



**Hewlett Packard**  
Enterprise

## **HPE ProLiant DL380 Gen11 Server Maintenance and Service Guide**

Part Number: 30-3673C302-004a  
Published: June 2023  
Edition: 5

# HPE ProLiant DL380 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 and trained in recognizing hazards in products with hazardous energy levels.

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## Revision history

| Part number      | Publication date | Edition | Summary of changes  |
|------------------|------------------|---------|---|
| 30-3673C302-001  | February 2023    | 1       | Initial release   |
| 30-3673C302-002  | April 2023       | 2       | Updated DIMM removal procedure for max-performance heatsinks                              |
| 30-3673C302-003  | May 2023         | 3       | Updated GPU procedures and added EDSFF content  |
| 30-3673C302-004  | June 2023        | 4       | Added HBM processor spares  |
| 30-3673C302-004a | June 2023        | 5       | Added direct liquid cooling spares and procedure, also added videos to certain procedures |

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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.



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**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.

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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

Hewlett Packard Enterprise 제한 보증에는 부품 제공 보증 서비스가 포함될 수 있습니다. 이러한 경우 Hewlett Packard Enterprise는 부품 제공 보증 서비스의 조건에 따라 교체 부품만을 무료로 제공합니다.

부품 제공 보증 서비스 제공 시 CSR 부품 교체는 의무 사항입니다. 사용자가 Hewlett Packard Enterprise에 이 부품의 교체를 요청할 경우 이 서비스에 대한 출장비 및 작업비가 청구됩니다.

## Illustrated parts catalog

### Subtopics

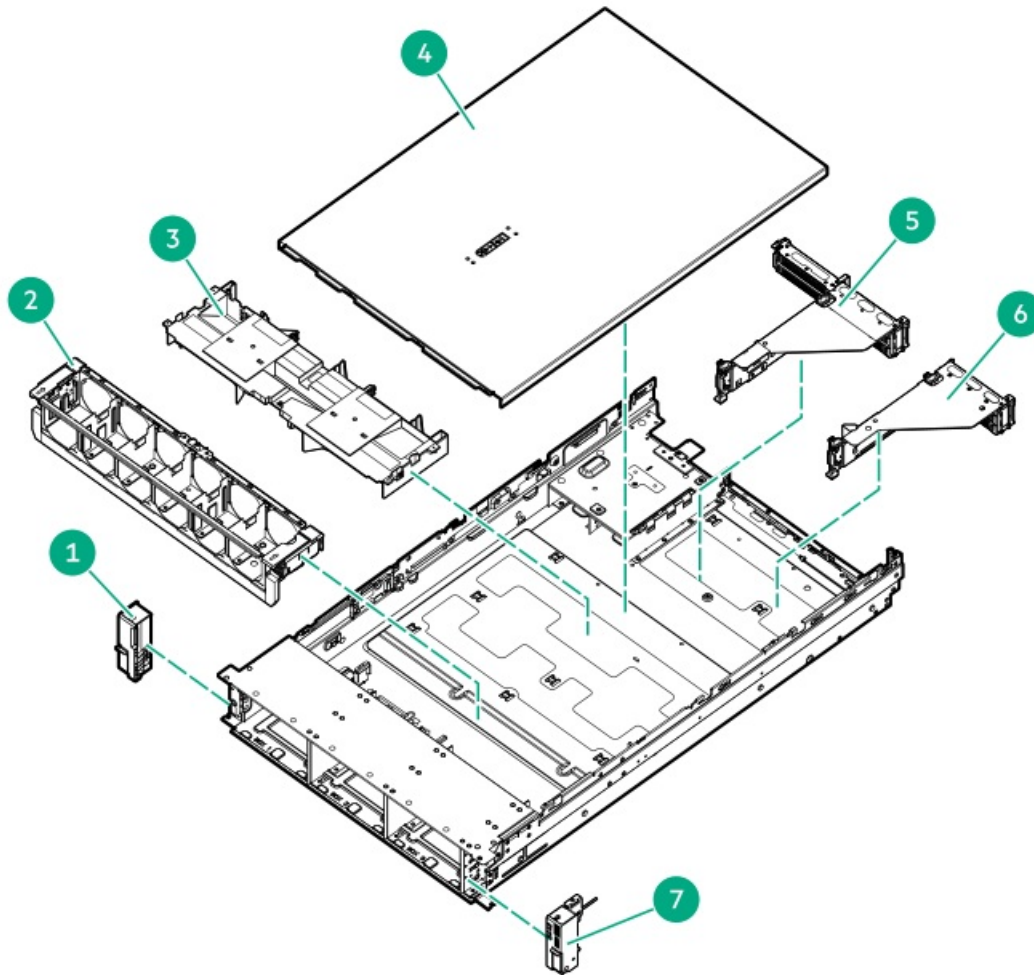
[Mechanical components](#)

[System components](#)

[Server options](#)

## Mechanical components

Hewlett Packard Enterprise continually improves and changes product parts. For complete and current supported parts information, see the [Hewlett Packard Enterprise PartSurfer website](#).



#### Item Description

|    |   |
|----|---|
| 1  | <a href="#">Left chassis ear spare parts</a>            |
| 2  | <a href="#">Fan cage spare part</a>                     |
| 3  | <a href="#">Air baffle spare parts</a>                  |
| 4  | <a href="#">Access panel spare parts</a>                |
| 5  | <a href="#">Primary and secondary riser spare parts</a> |
| 6  | <a href="#">Tertiary riser spare parts</a>              |
| 7  | <a href="#">Chassis ear power switch spare parts</a>    |
| 8  | <a href="#">Rack mounting hardware spare parts*</a>     |
| 9  | <a href="#">Cable management arm spare parts*</a>       |
| 10 | <a href="#">Miscellaneous blanks spare parts*</a>       |

\* Not shown

For more information, see [Removal and replacement procedures](#).

#### Subtopics

[Chassis ears spare parts](#)

[Fan cage spare part](#)



[Air baffle spare parts](#)

[Access panel spare parts](#)

[Primary and secondary riser cage spare part](#)

[Tertiary riser cage spare part](#)

[2U bezel spare part](#)

[Rack mounting hardware spare parts](#)

[Cable management arm spare parts](#)

[Miscellaneous blanks spare parts](#)

## Chassis ears spare parts

[Customer self repair: Mandatory](#)

| Description  | Spare part number |
|--|-------------------|
| Left chassis ear   | P58207-001        |
| Right chassis ear, includes power switch and iLO/USB ports | P56501-001        |

## Fan cage spare part

[Customer self repair: Mandatory](#)

| Description | Spare part number |
|-------------|-------------------|
| Fan cage    | P58210-001        |

## Air baffle spare parts

[Customer self repair: Mandatory](#)

| Description                | Spare part number |
|----------------------------|-------------------|
| Max-performance air baffle | P56502-001        |
| Standard air baffle        | P38194-001        |

## Access panel spare parts

[Customer self repair: Mandatory](#)

| Description | Spare part number |
|-------------|-------------------|
|-------------|-------------------|

|                          |            |
|--------------------------|------------|
| Access panel (SFF model) | P56493-001 |
|--------------------------|------------|

|                          |            |
|--------------------------|------------|
| Access panel (LFF model) | P56491-001 |
|--------------------------|------------|

## Primary and secondary riser cage spare part

Customer self repair: Mandatory

| Description | Spare part number |
|-------------|-------------------|
|-------------|-------------------|

|                                 |            |
|---------------------------------|------------|
| Primary or secondary riser cage | P58209-001 |
|---------------------------------|------------|

## Tertiary riser cage spare part

Customer self repair: Optional

| Description | Spare part number |
|-------------|-------------------|
|-------------|-------------------|

|                     |            |
|---------------------|------------|
| Tertiary riser cage | P58279-001 |
|---------------------|------------|

## 2U bezel spare part

Customer self repair: Mandatory

| Description | Spare part number |
|-------------|-------------------|
|-------------|-------------------|

|          |            |
|----------|------------|
| 2U bezel | P58208-001 |
|----------|------------|

## Rack mounting hardware spare parts

Customer self repair: Mandatory

| Description | Spare part number |
|-------------|-------------------|
|-------------|-------------------|

|                     |            |
|---------------------|------------|
| Friction rail kit 3 | P58528-001 |
|---------------------|------------|

## Cable management arm spare parts

Customer self repair: Mandatory

| Description                          | Spare part number |
|--------------------------------------|-------------------|
| 1U Easy Install Cable Management Arm | P38900-001        |
| 2U cable arm kit                     | P24100-001        |

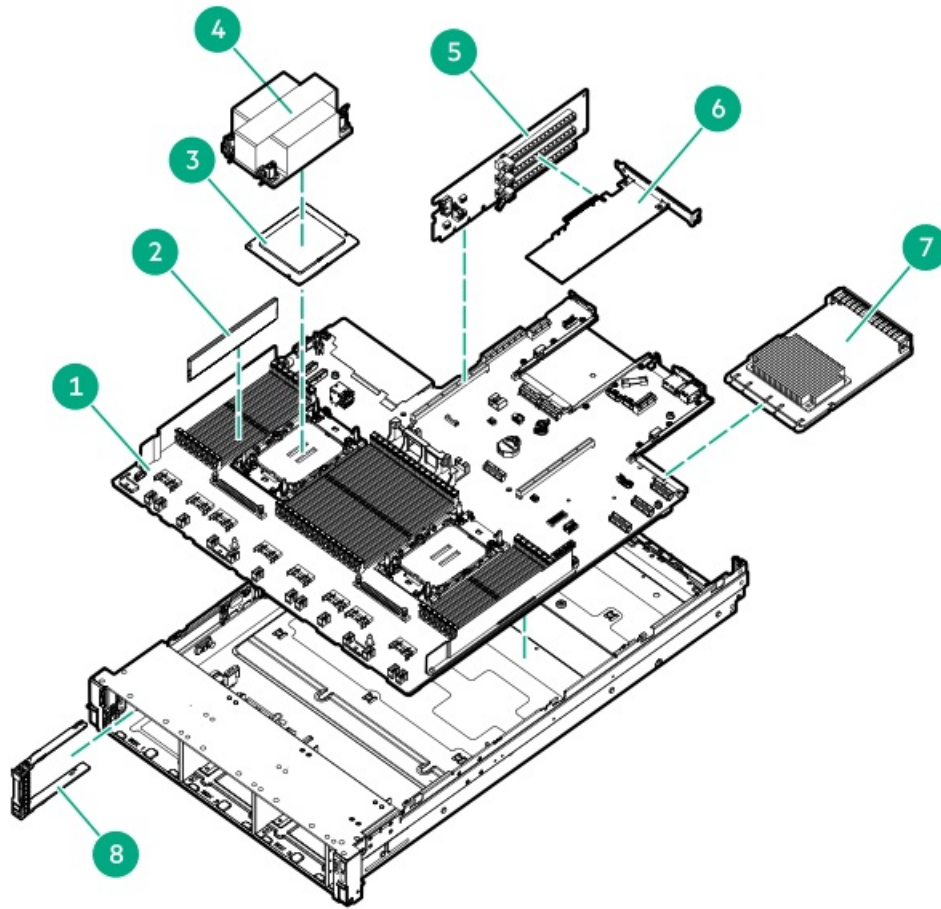
## Miscellaneous blanks spare parts

Customer self repair: Mandatory

| Description  | Spare part number |
|--|-------------------|
| Rear blanks kit  | P58220-001        |
| <ul style="list-style-type: none"><li>• Secondary PCI rear wall blank</li><li>• Tertiary PCI rear wall blank</li><li>• OCP blank</li><li>• serial port blank</li><li>• 2SFF rear bracket</li></ul> |                   |
| Rear blanks kit  | P24101-001        |
| Power supply blanks  | 777301-001        |
| Fan blanks   | P39788-001        |
| Hard drive blanks  | 875069-001        |

## System components

Hewlett Packard Enterprise continually improves and changes product parts. For complete and current supported parts information, see the [Hewlett Packard Enterprise PartSurfer website](#).



| Item | Description   |
|------|---|
| 1    | <a href="#">System board assembly spare parts</a>   |
| 2    | <a href="#">DIMM spare parts</a>  |
| 3    | <a href="#">Fourth Generation Intel Xeon Scalable Processors</a>  |
| 4    | <a href="#">Heatsink spare parts</a>  |
| 5    | <a href="#">PCI riser board spare parts</a>   |
| 6    | Expansion card spare parts <ul style="list-style-type: none"> <li>• <a href="#">Storage controller spare parts</a></li> <li>• <a href="#">Host bus adapter spare parts</a></li> <li>• <a href="#">Infiniband adapter spare parts</a></li> <li>• <a href="#">Ethernet adapter spare parts</a></li> </ul> |
| 7    | <a href="#">OCP 3.0 network adapters</a>  |
| 8    | <a href="#">Drive spare parts*</a> <ul style="list-style-type: none"> <li>• <a href="#">NVMe drive spare parts</a></li> <li>• <a href="#">SAS drive spare parts</a></li> <li>• <a href="#">SATA drive spare parts</a></li> </ul>  |
| 9    | <a href="#">System battery spare part*</a>  |

\* Not shown

For more information, see [Removal and replacement procedures](#).

### Subtopics

[System board assembly spare parts](#)

[DIMM guard spare parts](#)

[DIMM spare parts](#)

[Processor spare parts](#)

[Heatsink spare parts](#)

[Direct liquid cooling solution spare parts](#)

[PCI riser board spare parts](#)

[Storage controller spare parts](#)

[Host bus adapter spare parts](#)

[Infiniband adapter spare parts](#)

[Ethernet adapter spare parts](#)

[OCP 3.0 network adapters](#)

[Drive spare parts](#)

[System battery spare part](#)

## System board assembly spare parts

Customer self repair: Optional

| Description   | Spare part number |
|---|-------------------|
| System board for fourth-generation Intel processors | P53214-001        |

## DIMM guard spare parts

Customer self repair: Mandatory

| Description                           | Spare part number |
|---------------------------------------|-------------------|
| Left and right DIMM guard spare parts | P24307-001        |

## DIMM spare parts

Customer self repair: Mandatory

4800 MT/s DIMMs

| Description                              | Spare part number |
|--|-------------------|
| HPE 16GB 1Rx8 PC5-4800B-R Smart Kit      | P48499-001        |
| HPE 32GB 1Rx4 PC5-4800B-R Smart Kit      | P48500-001        |
| HPE 32GB 2RX8 PC5-4800B-R Smart Kit      | P48501-001        |
| HPE 64GB 2RX4 PC5-4800B-R Smart Kit      | P48502-001        |
| HPE 128GB 4RX4 PC5-4800B-R 3DS Smart Kit | P48503-001        |
| HPE 256GB 8RX4 PC5-4800B-R 3DS Smart Kit | P48504-001        |
| HPE DDR4 DIMM Blank Kit                  | 812914-001        |

## Processor spare parts

### Subtopics

[Fourth Generation Intel Xeon Scalable Processors](#)

## Fourth Generation Intel Xeon Scalable Processors

### Subtopics

[34xx processor spare parts](#)

[44XX processor spare parts](#)

[54XX processor spare parts](#)

[64xx processor spare parts](#)

[84xx processor spare parts](#)

[94xx processor spare parts](#)

## 34xx processor spare parts

[Customer self repair: Optional](#)

| Description  | Spare part number |
|--|-------------------|
| Intel Xeon Scalable processor 3408U (1.8G, 8C, 125W) | P60439-001        |

## 44XX processor spare parts

[Customer self repair: Optional](#)

| Description   | Spare part number |
|---|-------------------|
| Intel Xeon Scalable processor 4416+ (2.0G, 20C, 165W) | P60434-001        |
| Intel Xeon Scalable processor 4410Y (2.0G, 12C, 150W) | P60433-001        |

## 54XX processor spare parts

Customer self repair: Optional

| Description   | Spare part number |
|---|-------------------|
| Intel Xeon Scalable processor 5420+ (2.0G, 28C, 205W) | P60436-001        |
| Intel Xeon Scalable processor 5418Y (2.0G, 24C, 185W) | P60435-001        |
| Intel Xeon Scalable processor 5418N (1.8G, 24C, 165W) | P60448-001        |
| Intel Xeon Scalable processor 5416S (2.0G, 16C, 150W) | P60452-001        |
| Intel Xeon Scalable processor 5415+ (2.9G, 8C, 150W)  | P60426-001        |
| Intel Xeon Scalable processor 5411N (1.9G, 24C, 165W) | P60447-001        |

## 64xx processor spare parts

Customer self repair: Optional



| Description   | Spare part number |
|---|-------------------|
| Intel Xeon Scalable processor 6458Q (3.1 GHz, 32C, 350W)  | P60438-001        |
| Intel Xeon Scalable processor 6454S (2.2 GHz, 32C, 270W)  | P53136-001        |
| Intel Xeon Scalable processor 6448Y (2.1 GHz, 32C, 225W)  | P60429-001        |
| Intel Xeon Scalable processor 6444Y (3.6 GHz, 16C, 270W)  | P60431-001        |
| Intel Xeon Scalable processor 6442Y (2.4 GHz, 24C, 225W)  | P60428-001        |
| Intel Xeon Scalable processor 6438Y+ (2.0 GHz, 32C, 205W) | P60437-001        |
| Intel Xeon Scalable processor 6438N (2.0 GHz, 32C, 205W)  | P60446-001        |
| Intel Xeon Scalable processor 6434 (3.7 GHz, 8C, 195W)    | P60445-001        |
| Intel Xeon Scalable processor 6430 (2.1 GHz, 32C, 270W)   | P53120-001        |
| Intel Xeon Scalable processor 6426Y (2.5 GHz, 16C, 185W)  | P60427-001        |
| Intel Xeon Scalable processor 6421N (1.8 GHz, 32C, 185W)  | P60449-001        |
| Intel Xeon Scalable processor 6414U (2.2 GHz, 32C, 250W)  | P53123-001        |
| Intel Xeon Scalable processor 6416H (2.0 GHz, 18C, 165W)  | P49422-001        |
| Intel Xeon Scalable processor 6418H (2.2 GHz, 24C, 185W)  | P49423-001        |
| Intel Xeon Scalable processor 6448H (2.0 GHz, 32C, 225W)  | P49424-001        |
| Intel Xeon Scalable processor 6434H (4.0 GHz, 8C, 205W)   | P49425-001        |

## 84xx processor spare parts

Customer self repair: Optional



| Description  | Spare part number |
|--|-------------------|
| Intel Xeon Scalable processor 8480+ (2.0G, 56C, 350W)  | P53119-001        |
| Intel Xeon Scalable processor 8470 (2.0G, 52C, 350W)   | P53118-001        |
| Intel Xeon Scalable processor 8470Q (2.1G, 52C, 350W)  | P53122-001        |
| Intel Xeon Scalable processor 8470N (1.7G, 52C, 300W)  | P53130-001        |
| Intel Xeon Scalable processor 8468 (2.1G, 48C, 350W)   | P53117-001        |
| Intel Xeon Scalable processor 8468V (2.4G, 48C, 330W)  | P53132-001        |
| Intel Xeon Scalable processor 8462Y+ (2.8G, 32C, 300W) | P60432-001        |
| Intel Xeon Scalable processor 8460Y+ (2.0G, 40C, 300W) | P53116-001        |
| Intel Xeon Scalable processor 8458P (2.7G, 44C, 350W)  | P53133-001        |
| Intel Xeon Scalable processor 8452Y (2.0G, 36C, 300W)  | P53121-001        |
| Intel Xeon Scalable processor 8444H (2.9G, 16C, 270W)  | P53124-001        |
| Intel Xeon Scalable processor 8450H (2.0G, 28C, 250W)  | P53125-001        |
| Intel Xeon Scalable processor 8460H (2.2G, 40C, 330W)  | P53127-001        |
| Intel Xeon Scalable processor 8468H (2.1G, 48C, 330W)  | P53128-001        |
| Intel Xeon Scalable processor 8490H (1.9G, 60C, 350W)  | P53129-001        |

## 94xx processor spare parts

Customer self repair: Optional

| Description   | Spare part number |
|---|-------------------|
| Intel Xeon CPU Max processor 9462 (2.7G, 32C, 350W) | P62346-001        |

## Heatsink spare parts

Customer self repair: Optional

| Description                  | Spare part number |
|------------------------------|-------------------|
| Standard heatsink            | P49956-001        |
| High performance heatsink    | P49957-001        |
| Max performance heatsink     | P49958-001        |
| 1U high performance heatsink | P53220-001        |

## Direct liquid cooling solution spare parts

Customer self repair: Cold plate modules are **Optional**. Hose sets are **Mandatory**.

| Description                                 | Spare part number |
|---|-------------------|
| SPS-Cold Plate Module w/bracket (DLC) WM38  | P63149-001        |
| SPS-Cold Plate Module w/brkt (DLC) PCIe3638 | P63151-001        |
| SPS-DLC Hose Set (SVRtoMAN) 65cm QD         | P63154-001        |
| SPS-DLC Hose Set (SVRtoMAN) 55cm QD         | P63155-001        |

## PCI riser board spare parts

Customer self repair: **Optional**

| Description          | Spare part number |
|----------------------|-------------------|
| x8/x16/x8 riser      | P53211-001        |
| 3 x16 riser          | P53212-001        |
| 2 x16 tertiary riser | P53213-001        |

## Storage controller spare parts

Customer self repair: **Mandatory**

| Description                           | Spare part number |
|---------------------------------------|-------------------|
| HPE MR416i-p Gen11 Storage Controller | P47951-001        |
| HPE MR416i-o Gen11 Storage Controller | P47952-001        |
| HPE MR216i-p Gen11 Storage Controller | P47953-001        |
| HPE MR216i-o Gen11 Storage Controller | P47954-001        |
| HPE MR408i-o Gen11 Storage Controller | P58543-001        |
| HPE SR932i-p Gen11 Storage Controller | P47623-001        |

## Host bus adapter spare parts

Customer self repair: Mandatory

| Description  | Spare part number |
|--|-------------------|
| HPE SN1610E 32Gb 1-port Fibre Channel Host Bus Adapter | P14421-001        |
| HPE SN1610E 32Gb 2-port Fibre Channel Host Bus Adapter | P14422-001        |
| HPE SN1610Q 32Gb 1-port Fibre Channel Host Bus Adapter | P14419-001        |
| HPE SN1610Q 32Gb 2-port Fibre Channel Host Bus Adapter | P14420-001        |

## Infiniband adapter spare parts

Customer self repair: Mandatory

| Description  | Spare part number |
|--|-------------------|
| HPE InfiniBand NDR 1-port OSFP PCIe5 x16 MCX75310AAS-NEAT Adapter                      | P47627-001        |
| HPE InfiniBand HDR/Ethernet 200Gb 1-port QSFP56 PCIe4 x16 OCP3 MCX653435A-HDAI Adapter | P36069-001        |
| HPE InfiniBand HDR/Ethernet 200Gb 2-port QSFP56 PCIe4 x16 OCP3 MCX653436A-HDAI Adapter | P36070-001        |
| HPE 100Gb 1-port OP101 QSFP28 x16 PCIe Gen3 with Intel Omni-Path Architecture Adapter  | 841703-001        |
| HPE InfiniBand HDR100/Ethernet 100Gb 1-port QSFP56 PCIe4 x16 MCX653105A-ECAT Adapter   | 841703-001        |
| HPE InfiniBand HDR100/Ethernet 100Gb 2-port QSFP56 PCIe4 x16 MCX653106A-ECAT Adapter   | P24752-001        |

## Ethernet adapter spare parts

Customer self repair: Mandatory

| Description   | Spare part number |
|---|-------------------|
| Broadcom BCM5719 Ethernet 1Gb 4-port BASE-T Adapter for HPE             | P51304-001        |
| Broadcom BCM57416 Ethernet 10Gb 2-port BASE-T Adapter for HPE           | P26987-001        |
| Broadcom BCM57412 Ethernet 10Gb 2-port SFP+ Adapter for HPE             | P26874-001        |
| Broadcom BCM57504 Ethernet 10/25Gb 4-port SFP28 Adapter for HPE         | P42266-001        |
| Broadcom BCM57414 Ethernet 10/25Gb 2-port SFP28 Adapter for HPE         | P26871-001        |
| Intel I350-T4 Ethernet 1Gb 4-port BASE-T Adapter for HPE                | P22200-001        |
| Intel E810-XXVDA2 Ethernet 10/25Gb 2-port SFP28 Adapter for HPE         | P14483-001        |
| Intel E810-XXVDA4 Ethernet 10/25Gb 4-port SFP28 Adapter for HPE         | P10582-001        |
| Intel E810-CQDA2 Ethernet 100Gb 2-port QSFP28 Adapter for HPE           | P22201-001        |
| Mellanox MCX631102AS-ADAT Ethernet 10/25Gb 2-port SFP28 Adapter for HPE | P42934-001        |
| Mellanox MCX623106AS-CDAT Ethernet 100Gb 2-port QSFP56 Adapter for HPE  | P26155-001        |
| Mellanox MCX623105AS-VDAT Ethernet 200Gb 1-port QSFP56 Adapter for HPE  | P14488-001        |
| HPE Slingshot SA210S Ethernet 200Gb 1-port PCIe NIC                     | P40789-001        |
| HPE Slingshot SA410S 400GbE 1p PCIe NIC                                 | R9Y95A            |

## OCP 3.0 network adapters

Customer self repair: Optional

| Description  | Spare part number |
|--|-------------------|
| Broadcom BCM5719 Ethernet 1Gb 4-port BASE-T OCP3 Adapter for HPE             | P51305-001        |
| Broadcom BCM57416 Ethernet 10Gb 2-port BASE-T OCP3 Adapter for HPE           | P13640-001        |
| Broadcom BCM57412 Ethernet 10Gb 2-port SFP+ OCP3 Adapter for HPE             | P26256-B21        |
| Broadcom BCM57504 Ethernet 10/25Gb 4-port SFP28 OCP3 Adapter for HPE         | P42265-001        |
| Broadcom BCM57414 Ethernet 10/25Gb 2-port SFP28 OCP3 Adapter for HPE         | P14484-001        |
| Intel I350-T4 Ethernet 1Gb 4-port BASE-T OCP3 Adapter for HPE                | P14487-001        |
| Intel E810-XXVDA2 Ethernet 10/25Gb 2-port SFP28 OCP3 Adapter for HPE         | P14485-001        |
| Intel E810 100GbE 2p QSFP28 OCP3 Adptr                                       | P24113-001        |
| Mellanox MCX631432AS-ADAI Ethernet 10/25Gb 2-port SFP28 OCP3 Adapter for HPE | P42933-001        |

## Drive spare parts

### Subtopics

[EDSFF drive spare parts](#)

[NVMe drive spare parts](#)

[SAS drive spare parts](#)

[SATA drive spare parts](#)

## EDSFF drive spare parts

Customer self repair: Mandatory

| Description                            | Spare part number |
|--|-------------------|
| SPS-DRV SSD 15.3TB E3S NVMe RI EC1     | P58427-001        |
| SPS-DRV SSD 7.68TB E3S NVMe RI EC1     | P58426-001        |
| SPS-DRV SSD 3.84TB E3S NVMe RI EC1     | P58425-001        |
| SPS-DRV SSD 7.68TB E3S NVMe RI EC1 CD7 | P56716-001        |
| SPS-DRV SSD 3.84TB E3S NVMe RI EC1 CD7 | P56715-001        |
| SPS-DRV SSD 1.92TB E3S NVMe RI EC1 CD7 | P56714-001        |

## NVMe drive spare parts

Customer self repair: Mandatory

| Description   | Spare part number |
|---|-------------------|
| HPE 15.36TB NVMe Gen4 High Performance Read Intensive SFF BC U.3 PM1733a SSD                  | P50961-001        |
| HPE 7.68TB NVMe Gen4 High Performance Read Intensive SFF BC U.3 PM1733a SSD                   | P50959-001        |
| HPE 7.68TB NVMe Gen4 Mainstream Performance Read Intensive SFF BC U.3 Static Multi Vendor SSD | P48226-001        |
| HPE 3.84TB NVMe Gen4 High Performance Read Intensive SFF BC U.3 PM1733a SSD                   | P50956-001        |
| HPE 3.84TB NVMe Gen4 Mainstream Performance Read Intensive SFF BC U.3 Static Multi Vendor SSD | P48225-001        |
| HPE 1.92TB NVMe Gen4 High Performance Read Intensive SFF BC U.3 PM1733a SSD                   | P50953-001        |
| HPE 1.9TB NVMe Gen4 Mainstream Performance Read Intensive SFF BC U.3 Static Multi Vendor SSD  | P48224-001        |
| HPE 960GB NVMe Gen4 Mainstream Performance Read Intensive SFF BC U.3 Static Multi Vendor SSD  | P48223-001        |
| HPE 6.4TB NVMe Gen4 High Performance Mixed Use SFF BC U.3 PM1735a SSD                         | P50970-001        |
| HPE 6.4TB NVMe Gen4 Mainstream Performance Mixed Use SFF BC U.3 Static Multi Vendor SSD       | P48219-001        |
| HPE 3.2TB NVMe Gen4 High Performance Mixed Use SFF BC U.3 PM1735a SSD                         | P50967-001        |
| HPE 3.2TB NVMe Gen4 Mainstream Performance Mixed Use SFF BC U.3 Static Multi Vendor SSD       | P48218-001        |
| HPE 1.6TB NVMe Gen4 High Performance Mixed Use SFF BC U.3 PM1735a SSD                         | P50964-001        |
| HPE 1.6TB NVMe Gen4 Mainstream Performance Mixed Use SFF BC U.3 Static Multi Vendor SSD       | P48217-001        |
| HPE 800GB NVMe Gen4 Mainstream Performance Mixed Use SFF BC U.3 Static Multi Vendor SSD       | P48216-001        |

