by-side)	P39783-001
2 SFF 24G x4 U.3 NVMe / SAS / SATA UBM6 BC (side-by-side)	P62071-001
4 LFF 12G x1 SAS / SATA UBM2 LP	P40451-001
4 LFF 12G x1 SAS / SATA UBM6 LP	P62075-001
8 SFF 24G x1 SAS / SATA UBM3 BC (midplane)	P39784-001
12 E3.S 32G x4 NVMe UMB5 EC	P53217-001

For more information on the removal and replacement procedures, see following:

- [Removing and replacing the 8 SFF drive backplane](#)
- [Removing and replacing the front 4 LFF drive backplane](#)
- [Removing and replacing the front 2 SFF side-by-side drive backplane](#)
- [Removing and replacing the front 2 SFF stacked drive backplane](#)
- [Removing and replacing the rear 2 SFF drive backplane](#)
- [Removing and replacing the rear 4 LFF drive backplane](#)
- [Removing and replacing the midplane drive backplane](#)
- [Removing and replacing the 12 E3.S drive backplane](#)

## Power supply spare parts

Customer self repair: Optional

Description	Spare part number
HPE 800 W Flex Slot Platinum Hot-plug Low Halogen Power Supply	P39385-001
HPE 1000 W Flex Slot Titanium Hot-plug Power Supply	P44412-001
HPE 1600 W Flex Slot Platinum Hot-plug Low Halogen Power Supply	P39384-001
HPE 1600 W Flex Slot -48 VDC Hot-plug Power Supply	P18510-001
HPE 1800-2200 W Flex Slot Titanium Power Supply	P47163-001

For more information on the removal and replacement procedures, see [Removing and replacing a Flexible Slot power supply](#).

## Power distribution board spare parts

Customer self repair: Optional

Description	Spare part number
Power distribution board	P60680-001
Power distribution board cable to power supplies 3 and 4	P64275-001

For more information on the removal and replacement procedures, see [Removing and replacing the power distribution board](#).

## Fan spare parts

Customer self repair: Mandatory

Description	Spare part number
Standard fan	P59812-001
High performance fan	P52434-001

For more information on the removal and replacement procedures, see [Removing and replacing the fan](#).

## DIMM spare parts

Customer self repair: Optional

Description	Spare part number
16 GB, single-rank x8 PC4-4800B-R	P56150-001
32 GB, single-rank x4 PC4-4800B-R	P56151-001
32 GB, dual-rank x8 PC4-4800B-R	P56152-001
64 GB, single-rank x8 PC4-4800B-R	P56153-001

For more information on the removal and replacement procedures, see [Removing and replacing a DIMM](#).

## Drive cable spare parts

Customer self repair: Mandatory

Description	Cable PN	Spare PN
8 LFF Box 2 and Box 3 drive cable for system board connection	P58099-001	P60420-001
4 LFF Box 1 and midplane drive Box 7 drive cable for processor 1 system board connection	P58102-001	P61332-001
4 LFF Box 1 and midplane drive Box 7 drive cable for processor 2 system board connection	P58103-001	
8 SFF x1 NVMe/SAS/SATA Box 1 and Box 2 drive cables for processor 2 system board connection	P58012-001	P61310-001
8 SFF x1 NVMe/SAS/SATA Box 1 drive cable for processor 1 system board connection	P58013-001	P61309-001
8 SFF x2 NVMe direct attach cable from Box 3 ports 1-4 to NVMe/SATA ports 1A and 9A	P58106-001	P61301-001
8 SFF x2 NVMe direct attach cable from Box 2 ports 1-4 to NVMe ports 2A and 3A	P58170-001	P61300-001
8 SFF x2 NVMe direct attach cable from Box 1 ports 1-4 to NVMe ports 2B and 3B	P58107-001	P61299-001
8 SFF x4 NVMe direct attach cable from Box 3 ports 1-4 to NVMe ports 6A and 7A, NVMe/SATA ports 1A and 9A	P58168-001	P61285-001
8 SFF x4 NVMe direct attach cable from Box 2 ports 1-2 to NVMe ports 2B-3B	P58172-001	P61284-001
8 SFF x4 NVMe direct attach cable from Box 2 ports 3-4 to NVMe ports 2A-3A	P58169-001	P61283-001
8 SFF x4 NVMe direct attach cable from Box 1 ports 1-4 to NVMe ports 6B-9B	P58171-001	P61282-001
8 SFF midplane x2 NVMe drive direct attach cable from Box 7 port 3 and port 4 to NVMe port 4B	P58092-001	P61326-001
8 SFF midplane x2 NVMe drive direct attach cable from Box 7 port 1 and port 2 to NVMe port 5B	P58093-001	
12 LFF Box 2 and 3 drive cable to type-o controller in Slot 21	P58100-001	P61273-001
12 LFF Box 2 and 3 drive cable to type-o controller in Slot 22	P58101-001	P61272-001

Description	Cable PN	Spare PN
4 LFF Box 1 and 4 LFF midplane drive Box 7 SAS/SATA drive cable for type-o controller in Slot 21	P58104-001	P61331-001
4 LFF Box 1 and 4 LFF midplane drive Box 7 SAS/SATA drive cable for type-o controller in Slot 22	P58105-001	
Rear 4 LFF Box 8 x1 SAS drive cable for type-o controller in Slot 22	P58098-001	
8 SFF x1 NVMe/SAS/SATA Box 3 drive cable for type-o controller in Slot 21	P58014-001	P61308-001
8 SFF x1 NVMe/SAS/SATA Box 2 drive cable for type-o controller in Slot 21	P58015-001	P61307-001
8 SFF x1 NVMe/SAS/SATA Box 1 drive cable for type-o controller in Slot 22	P58016-001	P61306-001
8 SFF x1 NVMe/SAS/SATA Box 3 drive cable for type-o controller in Slot 22	P58011-001	P61311-001
8 SFF x1 NVMe/SAS/SATA Box 3 drive cable for type-p controller in the primary riser	P58018-001	P61305-001
8 SFF x1 NVMe/SAS/SATA Box 2 drive cable for type-p controller in the primary riser	P58020-001	P61304-001
8 SFF x1 NVMe/SAS/SATA Box 1 drive cable for type-p controller in the primary riser	P58019-001	P61302-001
8 SFF x1 NVMe/SAS/SATA Box 1 drive cable for type-p controller in the secondary riser	P58017-001	P61303-001
8 SFF x2 NVMe drive cable from Box 3 ports 1-2 to type-o controller in Slot 21	P58069-001	P61298-001
8 SFF x2 NVMe drive cable from Box 3 ports 3-4 to type-o controller in Slot 21	P58070-001	P61297-001
8 SFF x2 NVMe drive cable from Box 2 ports 1-2 to type-o controller in Slot 21	P58071-001	P61296-001
8 SFF x2 NVMe drive cable from Box 2 ports 3-4 to type-o controller in Slot 21	P58072-001	P61295-001
8 SFF x2 NVMe drive cable from Box 2 ports 1-2 to type-o controller in Slot 22	P58073-001	P61294-001
8 SFF x2 NVMe drive cable from Box 2 ports 3-4 to type-o controller in Slot 22	P58074-001	P61293-001
8 SFF x2 NVMe drive cable from Box 1 ports 1-2 to type-o controller in Slot 22	P58075-001	P61292-001
8 SFF x2 NVMe drive cable from Box 1 ports 3-4 to type-o controller in Slot 22	P58076-001	P61291-001
8 SFF x2 NVMe drive cable from Box 3 to type-p controller in the primary riser	P58127-001	P61290-001
8 SFF x2 NVMe drive cable from Box 2 to type-p controller in the primary riser	P58123-001	P61289-001
8 SFF x2 NVMe drive cable from Box 2 to type-p controller port 1 in the secondary riser	P58081-001	P61288-001
8 SFF x2 NVMe drive cable from Box 2 to type-p controller port 2 in the secondary riser	P58082-001	P61287-001

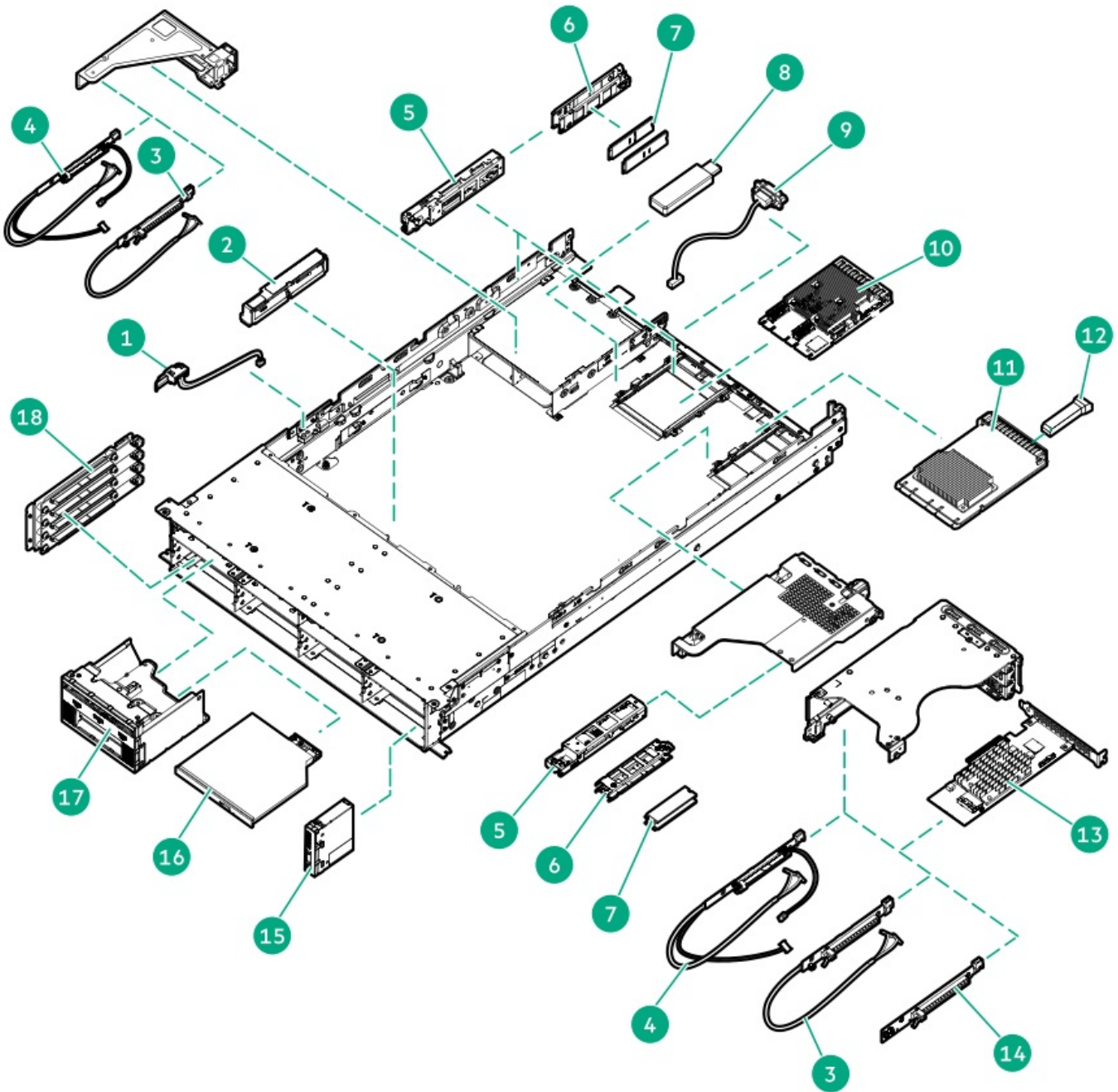
Description	Cable PN	Spare PN
8 SFF x2 NVMe drive cables from Box 1 to type-p controller in the secondary riser	P58124-001	P61286-001
8 SFF x4 NVMe drive cables from Box 3 to type-p controller in the primary riser	P58120-001	P61281-001
8 SFF x4 NVMe drive cables from Box 1 to type-p controller in the primary riser	P58122-001	P61280-001
8 SFF x4 NVMe drive cables from Box 2 to type-p controller in the secondary riser	P58121-001	P61279-001
8 SFF x4 NVMe drive cables from Box 1 to type-p controller in the secondary riser	P58114-001	P61278-001
Front 2 SFF side-by-side/ 2 SFF stacked drive cable for type-o storage controller in Slot 22	P58145-001	P61325-001
Front 2 SFF side-by-side/ 2 SFF stacked drive cable for type-o storage controller in Slot 21	P58148-001	
Front 2 SFF side-by-side/ 2 SFF stacked drive cable for type-p storage controller in the primary riser	P58146-001	P61324-001
Front 2 SFF side-by-side/ 2 SFF stacked drive cable for type-p storage controller in the secondary riser	P58147-001	
8 SFF midplane Box 7 SAS x1 NVMe drive cable for type-o controller in Slot 22	P58091-001	P61321-001
8 SFF midplane Box 7 SAS x1 NVMe drive cable for type-p controller in the primary riser	P58089-001	
8 SFF midplane Box 7 SAS x1 NVMe drive cable for type-p controller in the tertiary riser	P58090-001	
8 SFF midplane Box 7 x2 NVMe drive cables from Box 7 ports 3-4 to type-p controller port 2 in the secondary riser	P58094-001	P61277-001
8 SFF midplane Box 7 x2 NVMe drive cables from Box 7 ports 1-2 to type-p controller port 1 in the secondary riser	P58095-001	P61276-001
8 SFF midplane Box 7 x2 NVMe drive cables from Box 7 ports 1-2 to type-p controller port 2 in the primary riser	P58096-001	P61275-001
8 SFF midplane Box 7 x2 NVMe drive cables from Box 7 ports 3-4 to type-p controller port 1 in the primary riser	P58097-001	P61274-001
Rear 2 SFF stacked drive cable for type-o controller in Slot 22	P58149-001	P61323-001
Rear 2 SFF stacked drive cable for type-o controller in Slot 21	P58152-001	
Rear 2 SFF stacked drive cable for type-p controller in the primary riser	P58150-001	P61322-001
Rear 2 SFF stacked drive cable for type-p controller in the secondary riser	P58151-001	
12 LFF Box 2 drive power cable	P58036-001	P60419-001
12 LFF Box 1 drive power cable	P58035-001	
4 LFF midplane Box 7/ Rear 4 LFF drive power cable	P58085-001	
12 LFF Box 3 drive power cable	P58867-001	
SFF Box 3 drive power cable	P57209-001	P60421-001
SFF Box 2 drive power cable	P58023-001	P60391-001
4 LFF/ 8 SFF midplane Box 7 and Rear 2 SFF stacked drive power cable	P58086-001	

Description	Cable PN	Spare PN
SFF Box 1 drive power cable	P57198-001	P60384-001
Rear 2 SFF stacked drive power cable	P57178-001	
8 SFF box 1 power cable	P58023-001	P61327-001
12 EDSFF box 1 power cable	P58115-001	
12 EDSFF box 2 power cable	P58034-001	
12 EDSFF power cable to box 2/3	P58822-001	P60418-001
12 EDSFF x4 NVMe box 3 port 1 and port 2 cable to NVMe port 2A and 3A	P58108-001	P60417-001
12 EDSFF x4 NVMe box 3 ports 3-6 cable to NVMe/SATA ports 1A, 9A, 6A, and 7A	P58109-001	
12 EDSFF power cable from box 3 to the secondary riser port 1 and port 2	P62388-001	P64273-001
12 EDSFF power cable from box 3 to the secondary riser port 3 and port 4	P62389-001	P64274-001
12 EDSFF x4 NVMe drive cable from box 3 to OCP slot 21 port 1	P58131-001	P61270-001
12 EDSFF x4 NVMe drive cable from box 3 to OCP slot 21 port 2	P58132-001	P61269-001
12 EDSFF x4 NVMe drive cable from box 1 to OCP slot 22 port 1	P58141-001	P61266-001
12 EDSFF x4 NVMe drive cable from box 1 to OCP slot 22 port 2	P58142-001	P61265-001
12 EDSFF x4 NVMe drive cable from box 3 to the primary riser	P58125-001	P61268-001
12 EDSFF x4 NVMe drive cable from box 1 to the secondary riser	P58126-001	P61267-001
12 EDSFF x4 NVMe direct attach cable to box 1 ports 1-4	P58110-001	P61320-001
12 EDSFF x4 NVMe direct attach cable to box 1 ports 5-6	P58111-001	P61319-001
36 EDSFF x2 NVMe direct attach cable to box 2 and 3	P58113-001	P61318-001
36 EDSFF x2 NVMe direct attach cable to box 3	P58116-001	P61317-001
36 EDSFF x2 NVMe direct attach cable to box 2	P58117-001	P61316-001
36 EDSFF x2 NVMe direct attach cable to box 1	P58118-001	P61315-001
EDSFF box 2 power distribution board power cable	P58143-001	P61330-001
EDSFF box 3 power distribution board power cable	P58144-001	
Dual-width auxiliary power cable 1	P54891-001	P60673-001
Dual-width auxiliary power cable 2	P54892-001	
Dual-width GPU card power cable for slot 9 and 11	P58159-001	P61329-001
Dual-width GPU card power cable for slot 14 and 16	P58160-001	
4 dual-width GPU node to 8 SFF drive box 1 ports 1 and 2	P58153-001	P61314-001
4 dual-width GPU node to 8 SFF drive box 1 ports 3 and 4	P58154-001	P61313-001
GPU riser power cable	P58157-001	P61312-001
GPU cable riser to slot 9, 11, and 14	P44218-001	P61334-001
GPU cable riser to slot 16	P55816-001	P61333-001

## Server options

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<https://www.hpe.com/info/partssurfer>





Item	Description
1	<a href="#">Chassis intrusion detection switch spare part <sup>1</sup></a>
2	<a href="#">Energy pack spare parts</a>
3	<a href="#">Stacking riser</a>
4	<a href="#">Free-height riser</a>
5	<a href="#">HPE NS204i-u Boot Device spare parts</a>
6	<a href="#">M.2 SSD carrier spare part</a>
7	M.2 SSD spare part For more information on the removal and replacement procedures, see <a href="#">HPE NS204i Boot Device replacement</a>
8	Internal USB device spare part For more information on the removal and replacement procedures, see <a href="#">Removing and replacing an internal USB device.</a>
9	<a href="#">Serial port cable spare part</a>
10	<a href="#">HPE SR and MR type-o storage controller spare parts</a>
11	OCP NIC 3.0 adapter spare part For more information on the removal and replacement procedures, see:
12	Transceiver spare part For more information on the removal and replacement procedures, see <a href="#">Removing and replacing a transceiver.</a>
13	<a href="#">HPE SR and MR type-p PCIe plug-in storage controller spare parts</a>
14	<a href="#">PCIe5 x16 base riser</a>
15	<a href="#">Systems Insight Display spare part</a>
16	Optical drive spare part For more information on the removal and replacement procedures, see <a href="#">Optical drive replacement.</a>
17	<a href="#">Systems Insight Display cable spare part <sup>1</sup></a>
18	<a href="#">GPU riser spare parts</a>
19	<a href="#">Universal media bay cable spare part <sup>1</sup></a>
20	<a href="#">OCP bandwidth upgrade cable spare kit <sup>1</sup></a>
21	<a href="#">Optical drive SATA-power Y-cable spare part <sup>1</sup></a>
22	<a href="#">Miscellaneous cable spare parts <sup>1</sup></a>

<sup>1</sup> Not shown

## Subtopics

[Miscellaneous cable spare parts](#)

[Energy pack spare parts](#)

[HPE NS204i-u Boot Device spare parts](#)

[Serial port cable spare part](#)

[Storage controller spare parts](#)

[Riser board spare parts](#)

[Systems Insight Display spare parts](#)

[Universal media bay cable spare part](#)

[OCP bandwidth upgrade cable spare kit](#)

[Optical drive SATA-power Y-cable spare part](#)

## Miscellaneous cable spare parts

Customer self repair: **Mandatory**

Description	Spare part number
Miscellaneous cable spare kit, includes:	P60394-001
• Chassis intrusion detection switch	
• Energy pack extension cable	
XGMI upgrade cable (145 mm)	P61271-001

For more information on the removal and replacement procedures, see [Removing and replacing the chassis intrusion detection switch](#).

## Energy pack spare parts

Customer self repair: **Optional**

Description	Spare part number
HPE Smart Storage Battery 96 W, 260 mm cable	878644-001
HPE Smart Storage Hybrid Capacitor, 260 mm cable	P07474-001

For more information on the removal and replacement procedures, see [Removing and replacing the energy pack](#).

## HPE NS204i-u Boot Device spare parts

Customer self repair: **Mandatory**

Description	Spare part number
Boot device cage assembly	P51341-001
M.2 SSD carrier	P59777-001
480 GB NVMe x4 RI M.2 22110 SSD	P41538-001
Boot device SlimSAS and power cables <sup>1</sup>	P56479-001

<sup>1</sup> This is a miscellaneous cable spare kit; only the cables listed in this table are used in this server.

For more information on the removal and replacement procedures, see [HPE NS204i Boot Device replacement](#)

## Serial port cable spare part

Customer self repair: Mandatory

Description	Spare part number
Serial port cable	P57842-001

For more information on the removal and replacement procedures, see [Removing and replacing the serial port](#).

## Storage controller spare parts

Customer self repair: Mandatory

Description	Spare part number
<b>HPE Gen11 type-o controllers</b>	
HPE MR216i-o Gen11 controller	P47954-001
HPE MR408i-o Gen11 controller	P58543-001
HPE MR416i-o Gen11 controller	P47952-001
<b>HPE Gen11 type-p controllers</b>	
HPE MR216i-p Gen11 controller	P47953-001
HPE MR416i-p Gen11 controller	P47951-001
HPE SR932i-p Gen11 controller	P47623-001
<b>HPE Gen10 type-p controller</b>	
HPE Smart Array E208e-p SR Gen10 Controller	836267-001

For more information on the removal and replacement procedures, see:

- [Removing and replacing a type-o storage controller](#)
- [Removing and replacing a type-p storage controller](#)

## Riser board spare parts

Customer self repair: Mandatory

Description	Spare part number
Tertiary free-height riser (riser PN: P50364-001)	P60423-001
Tertiary stacking riser (riser PN: P50365-001)	P60422-001

Customer self repair: Optional

Description	Spare part number
PCIe5 x16 base riser	P59443-001
PCIe5 x16 low-profile riser	P60408-001
Primary stacking riser (riser PN: P51472-001)	P60861-001
Primary/secondary stacking riser (riser PN: P41276-001)	P60880-001
Secondary stacking riser (riser PN: P55815-001)	P60862-001
GPU riser (riser PN: P44218-001)	P61334-001

For more information on the removal and replacement procedures, see:

- [Removing and replacing the PCIe5 x16 base riser](#)
- [Removing and replacing the PCIe5 x16 low-profile riser](#)
- [Removing and replacing the PCIe5 x16 base riser from three-slot riser cage](#)
- [Removing and replacing the free-height riser](#)
- [Removing and replacing the stacking riser](#)
- [Removing and replacing the GPU riser](#)

## Systems Insight Display spare parts

Customer self repair: Optional

Description	Spare part number
Systems Insight Display module	P60412-001
Systems Insight Display cable	P58227-001

For more information on the removal and replacement procedures, see [Removing and replacing the Systems Insight Display](#).

## Universal media bay cable spare part

Customer self repair: Mandatory

Description	Spare part number
Universal media bay DisplayPort cable spare kit, includes: <ul style="list-style-type: none"> <li>• LFF universal media bay DisplayPort cable</li> <li>• SFF universal media bay USB 2.0/DisplayPort Y-cable</li> </ul>	875095-001
Universal media bay cable spare kit, includes: <ul style="list-style-type: none"> <li>• LFF universal media bay optical drive SATA-power cable</li> <li>• SFF universal media bay USB 3.2 Gen 1 port cable</li> </ul>	P60385-001

For more information on the removal and replacement procedures, see following:

- [Removing and replacing the LFF universal media bay DisplayPort cable](#)
- [Removing and replacing the SFF universal media bay USB 2.0/DisplayPort Y-cable](#)
- [Removing and replacing the SFF universal media bay USB 3.2 Gen 1 port cable](#)

## OCP bandwidth upgrade cable spare kit

Customer self repair: Mandatory

Description	Spare part number
OCP upgrade cable kit, include: <ul style="list-style-type: none"><li>• OCP NIC 3.0 x16 upgrade cable</li><li>• Dual OCP slot upgrade cable for single-processor server</li></ul>	P60411-001

## Optical drive SATA-power Y-cable spare part

Customer self repair: Mandatory

Description	Spare part number
Optical drive SATA-power Y-cable	P60424-001

## Removal and replacement procedures

This chapter provides detailed instructions on how to remove and replace component spare parts.

### Subtopics

[Safety considerations](#)

[Preparation procedures](#)

[Removing and replacing the front bezel](#)

[Removing and replacing the access panel](#)

[Removing and replacing the air baffle](#)

[Removing and replacing a hot-plug SAS, SATA or NVMe drive](#)

[Flexible Slot power supply replacement](#)

[Removing and replacing the power distribution board](#)

[Removing and replacing the cable management arm](#)

[Removing and replacing the Systems Insight Display](#)

Removing and replacing a cable guard

Removing and replacing a DIMM

Removing and replacing a DIMM guard

Removing and replacing a fan

Removing and replacing the serial port

Removing and replacing the energy pack

Removing and replacing the optical drive blank

Removing and replacing the front 2 SFF stacked drive blank

Removing and replacing the universal media bay cage

Removing and replacing the SFF universal media bay USB 2.0/DisplayPort Y-cable

Removing and replacing the SFF universal media bay USB 3.2 Gen 1 port cable

Removing and replacing the LFF universal media bay DisplayPort cable

Removing and replacing the right chassis ear assembly

Removing and replacing the left chassis ear

Transceiver replacement

Expansion card replacement

Removing and replacing a type-o storage controller

Removing the boot device security cover from the NS204i-u + secondary low-profile riser cage

Removing and replacing an OCP slot blank

Removing and replacing the secondary three-slot riser cage bracket

Removing and replacing the secondary three-slot riser cage blank

Removing and replacing the rack rails

Riser board replacement

Optical drive replacement

Drive backplane replacement

Removing and replacing the OCP NIC 3.0 adapter

Removing and replacing the chassis intrusion detection switch

Removing and replacing the internal USB device

HPE NS204i Boot Device replacement

System battery replacement

Heatsink replacement

Processor replacement

System board assembly replacement

# Safety considerations

Before performing service procedures, review all the safety information.

## Subtopics

[Electrostatic discharge](#)

[Symbols on equipment](#)

[Rack warnings and cautions](#)

[Server warnings and cautions](#)

## Electrostatic discharge

Be aware of the precautions you must follow when setting up the system or handling components. A discharge of static electricity from a finger or other conductor may damage system boards or other static-sensitive devices. This type of damage may reduce the life expectancy of the system or component.

To prevent electrostatic damage:

- Avoid hand contact by transporting and storing products in static-safe containers.
- Keep electrostatic-sensitive parts in their containers until they arrive at static-free workstations.
- Place parts on a grounded surface before removing them from their containers.
- Avoid touching pins, leads, or circuitry.
- Always be properly grounded when touching a static-sensitive component or assembly. Use one or more of the following methods when handling or installing electrostatic-sensitive parts:
  - Use a wrist strap connected by a ground cord to a grounded workstation or computer chassis. Wrist straps are flexible straps with a minimum of 1 megohm  $\pm$ 10 percent resistance in the ground cords. To provide proper ground, wear the strap snug against the skin.
  - Use heel straps, toe straps, or boot straps at standing workstations. Wear the straps on both feet when standing on conductive floors or dissipating floor mats.
  - Use conductive field service tools.
  - Use a portable field service kit with a folding static-dissipating work mat.

If you do not have any of the suggested equipment for proper grounding, have an authorized reseller install the part.

For more information on static electricity or assistance with product installation, contact an authorized reseller.

## Symbols on equipment

The following symbols may be placed on equipment to indicate the presence of potentially hazardous conditions:



This symbol in conjunction with any of the following symbols indicates the presence of a potential hazard. The potential for injury exists if warnings are not observed. Consult your documentation for specific details.

該符號與以下任意符號組合使用，指示存在潛在的危險。如果不遵守警告，可能會造成人身傷害。詳細信息請參閱相關文檔。



This symbol indicates the presence of hazardous energy circuits or electric shock hazards. Refer all servicing to qualified personnel.



**WARNING:**

To reduce the risk of injury from electric shock hazards, do not open this enclosure. Refer all maintenance, upgrades, and servicing to qualified personnel.

此符號表明存在危險電路或觸電的危險。所有維修工作應由具有相關資格的人員來完成。

警告：為了減少觸電造成人身傷害的危險，請不要打開此外殼。所有維護、升級和維修工作都應由具有相關資格的人員來完成。



This symbol indicates the presence of electric shock hazards. The area contains no user or field-serviceable parts. Do not open for any reason.



**WARNING:**

To reduce risk of injury from electric shock hazards, do not open this enclosure.

此符號表明存在觸電的危險。在這一區域內沒有用戶可以現場維修的部件。一定不要打開。警告：為了減少觸電造成人身傷害的危險，請不要打開此外殼。



This symbol on an RJ-45 receptacle indicates a Network Interface Connection.



**WARNING:**

To reduce risk of electric shock, fire, or damage to the equipment, do not plug telephone or telecommunications connectors into this receptacle.

RJ-45 插孔上的該符號指示網絡接口連接。

警告：為了減少觸電、火災或設備損壞的危險，不要將電話或電信連接設備插入此插孔。



This symbol indicates the presence of a hot surface or hot component. If this surface is contacted, the potential for injury exists.



**WARNING:**

To reduce the risk of injury from a hot component, allow the surface to cool before touching.



此符號表明表面或組件過熱。如果觸摸此表面，可能會造成人身傷害。警告：為了減少因組件過熱而造成人身傷害的危險，應等到表面降溫後再觸摸。



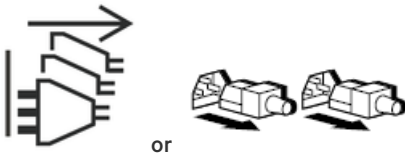
This symbol indicates the presence of a moving fan blade. If the spinning blades are contacted, the potential for injury exists.



**WARNING:**

Hazardous moving parts. Keep away from moving fan blades. To reduce the risk of injury from a hot component, allow the surface to cool before touching.

此符號表明存在運動風扇葉片的危險。如果觸摸旋轉葉片，可能會造成人身傷害。警告：危險的運動部件。請遠離運動風扇刀片。為減少被高溫組件燙傷的危險，應在表面冷卻之後再接觸。



or

These symbols on power supplies or systems indicate that the equipment is supplied by multiple sources of power.



**WARNING:**

To reduce the risk of injury from electric shock, remove all power cords to completely disconnect power from the system.

電源或系統上的這些符號表明設備由多個電源供電。

警告：為了減少觸電造成人身傷害的危險，應拔下所有電源線插頭，完全斷開系統的電源。



Weight in kg.

Weight in lb.

This symbol indicates that the component exceeds the recommended weight for one individual to handle safely.



**WARNING:**

To reduce the risk of personal injury or damage to the equipment, observe local occupational health and safety requirements and guidelines for manual material handling.

此符號表明組件的重量超出了建議值，一個人無法安全取放。

警告：為了減少人身傷害或設備損壞的危險，應遵守當地有關人工取放物品的職業保健與安全規定及準則。



A discharge of static electricity from a finger or other conductor may damage system boards or other static-sensitive devices. To prevent damage, observe antistatic precautions.

手指或其它導體所釋放的靜電可能損壞主板或其它對靜電敏感的設備。為防止發生損壞，請遵守防靜電預防措施。



This symbol indicates the presence of a laser device in the product that may exceed Class 1 limits. Refer to the product documentation for more information.

此符號表明在可能會超出 1 類限制的產品中存在激光設備。有關詳細信息，請參閱產品文檔。



This symbol indicates the presence of moving parts inside the product that may present a pinch point if improperly contacted.



**WARNING:**

Hazardous moving parts. Do not insert any tools or any part of your body into the product while it is operating or in any openings.

## Rack warnings and cautions



**WARNING:**

When all components are removed, the server weighs 16.78 kg (36.99 lb). When all components are installed, the server can weigh up to 41.41 kg (91.29 lb).

Before configuring your rack solution, be sure to check the rack manufacturer weight limits and specifications. Failure to do so can result in physical injury or damage to the equipment and the facility.



**WARNING:**

The server is heavy. To reduce the risk of personal injury or damage to the equipment, do the following:

- Observe local occupational health and safety requirements and guidelines for manual material handling.
- Get help to lift and stabilize the product during installation or removal, especially when the product is not fastened to the rails. The server weighs more than 16.78 kg (36.99 lb), so at least two people must lift the server into the rack together. An additional person may be required to help align the server if the server is installed higher than chest level.
- Use caution when installing the server in or removing the server from the rack.
- Adequately stabilized the rack before extending a component outside the rack. Extend only one component at a time. A rack may become unstable if more than one component is extended.
- Do not stack anything on top of rail-mounted component or use it as a work surface when extended from the rack.

**WARNING:**

To reduce the risk of personal injury or damage to the equipment, be sure that:

- The rack has anti-tip measures in place. Such measures include floor-bolting, anti-tip feet, ballast, or a combination as specified by the rack manufacturer and applicable codes.
- The leveling jacks (feet) are extended to the floor.
- The full weight of the rack rests on the leveling jacks (feet).
- The stabilizing feet are attached to the rack if it is a single-rack installation.
- The racks are coupled together in multiple rack installations.

**WARNING:**

To reduce the risk of personal injury or equipment damage when unloading a rack:

- At least two people are needed to safely unload the rack from the pallet. An empty 42U rack can weigh as much as 115 kg (253 lb), can stand more than 2.1 m (7 ft) tall, and might become unstable when being moved on its casters.
- Never stand in front of the rack when it is rolling down the ramp from the pallet. Always handle the rack from both sides.

**CAUTION:**

Always plan the rack installation so that the heaviest item is on the bottom of the rack. Install the heaviest item first, and continue to populate the rack from the bottom to the top.

**CAUTION:**

Before installing the server in a rack, be sure to properly scope the limitations of the rack. Before proceeding with the installation, consider the following:

- You must fully understand the static and dynamic load carrying capacity of the rack and be sure that it can accommodate the weight of the server.
- Be sure sufficient clearance exists for cabling, installation and removal of the server, and movement of the rack doors.

## Server warnings and cautions

**WARNING:**

To reduce the risk of personal injury, electric shock, or damage to the equipment, disconnect the power cord to remove power from the server. Pressing the Power On/Standby button does not shut off system power completely. Portions of the power supply and some internal circuitry remain active until AC power is removed.



**WARNING:** To reduce the risk of personal injury from hot surfaces, allow the drives and the internal system components to cool before touching them.

**WARNING:**

To reduce the risk of fire or burns after removing the energy pack:

- Do not disassemble, crush, or puncture the energy pack.
- Do not short external contacts.
- Do not dispose of the energy pack in fire or water.
- Do not expose the energy pack to low air pressure as it might lead to explosion or leakage of flammable liquid or gas.
- Do not expose the energy pack to temperatures higher than 60°C (140°F).

After power is disconnected, battery voltage might still be present for 1s to 160s.

---

**⚠ CAUTION:**

Protect the server from power fluctuations and temporary interruptions with a regulating UPS. This device protects the hardware from damage caused by power surges and voltage spikes and keeps the server in operation during a power failure.

---

**⚠ CAUTION:**

To prevent damage to electrical components, properly ground the server before beginning any installation, removal, or replacement procedure. Improper grounding can cause electrostatic discharge.

---

**⚠ CAUTION:**

To avoid data loss, Hewlett Packard Enterprise recommends that you back up all server data before installing or removing a hardware option, or performing a server maintenance or troubleshooting procedure.

---

**⚠ CAUTION:**

Do not operate the server for long periods with the access panel open or removed. Operating the server in this manner results in improper airflow and improper cooling that can lead to thermal damage.

---

## Preparation procedures

### Prerequisites

Before powering down the server for an upgrade, maintenance, or service procedure, perform a backup of critical server data.

### About this task

To access components and perform certain upgrade, maintenance, or service procedure, you must perform one or more of the procedures described in this section.

### Subtopics

Server data backup

Power down the server

Open the cable management arm

Extend the server out of the rack

Remove the server from the rack

Remove the middle cover

Remove the front GPU cage

Remove the midplane drive cage

Remove the fan cage

Remove the midwall bracket

Remove the LFF drive backplane bracket

Remove the rear 4 LFF drive cage

Remove the riser cage

Power up the server

## Server data backup

To avoid data loss, make sure to back up all server data before installing or removing a hardware option, performing a server maintenance, or a troubleshooting procedure.

Server data in this context refers to information that may be required to return the system to a normal operating environment after completing a hardware maintenance or troubleshooting procedure. This information may include:

- User data files
- User account names and passwords
- Application settings and passwords
- Component drivers and firmware
- TPM recovery key/password
- BIOS configuration settings—Use the backup and restore function in UEFI System Utilities. For more information, see the UEFI user guide (<https://www.hpe.com/info/UEFI-manuals>).
  - Custom default system settings
  - Security passwords including those required for power-on and BIOS admin access, persistent memory, and Server Configuration Lock (for HPE Trusted Supply Chain servers)
  - Server serial number and the product ID
- iLO-related data—Use the iLO backup and restore function. For more information, see the iLO user guide (<https://www.hpe.com/support/ilo6>).
  - iLO license
  - Customer iLO user name, password, and DNS name
  - iLO configuration settings
- For servers managed by HPE GreenLake for Compute Ops Management, make sure that you have your HPE GreenLake account ID. For more information, see [HPE GreenLake for Compute Ops Management Getting Started Guide](#).

## Power down the server

Before powering down the server for any upgrade or maintenance procedures, perform a backup of critical server data and programs.



### IMPORTANT:

When the server is in standby mode, auxiliary power is still being provided to the system.

---

To power down the server, use one of the following methods:

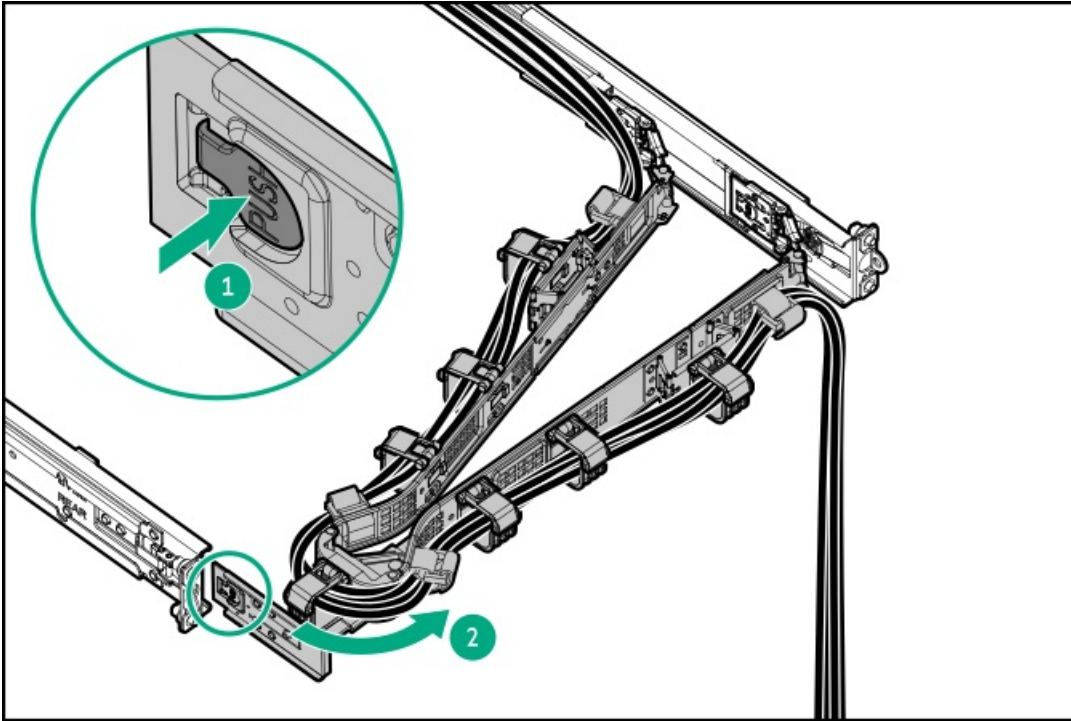
- Press and release the Power On/Standby button.  
This method activates a controlled shutdown of applications and the OS before the server enters standby mode. It can also activate a shutdown behavior governed by an OS configuration or policy.
- Press and hold the Power On/Standby button for more than 4 seconds to force the server to enter standby mode.  
This method forces the server to enter standby mode without properly exiting applications and the OS. If an application stops responding, you can use this method to force a shutdown.
- Use a virtual power button selection through iLO 6.  
This method initiates a controlled remote shutdown of applications and the OS before the server enters standby mode.

Before proceeding, verify that the server is in standby mode by observing that the system power LED is amber.

## Open the cable management arm

### Procedure

1. Press and hold the blue **PUSH** button on the retention bracket.
2. Swing the arm away from the rear panel.



## Extend the server out of the rack

### Prerequisites

- Before you perform this procedure, review the [Rack warnings and cautions](#).
- T-25 Torx screwdriver—This tool is required if the shipping screws located inside the chassis ears are secured.

### About this task

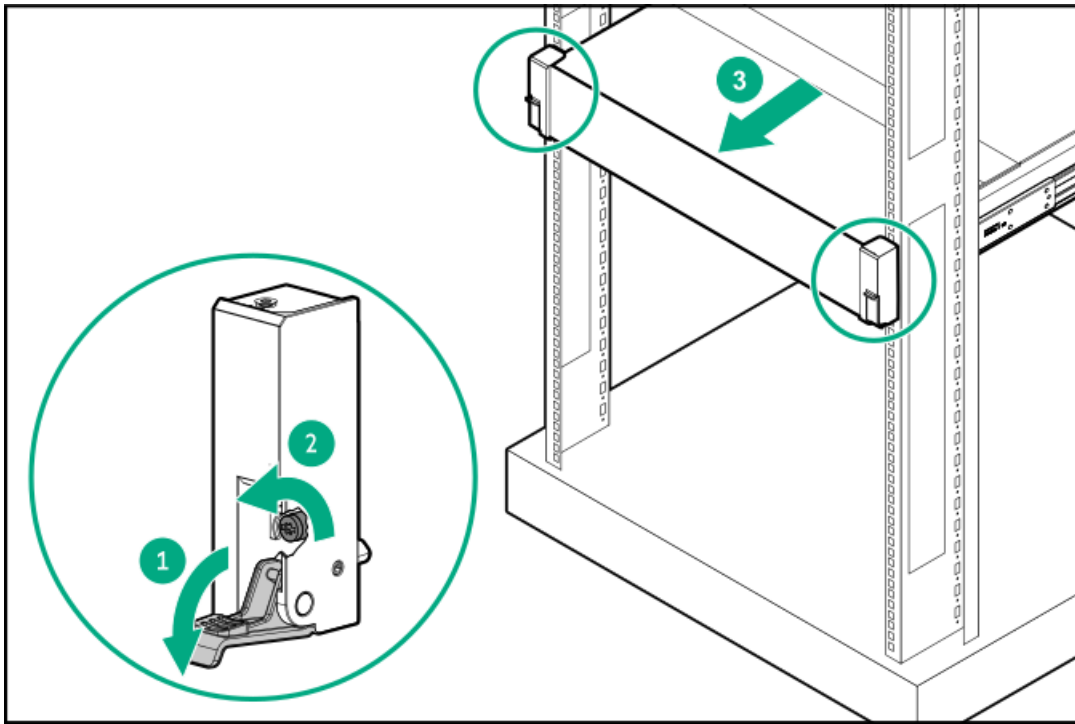


#### **WARNING:**

To reduce the risk of personal injury, be careful when pressing the server rail-release latches. The inner rails could pinch your fingers.

### Procedure

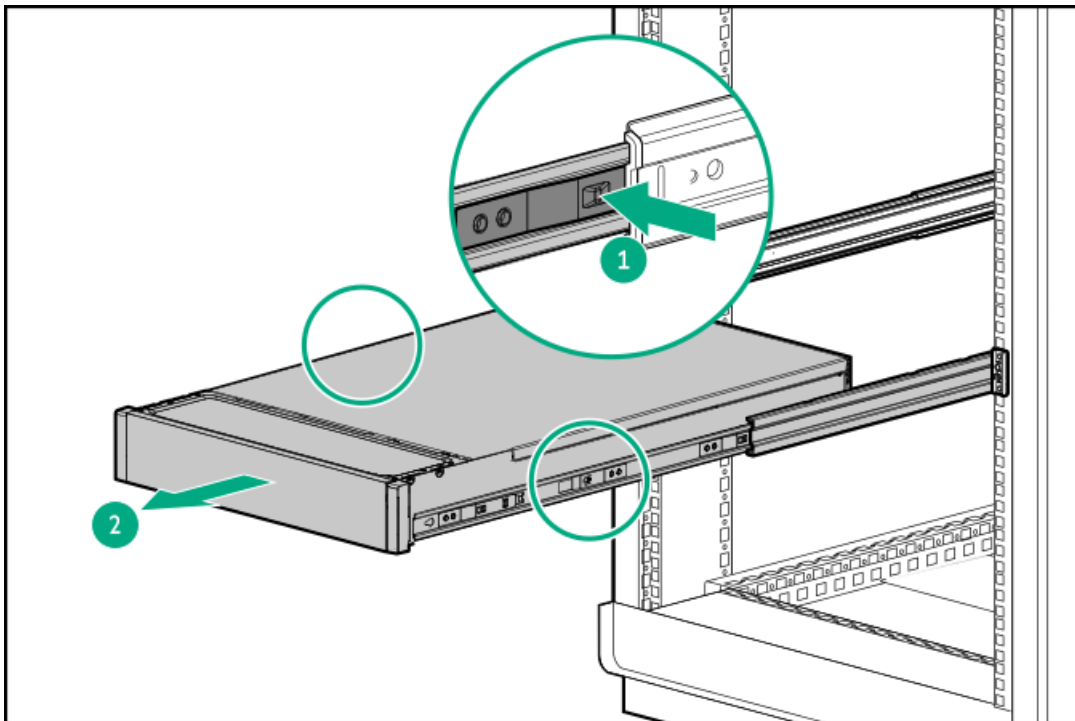
1. If needed, loosen the shipping screws, and then use the chassis ear latches to slide the server out of the rack until the rail-release latches are engaged.



2. **⚠ WARNING:**

To reduce the risk of personal injury, be careful when pressing the server rail-release latches. The inner rails could pinch your fingers.

Press and hold the rear-end rail-release latches (callout 1), and then slide the server out of the rack until it is fully extended (callout 2).



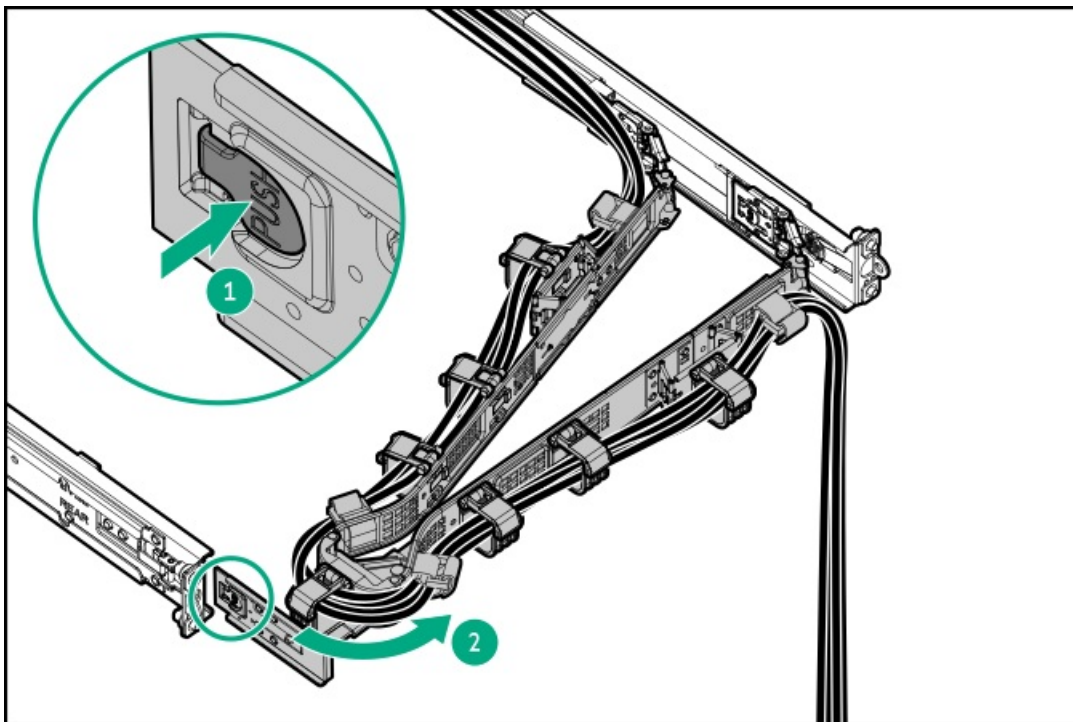
## Remove the server from the rack

### Prerequisites


- Get help to lift and stabilize the server during removal from the rack. **If the server is installed higher than chest level, an additional person might be required to help remove the server:** One person to support the server weight, and the other to slide the server out of the rack.
- Before you perform this procedure, review the:
  - [Rack warnings and cautions](#)
  - [Server warnings and cautions](#)
- A fully populated server is heavy. Hewlett Packard Enterprise recommends removing the external server components before removing the server from the rack.
- Before you perform this procedure, make sure that you have a T-25 Torx screwdriver available.

#### Procedure

1. [Power down the server.](#)
2. If installed, open the cable management arm.

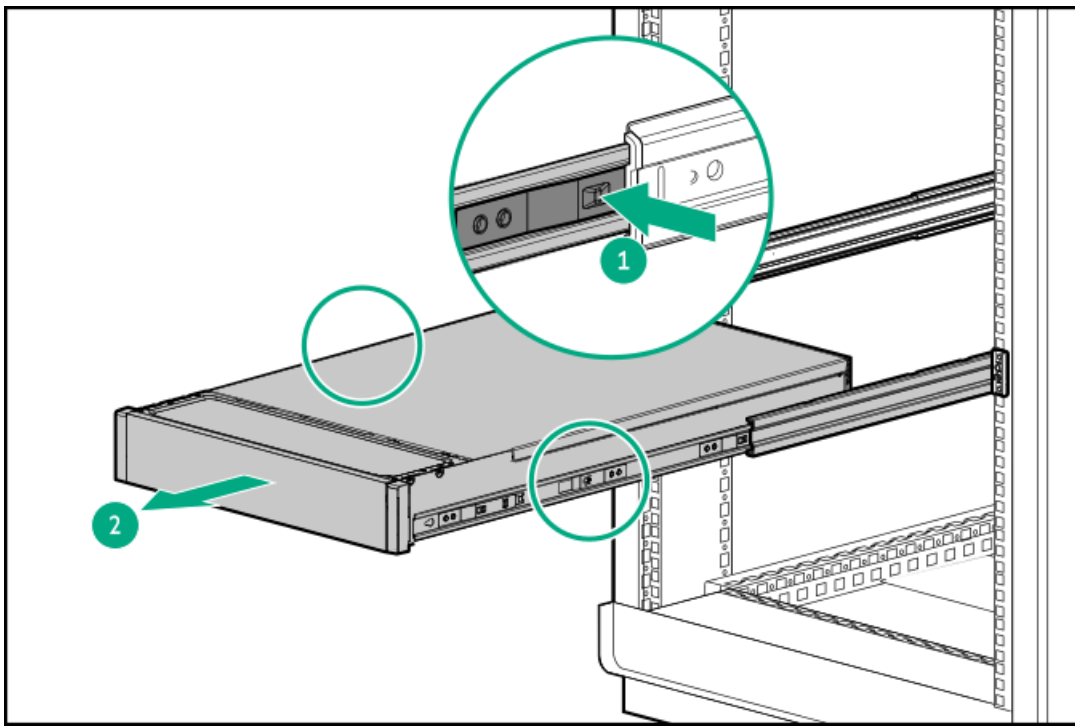


3. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
4. Disconnect all peripheral cables from the server.

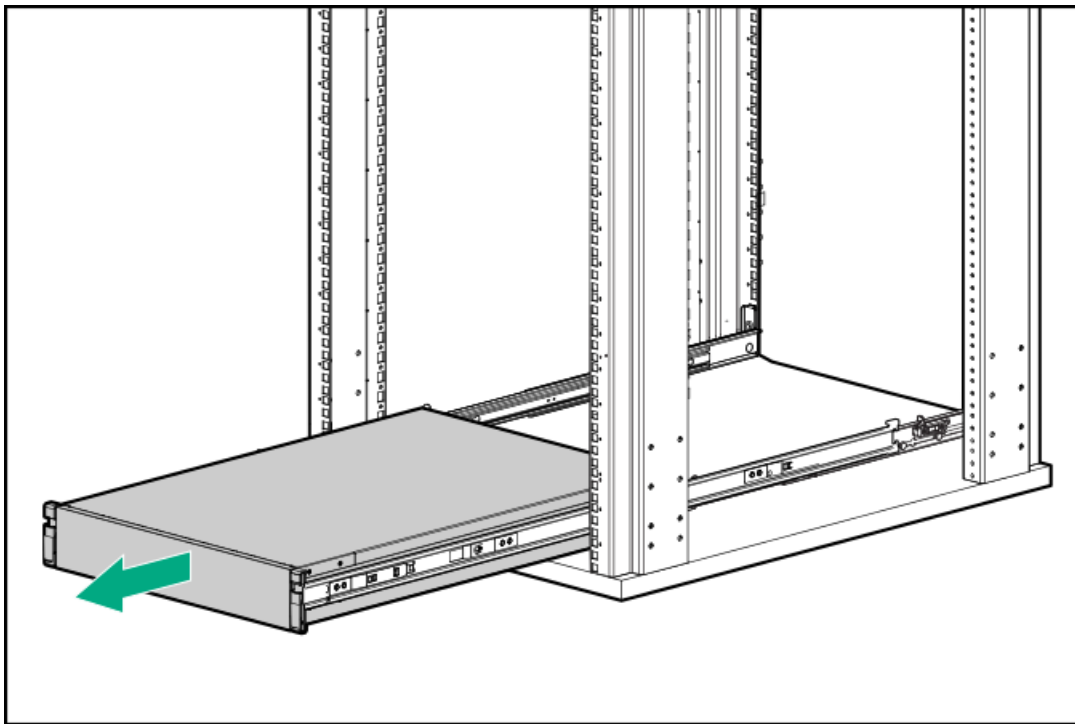
5.  **WARNING:**  
To reduce the risk of personal injury, be careful when pressing the server rail-release latches. The inner rails could pinch your fingers.

Press and hold the rear-end rail-release latches (callout 1), and then slide the server out of the rack until it is fully extended (callout 2).





6. Slide the server completely out of the rack.



7. Place the server on a flat, level work surface.

#### Subtopics

[Rail identification markers](#)

[Rack mounting interfaces](#)

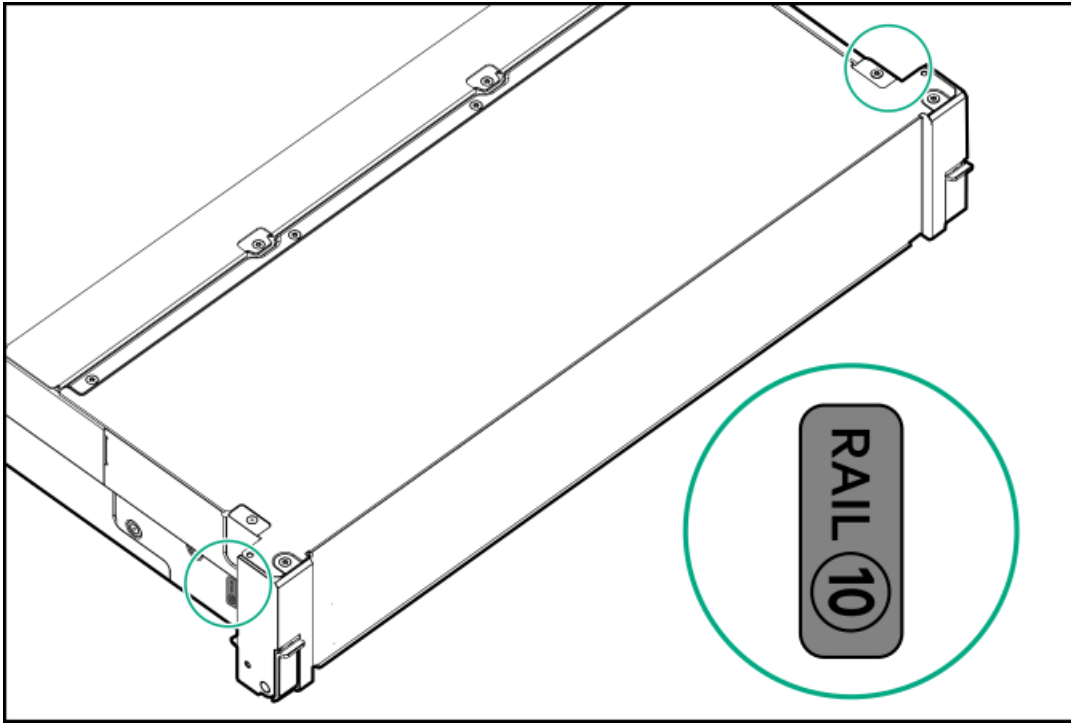
## Rail identification markers

The rack rail option support is dependent on these two factors:

- The height and weight of the chassis as determined by the front- and rear-end server configurations.
- The depth of the chassis as measured from the edge of the front panel (without the front bezel) to the edge of the rear panel.

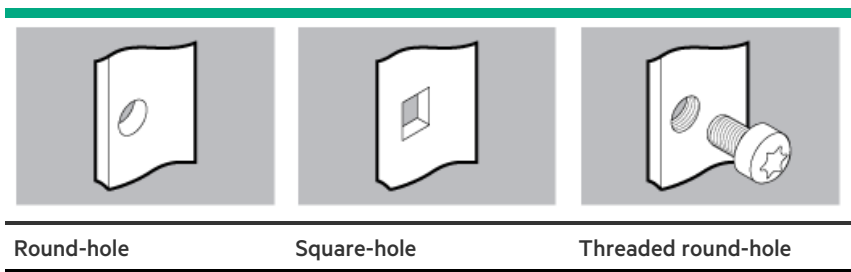
To ensure compatibility between the rack rails and the server, verify that the rail number labels on the chassis match the ones stamped on the rails.

- Rail number labels on the chassis



## Rack mounting interfaces

The rack rails can be installed in a rack that has the following mounting interfaces:



The illustrations used in this procedure show an icon on the upper right corner of the image. This icon indicates the type of mounting interface for which the action illustrated in the image is valid.

## Remove the middle cover

### About this task

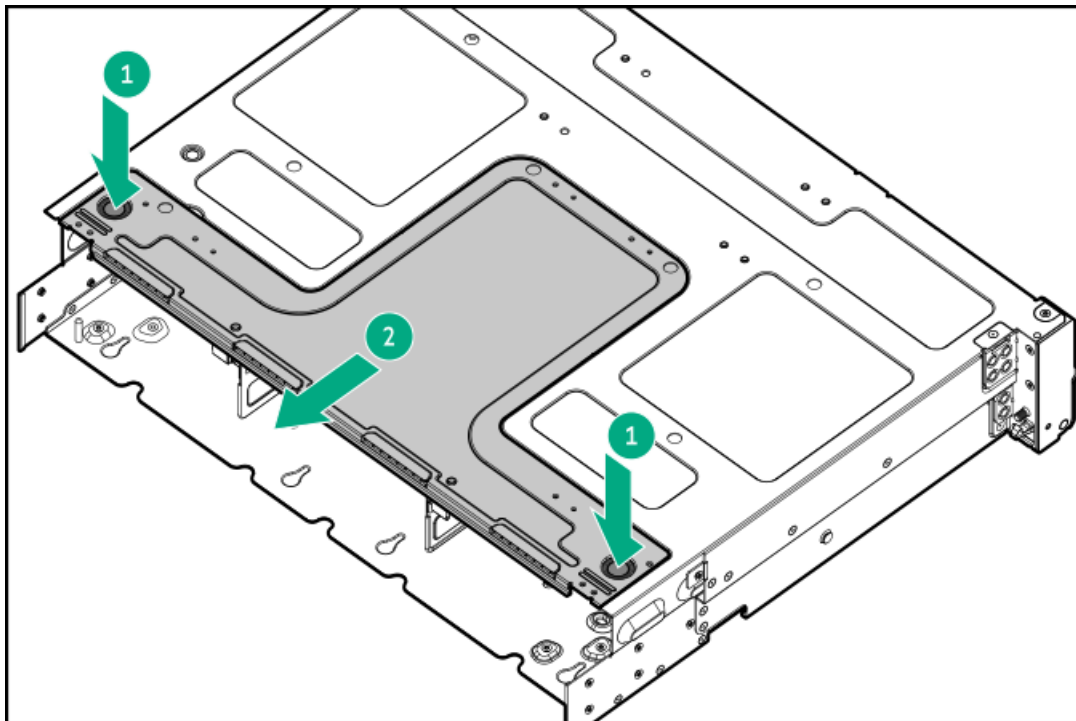
This procedure applies to the GPU configuration.

**CAUTION:** For proper cooling, do not operate the server without the access panel, baffles, expansion slot covers, or blanks installed.

**CAUTION:**  
To prevent damage to electrical components, properly ground the server before beginning any installation, removal, or replacement procedure. Improper grounding can cause electrostatic discharge.

#### Procedure

1. Power down the server.
2. If installed, release the cable management arm.
3. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
4. Disconnect all peripheral cables from the server.
5. Do one of the following:
  - Extend the server from the rack.
  - Remove the server from the rack.
6. Remove the access panel.
7. Remove the middle cover:
  - a. Press and hold the release buttons (callout 1).
  - b. Disengage the cover from the front cage (callout 2).



## Remove the front GPU cage

## About this task

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**WARNING:** To reduce the risk of personal injury from hot surfaces, allow the drives and the internal system components to cool before touching them.

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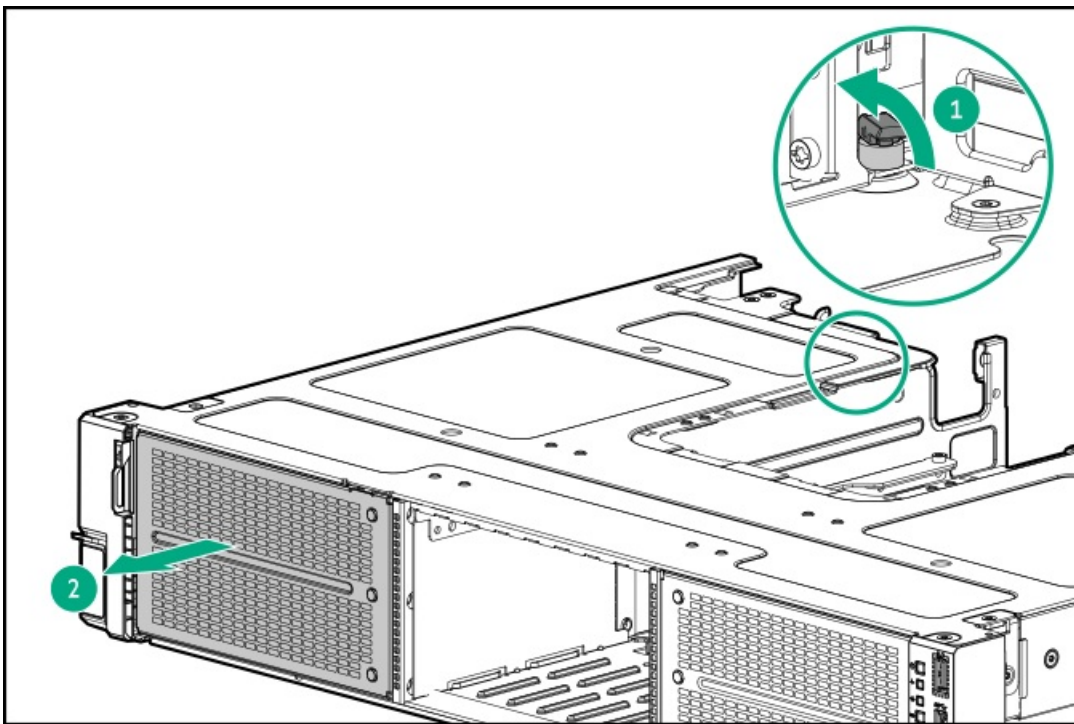
**CAUTION:**

To prevent damage to electrical components, properly ground the server before beginning any installation, removal, or replacement procedure. Improper grounding can cause electrostatic discharge.

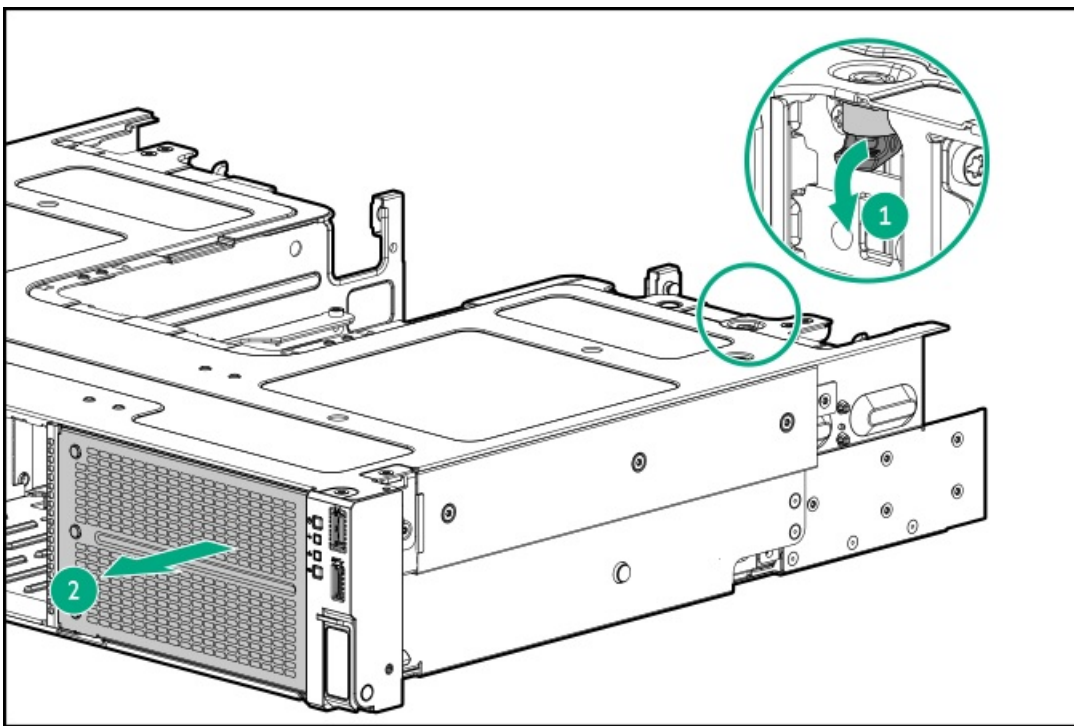
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## Procedure

1. Power down the server.
2. If installed, release the cable management arm.
3. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
4. Disconnect all peripheral cables from the server.
5. Do one of the following:
  - Extend the server from the rack.
  - Remove the server from the rack.
6. Remove the access panel.
7. Remove the air baffle.
8. Remove the middle cover.
9. Remove the fans.
10. Remove the fan cage.
11. Disconnect all GPU cables from the system board.
12. Remove a front GPU cage:
  - a. Open the release latch (callout 1).
  - b. Push the GPU cage out from the server (callout 2).
    - GPU cage 1



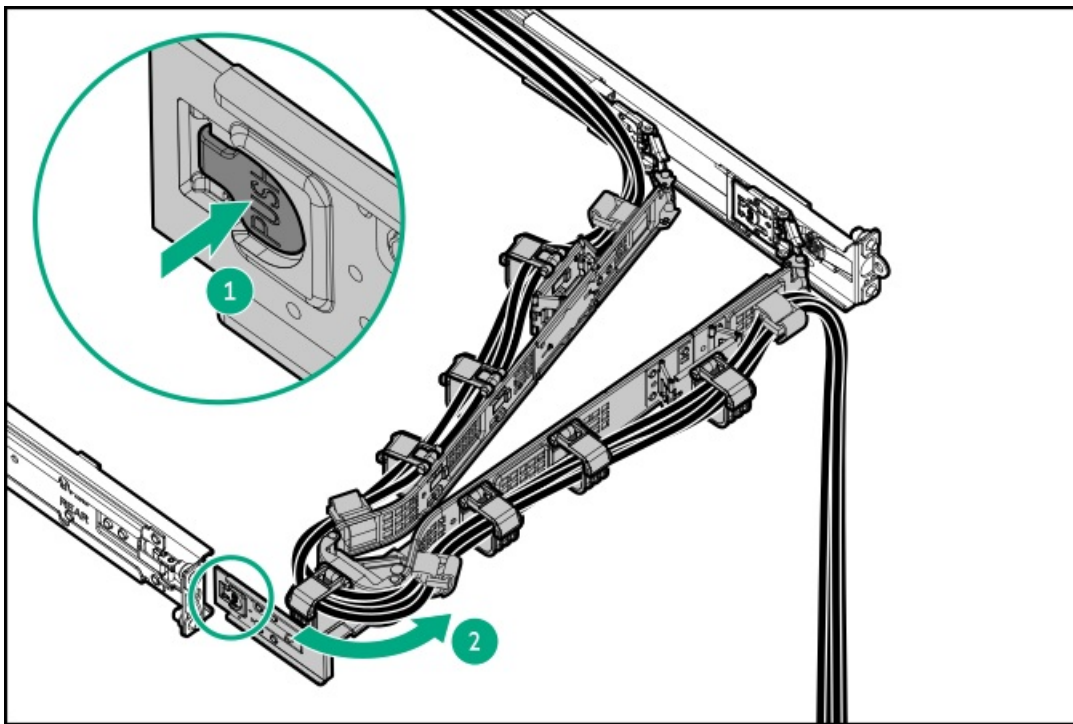
- GPU cage 2



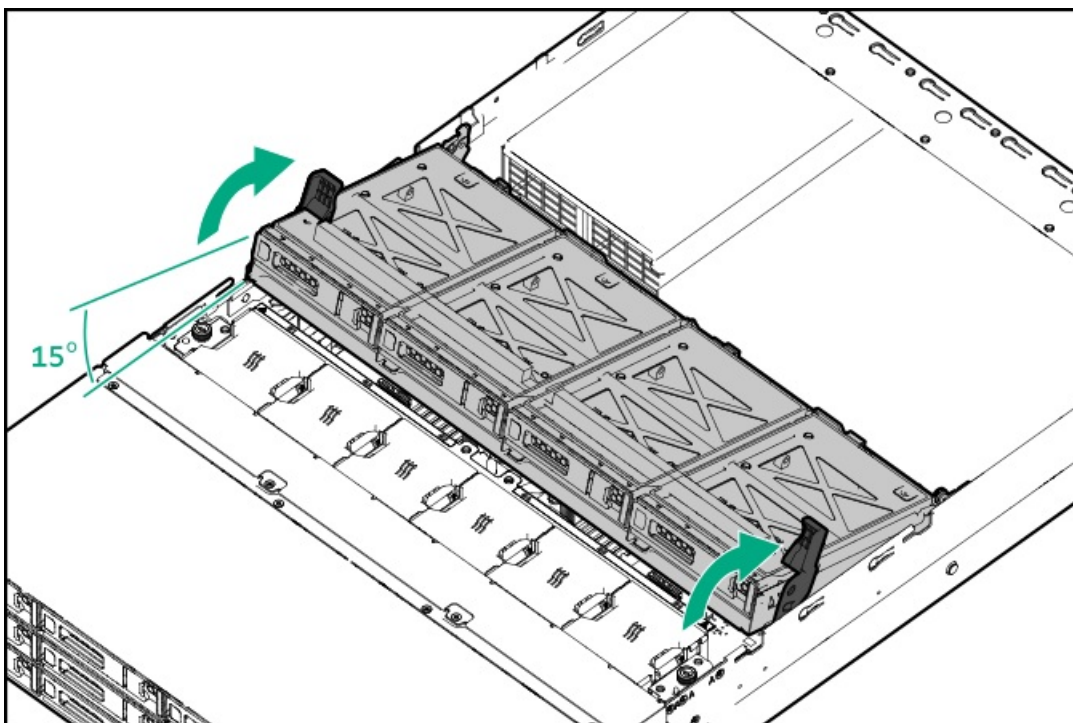
## Remove the midplane drive cage

### Procedure

1. Power down the server.
2. If installed, open the cable management arm.

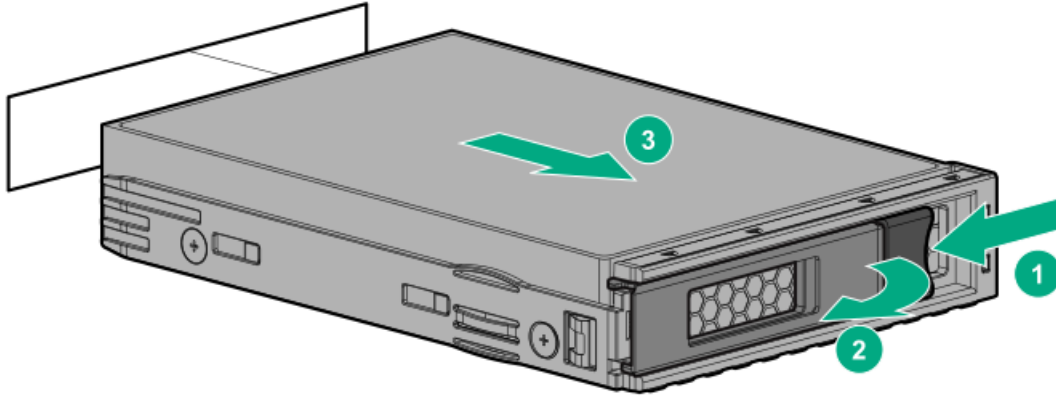


3. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
4. Disconnect all peripheral cables from the server.
5. Remove the server from the rack.
6. Place the server on a flat, level work surface.
7. Remove the access panel.
8. Disconnect all midplane drive backplane cables.
9. Open the drive cage latches to lift the front side of the cage to about 15° angle.

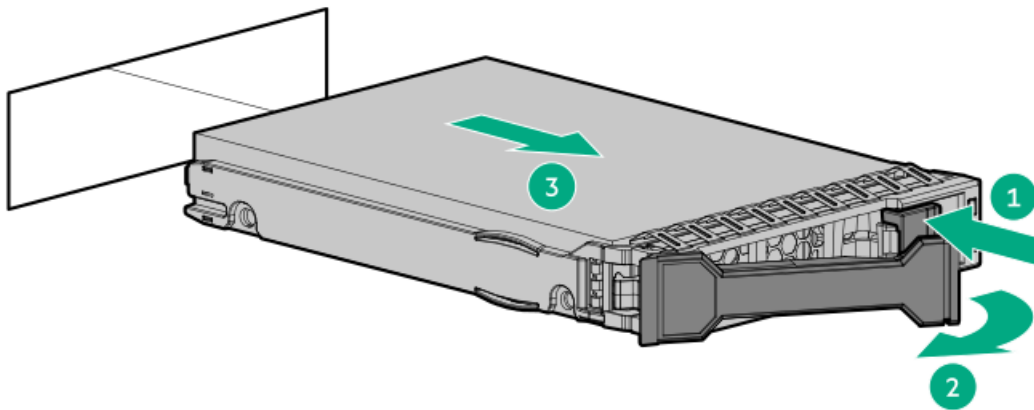


10. Remove all midplane drives.

- LFF drive

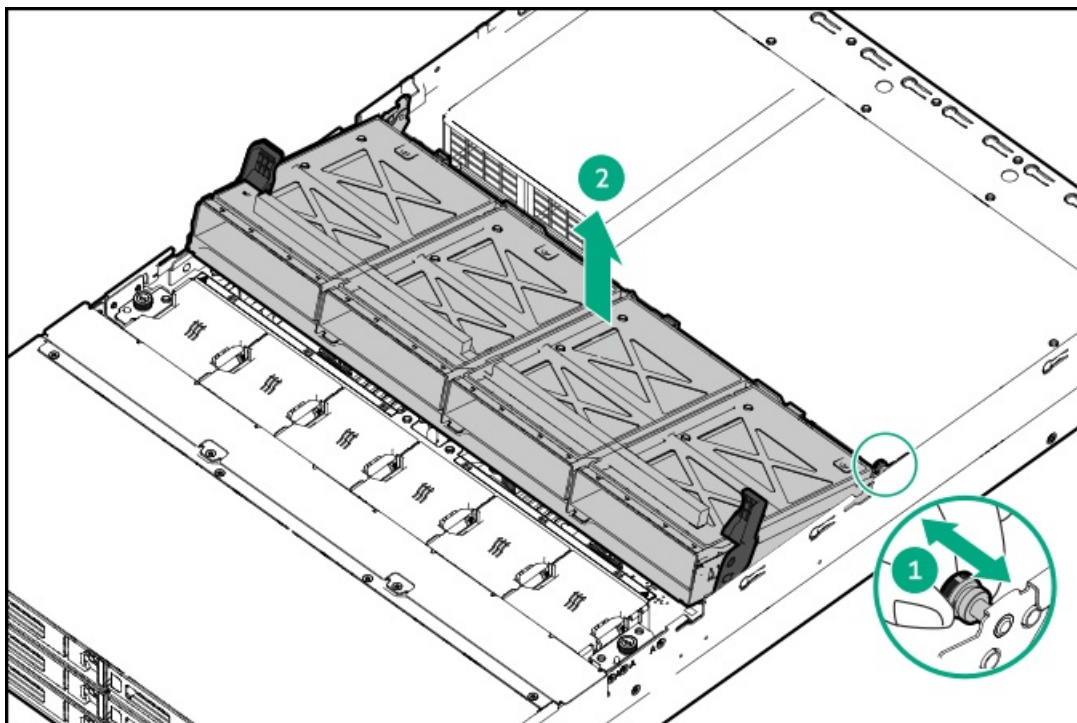


- SFF drive



11. Remove the midplane drive cage:

- a. Pull the plunger pin on the rear right side of the drive cage (callout 1).
- b. Use the drive cage latches to lift the cage out of the server (callout 2).



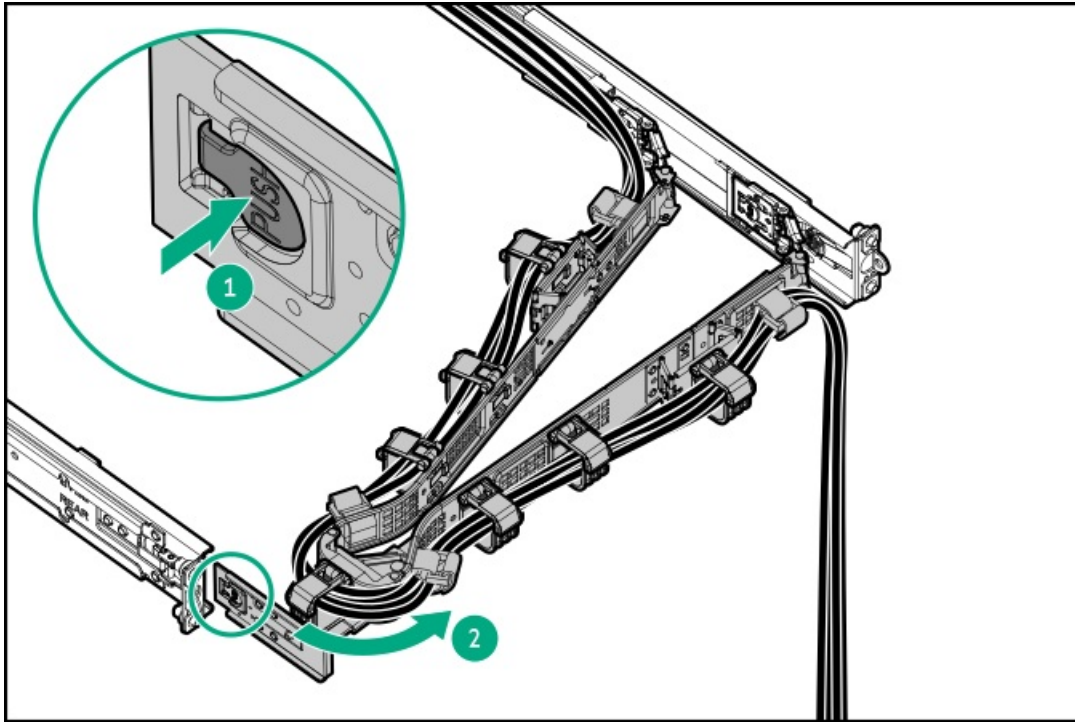
# Remove the fan cage

## Prerequisites

Before you perform this procedure, make sure that you have a T-15 Torx screwdriver available.

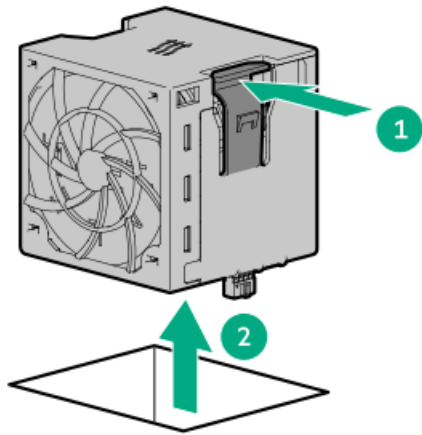
## Procedure

1. Power down the server.
2. If installed, open the cable management arm.



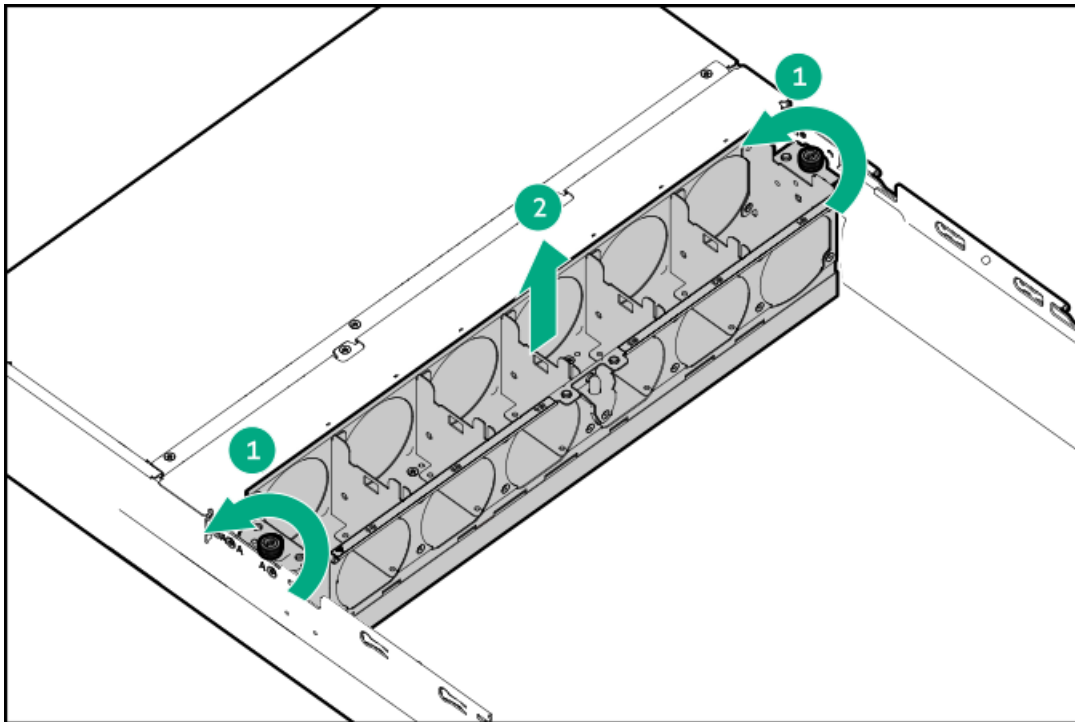
3. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
4. Disconnect all peripheral cables from the server.
5. Remove the server from the rack.
6. Place the server on a flat, level work surface.
7. Remove the access panel.
8. Remove the existing fans:
  - a. Press and hold the latch (callout 1).
  - b. Lift the fan from the fan cage (callout 2).





9. Remove the fan cage:

- a. Loosen the captive screws (callout 1).
- b. Lift the fan cage away from the chassis (callout 2).



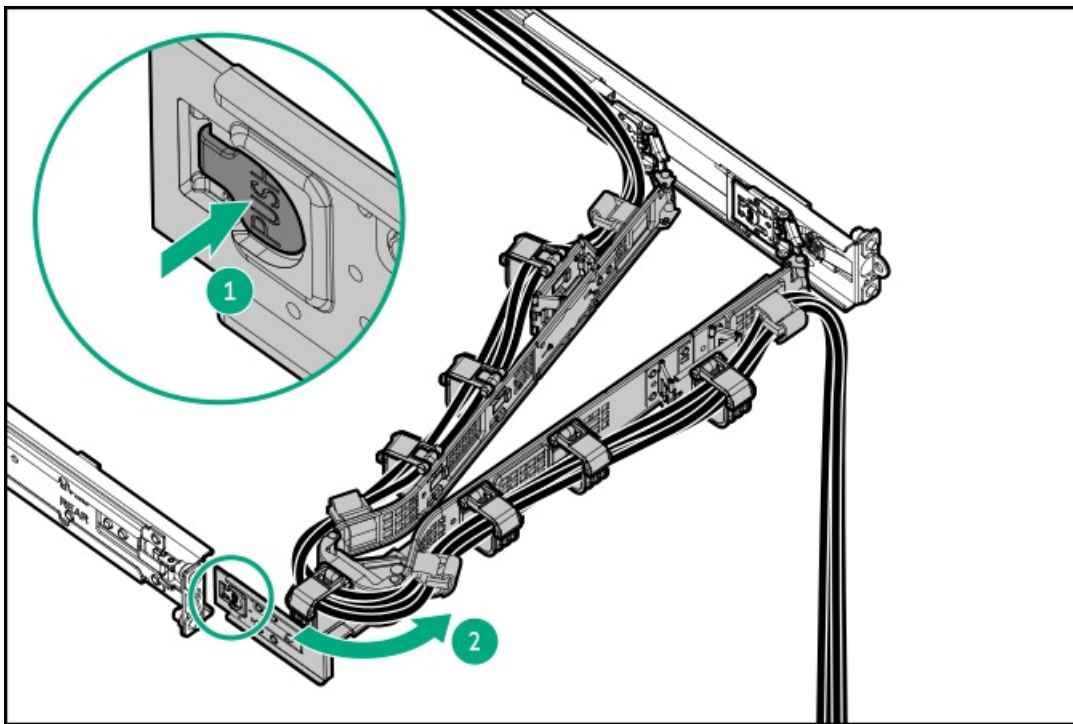
## Remove the midwall bracket

### Prerequisites

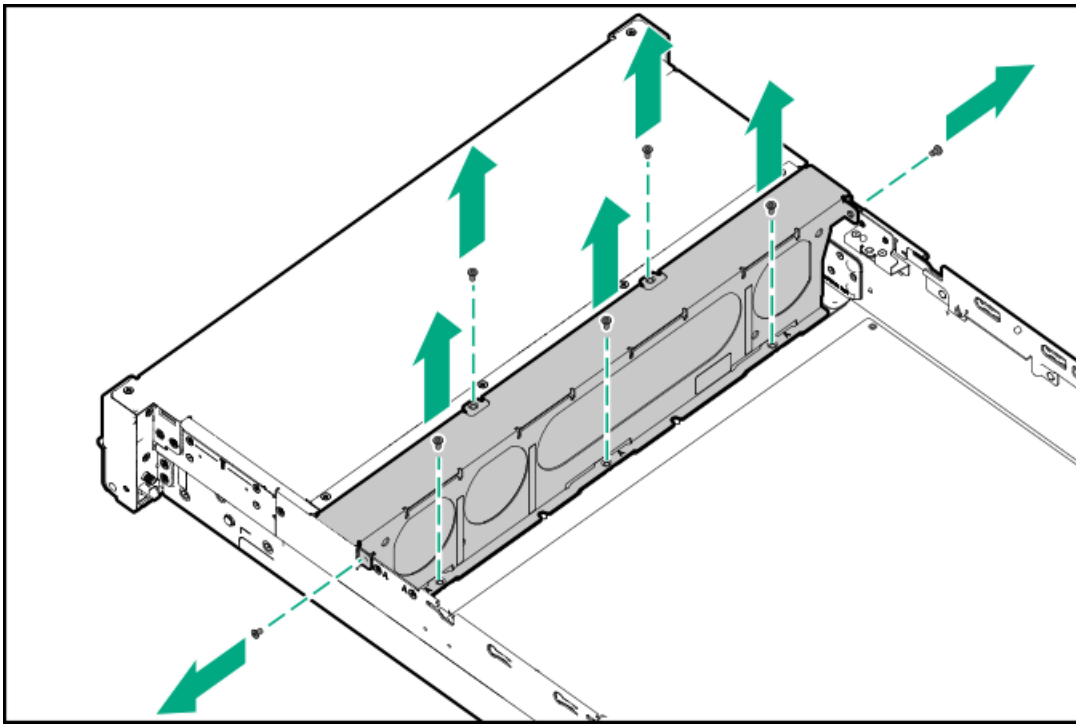
Before you perform this procedure, make sure that you have a T-10 Torx screwdriver available.

### Procedure

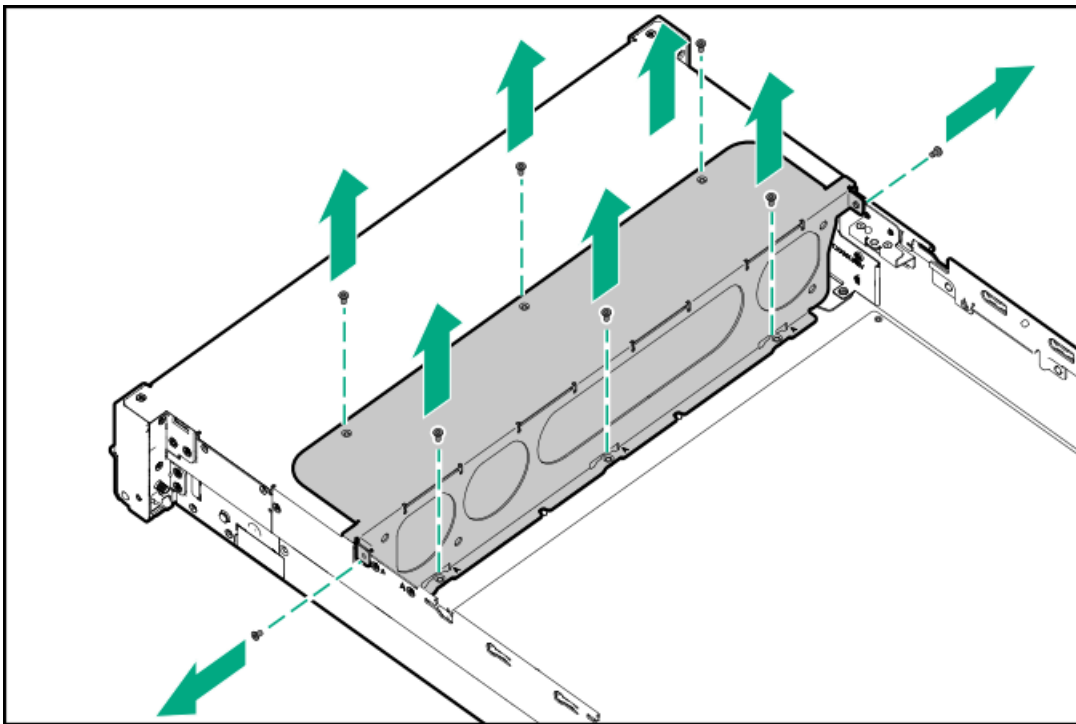
1. Power down the server.
2. If installed, open the cable management arm.



3. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
4. Disconnect all peripheral cables from the server.
5. Remove the server from the rack.
6. Place the server on a flat, level work surface.
7. Remove the access panel.
8. Remove the fan cage.
9. Remove the midwall bracket screws.
  - LFF chassis



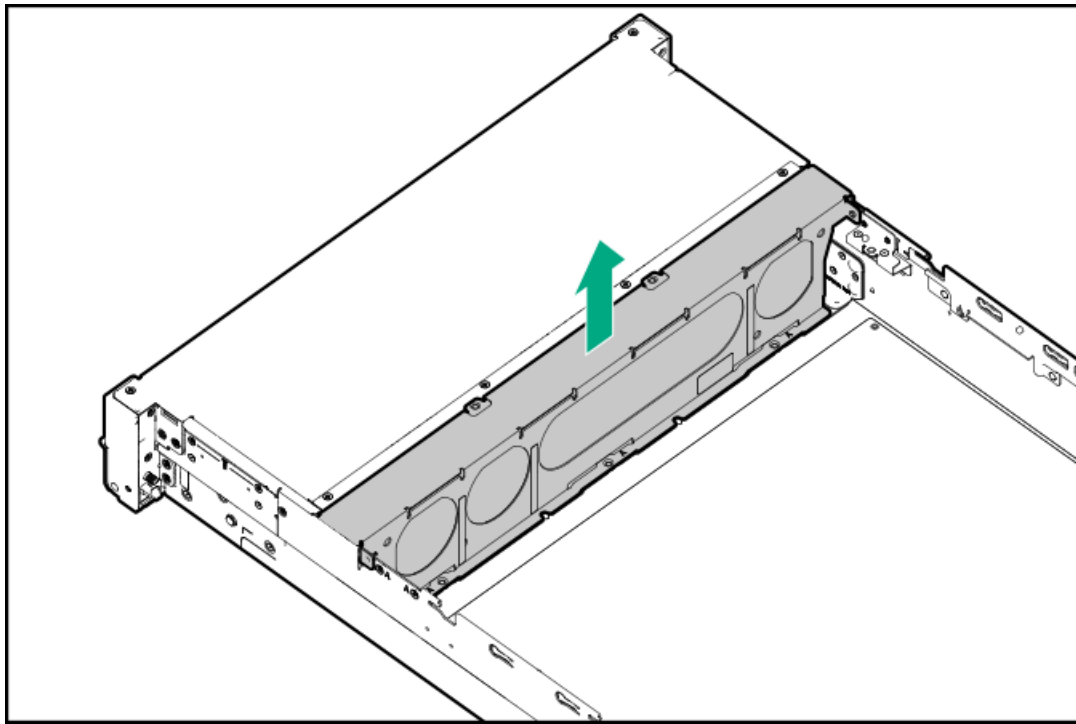
- SFF chassis



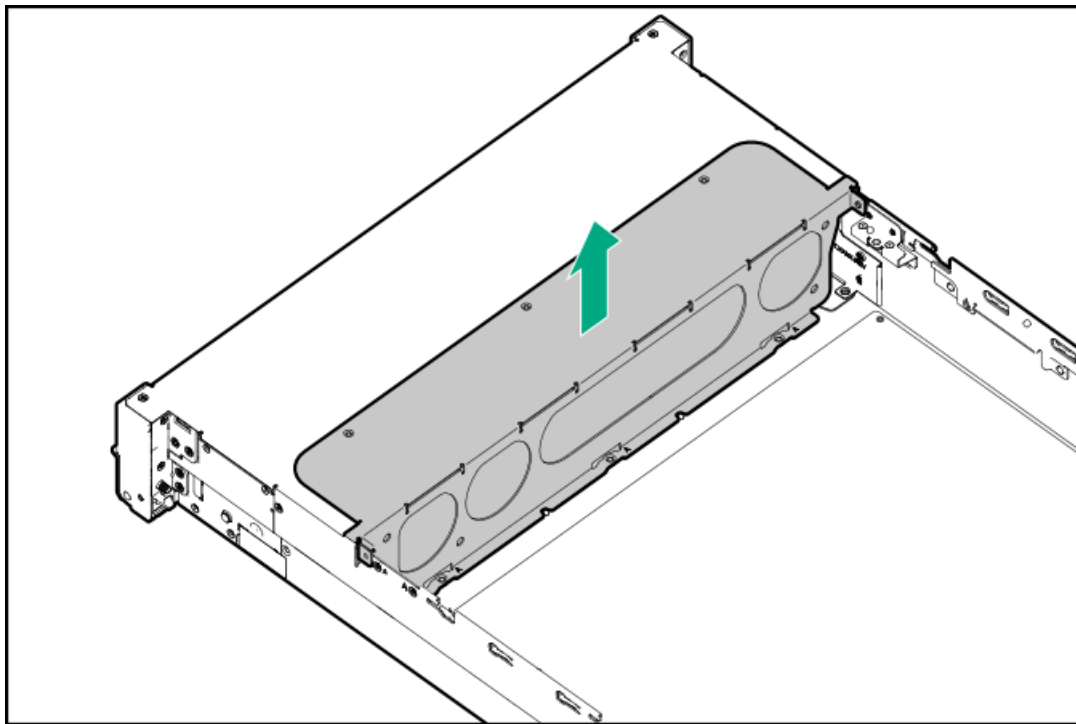
10. Lift the midwall bracket away from the chassis.

- LFF chassis





- SFF chassis



## Remove the LFF drive backplane bracket

### Prerequisites

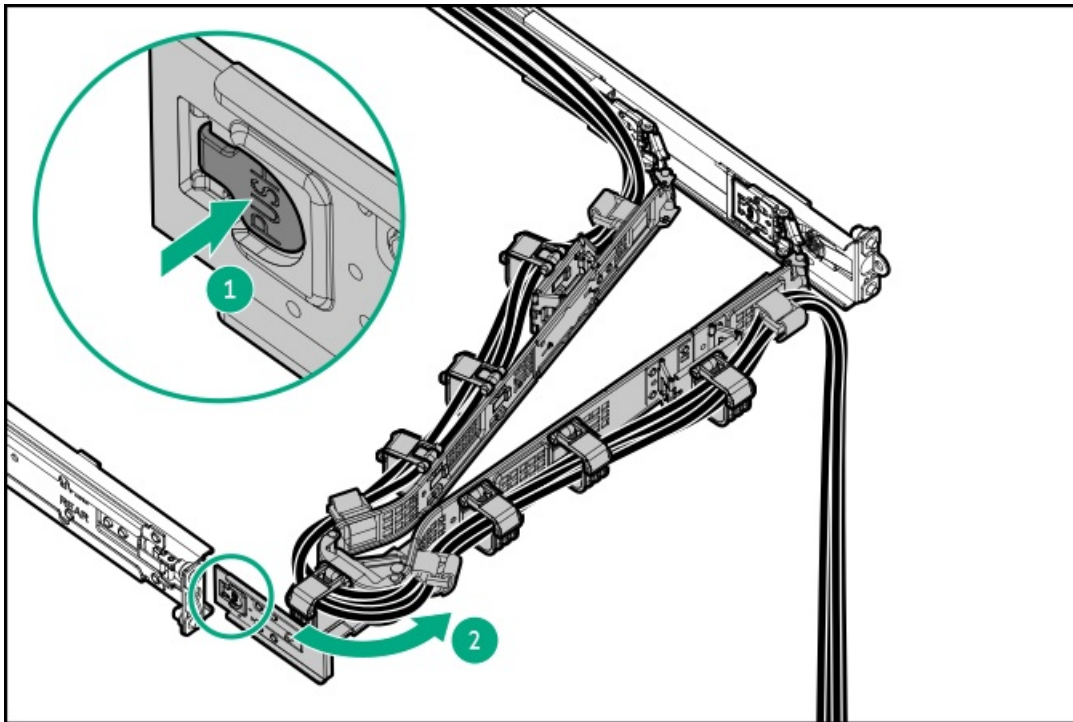
Before you perform this procedure, make sure that you have a T-10 Torx screwdriver available.

### About this task

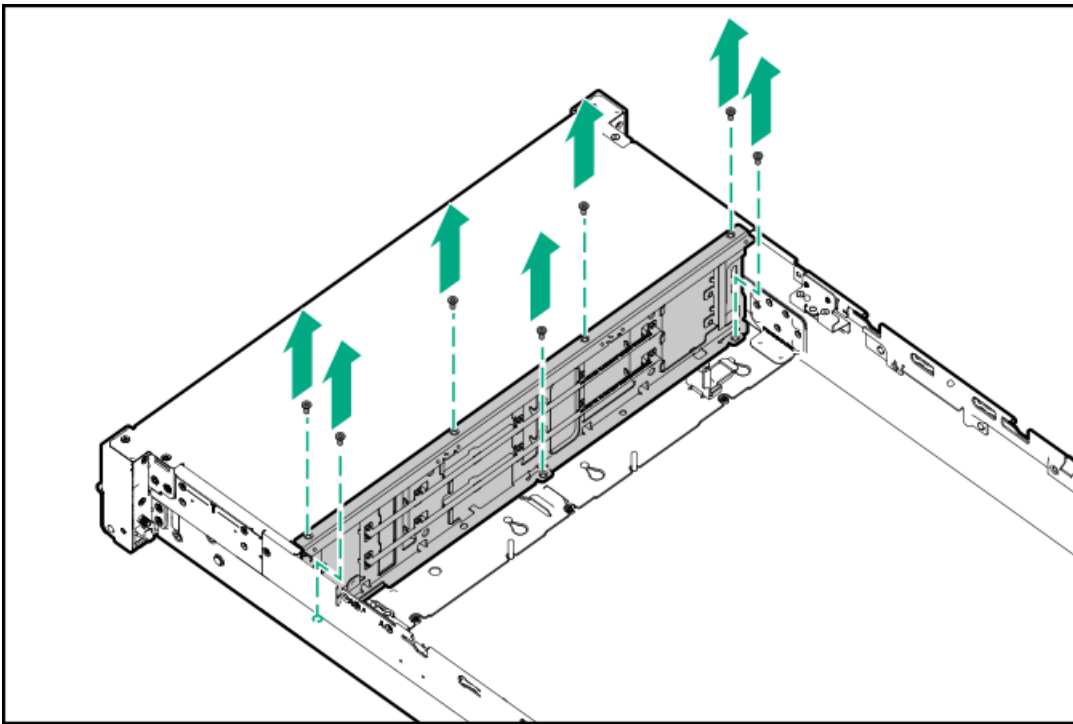
The drive backplane bracket is only present in LFF drive configurations.

## Procedure

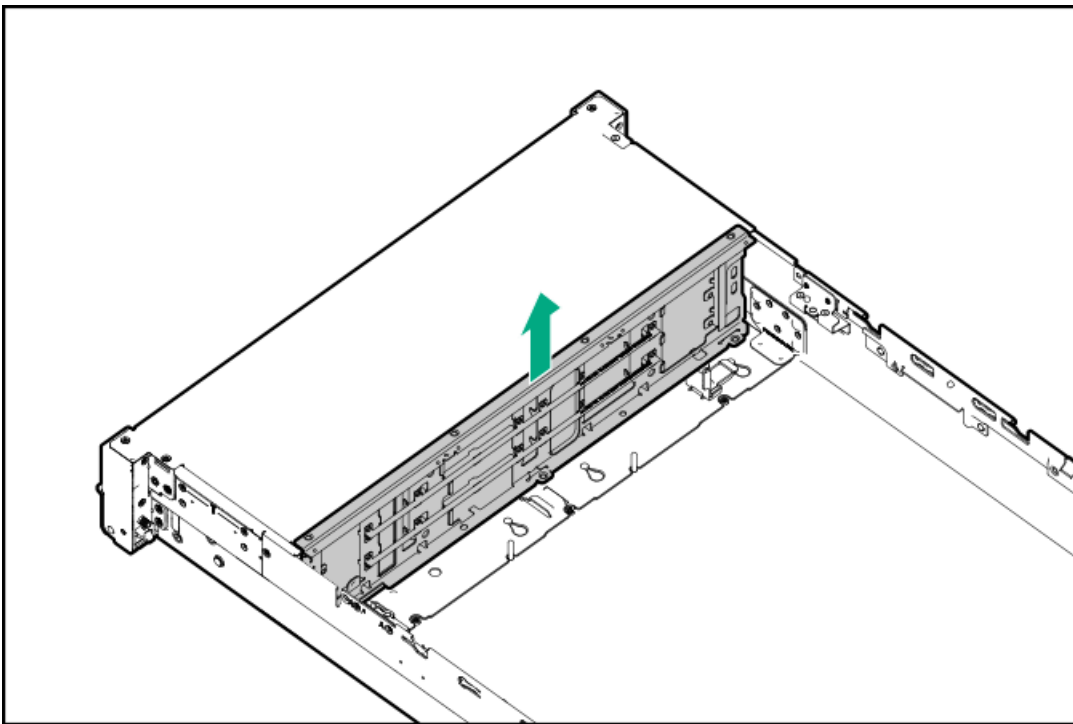
1. Power down the server.
2. If installed, open the cable management arm.



3. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
4. Disconnect all peripheral cables from the server.
5. Remove the server from the rack .
6. Place the server on a flat, level work surface.
7. Remove the access panel.
8. Remove the fan cage.
9. Remove the midwall bracket.
10. Disconnect all cables from the drive backplanes.
11. Remove the drive backplane bracket screws.



12. Remove the drive backplane bracket from the server.



## Remove the rear 4 LFF drive cage

### Prerequisites

Before you perform this procedure, make sure that you have a T-10 Torx screwdriver available.

### About this task



**⚠ CAUTION:**

A discharge of static electricity from a finger or other conductor might damage system boards or other static-sensitive devices. To prevent damage, observe antistatic precautions.

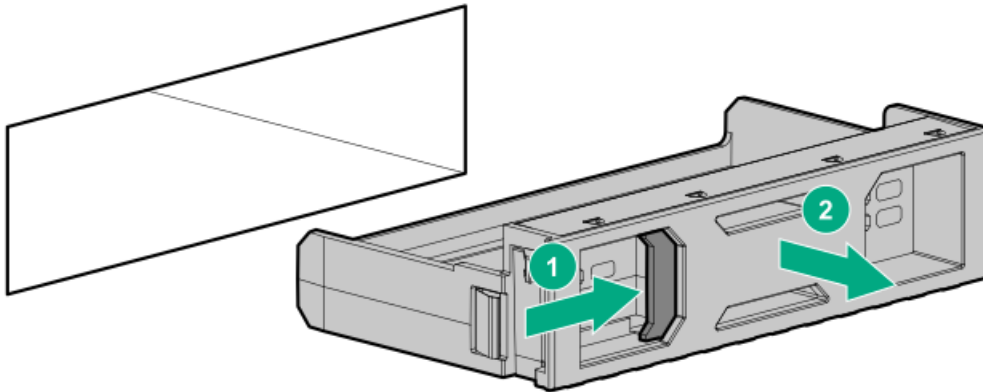
**⚠ CAUTION:**

To prevent improper cooling and thermal damage, do not operate the server unless all bays are populated with either a component or a blank.

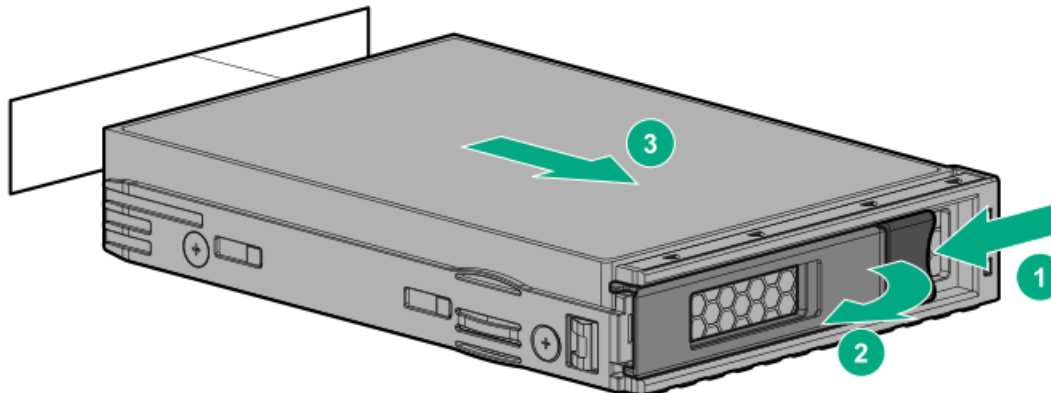
**Procedure**

1. Remove all drives or drive blanks.

- Drive blank

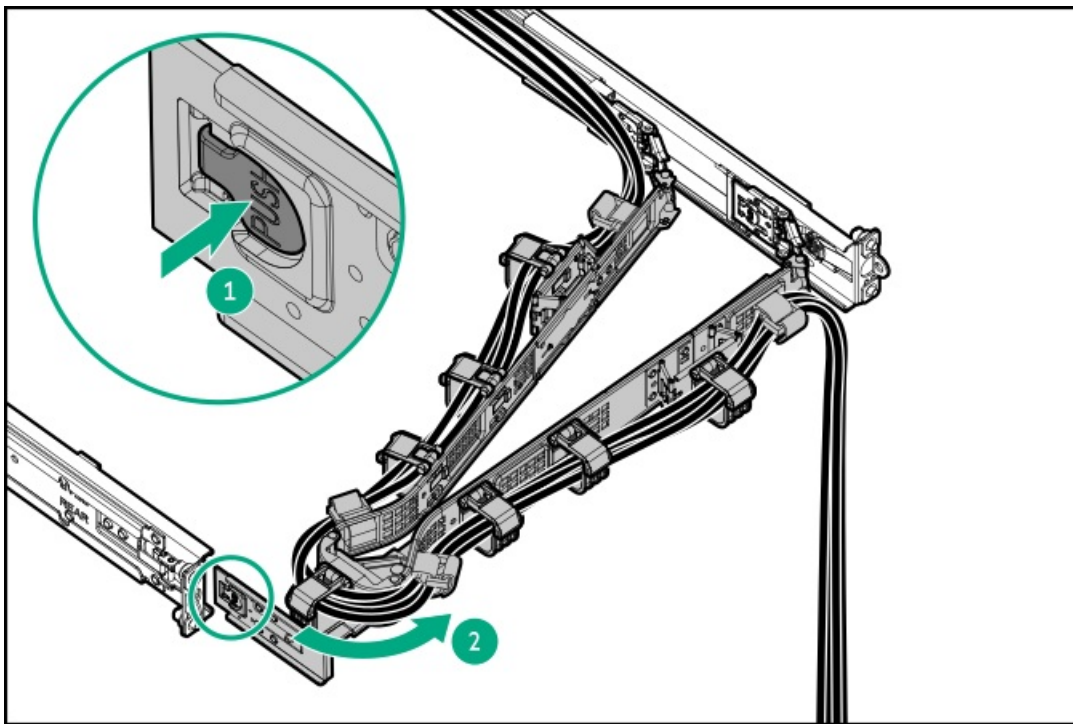


- Drive



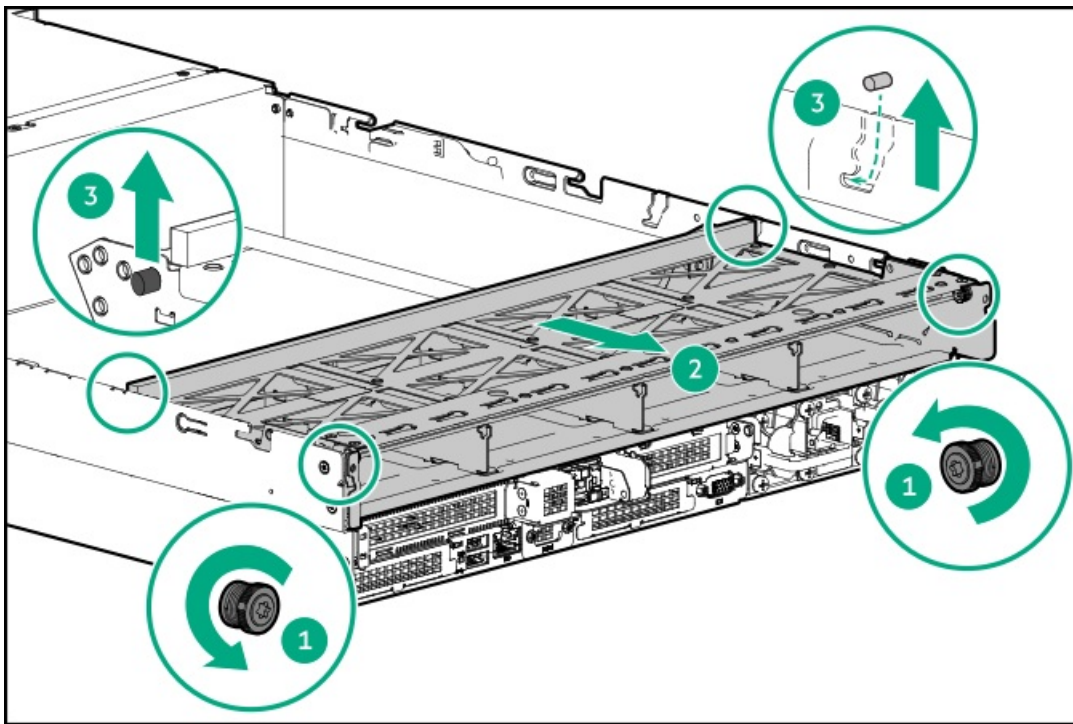
2. Power down the server.

3. If installed, open the cable management arm.



4. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
5. Disconnect all peripheral cables from the server.
6. Remove the server from the rack.
7. Place the server on a flat, level work surface.
8. Remove the access panel.
9. Disconnect all cables from the rear 4 LFF drive cage.
10. Remove the rear 4 LFF drive cage:
  - a. Loosen the captive screws (callout 1), and then pull the rear 4 LFF drive cage into place (callout 2).
  - b. Lift the rear 4 LFF drive cage (callout 3).





## Remove the riser cage

### Prerequisites

If removing the three-slot riser cage or tertiary riser cage, make sure that you have a T-15 Torx screwdriver available.

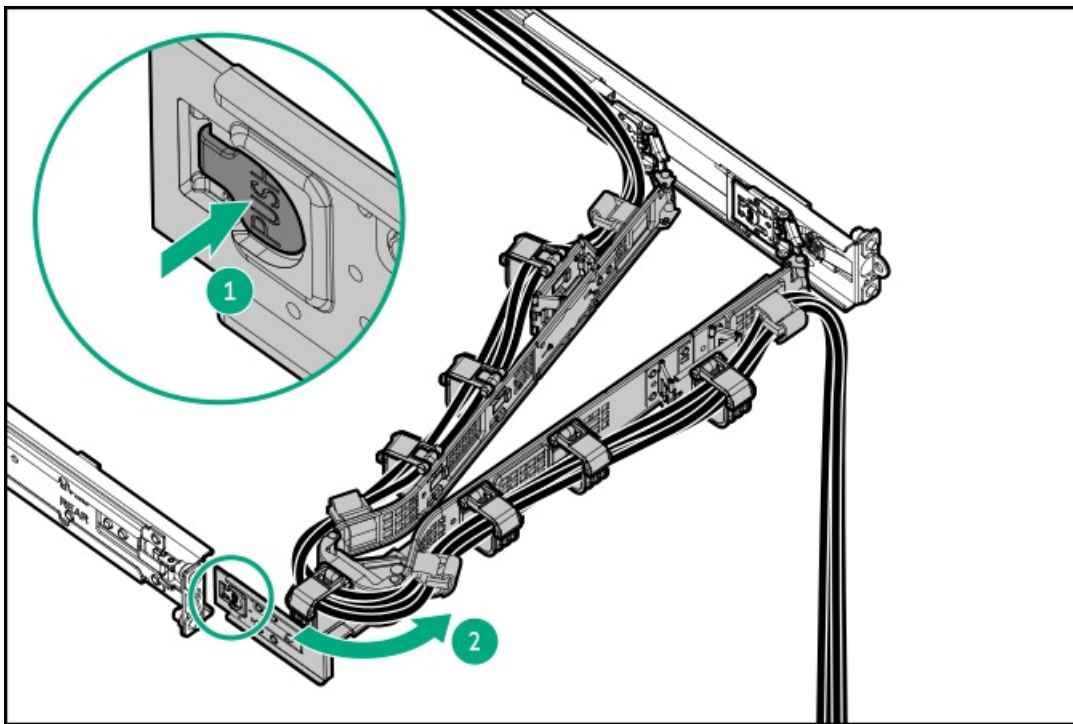
### About this task



**WARNING:** To reduce the risk of personal injury from hot surfaces, allow the drives and the internal system components to cool before touching them.

### Procedure

1. Power down the server.
2. If installed, open the cable management arm.



3. Remove all power:

- a. Disconnect each power cord from the power source.
- b. Disconnect each power cord from the server.

4. Disconnect all peripheral cables from the server.

5. Remove the server from the rack.

6. Place the server on a flat, level work surface.

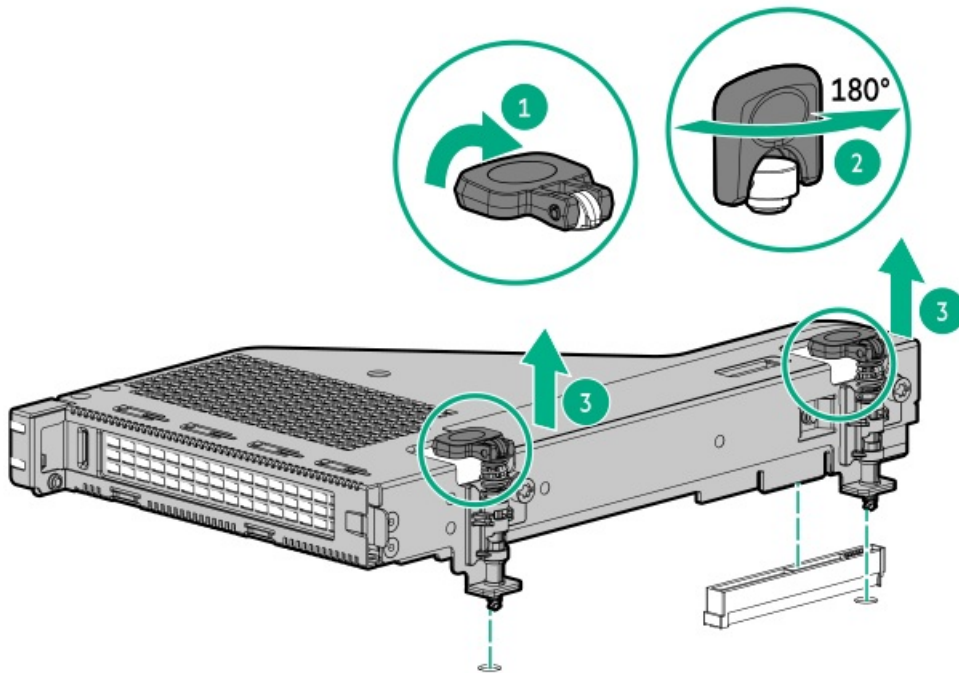
7. Remove the access panel.

8. If the server is in the rear 4 LFF drive configuration, remove the rear 4 LFF drive cage.

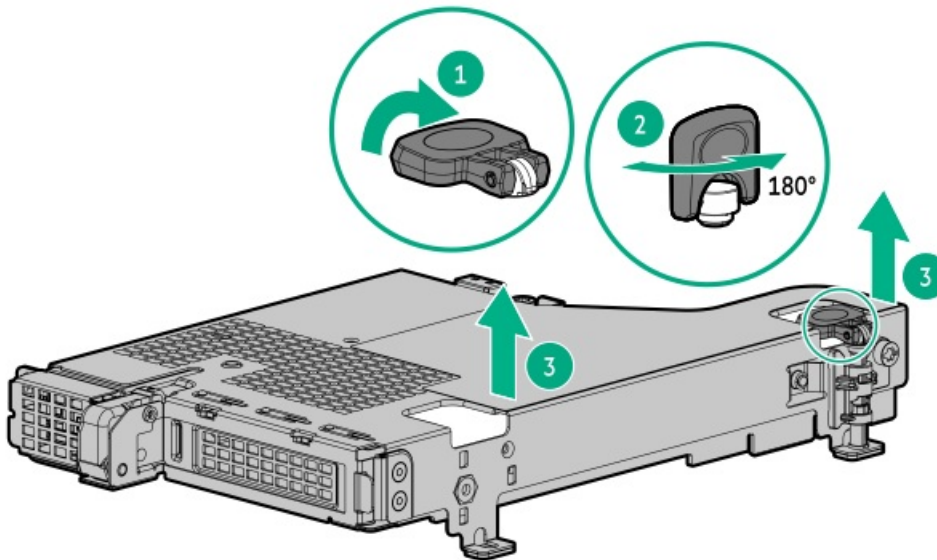
9. If an expansion card with internal cables is installed on the riser, disconnect the cables from the card.

10. Remove the one-slot riser cage:

- a. Release the half-turn spring latch (callouts 1 and 2).
- b. Lift the riser cage off the system board (callout 3).
  - One-slot primary/secondary riser cage

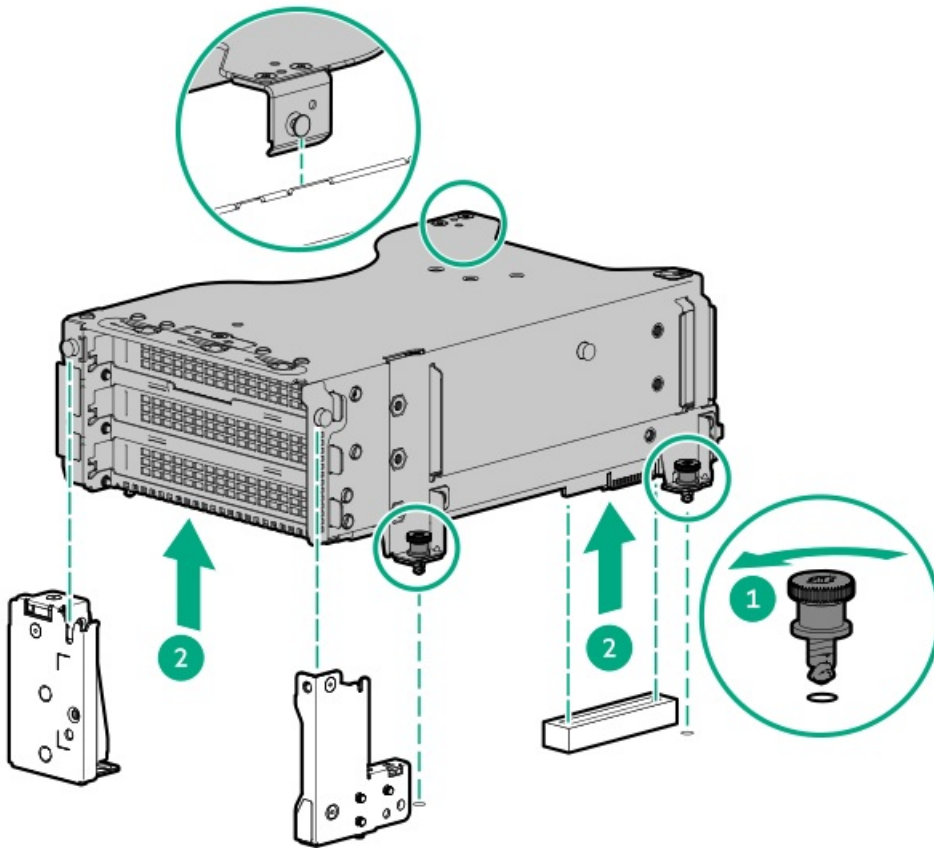


- NS204i-u + secondary low-profile riser cage



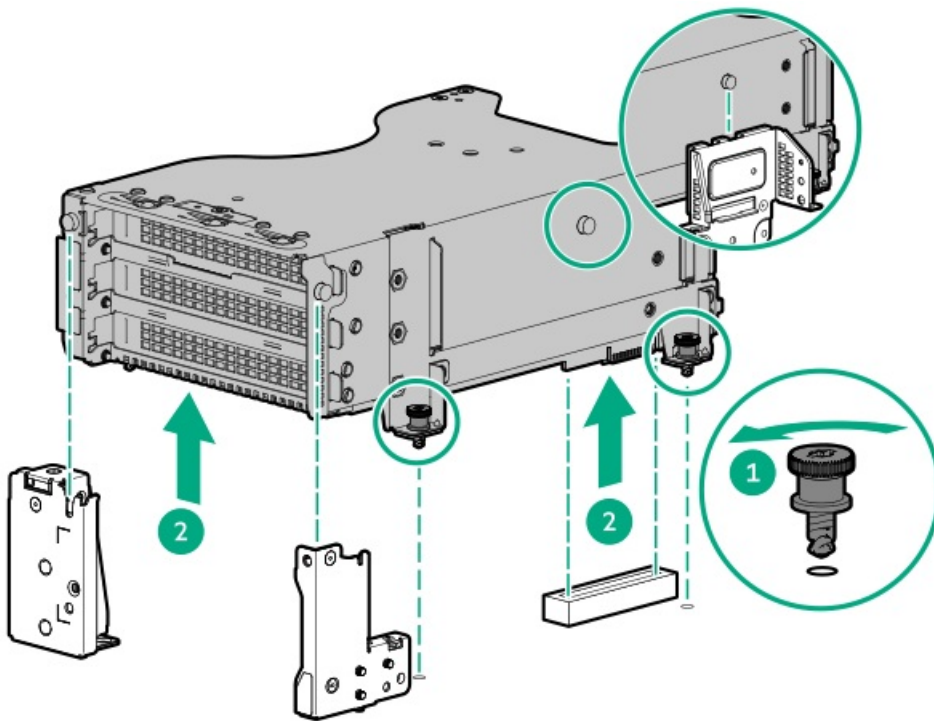
11. Remove the primary three-slot riser cage:

- Loosen the captive screws (callouts 1).
- Lift the riser cage off the system board (callout 2).



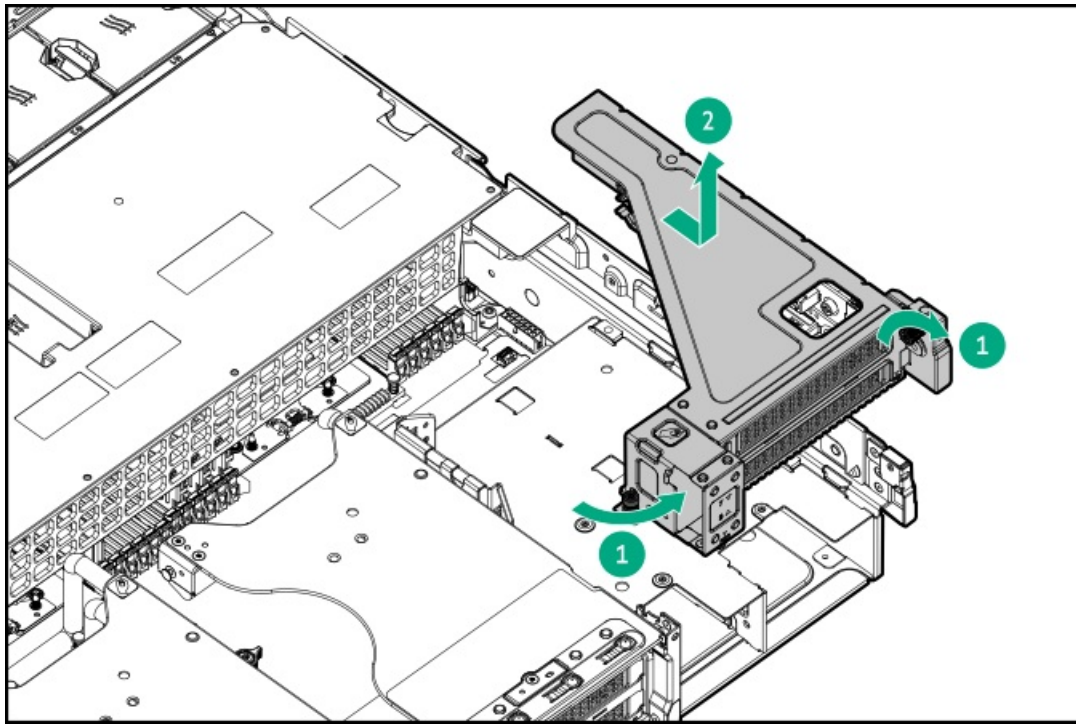
12. Remove the secondary three-slot riser cage:

- a. Loosen the captive screws (callouts 1).
- b. Lift the riser cage off the system board (callout 2).



13. Remove the tertiary riser cage:

- a. Loosen the captive screws (callout 1).
- b. Lift the riser cage out of the slot (callout 2).



## Power up the server

### About this task

To power up the server, use one of the following methods:

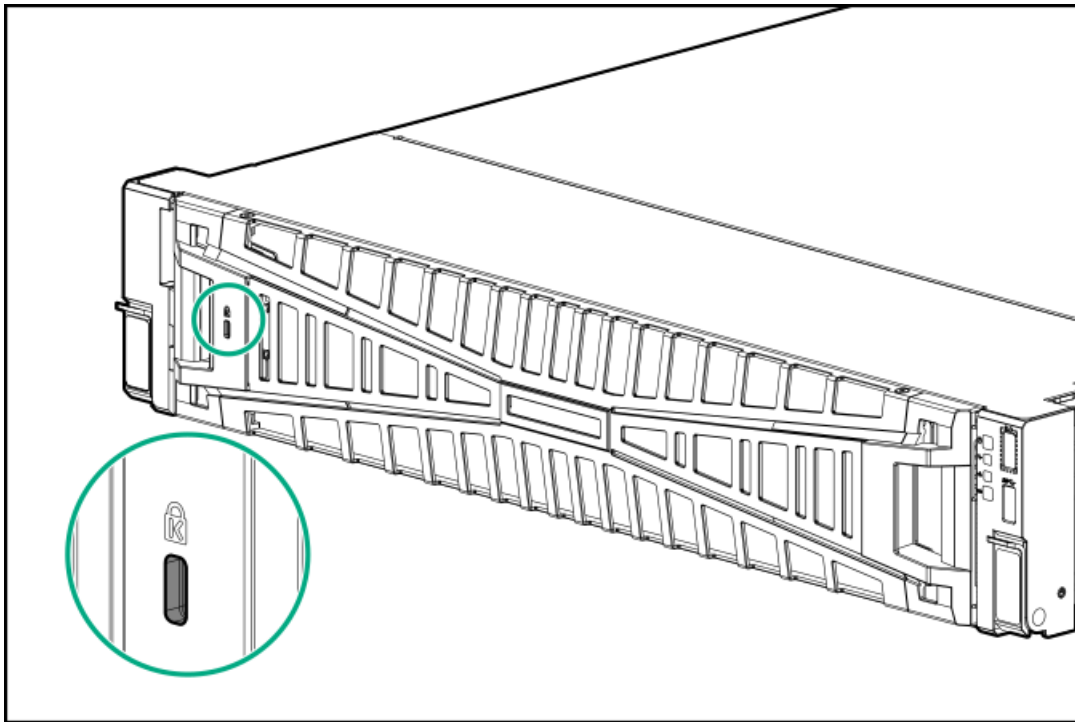
- Press the Power On/Standby button.
- Use the virtual power button through iLO 6.

## Removing and replacing the front bezel

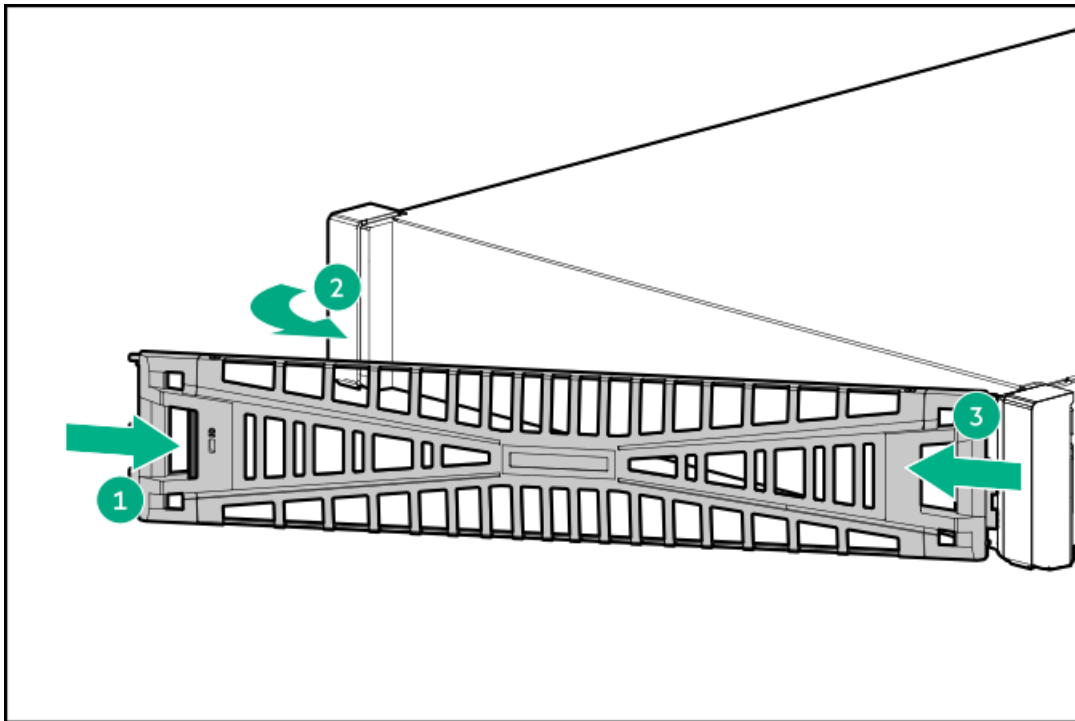
### Procedure

1. If installed, remove the Kensington security lock.

For more information, see the lock documentation.



2. Press the bezel release latch (callout 1), and then pivot the bezel open (callout 2).
3. Release the right side of the bezel from the front panel (callout 3).



#### Results

To replace the component, reverse the removal procedure.

## Removing and replacing the access panel

#### Prerequisites



Before you perform this procedure, make sure that you have a T-15 Torx screwdriver available.

#### About this task

---

**⚠ WARNING:** To reduce the risk of personal injury from hot surfaces, allow the drives and the internal system components to cool before touching them.

---

**⚠ CAUTION:**  
To prevent damage to electrical components, properly ground the server before beginning any installation, removal, or replacement procedure. Improper grounding can cause electrostatic discharge.

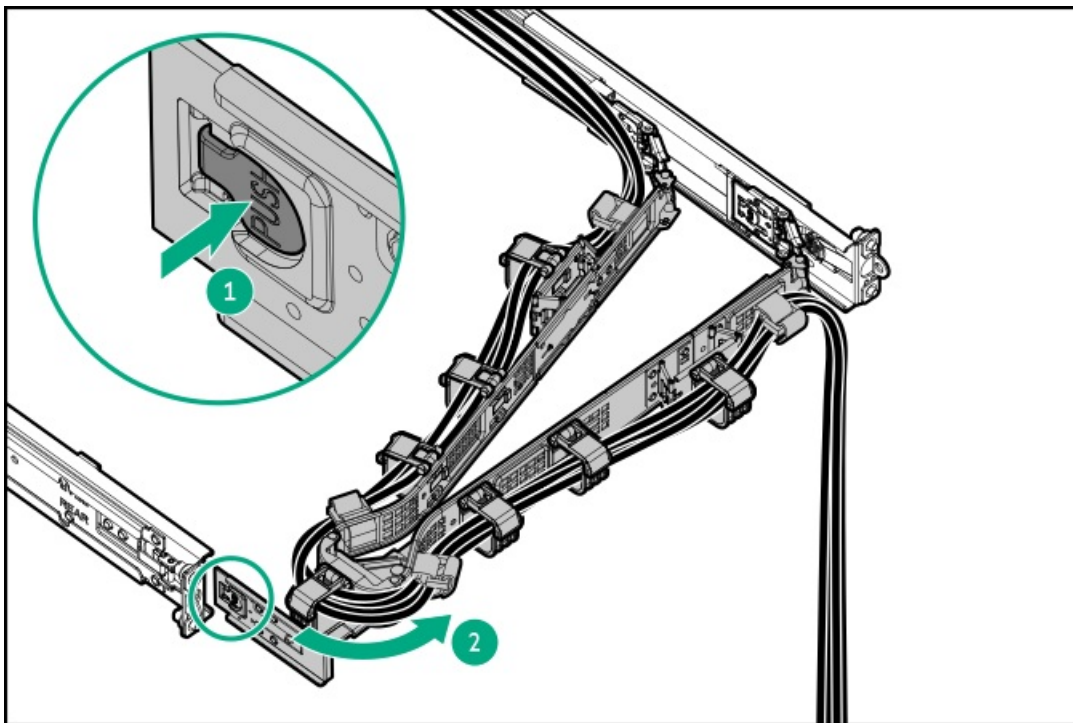
---

**⚠ CAUTION:**  
Do not operate the server for long periods with the access panel open or removed. Operating the server in this manner results in improper airflow and improper cooling that can lead to thermal damage.