## SAS drive spare parts

Customer self repair: Mandatory

LFF drives

| Description  | Spare part number |
|--|-------------------|
| <b>Midline - 12G SAS - LFF Drives</b>  |                   |
| HPE 20TB SAS 12G Business Critical 7.2K LFF LP 1- year Warranty Helium 512e ISE Multi-Vendor     | P54677-001        |
| HPE 18TB SAS 12G Business Critical 7.2K LFF LP 1- year Warranty Helium 512e ISE Multi Vendor HDD | P54677-001        |
| HPE 16TB SAS 12G Business Critical 7.2K LFF LP 1- year Warranty Helium 512e ISE Multi Vendor HDD | P25245-001        |
| HPE 14TB SAS 12G Business Critical 7.2K LFF LP 1- year Warranty Helium 512e Multi Vendor HDD     | P11518-001        |
| HPE 12TB SAS 12G Business Critical 7.2K LFF LP 1- year Warranty Helium 512e Multi Vendor HDD     | 882398-001        |
| HPE 10TB SAS 12G Business Critical 7.2K LFF LP 1- year Warranty 512e ISE Multi-Vendor            | P54672-001        |
| HPE 8TB SAS 12G Business Critical 7.2K LFF LP 1- year Warranty 512e Multi Vendor HDD             | 834132-001        |
| HPE 6TB SAS 12G Business Critical 7.2K LFF LP 1- year Warranty 512e Multi Vendor HDD             | 862136-001        |
| HPE 4TB SAS 12G Business Critical 7.2K LFF LP 1- year Warranty Multi Vendor HDD                  | 834134-001        |
| HPE 2TB SAS 12G Business Critical 7.2K LFF LP 1- year Warranty Multi Vendor HDD                  | 834133-001        |
| <b>Read Intensive - 12G SAS - LFF -Solid State Drives</b>  |                   |
| HPE 7.68TB SAS 24G Read Intensive LFF LPC Multi Vendor SSD                                       | P49740-001        |
| <b>Mixed Use - 12G SAS - LFF -Solid State Drives</b>   |                   |
| HPE 960GB SAS 12G Mixed Use LFF LPC Value SAS Multi Vendor SSD                                   | P37070-001        |

#### SFF drives

| Description   | Spare part number |
|---|-------------------|
| <b>Mission Critical - 12G SAS - SFF Drives</b>  |                   |
| HPE 2.4TB SAS 12G Mission Critical 10K SFF BC 3-year Warranty 512e Self-encrypting FIPS HDD | P36212-001        |
| HPE 1.2TB SAS 12G Mission Critical 10K SFF BC 3-year Warranty Self-encrypting FIPS HDD      | P36214-001        |
| <b>Enterprise - 12G SAS - SFF Drives</b>  |                   |
| HPE 2.4TB SAS 12G Mission Critical 10K SFF BC 3-year Warranty 512e Multi Vendor HDD         | P30562-001        |
| HPE 1.8TB SAS 12G Mission Critical 10K SFF BC 3-year Warranty 512e Multi Vendor HDD         | P54682-001        |
| HPE 1.2TB SAS 12G Mission Critical 10K SFF BC 3-year Warranty Multi Vendor HDD              | P30563-001        |
| HPE 1TB SAS 12G Business Critical 7.2K SFF BC 1-year Warranty HDD                           | P54683-001        |
| HPE 900GB SAS 15K SFF BC MV HDD   | P40784-001        |
| HPE 600GB SAS 12G Mission Critical 15K SFF BC 3-year Warranty Multi Vendor HDD              | P54680-001        |

| Description  | Spare part number |
|--|-------------------|
| HPE 600GB SAS 12G Mission Critical 10K SFF BC 3-year Warranty Multi Vendor HDD | P54681-001        |
| HPE 300GB SAS 12G Mission Critical 15K SFF BC 3-year Warranty Multi Vendor HDD | P30561-001        |
| HPE 300GB SAS 12G Mission Critical 10K SFF BC 3-year Warranty Multi Vendor HDD | P40785-001        |
| <b>Midline - 12G SAS - SFF Drives</b>  |                   |
| HPE 2TB SAS 12G Business Critical 7.2K SFF BC 1-year Warranty 512e HDD         | P30575-001        |
| <b>Read Intensive - 12G SAS - SFF - Solid State Drives</b>                     |                   |
| HPE 15.36TB SAS 24G Read Intensive SFF BC Multi Vendor SSD                     | P49743-001        |
| HPE 7.68TB SAS 12G Read Intensive SFF BC Value SAS Multi Vendor SSD            | P41534-001        |
| HPE 7.68TB SAS 24G Read Intensive SFF BC Multi Vendor SSD                      | P49741-001        |
| HPE 3.84TB SAS 12G Read Intensive SFF BC Value SAS Multi Vendor SSD            | P41533-001        |
| HPE 3.84TB SAS 24G Read Intensive SFF BC Multi Vendor SSD                      | P49737-001        |
| HPE 1.92TB SAS 12G Read Intensive SFF BC Value SAS Multi Vendor SSD            | P41532-001        |
| HPE 1.92TB SAS 24G Read Intensive SFF BC Multi Vendor SSD                      | P49735-001        |
| HPE 960GB SAS 12G Read Intensive SFF BC Value SAS Multi Vendor SSD             | P41531-001        |
| HPE 960GB SAS 24G Read Intensive SFF BC Multi Vendor SSD                       | P49733-001        |
| <b>Mixed Use - 12G SAS - SFF - Solid State Drives</b>                          |                   |
| HPE 6.4TB SAS 24G Mixed Use SFF BC Multi Vendor SSD                            | P49751-001        |
| HPE 3.84TB SAS 12G Mixed Use SFF BC Value SAS Multi Vendor SSD                 | P41537-001        |
| HPE 3.2TB SAS 24G Mixed Use SFF BC Multi Vendor SSD                            | P49749-001        |
| HPE 1.92TB SAS 12G Mixed Use SFF BC Value SAS Multi Vendor SSD                 | P41536-001        |
| HPE 1.6TB SAS 24G Mixed Use SFF BC Multi Vendor SSD                            | P49747-001        |
| HPE 960GB SAS 12G Mixed Use SFF BC Value SAS Multi Vendor SSD                  | P41535-001        |
| HPE 800GB SAS 24G Mixed Use SFF BC Multi Vendor SSD                            | P49745-001        |

## SATA drive spare parts

Customer self repair: **Mandatory**

LFF drives



| Description   | Spare part number |
|---|-------------------|
| <b>Read Intensive - 6G SATA - LFF - Solid State Drives</b>                                      |                   |
| HPE 960GB SATA 6G Read Intensive LFF LPC Multi Vendor SSD                                       | P48229-001        |
| <b>Midline - 6G SATA - LFF Drives</b>   |                   |
| HPE 18TB SATA 6G Business Critical 7.2K LFF LP 1-year Warranty Helium 512e ISE Multi Vendor HDD | P38440-001        |
| HPE 16TB SATA 6G Business Critical 7.2K LFF LP 1-year Warranty Helium 512e ISE Multi Vendor HDD | P25244-001        |
| HPE 14TB SATA 6G Business Critical 7.2K LFF LP 1-year Warranty Helium 512e Multi Vendor HDD     | P11519-001        |
| HPE 12TB SATA 6G Business Critical 7.2K LFF LP 1-year Warranty Helium 512e Multi Vendor HDD     | 882401-001        |
| HPE 10TB SATA 6G Business Critical 7.2K LFF LP 1-year Warranty 512e Multi Vendor HDD            | P54673-001        |
| HPE 8TB SATA 6G Business Critical 7.2K LFF LP 1-year Warranty 512e Multi Vendor HDD             | 834131-001        |
| HPE 6TB SATA 6G Business Critical 7.2K LFF LP 1-year Warranty 512e Multi Vendor HDD             | 862134-001        |
| HPE 4TB SATA 6G Business Critical 7.2K LFF LP 1-year Warranty Multi Vendor HDD                  | 862133-001        |
| HPE 2TB SATA 6G Business Critical 7.2K LFF LP 1-year Warranty Multi Vendor HDD                  | 862132-001        |
| HPE 1TB SATA 6G Business Critical 7.2K LFF LP 1-year Warranty Multi Vendor HDD                  | 862130-001        |

**SFF drives**

| Description  | Spare part number |
|--|-------------------|
| <b>Midline - 6G SATA - SFF Drives</b>                                  |                   |
| HPE 2TB SATA 6G Business Critical 7.2K SFF BC 1-year Warranty 512e HDD | P30573-001        |
| HPE 1TB SATA 6G Business Critical 7.2K SFF BC 1-year Warranty HDD      | P30574-001        |
| <b>Read Intensive - 6G SATA - SFF - Solid State Drives</b>             |                   |
| HPE 7.68TB SATA 6G Read Intensive SFF BC Multi Vendor SSD              | P41526-001        |
| HPE 3.84TB SATA 6G Read Intensive SFF BC Multi Vendor SSD              | P41525-001        |
| HPE 3.84TB SATA 6G Read Intensive SFF BC S4520 SSD                     | P47487-001        |
| HPE 3.84TB SATA 6G Read Intensive SFF BC PM893 SSD                     | P46055-001        |
| HPE 1.92TB SATA 6G Read Intensive SFF BC Multi Vendor SSD              | P41524-001        |
| HPE 1.92TB SATA 6G Read Intensive SFF BC S4520 SSD                     | P47485-001        |
| HPE 1.92TB SATA 6G Read Intensive SFF BC PM893 SSD                     | P46054-001        |
| HPE 480GB SATA 6G Read Intensive SFF BC Multi Vendor SSD               | P41522-001        |
| HPE 480GB SATA 6G Read Intensive SFF BC PM893 SSD                      | P46052-001        |
| HPE 960GB SATA 6G Read Intensive SFF BC Multi Vendor SSD               | P41523-001        |
| HPE 960GB SATA 6G Read Intensive SFF BC PM893 SSD                      | P46053-001        |
| HPE 240GB SATA 6G Read Intensive SFF BC Multi Vendor SSD               | P41521-001        |
| <b>Mixed Use - 6G SATA - SFF - Solid State Drives</b>                  |                   |
| HPE 3.84TB SATA 6G Mixed Use SFF BC Multi Vendor SSD                   | P41530-001        |
| HPE 3.84TB SATA 6G Mixed Use SFF BC S4620 SSD                          | P47492-001        |
| HPE 1.92TB SATA 6G Mixed Use SFF BC Multi Vendor SSD                   | P41529-001        |
| HPE 1.92TB SATA 6G Mixed Use SFF BC PM897 SSD                          | P46051-001        |
| HPE 960GB SATA 6G Mixed Use SFF BC Multi Vendor SSD                    | P41528-001        |
| HPE 960GB SATA 6G Mixed Use SFF BC PM897 SSD                           | P46050-001        |
| HPE 480GB SATA 6G Mixed Use SFF BC Multi Vendor SSD                    | P41527-001        |
| HPE 480GB SATA 6G Mixed Use SFF BC S4620 SSD                           | P47489-001        |
| HPE 480GB SATA 6G Mixed Use SFF BC PM897 SSD                           | P46049-001        |

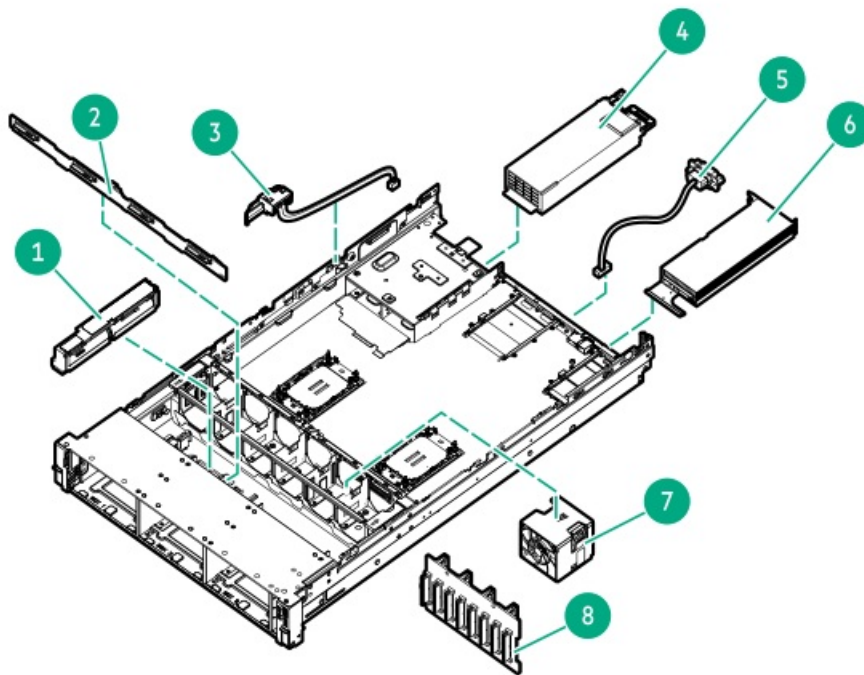
## System battery spare part

Customer self repair: **Mandatory**

| Description    | Spare part number |
|----------------|-------------------|
| System battery | 319603-001        |

## Server options

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



**Item Description**

| Item | Description   |
|------|---|
| 1    | <a href="#">Energy pack spare parts</a>                       |
| 2    | <a href="#">LFF backplane spare parts</a>                     |
| 3    | <a href="#">Chassis Intrusion Detection Switch spare part</a> |
| 4    | <a href="#">Power supply unit spare parts</a>                 |
| 5    | <a href="#">Rear serial port interface spare part</a>         |
| 6    | <a href="#">GPU spare parts</a>                               |
| 7    | <a href="#">Fan spare parts</a>                               |
| 8    | <a href="#">SFF backplane spare parts</a>                     |
| 9    | <a href="#">Systems Insight Display spare parts*</a>          |
| 10   | <a href="#">HPE NS204i-u Boot Device spare parts*</a>         |
| 11   | <a href="#">Cable spare parts*</a>                            |

\* Not shown

For more information, see [Removal and replacement procedures](#).

**Subtopics**

[Energy pack spare parts](#)

[Backplane spare parts](#)

[Chassis Intrusion Detection Switch spare part](#)

[Power supply spare parts](#)

[Rear serial port interface spare part](#)

[Accelerator and GPU options spare parts](#)

[Fan spare parts](#)

[Systems Insight Display spare parts](#)

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

[Cable spare parts](#)

## Energy pack spare parts

Subtopics

[HPE Smart Storage Hybrid Capacitor spare part](#)

[HPE Smart Storage Battery spare part](#)

## HPE Smart Storage Hybrid Capacitor spare part

[Customer self repair: mandatory](#)

| Description                                     | Spare part number |
|---|-------------------|
| HPE Smart Storage Hybrid Capacitor, 260mm cable | P07474-001        |

## HPE Smart Storage Battery spare part

[Customer self repair: Mandatory](#)

| Description               | Spare part number |
|---------------------------|-------------------|
| HPE Smart Storage Battery | 878643-001        |

## Backplane spare parts

[Customer self repair: Optional](#)

| Description                              | Spare part number |
|--|-------------------|
| 8SFF U.3 x1 basic backplane              | P39781-001        |
| 2SFF U.3 x4 SAS/SATA/NVMe UBM3 backplane | P39783-001        |
| 8SFF U.3 x 4 premium backplane           | P39780-001        |
| 4LFF SAS backplane                       | P23681-001        |
| 2SFF stacked U.3 x4 premium backplane    | P39782-001        |
| 8SFF 2x4 U.3 x1 basic midplane           | P39784-001        |
| 8SFF U.2 x4 UBM4 backplane               | P39785-001        |
| 4LFF SAS backplane                       | P23681-001        |
| 12 E.3S 32G x4 UBM5 E3C 2U backplane     | P53217-001        |
| 2LFF stacked/riser LP backplane          | P56490-001        |

## Chassis Intrusion Detection Switch spare part

Customer self repair: Mandatory

| Description                        | Spare part number |
|------------------------------------|-------------------|
| Chassis Intrusion Detection Switch | P52442-001        |

## Power supply spare parts

Customer self repair: Mandatory

| Description  | Spare part number |
|--|-------------------|
| HPE 800W Flex Slot Platinum Hot-plug Low Halogen Power Supply  | P39385-001        |
| HPE 1000W Flex Slot Titanium Hot-plug Low Halogen Power Supply | P44412-001        |
| HPE 1600W Flex Slot Platinum Hot-plug Low Halogen Power Supply | P39384-001        |

## Rear serial port interface spare part

Customer self repair: Mandatory

| Description                | Spare part number |
|----------------------------|-------------------|
| Rear serial port interface | 875571-001        |

## Accelerator and GPU options spare parts

Customer self repair: Optional

| Description                                       | Spare part number |
|---|-------------------|
| NVIDIA A16 64GB PCIe Non-CEC Accelerator for HPE  | P48409-001        |
| NVIDIA A100 80GB PCIe Non-CEC Accelerator for HPE | P54869-001        |

## Fan spare parts

Customer self repair: Mandatory

| Description          | Spare part number |
|----------------------|-------------------|
| Standard fan         | P49959-001        |
| High-performance fan | P49960-001        |

## Systems Insight Display spare parts

Customer self repair: Mandatory

| Description | Spare part number |
|-------------|-------------------|
| SID module  | P59964-001        |

## 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 [Removing and replacing an NS204i-u boot device](#)

## Cable spare parts

Customer self repair: Mandatory

| <b>Description</b>                              | <b>Spare part number</b> |
|---|--------------------------|
| 4LFF/8SFF power cables kit (50mm, 240mm, 400mm) | P58212-001               |
| 2LFF + midplane power kit 2x6                   | P58213-001               |
| Cable for ports 11/9/10 TO OCP slots 14/15      | P58214-001               |
| kit,FRT SFFX4 TO PRI/SEC TRI-MOD                | P58215-001               |
| X4 MS-4LFF/PRI/TER/8SFF SAS SHNR                | P24139-001               |
| SATA DVD/MLB 1x13p SLIM                         | 784623-001               |
| Data cables kit                                 | 875095-001               |
| LFF BX1 S100i X6,NS204i-u pwr                   | P58217-001               |
| EDSFF/FRT,EDSFF TO PORT                         | P58218-001               |
| BOX1/3,SFF STR X4 SEC/PRI STR X4                | P58219-001               |
| RAR/FRT/MID                                     | P58221-001               |
| FRT SFF BOX1-2-3 To CPU1/2                      | P58222-001               |
| FRT SFF,NVME B1/2,8SFF                          | P58223-001               |
| BOX,RAR/MID,NVME                                | P58224-001               |
| PORT 7/8/9/10/11 X4 TER PORT                    | P58225-001               |
| PRT 1/2/3/4/7/8/11 TO PRI/SEC                   | P58226-001               |
| SID   | P58227-001               |
| GPU cables kit                                  | 875097-001               |
| PWR, GPU, 12P+4S 8P+4S, PCIe,Y                  | P59963-001               |

## Removal and replacement procedures

### Subtopics

[Safety considerations](#)

[Preparation procedures](#)

[Removing and replacing the front bezel](#)

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

[Removing and replacing the rack rails](#)

[Removing and replacing a drive blank](#)

[Removing and replacing a hot-plug LFF/SFF/E3.S drive](#)

[Removing and replacing a hot-plug E3.S drive](#)

[Removing and replacing a power supply blank](#)

[Removing and replacing a hot-plug AC power supply](#)

[Removing and replacing the HPE 800 W Flex Slot -48 VDC hot-plug power supply](#)

[Removing and replacing an HPE 1600 W Flex Slot -48 VDC hot-plug power supply](#)

Removing and replacing the primary PCIe riser cage

Removing and replacing the secondary and tertiary PCIe riser cage

Removing and replacing the PCIe rear wall blank

Removing and replacing an expansion board

Removing and replacing the PCIe riser board

Removing and replacing an expansion slot blank

Removing and replacing a GPU or accelerator

Removing and replacing fan blanks

Removing and replacing a fan

Removing and replacing the fan cage

Removing and replacing the OCP 3.0 adapter blank

Removing and replacing the OCP 3.0 adapter

Removing and replacing the left chassis ear

Removing and replacing the right chassis ear power switch module

Removing and replacing the LFF universal media bay

Removing and replacing the SFF universal media bay

Removing and replacing the SFF optical drive

Removing and replacing the LFF optical drive

Removing and replacing a front SFF drive cage

Removing and replacing an EDSFF drive backplane

Removing and replacing the 8 SFF drive backplane

Removing and replacing the 2 SFF front drive cage

Removing and replacing the 2 SFF stacked riser cage backplane

Removing and replacing the 2 SFF rear stacked drive backplane

Removing and replacing the 2 LFF riser cage backplane

Removing and replacing the LFF backplane assembly

Removing and replacing a front LFF drive backplane

Removing and replacing the Systems Insight Display

Removing and replacing the serial port

Removing and replacing the chassis intrusion detection switch

Removing and replacing a DIMM

Removing and replacing an energy pack

Removing and replacing a type-o storage controller

Removing and replacing a type-p storage controller



[Removing and replacing an NS204i-u boot device](#)

[Removing and replacing a processor or heatsink](#)

[Removing and replacing the direct liquid cooling assembly](#)

[Removing and replacing the system battery](#)

[Removing and replacing the system board](#)

## Safety considerations

Before performing service procedures, review all the safety information.

- [Electrostatic discharge](#)
- [Symbols on equipment](#)
- [Rack warnings and cautions](#)
- [Server warnings and cautions](#)

### Subtopics

[Electrostatic discharge](#)

[Symbols on equipment](#)

[Rack warnings and cautions](#)

[Server warnings and cautions](#)

[Rail identification markers](#)

[Rack mounting interfaces](#)

## 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。



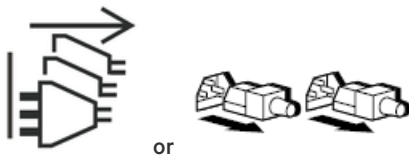
This symbol indicates the presence of a moving fan blade. If the spinning blades are contacted, the potential for injury exists.



**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 16.00 kg (35.27 lbs). When all components are installed, the server can weigh up to 37.00 kg (81.57 lbs).

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 16.00 kg (35.27 lbs), so at least two people must lift the server into the server 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 server.
- Adequately stabilized the server before extending a component outside the server. Extend only one component at a time. A server 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 server, be sure to properly scope the limitations of the server. Before proceeding with the installation, consider the following:


- You must fully understand the static and dynamic load carrying capacity of the server 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.

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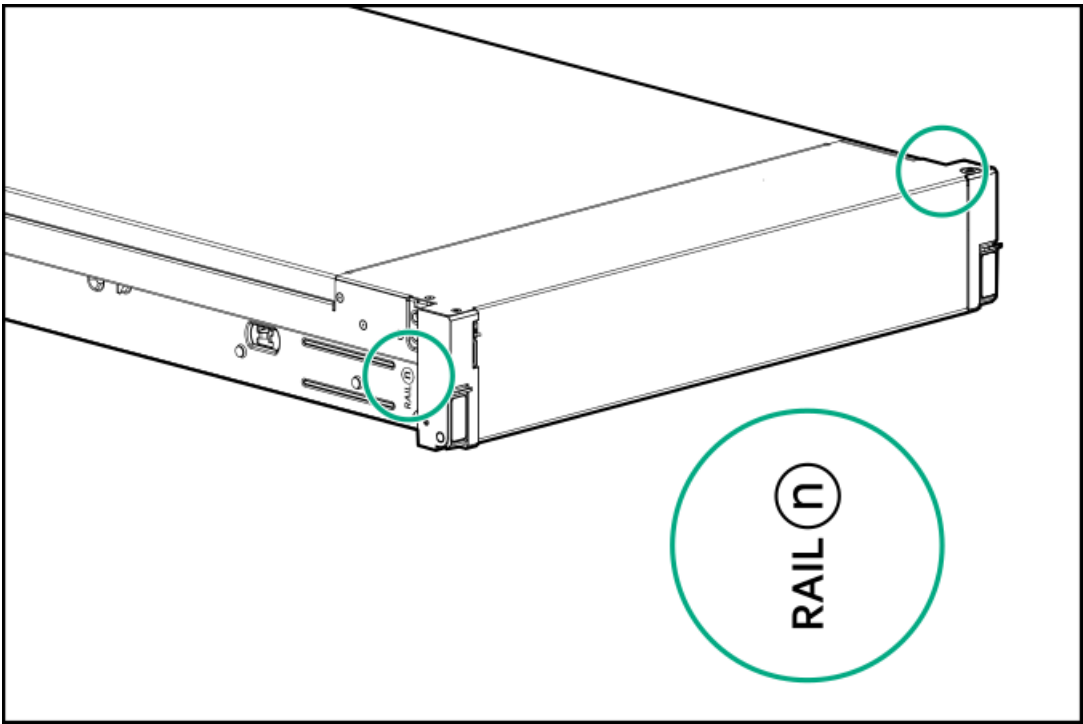
## Rail identification markers

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

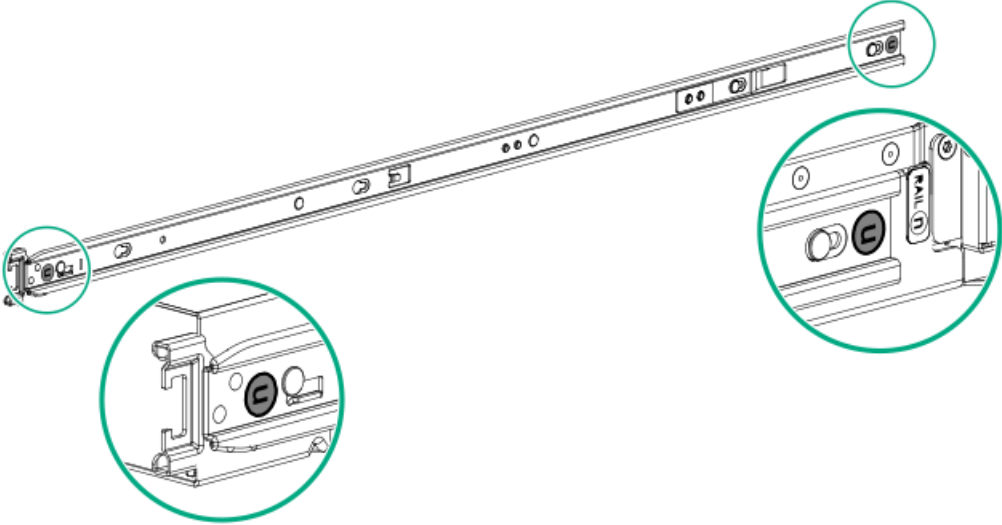
- The height and weight of the chassis as determined by the front- and rear-end server configurations.
- The depth of the chassis as measured from the edge of the front panel (without the front bezel) to the edge of the rear panel.

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.

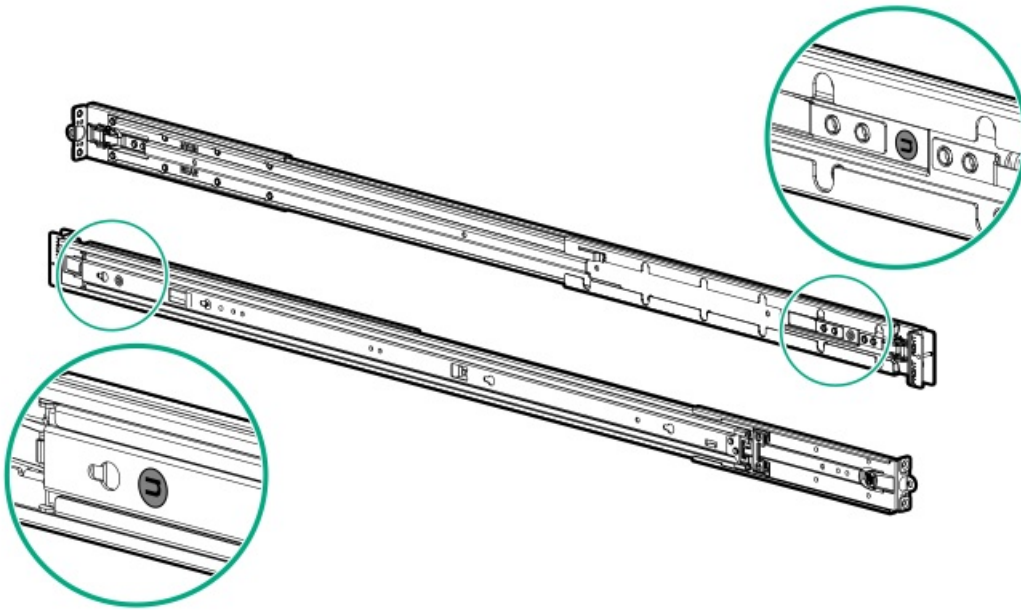
- Rail number labels on the chassis



- Rail identifier stamps on the inner rail of the friction rack rail

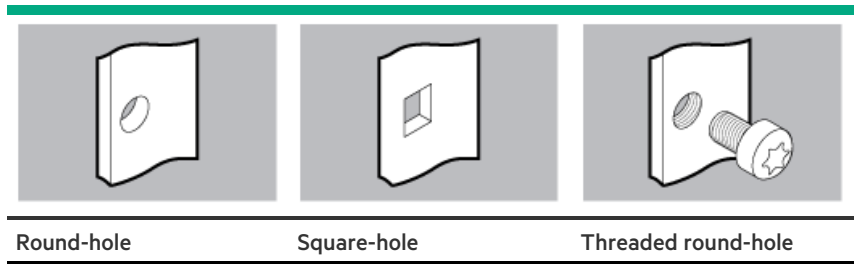


- Rail identifier stamps on the mounting rail of the friction rack rail



## Rack mounting interfaces

The server 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.

## 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

Accessing the Systems Insight Display



Power down the server

Releasing the cable management arm

Extend the server from the rack

Remove the server from the rack

Remove the access panel

Remove the air baffle

Remove the fan 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](#).

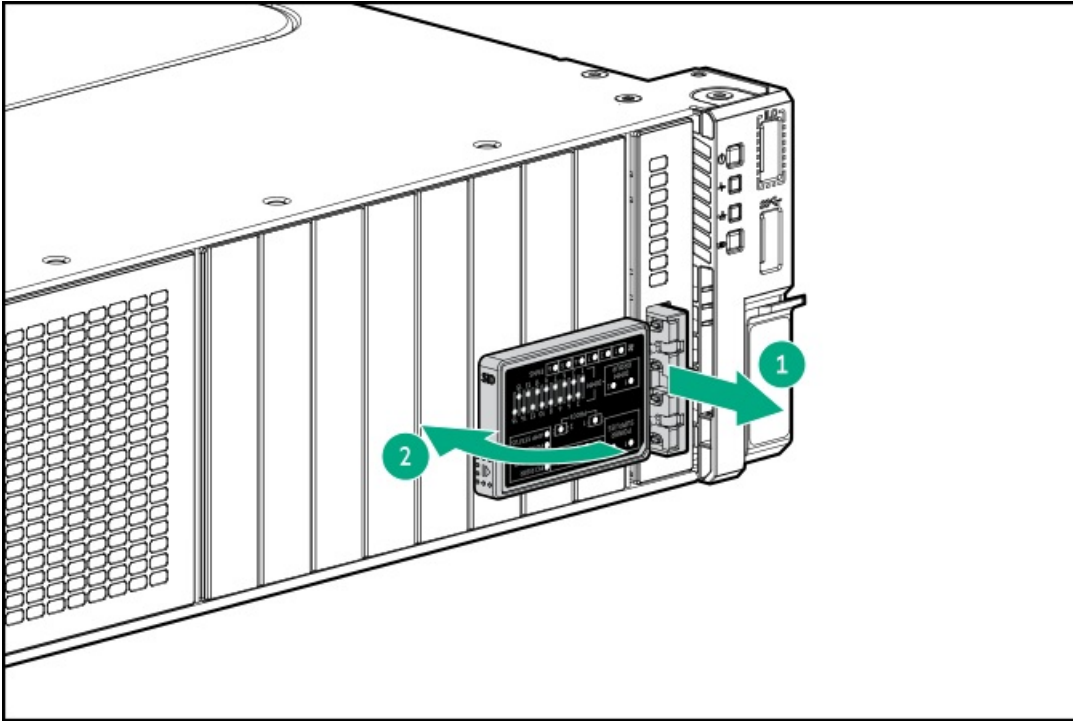
## Accessing the Systems Insight Display

About this task

The Systems Insight Display is only supported on SFF models.

#### Procedure

1. Press and release the panel.
2. After the display fully ejects, rotate the display to view the LEDs.



## Power down the server

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

### **i** 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:

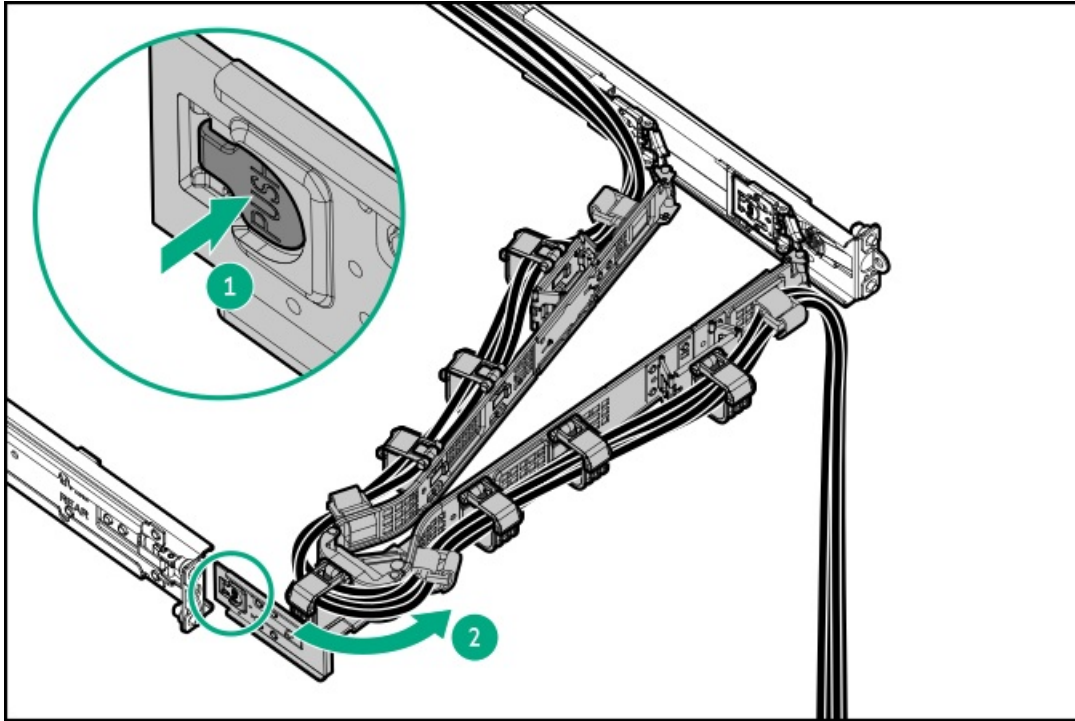
- Press and release the Power On/Standby button.  
This method activates a controlled shutdown of applications and the OS before the server enters standby mode. It can also activate a shutdown behavior governed by an OS configuration or policy.
- Press and hold the Power On/Standby button for more than 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.  
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.

## Releasing the cable management arm

## Results

Release the cable management arm and then swing the arm away from the rack.



## Extend the server from the rack

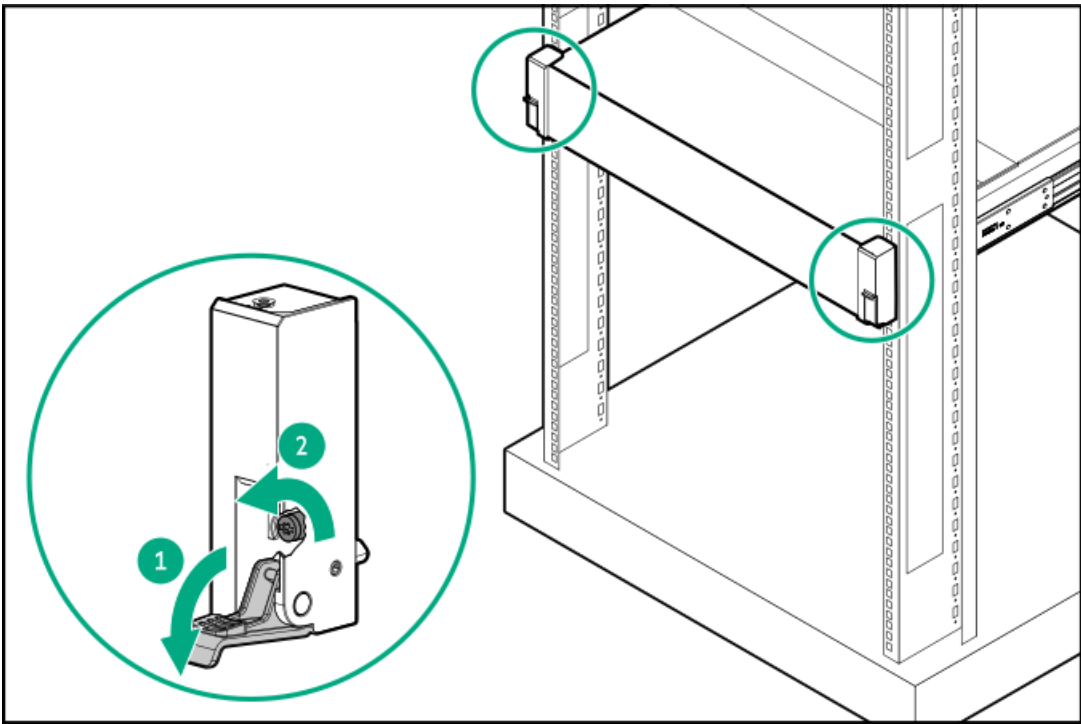
### About this task



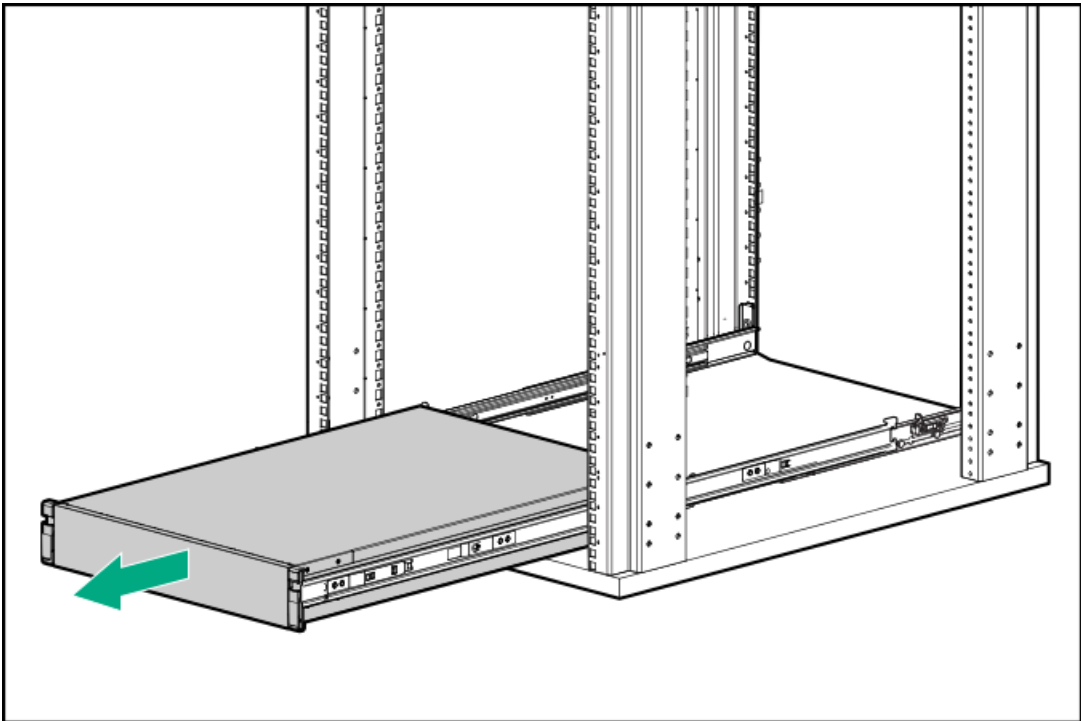
**WARNING:** To reduce the risk of personal injury or equipment damage, be sure that the rack is adequately stabilized before extending anything from the rack.

### Procedure

1. Pull down the quick release levers on each side of the server.
2. If necessary, use a T-25 Torx screwdriver to loosen the shipping screws.



3. Extend the server from the rack.



## Remove the server from the rack

### Prerequisites

- Before you perform this procedure, review the:
  - [Rack warnings and cautions](#)

- [Server warnings and cautions](#)

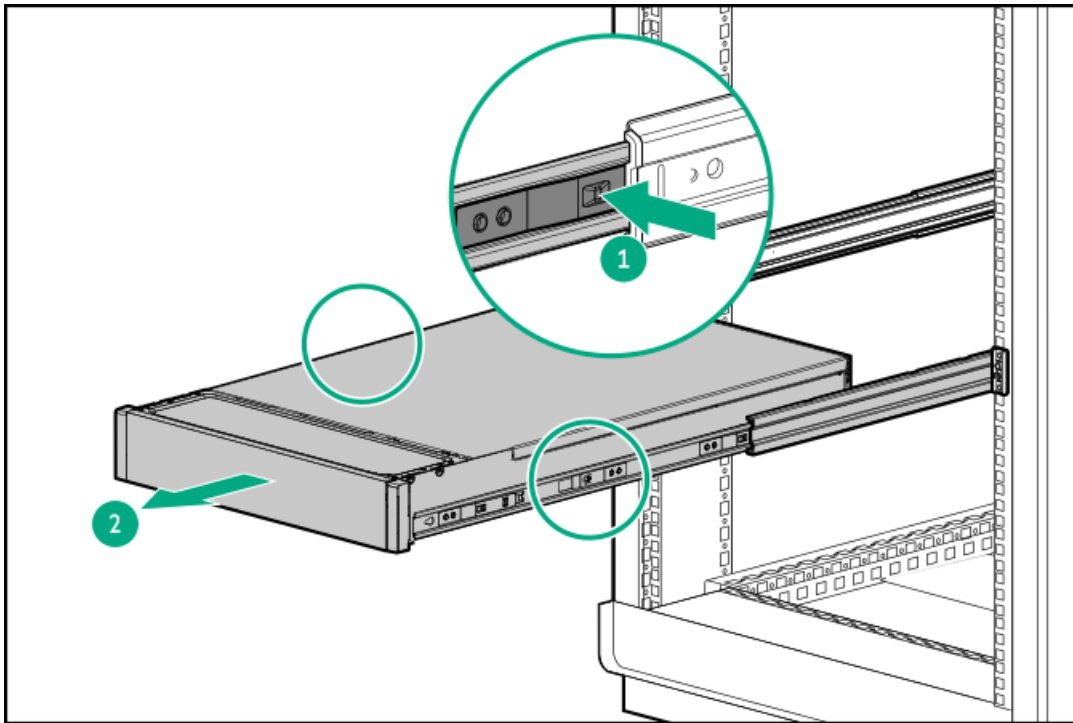
- T-25 Torx screwdriver

### About this task

To remove the server from a Hewlett Packard Enterprise, Compaq-branded, Telco, or third-party rack:

### Procedure

1. Power down the server.
2. Disconnect the rear cabling.
3. [Extend the server from the rack](#).
4. Release the rail latches and remove the server from the rack.



5. Place the server on a sturdy, level surface.

## Remove the access panel

### About this task

---

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

---

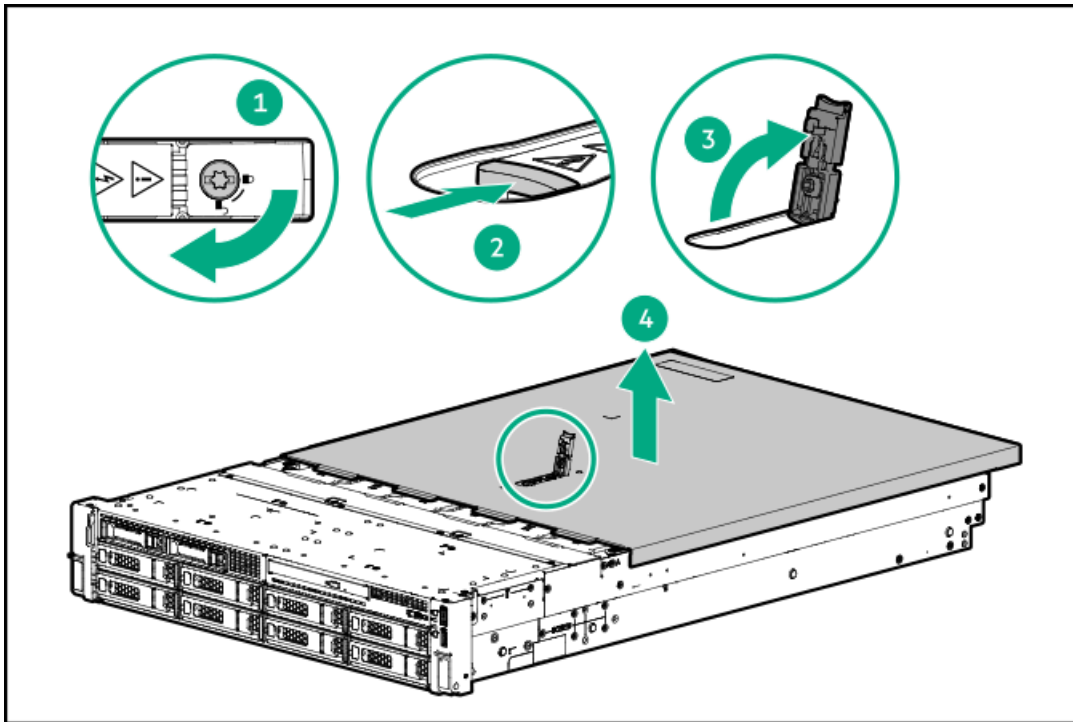
**CAUTION:**  
Do not operate the chassis for long periods with the access panel open or removed. Operating the chassis in this manner results in improper airflow and improper cooling that can lead to thermal damage.

---

### Procedure

1. Power down the server.
2. If installed, [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. Do one of the following:
  - Extend the server from the rack.
  - Remove the server from the rack.
5. Open or unlock the locking latch, slide the access panel to the rear of the chassis, and remove the access panel.



## Remove 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.

To remove the component:

### Procedure

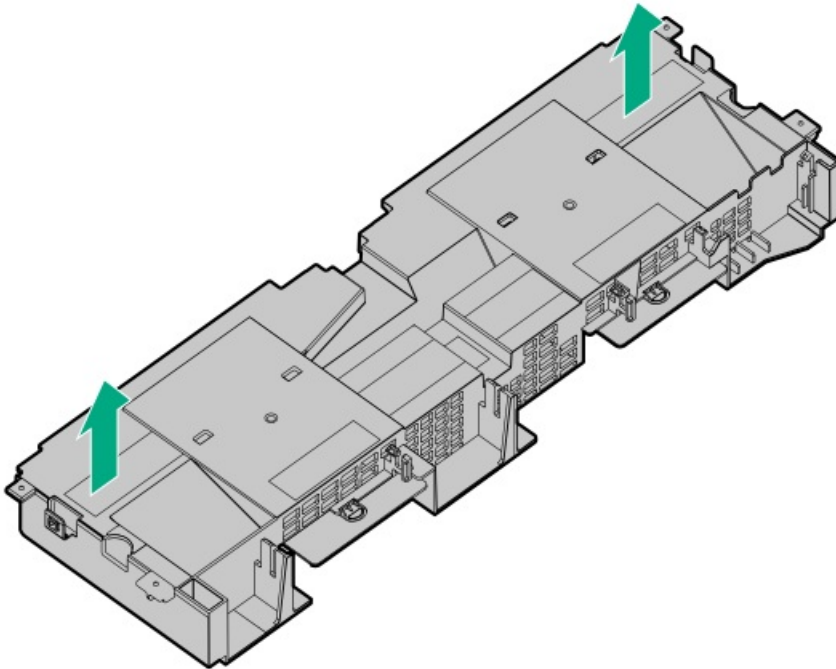
1. Power down the server.
2. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
3. Extend the server from the rack.
4. Remove the access panel.

---

**CAUTION:** Do not detach the cable that connects the battery pack to the cache module. Detaching the cable causes any unsaved data in the cache module to be lost.

---

5. Remove the air baffle.



## Remove the fan cage

### About this task

---

**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.

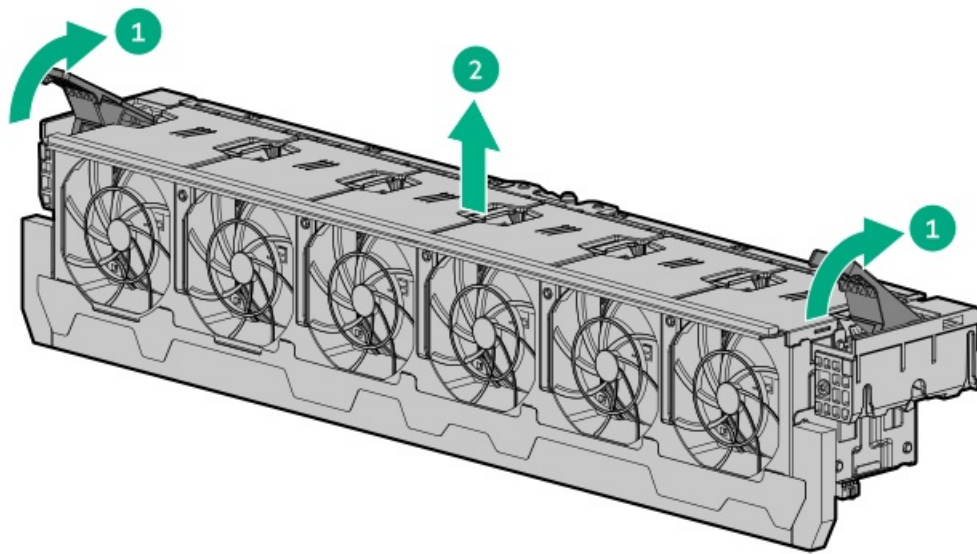
---

**IMPORTANT:** For optimum cooling, install fans in all primary fan locations.

---

### Procedure

1. Power down the server.
2. Remove all power:
  - Disconnect each power cord from the power source.
  - Disconnect each power cord from the server.
3. Do one of the following:
  - [Extend the server from the rack.](#)
  - [Remove the server from the rack.](#)
4. [Remove the access panel.](#)
5. Remove the fan cage.



## Remove the riser cage

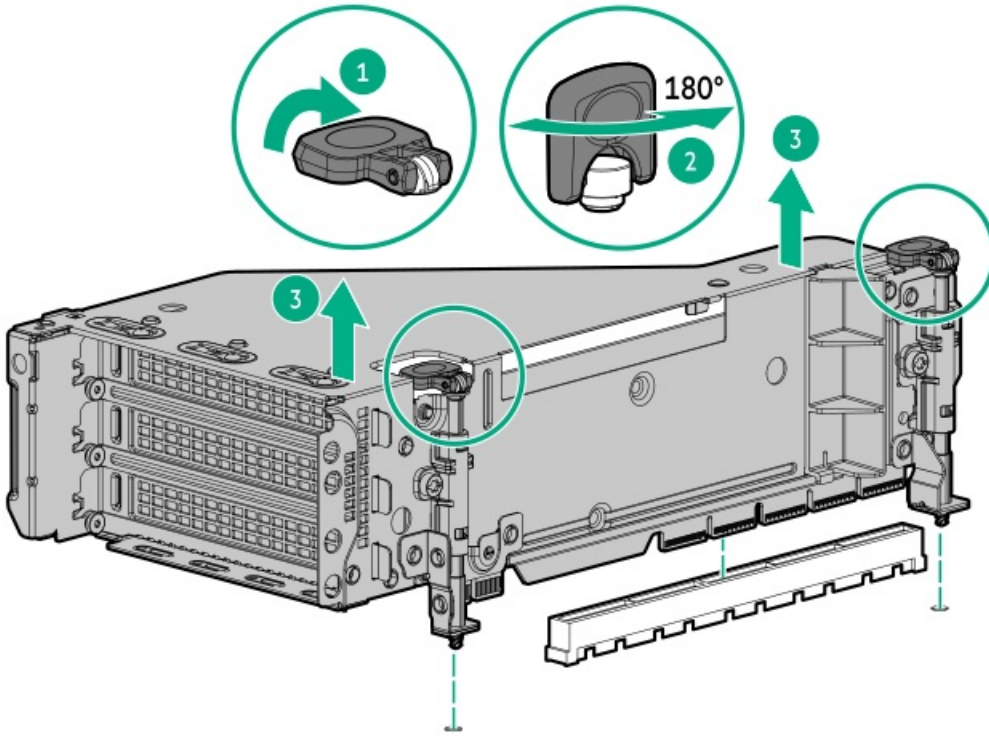
### About this task

**CAUTION:** To prevent damage to the server or expansion boards, power down the server and remove all AC power cords before removing or installing the PCI riser cage.