---

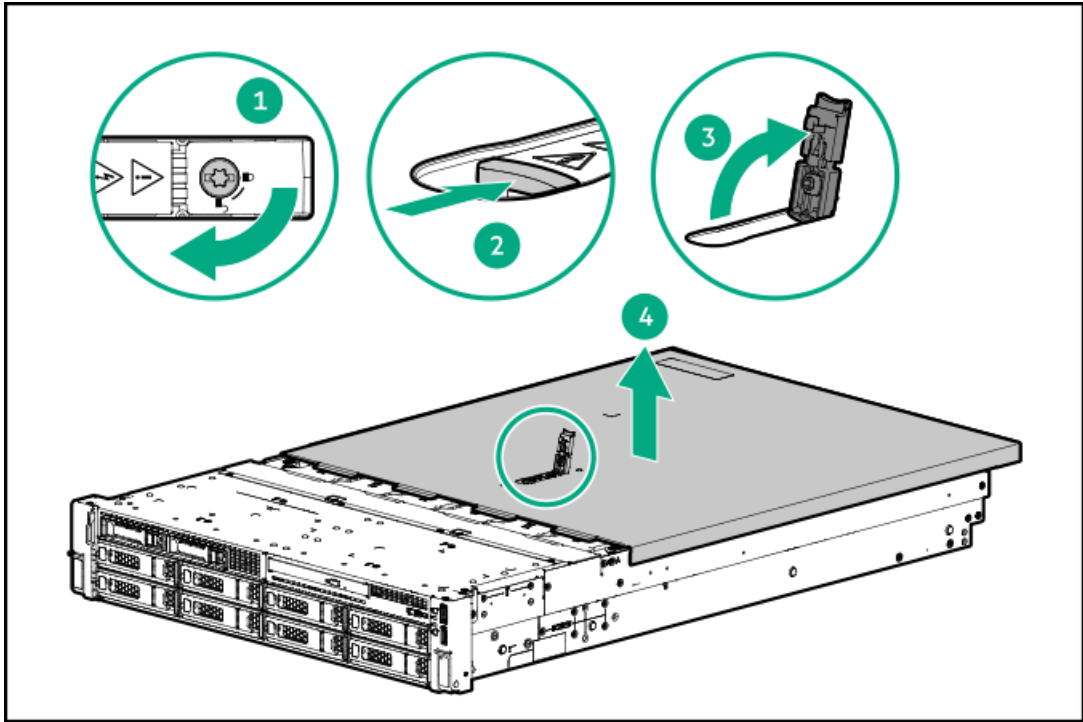
#### Procedure

1. Power down the server.
2. If installed, open the cable management arm.



3. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
4. Disconnect all peripheral cables from the server.
5. Do one of the following:
  - Extend the server out of the rack.
  - Remove the server from the rack.
6. Remove the access panel:
  - a. If necessary, unlock the access panel latch (callout 1).

- b. To disengage the access panel from the chassis, press the release button and pull up the latch (callouts 2 and 3).
- c. Lift the access panel (callout 4).



**Results**

To replace the component, reverse the removal procedure.

## Removing and replacing the air baffle

**About this task**

---

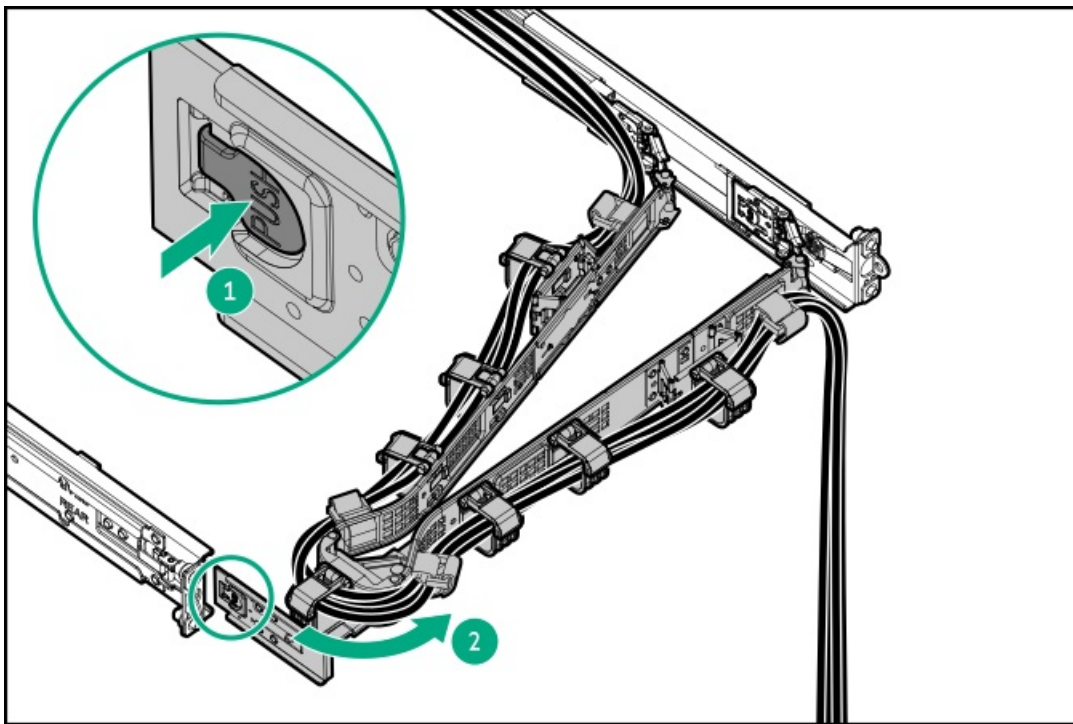
**CAUTION:** For proper cooling, do not operate the server without the access panel, baffles, expansion slot covers, or blanks installed. If the server supports hot-plug components, minimize the amount of time the access panel is open.

---

**Procedure**

- 1. Power down the server.
- 2. If installed, open the cable management arm.





3. Remove all power:

- a. Disconnect each power cord from the power source.
- b. Disconnect each power cord from the server.

4. Disconnect all peripheral cables from the server.

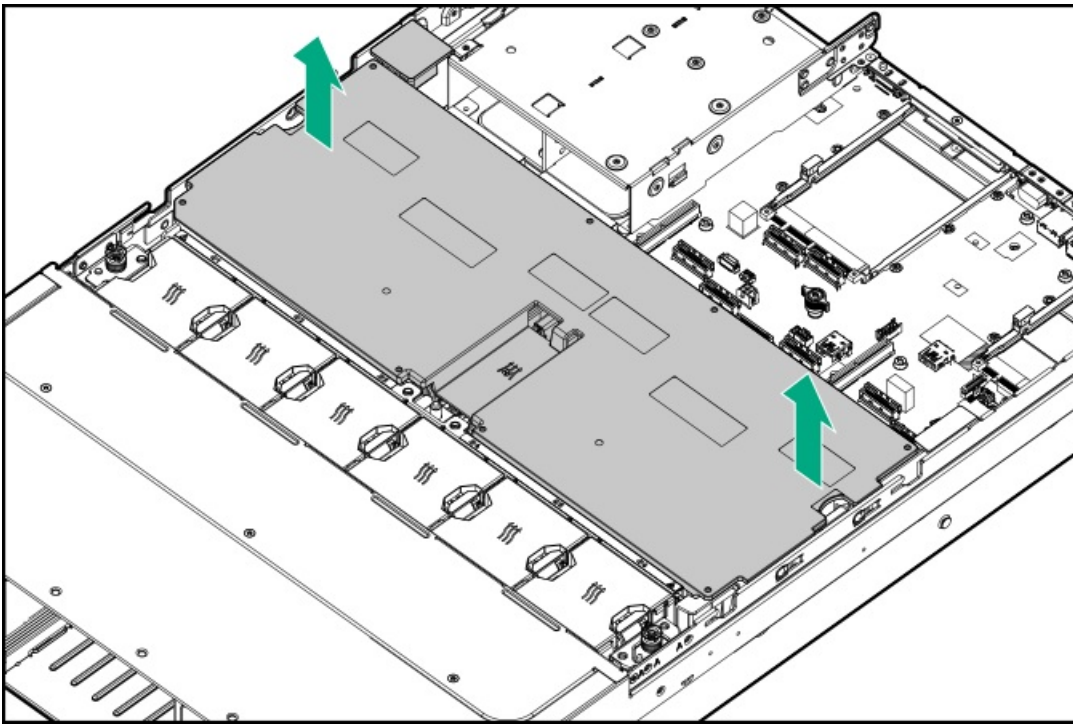
5. Do one of the following:

- Extend the server from the rack.
- Remove the server from the rack.

6. Remove the access panel.

7. Remove the air baffle.

The removal procedure for standard and high performance air baffles are the same.



## Results

To replace the component, reverse the removal procedure.

## Removing and replacing a hot-plug SAS, SATA or NVMe drive

### About this task



#### CAUTION:

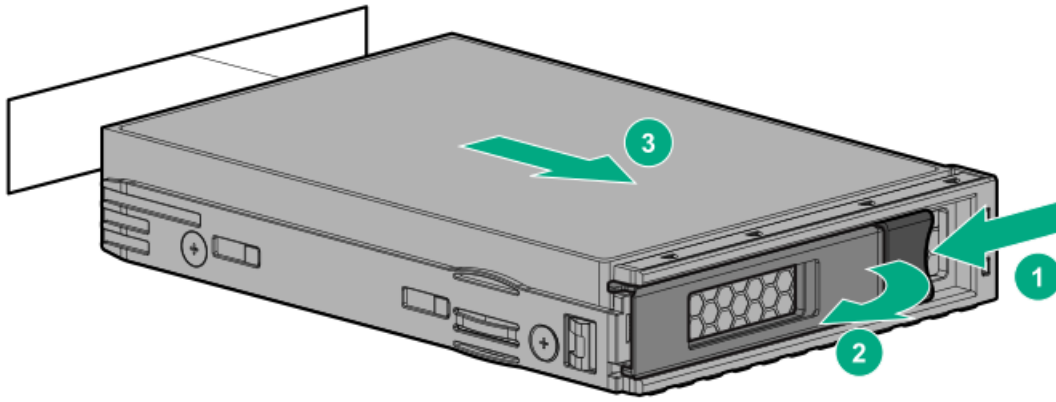
A discharge of static electricity from a finger or other conductor might damage system boards or other static-sensitive devices. To prevent damage, observe [antistatic precautions](#).



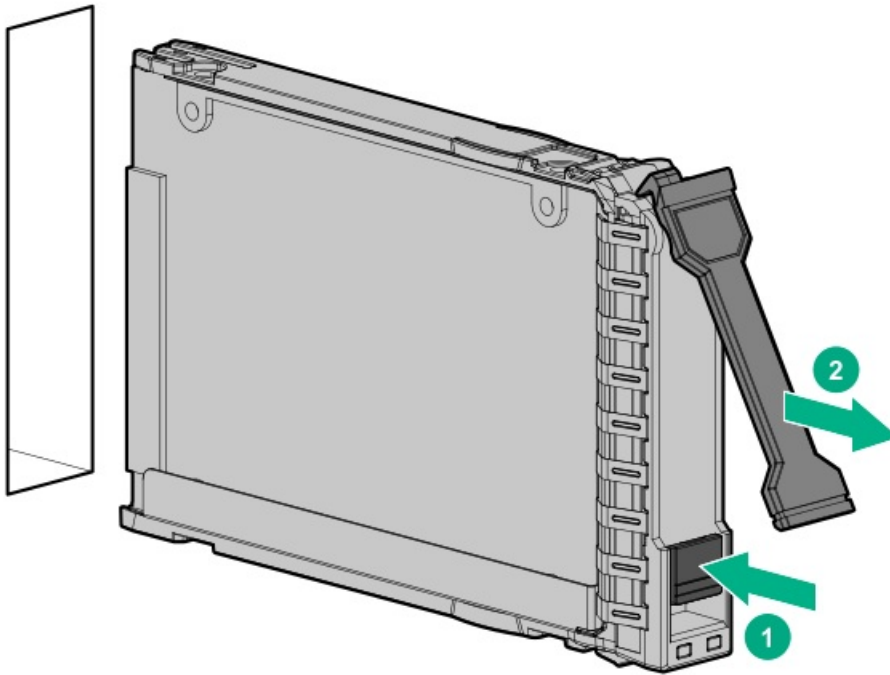
**CAUTION:** To prevent improper cooling and thermal damage, do not operate the server unless all bays are populated with either a component or a blank.

### Procedure

1. Back up all server data.
2. If installed, [remove the front bezel](#).
3. [Observe the drive LED status](#) and determine if the drive can be removed.
4. Remove the drive.
  - LFF drive



- SFF drive



**Results**

To replace the component, reverse the removal procedure.

**Flexible Slot power supply replacement**

Depending on the configuration and the regional location where the server was purchased, the server can be configured with one of the supported [Power supply specifications](#).

**Subtopics**

[Power supply warnings and cautions](#)

[DC power supply warnings and cautions](#)

[Removing and replacing a Flexible Slot power supply](#)

**Power supply warnings and cautions**

## Power supply warnings and cautions

---

**WARNING:**

To reduce the risk of electric shock or damage to the equipment:

- Do not disable the power cord grounding plug. The grounding plug is an important safety feature.
  - Plug the power cord into a grounded (earthed) electrical outlet that is easily accessible at all times.
  - Unplug the power cord from the power supply to disconnect power to the equipment.
  - Do not route the power cord where it can be walked on or pinched by items placed against it. Pay particular attention to the plug, electrical outlet, and the point where the cord extends from the server.
- 



**WARNING:** To reduce the risk of injury from electric shock hazards, do not open power supplies. Refer all maintenance, upgrades, and servicing to qualified personnel

---



**CAUTION:** Mixing different types of power supplies in the same server might:

- Limit or disable some power supply features including support for power redundancy.
- Cause the system to become unstable and might shut down.

To ensure access to all available features, all power supplies in the same server should have the same output and efficiency ratings. Verify that all power supplies have the same part number and label color.

---

## DC power supply warnings and cautions

---



**WARNING:** To reduce the risk of electric shock or energy hazards:

- This equipment must be installed by trained service personnel.
  - Connect the equipment to a reliably grounded secondary circuit source. A secondary circuit has no direct connection to a primary circuit and derives its power from a transformer, converter, or equivalent isolation device.
  - The branch circuit overcurrent protection must be rated 27 A.
- 



**WARNING:** To reduce the risk of electric shock, be sure that the cable grounding kit is properly installed and connected to a suitable protective earth terminal before connecting the power source to the rack.

---



**CAUTION:** This equipment is designed to permit the connection of the earthed conductor of the DC supply circuit to the earthing conductor at the equipment. If this connection is made, all the following must be met:

- This equipment must be connected directly to the DC supply system earthing electrode conductor or to a bonding jumper from an earthing terminal bar or bus to which the DC supply system earthing electrode conductor is connected.
  - This equipment must be located in the same immediate area (such as adjacent cabinets) as any other equipment that has a connection between the earthed conductor of the same DC supply circuit and the earthing conductor, and also the point of earthing of the DC system. The DC system must be earthed elsewhere.
  - The DC supply source is to be located within the same premises as the equipment.
  - Switching or disconnecting devices must not be in the earthed circuit conductor between the DC source and the point of connection of the earthing electrode conductor.
- 

## Removing and replacing a Flexible Slot power supply

## Prerequisites

- Before replacing a power supply, review the following:
  - [Power supply warnings and cautions](#)
  - [DC power supply warnings and cautions](#)
- If you are replacing a DC power supply:
  - Make sure that you have a Phillips No.2 screwdriver available.
  - Identify the wire color and corresponding wire slots on the DC power supply:

Wire color	Description	Wire slot
Red	Positive return wire	RTN
Black	Negative input wire	-48V
Green + yellow	Ground wire	Ground

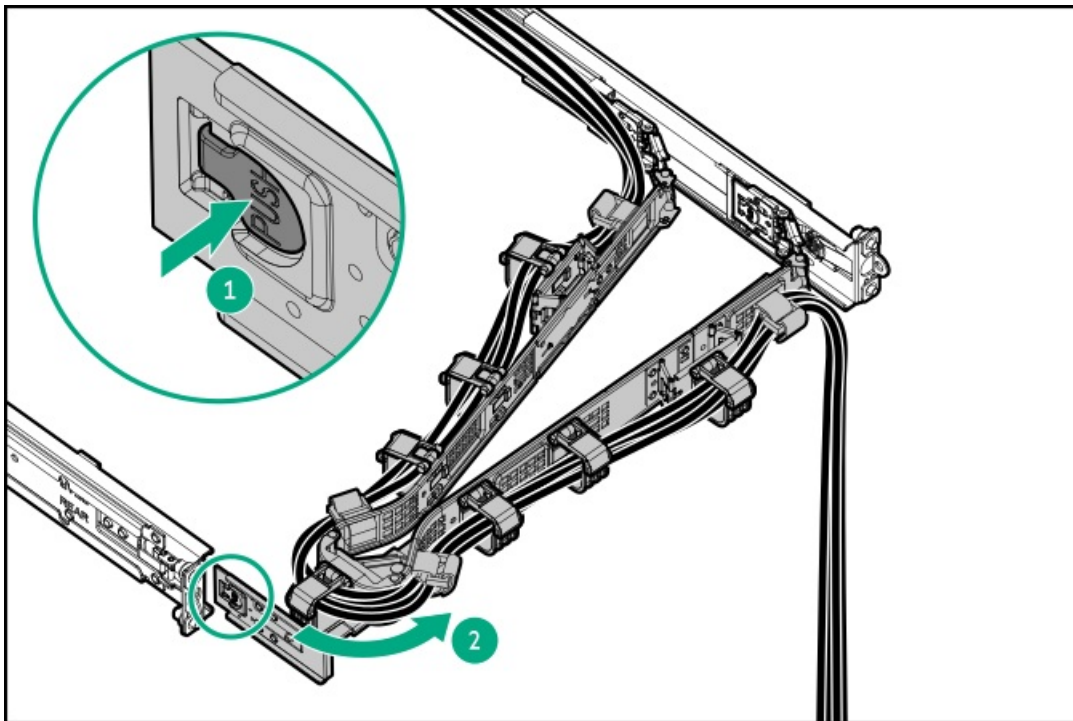
## About this task

**WARNING:** To reduce the risk of personal injury from hot surfaces, allow the power supply, power supply blank, or dual slot power supply adapter to cool before touching it.

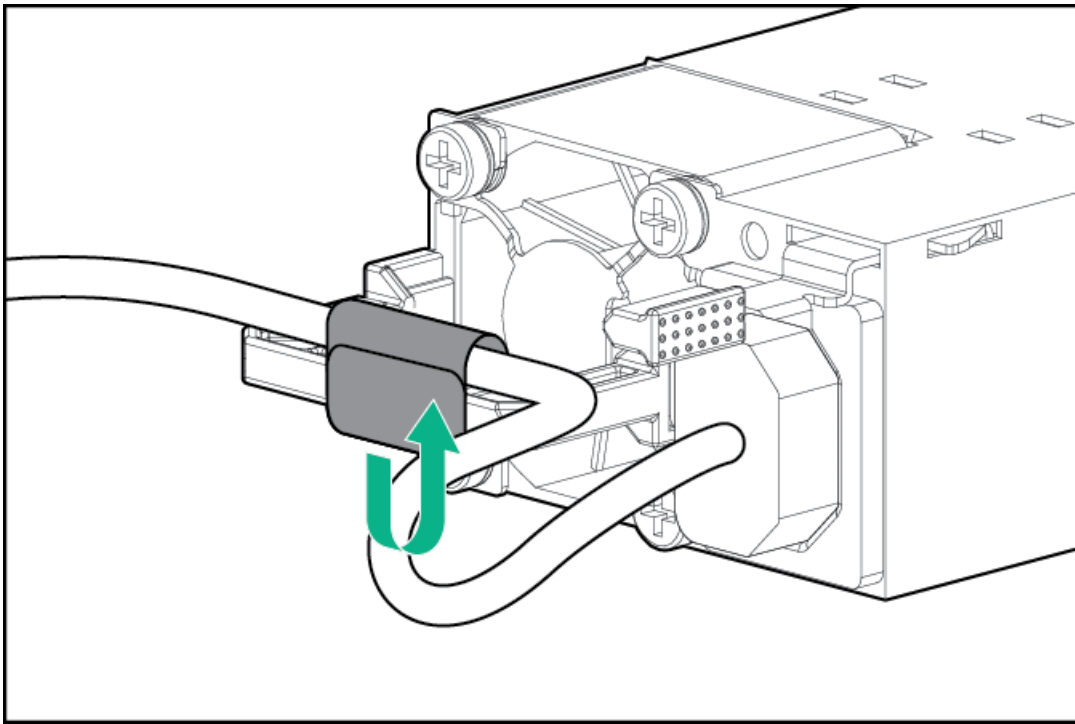
**CAUTION:** To prevent improper cooling and thermal damage, do not operate the server unless all bays are populated with either a component or a blank.

## Procedure

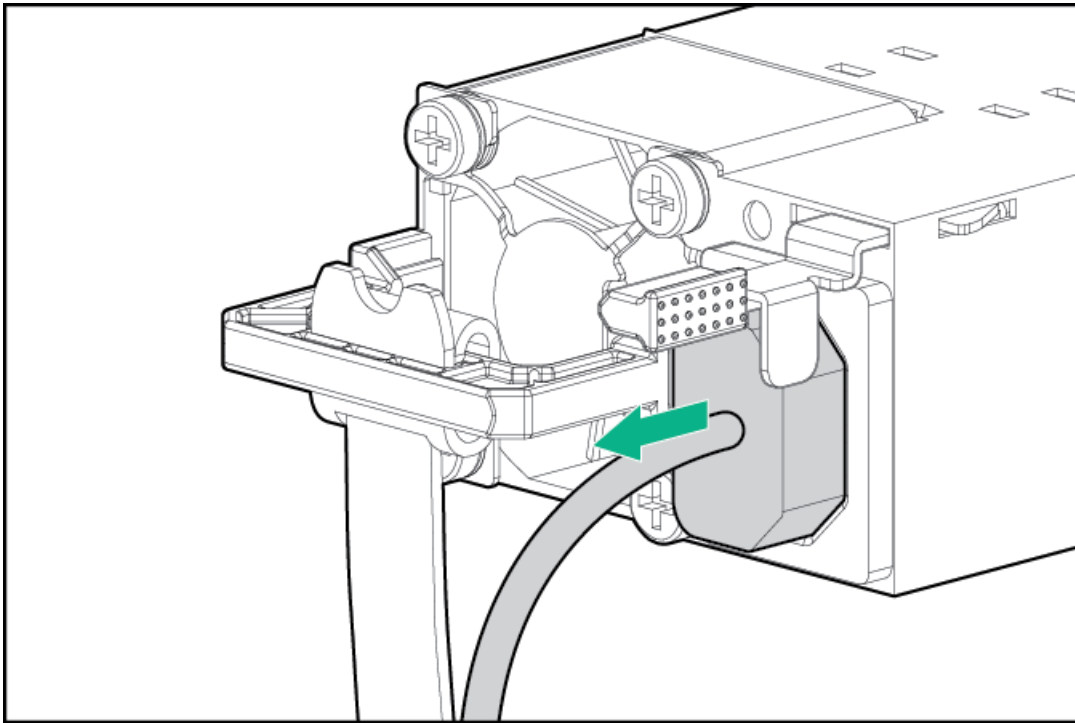
1. [Power down the server.](#)
2. If installed, open the cable management arm.



3. To remove an AC power supply, do the following:
  - a. Release the power cords, wires, and cables from the strain relief strap.

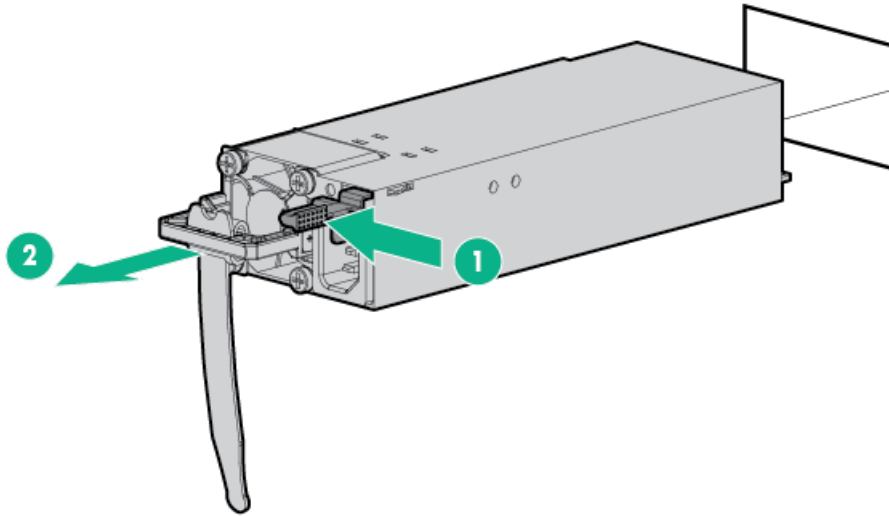


b. Disconnect the power cord from the power supply.



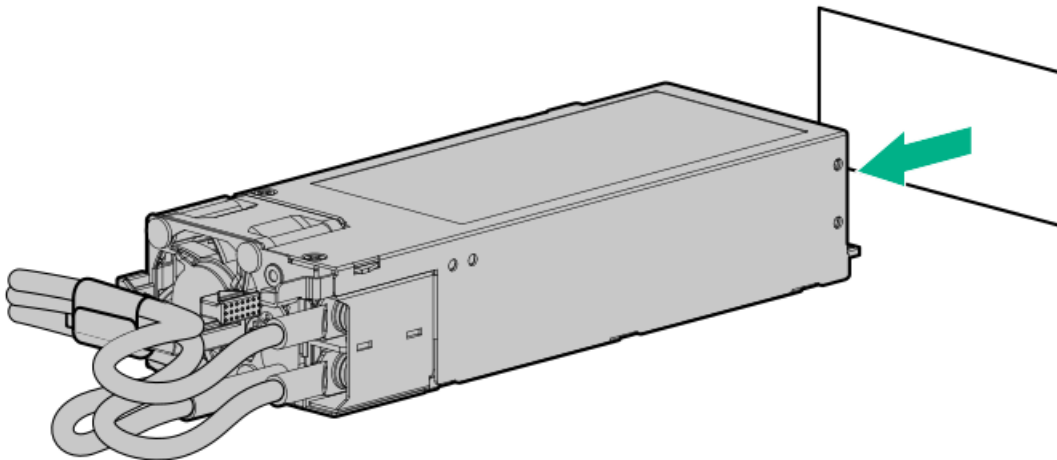
c. Remove the power supply.



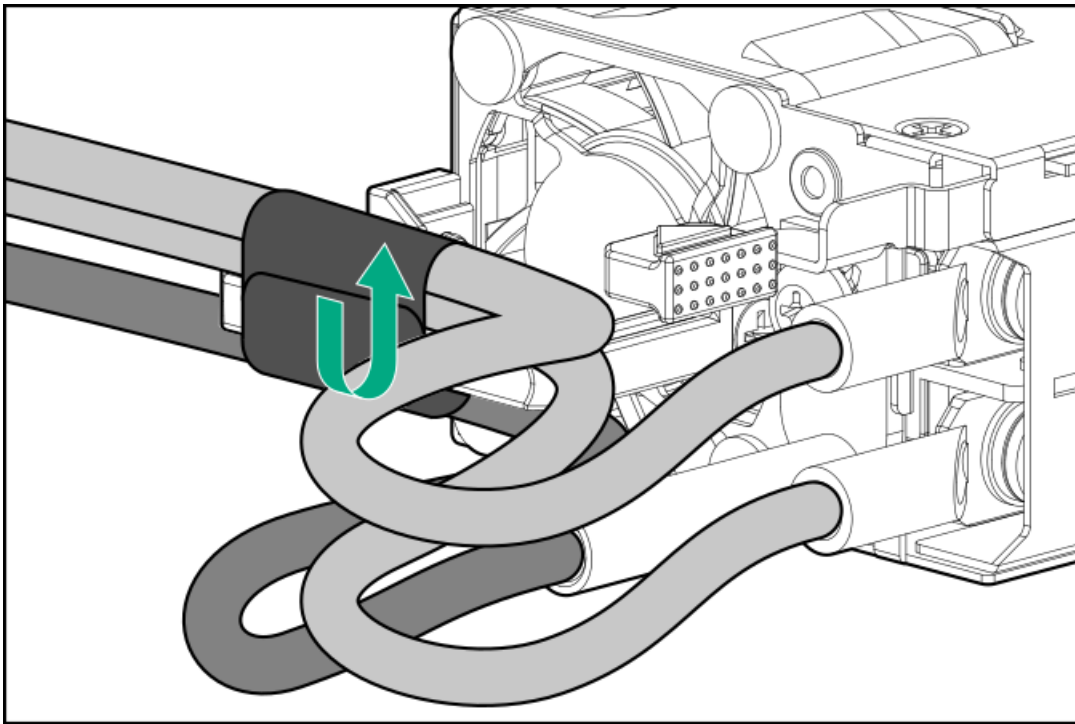


4. To remove the DC power supply, do the following:

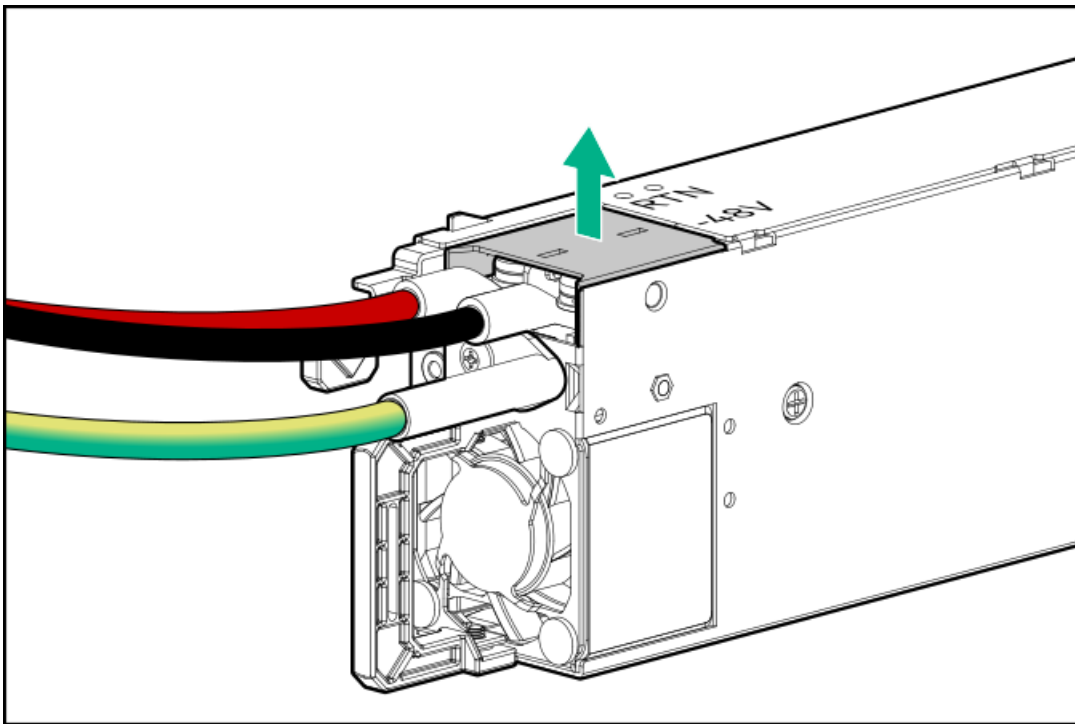
- a. Remove the power supply.



- b. Release the ground, positive return, and negative input wires from the strain relief strap.



c. Remove the protective cover from the power supply.

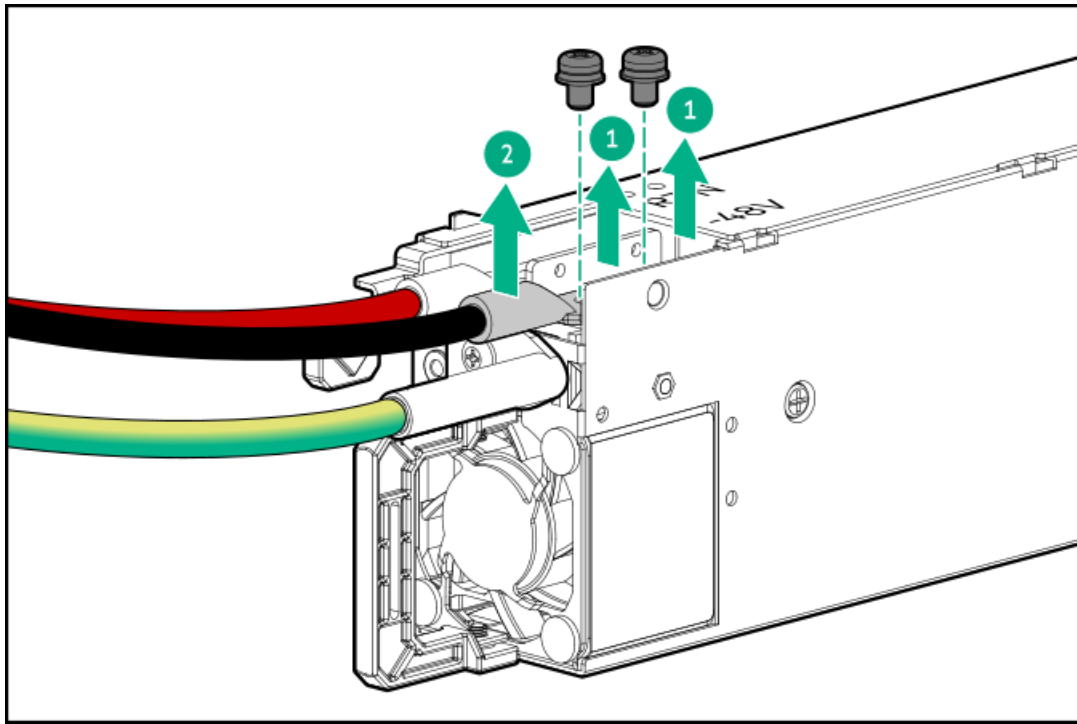


d. Remove the negative input wire (black) from the -48V slot on the DC power supply.

Retain the screws and wire. These screws will be used to secure the wire on the new DC power supply spare.

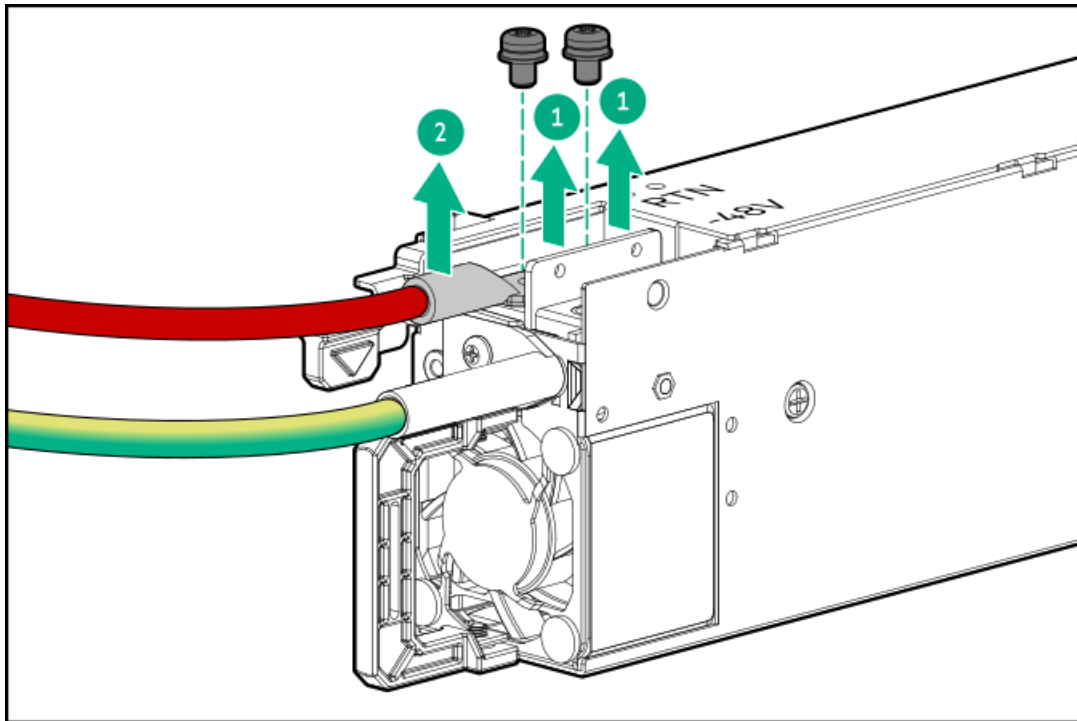






- e. Remove the positive return wire (red) from the RTN slot on the DC power supply.

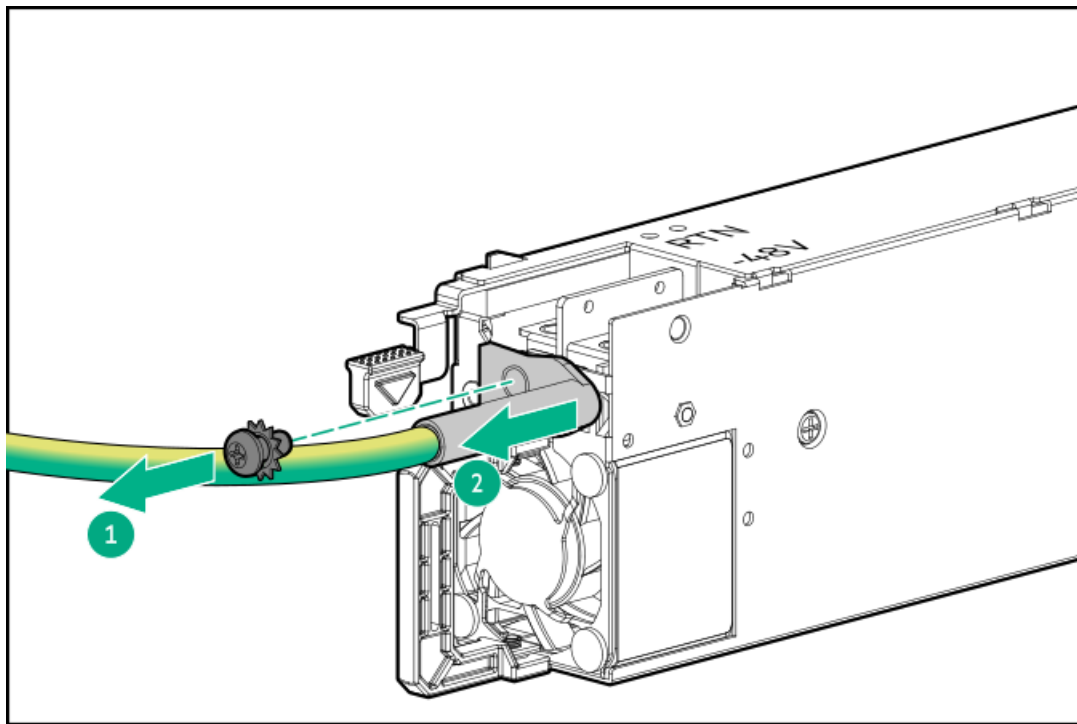
Retain the screws and wire. These screws will be used to secure the wire on the new DC power supply spare.



- f. Remove the ground wire (green and yellow) from the DC power supply.

Retain the screw and wire. This screw will be used to secure the wire on the new DC power supply spare.





## Results

To replace the component, reverse the removal procedure.

## Removing and replacing the power distribution board

### About this task



#### CAUTION:

A discharge of static electricity from a finger or other conductor might damage system boards or other static-sensitive devices. To prevent damage, observe [antistatic precautions](#).



#### CAUTION:

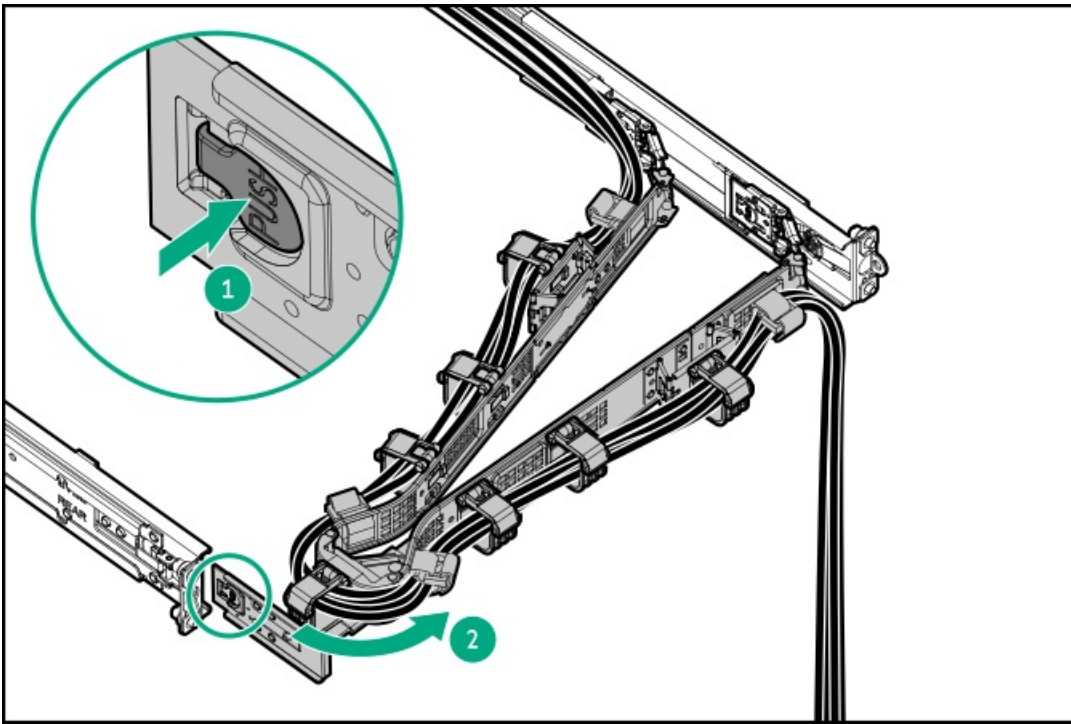
Before replacing a DIMM, backplane, expansion card, riser board, or other similar PCA components due to a perceived hardware error, make sure first that the component is firmly seated in the slot.

When installing the replacement component:

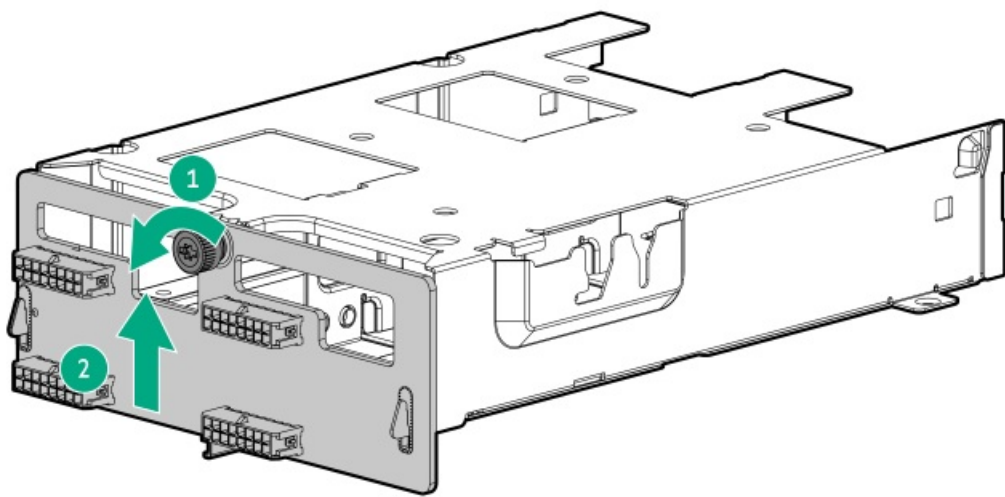
- Observe [antistatic precautions](#).
- Handle the PCA only along the edges.
- Do not touch the components and connectors on the PCA.
- Do not bend or flex the PCA.

### Procedure

1. [Power down the server](#).
2. If installed, open the cable management arm.



3. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
4. Disconnect all peripheral cables from the server.
5. Do one of the following:
  - Extend the server from the rack.
  - Remove the server from the rack.
6. Remove the access panel.
7. Remove the air baffle.
8. Remove all power supplies.
9. Disconnect all cables from the power distribution board.
10. Remove the power distribution board.



## Results

To replace the component, reverse the removal procedure.

## Removing and replacing the cable management arm

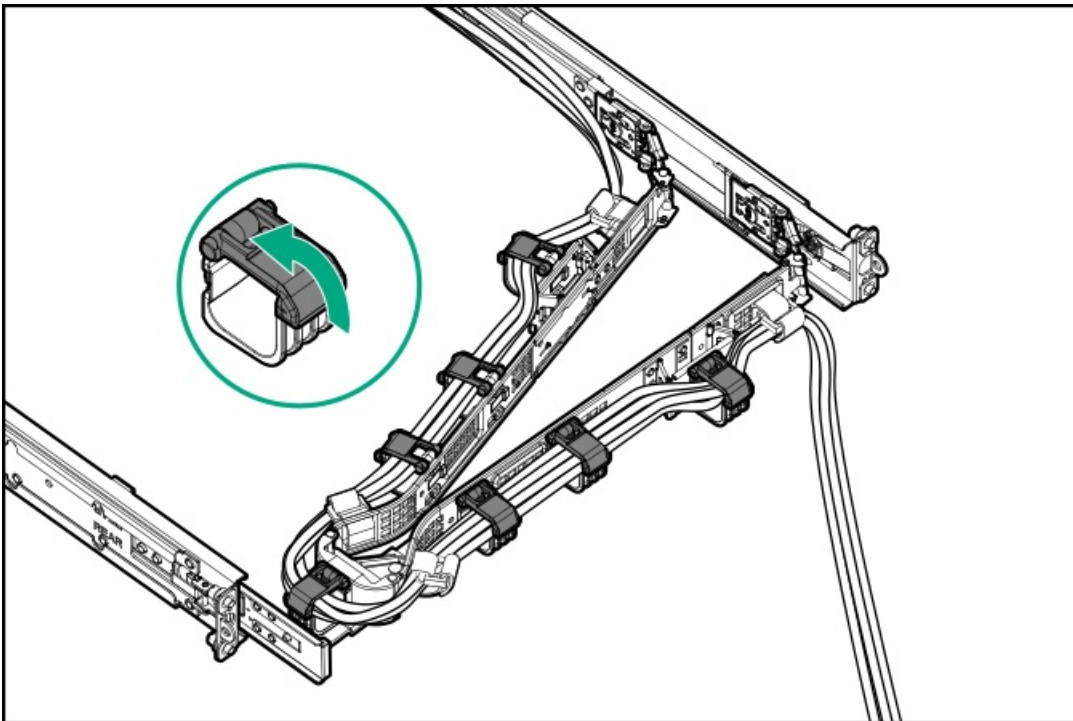
### About this task

#### CAUTION:

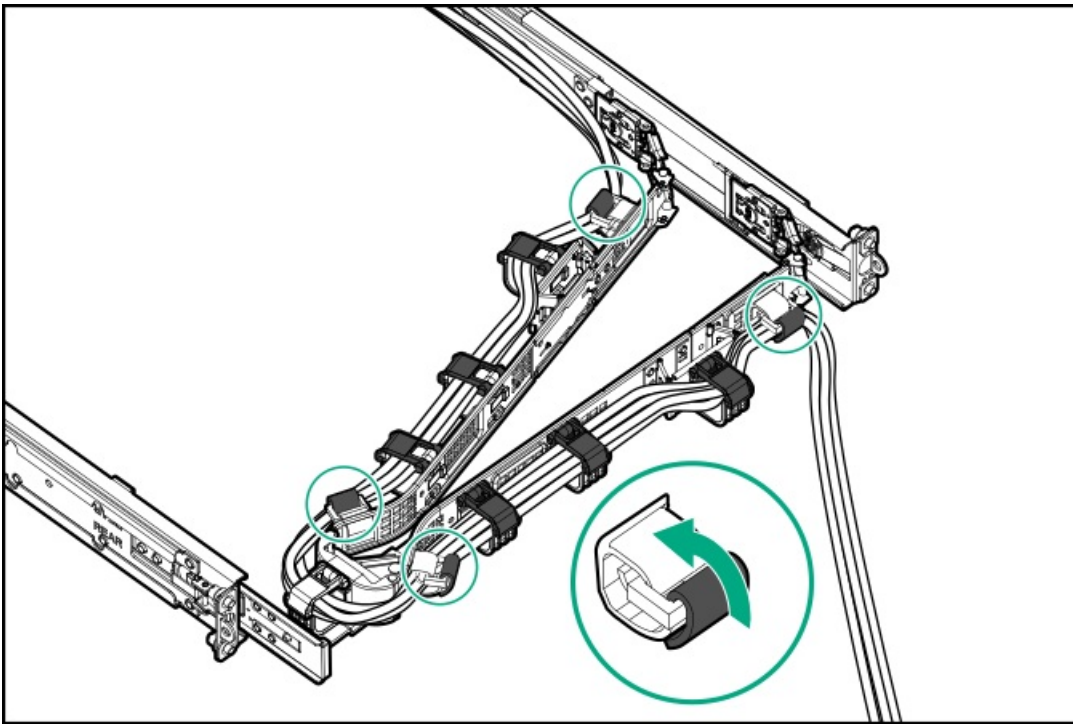
Support the CMA during the removal and replacement procedures. Do not allow the CMA to hang by its own weight during the procedure.

### Procedure

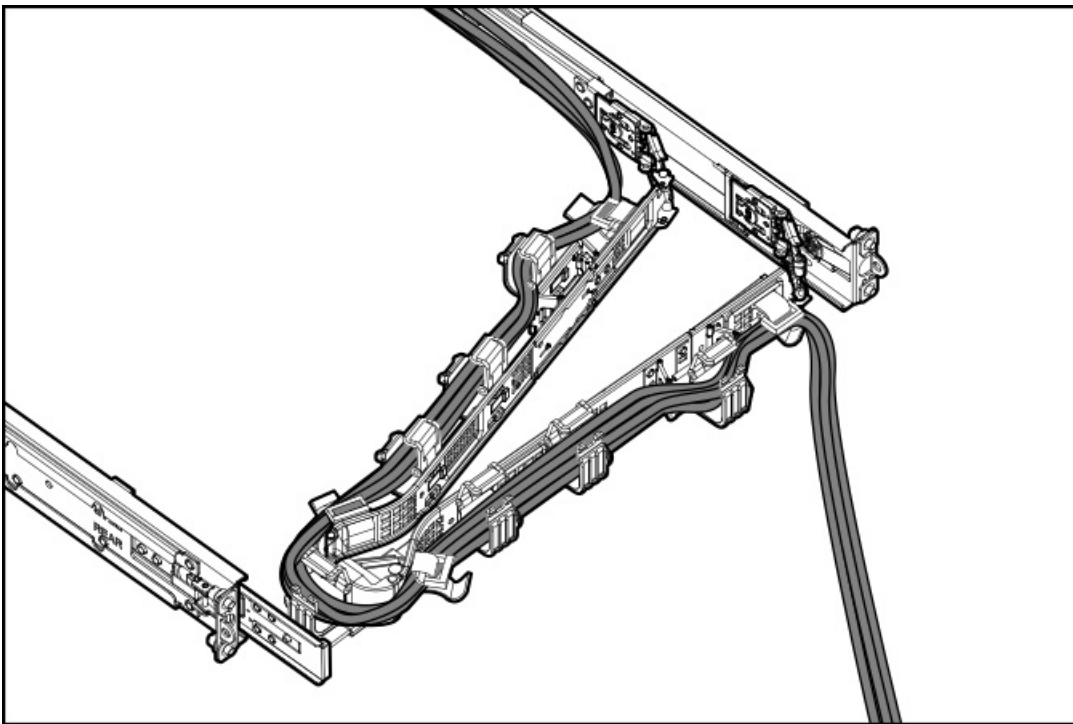
1. Open the cable clamps.



2. (Optional) If your CMA has cable straps, unwrap the straps.

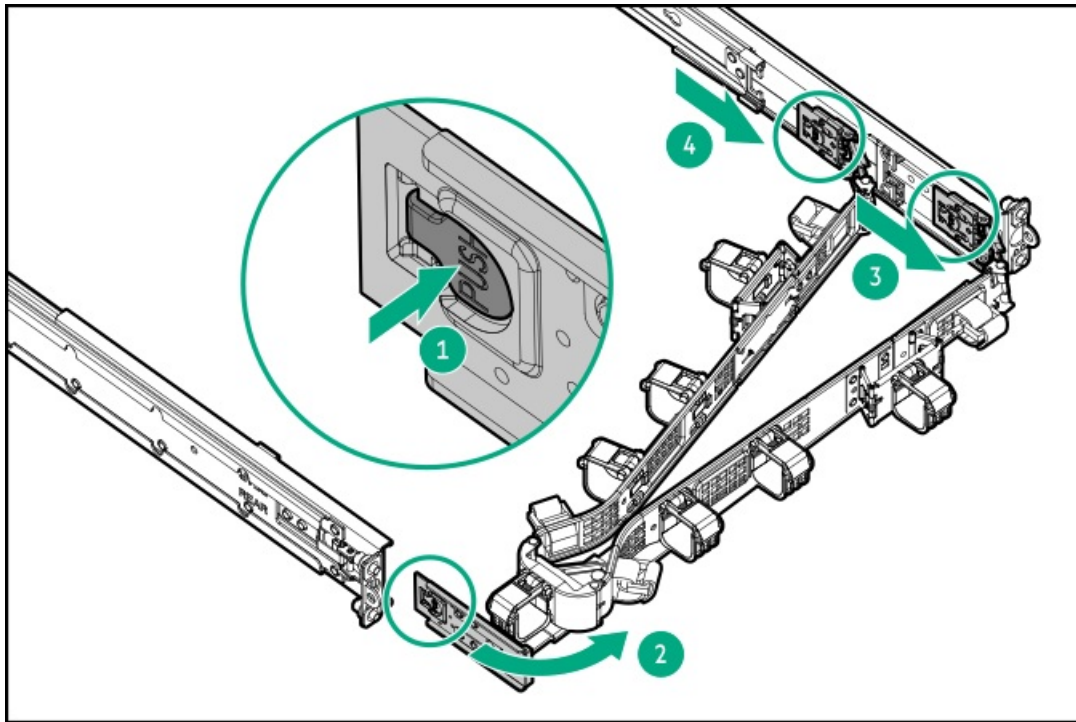


3. Remove the peripheral cables and power cords from the CMA.



4. Remove the cable management arm:

- a. Press and hold the blue **PUSH** button on the retention bracket (callout 1).
- b. Swing the arm away from the mounting rail (callout 2).
- c. Press and hold the blue **PUSH** buttons on the outer and inner tabs and detach from the rack rails (callouts 3 and 4).



#### Results

To replace the component, reverse the removal procedure.

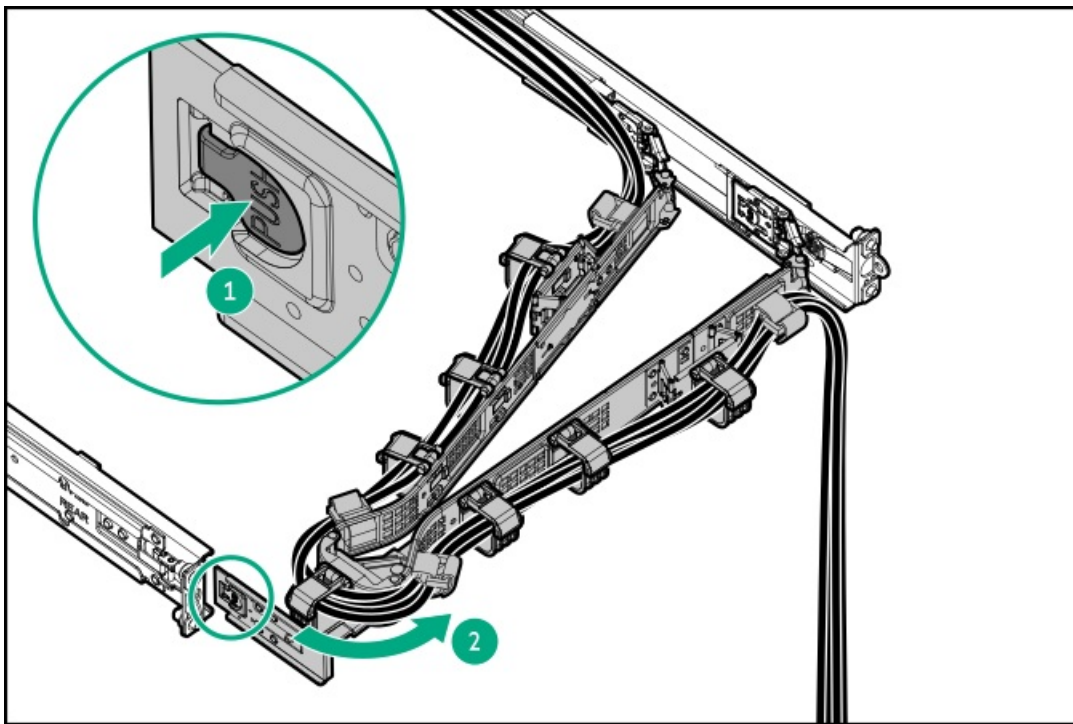
## Removing and replacing the Systems Insight Display

#### Prerequisites

Before you perform this procedure, make sure that you have a T-10 Torx screwdriver available.

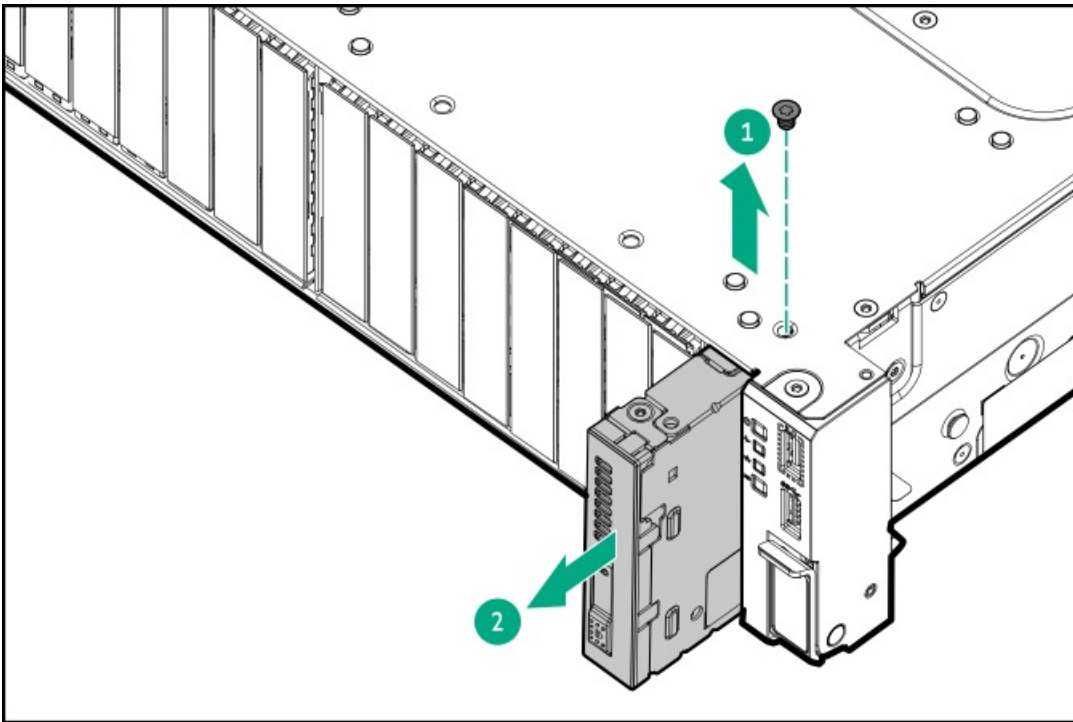
#### Procedure

1. If installed, remove the front bezel.
2. Power down the server.
3. If installed, open the cable management arm.



4. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
5. Disconnect all peripheral cables from the server.
6. Do one of the following:
  - Extend the server from the rack.
  - Remove the server from the rack.
7. Remove the access panel.
8. Disconnect the Systems Insight Display cable from the system board.
9. Remove the SID.

Retain the T-10 screw for later use.



#### Results

To replace the component, reverse the removal procedure.

## Removing and replacing a cable guard

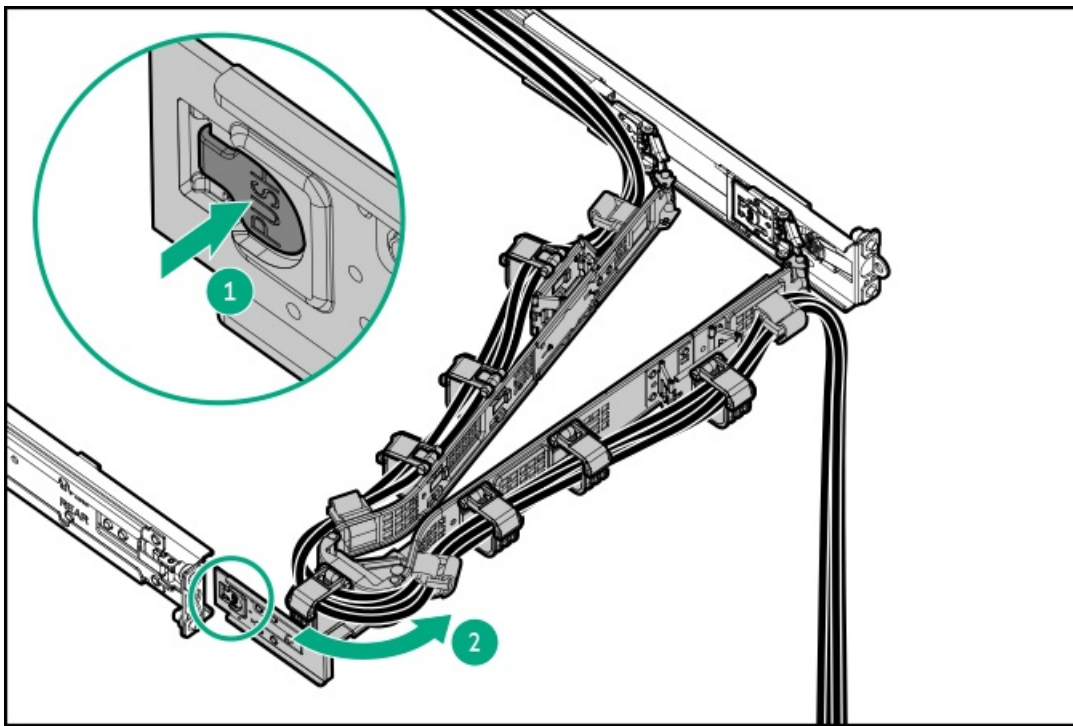
#### Prerequisites

Before you perform this procedure, make sure that you have a T-10 Torx screwdriver available.

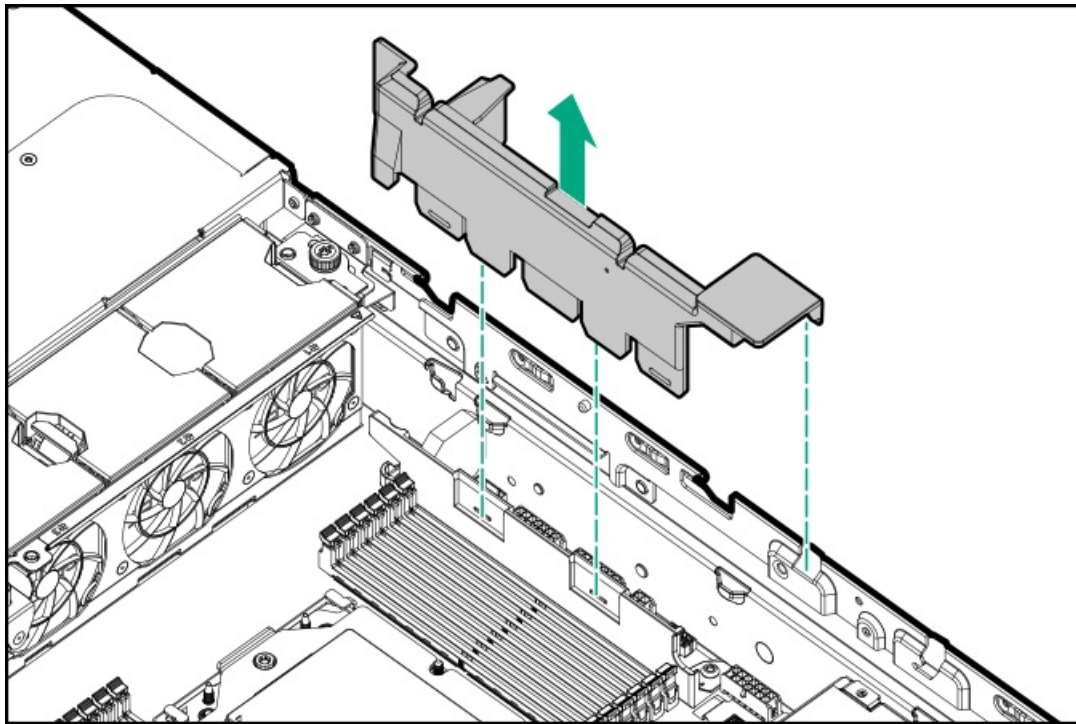
#### Procedure

1. Power down the server.
2. If installed, open the cable management arm.

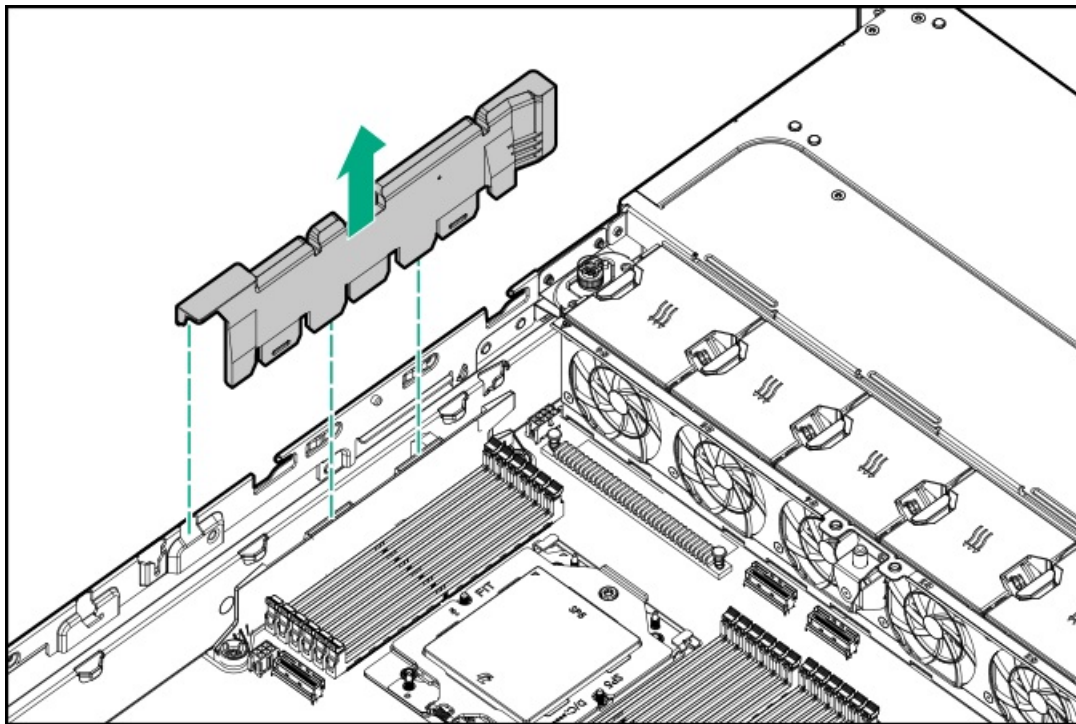




3. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
4. Disconnect all peripheral cables from the server.
5. Do one of the following:
  - Extend the server from the rack.
  - Remove the server from the rack.
6. Remove the access panel.
7. Remove the air baffle.
8. Remove the cable guards.
  - Left



- Right



#### Results

To replace the component, reverse the removal procedure.

## Removing and replacing a DIMM

### About this task



**⚠ CAUTION:**

A discharge of static electricity from a finger or other conductor might damage system boards or other static-sensitive devices. To prevent damage, observe antistatic precautions.

**⚠ CAUTION:**

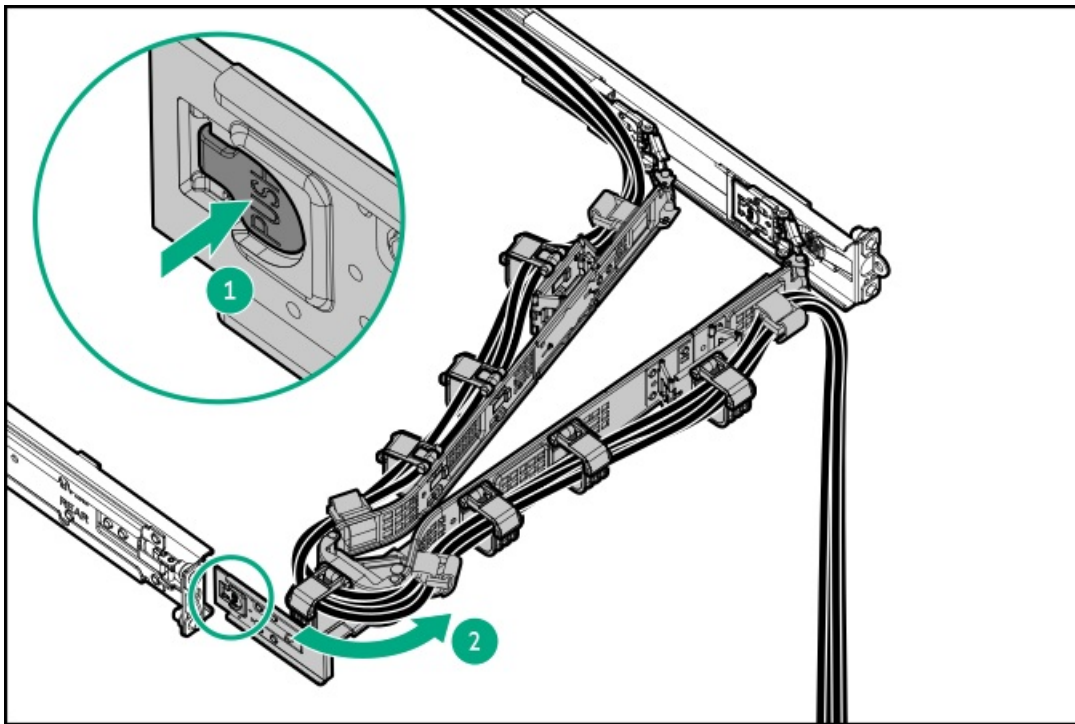
Before replacing a DIMM, backplane, expansion card, riser board, or other similar PCA components due to a perceived hardware error, make sure first that the component is firmly seated in the slot.

When installing the replacement component:

- Observe antistatic precautions.
- Handle the PCA only along the edges.
- Do not touch the components and connectors on the PCA.
- Do not bend or flex the PCA.

**Procedure**

1. Back up all server data.
2. Power down the server.
3. If installed, open the cable management arm.



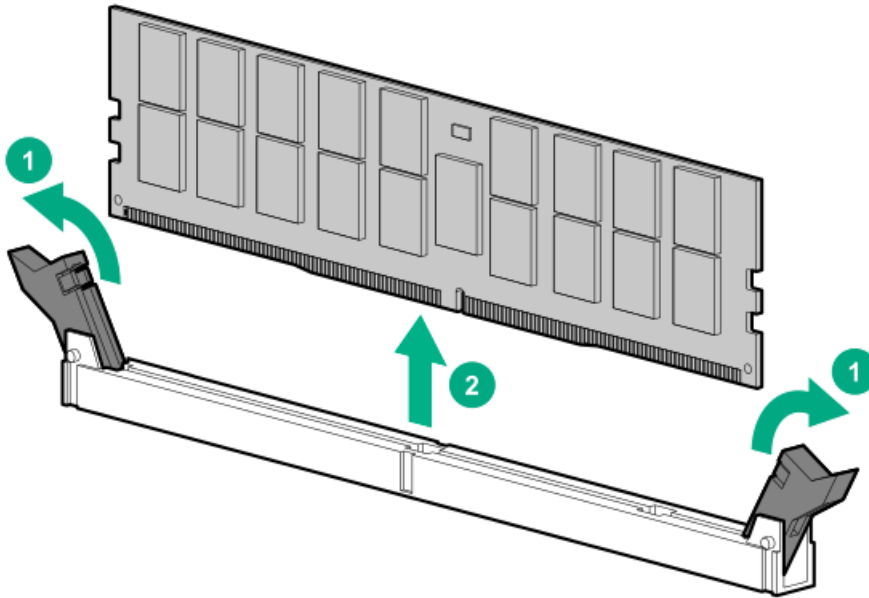
4. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
5. Disconnect all peripheral cables from the server.
6. Remove the server from the rack.
7. Place the server on a flat, level work surface.
8. Remove the access panel.
9. Do one of the following:

- a. Remove the air baffle.
- b. Remove the midplane drive cage.

**Removing the DIMM when the standard, high performance, or midplane cage heatsinks are preinstalled**

10. Remove the DIMM.

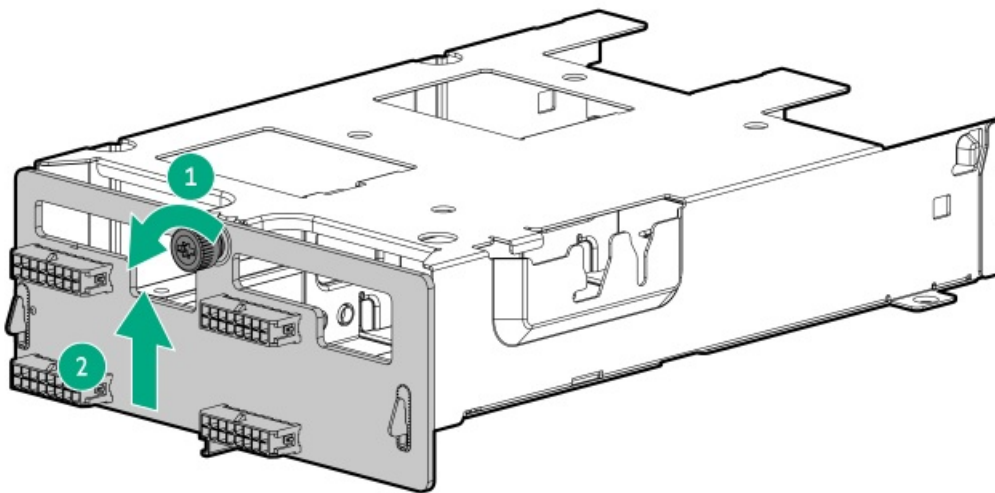
- a. Open the DIMM slot latches (callout 1).
- b. Lift the DIMM out of the slot (callout 2).



**Removing the DIMM when the max performance heatsinks are preinstalled**

11. If removing the DIMM from DIMM slot 7-12, remove the PDB for power supplies 3 and 4:

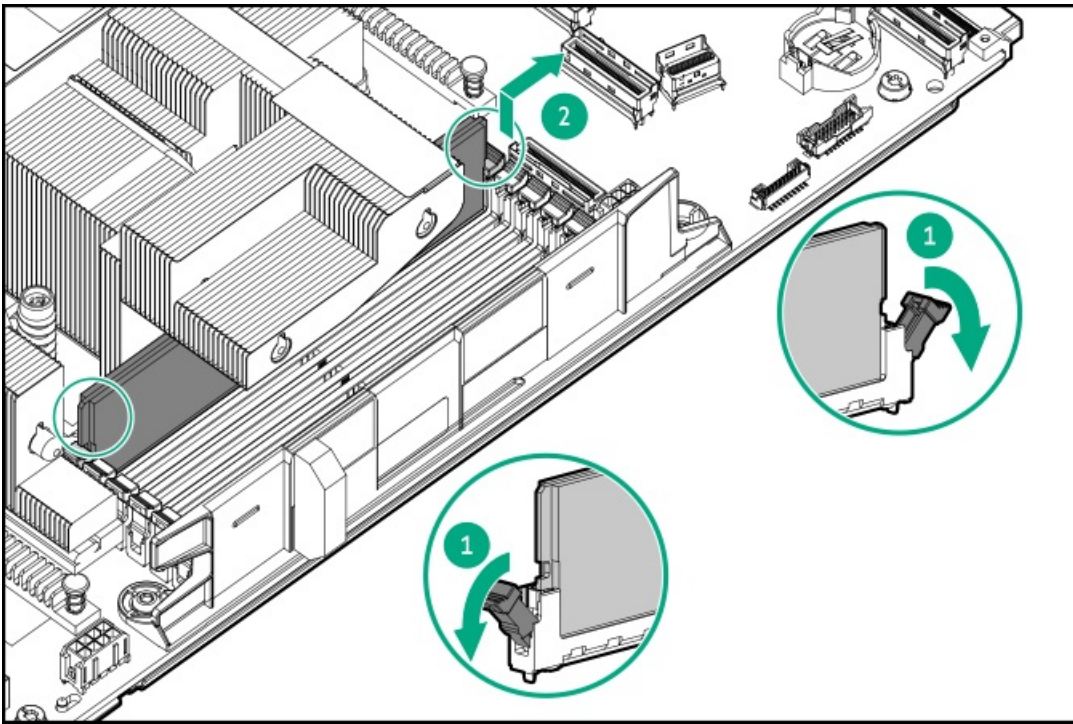
- a. Disconnect the cables from the PDB for power supplies 3 and 4.
- b. Loosen the PDB captive screw (callout 1), and then remove the PDB from the cage (callout 2).



12. Remove the DIMM.

- a. Open the DIMM slot latches (callout 1).
- b. Carefully slide the DIMM from the slot under the max performance heatsink (callout 2).





### Results

To replace the component, reverse the removal procedure.

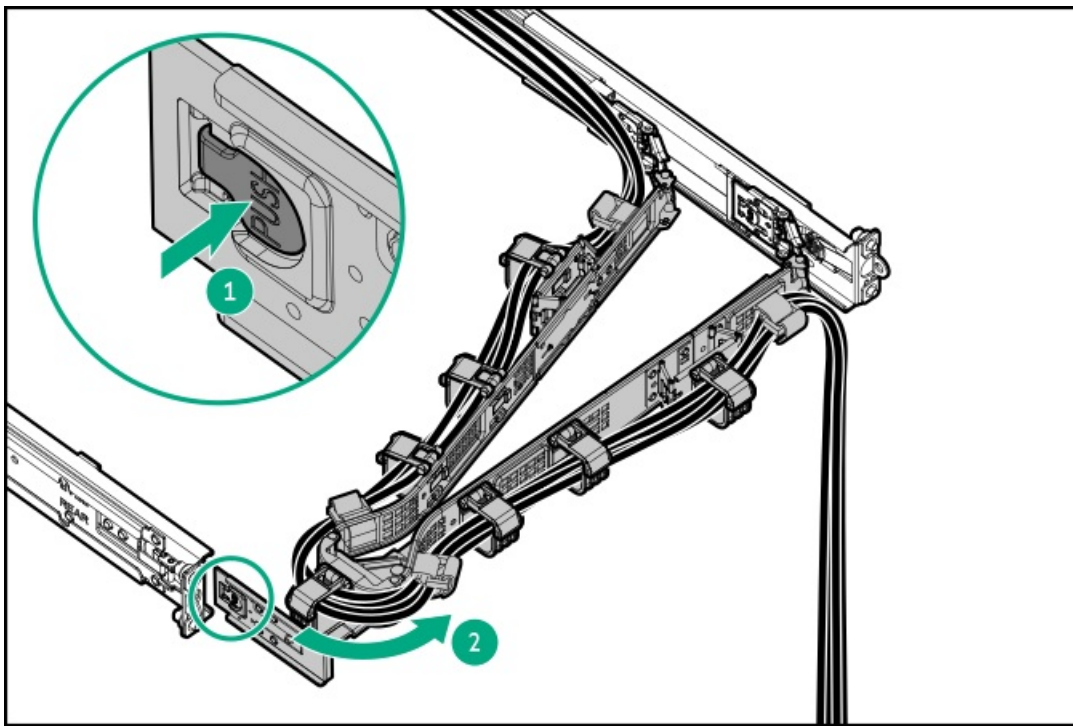
## Removing and replacing a DIMM guard

### Prerequisites

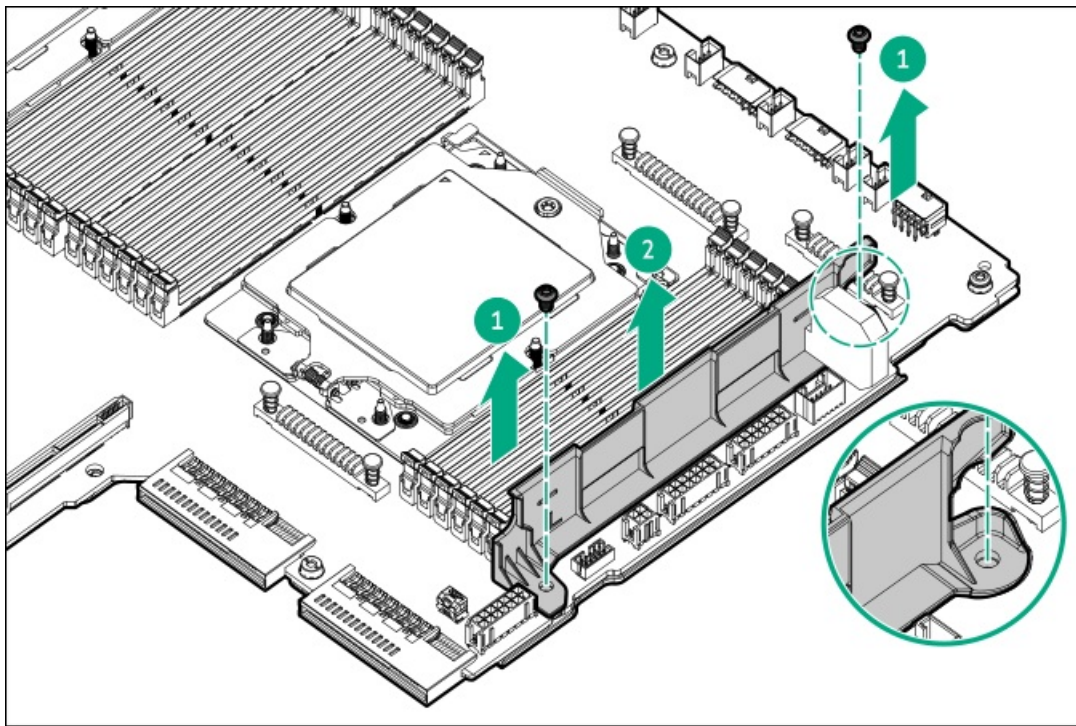
Before you perform this procedure, make sure that you have a T-10 Torx screwdriver available.

### Procedure

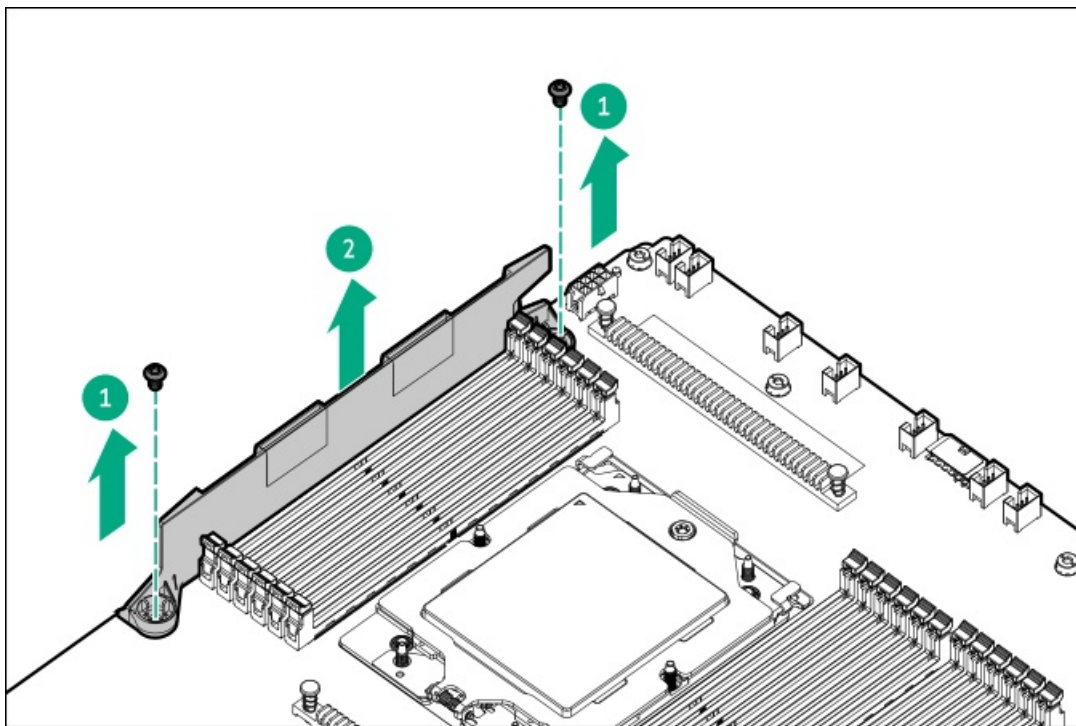
1. [Power down the server.](#)
2. If installed, open the cable management arm.



3. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
4. Disconnect all peripheral cables from the server.
5. Do one of the following:
  - Extend the server from the rack.
  - Remove the server from the rack.
6. Remove the access panel.
7. Do one of the following:
  - a. Remove the air baffle.
  - b. Remove the midplane drive cage.
8. If installed, remove the cable guards.
9. Remove the DIMM guard.
  - Left



- Right



### Results

To replace the component, reverse the removal procedure.

## Removing and replacing a fan

About this task

**CAUTION:** To maintain proper system cooling, do not operate the server for long period with the access panel open or removed. Operating the server in this manner results in an improper system airflow. For internal hot-plug component procedures, complete the procedure within 60 seconds. Failure to do so can cause the system temperature to increase and trip the safety threshold. When this happens:

- The health LED flashes amber.
- The operating system gracefully shuts down.

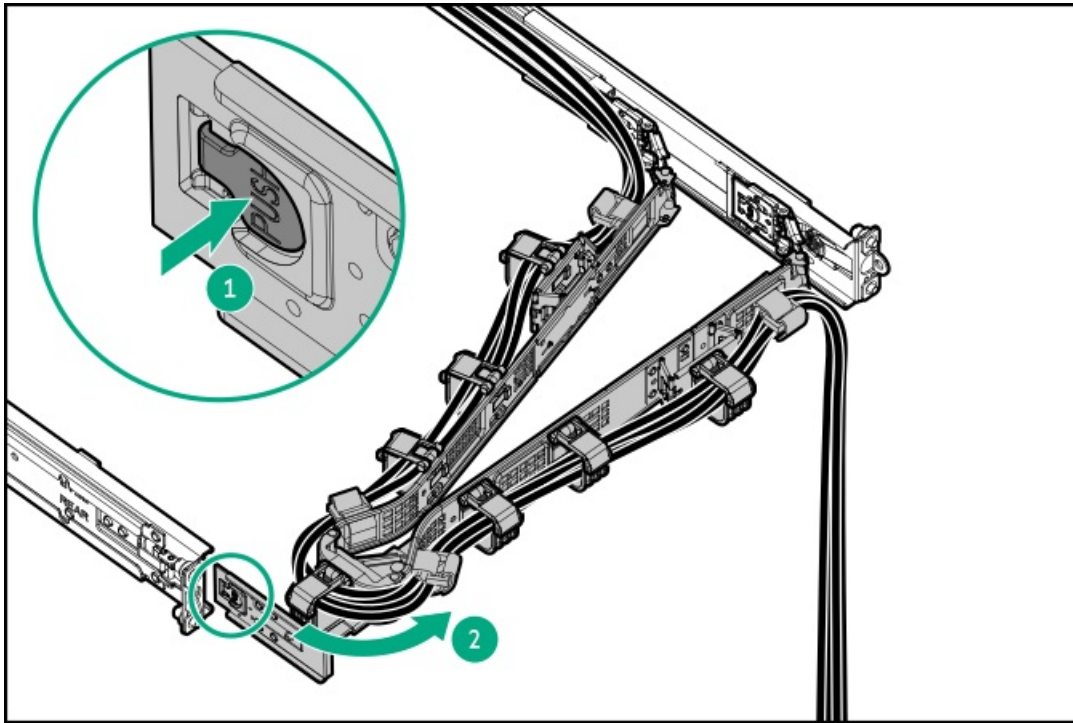
**CAUTION:** To prevent improper cooling and thermal damage, do not operate the server unless all bays are populated with either a component or a blank.

**IMPORTANT:**

The fan setup can either be standard, single-rotor fans or high-performance, dual-rotor fans. Do not mix fan types in the same server.

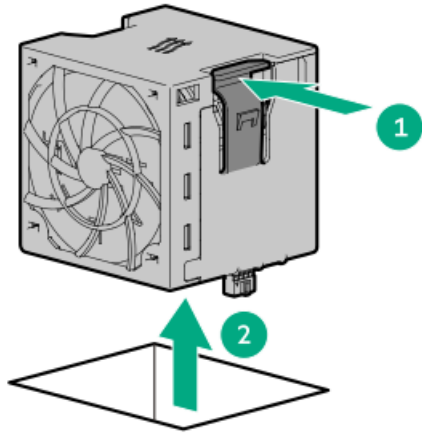
## Procedure

1. If installed, open the cable management arm.



2. Extend the server from the rack.
3. Remove the access panel.
4. Remove the fan:
  - a. Press and hold the latch (callout 1).
  - b. Lift the fan from the fan cage (callout 2).





## Results

To replace the component, reverse the removal procedure.

## Removing and replacing the serial port

### Prerequisites

Before you perform this procedure, make sure that you have a hex screwdriver available.

### About this task



#### CAUTION:

A discharge of static electricity from a finger or other conductor might damage system boards or other static-sensitive devices. To prevent damage, observe [antistatic precautions](#).

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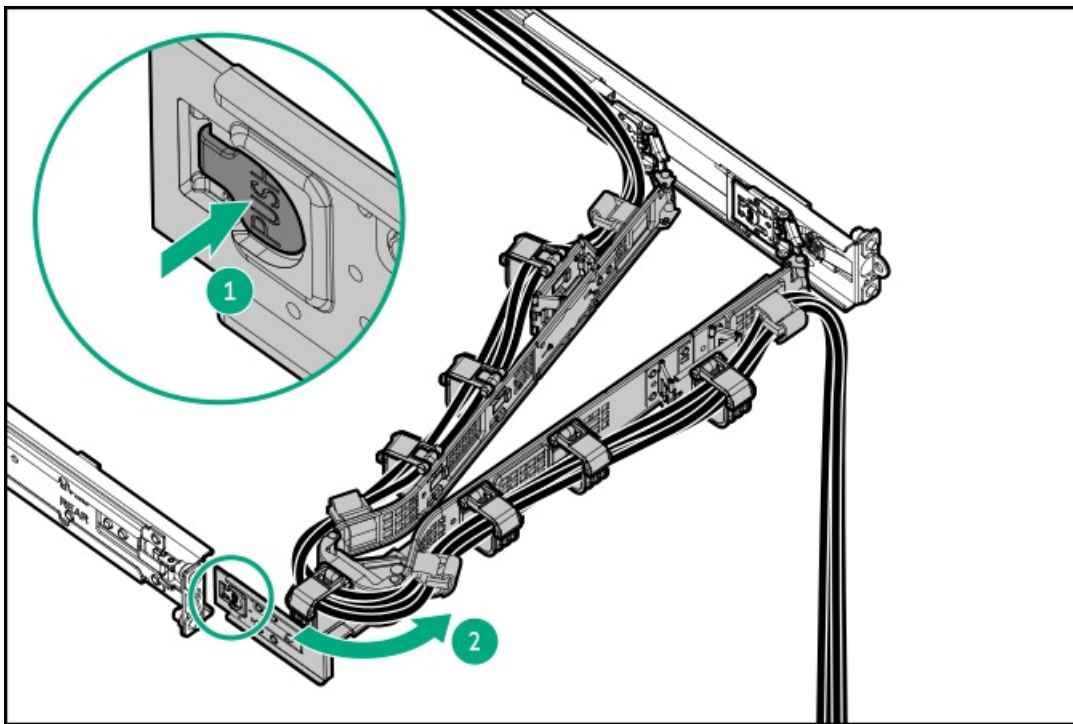
#### CAUTION:

The port blank provides EMI shielding and helps maintain proper thermal status inside the server. Do not operate the server when a port blank is removed without the corresponding I/O port option installed.

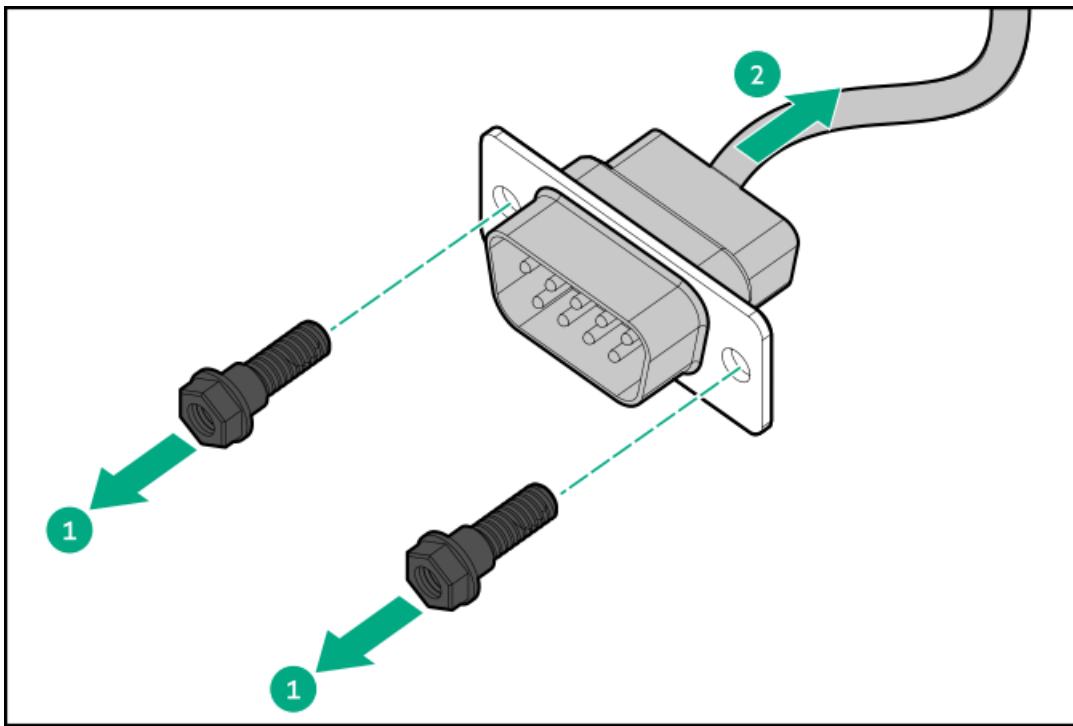
---

### Procedure

1. Back up all server data.
2. [Power down the server](#).
3. If installed, open the cable management arm.



4. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
5. Disconnect all peripheral cables from the server.
6. Remove the server from the rack.
7. Place the server on a flat, level work surface.
8. Remove the access panel.
9. If the server is in the rear 4 LFF drive configuration, remove the rear 4 LFF drive cage.
10. (Optional) If installed, remove the secondary riser cage.
11. Disconnect the serial port from the system board.
12. Remove the serial port:
  - a. Remove the hex screws (callout 1).  
Retain screws for future use.
  - b. Detach the serial port from the rear panel (callout 2).



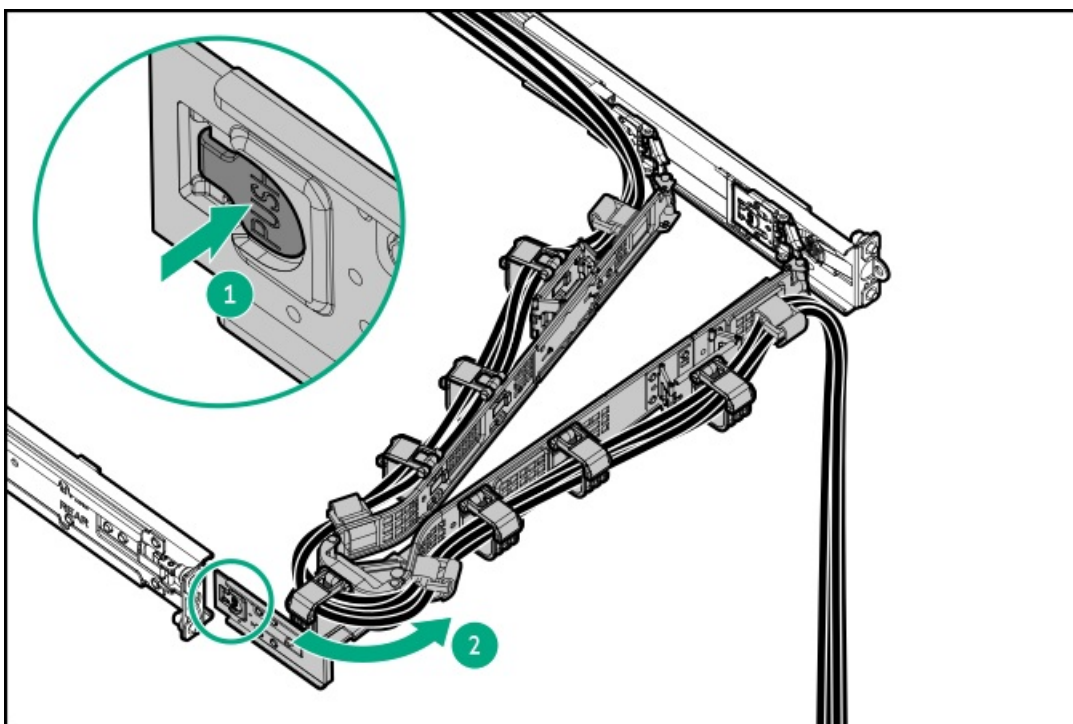
### Results

To replace the component, reverse the removal procedure.

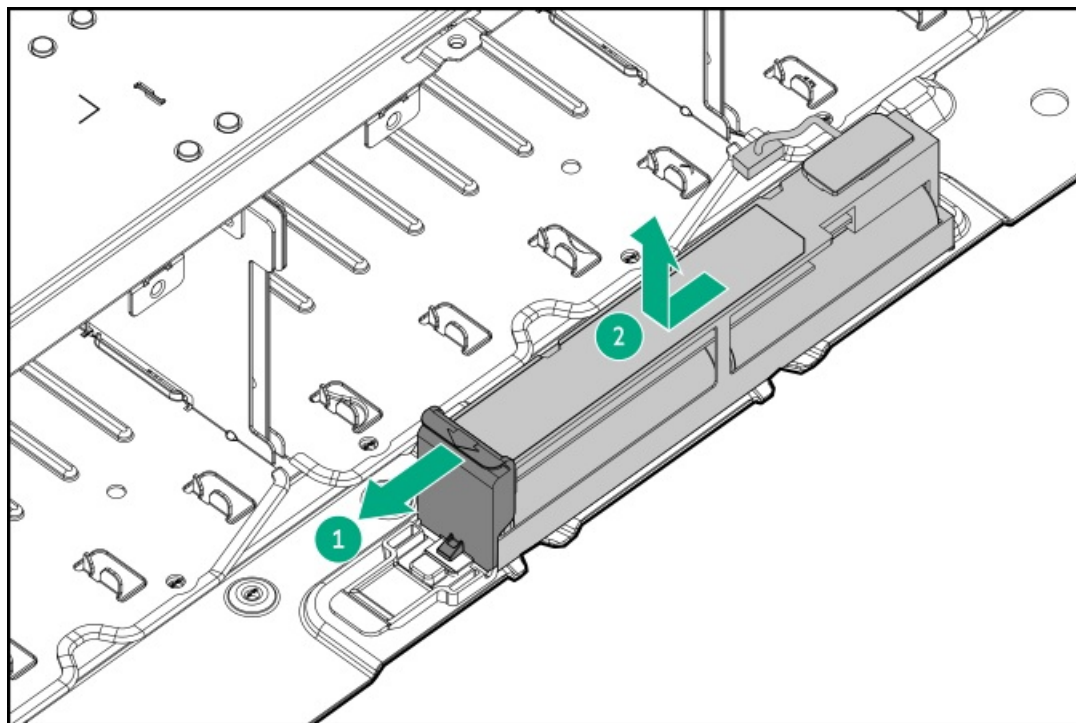
## Removing and replacing the energy pack

### Procedure

1. Power down the server.
2. If installed, open the cable management arm.



3. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
4. Disconnect all peripheral cables from the server.
5. Remove the server from the rack.
6. Place the server on a flat, level work surface.
7. Remove the access panel.
8. Do one of the following:
  - a. Remove the air baffle.
  - b. Remove the midplane drive cage.
9. Remove the fan cage.
10. Remove the midwall bracket.
11. If the server is in the front SFF drive configuration, disconnect all cables from the drive backplane.
12. Disconnect the energy pack extension cable from the energy pack cable.
13. Remove the energy pack from the holder.
  - a. Press and hold the release latch (callout 1).
  - b. Lift the energy pack from the holder (callout 2).



#### Results

To replace the component, reverse the removal procedure.

## Removing and replacing the optical drive blank

## Prerequisites

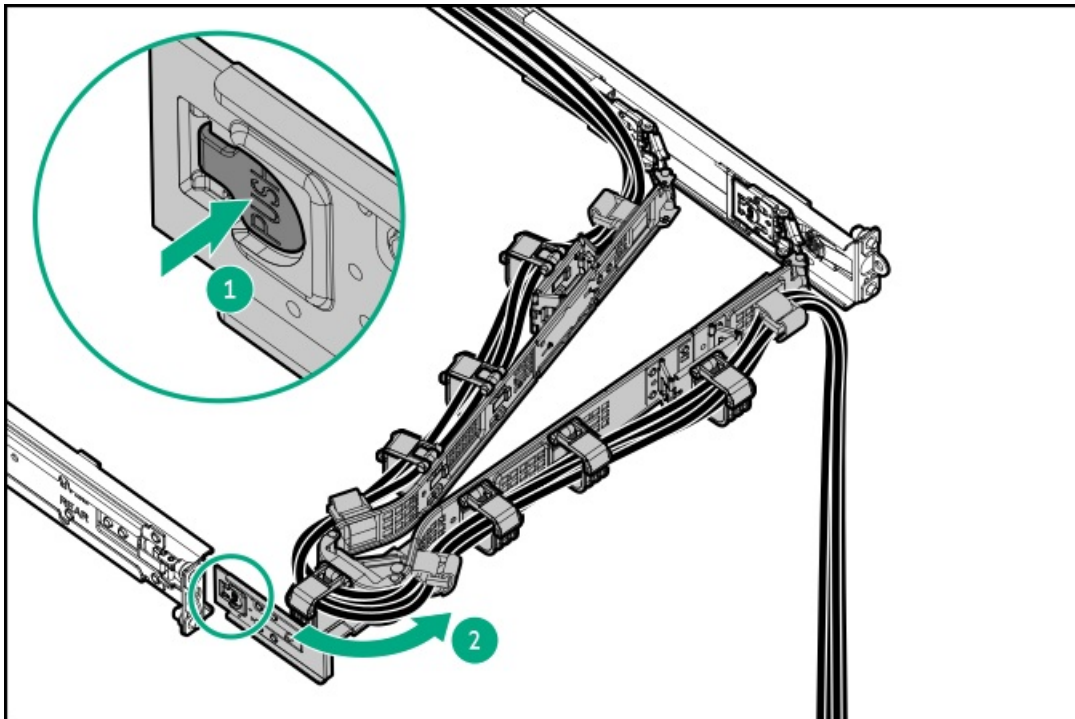
Before you perform this procedure, make sure that you have a spudger or any small prying tool available.

## About this task

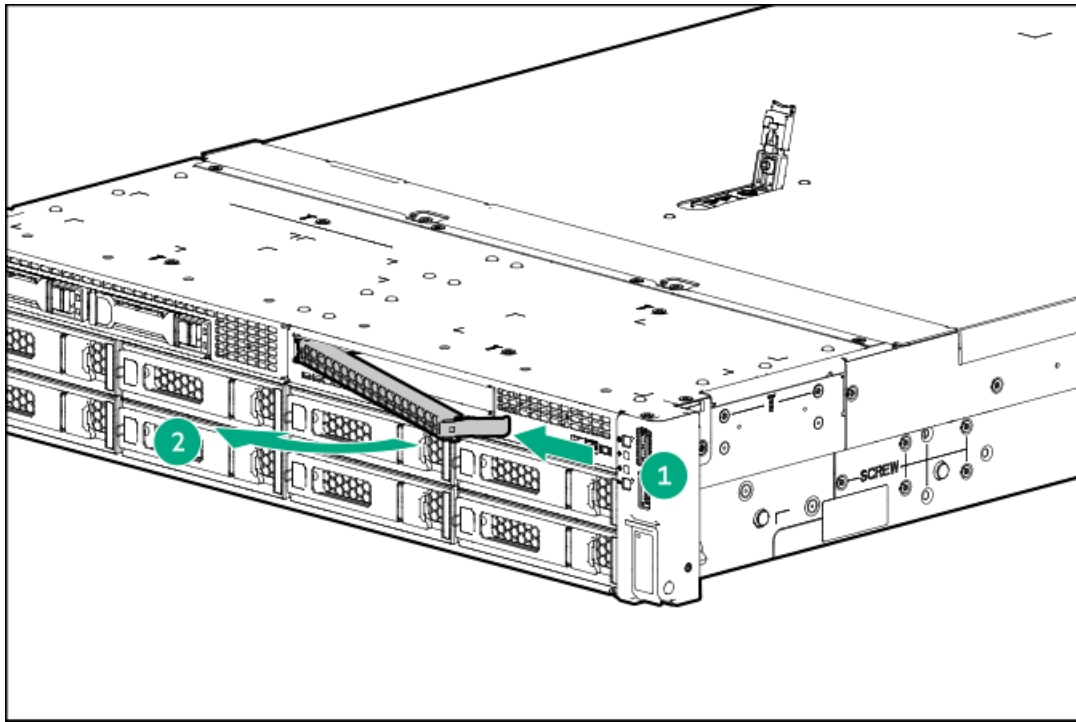
**CAUTION:** To prevent improper cooling and thermal damage, do not operate the server unless all bays are populated with either a component or a blank.

## Procedure

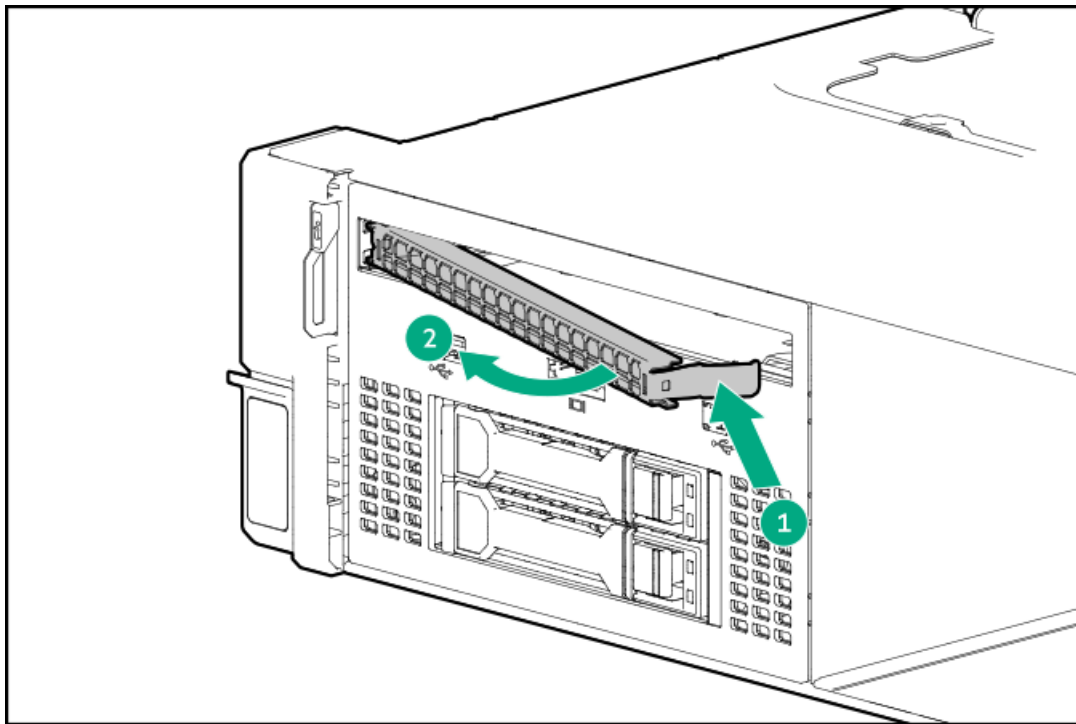
1. If installed, remove the front bezel.
2. Power down the server.
3. If installed, open the cable management arm.



4. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
5. Disconnect all peripheral cables from the server.
6. Remove the optical drive blank.
  - LFF universal media bay



- SFF universal media bay



#### Results

To replace the component, reverse the removal procedure.

## Removing and replacing the front 2 SFF stacked drive blank

#### Prerequisites

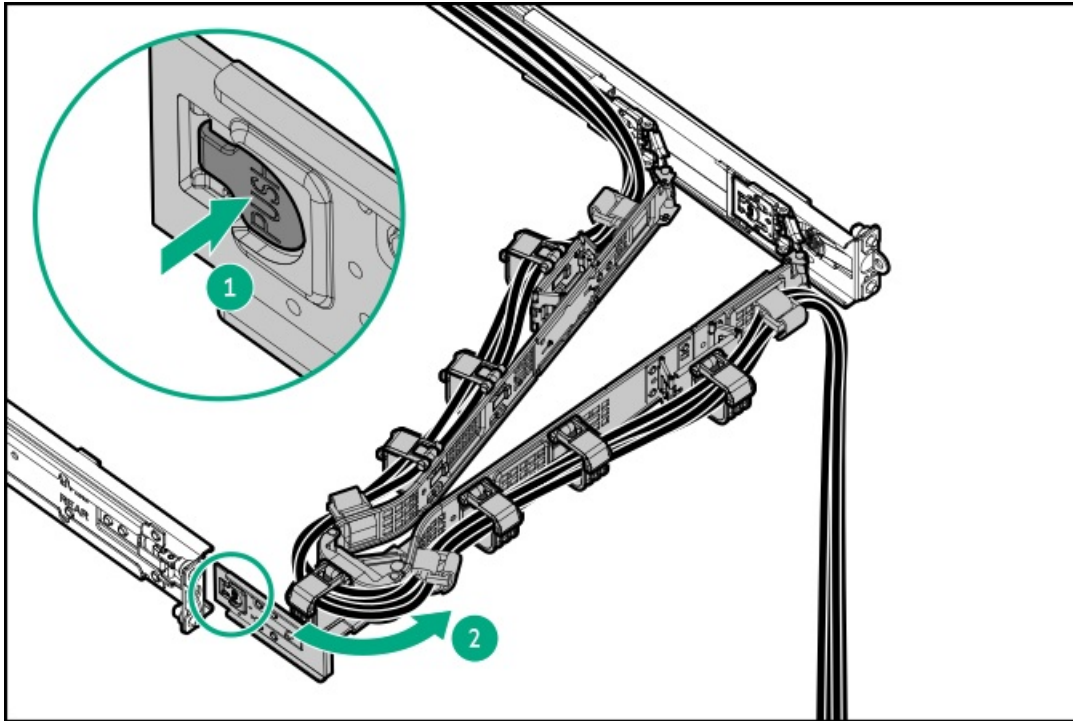
Before you perform this procedure, make sure that you have the following items available:

- T-10 Torx screwdriver

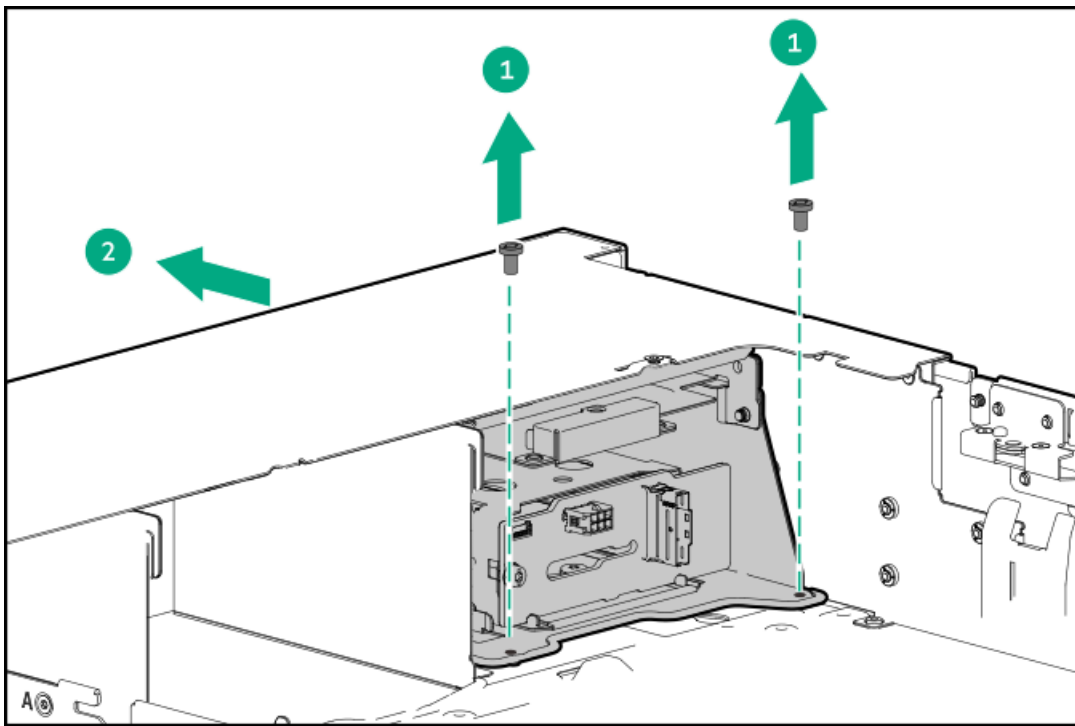
- T-15 Torx screwdriver

#### Procedure

1. Back up all server data.
2. If installed, remove the front bezel.
3. Power down the server.
4. If installed, open the cable management arm.

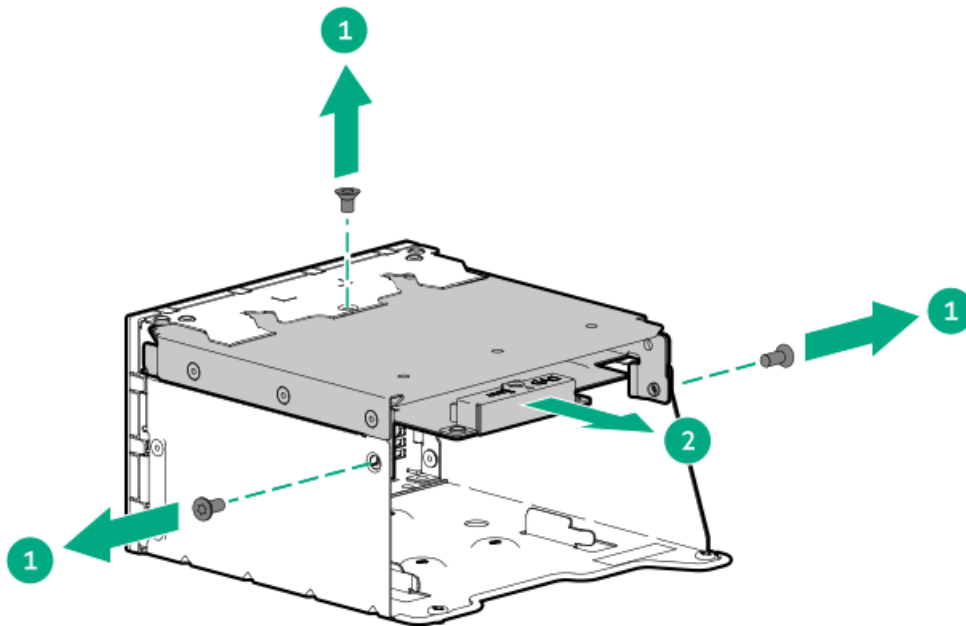


5. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
6. Disconnect all peripheral cables from the server.
7. Remove the server from the rack.
8. Place the server on a flat, level work surface.
9. Remove the access panel.
10. Do one of the following:
  - a. Remove the air baffle.
  - b. Remove the midplane drive cage.
11. Remove the fan cage.
12. Remove the midwall bracket.
13. Remove the universal media bay:
  - a. Remove the universal media bay screws (callout 1).
  - b. Remove the universal media bay from the server (callout 2).



14. Remove the optical drive tray:

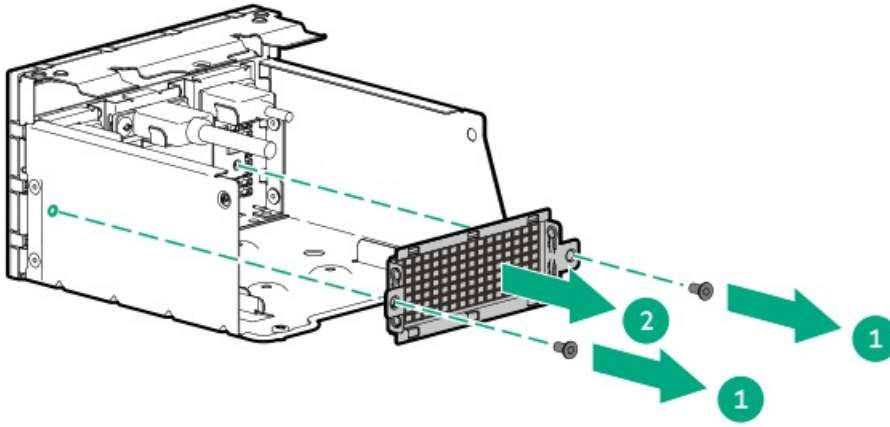
- a. Remove the optical drive tray screws (callout 1).
- b. Remove the optical drive tray from universal media bay (callout 2).



15. Remove the 2 SFF drive blank:

- a. Remove the blank screws (callout 1).
- b. Remove the drive blank from universal media bay (callout 2).





### Results

To replace the component, reverse the removal procedure.

## Removing and replacing the universal media bay cage

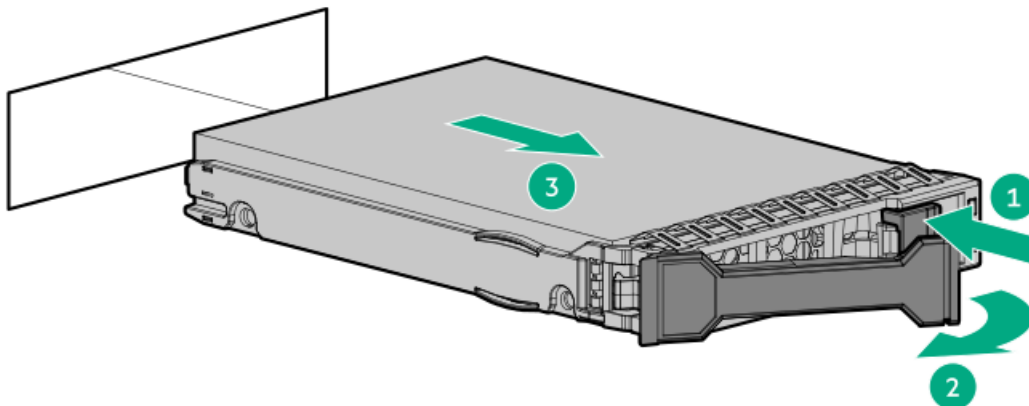
### Prerequisites

Before you perform this procedure, make sure that you have the following items available:

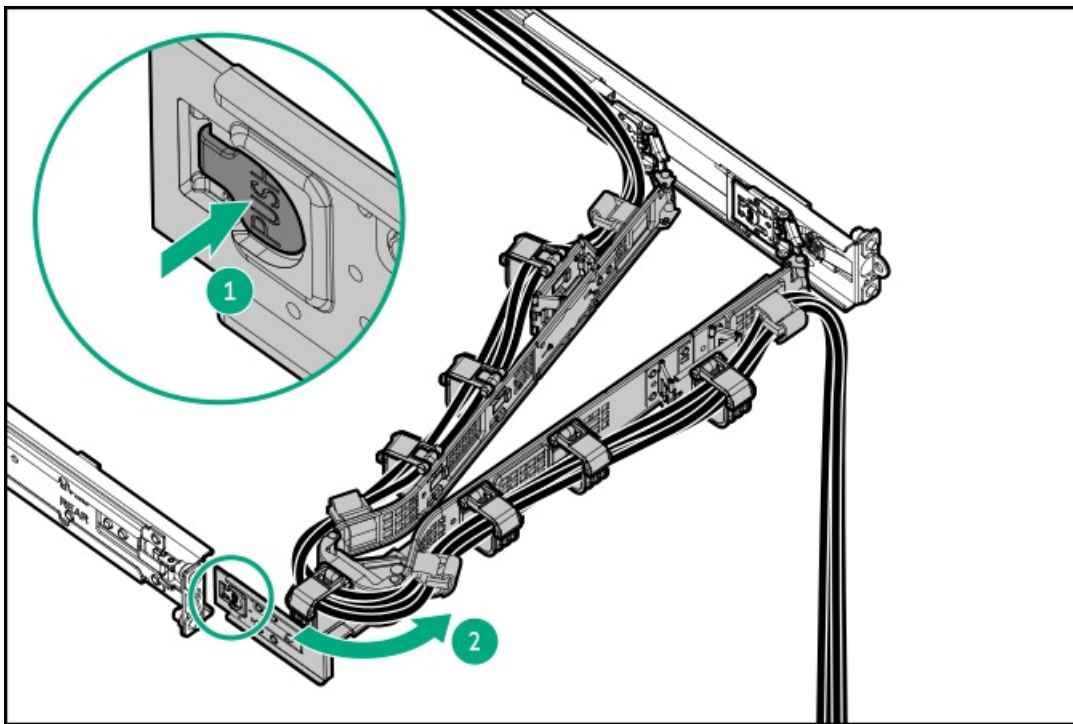
- T-10 Torx screwdriver
- T-15 Torx screwdriver

### Procedure

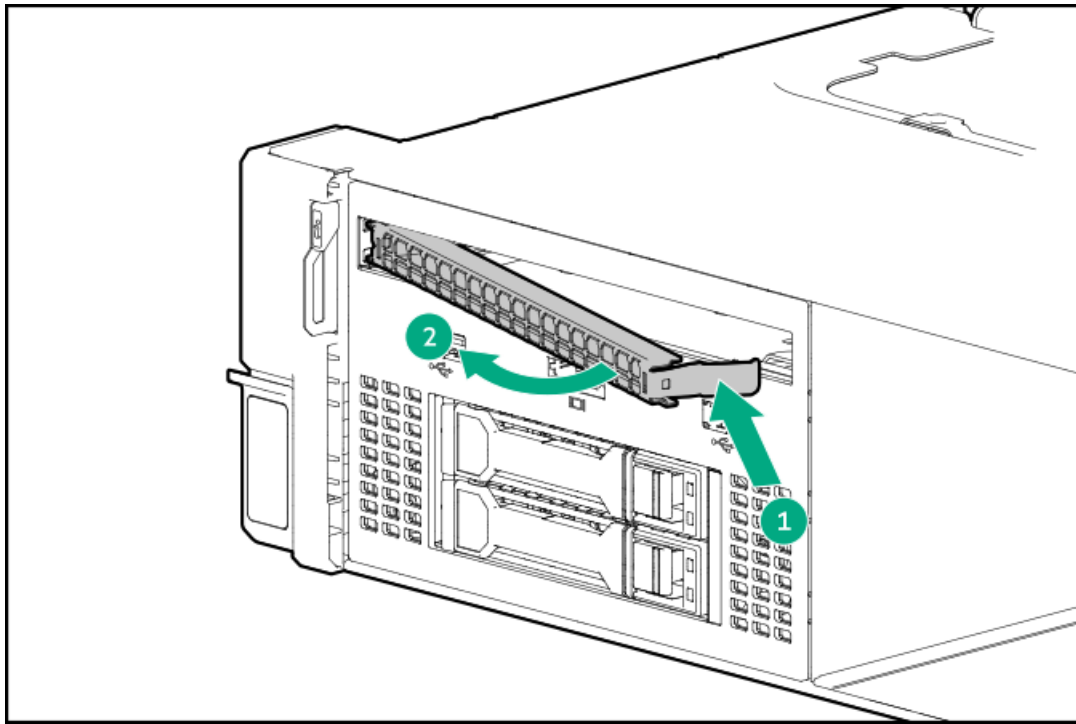
1. Back up all server data.
2. If installed, remove the front bezel.
3. If installed, remove all drives from the 2 SFF stacked drive cage.



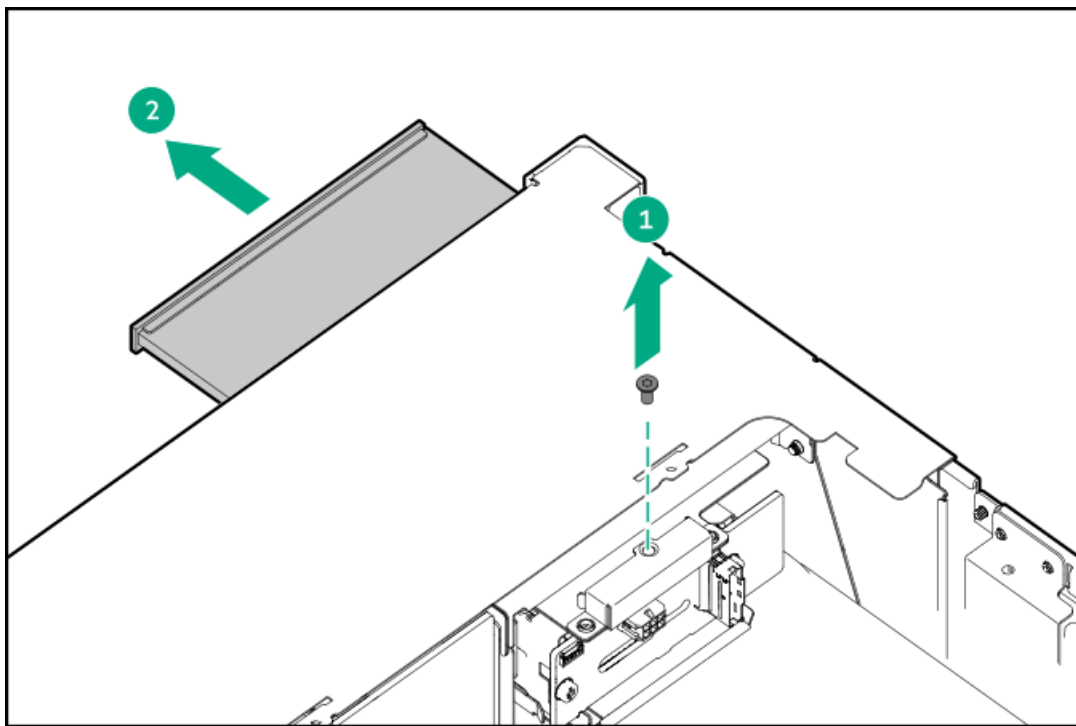
4. Power down the server.
5. If installed, open the cable management arm.



6. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
7. Disconnect all peripheral cables from the server.
8. Remove the server from the rack.
9. Place the server on a flat, level work surface.
10. Remove the access panel.
11. Do one of the following:
  - a. Remove the air baffle.
  - b. Remove the midplane drive cage.
12. Remove the fan cage.
13. Remove the midwall bracket.
14. Do one of the following:
  - Remove the optical drive blank



- Remove the optical drive



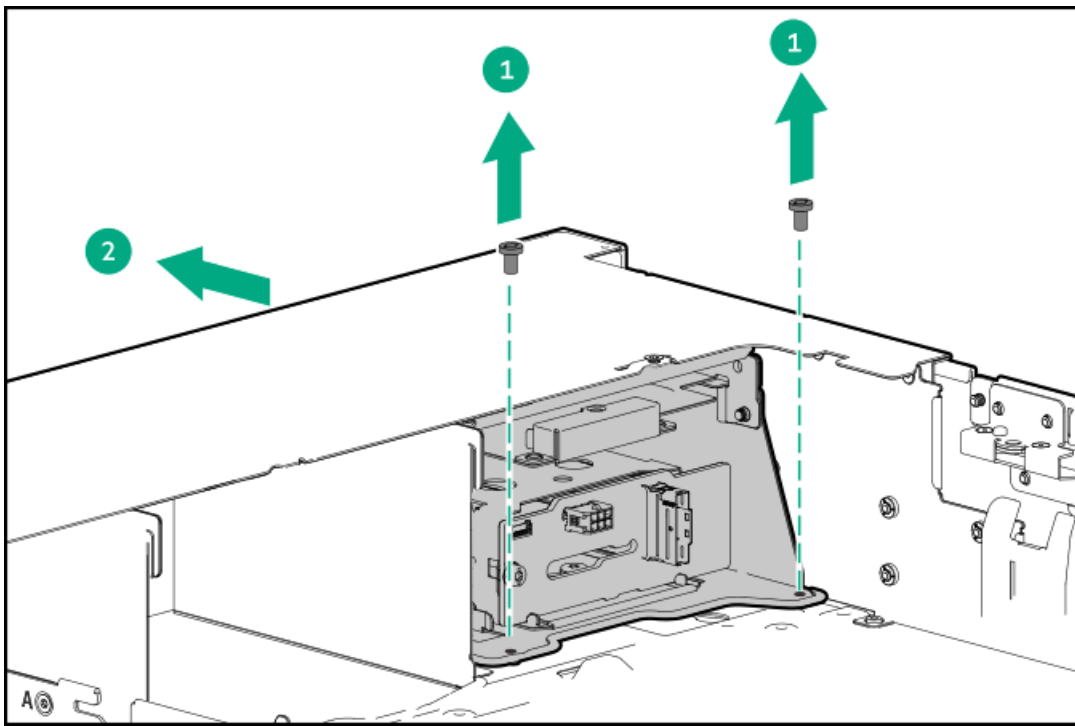
15. Disconnect the following cables from the system board:

- [USB 2.0/DisplayPort Y-cable](#)
- [USB 3.2 Gen 1 port cable](#)

16. [Disconnect all cables from the 2 SFF stacked drive backplane .](#)

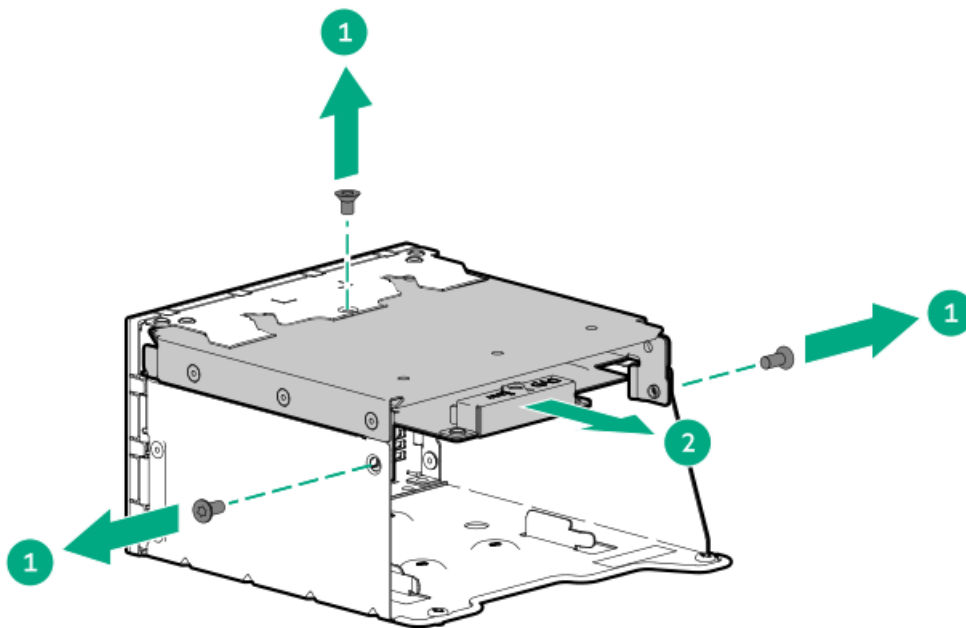
17. Remove the universal media bay:

- a. Remove the universal media bay screws (callout 1).
- b. Remove the universal media bay from the server (callout 2).

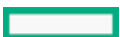


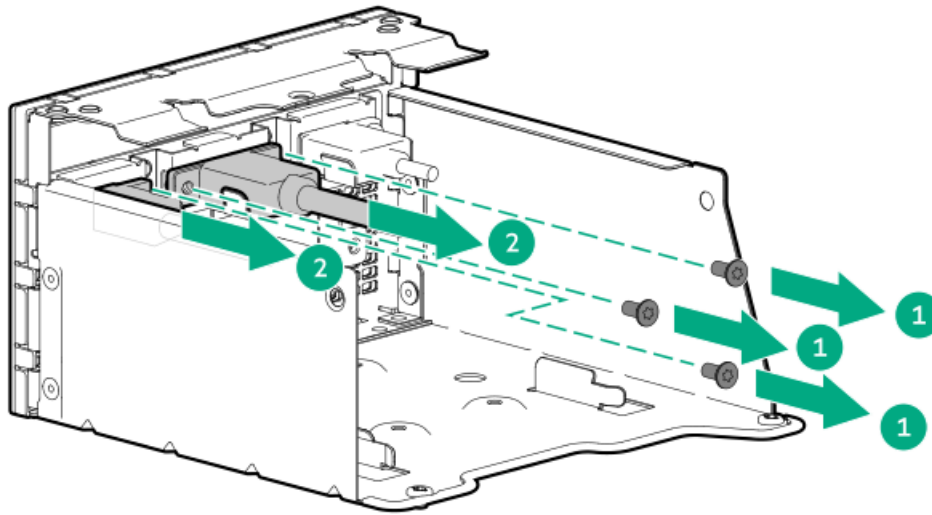
18. Remove the optical drive tray:

- a. Remove the optical drive tray screws (callout 1).
- b. Remove the optical drive tray from universal media bay (callout 2).

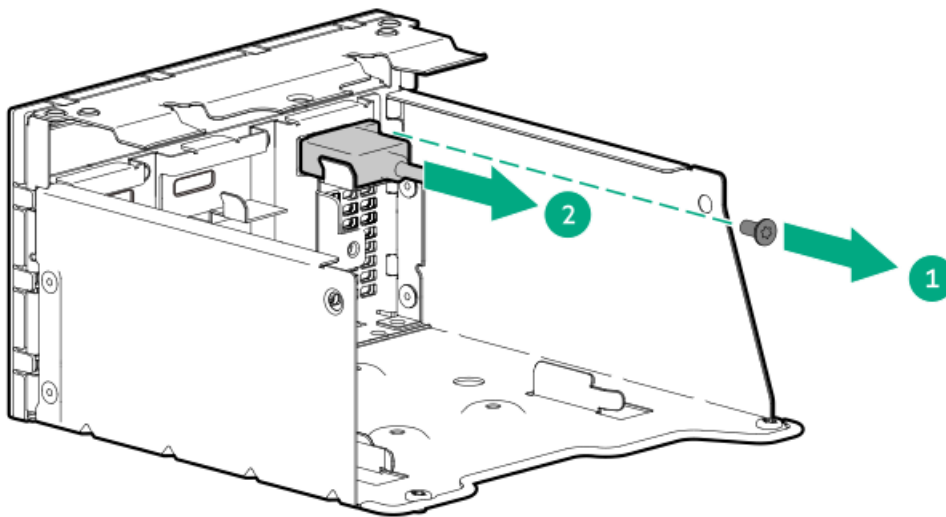


19. Remove the USB 2.0 / DisplayPort Y-cable from the SFF universal media bay.



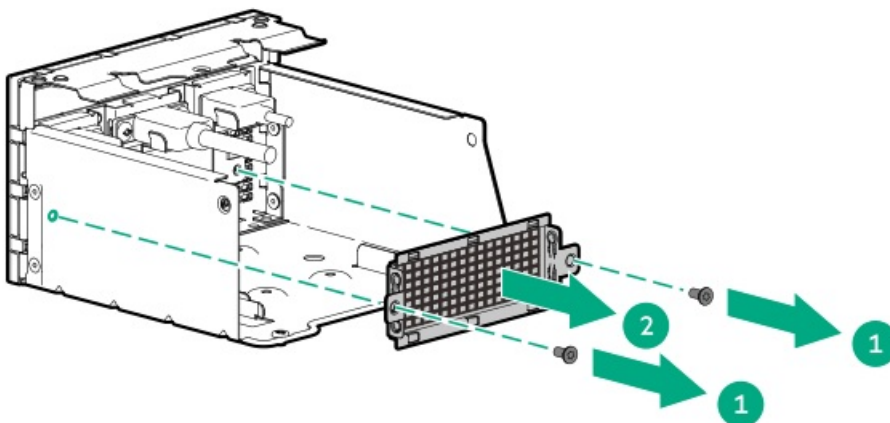


20. Remove the USB 3.2 Gen 1 port cable from the SFF universal media bay.

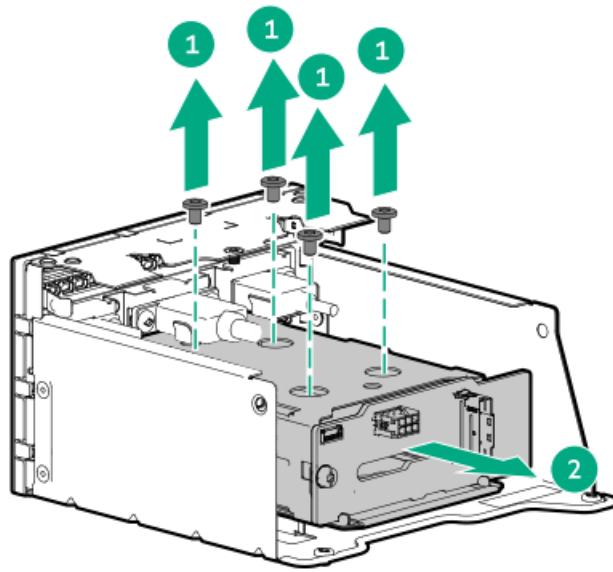


21. Remove the 2 SFF drive blank:

- a. Remove the blank screws (callout 1).
- b. Remove the drive blank from universal media bay (callout 2).



22. If installed, remove the 2 SFF stacked drive cage.



### Results

To replace the component, reverse the removal procedure.

## Removing and replacing the SFF universal media bay USB 2.0/DisplayPort Y-cable

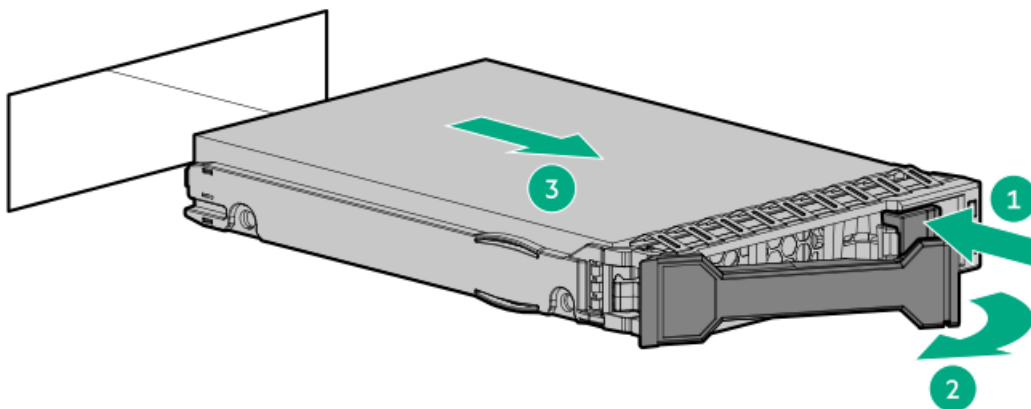
### Prerequisites

Before you perform this procedure, make sure that you have the following items available:

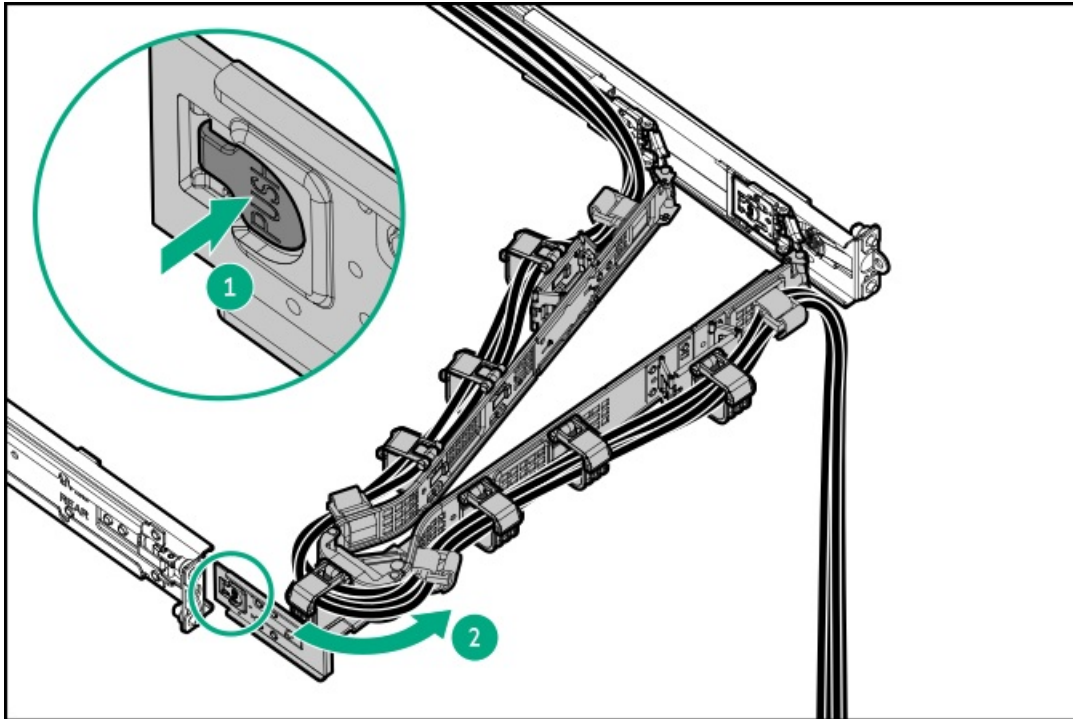
- T-10 Torx screwdriver
- T-15 Torx screwdriver

### Procedure

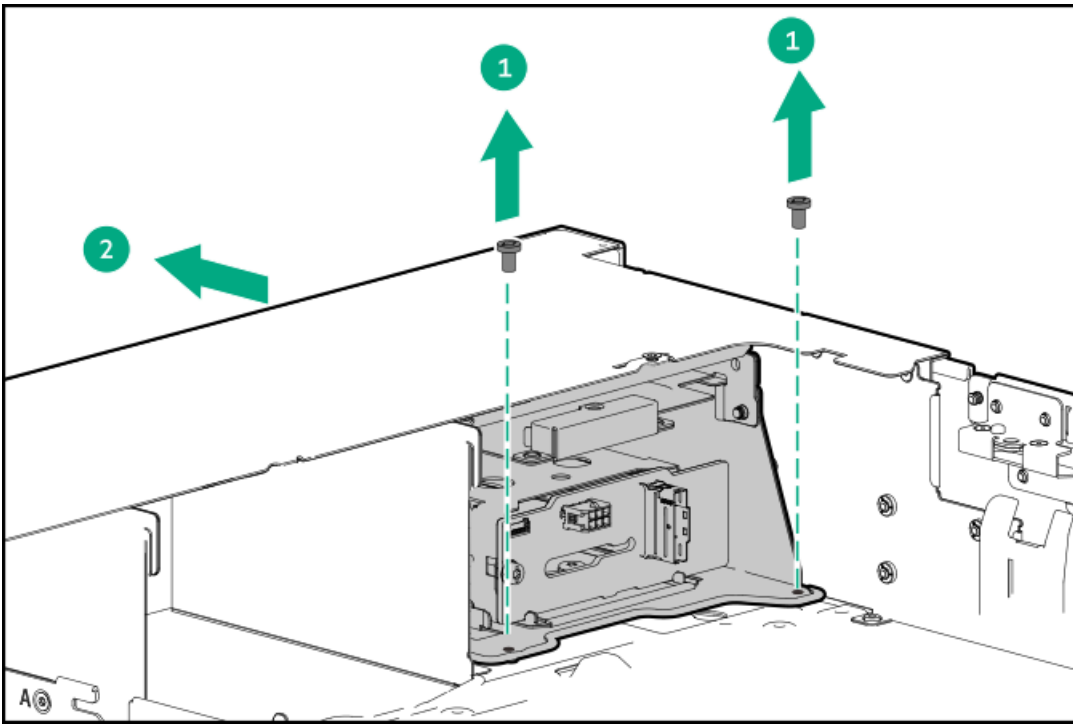
1. Back up all server data.
2. If installed, remove the front bezel.
3. If installed, remove all drives from the 2 SFF stacked drive cage.



4. Power down the server.
5. If installed, open the cable management arm.

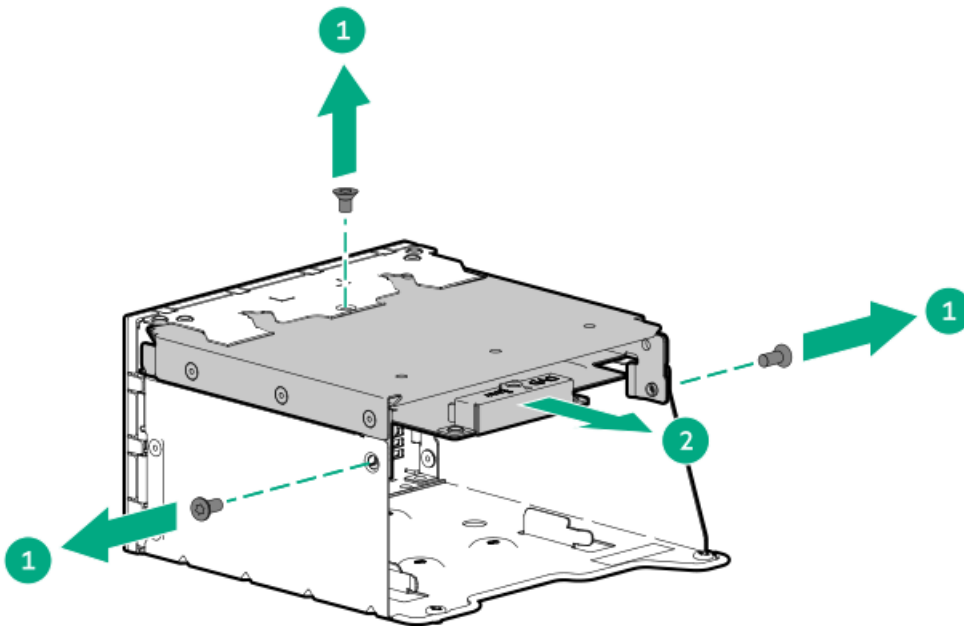


6. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
7. Disconnect all peripheral cables from the server.
8. Remove the server from the rack.
9. Place the server on a flat, level work surface.
10. Remove the access panel.
11. Do one of the following:
  - a. Remove the air baffle.
  - b. Remove the midplane drive cage.
12. Remove the fan cage.
13. Remove the midwall bracket.
14. Remove the universal media bay:
  - a. Remove the universal media bay screws (callout 1).
  - b. Remove the universal media bay from the server (callout 2).



15. Remove the optical drive tray:

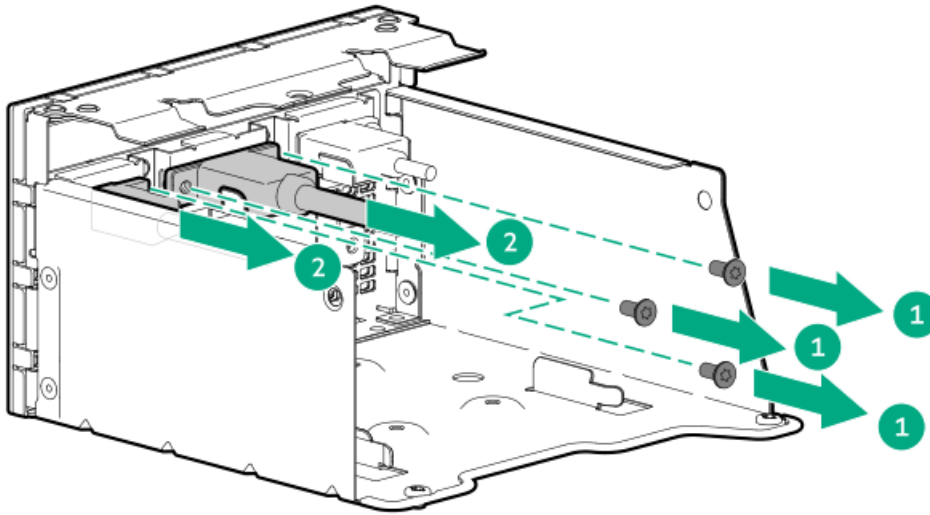
- a. Remove the optical drive tray screws (callout 1).
- b. Remove the optical drive tray from universal media bay (callout 2).



16. Remove the USB 2.0 / DisplayPort Y-cable from the SFF universal media bay.







### Results

To replace the component, reverse the removal procedure.

## Removing and replacing the SFF universal media bay USB 3.2 Gen 1 port cable

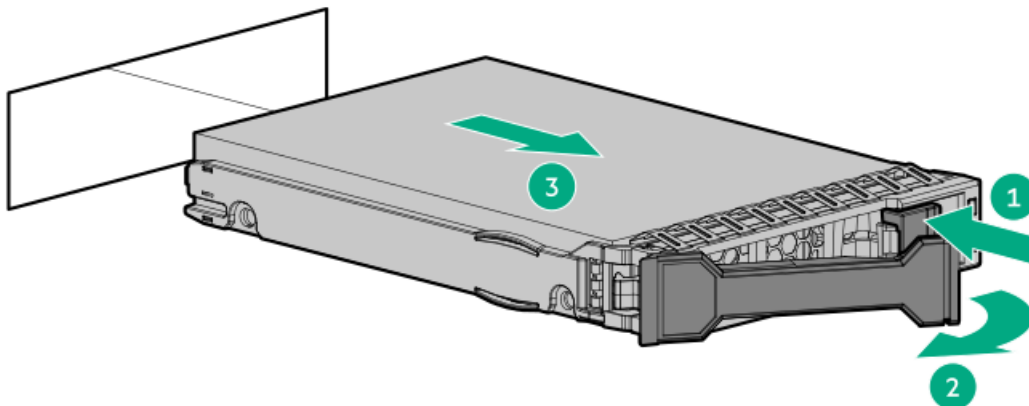
### Prerequisites

Before you perform this procedure, make sure that you have the following items available:

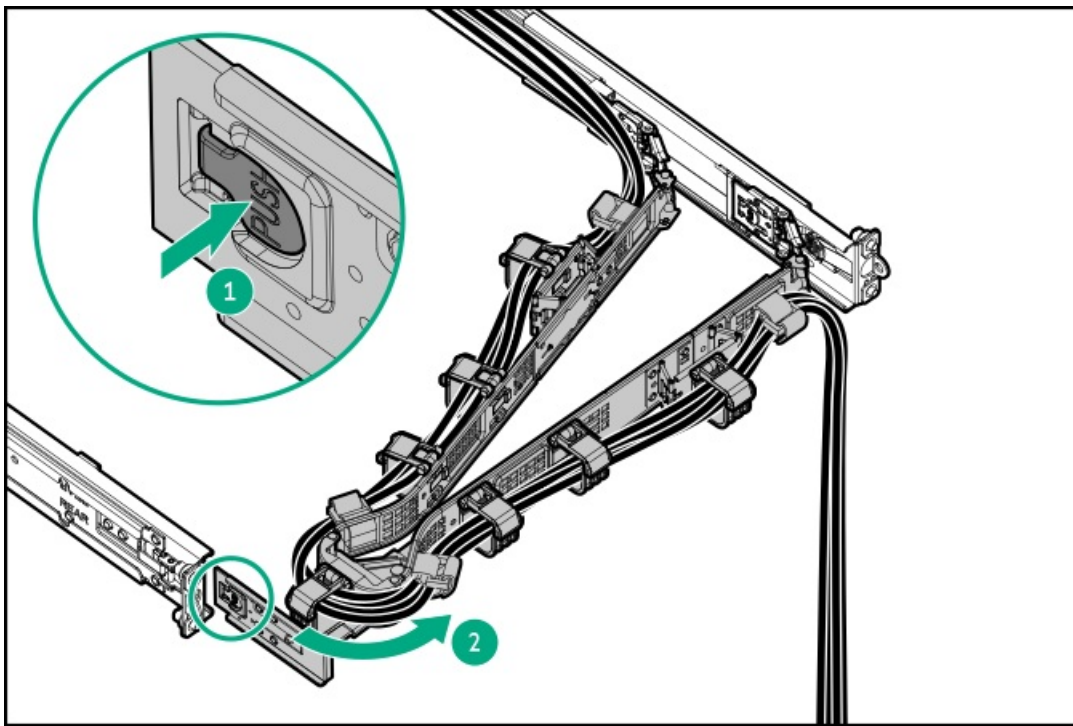
- T-10 Torx screwdriver
- T-15 Torx screwdriver

### Procedure

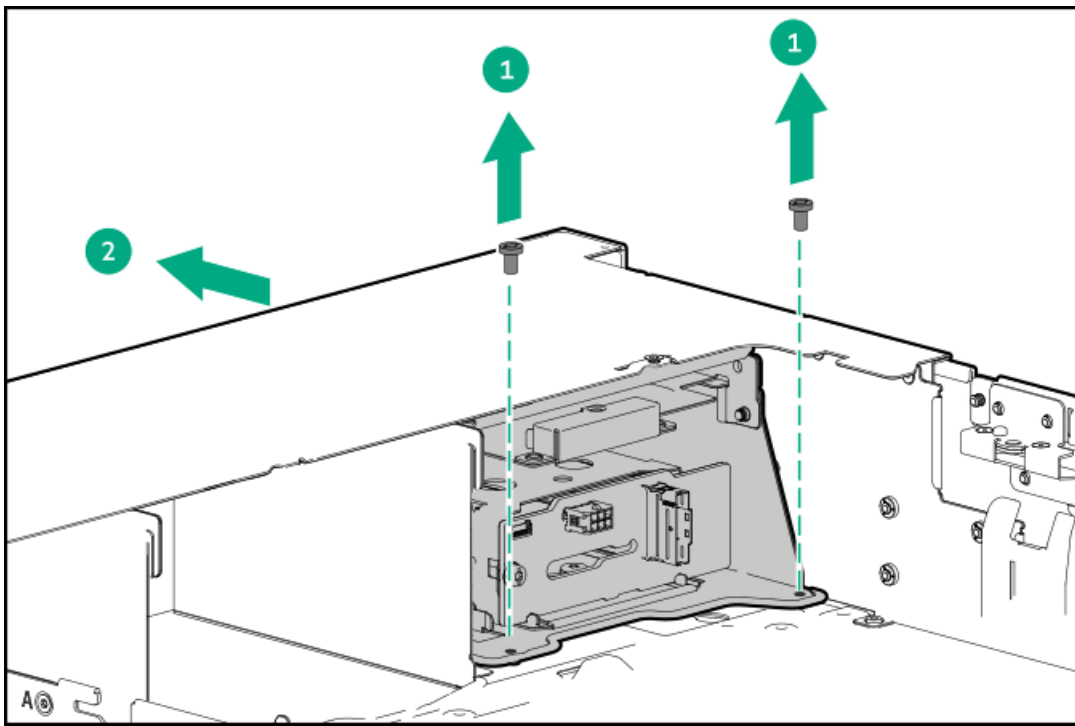
1. Back up all server data.
2. If installed, remove the front bezel.
3. If installed, remove all drives from the 2 SFF stacked drive cage.



4. Power down the server.
5. If installed, open the cable management arm.

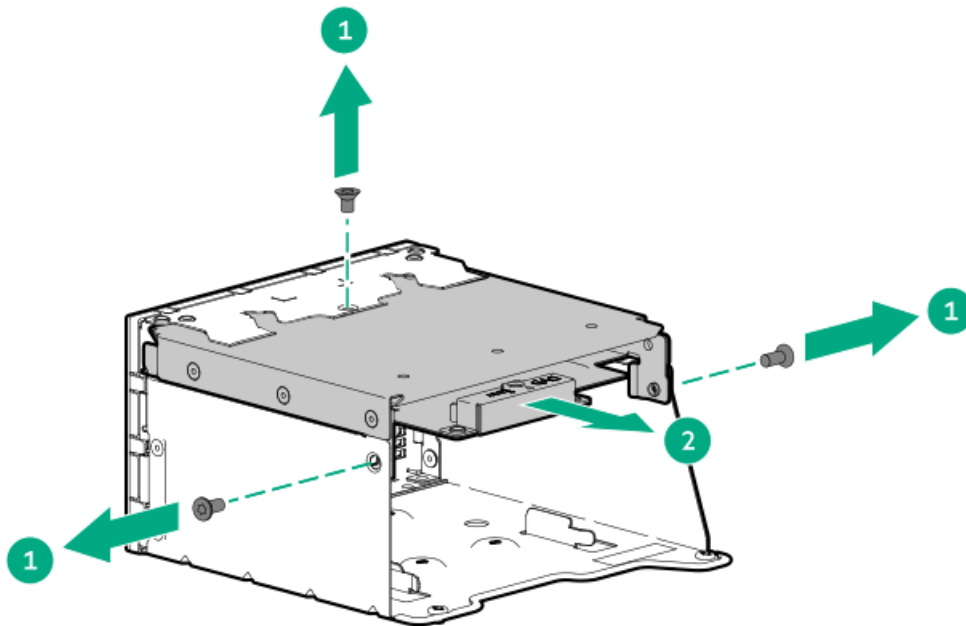


6. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
7. Disconnect all peripheral cables from the server.
8. Remove the server from the rack.
9. Place the server on a flat, level work surface.
10. Remove the access panel.
11. Do one of the following:
  - a. Remove the air baffle.
  - b. Remove the midplane drive cage.
12. Remove the fan cage.
13. Remove the midwall bracket.
14. Remove the universal media bay:
  - a. Remove the universal media bay screws (callout 1).
  - b. Remove the universal media bay from the server (callout 2).



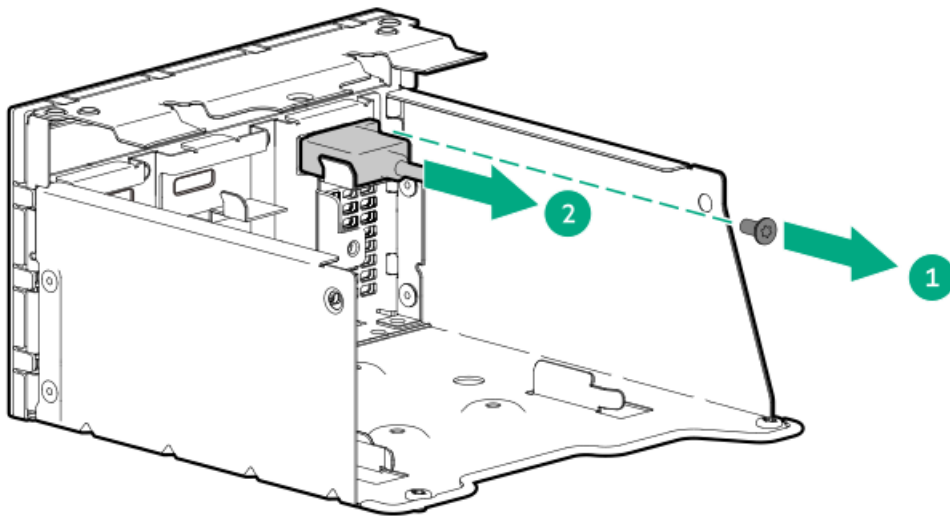
15. Remove the optical drive tray:

- a. Remove the optical drive tray screws (callout 1).
- b. Remove the optical drive tray from universal media bay (callout 2).



16. Remove the USB 3.2 Gen 1 port cable from the SFF universal media bay.





### Results

To replace the component, reverse the removal procedure.

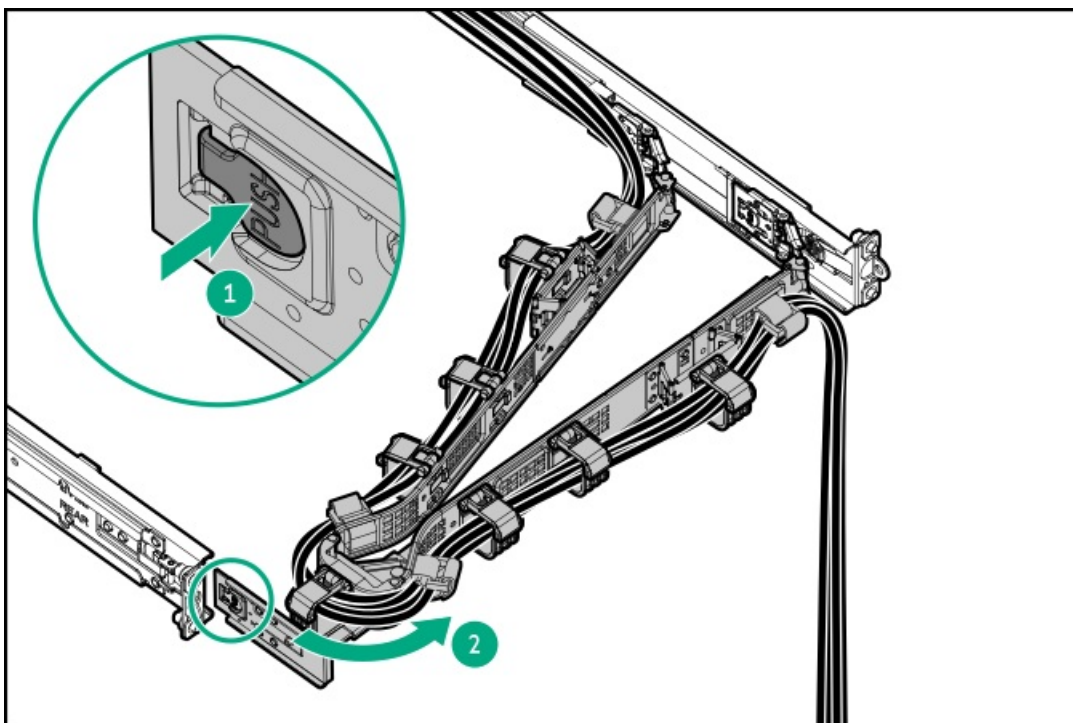
## Removing and replacing the LFF universal media bay DisplayPort cable

### Prerequisites

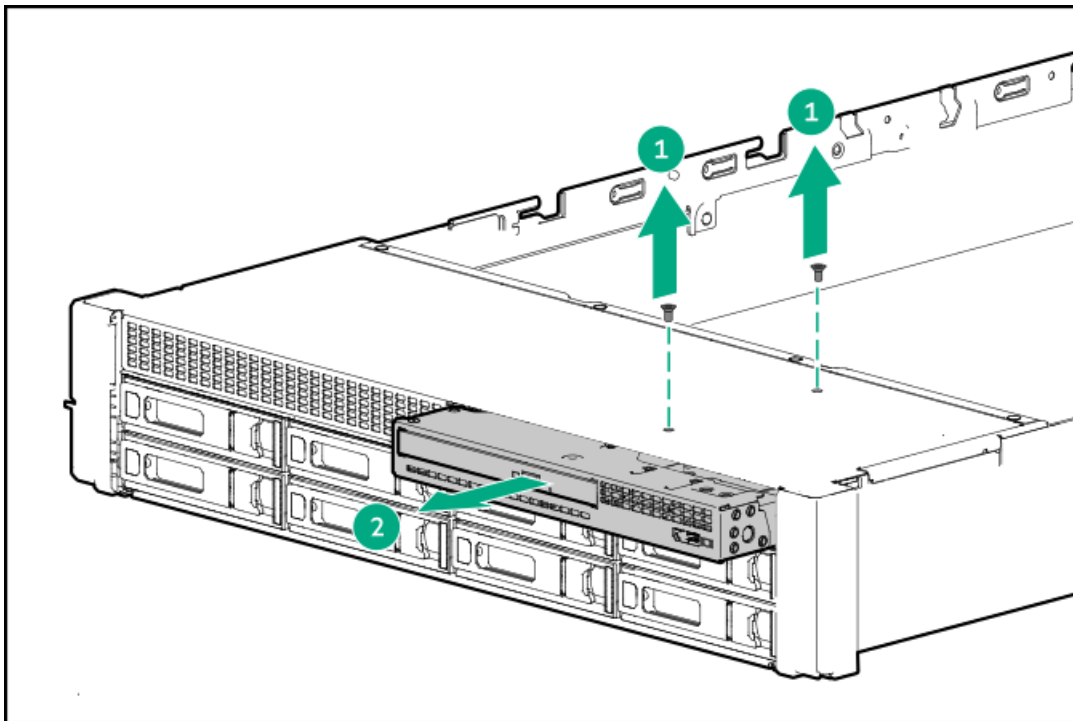
Before you perform this procedure, make sure that you have a T-10 Torx screwdriver available.

### Procedure

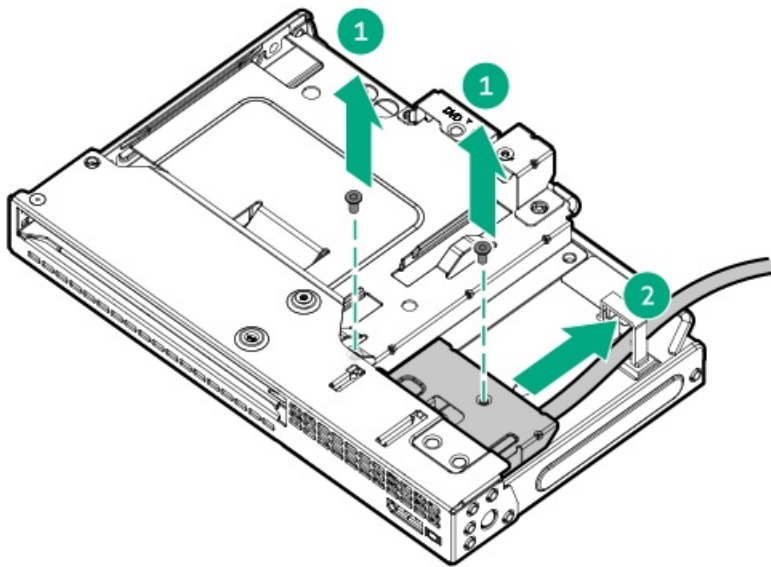
1. If installed, remove the front bezel.
2. Power down the server.
3. If installed, open the cable management arm.



4. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
5. Disconnect all peripheral cables from the server.
6. Remove the server from the rack.
7. Place the server on a flat, level work surface.
8. Remove the access panel.
9. Do one of the following:
  - a. Remove the air baffle.
  - b. Remove the midplane drive cage.
10. Remove the fan cage.
11. Remove the midwall bracket.
12. Remove the drive backplane bracket.
13. Disconnect the SATA-power Y-cable from the optical drive.
14. Disconnect the DisplayPort cable from the system board.
15. Remove the universal media bay:
  - a. Remove the universal media bay screws (callout 1).
  - b. Remove the universal media bay from the server (callout 2)



16. Remove the DisplayPort cable from the LFF universal media bay.



### Results

To replace the component, reverse the removal procedure.

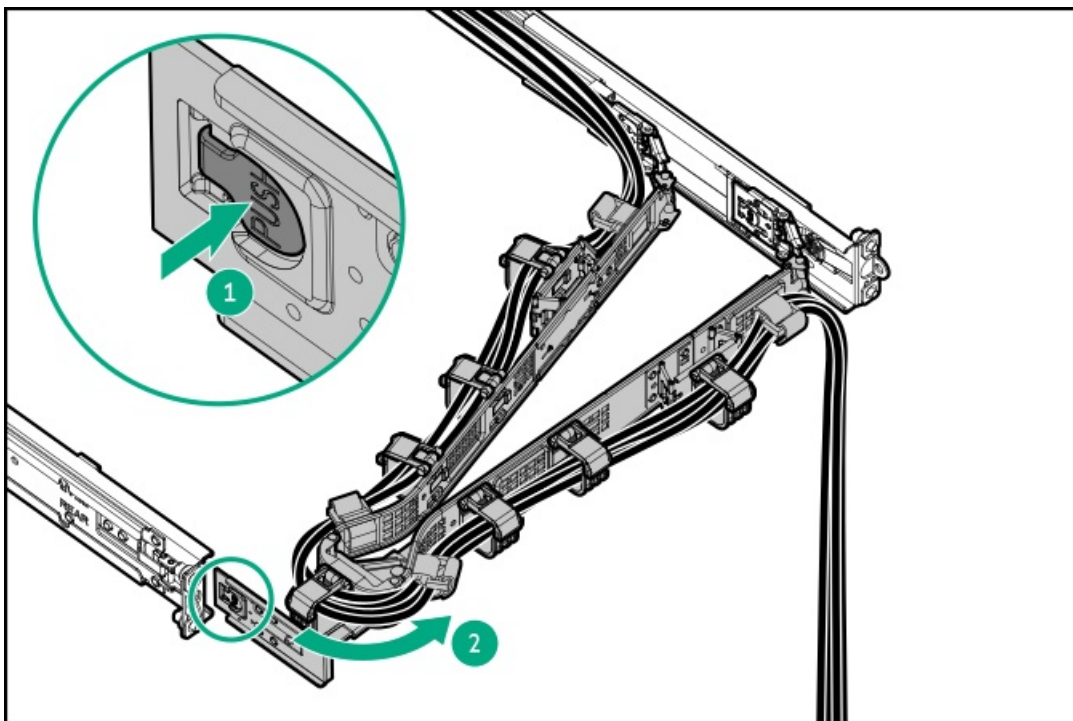
## Removing and replacing the right chassis ear assembly

### Prerequisites

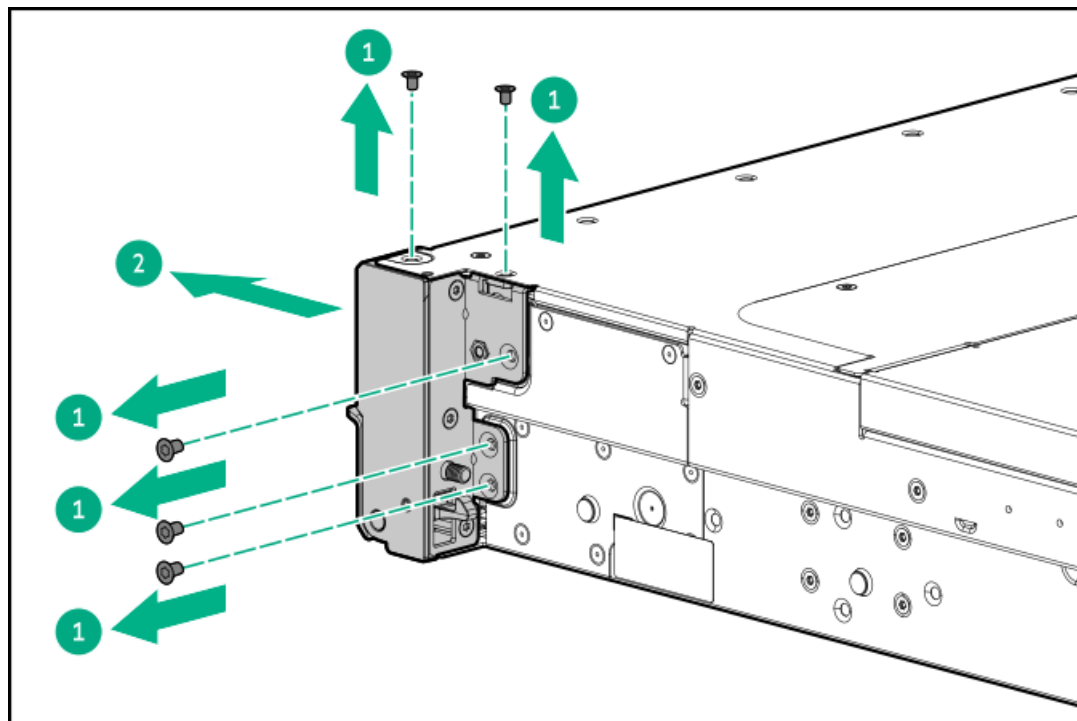
Before you perform this procedure, make sure that you have a T-10 Torx screwdriver available.

### Procedure

1. Power down the server.
2. If installed, open the cable management arm.



3. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
4. Disconnect all peripheral cables from the server.
5. Remove the server from the rack.
6. Place the server on a flat, level work surface.
7. Remove the access panel.
8. Do one of the following:
  - a. Remove the air baffle.
  - b. Remove the midplane drive cage.
9. If installed, remove the cable guards.
10. Remove the fan cage.
11. Disconnect the front I/O and USB cable from the system board.
12. Remove the right chassis ear assembly:
  - a. Remove front right chassis ear screws (callouts 1).  
Retain all screws for future use.
  - b. Pull the right chassis ear and front I/O and USB cable (callout 2).



#### Results

To replace the component, reverse the removal procedure.

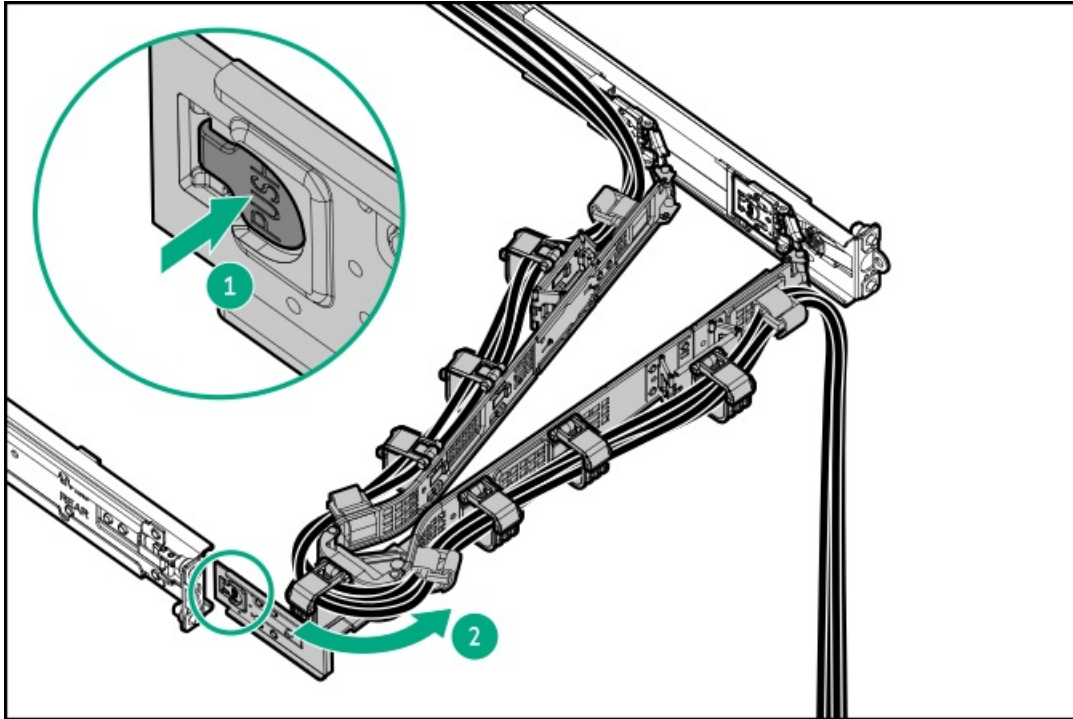
## Removing and replacing the left chassis ear

## Prerequisites

Before you perform this procedure, make sure that you have a T-10 Torx screwdriver available.

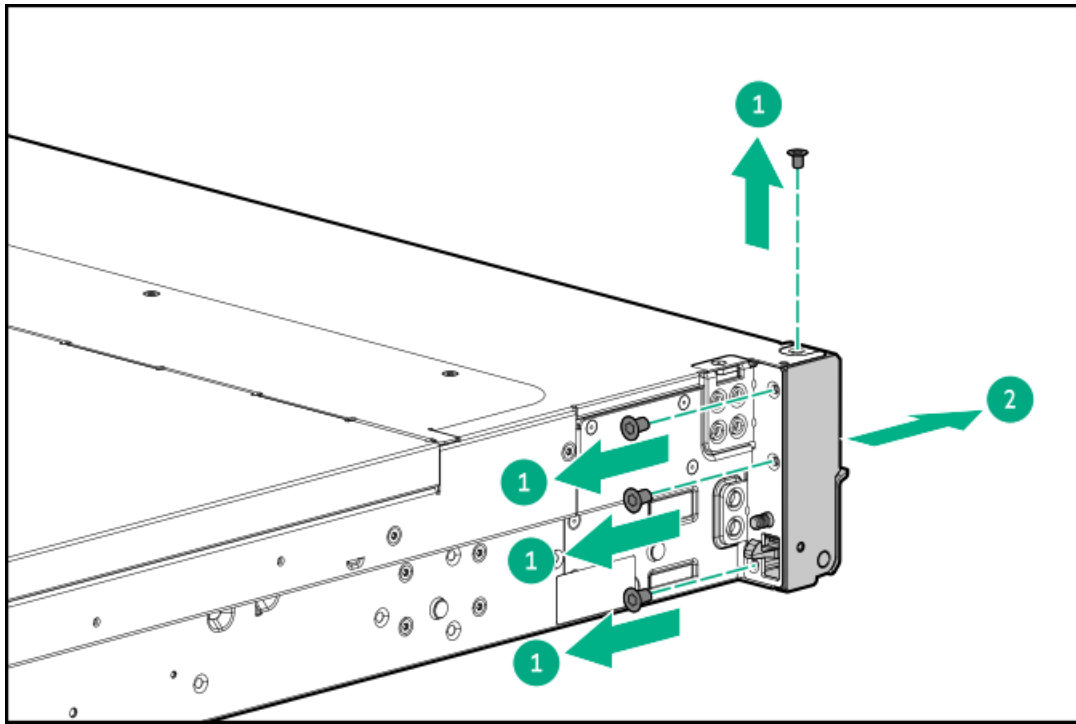
## Procedure

1. Power down the server.
2. If installed, open the cable management arm.



3. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
4. Disconnect all peripheral cables from the server.
5. Do one of the following:
  - Extend the server from the rack.
  - Remove the server from the rack.
6. Remove the left chassis ear:
  - a. Remove left chassis ear screws (callouts 1).  
Retain all screws for future use.
  - b. Detach the left chassis ear (callout 2).





## Results

To replace the component, reverse the removal procedure.

## Transceiver replacement

- [Transceiver warnings and cautions](#)
- [Removing and replacing a transceiver](#)

### Subtopics

[Transceiver warnings and cautions](#)

[Removing and replacing a transceiver](#)

## Transceiver warnings and cautions



### WARNING:

Fiber-optic transceivers and fiber-optic cables connected to transceivers emit laser light that can damage your eyes. To avoid eye injuries, avoid direct eye exposure to the beam from the fiber-optic transceiver or into the ends of fiber-optic cables when they are powered-up.



### CAUTION:

The presence of dust in transceiver ports can cause poor cable connectivity. To prevent dust from entering, install a dust plug in an unused transceiver port.

**⚠ CAUTION:**

Supported transceivers can be hot-swapped—removed and installed while the server is powered-on. However, to prevent potential damage to the transceiver or the fiber-optic cable, disconnect the cable from the transceiver before hot-swapping it.

**⚠ CAUTION:**

Do not remove and install transceivers more often than is necessary. Doing so can shorten the useful life of the transceiver.

**ⓘ IMPORTANT:**

When you replace a transceiver with another of a different type, the server might retain selected port-specific configuration settings that were configured for the replaced transceiver. Be sure to validate or reconfigure port settings as required.

## Removing and replacing a transceiver

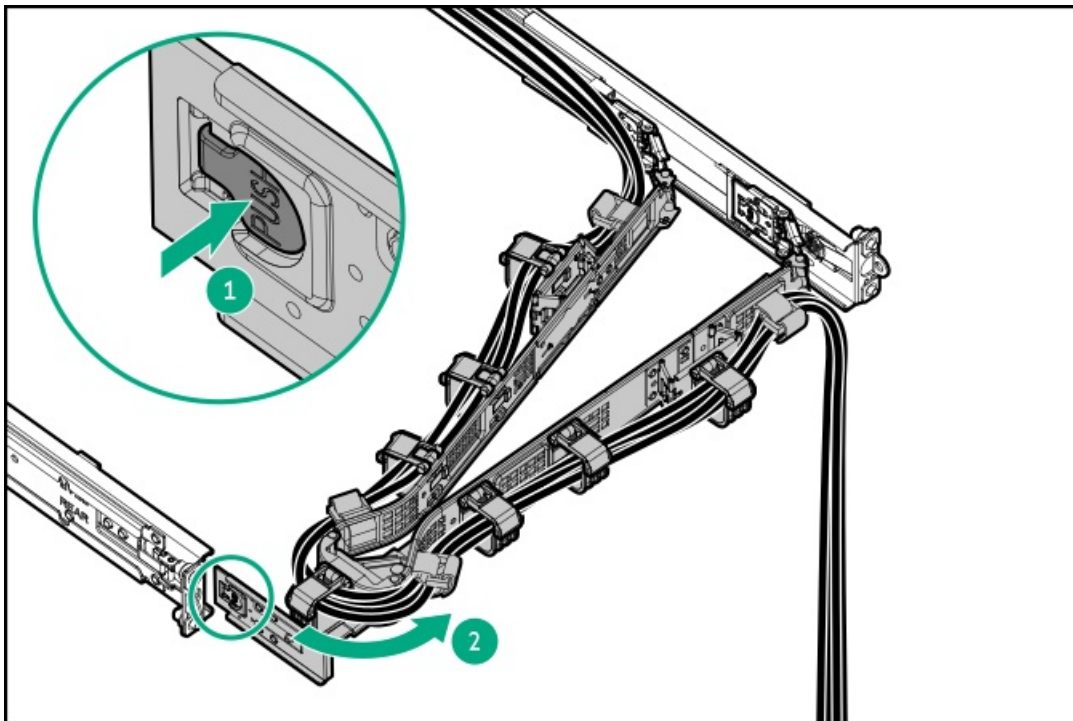
### Prerequisites

Before replacing a transceiver, review the following:

- [Transceiver warnings and cautions](#)
- Transceiver documentation for specific operational and cabling requirements

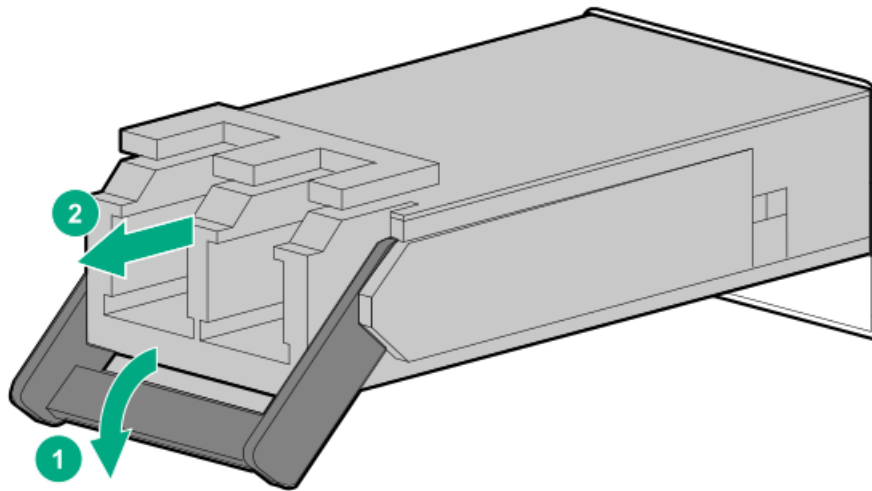
### Procedure

1. If installed, open the cable management arm.



2. Disconnect the network cable from the transceiver.
3. Slide the transceiver out of the network adapter port.

See the transceiver documentation for model-specific release mechanism for removing the transceiver.



### Results

To replace the component, reverse the removal procedure.

## Expansion card replacement

### Subtopics

[Removing and replacing an expansion card from PCIe5 x16 base riser](#)

[Removing and replacing an expansion card from PCIe5 x16 low-profile riser](#)

[Removing and replacing an expansion card from three-slot primary/secondary riser cages](#)

[Removing and replacing an expansion card from the tertiary risers](#)

[Removing and replacing the GPU from the front GPU riser cage](#)

## Removing and replacing an expansion card from PCIe5 x16 base riser

### Prerequisites

Before you perform this procedure, make sure that you have a T-10 Torx screwdriver available.

### About this task



**CAUTION:**

A discharge of static electricity from a finger or other conductor might damage system boards or other static-sensitive devices. To prevent damage, observe [antistatic precautions](#).



**CAUTION:** To prevent improper cooling and thermal damage, do not operate the server unless all PCI slots have either a riser slot blank or an expansion card installed.

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**CAUTION:**

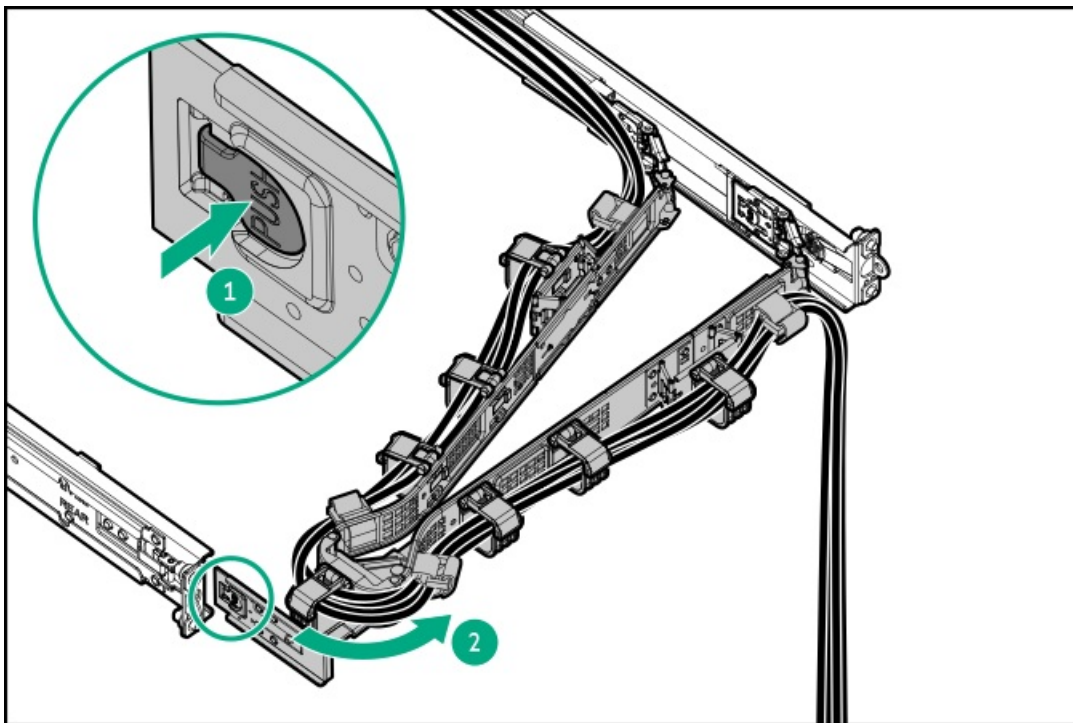
Before replacing a DIMM, backplane, expansion card, riser board, or other similar PCA components due to a perceived hardware error, make sure first that the component is firmly seated in the slot.

When installing the replacement component:

- Observe antistatic precautions.
- Handle the PCA only along the edges.
- Do not touch the components and connectors on the PCA.
- Do not bend or flex the PCA.

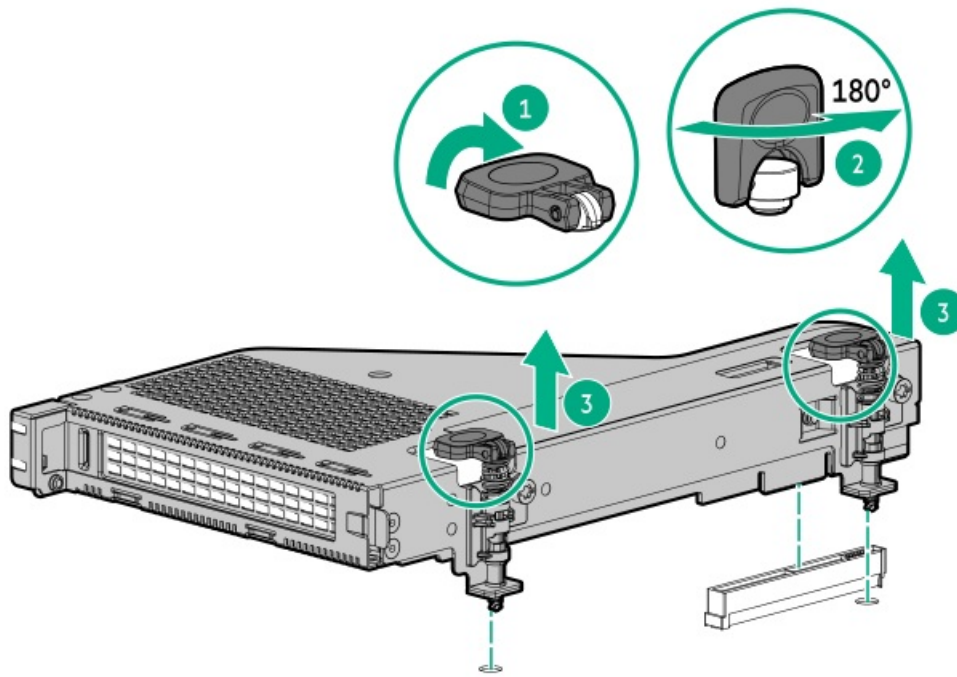
**Procedure**

1. Power down the server.
2. If installed, open the cable management arm.



3. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
4. Disconnect all peripheral cables from the server.
5. Remove the server from the rack.
6. Place the server on a flat, level work surface.
7. Remove the access panel.
8. Remove the rear 4 LFF drive cage.
9. Disconnect any internal cables that are connected to the expansion card.
10. Remove the riser cage:
  - a. Release the half-turn spring latch (callouts 1 and 2).

- b. Lift the riser cage off the system board (callout 3).



- 11. If an expansion card with internal cables is installed on the riser, disconnect the cables from the card.

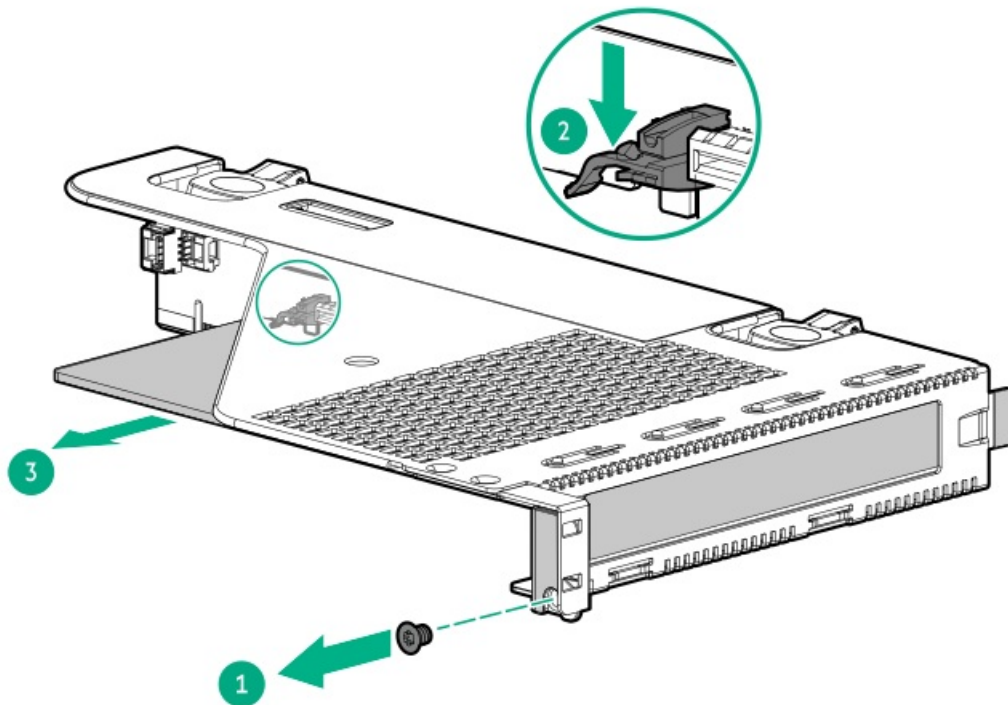
- 12. Remove the expansion card:

- a. Remove the screw (callout 1).

Retain the screw. The screw will be used to secure the new expansion card spare.

- b. Press and hold the release latch (callout 2).

- c. Detach the expansion card from the riser (callout 3).



## Results

To replace the component, reverse the removal procedure.

## Removing and replacing an expansion card from PCIe5 x16 low-profile riser

### Prerequisites

- Before you perform this procedure, make sure that you have the following items available:
  - T-10 Torx screwdriver
  - Phillips No. 1 screwdriver

### About this task

#### ⚠ CAUTION:

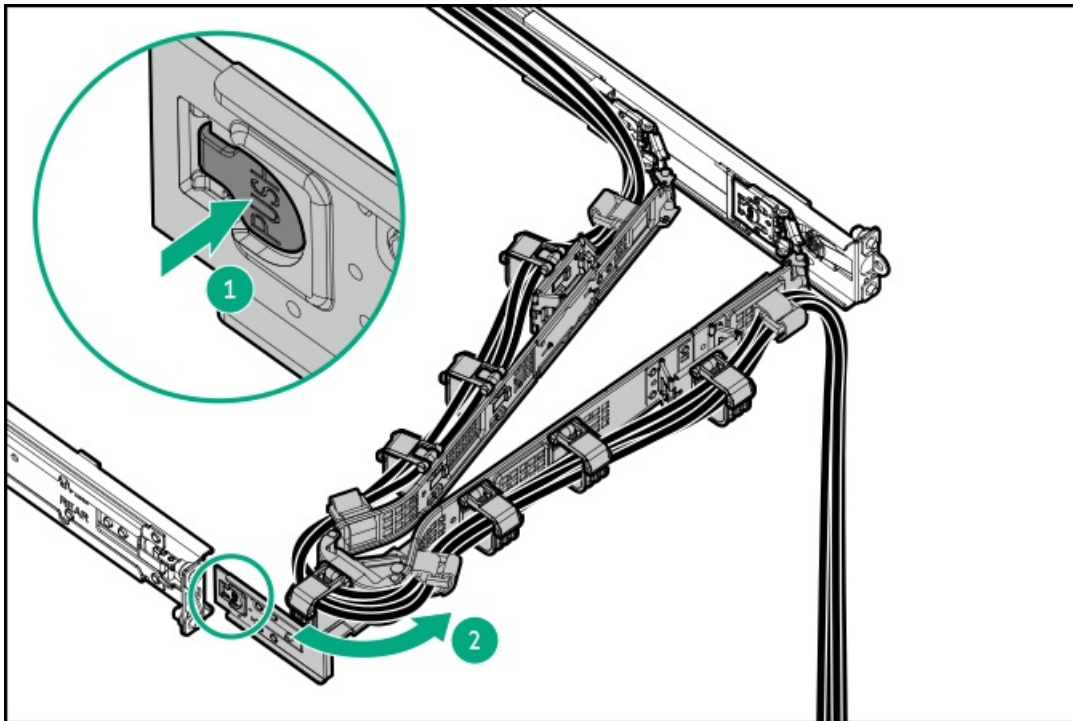
A discharge of static electricity from a finger or other conductor might damage system boards or other static-sensitive devices. To prevent damage, observe [antistatic precautions](#).

#### ⚠ CAUTION:

To prevent improper cooling and thermal damage, do not operate the server unless all PCI slots have either a riser slot blank or an expansion card installed.

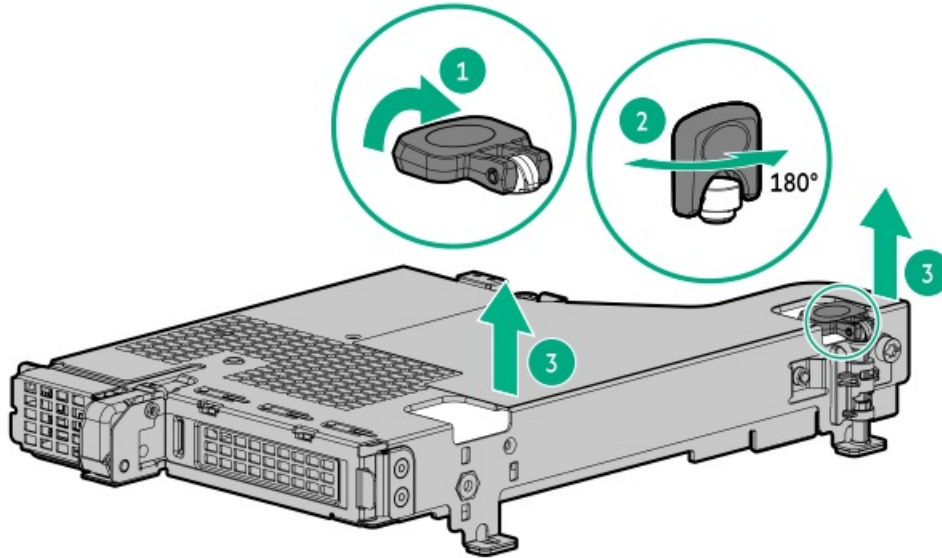
### Procedure

1. [Power down the server](#).
2. If installed, open the cable management arm.



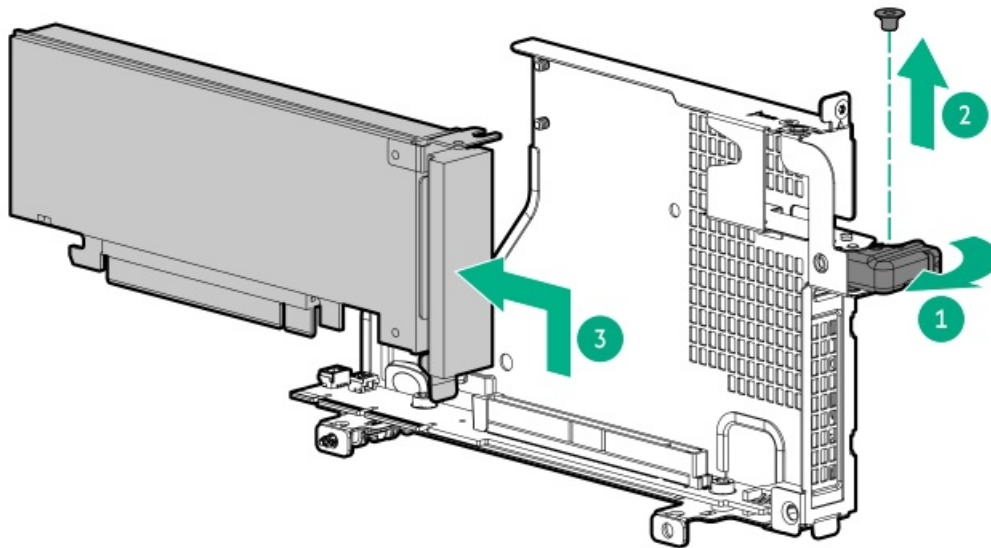
3. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
4. Disconnect all peripheral cables from the server.

5. Remove the server from the rack.
6. Place the server on a flat, level work surface.
7. Remove the access panel.
8. Remove the rear 4 LFF drive cage.
9. Disconnect any internal cables that are connected to the expansion card.
10. Remove the NS204i-u + secondary low-profile riser cage:
  - a. Release the half-turn spring latch (callouts 1 and 2).
  - b. Lift the riser cage off the system board (callout 3).



11. If installed, disconnect all cables from boot device and expansion card.
12. Remove the expansion card:
  - a. Pivot the riser cage to vertical position.
  - b. Open the retention latch (callout 1).
  - c. Remove the expansion card screw (callout 2).

Retain the screw. The screw will be used to secure the new expansion card spare.
  - d. Remove the expansion card from the riser cage (callout 3).



### Results

To replace the component, reverse the removal procedure.

## Removing and replacing an expansion card from three-slot primary/secondary riser cages

### Prerequisites

Before you perform this procedure, make sure that you have a T-10 Torx screwdriver available.

### About this task



#### CAUTION:

A discharge of static electricity from a finger or other conductor might damage system boards or other static-sensitive devices. To prevent damage, observe [antistatic precautions](#).

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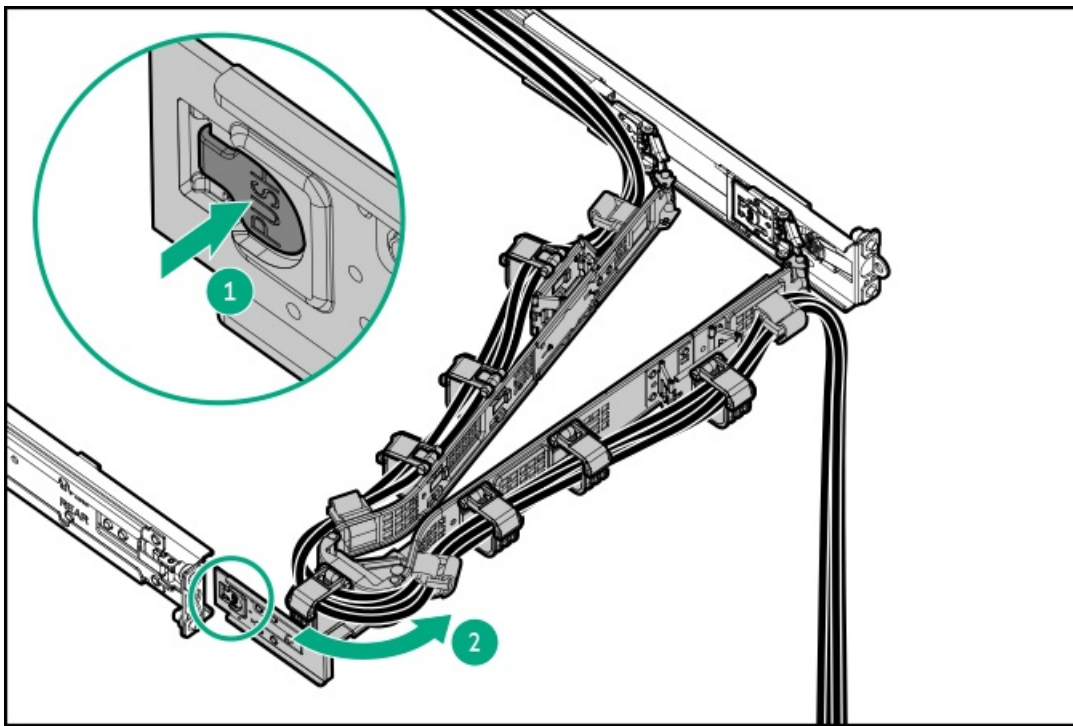
**CAUTION:** To prevent improper cooling and thermal damage, do not operate the server unless all PCI slots have either a riser slot blank or an expansion card installed.

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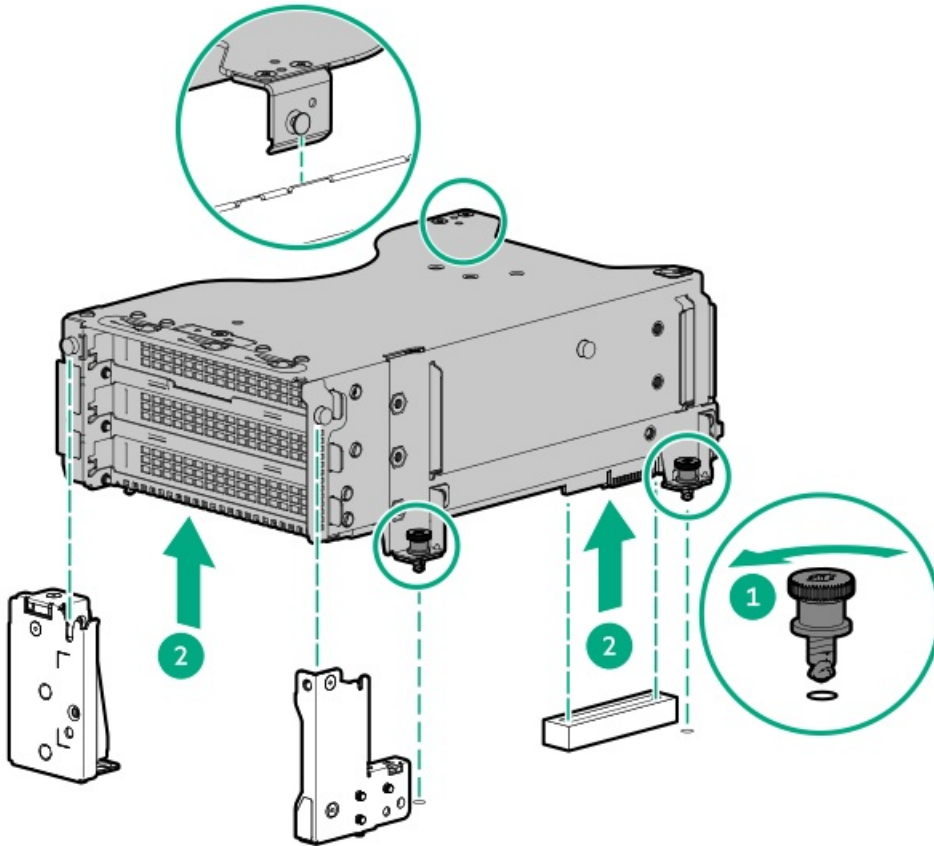
### Procedure

1. [Power down the server](#).
2. If installed, open the cable management arm.

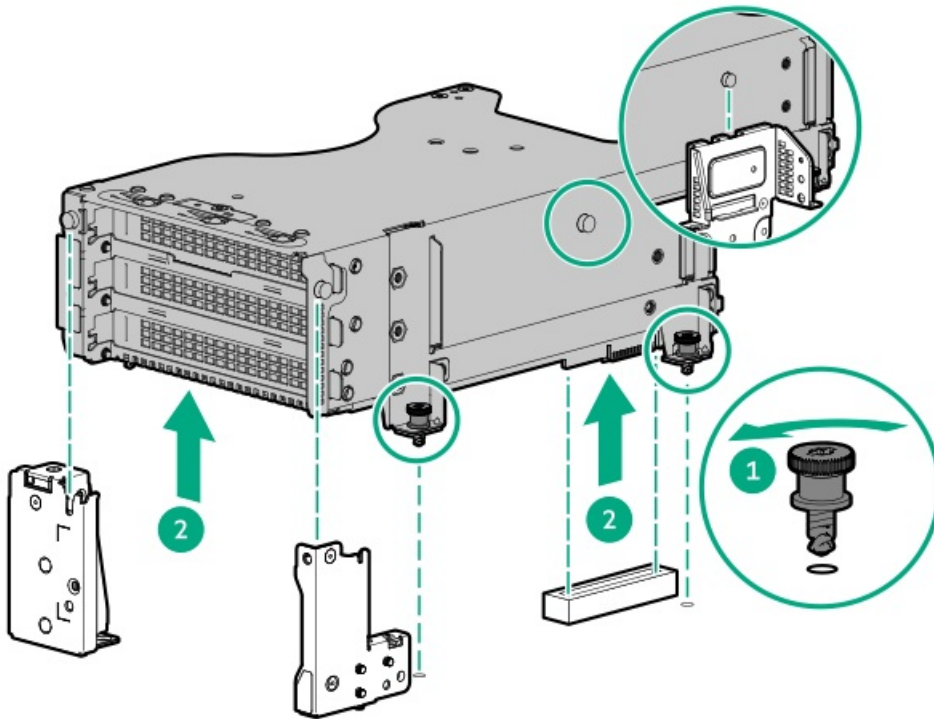




3. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
4. Disconnect all peripheral cables from the server.
5. Remove the server from the rack.
6. Place the server on a flat, level work surface.
7. Remove the access panel.
8. Disconnect any internal cables that are connected to the expansion card.
9. Remove the primary three-slot riser cage:
  - a. Loosen the captive screws (callouts 1).
  - b. Lift the riser cage off the system board (callout 2).

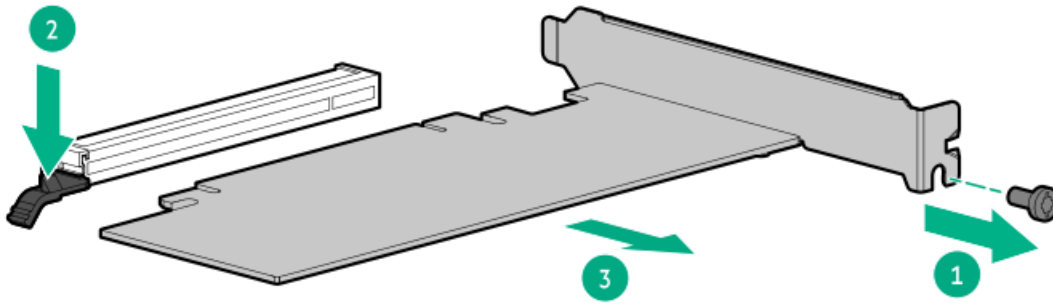


10. Remove the secondary three-slot riser cage:
  - a. Loosen the captive screws (callouts 1).
  - b. Lift the riser cage off the system board (callout 2).



11. If an expansion card with internal cables is installed on the riser, disconnect the cables from the card.
12. Remove the expansion card.





## Results

To replace the component, reverse the removal procedure.

## Removing and replacing an expansion card from the tertiary risers

### Prerequisites

Before you perform this procedure, make sure that you have a T-10 Torx screwdriver available.

### About this task



#### CAUTION:

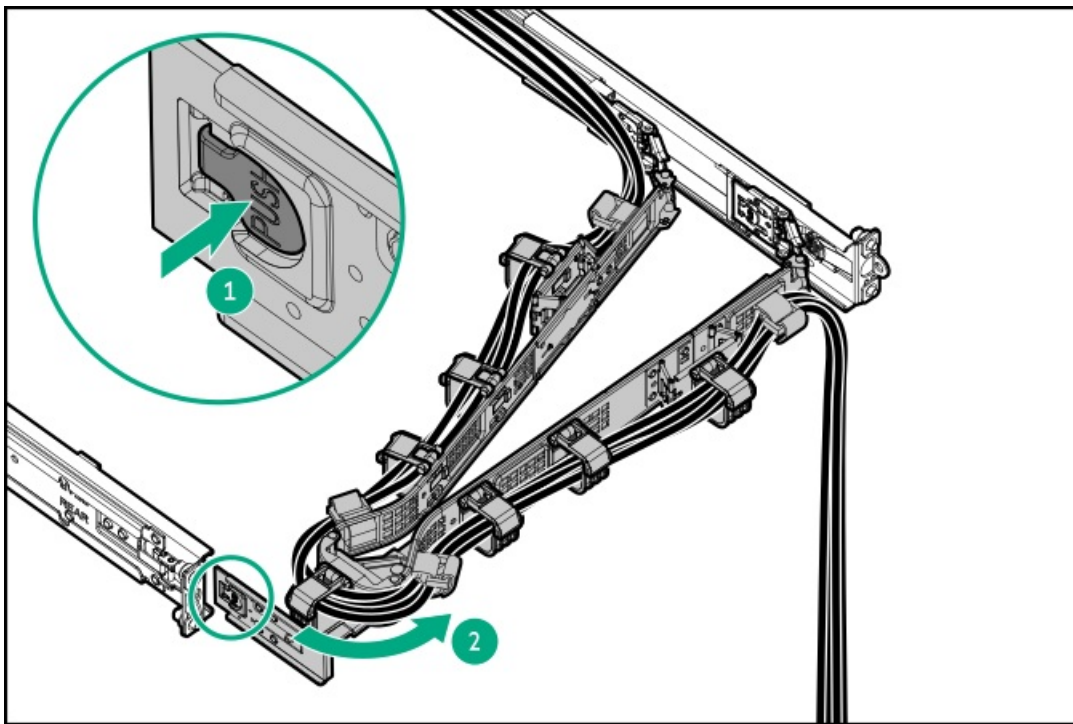
A discharge of static electricity from a finger or other conductor might damage system boards or other static-sensitive devices. To prevent damage, observe [antistatic precautions](#).



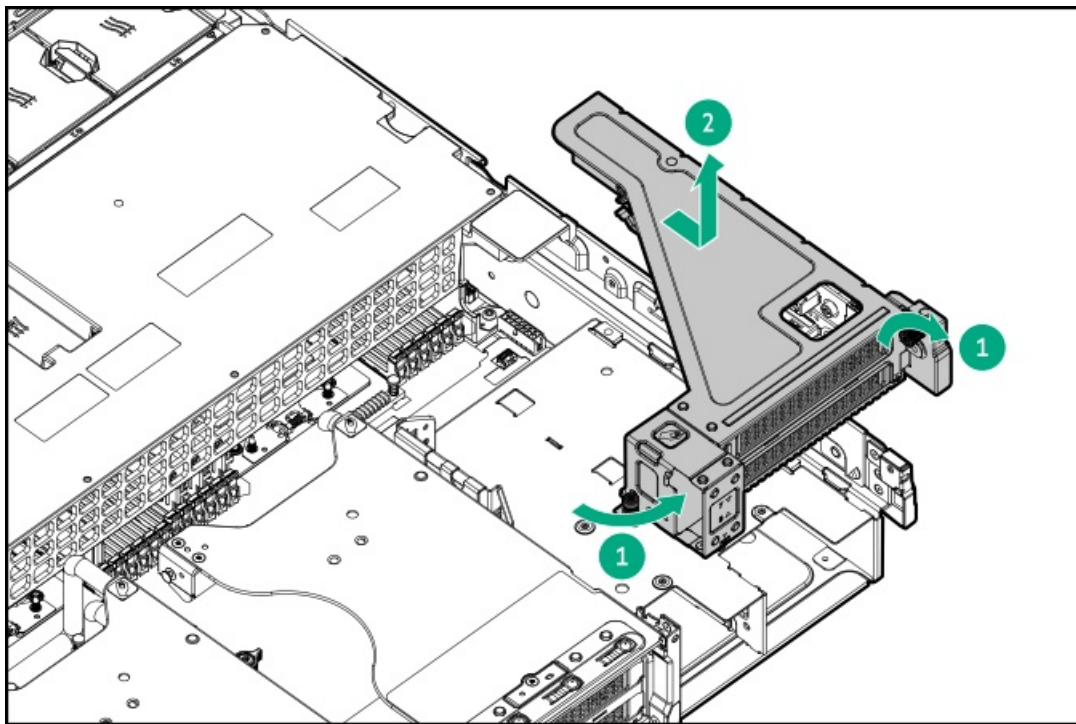
**CAUTION:** To prevent improper cooling and thermal damage, do not operate the server unless all PCI slots have either a riser slot blank or an expansion card installed.

### Procedure

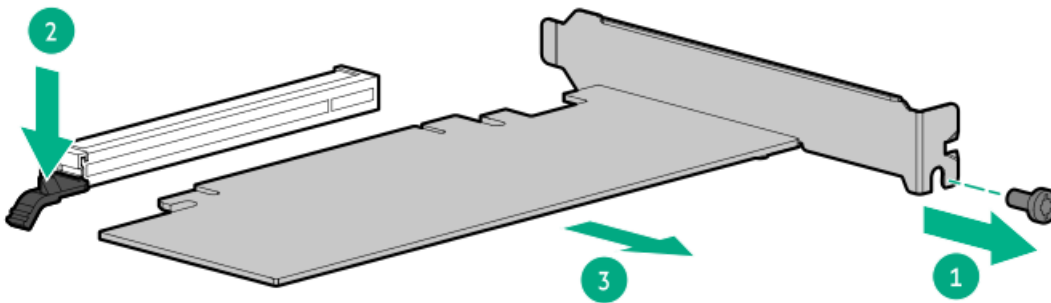
1. [Power down the server](#).
2. If installed, open the cable management arm.



3. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
4. Disconnect all peripheral cables from the server.
5. Remove the server from the rack.
6. Place the server on a flat, level work surface.
7. Remove the access panel.
8. Disconnect any internal cables that are connected to the expansion card.
9. Remove the tertiary riser cage:
  - a. Loosen the captive screws (callout 1).
  - b. Lift the riser cage out of the slot (callout 2).



10. If an expansion card with internal cables is installed on the riser, disconnect the cables from the card.
11. Remove the expansion card.



#### Results

To replace the component, reverse the removal procedure.

## Removing and replacing the GPU from the front GPU riser cage

#### Prerequisites

Before you perform this procedure, make sure that you have a T-10 Torx screwdriver available.

#### About this task

#### ⚠ CAUTION:

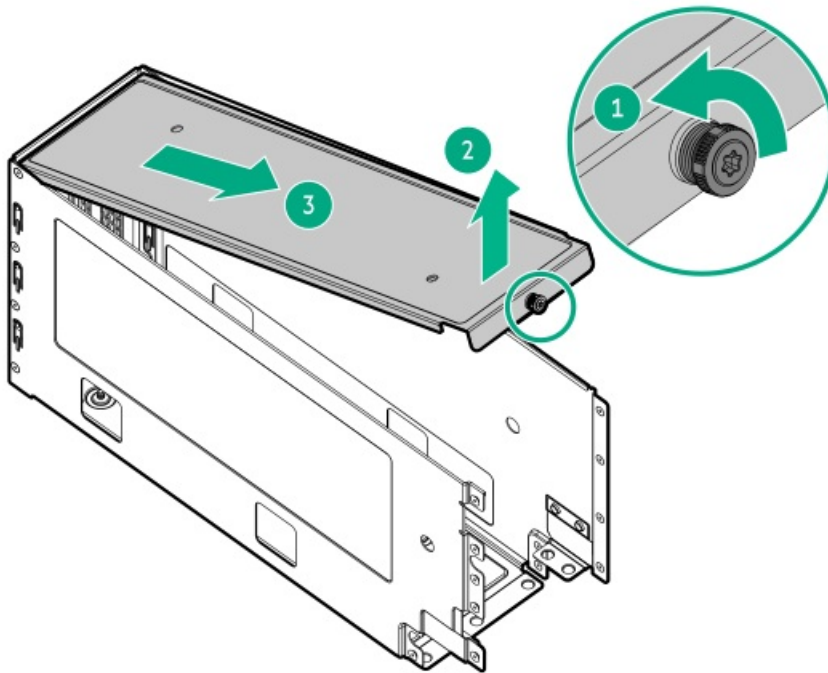
A discharge of static electricity from a finger or other conductor might damage system boards or other static-sensitive devices. To prevent damage, observe [antistatic precautions](#).

#### ⚠ CAUTION:

To prevent improper cooling and thermal damage, do not operate the server unless all PCI slots have either a riser slot blank or an expansion card installed.

## Procedure

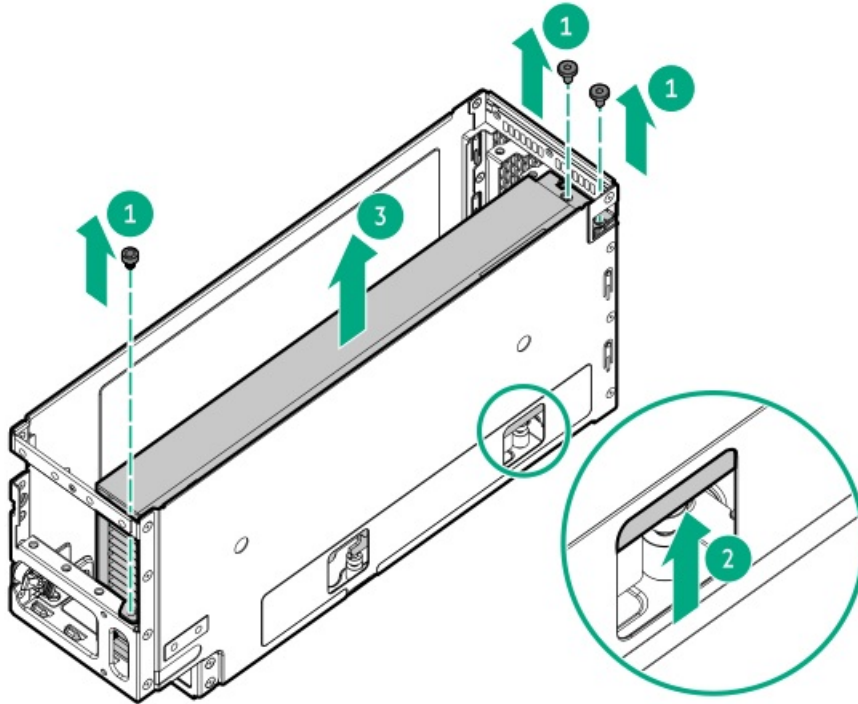
1. Back up all server data.
2. Power down the server.
3. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
4. Disconnect all peripheral cables from the server.
5. Do one of the following:
  - Extend the server from the rack.
  - Remove the server from the rack.
6. Remove the access panel.
7. Remove the middle cover.
8. Remove the air baffle.
9. Remove the fan cage.
10. Do the following:
  - Disconnect all GPU cables from the system board.
  - Disconnect all front GPU riser cables from the system board.
11. Remove the front GPU cage.
12. Open the GPU cage cover.  
Retain the cover for future use.



13. Disconnect all GPU AXU power cables from the GPU.
14. Remove the GPU from the cage:
  - a. Remove the front and rear GPU support bracket screws (callout 1).

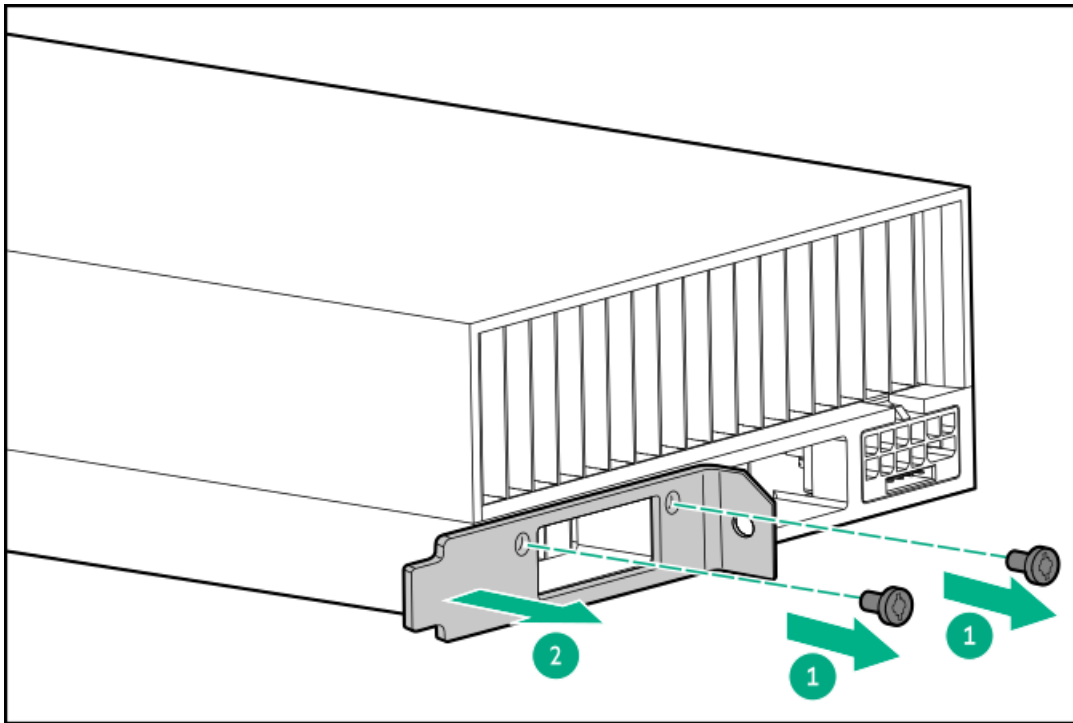
Retain all screws. These screws will be used to install the new spare GPU.

- b. Push up the GPU from the GPU cage compartment (callout 2).
- c. Pull up the GPU from the GPU cage (callout 3).



- 15. Remove the rear GPU support bracket.

Retain the screw. This screw will be used to install rear support bracket on the new spare GPU.



**Results**

To replace the component, reverse the removal procedure.

# Removing and replacing a type-o storage controller

## About this task

**⚠ CAUTION:**

A discharge of static electricity from a finger or other conductor might damage system boards or other static-sensitive devices. To prevent damage, observe [antistatic precautions](#).

**⚠ CAUTION:**

The port blank provides EMI shielding and helps maintain proper thermal status inside the server. Do not operate the server when a port blank is removed without the corresponding I/O port option installed.

**⚠ CAUTION:**

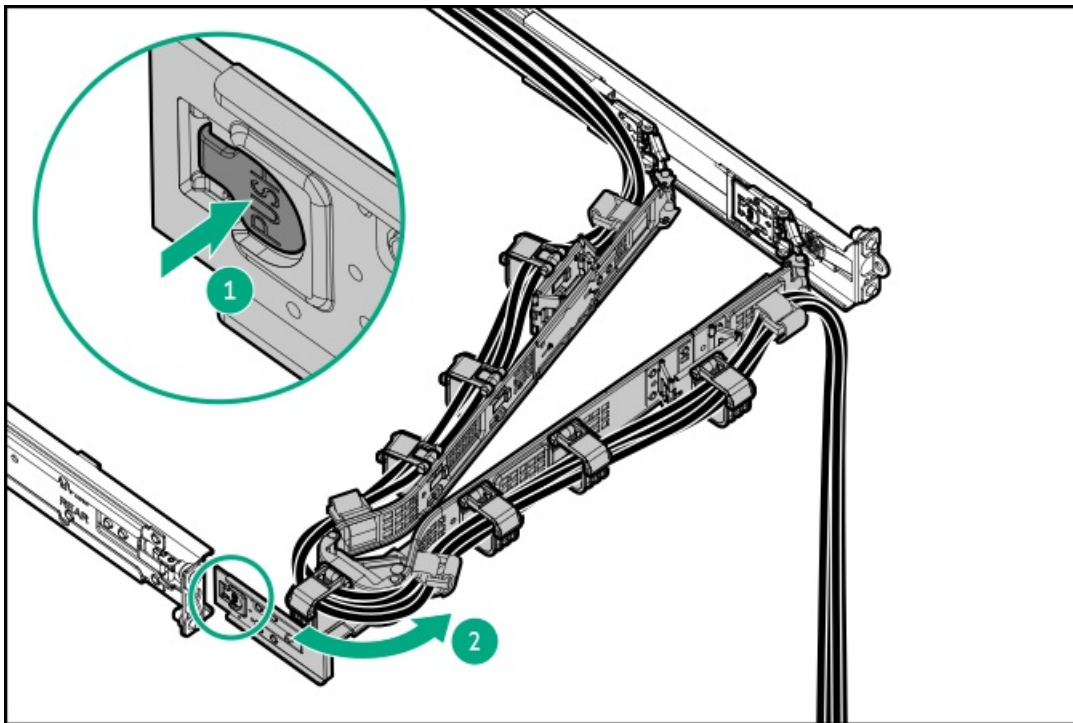
Before replacing a DIMM, backplane, expansion card, riser board, or other similar PCA components due to a perceived hardware error, make sure first that the component is firmly seated in the slot.

When installing the replacement component:

- Observe [antistatic precautions](#).
- Handle the PCA only along the edges.
- Do not touch the components and connectors on the PCA.
- Do not bend or flex the PCA.

## Procedure

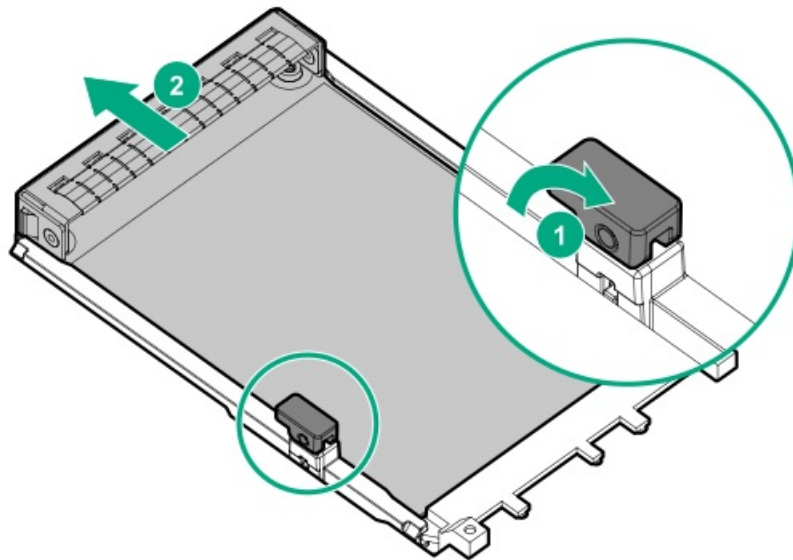
1. [Power down the server](#).
2. If installed, open the cable management arm.



3. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.



4. Disconnect all peripheral cables from the server.
5. Remove the server from the rack.
6. Place the server on a flat, level work surface.
7. Remove the access panel.
8. If the server is in the rear 4 LFF drive configuration, remove the rear 4 LFF drive cage.
9. Do one of the following:
  - a. If removing the type-o controller from Slot 21, remove the primary riser cage.
  - b. If removing the type-o controller from Slot 22, remove the secondary riser cage.
10. Disconnect the storage cables from the type-o controller.
11. Remove the type-o storage controller:
  - a. Rotate the locking pin to the open (vertical) position (callout 1).
  - b. Slide the controller out of the bay (callout 2).



#### Results

To replace the component, reverse the removal procedure.

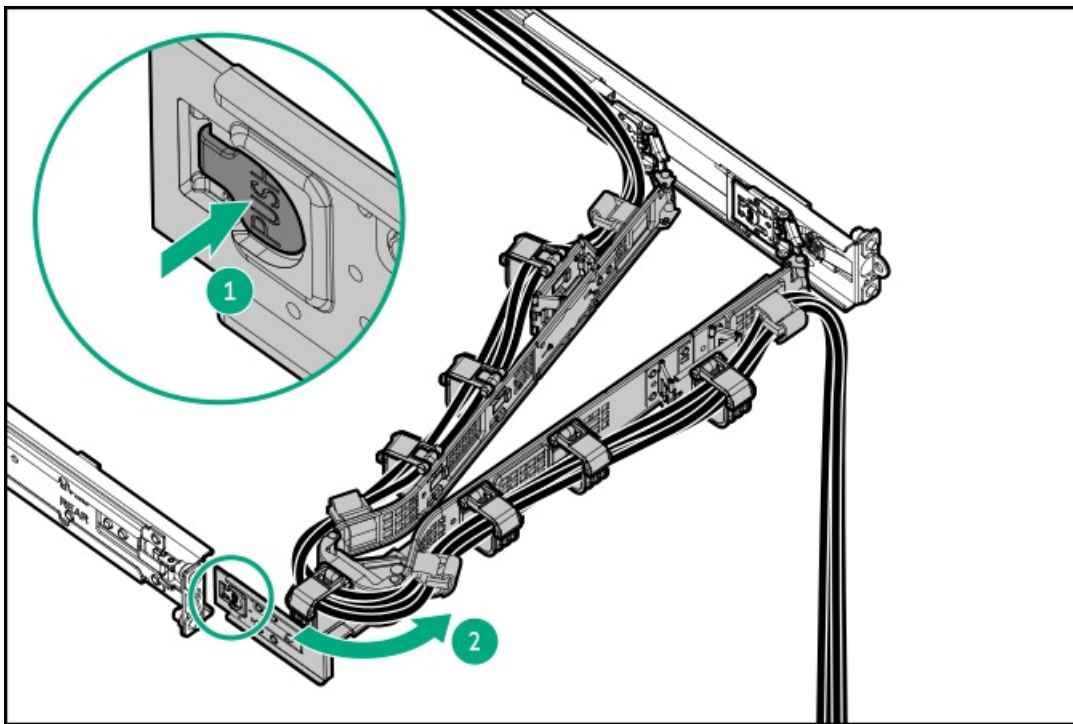
## Removing the boot device security cover from the NS204i-u + secondary low-profile riser cage

#### Prerequisites

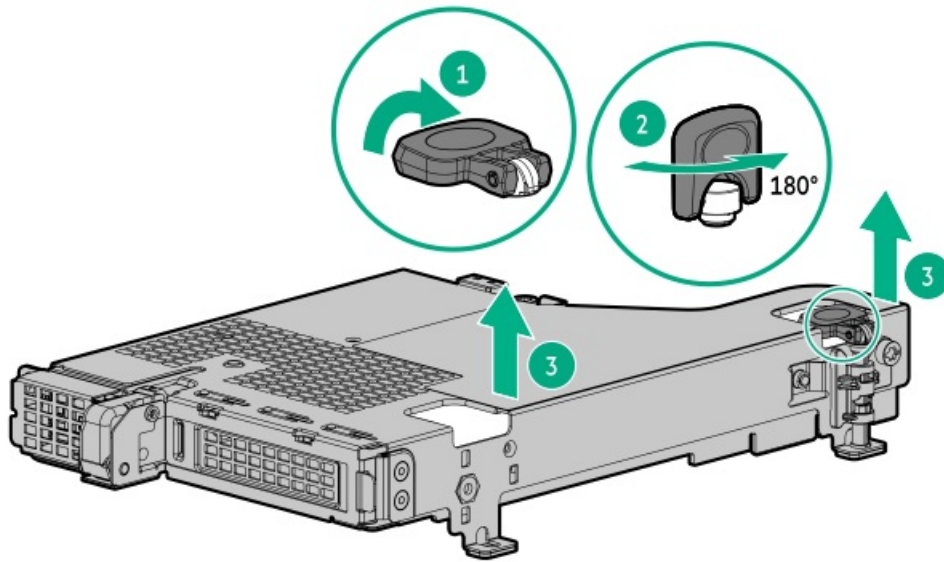
Before you perform this procedure, make sure that you have a T-10 Torx screwdriver available.

#### Procedure

1. Power down the server.
2. If installed, open the cable management arm.

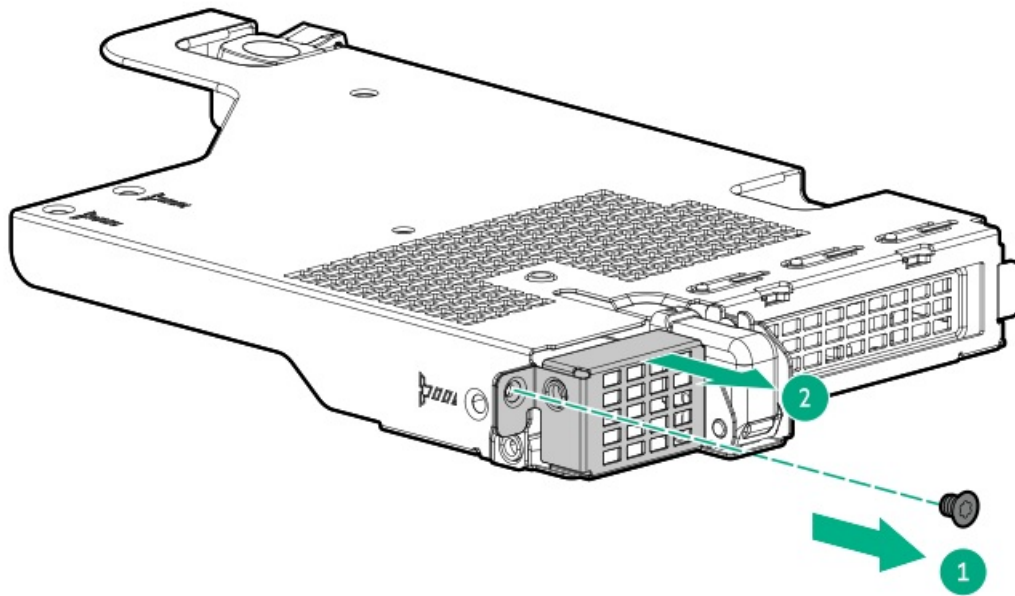


3. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
4. Disconnect all peripheral cables from the server.
5. Do one of the following:
  - Extend the server from the rack.
  - Remove the server from the rack.
6. Remove the access panel.
7. Remove the rear 4 LFF drive cage.
8. Remove the NS204i-u + secondary low-profile riser cage:
  - a. Release the half-turn spring latch (callouts 1 and 2).
  - b. Lift the riser cage off the system board (callout 3).



9. Remove the security cover from the boot device riser cage.

Retain the screw and cover for future use.



#### Results

To replace the component, reverse the removal procedure.

## Removing and replacing an OCP slot blank

#### Prerequisites

Before you perform this procedure, make sure that you have a T-10 Torx screwdriver available.

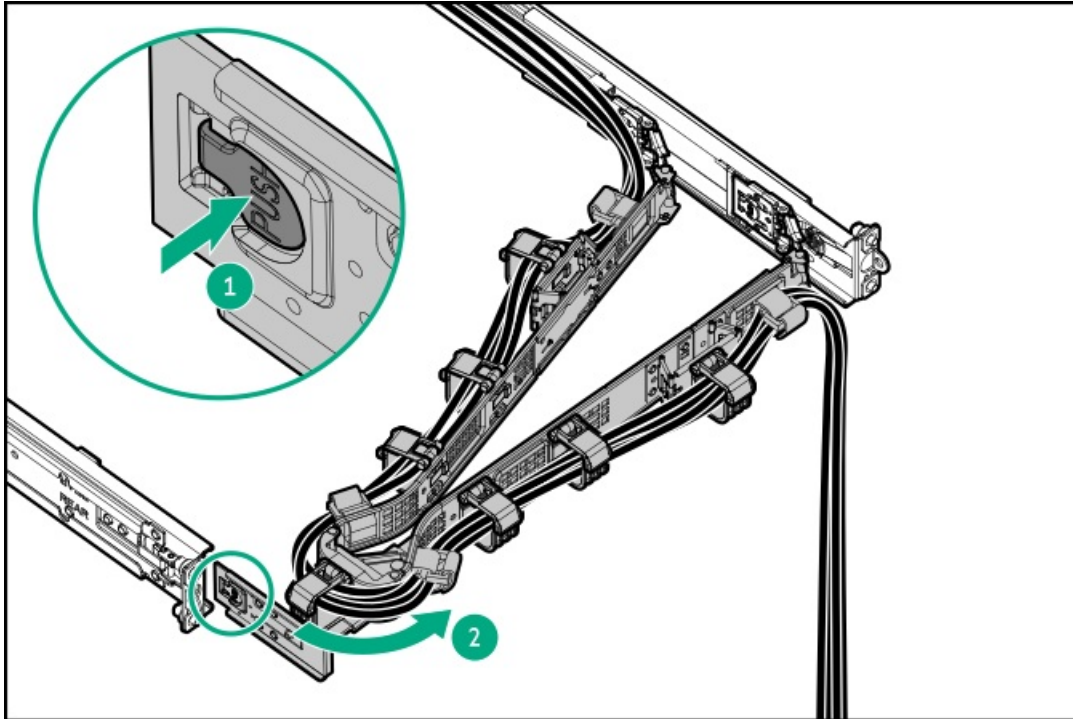
#### About this task

**CAUTION:**

The port blank provides EMI shielding and helps maintain proper thermal status inside the server. Do not operate the server when a port blank is removed without the corresponding I/O port option installed.

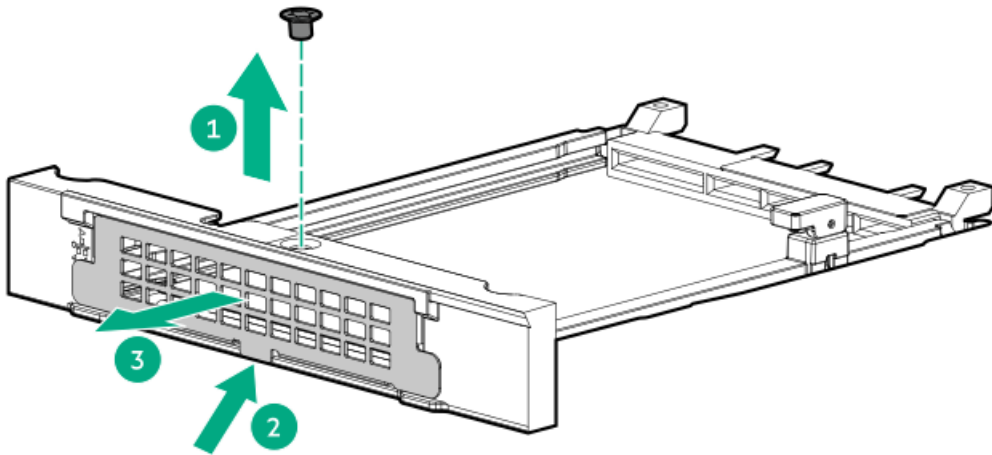
**Procedure**

1. Power down the server.
2. If installed, open the cable management arm.



3. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
4. Disconnect all peripheral cables from the server.
5. Remove the server from the rack.
6. Place the server on a flat, level work surface.
7. Remove the access panel.
8. If the rear 4 LFF drive cage is installed, remove it.
9. Remove the riser cage.
10. Remove the OCP slot blank:
  - a. Remove the blank screw (callout 1).
  - b. Use a plastic spudger to pry the top side of the blank from the chassis (callout 2).
  - c. Remove the blank (callout 3).

Retain the screw and blank for future use.



## Results

To replace the component, reverse the removal procedure.

## Removing and replacing the secondary three-slot riser cage bracket

### About this task

---

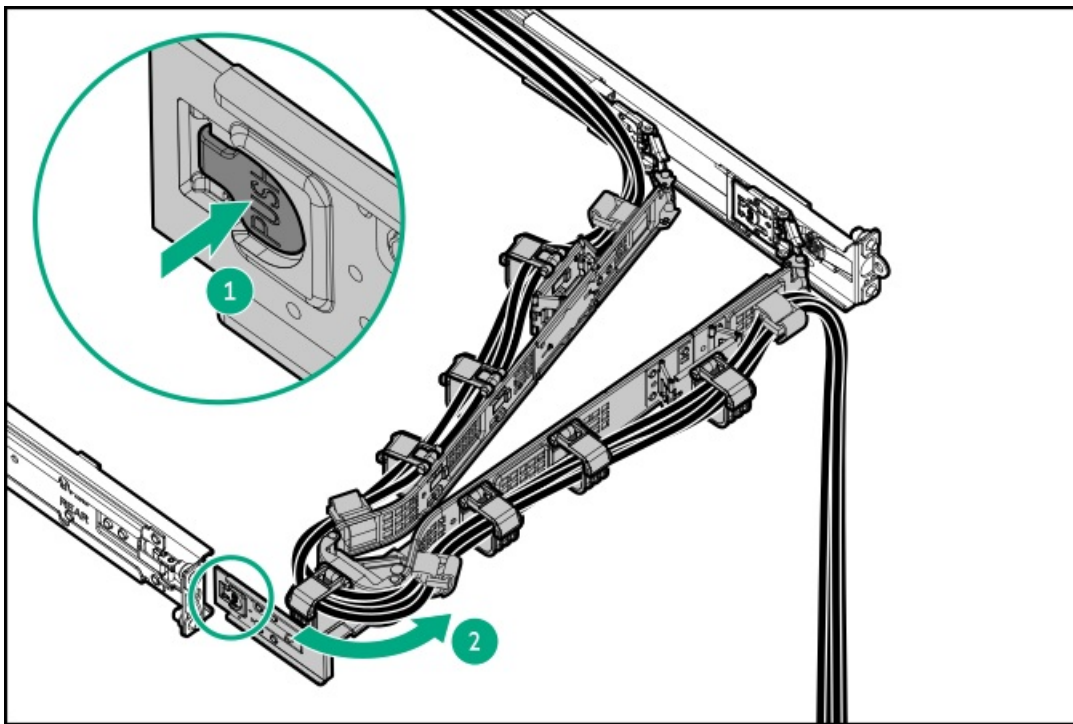
**CAUTION:** For proper cooling, do not operate the server without the access panel, baffles, expansion slot covers, or blanks installed. If the server supports hot-plug components, minimize the amount of time the access panel is open.

---

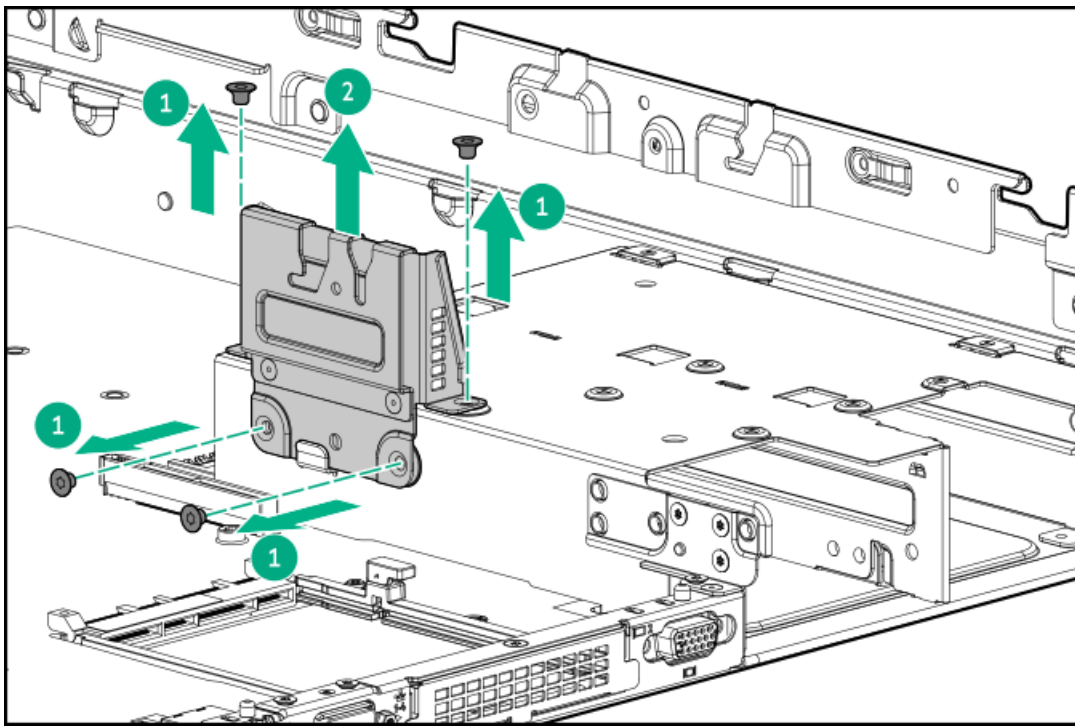
Before you perform this procedure, make sure that you have a T-10 Torx screwdriver available.

### Procedure

1. Power down the server.
2. If installed, open the cable management arm.



3. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
4. Disconnect all peripheral cables from the server.
5. Do one of the following:
  - Extend the server from the rack.
  - Remove the server from the rack.
6. Remove the access panel.
7. Remove the secondary riser cage.
8. Remove the secondary three-slot riser cage bracket.



#### Results

To replace the component, reverse the removal procedure.

## Removing and replacing the secondary three-slot riser cage blank

#### Prerequisites

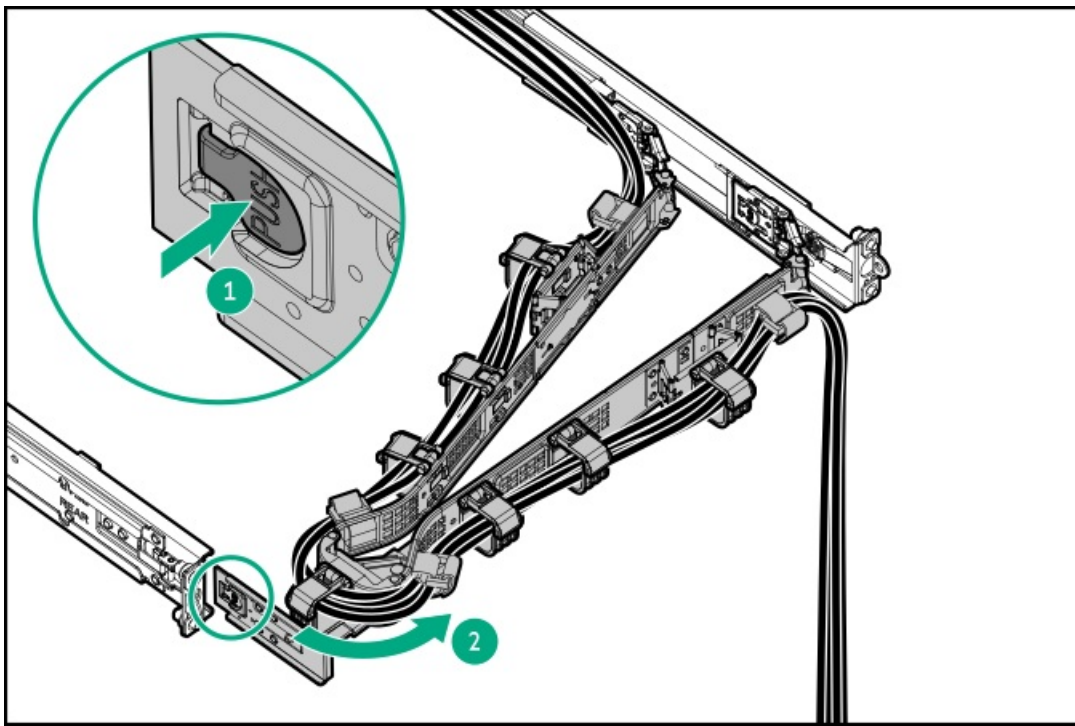
Before you perform this procedure, make sure that you have a T-10 Torx screwdriver available.

#### About this task

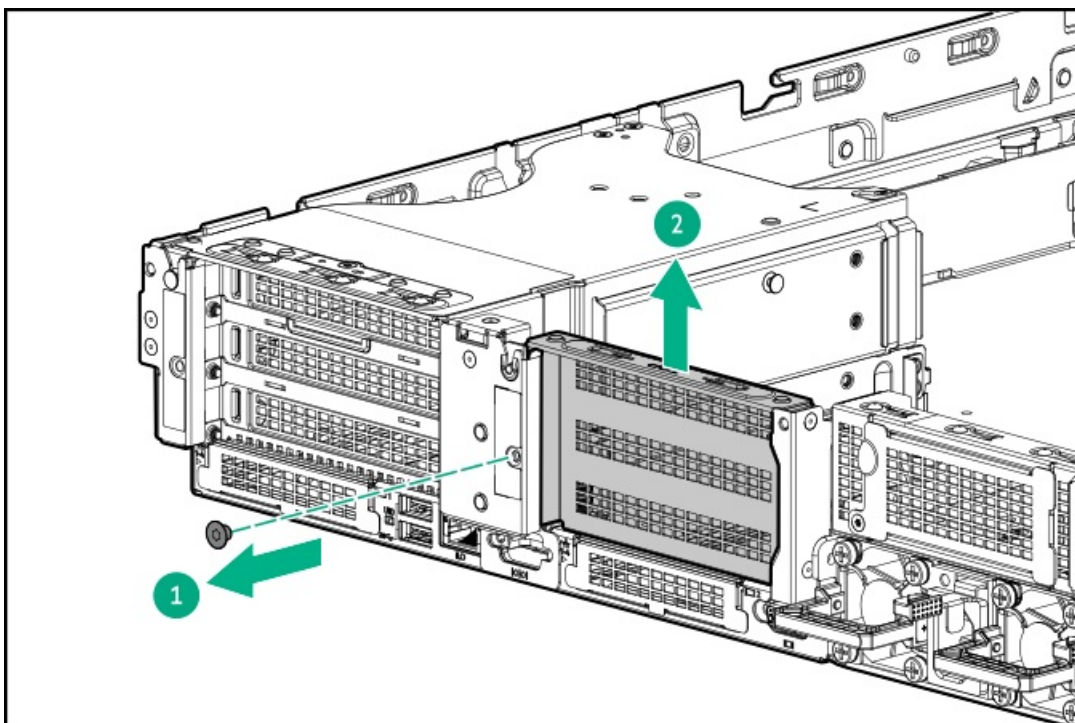
**CAUTION:** For proper cooling, do not operate the server without the access panel, baffles, expansion slot covers, or blanks installed. If the server supports hot-plug components, minimize the amount of time the access panel is open.

#### Procedure

1. Power down the server.
2. If installed, open the cable management arm.



3. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
4. Disconnect all peripheral cables from the server.
5. Do one of the following:
  - Extend the server from the rack.
  - Remove the server from the rack.
6. Remove the access panel.
7. Remove the secondary three-slot riser cage blank.





## Results

To replace the component, reverse the removal procedure.

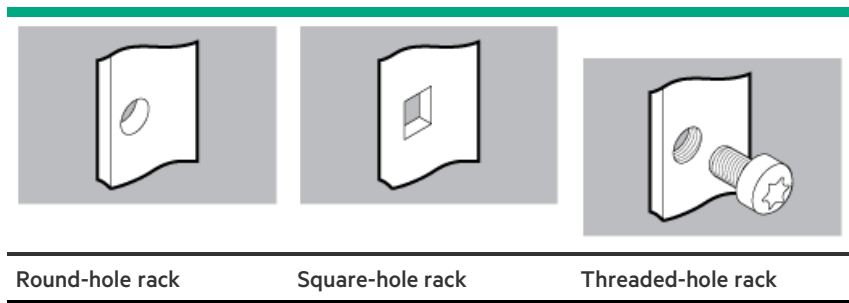
## Removing and replacing the rack rails

### Prerequisites

If you are replacing the rack mounting rails from a threaded-hole rack, make sure that you have a T-25 Torx screwdriver available.

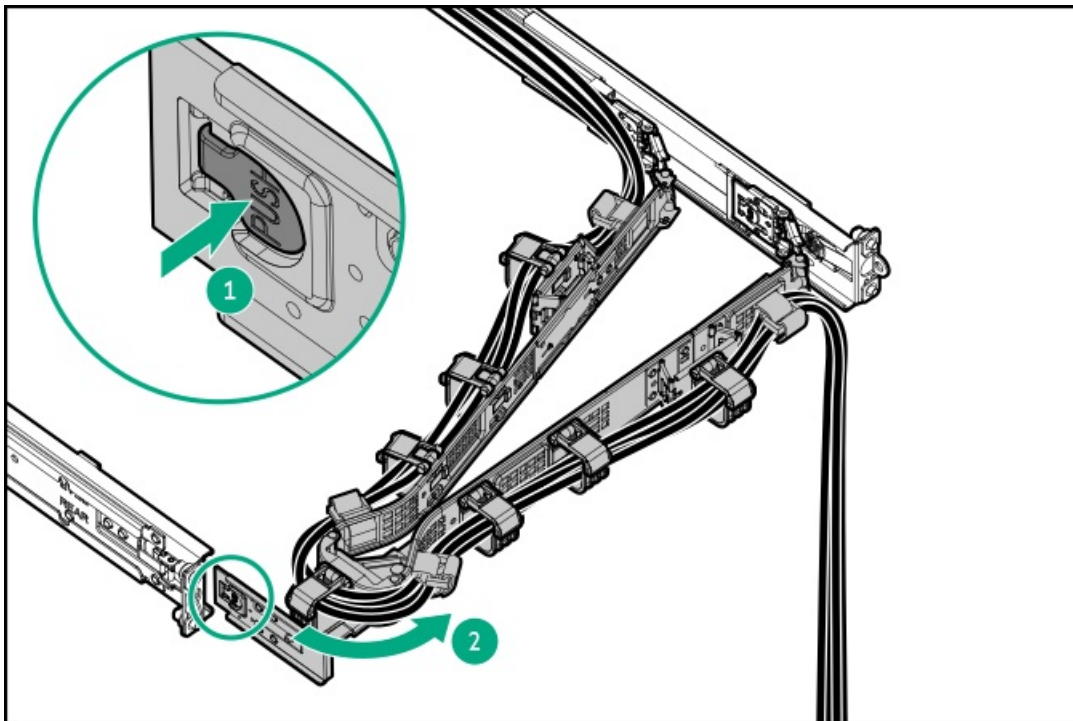
### About this task

The illustrations used in this procedure show an icon on the upper right corner of the image. This icon indicates whether the action shown in the image is for a round-hole, square-hole, or a threaded-hole rack.



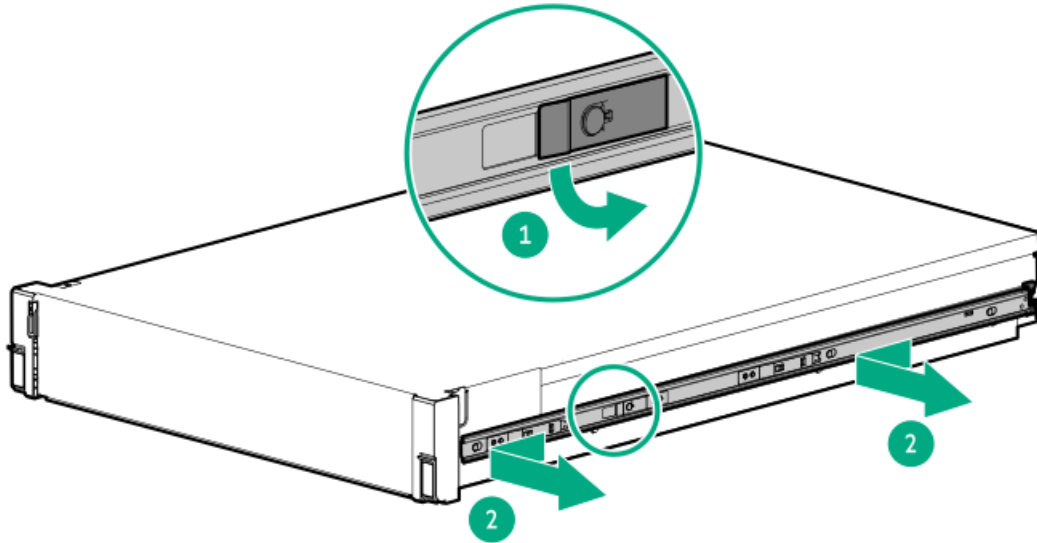
### Procedure

1. Power down the server.
2. If installed, open the cable management arm.

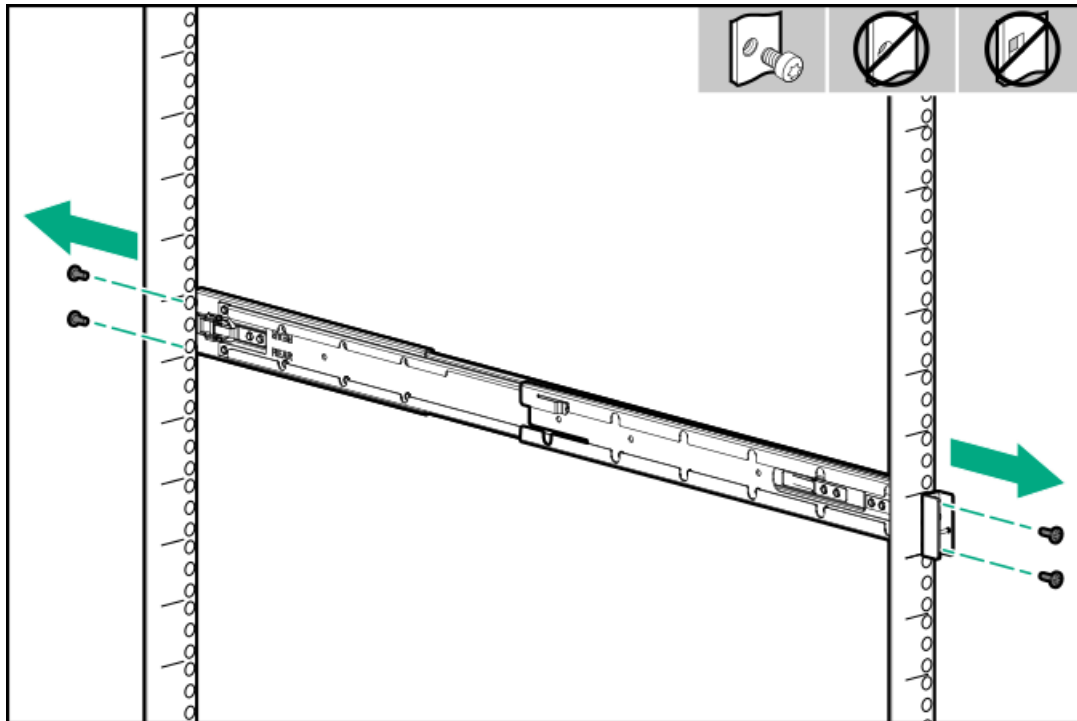


3. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.

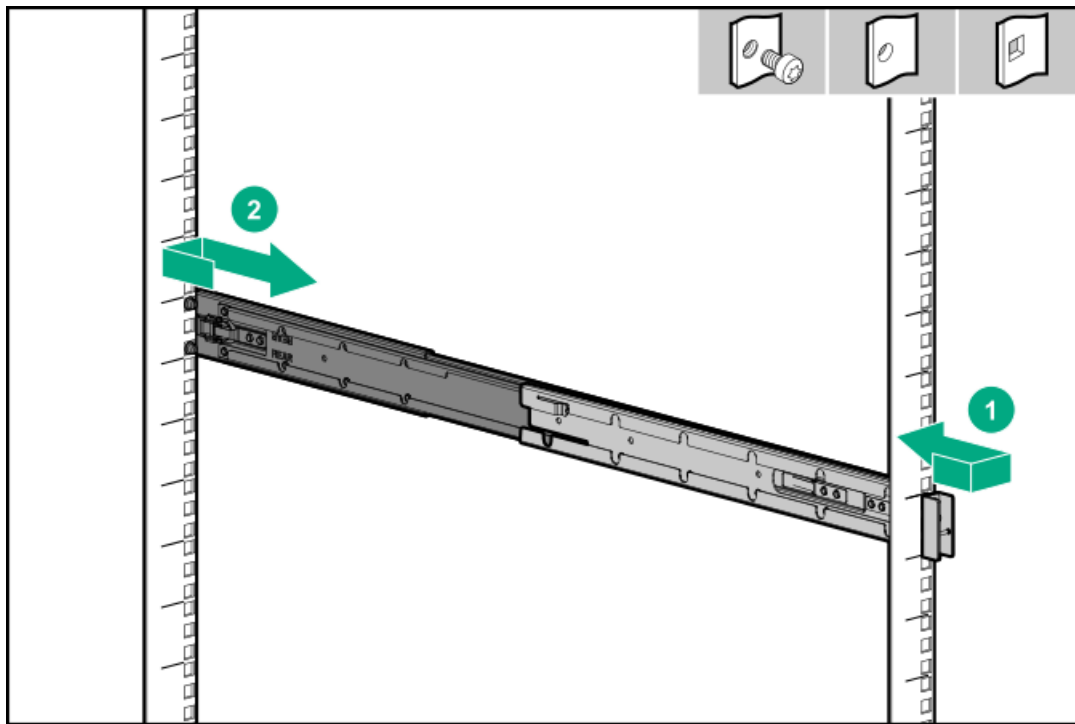
4. Disconnect all peripheral cables from the server.
5. Remove the server from the rack.
6. Place the server on a flat, level surface.
7. To remove the sliding rails, do the following:
  - a. Pull and hold the release latch (callout 1).
  - b. Slide the rail towards the front panel and pull it from the server (callout 2).



- c. Repeat steps a and b to remove the other rail.
8. To remove the rack mounting rails, do the following:
  - a. In a threaded-hole rack, remove the rail screws.



- b. Disengage the rail pins from the rack columns (callouts 1 and 2).



c. Repeat steps a and b to remove the other rack rail.

#### Results

To replace the component, reverse the removal procedure.

## Riser board replacement

### Subtopics

[Removing and replacing the PCIe5 x16 base riser from one-slot riser cage](#)

[Removing and replacing the PCIe5 x16 low-profile riser](#)

[Removing and replacing the PCIe5 x16 base riser from three-slot riser cage](#)

[Removing and replacing the stacking riser](#)

[Removing and replacing the free-height riser](#)

[Removing and replacing the GPU riser](#)

## Removing and replacing the PCIe5 x16 base riser from one-slot riser cage

### Prerequisites

Before you perform this procedure, make sure that you have the following items available:

- T-15 Torx screwdriver
- T-10 Torx screwdriver

### About this task

**⚠ CAUTION:**

A discharge of static electricity from a finger or other conductor might damage system boards or other static-sensitive devices. To prevent damage, observe antistatic precautions.

**⚠ CAUTION:**

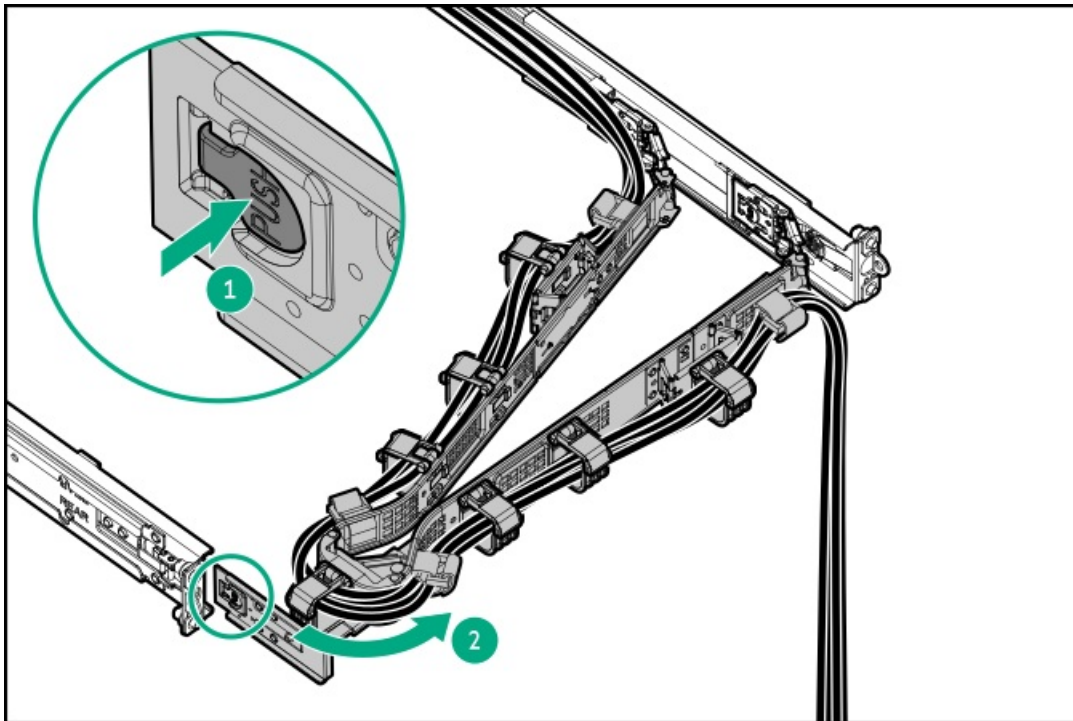
Before replacing a DIMM, backplane, expansion card, riser board, or other similar PCA components due to a perceived hardware error, make sure first that the component is firmly seated in the slot.

When installing the replacement component:

- Observe antistatic precautions.
- Handle the PCA only along the edges.
- Do not touch the components and connectors on the PCA.
- Do not bend or flex the PCA.

**Procedure**

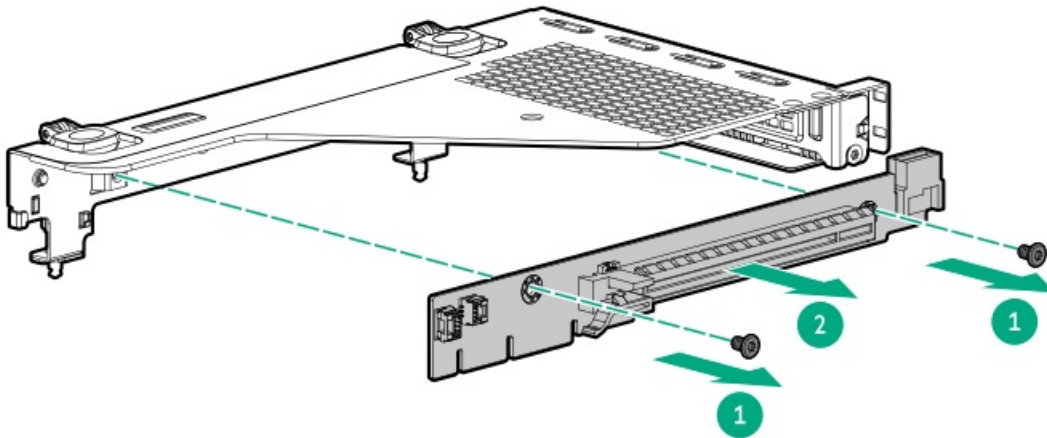
1. Power down the server.
2. If installed, open the cable management arm.



3. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
4. Disconnect all peripheral cables from the server.
5. Remove the server from the rack.
6. Place the server on a flat, level work surface.
7. Remove the access panel.
8. Do one of the following:
  - a. Remove the air baffle.

- b. Remove the midplane drive cage.
9. If installed, remove the cable guards.
10. Remove the rear 4 LFF drive cage.
11. Remove the riser cage.
12. Remove the expansion card.
13. Remove the riser board.

Retain all screws. These screws will be used to secure the new riser board spare.



#### Results

To replace the component, reverse the removal procedure.

## Removing and replacing the PCIe5 x16 low-profile riser

#### Prerequisites

Before you perform this procedure, make sure that you have the following items available:

- T-15 Torx screwdriver
- T-10 Torx screwdriver

#### About this task

#### ⚠ CAUTION:

A discharge of static electricity from a finger or other conductor might damage system boards or other static-sensitive devices. To prevent damage, observe [antistatic precautions](#).

**CAUTION:**

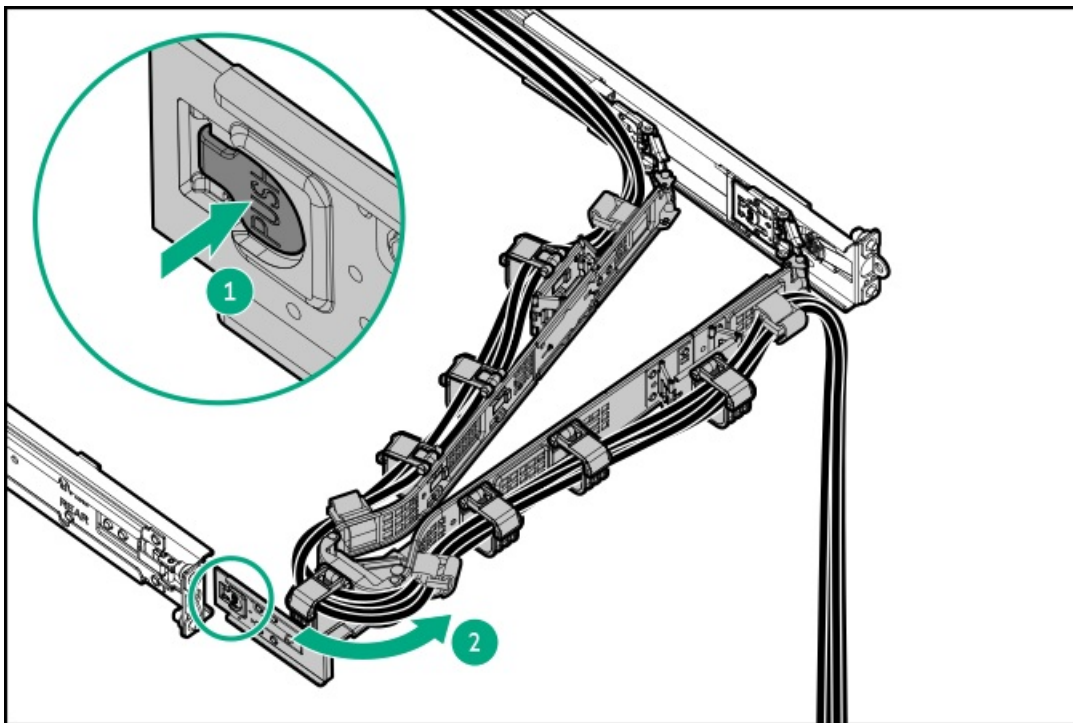
Before replacing a DIMM, backplane, expansion card, riser board, or other similar PCA components due to a perceived hardware error, make sure first that the component is firmly seated in the slot.