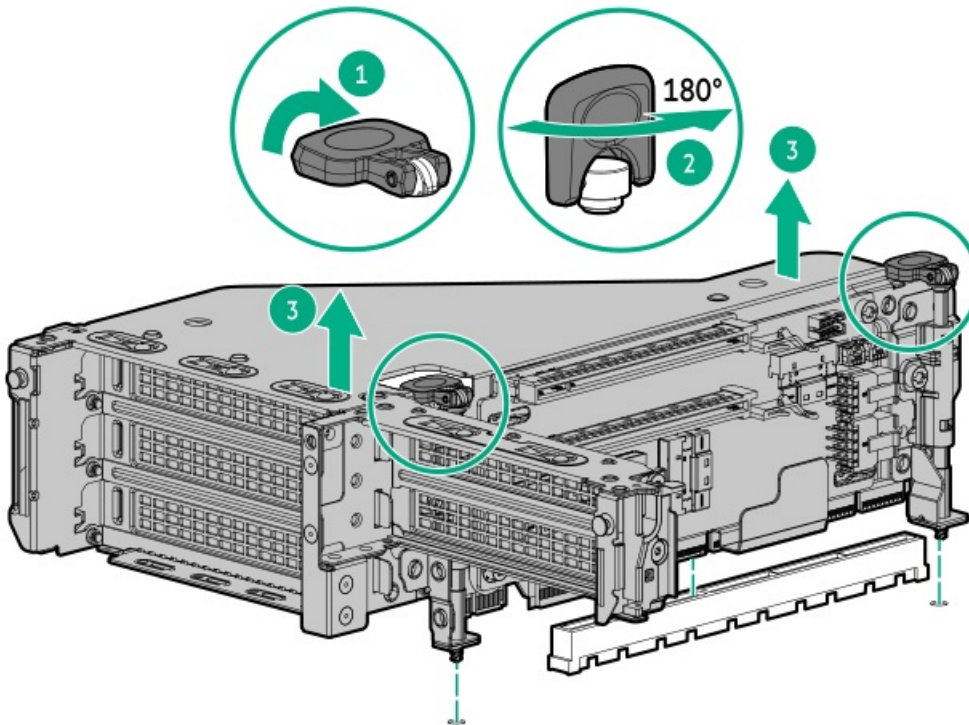
### Procedure

1. Power down the server.
2. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
3. Do one of the following:
  - Extend the server from the rack.
  - Remove the server from the rack.
4. Remove the access panel.
5. Remove the riser cage:
  - Primary and secondary riser cages





- Tertiary riser cage



## Power up the server

About this task



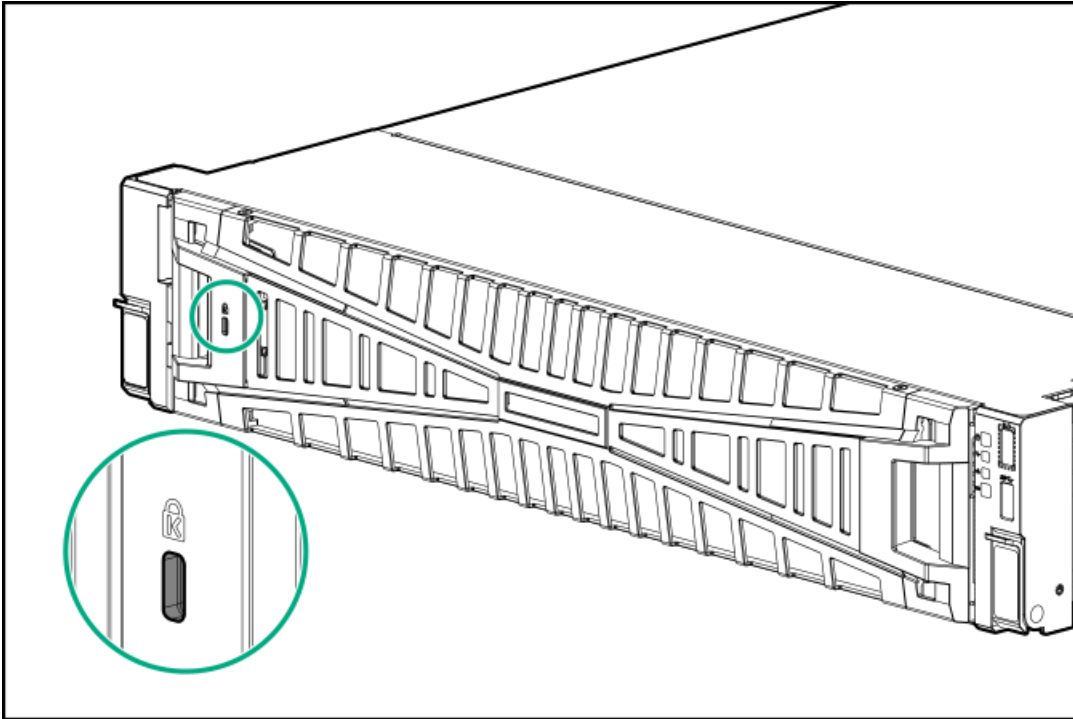
To power up the server, use one of the following methods:

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

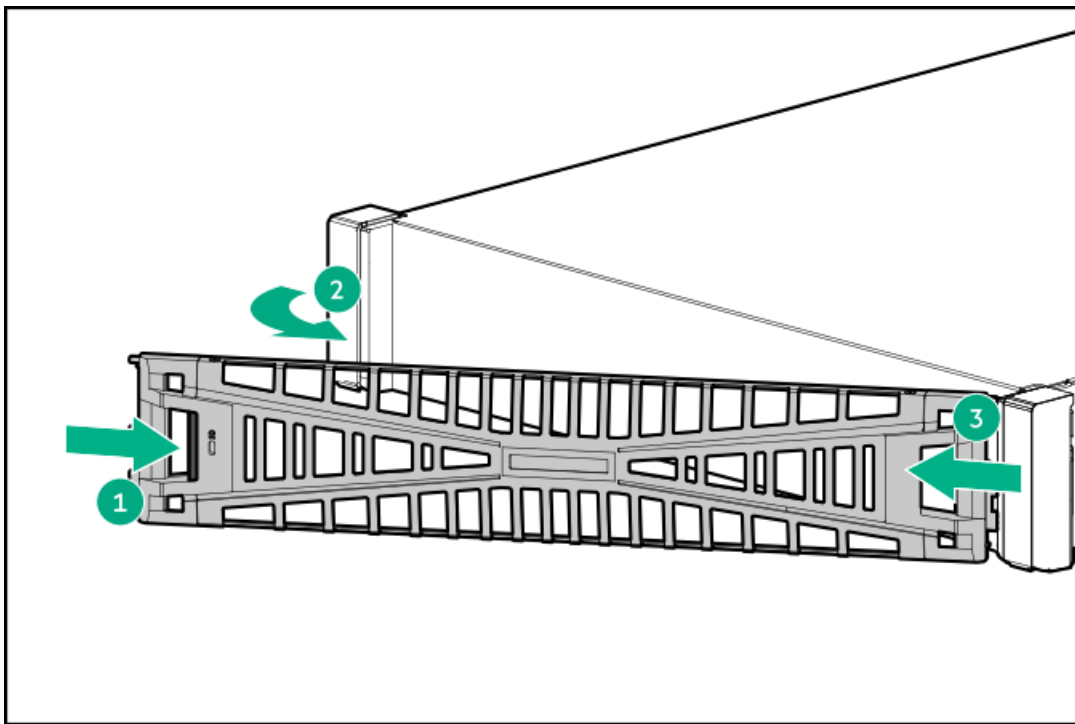
## Removing and replacing the front bezel

### Procedure

1. If installed, remove the Kensington security lock.



2. Remove the bezel.



### Results

To replace the component, reverse the removal procedure.

## Removing and replacing the cable management arm

### About this task

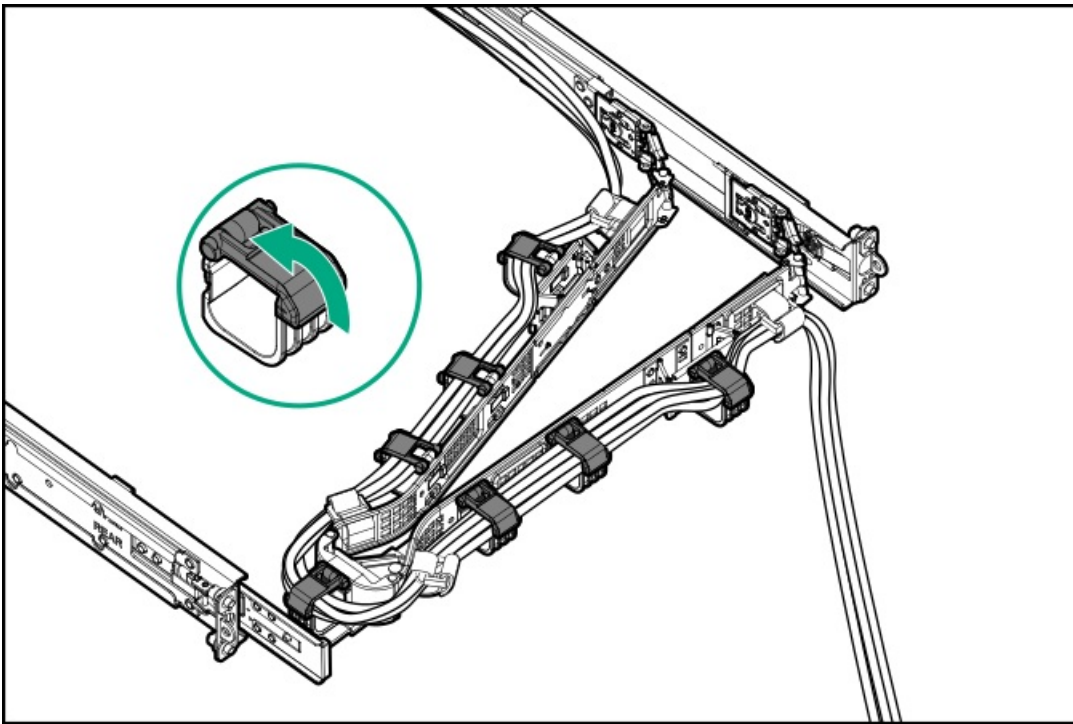


#### CAUTION:

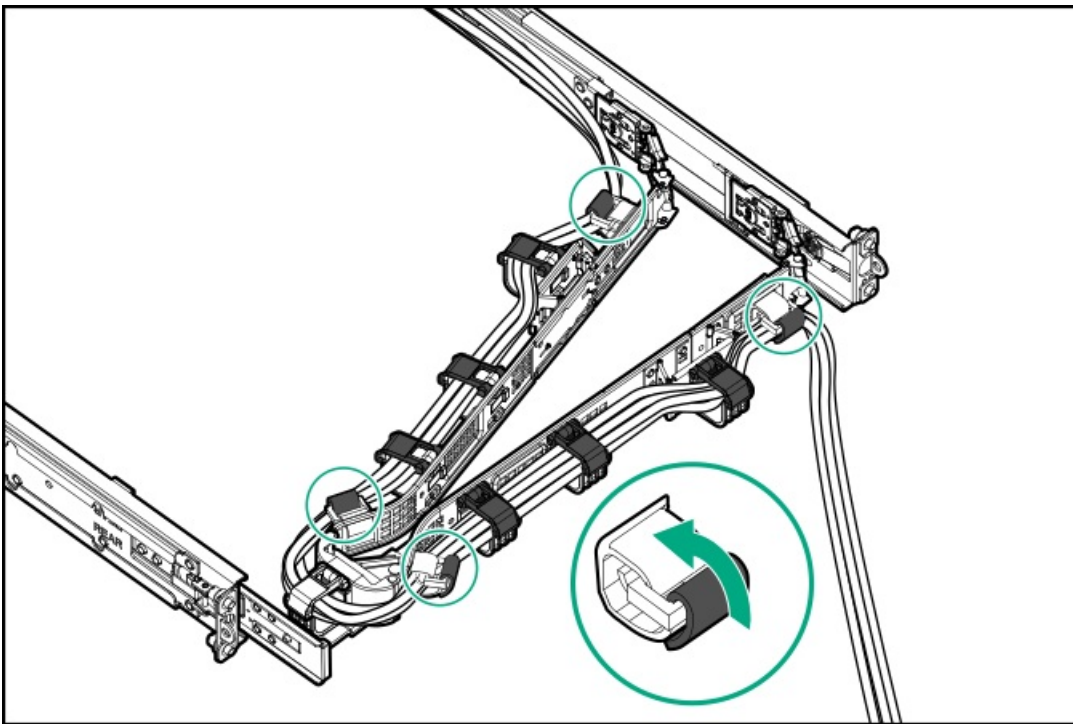
Support the CMA during the removal and replacement procedures. Do not allow the CMA to hang by its own weight during the procedure.

### Procedure

1. Open the cable clamps.

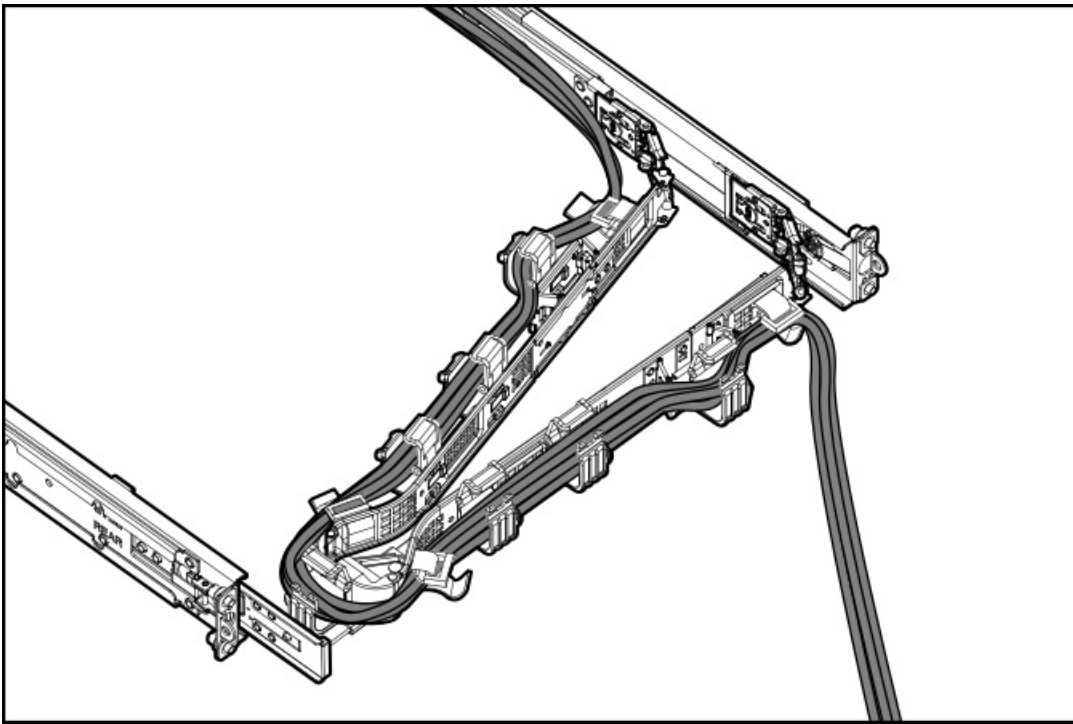


2. (Optional) If your CMA has cable straps, unwrap the straps.



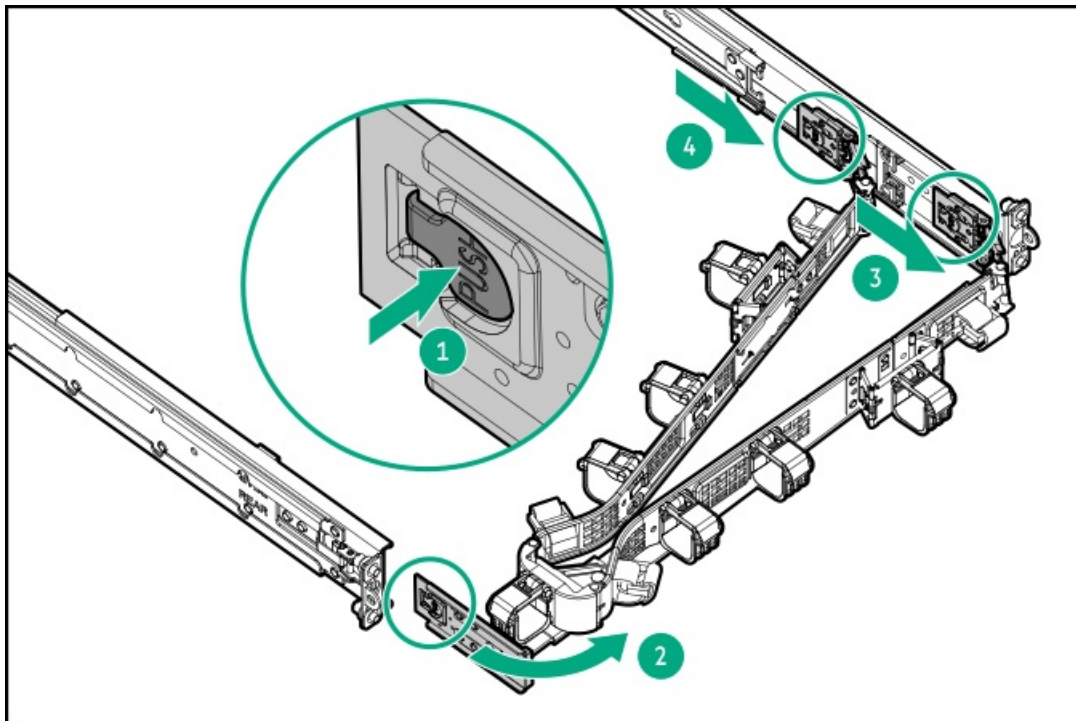
3. Remove the peripheral cables and power cords from the CMA.





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 server rails (callouts 3 and 4).

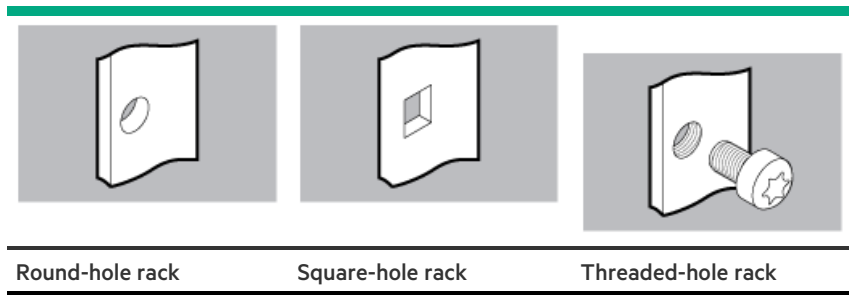


**Results**

To replace the component, reverse the removal procedure.

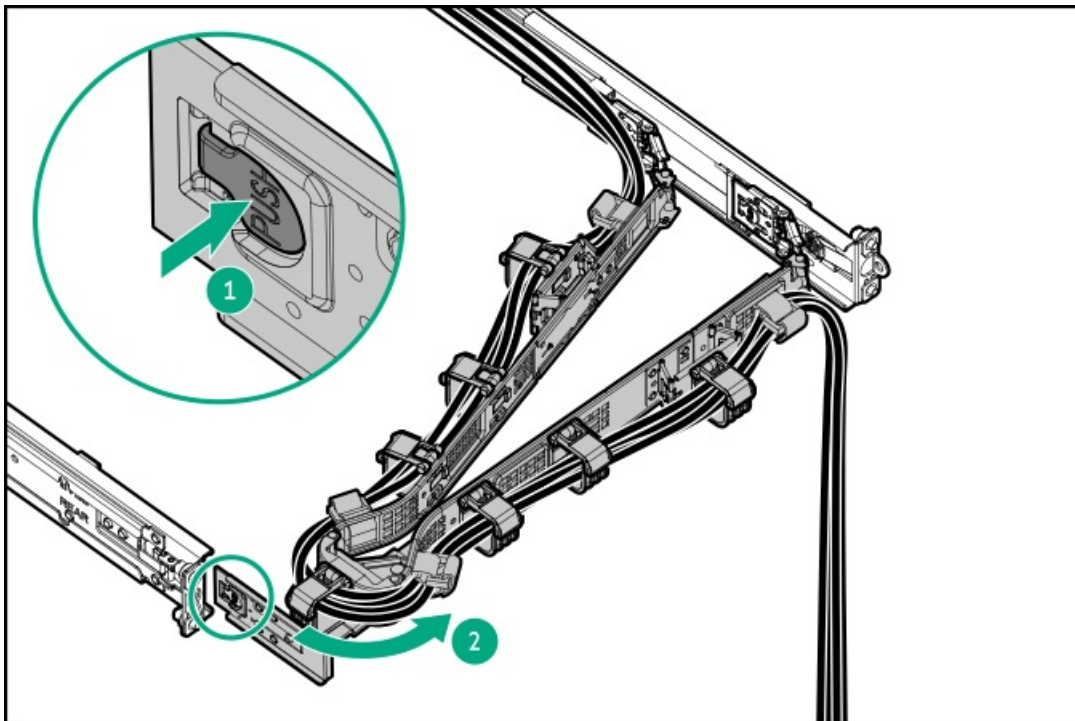
## Removing and replacing the rack rails

## About this task

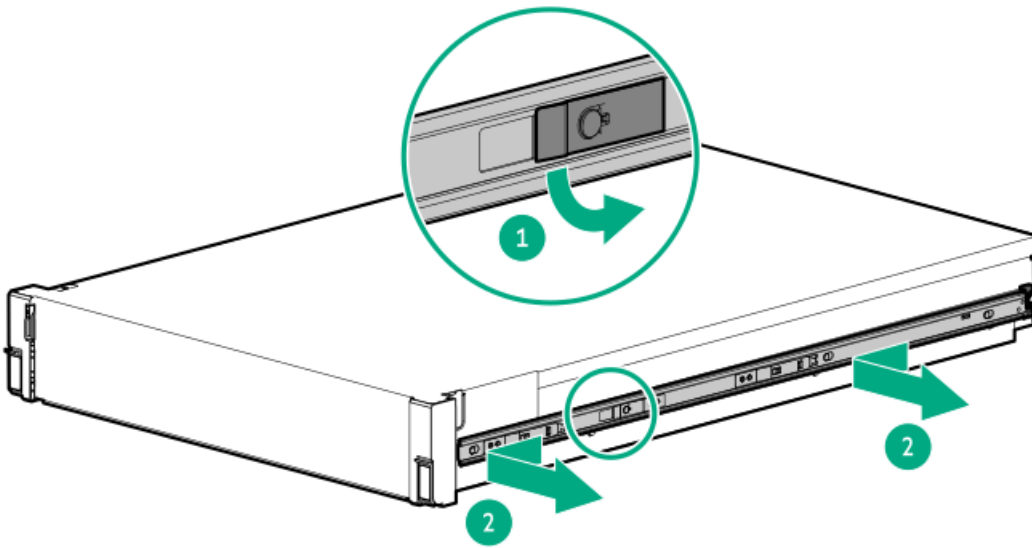


## Procedure

1. If installed, open the cable management arm.

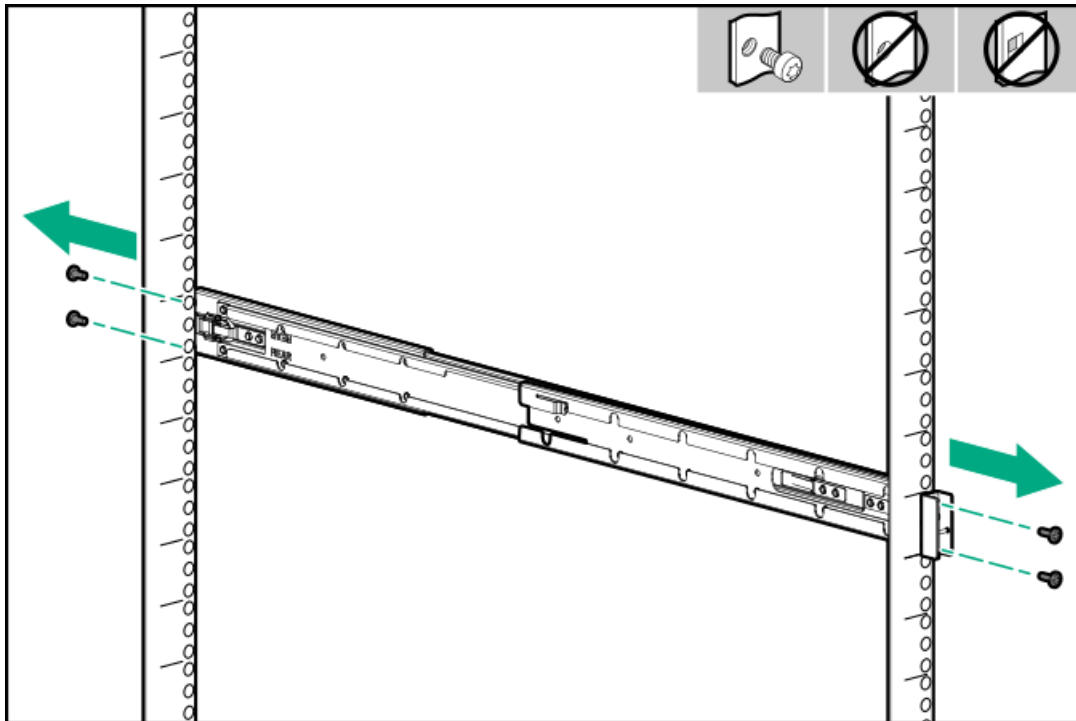


2. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
3. Disconnect all peripheral cables from the server.
4. Remove the server from the rack.
5. Place the server on a flat, level work surface.
6. Remove the sliding rails.



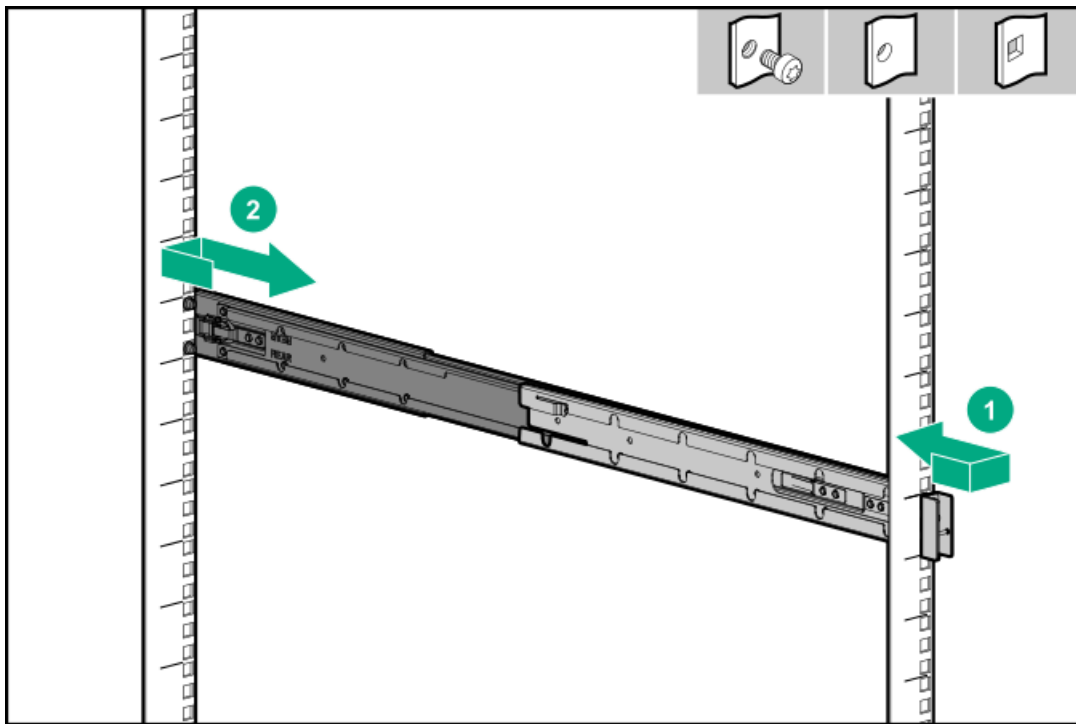
7. Remove the rack rails.

- a. For threaded-hole racks, first remove the screws:



- b. Remove the rack rail.





c. Repeat steps to remove the other rack rail.

#### Results

To replace the component, reverse the removal procedure.

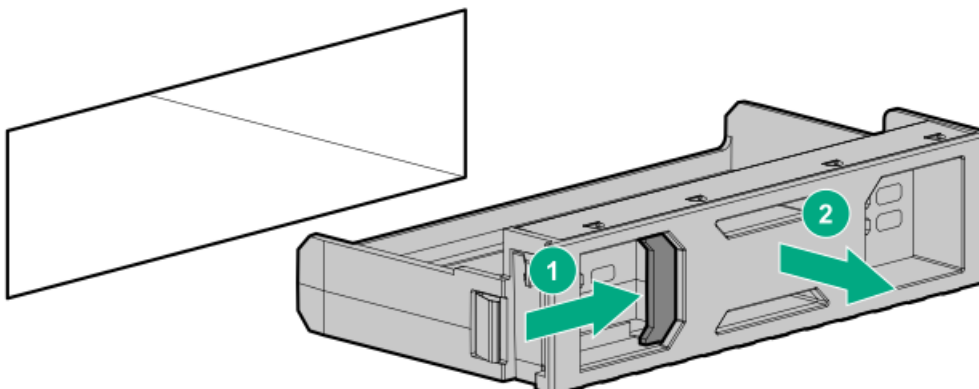
## Removing and replacing a drive blank

#### 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.

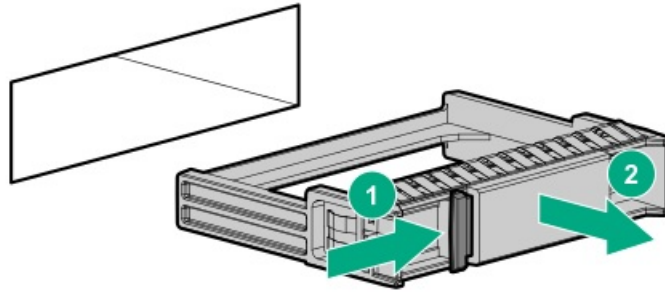
#### Procedure

1. If installed, remove the front bezel.
2. Remove the drive blank.
  - LFF drive blank



- SFF drive blank





## Results

To replace the component, reverse the removal procedure.

## Removing and replacing a hot-plug LFF/SFF/E3.S drive

### About this task



#### CAUTION:

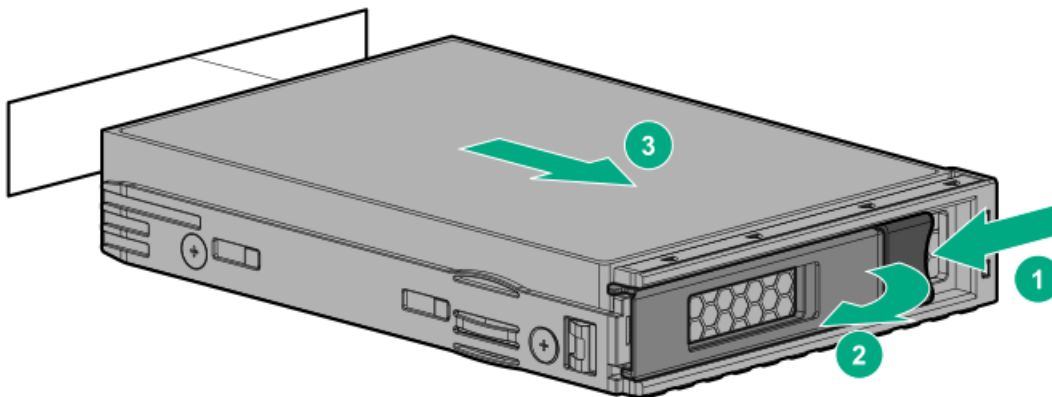
A discharge of static electricity from a finger or other conductor might damage system boards or other static-sensitive devices. To prevent damage, observe [antistatic precautions](#).