When installing the replacement component:

- Observe antistatic precautions.
- Handle the PCA only along the edges.
- Do not touch the components and connectors on the PCA.
- Do not bend or flex the PCA.

**Procedure**

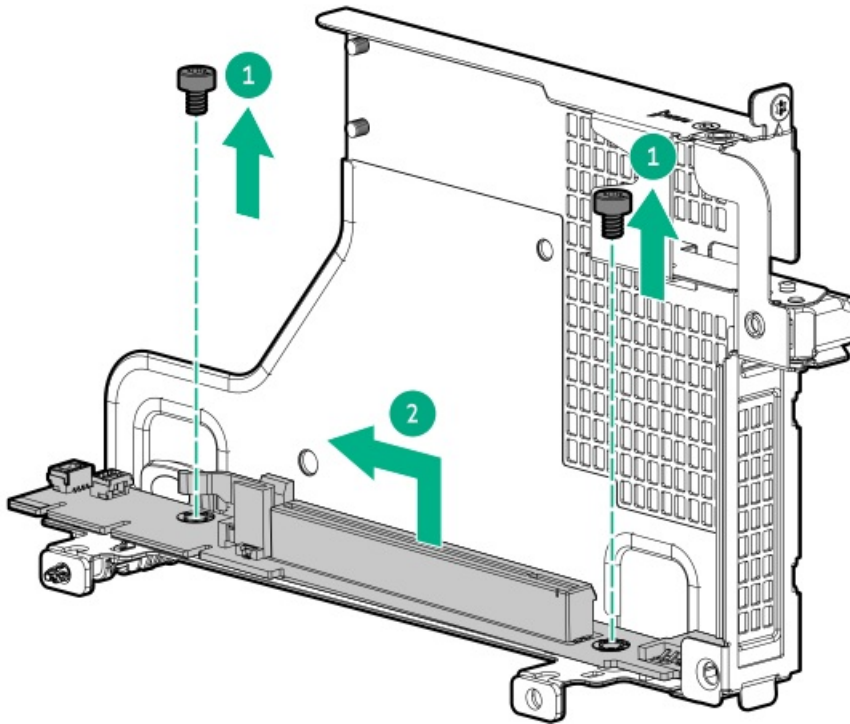
1. Power down the server.
2. If installed, open the cable management arm.



3. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
4. Disconnect all peripheral cables from the server.
5. Remove the server from the rack.
6. Place the server on a flat, level work surface.
7. Remove the access panel.
8. Do one of the following:
  - a. Remove the air baffle.
  - b. Remove the midplane drive cage.
9. Remove the rear 4 LFF drive cage.

10. Remove the riser cage.
11. If an expansion card with internal cables is installed on the riser, disconnect the cables from the card.
12. Remove the expansion card.
13. Remove the riser board.

Retain all screws. These screws will be used to secure the new riser board spare.



#### Results

To replace the component, reverse the removal procedure.

## Removing and replacing the PCIe5 x16 base riser from three-slot riser cage

#### Prerequisites

Before you perform this procedure, make sure that you have a T-15 Torx screwdriver available.

#### About this task

#### ⚠ CAUTION:

A discharge of static electricity from a finger or other conductor might damage system boards or other static-sensitive devices. To prevent damage, observe antistatic precautions.

**CAUTION:**

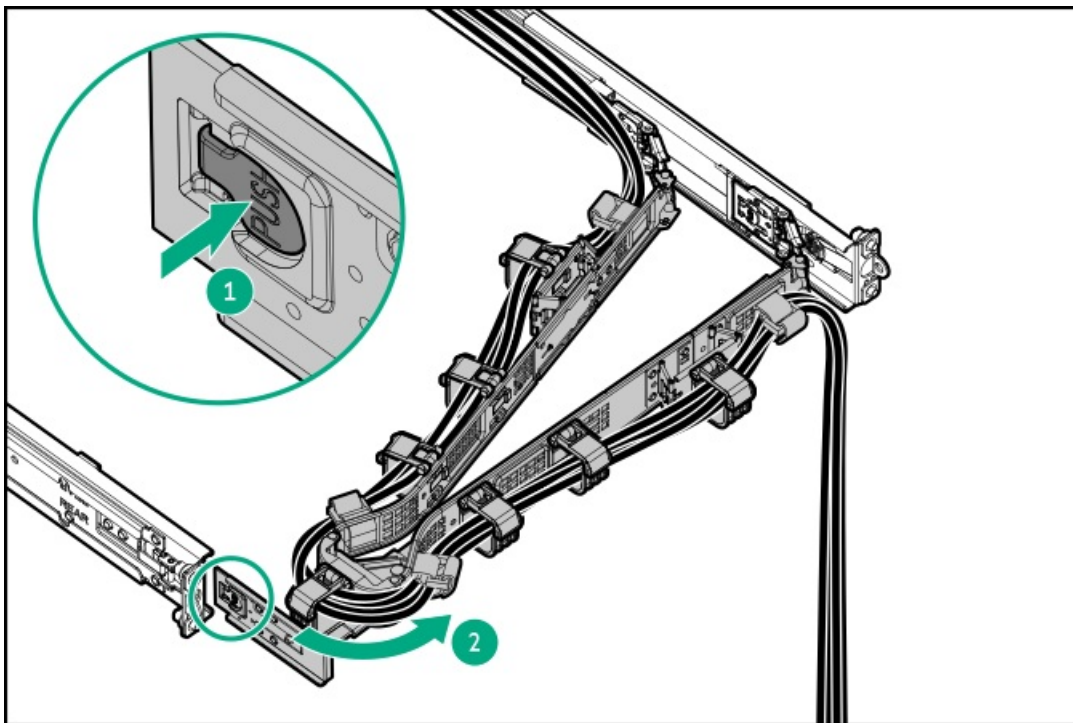
Before replacing a DIMM, backplane, expansion card, riser board, or other similar PCA components due to a perceived hardware error, make sure first that the component is firmly seated in the slot.

When installing the replacement component:

- Observe antistatic precautions.
- Handle the PCA only along the edges.
- Do not touch the components and connectors on the PCA.
- Do not bend or flex the PCA.

**Procedure**

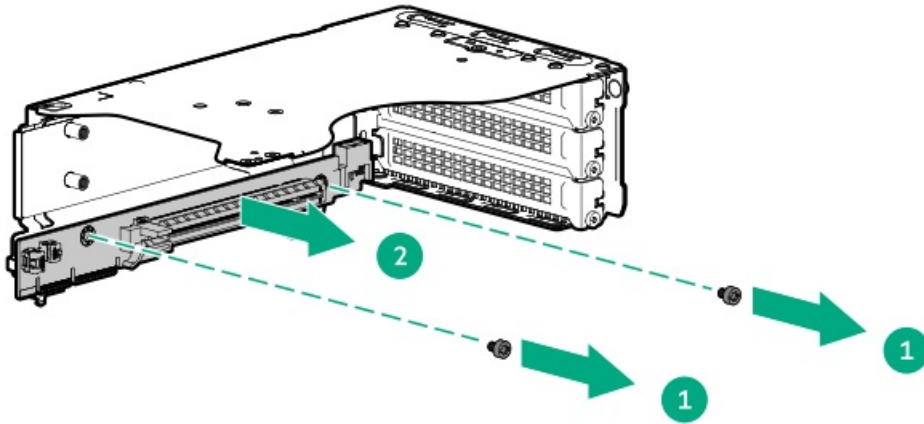
1. Power down the server.
2. If installed, open the cable management arm.



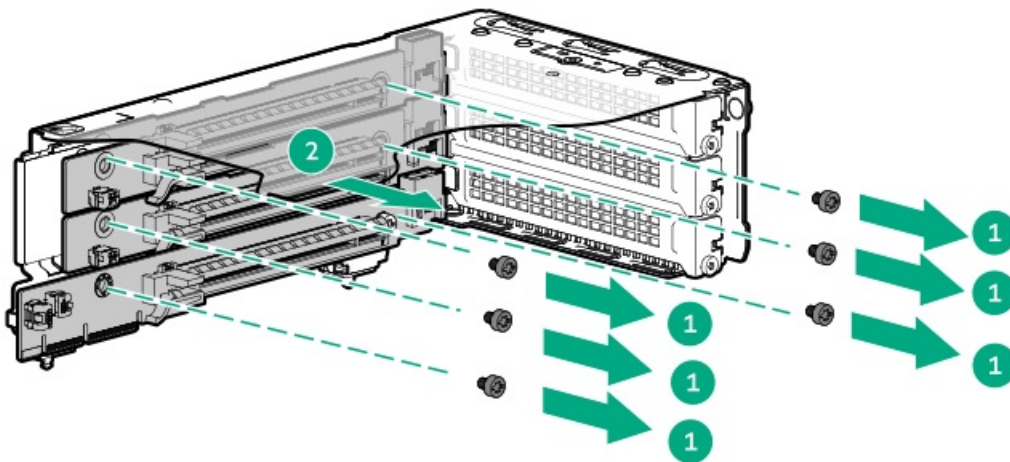
3. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
4. Disconnect all peripheral cables from the server.
5. Remove the server from the rack.
6. Place the server on a flat, level work surface.
7. Remove the access panel.
8. Do one of the following:
  - a. Remove the air baffle.
  - b. Remove the midplane drive cage.
9. If installed, remove the cable guards.



10. Disconnect the riser cable from the system board.
11. Remove the riser cage.
12. Remove the expansion card.
13. If two stacking risers are not installed, remove the base riser from the riser cage.

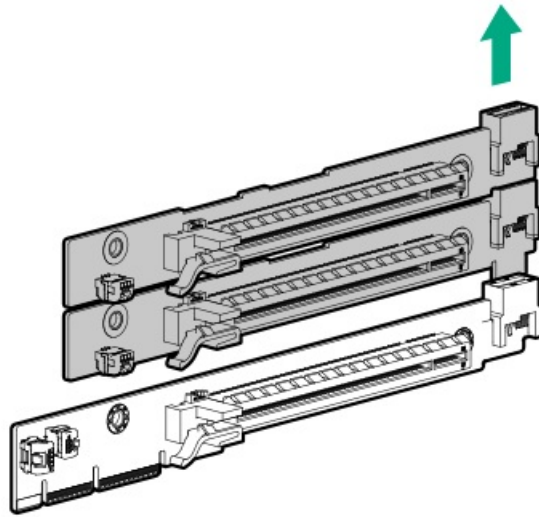


14. If two stacking risers are installed:
  - a. Remove all risers from the riser cage.  
Retain all screws for future use.



- b. Detach the stacking risers from the base riser.





## Results

To replace the component, reverse the removal procedure.

## Removing and replacing the stacking riser

### Prerequisites

Before you perform this procedure, make sure that you have a T-15 Torx screwdriver available.

### About this task

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#### ⚠ CAUTION:

A discharge of static electricity from a finger or other conductor might damage system boards or other static-sensitive devices. To prevent damage, observe [antistatic precautions](#).

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#### ⚠ CAUTION:

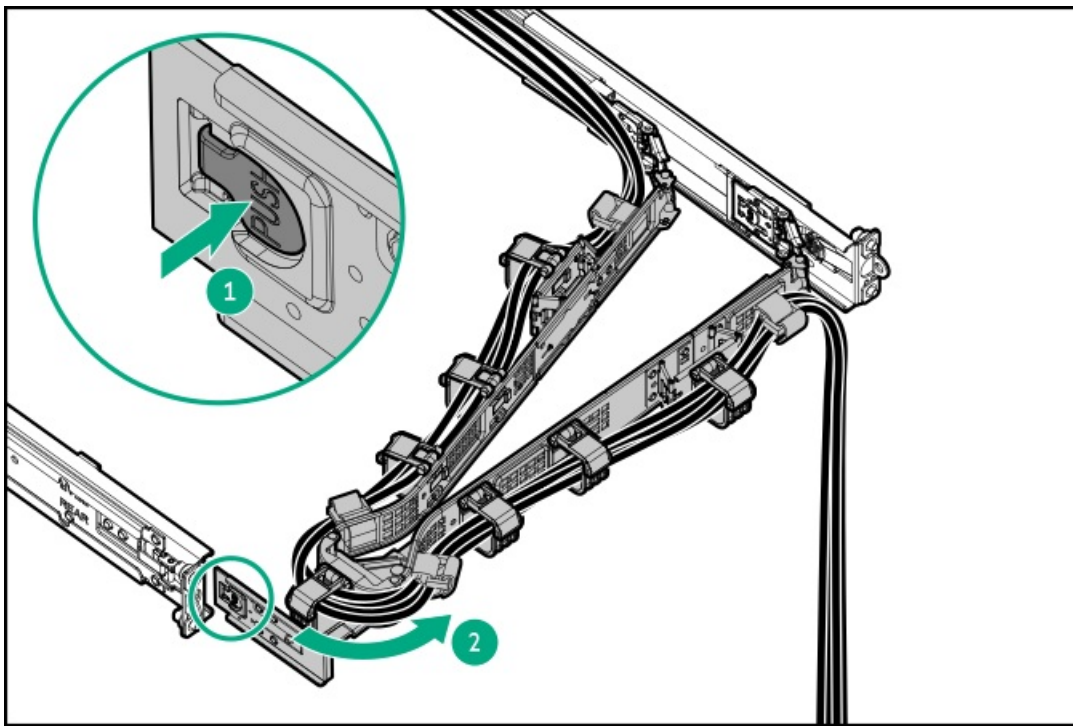
Before replacing a DIMM, backplane, expansion card, riser board, or other similar PCA components due to a perceived hardware error, make sure first that the component is firmly seated in the slot.

When installing the replacement component:

- Observe [antistatic precautions](#).
  - Handle the PCA only along the edges.
  - Do not touch the components and connectors on the PCA.
  - Do not bend or flex the PCA.
- 

### Procedure

1. [Power down the server](#).
2. If installed, open the cable management arm.

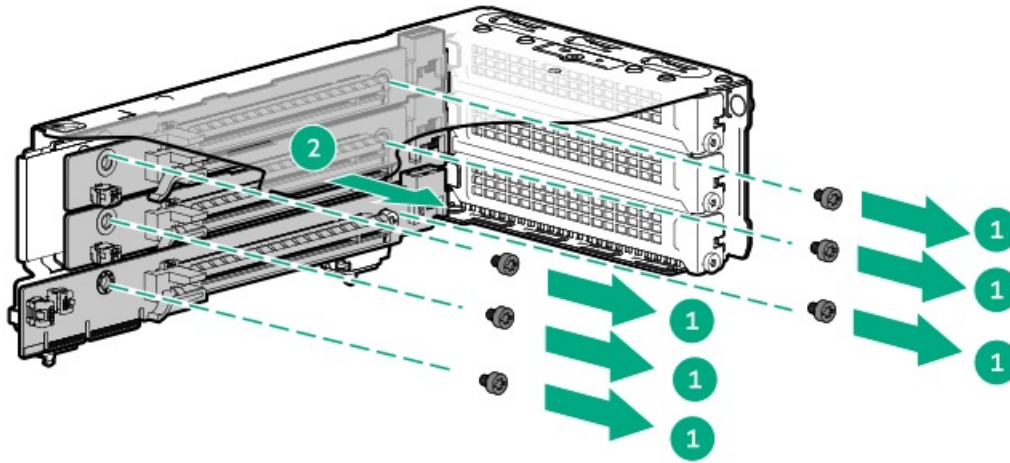


3. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
4. Disconnect all peripheral cables from the server.
5. Remove the server from the rack.
6. Place the server on a flat, level work surface.
7. Remove the access panel.
8. Do one of the following:
  - a. Remove the air baffle.
  - b. Remove the midplane drive cage.
9. If installed, remove the cable guards.
10. Disconnect the riser cable from the system board.
11. Remove the riser cage.
12. Remove the expansion card.

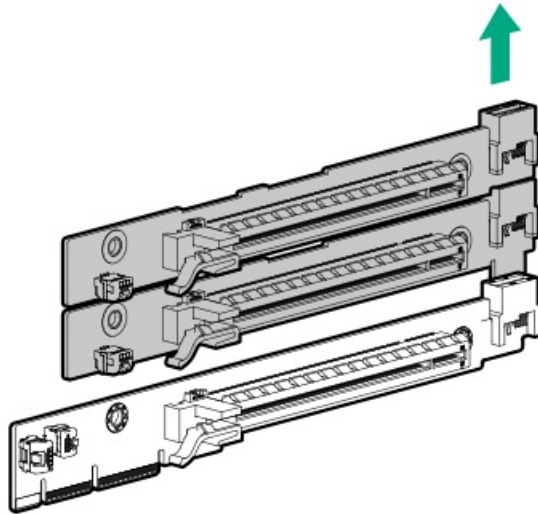
**Replacing the stacking riser from the three-slot riser cage**

13. Remove all risers from the riser cage.

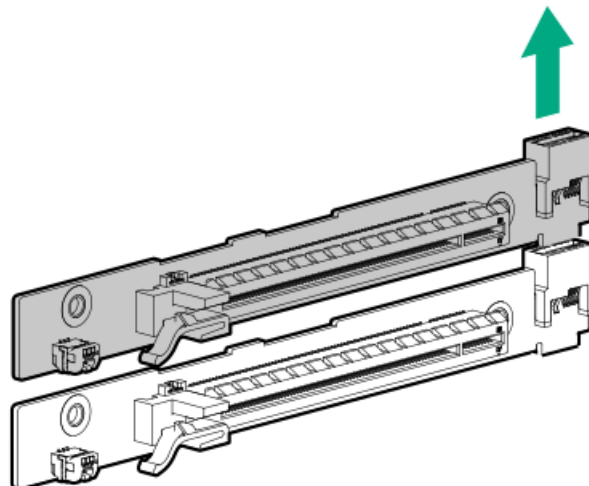
Retain all screws for future use.



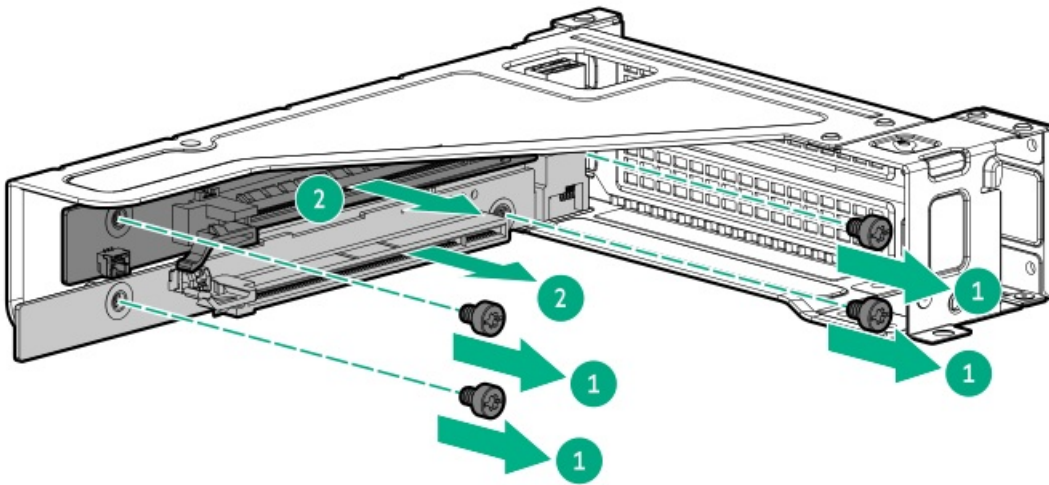
14. Detach the stacking risers from the base riser.



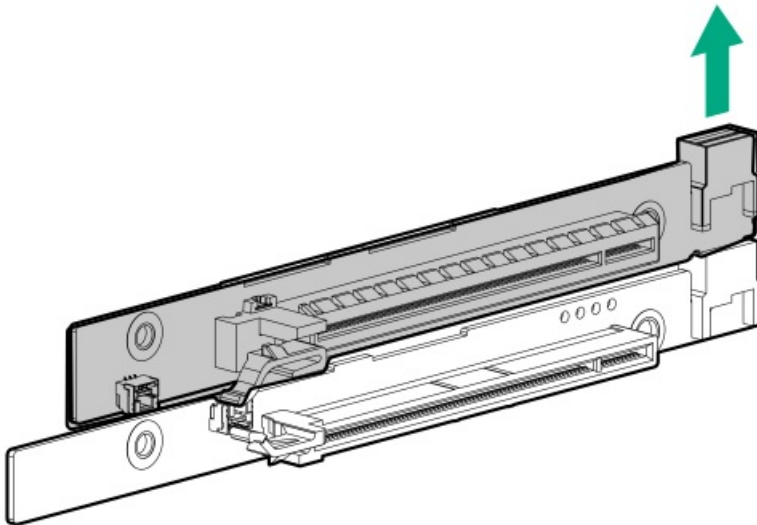
15. Detach the stacking risers.



16. Remove the risers from the tertiary riser cage.



17. Detach the free-height riser and the stacking riser.



#### Results

To replace the component, reverse the removal procedure.

## Removing and replacing the free-height riser

#### Prerequisites

Before you perform this procedure, make sure that you have a T-15 Torx screwdriver available.

#### About this task

#### ⚠ CAUTION:

A discharge of static electricity from a finger or other conductor might damage system boards or other static-sensitive devices. To prevent damage, observe [antistatic precautions](#).

**CAUTION:**

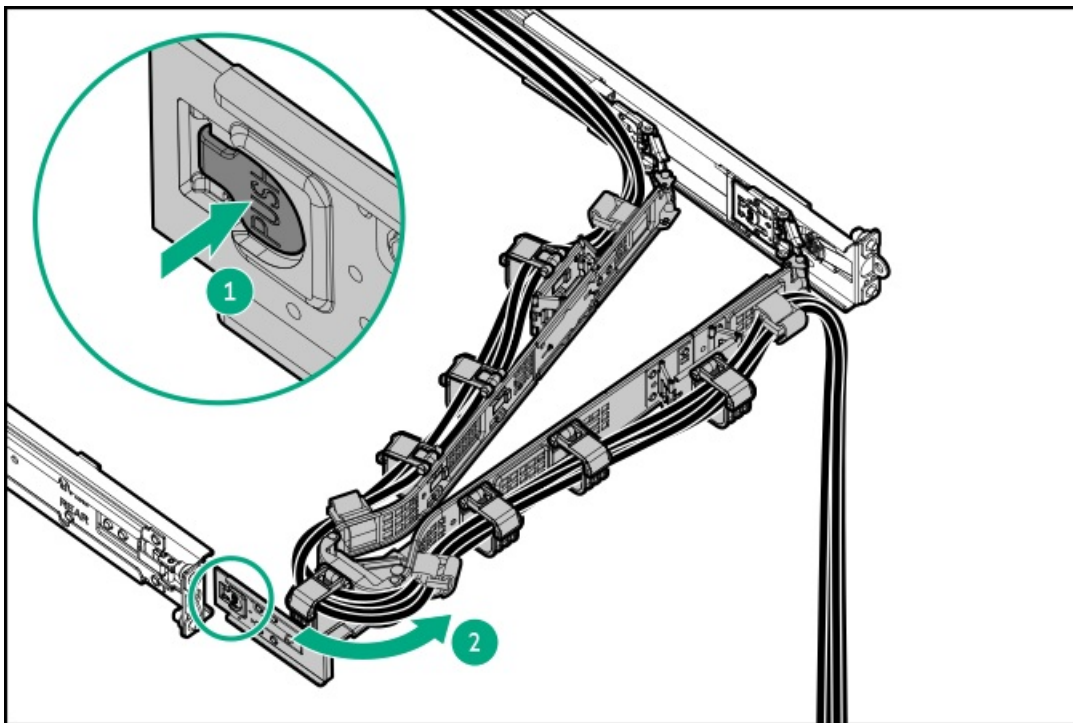
Before replacing a DIMM, backplane, expansion card, riser board, or other similar PCA components due to a perceived hardware error, make sure first that the component is firmly seated in the slot.

When installing the replacement component:

- Observe antistatic precautions.
- Handle the PCA only along the edges.
- Do not touch the components and connectors on the PCA.
- Do not bend or flex the PCA.

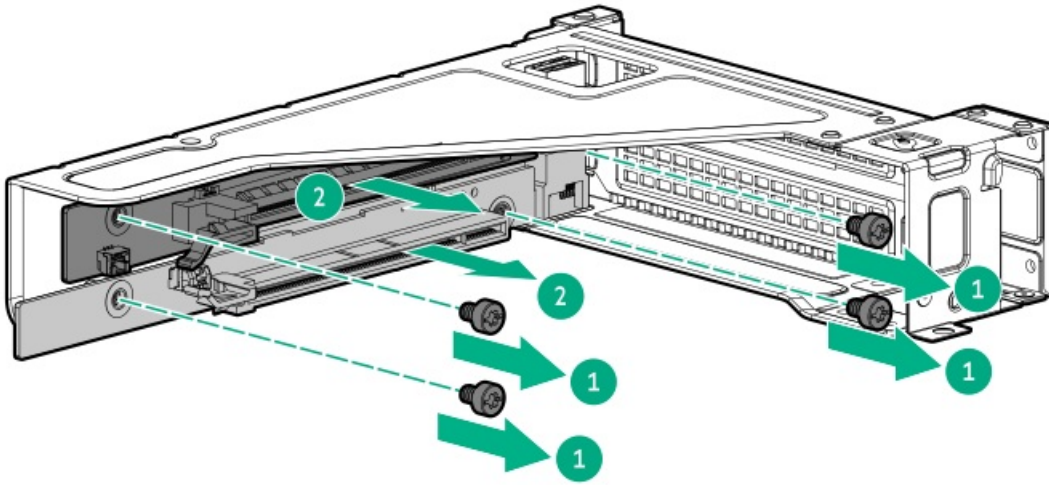
**Procedure**

1. Power down the server.
2. If installed, open the cable management arm.

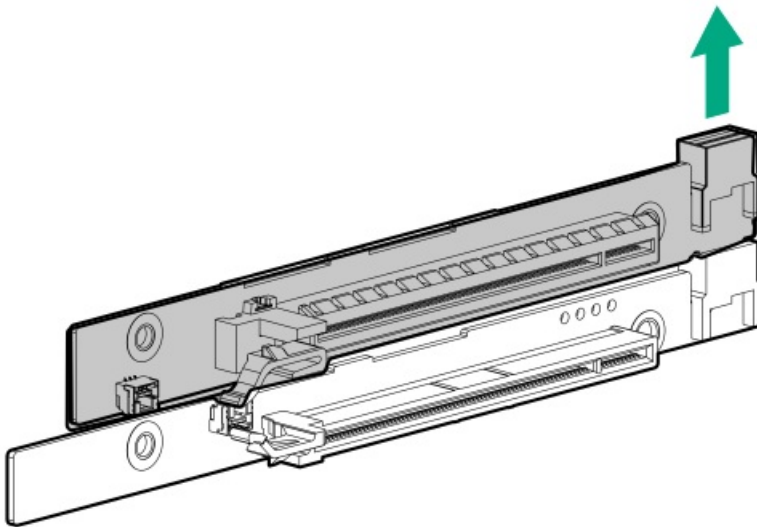


3. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
4. Disconnect all peripheral cables from the server.
5. Remove the server from the rack.
6. Place the server on a flat, level work surface.
7. Remove the access panel.
8. Do one of the following:
  - a. Remove the air baffle.
  - b. Remove the midplane drive cage.
9. Disconnect the riser cable from the system board.

10. Remove the tertiary riser cage.
11. Remove the expansion card.
12. Remove the risers from the tertiary riser cage.



13. Detach the free-height riser and the stacking riser.



#### Results

To replace the component, reverse the removal procedure.

## Removing and replacing the GPU riser

#### Prerequisites

Before you perform this procedure, make sure that you have a T-15 Torx screwdriver available.

#### About this task



#### CAUTION:

A discharge of static electricity from a finger or other conductor might damage system boards or other static-sensitive devices. To prevent damage, observe antistatic precautions.

**CAUTION:**

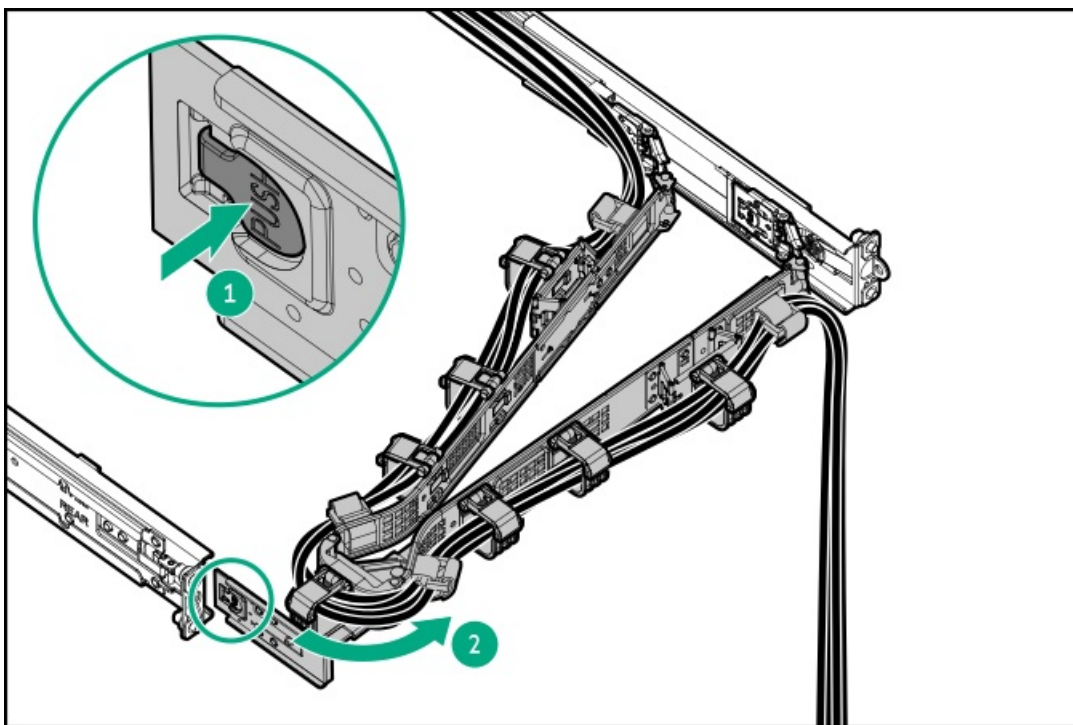
Before replacing a DIMM, backplane, expansion card, riser board, or other similar PCA components due to a perceived hardware error, make sure first that the component is firmly seated in the slot.

When installing the replacement component:

- Observe antistatic precautions.
- Handle the PCA only along the edges.
- Do not touch the components and connectors on the PCA.
- Do not bend or flex the PCA.

**Procedure**

1. Power down the server.
2. If installed, open the cable management arm.



3. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
4. Disconnect all peripheral cables from the server.
5. Remove the server from the rack.
6. Remove the access panel.
7. Remove the air baffle.
8. Remove the fans.
9. Remove the fan cage.
10. Do the following:
  - Disconnect all GPU cables from the system board.



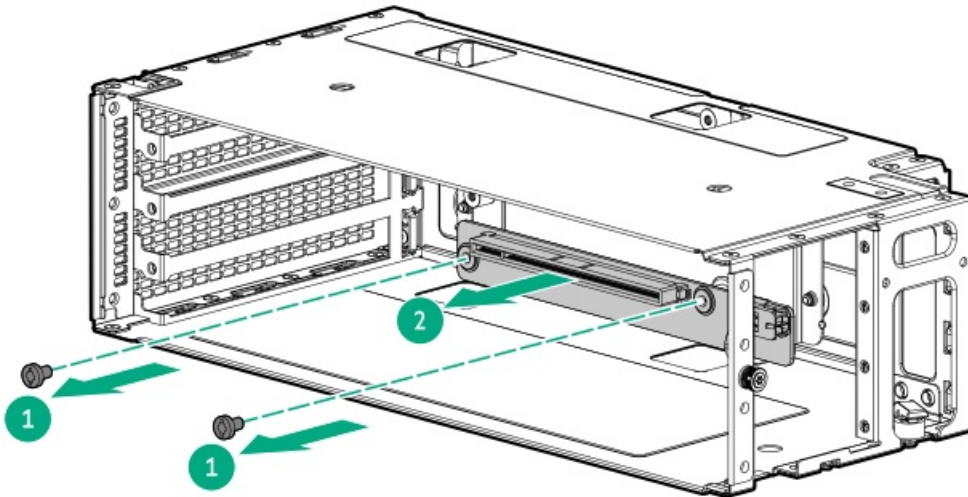
- Disconnect all front GPU riser cables from the system board.

11. Remove the front GPU cage.

12. If installed, remove the GPU.

13. Remove the GPU riser from the riser cage.

Retain all screws. These screws will be used to install the new spare GPU risers.



14. Disconnect the power cable from the riser.

#### Results

To replace the component, reverse the removal procedure.

## Optical drive replacement

### Subtopics

[Removing and replacing the optical drive from the LFF chassis](#)

[Removing and replacing the optical drive from the SFF chassis](#)

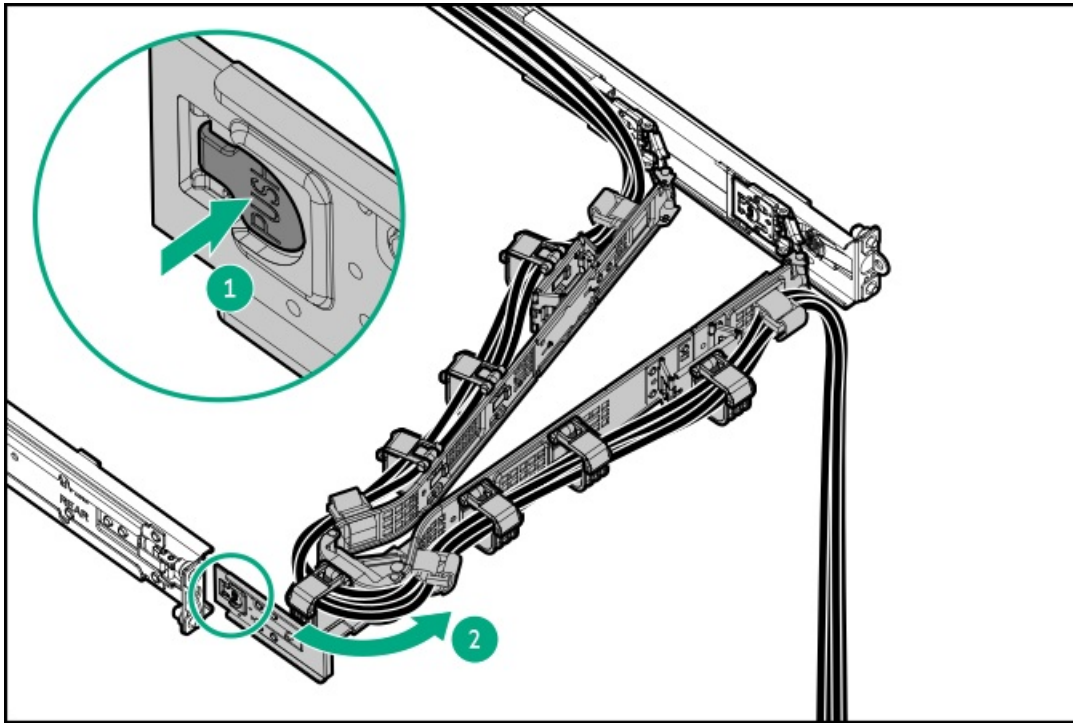
## Removing and replacing the optical drive from the LFF chassis

### Prerequisites

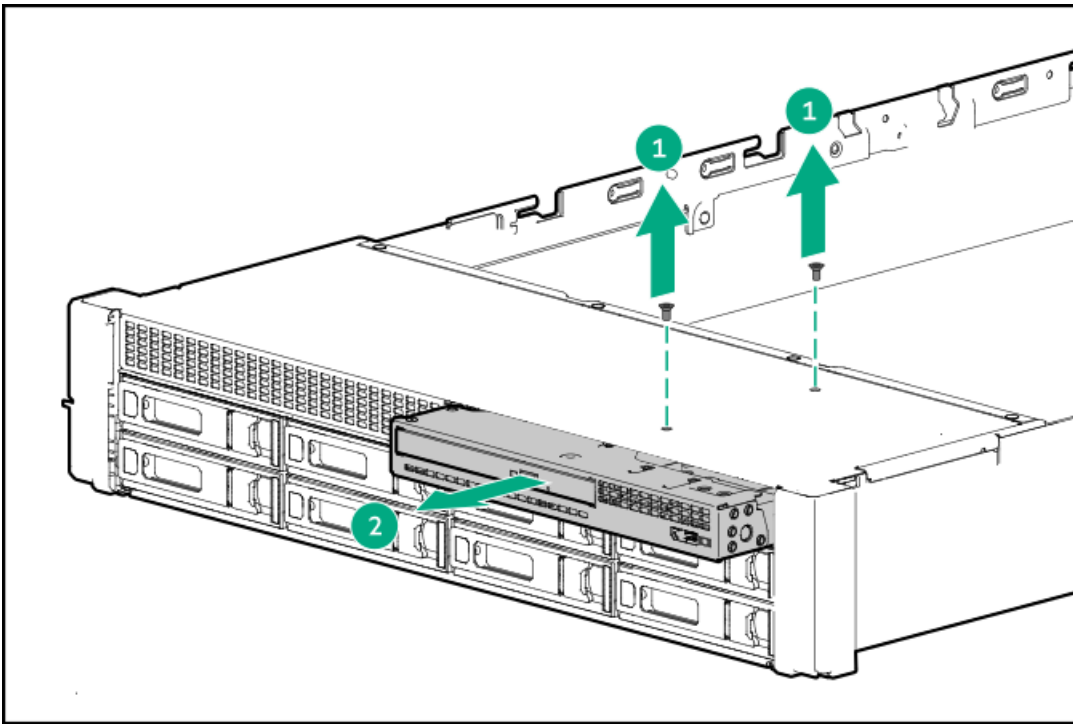
- Before you perform this procedure, make sure that you have the following items available:
  - T-10 Torx screwdriver
  - Phillips No. 1 screwdriver

### Procedure

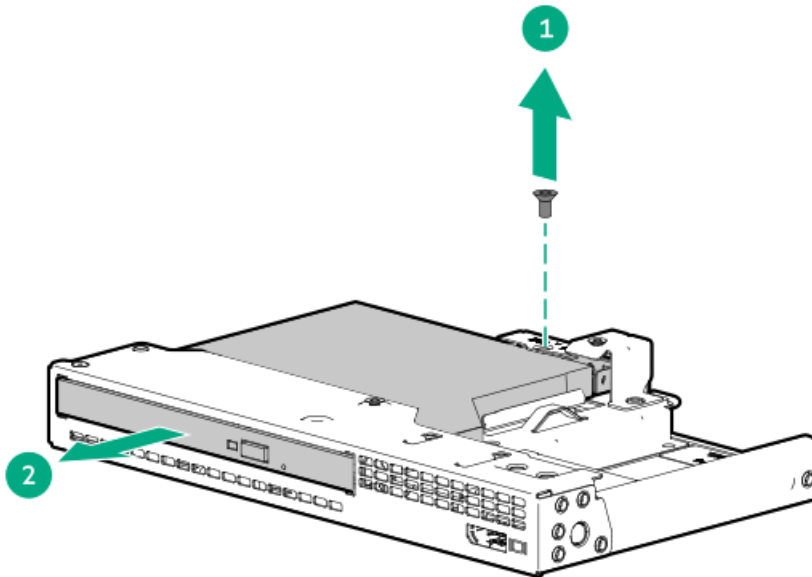
1. Power down the server.
2. If installed, open the cable management arm.



3. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
4. Disconnect all peripheral cables from the server.
5. Remove the server from the rack.
6. Place the server on a flat, level work surface.
7. Remove the access panel.
8. Remove the fan cage.
9. Remove the midwall bracket.
10. Remove the drive backplane bracket.
11. Disconnect the SATA-power Y-cable from the optical drive.
12. Disconnect the DisplayPort cable from the system board.
13. Remove the universal media bay:
  - a. Remove the universal media bay screws (callout 1).
  - b. Remove the universal media bay from the server (callout 2)



14. Remove the screw (callout 1), and then remove the optical drive from the universal media bay (callout 2).



#### Results

To replace the component, reverse the removal procedure.

## Removing and replacing the optical drive from the SFF chassis

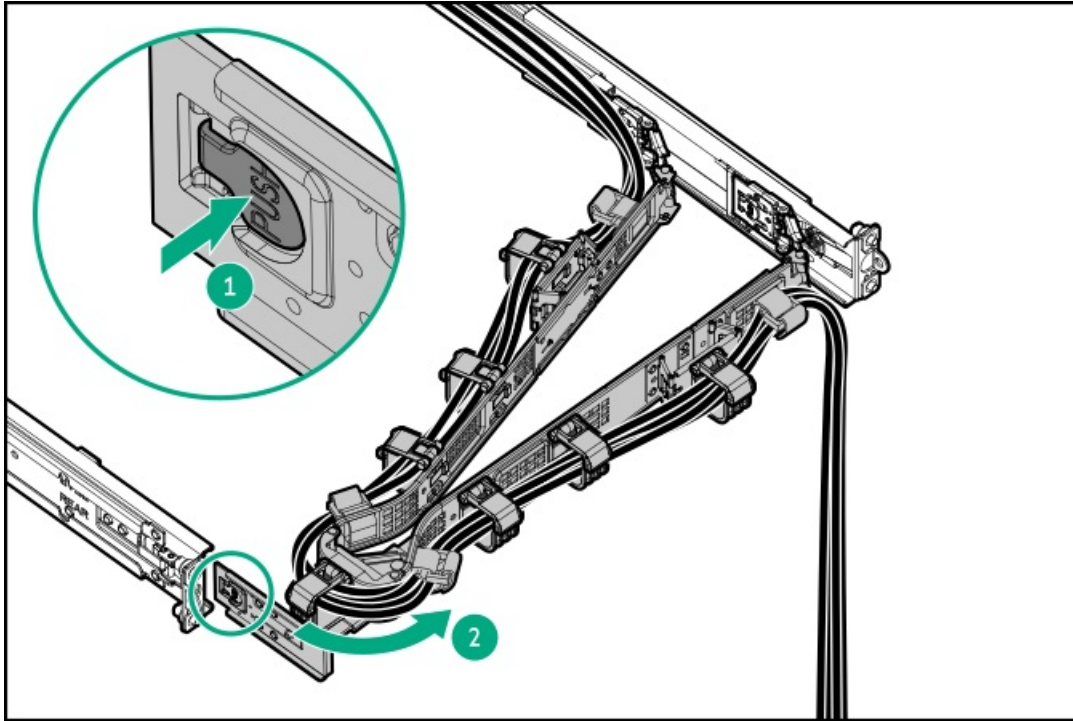
#### Prerequisites

- Before you perform this procedure, make sure that you have the following items available:

- T-10 Torx screwdriver
- Phillips No. 1 screwdriver

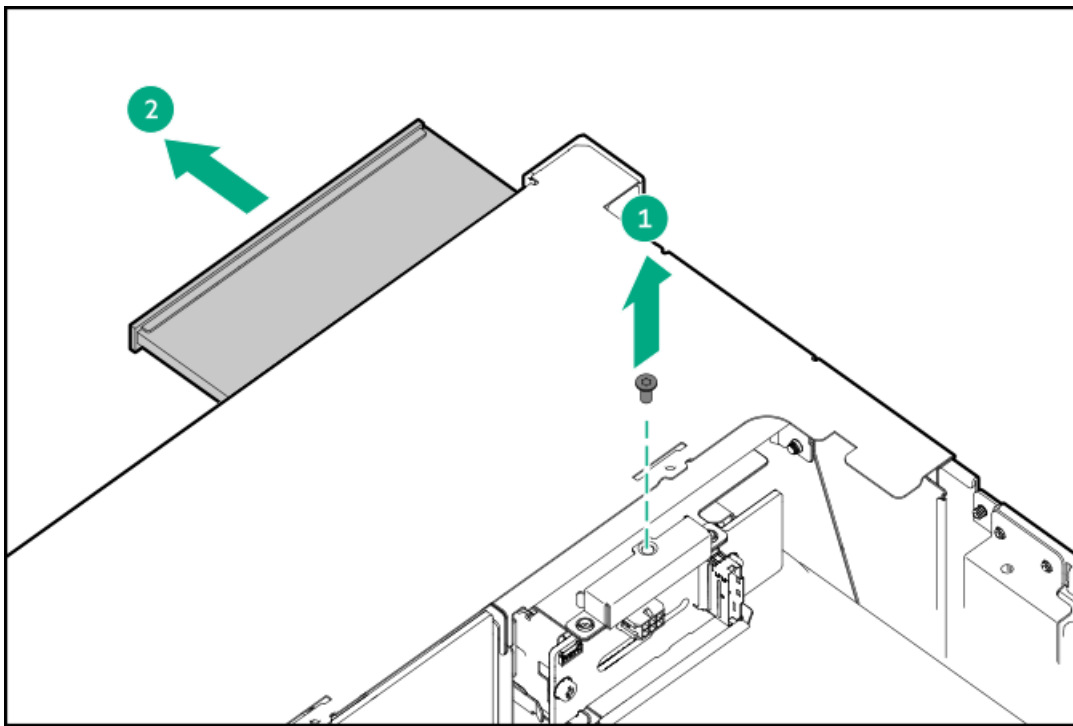
**Procedure**

1. Power down the server.
2. If installed, open the cable management arm.



3. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
4. Disconnect all peripheral cables from the server.
5. Remove the server from the rack.
6. Place the server on a flat, level work surface.
7. Remove the access panel.
8. Remove the fan cage.
9. Remove the midwall bracket.
10. Disconnect the SATA-power Y-cable from the optical drive.
11. Remove the screw (callout 1), and then remove the optical drive from the universal media bay (callout 2).





#### Results

To replace the component, reverse the removal procedure.

## Drive backplane replacement

#### Subtopics

[Removing and replacing the front 4 LFF drive backplane](#)

[Removing and replacing the 8 SFF drive backplane](#)

[Removing and replacing the front 2 SFF side-by-side drive backplane](#)

[Removing and replacing the front 2 SFF stacked drive backplane](#)

[Removing and replacing the midplane drive backplane](#)

[Removing and replacing the rear 4 LFF drive backplane](#)

[Removing and replacing the rear 2 SFF drive backplane](#)

[Removing and replacing the 12 E3.S drive backplane](#)

## Removing and replacing the front 4 LFF drive backplane

#### Prerequisites

Before you perform this procedure, make sure that you have a T-15 Torx screwdriver available.

#### About this task

**⚠ CAUTION:**

A discharge of static electricity from a finger or other conductor might damage system boards or other static-sensitive devices. To prevent damage, observe [antistatic precautions](#).

**⚠ CAUTION:**

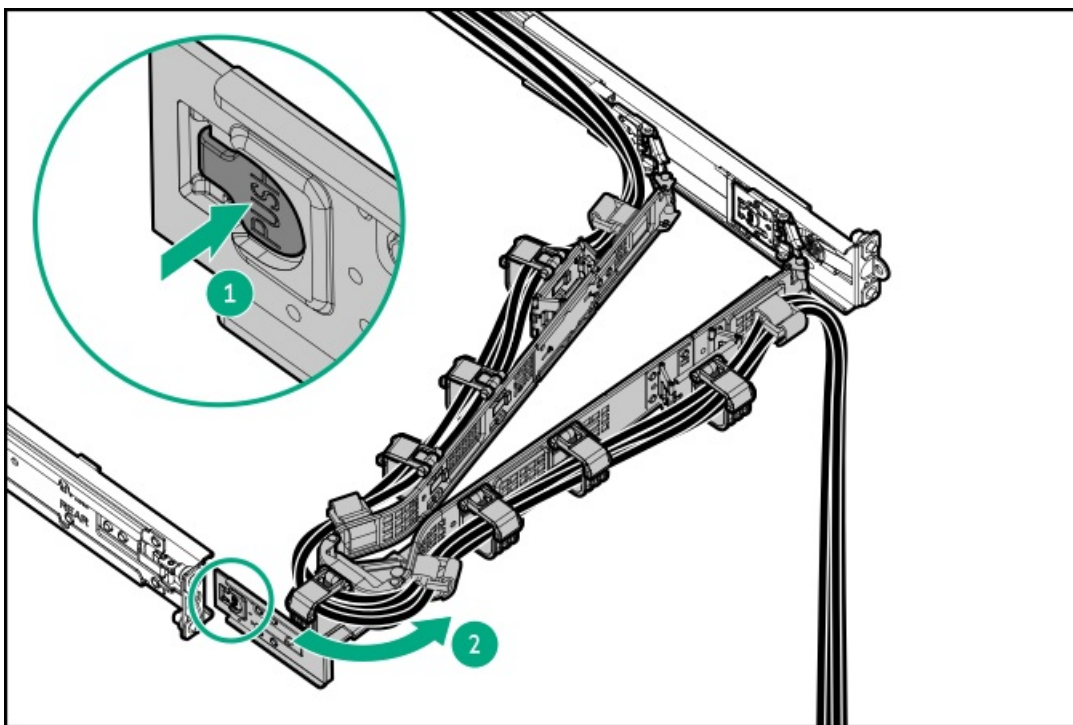
Before replacing a DIMM, backplane, expansion card, riser board, or other similar PCA components due to a perceived hardware error, make sure first that the component is firmly seated in the slot.

When installing the replacement component:

- Observe [antistatic precautions](#).
- Handle the PCA only along the edges.
- Do not touch the components and connectors on the PCA.
- Do not bend or flex the PCA.

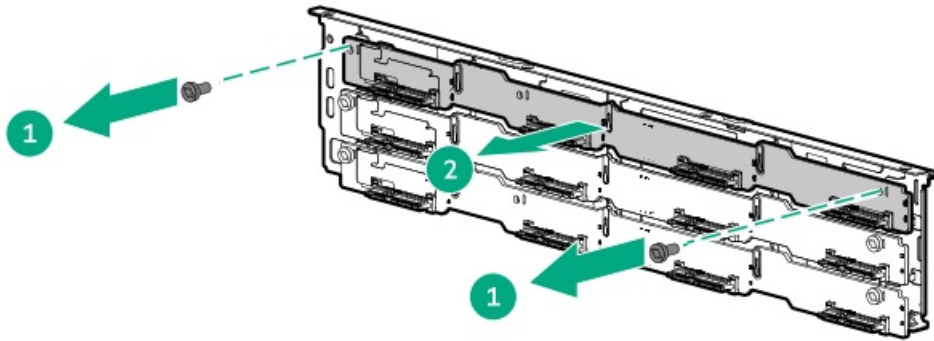
**Procedure**

1. If installed, [remove the front bezel](#).
2. [Power down the server](#).
3. If installed, open the cable management arm.

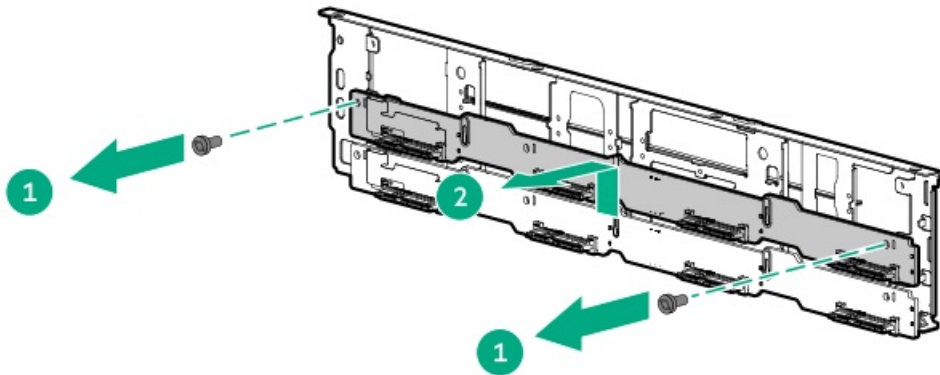


4. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
5. Disconnect all peripheral cables from the server.
6. [Remove the server from the rack](#).
7. Place the server on a flat, level work surface.
8. [Remove the access panel](#).
9. [Remove the fan cage](#).

10. Remove the midwall bracket.
11. Remove the drive backplane bracket.
12. Remove the 4 LFF drive backplane from the drive backplane bracket.
  - Backplane for Box 1



- Backplane for Box 2/3



## Results

To replace the component, reverse the removal procedure.

## Removing and replacing the 8 SFF drive backplane

### Prerequisites

Before you perform this procedure, make sure that you have a T-15 Torx screwdriver available.

### About this task

#### CAUTION:

A discharge of static electricity from a finger or other conductor might damage system boards or other static-sensitive devices. To prevent damage, observe antistatic precautions.

**CAUTION:**

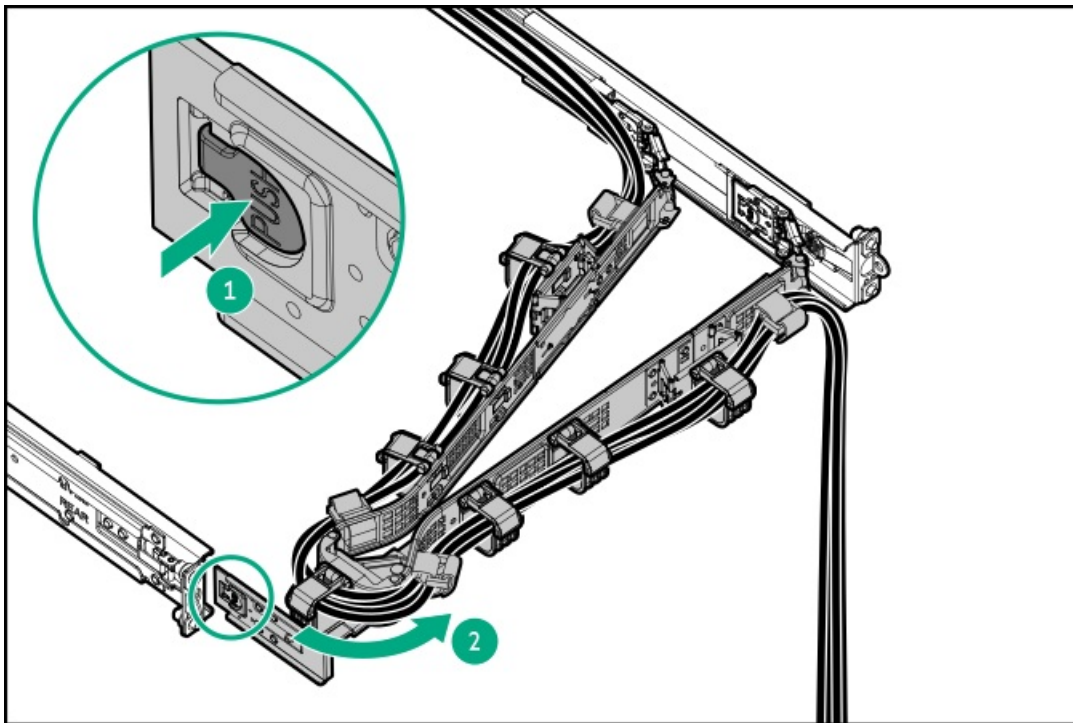
Before replacing a DIMM, backplane, expansion card, riser board, or other similar PCA components due to a perceived hardware error, make sure first that the component is firmly seated in the slot.

When installing the replacement component:

- Observe antistatic precautions.
- Handle the PCA only along the edges.
- Do not touch the components and connectors on the PCA.
- Do not bend or flex the PCA.

**Procedure**

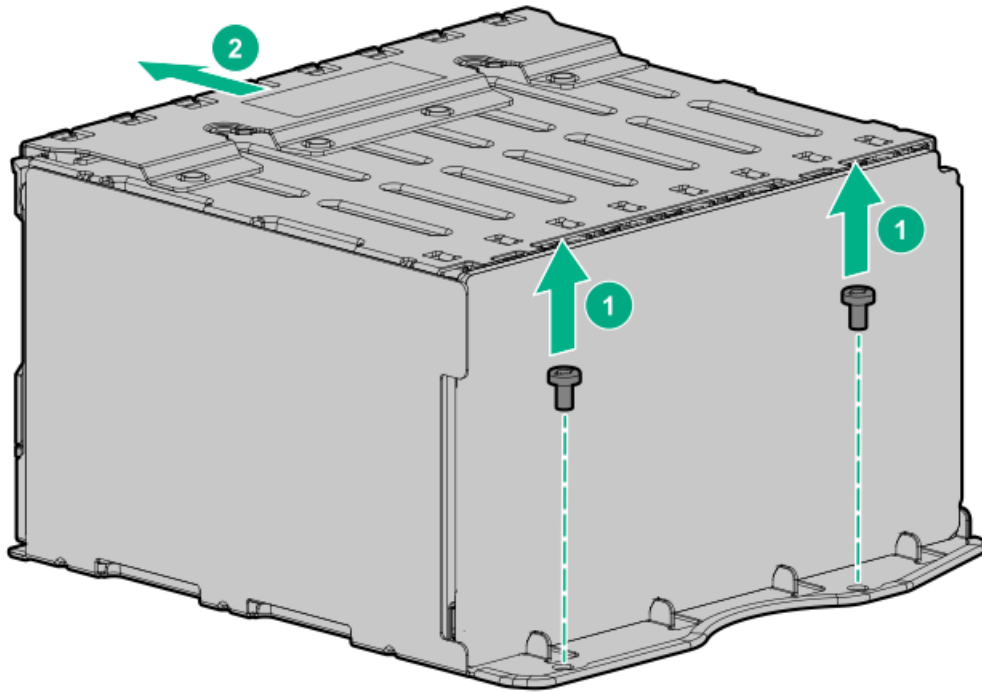
1. If installed, remove the front bezel.
2. Power down the server.
3. If installed, open the cable management arm.



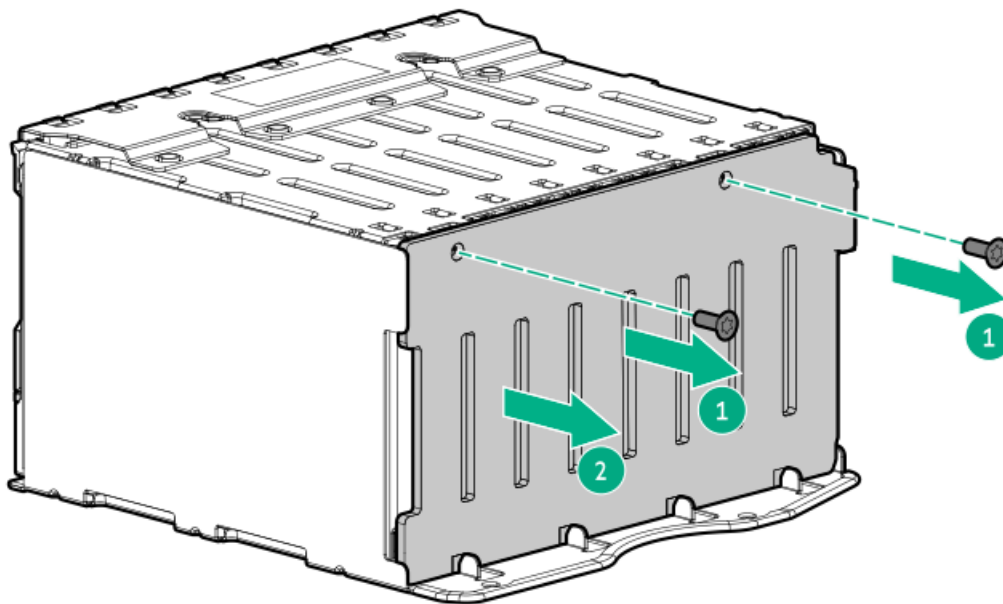
4. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
5. Disconnect all peripheral cables from the server.
6. Remove the server from the rack.
7. Place the server on a flat, level work surface.
8. Remove the access panel.
9. Remove the fan cage.
10. Remove the midwall bracket.
11. Disconnect all cables from the drive backplane.



12. Remove 8 SFF drive cage:
  - a. Remove the drive cage screws (callout 1).
  - b. Remove the 8 SFF drive cage from the server (callout 2).



13. Remove the 8 SFF drive backplane:
  - a. Remove the backplane screws (callout 1).
  - b. Remove the backplane from the drive cage (callout 2).



#### Results

To replace the component, reverse the removal procedure.

# Removing and replacing the front 2 SFF side-by-side drive backplane

## Prerequisites

Before you perform this procedure, make sure that you have a T-10 Torx screwdriver available.

## About this task

### ⚠ CAUTION:

A discharge of static electricity from a finger or other conductor might damage system boards or other static-sensitive devices. To prevent damage, observe [antistatic precautions](#).

### ⚠ CAUTION:

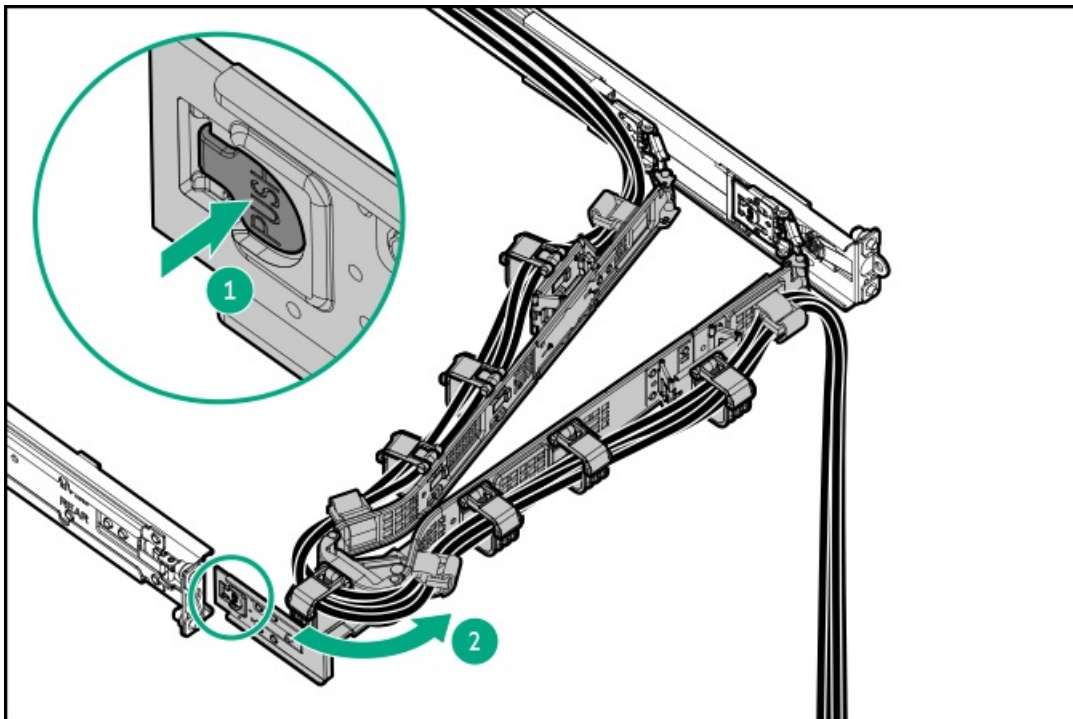
Before replacing a DIMM, backplane, expansion card, riser board, or other similar PCA components due to a perceived hardware error, make sure first that the component is firmly seated in the slot.

When installing the replacement component:

- Observe [antistatic precautions](#).
- Handle the PCA only along the edges.
- Do not touch the components and connectors on the PCA.
- Do not bend or flex the PCA.

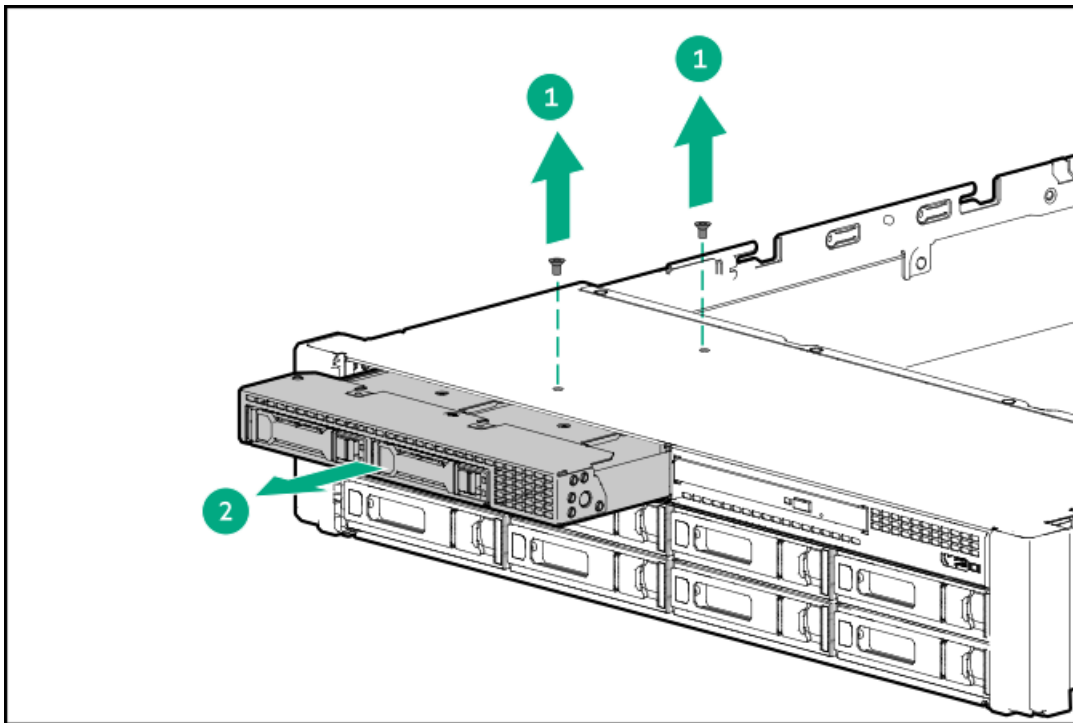
## Procedure

1. If installed, [remove the front bezel](#).
2. [Power down the server](#).
3. If installed, open the cable management arm.

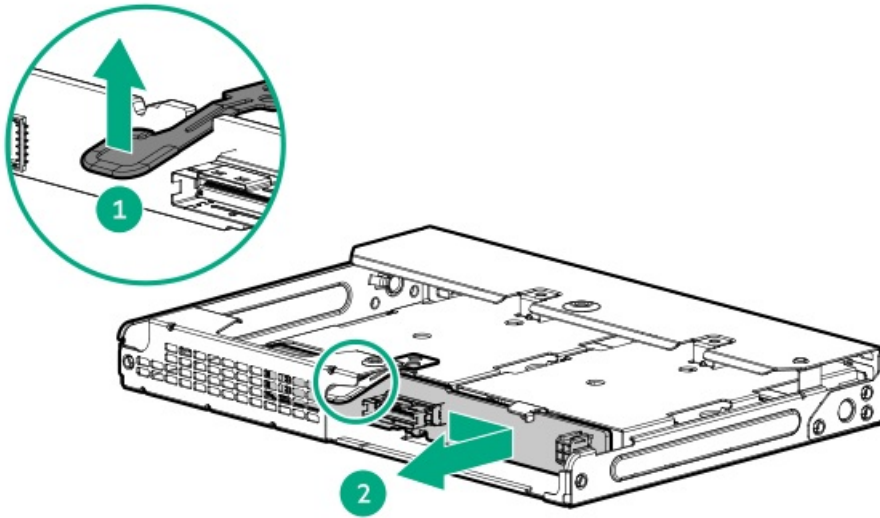


4. Remove all power:
  - a. Disconnect each power cord from the power source.

- b. Disconnect each power cord from the server.
5. Disconnect all peripheral cables from the server.
6. Remove the server from the rack.
7. Place the server on a flat, level work surface.
8. Remove the access panel.
9. Remove the fan cage.
10. Remove the midwall bracket.
11. Remove the drive backplane bracket.
12. Disconnect the cables from the 2 SFF side-by-side drive backplane.
13. Remove the front 2 SFF side-by-side drive cage:
  - a. Remove the drive cage screws (callout 1).
  - b. Remove the front 2 SFF side-by-side drive cage from the server (callout 2).



14. Remove the 2 SFF side-by-side drive backplane:
  - a. Lift the backplane latch (callout 1).
  - b. Remove the backplane from the drive cage (callout 2).



### Results

To replace the component, reverse the removal procedure.

## Removing and replacing the front 2 SFF stacked drive backplane

### Prerequisites

Before you perform this procedure, make sure that you have a T-15 Torx screwdriver available.

### About this task



#### CAUTION:

A discharge of static electricity from a finger or other conductor might damage system boards or other static-sensitive devices. To prevent damage, observe [antistatic precautions](#).



#### CAUTION:

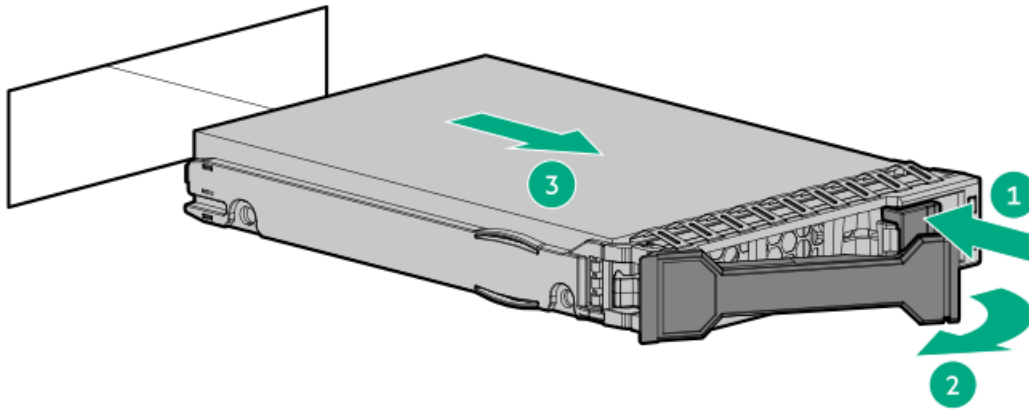
Before replacing a DIMM, backplane, expansion card, riser board, or other similar PCA components due to a perceived hardware error, make sure first that the component is firmly seated in the slot.

When installing the replacement component:

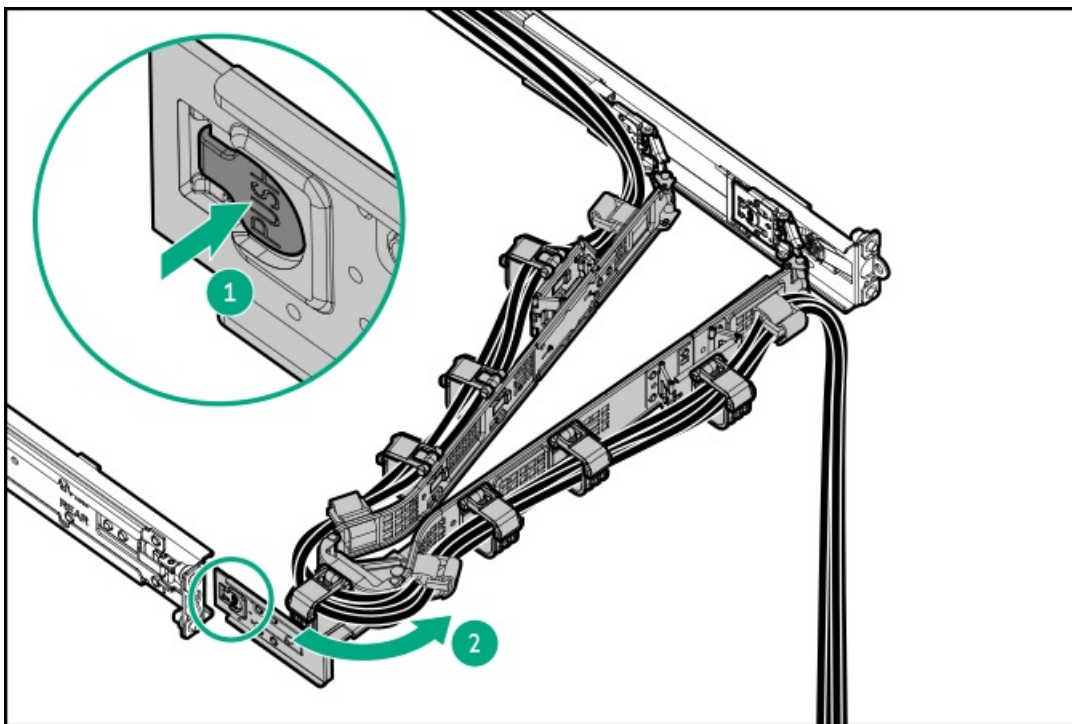
- Observe [antistatic precautions](#).
- Handle the PCA only along the edges.
- Do not touch the components and connectors on the PCA.
- Do not bend or flex the PCA.

### Procedure

1. Back up all server data.
2. If installed, [remove the front bezel](#).
3. If installed, remove all drives from the 2 SFF stacked drive cage.

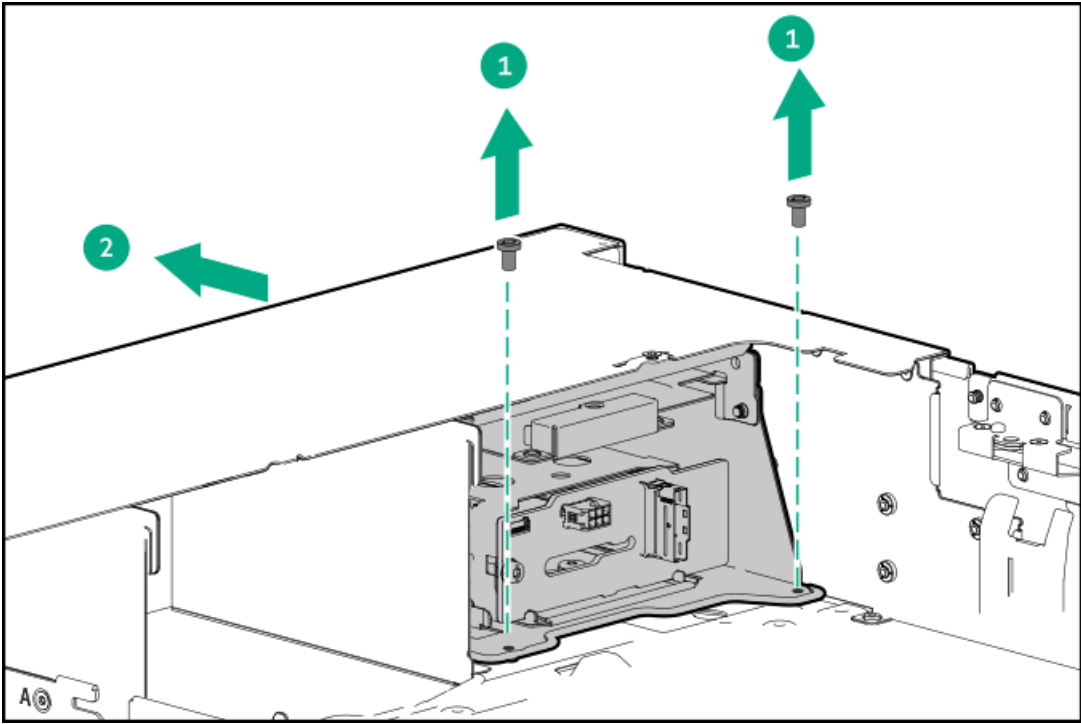


4. Power down the server.
5. If installed, open the cable management arm.

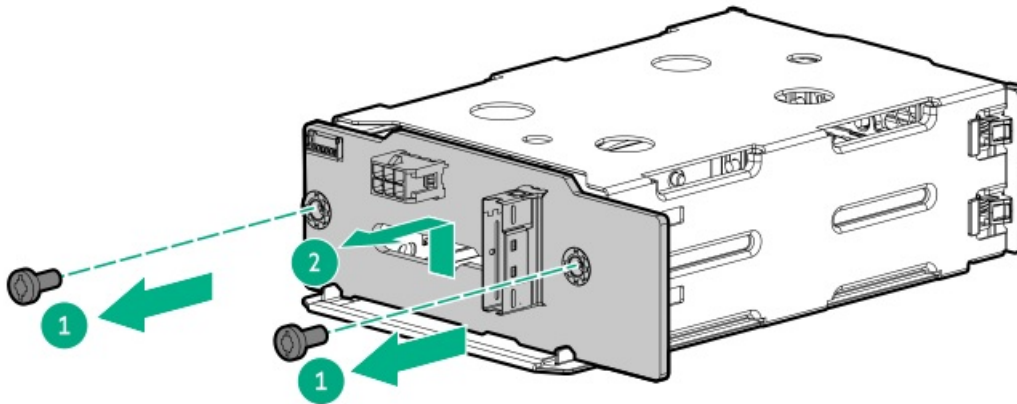


6. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
7. Disconnect all peripheral cables from the server.
8. Remove the server from the rack.
9. Place the server on a flat, level work surface.
10. Remove the access panel.
11. Remove the fan cage.
12. Remove the midwall bracket.
13. Disconnect all cables from the 2 SFF stacked drive backplane.
14. Remove the universal media bay:

- a. Remove the universal media bay screws (callout 1).
- b. Remove the universal media bay from the server (callout 2).



15. Remove the 2 SFF stacked drive backplane:
- a. Remove the backplane screws (callout 1).
  - b. Remove the backplane from the drive cage (callout 2).



**Results**

To replace the component, reverse the removal procedure.

## Removing and replacing the midplane drive backplane

**Prerequisites**

Before you perform this procedure, make sure that you have a T-15 Torx screwdriver available.

**About this task**

**⚠ CAUTION:**

A discharge of static electricity from a finger or other conductor might damage system boards or other static-sensitive devices. To prevent damage, observe [antistatic precautions](#).

**⚠ CAUTION:**

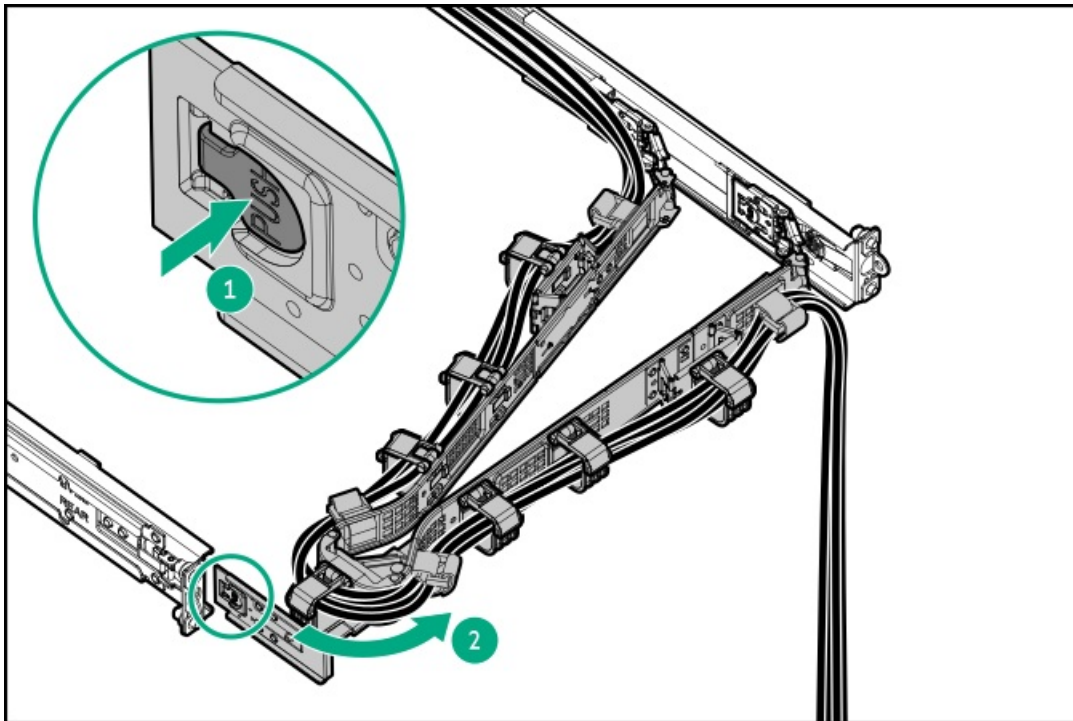
Before replacing a DIMM, backplane, expansion card, riser board, or other similar PCA components due to a perceived hardware error, make sure first that the component is firmly seated in the slot.

When installing the replacement component:

- Observe [antistatic precautions](#).
- Handle the PCA only along the edges.
- Do not touch the components and connectors on the PCA.
- Do not bend or flex the PCA.

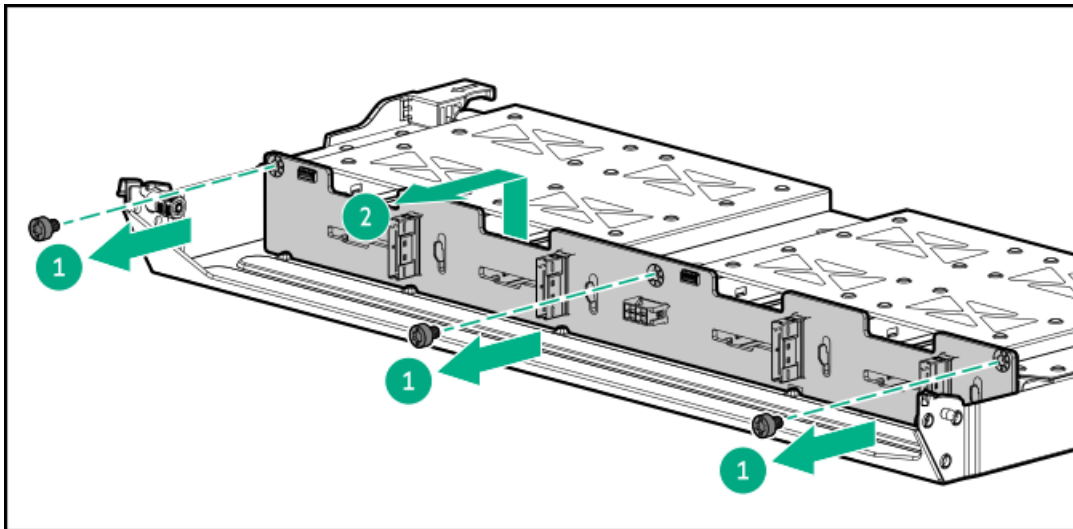
**Procedure**

1. [Power down the server](#).
2. If installed, open the cable management arm.



3. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
4. Disconnect all peripheral cables from the server.
5. [Remove the server from the rack](#).
6. Place the server on a flat, level work surface.
7. [Remove the access panel](#).
8. Disconnect the drive cables from the midplane drive cage.
9. [Remove the midplane drive cage](#).

10. Remove the midplane drive backplane:
  - a. Remove the backplane screws (callout 1).
  - b. Remove the backplane from the drive cage (callout 2).



#### Results

To replace the component, reverse the removal procedure.

## Removing and replacing the rear 4 LFF drive backplane

#### Prerequisites

Before you perform this procedure, make sure that you have a T-15 Torx screwdriver available.

#### About this task

##### ⚠ CAUTION:

A discharge of static electricity from a finger or other conductor might damage system boards or other static-sensitive devices. To prevent damage, observe [antistatic precautions](#).

##### ⚠ CAUTION:

Before replacing a DIMM, backplane, expansion card, riser board, or other similar PCA components due to a perceived hardware error, make sure first that the component is firmly seated in the slot.

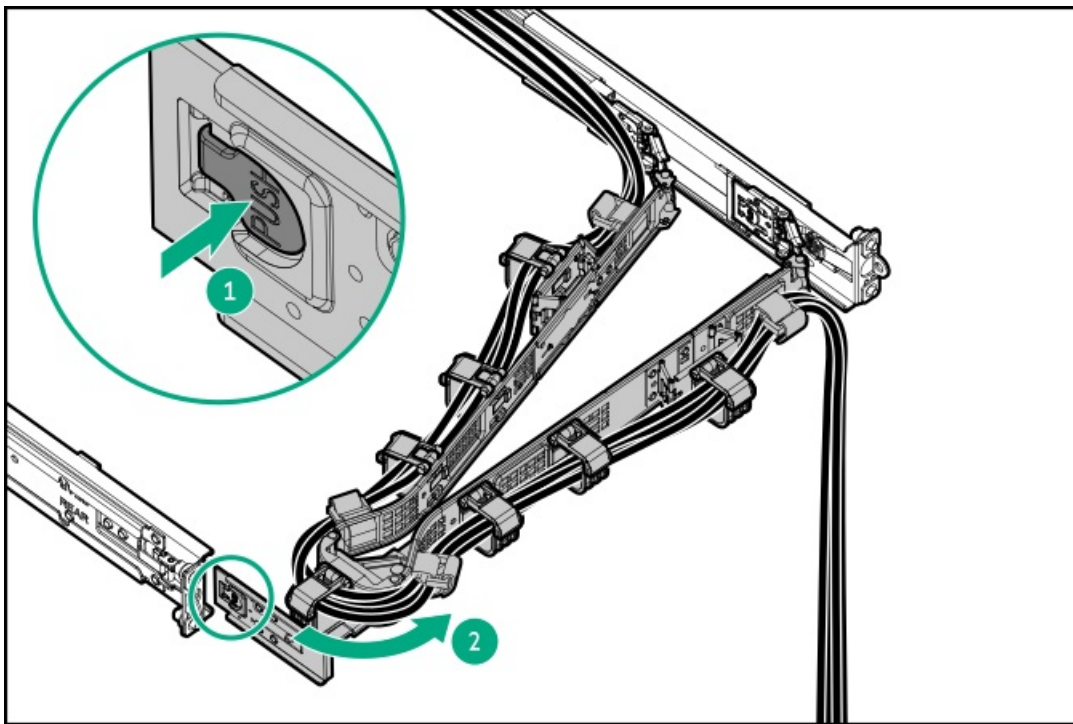
When installing the replacement component:

- Observe [antistatic precautions](#).
- Handle the PCA only along the edges.
- Do not touch the components and connectors on the PCA.
- Do not bend or flex the PCA.

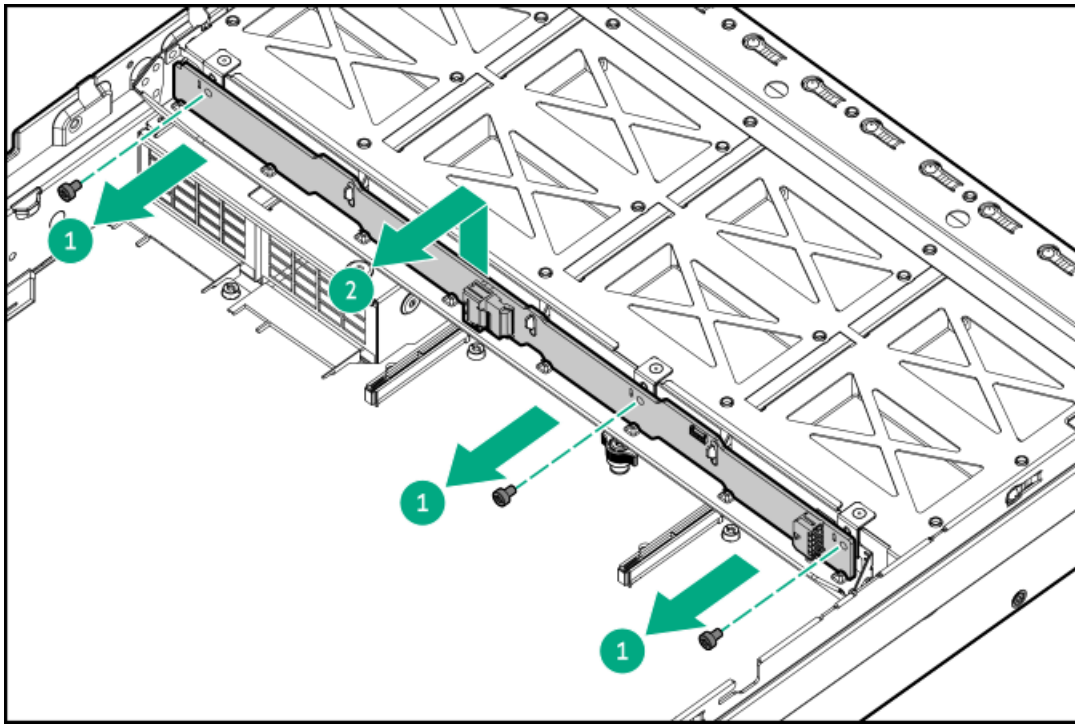
#### Procedure

1. [Power down the server](#).
2. If installed, open the cable management arm.





3. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
4. Disconnect all peripheral cables from the server.
5. Remove the server from the rack.
6. Place the server on a flat, level work surface.
7. Remove the access panel.
8. Do one of the following:
  - a. Remove the air baffle.
  - b. Remove the midplane drive cage.
9. If installed, remove the cable guards.
10. Remove the midplane drive cage.
11. Disconnect the cables from the rear 4 LFF drive backplane.
12. Remove the rear 4 LFF drive backplane:
  - a. Remove the backplane screws (callout 1).
  - b. Remove the backplane from the drive cage (callout 2).



## Results

To replace the component, reverse the removal procedure.

## Removing and replacing the rear 2 SFF drive backplane

### Prerequisites

Before you perform this procedure, make sure that you have the following items available:

- T-15 Torx screwdriver
- T-10 Torx screwdriver

### About this task

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#### ⚠ CAUTION:

A discharge of static electricity from a finger or other conductor might damage system boards or other static-sensitive devices. To prevent damage, observe [antistatic precautions](#).

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#### ⚠ CAUTION:

Before replacing a DIMM, backplane, expansion card, riser board, or other similar PCA components due to a perceived hardware error, make sure first that the component is firmly seated in the slot.

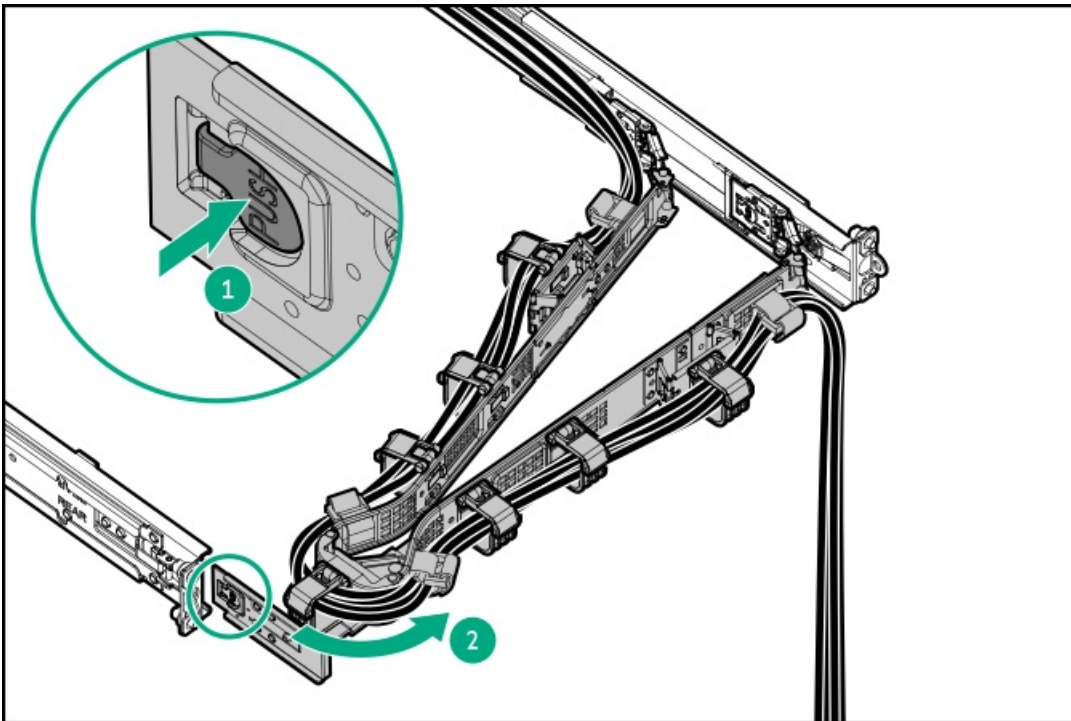
When installing the replacement component:

- Observe [antistatic precautions](#).
  - Handle the PCA only along the edges.
  - Do not touch the components and connectors on the PCA.
  - Do not bend or flex the PCA.
- 

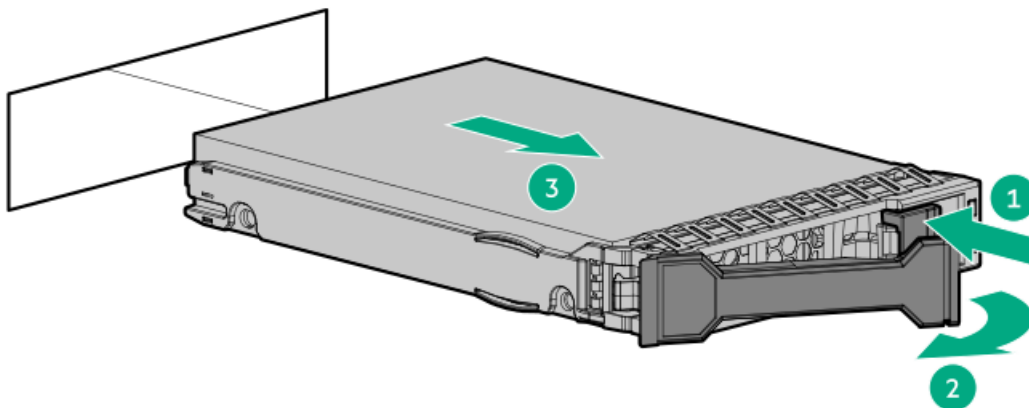
### Procedure

1. [Power down the server](#).

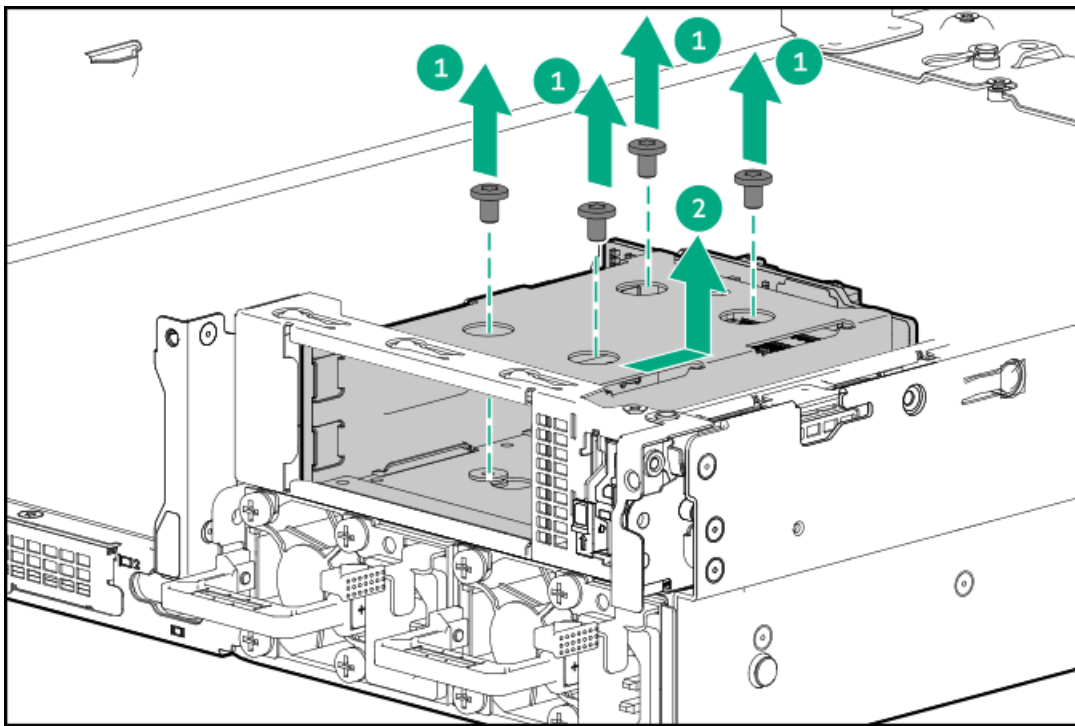
2. If installed, open the cable management arm.



3. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
4. Disconnect all peripheral cables from the server.
5. Remove the server from the rack.
6. Place the server on a flat, level work surface.
7. Remove the access panel.
8. Disconnect the cables from the 2 SFF stacked drive backplane.
9. If installed, remove all drives from the 2 SFF stacked drive cage.

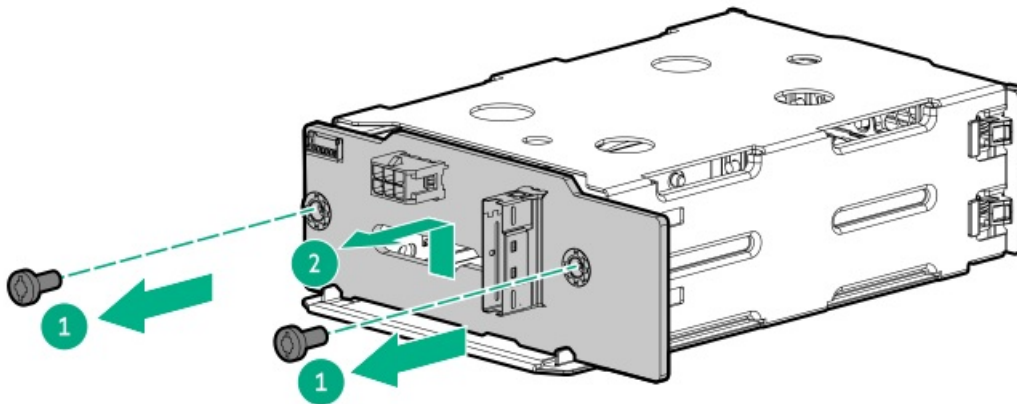


10. Remove the rear 2 SFF stacked drive cage:
  - a. Remove the stacked drive cage screws (callout 1).
  - b. Remove the rear 2 SFF stacked drive cage from top of the power supply cage (callout 2).



11. Remove the 2 SFF stacked drive backplane:

- a. Remove the backplane screws (callout 1).
- b. Remove the backplane from the drive cage (callout 2).



**Results**

To replace the component, reverse the removal procedure.

**Removing and replacing the 12 E3.S drive backplane**

**Prerequisites**

Before you perform this procedure, make sure that you have a T-15 Torx screwdriver available.

**About this task**



**⚠ CAUTION:**

A discharge of static electricity from a finger or other conductor might damage system boards or other static-sensitive devices. To prevent damage, observe [antistatic precautions](#).

**⚠ CAUTION:**

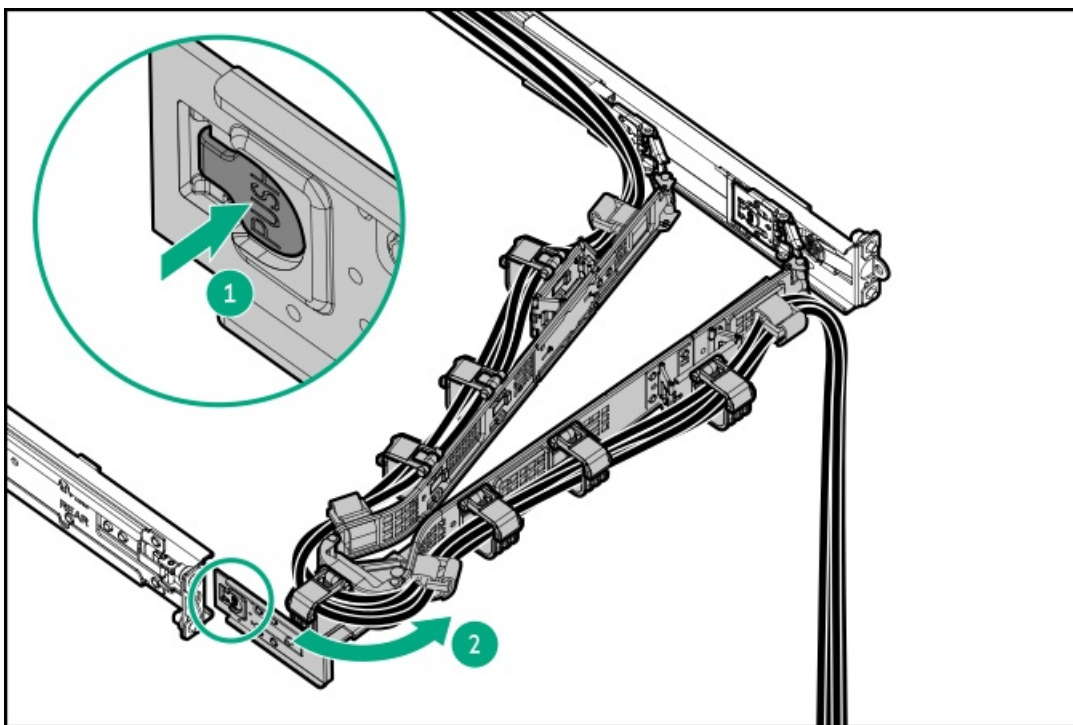
Before replacing a DIMM, backplane, expansion card, riser board, or other similar PCA components due to a perceived hardware error, make sure first that the component is firmly seated in the slot.

When installing the replacement component:

- Observe [antistatic precautions](#).
- Handle the PCA only along the edges.
- Do not touch the components and connectors on the PCA.
- Do not bend or flex the PCA.

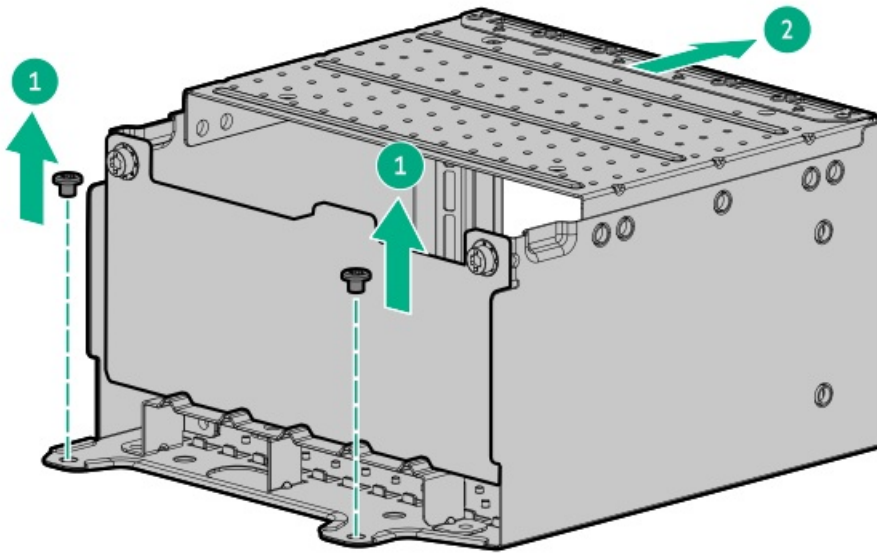
**Procedure**

1. If installed, [remove the front bezel](#).
2. [Power down the server](#).
3. If installed, open the cable management arm.

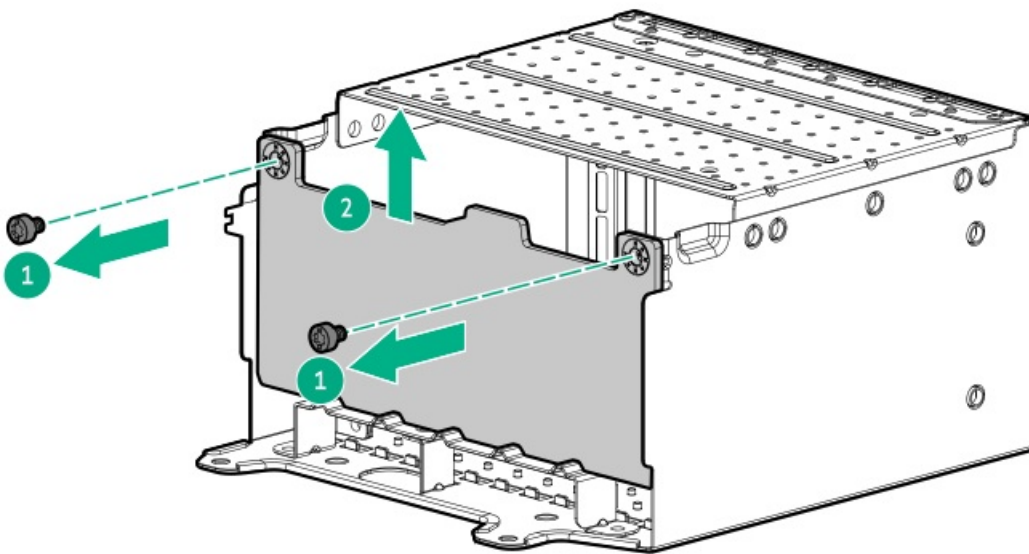


4. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
5. Disconnect all peripheral cables from the server.
6. [Remove the server from the rack](#).
7. Place the server on a flat, level work surface.
8. [Remove the access panel](#).
9. [Remove the fan cage](#).

10. Remove the midwall bracket.
11. Disconnect all cables from the drive backplane.
12. Remove the E3.S drive cage:
  - a. Remove the drive cage screws (callout 1).  
Retain all screws for future use.
  - b. Remove the E3.S drive cage from the server (callout 2).



13. Remove the E3.S drive backplane:
  - a. Remove the backplane screws (callout 1).  
Retain all screws. These screws will be used to install the new spare drive backplane.
  - b. Remove the backplane from the drive cage (callout 2).



## Results

To replace the component, reverse the removal procedure.

# Removing and replacing the OCP NIC 3.0 adapter

## About this task

**⚠ CAUTION:**

A discharge of static electricity from a finger or other conductor might damage system boards or other static-sensitive devices. To prevent damage, observe antistatic precautions.

**⚠ CAUTION:**

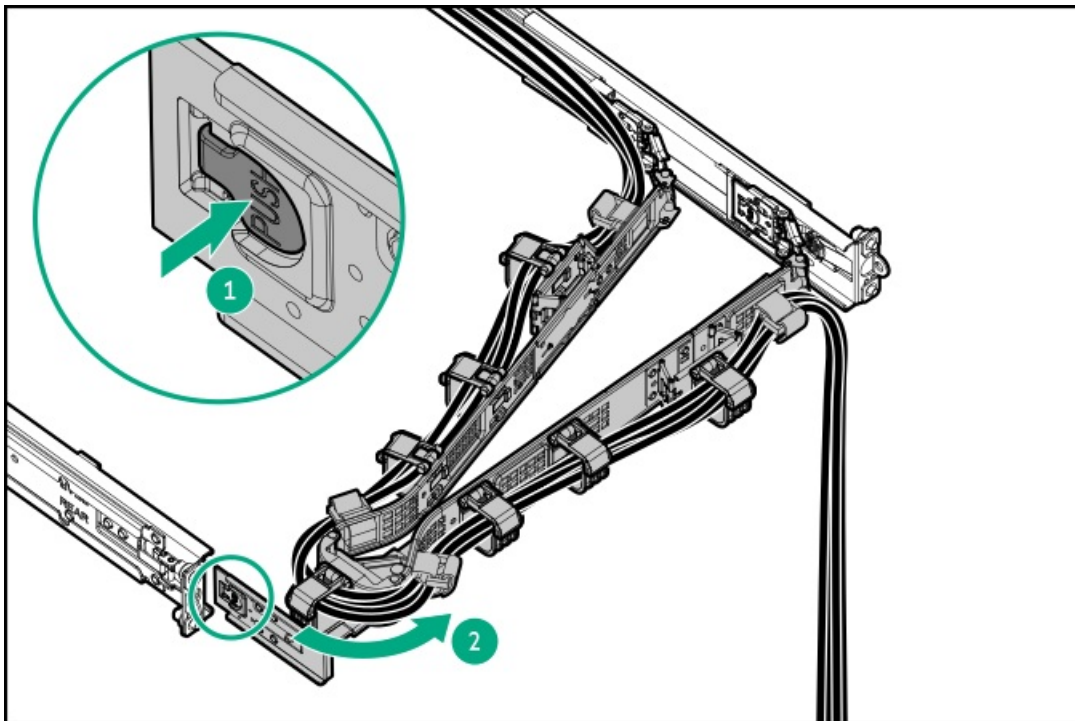
Before replacing a DIMM, backplane, expansion card, riser board, or other similar PCA components due to a perceived hardware error, make sure first that the component is firmly seated in the slot.

When installing the replacement component:

- Observe antistatic precautions.
- Handle the PCA only along the edges.
- Do not touch the components and connectors on the PCA.
- Do not bend or flex the PCA.

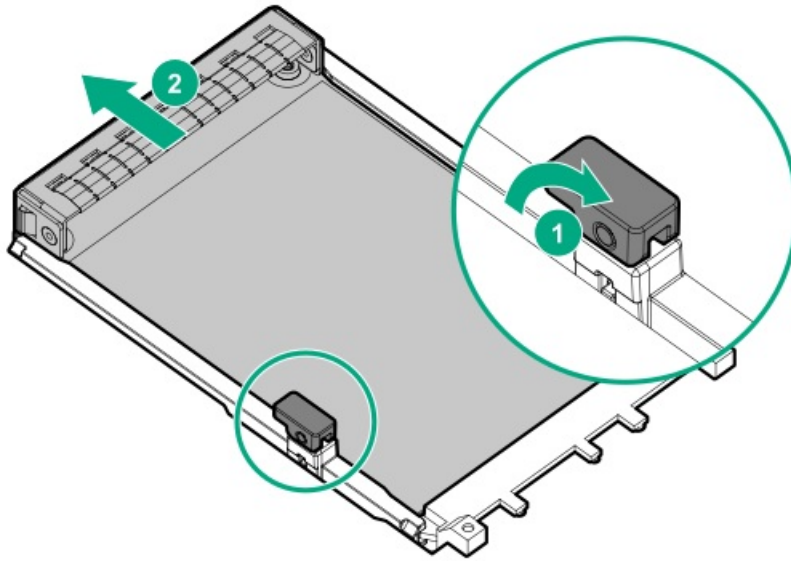
## Procedure

1. Power down the server.
2. If installed, open the cable management arm.



3. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
4. Disconnect all peripheral cables from the server.
5. Remove the server from the rack.

6. Place the server on a flat, level work surface.
7. Remove the access panel.
8. If the server is in the rear 4 LFF drive configuration, remove the rear 4 LFF drive cage.
9. Do one of the following:
  - a. If replacing the adapter on Slot 21, remove the primary riser cage.
  - b. If replacing the adapter on Slot 22, remove the secondary riser cage.
10. Remove the OCP NIC 3.0 adapter:
  - a. Rotate the locking pin to the open (vertical) position (callout 1).
  - b. Slide the adapter out of the bay (callout 2).



#### Results

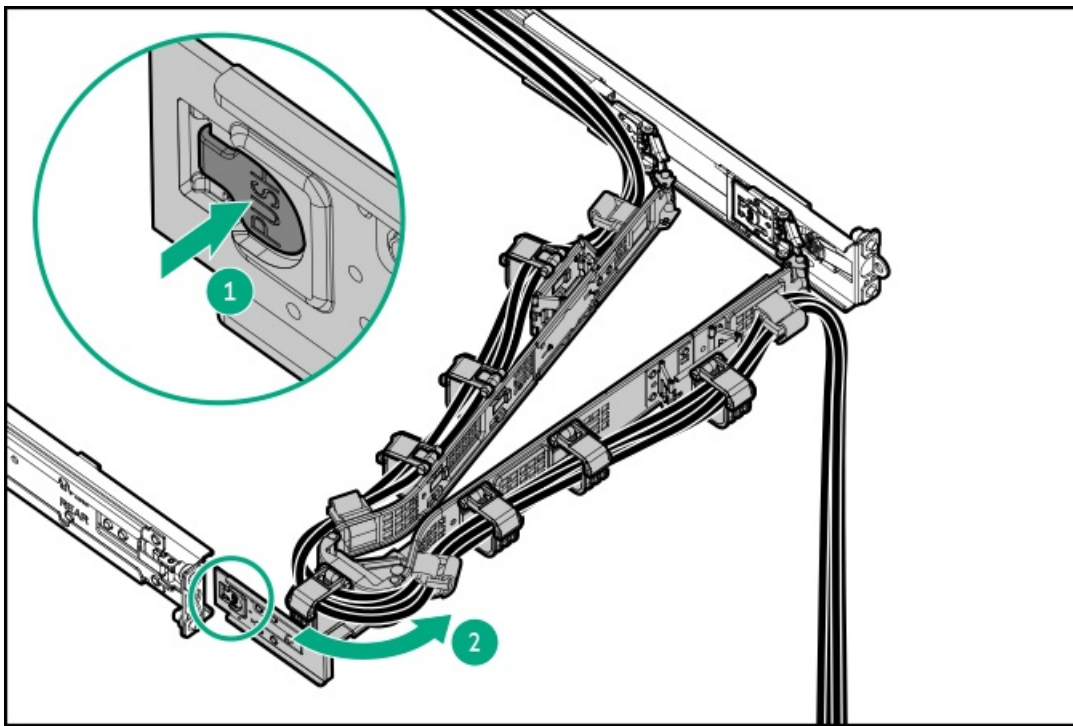
To replace the component, reverse the removal procedure.

## Removing and replacing the chassis intrusion detection switch

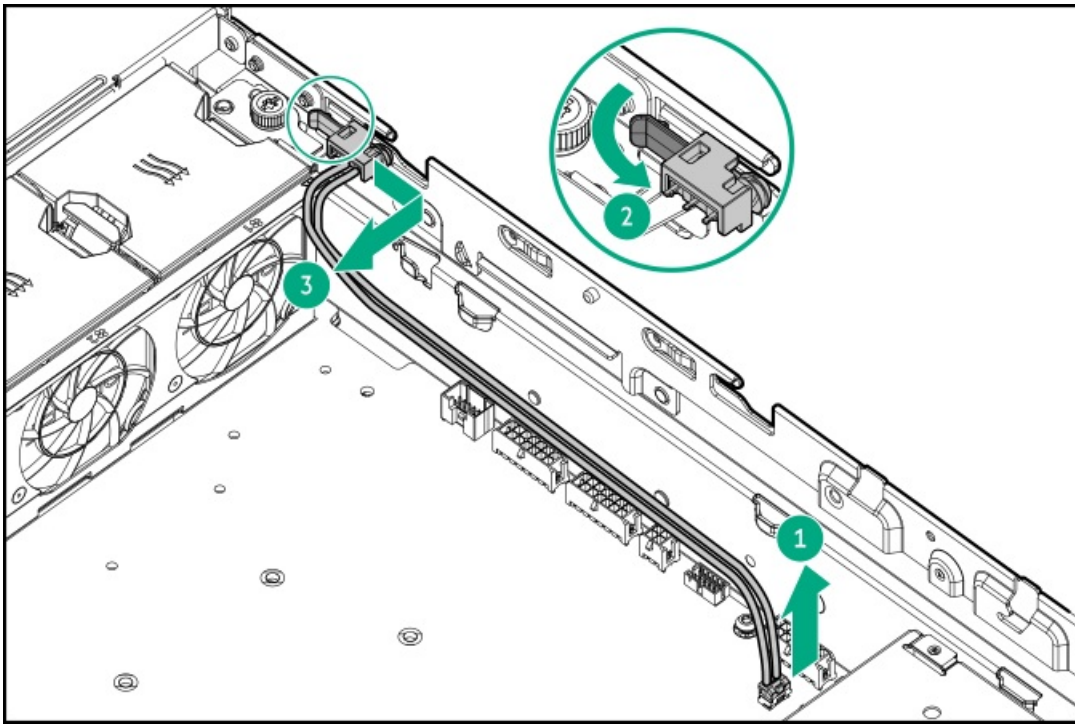
#### Procedure

1. Power down the server.
2. If installed, open the cable management arm.





3. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
4. Disconnect all peripheral cables from the server.
5. Remove the server from the rack.
6. Place the server on a flat, level work surface.
7. Remove the access panel.
8. Do one of the following:
  - a. Remove the air baffle.
  - b. Remove the midplane drive cage.
9. Remove the chassis intrusion detection switch:
  - a. Disconnect the switch cable and release it from the cable clamp (callout 1).
  - b. While carefully retracting the snap-in latch (callout 2), pull out the tab from the chassis slot (callout 3).



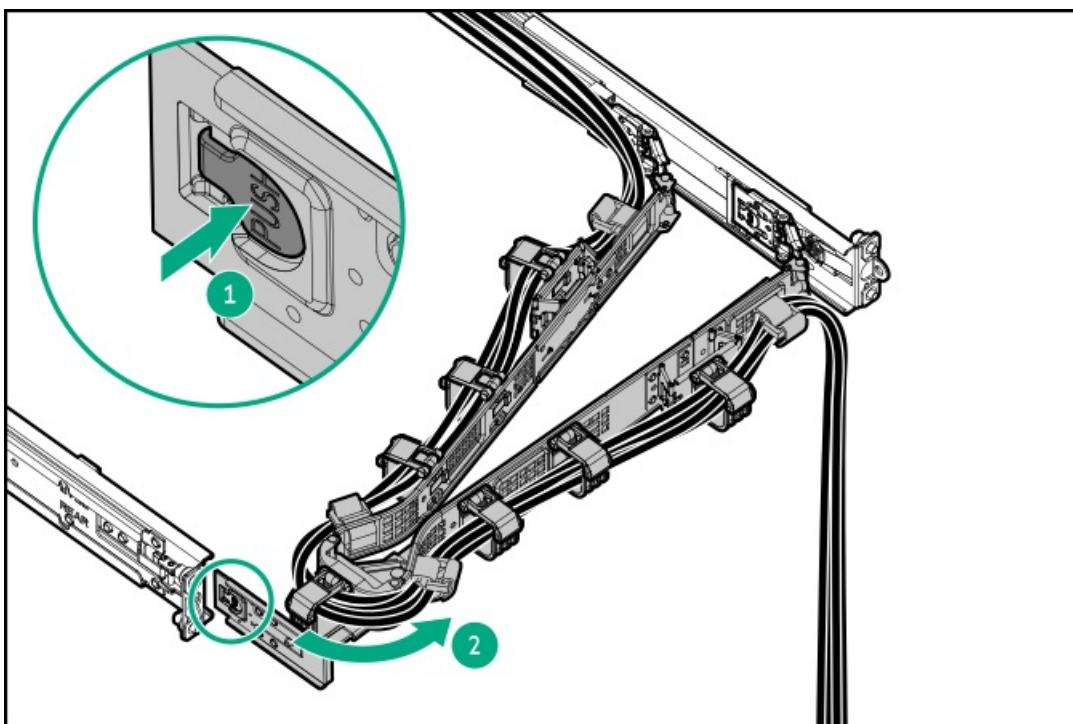
### Results

To replace the component, reverse the removal procedure.

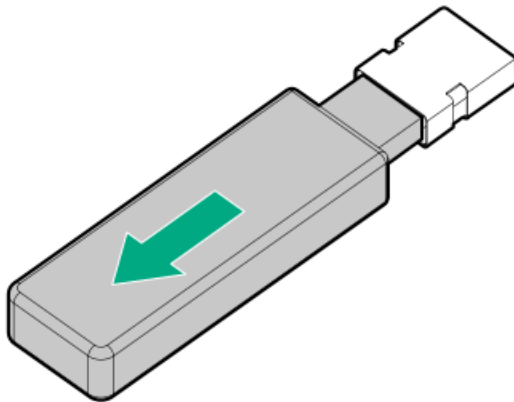
## Removing and replacing the internal USB device

### Procedure

1. Power down the server.
2. If installed, open the cable management arm.



3. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
4. Disconnect all peripheral cables from the server.
5. Remove the server from the rack.
6. Place the server on a flat, level work surface.
7. Remove the access panel.
8. If the server is in the rear 4 LFF drive configuration, remove the rear 4 LFF drive cage.
9. Remove the primary riser cage.
10. Unplug the USB device from the USB port.



#### Results

To replace the component, reverse the removal procedure.

## HPE NS204i Boot Device replacement

### Subtopics

[Removing and replacing the boot device cage assembly from NS204i-u + low-profile riser cage](#)

[Removing and replacing the boot device cage assembly on top of the power supply cage](#)

[Removing and replacing the boot device cage assembly from the secondary three-slot riser cage](#)

[Removing and replacing a boot device carrier with a security cover installed](#)

[Removing and replacing a boot device carrier without a security cover installed](#)

[Removing and replacing a boot device drive with a security cover installed](#)

[Removing and replacing a boot device drive without a security cover installed](#)

## Removing and replacing the boot device cage assembly from NS204i-u + low-profile riser cage

## Prerequisites

Before you perform this procedure, make sure that you have a T-10 Torx screwdriver available.

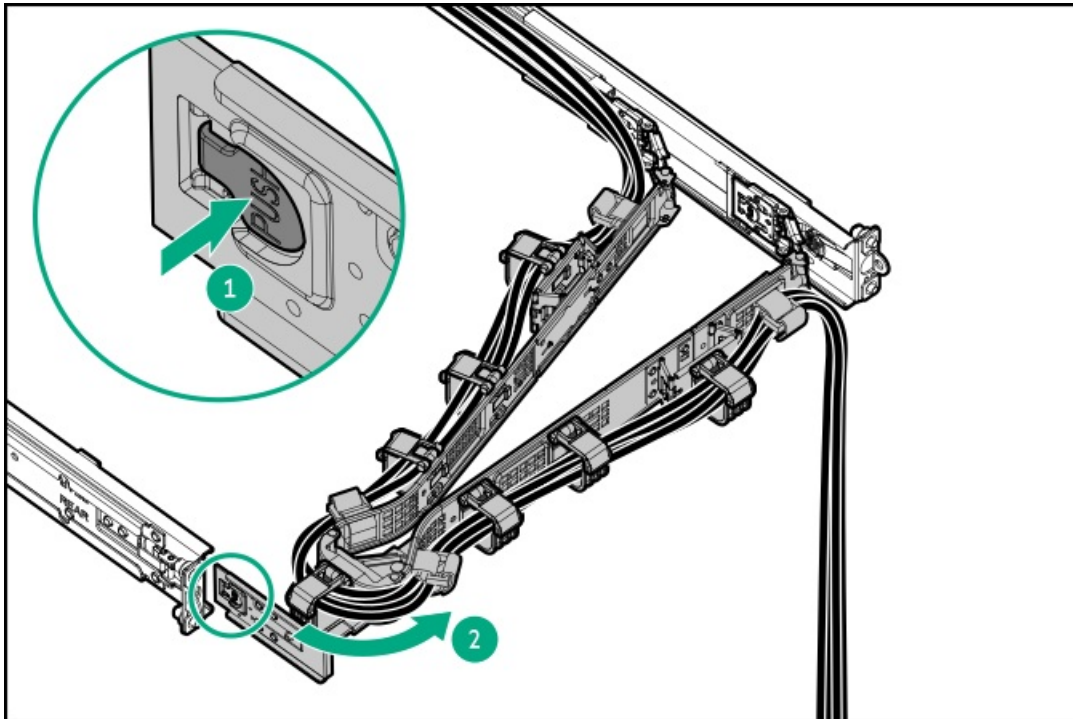
## About this task

### CAUTION:

A discharge of static electricity from a finger or other conductor might damage system boards or other static-sensitive devices. To prevent damage, observe antistatic precautions.

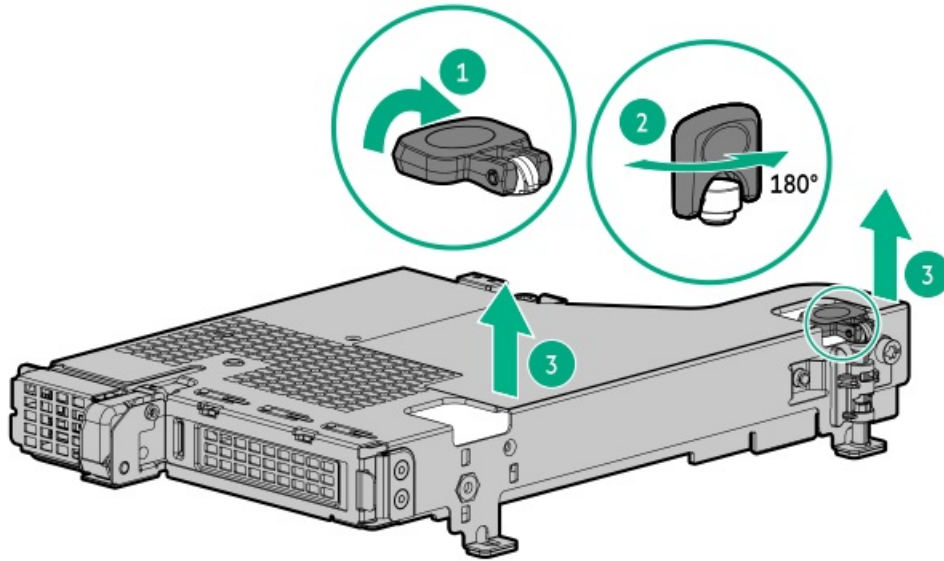
## Procedure

1. Power down the server.
2. If installed, open the cable management arm.



3. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
4. Disconnect all peripheral cables from the server.
5. Remove the server from the rack.
6. Place the server on a flat, level work surface.
7. Remove the access panel.
8. Do one of the following:
  - a. Remove the air baffle.
  - b. Remove the midplane drive cage.
9. Remove the rear 4 LFF drive cage.
10. Disconnect the boot device signal and power cables from the system board.
11. Remove the NS204i-u + secondary low-profile riser cage:

- a. Release the half-turn spring latch (callouts 1 and 2).
- b. Lift the riser cage off the system board (callout 3).



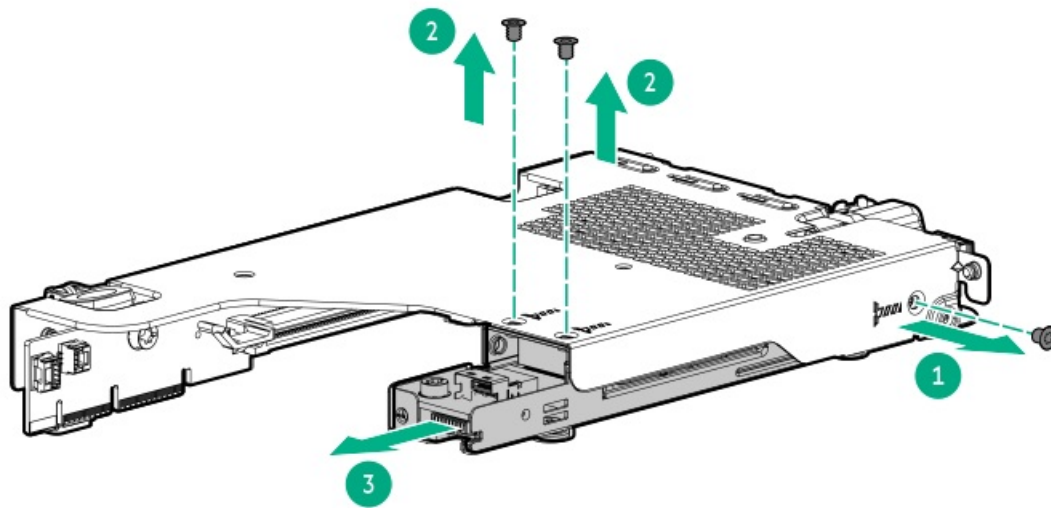
12. Disconnect the signal and power cables from the boot device.

13. Remove the boot device cage assembly:

- a. Remove screws from the riser cage (callouts 1 and 2).

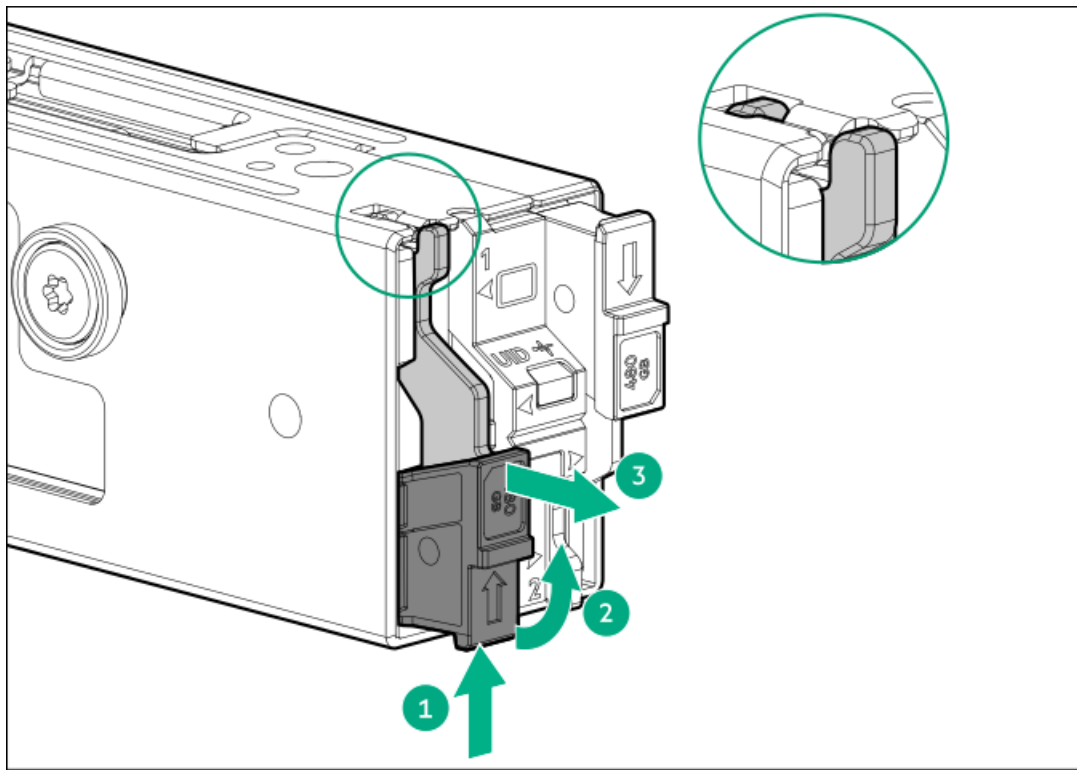
Retain the screws. These screws will be used to secure the new boot device cage assembly.

- b. Pull the cage assembly from the slot (callout 3).



14. Remove the boot device carrier:

- a. Press and hold the carrier latch (callout 1).
- b. Pivot the latch to open (callouts 2).
- c. Slide the carrier out from the boot device cage (callout 3).



#### Results

To replace the component, reverse the removal procedure.

## Removing and replacing the boot device cage assembly on top of the power supply cage

#### Prerequisites

Before you perform this procedure, make sure that you have the following items available:

- T-15 Torx screwdriver
- T-10 Torx screwdriver
- Phillips No. 1 screwdriver

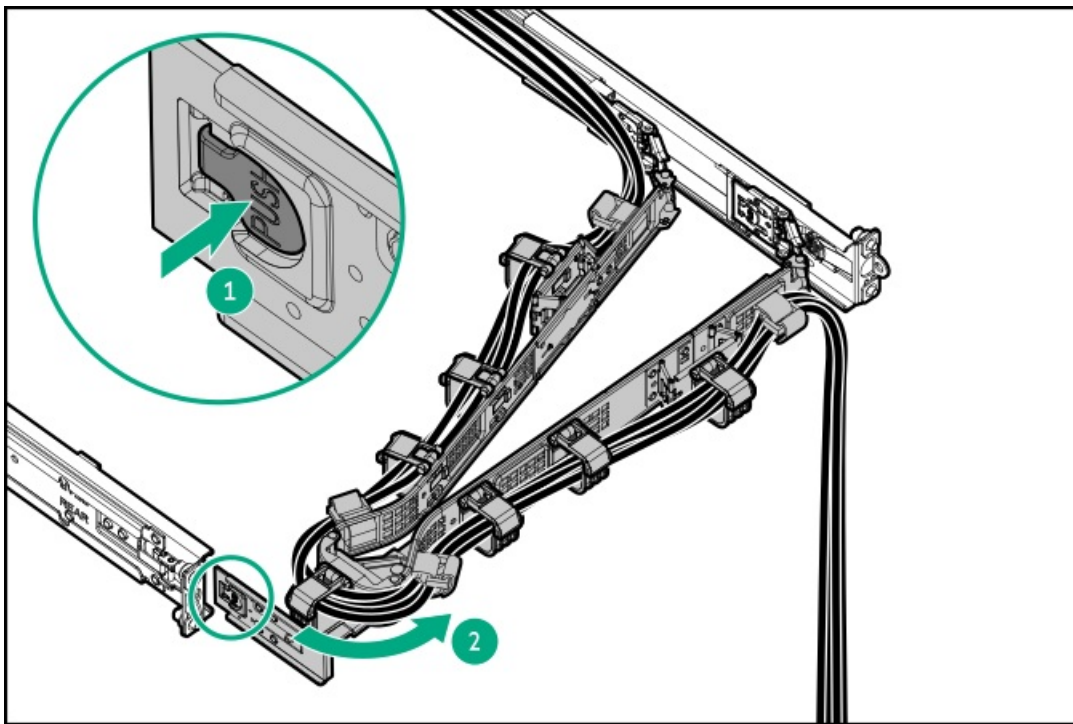
#### About this task

##### CAUTION:

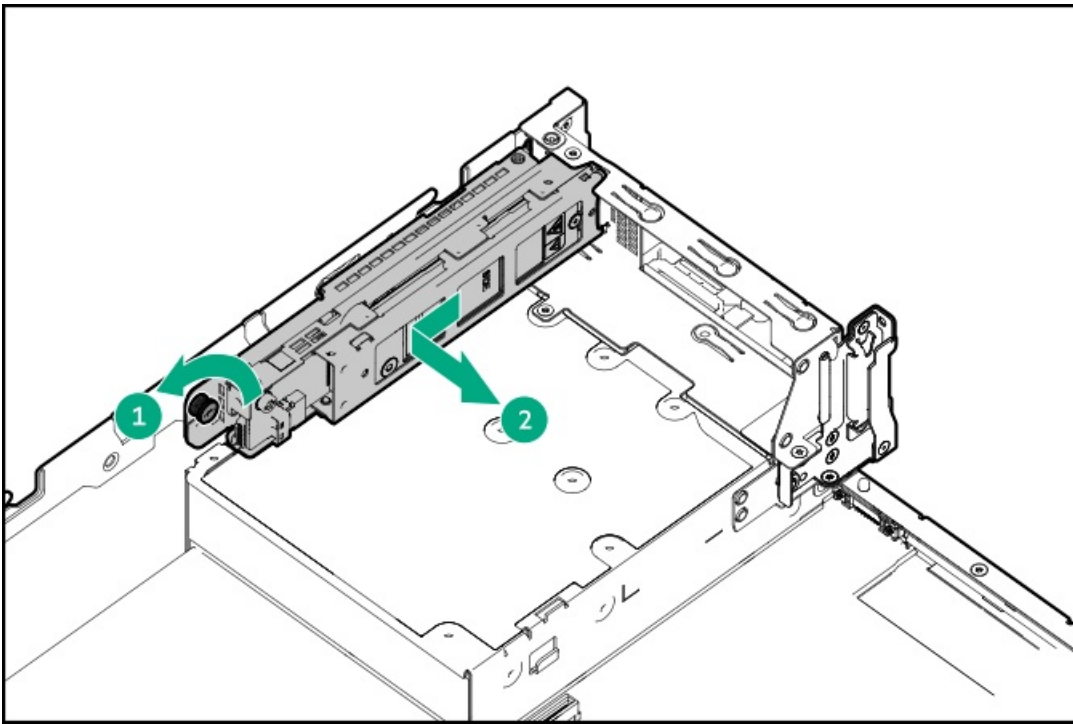
A discharge of static electricity from a finger or other conductor might damage system boards or other static-sensitive devices. To prevent damage, observe antistatic precautions.

#### Procedure

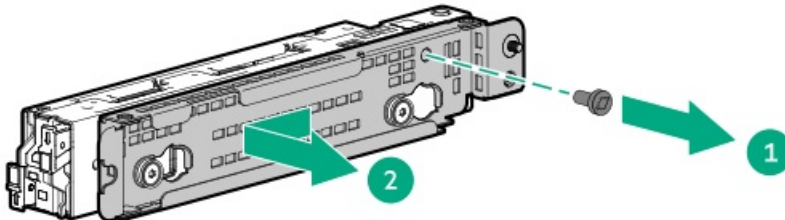
1. Power down the server.
2. If installed, open the cable management arm.



3. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
4. Disconnect all peripheral cables from the server.
5. Remove the server from the rack.
6. Place the server on a flat, level work surface.
7. Remove the access panel.
8. Do one of the following:
  - a. Remove the air baffle.
  - b. Remove the midplane drive cage.
9. Disconnect the boot device signal and power cables from the system board.
10. Remove the boot device from the top of the power supply cage:
  - a. Loosen the bracket thumbscrew (callout 1).
  - b. Remove the boot device from the chassis side wall (callout 2).