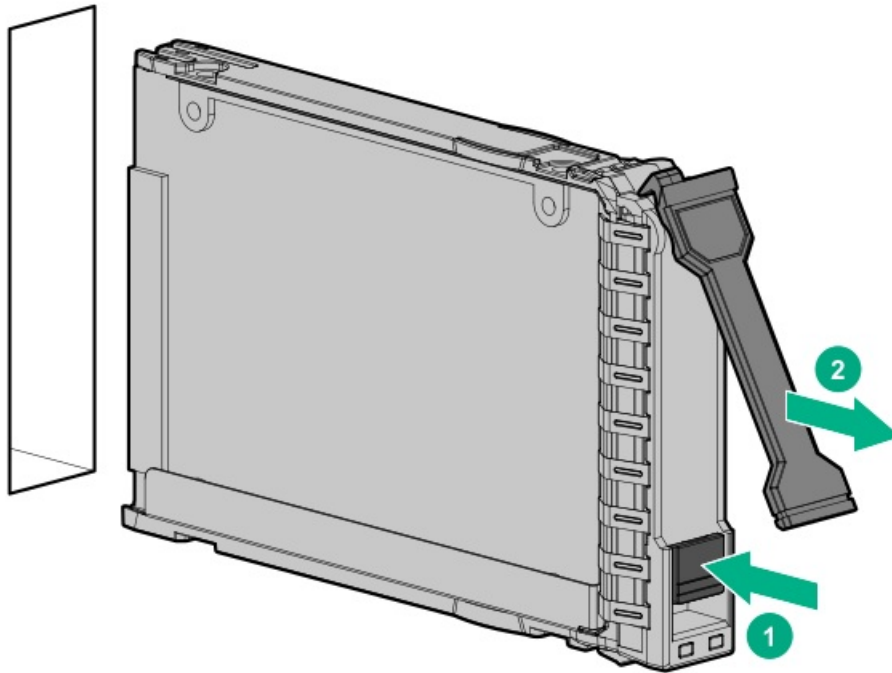
**CAUTION:** To prevent improper cooling and thermal damage, do not operate the server unless all bays are populated with either a component or a blank.

### 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.
  - [LFF/SFF drive](#)
  - [E3.S drive](#)
4. Remove the drive.
  - LFF drive



- SFF drive



### Results

To replace the component, reverse the removal procedure.

## Removing and replacing a hot-plug E3.S drive

### 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.

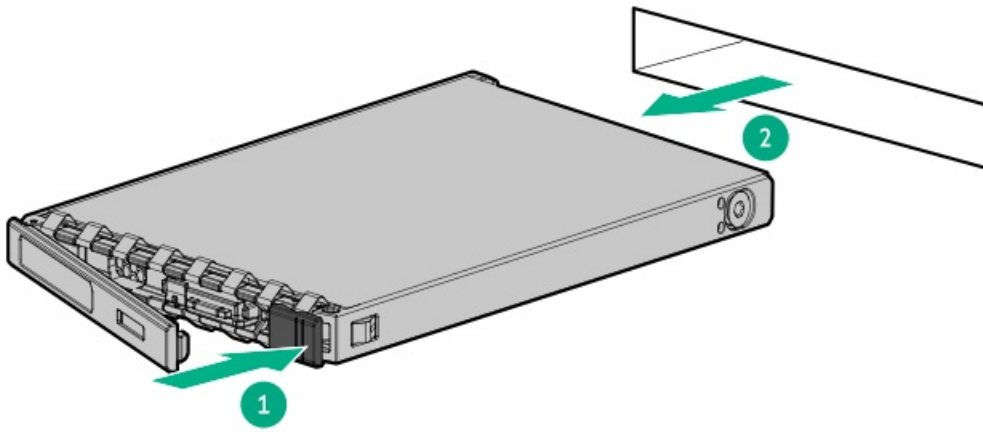
---

**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, [remove the front bezel](#).
3. [Observe the drive LED status](#) and determine if the drive can be removed.
4. Remove the drive.



## Results

To replace the component, reverse the removal procedure.

## Removing and replacing a power supply blank

### 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.

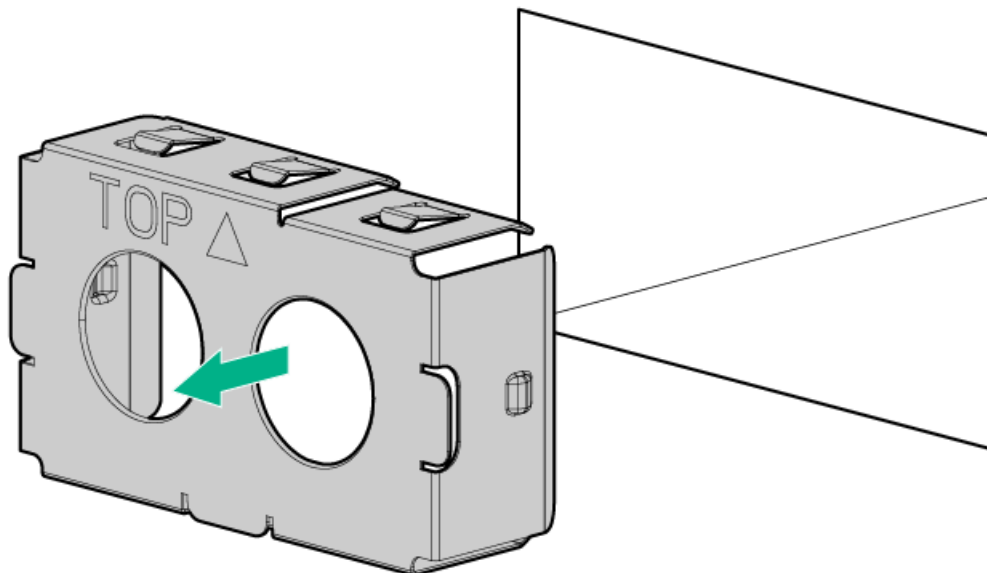
---

**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. Remove the power supply blank.



2. Immediately install the replacement power supply blank spare.

# Removing and replacing a hot-plug AC power supply

## About this task



### WARNING:

To reduce the risk of personal injury, fire, or damage to the equipment, do not overload the AC supply branch circuit that provides power to the rack. Consult the electrical authority having jurisdiction over wiring and installation requirements of your facility.



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



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

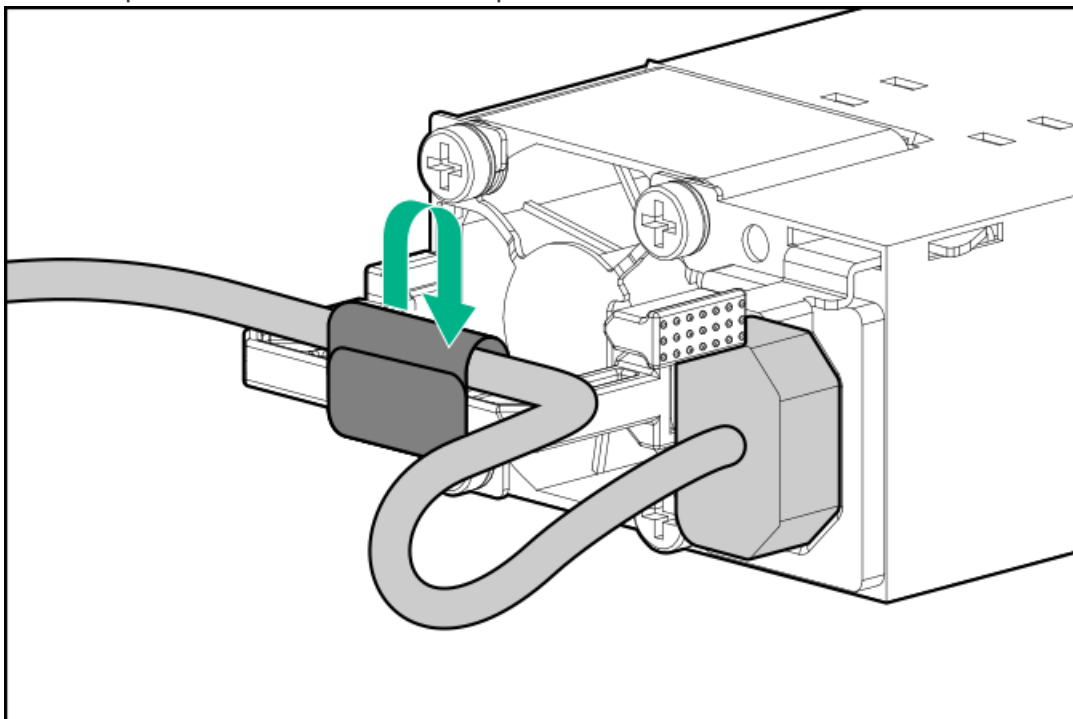


### CAUTION:

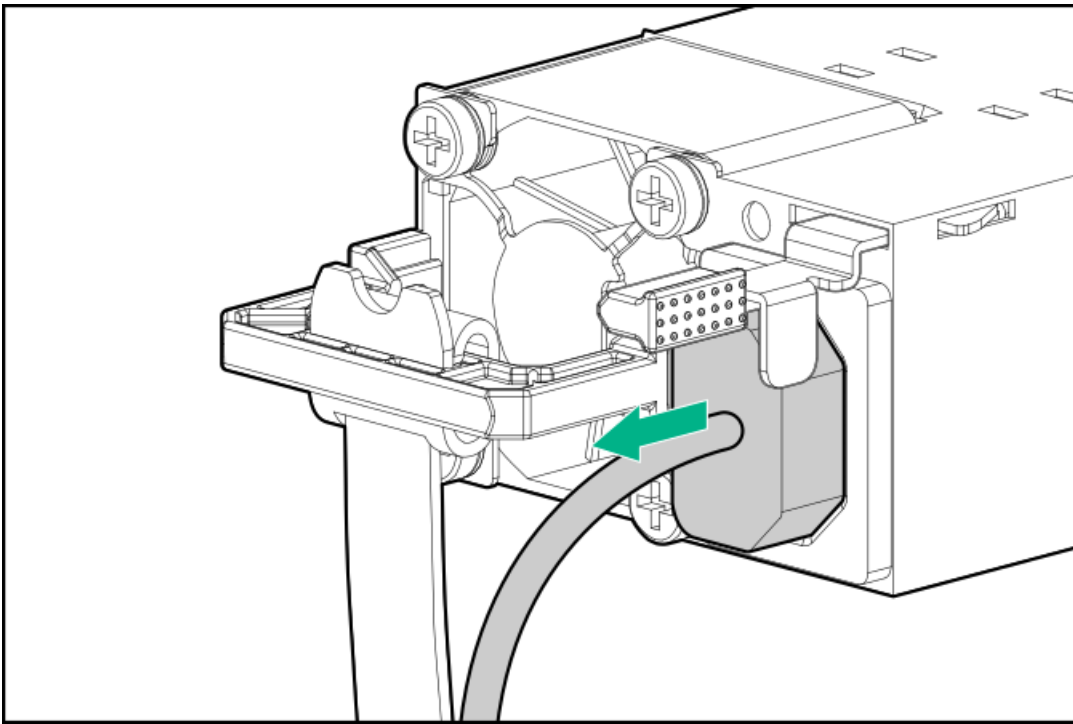
To prevent improper cooling and thermal damage, do not operate the server or the enclosure unless all drive and device bays are populated with either a component or a blank.

## Procedure

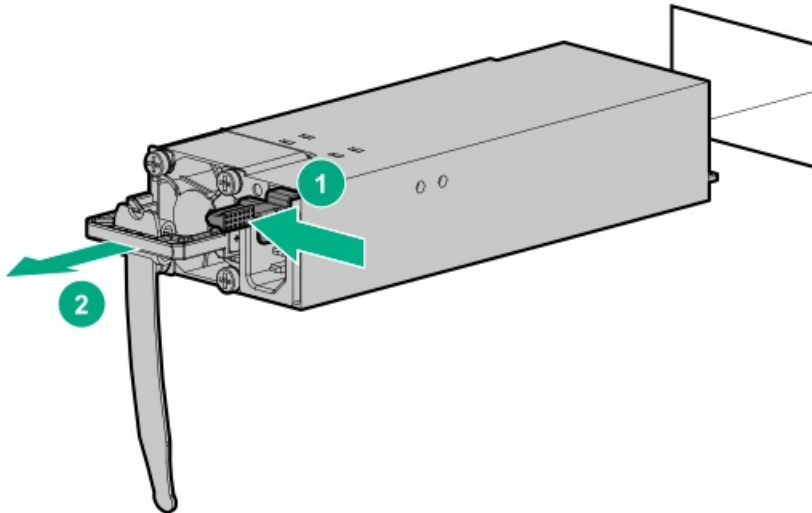
1. If installed, release the cable management arm.
2. If the server is using a single power supply only, remove all power from the server:
  - a. Back up all server data.
  - b. Power down the server.
  - c. Disconnect all peripheral cables from the server.
3. Release the power cord from the strain relief strap.



4. Disconnect the power cord from the power supply.



5. Remove the power supply.



#### Results

To replace the component, reverse the removal procedure.

## Removing and replacing the HPE 800 W Flex Slot -48 VDC hot-plug power supply

#### Prerequisites

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

- No. 1 Phillips screwdriver
- If you are replacing the factory installed ground lug, use the KST RNB5-5 crimp terminal ring or equivalent. Use an M5-0.80 x 8 screw to attach the ground lug to the power supply.

#### About this task

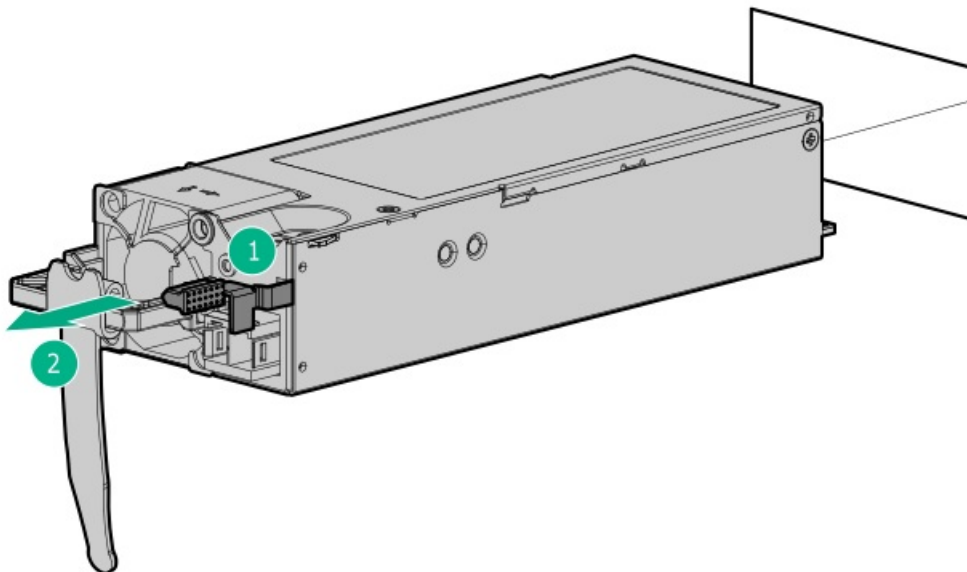
**WARNING:**

To reduce the risk of electric shock, fire, and damage to the equipment, you must install this product in accordance with the following guidelines:

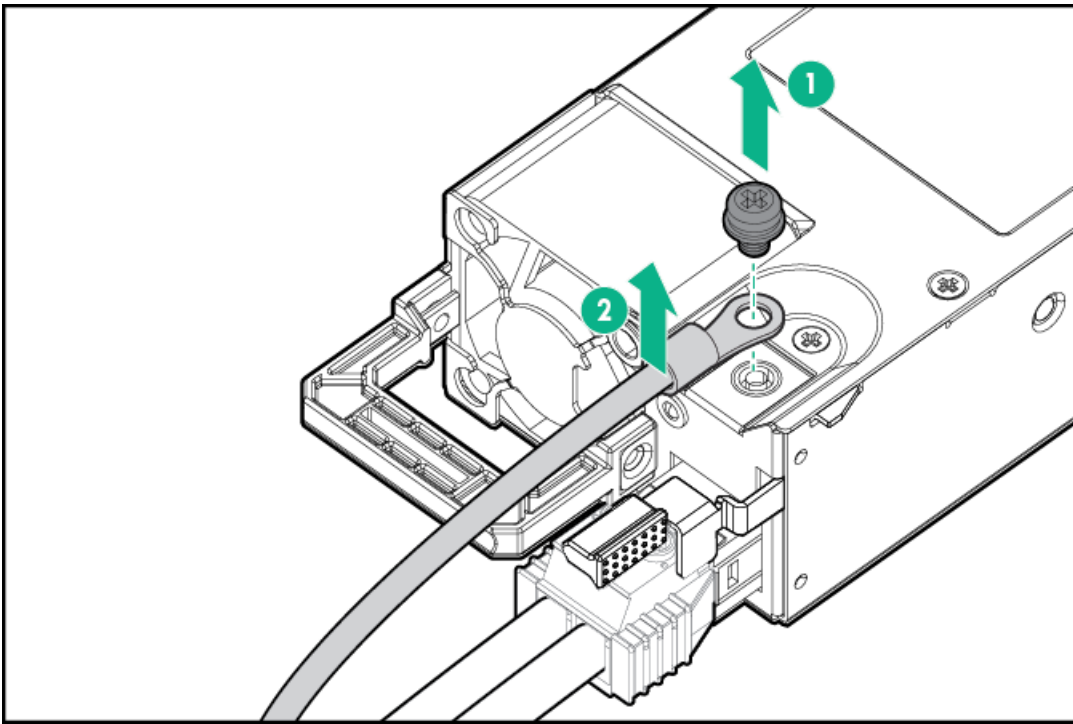
- The HPE 800 W Flex Slot -48 VDC hot-plug power supply is intended only for installation in Hewlett Packard Enterprise servers located in a restricted access location.
- The HPE 800 W Flex Slot -48 VDC hot-plug power supply is not intended for direct connection to the DC supply branch circuit. Only connect this power supply to a power distribution unit (PDU) that provides an independent overcurrent-protected output for each DC power supply. Each output overcurrent-protected device in the PDU must be suitable for interrupting fault current available from the DC power source and must be rated no more than 30 A.
- The PDU output must have a shut-off switch or a circuit breaker to disconnect power for each power supply. To completely remove power from the power supply, disconnect power at the PDU. Disconnect the power for each power supply, if there are multiple power supplies.
- In accordance with applicable national requirements for Information Technology Equipment and Telecommunications Equipment, this power supply only connects to DC power sources that are classified as SELV or TNV. Generally, these requirements are based on the International Standard for Information Technology Equipment, IEC 60950-1/IEC 62368-1. In accordance with local and regional electric codes and regulations, the DC source must have one pole (Neutral/Return) reliably connected to earth ground.
- You must connect the power supply ground screw located on the front of the power supply to a suitable ground (earth) terminal. In accordance with local and regional electric codes and regulations, this terminal must be connected to a suitable building ground (earth) terminal. Do not rely on the rack or cabinet chassis to provide adequate ground (earth) continuity.

**Procedure**

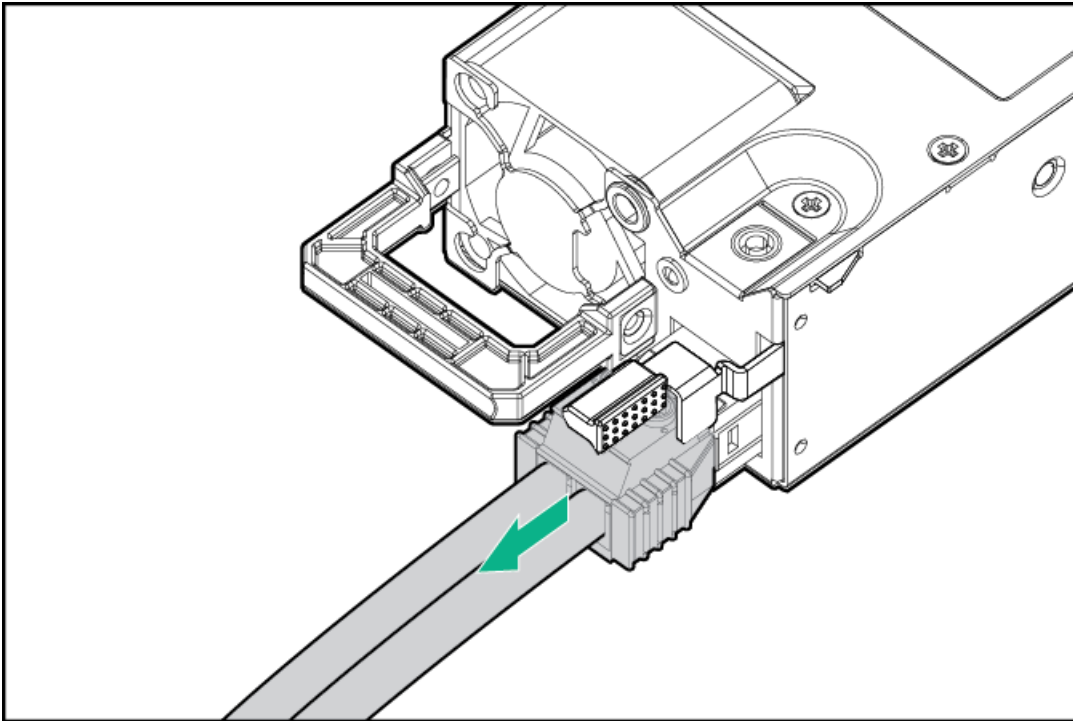
1. If installed, release the cable management arm.
2. If the server is using a single power supply only, remove all power from the server:
  - a. Back up all server data.
  - b. Power down the server.
  - c. Disconnect all peripheral cables from the server.
3. Release the power cord, wires, and/or cables from the strain relief strap.
4. To access the ground cable screw, slide the power supply out of the bay.



5. Detach the ground (earthed) cable from the power supply.



6. Remove the terminal block connector from the power supply.



To replace the component, reverse the removal procedure.

## Removing and replacing an HPE 1600 W Flex Slot -48 VDC hot-plug power supply

### Prerequisites

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

### About this task

**WARNING:**

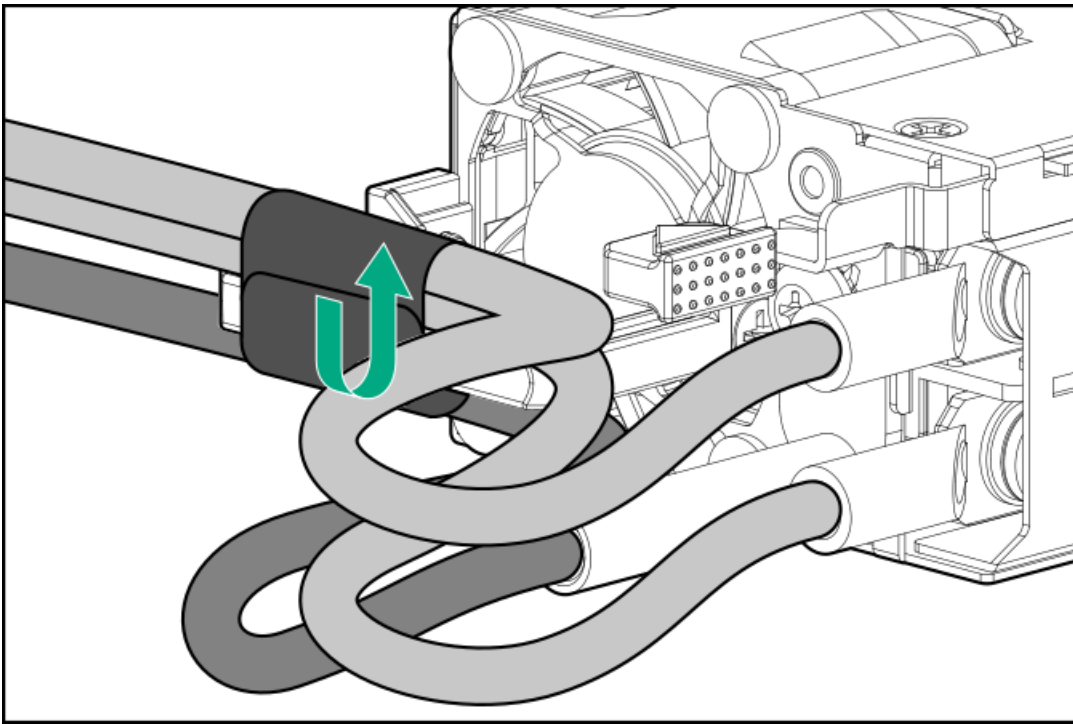
To reduce the risk of electric shock, fire, and damage to the equipment, you must install this product in accordance with the following guidelines:

- The HPE 1600 W Flex Slot -48 VDC hot-plug power supply is intended only for installation in Hewlett Packard Enterprise servers located in a restricted access location.
- The HPE 1600 W Flex Slot -48 VDC hot-plug power supply is not intended for direct connection to the DC supply branch circuit. Only connect this power supply to a power distribution unit (PDU) that provides an independent overcurrent-protected output for each DC power supply. Each output overcurrent-protected device in the PDU must be suitable for interrupting fault current available from the DC power source and must be rated no more than 45 A.
- The PDU output must have a shut-off switch or a circuit breaker to disconnect power for each power supply. To completely remove power from the power supply, disconnect power at the PDU. The end product may have multiple power supplies. To remove all power from the product, disconnect the power for each power supply.
- In accordance with applicable national requirements for Information Technology Equipment and Telecommunications Equipment, this power supply only connects to DC power sources that are classified as SELV or TNV. Generally, these requirements are based on the International Standard for Information Technology Equipment, IEC 60950-1/IEC 62368-1. In accordance with local and regional electric codes and regulations, the DC source must have one pole (Neutral/Return) reliably connected to earth ground.
- You must connect the power supply ground screw located on the front of the power supply to a suitable ground (earth) terminal. In accordance with local and regional electric codes and regulations, this terminal must be connected to a suitable building ground (earth) terminal. Do not rely on the rack or cabinet chassis to provide adequate ground (earth) continuity.

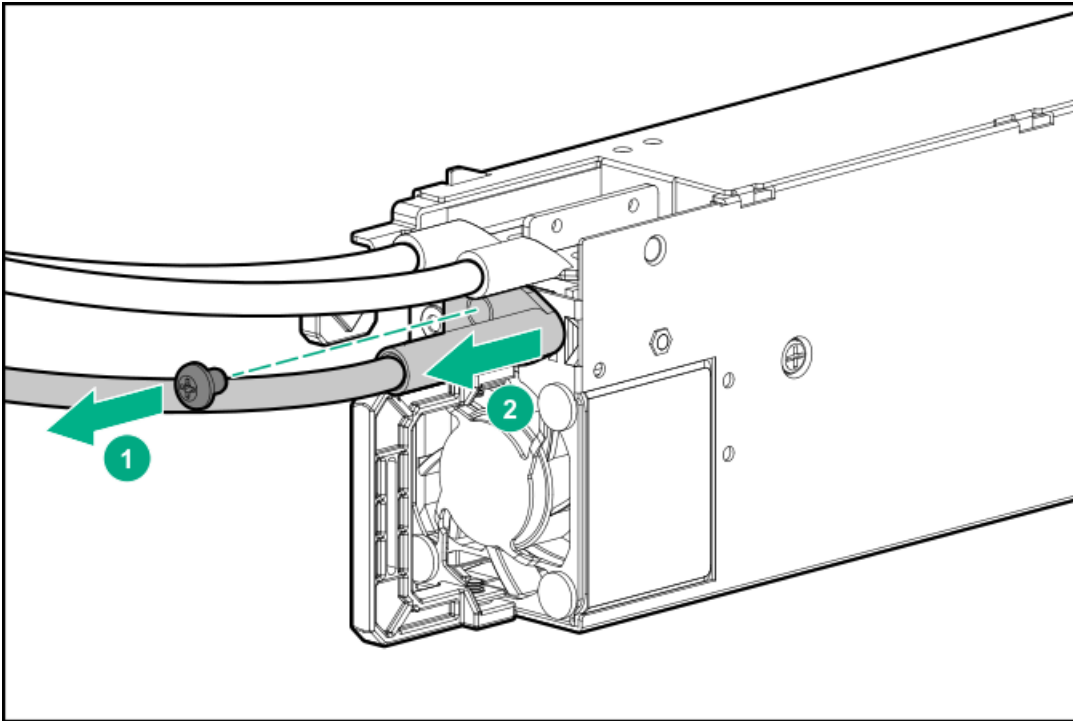
**Procedure**

1. If installed, release the cable management arm.
2. If the server is using a single power supply only, remove all power from the server:
  - a. Back up all server data.
  - b. Power down the server.
  - c. Disconnect all peripheral cables from the server.
3. Slide the power supply out of the bay.
4. Release the ground (earthed), -48 V, and return wires from the strain relief strap.

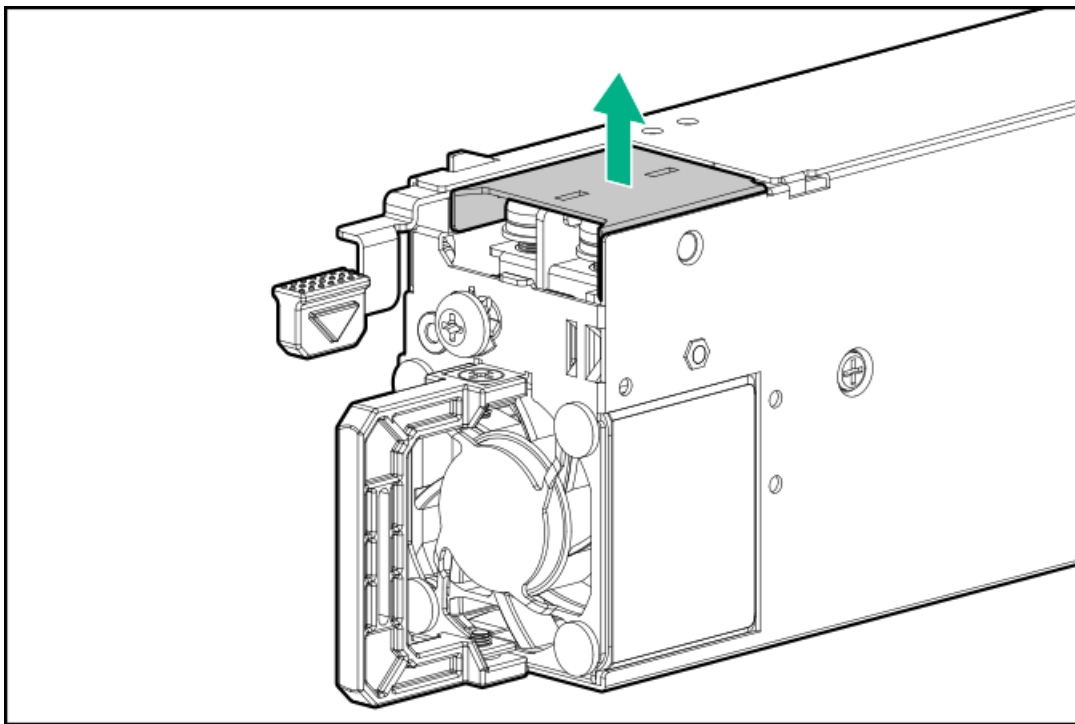




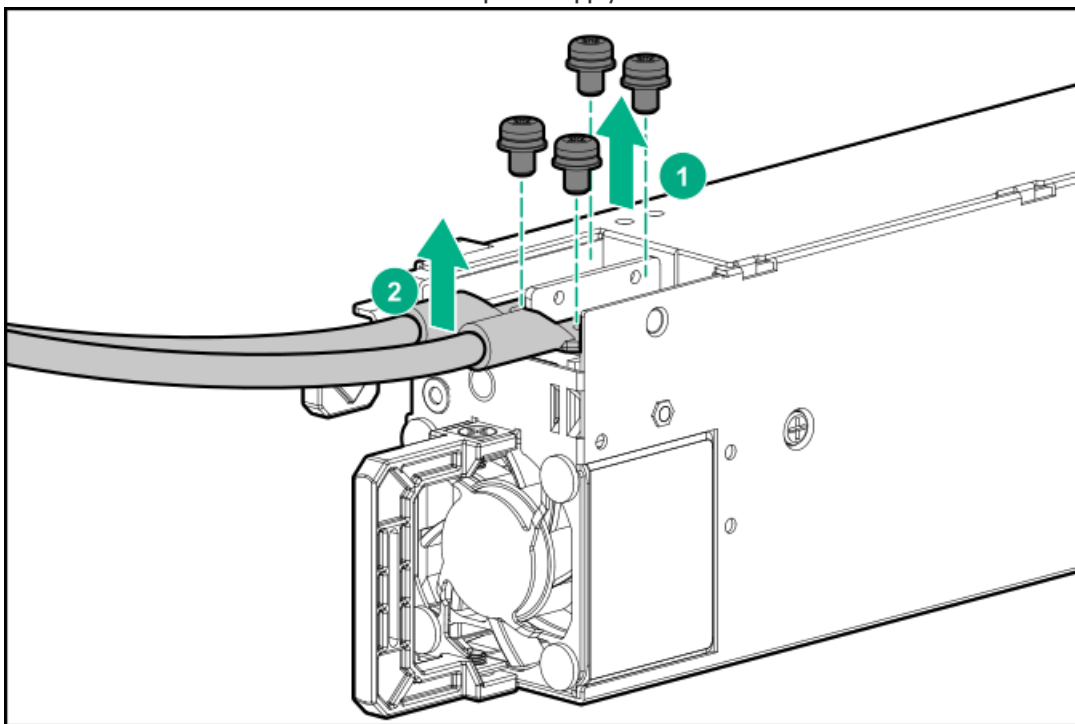
5. Disconnect the ground (earthed) wire from the power supply.



6. Remove the clear plastic cover from the power supply.



7. Disconnect the -48 V and return wires from the power supply.



#### Results

To replace the component, reverse the removal procedure.

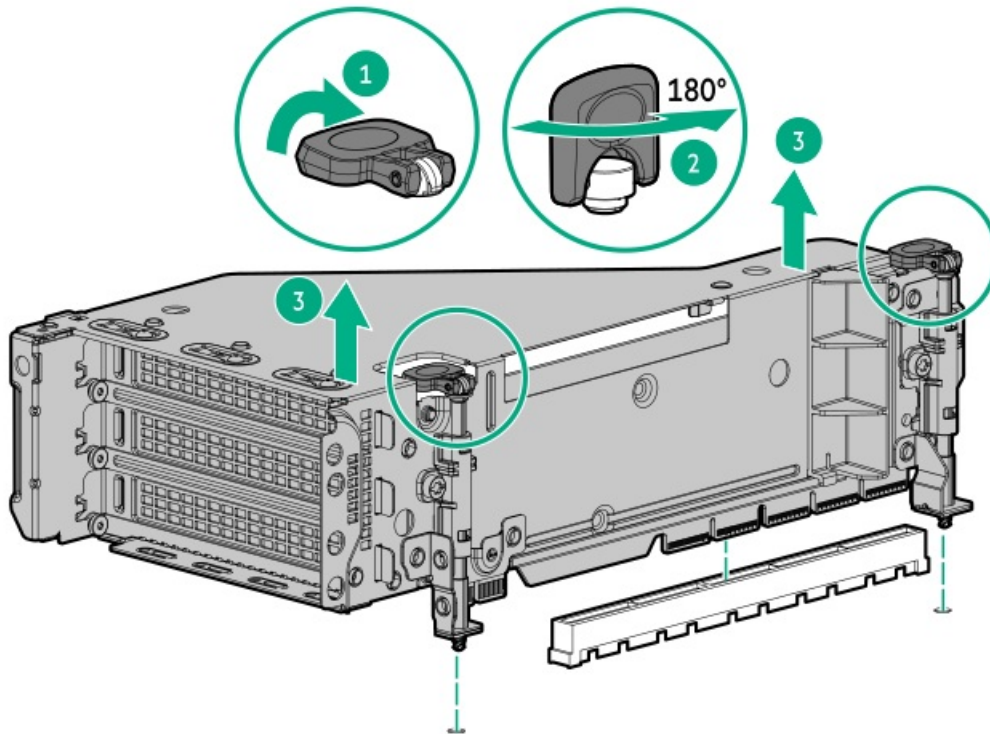
## Removing and replacing the primary PCIe riser cage

#### About this task

**CAUTION:** To prevent improper cooling or thermal damage, the server PCI slots must have an expansion slot blank or an expansion board installed.

## Procedure

1. Power down the server.
2. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
3. Do one of the following:
  - Extend the server from the rack.
  - Remove the server from the rack.
4. Remove the access panel.
5. Disconnect any cables connected to the expansion board.
6. Remove the PCIe riser cage.



## Results

To replace the component, reverse the removal procedure.

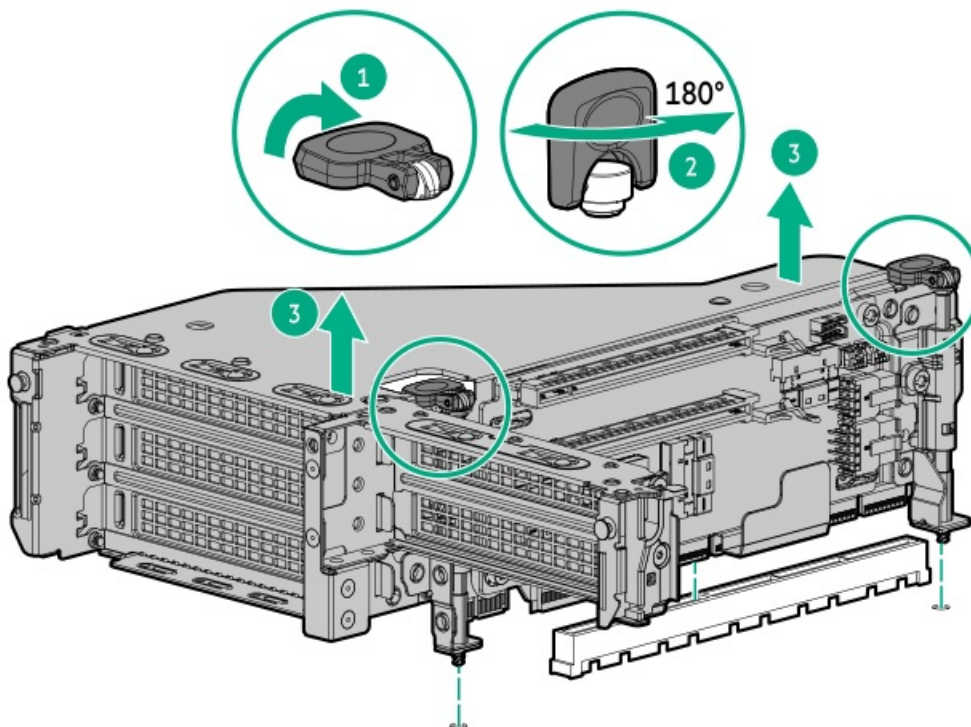
## Removing and replacing the secondary and tertiary PCIe riser cage

### About this task

**CAUTION:** To prevent improper cooling or thermal damage, the server PCI slots must have an expansion slot blank or an expansion board installed.

## Procedure

1. Power down the server.
2. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
3. Do one of the following:
  - Extend the server from the rack.
  - Remove the server from the rack.
4. Remove the access panel.
5. Disconnect any cables connected to the expansion board.
6. Remove the PCIe riser cage.



## Results

To replace the component, reverse the removal procedure.

## Removing and replacing the PCIe rear wall blank

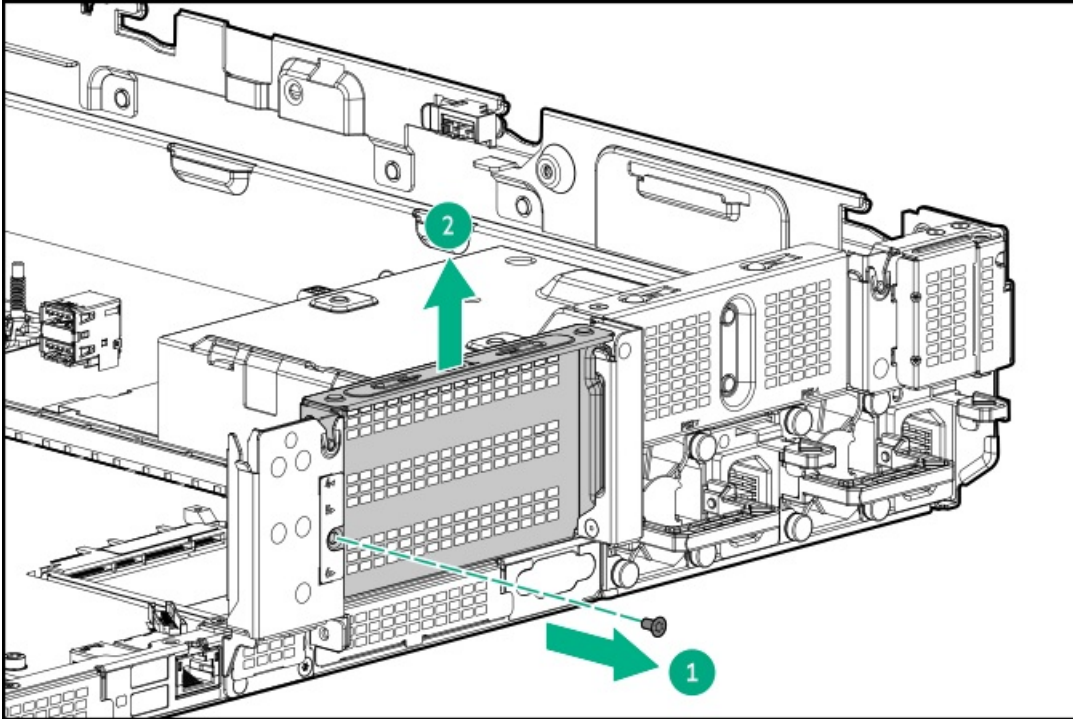
### About this task

**CAUTION:** To prevent improper cooling or thermal damage, the server PCI slots must have an expansion slot blank or an expansion board installed.

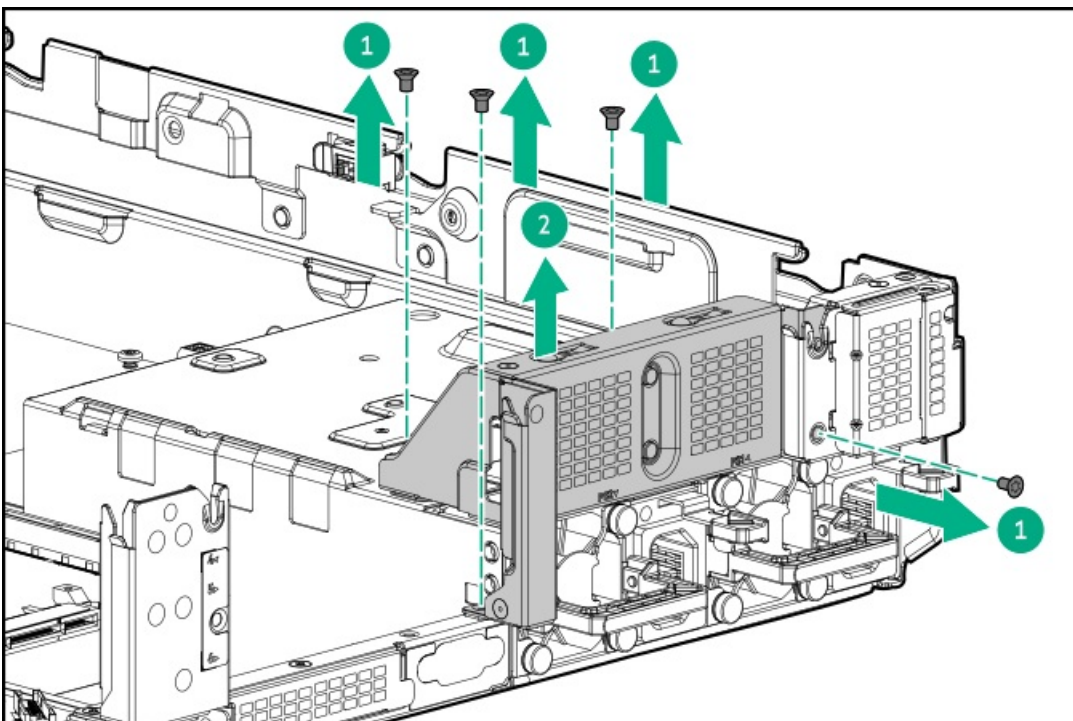
### Procedure

1. Power down the server.
2. Remove all power:

- a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
3. Do one of the following:
- Extend the server from the rack.
  - Remove the server from the rack.
4. Remove the access panel.
5. Remove the secondary rear wall blank.



6. Remove the tertiary rear wall blank.



## Results

To replace the component, reverse the removal procedure.

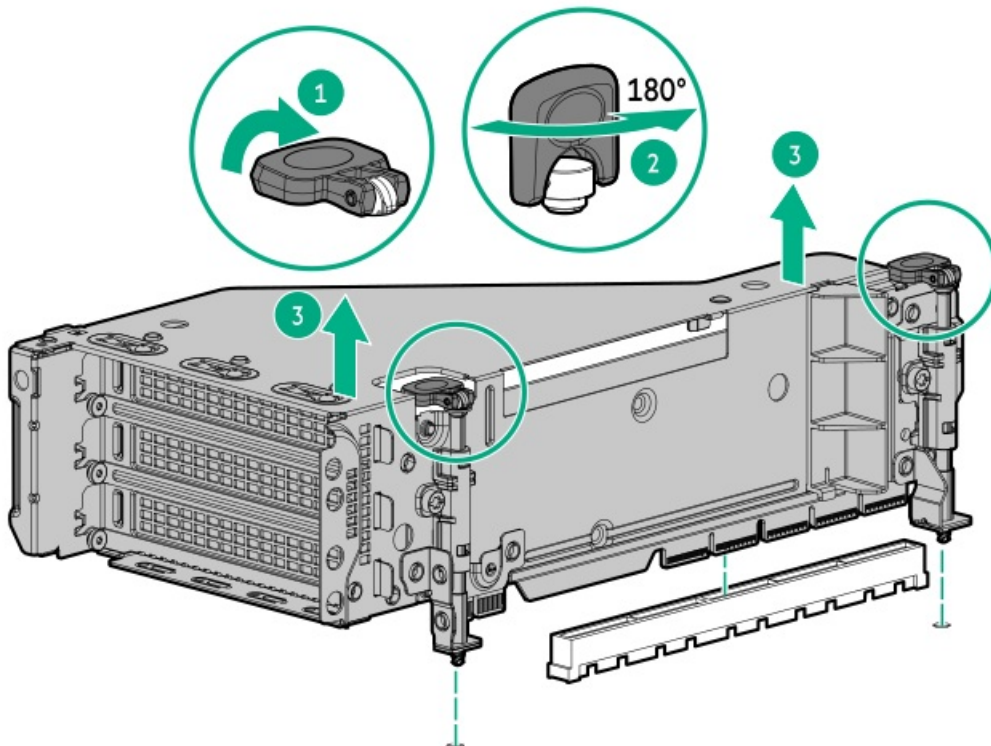
## Removing and replacing an expansion board

### About this task

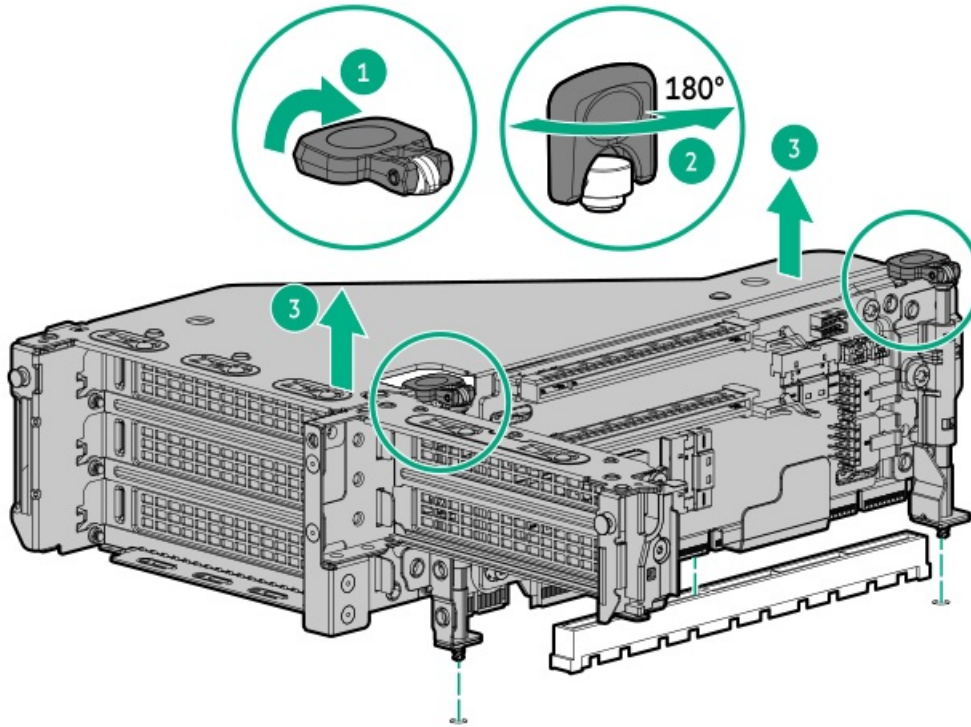
**WARNING:** To reduce the risk of personal injury, electric shock, or damage to the equipment, remove power from the server by removing the power cord. The front panel Power On/Standby button does not shut off system power. Portions of the power supply and some internal circuitry remain active until AC power is removed.

### Procedure

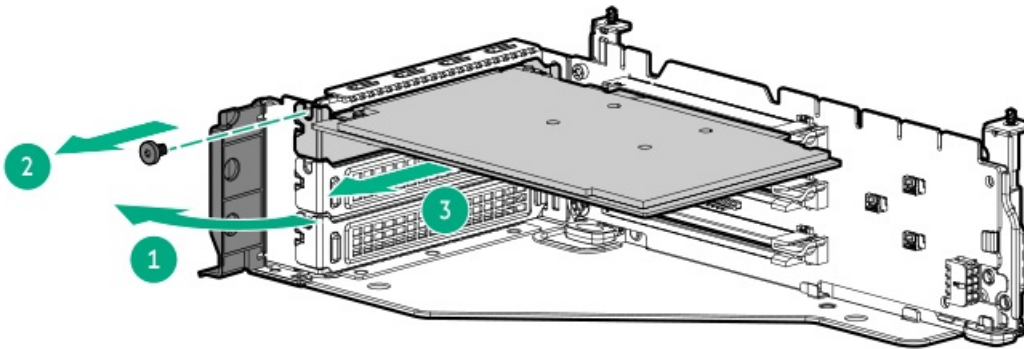
1. Power down the server.
2. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
3. Do one of the following:
  - Extend the server from the rack.
  - Remove the server from the rack.
4. Remove the access panel.
5. Disconnect any internal cables connected to the expansion board.
6. Remove the PCIe riser cage:
  - Remove the primary PCIe riser cage.



- Remove the secondary or tertiary PCIe riser cage.



7. Remove the expansion board.



**Results**

To replace the component, reverse the removal procedure.

## Removing and replacing the PCIe riser board

**Prerequisites**

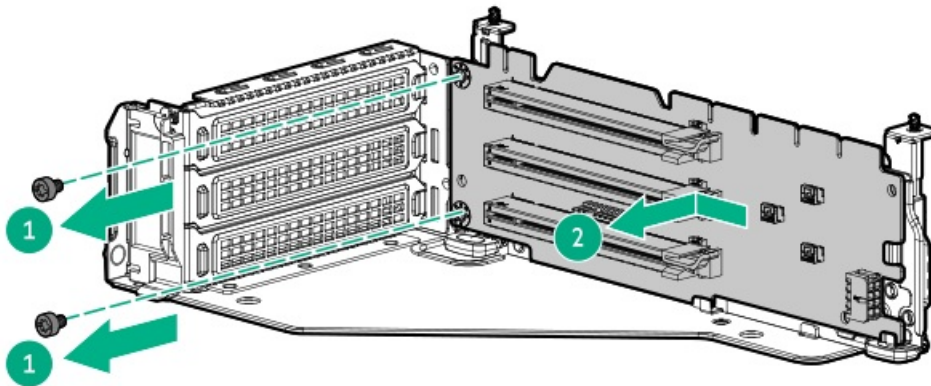
Before you perform this procedure, make sure that you have a T-15 Torx screwdriver available.

**Procedure**

1. Power down the server.
2. Remove all power:

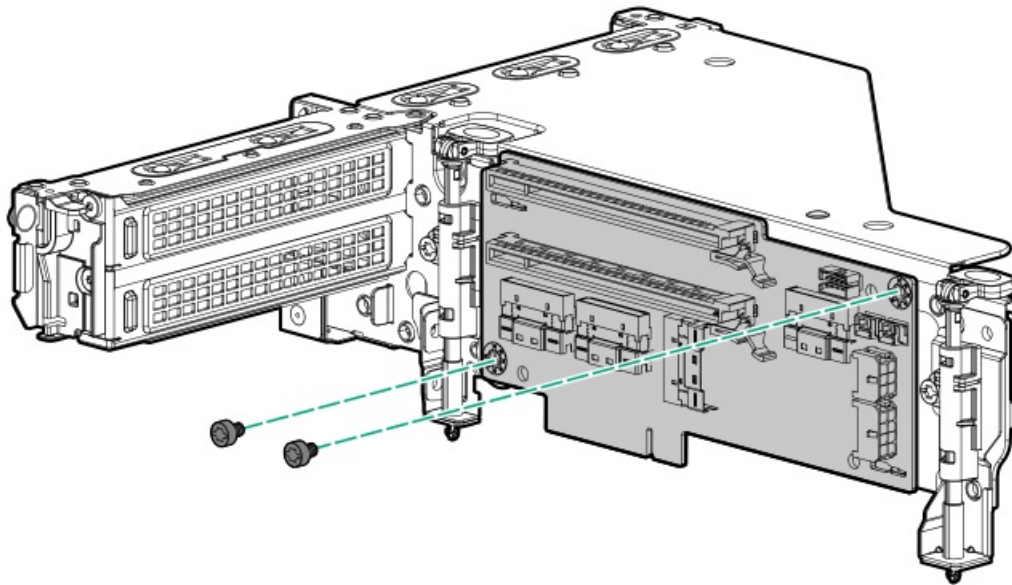


- a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
3. Do one of the following:
- Extend the server from the rack.
  - Remove the server from the rack.
4. Remove the access panel.
5. Remove the PCIe riser cage:
- Remove the primary PCIe riser cages
  - Remove the secondary and tertiary PCIe riser cage
6. Remove any expansion boards.
7. Disconnect any cables to the riser.
8. Remove the riser board:
- Primary and secondary riser cages



- Tertiary riser cage





## Results

To replace the component, reverse the removal procedure.

## Removing and replacing an expansion slot blank

### About this task

---

**WARNING:** To reduce the risk of personal injury, electric shock, or damage to the equipment, remove power from the server by removing the power cord. The front panel Power On/Standby button does not shut off system power. Portions of the power supply and some internal circuitry remain active until AC power is removed.

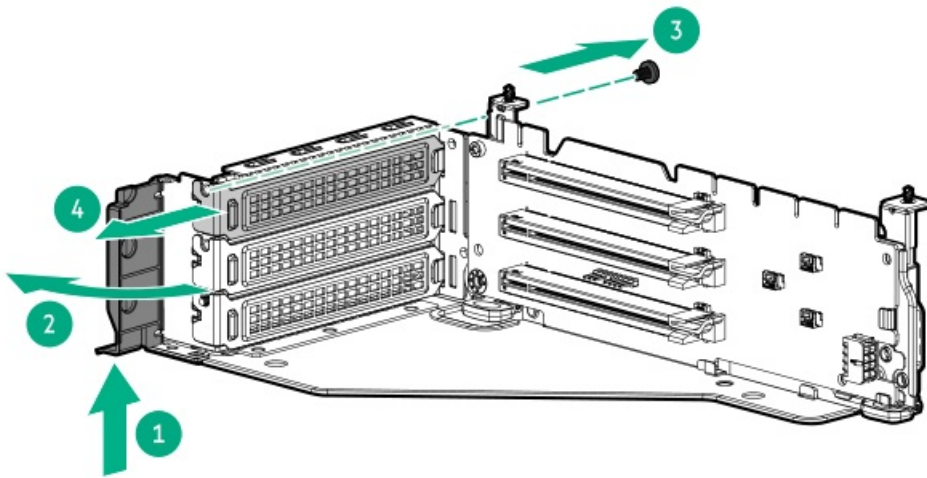
---

**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. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
3. Do one of the following:
  - Extend the server from the rack.
  - Remove the server from the rack.
4. Remove the access panel.
5. Remove the PCIe riser cage:
  - Remove the primary PCIe riser cages
  - Remove the secondary and tertiary PCIe riser cage
6. Remove the expansion slot blank.



## Results

To replace the component, reverse the removal procedure.