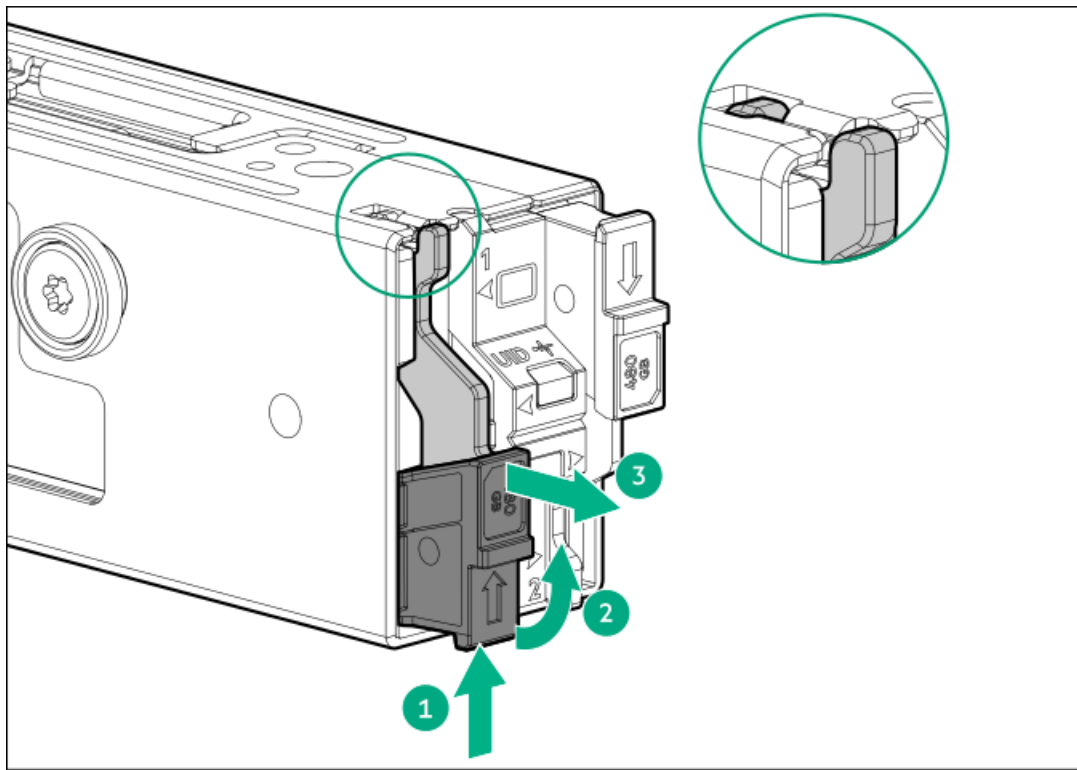


11. Disconnect the signal and power cables from the boot device.
12. Remove the boot device bracket:
  - a. Remove the bracket screw (callout 1).
  - b. Remove the bracket from the boot device (callout 2).



13. Remove the boot device carrier:
  - a. Press and hold the carrier latch (callout 1).
  - b. Pivot the latch to open (callouts 2).
  - c. Slide the carrier out from the boot device cage (callout 3).





#### Results

To replace the component, reverse the removal procedure.

## Removing and replacing the boot device cage assembly from the secondary three-slot riser cage

#### Prerequisites

Before you perform this procedure, make sure that you have a T-10 Torx screwdriver available.

#### About this task

---

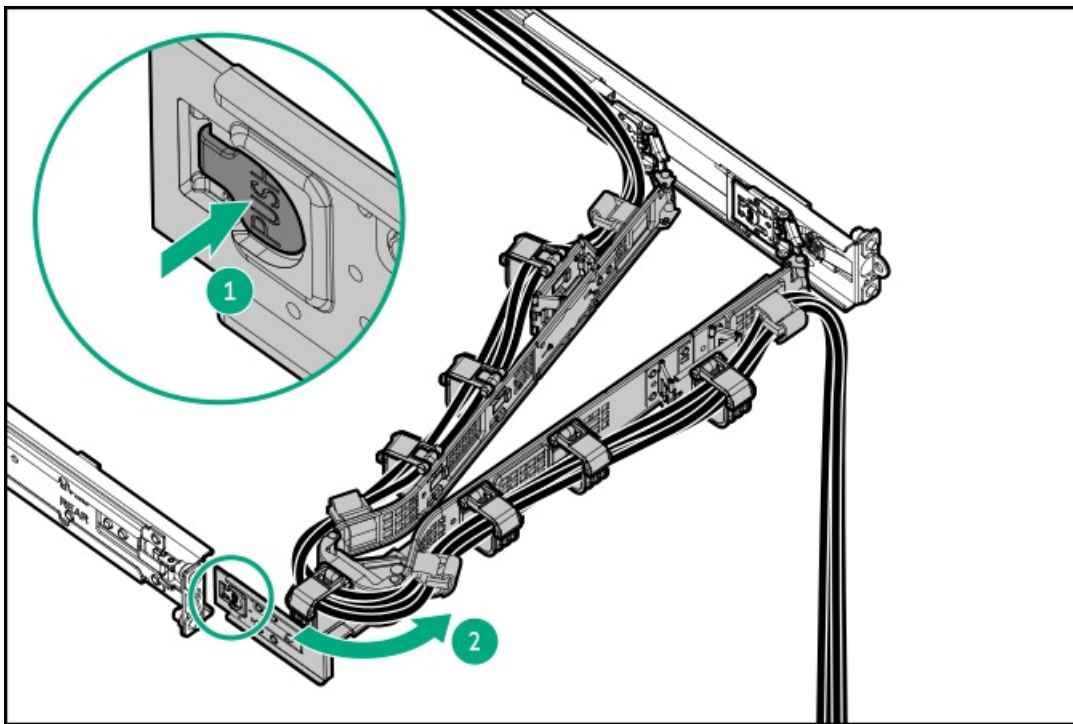
#### CAUTION:

A discharge of static electricity from a finger or other conductor might damage system boards or other static-sensitive devices. To prevent damage, observe [antistatic precautions](#).

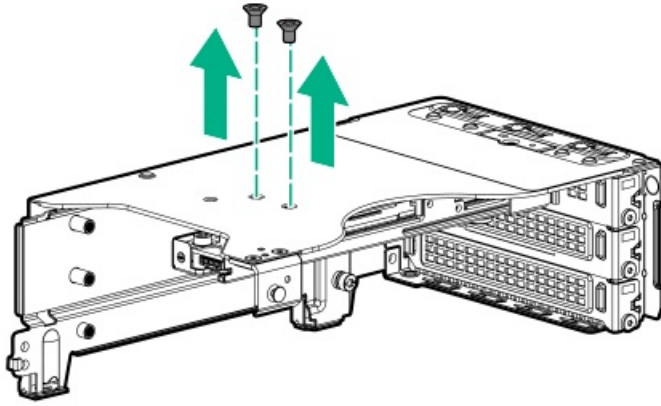
---

#### Procedure

1. [Power down the server](#).
2. If installed, open the cable management arm.

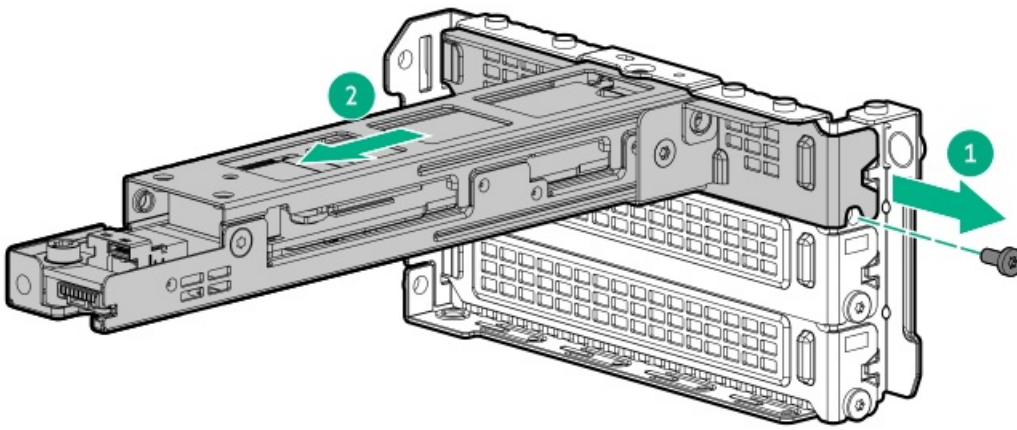


3. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
4. Disconnect all peripheral cables from the server.
5. Remove the server from the rack.
6. Place the server on a flat, level work surface.
7. Remove the access panel.
8. Do one of the following:
  - a. Remove the air baffle.
  - b. Remove the midplane drive cage.
9. Disconnect the boot device signal and power cables from the system board.
10. Remove the secondary three-slot riser cage.
11. Disconnect the signal and power cables from the boot device.
12. Remove the boot device screws from the riser cage.

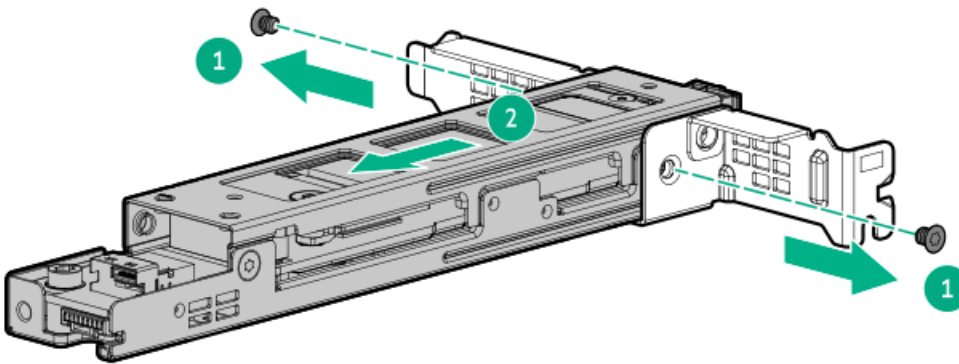


13. Remove the boot device:

- a. Remove the screws from the boot device bracket (callout 1).
- b. Remove the boot device assembly from the riser cage slot (callout 2).



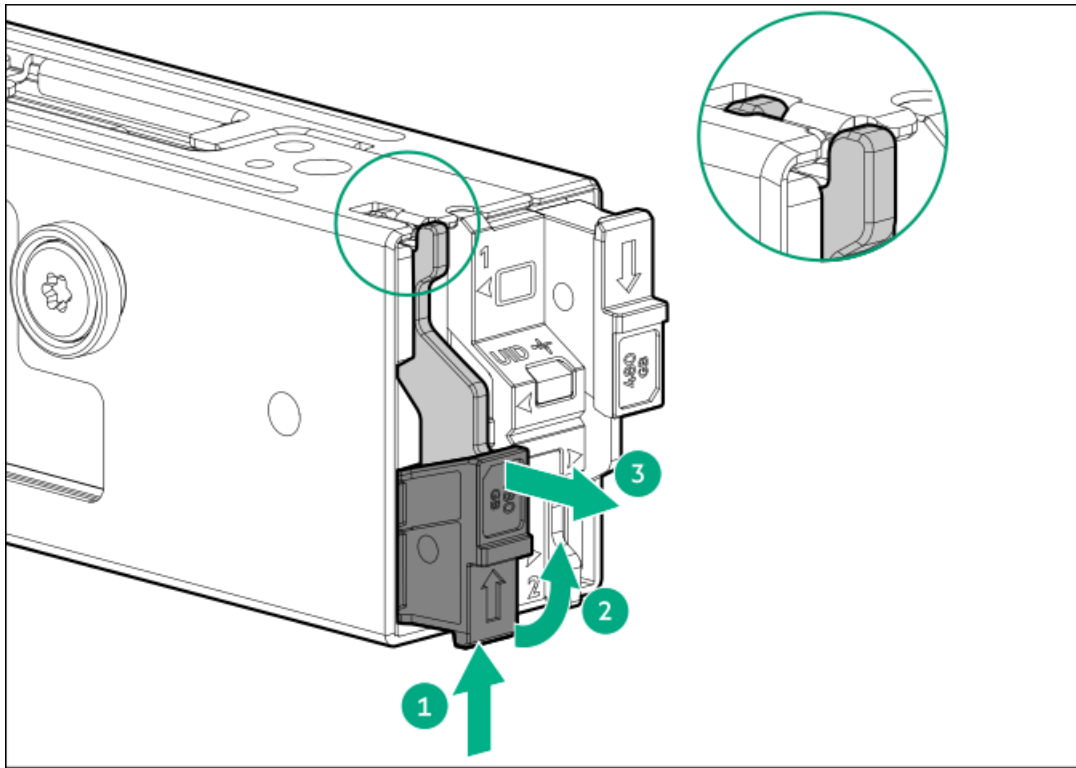
14. Remove the boot device from the boot device bracket.



15. Remove the boot device carrier:

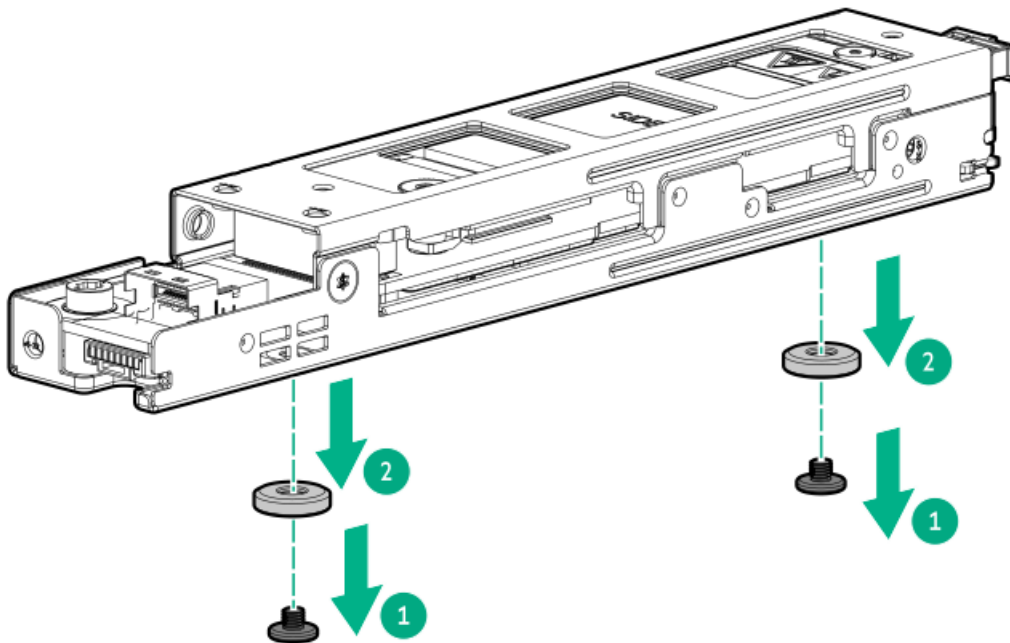
- a. Press and hold the carrier latch (callout 1).
- b. Pivot the latch to open (callouts 2).
- c. Slide the carrier out from the boot device cage (callout 3).





16. Before replacing the boot device: remove the boot device screws from the new boot device.

- a. Remove the boot device screws.
- b. Remove the boot device spools.



#### Results

To replace the component, reverse the removal procedure.

## Removing and replacing a boot device carrier with a security cover installed

## Prerequisites

Before you perform this procedure, make sure that you have the following items available:

- Phillips No. 1 screwdriver
- T-10 Torx screwdriver

## About this task

---

**CAUTION:** To prevent improper cooling and thermal damage, do not operate the server unless all bays are populated with either a component or a blank.

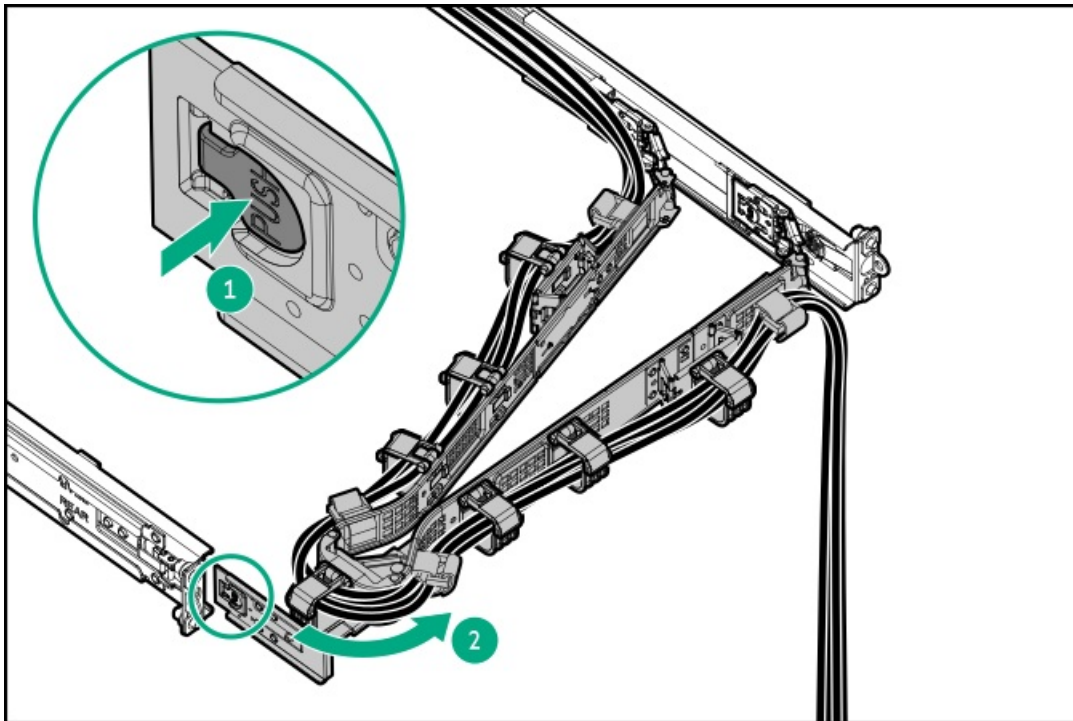
---

**CAUTION:**  
A discharge of static electricity from a finger or other conductor might damage system boards or other static-sensitive devices. To prevent damage, observe [antistatic precautions](#).

---

## Procedure

1. Back up all server data.
2. [Power down the server](#).
3. If installed, open the cable management arm.

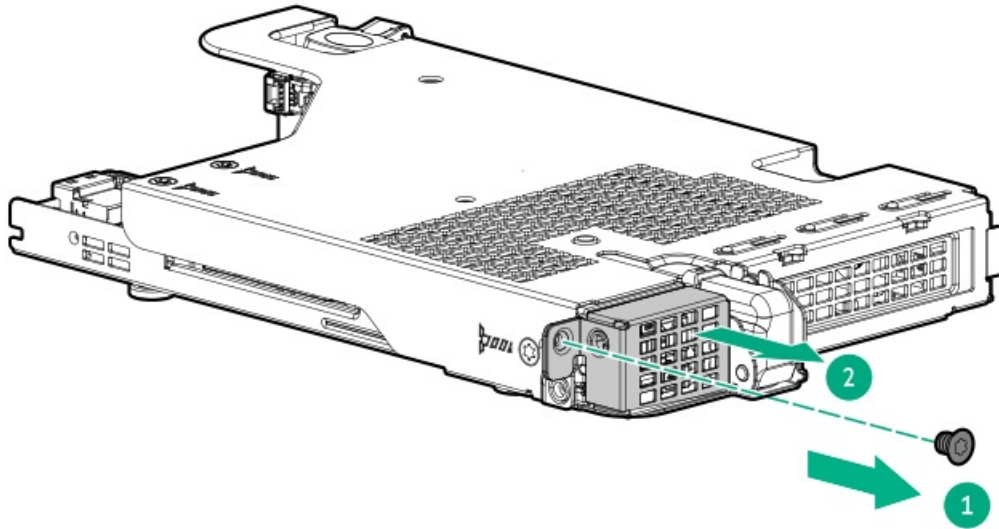


4. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
5. Disconnect all peripheral cables from the server.
6. [Remove the server from the rack](#).
7. Place the server on a flat, level work surface.
8. [Remove the access panel](#).
9. If replacing the boot device carrier on the NS204i-u + secondary low-profile riser cage:

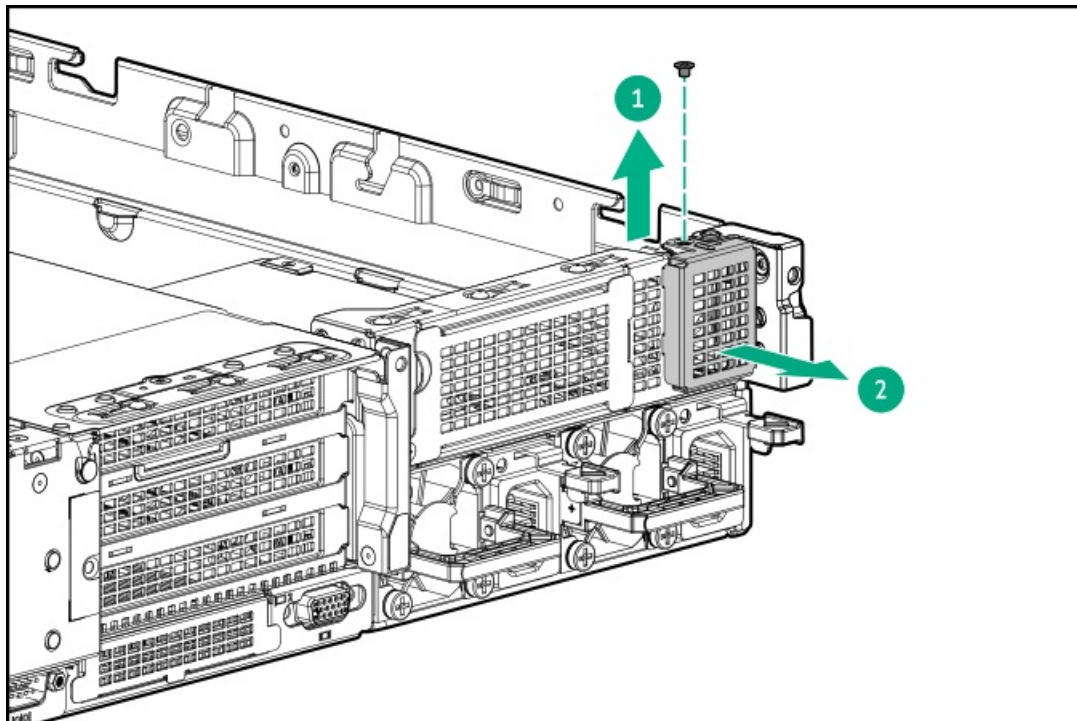
- a. Do one of the following:
  - Remove the air baffle.
  - Remove the midplane drive cage.
- b. Remove the rear 4 LFF drive cage.
- c. Remove the NS204i-u + secondary low-profile riser cage.

10. Remove the boot device security cover:

- On the boot device riser cage



- On top of the power supply cage

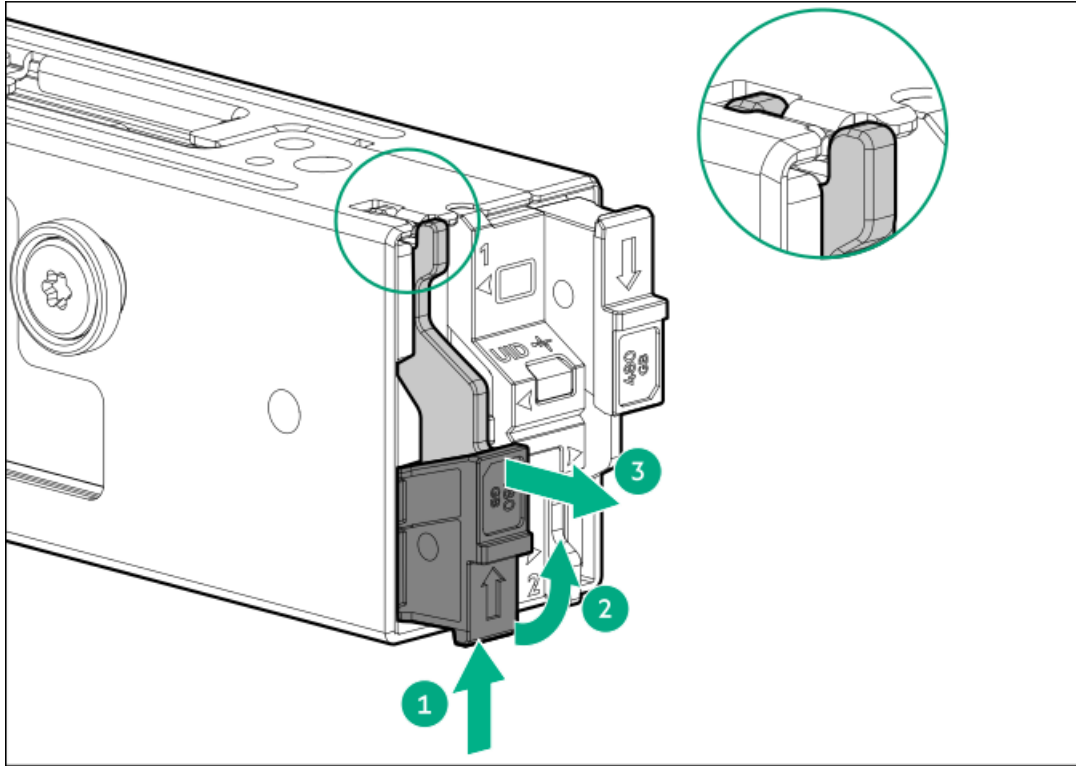


11. Remove the boot device carrier:

- a. Press and hold the carrier latch (callout 1).
- b. Pivot the latch to open (callouts 2).



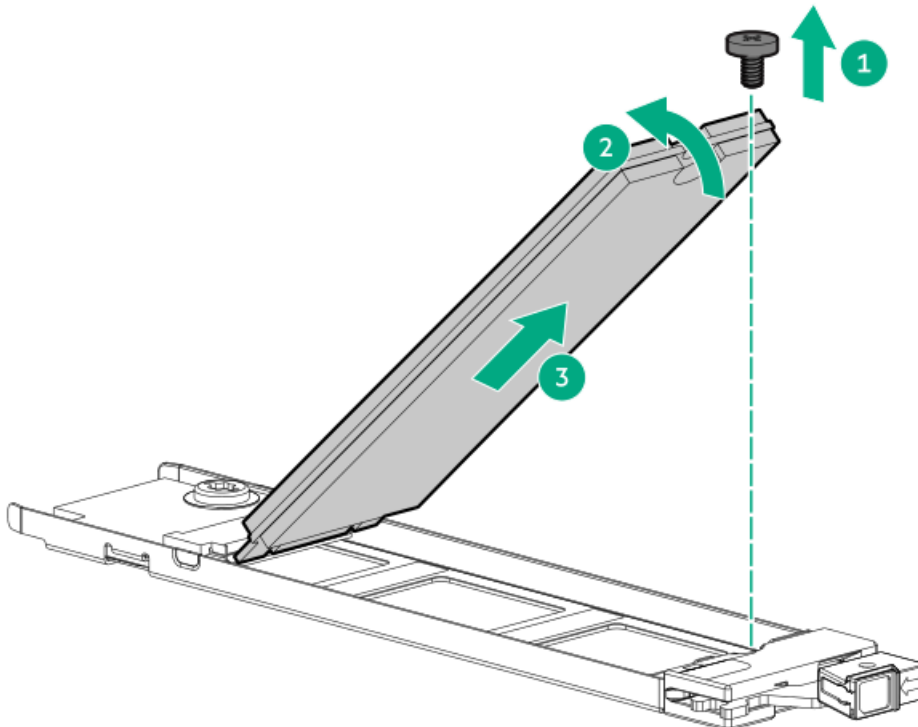
- c. Slide the carrier out from the boot device cage (callout 3).



12. Remove the SSDs from the boot device carrier:

- a. Remove the SSD mounting screw (callout 1).
- b. Tilt the SSD with the M.2 slot at a 45° angle (callout 2).
- c. Carefully remove the SSD from the M.2 slot (callout 3).

Retain these SSDs for installation onto the new boot device carrier.



**Results**

To replace the component, reverse the removal procedure.

# Removing and replacing a boot device carrier without a security cover installed

## Prerequisites

Before you perform this procedure, make sure that you have a Phillips No. 1 screwdriver available.

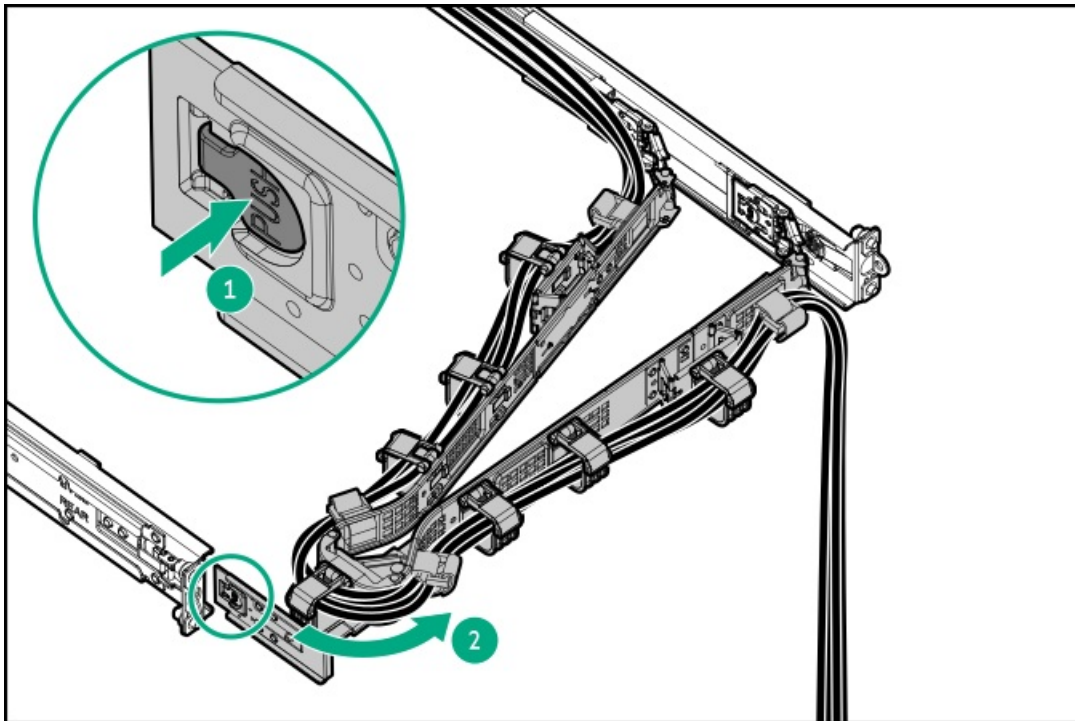
## About this task

**CAUTION:** To prevent improper cooling and thermal damage, do not operate the server unless all bays are populated with either a component or a blank.

**CAUTION:**  
A discharge of static electricity from a finger or other conductor might damage system boards or other static-sensitive devices. To prevent damage, observe antistatic precautions.

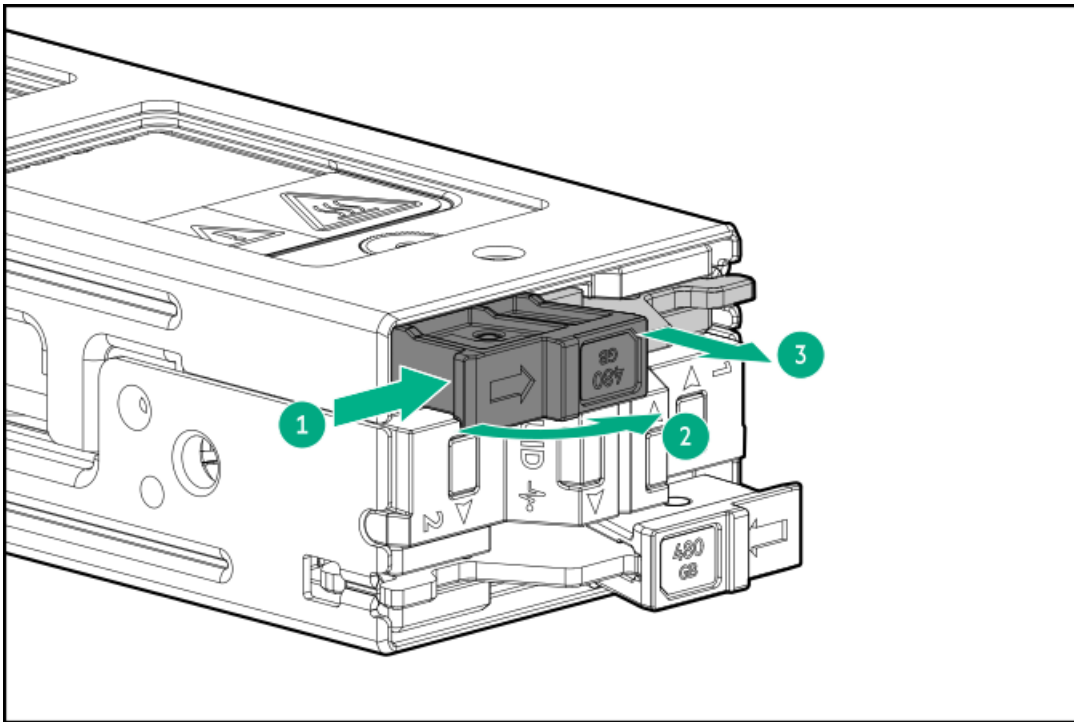
## Procedure

1. Back up all server data.
2. If installed, open the cable management arm.

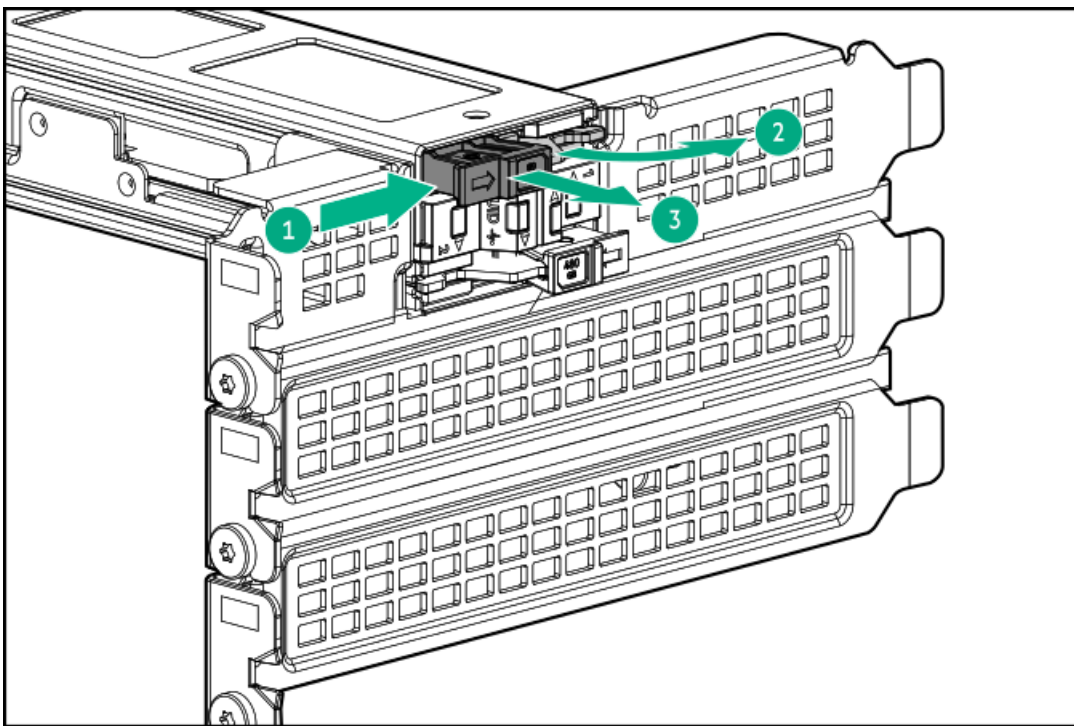


3. Remove the boot device carrier:
  - a. Press and hold the carrier latch (callout 1).
  - b. Pivot the latch to open (callout 2).
  - c. Slide the carrier out from the boot device cage (callout 3).
    - Boot device on the NS204i-u + secondary low-profile riser cage

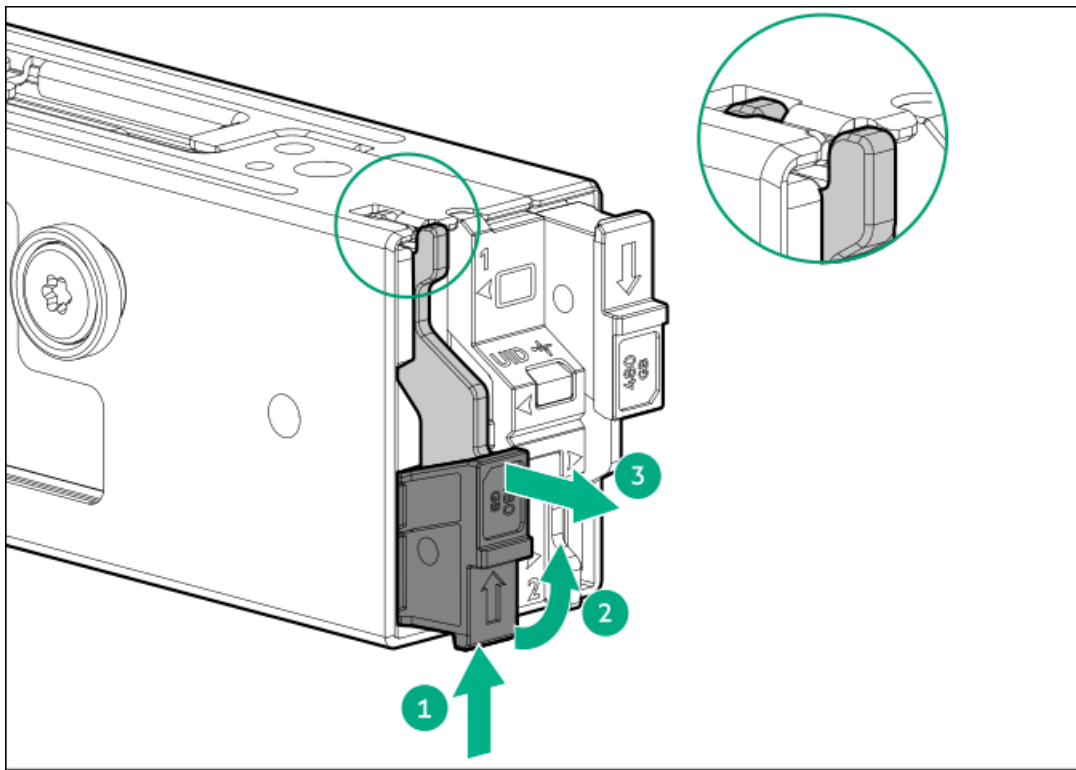




- Boot device on the secondary three-slot riser cage



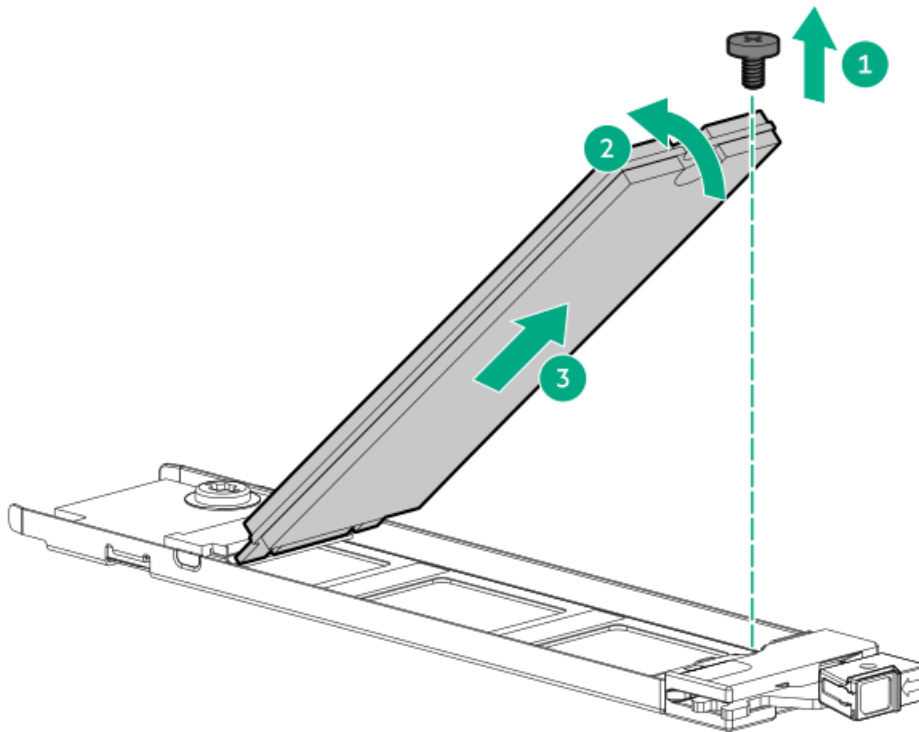
- Boot device on top of the power supply cage



4. Remove the SSDs from the boot device carrier:

- a. Remove the SSD mounting screw (callout 1).
- b. Tilt the SSD with the M.2 slot at a 45° angle (callout 2).
- c. Carefully remove the SSD from the M.2 slot (callout 3).

Retain these SSDs for installation onto the new boot device carrier.



**Results**

To replace the component, reverse the removal procedure.

# Removing and replacing a boot device drive with a security cover installed

## Prerequisites

Before you perform this procedure, make sure that you have the following items available:

- Phillips No. 1 screwdriver
- T-10 Torx screwdriver

## About this task

---

**CAUTION:** To prevent improper cooling and thermal damage, do not operate the server unless all bays are populated with either a component or a blank.

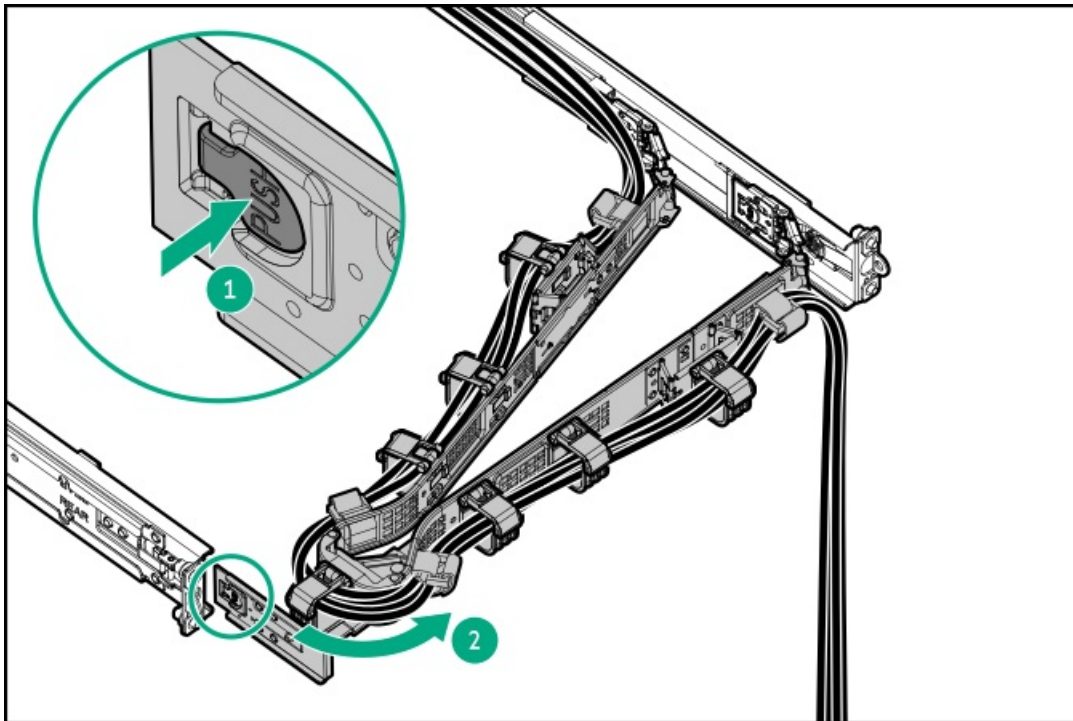
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**CAUTION:**  
A discharge of static electricity from a finger or other conductor might damage system boards or other static-sensitive devices. To prevent damage, observe [antistatic precautions](#).

---

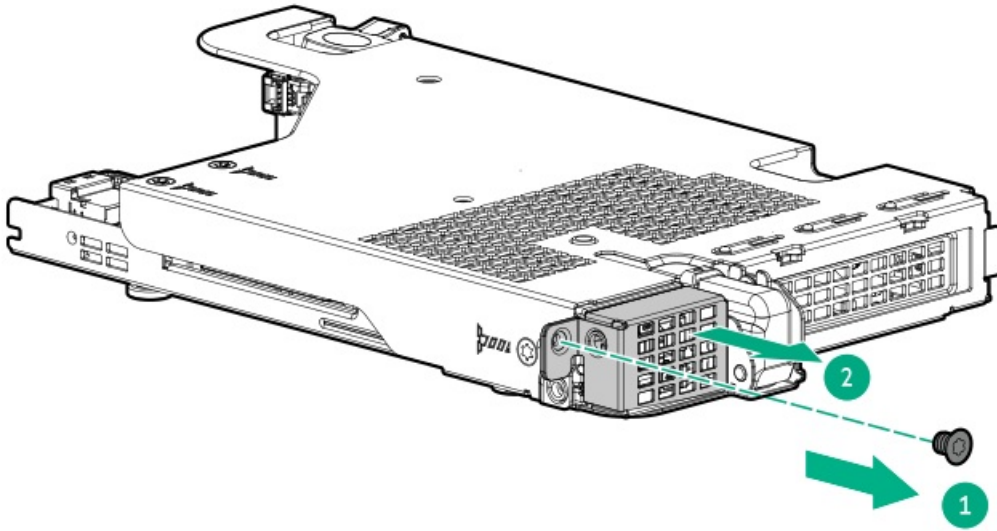
## Procedure

1. Back up all server data.
2. [Power down the server](#).
3. If installed, open the cable management arm.

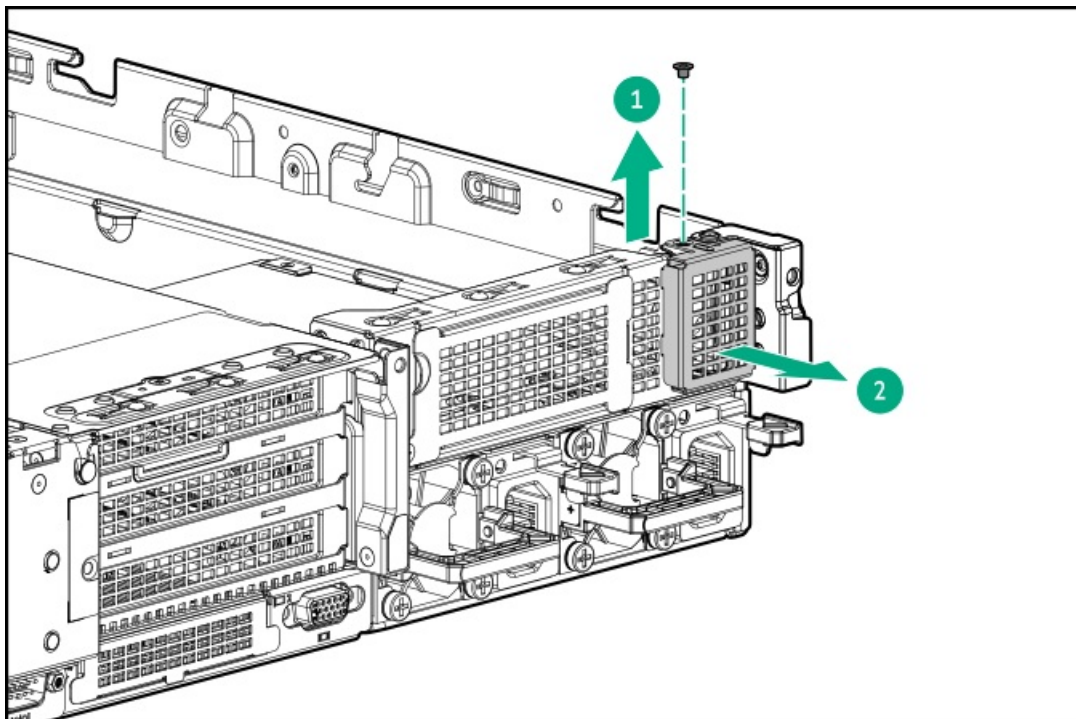


4. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
5. Disconnect all peripheral cables from the server.
6. [Remove the server from the rack](#).

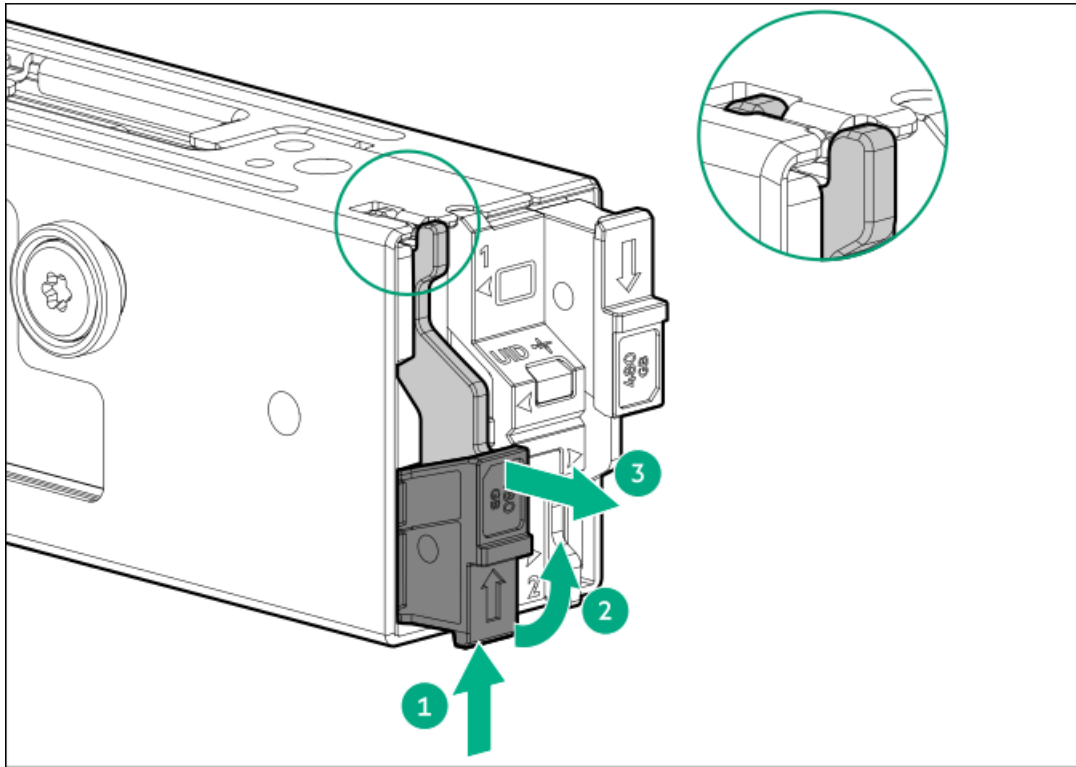
7. Place the server on a flat, level work surface.
8. Remove the access panel.
9. If replacing the boot device driver on the NS204i-u + secondary low-profile riser cage:
  - a. Do one of the following:
    - Remove the air baffle.
    - Remove the midplane drive cage.
  - b. Remove the rear 4 LFF drive cage.
  - c. Remove the NS204i-u + secondary low-profile riser cage.
10. Remove the boot device security cover:
  - On the boot device riser cage



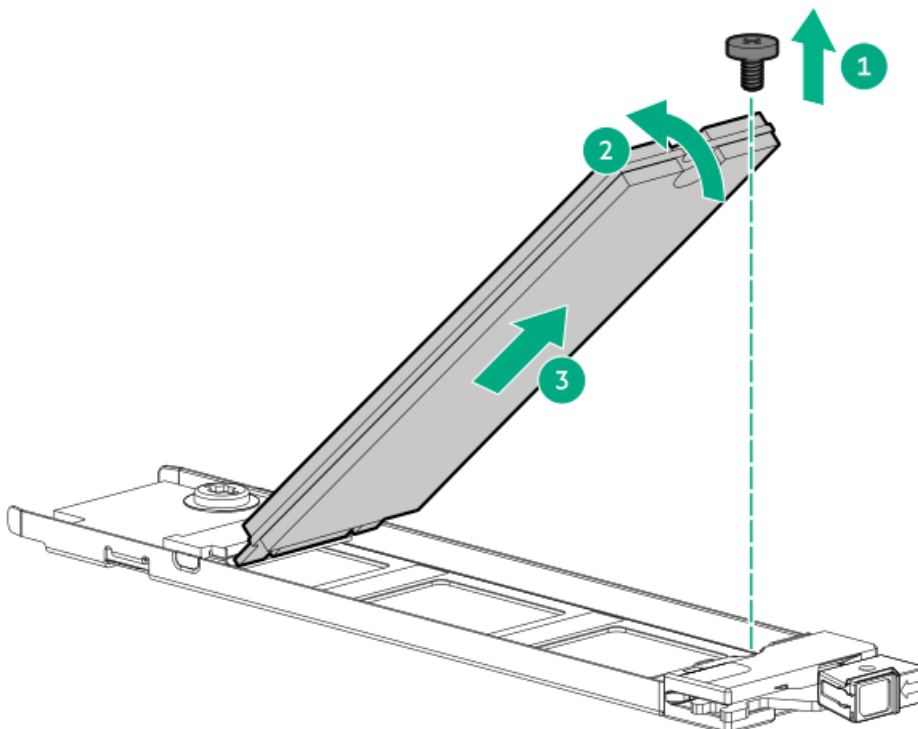
- On top of the power supply cage



11. Remove the boot device carrier:
  - a. Press and hold the carrier latch (callout 1).
  - b. Pivot the latch to open (callouts 2).
  - c. Slide the carrier out from the boot device cage (callout 3).



12. Remove the SSD from the boot device carrier:
  - a. Remove the SSD mounting screw (callout 1).
  - b. Tilt the SSD with the M.2 slot at a 45° angle (callout 2).
  - c. Carefully remove the SSD from the M.2 slot (callout 3).



## Results

To replace the component, reverse the removal procedure.

# Removing and replacing a boot device drive without a security cover installed

## Prerequisites

Before you perform this procedure, make sure that you have a Phillips No. 1 screwdriver available.

## About this task

---

**CAUTION:** To prevent improper cooling and thermal damage, do not operate the server unless all bays are populated with either a component or a blank.

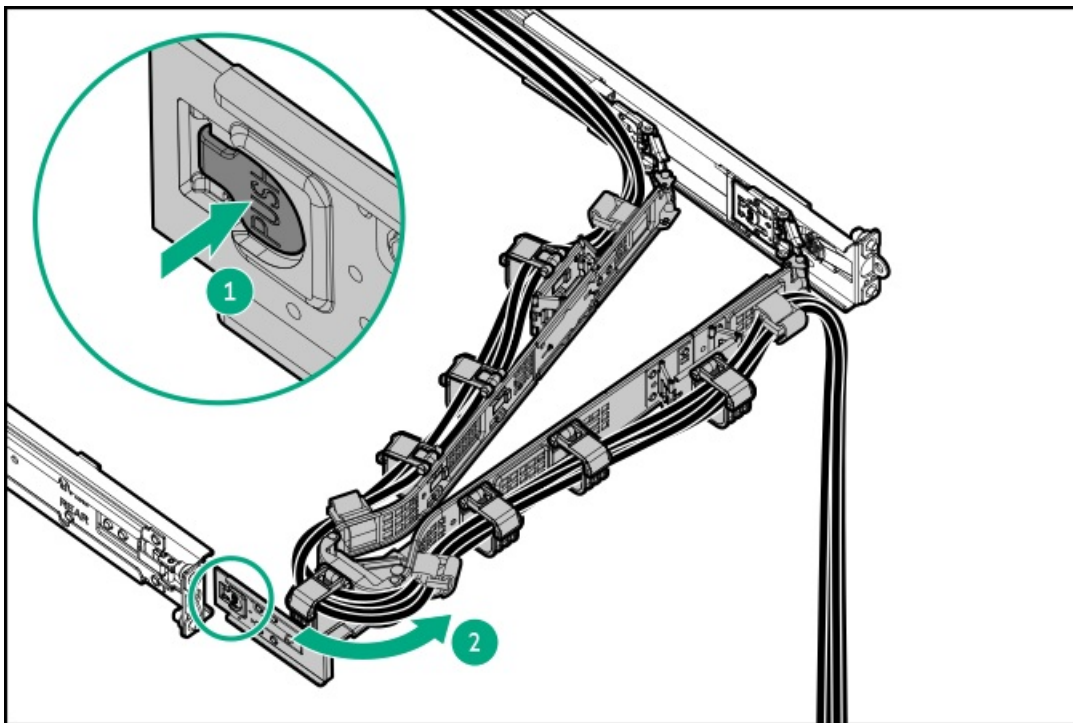
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**CAUTION:**  
A discharge of static electricity from a finger or other conductor might damage system boards or other static-sensitive devices. To prevent damage, observe [antistatic precautions](#).

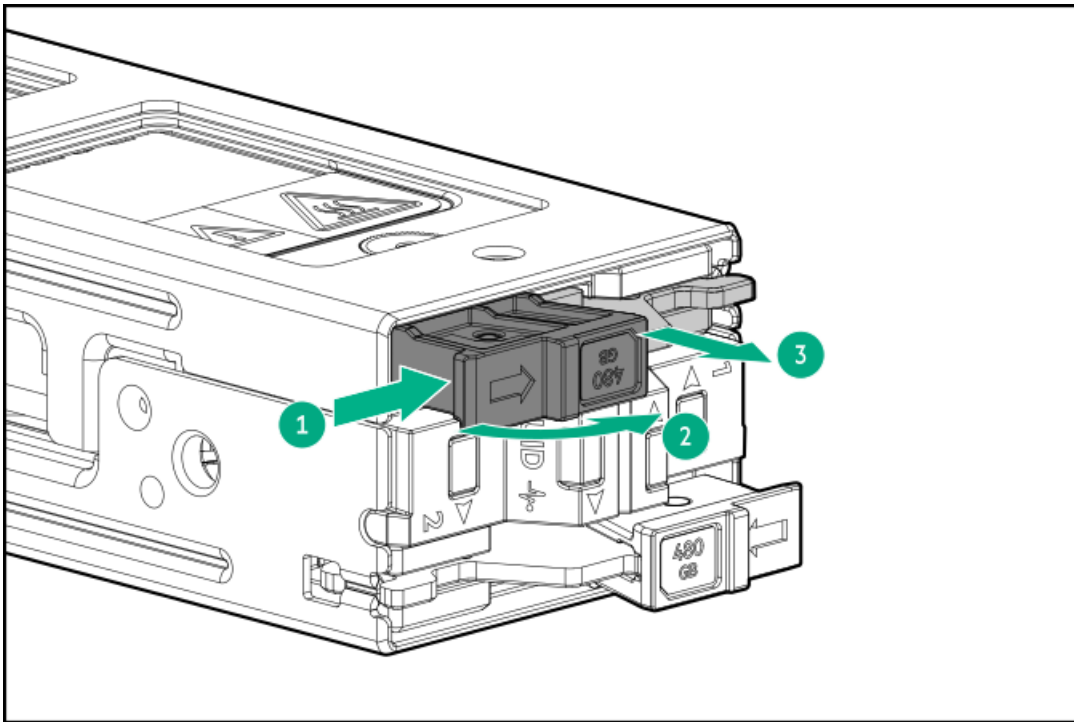
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## Procedure

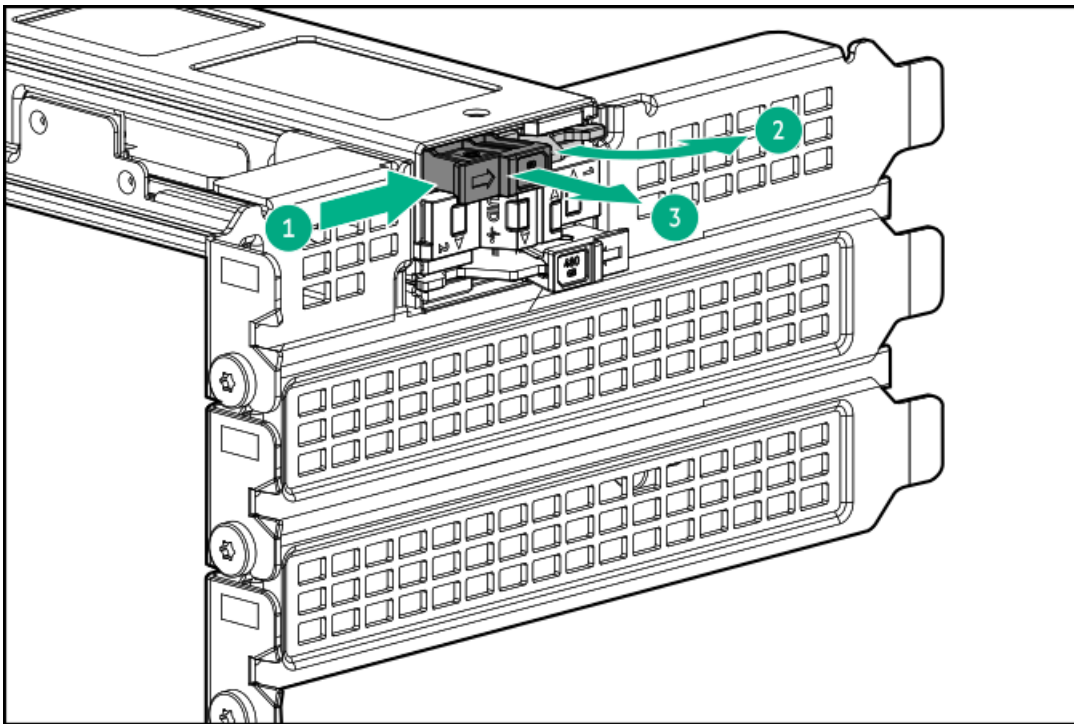
1. Back up all server data.
2. If installed, open the cable management arm.



3. Remove the boot device carrier:
  - a. Press and hold the carrier latch (callout 1).
  - b. Pivot the latch to open (callout 2).
  - c. Slide the carrier out from the boot device cage (callout 3).
    - Boot device on the NS204i-u + secondary low-profile riser cage

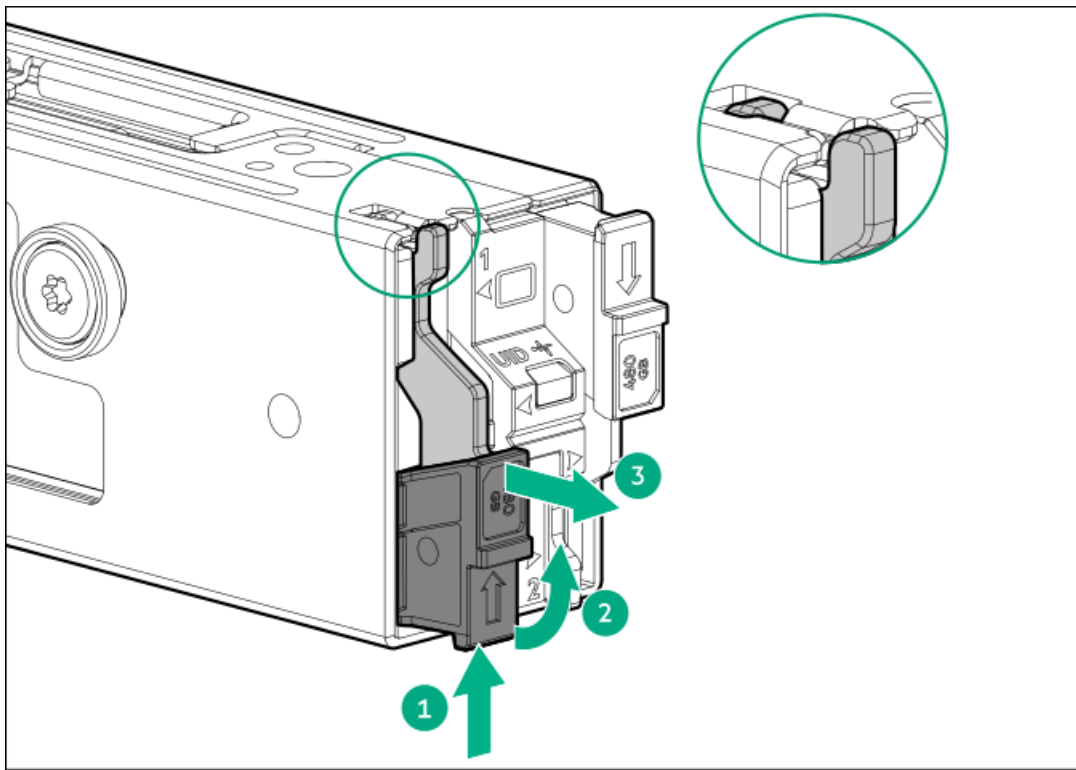


- Boot device on the secondary three-slot riser cage

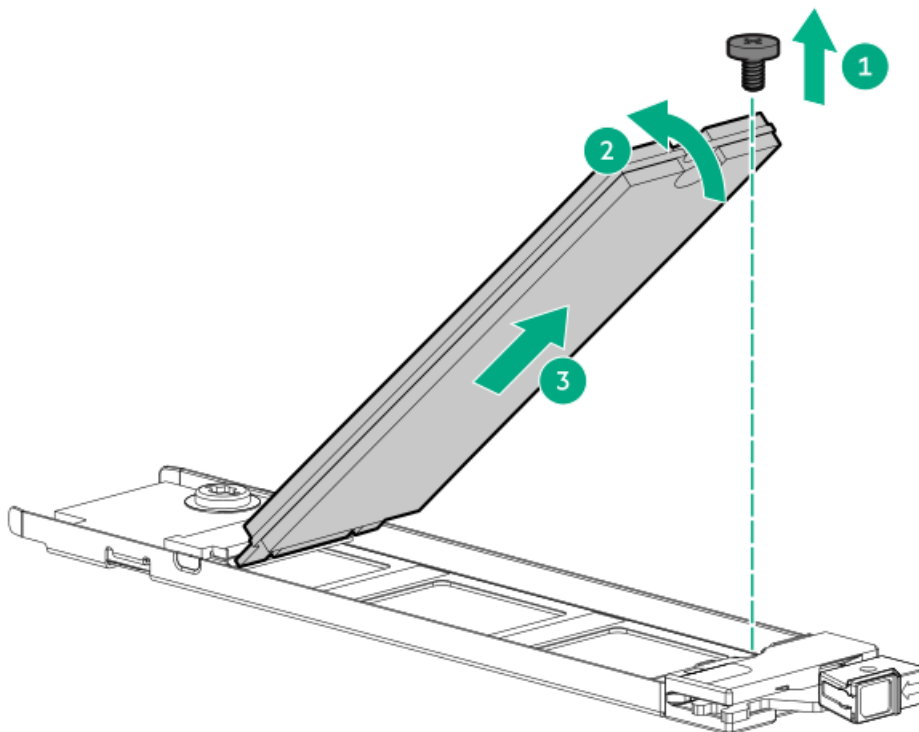


- Boot device on top of the power supply cage





4. Remove the SSD from the boot device carrier:
  - a. Remove the SSD mounting screw (callout 1).
  - b. Tilt the SSD with the M.2 slot at a 45° angle (callout 2).
  - c. Carefully remove the SSD from the M.2 slot (callout 3).



#### Results

To replace the component, reverse the removal procedure.



## System battery replacement

If the server no longer automatically displays the correct date and time, then replace the battery that provides power to the real-time clock. Under normal use, battery life is 5–10 years.

### Subtopics

[System battery information](#)

[Removing and replacing the system battery](#)

## System battery information

The server contains an internal lithium manganese dioxide, a vanadium pentoxide, or an alkaline battery that provides power to the real-time clock.



### **WARNING:**

If this battery is not properly handled, a risk of the fire and burns exists. To reduce the risk of personal injury:

- Do not attempt to recharge the battery.
  - Do not expose the battery to temperatures higher than 60°C (140°F).
  - Do not expose the battery to extremely low air pressure as it might lead to explosion or leakage of flammable liquid or gas.
  - Do not disassemble, crush, puncture, short external contacts, or dispose the battery in fire or water.
- 

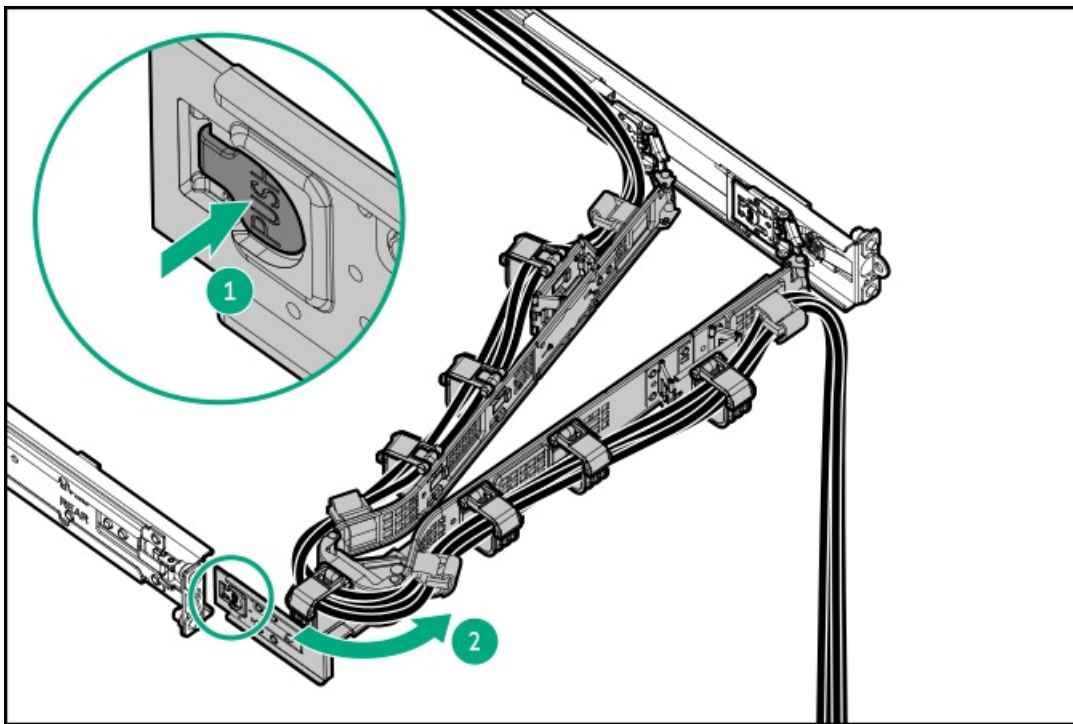
## Removing and replacing the system battery

### About this task

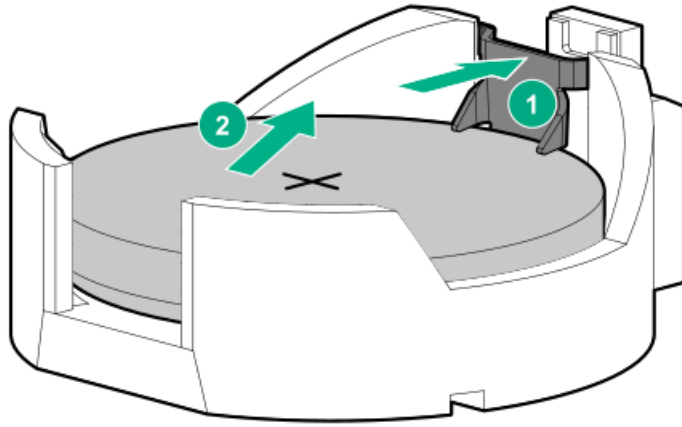
Before you perform this procedure, make sure that you have a small flat-bladed, nonconductive tool available.

### Procedure

1. [Power down the server.](#)
2. If installed, open the cable management arm.

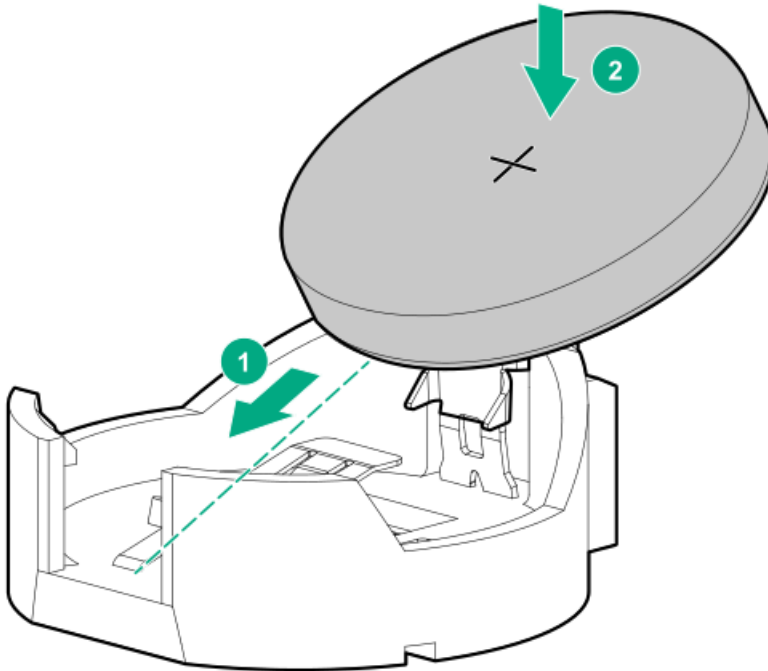


3. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
4. Disconnect all peripheral cables from the server.
5. Remove the server from the rack.
6. Place the server on a flat, level work surface.
7. Remove the access panel.
8. Do one of the following:
  - a. Remove the air baffle.
  - b. Remove the midplane drive cage.
9. Locate the battery on the system board.
10. Remove the system battery:
  - a. Use a small flat-bladed, nonconductive tool to press the battery latch (callout 1).
  - b. Remove the system battery from the socket (callout 2).



11. Install the system battery:

- a. With the side of the battery showing the "+" sign facing up, insert the battery into the socket (callout 1).
- b. Press the system battery down until it clicks into place (callout 2).



12. Do one of the following:

- a. Install the air baffle.
- b. Install the midplane drive cage.

13. Install the air baffle.

14. Install the access panel.

15. If removed, install the front bezel.

16. Install the server into the rack.

17. Connect all peripheral cables to the server.

18. Connect each power cord to the server.

19. Connect each power cord to the power source.
20. [Power up the server.](#)
21. Properly dispose of the old battery.

For more information about proper battery disposal, contact an authorized reseller or an authorized service provider.

#### Results

The installation is complete.

## Heatsink replacement

### Subtopics

[Removing the heatsink](#)

[Installing the heatsink](#)

## Removing the heatsink

### Prerequisites

Before you perform this procedure, make sure that you have a T-20 Torx screwdriver available.

### About this task



**WARNING:** To reduce the risk of personal injury from hot surfaces, allow the drives and the internal system components to cool before touching them.

---



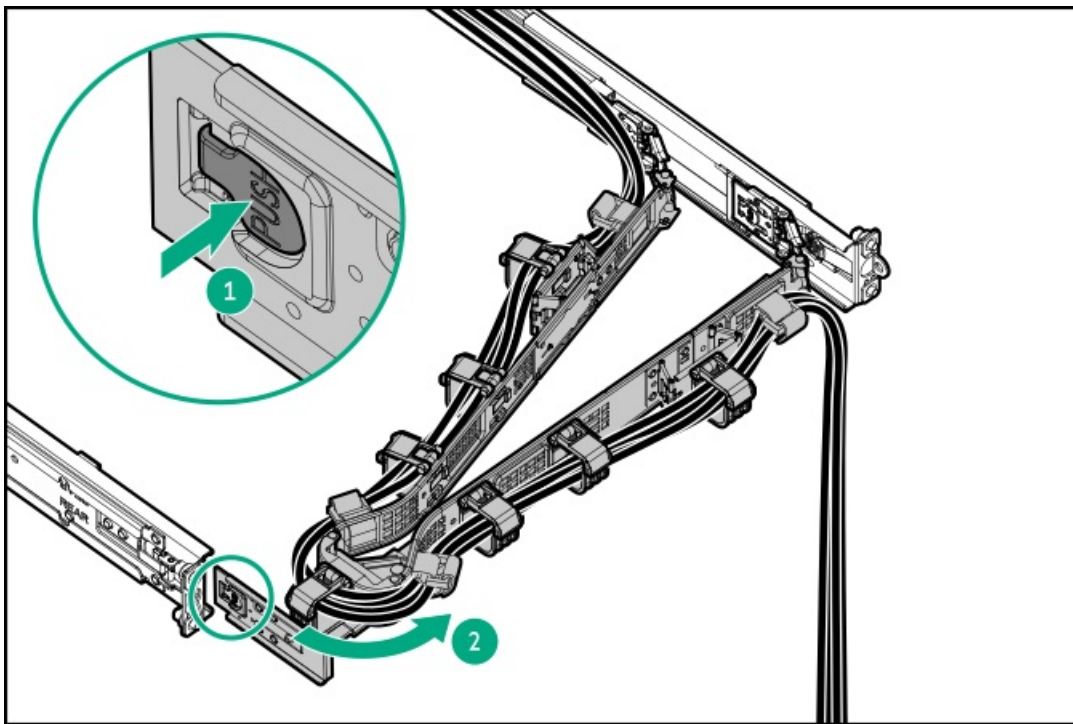
**CAUTION:**

A discharge of static electricity from a finger or other conductor might damage system boards or other static-sensitive devices. To prevent damage, observe [antistatic precautions](#).

---

### Procedure

1. [Power down the server.](#)
2. If installed, open the cable management arm.



3. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
4. Disconnect all peripheral cables from the server.
5. Remove the server from the rack.
6. Place the server on a flat, level work surface.
7. Remove the access panel.
8. Do one of the following:
  - a. Remove the air baffle.
  - b. Remove the midplane drive cage.
9. Allow all internal system components to cool before continuing.
10. Remove the heatsink:

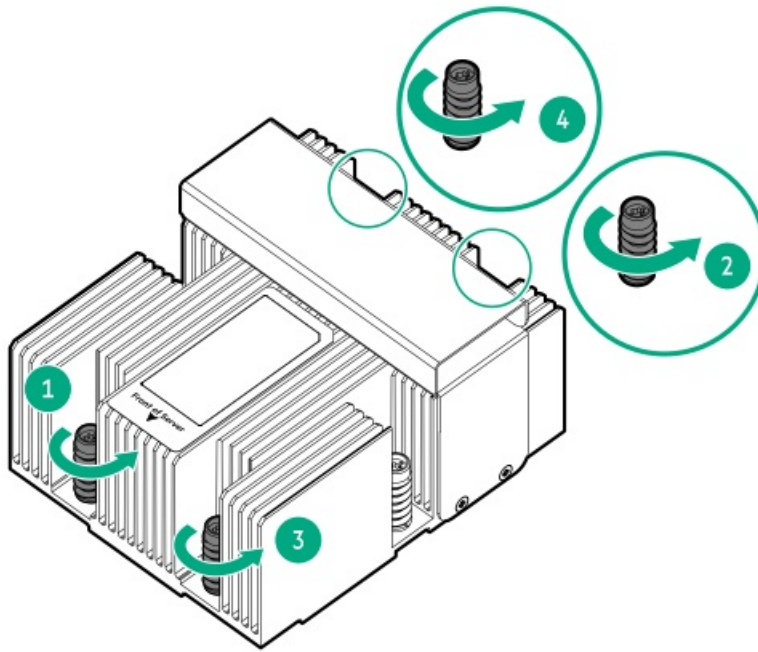
---

**⚠ CAUTION:**

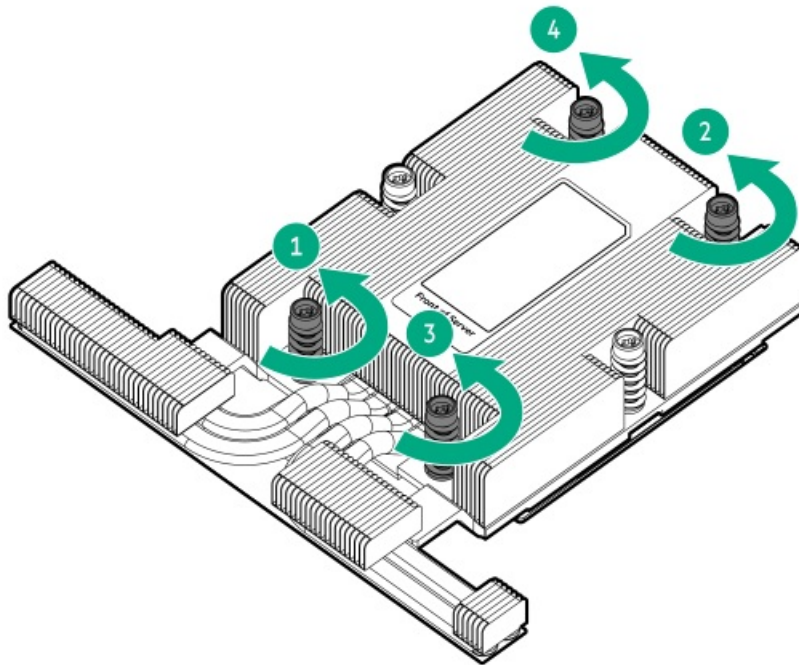
To prevent mechanical damage or depositing oil on your hands or other contaminant to the heatsink contact surface, hold the heatsink only by the edge of its base plate. Do not touch the heatsink fins.

---

- a. Review the heatsink screw numbering on the heatsink label.
- b. Loosen the heatsink screw numbers 6, 5, 4, and 3 in a diagonal manner (callouts 1 to 4).
  - Standard heatsink

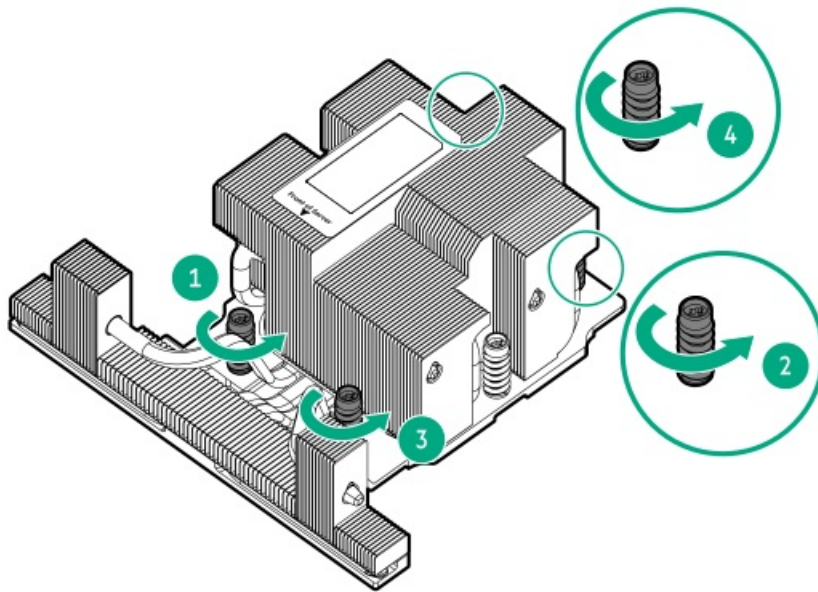


- Midplane cage heatsink

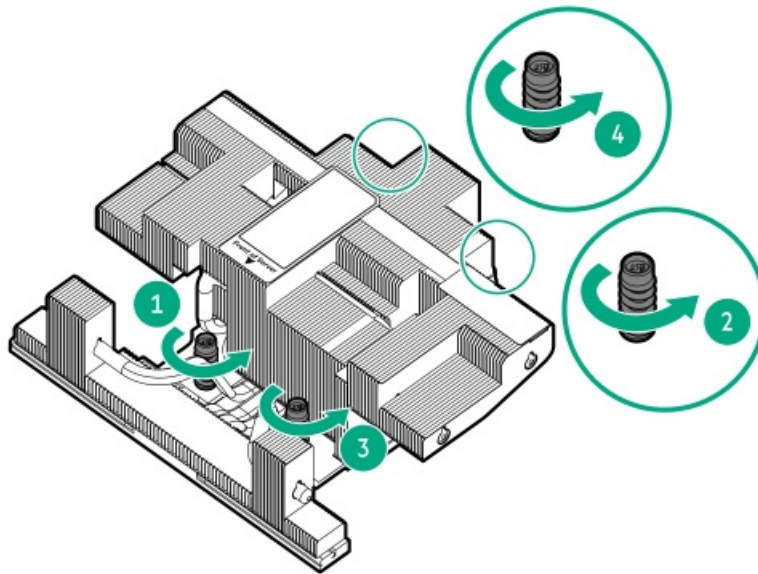


- High performance heatsink





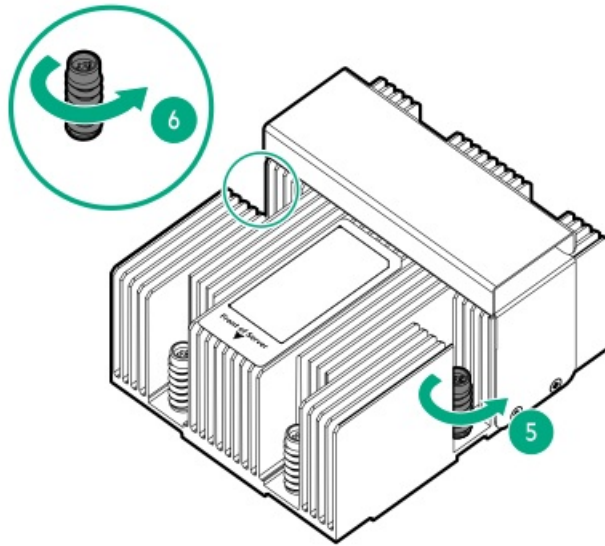
- Max performance heatsink



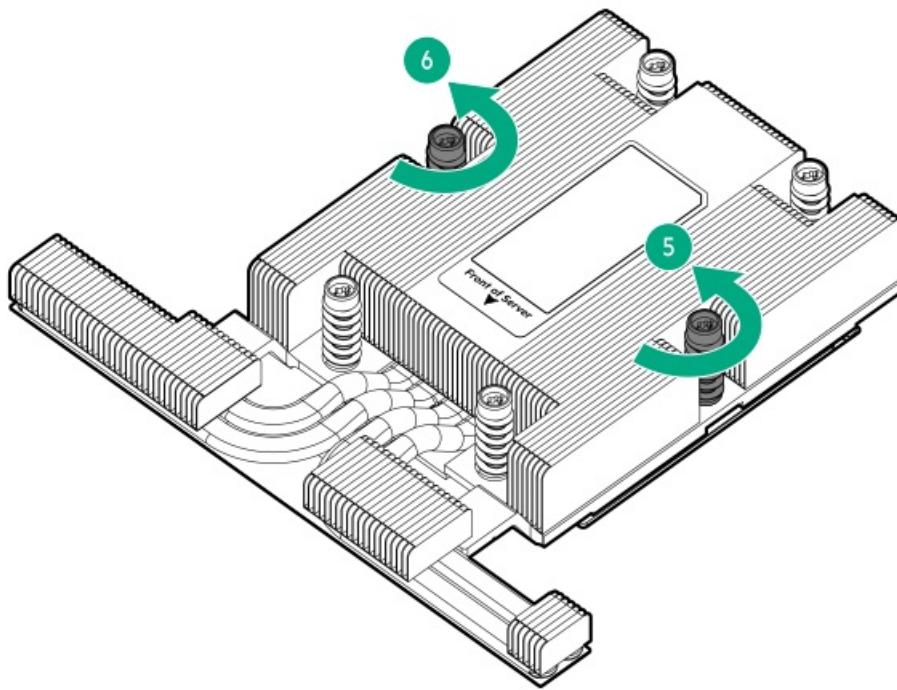
c. Loosen the heatsink screw numbers 2 and 1 (callouts 5 and 6).

- Standard heatsink



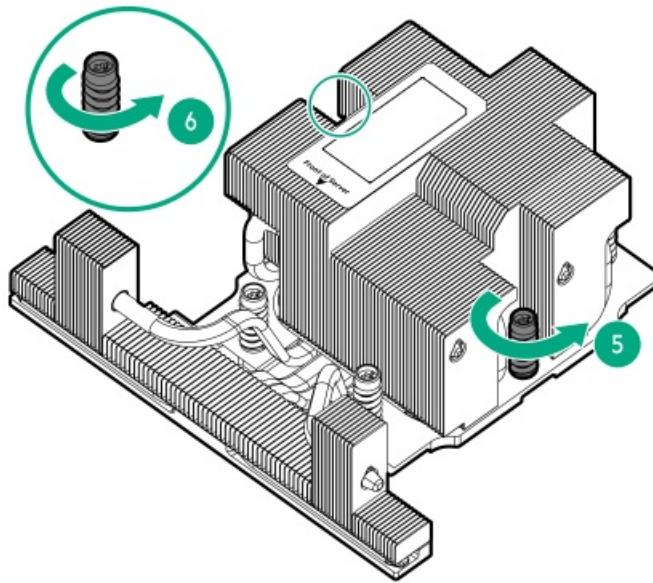


- Midplane cage heatsink

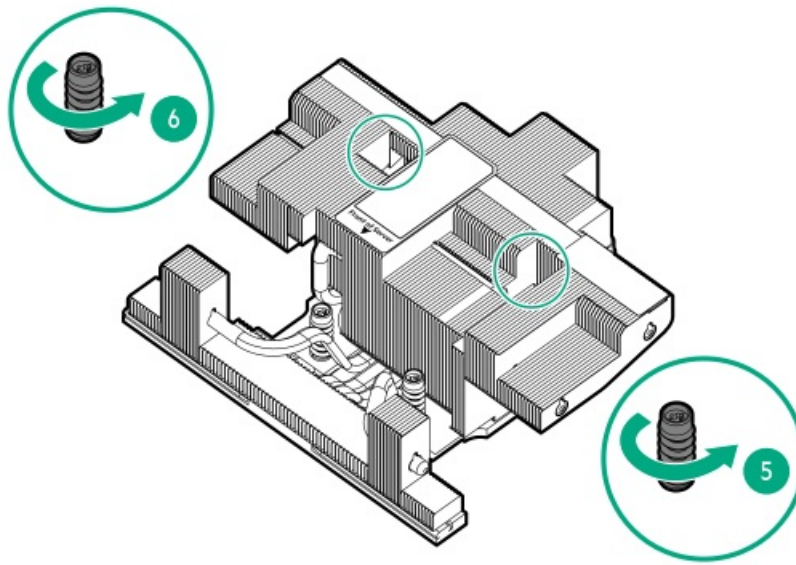


- High performance heasink





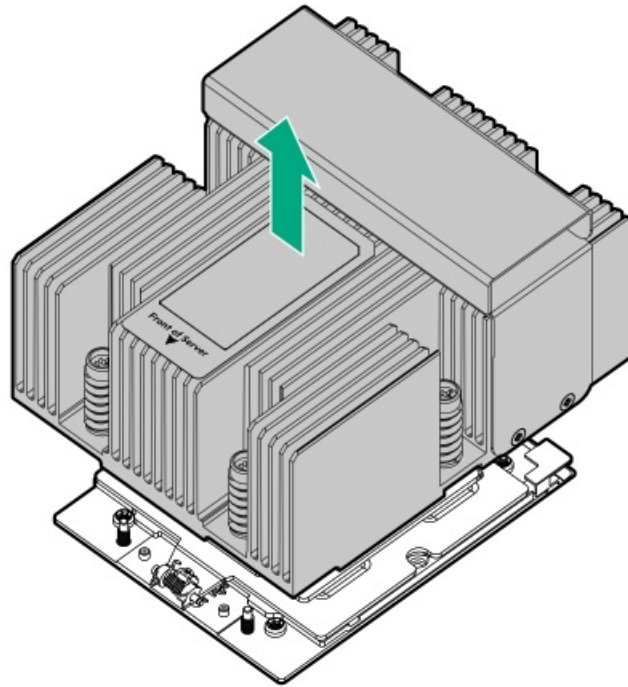
- Max performance heatsink



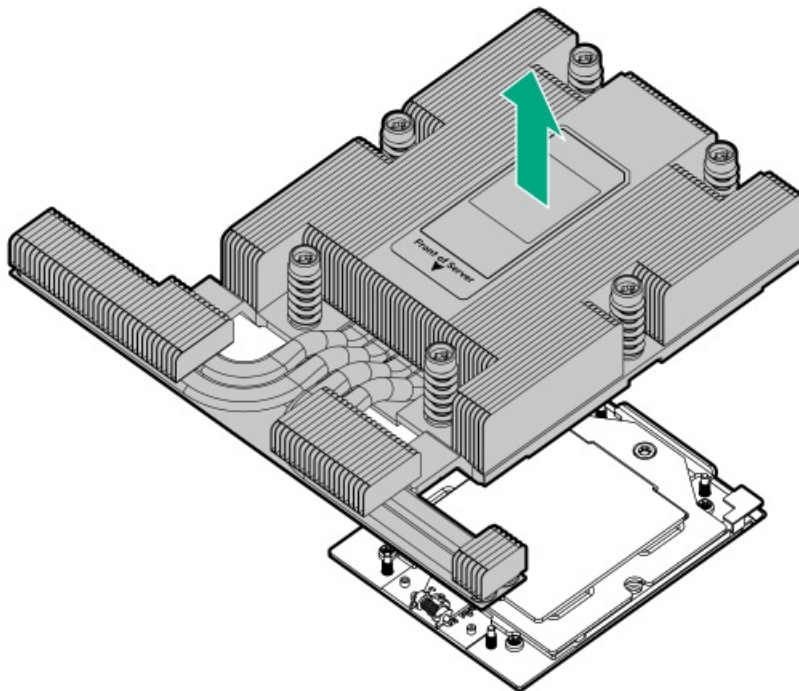
11. Lift the heatsink away from the processor socket.

- Standard heatsink



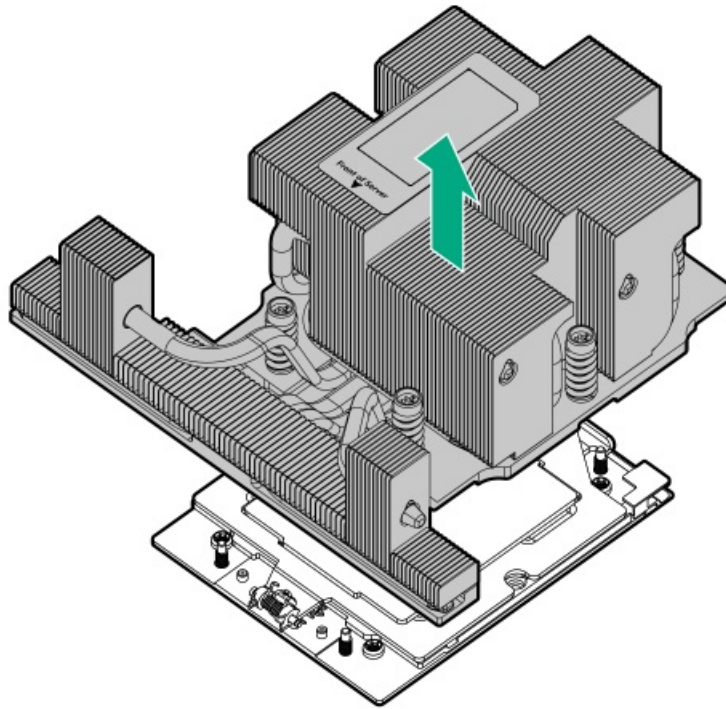


- Midplane cage heatsink

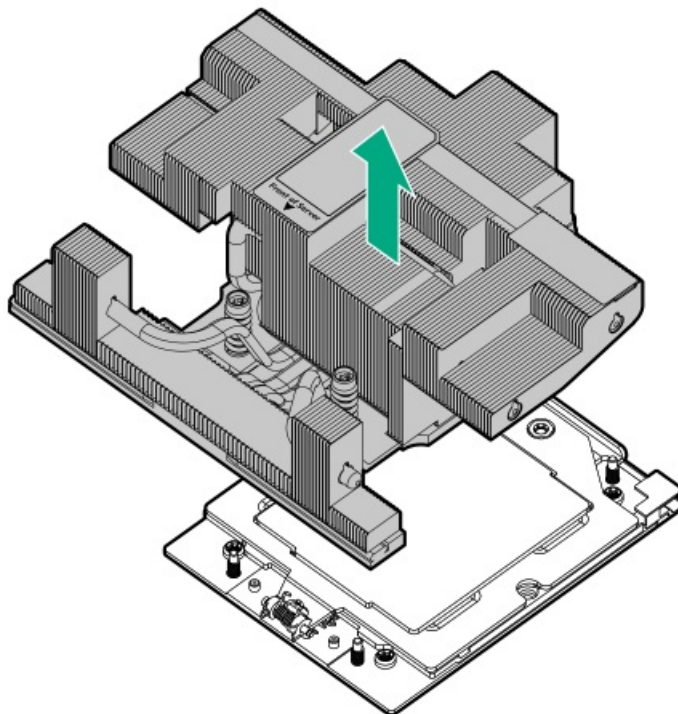


- High performance heatsink





- Max performance heatsink



12. Place the heatsink on a flat work surface with its contact side facing up.

## Installing the heatsink

### Prerequisites

Before you perform this procedure, make sure that you have the following items available:

- T-20 Torx screwdriver or a torque screwdriver with T-20 drill bit

- Alcohol wipe

#### About this task

##### CAUTION:

A discharge of static electricity from a finger or other conductor might damage system boards or other static-sensitive devices. To prevent damage, observe antistatic precautions.

#### Procedure

1. Use an alcohol wipe to remove the existing thermal grease from the processor.

Allow the alcohol to evaporate before continuing.

2. Remove the thermal interface protective cover from the new heatsink.
3. Install the heatsink:

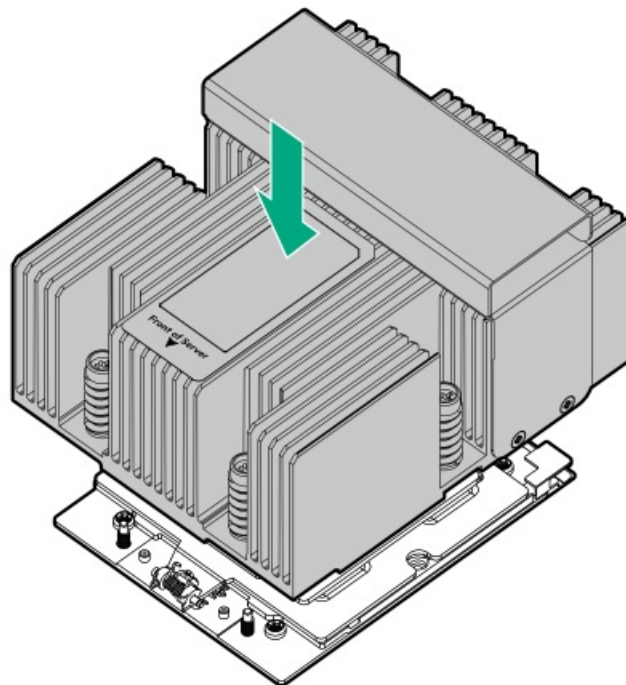
##### CAUTION:

To prevent mechanical damage or depositing oil on your hands or other contaminant to the heatsink contact surface, hold the heatsink only by the edge of its base plate. Do not touch the heatsink fins.

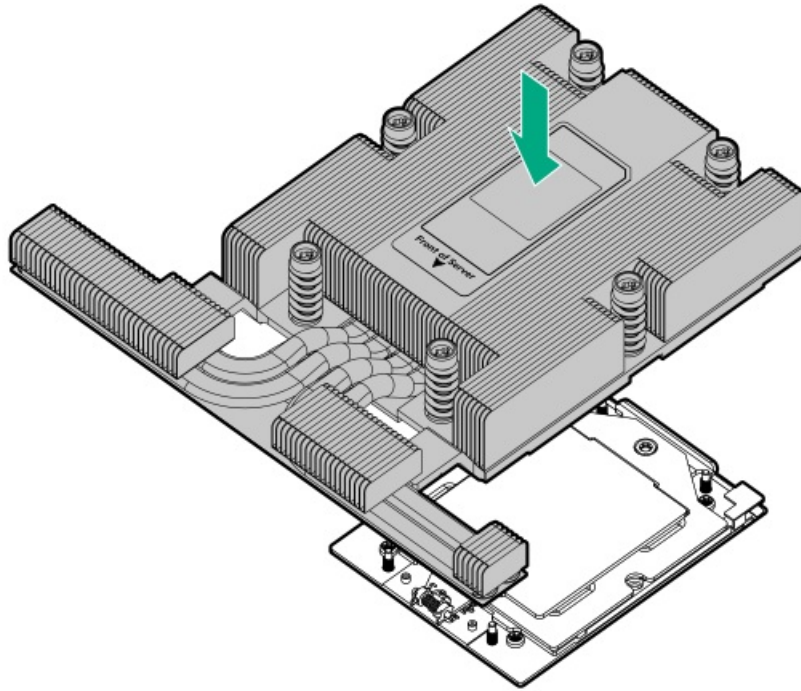
##### CAUTION:

To prevent thermal failure or component damage, do not move the heatsink once the bottom of its base plate touches the top of the processor. Excessive heatsink movement can cause the thermal grease to smear and become uneven. Voids in the compound can adversely impact the transfer of heat away from the processor.

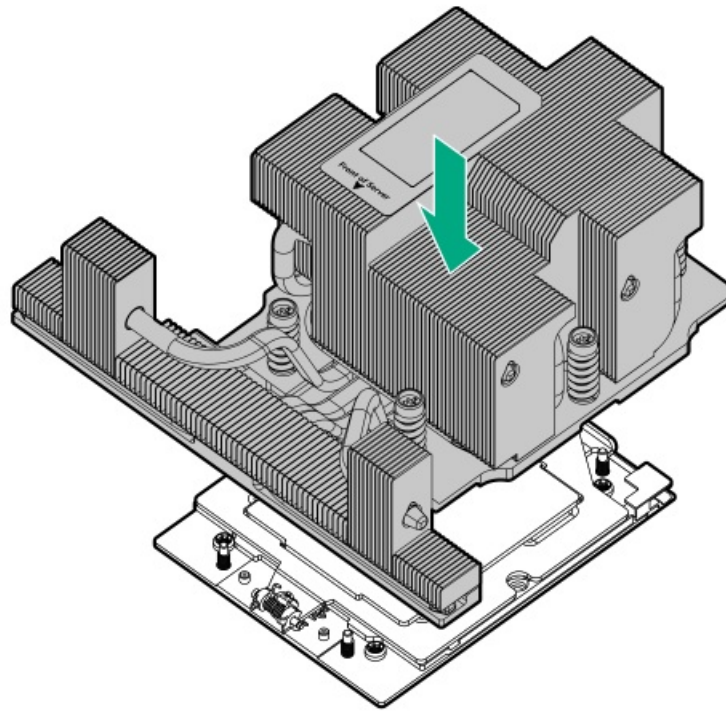
- a. When using a torque wrench to tighten the heatsink screws, set a torque between 1.24 N-m (11 lbf-in) to 1.47 N-m (13 lbf-in) .
  - b. Note the **Front of server** text on the heatsink label to correctly orient the heatsink over the processor socket.
  - c. Position the heatsink on top of the processor, ensuring that it is properly seated before securing the screws.
- Standard heatsink



- Midplane cage heatsink

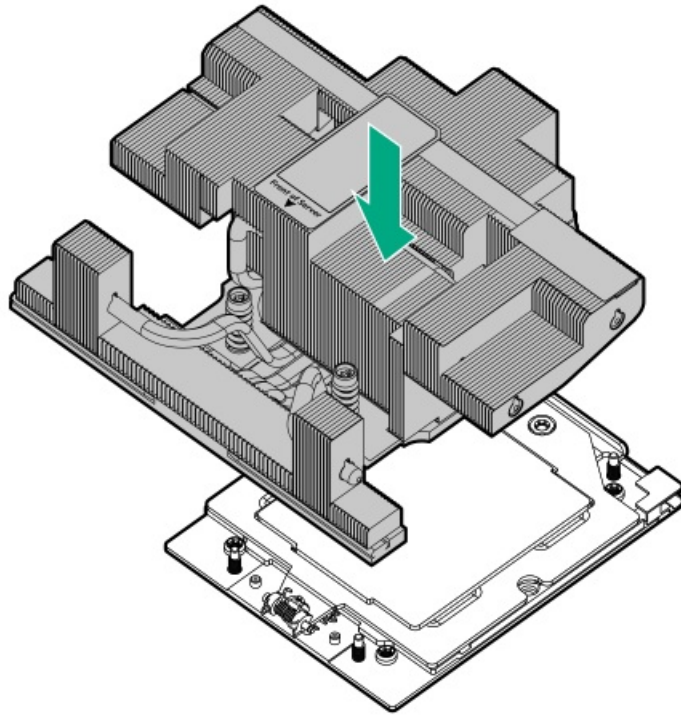


- High performance heatsink



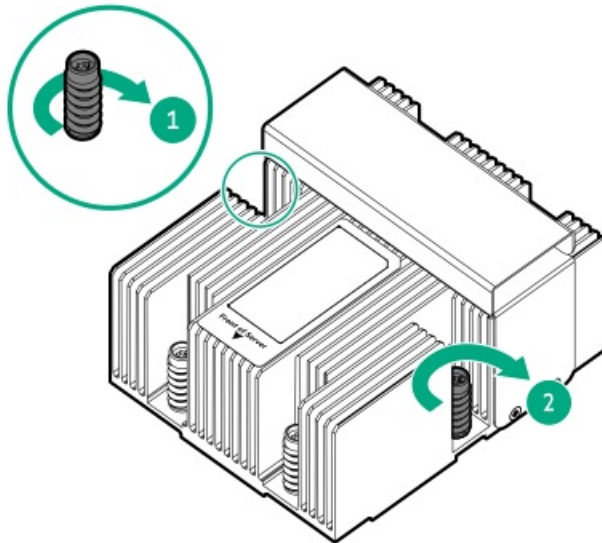
- Max performance heatsink





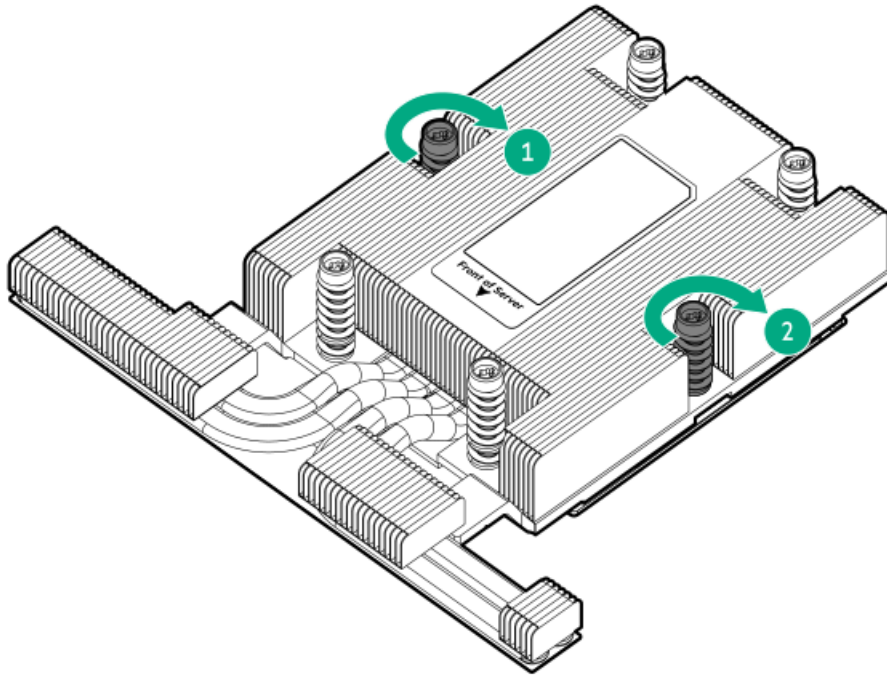
d. Tighten the heatsink screw numbers 1 and 2 (callouts 1 and 2).

- Standard heatsink

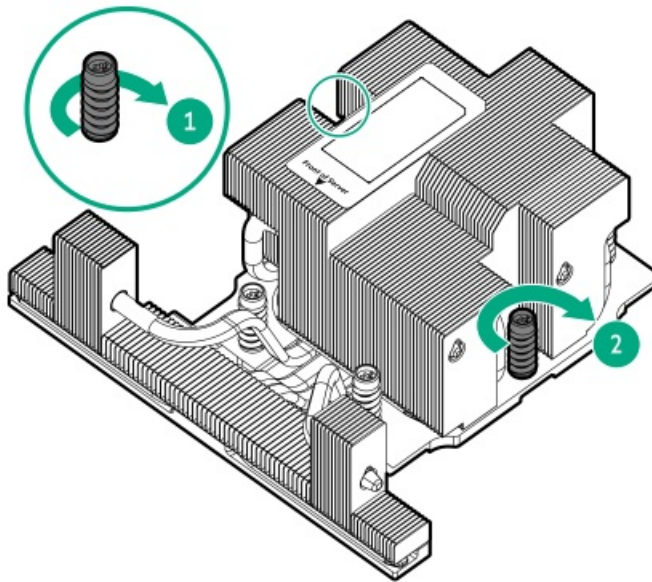


- Midplane cage heatsink



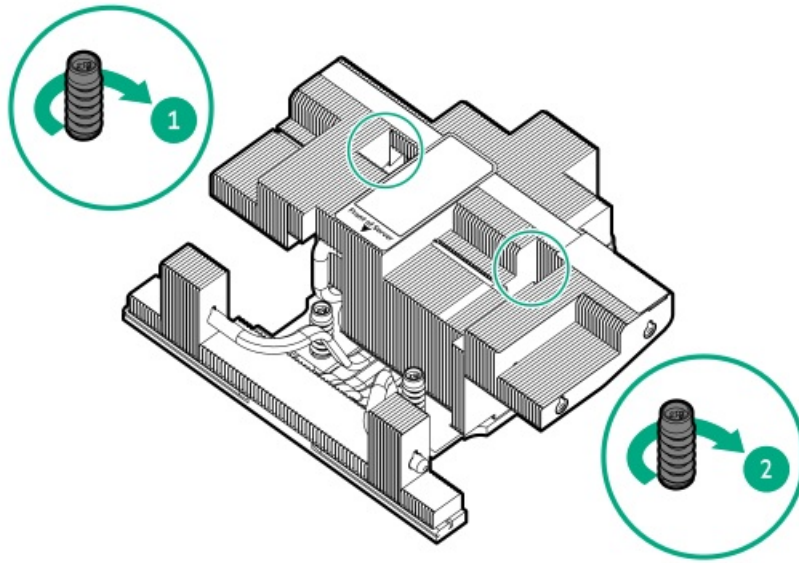


- High performance heatsink



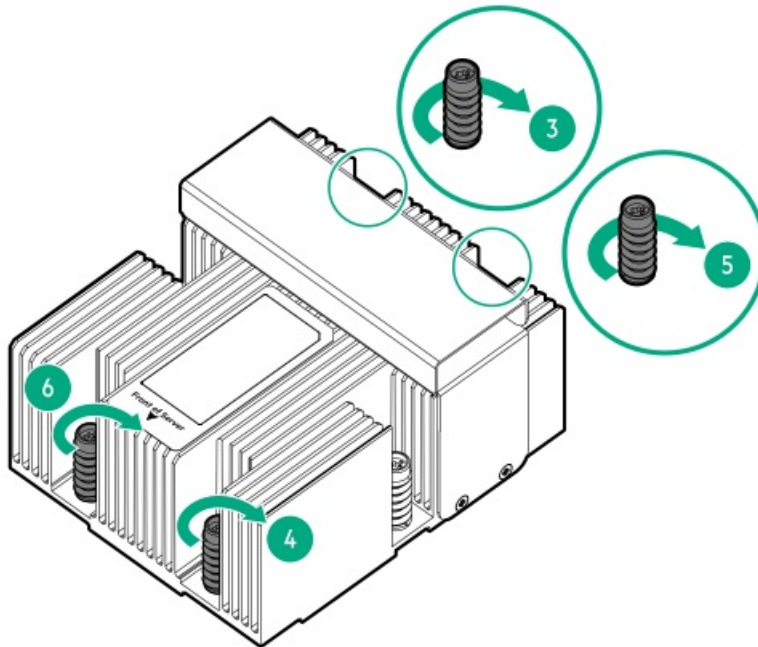
- Max performance heatsink





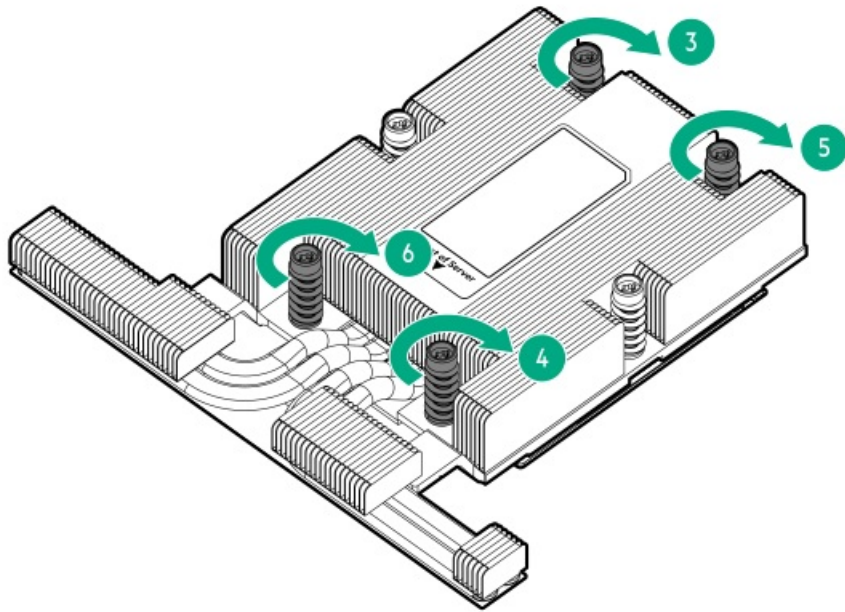
e. Tighten the heatsink screw numbers 3, 4, 5, and 6 in a diagonal manner (callouts 3 to 6).

- Standard heatsink

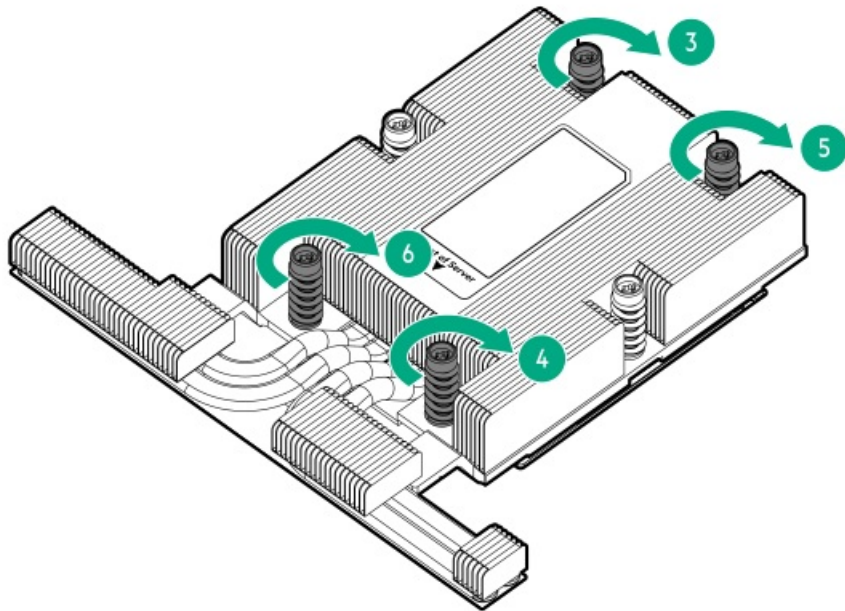


- Midplane cage heatsink



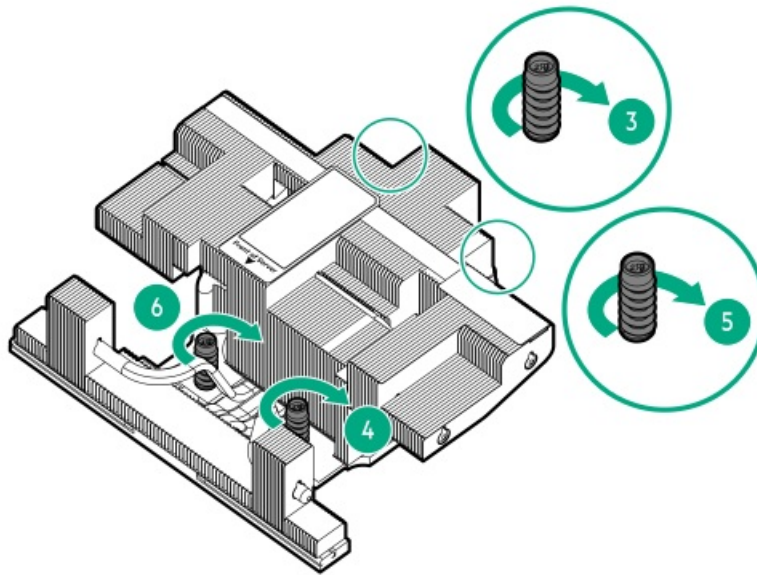


- High performance heatsink



- Max performance heatsink





4. Do one of the following:
  - a. Install the air baffle.
  - b. Install the midplane drive cage.
5. Install the access panel.
6. Install the server into the rack.
7. Connect all peripheral cables to the server.
8. Connect each power cord to the server.
9. Connect each power cord to the power source.
10. Power up the server.
11. If removed, install the front bezel.

## Processor replacement

### Subtopics

#### Processor cautions

#### Removing the processor

#### Installing the processor

## Processor cautions

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**CAUTION:** To avoid damage to the processor or system board, only authorized personnel should attempt to replace or install the processor in this server.

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**CAUTION:** If installing a processor with a faster speed, update the system ROM before installing the processor.  
To download firmware and view installation instructions, see the [Hewlett Packard Enterprise Support Center website](#).

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**CAUTION: THE CONTACTS ARE VERY FRAGILE AND EASILY DAMAGED.** To avoid damage to the socket or processor, do not touch the contacts.

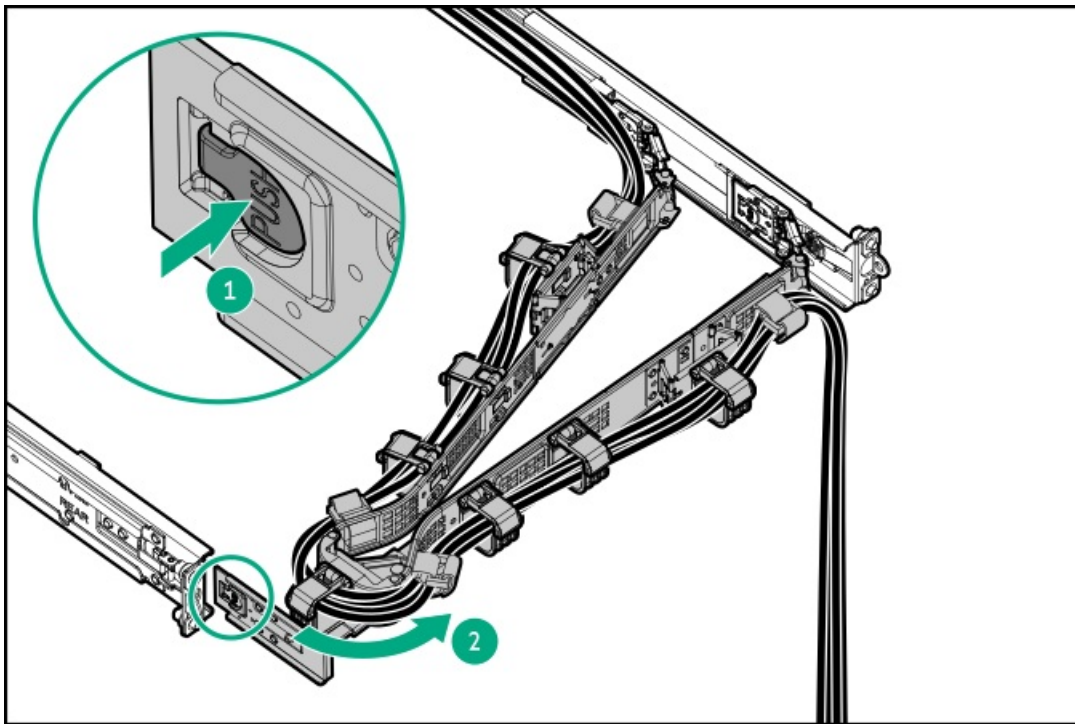
## Removing the processor

### Prerequisites

- [Identify the processor and socket components.](#)
- [Review the processor cautions.](#)
- Before you perform this procedure, make sure that you have the following items available:
  - T-20 Torx screwdriver
  - Alcohol wipe

### Procedure

1. [Power down the server.](#)
2. If installed, open the cable management arm.



3. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
4. Disconnect all peripheral cables from the server.
5. [Remove the server from the rack.](#)
6. Place the server on a flat, level work surface.
7. [Remove the access panel.](#)
8. Do one of the following:

- a. Remove the air baffle.
  - b. Remove the midplane drive cage.
9. Allow all internal system components to cool before continuing.
10. Remove the heatsink:

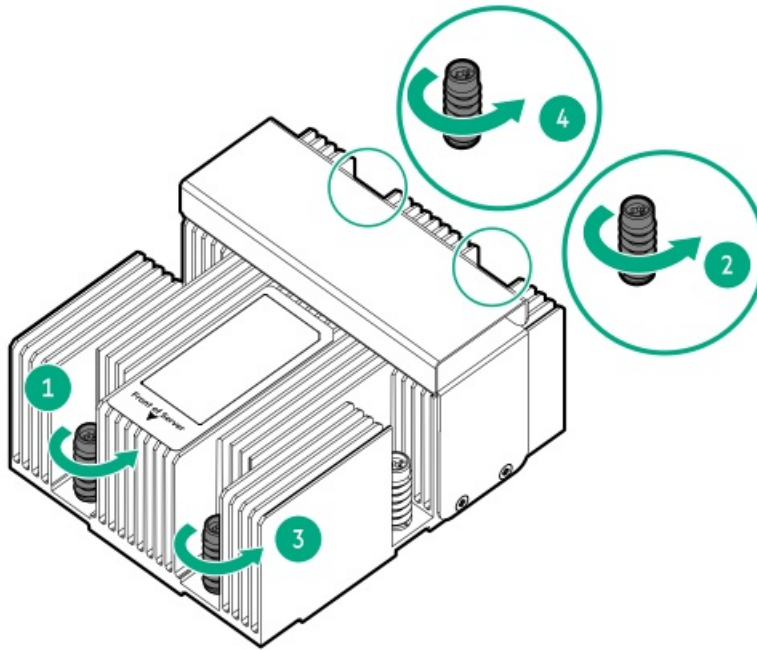
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**△ CAUTION:**

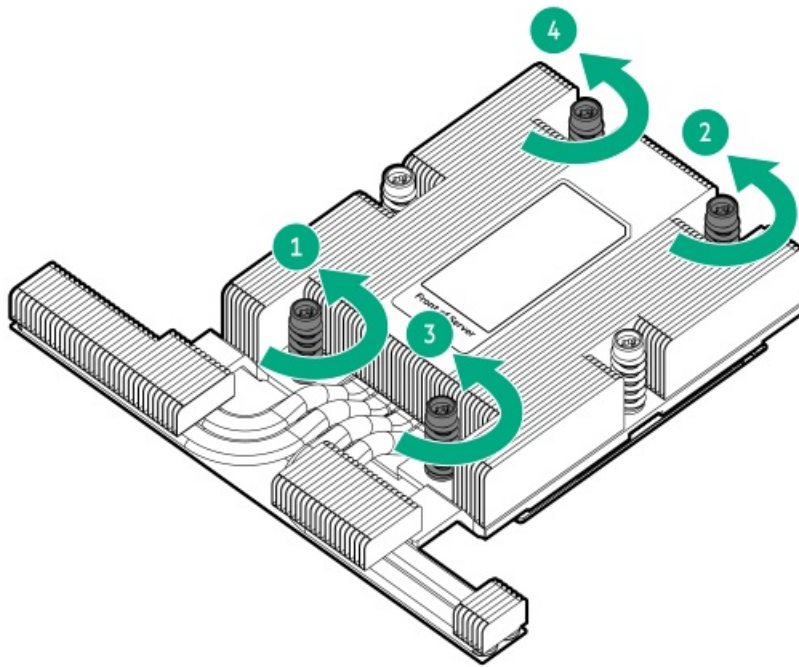
To prevent mechanical damage or depositing oil on your hands or other contaminant to the heatsink contact surface, hold the heatsink only by the edge of its base plate. Do not touch the heatsink fins.

---

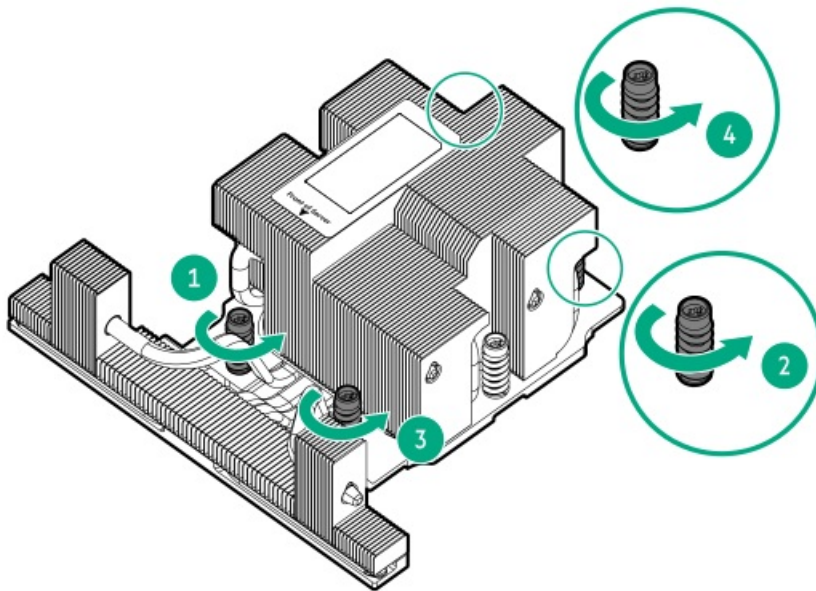
- a. Review the heatsink screw numbering on the heatsink label.
  - b. Loosen the heatsink screw numbers 6, 5, 4, and 3 in a diagonal manner (callouts 1 to 4).
- Standard heatsink



- Midplane cage heatsink

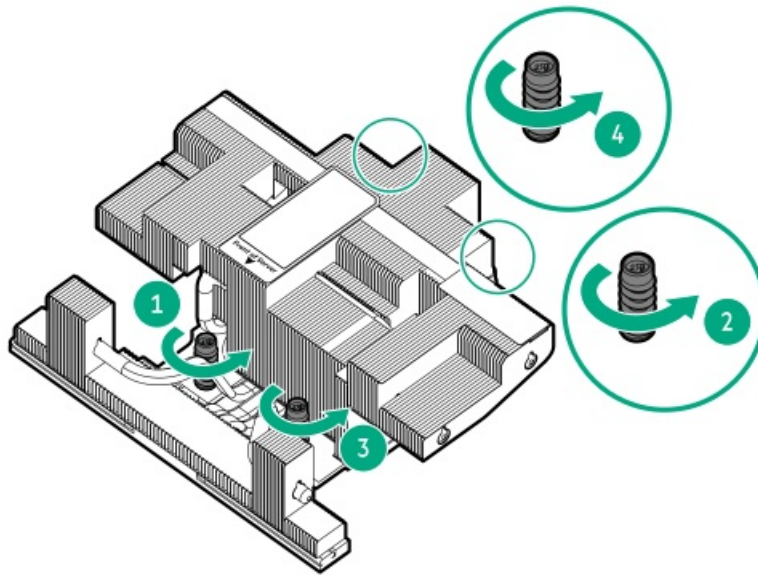


- High performance heatsink



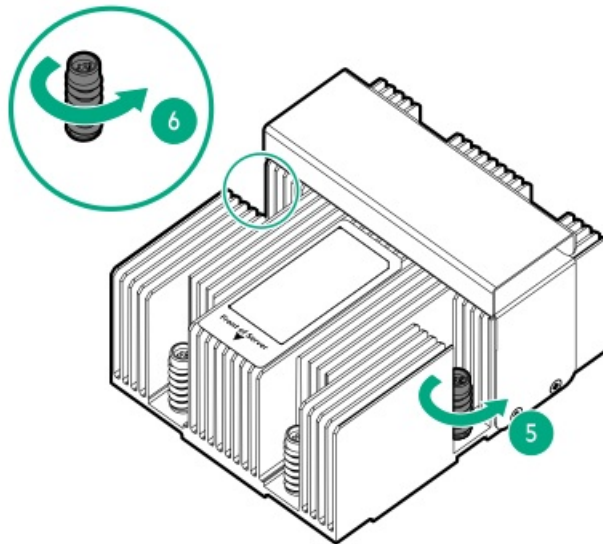
- Max performance heatsink



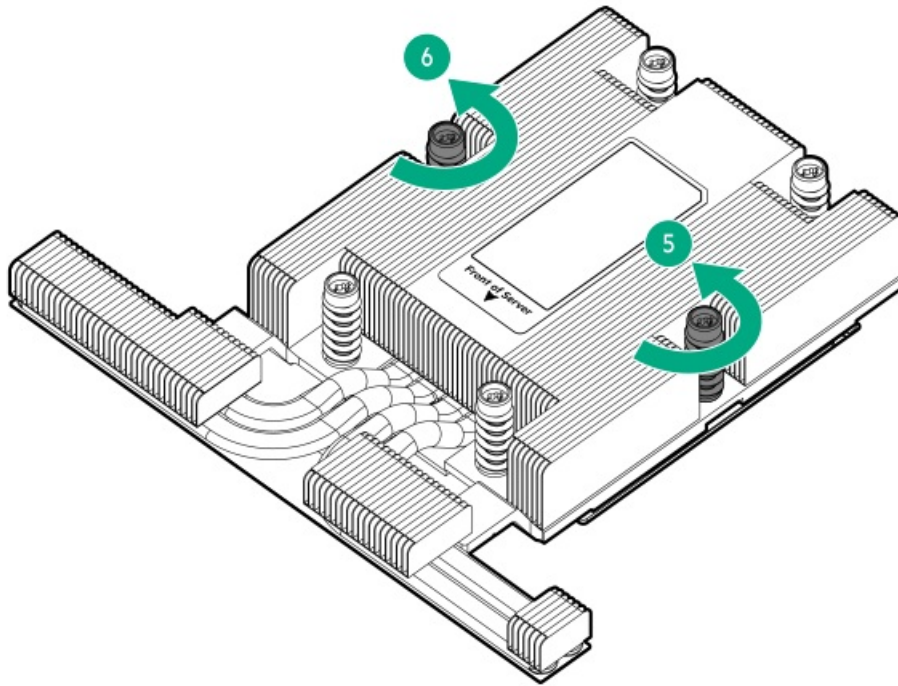


c. Loosen the heatsink screw numbers 2 and 1 (callouts 5 and 6).

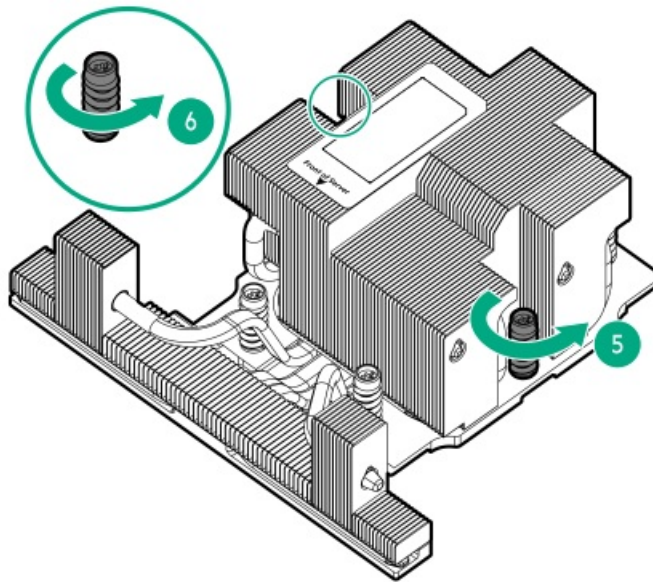
- Standard heatsink



- Midplane cage heatsink

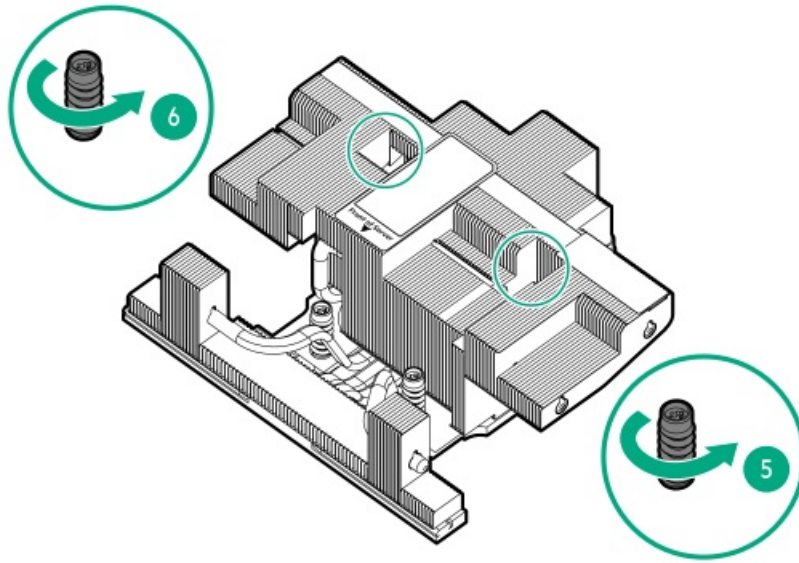


- High performance heatsink



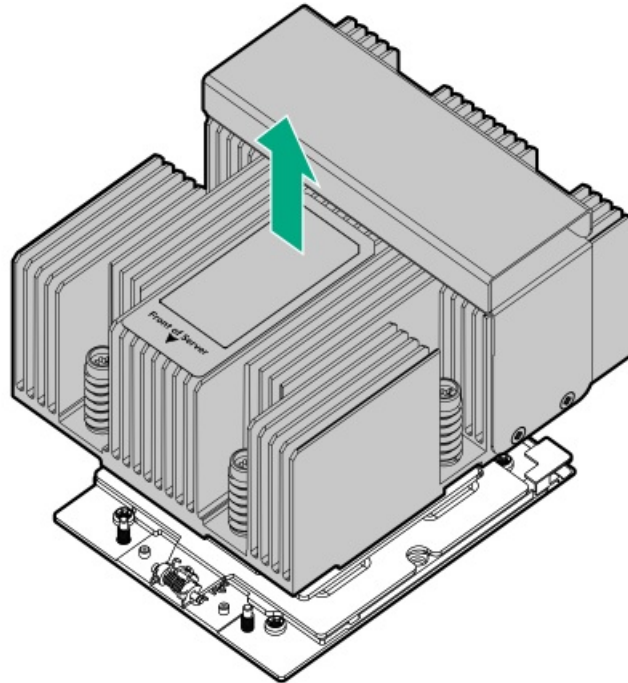
- Max performance heatsink





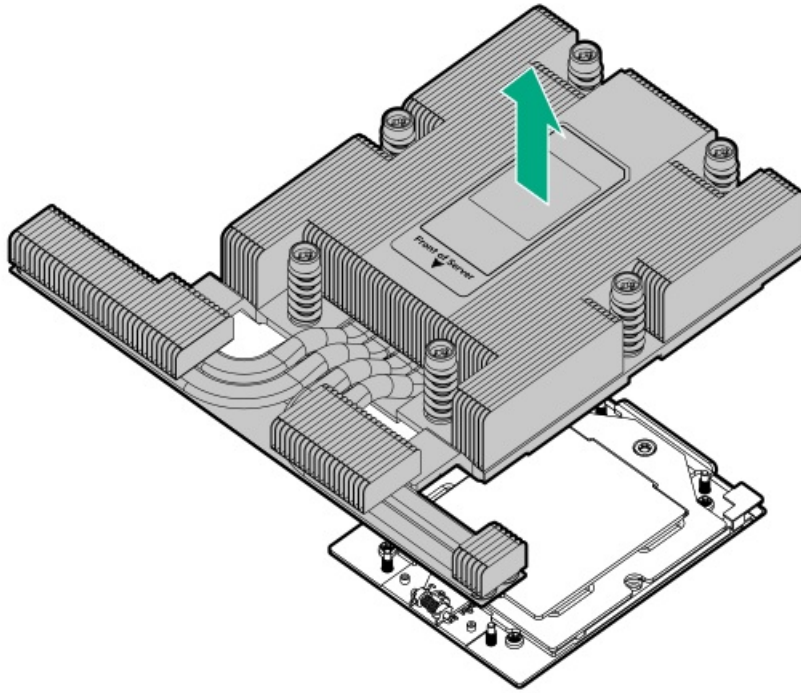
11. Lift the heatsink away from the processor socket.

- Standard heatsink

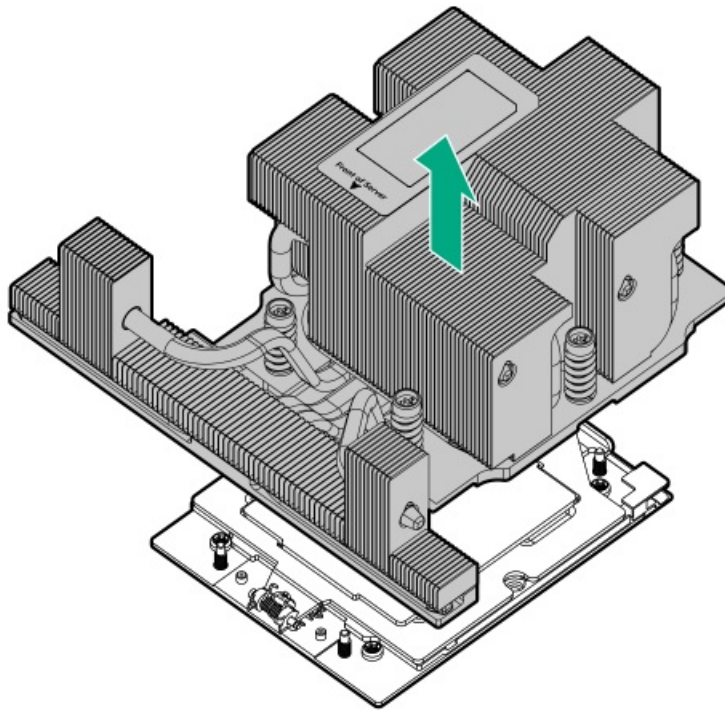


- Midplane cage heatsink



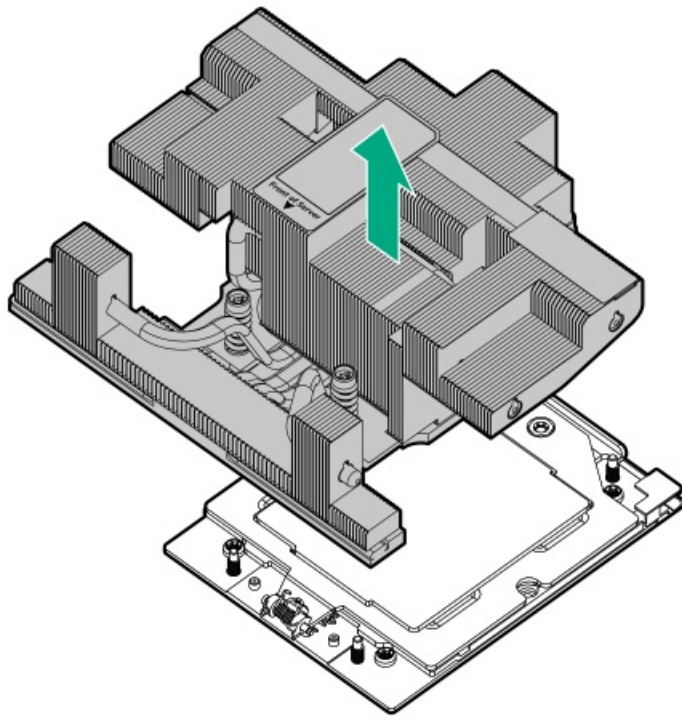


- High performance heatsink



- Max performance heatsink



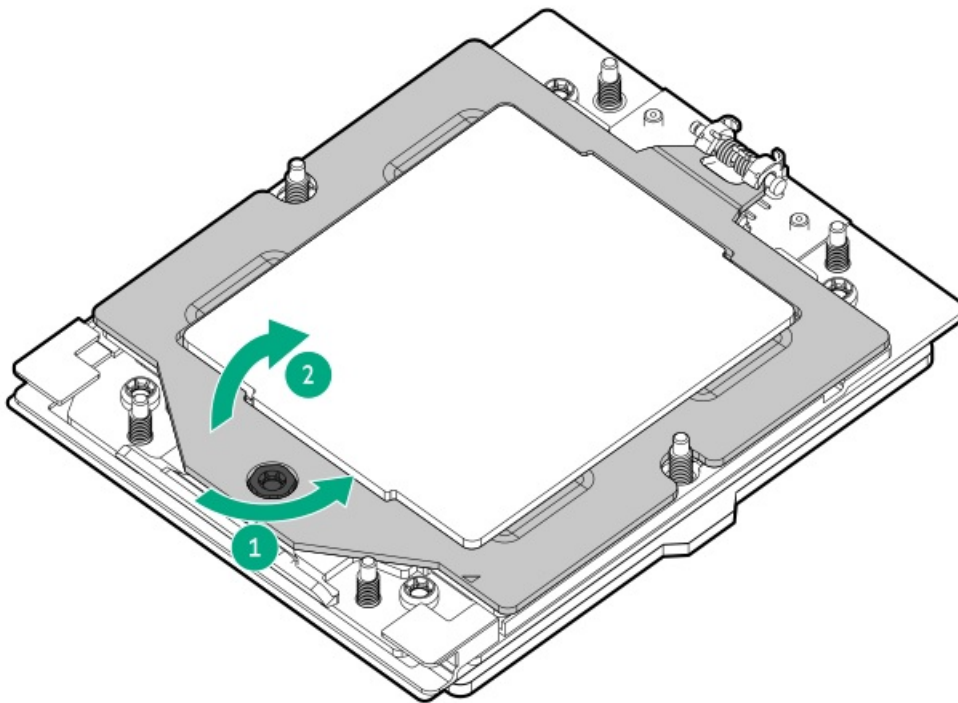


12. Place the heatsink on a flat work surface with its contact side facing up.
13. Use an alcohol wipe to remove the existing thermal grease from the heatsink and processor.  
Allow the alcohol to evaporate before continuing.

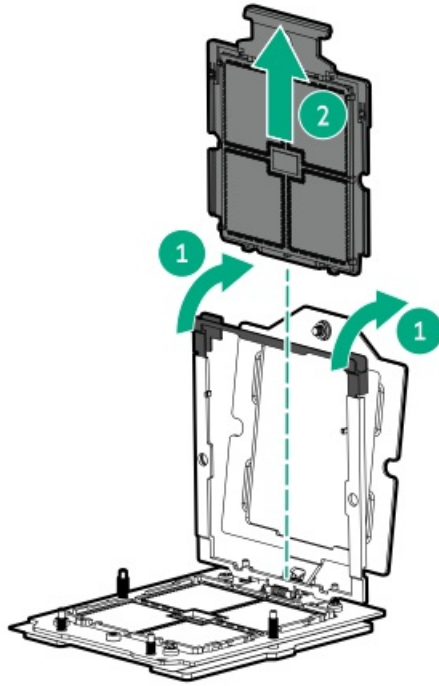
14. Remove the processor:

- a. While holding the sides of the retention frame, loosen the frame screw (callout 1).

This retention frame is spring-loaded. Once the screw is loosened enough, hold the retention frame as it automatically pivots to a vertical position (callout 2).



- b. Hold the lift tabs and pivot the rail frame to the vertical position (callout 1).
- c. Slide the processor out of the rail frame (callout 2).

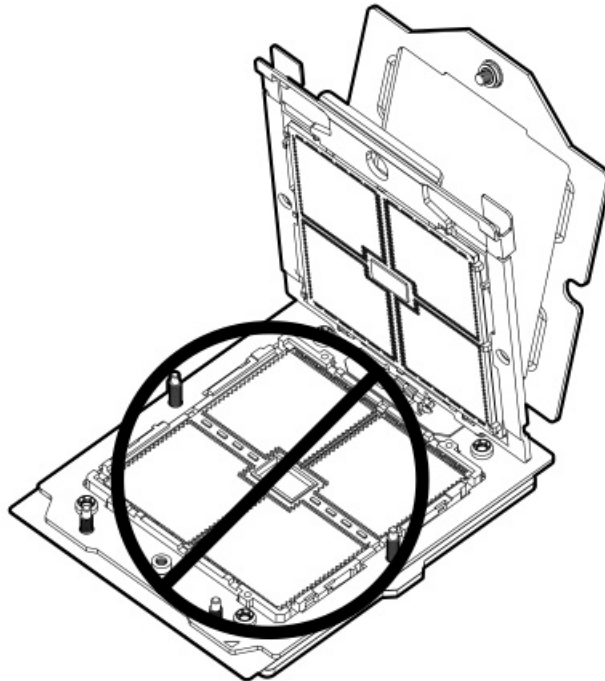


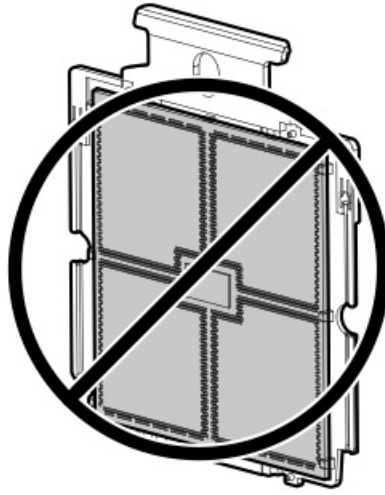
---

**CAUTION:** The pins on the processor socket and on the processor are very fragile and easily damaged . To avoid component damage, do not touch these pins. Any damage to them might require replacing the system board and/or processor.

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- 15. Do not touch the pin field on the socket and the processor contacts.





## Installing the processor

### Prerequisites

- [Identify the processor and socket components.](#)
- [Review the processor cautions.](#)
- Before you perform this procedure, make sure that you have the following items available:
  - T-20 Torx screwdriver or a torque screwdriver with T-20 drill bit
  - Thermal grease (spare part number: 777298-001)

### About this task

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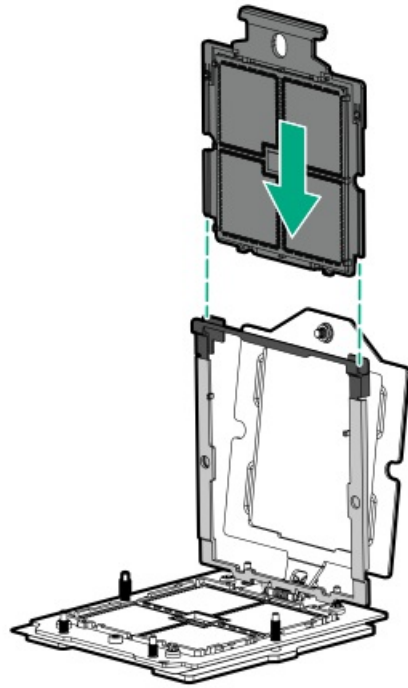
 **CAUTION:**

A discharge of static electricity from a finger or other conductor might damage system boards or other static-sensitive devices. To prevent damage, observe [antistatic precautions](#).

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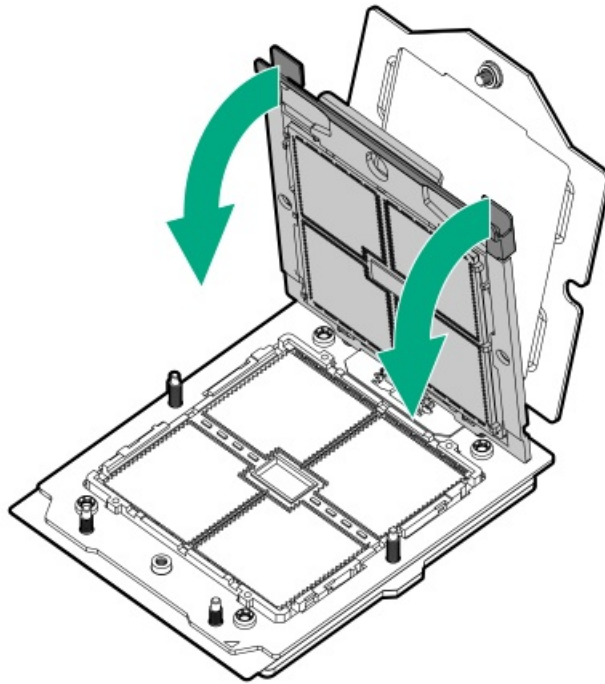
### Procedure

1. Install the processor:
  - a. Hold the processor by its carrier handle.
  - b. Slide the processor into the rail frame until it engages with a click sound.



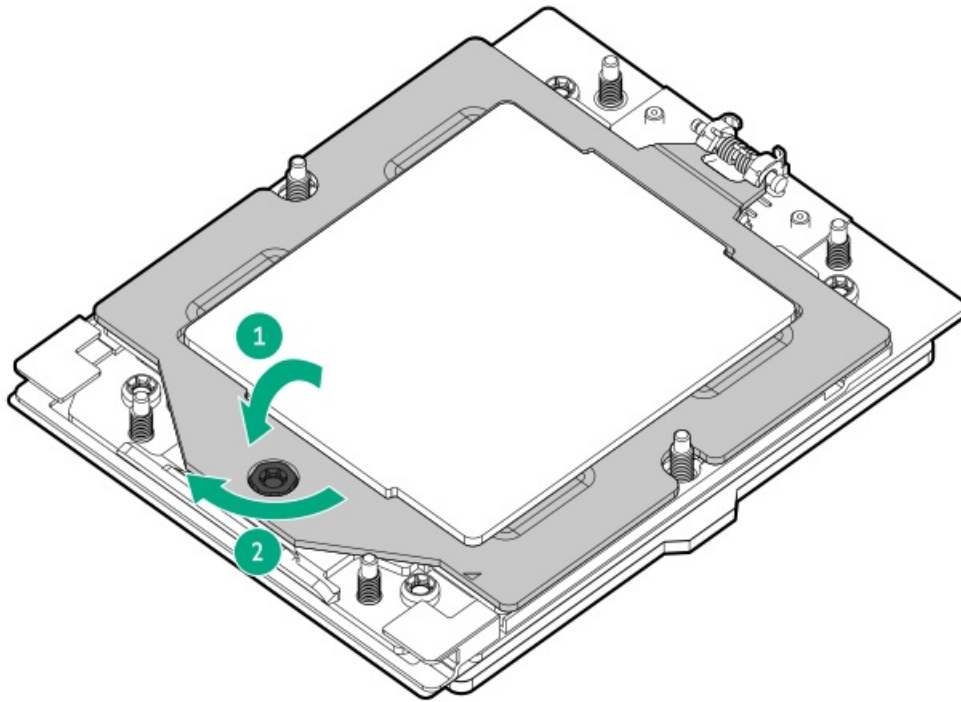
2. Hold the lift tabs and pivot the rail frame to the closed position.

A click sound indicates that the rail frame is properly engaged.

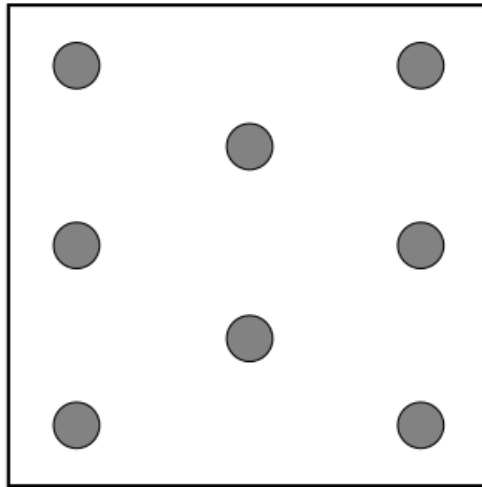


3. Close the retention frame:

- a. When using a torque wrench to tighten the retention frame screw, set a torque between 1.24 N-m (11 lbf-in) to 1.47 N-m (13 lbf-in) .
- b. Pivot the spring loaded retention frame downward and hold it down (callout 1).
- c. Tighten the retention frame screw (callout 2).



4. If you are using the same heatsink, apply the full content of the thermal grease syringes on top of the processor. Follow the pattern shown in the following image.



5. Install the heatsink:

---

**⚠ CAUTION:**

To prevent mechanical damage or depositing oil on your hands or other contaminant to the heatsink contact surface, hold the heatsink only by the edge of its base plate. Do not touch the heatsink fins.

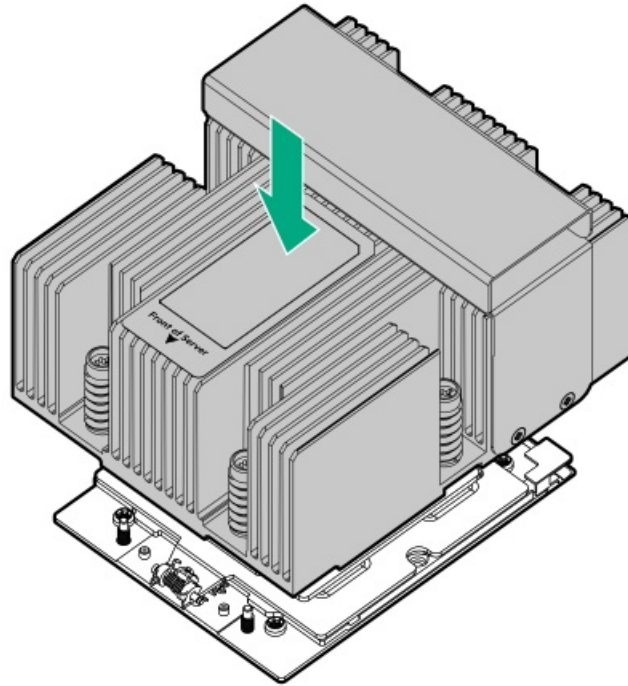
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**⚠ CAUTION:**

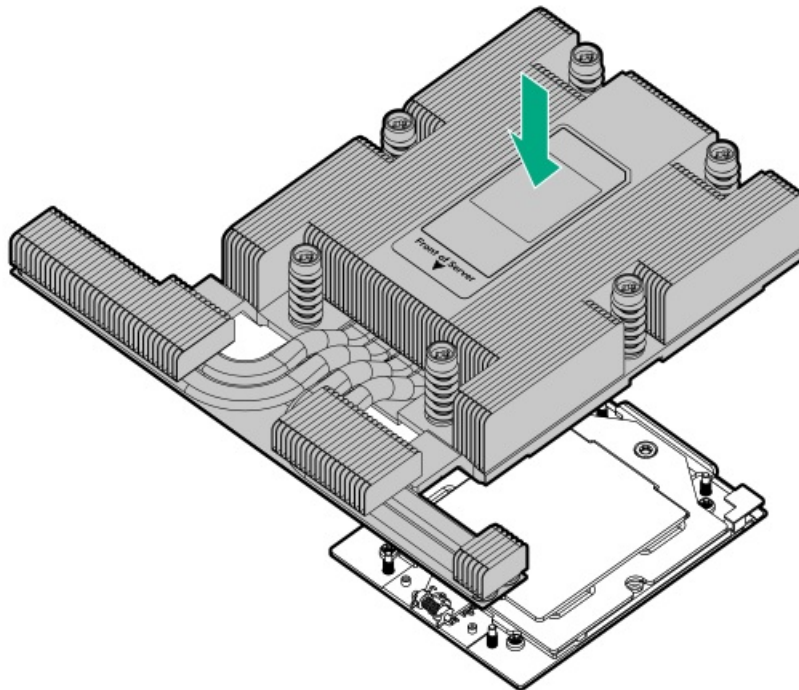
To prevent thermal failure or component damage, do not move the heatsink once the bottom of its base plate touches the top of the processor. Excessive heatsink movement can cause the thermal grease to smear and become uneven. Voids in the compound can adversely impact the transfer of heat away from the processor.

- a. When using a torque wrench to tighten the heatsink screws, set a torque between 1.24 N-m (11 lbf-in) to 1.47 N-m (13 lbf-in) .

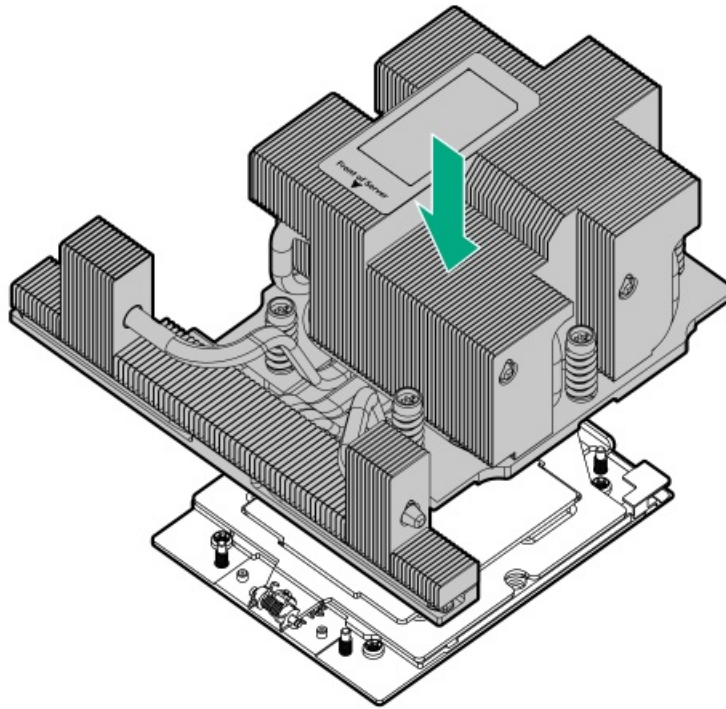
- b. Note the **Front of server** text on the heatsink label to correctly orient the heatsink over the processor socket.
- c. Position the heatsink on top of the processor, ensuring that it is properly seated before securing the screws.
  - Standard heatsink



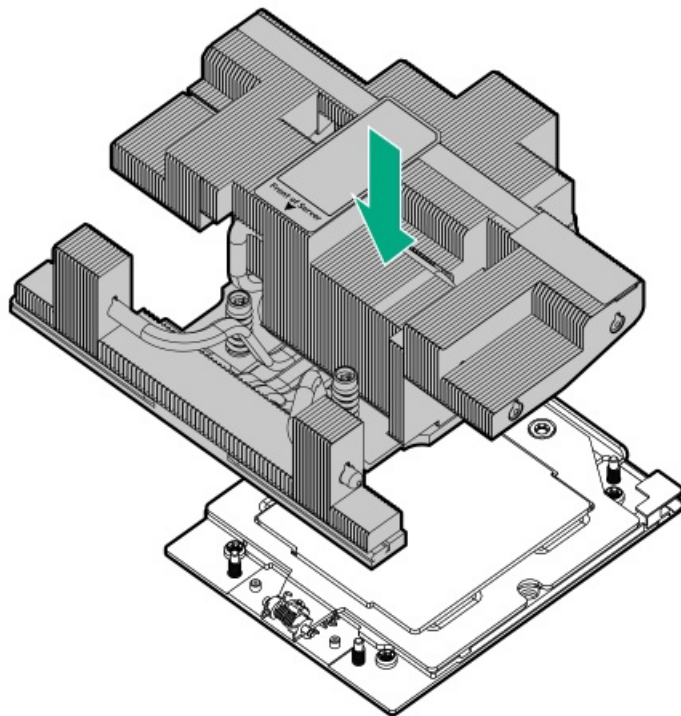
- Midplane cage heatsink



- High performance heatsink



- Max performance heatsink

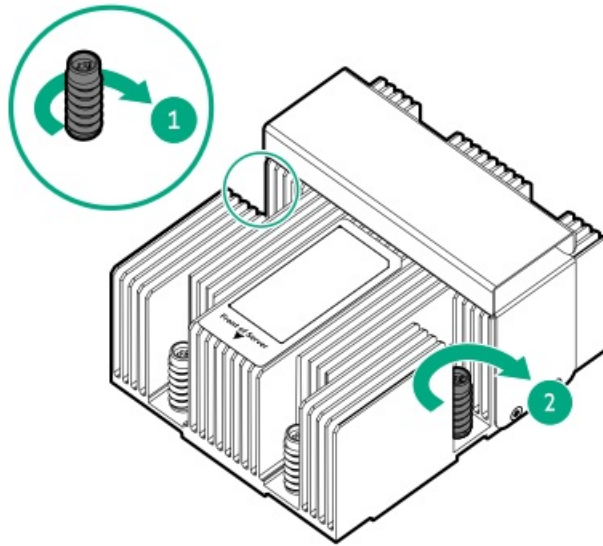


d. Tighten the heatsink screw numbers 1 and 2 (callouts 1 and 2).

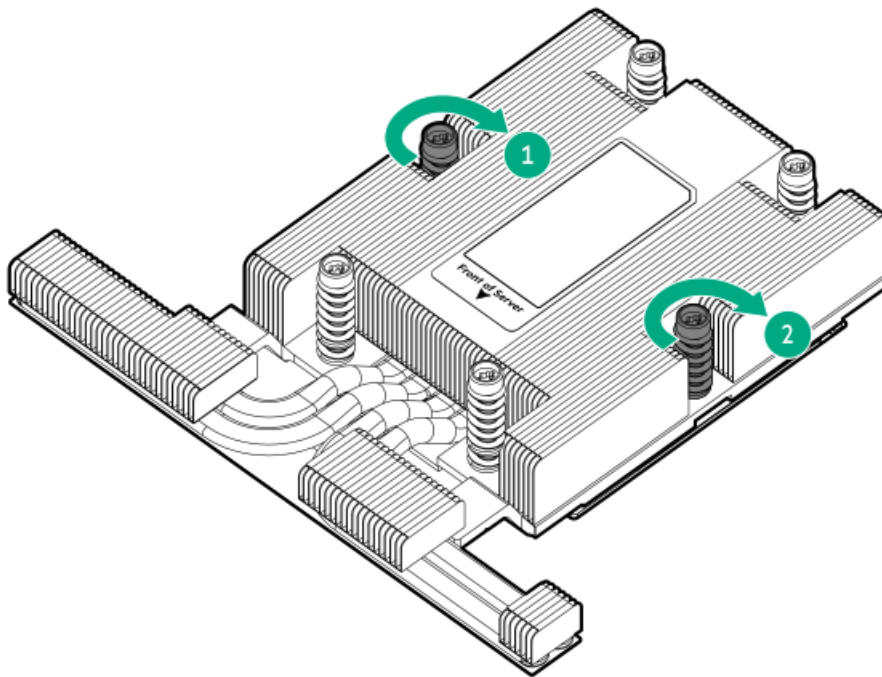
- Standard heatsink





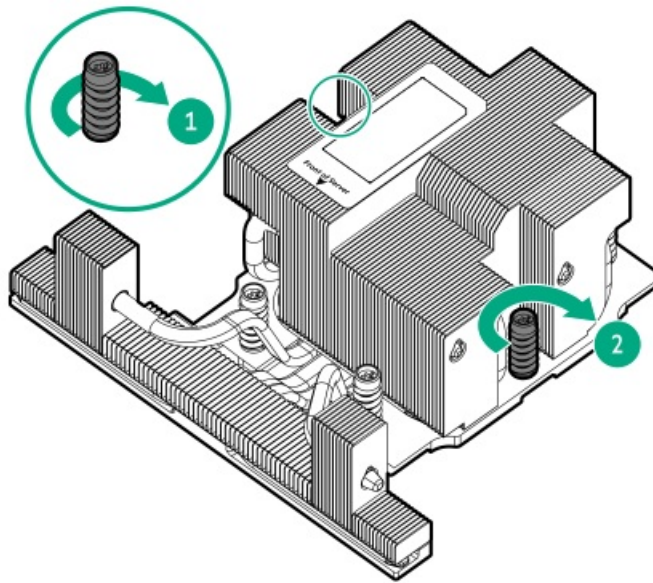


- Midplane cage heatsink

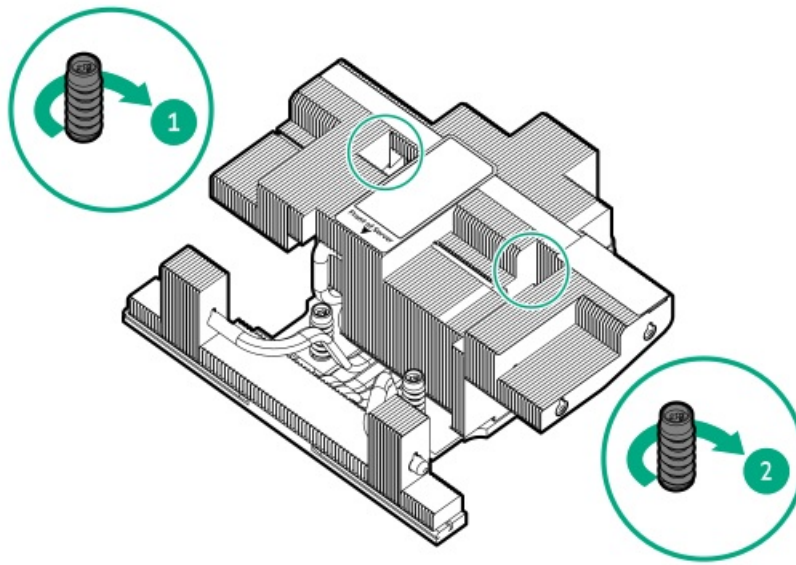


- High performance heatsink





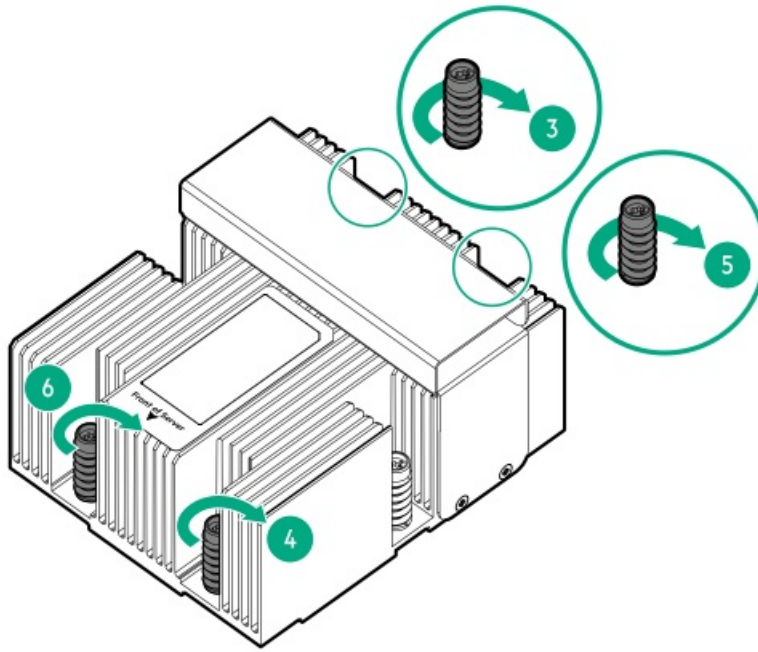
- Max performance heatsink



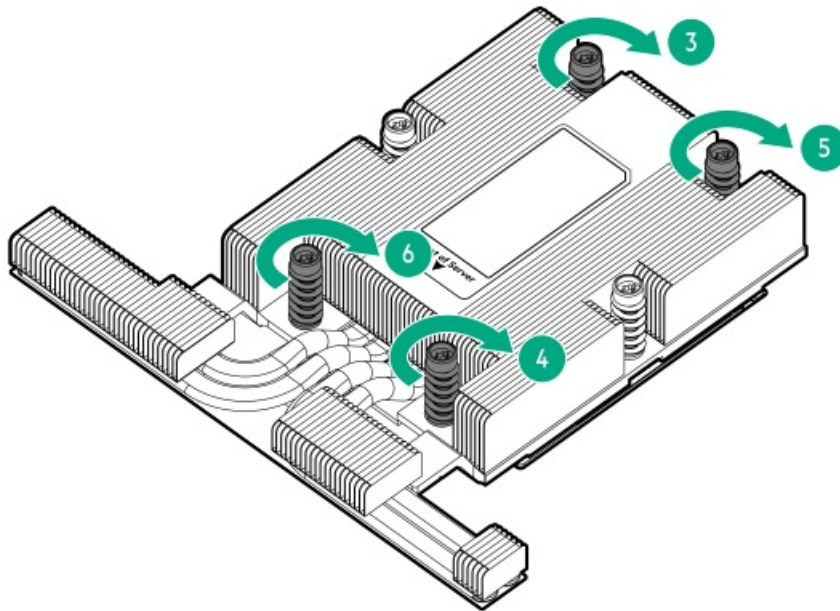
e. Tighten the heatsink screw numbers 3, 4, 5, and 6 in a diagonal manner (callouts 3 to 6).

- Standard heatsink



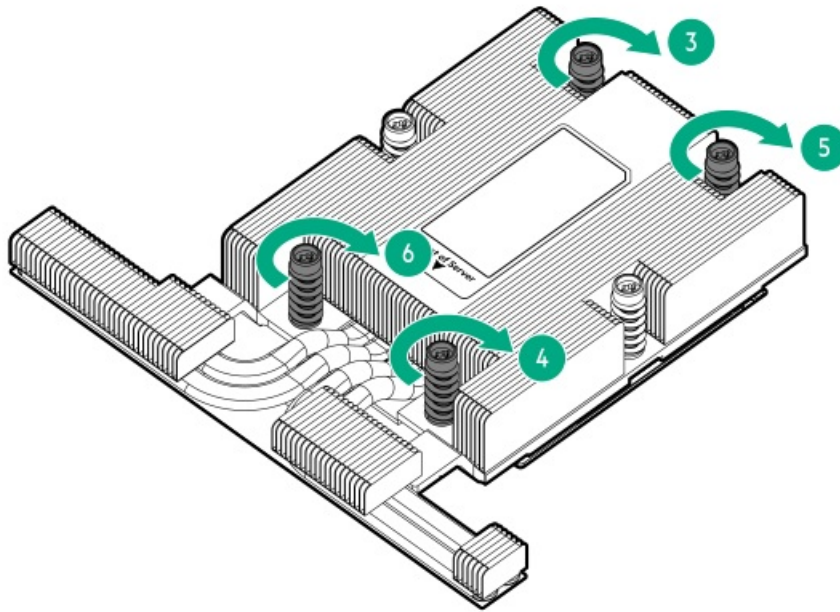


- Midplane cage heatsink

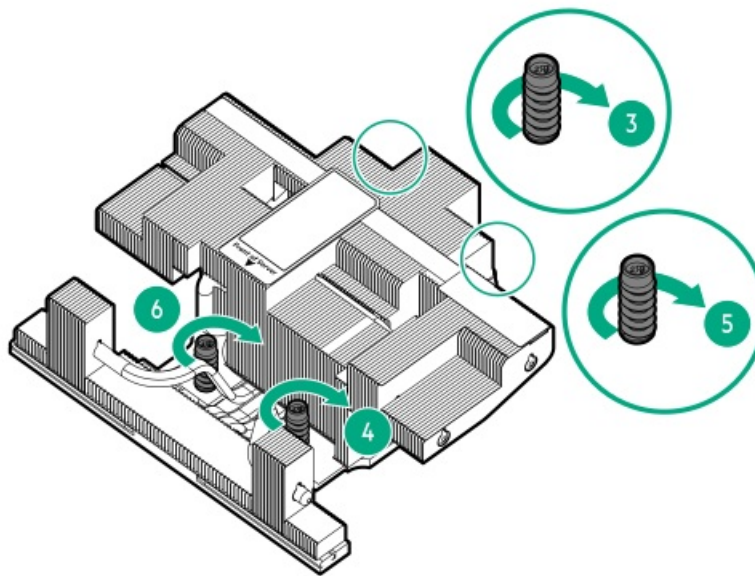


- High performance heatsink





- Max performance heatsink



6. Do one of the following:
  - a. Install the air baffle.
  - b. Install the midplane drive cage.
7. Install the access panel.
8. Install the server into the rack.
9. Connect all peripheral cables to the server.
10. Connect each power cord to the server.
11. Connect each power cord to the power source.
12. Power up the server.
13. If removed, install the front bezel.

# System board assembly replacement

## Subtopics

[Removing the system board assembly](#)

[Installing the system board assembly](#)

[Re-entering the server serial number and product ID](#)

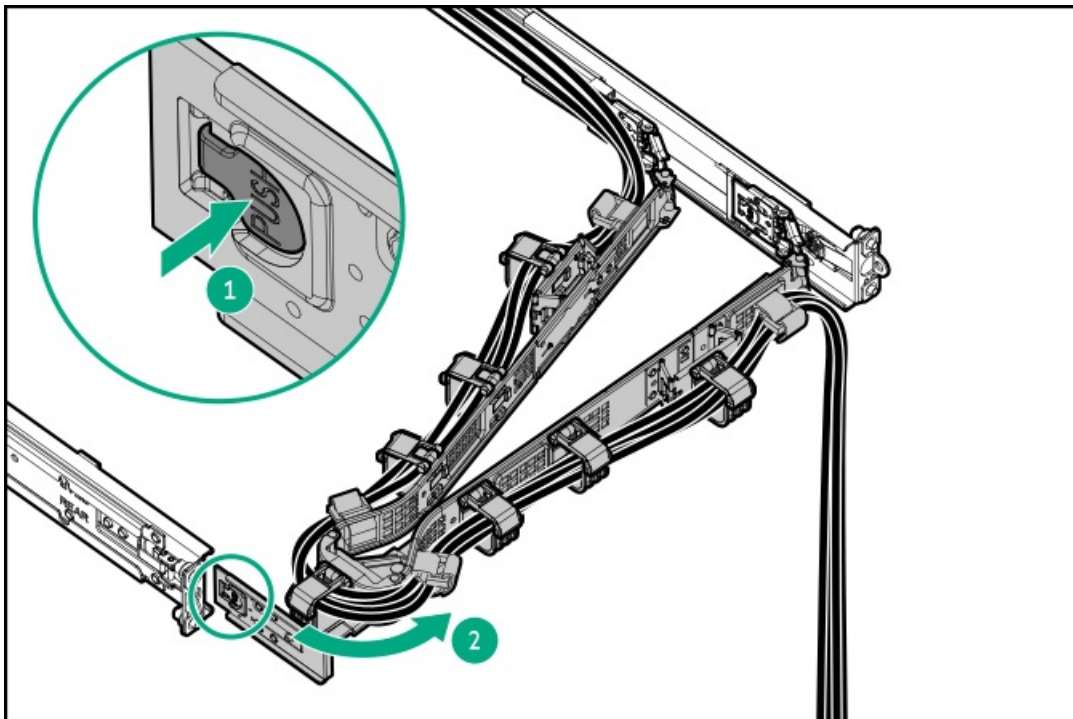
## Removing the system board assembly

### Prerequisites

- [Perform a backup of critical server data.](#)
- Before you perform this procedure, make sure that you have the following items available:
  - T-15 Torx screwdriver
  - T-20 Torx screwdriver
  - Hex screwdriver
  - Alcohol wipe

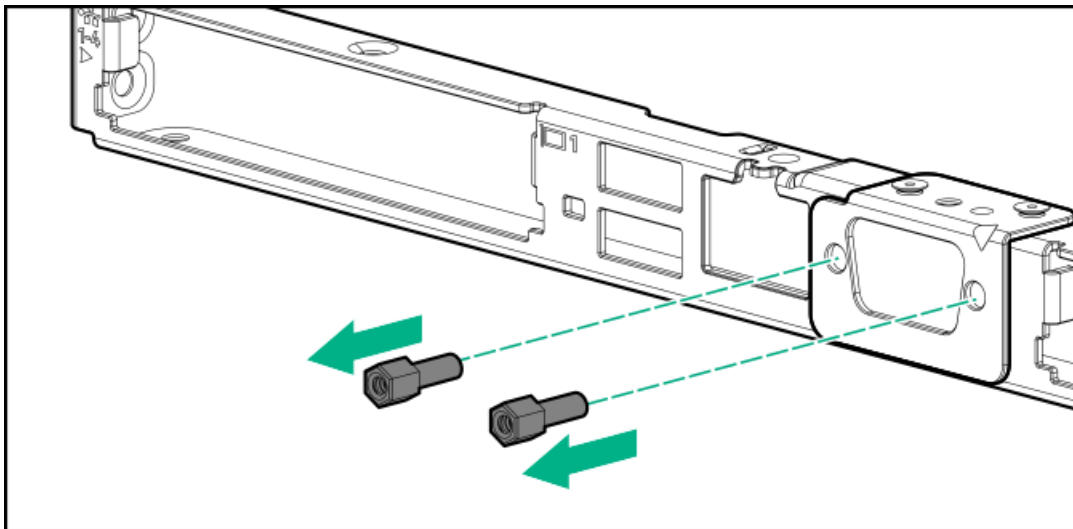
### Procedure

1. [Power down the server.](#)
2. If installed, open the cable management arm.



3. Remove all power:
  - a. Disconnect each power cord from the power source.

- b. Disconnect each power cord from the server.
4. Disconnect all peripheral cables from the server.
5. Remove the server from the rack.
6. Place the server on a flat, level work surface.
7. Remove the access panel.
8. Do one of the following:
  - a. Remove the air baffle.
  - b. Remove the midplane drive cage.
9. Remove the fan cage.
10. Disconnect all cables from the expansion cards, riser boards, and the system board.
11. Remove all riser cages
12. If installed, remove the following components:
  - Type-o storage controller
  - Chassis intrusion detection switch
  - Energy pack
  - OCP NIC 3.0 adapter
  - Serial port cable
13. If the serial port cable is not installed, remove the hex screws from the serial port slot.



14. If installed, remove the cable guards.
15. Remove all DIMMs.
16. Allow all internal system components to cool before continuing.
17. Remove the heatsink:

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**⚠ CAUTION:**

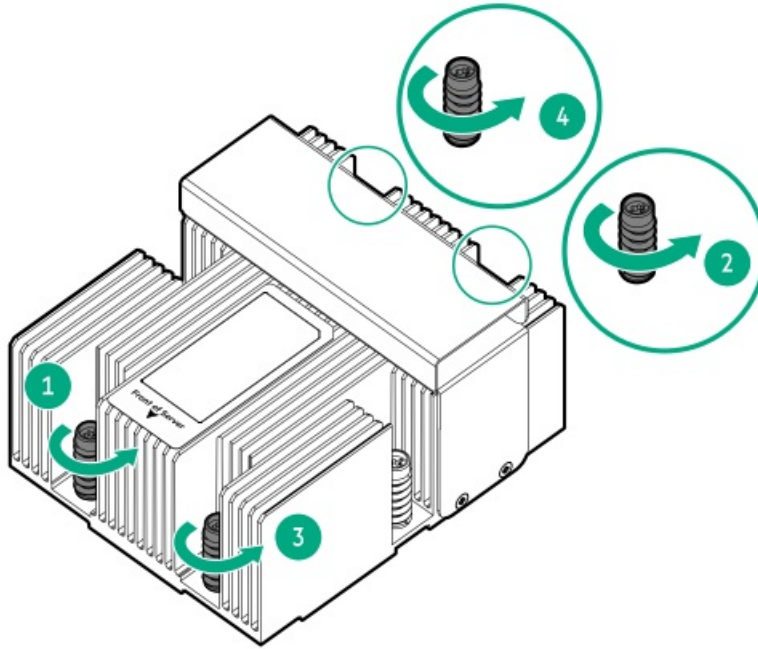
To prevent mechanical damage or depositing oil on your hands or other contaminant to the heatsink contact surface, hold the heatsink only by the edge of its base plate. Do not touch the heatsink fins.

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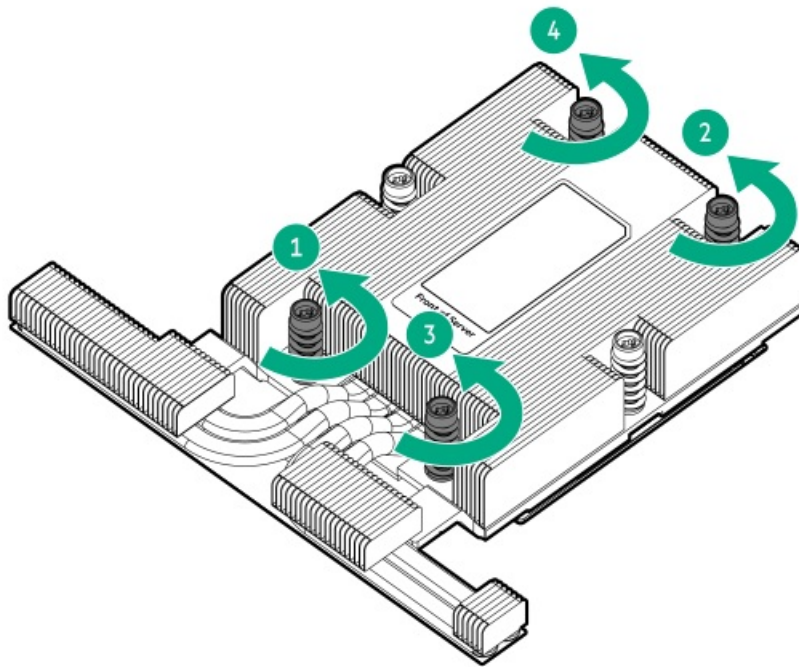
- a. Review the heatsink screw numbering on the heatsink label.

b. Loosen the heatsink screw numbers 6, 5, 4, and 3 in a diagonal manner (callouts 1 to 4).

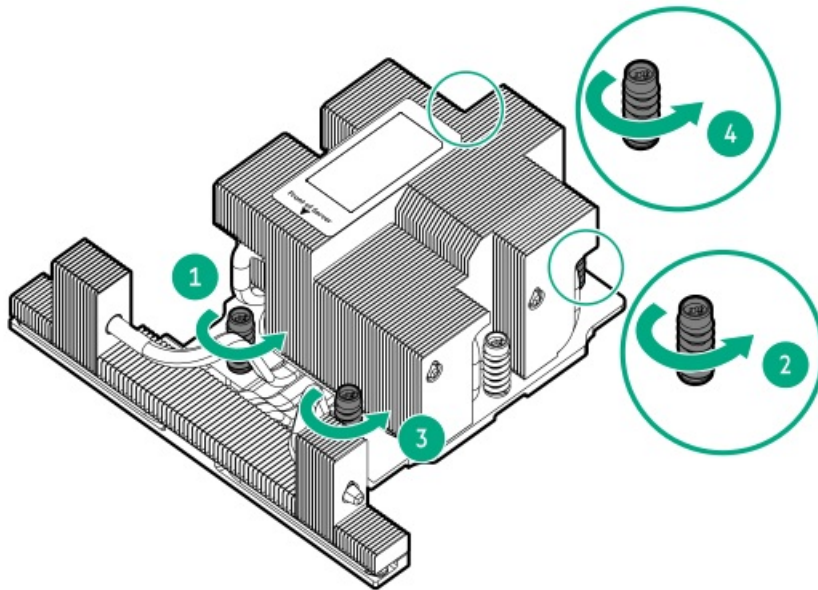
- Standard heatsink



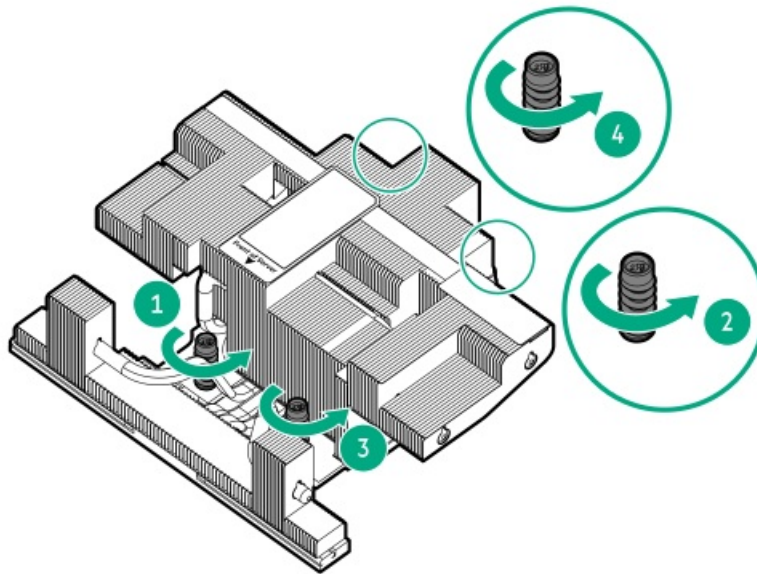
- Midplane cage heatsink



- High performance heatsink



- Max performance heatsink

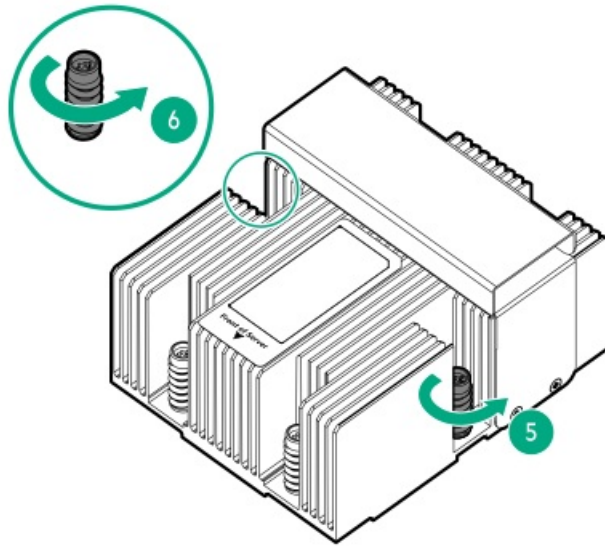


c. Loosen the heatsink screw numbers 2 and 1 (callouts 5 and 6).

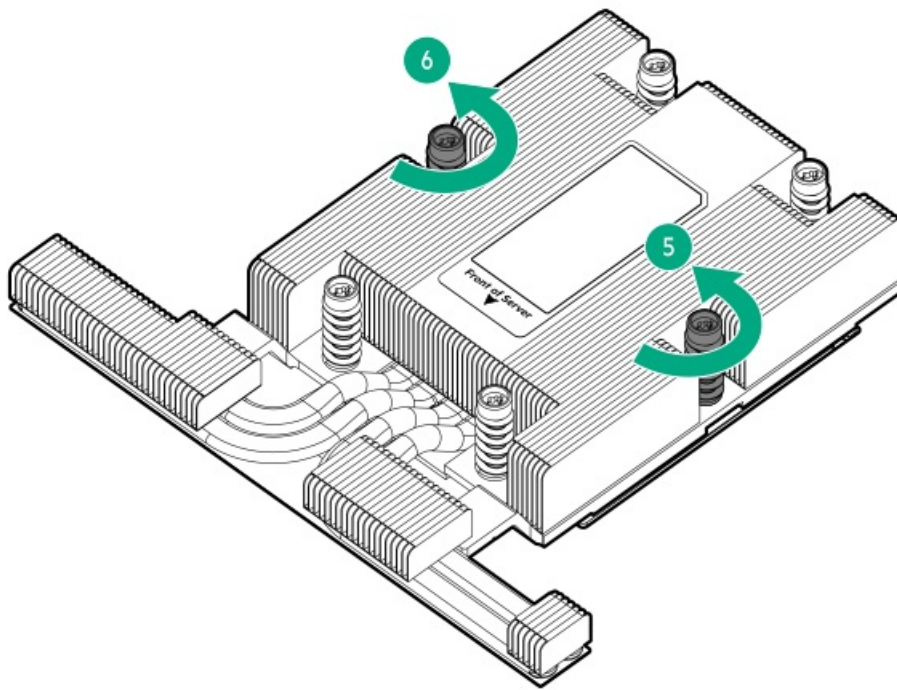
- Standard heatsink



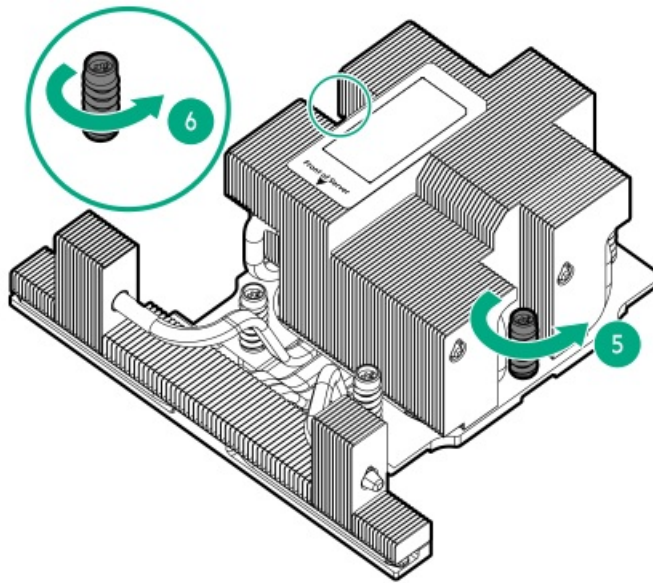




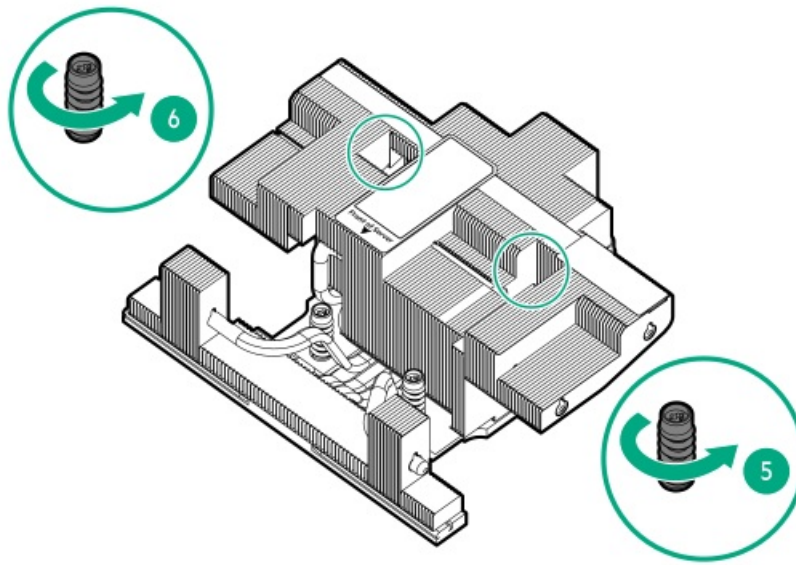
- Midplane cage heatsink



- High performance heatsink



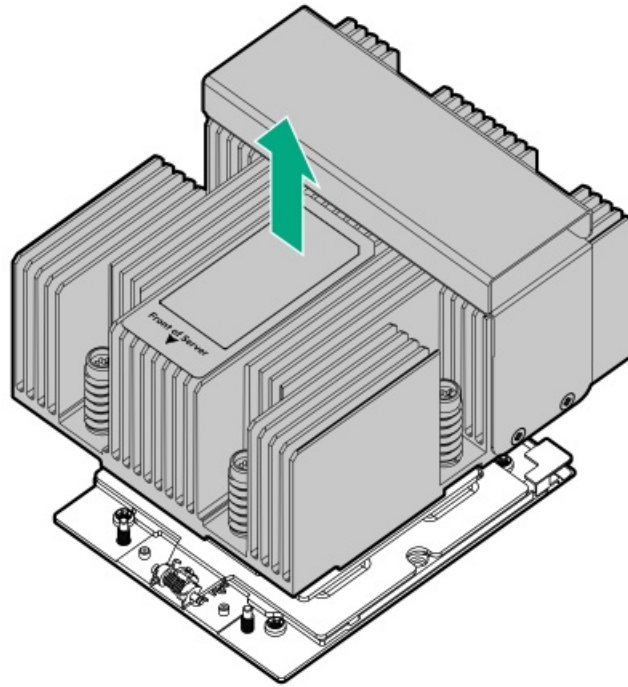
- Max performance heatsink



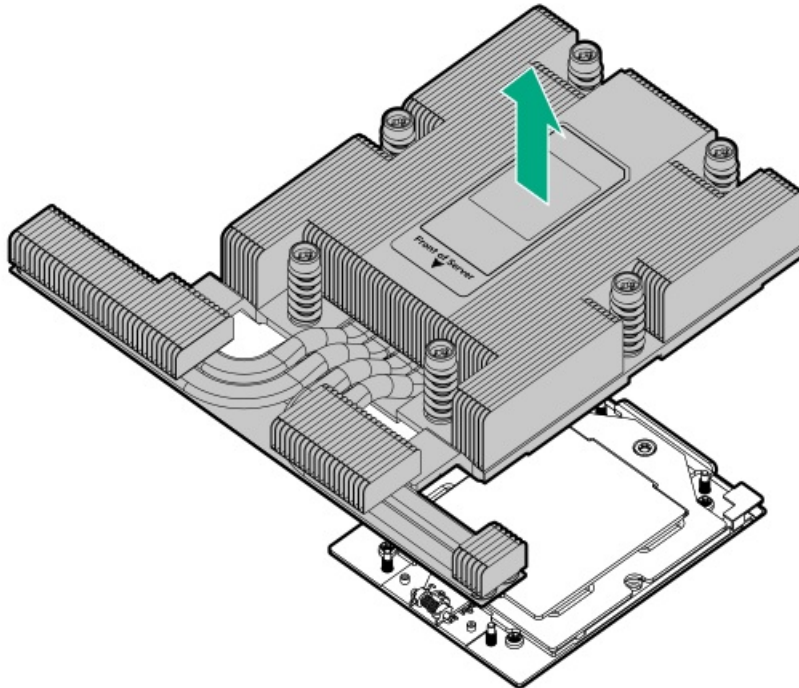
18. Lift the heatsink away from the processor socket.

- Standard heatsink



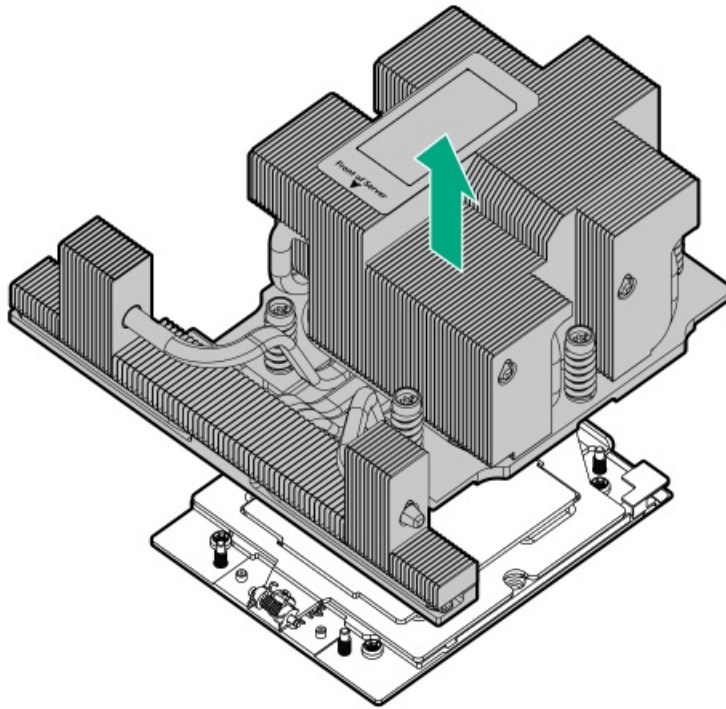


- Midplane cage heatsink

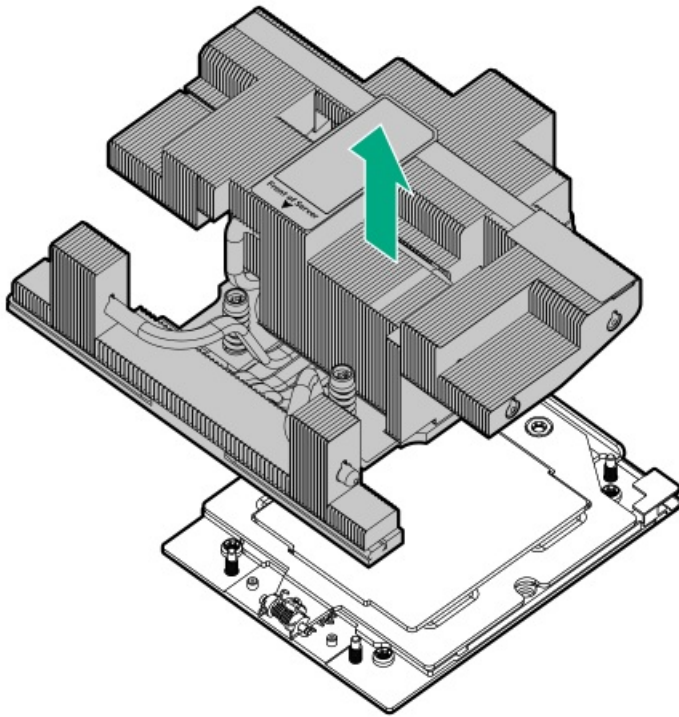


- High performance heatsink



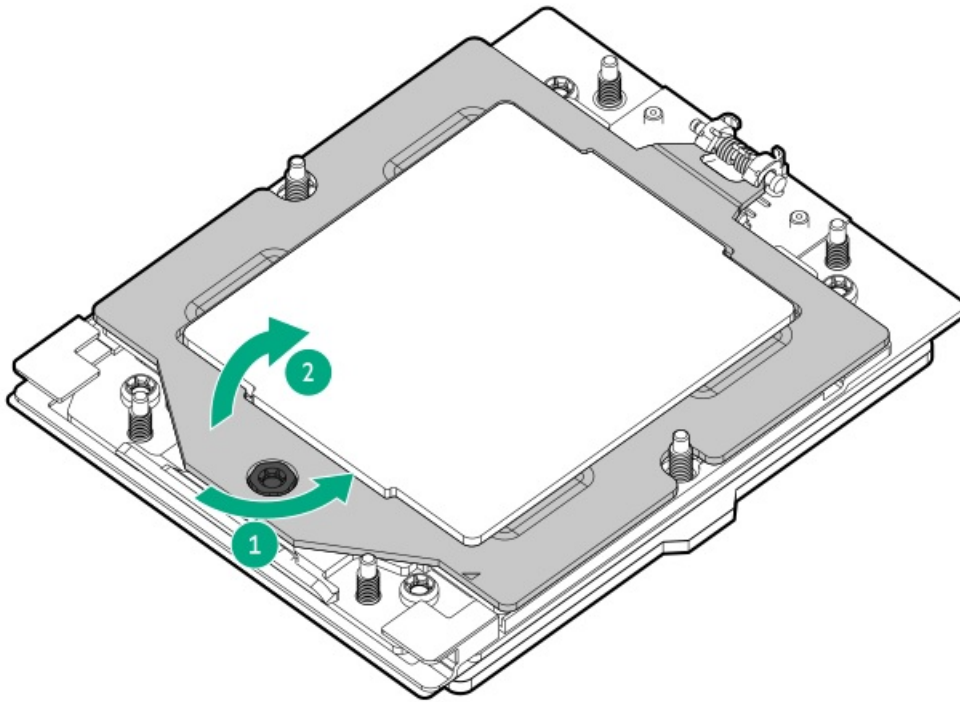


- Max performance heatsink

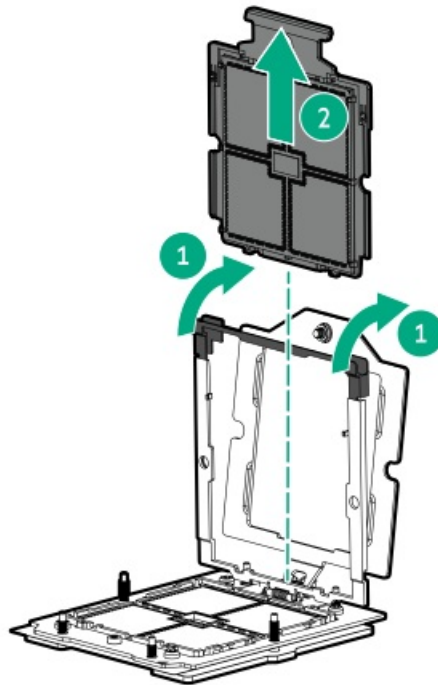


19. Place the heatsink on a flat work surface with its contact side facing up.
20. Use an alcohol wipe to remove the existing thermal grease from the heatsink and processor.  
Allow the alcohol to evaporate before continuing.
21. Remove the processor:
  - a. While holding the sides of the retention frame, loosen the frame screw (callout 1).  
This retention frame is spring-loaded. Once the screw is loosened enough, hold the retention frame as it automatically pivots to a vertical position (callout 2).





- b. Hold the lift tabs and pivot the rail frame to the vertical position (callout 1).
- c. Slide the processor out of the rail frame (callout 2).

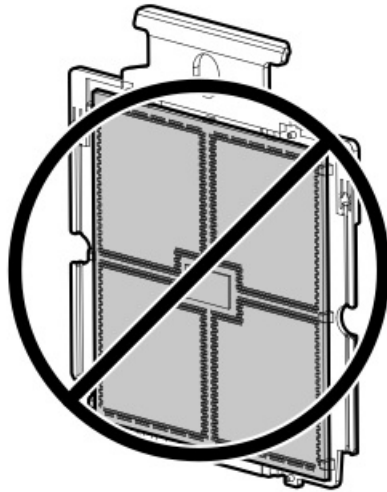
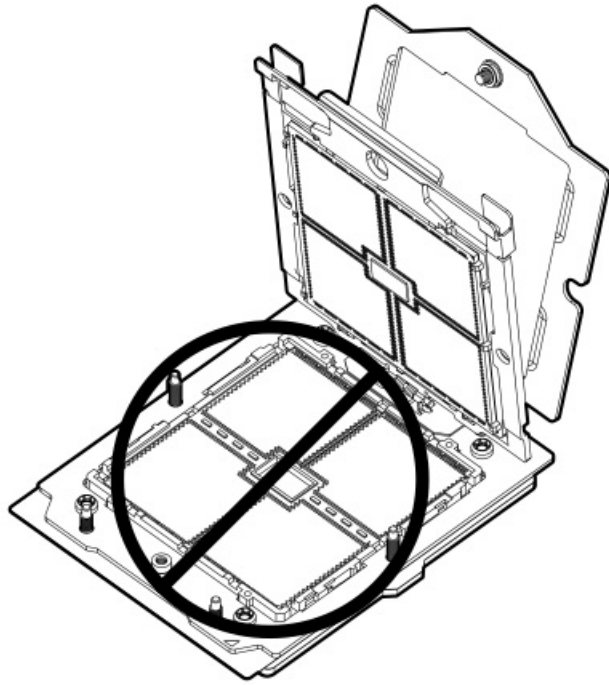


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**CAUTION:** The pins on the processor socket and on the processor are very fragile and easily damaged . To avoid component damage, do not touch these pins. Any damage to them might require replacing the system board and/or processor.

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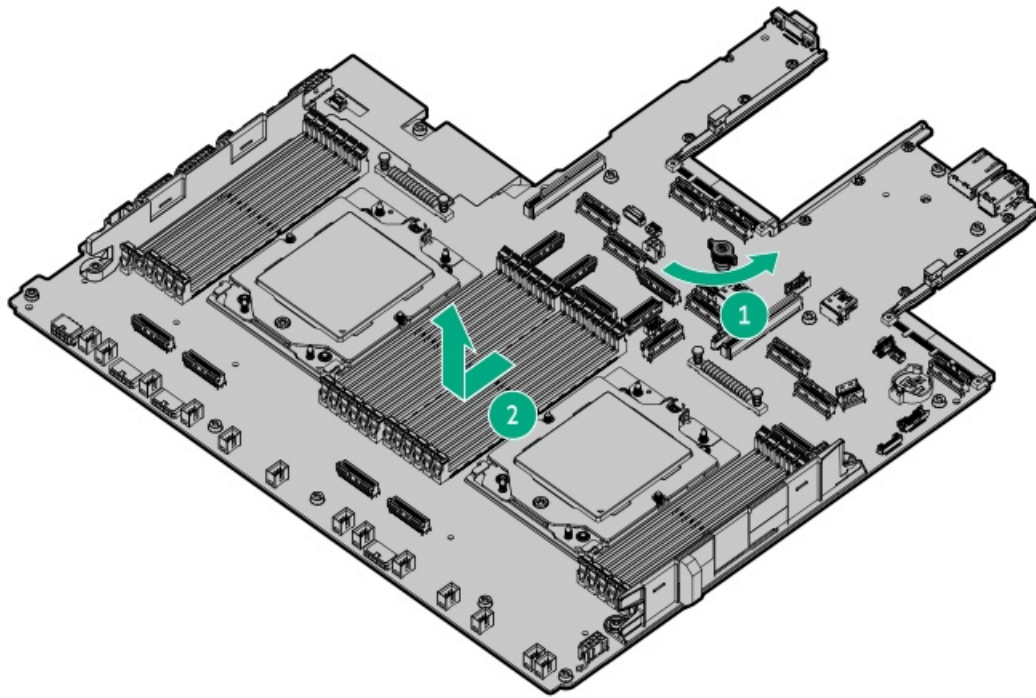
- 22. Do not touch the pin field on the socket and the processor contacts.



23. Remove the system board assembly:

- a. Loosen the system board thumbscrew (callout 1).
- b. Remove the system board from the chassis (callout 2).





## Installing the system board assembly

### Prerequisites

Before you perform this procedure, make sure that you have the following items available:

- T-20 Torx screwdriver
- Hex screwdriver
- Thermal grease (spare part number: 777298-001)

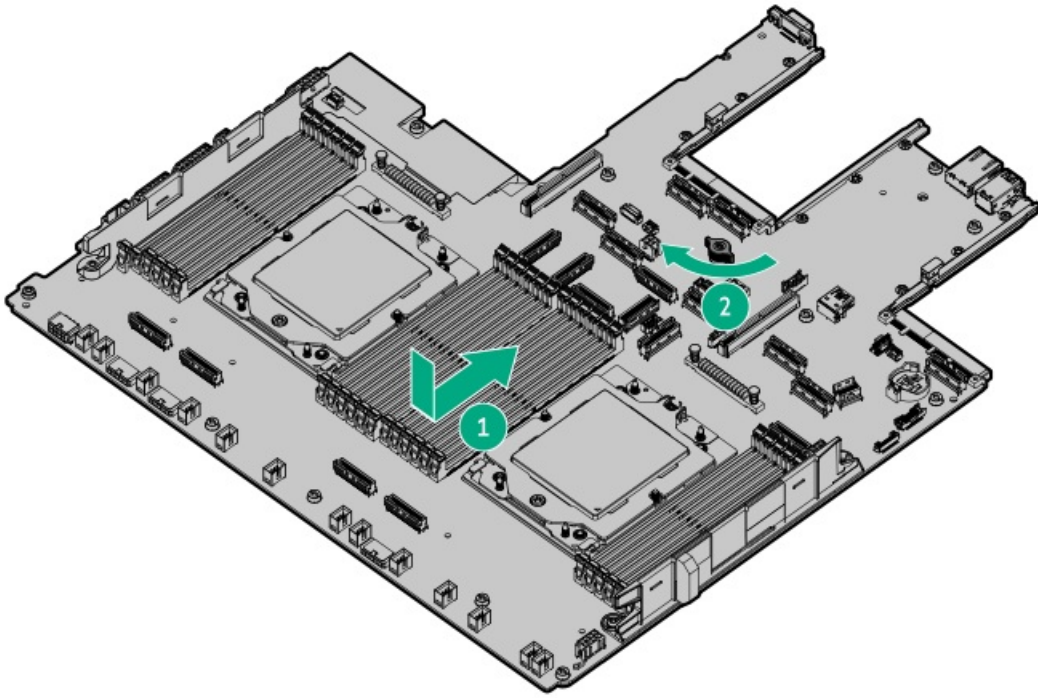
### About this task

#### CAUTION:

A discharge of static electricity from a finger or other conductor might damage system boards or other static-sensitive devices. To prevent damage, observe [antistatic precautions](#).

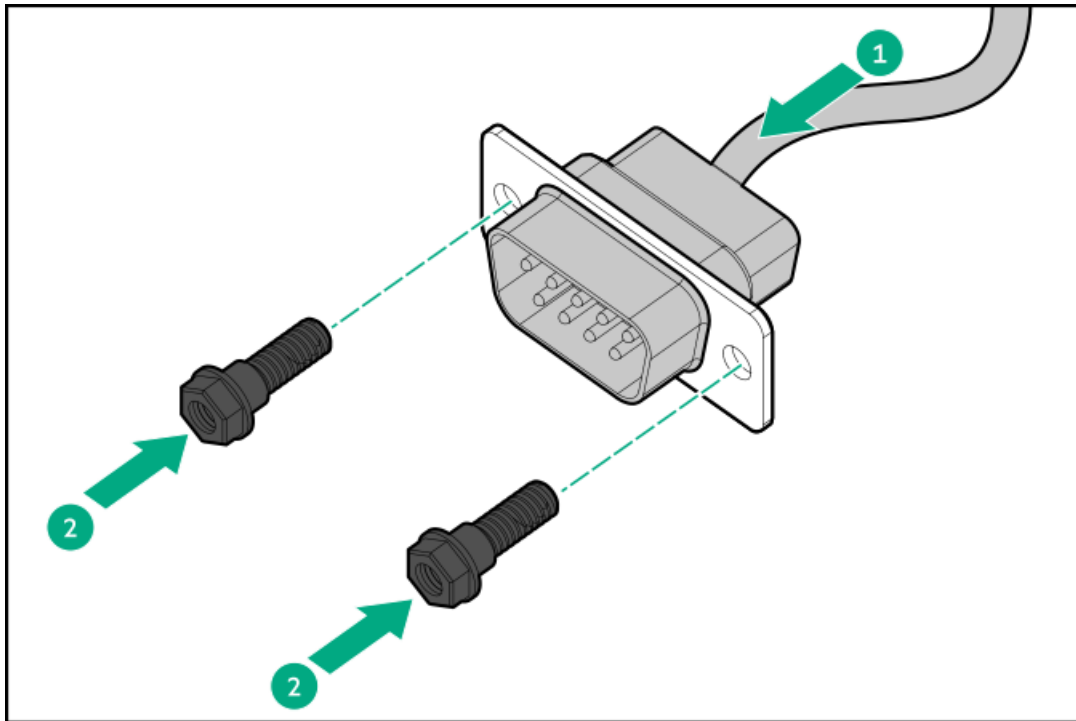
### Procedure

1. Install the new system board assembly:
  - a. Install the system board assembly in the chassis (callout 1).
  - b. Tighten the system board captive screw (callout 2).



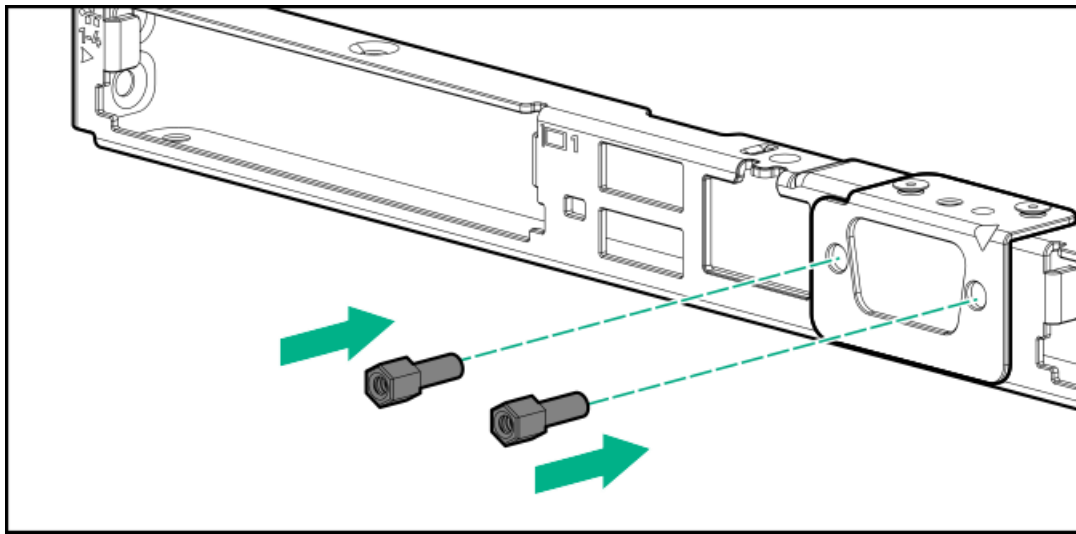
2. Do one of the following:

- Install the serial port cable.



- Install the hex screws on the serial port slot.

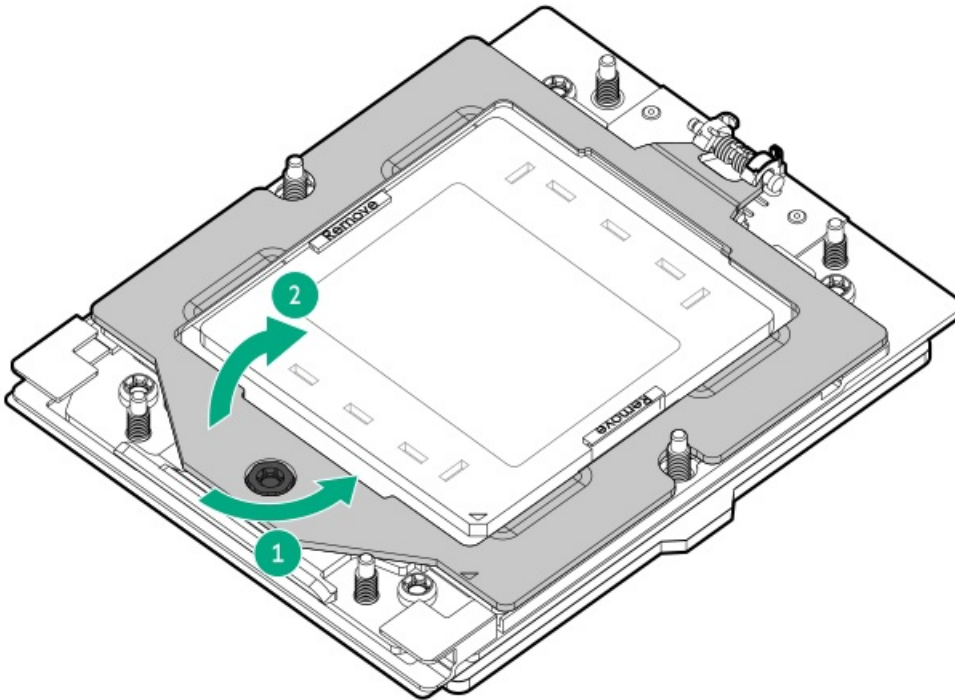




3. Remove the rail frame cover:

- a. While holding the sides of the retention frame, loosen the frame screw (callout 1).

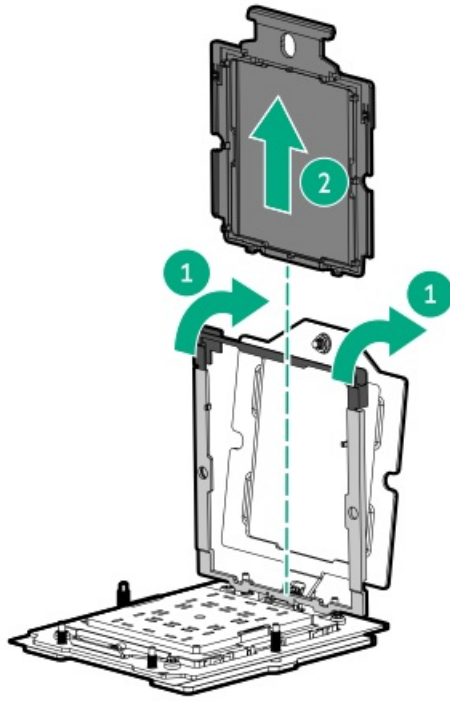
This retention frame is spring-loaded. Once the screw is loosened enough, hold the retention frame as it automatically pivots to a vertical position (callout 2).



- b. Hold the lift tabs and pivot the rail frame to the vertical position (callout 1).
- c. Slide the rail frame cover out of the rail frame (callout 2).

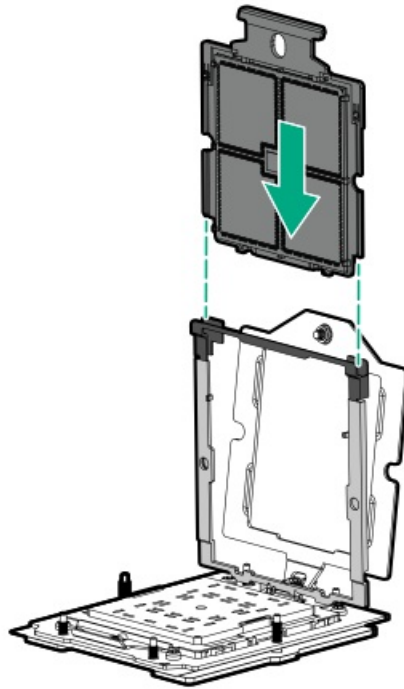
Retain the cover for future use.





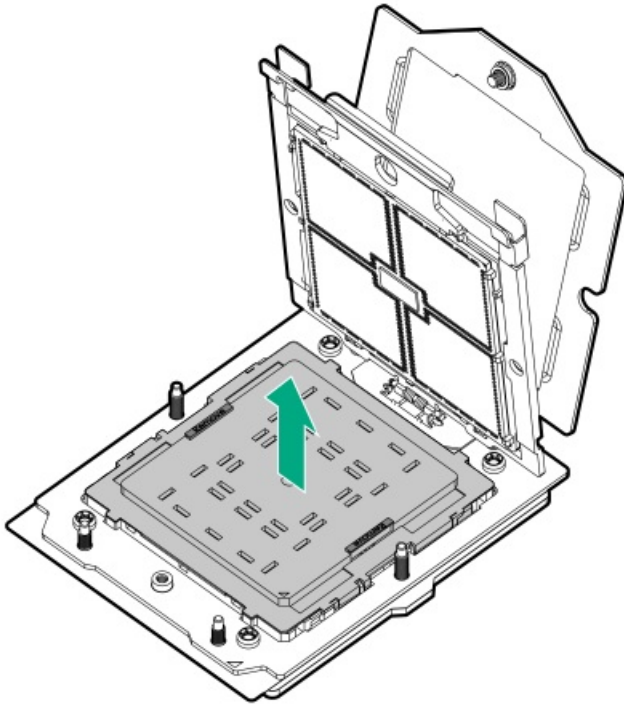
4. Install the processor:

- a. Hold the processor by its carrier handle and slide the processor into the rail frame until it engages with a click sound.



5. Remove the pin field cover cap.

Retain the cover for future use.

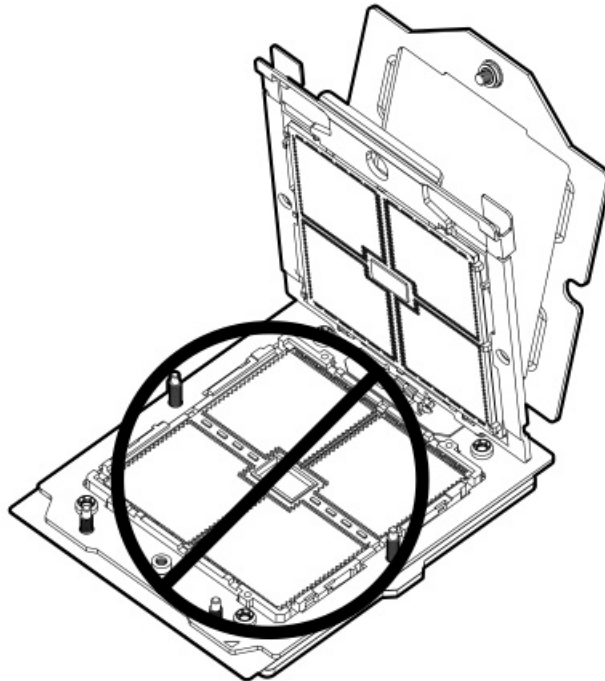


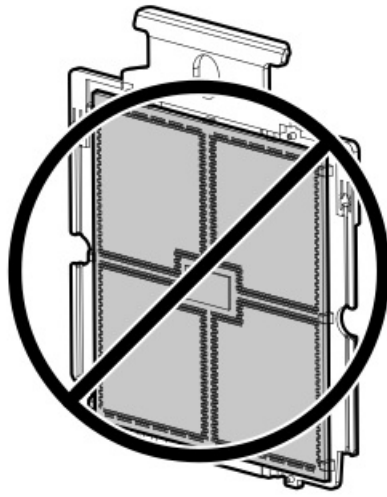
---

**⚠ CAUTION:** The pins on the processor socket and on the processor are very fragile and easily damaged . To avoid component damage, do not touch these pins. Any damage to them might require replacing the system board and/or processor.

---

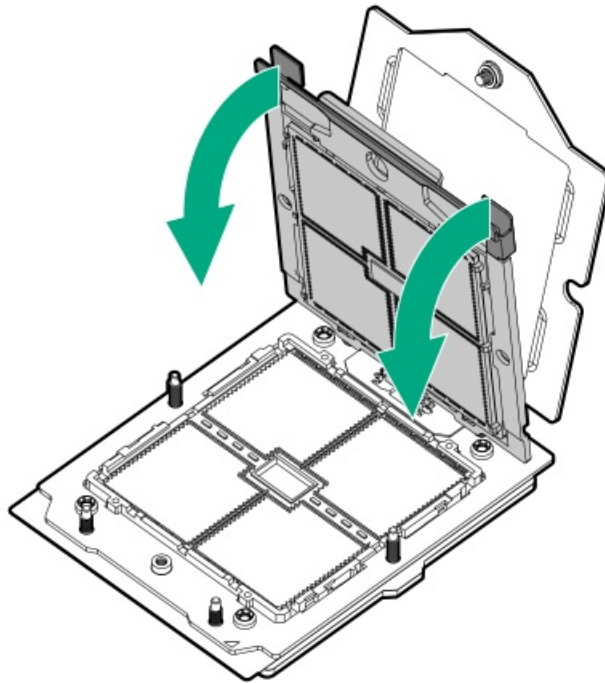
6. Do not touch the pin field on the socket and the processor contacts.





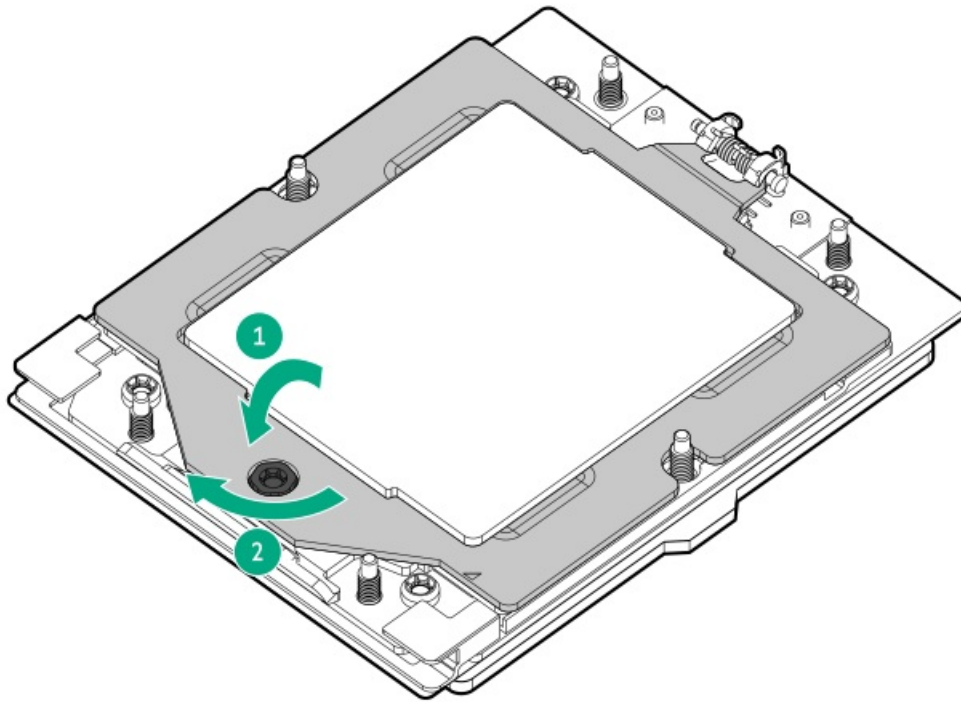
7. Hold the lift tabs and pivot the rail frame to the closed position.

A click sound indicates that the rail frame is properly engaged.



8. Close the retention frame:

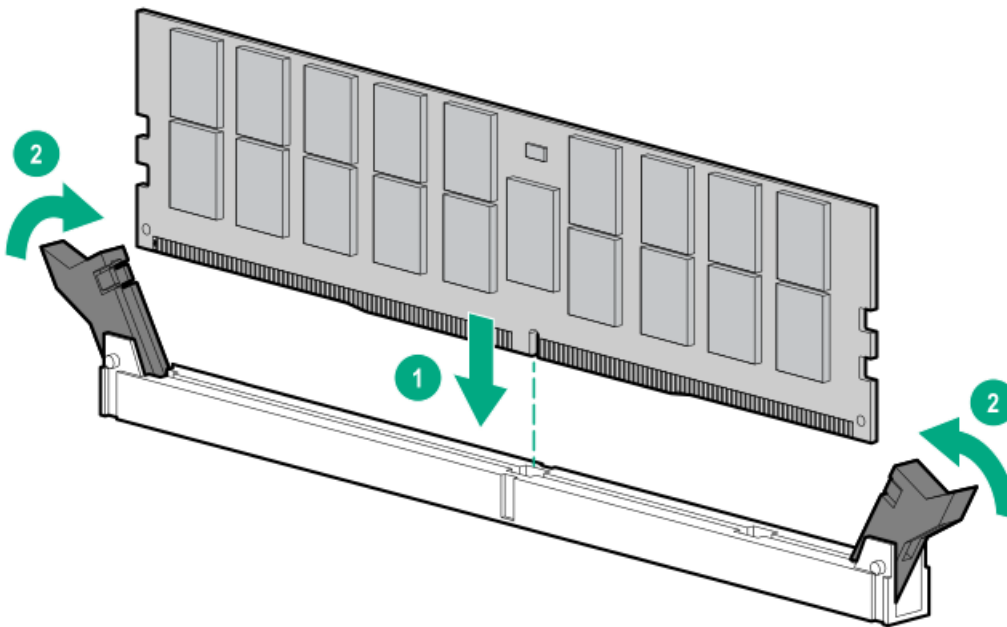
- a. When using a torque wrench to tighten the retention frame screw, set a torque between 1.24 N-m (11 lbf-in) to 1.47 N-m (13 lbf-in) .
- b. Pivot the spring loaded retention frame downward and hold it down (callout 1).
- c. Tighten the retention frame screw (callout 2).



9. Install the DIMM:

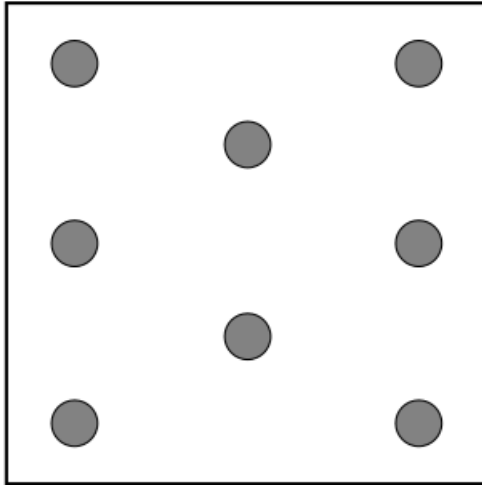
- a. Open the DIMM slot latches (callout 1).
- b. Align the notch on the bottom edge of the DIMM with the keyed surface of the DIMM slot, and then fully press the DIMM into the slot until the latches snap back into place (callout 2).

The DIMM slots are structured to ensure proper installation. If you try to insert a DIMM but it does not fit easily into the slot, you might have positioned it incorrectly. Reverse the orientation of the DIMM and insert it again.



10. If you are using the same heatsink, apply the full content of the thermal grease syringes on top of the processor. Follow the pattern shown in the following image.





11. Install the heatsink:

---

**△ CAUTION:**

To prevent mechanical damage or depositing oil on your hands or other contaminant to the heatsink contact surface, hold the heatsink only by the edge of its base plate. Do not touch the heatsink fins.

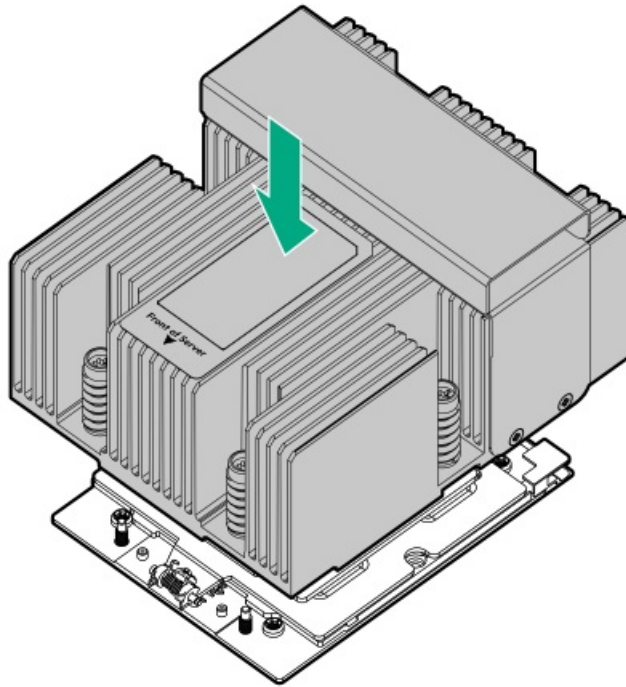
---

**△ CAUTION:**

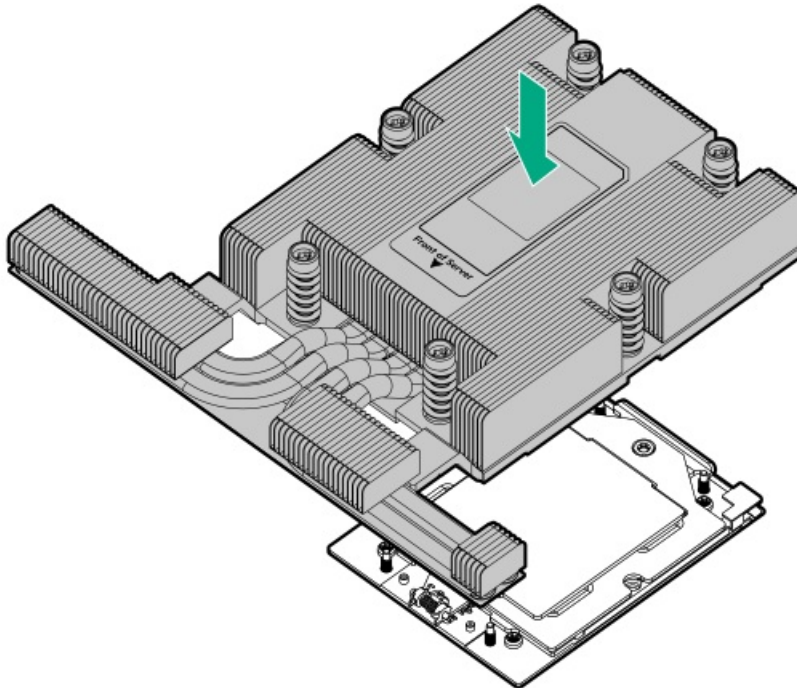
To prevent thermal failure or component damage, do not move the heatsink once the bottom of its base plate touches the top of the processor. Excessive heatsink movement can cause the thermal grease to smear and become uneven. Voids in the compound can adversely impact the transfer of heat away from the processor.

---

- a. When using a torque wrench to tighten the heatsink screws, set a torque between 1.24 N-m (11 lbf-in) to 1.47 N-m (13 lbf-in) .
- b. Note the **Front of server** text on the heatsink label to correctly orient the heatsink over the processor socket.
- c. Position the heatsink on top of the processor, ensuring that it is properly seated before securing the screws.
  - Standard heatsink

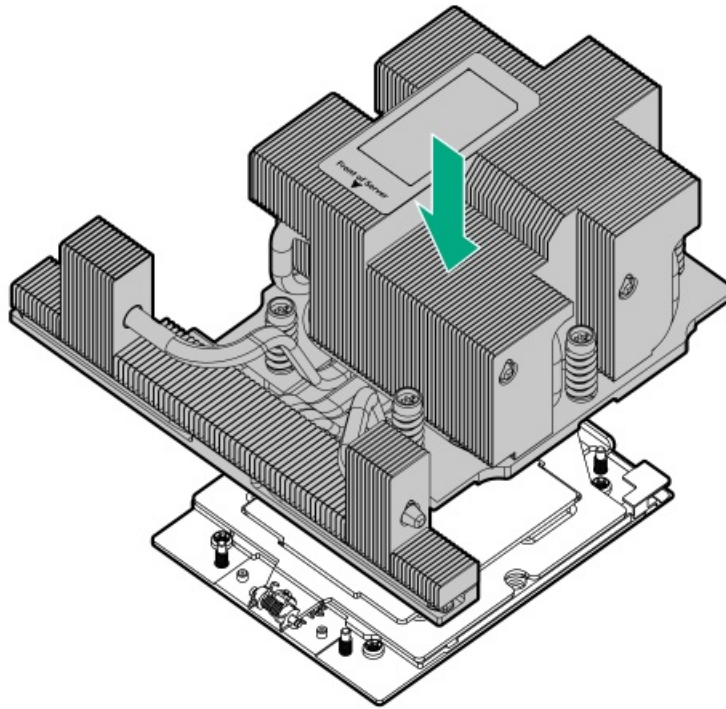


- Midplane cage heatsink

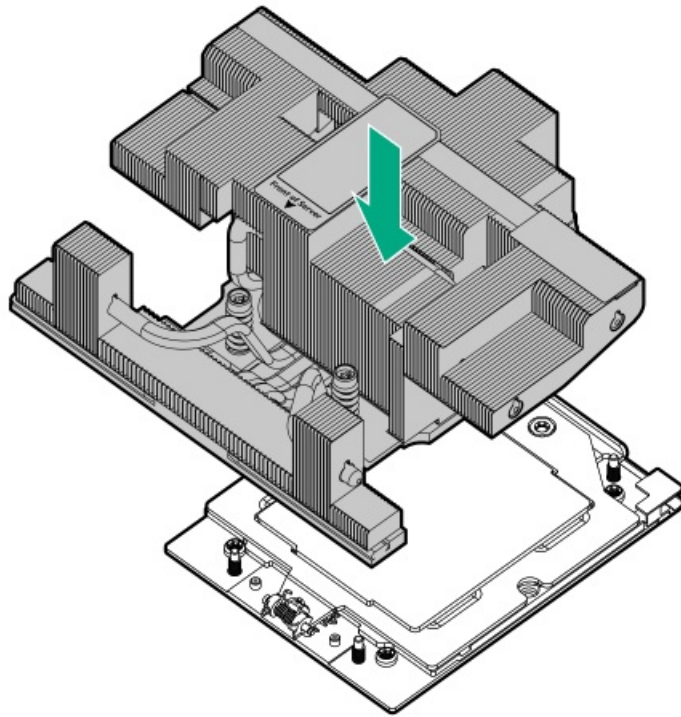


- High performance heatsink





- Max performance heatsink

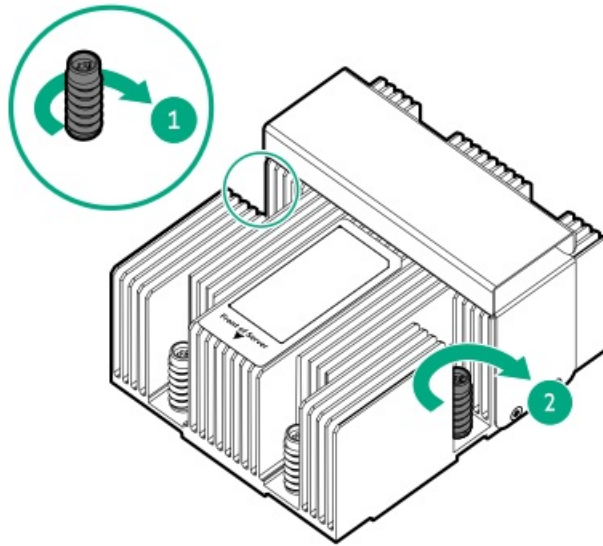


d. Tighten the heatsink screw numbers 1 and 2 (callouts 1 and 2).

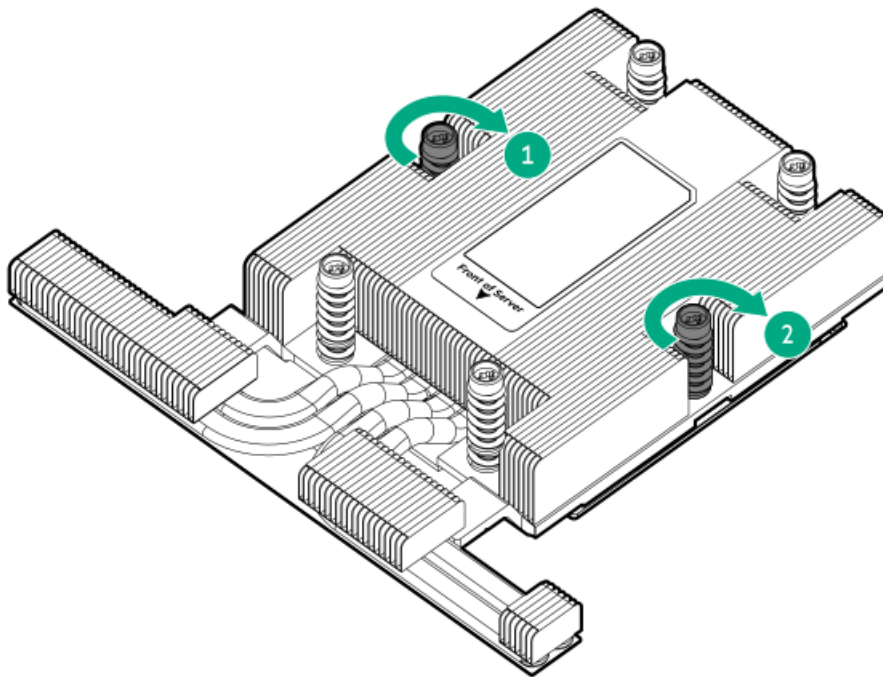
- Standard heatsink





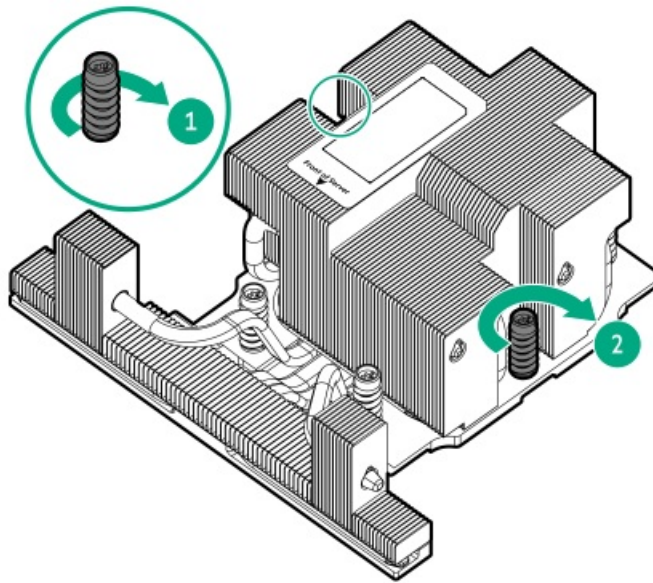


- Midplane cage heatsink

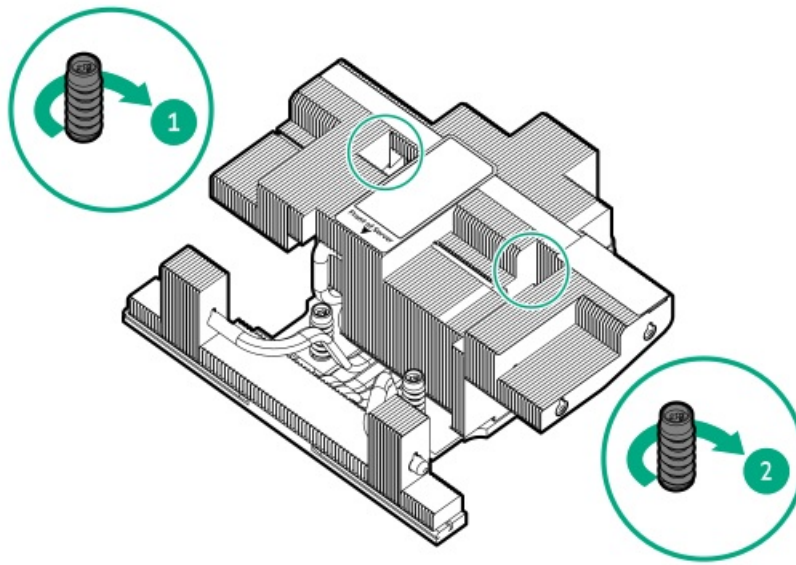


- High performance heatsink



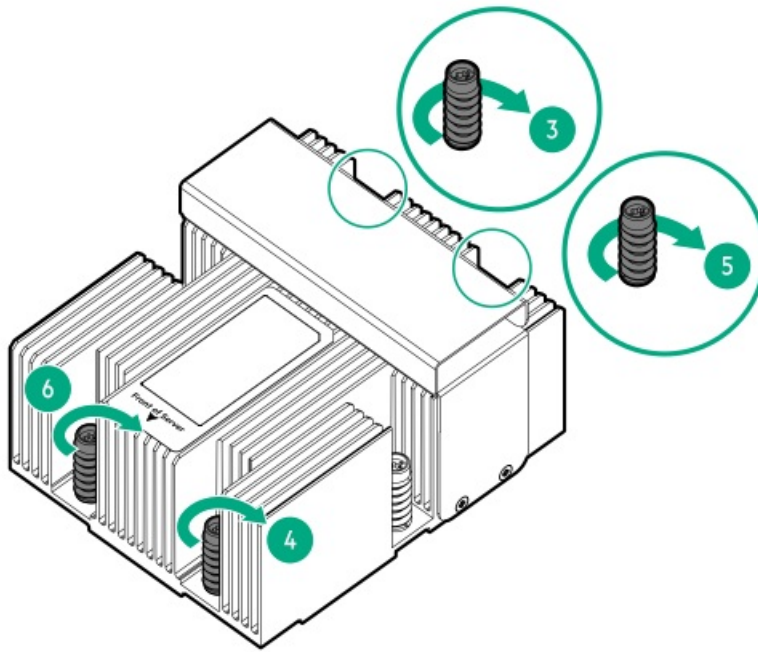


- Max performance heatsink

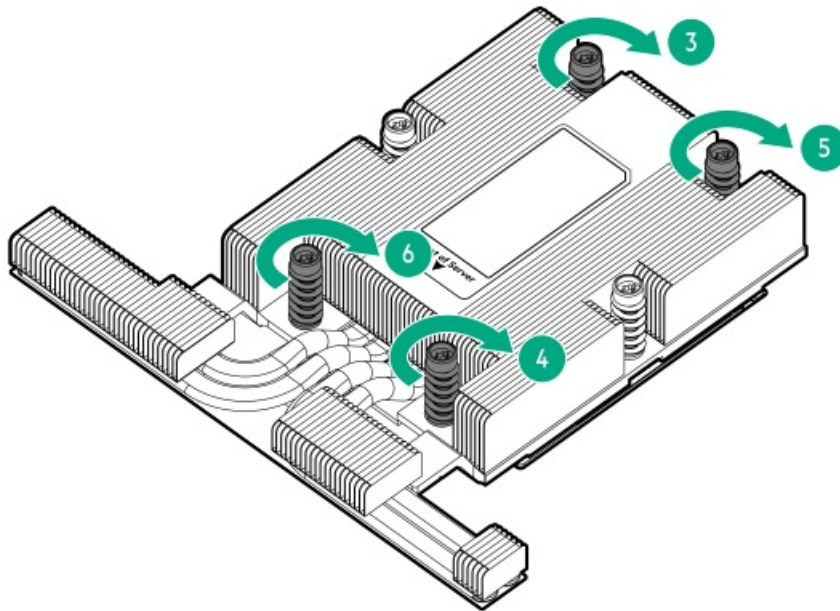


e. Tighten the heatsink screw numbers 3, 4, 5, and 6 in a diagonal manner (callouts 3 to 6).

- Standard heatsink

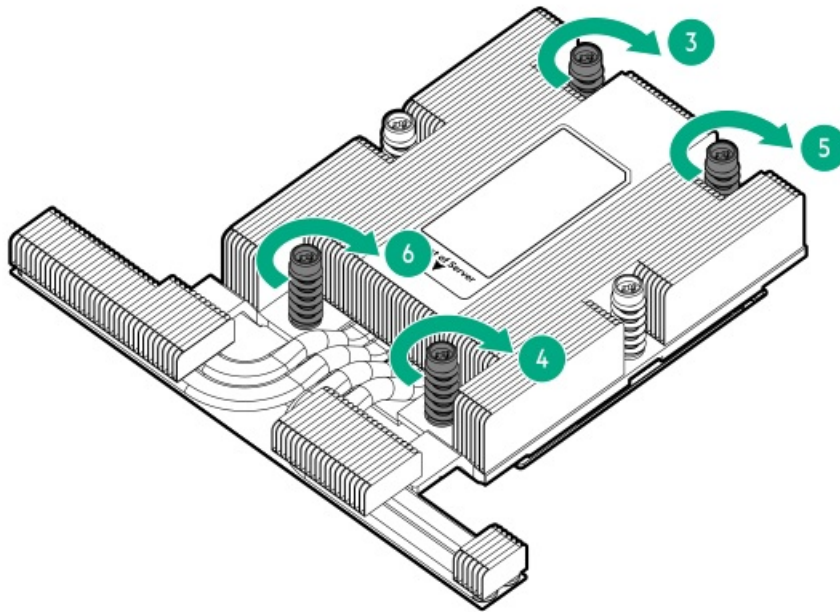


- Midplane cage heatsink

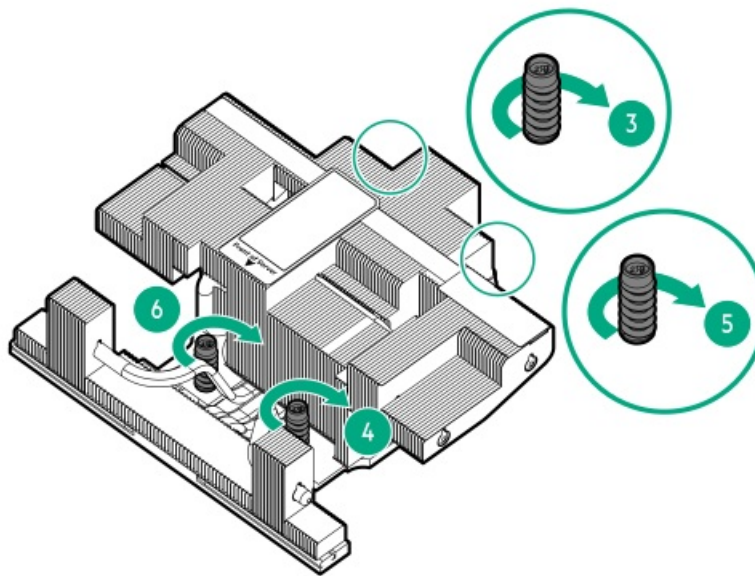


- High performance heatsink





- Max performance heatsink



12. Install all removed components on the new system board.
13. Do one of the following:
  - a. Install the air baffle.
  - b. Install the midplane drive cage.
14. Install the access panel.
15. Install the server into the rack.
16. Connect all peripheral cables to the server.
17. Connect each power cord to the server.
18. Connect each power cord to the power source.
19. Power up the server.

20. If removed, install the front bezel.
21. Make sure all firmware, including option cards and embedded devices, is updated to the same versions to ensure that the latest drivers are being used.
22. Re-enter any Secure Boot keys that were previously added in the Secure Boot configuration.
23. Re-enter the server serial number and product ID, and configure the date and time settings .

## Re-entering the server serial number and product ID

### About this task

After replacing the system board, re-enter the system serial number and product ID, and configure the date and time settings.

### Procedure

1. Access the UEFI System Utilities. During POST, press **F9**.
2. From the System Utilities screen, select System Configuration > BIOS/Platform Configuration (RBSU) > Advanced Options > Advanced Service Options.
3. Select Serial Number, and then press **Enter**.

The following warning appears:

```
The serial number is modified by qualified service personnel and must match the serial number located on the chassis.
```

4. Click OK.
5. Type the serial number, and then press **Enter**.
6. Select Product ID, and then press **Enter**.

The following warning appears:

```
Product ID is modified only by qualified service personnel. This value must match the product ID located on the chassis.
```

7. Type the product ID, and then press **Enter**.
8. From the System Utilities screen, select System Configuration > BIOS/Platform Configuration (RBSU) > Date and Time.
9. Configure the date and time settings:
  - Date (mm-dd-yyyy)—Enter the date in a month-day-year (mm-dd-yyyy) format.
  - Time (hh:mm:ss)—Enter the time in a 24-hour format (hh:mm:ss) format.
  - Hour Format—Select either a 12- or 24-hours format. (This menu is supported in Gen10 Plus and later servers.)
  - Time Format
    - Coordinated Universal Time (UTC)—Calculates the time stored in the hardware real-time clock (RTC) from the associated Time Zone setting.
    - Local Time—Removes the use of the Time Zone setting. This option is useful for addressing interaction issues in Windows operating systems set in legacy BIOS boot mode.
    - Time Zone—Select the time zone for the system.
    - Daylight Savings Time—Select whether to enable DST in the system time setting.
10. To confirm and save the settings, press **F12**.

The server automatically reboots.

## Results

The installation is complete.

# Component identification

## Subtopics

[Front panel components](#)

[Front panel LEDs and buttons](#)

[Rear panel components](#)

[Rear panel LEDs](#)

[System board components](#)

[Riser board components](#)

[PCIe5 slot description](#)

[Riser slot numbering](#)

[Drive bay numbering](#)

[Drive backplane naming](#)

[HPE Basic Drive LED definitions](#)

[EDSFF SSD LED definitions](#)

[DSC-25 2-port SFP28 card ports and LEDs](#)

[Fan numbering](#)

[Fan and heatsink requirements](#)

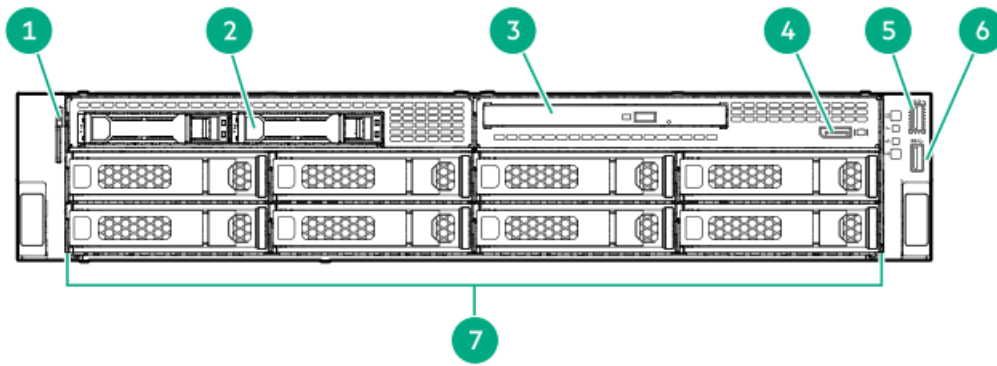
[Trusted Platform Module 2.0](#)

[HPE NS204i-u Boot Device components](#)

[HPE NS204i-u Boot Device LED definitions](#)

## Front panel components

8 LFF drive configuration



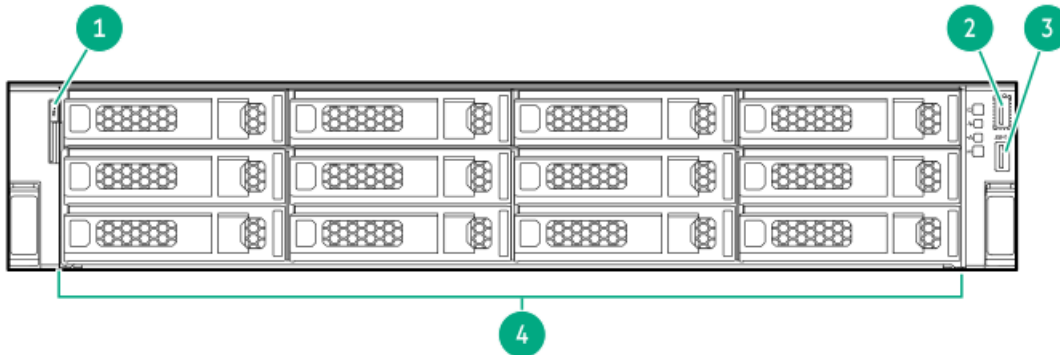
Item	Description
1	Serial number/iLO information pull tab <sup>1</sup>
2	2 SFF side-by-side drives (optional) <sup>2</sup>
3	Optical drive (optional)
4	DisplayPort 1.1a (optional)
5	iLO service port
6	USB 3.2 Gen 1 port
7	LFF drives <sup>3</sup>

<sup>1</sup> The serial number/iLO information pull tab is double-sided. One side shows the server serial number and the customer asset tag label. The other side shows the default iLO account information.

<sup>2</sup> The 2 SFF side-by-side drive cage option supports SAS, SATA, or U.3 NVMe drives.

<sup>3</sup> The server supports LFF SAS or SATA drives.

## 12 LFF drive configuration

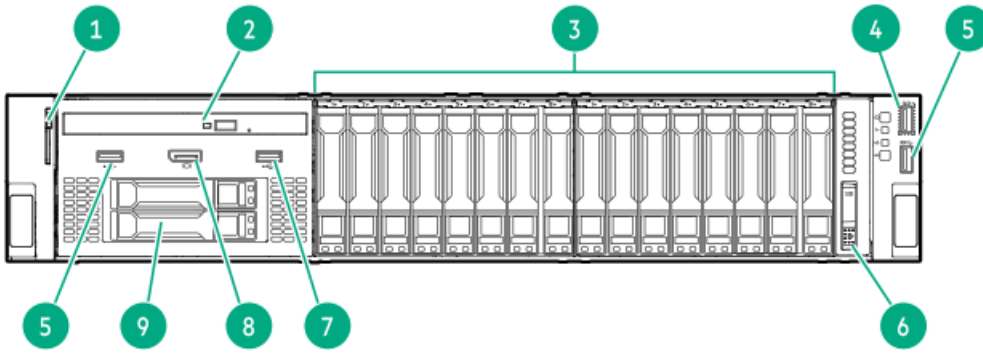


Item	Description
1	Serial number/iLO information pull tab <sup>1</sup>
2	iLO service port
3	USB 3.2 Gen 1 port
4	LFF drives <sup>2</sup>

<sup>1</sup> The serial number/iLO information pull tab is double-sided. One side shows the server serial number and the customer asset tag label. The other side shows the default iLO account information.

<sup>2</sup> The server supports LFF SAS or SATA drives.

## 16 SFF drive model with options

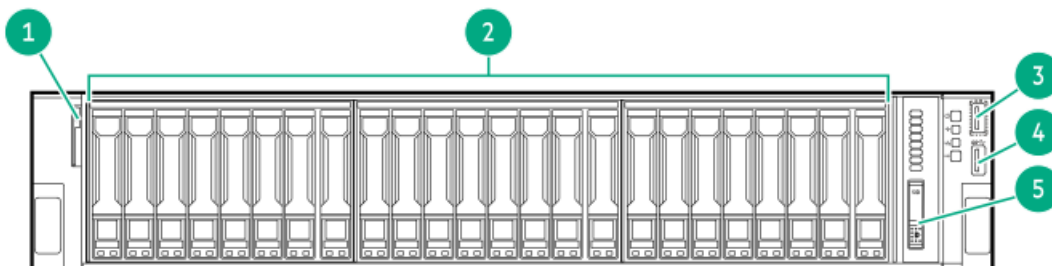


Item	Description
1	Serial number/iLO information pull tab <sup>1</sup>
2	Optical drive (optional)
3	SFF drive bays <sup>2</sup>
4	iLO service port
5	USB 3.2 Gen 1 port (optional)
6	System Insight Display (optional)
7	USB 2.0 port
8	DisplayPort 1.1a (optional)
9	Front 2 SFF stacked drives (optional)

<sup>1</sup> The serial number/iLO information pull tab is double-sided. One side shows the server serial number and the customer asset tag label. The other side shows the default iLO account information.

<sup>2</sup> The 8 SFF drive cage supports the following drive types: SATA, SAS and U.3 NVMe drives.

#### 24 SFF drive configuration



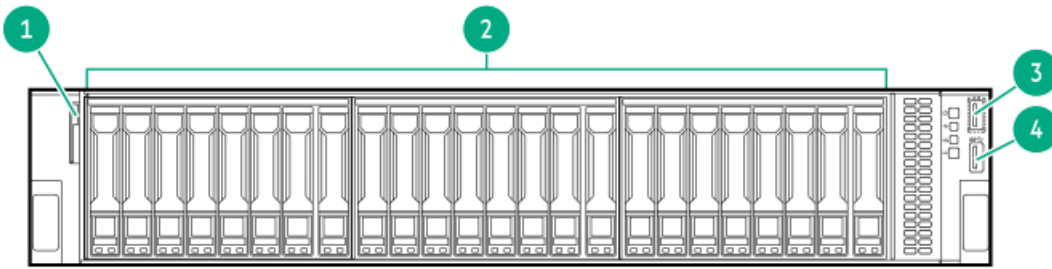
Item	Description
1	Serial number/iLO information pull tab <sup>1</sup>
2	SFF drives <sup>2</sup>
3	iLO service port
4	USB 3.2 Gen 1 port
5	System Insight Display (optional)

<sup>1</sup> The serial number/iLO information pull tab is double-sided. One side shows the server serial number and the customer asset tag label. The other side shows the default iLO account information.

<sup>2</sup> Depending on the type of drive backplane installed, the server supports SFF SAS, SATA, or U.3 NVMe drives.

#### 48 SFF drive configuration



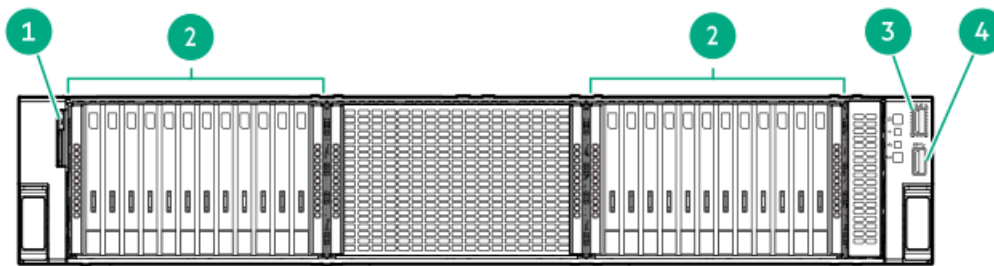


Item	Description
1	Serial number/iLO information pull tab <sup>1</sup>
2	SFF drives <sup>2</sup>
3	iLO service port
4	USB 3.2 Gen 1 port

<sup>1</sup> The serial number/iLO information pull tab is double-sided. One side shows the server serial number and the customer asset tag label. The other side shows the default iLO account information.

<sup>2</sup> Depending on the type of drive backplane installed, the server supports SFF SAS, SATA, or U.3 NVMe drives.

#### 24 E3.S drive configuration

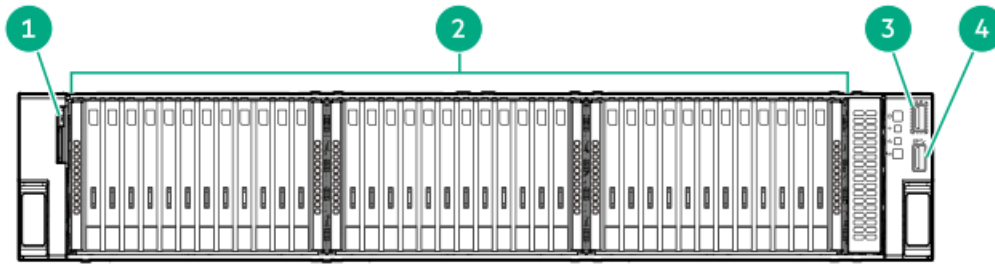


Item	Description
1	Serial number/iLO information pull tab <sup>1</sup>
2	E3.S drives
3	iLO service port
4	USB 3.2 Gen 1 port

<sup>1</sup> The serial number/iLO information pull tab is double-sided. One side shows the server serial number and the customer asset tag label. The other side shows the default iLO account information.

#### 36 E3.S drive configuration

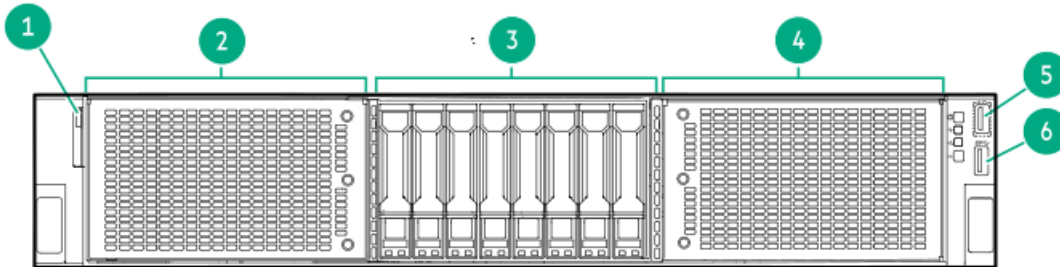
This drive configuration supports a x2 connection.



Item	Description
1	Serial number/iLO information pull tab <sup>1</sup>
2	E3.S drives
3	<u>iLO service port</u>
4	USB 3.2 Gen 1 port

<sup>1</sup> The serial number/iLO information pull tab is double-sided. One side shows the server serial number and the customer asset tag label. The other side shows the default iLO account information.

#### 4 dual-width GPUs with 8 SFF drive configuration



Item	Description
1	Serial number/iLO information pull tab <sup>1</sup>
2	GPU cage 1
3	SFF drives <sup>2</sup>
4	GPU cage 2
5	<u>iLO service port</u>
6	USB 3.2 Gen 1 port

<sup>1</sup> The serial number/iLO information pull tab is double-sided. One side shows the server serial number and the customer asset tag label. The other side shows the default iLO account information.

<sup>2</sup> The server supports U.3 NVMe drives.

#### Subtopics

##### iLO Service Port

## iLO Service Port

The Service Port is a USB port with the label **iLO** on supported servers and compute modules.

To find out if your server or compute module supports this feature, see the server specifications document at the following website: <https://www.hpe.com/info/qs>.

When you have physical access to a server, you can use the Service Port to do the following:

- Download the Active Health System Log to a supported USB flash drive.

When you use this feature, the connected USB flash drive is not accessible by the host operating system.

- Connect a client (such as a laptop) with a supported USB to Ethernet adapter to access the following:
  - iLO web interface
  - Remote console
  - iLO RESTful API
  - CLI

Hewlett Packard Enterprise recommends the HPE USB to Ethernet Adapter (part number Q7Y55A).

When you use the iLO Service Port:

- Actions are logged in the iLO event log.
- The server UID flashes to indicate the Service Port status.

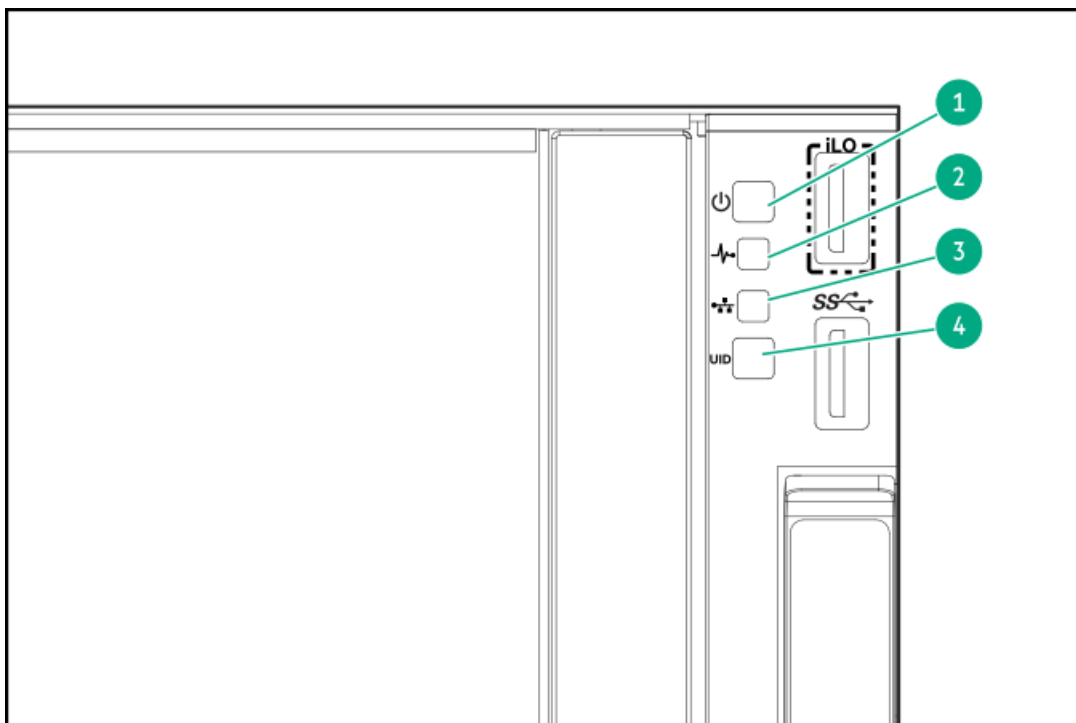
You can also retrieve the Service Port status by using a REST client and the iLO RESTful API.

- You cannot use the Service Port to boot any device within the server, or the server itself.
- You cannot access the server by connecting to the Service Port.
- You cannot access the connected device from the server.

For more information about the iLO Service Port, see the iLO user guide at the following website: <https://www.hpe.com/support/ilo6>.

## Front panel LEDs and buttons





Item	Description	Status	Definition
1	Power On/Standby button and system power LED <sup>1</sup>	Solid green	System on
		Flashing green	Performing power-on sequence
		Solid amber	System in standby
		Off	No power present <sup>2</sup>
2	Health LED <sup>1</sup>	Solid green	Normal
		Flashing green	iLO is rebooting
		Flashing amber	System degraded <sup>3</sup>
		Flashing red	System critical <sup>3</sup>
3	NIC status LED <sup>1</sup>	Solid green	Linked to network
		Flashing green	Network active
		Off	No network activity
4	UID button/LED <sup>1</sup>	Solid blue	Activated
		Flashing blue	<ul style="list-style-type: none"> <li>1 flash per second—Remote management or firmware upgrade in progress</li> <li>4 flashes per second—iLO manual reboot sequence initiated</li> <li>8 flashes per second—iLO manual reboot sequence in progress</li> </ul>
		Off	Deactivated

- 1 When all LEDs flash simultaneously, a power fault has occurred. For more information, see [Front panel LED power fault codes](#).
- 2 Facility power is not present, power cord is not attached, no power supplies are installed, power supply failure has occurred, or the front I/O cable is disconnected.
- 3 If the health LED indicates a degraded or critical state, [review the system Integrated Management Log \(IML\) or use HPE iLO to review the system health status](#).

## Subtopics

### [Server UID LED](#)

### [Using the UID button to view the Server Health Summary](#)

### [Front panel LED power fault codes](#)

## Server UID LED

The UID LED is used to locate a particular server when it is deployed in a dense rack with other equipment. Activating the UID LED helps an on-site technician to quickly identify a server for maintenance tasks.

## Using the UID button to view the Server Health Summary


### Prerequisites

- An external monitor is connected.
- In the iLO web interface, the Show Server Health on External Monitor feature is enabled on the Access Settings page.

### About this task

Use the UID button to display the iLO Server Health Summary screen on an external monitor. This function works when the server is powered on or off. Use this feature for troubleshooting if the server will not start up.

---

 **CAUTION:** Press and release the UID button. Holding it down at any time for more than five seconds initiates a graceful iLO reboot or a hardware iLO reboot. Data loss or NVRAM corruption might occur during a hardware iLO reboot.

---

### Procedure

1. Press and release the UID button.

The Server Health Summary screen is displayed on the external monitor. For more information, see the iLO troubleshooting guide:

<https://www.hpe.com/support/ilo6>

2. Press the UID button again to close the Server Health Summary screen.

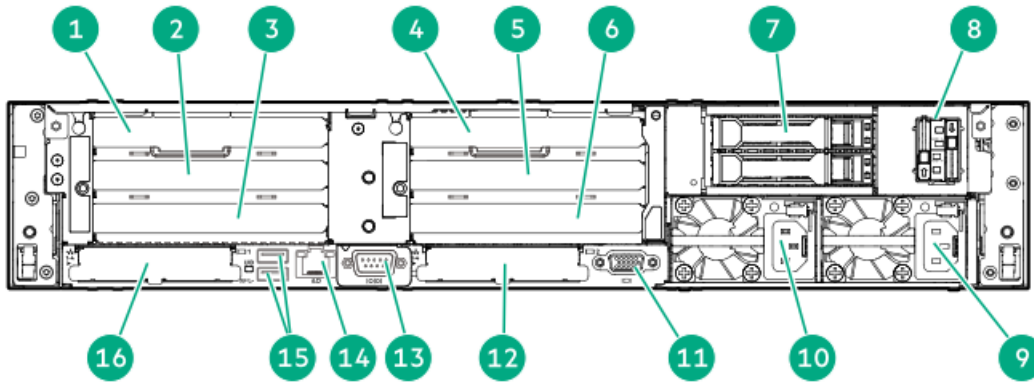
## Front panel LED power fault codes

The following table provides a list of power fault codes, and the subsystems that are affected. Not all power faults are used by all servers.

Subsystem	LED behavior
System board	1 flash
Processor	2 flashes
Memory	3 flashes
Riser board PCIe slots	4 flashes
FlexibleLOM	5 flashes
Storage controller	6 flashes
System board PCIe slots	7 flashes
Power backplane	8 flashes
Storage backplane	9 flashes
Power supply	10 flashes
PCIe expansion cards installed in riser board	11 flashes
Chassis	12 flashes
GPU card	13 flashes

## Rear panel components

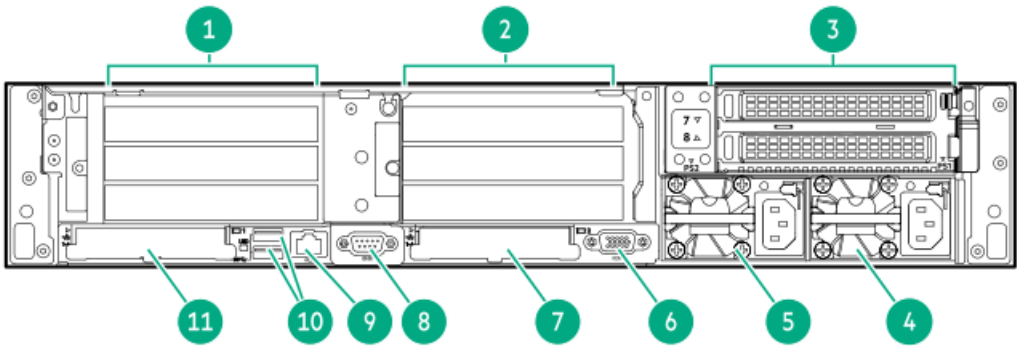
### Rear panel components with options



Item	Description
1	Slot 1 PCIe5 x16 stacking riser (optional) <sup>1</sup>
2	Slot 2 PCIe5 x16 stacking riser (optional) <sup>1</sup>
3	Slot 3 PCIe5 x16 base riser <sup>1</sup>
4	Slot 4 PCIe5 x16 stacking riser (optional) <sup>2</sup>
5	Slot 5 PCIe5 x16 stacking riser (optional) <sup>2</sup>
6	Slot 6 PCIe5 x16 base riser (optional) <sup>2</sup>
7	Rear 2 SFF stacked drives (optional)
8	NS204i-u boot device (optional)
9	Flexible Slot power supply 1
10	Flexible Slot power supply 2 (optional)
11	VGA port
12	Slot 22 OCP PCIe5 x8
13	Serial port (optional)
14	iLO management port
15	USB 3.2 Gen 1 ports
16	Slot 21 OCP PCIe5 x8

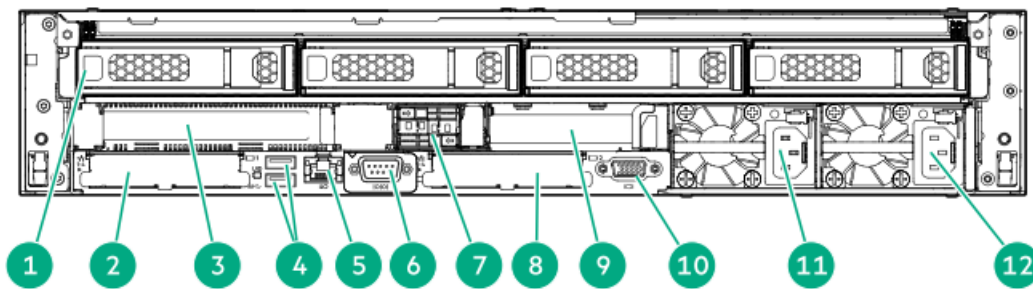
- <sup>1</sup> These riser slots are in a primary riser cage.  
<sup>2</sup> These riser slots are in a secondary riser cage.