## Removing and replacing a GPU or accelerator

### About this task

---

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

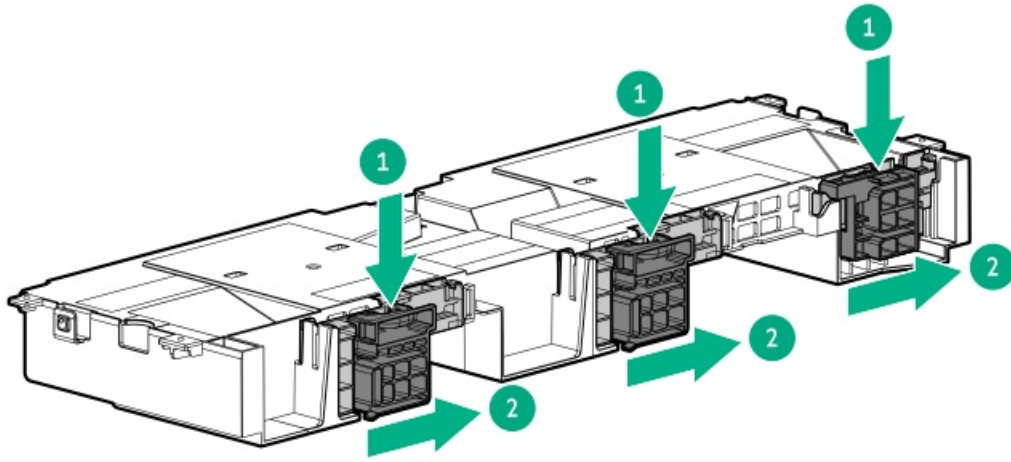
---

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

---

### Procedure

1. Power down the server.
2. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
3. Do one of the following:
  - Extend the server from the rack.
  - Remove the server from the rack.
4. Remove the access panel.
5. Remove the air baffle.
6. Release the appropriate GPU support retainer.



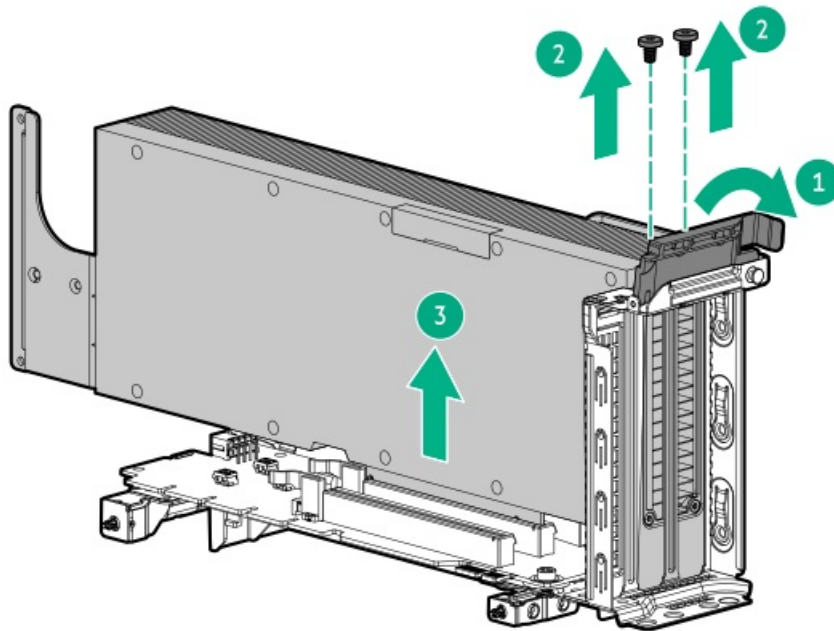
7. Remove the PCIe riser cage:

- Remove the primary PCIe riser cages
- Remove the secondary and tertiary PCIe riser cage

8. Disconnect the power cable from the GPU.

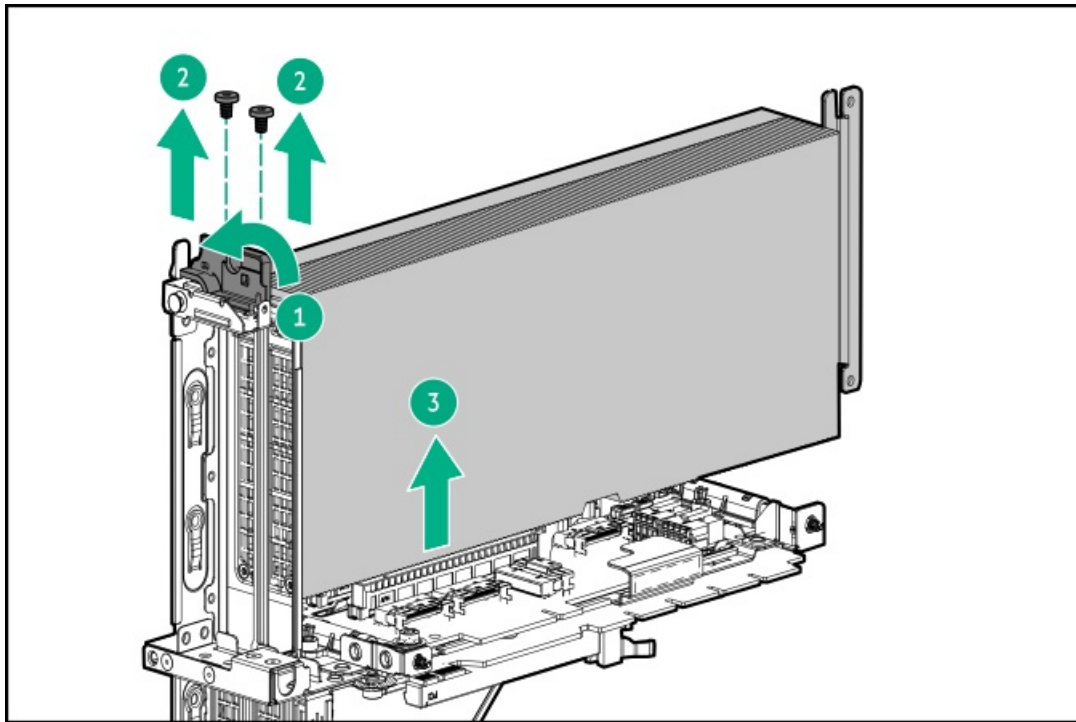
9. Remove the GPU:

- Primary riser cage



- Secondary and tertiary riser cage





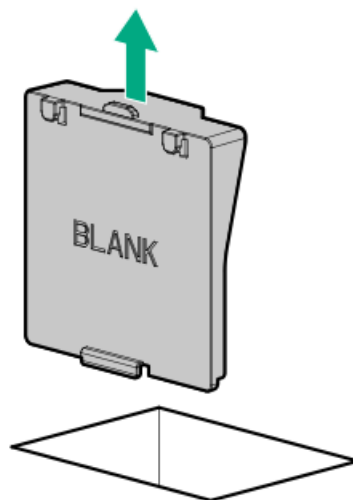
#### Results

To replace the component, reverse the removal procedure.

## Removing and replacing fan blanks

#### Procedure

1. Extend the server from the rack.
2. Remove the access panel.
3. Remove the fan blank.



## 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.

---

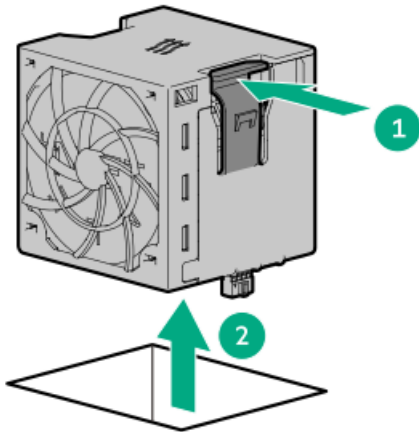
**IMPORTANT:**

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. [Extend the server from the rack.](#)
2. [Remove the access panel.](#)
3. Remove the fan.



### Results

To replace the component, reverse the removal procedure.

## Removing and replacing the fan cage

### About this task

### Procedure

1. Power down the server.

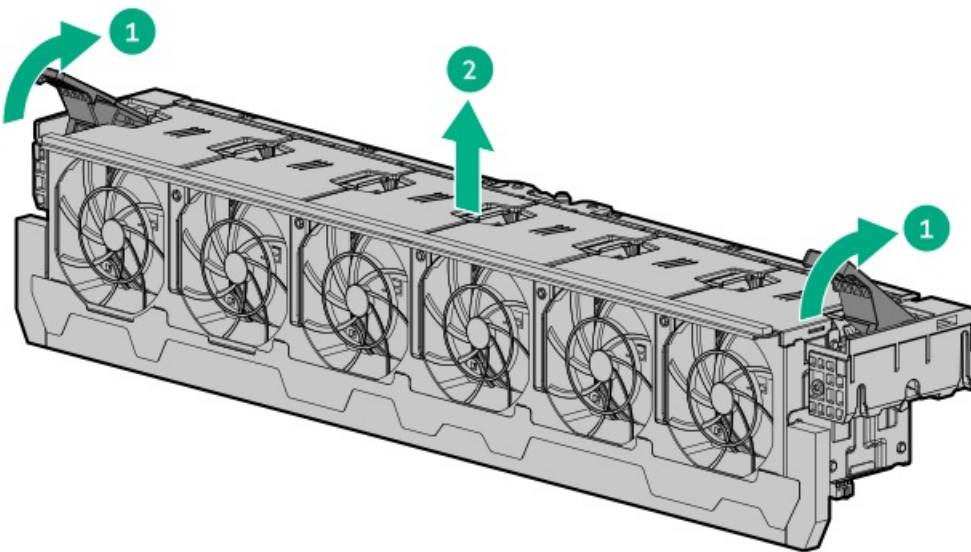
2. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
3. Do one of the following:
  - Extend the server from the rack.
  - Remove the server from the rack.
4. Remove the access panel.

---

**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.

---

5. Remove the fan cage.



---

**IMPORTANT:** For optimum cooling, install fans in all primary fan locations.

---

#### Results

To replace the component, reverse the removal procedure.

## Removing and replacing the OCP 3.0 adapter blank

#### About this task

---

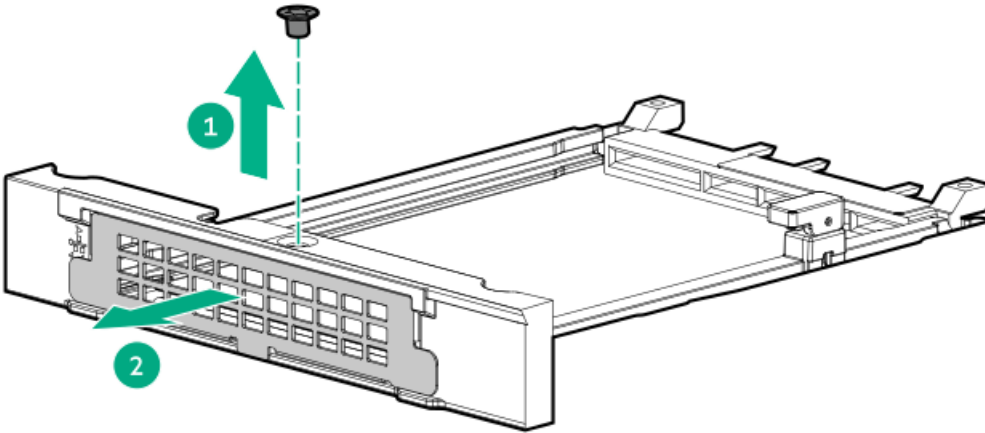
**WARNING:** To reduce the risk of personal injury, electric shock, or damage to the equipment, remove power from the server by removing the power cord. The front panel Power On/Standby button does not shut off system power. Portions of the power supply and some internal circuitry remain active until AC power is removed.

---

#### Procedure

1. Power down the server.
2. Remove all power:
  - a. Disconnect each power cord from the power source.

- b. Disconnect each power cord from the server.
3. Disconnect any external cables that are connected to the expansion board.
4. Do one of the following:
  - Extend the server from the rack.
  - Remove the server from the rack.
5. Remove the access panel.
6. If installed, remove the riser cage.
7. Remove the adapter blank.



To replace the component, reverse the removal procedure.

## Removing and replacing the OCP 3.0 adapter

### About this task

---

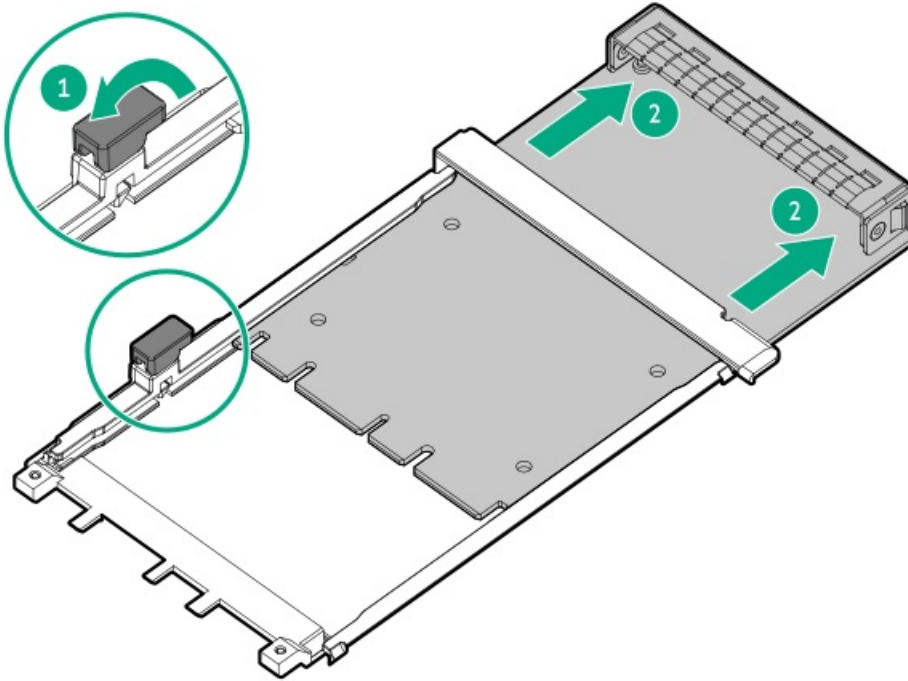
**WARNING:** To reduce the risk of personal injury, electric shock, or damage to the equipment, remove power from the server by removing the power cord. The front panel Power On/Standby button does not shut off system power. Portions of the power supply and some internal circuitry remain active until AC power is removed.

---

### Procedure

1. Power down the server.
2. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
3. Disconnect any external cables that are connected to the expansion board.
4. Do one of the following:
  - Extend the server from the rack.

- Remove the server from the rack.
5. Remove the access panel.
  6. If installed, remove the secondary riser cage.
  7. Remove the OCP 3.0 adapter.



To replace the component, reverse the removal procedure.

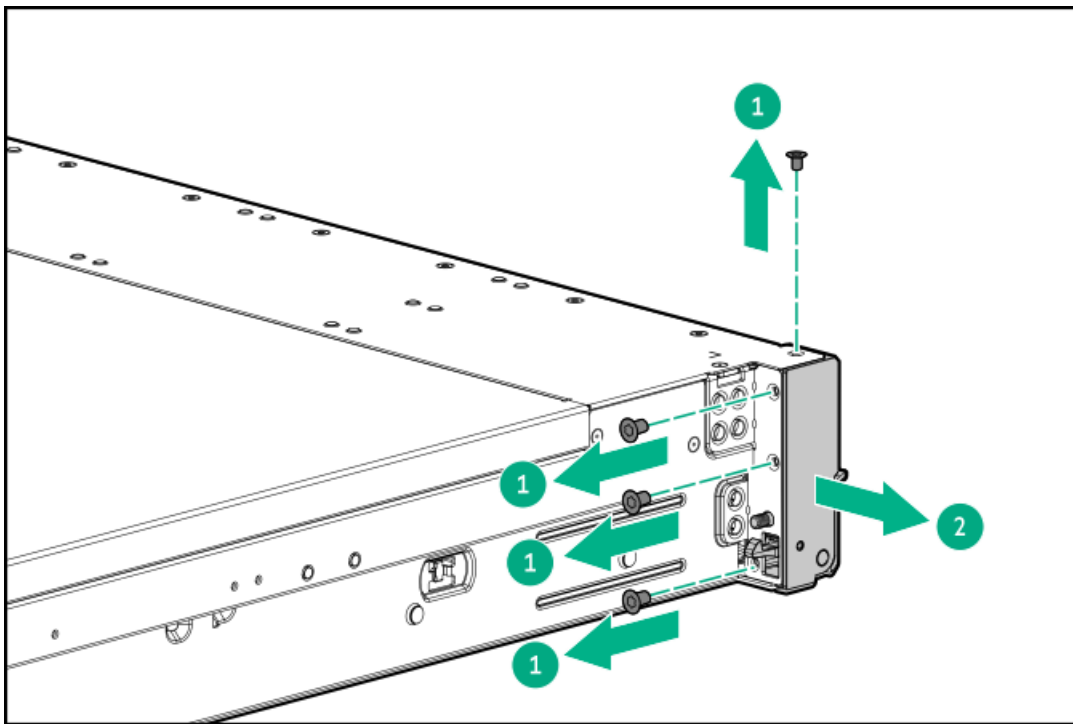
## Removing and replacing the left chassis ear

### About this task

#### Procedure

1. Power down the server.
2. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
3. Remove the server from the rack.
4. Remove the left chassis ear.





### Results

To replace the component, reverse the removal procedure.

## Removing and replacing the right chassis ear power switch module

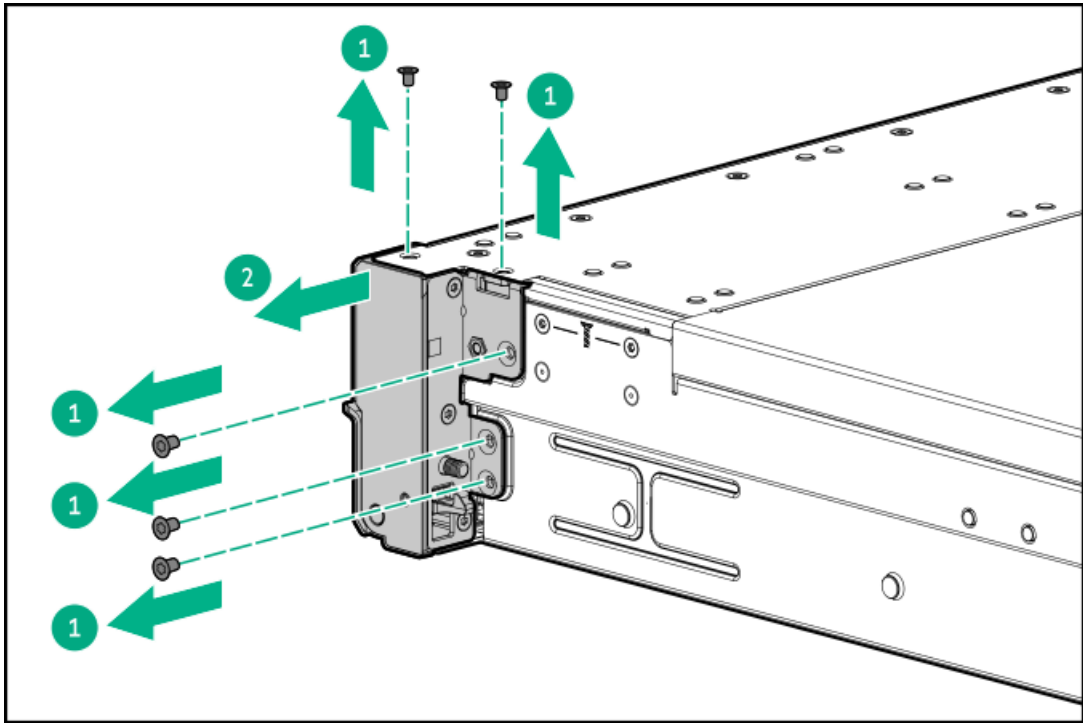
### Prerequisites

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

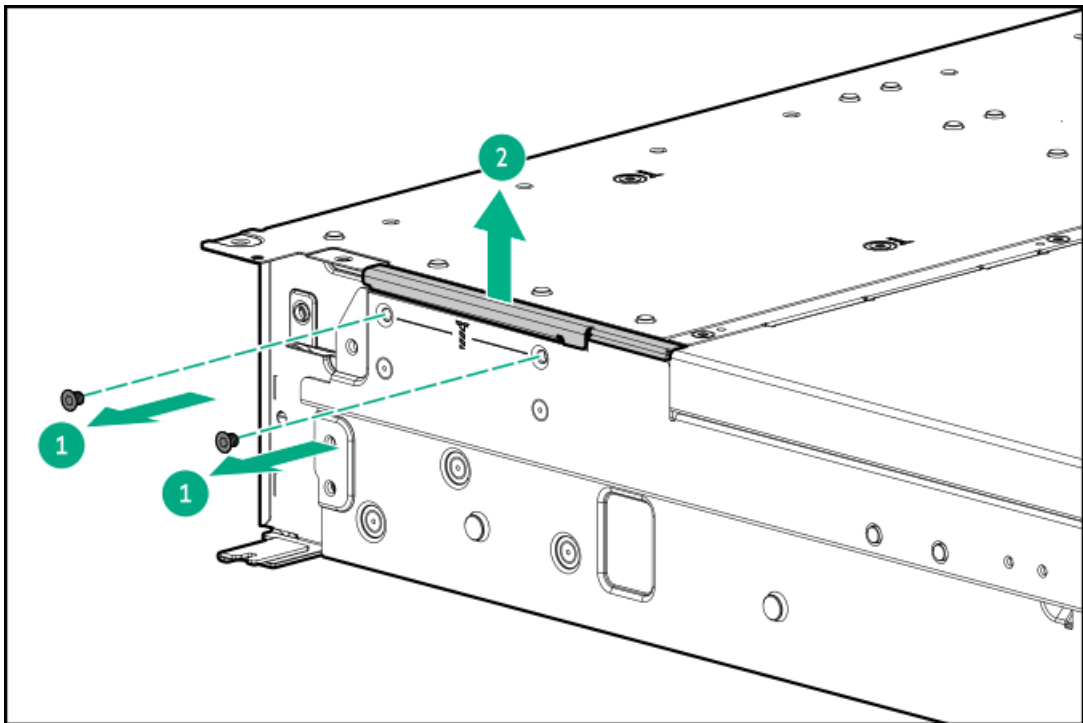
### About this task

### Procedure

1. Power down the server.
2. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
3. Do one of the following:
  - Extend the server from the rack.
  - Remove the server from the rack.
4. Remove the access panel.
5. Remove all hot-plug hard drives.
6. Remove the fan cage.
7. Disconnect the power switch module cable from the system board.
8. Remove the power switch module.



9. Remove the cable access cover and carefully feed the cable through the front of the server.



**Results**

To replace the component, reverse the removal procedure.

**Removing and replacing the LFF universal media bay**

**Prerequisites**

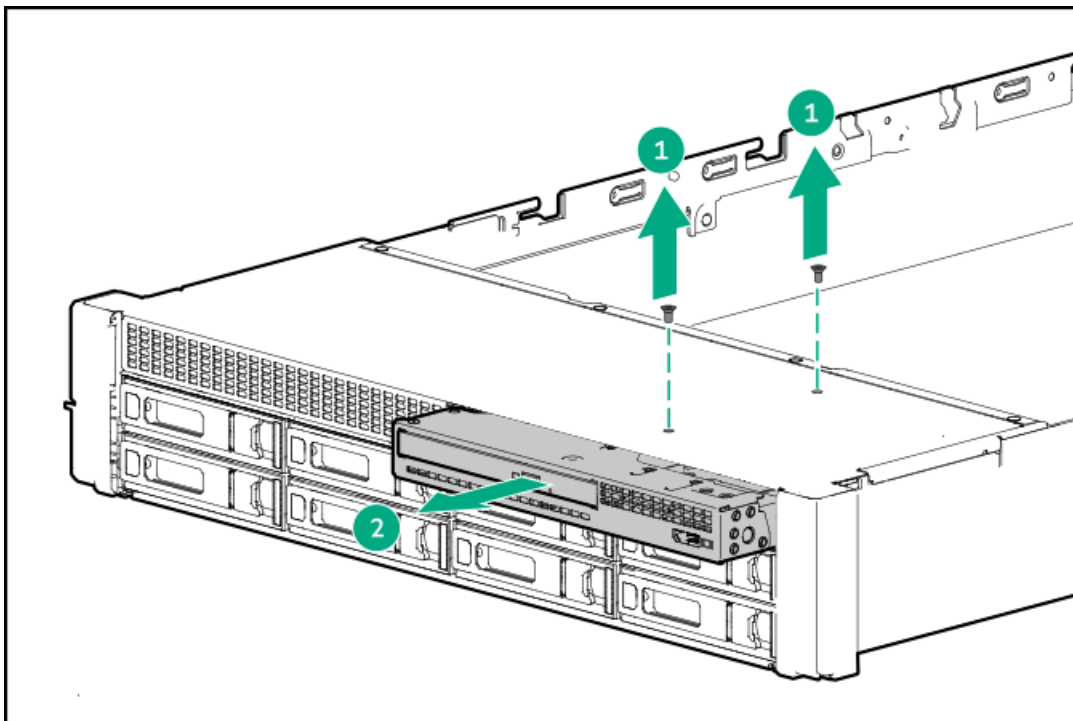


Before you perform this procedure, make sure that you have a T-15 Torx screwdriver available.

### About this task

#### Procedure

1. Power down the server.
2. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
3. Do one of the following:
  - Extend the server from the rack.
  - Remove the server from the rack.
4. Remove the access panel.
5. Remove all hot-plug hard drives.
6. Do one of the following:
  - Remove the fan cage.
  - Remove the midplane drive cage.
7. Disconnect all cables from the universal media bay.
8. Remove the universal media bay.



#### Results

To replace the component, reverse the removal procedure.

## Removing and replacing the SFF universal media bay

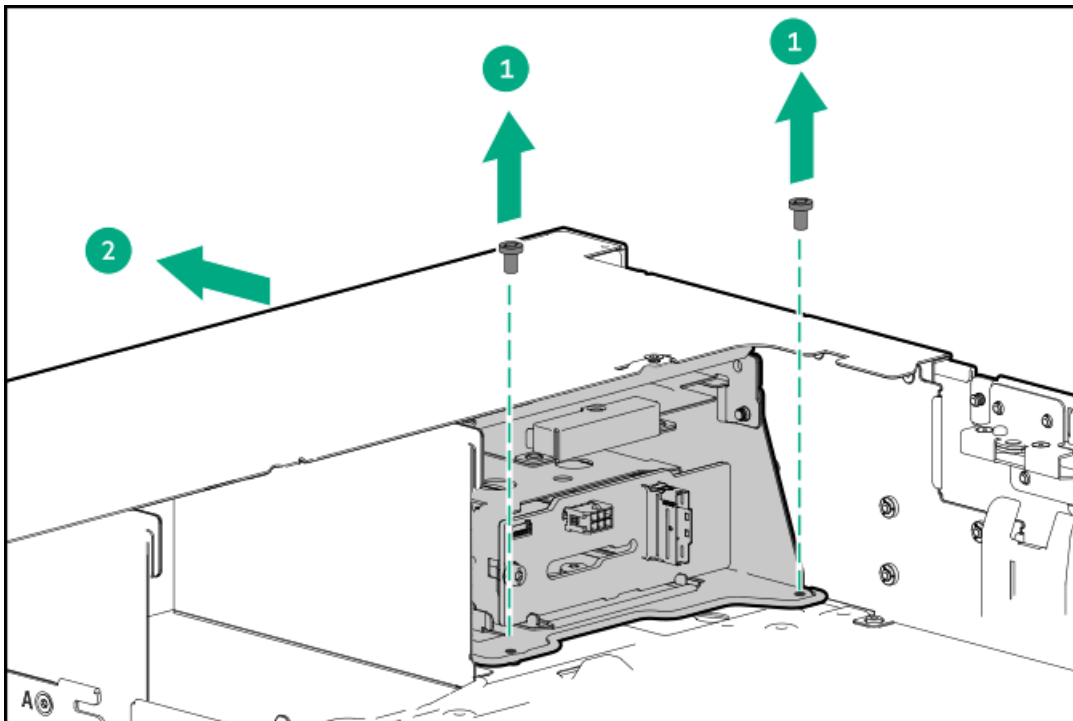
## Prerequisites

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

## About this task

### Procedure

1. Power down the server.
2. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
3. Do one of the following:
  - Extend the server from the rack.
  - Remove the server from the rack.
4. Remove the access panel.
5. Remove all hot-plug hard drives.  
Note where each drive was installed.
6. Do one of the following:
  - Remove the fan cage.
  - Remove the midplane drive cage.
7. Disconnect all cables from the universal media bay.
8. Remove the universal media bay.



## Results

To replace the component, reverse the removal procedure.