**Rear panel components with the tertiary riser**



Item	Description
1	1-3 PCIe5 x16 slots (primary riser, slot 1 and 2 are optional)
2	4-6 PCIe5 x16 slots (secondary riser, optional)
3	7-8 PCIe5 x16 slots (tertiary riser, optional)
4	Flexible Slot power supply 1
5	Flexible Slot power supply 2 (optional)
6	<u>VGA port</u>
7	Slot 22 OCP PCIe5 x8
8	Serial port (optional)
9	iLO management port
10	USB 3.2 Gen 1 ports
11	Slot 21 OCP PCIe5 x8

#### Rear panel components with rear 4 LFF drives



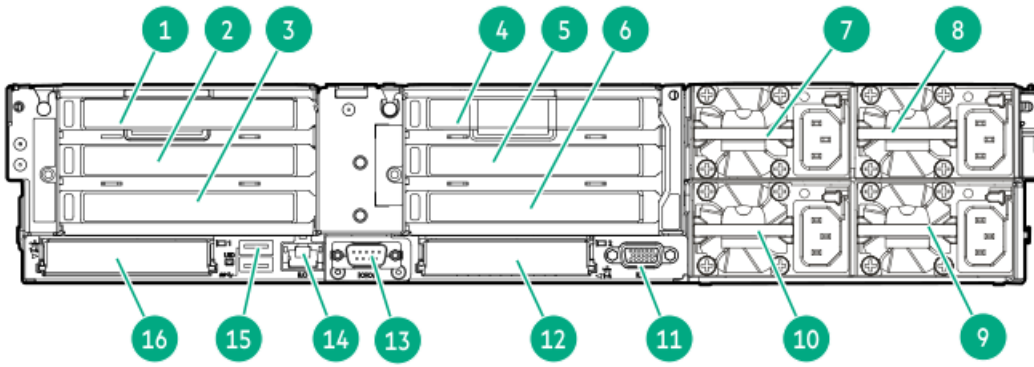
Item	Description
1	LFF drives (optional)
2	Slot 21 OCP PCIe5 x8
3	Slot 3 PCIe5 x16 base riser1 <sup>1</sup>
4	USB 3.2 Gen 1 ports
5	iLO management port
6	Serial port (optional)
7	NS204i-u boot device (optional)
8	Slot 22 OCP PCIe5 x8
9	Slot 6 PCIe5 x16 in low-profile riser (optional) <sup>2</sup>
10	<u>VGA port</u>
11	Flexible Slot power supply 2 (optional)
12	Flexible Slot power supply 1

<sup>1</sup> This riser slot is in a primary riser cage.

<sup>2</sup> This riser slot is in a secondary riser cage.

#### Rear panel components with four power supplies





Item	Description
1	Slot 1 PCIe5 x16 stacking riser (optional) <sup>1</sup>
2	Slot 2 PCIe5 x16 stacking riser (optional)
3	Slot 3 PCIe5 x16 base riser
4	Slot 4 PCIe5 x16 stacking riser (optional) <sup>2</sup>
5	Slot 5 PCIe5 x16 stacking riser (optional)
6	Slot 6 PCIe5 x16 base riser (optional)
7	Flexible Slot power supply 4 (optional)
8	Flexible Slot power supply 3 (optional)
9	Flexible Slot power supply 1
10	Flexible Slot power supply 2
11	VGA port
12	Slot 22 OCP PCIe5 x8
13	Serial port (optional)
14	iLO management port
15	USB 3.2 Gen 1 ports
16	Slot 21 OCP PCIe5 x8

<sup>1</sup> These riser slots are in a primary riser cage.  
<sup>2</sup> These riser slots are in a secondary riser cage.

## Subtopics

### Display device setup

## Display device setup

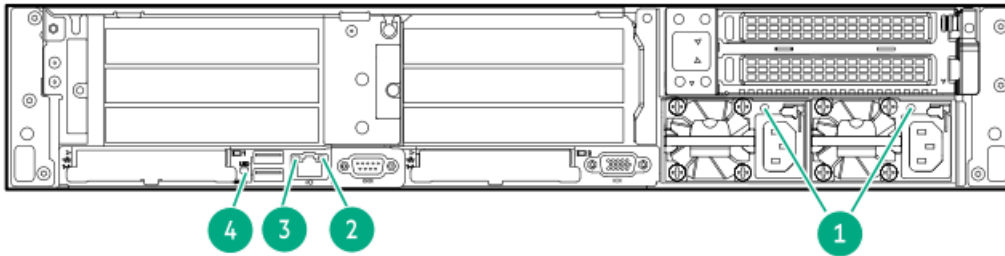
This server supports both VGA port and Display port 1.1a. Before connecting a display device to this server, review the information below.

- Whenever possible, use the same display connection type. For example, if your PC or monitor only has a VGA output, connect it to the server VGA port. Use of any kind of adapter or converter cable or dongle might lead to decreased display quality or a lag over the connection.
- DisplayPort connection: When connecting an HDMI or DVI display to the DisplayPort, use an active type adapter. Passive type adapter—

marked with the DP++ symbol—is not supported.

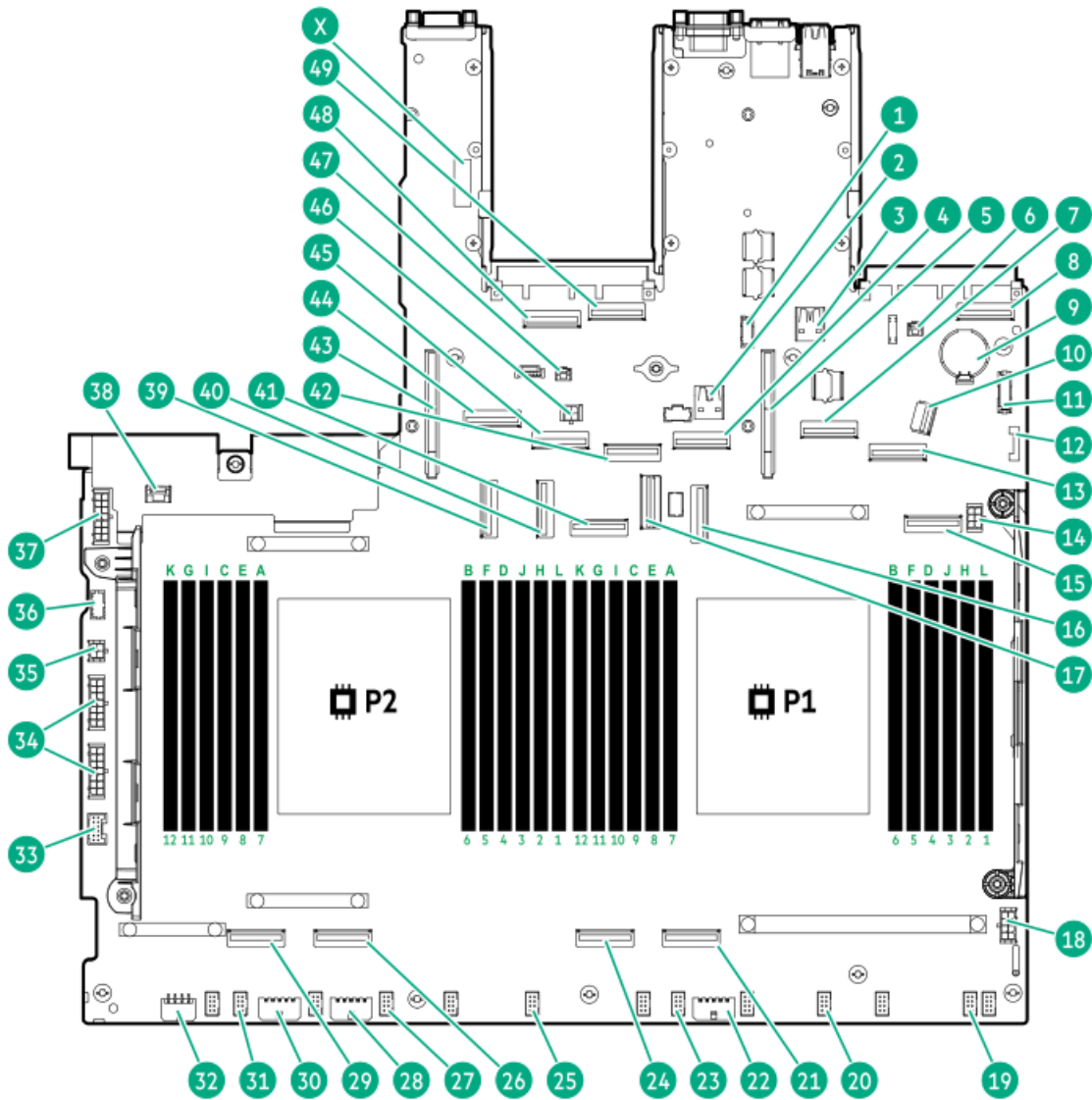
- Display output modes:
  - If you connect two display devices to the VGA port and DisplayPort, the same image is shown on both devices—screen mirroring mode.
  - The embedded video controller in the iLO 6 chipset does not support dual display or screen extension mode. To enable dual display mode, install a compatible graphics card that supports this feature in the expansion slot.

## Rear panel LEDs



Item	LED	Status	Definition
1	Power supply	Solid green	The power supply is operating normally.
		Off	One or more of the following conditions exists: <ul style="list-style-type: none"> <li>• Power is unavailable</li> <li>• Power supply failure</li> <li>• Power supply is in standby mode</li> <li>• Power supply error</li> <li>• The front I/O cable is disconnected.</li> </ul>
2	iLO status	Solid green	Lined to network
		Flashing green	Network active
		Off	No network activity
3	iLO link	Solid green	Network link
		Off	No network link
4	UID	Solid blue	Activated
		Flashing blue	<ul style="list-style-type: none"> <li>• 1 flash per sec—Remote management or firmware upgrade in progress</li> <li>• 4 flashes per sec—iLO manual reboot sequence initiated</li> <li>• 8 flashes per sec—iLO manual reboot sequence in progress</li> </ul>
		Off	Deactivated
		Off	Deactivated

## System board components



Item	Description
1	Serial port connector
2	Internal USB 3.2 Gen 1 port
3	Internal USB 3.2 Gen 1 port
4	NVMe/SATA port 1A
5	Primary riser connector
6	OCP slot 21 backup power connector
7	NVMe port 7A
8	OCP slot 21 x16 upgrade connector
9	System battery
10	Front I/O connector
11	Front DisplayPort/USB 2.0 connector
12	SID connector

Item	Description
13	NVMe port 6A
14	ODD/2SFF power connector
15	NVMe port 4A
16	NVMe/SATA port 9A
17	NS204i-u signal connector
18	GPU riser power connector
19	Fan connector 6
20	Fan connector 5
21	NVMe port 2A
22	Drive backplane power connector 3
23	Fan connector 4
24	NVMe port 3A
25	Fan connector 3
26	NVMe port 2B
27	Fan connector 2
28	Drive backplane power connector 2
29	NVMe port 3B
30	Drive backplane power connector 1
31	Fan connector 1
32	GPU riser power connector
33	Energy pack connector
34	GPU/Backplane/switch board power connector
35	Free-height riser power connector
36	Free-height riser sideband connector
37	Backplane power connector
38	Chassis intrusion detection switch connector
39	NVMe port 7B
40	NVMe port 6B
41	NVMe port 4B
42	NVMe port 5B
43	Secondary riser connector
44	NVMe/SATA port 9B
45	NVMe/SATA port 8B
46	Smart NIC mode 2 power connector
47	OCP slot 22 backup power connector
48	OCP slot 22 port 1
49	OCP slot 22 port 2
X	System maintenance switch

## Subtopics

[System maintenance switch descriptions](#)

[DIMM label identification](#)

[DIMM slot numbering](#)

[Processor and socket components](#)

## System maintenance switch descriptions

Position	Default	Function
S1 <sup>1</sup>	Off	<ul style="list-style-type: none"><li>Off—iLO 6 security is enabled.</li><li>On—iLO 6 security is disabled.</li></ul>
S2	Off	Reserved
S3	Off	Reserved
S4	Off	Reserved
S5 <sup>1</sup>	Off	<ul style="list-style-type: none"><li>Off—Power-on password is enabled.</li><li>On—Power-on password is disabled.</li></ul>
S6 <sup>1, 2, 3</sup>	Off	<ul style="list-style-type: none"><li>Off—No function</li><li>On—Restore default manufacturing settings</li></ul>
S7	Off	Reserved
S8	Off	Reserved
S9	Off	Reserved
S10	Off	Reserved
S11	Off	Reserved
S12	Off	Reserved

<sup>1</sup> To access the redundant ROM, set S1, S5, and S6 to On.

<sup>2</sup> When the system maintenance switch position 6 is set to the On position, the system is prepared to restore all configuration settings to their manufacturing defaults.

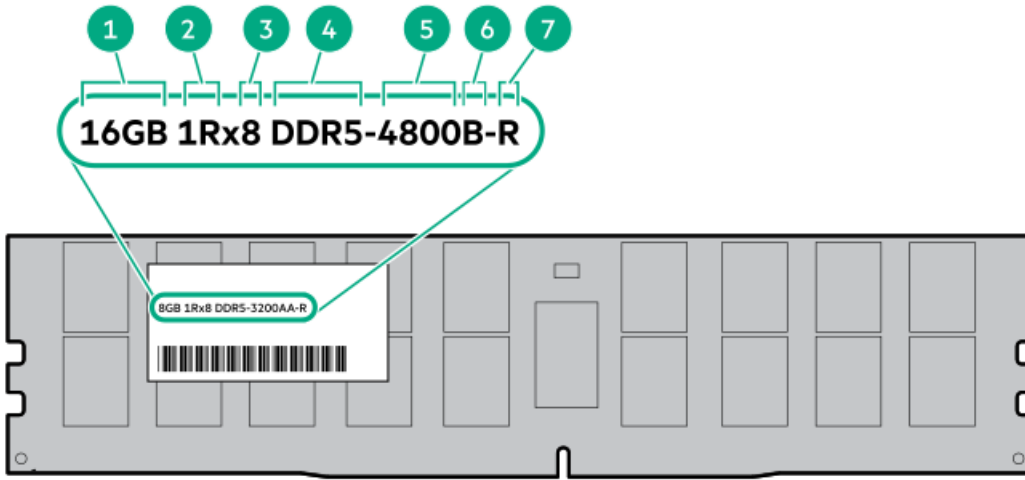
<sup>3</sup> When the system maintenance switch position 6 is set to the On position and Secure Boot is enabled, some configurations cannot be restored. For more information, see [Configuring the server](#).

## DIMM label identification

To determine DIMM characteristics, see the label attached to the DIMM. The information in this section helps you to use the label to locate specific information about the DIMM.

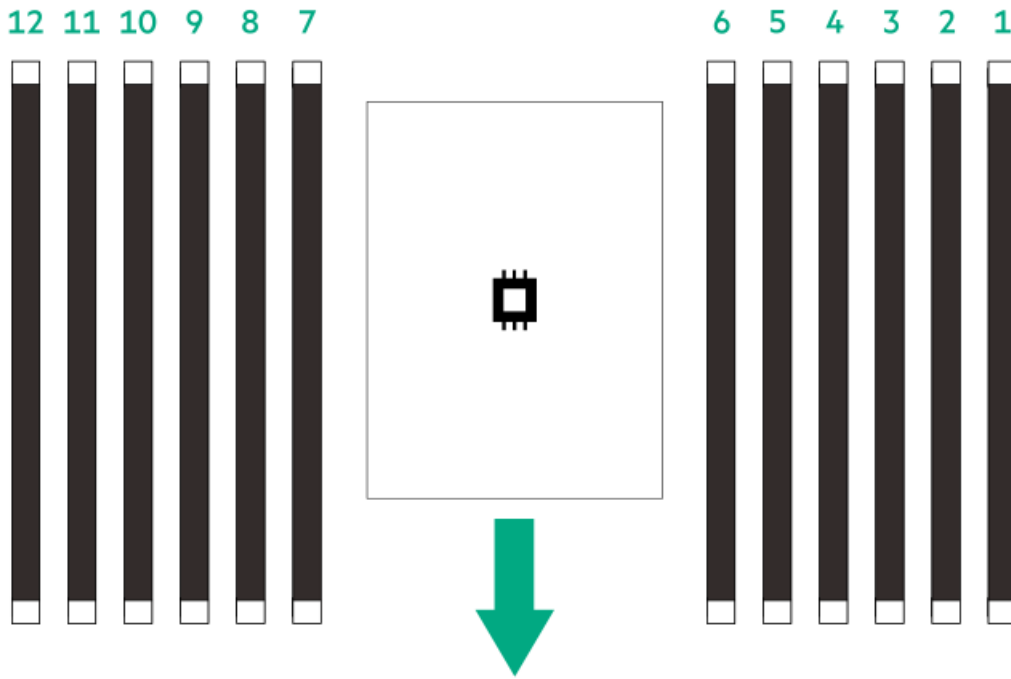
For more information about product features, specifications, options, configurations, and compatibility, see the [HPE DDR5 SmartMemory QuickSpecs](#):

<https://www.hpe.com/docs/server-memory>



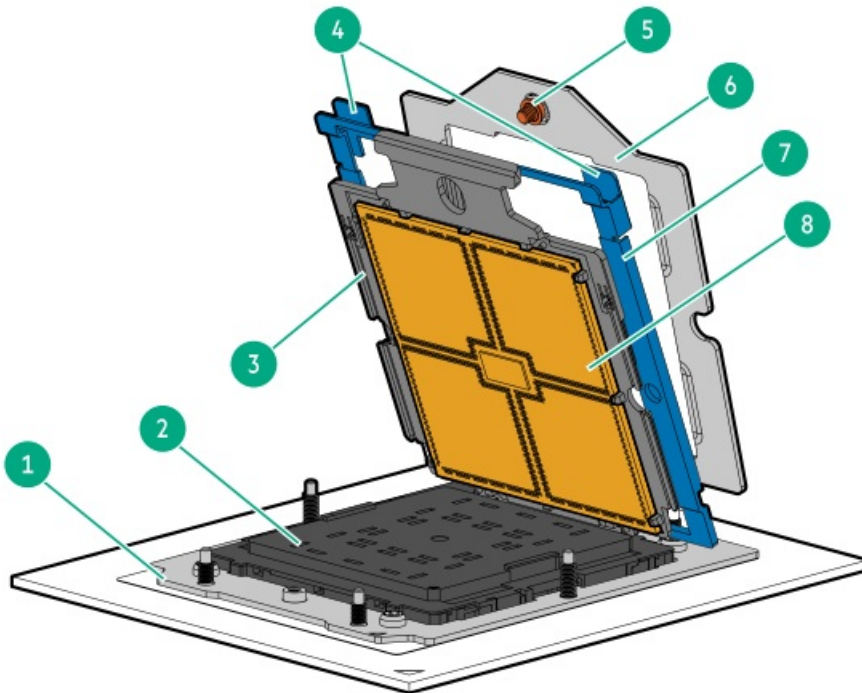
Item	Description	Example
1	Capacity	16 GB 32 GB 64 GB 128 GB 256 GB
2	Rank	1R—Single rank 2R—Dual rank 4R—Quad rank 8R—Octal rank
3	Data width on DRAM	x4—4-bit x8—8-bit
4	Memory generation	PC5—DDR5
5	Maximum memory speed	4800 MT/s
6	CAS latency	B—42-42-42 B—50-42-42 (for 128 GB and 256 GB capacities)
7	DIMM type	R—RDIMM (registered)

## DIMM slot numbering



The arrow points to the front of the server.

### Processor and socket components



Item	Description
1	Processor socket
2	Pin field cover cap
3	Processor carrier
4	Rail frame lift tabs
5	Retention frame screw (T-20)
6	Retention frame
7	Rail frame
8	Processor

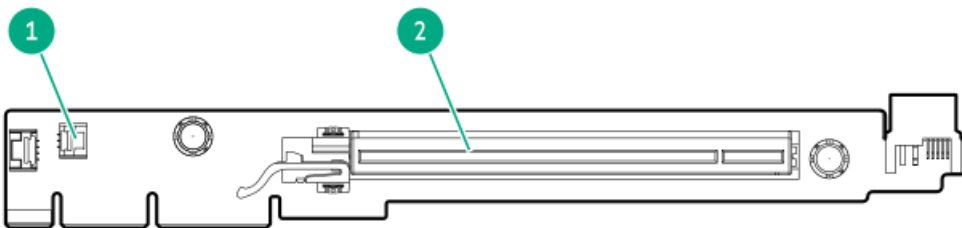
## Riser board components

This server support three types of PCIe risers:

- Standard riser—This riser is a board-only riser that is directly installed on the riser connector on the system board. This riser type is used:
  - As a standalone riser in a single-slot riser cage.
  - As the base riser in a three-slot riser cage.
  - As the base riser in a two-slot riser cage.
- Cabled riser—This riser type has its signal cable soldered on the board itself. This riser type is combined with a standard, base riser and another cabled riser in a three-slot riser cage.
- Tertiary riser—This riser type has its signal cable soldered on the board itself. This riser type is combined with a standard, base riser and another cabled riser in a two-slot riser cage.
- GPU riser—This riser type has its signal cable soldered on the board itself. This riser type is combined with another GPU riser in GPU cage.

For clarity, the riser cage and the cables of the cabled risers are not shown in the following images.

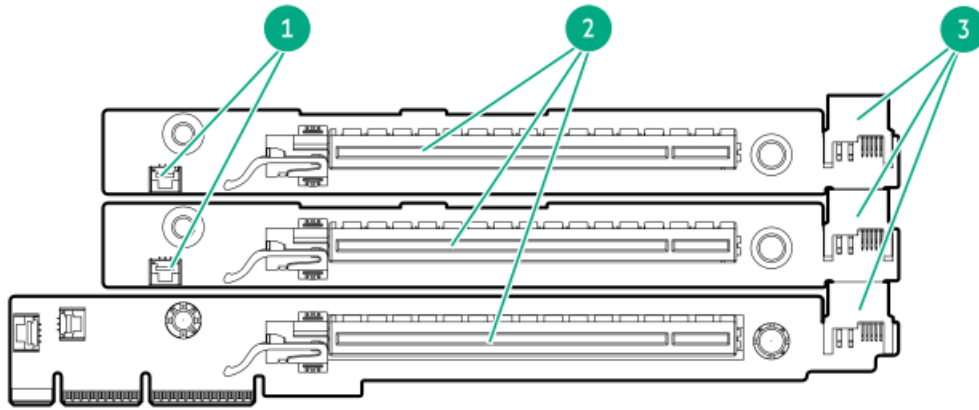
### Standard riser components



Item	Description
1	Storage controller backup power connector
2	PCIe x16 (16, 8, 4, 1) slot

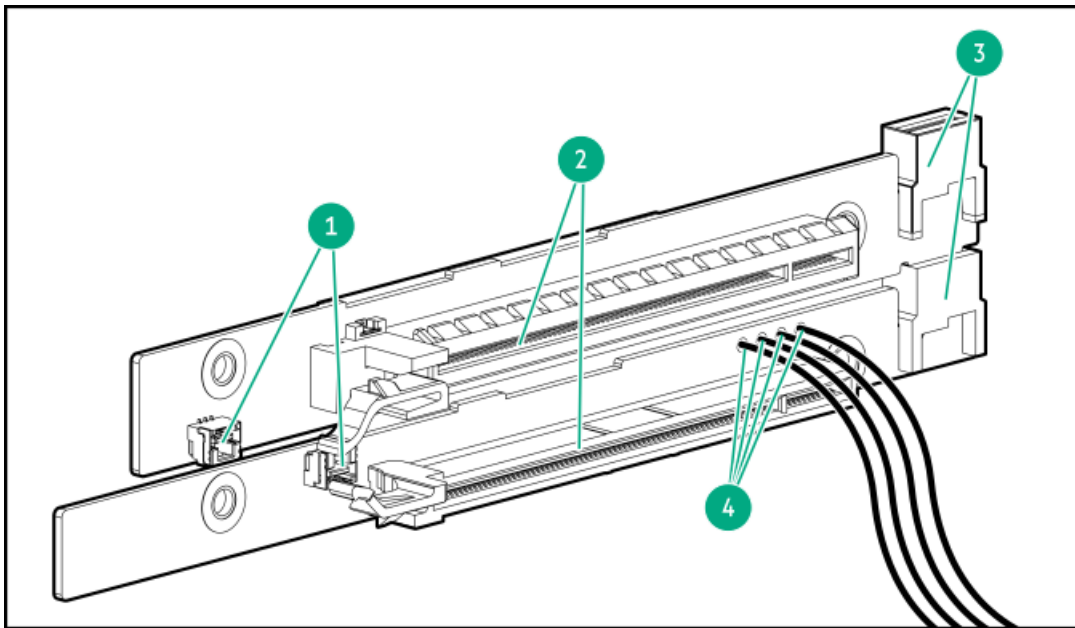
### Cabled riser components





Item	Description
1	Storage controller backup power connectors
2	PCIe5 x16 (16, 8, 4, 1) slots
3	Riser power connectors

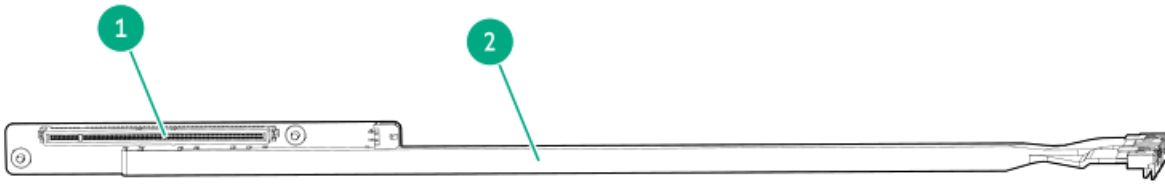
**Tertiary riser components**



Item	Description
1	Storage controller backup power connector
2	PCIe5 x16 (16, 8, 4, 1) slots
3	Riser board power connector
4	Power cable

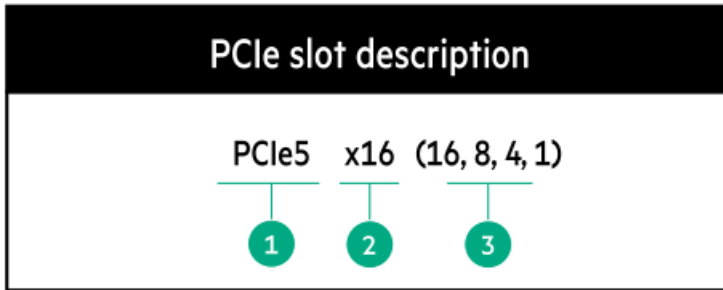
**GPU riser components**





Item	Description
1	PCIe5 x16 (16, 8, 4, 1) slot
2	Power cable

### PCIe5 slot description



Item	Description	Definition
1	PCI Express version	<p>Each PCIe version corresponds to a specific data transfer rate between the processor and peripheral devices. Generally, a version update corresponds to an increase in transfer rate.</p> <ul style="list-style-type: none"> <li>• PCIe 1.x</li> <li>• PCIe 2.x</li> <li>• PCIe 3.x</li> <li>• PCIe 4.x</li> <li>• PCIe 5.x</li> </ul> <p>The PCIe technology is under constant development. For the latest information, see the <a href="#">PCI-SIG website</a>.</p>
2	Physical connector link width	<p>PCIe devices communicate through a logical connection called an interconnect or link. At the physical level, a link is composed of one or more lanes. The number of lanes is written with an x prefix with x16 being the largest size in common use.</p> <ul style="list-style-type: none"> <li>• x1</li> <li>• x2</li> <li>• x4</li> <li>• x8</li> <li>• x16</li> </ul>
3	Negotiable link width	<p>These numbers correspond to the maximum link bandwidth supported by the slot.</p>

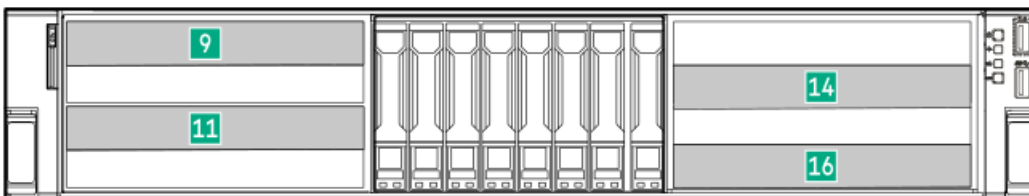
## Riser slot numbering

### ⚠ CAUTION:

To maintain proper system cooling, do not install a 100 Gb or faster Ethernet / InfiniBand / NVMe-oF adapter in Slot 6.

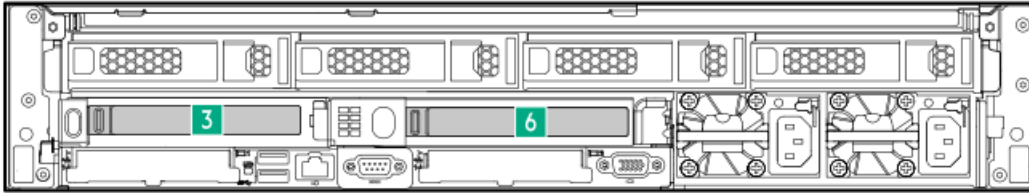
All riser slots are PCIe5 x16 (16, 8, 4, 1) and are rated for a maximum power draw of 75 W each.

### GPU riser configuration



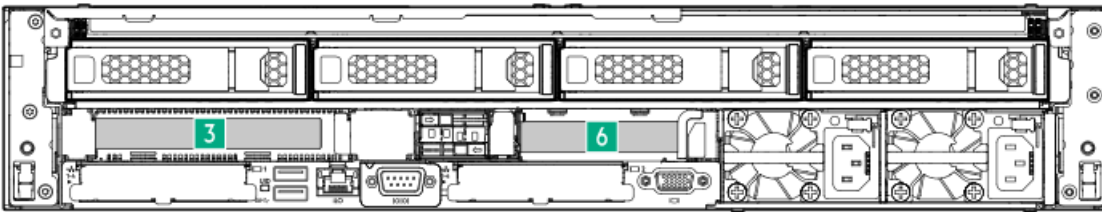
Slot number	Location	Supported form factors
9	GPU cage 1	Full-height, full-length
11		
14	GPU cage 2	
16		

#### Two-slot riser configuration without HPE NS204i Boot Device



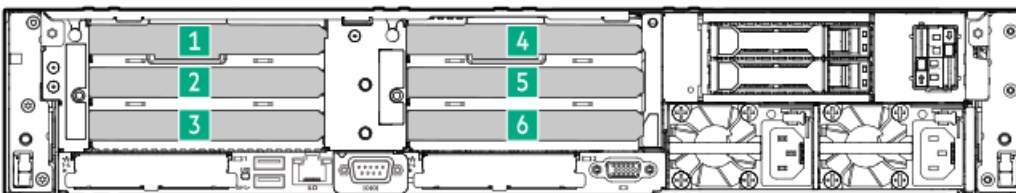
Slot number	Location	Supported form factors
3	Primary riser cage	<ul style="list-style-type: none"> <li>Full-height, half-length</li> </ul>
6	Secondary riser cage	<ul style="list-style-type: none"> <li>Half-height, half-length (low-profile)</li> </ul>

#### Two-slot riser configuration with HPE NS204i Boot Device



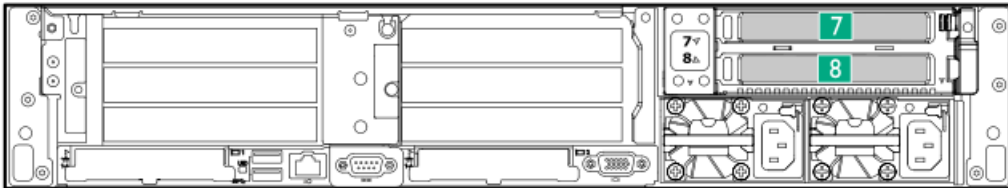
Slot number	Location	Supported form factors
3	Primary riser cage	<ul style="list-style-type: none"> <li>Full-height, half-length</li> <li>Half-height, half-length (low-profile)</li> </ul>
6	Secondary riser cage	Half-height, half-length (low-profile)

#### Six-slot riser configuration



Slot number	Location	Description	Supported form factors
1	Primary riser cage	Stacking riser	• Full-height, half-length
2		Stacking	• Half-height, half-length (low-profile)
3		Base riser	
4	Secondary riser cage	Stacking riser	
5		Stacking riser	
6		Base riser	

#### Six-slot riser configuration with the tertiary riser cage



Slot number	Location	Supported form factors
7	Tertiary riser cage	• Full-height, half-length
8		• Half-height, half-length (low-profile)

## Drive bay numbering

Drive bay numbering depends on how the drive backplanes are connected:

- To a controller:
  - Type-o controllers install to OCP slot 21.
  - Type-p controllers install to a PCIe riser.

### Subtopics

[SFF drive bay numbering](#)

[LFF drive bay numbering](#)

[E3.S drive bay numbering](#)

[GPU configuration drive bay numbering](#)

## SFF drive bay numbering

The following drive backplane options are supported in SFF drive configurations:

- Front-end: 2 SFF, side-by-side (LFF chassis only)

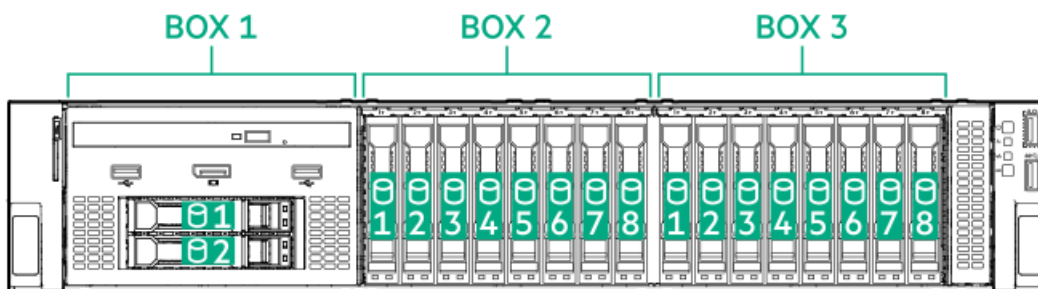
- 2 SFF 24G x4 U.3 NVMe / SAS UBM3 BC
- 2 SFF 24G x4 U.3 NVMe / SAS UBM6 BC
- Front- or rear-end: 2 SFF, stacked:
  - 
  - 24G x4 U.3 NVMe / SAS UBM3 BC
  - 24G x4 U.3 NVMe / SAS UBM6 BC
- Front-end: 8 SFF
  - 8 SFF 16G x4 U.2 NVMe / SAS UBM6 BC
  - 8 SFF 24G x1 U.3 NVMe / SAS UBM3 BC
  - 8 SFF 24G x1 U.3 NVMe / SAS UBM6 BC
  - 8 SFF 24G x4 U.3 NVMe / SAS UBM3 BC
  - 8 SFF 24G x4 U.3 NVMe / SAS UBM6 BC
- Midplane: 8 SFF
  - 8 SFF 24G x1 U.3 NVMe / SAS UBM3 BC
  - 8 SFF 24G x4 U.3 NVMe / SAS UBM3 BC

For more information on the drive backplane description, see [Drive backplane naming](#).

**Front: 8 LFF + 2 SFF drive bay numbering**

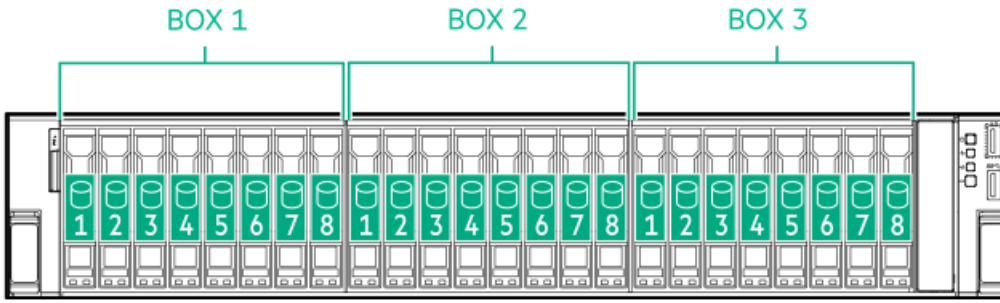


**Front: 16 SFF + 2 SFF drive bay numbering**

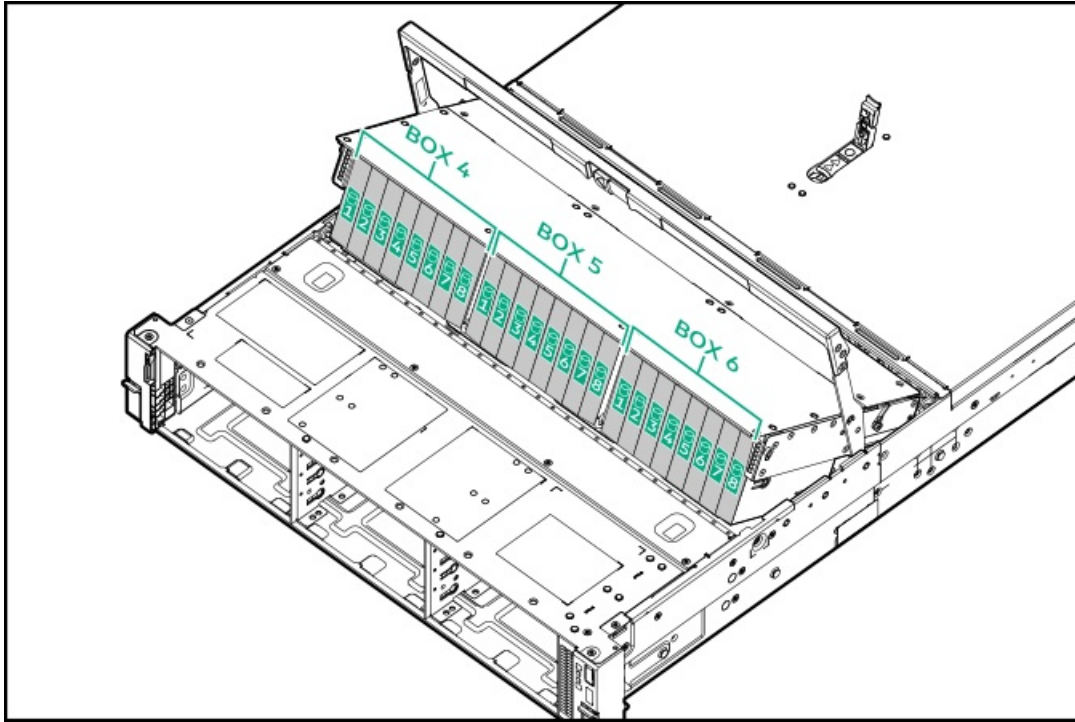


**Front: 24 and 48 SFF drive bay numbering**





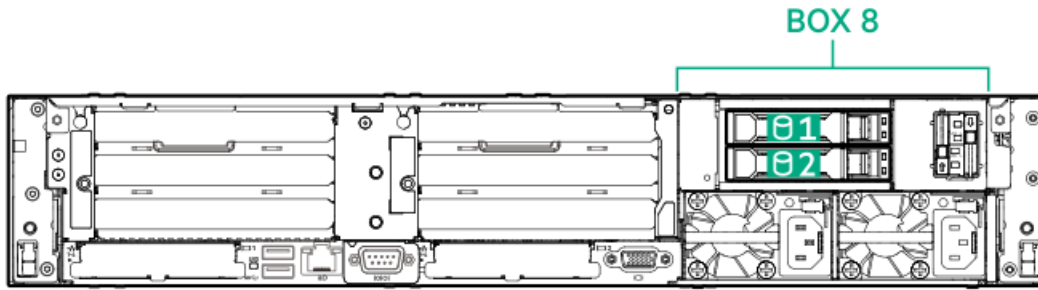
Front: 48 SFF drive bay numbering



Midplane: 8 SFF drive bay numbering



## Rear: 2 SFF drive bay numbering



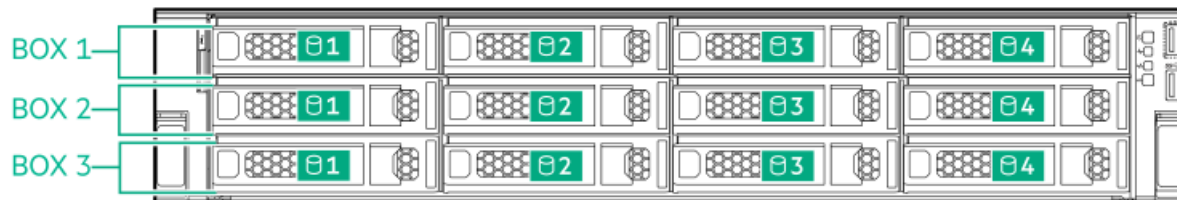
## LFF drive bay numbering

The following drive backplane options are supported in LFF drive configurations:

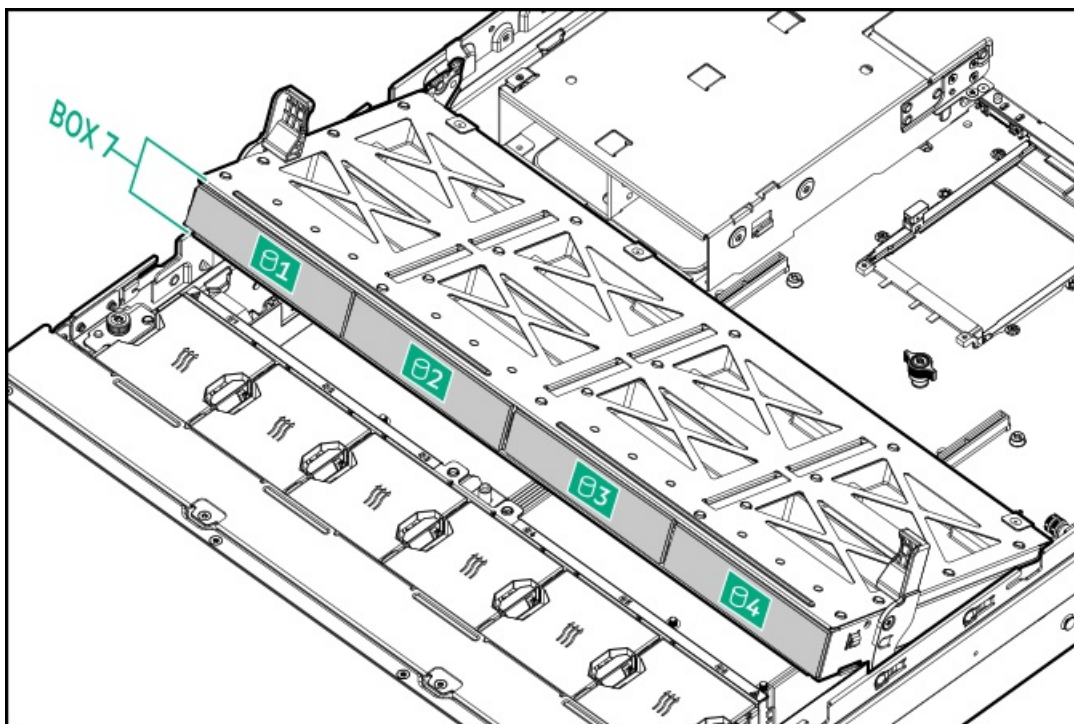
- 4 LFF 12G x1 SAS / SATA UBM2 LP
- 4 LFF 12G x1 SAS / SATA UBM6 LP

For more information on the drive backplane description, see [Drive backplane naming](#).

## Front: 12 LFF drive bay numbering

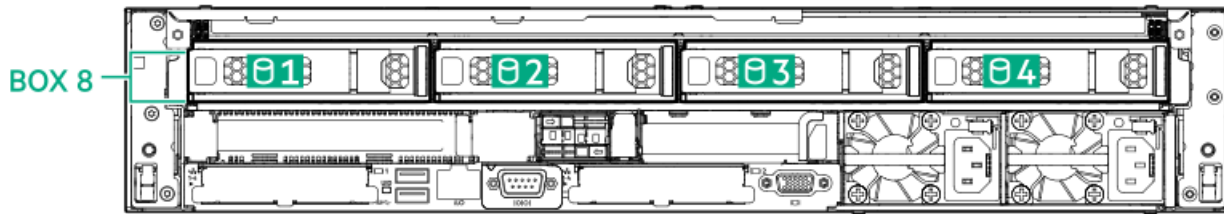


## Midplane: 4 LFF drive bay numbering



## Rear: 4 LFF drive bay numbering



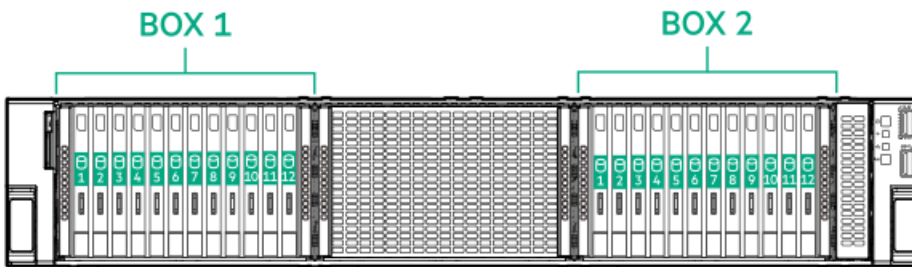


## E3.S drive bay numbering

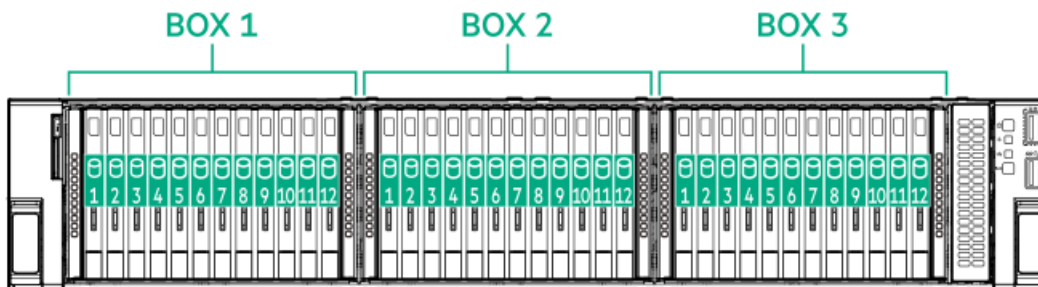
The E3.S drive box uses the 12 E3.S 32G x4 UMB5 EC1 drive backplane.

For more information on the drive backplane description, see [Drive backplane naming](#).

### 24 E3.S drive bay numbering

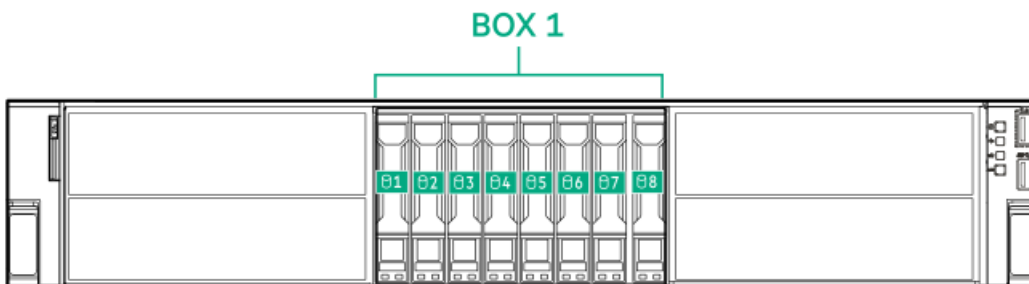


### 36 E3.S drive bay numbering



## GPU configuration drive bay numbering

4 dual-width GPUs with 8 SFF drives



## Drive backplane naming

This topic explains the features represented in the drive backplane naming. This naming convention was adopted starting in the HPE Gen11 server release. Your server might not support all the features listed in this topic. For server-specific support information, see the server guides:

- Drive backplane support, see [Drive bay numbering](#).
- Drive backplane cabling, see [Storage cabling](#).



Item	Description	Values
1	Drive bay count	Number of drive bays supported by the backplane.
2	Drive form factor	LFF—Large Form Factor SFF—Small Form Factor E3.S—Enterprise and Datacenter Standard Form Factor (EDSFF)
3	Maximum link rate per lane (GT/s)	12G 16G 24G 32G
4	Port link width and interface	x1 NVMe/SAS—U.3 NVMe, SAS, or SATA <sup>1</sup> x4 NVMe/SAS—U.3 NVMe, SAS, or SATA <sup>2</sup> x4 NVMe—U.2 NVMe <sup>3</sup> x4 NVMe—E3.S
5	Universal backplane manager (UBM) options	UBM2—Segregated SAS/SATA UBM3 or UBM6—Converged UBM4 or UBM6—Segregated U.2 NVMe UBM5 or UBM7—EDSFF
6	Drive carrier type	BC—Basic carrier (SFF) LP—Low-profile carrier (LFF) EC1—E3.S carrier

<sup>1</sup> Tri-mode controller support for x1 U.3 NVMe, SAS, and SATA drives. System board connection supports SATA drives only.

<sup>2</sup> CPU direct attach or tri-mode controller support for x4 U.3 NVMe or x1 SAS and SATA drives.

<sup>3</sup> CPU direct attach or tri-mode controller support for x4 U.2 NVMe drives.

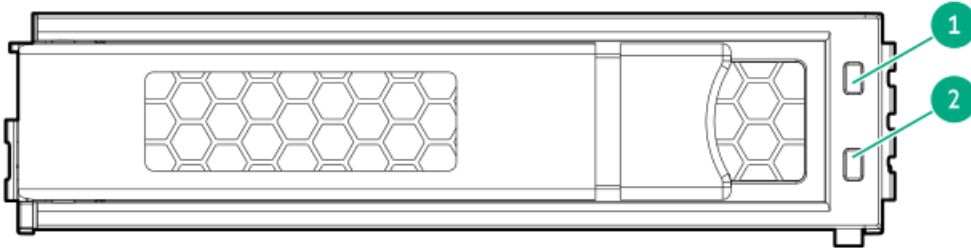
## HPE Basic Drive LED definitions

The HPE Basic drive carrier has the following LEDs:

- Amber/blue LED—Managed by the drive backplane in conjunction with the storage controller and is used to indicate drive status.
- Green LED—Managed by the drive itself and indicates the drive activity.

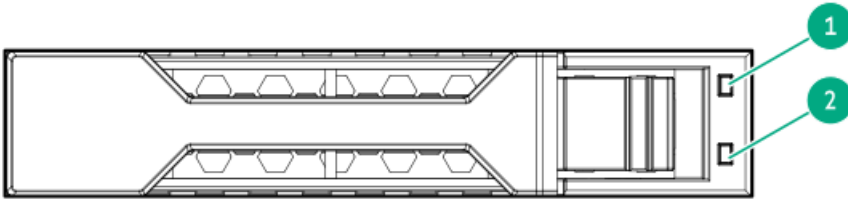
#### LFF low-profile drive carrier

The LFF low-profile drive carrier supports hot-plug SAS and SATA drives.



#### SFF basic drive carrier

The SFF basic drive carrier supports hot-plug SAS, SATA, and U.3 NVMe drives.



Item	LED	State	Definition
1	Fault/Locate	Solid amber	This drive has failed, is unsupported, or is invalid.
		Solid blue	The drive is operating normally and being identified by a management application.
		Flashing amber/blue (1 flash per second)	The drive has failed, or a predictive failure alert has been received for this drive. The drive has also been identified by a management application.
		Flashing amber (1 flash per second)	A predictive failure alert has been received for this drive. Replace the drive as soon as possible.
		Off	The drive is operating normally and not being identified by a management application.
2	Online/Activity	Solid green	The drive is online and has no activity.
		Flashing green (1 flash per second)	The drive is doing one of the following: <ul style="list-style-type: none"> <li>Rebuilding or performing a RAID</li> <li>Performing a stripe size migration</li> <li>Performing a capacity expansion</li> <li>Performing a logical drive extension</li> <li>Erasing</li> <li>Spare part activation</li> </ul>
		Flashing green (4 flashes per second)	The drive is operating normally and has activity.
		Off	The drive is not configured by a RAID controller or is a spare drive.

## EDSFF SSD LED definitions

This server supports hot-plug Enterprise and Data Center Standard Form Factor (EDSFF) drives. Specifically, E3.S form factor PCIe5 NVMe SSDs. The EDSFF drive carrier has two LEDs:

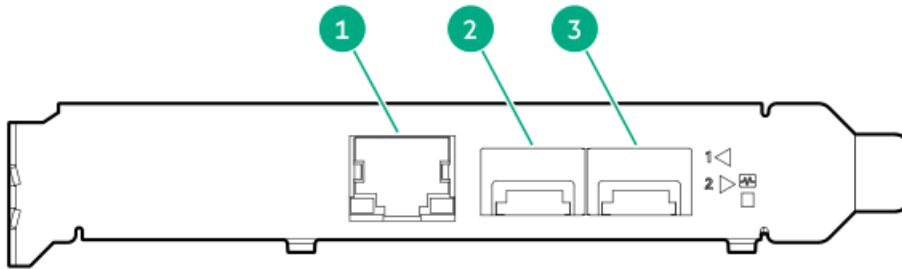
- Amber/blue LED—Managed by the drive backplane in conjunction with the storage controller and is used to indicate drive status.
- Green LED—Managed by the drive itself and indicates the drive activity.



Item	LED	State	Definition
1	Fault/Locate	Solid amber	This drive has failed, is unsupported, or is invalid.
		Solid blue	The drive is operating normally and being identified by a management application.
		Flashing amber/blue (1 flash per second)	The drive has failed, or a predictive failure alert has been received for this drive. The drive has also been identified by a management application.
		Flashing amber (1 flash per second)	A predictive failure alert has been received for this drive. Replace the drive as soon as possible.
		Off	The drive is operating normally and not being identified by a management application.
2	Online/Activity	Solid green	The drive is online and has no activity.
		Flashing green (4 flashes per second)	The drive is operating normally and has activity.
		Off	No power present

## DSC-25 2-port SFP28 card ports and LEDs

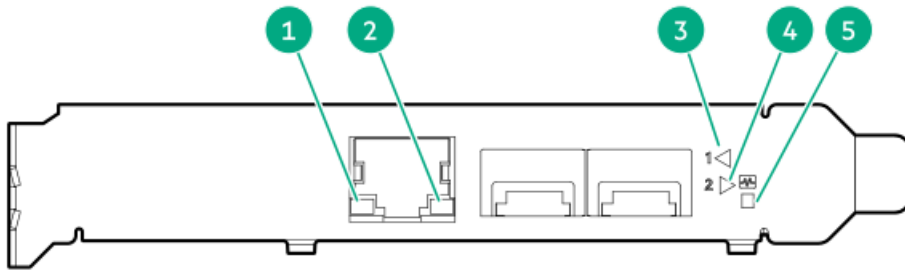
### Ports



Item	Port	Description
1	Management port	1GbE RJ45
2	Network interface port	10/25G SFP+ based
3	Network interface port	10/25G SFP+ based

### LEDs

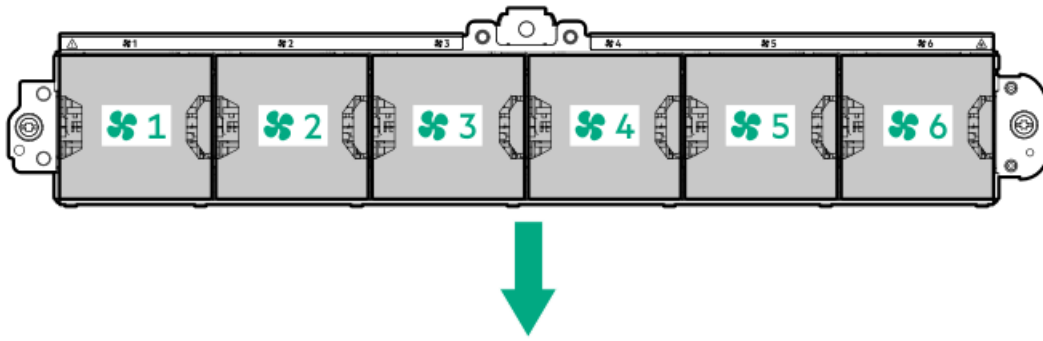
The HPE for Pensando DSP DSC-25 2p SFP28 card is a dual-port, single-slot, half-height, half-length (HHHL) SFP28 network adapter. It has LEDs for Link (L) and Activity (A) for each port. A half-height bracket is shown in the following illustration with SFP28 ports and LEDs.



Item	LED	Status	Description
1	Management Port Activity LED	Off	No activity
		Flashing	Passing traffic; flashing frequency indicates traffic intensity
2	Management Port Link LED	Off	A link has not been established
		Solid green	Valid Ethernet link
3	SFP Port 1 Link/Activity LED	Off	A link has not been established
		Solid green	Valid Ethernet link
		Flashing green	Passing traffic; flashing frequency indicates traffic intensity
		Solid amber	Link fault
4	SFP Port 2 Link/Activity LED	Off	A link has not been established
		Solid green	Valid Ethernet link
		Flashing green	Passing traffic; flashing frequency indicates traffic intensity
		Solid amber	Link fault
5	System status LED	Off	System is not powered
		Solid amber	Power is up, software has not booted yet
		Solid green	System is up and fully operational

## Fan numbering

To provide sufficient airflow to the system, the server is populated by four fans by default. There are a total of six fans. The fans can either be standard, single-rotor fans or high performance, dual-rotor fans. Mixed fan configuration is not supported.



The arrow points to the front of the server.

## Fan and heatsink requirements

---

**CAUTION:**

To maintain proper system cooling, install the correct fan and heatsink types required for specific hardware configurations.

---

- Using NVMe drives requires high performance fans.
- The maximum processor support with a midplane cage installed is 300 W.

Configuration	Midplane drive	Rear drive	Fan type	Max processor cTDP	Ambient operating temperature	Heatsink
8 LFF	Not installed	2 SFF or PCIe	Standard	240 W	35°C (95°F)	Standard
			High performance	300 W		High performance
				400 W		Max performance
12 LFF	Not installed	2 SFF or PCIe	High performance	240 W	35°C (95°F)	High performance
				300 W		
				400 W		
	4 LFF drives	4 LFF drives	240 W	35°C (95°F)	Midplane cage	
		2 SFF or PCIe	300 W			
	4 LFF drives	300 W	25°C (77°F)			
8/16 SFF	Not installed	2 SFF or PCIe	Standard	240 W	35°C (95°F)	Standard
			High performance	300 W		High performance
				400 W		Max performance
24 SFF	Not installed	2 SFF or PCIe	High performance	240 W	35°C (95°F)	High performance
				300 W		
				400 W		
	8 SFF drives	≤ 300 W	Midplane cage			
48 SFF	Not installed	2 SFF or PCIe	High performance	240 W	35°C (95°F)	High performance
				300 W		
				400 W		
E3.S	Not installed	2 SFF or PCIe	High performance	240 W	35°C (95°F)	High performance
				300 W		
				400 W		
GPU	Not installed	2 SFF or PCIe	High performance	240 W	35°C (95°F)	High performance
				300 W		
				400 W		

## Trusted Platform Module 2.0

The Trusted Platform Module 2.0 (TPM) is a hardware-based system security feature that securely store artifacts used to authenticate the platform. These artifacts can include passwords, certificates, and encryption keys.

The TPM 2.0 is embedded on the server system board.



The TPM 2.0 is supported with specific operating system support such as Microsoft Windows Server 2012 R2 and later. For more information about operating system support, see the product QuickSpecs on the Hewlett Packard Enterprise website (<https://www.hpe.com/info/qs>). For more information about Microsoft Windows BitLocker Drive Encryption feature, see the Microsoft website (<https://www.microsoft.com>).

## Subtopics

### [Trusted Platform Module 2.0 guidelines](#)

### [BitLocker recovery key/password retention guidelines](#)

## Trusted Platform Module 2.0 guidelines

### CAUTION:

- Always observe the TPM guidelines in this section. Failure to follow these guidelines can cause hardware damage or halt data access.
- If you do not follow procedures for modifying the server and suspending or disabling the TPM in the OS, an OS that is using TPM might lock all data access. This includes updating system or option firmware, replacing hardware such as the system board and drives, and modifying TPM OS settings.
- Changing the TPM mode after installing an OS might cause problems, including loss of data.

**Hewlett Packard Enterprise SPECIAL REMINDER:** Before enabling TPM functionality on this system, you must ensure that your intended use of TPM complies with relevant local laws, regulations and policies, and approvals or licenses must be obtained if applicable.

慧与特别提醒：在您启用系统中的TPM功能前，请务必确认您对TPM的使用遵守当地相关法律、法规及政策，并已事先获得所需的一切批准及许可（如适用），因您未获得相应的操作/使用许可而导致的违规问题，皆由您自行承担全部责任，与慧与无涉。

- When the embedded TPM is enabled, the Trusted Platform Module operates in TPM 2.0 mode.
- Use the UEFI System Utilities to configure the TPM. From the System Utilities screen, select System Configuration > BIOS/Platform Configuration (RBSU) > Server Security > Trusted Platform Module options. For more information, see the UEFI user guide:  
<https://www.hpe.com/support/UEFIgen11-UG-en>
- When using the Microsoft Windows BitLocker Drive Encryption feature, always retain the recovery key or password. The recovery key or password is required to enter Recovery Mode after BitLocker detects a possible compromise of system integrity.
- HPE is not liable for blocked data access caused by improper TPM use. For operating instructions, see the documentation for the encryption technology feature provided by the operating system.

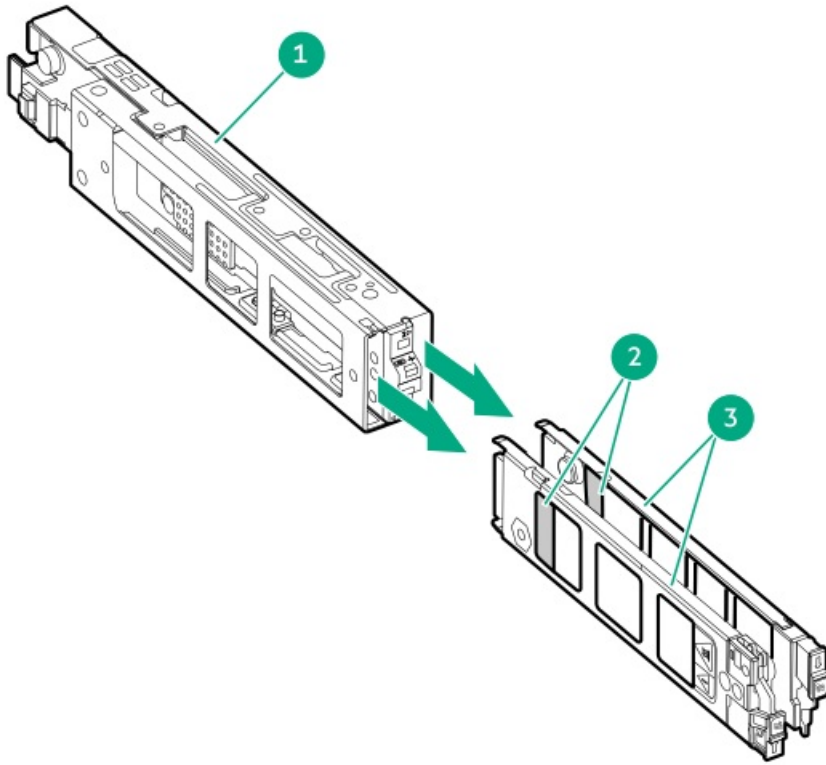
## BitLocker recovery key/password retention guidelines

The recovery key/password is generated during BitLocker setup, and can be saved and printed after BitLocker is enabled. When using BitLocker, always retain the recovery key/password. The recovery key/password is required to enter Recovery Mode after BitLocker detects a possible compromise of system integrity.

To help ensure maximum security, observe the following guidelines when retaining the recovery key/password:

- Always store the recovery key/password in multiple locations.
- Always store copies of the recovery key/password away from the server.
- Do not save the recovery key/password on an encrypted drive.

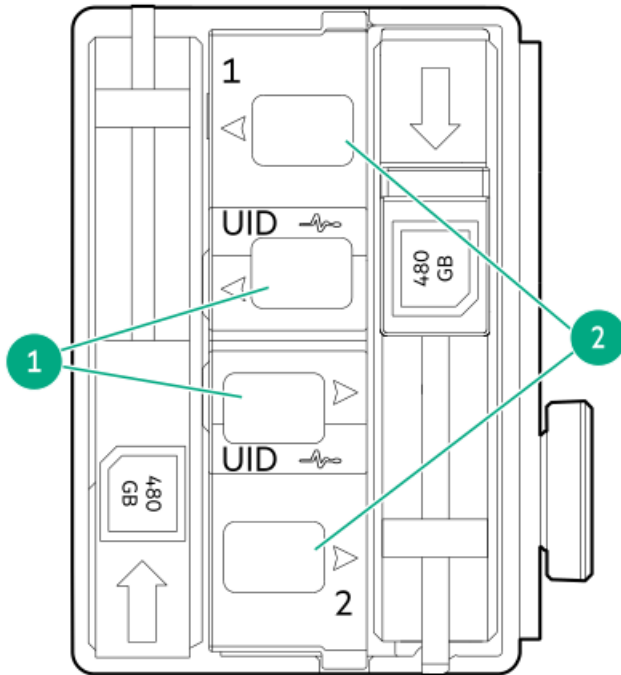
## HPE NS204i-u Boot Device components



Item	Description
1	Boot device cage
2	M.2 slots
3	Boot device carriers

## HPE NS204i-u Boot Device LED definitions





Item	LED	Status	Definition
1	Fault/Locate	Solid amber	Drive has failed, unsupported, or invalid.
		Solid blue	Drive is operating normally and being identified by a management application.
		Flashing amber/blue (1 flash per second)	Drive has failed, or a predictive failure alert is received for the drive. The drive has also been identified by a management application.
		Flashing amber (1 flash per second)	Drive predictive failure alert is received. Replace the drive as soon as possible.
		Off	Drive is operating normally and is not identified by a management application.
2	Online/Activity	Solid green	Drive is online and has no activity.
		Flashing green (1 flash per second)	Drive is doing one of the following: <ul style="list-style-type: none"> <li>Rebuilding or performing a RAID</li> <li>Erasing</li> </ul>
		Flashing green (4 flashes per second)	Drive is operating normally and has activity.
		Off	Drive is not configured by a RAID controller or is a spare drive.

## Cabling

This chapter includes cabling guidelines and diagrams for internal component cabling.

### Subtopics

#### [Cabling guidelines](#)

## Internal cabling management

### Cabling diagrams

### Storage cabling

### Riser cabling

### HPE NS204i Boot Device cabling

### System Insight Display cabling

### Chassis intrusion switch cabling

### Universal media bay cabling

### DisplayPort cabling

### Front I/O cabling

### Power distribution board cabling

### Serial port cabling

### Optical drive cabling

### OCP bandwidth upgrade cabling

## Cabling guidelines

Observe the following:

- Some diagrams show alphabetical callouts A, B, C, etc. These callouts correspond to labels near the connectors on the cable.
- The cable colors in the cabling diagrams used in this chapter are for illustration purposes only.
- Observe all guidelines when working with server cables.

### Before connecting cables

- Note the port labels on the PCA components. Not all these components are used by all servers:
  - System board ports
  - Drive and power supply backplane ports
  - Expansion board ports (controllers, adapters, expanders, risers, and similar boards)
- Note the label near each cable connector. This label indicates the destination port for the cable connector.
- Some data cables are prebent. Do not unbend or manipulate the cables.
- To prevent mechanical damage or depositing oil that is present on your hands, and other contamination, do not touch the ends of the connectors.

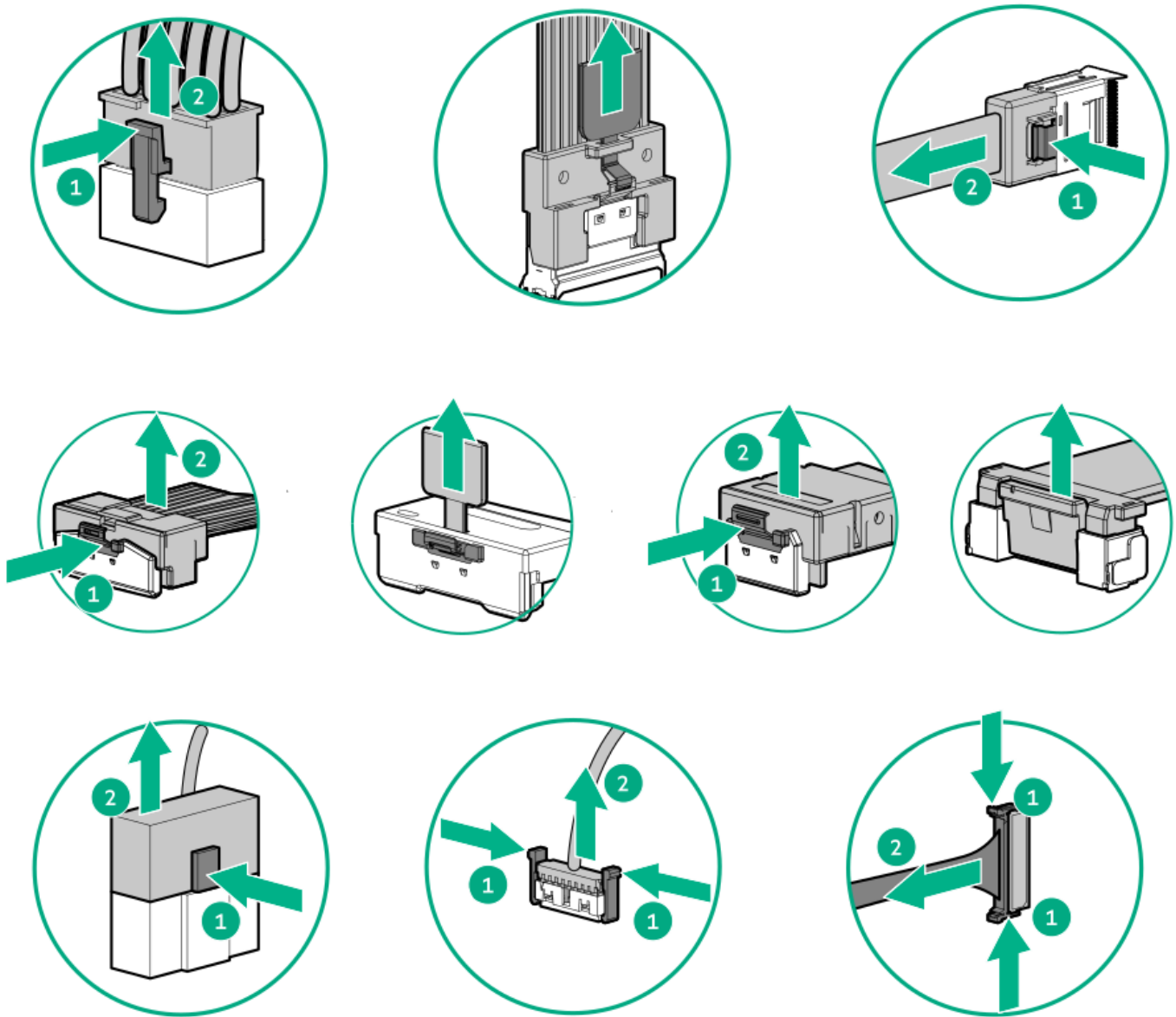
### When connecting cables

- Before connecting a cable to a port, lay the cable in place to verify the length of the cable.
- Use the internal cable management features to properly route and secure the cables.
- When routing cables, be sure that the cables are not in a position where they can be pinched or crimped.
- Avoid tight bend radii to prevent damaging the internal wires of a power cord or a server cable. Never bend power cords and server cables tight enough to cause a crease in the sheathing.

- Make sure that the excess length of cables is properly secured to avoid excess bends, interference issues, and airflow restriction.
- To prevent component damage and potential signal interference, make sure that all cables are in their appropriate routing position before installing a new component and before closing up the server after hardware installation/maintenance.

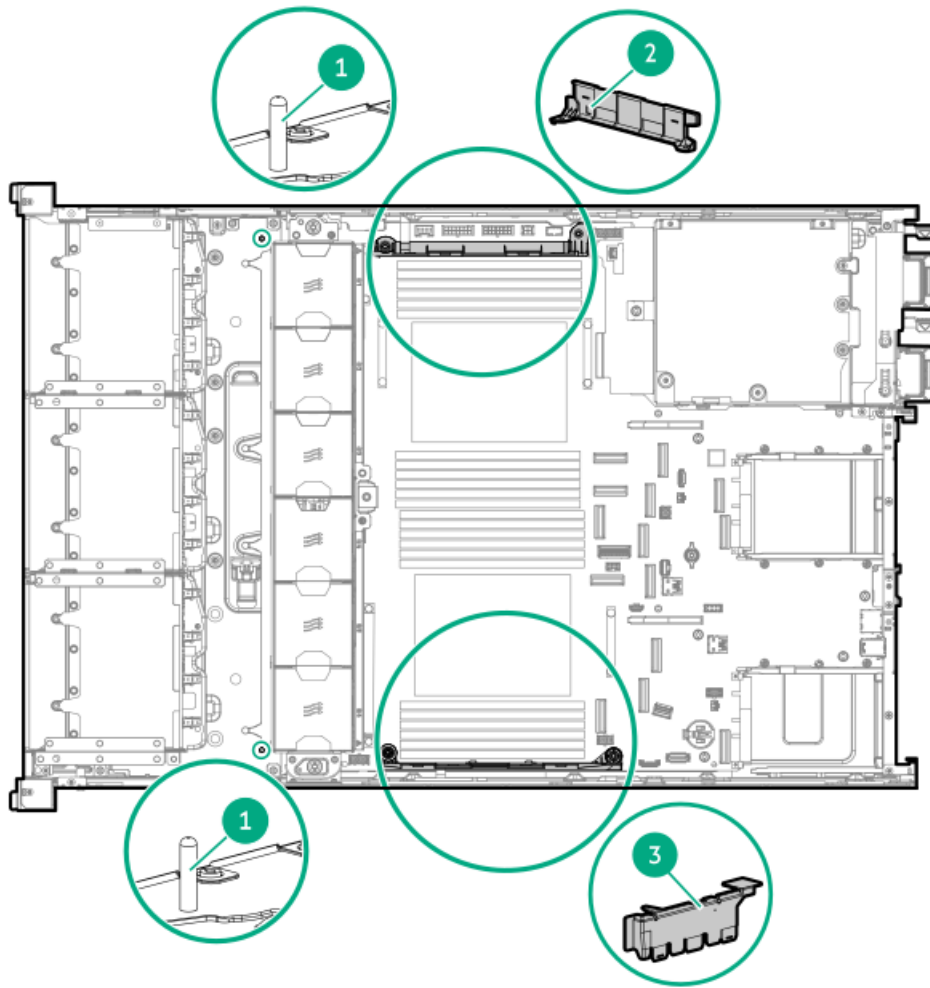
#### When disconnecting cables

- Grip the body of the cable connector. Do not pull on the cable itself because this action can damage the internal wires of the cable or the pins on the port.
- If a cable does not disconnect easily, check for any release latch that must be pressed to disconnect the cable.



- Remove cables that are no longer being used. Retaining them inside the server can restrict airflow. If you intend to use the removed cables later, label and store them for future use.

## Internal cabling management



#### Item Description

1	Guide pins
2	DIMM guards
3	Cable guards <sup>1</sup>

<sup>1</sup> If a midtray is installed, there will be no cable guards.

## Cabling diagrams

Observe the following:

- Before cabling components, see the [cabling guidelines](#).
- Use the cable part number or search feature to find your diagram.

#### Component cabling

#### Cable part number

Front SFF drive power cabling

- [P57198-001](#)
- [P58023-001](#)
- [P57209-001](#)

Component cabling	Cable part number
48 SFF drive power cabling	<ul style="list-style-type: none"> <li>• <a href="#">P58024-001</a></li> <li>• <a href="#">P58025-001</a></li> <li>• <a href="#">P58026-001</a></li> </ul>
Front LFF drive power cabling	<ul style="list-style-type: none"> <li>• <a href="#">P58036-001</a></li> <li>• <a href="#">P58867-001</a></li> </ul>
E3.S drive power cabling	<ul style="list-style-type: none"> <li>• <a href="#">P58115-001</a></li> <li>• <a href="#">P58822-001</a></li> </ul>
8 SFF drive power cabling in the GPU configuration	<a href="#">P58023-001</a>
Rear 2 SFF drive power cabling	<a href="#">P58086-001</a>
Rear LFF drive power cabling	<ul style="list-style-type: none"> <li>• <a href="#">P58085-001</a></li> <li>• <a href="#">P58086-001</a></li> </ul>
Stacked 2 SFF drive: Primary type-p controller cabling	<a href="#">P58146-001</a>
Stacked 2 SFF drive: Type-o controller cabling	<ul style="list-style-type: none"> <li>• <a href="#">P58145-001</a></li> <li>• <a href="#">P58148-001</a></li> </ul>
8/16/24/32 SFF drive: Onboard SAS/SATA cabling	<ul style="list-style-type: none"> <li>• <a href="#">P58013-001</a></li> <li>• <a href="#">P58012-001</a></li> <li>• <a href="#">P58011-001</a></li> </ul>
8/16/24 SFF drive: Onboard NVMe cabling	<ul style="list-style-type: none"> <li>• <a href="#">P58171-001</a></li> <li>• <a href="#">P58172-001</a></li> <li>• <a href="#">P58169-001</a></li> <li>• <a href="#">P58168-001</a></li> </ul>
24/32 SFF drive: Onboard NVMe cabling	<ul style="list-style-type: none"> <li>• <a href="#">P58107-001</a></li> <li>• <a href="#">P58170-001</a></li> <li>• <a href="#">P58106-001</a></li> </ul>
8/16/24/32 SFF drive: SR932i-p controller cabling	<ul style="list-style-type: none"> <li>• <a href="#">P58019-001</a></li> <li>• <a href="#">P58020-001</a></li> <li>• <a href="#">P58018-001</a></li> </ul>
8/16/24/32 SFF drive: Primary type-p controller cabling	<ul style="list-style-type: none"> <li>• <a href="#">P58020-001</a></li> <li>• <a href="#">P58018-001</a></li> <li>• <a href="#">P58120-001</a></li> <li>• <a href="#">P58123-001</a></li> <li>• <a href="#">P58127-001</a></li> </ul>
8/16/24/32 SFF drive: Secondary type-p controller cabling	<ul style="list-style-type: none"> <li>• <a href="#">P58017-001</a></li> <li>• <a href="#">P58114-001</a></li> <li>• <a href="#">P58124-001</a></li> <li>• <a href="#">P58121-001</a></li> </ul>
8/16/24/32 SFF drive: Type-o controller cabling	<ul style="list-style-type: none"> <li>• <a href="#">P58015-001</a></li> <li>• <a href="#">P58014-001</a></li> <li>• <a href="#">P58016-001</a></li> </ul>
48 SFF drive: Primary type-p controller cabling	<a href="#">P58119-001</a>
48 SFF drive: Secondary type-p controller cabling	<ul style="list-style-type: none"> <li>• <a href="#">P58112-001</a></li> <li>• <a href="#">P58032-001</a></li> </ul>
8/12/16 LFF drive: Onboard SAS/SATA cabling	<ul style="list-style-type: none"> <li>• <a href="#">P58102-001</a></li> <li>• <a href="#">P58099-001</a></li> </ul>
8/12/16/20 LFF drive: Type-o controller cabling	<ul style="list-style-type: none"> <li>• <a href="#">P58104-001</a></li> <li>• <a href="#">P58100-001</a></li> </ul>

Component cabling	Cable part number
16/32 SFF drive: Onboard SAS/SATA cabling	• <a href="#">P58087-001</a>
16/32 SFF drive: Onboard NVMe cabling	• <a href="#">P58092-001</a> • <a href="#">P58093-001</a>
16/32 SFF drive: Primary type-p controller cabling	<a href="#">P58089-001</a>
32 SFF drive: Secondary type-p controller cabling	• <a href="#">P58095-001</a> • <a href="#">P58094-001</a>
32 SFF drive: Secondary or tertiary type-p controller cabling	<a href="#">P58090-001</a>
2 SFF drive: Primary type-p controller cabling	<a href="#">P58150-001</a>
2 SFF drive: Secondary type-p controller cabling	<a href="#">P58151-001</a>
2 SFF drive: Type-o controller cabling	• <a href="#">P58152-001</a> • <a href="#">P58149-001</a>
4 LFF drive: Type-o controller cabling	<a href="#">P58098-001</a>
12 E3.S drive: Onboard NVMe cabling	• <a href="#">P58108-001</a> • <a href="#">P58109-001</a>
24 E3.S drive: Onboard NVMe cabling	• <a href="#">P58110-001</a> • <a href="#">P58111-001</a>
32 E3.S drive: Onboard NVMe cabling	<a href="#">P58130-001</a>
36 E3.S drive: Onboard NVMe cabling	• <a href="#">P58118-001</a> • <a href="#">P58117-001</a> • <a href="#">P58113-001</a> • <a href="#">P58116-001</a>
12 E3.S drive: Primary riser cabling	<a href="#">P58125-001</a>
24 E3.S drive: Secondary riser cabling	• <a href="#">P62389-001</a> • <a href="#">P62388-001</a> • <a href="#">P58126-001</a>
4 dual-width GPU + 8 SFF drive: Onboard NVMe cabling	• <a href="#">P58153-001</a> • <a href="#">P58154-001</a>
24 SFF drive: Energy pack cabling	<a href="#">P58176-001</a>
12 LFF drive: Energy pack cabling	<a href="#">P58176-001</a>
Primary stacking riser cabling	• <a href="#">P41276-001</a> • <a href="#">P41272-001</a>
Secondary stacking riser cabling	• <a href="#">P55815-001</a> • <a href="#">P41276-001</a>
Tertiary stacking riser cabling	• <a href="#">P50365-001</a> • <a href="#">P50364-001</a>
GPU riser cabling	• <a href="#">P58157-001</a> • <a href="#">P44218-001</a> • <a href="#">P55816-001</a>
HPE NS204i Boot Device cabling on the secondary riser cage	• <a href="#">P54087-001</a> • <a href="#">P54088-001</a>
HPE NS204i Boot Device cabling on top of the power supplies	• <a href="#">P54087-001</a> • <a href="#">P54088-001</a>
System Insight Display cabling	<a href="#">P48971-001</a>



Component cabling	Cable part number
Chassis intrusion switch cabling	<a href="#">P54901-001</a>
Universal media bay cabling	<ul style="list-style-type: none"> <li>• <a href="#">P14314-001</a></li> <li>• <a href="#">P57248-001</a></li> </ul>
DisplayPort cabling	<a href="#">869808-001</a>
Front I/O cabling	<ul style="list-style-type: none"> <li>• <a href="#">P43727-001</a></li> <li>• <a href="#">P47750-001</a></li> </ul>
Power distribution board cabling	<a href="#">P58028-001</a>
Serial port cabling	<a href="#">873747-001</a>
Optical drive cabling in the SFF chassis	<a href="#">P58077-001</a>
Optical drive cabling in the LFF chassis	<a href="#">P58077-001</a>
OCP bandwidth upgrade cabling	<ul style="list-style-type: none"> <li>• <a href="#">P58174-001</a></li> <li>• <a href="#">P58173-001</a></li> </ul>

## Storage cabling

### Subtopics

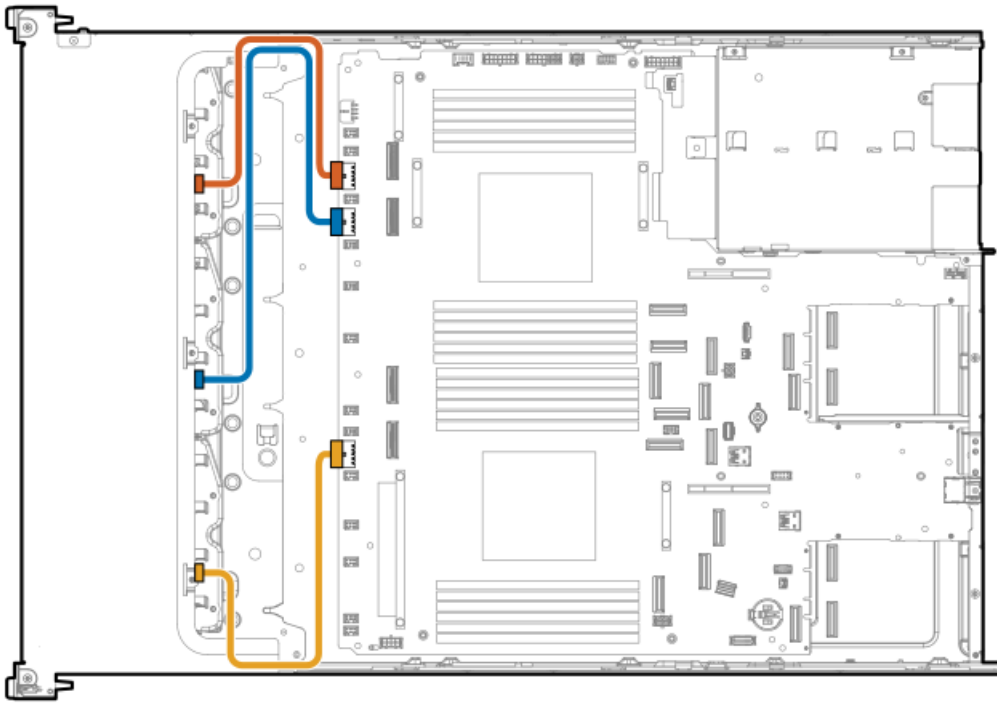
[Drive power cabling](#)

[Storage controller cabling](#)

[Energy pack cabling](#)

## Drive power cabling

### Front SFF drive power cabling

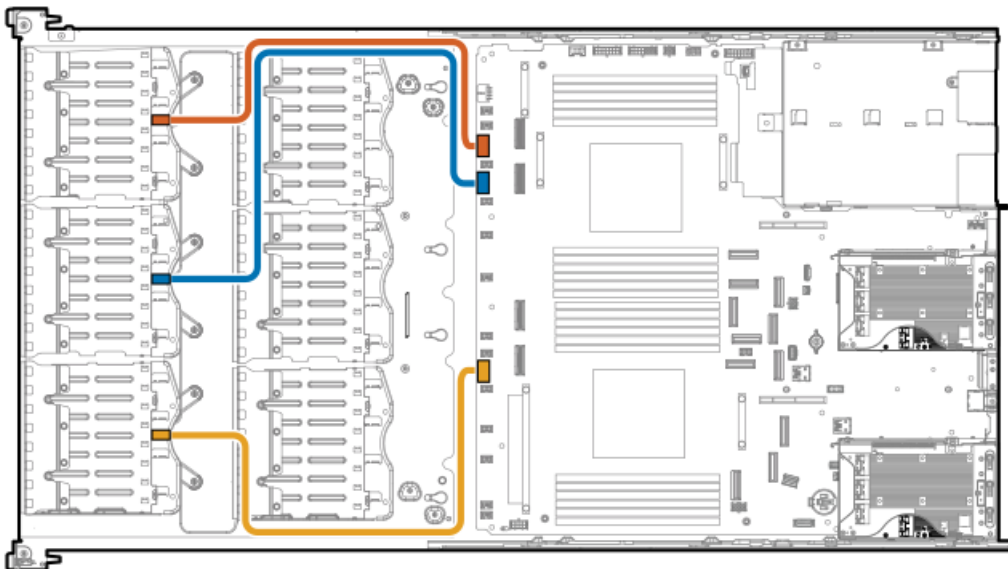


Cable part number	Color	From	To
P57198-001 <sup>1</sup>	Orange	Drive backplane power connector 1	Box 1
P58023-001 <sup>1</sup>	Blue	Drive backplane power connector 2	Box 2
P57209-001 <sup>2</sup>	Yellow	Drive backplane power connector 3	Box 3

<sup>1</sup> Option kit: P57845-B21

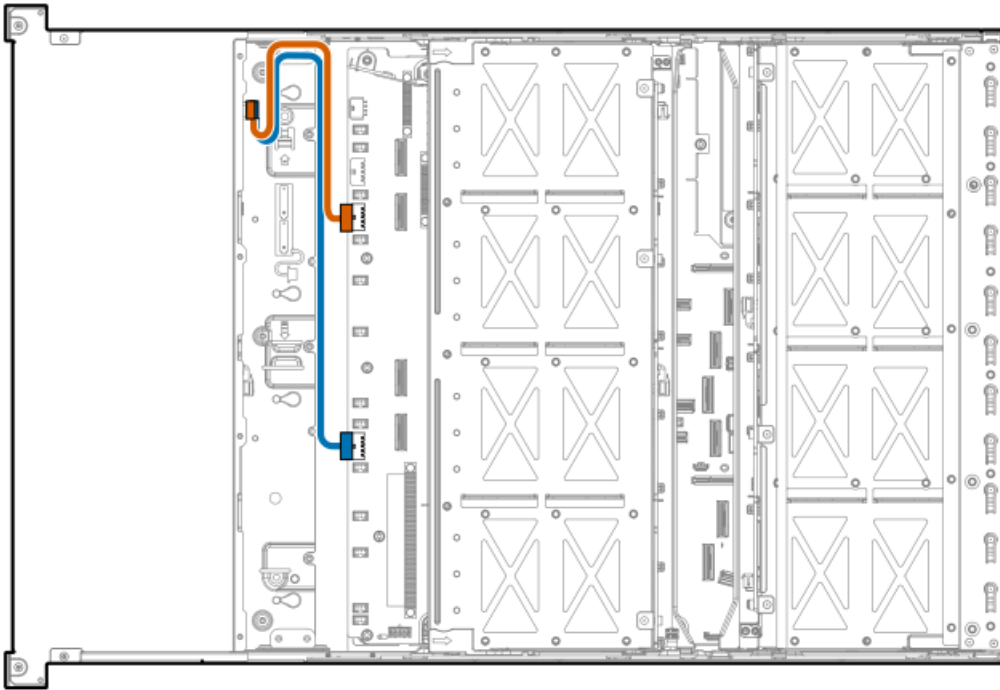
<sup>2</sup> Option kit: P57952-B21

#### 48 SFF drive power cabling



Cable part number	Color	From	To
P58026-001	Orange	Drive backplane power connector 1	Box 1
P58025-001	Blue	Drive backplane power connector 2	Box 2
P58024-001	Yellow	Drive backplane power connector 3	Box 3

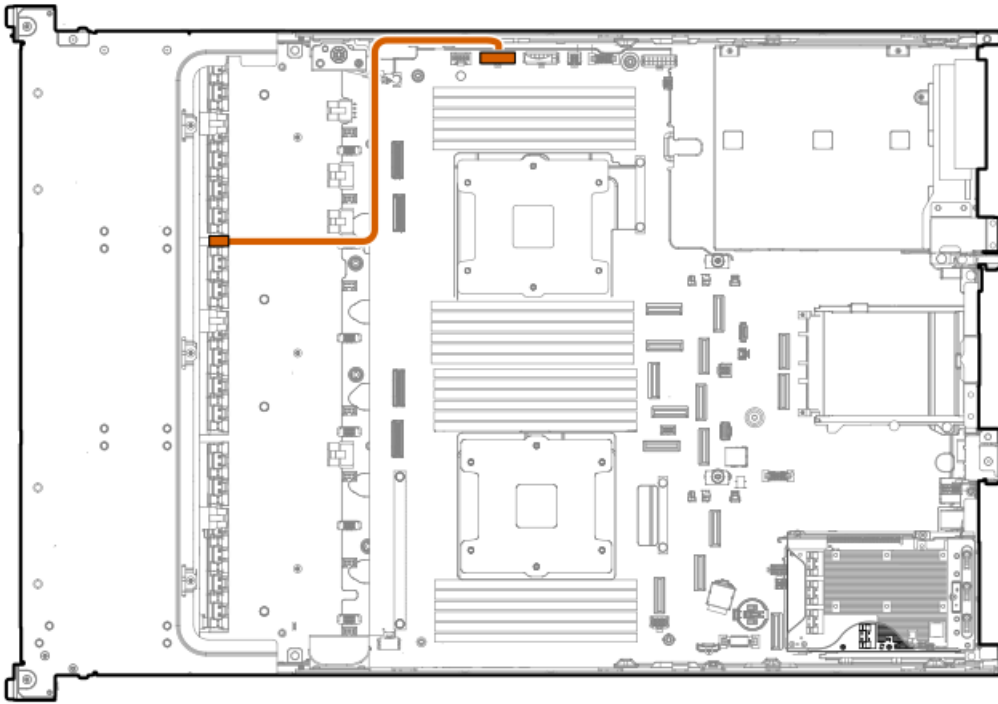
#### Front LFF drive power cabling



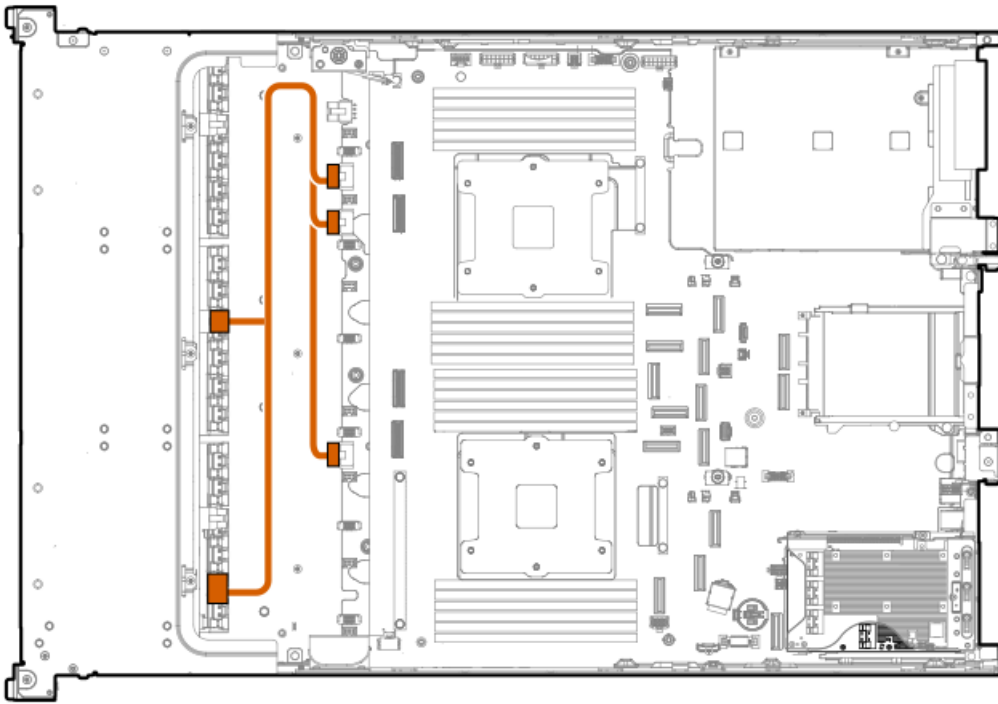
Cable part number	Color	From	To
P58036-001 <sup>1</sup>	Orange	Drive backplane power connector 2	Box 2
P58867-001 <sup>2</sup>	Blue	Drive backplane power connector 3	Box 3

- <sup>1</sup> Option kit: P55093-B21
- <sup>2</sup> Option kit: P57957-B21

#### E3.S drive power cabling



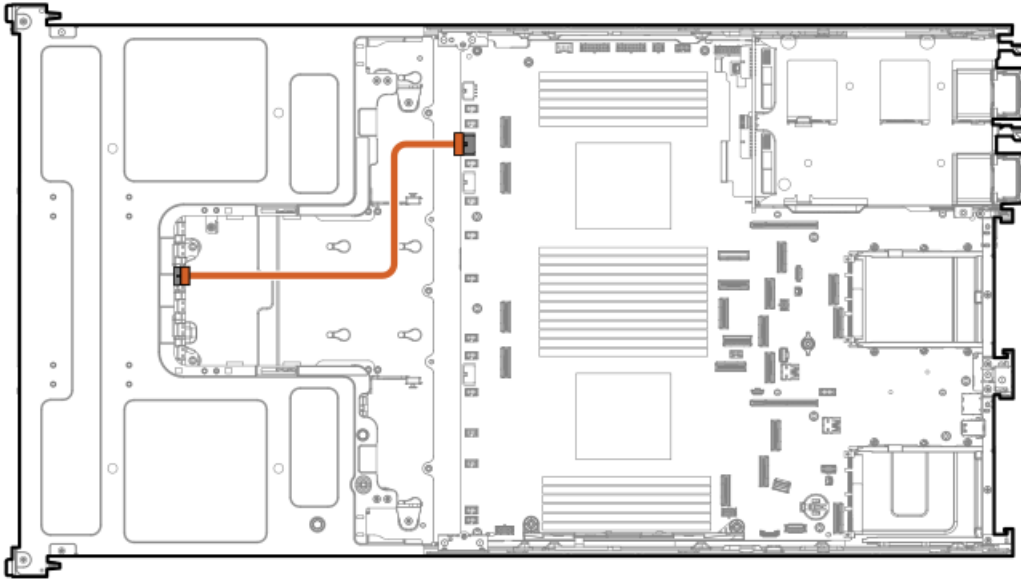
Cable part number	Color	From	To
P58115-001	Orange	GPU/Backplane/Switch Board power connector	Box 1



Cable part number	Color	From	To
P58822-001	Orange	Drive backplane power connector	Box 2/3 1, 2, and 3

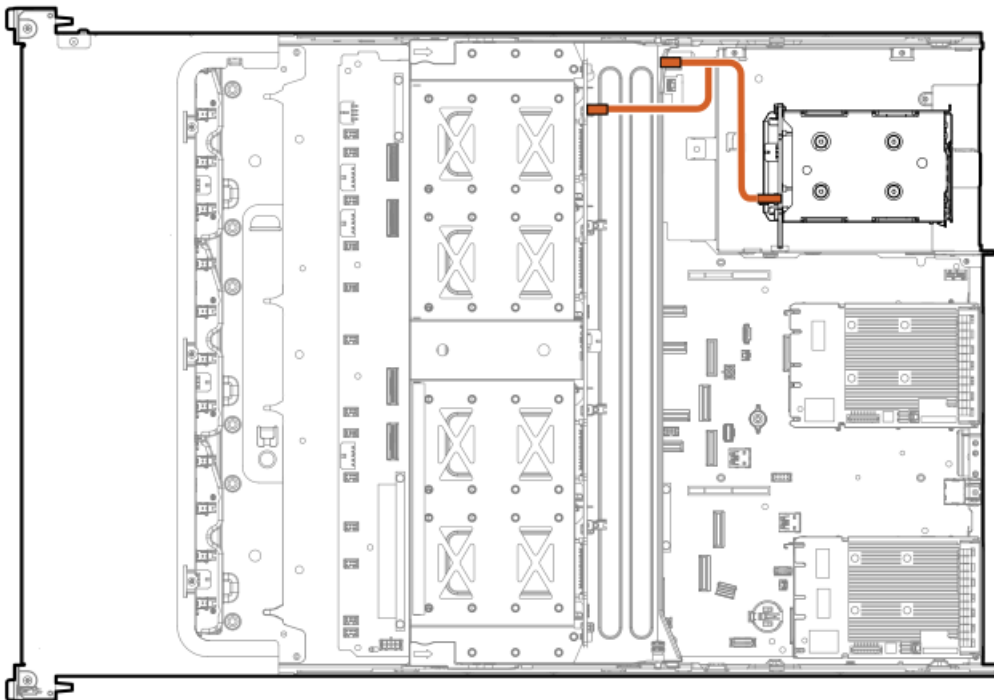


### 8 SFF drive power cabling in the GPU configuration



Cable part number	Color	From	To
P58023-001	Orange	Box 1	Drive backplane power connector 1

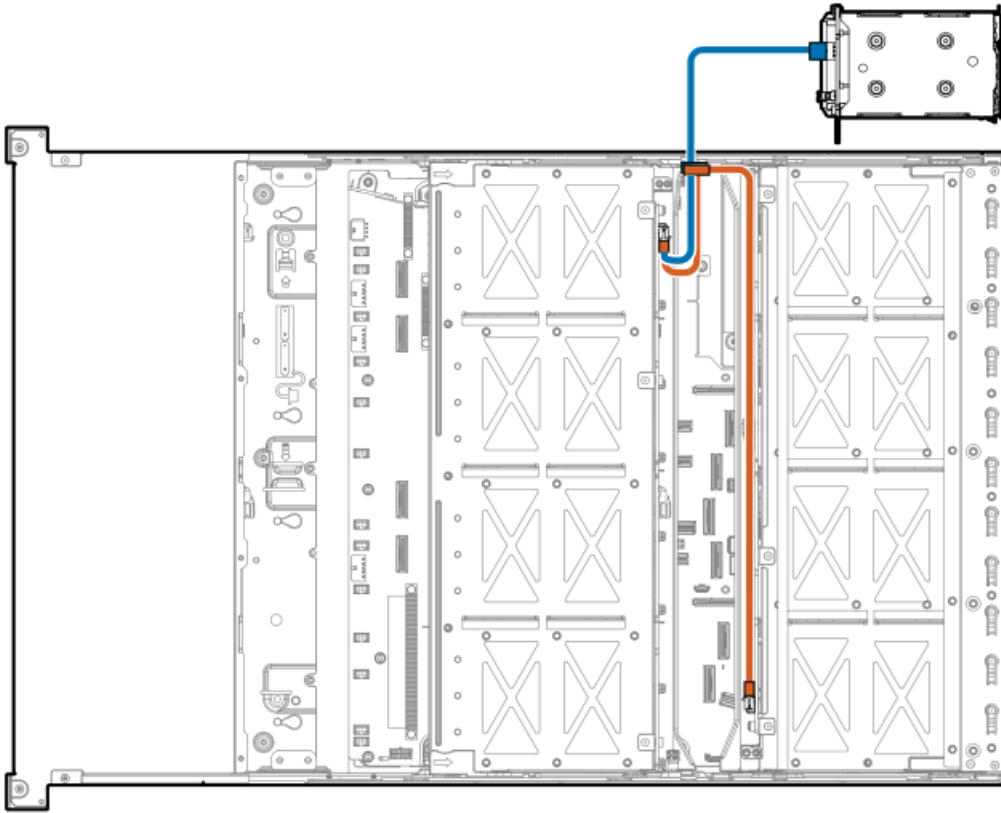
### Rear 2 SFF drive power cabling



Cable part number	Color	From	To
P58086-001 <sup>1</sup>	Orange	Drive backplane power connector	Box 7/8

<sup>1</sup> Option kit: P55086-B21

## Rear LFF drive power cabling



Cable part number	Color	From	To
P58085-001 <sup>1</sup>	Orange	Drive backplane power connector	Box 7/8
P58086-001 <sup>2</sup>	Blue	Drive backplane power connector	Box 8

<sup>1</sup> Option kit: P55085-B21

<sup>2</sup> Option kit: P55086-B21; P55087-B21; P55091-B21

## Storage controller cabling

### Subtopics

[Front-end drive cabling](#)

[Midplane drive cabling](#)

[Rear-end drive controller cabling](#)

## Front-end drive cabling

### Subtopics

[SFF drive cabling](#)

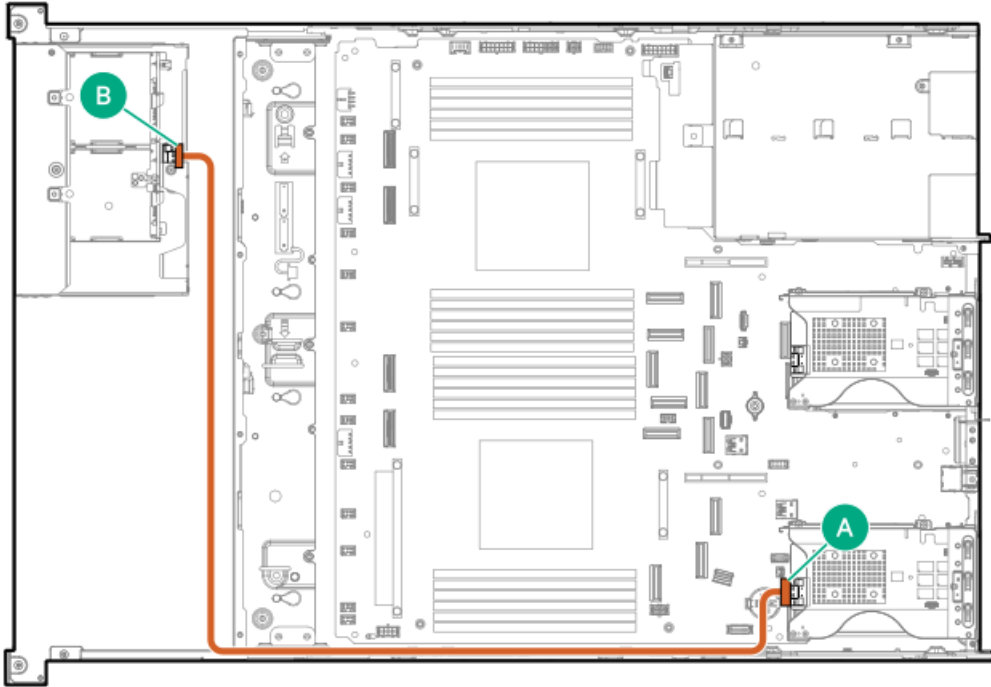
[LFF drive cabling](#)

[E3.S drive cabling](#)

[GPU cabling](#)

## SFF drive cabling

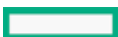
### Stacked 2 SFF drive: Primary type-p controller cabling

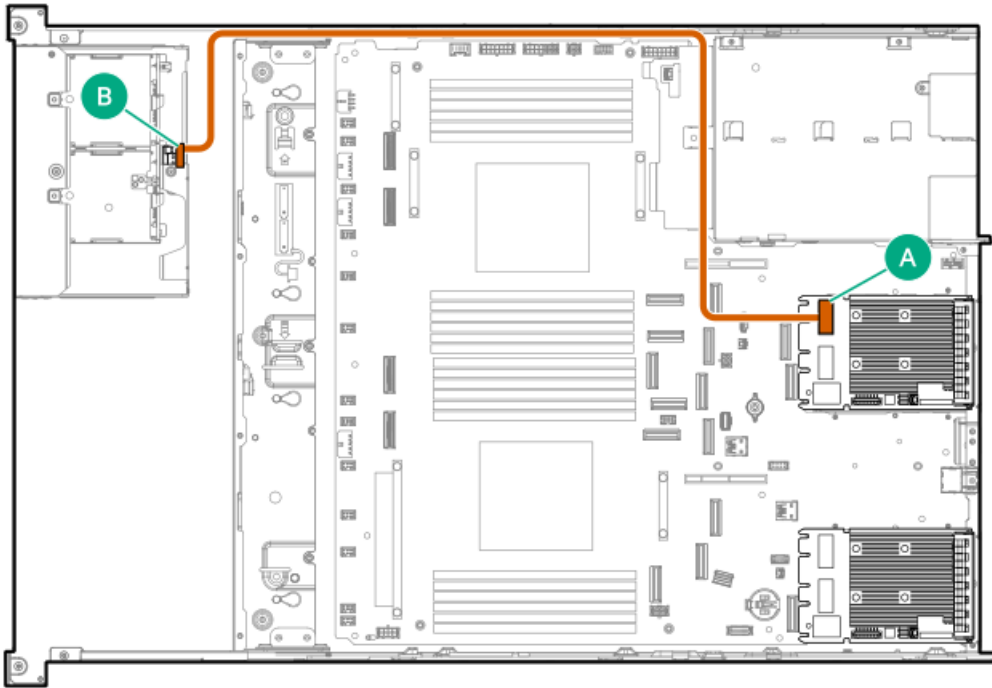


Cable part number	Color	From	To
P58146-001 <sup>1</sup>	Orange	Port 1	Box 1 port 1

<sup>1</sup> Option kit: P55091-B21; P55093-B21

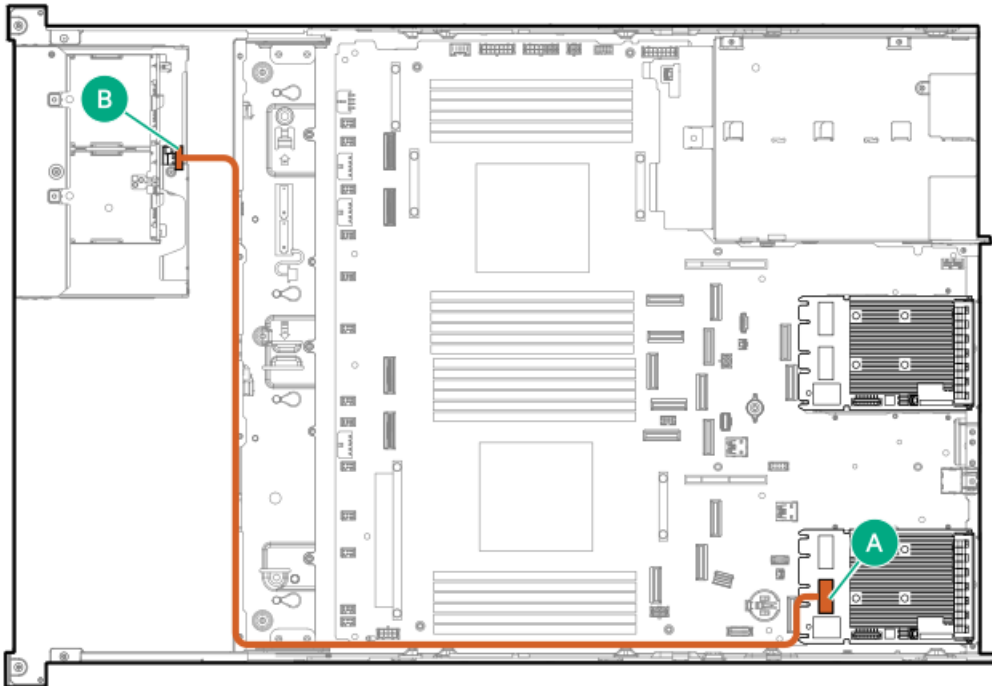
### Stacked 2 SFF drive: Type-o controller cabling





Cable part number	Color	From	To
P58145-001 <sup>1</sup>	Orange	Slot 22 port 1	Box 1 port 1

<sup>1</sup> Option kit: P55093-B21

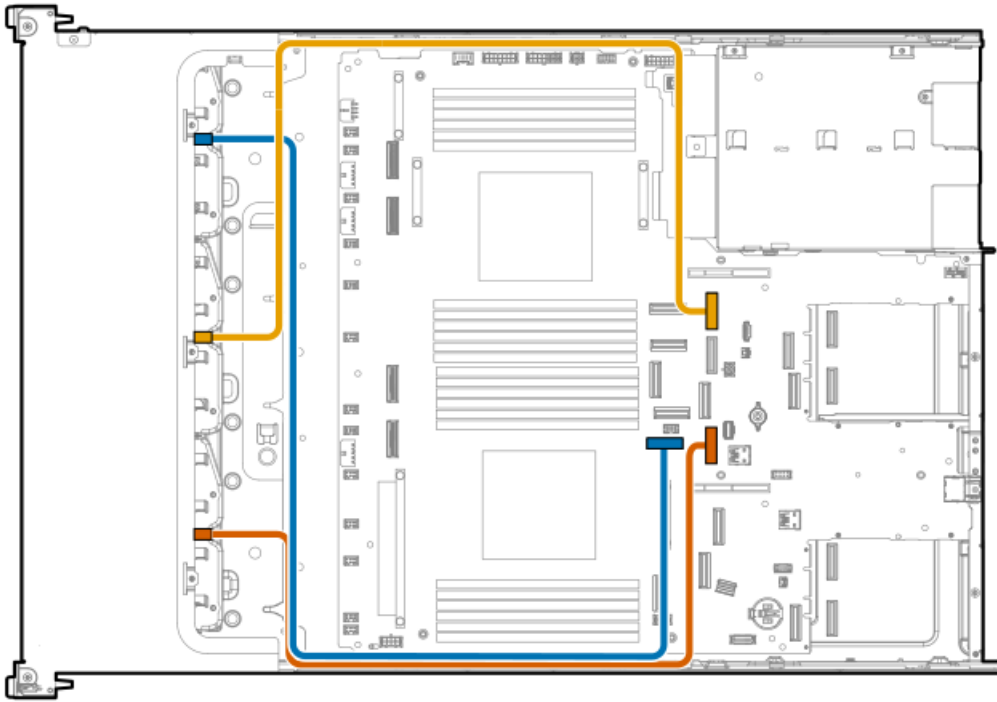


Cable part number	Color	From	To
P58148-001 <sup>1</sup>	Orange	Slot 21 port 1	Box 1 port 1

<sup>1</sup> Option kit: P55093-B21



## 8/16/24/32 SFF drive: Onboard SAS/SATA cabling

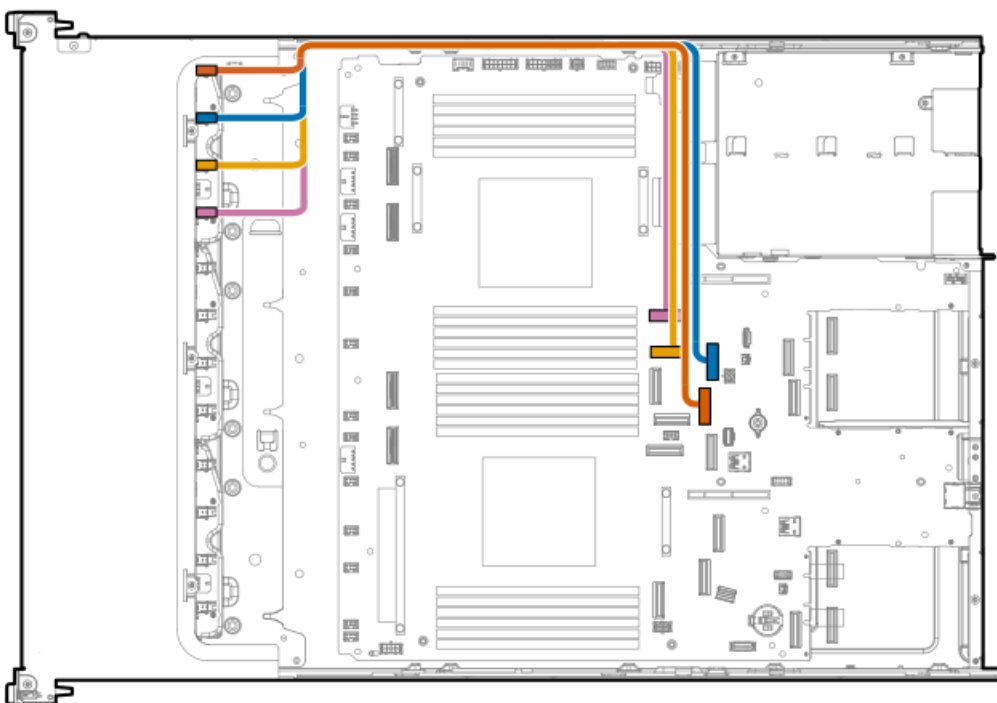


Cable part number	Color	From	To
P58013-001 <sup>1</sup> <sup>2</sup>	Blue	NVMe/SATA port 9A	Box 1 port 1
P58012-001 <sup>1</sup>	Yellow	NVMe/SATA port 9B	Box 2 port 1
P58011-001 <sup>1</sup>	Orange	NVMe/SATA port 1A	Box 3 port 1

<sup>1</sup> Option kit: P57846-B21

<sup>2</sup> This cabling connection is for 24 and 32 SFF with two processors.

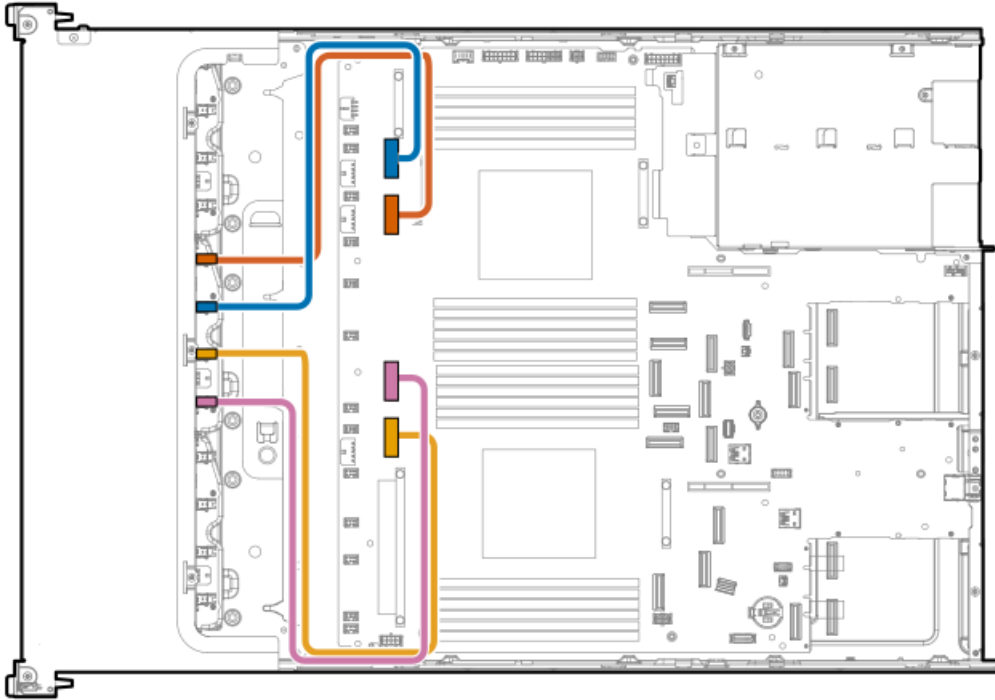
## 8/16/24 SFF drive: Onboard NVMe cabling



Cable part number	Color	From	To
P58171-001 <sup>1</sup> <sup>2</sup>	Orange	NVMe/SATA port 8B	Box 1 port 1
	Blue	NVMe/SATA port 9B	Box 1 port 2
	Yellow	NVMe port 6B	Box 1 port 3
	Pink	NVMe port 7B	Box 1 port 4

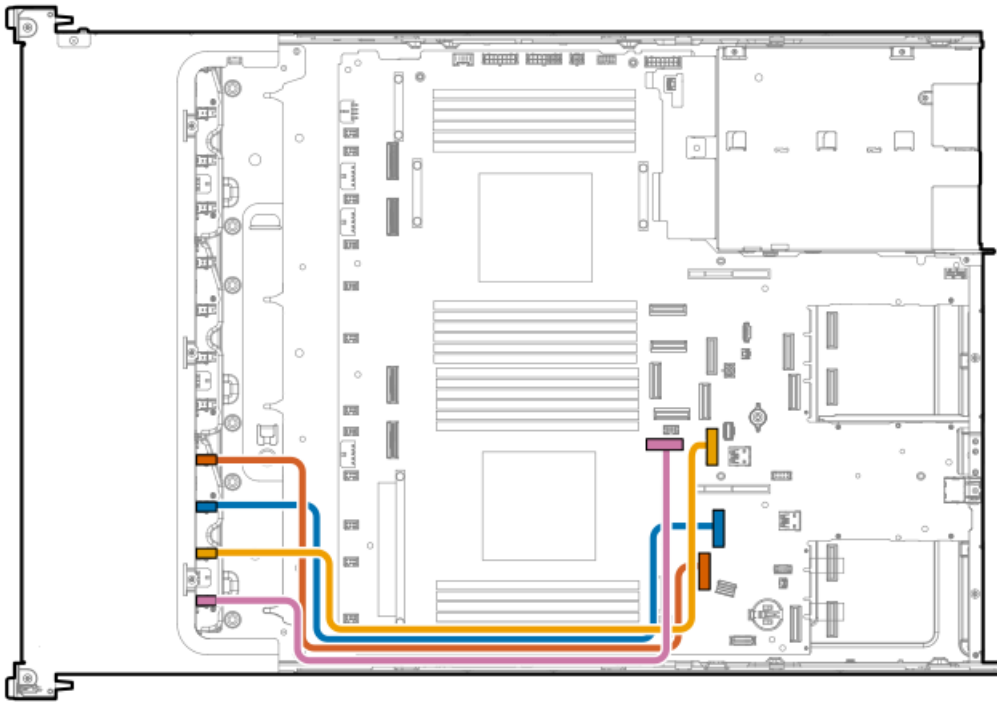
<sup>1</sup> Option kit: P57855-B21

<sup>2</sup> This cabling connection is for 24 SFF with two processors.



Cable part number	Color	From	To
P58172-001 <sup>1</sup>	Orange	NVMe port 2B	Box 2 port 1
	Blue	NVMe port 3B	Box 2 port 2
P58169-001 <sup>1</sup>	Yellow	NVMe port 2A	Box 2 port 3
	Pink	NVMe port 3A	Box 2 port 4

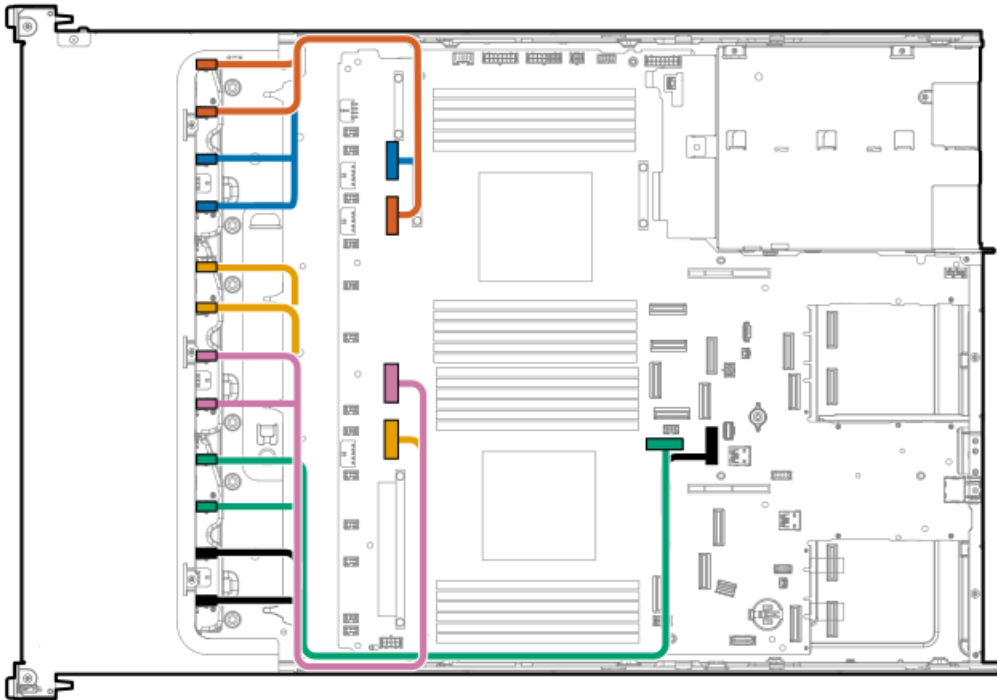
<sup>1</sup> Option kit: P57854-B21



Cable part number	Color	From	To
P58168-001 <sup>1</sup>	Orange	NVMe port 6A	Box 3 port 1
	Blue	NVMe port 7A	Box 3 port 2
	Yellow	NVMe/SATA port 1A	Box 3 port 3
	Pink	NVMe/SATA port 9A	Box 3 port 4

<sup>1</sup> Option kit: P57853-B21

**24/32 SFF drive: Onboard NVMe cabling**

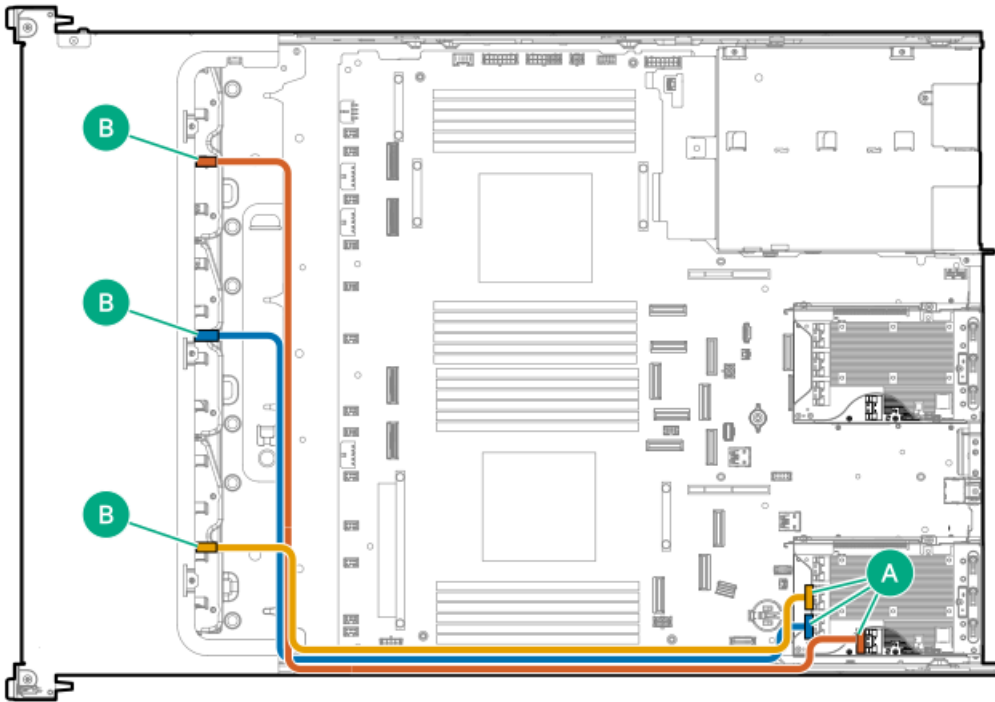


Cable part number	Color	From	To
P58107-001 <sup>1 2</sup>	Orange	NVMe port 2B	Box 1 port 1 and port 2
	Blue	NVMe port 3B	Box 1 port 3 and port 4
P58170-001 <sup>1</sup>	Yellow	NVMe port 2A	Box 2 port 1 and port 2
	Pink	NVMe port 3A	Box 2 port 3 and port 4
P58106-001 <sup>1</sup>	Green	NVMe/SATA port 9A	Box 3 port 1 and port 2
	Black	NVMe/SATA port 1A	Box 3 port 3 and port 4

<sup>1</sup> Option kit: P57859-B21

<sup>2</sup> This cabling connection is for two processors.

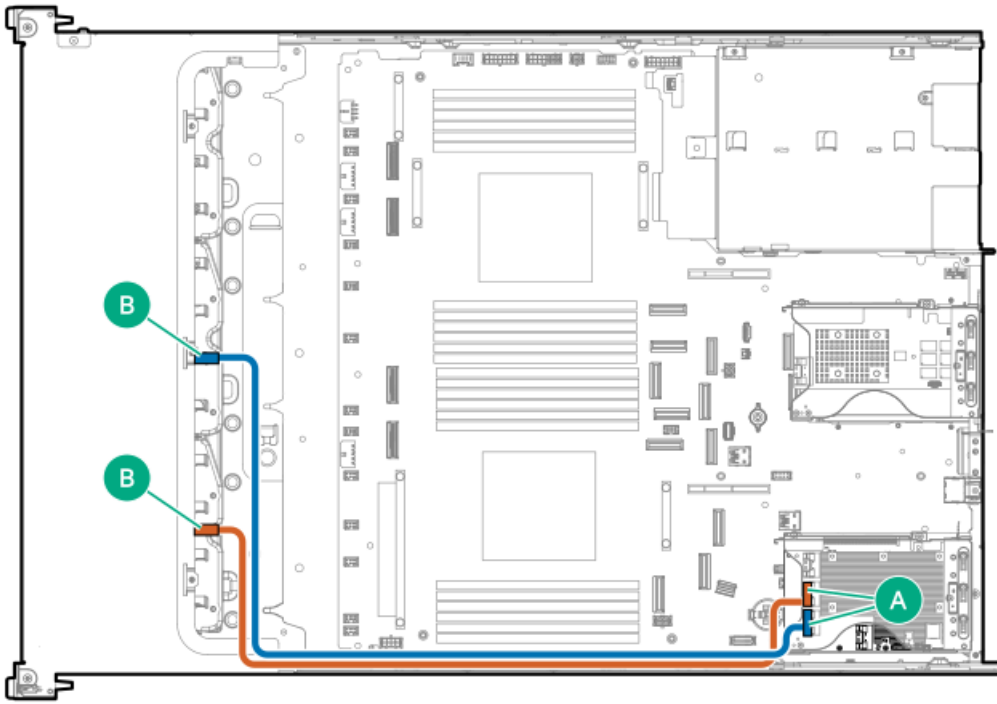
**8/16/24/32 SFF drive: SR932i-p controller cabling**



Cable part number	Color	From	To
P58019-001 <sup>1</sup>	Orange	Port 1	Box 1 port 1
P58020-001 <sup>1</sup>	Blue	Port 2	Box 2 port 1
P58018-001 <sup>1</sup>	Yellow	Port 3	Box 3 port 1

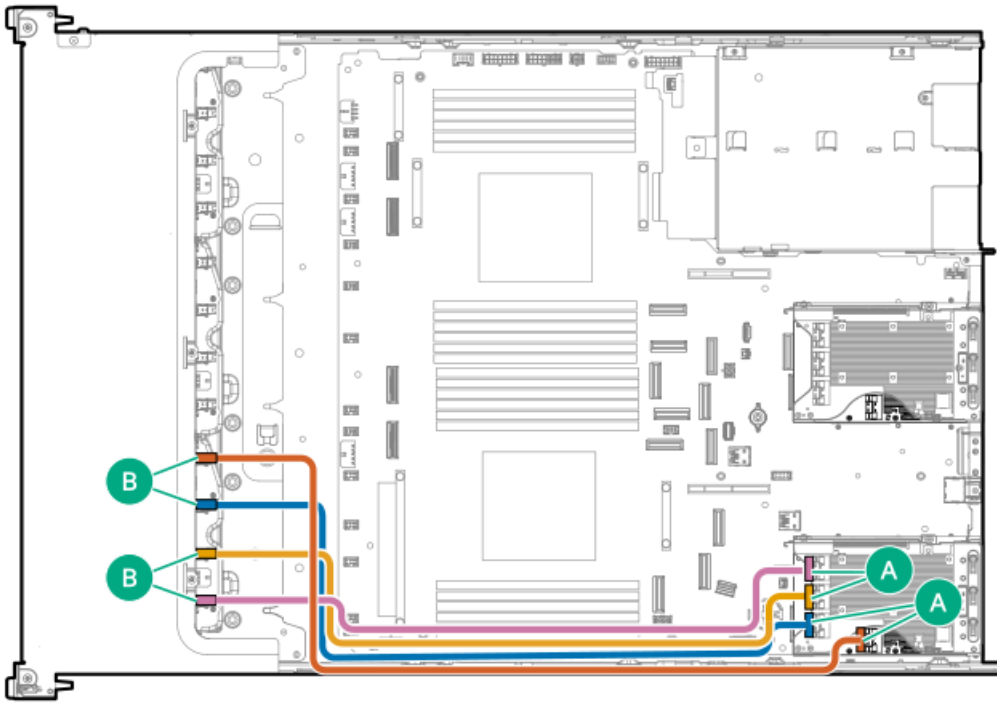
<sup>1</sup> Option kit: P57848-B21

**8/16/24/32 SFF drive: Primary type-p controller cabling**



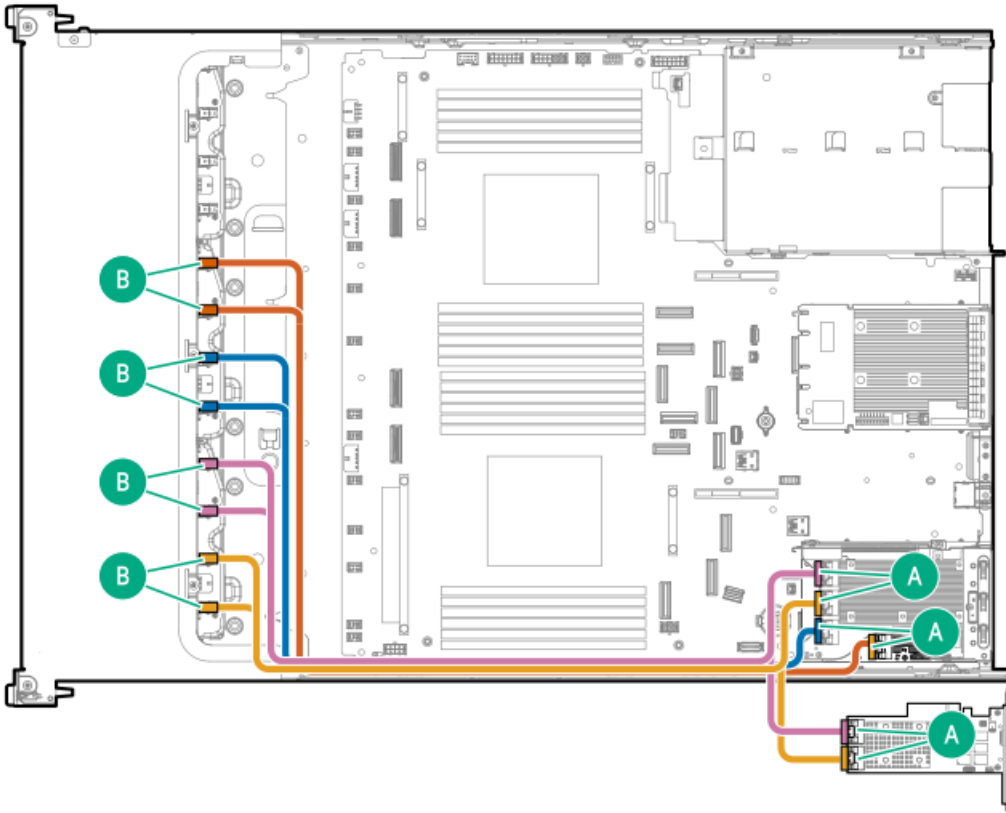
Cable part number	Color	From	To
P58018-001 <sup>1</sup>	Orange	Port 3	Box 3 port 1
P58020-001 <sup>1</sup>	Blue	Port 2	Box 2 port 1

<sup>1</sup> Option kit: P57848-B21



Cable part number	Color	From	To
P58120-001 <sup>1</sup>	Orange	Port 1	Box 3 port 1
	Blue	Port 2	Box 3 port 2
	Yellow	Port 3	Box 3 port 3
	Pink	Port 4	Box 3 port 4

<sup>1</sup> Option kit: P57856-B21



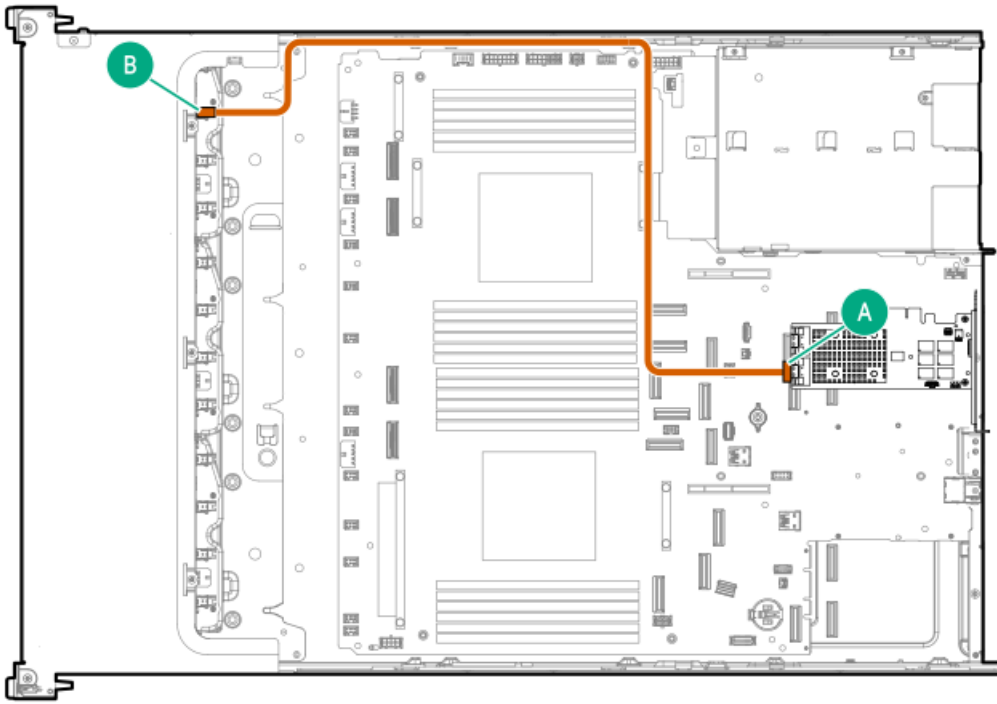
Cable part number	Color	From	To
P58123-001 <sup>1</sup>	Orange	Port 1	Box 2 port 1 and port 2
	Blue	Port 2	Box 2 port 3 and port 4
P58127-001 <sup>1</sup>	Yellow	Port 3 <sup>2</sup>	Box 3 port 3 and port 4
		Port 1 <sup>3</sup>	
	Pink	Port 4 <sup>2</sup>	Box 3 port 1 and port 2
		Port 2 <sup>3</sup>	

<sup>1</sup> Option kit: P57865-B21

<sup>2</sup> This port is from an SR controller.

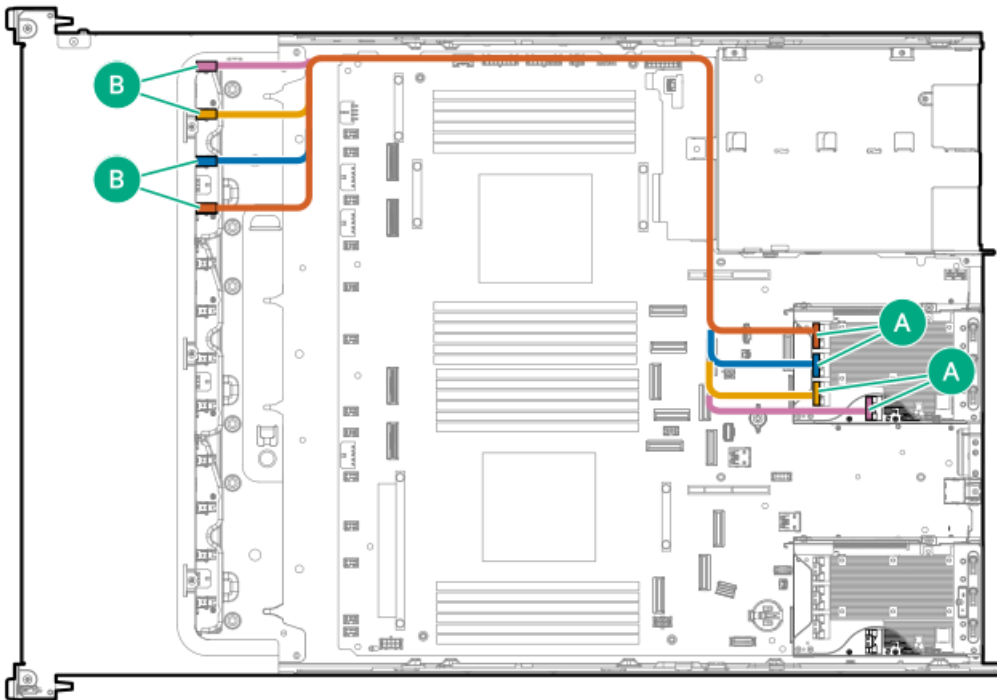
<sup>3</sup> This port is from an MR controller.

#### 8/16/24/32 SFF drive: Secondary type-p controller cabling



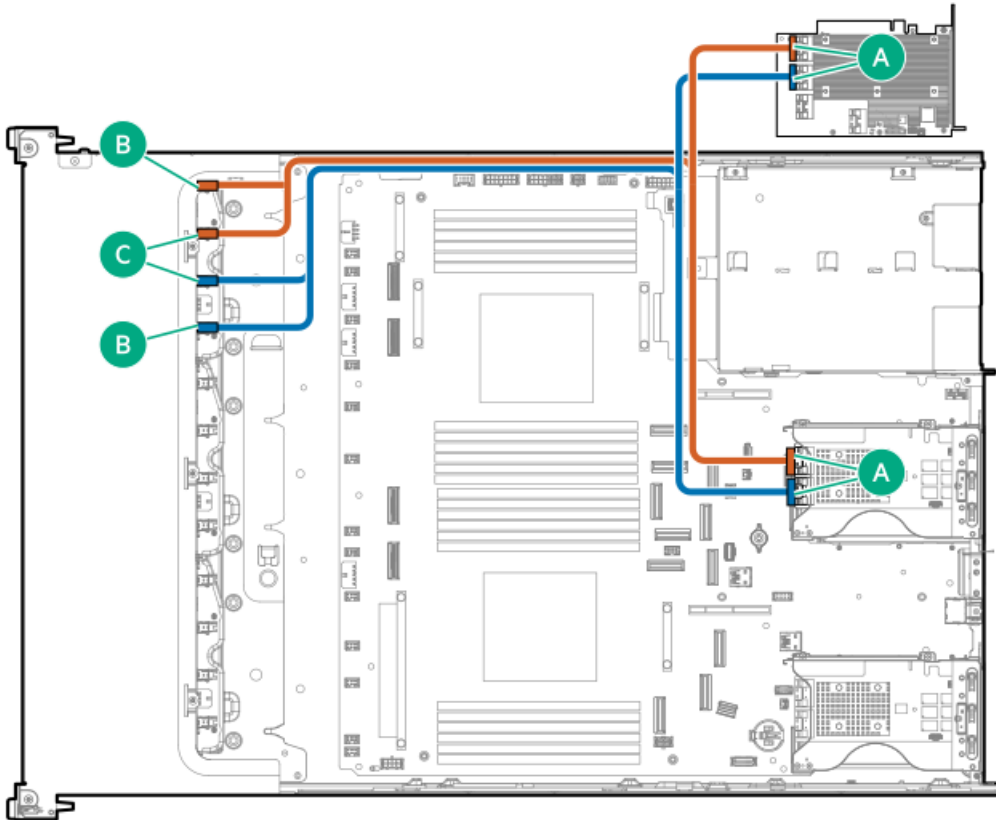
Cable part number	Color	From	To
P58017-001 <sup>1</sup>	Orange	Port 1	Box 1 port 1

<sup>1</sup> Option kit: P57848-B21



Cable part number	Color	From	To
P58114-001 <sup>1</sup>	Orange	Port 4	Box 1 port 4
	Blue	Port 3	Box 1 port 3
	Yellow	Port 2	Box 1 port 2
	Pink	Port 1	Box 1 port 1

<sup>1</sup> Option kit: P57856-B21



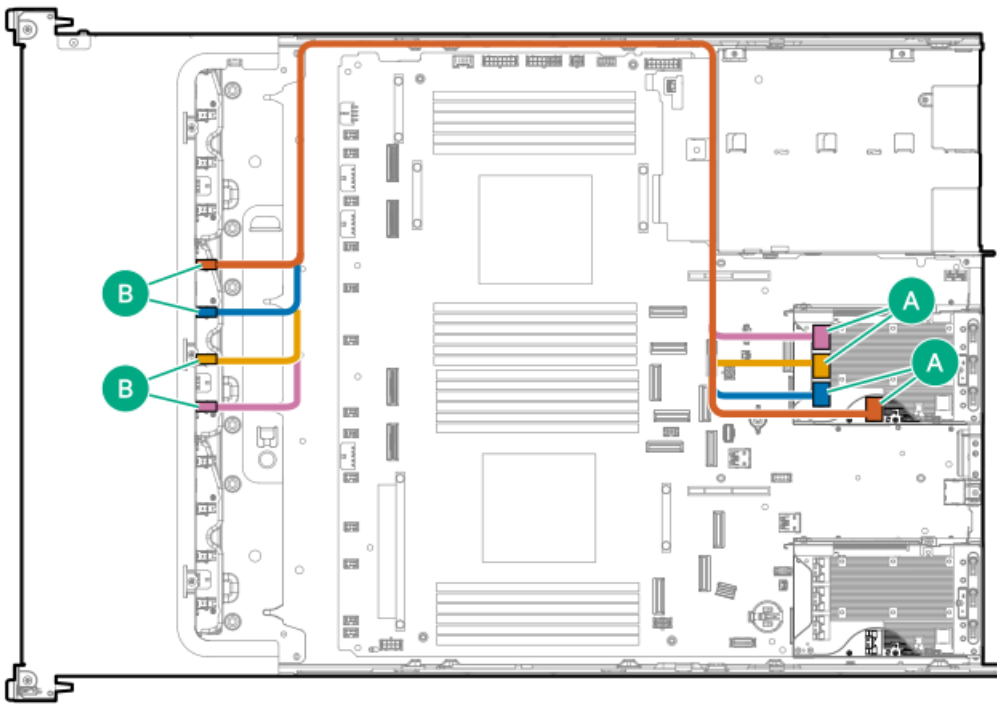
Cable part number	Color	From	To
P58124-001 <sup>1</sup>	Orange	Port 2 <sup>2</sup>	Box 1 port 1 and port 2
		Port 4 <sup>3</sup>	
	Blue	Port 1 <sup>2</sup>	Box 1 port 3 and port 4
		Port 3 <sup>3</sup>	

<sup>1</sup> Option kit: P57865-B21

<sup>2</sup> This port is from an MR controller

<sup>3</sup> This port is from an SR controller

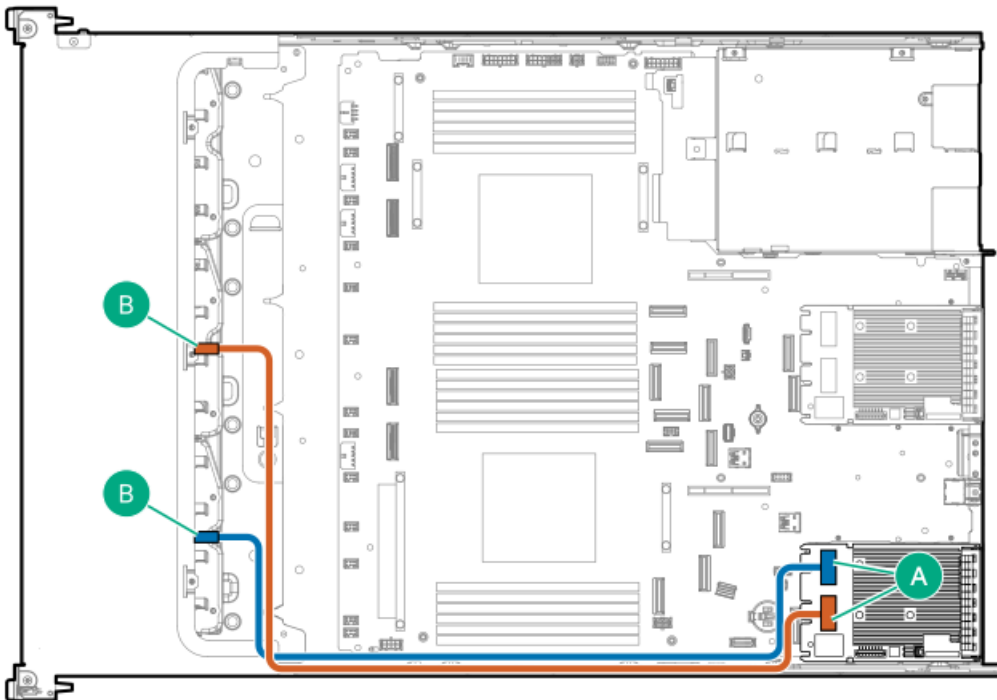




Cable part number	Color	From	To
P58121-001 <sup>1</sup>	Orange	Port 1	Box 2 port 1
	Blue	Port 2	Box 2 port 2
	Yellow	Port 3	Box 2 port 3
	Pink	Port 4	Box 2 port 4

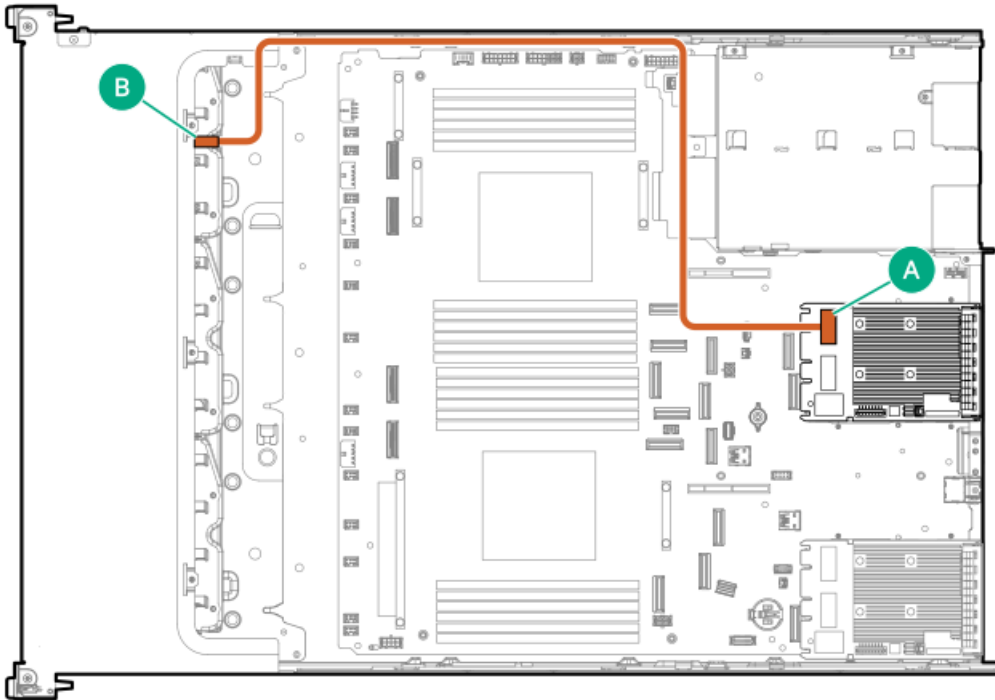
<sup>1</sup> Option kit: P57856-B21

**8/16/24/32 SFF drive: Type-o controller cabling**



Cable part number	Color	From	To
P58015-001 <sup>1</sup>	Orange	Slot 21 port 1	Box 2 port 1
P58014-001 <sup>1</sup>	Blue	Slot 21 port 2	Box 3 port 1

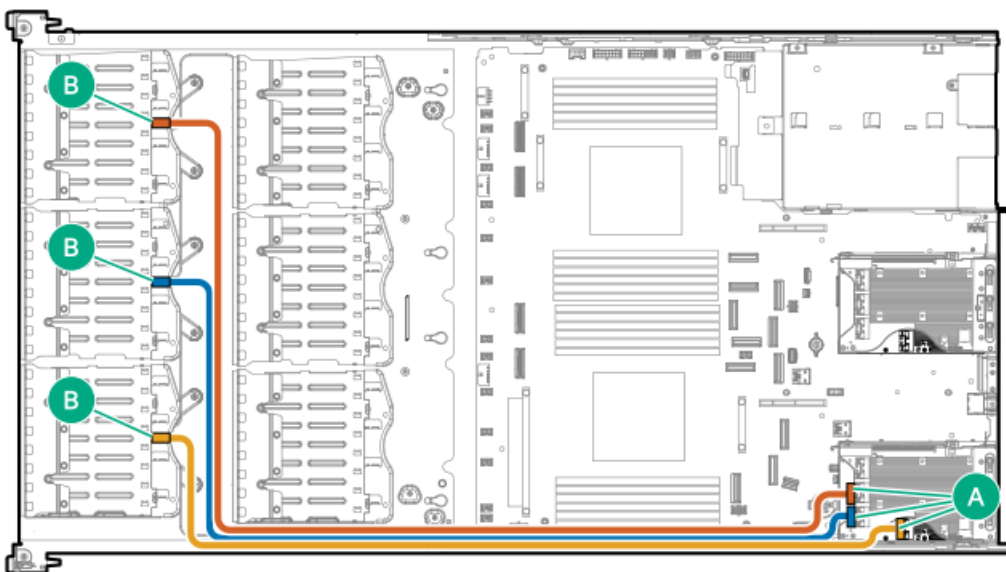
<sup>1</sup> Option kit: P57847-B21



Cable part number	Color	From	To
P58016-001 <sup>1</sup>	Orange	Slot 22 port 2	Box 1 port 1

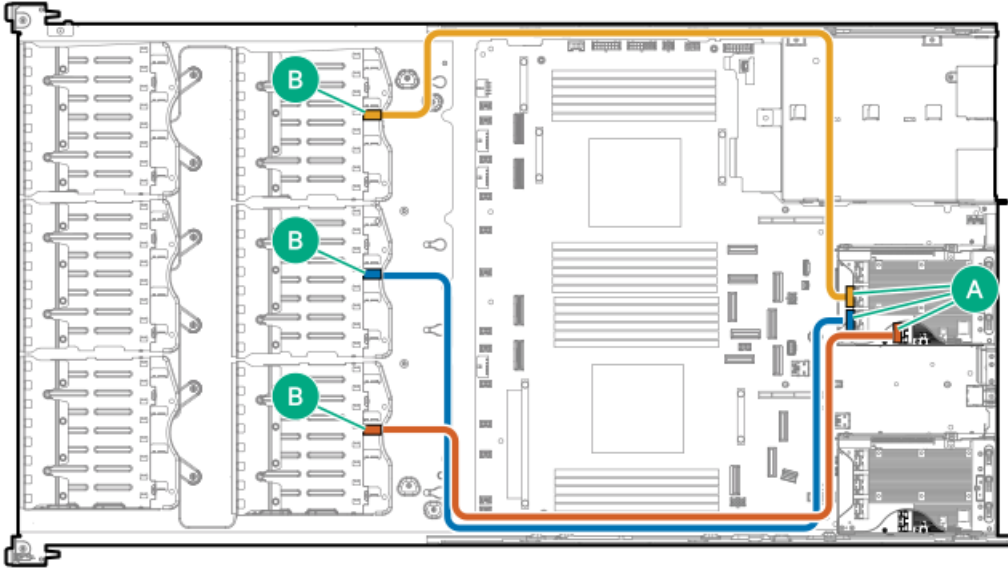
<sup>1</sup> Option kit: P57848-B21

**48 SFF drive: Primary type-p controller cabling**



Cable part number	Color	From	To
P58119-001	Orange	Port 3	Box 1
	Blue	Port 2	Box 2
	Yellow	Port 1	Box 3

#### 48 SFF drive: Secondary type-p controller cabling



Cable part number	Color	From	To
P58112-001	Orange	Port 1	Box 6
	Blue	Port 2	Box 5
P58032-001	Yellow	Port 3	Box 4

## LFF drive cabling

### 8/12/16 LFF drive: Onboard SAS/SATA cabling



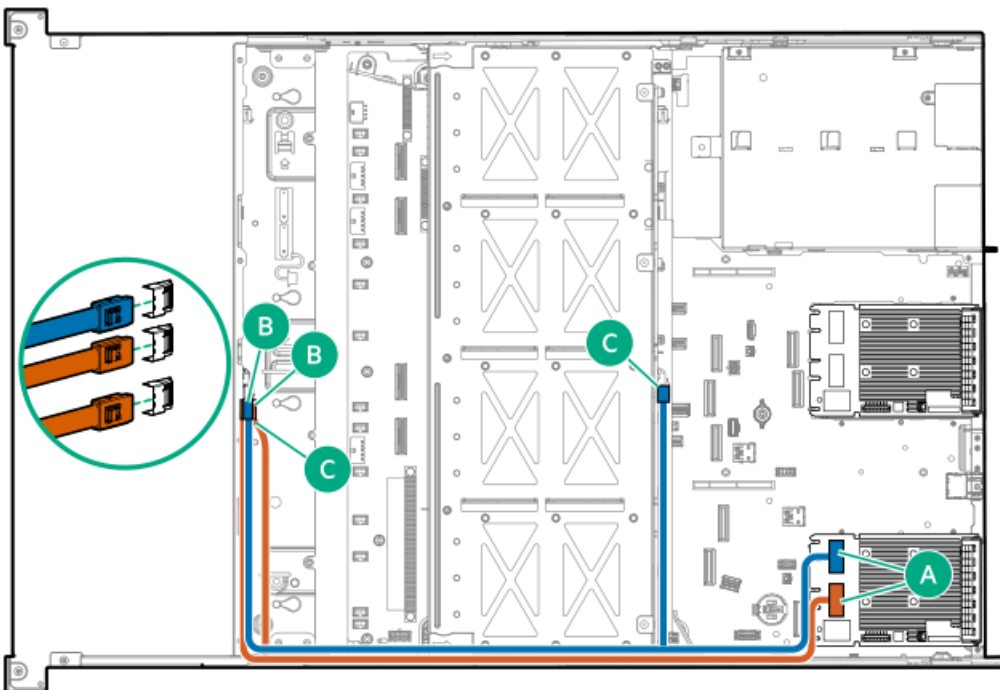
Cable part number	Color	From	To
P58102-001 <sup>1</sup>	Orange	NVMe/SATA port 9A	Box 1 port 1 and box 7 port 1
P58099-001 <sup>2</sup> <sup>3</sup>	Blue	NVMe/SATA port 1A	Box 2 port 1 and box 3 port 1

<sup>1</sup> Option kit: P55089-B21; P55085-B21

<sup>2</sup> Option kit: P57958-B21

<sup>3</sup> This cabling connection is only for 12 and 16 LFF.

#### 8/12/16/20 LFF drive: Type-o controller cabling



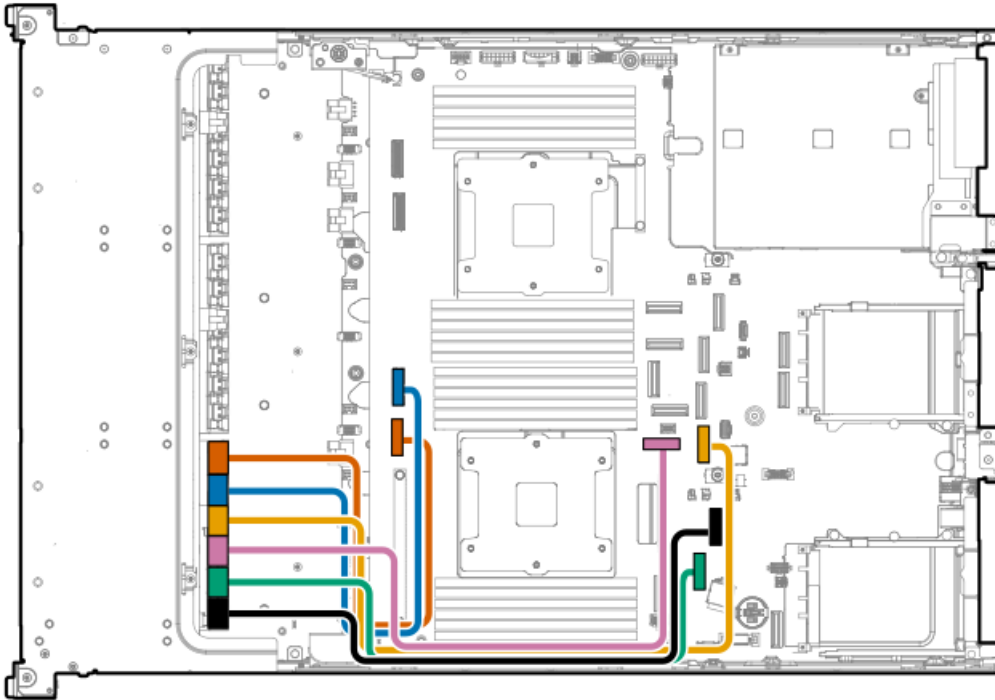
Cable part number	Color	From	To
P58104-001 <sup>1</sup>	Blue	Slot 21 port 2	Box 1 and box 7 port 1
P58100-001 <sup>2</sup>	Orange	Slot 21 port 1	Box 2 and box 3 port 1

<sup>1</sup> This cabling connection is for 12, 16, and 20 LFF.

<sup>2</sup> Option kit: P57870-B21

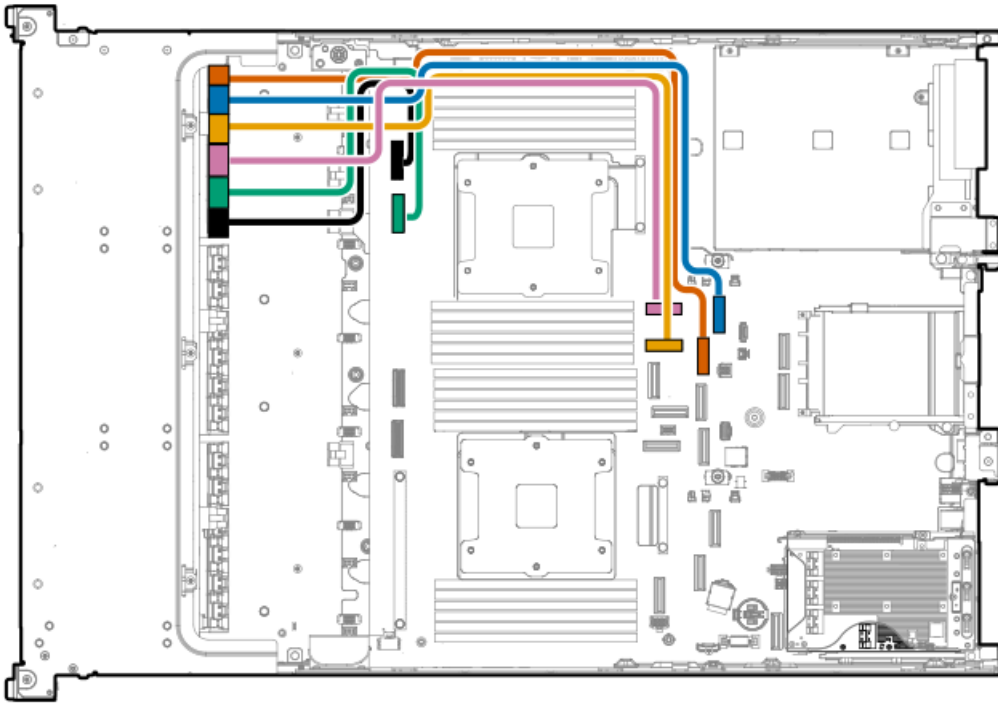
## E3.S drive cabling

### 12 E3.S drive: Onboard NVMe cabling



Cable part number	Color	From	To
P58108-001	Orange	NVMe port 2A	Box 3 port 1
	Blue	NVMe port 3A	Box 3 port 2
P58109-001	Yellow	NVMe/SATA port 1A	Box 3 port 3
	Pink	NVMe/SATA port 9A	Box 3 port 4
	Green	NVMe port 6A	Box 3 port 5
	Black	NVMe port 7A	Box 3 port 6

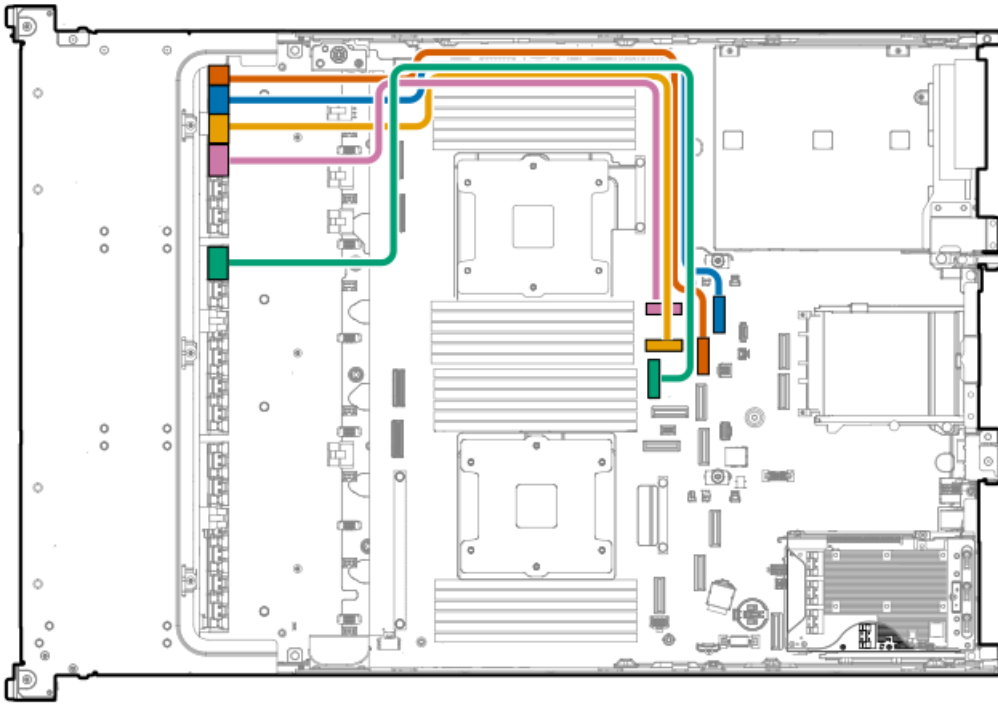
### 24 E3.S drive: Onboard NVMe cabling



Cable part number	Color	From	To
P58110-001	Orange	NVMe/SATA port 8B	Box 1 port 1
	Blue	NVMe/SATA port 9B	Box 1 port 2
	Yellow	NVMe port 6B	Box 1 port 3
	Pink	NVMe port 7B	Box 1 port 4
P58111-001	Green	NVMe port 2B	Box 1 port 5
	Black	NVMe port 3B	Box 1 port 6

**32 E3.S drive: Onboard NVMe cabling**

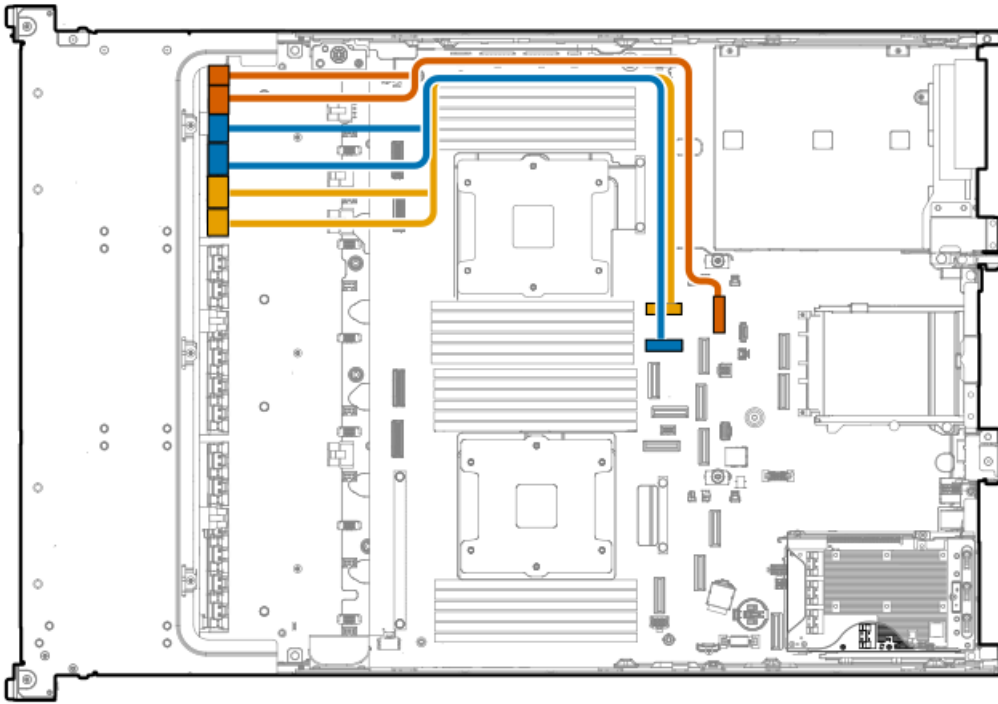




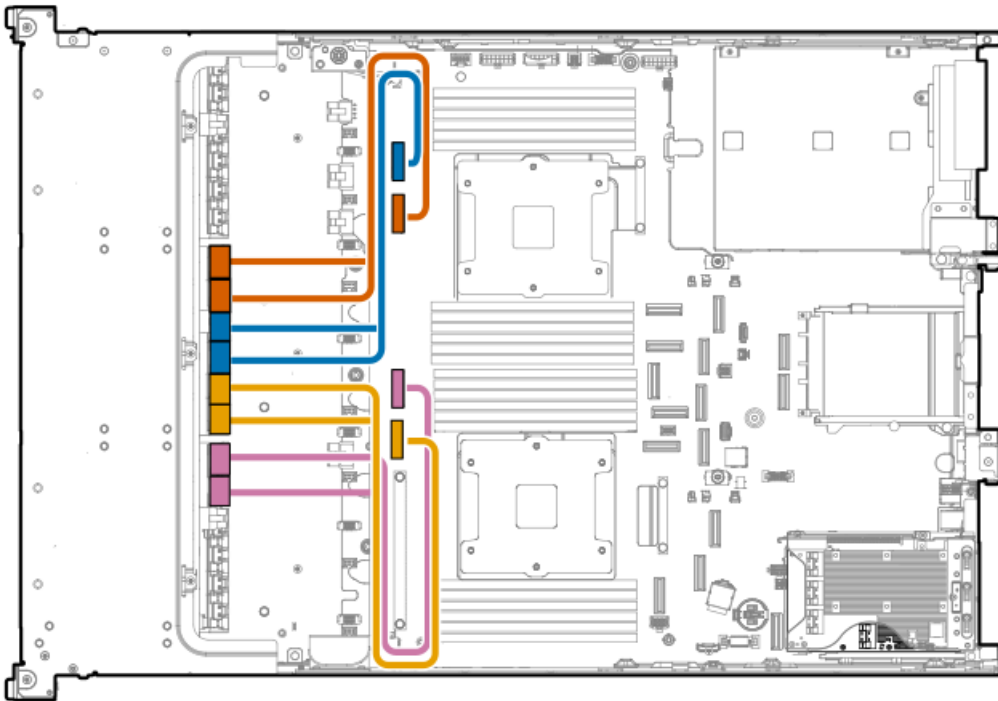
Cable part number	Color	From	To
P58130-001	Orange	NVMe/SATA port 8B	Box 1 port 1
	Blue	NVMe/SATA port 9B	Box 1 port 2
	Yellow	NVMe port 6B	Box 1 port 3
	Pink	NVMe port 7B	Box 1 port 4
	Green	NVMe port 4B	Box 2 port 1

36 E3.S drive: Onboard NVMe cabling



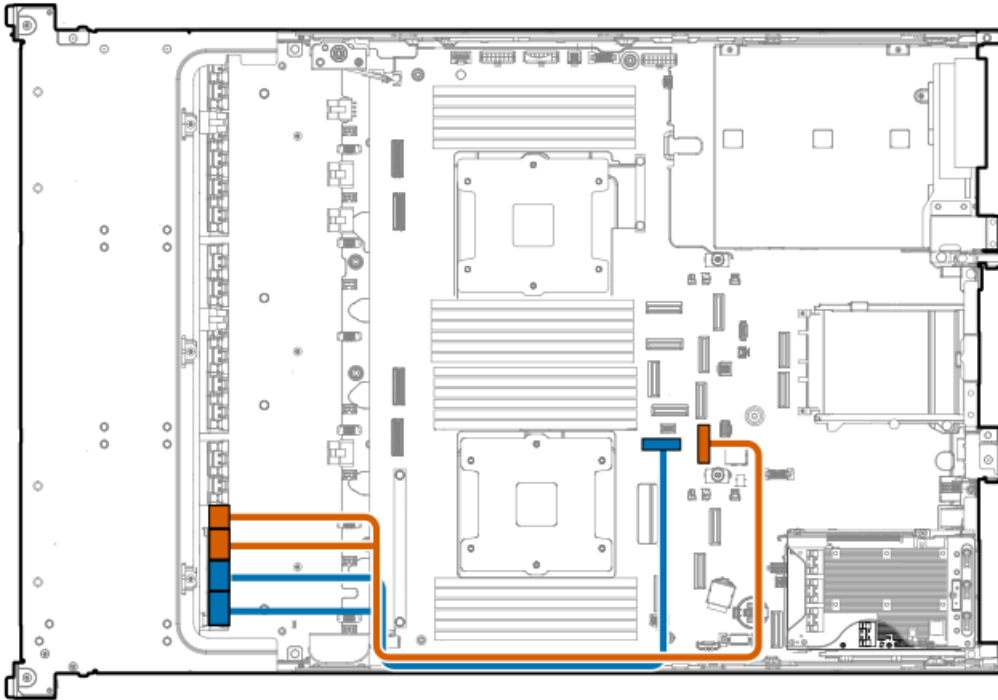


Cable part number	Color	From	To
P58118-001	Orange	NVMe/SATA port 9B	Box 1 port 1 and port 2
	Blue	NVMe port 6B	Box 1 port 3 and port 4
	Yellow	NVMe port 7B	Box 1 port 5 and port 6





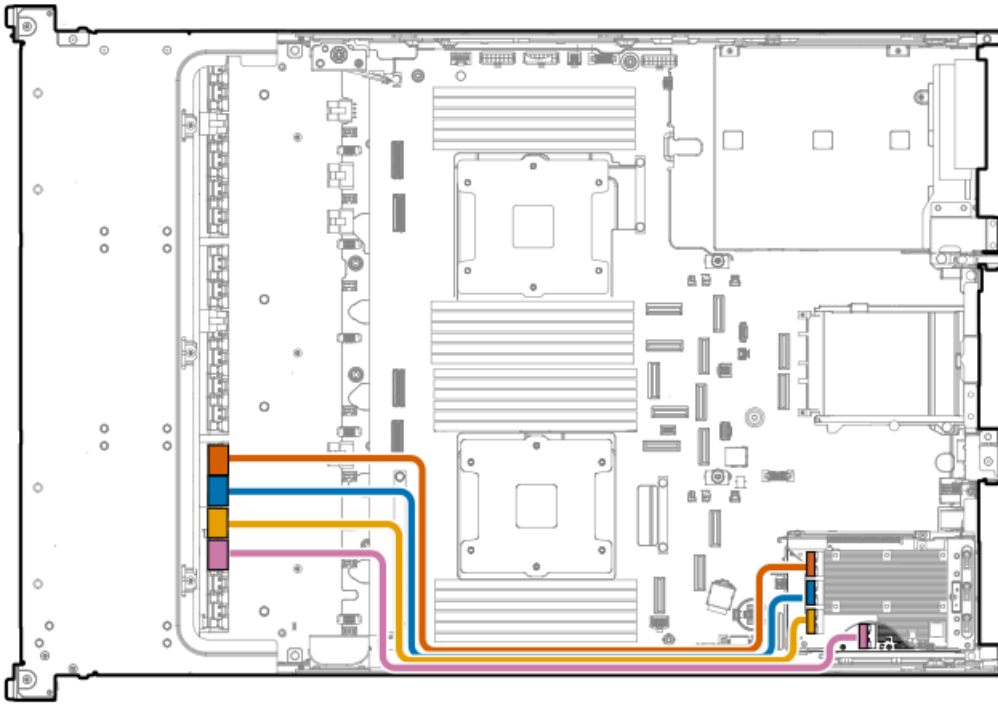
Cable part number	Color	From	To
P58117-001	Orange	NVMe port 2B	Box 2 port 1 and port 2
	Blue	NVMe port 3B	Box 2 port 3 and port 4
P58113-001	Yellow	NVMe port 2A	Box 2 port 5 and port 6
	Pink	NVMe port 3A	Box 3 port 1 and port 2



Cable part number	Color	From	To
P58116-001	Orange	NVMe/SATA port 1A	Box 3 port 3 and port 4
	Blue	NVMe/SATA port 9A	Box 3 port 5 and 6

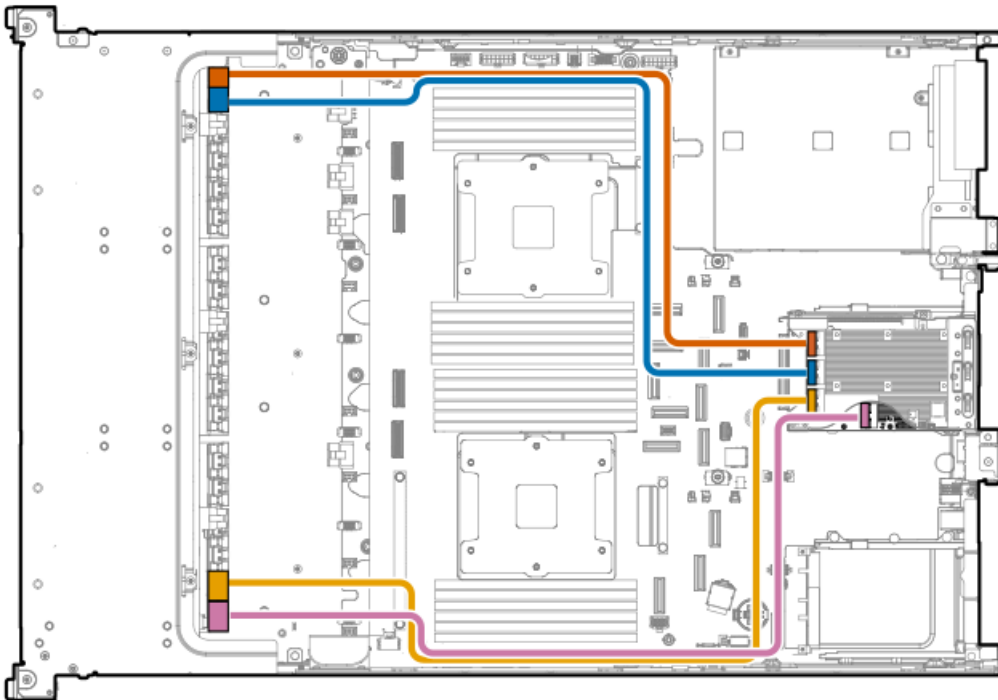
12 E3.S drive: Primary riser cabling



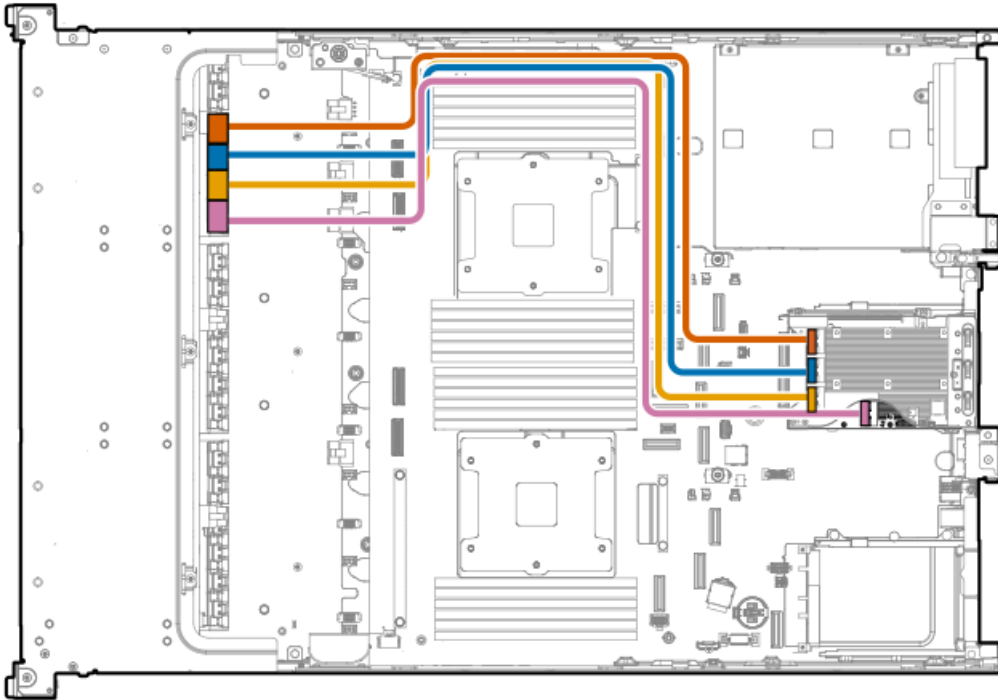


Cable part number	Color	From	To
P58125-001	Orange	Port 4	Box 3 port 1
	Blue	Port 3	Box 3 port 2
	Yellow	Port 2	Box 3 port 3
	Pink	Port 1	Box 3 port 4

**24 E3.S drive: Secondary riser cabling**



Cable part number	Color	From	To
P62389-001	Orange	Port 4	Box 1 port 1
	Blue	Port 3	Box 1 port 2
P62388-001	Yellow	Port 2	Box 3 port 5
	Pink	Port 1	Box 3 port 6

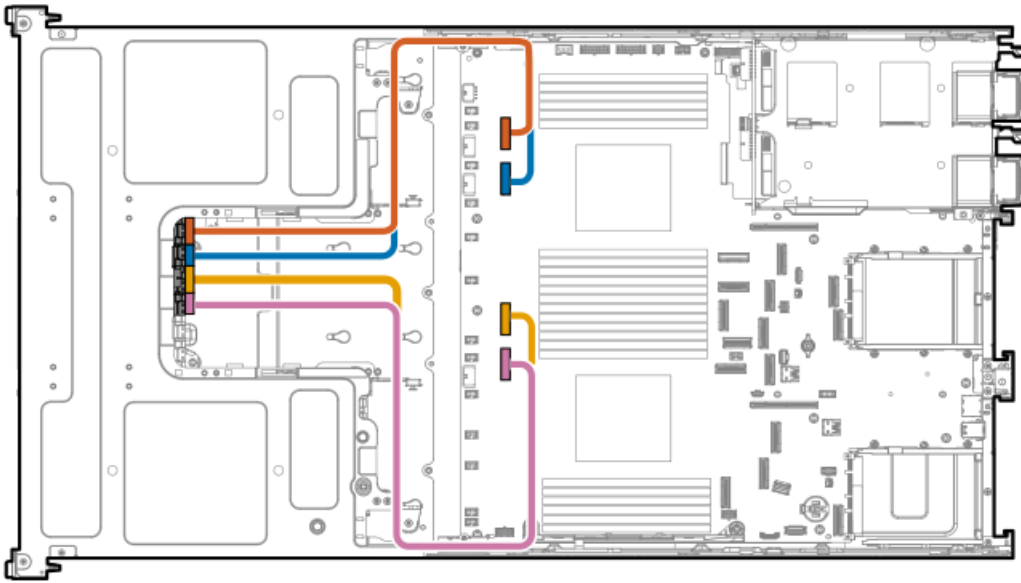


Cable part number	Color	From	To
P58126-001 <sup>1</sup>	Orange	Port 4	Box 1 port 3
	Blue	Port 3	Box 1 port 4
	Yellow	Port 2	Box 1 port 5
	Pink	Port 1	Box 1 port 6

<sup>1</sup> Option kit: P57878-B21

## GPU cabling

4 dual-width GPU with 8 SFF drive cabling: Onboard NVMe cabling

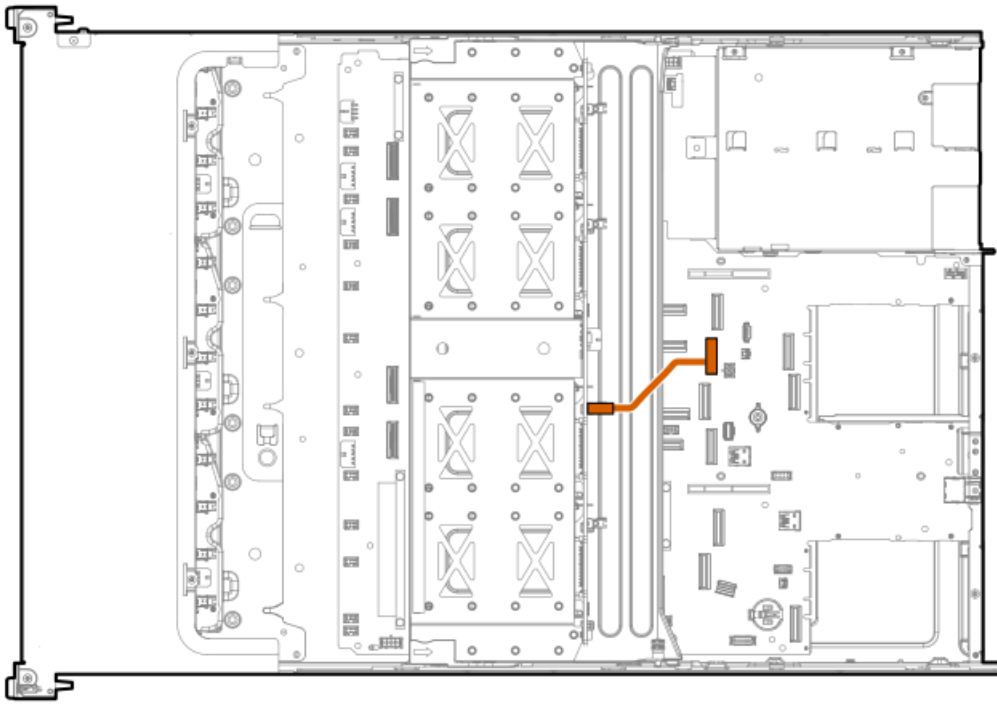


Cable part number	Color	From	To
P58153-001	Orange	NVMe port 3B	8 SFF drive box 1 port 1
	Blue	NVMe port 2B	8 SFF drive box 1 port 2
P58154-001	Yellow	NVMe port 3A	8 SFF drive box 1 port 3
	Pink	NVMe/SATA 2A	8 SFF drive box 1 port 4

## Midplane drive cabling

16/32 SFF drive: Onboard SAS/SATA cabling

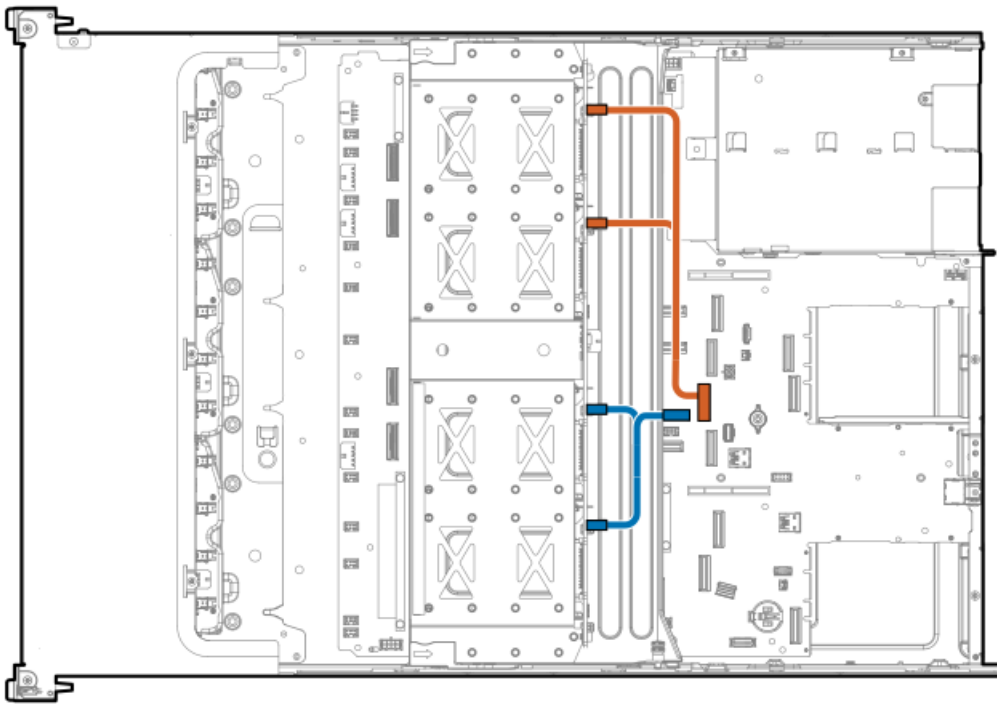




Cable part number	Color	From	To
P58087-001 <sup>1</sup>	Orange	NVMe port 8B	Box 7 port 3

<sup>1</sup> Option kit: P55086-B21

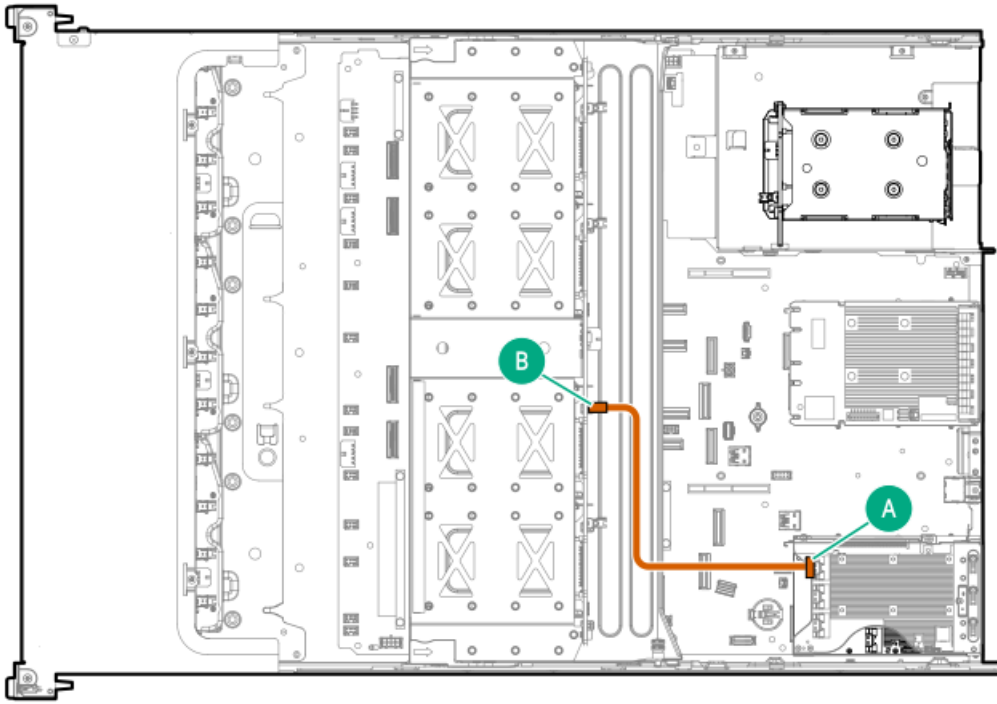
**16/32 SFF drive: Onboard NVMe cabling**



Cable part number	Color	From	To
P58093-001 <sup>2 1</sup>	Orange	NVMe port 5B	Box 7 port 1 and port 2
P58092-001 <sup>1</sup>	Blue	NVMe port 4B	Box 7 port 3 and port 4

- 1 Option kit: P55087-B21
- 2 This cabling connection is for 32 SFF.

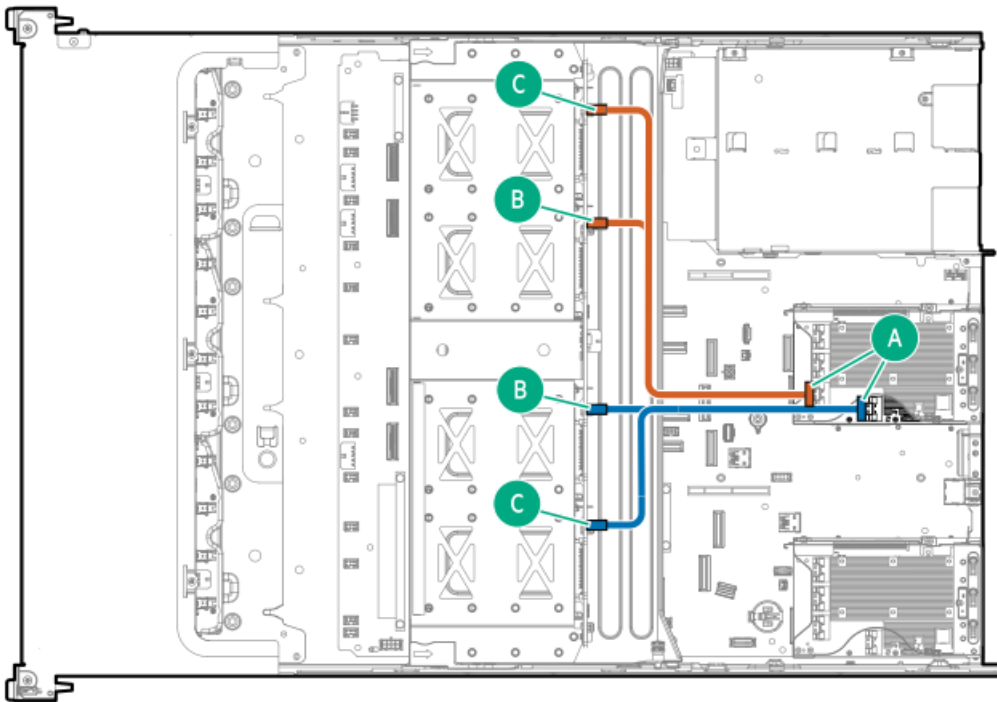
**16/32 SFF drive: Primary type-p controller cabling**



Cable part number	Color	From	To
P58089-001 <sup>1</sup>	Orange	Port 4	Box 7 port 1

- 1 Option kit: P57868-B21

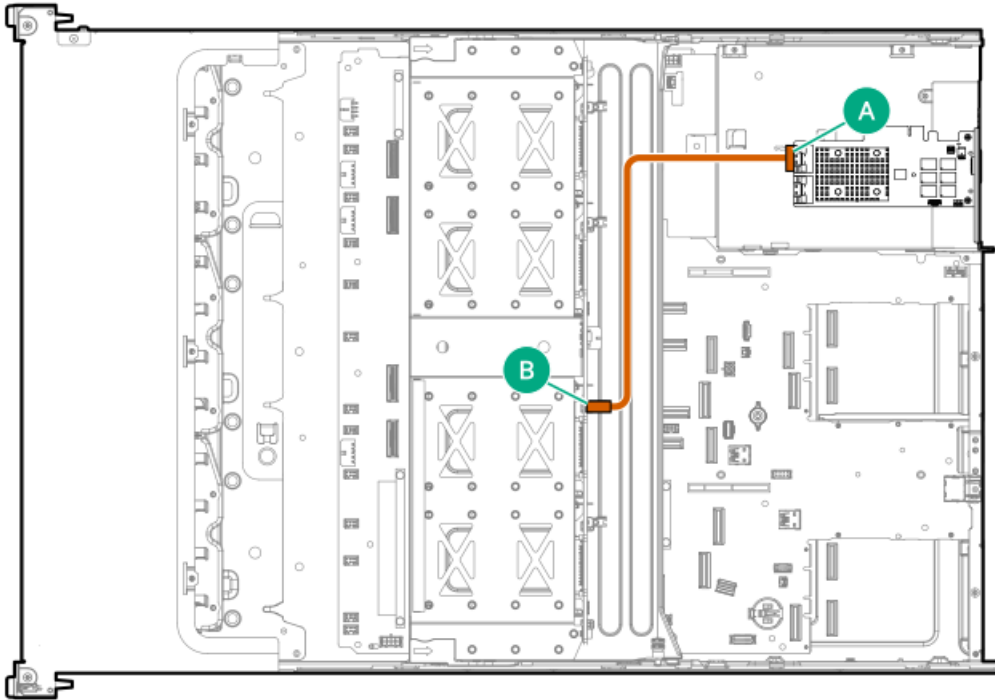
**32 SFF drive: Secondary type-p controller cabling**



Cable part number	Color	From	To
P58095-001 <sup>1</sup>	Orange	Port 2	Box 7 port 1 and 2
P58094-001 <sup>1</sup>	Blue	Port 1	Box 7 port 3 and 4

<sup>1</sup> Option kit: P57869-B21

### 32 SFF drive: Secondary or tertiary type-p controller cabling



Cable part number	Color	From	To
P58090-001 <sup>1</sup>	Orange	Port 2	Box 7 port 1

<sup>1</sup> Option kit: P57868-B21

## Rear-end drive controller cabling

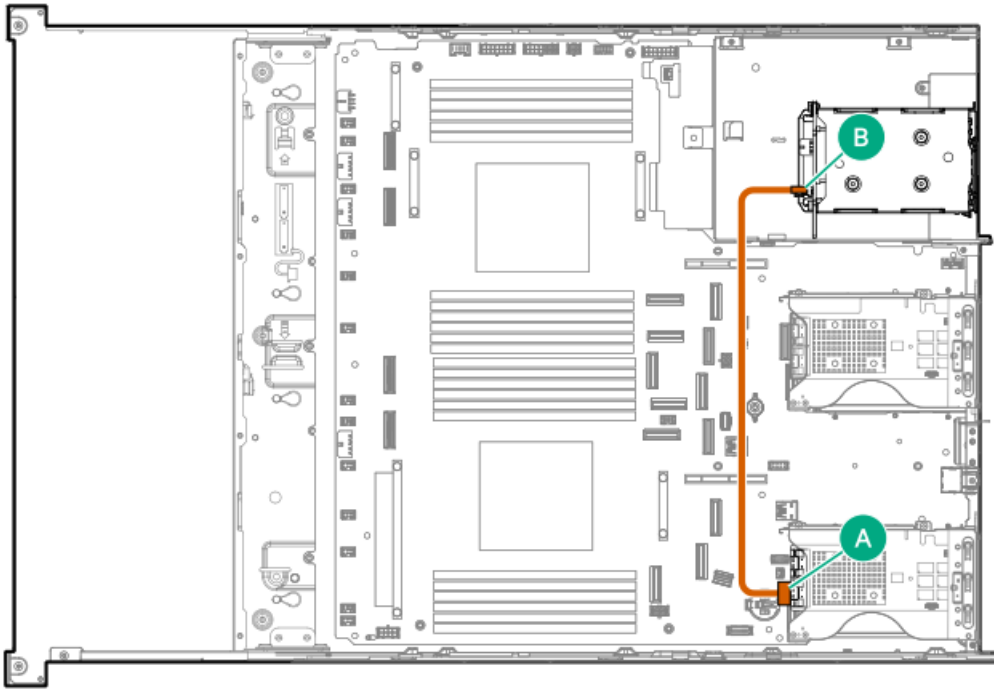
### Subtopics

[SFF drive cabling](#)

[LFF drive cabling](#)

## SFF drive cabling

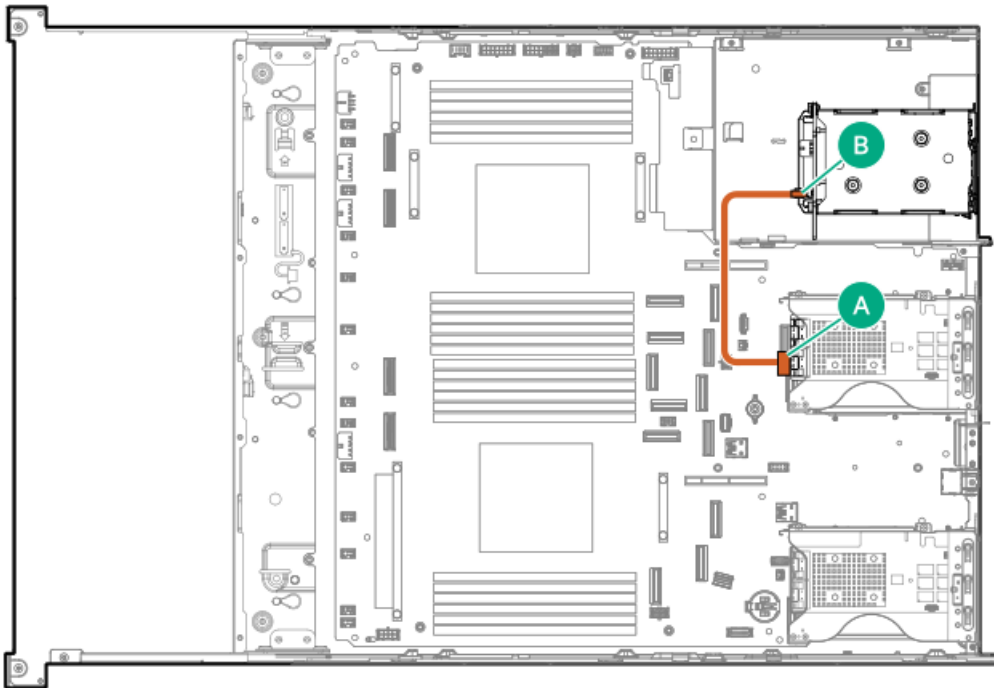
### 2 SFF drive: Primary type-p controller cabling



Cable part number	Color	From	To
P58150-001 <sup>1</sup>	Orange	Port 1	Box 8 port 1

<sup>1</sup> Option kit: P55091-B21

**2 SFF drive: Secondary type-p controller cabling**

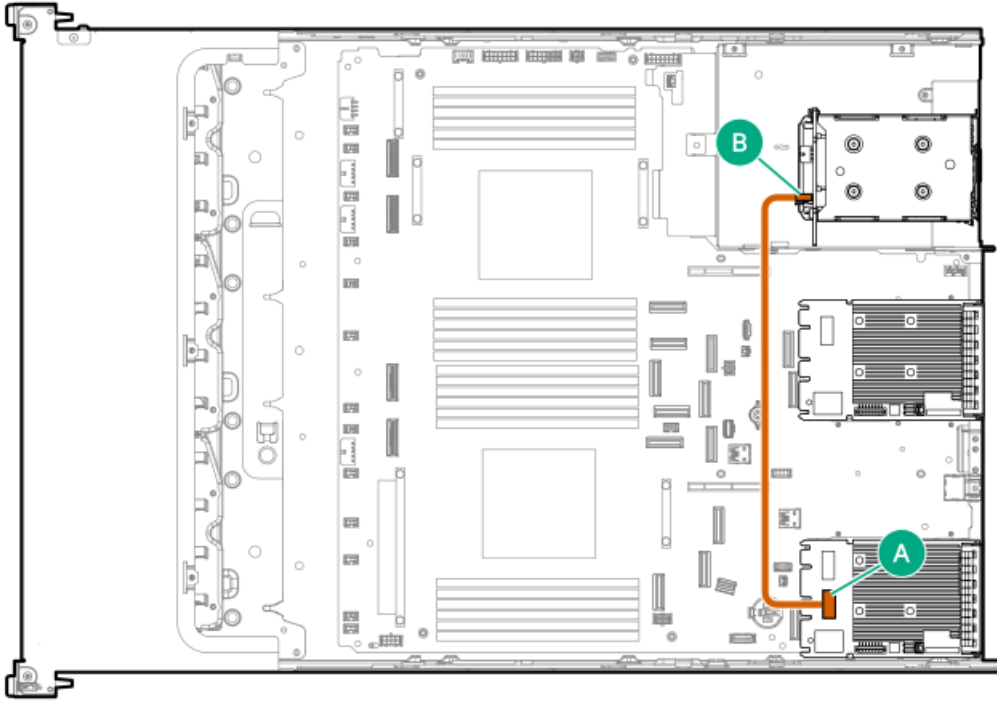


Cable part number	Color	From	To
P58151-001 <sup>1</sup>	Orange	Port 1	Box 8 port 1



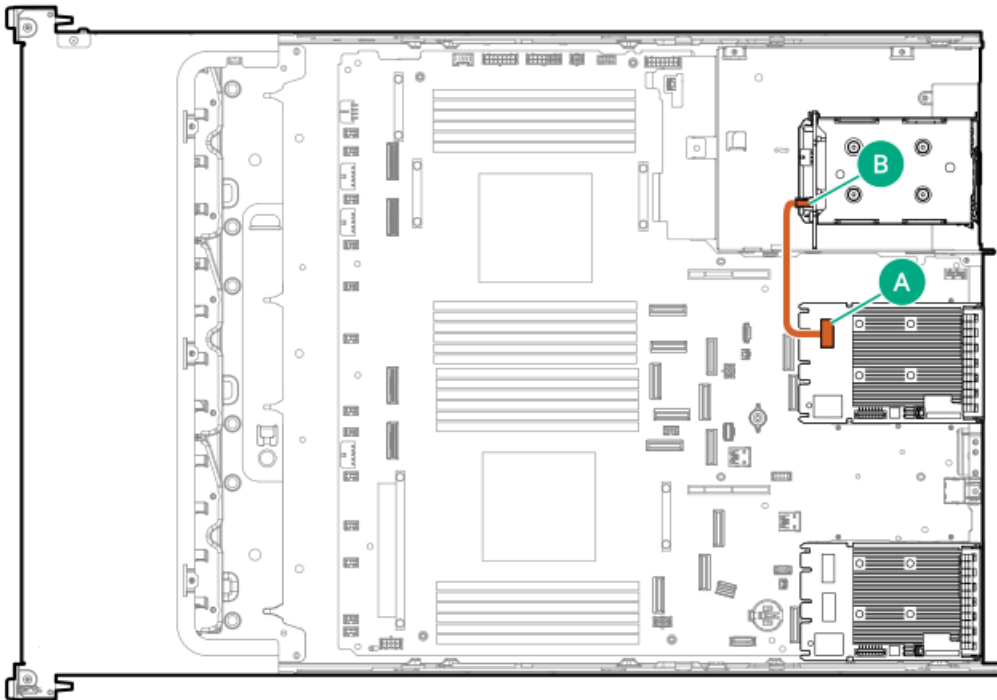
1 Option kit: P55091-B21

### 2 SFF drive: Type-o controller cabling



Cable part number	Color	From	To
P58152-001 <sup>1</sup>	Orange	Slot 21 port 1	Box 8 port 1

1 Option kit: P55091-B21

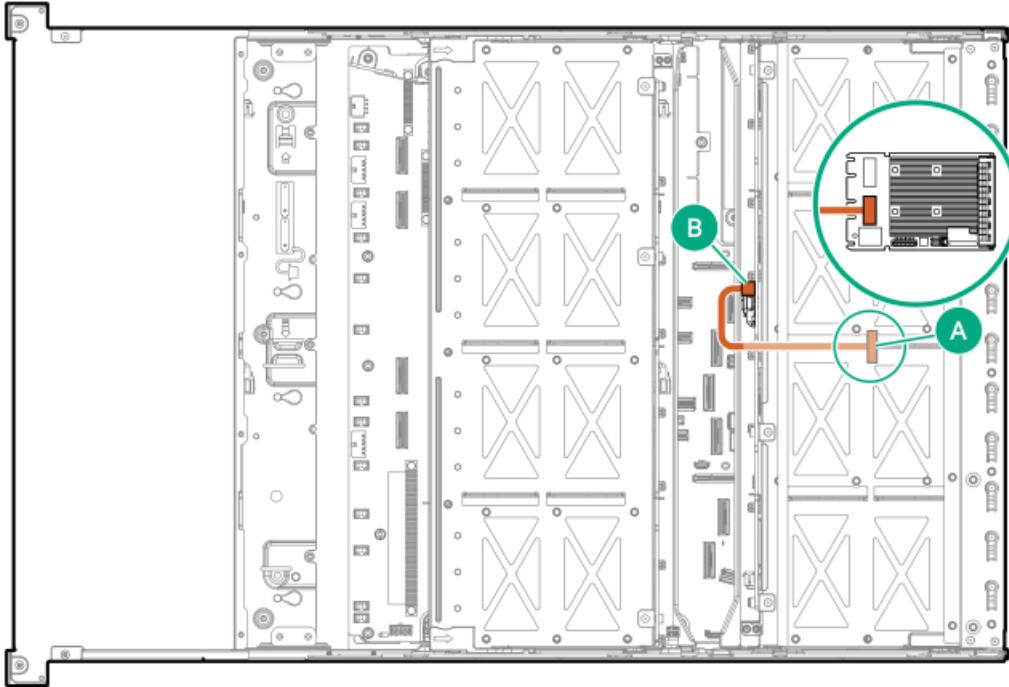


Cable part number	Color	From	To
P58149-001 <sup>1</sup>	Orange	Slot 22 port 1	Box 8 port 1

<sup>1</sup> Option kit: P55091-B21

## LFF drive cabling

### 4 LFF drive: Type-o controller cabling

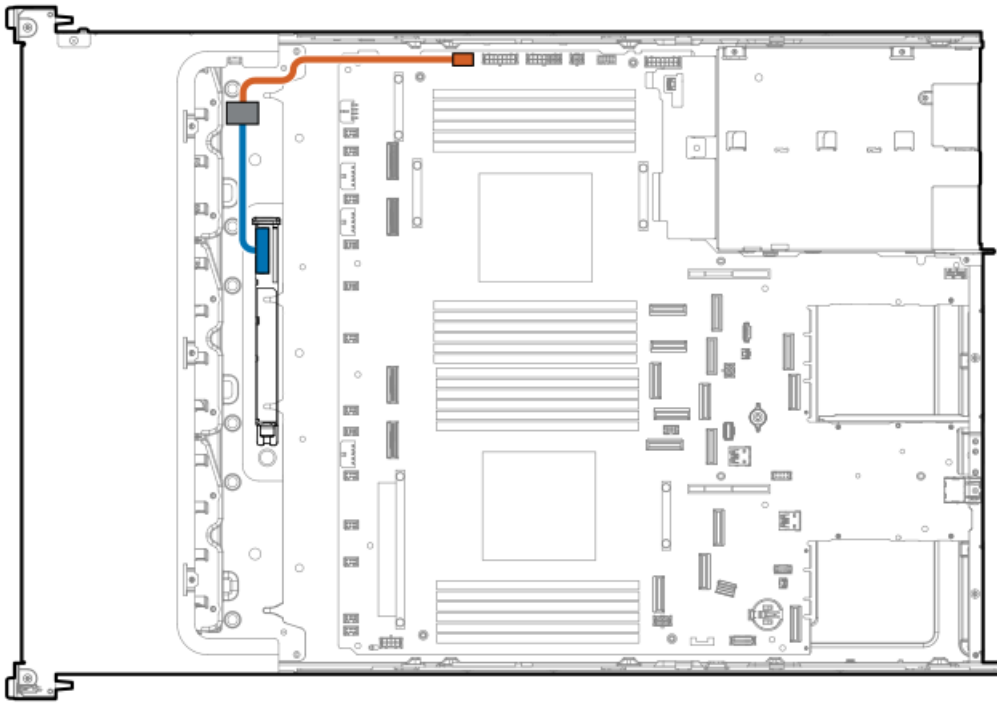


Cable part number	Color	From	To
P58098-001 <sup>1</sup>	Orange	Slot 22 port 2	Box 8 port 1

<sup>1</sup> Option kit: P55088-B21

## Energy pack cabling

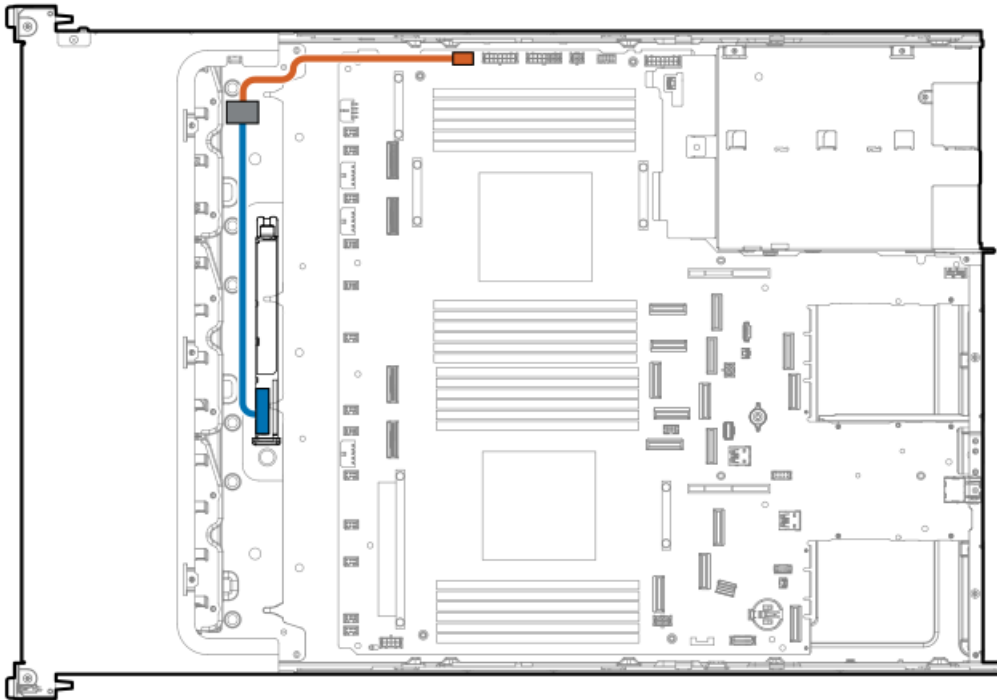
### 24 SFF: Energy pack cabling



Cable part number	Color	From	To
P58176-001 <sup>1</sup>	Orange	Energy pack extension cable	Energy pack connector
P01366-B21 <sup>1</sup>	Blue	Energy pack	Energy pack extension cable

<sup>1</sup> Option kit: P57884-B21

### 12 LFF: Energy pack cabling



Cable part number	Color	From	To
P58176-001 <sup>1</sup>	Orange	Energy pack extension cable	Energy pack connector
P01366-B21 <sup>1</sup>	Blue	Energy pack	Energy pack extension cable

<sup>1</sup> Option kit: P57884-B21

## Riser cabling

### Subtopics

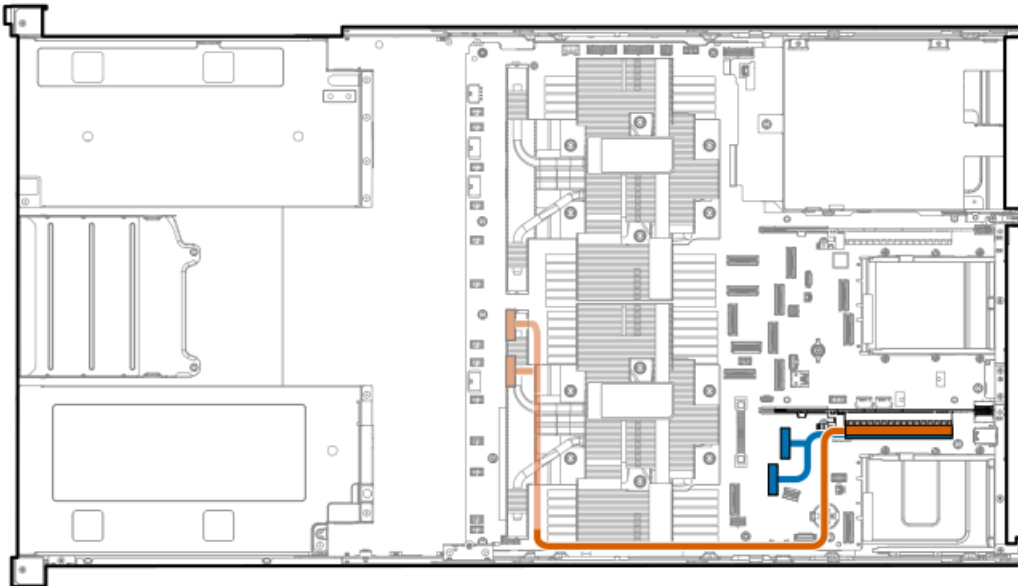
[Stacking riser cabling](#)

[GPU riser cabling](#)

## Stacking riser cabling

### Primary stacking riser cabling

When routing to slot 1, make sure to securely tuck the cable underneath the heatsink.



Cable part number	Color	From	To
P51472-001 <sup>1</sup>	Orange	NVMe port 2A or NVMe port 3A	Slot 1
P41276-001 <sup>1</sup>	Blue	NVMe port 6A or NVMe port 7A	Slot 2

<sup>1</sup> Option kit: P57890-B21

### Secondary stacking riser cabling



Cable part number	Color	From	To
P55815-001 <sup>1</sup>	Orange	NVMe port 5B or NVMe port 4B	Slot 5
P41276-001 <sup>1</sup>	Blue	NVMe/SATA port 9B or NVMe/SATA port 8B	Slot 4

<sup>1</sup> Option kit: P57891-B21

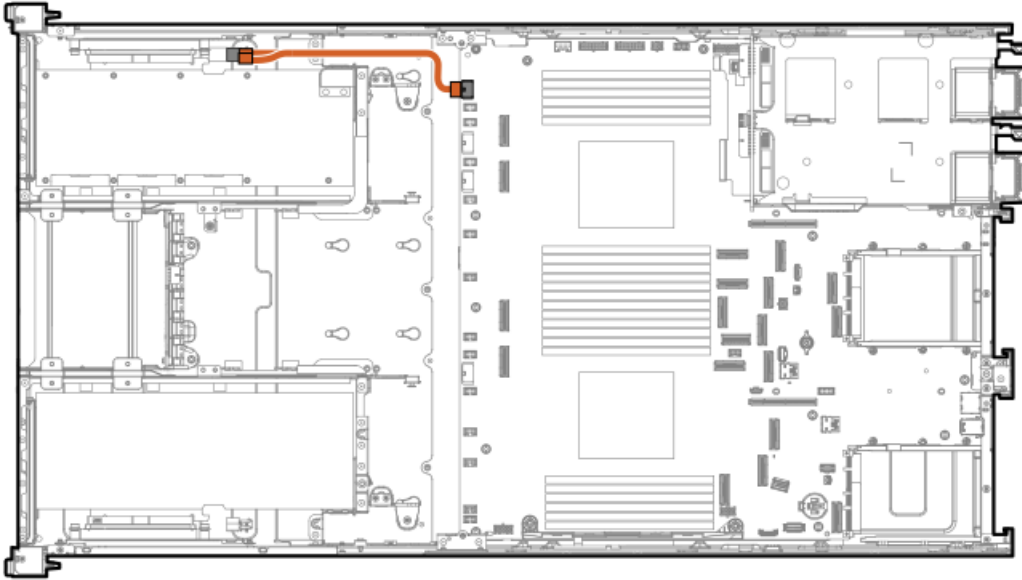
#### Tertiary stacking riser cabling

When routing to slot 7, make sure to securely tuck the cable underneath the heatsink.

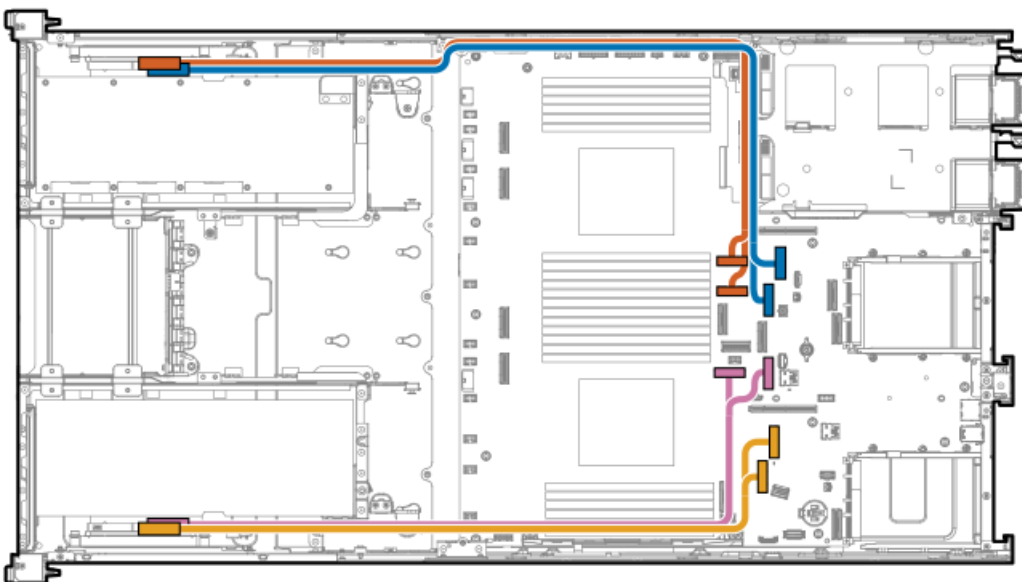


Cable part number	Color	From	To
P50365-001 <sup>1</sup>	Orange	NVMe port 3B or NVMe port 2B	Slot 7
P50364-001 <sup>1</sup>	Blue	NVMe port 7B or NVMe port 6B	Slot 8

## GPU riser cabling



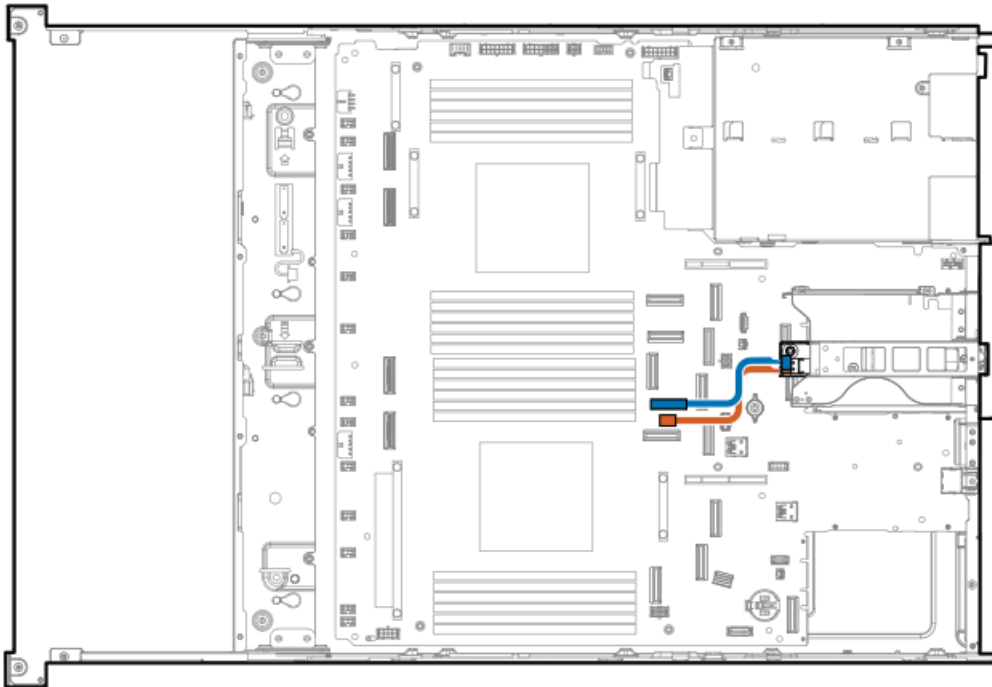
Cable part number	Color	From	To
P58157-001	Orange	GPU riser power connector	GPU riser card



Cable part number	Color	From	To
P44218-001	Orange	NVMe port 7B or 6B	Slot 9
	Blue	NVMe/SATA port 9B or 8B	Slot 11
	Pink	NVMe/SATA port 1A or 9A	Slot 14
P55816-001	Yellow	NVMe port 7A or 6A	Slot 16

## HPE NS204i Boot Device cabling

HPE NS204i Boot Device cabling on the secondary riser cage

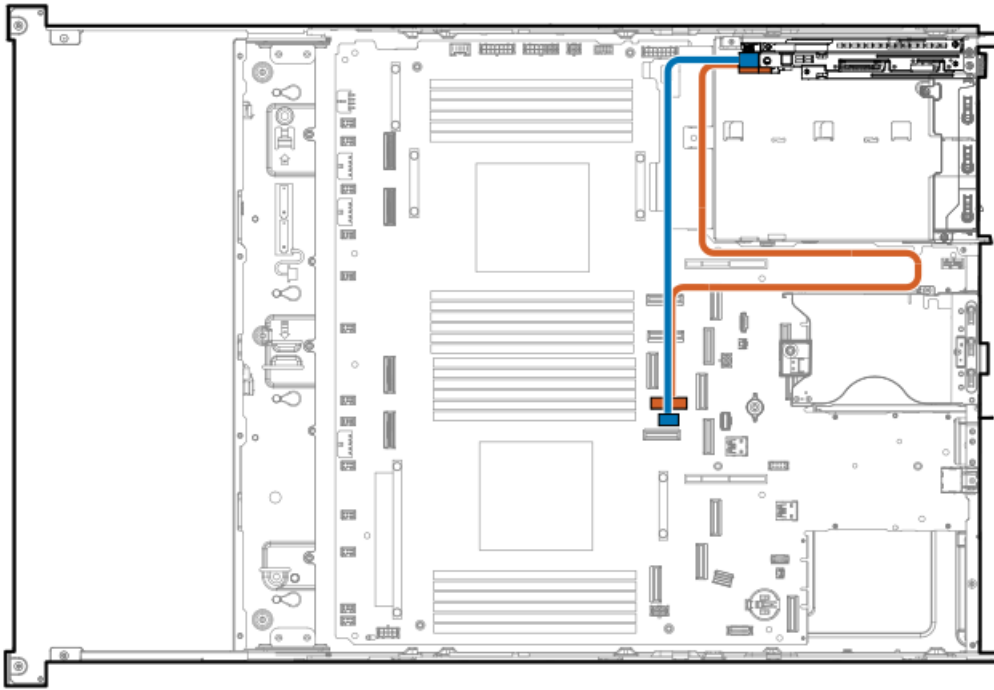


Cable part number	Color	From	To
P54088-001 <sup>1</sup>	Orange	NS204i-u power connector	HPE NS204i Boot Device
P54087-001 <sup>2</sup>	Blue	NS204i-u signal connector	HPE NS204i Boot Device

<sup>1</sup> Option kit: P57885-B21

<sup>2</sup> Option kit: P57850-B21; P57885-B21

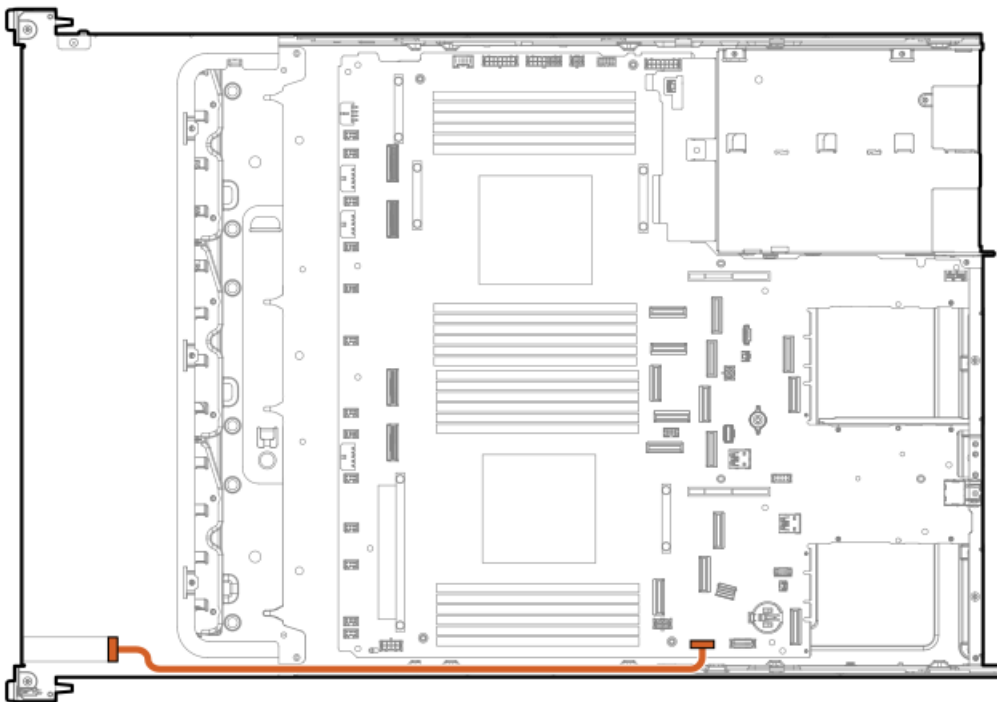
HPE NS204i Boot Device cabling on top of the power supplies



Cable part number	Color	From	To
P54087-001 <sup>1</sup>	Orange	NS204i-u signal connector	HPE NS204i Boot Device
P54089-001 <sup>1</sup>	Blue	NS204i-u power connector	HPE NS204i Boot Device

<sup>1</sup> Option kit: P57850-B21

## System Insight Display cabling

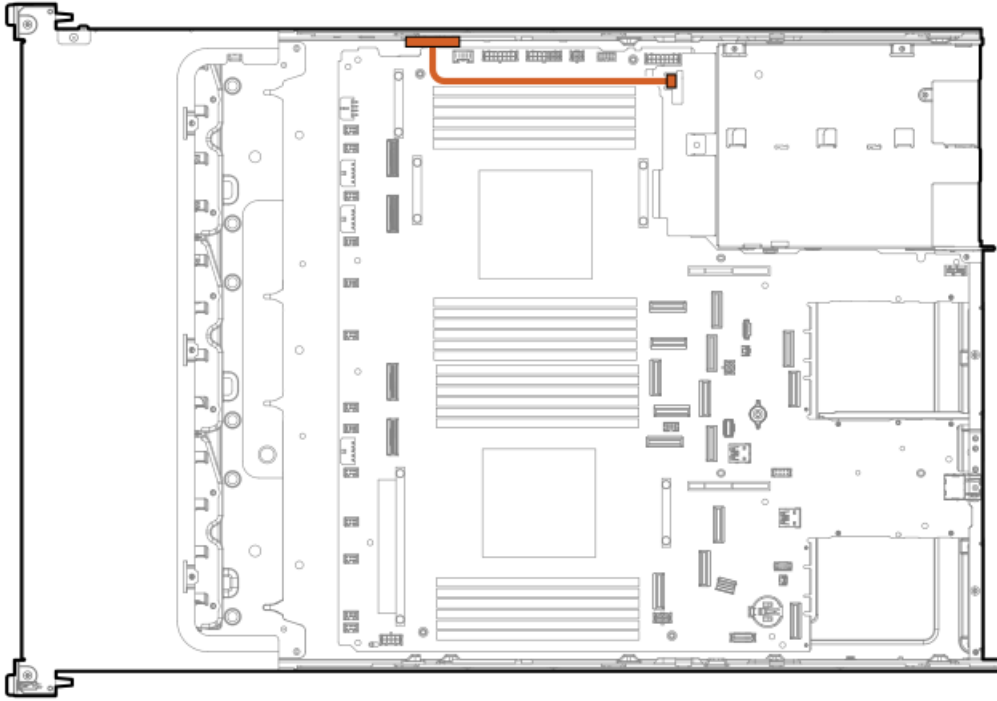




Cable part number	Color	From	To
P48971-001 <sup>1</sup>	Orange	SID connector	System Insight Display

<sup>1</sup> Option kit: P57895-B21

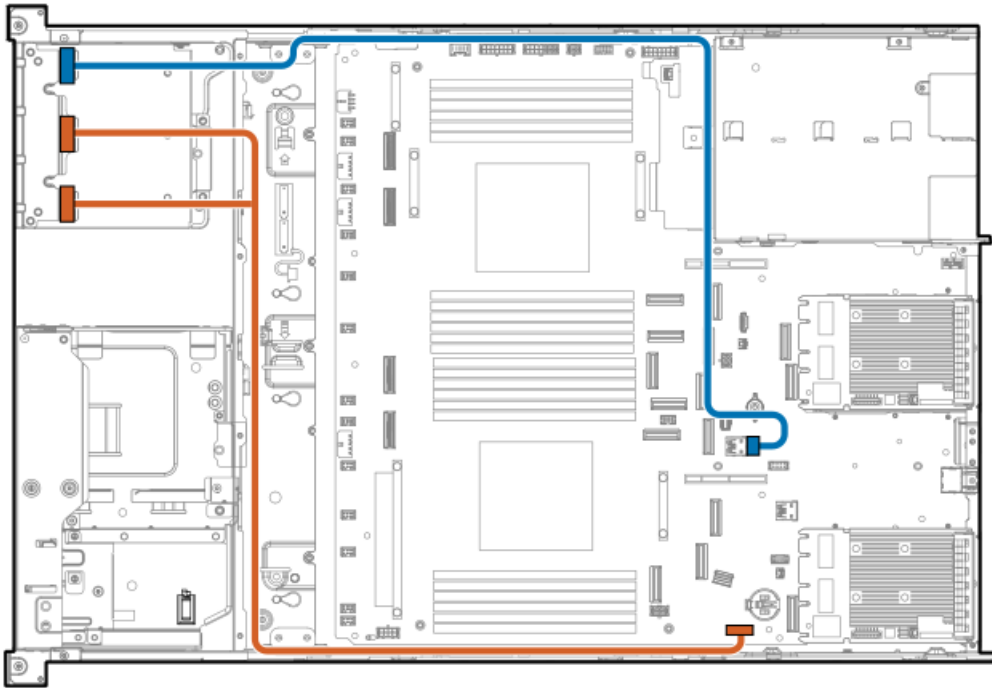
## Chassis intrusion switch cabling



Cable part number	Color	From	To
P54901-001 <sup>1</sup>	Orange	Chassis intrusion detection switch	Chassis intrusion detection switch connector

<sup>1</sup> Option kit: P55713-B21

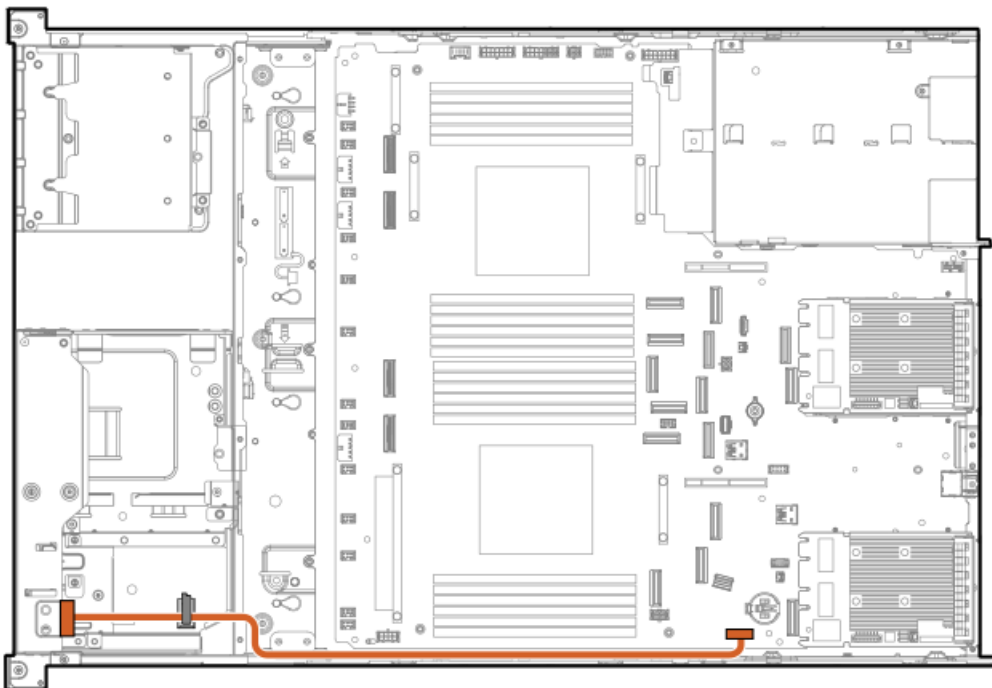
## Universal media bay cabling



Cable part number	Color	From	To
P14314-001 <sup>1</sup>	Orange	USB 2.0 port and the DisplayPort	DisplayPort cable connector
P57248-001 <sup>1</sup>	Blue	USB 3.2 Gen 1 port	Internal USB 3.2 Gen 1 port

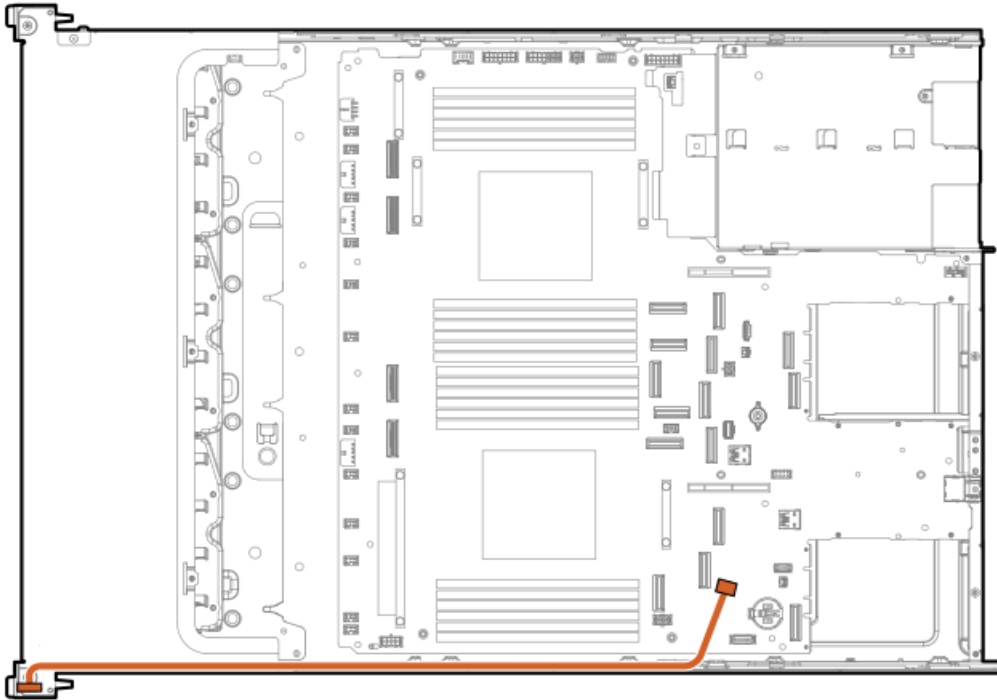
<sup>1</sup> Option kit: P57857-B21

## DisplayPort cabling



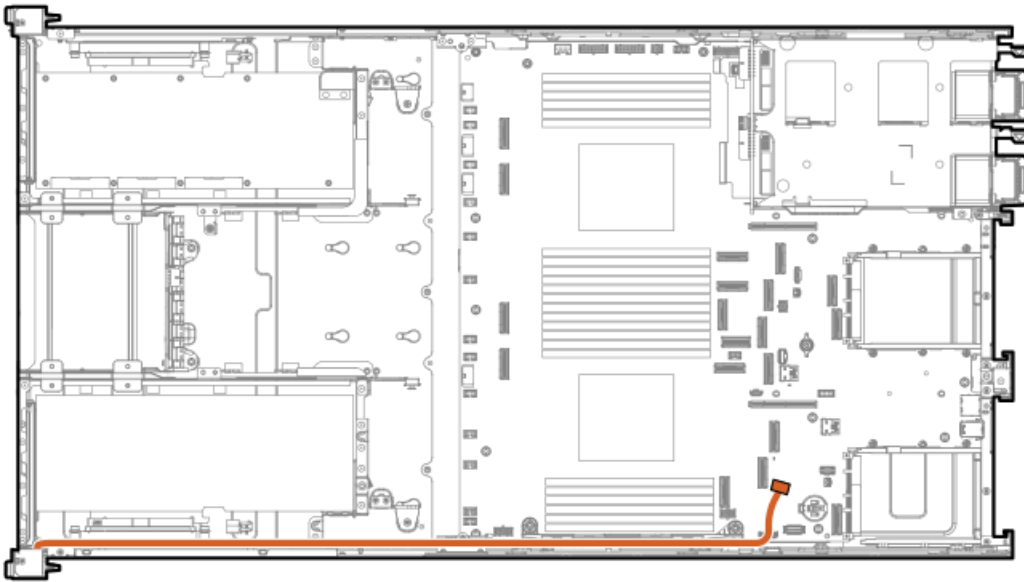
Cable part number	Color	From	To
869808-001	Orange	DisplayPort cable connector	Media bay display port

### Front I/O cabling



Cable part number	Color	From	To
P43727-001	Orange	Front I/O	Right chassis ear

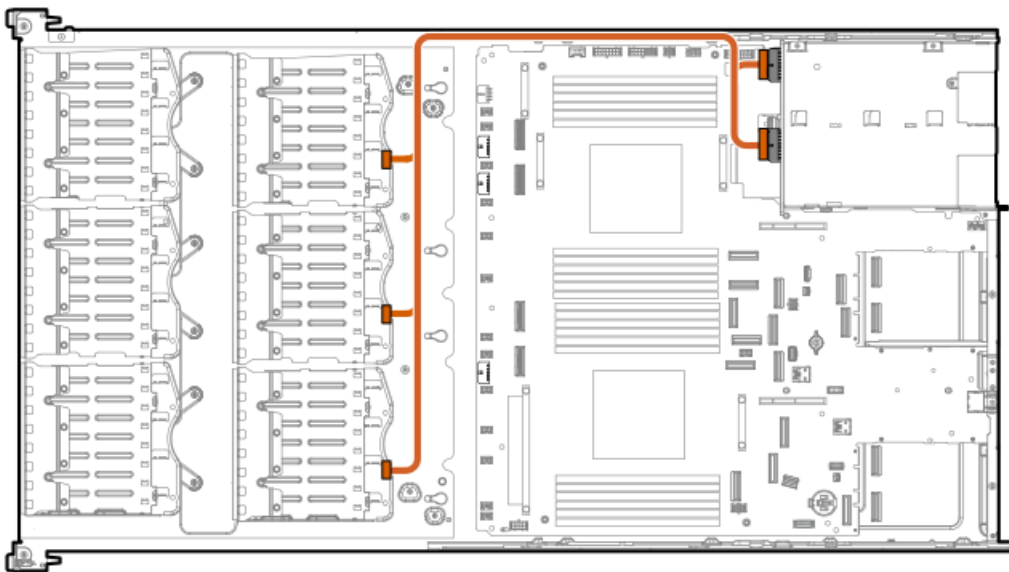




Cable part number	Color	From	To
P47750-001	Orange	Front I/O	Right chassis ear

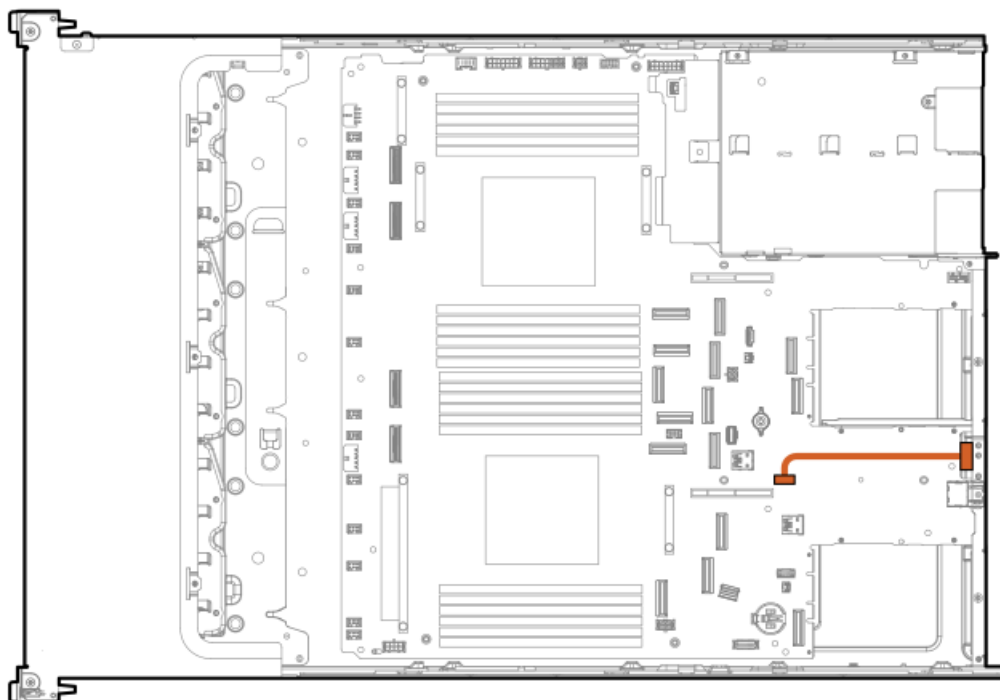
## Power distribution board cabling

48 SFF drive: Power distribution board cabling



Cable part number	Color	From	To
P58028-001	Orange	Power distribution board	8 SFF drive box 4-6

## Serial port cabling

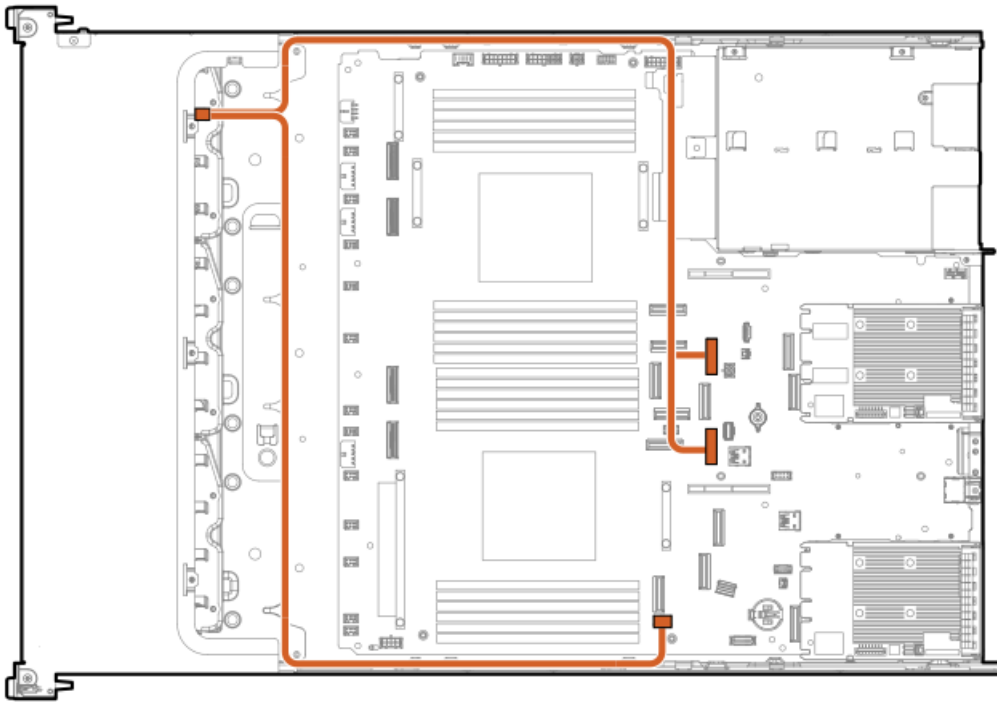


Cable part number	Color	From	To
873747-001 <sup>1</sup>	Orange	Serial port	Serial port connector

<sup>1</sup> Option kit: P59431-B21

## Optical drive cabling

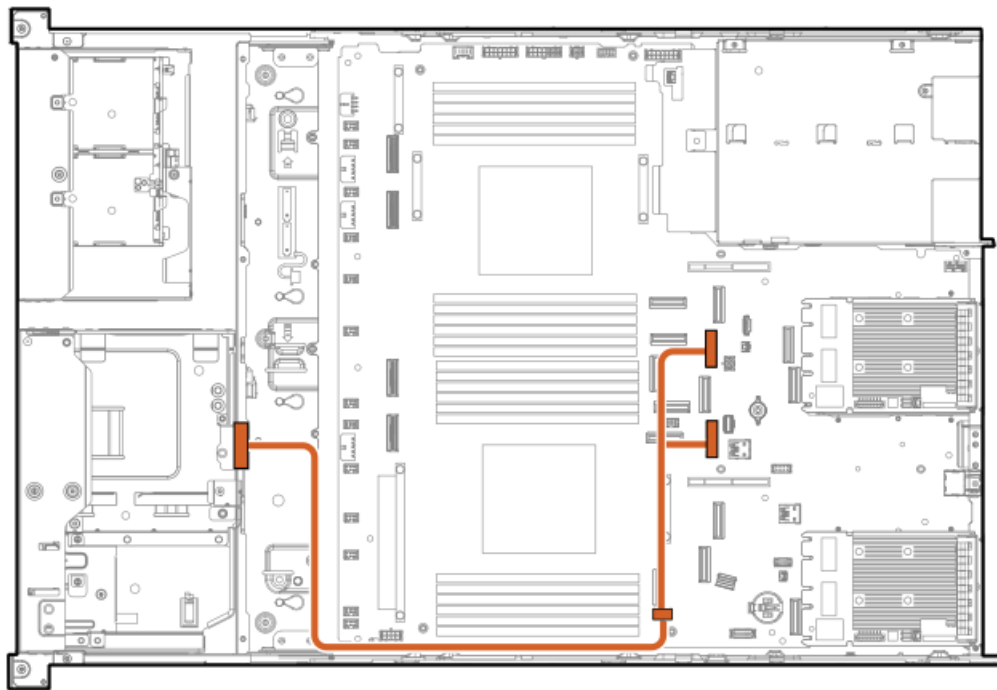
Optical drive cabling in the SFF chassis



Cable part number	Color	From	To
P58077-001 <sup>1</sup>	Orange	ODD/2SFF power connector or NVMe/SATA port 1A or NVMe/SATA 8B	Optical drive

<sup>1</sup> Option kit: P57889-B21

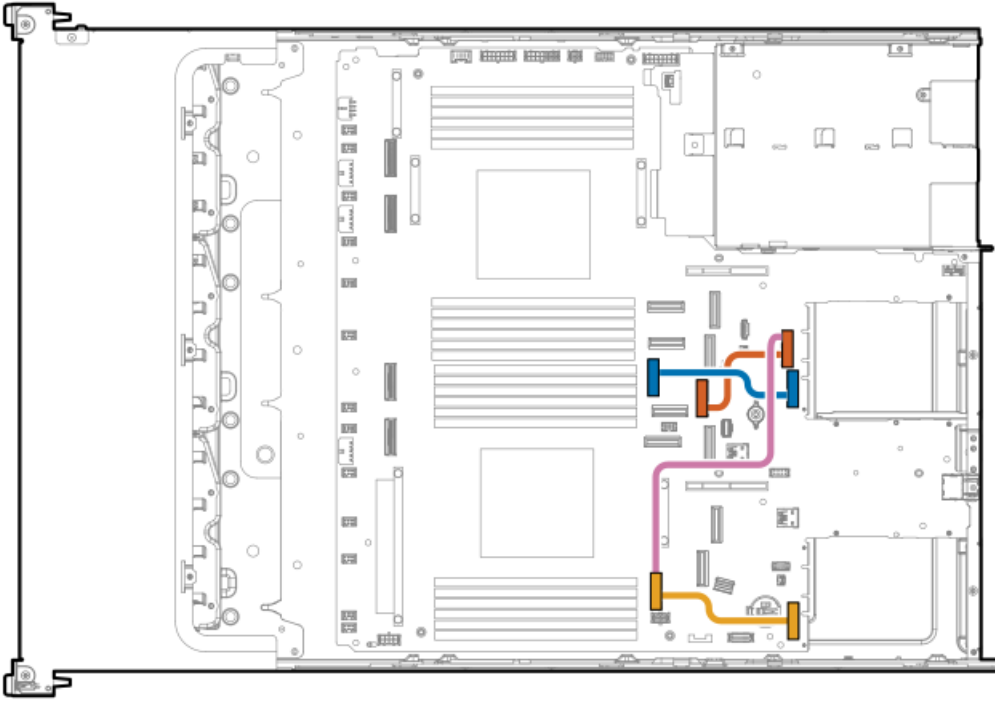
**Optical drive cabling in the LFF chassis**



Cable part number	Color	From	To
P58077-001 <sup>1</sup>	Orange	ODD/2SFF power connector or NVMe/SATA port 8B or NVMe/SATA port 1A	Optical drive

<sup>1</sup> Option kit: P57889-B21

## OCP bandwidth upgrade cabling



Cable part number	Color	From	To
P58174-001 <sup>1</sup>	Orange	NVMe port 5B	OCP slot 22 port 1
	Blue	NVMe port 4B	OCP slot 22 port 2
	Yellow	NVMe port 4A	OCP slot 21 x16 upgrade connector
P58173-001	Pink	NVMe port 4A	OCP slot 22 port 1

<sup>1</sup> Option kit: P57882-B21; P57849-B21

## Troubleshooting

### Subtopics

[NMI functionality](#)

[Troubleshooting resources](#)

## NMI functionality

An NMI crash dump enables administrators to create crash dump files when a system is not responding to traditional debugging methods.

An analysis of the crash dump log is an essential part of diagnosing reliability problems, such as hanging operating systems, device drivers, and applications. Many crashes freeze a system, and the only available action for administrators is to cycle the system power. Resetting the system erases any information that could support problem analysis, but the NMI feature preserves that information by performing a memory dump before a hard reset.

To force the OS to initiate the NMI handler and generate a crash dump log, the administrator can use the iLO Generate NMI feature.

## Troubleshooting resources

Troubleshooting resources are available for HPE Gen11 server products in the following documents:

- Troubleshooting Guide for HPE ProLiant Gen11 servers provides procedures for resolving common problems and comprehensive courses of action for fault isolation and identification, issue resolution, and software maintenance.
- Error Message Guide for HPE ProLiant Gen11 servers and HPE Synergy provides a list of error messages and information to assist with interpreting and resolving error messages.
- Integrated Management Log Messages and Troubleshooting Guide for HPE ProLiant Gen11 servers and HPE Synergy provides IML messages and associated troubleshooting information to resolve critical and cautionary IML events.

To access troubleshooting resources for your product, see the [Hewlett Packard Enterprise website](#).

## Configuration resources

Use the following resources to find documentation for configuring and managing your server.

- Some utilities might not apply to your server. For information about server compatibility with the products listed in this chapter, see the product QuickSpecs (<https://buy.hpe.com/us/en/gen11servers>).
- Products ordered from HPE Factory Express might have already been configured with some or all the configurations in this chapter. To determine if any additional setup is required, see your HPE Factory Express order.
- For the most recent changes, feature enhancements, and bug fixes, see the latest product release notes.

### Subtopics

[Updating firmware or system ROM](#)

[Configuring the server](#)

[Configuring storage controllers](#)

[Managing the HPE NS204i Boot Device](#)

[Deploying an OS](#)

[Configuring security](#)

[Optimizing the server](#)

[Server management](#)



## Updating firmware or system ROM

To	Use
Download service packs	<ul style="list-style-type: none"><li>• Service Pack for ProLiant (SPP) <a href="https://www.hpe.com/servers/spp/download">https://www.hpe.com/servers/spp/download</a></li><li>• HPE Synergy software releases and HPE Synergy Service Packs (SSPs) <a href="https://www.hpe.com/info/synergy-sw-release-information">https://www.hpe.com/info/synergy-sw-release-information</a></li></ul>
Deploy service packs to a single server	Smart Update Manager (SUM) <a href="https://www.hpe.com/info/sum-docs">https://www.hpe.com/info/sum-docs</a>
Deploy service packs to multiple servers	HPE OneView <a href="https://www.hpe.com/support/oneview-docs">https://www.hpe.com/support/oneview-docs</a>
<ul style="list-style-type: none"><li>• Enable policy-based management of server or server group firmware for distributed server infrastructure</li><li>• Monitor server compliance with a configured firmware baseline</li><li>• Receive automatic iLO firmware updates</li><li>• Receive baseline update alerts</li></ul>	HPE GreenLake for Compute Ops Management <a href="https://www.hpe.com/info/com-docs">https://www.hpe.com/info/com-docs</a>

## Configuring the server



To configure	Use
Single server (GUI)	<ul style="list-style-type: none"> <li>Intelligent Provisioning <a href="https://www.hpe.com/info/intelligentprovisioning/docs">https://www.hpe.com/info/intelligentprovisioning/docs</a></li> <li>iLO remote console or web interface <a href="https://www.hpe.com/support/ilo6">https://www.hpe.com/support/ilo6</a></li> <li>UEFI System Utilities <a href="https://www.hpe.com/info/UEFI-manuals">https://www.hpe.com/info/UEFI-manuals</a></li> <li>HPE GreenLake for Compute Ops Management <a href="https://www.hpe.com/info/com-docs">https://www.hpe.com/info/com-docs</a></li> </ul>
Single server (scripting)	<ul style="list-style-type: none"> <li>RESTful Interface Tool <a href="https://www.hpe.com/support/restfulinterface/docs">https://www.hpe.com/support/restfulinterface/docs</a></li> <li>Python iLO Redfish Library (python-ilo-rest-library) <a href="https://github.com/HewlettPackard/python-ilo-rest-library">https://github.com/HewlettPackard/python-ilo-rest-library</a></li> <li>Scripting Tools for Windows Powershell <a href="https://www.hpe.com/info/powershell/docs">https://www.hpe.com/info/powershell/docs</a></li> <li>iLO RESTful API <a href="https://hewlettpackard.github.io/ilo-rest-api-docs/">https://hewlettpackard.github.io/ilo-rest-api-docs/</a></li> <li>HPE GreenLake for Compute Ops Management API <a href="https://developer.greenlake.hpe.com/">https://developer.greenlake.hpe.com/</a></li> </ul>
Multiple servers (either UI or scripting)	<ul style="list-style-type: none"> <li>HPE OneView <sup>1</sup> <a href="https://www.hpe.com/support/oneview-docs">https://www.hpe.com/support/oneview-docs</a></li> <li>HPE GreenLake for Compute Ops Management <a href="https://www.hpe.com/info/com-docs">https://www.hpe.com/info/com-docs</a> <ul style="list-style-type: none"> <li><b>Server settings:</b> Define server-specific parameters such as firmware baselines, and then apply them to server groups.</li> <li><b>Server groups:</b> Organize servers into custom-defined sets with associated server settings, and then apply group-specific policies to create a consistent configuration across the servers in the group.</li> </ul> </li> </ul>

<sup>1</sup> For servers running HPE OneView, do not use another tool, such as iLO, to delete or change certain settings. For more information about using HPE OneView and iLO to manage the same server, see the iLO user guide at <https://www.hpe.com/support/ilo6>.

## Configuring storage controllers

Controller type	Documentation
SR controllers	—
Gen11	HPE SR Gen11 Controller User Guide <a href="https://hpe.com/support/SR-Gen11-UG">https://hpe.com/support/SR-Gen11-UG</a>
Gen10	HPE Smart Array SR Controller Gen10 User Guide <a href="https://www.hpe.com/support/SR-Gen10-UG">https://www.hpe.com/support/SR-Gen10-UG</a>
MR controllers	—
Gen11	HPE MR Gen11 Controller User Guide <a href="https://hpe.com/support/MR-Gen11-UG">https://hpe.com/support/MR-Gen11-UG</a>
Cross-generation MR guides	<ul style="list-style-type: none"> <li>HPE MR Storage Administrator User Guide <a href="https://www.hpe.com/support/MRSA">https://www.hpe.com/support/MRSA</a></li> <li>HPE MR StorCLI User Guide <a href="https://www.hpe.com/support/StorCLI">https://www.hpe.com/support/StorCLI</a></li> </ul>

## Managing the HPE NS204i Boot Device

For more information on supported features and maintenance information for the HPE NS204i Boot Device, see the HPE NS204 Boot Device User Guide:

<https://www.hpe.com/support/NS204-UG>

## Deploying an OS

For a list of supported operating systems, see the HPE Servers Support & Certification Matrices:

<https://www.hpe.com/support/Servers-Certification-Matrices>

To	See
Configure the server to boot from a SAN	HPE Boot from SAN Configuration Guide <a href="https://www.hpe.com/info/boot-from-san-config-guide">https://www.hpe.com/info/boot-from-san-config-guide</a>
Configure the server to boot from a PXE server	UEFI System Utilities User Guide for HPE ProLiant Gen11 Servers and HPE Synergy <a href="https://www.hpe.com/support/UEFIGen11-UG-en">https://www.hpe.com/support/UEFIGen11-UG-en</a>
Deploy an OS using iLO virtual media	iLO user guide <a href="https://www.hpe.com/support/ilo6">https://www.hpe.com/support/ilo6</a>
Deploy an OS using Intelligent Provisioning	Intelligent Provisioning user guide <a href="https://www.hpe.com/info/intelligentprovisioning/docs">https://www.hpe.com/info/intelligentprovisioning/docs</a>

## Configuring security

To	See
Implement server security best practices.	<ul style="list-style-type: none"> <li>HPE Compute Security Reference Guide <a href="https://www.hpe.com/info/server-security-reference-en">https://www.hpe.com/info/server-security-reference-en</a></li> <li>HPE iLO 6 Security Technology Brief <a href="https://www.hpe.com/support/ilo6-security-en">https://www.hpe.com/support/ilo6-security-en</a></li> </ul>
Configure and use the Server Configuration Lock feature on HPE Trusted Supply Chain servers and other servers that have the Server Configuration Lock feature enabled.	Server Configuration Lock User Guide for HPE ProLiant servers and HPE Synergy <a href="https://www.hpe.com/info/server-config-lock-UG-en">https://www.hpe.com/info/server-config-lock-UG-en</a>

## Optimizing the server

To	See
Optimize server performance through management and tuning features.	HPE Server Performance Management and Tuning Guide <a href="https://www.hpe.com/info/server-performance-management-tuning-en">https://www.hpe.com/info/server-performance-management-tuning-en</a>
Obtain recommendations for resolving incorrect settings.	HPE InfoSight for Servers User Guide <a href="https://www.hpe.com/support/InfoSight-for-Servers-UG-en">https://www.hpe.com/support/InfoSight-for-Servers-UG-en</a>

## Server management

To monitor	See
Single server	HPE iLO <a href="https://www.hpe.com/support/ilo6">https://www.hpe.com/support/ilo6</a>
Multiple servers	HPE OneView <a href="https://www.hpe.com/support/oneview-docs">https://www.hpe.com/support/oneview-docs</a>
Single or multiple servers	HPE GreenLake for Compute Ops Management <a href="https://www.hpe.com/info/com-docs">https://www.hpe.com/info/com-docs</a>

## Managing Linux-based high performance compute clusters

To	Use
Provision, manage, and monitor clusters.	HPE Performance Cluster Manager <a href="https://www.hpe.com/support/hpcm_manuals">https://www.hpe.com/support/hpcm_manuals</a>
Optimize your applications.	HPE Performance Analysis Tools <a href="https://www.hpe.com/info/perftools">https://www.hpe.com/info/perftools</a>
Optimize software library for low latency and high bandwidth, both on-node and off-node, for point-to-point and collective communications.	HPE Cray Programming Environment User Guide <a href="https://www.hpe.com/info/cray-pe-user-guides">https://www.hpe.com/info/cray-pe-user-guides</a>

## Specifications

### Subtopics

[Environmental specifications](#)

[Mechanical specifications](#)

[Power supply specifications](#)

## Environmental specifications

Specifications	Value
<b>Temperature range*</b>	—
Operating	10°C to 35°C (50°F to 95°F)
Nonoperating	-30°C to 60°C (-22°F to 140°F)
<b>Relative humidity (noncondensing)</b>	—
Operating	8% to 90% 28°C (82.4°F) maximum wet bulb temperature, noncondensing
Nonoperating	5% to 95% 38.7°C (101.7°F) maximum wet bulb temperature, noncondensing
<b>Altitude</b>	—
Operating	3050 m (10,000 ft) This value may be limited by the type and number of options installed. Maximum allowable altitude change rate is 457 m/min (1,500 ft/min).
Nonoperating	9144 m (30,000 ft) Maximum allowable altitude change rate is 457 m/min (1,500 ft/min).

#### Standard operating support

10° to 35°C (50° to 95°F) at sea level with an altitude derating of 1.0°C per every 305 m (1.8°F per every 1,000 ft) above sea level to a maximum of 3,050 m (10,000 ft), no direct sustained sunlight. Maximum rate of change is 20°C/hr (36°F/hr). The upper limit and rate of change may be limited by the type and number of options installed.

System performance during standard operating support might be reduced if operating above 30°C (86°F).

#### Extended ambient operating support

For approved hardware configurations, the supported system inlet range is extended to be:

- 5° to 10°C (41° to 50°F) and 35° to 40°C (95° to 104°F) at sea level with an altitude derating of 1.0°C per every 175 m (1.8°F per every 574 ft) above 900 m (2,953 ft) to a maximum of 3050 m (10,000 ft).
- 40°C to 45°C (104°F to 113°F) at sea level with an altitude derating of 1.0°C per every 125 m (1.8°F per every 410 ft) above 900 m (2953 ft) to a maximum of 3,050 m (10,000 ft).

The approved hardware configurations for this system are listed in the Extended Ambient Temperature Guidelines for Gen11 HPE ProLiant servers:

<https://www.hpe.com/support/ASHRAEGen11>

## Mechanical specifications

Specification	Value
Height	8.75 cm (3.44 in)
Depth, 24 SFF and EDSFF	64.64 cm (25.44 in)
Depth, 48 SFF	83.27 cm (32.78 in)
Depth, LFF	66.31 cm (26.11 in)
Depth, GPU	79.87 cm (31.4 in)
Width	43.47 cm (17.11 in)
Weight, 24 SFF minimum	16.78 kg (36.99 lb)
Weight, 24 SFF maximum	33.40 kg (73.63 lb)
Weight, 48 SFF minimum	20.47 kg (45.13 lb)
Weight, 48 SFF maximum	41.41 kg (91.29 lb)
Weight, LFF minimum	18.24 kg (40.21 lb)
Weight, LFF maximum	36.72 kg (80.95 lb)
Weight, EDSFF minimum	16.05 kg (35.38 lb)
Weight, EDSFF maximum	28.50 kg (62.83 lb)
Weight, GPU minimum	20.04 kg (44.18 lb)
Weight, GPU maximum	32.52 kg (71.69 lb)

## Power supply specifications

Depending on the installed options and the regional location where the server was purchased, the server can be configured with one of the following power supplies. For detailed power supply specifications, see the QuickSpecs on the [Hewlett Packard Enterprise website](#).

### Subtopics

[HPE 800W Flex Slot Platinum Hot-plug Low Halogen Power Supply](#)

[HPE 1600W Flex Slot Platinum Hot-plug Low Halogen Power Supply](#)

[HPE 1600 W Flex Slot -48 VDC Hot-plug Power Supply](#)

## HPE 800W Flex Slot Platinum Hot-plug Low Halogen Power Supply

Specification	Value
<b>Input requirements</b>	—
Rated input voltage	100 VAC to 240 VAC 240 VDC for China only
Rated input frequency	50 Hz to 60 Hz
Rated input current	9.4 A at 100 VAC 4.5 A at 200 VAC
Maximum rated input power	899 W at 100 VAC 867 W at 200 VAC
BTUs per hour	3067 at 100 VAC 2958 at 200 VAC
<b>Power supply output</b>	—
Rated steady-state power	800 W at 200 VAC to 240 VAC input 800 W at 240 VDC input
Maximum peak power	800 W at 100 VAC to 240 VAC input

For detailed power supply specifications, see the QuickSpecs on the [Hewlett Packard Enterprise website](#).

## HPE 1600W Flex Slot Platinum Hot-plug Low Halogen Power Supply



Specification	Value
<b>Input requirements</b>	—
Rated input voltage	200 VAC to 240 VAC 240 VDC for China only
Rated input frequency	50 Hz to 60 Hz
Rated input current	8.7 A at 200 VAC 7.2 A at 240 VAC
Maximum rated input power	1734 W at 200 VAC 1725 W at 240 VAC
BTUs per hour	5918 at 200 VAC 5884 at 240 VAC
<b>Power supply output</b>	—
Rated steady-state power	1600 W at 200 VAC to 240 VAC input 1600 W at 240 VDC input
Maximum peak power	1600 W for 1 ms (turbo mode) at 200 VAC to 240 VAC input

For detailed power supply specifications, see the QuickSpecs on the [Hewlett Packard Enterprise website](#).

## HPE 1600 W Flex Slot -48 VDC Hot-plug Power Supply

Specification	Value
<b>Input requirements</b>	—
Rated input voltage	-40 VDC to -72 VDC
Rated input frequency	DC
Nominal input current	45 A DC at -40 VDC input 36.6 A DC at -48 VDC input 24.4 A DC at -72 VDC input
Maximum Rated Input Wattage Rating	1798 W at -40 VDC input 1758 W at -48 VDC input 1755 W at -72 VDC input
BTUs per hour	6026 at -40 VDC input 6000 at -48 VDC input input 5989 at -72 VDC input
<b>Power supply output</b>	—
Rated steady-state power	1600 W at -40 VDC to -72 VDC
Maximum peak power	1600 W at -40 VDC to -72 VDC

## Websites

### General websites

Single Point of Connectivity Knowledge (SPOCK) Storage compatibility matrix

<https://www.hpe.com/storage/spock>

Product white papers and analyst reports

<https://www.hpe.com/us/en/resource-library>

For additional websites, see [Support and other resources](#).

### Product websites

HPE ProLiant DL385 Gen11 Server product page

<https://buy.hpe.com/us/en/gen11servers>

HPE ProLiant DL385 Gen11 Server user documents

<https://www.hpe.com/info/dl385gen11-docs>

## Support and other resources

- [Accessing Hewlett Packard Enterprise Support](#)
- [Accessing updates](#)
- [Remote support](#)

- [Warranty information](#)
- [Regulatory information](#)
- [Documentation feedback](#)

#### Subtopics

[Accessing Hewlett Packard Enterprise Support](#)

[Accessing updates](#)

[Remote support](#)

[Warranty information](#)

[Regulatory information](#)

[Documentation feedback](#)

## Accessing Hewlett Packard Enterprise Support

- For live assistance, go to the Contact Hewlett Packard Enterprise Worldwide website:  
<https://www.hpe.com/info/assistance>
- To access documentation and support services, go to the Hewlett Packard Enterprise Support Center website:  
<https://www.hpe.com/support/hpesc>

#### Information to collect

- Technical support registration number (if applicable)
- Product name, model or version, and serial number
- Operating system name and version
- Firmware version
- Error messages
- Product-specific reports and logs
- Add-on products or components
- Third-party products or components

## Accessing updates

- Some software products provide a mechanism for accessing software updates through the product interface. Review your product documentation to identify the recommended software update method.
- To download product updates:

Hewlett Packard Enterprise Support Center

<https://www.hpe.com/support/hpesc>

Hewlett Packard Enterprise Support Center: Software downloads

<https://www.hpe.com/support/downloads>

My HPE Software Center

<https://www.hpe.com/software/hpesoftwarecenter>

- To subscribe to eNewsletters and alerts:

<https://www.hpe.com/support/e-updates>

- To view and update your entitlements, and to link your contracts and warranties with your profile, go to the [Hewlett Packard Enterprise Support Center More Information on Access to Support Materials](#) page:

<https://www.hpe.com/support/AccessToSupportMaterials>

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**i IMPORTANT:**

Access to some updates might require product entitlement when accessed through the [Hewlett Packard Enterprise Support Center](#). You must have an HPE Onepass set up with relevant entitlements.

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## Remote support

Remote support is available with supported devices as part of your warranty or contractual support agreement. It provides intelligent event diagnosis, and automatic, secure submission of hardware event notifications to Hewlett Packard Enterprise, which initiates a fast and accurate resolution based on the service level of your product. Hewlett Packard Enterprise strongly recommends that you register your device for remote support.

If your product includes additional remote support details, use search to locate that information.

HPE Get Connected

<https://www.hpe.com/services/getconnected>

HPE Pointnext Tech Care

<https://www.hpe.com/services/techcare>

HPE Complete Care

<https://www.hpe.com/services/completecure>

## Warranty information

To view the warranty information for your product, see the links provided below:

HPE ProLiant and IA-32 Servers and Options

<https://www.hpe.com/support/ProLiantServers-Warranties>

HPE Enterprise and Cloudline Servers

<https://www.hpe.com/support/EnterpriseServers-Warranties>

HPE Storage Products

<https://www.hpe.com/support/Storage-Warranties>

HPE Networking Products

<https://www.hpe.com/support/Networking-Warranties>

## Regulatory information

To view the regulatory information for your product, view the Safety and Compliance Information for Server, Storage, Power, Networking, and Rack Products, available at the Hewlett Packard Enterprise Support Center:

<https://www.hpe.com/support/Safety-Compliance-EnterpriseProducts>

### Additional regulatory information

Hewlett Packard Enterprise is committed to providing our customers with information about the chemical substances in our products as needed to comply with legal requirements such as REACH (Regulation EC No 1907/2006 of the European Parliament and the Council). A chemical information report for this product can be found at:

<https://www.hpe.com/info/reach>

For Hewlett Packard Enterprise product environmental and safety information and compliance data, including RoHS and REACH, see:

<https://www.hpe.com/info/ecodata>

For Hewlett Packard Enterprise environmental information, including company programs, product recycling, and energy efficiency, see:

<https://www.hpe.com/info/environment>

## Documentation feedback

Hewlett Packard Enterprise is committed to providing documentation that meets your needs. To help us improve the documentation, use the Feedback button and icons (located at the bottom of an opened document) on the Hewlett Packard Enterprise Support Center portal (<https://www.hpe.com/support/hpesc>) to send any errors, suggestions, or comments. All document information is captured by the process.