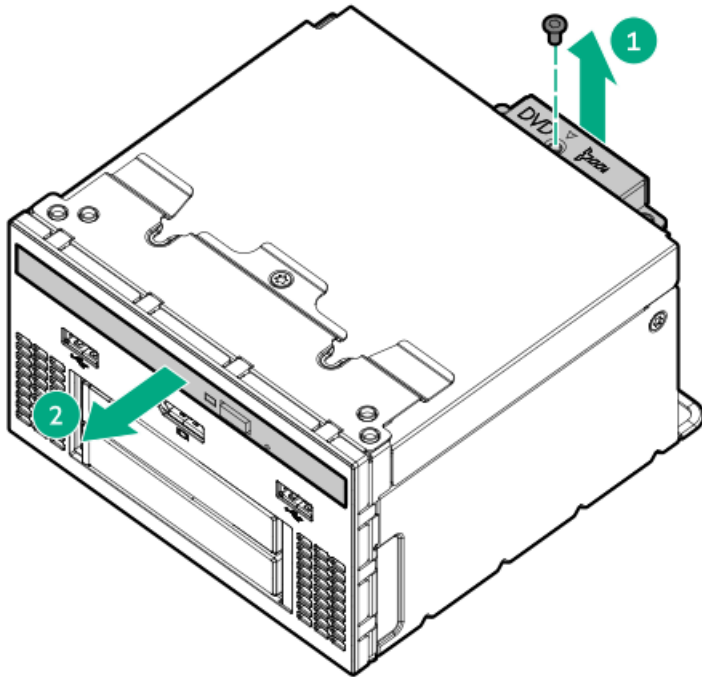
## Removing and replacing the SFF optical drive

### Prerequisites

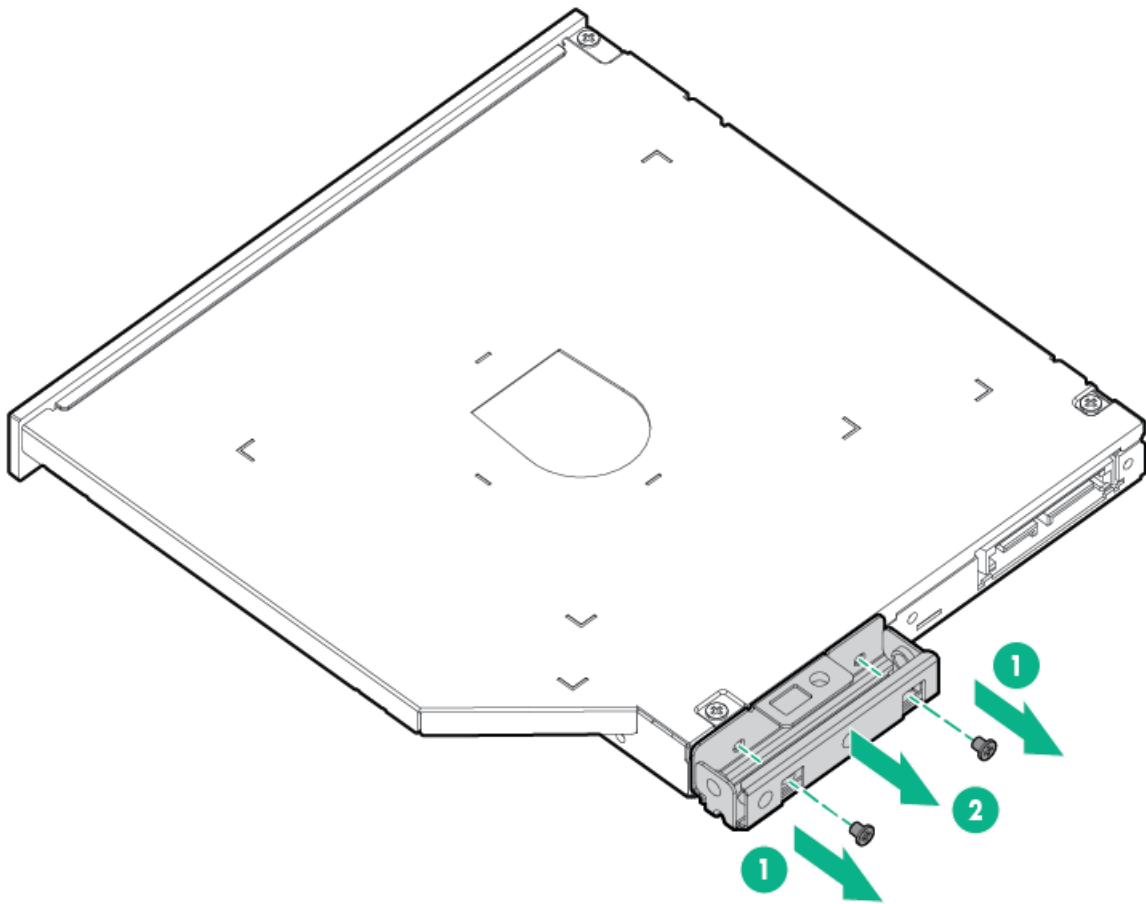
Before you perform this procedure, make sure that you have a T-10 Torx screwdriver available.

### Procedure

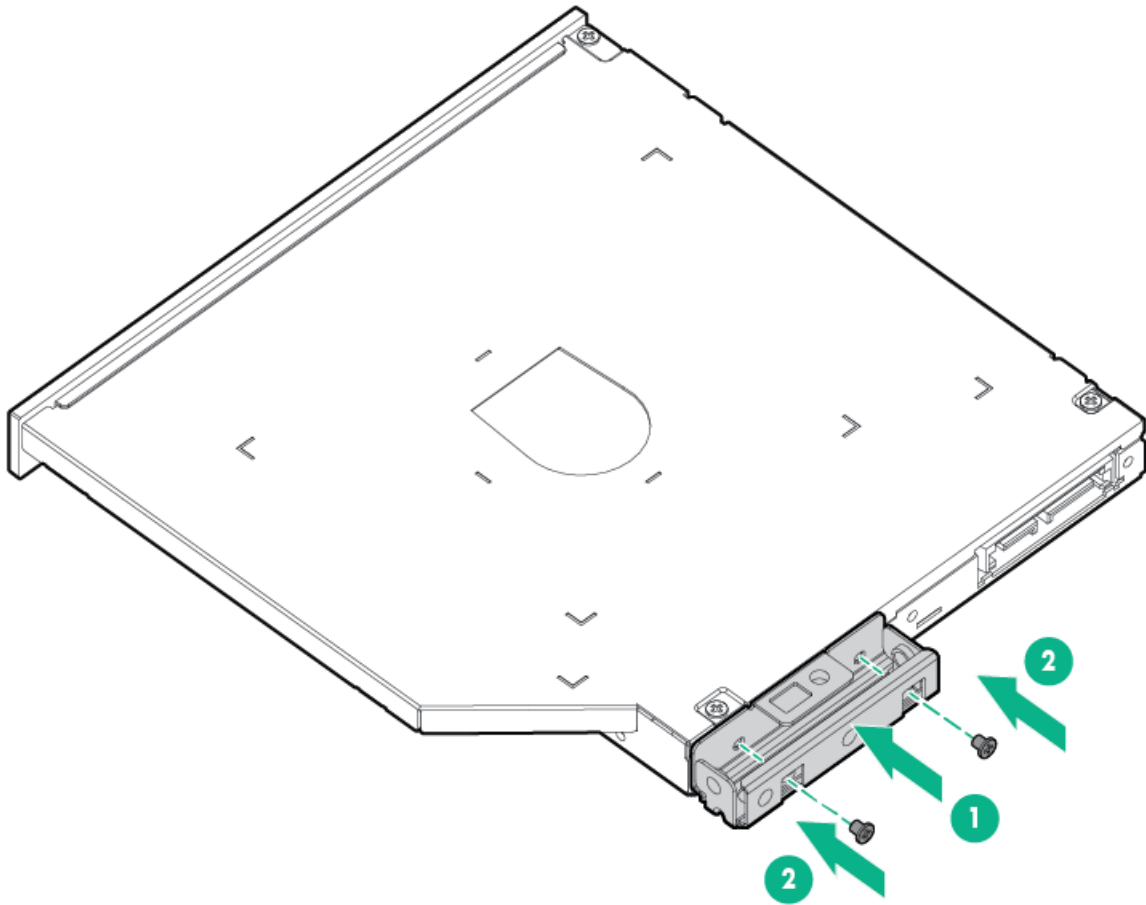
1. Power down the server.
2. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
3. Do one of the following:
  - Extend the server from the rack.
  - Remove the server from the rack.
4. Remove the access panel.
5. Remove the fan cage.
6. Disconnect all cables from the SFF universal media bay.
7. Remove the SFF universal media bay.
8. Remove the optical drive.



9. Remove the optical drive bracket and retain for use with the replacement optical drive.



10. Before replacing the component, install the optical drive bracket retained from the optical drive you are replacing.



## Results

To replace the component, reverse the removal procedure.

## Removing and replacing the LFF optical drive

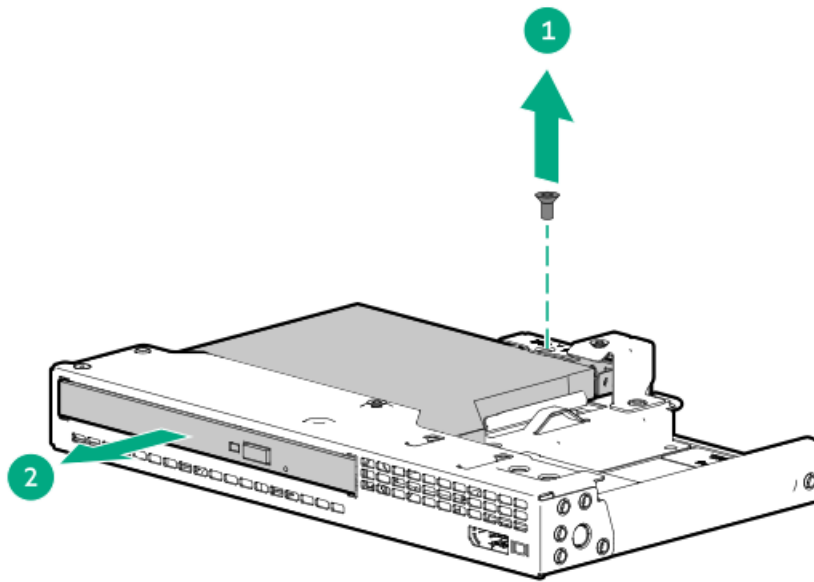
### Prerequisites

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

### Procedure

1. Power down the server.
2. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
3. Do one of the following:
  - Extend the server from the rack.
  - Remove the server from the rack.
4. Remove the access panel.
5. Remove the fan cage.
6. Remove the LFF universal media bay.

7. Remove the optical drive.



#### Results

To replace the component, reverse the removal procedure.

## Removing and replacing a front SFF drive cage

#### Prerequisites

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

#### About this task

This procedure applies to all front boxes.

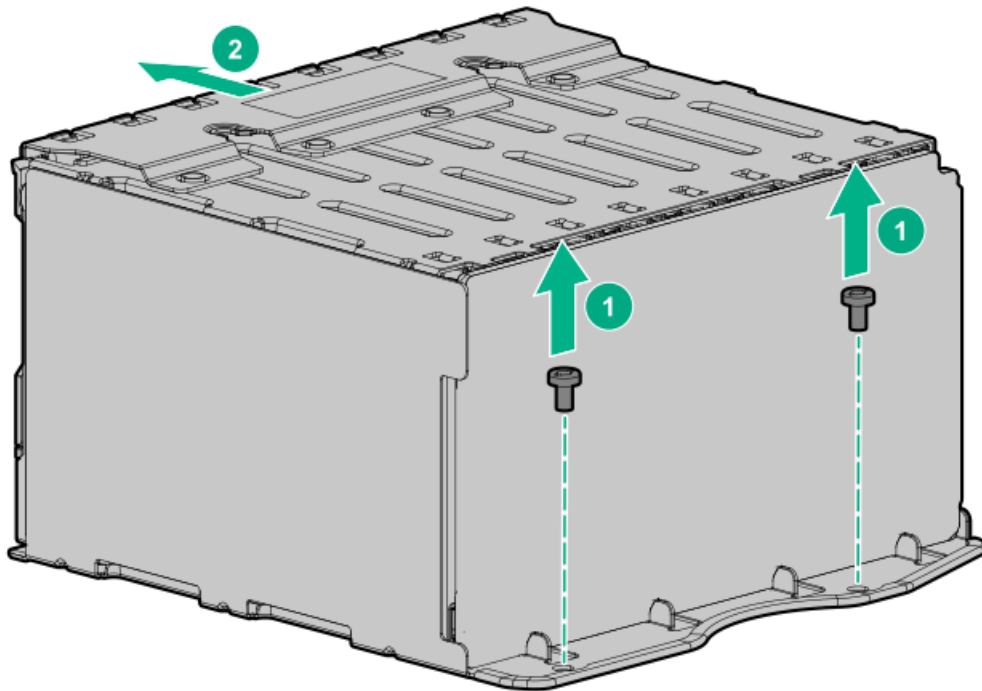
#### Procedure

1. Power down the server.
2. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
3. Do one of the following:
  - Extend the server from the rack.
  - Remove the server from the rack.
4. Remove the access panel.
5. Remove all drives.



Note where each drive was installed.

6. Remove the fan cage.
7. Disconnect all cables from the drive backplane.
8. Remove the drive cage.



## Results

To replace the component, reverse the removal procedure.

## Removing and replacing an EDSFF drive backplane

### Prerequisites

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

### Procedure

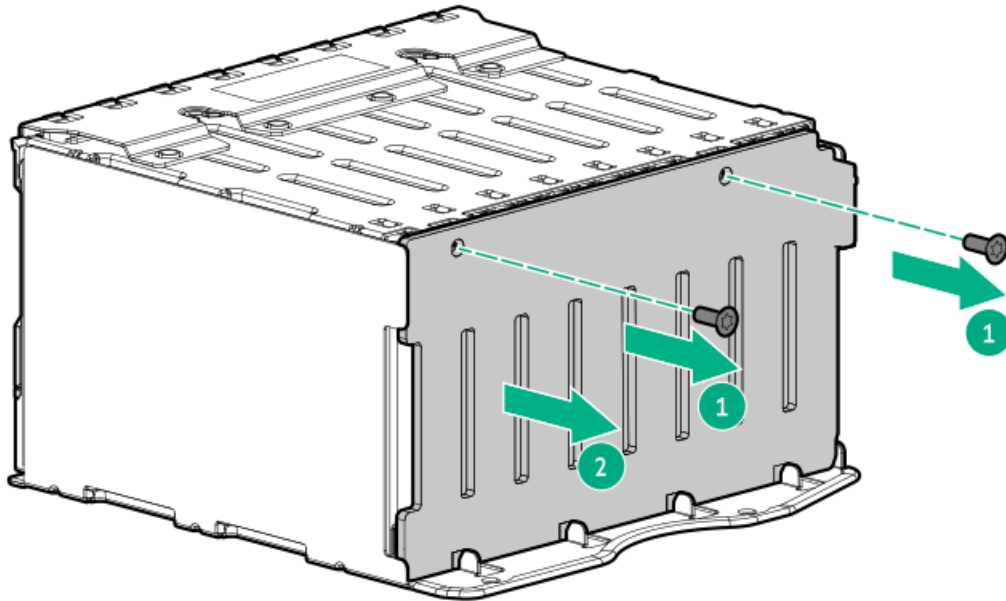
1. Power down the server.
2. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
3. Do one of the following:
  - Extend the server from the rack.
  - Remove the server from the rack.
4. Remove the access panel.
5. Remove the fan cage.

6. Remove all drives.

Note where each drive was installed.

7. Remove the drive cage.

8. Remove the drive backplane.



**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**

**Procedure**

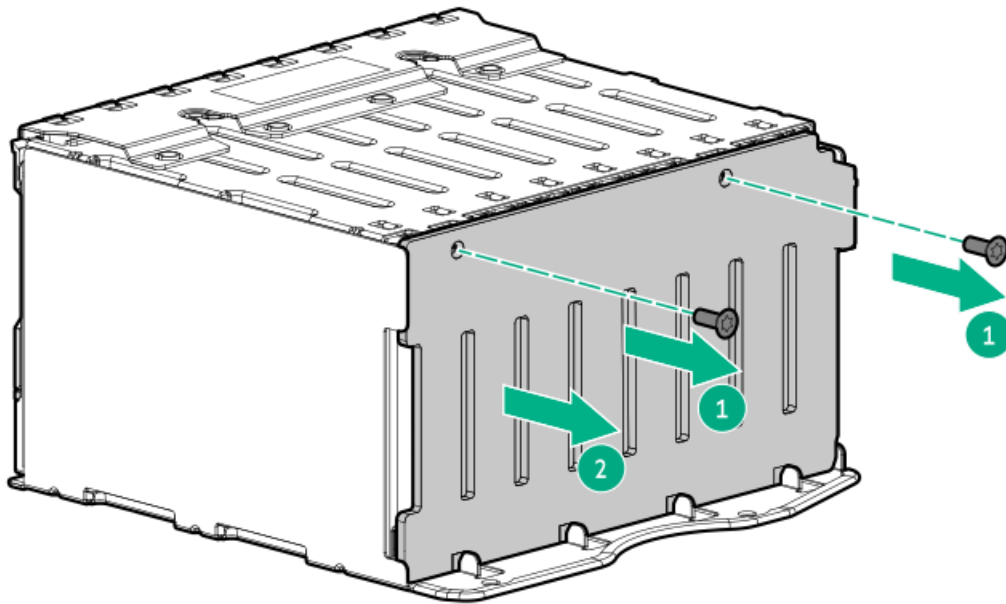
1. Power down the server.
2. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
3. Do one of the following:
  - Extend the server from the rack.
  - Remove the server from the rack.



4. Remove the access panel.
5. Remove the fan cage.
6. Remove all drives.

Note where each drive was installed.

7. Remove the 8 SFF drive cage.
8. Remove the drive backplane.



## Results

To replace the component, reverse the removal procedure.

## Removing and replacing the 2 SFF front drive cage

### Prerequisites

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

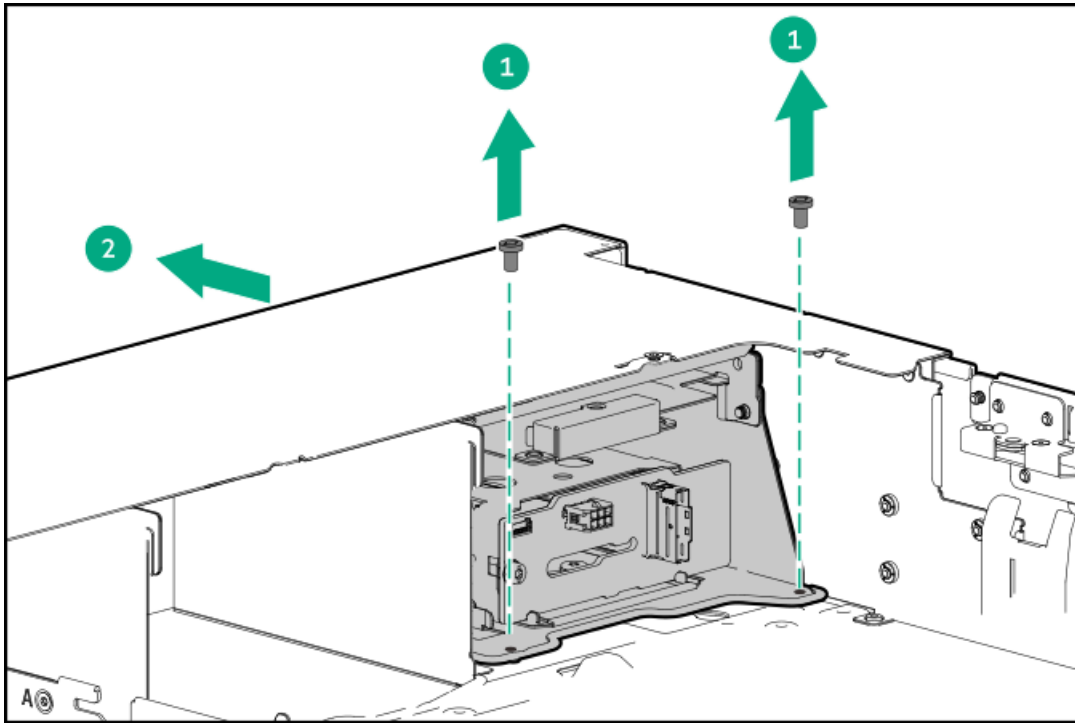
### Procedure

1. Power down the server.
2. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
3. Do one of the following:
  - Extend the server from the rack.
  - Remove the server from the rack.
4. Remove the access panel.

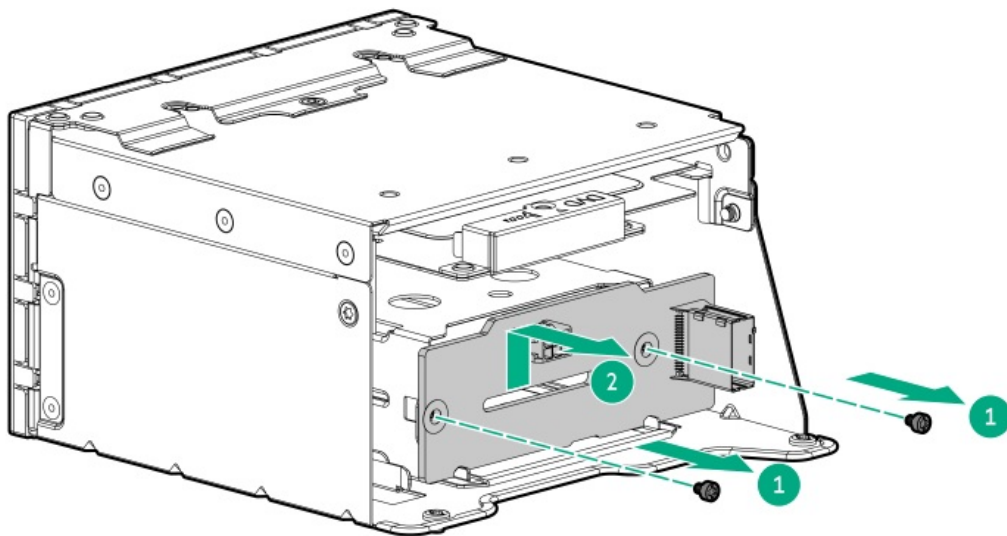
5. Remove all drives.

Note where each drive was installed.

- 6. Disconnect all cables from the drive backplane.
- 7. Remove the drive cage.



8. Remove the drive backplane.



**Results**

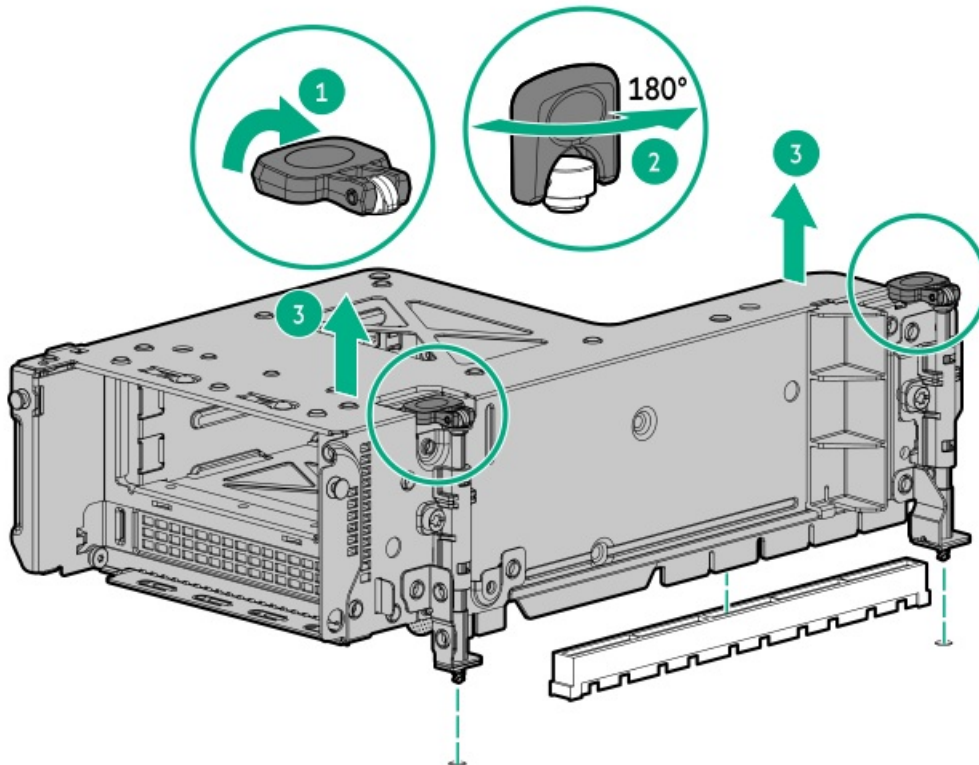
To replace the component, reverse the removal procedure.

## Removing and replacing the 2 SFF stacked riser cage backplane

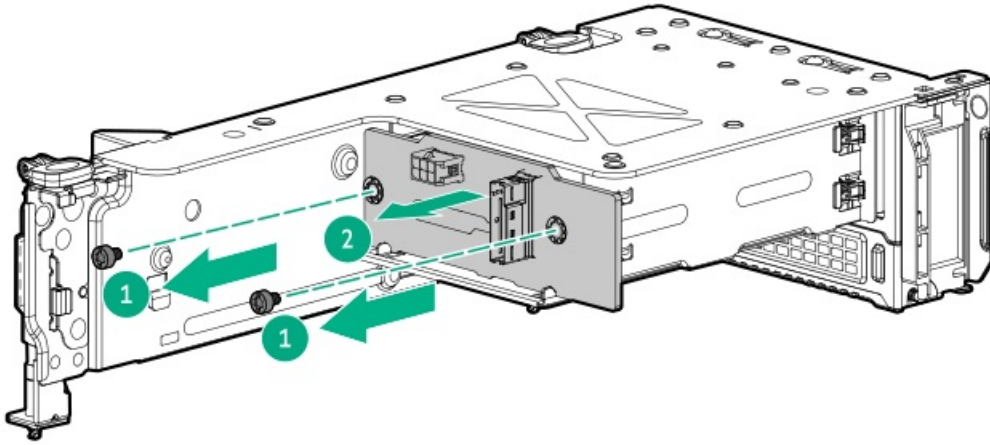
### Procedure

1. Power down the server.
2. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
3. Do one of the following:
  - Extend the server from the rack.
  - Remove the server from the rack.
4. Remove the access panel.
5. Remove all drives.

Note where each drive was installed.
6. Disconnect all cables from the drive backplane.
7. Remove the drive cage.



8. Remove the drive backplane.



## Results

To replace the component, reverse the removal procedure.

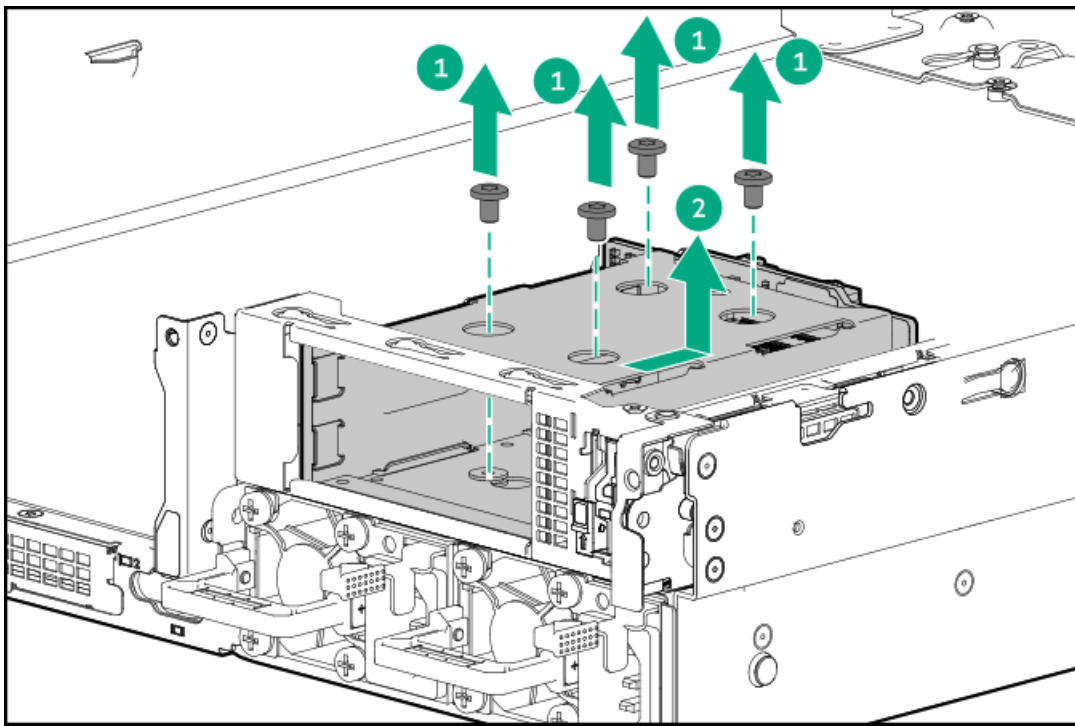
## Removing and replacing the 2 SFF rear stacked drive backplane

### About this task

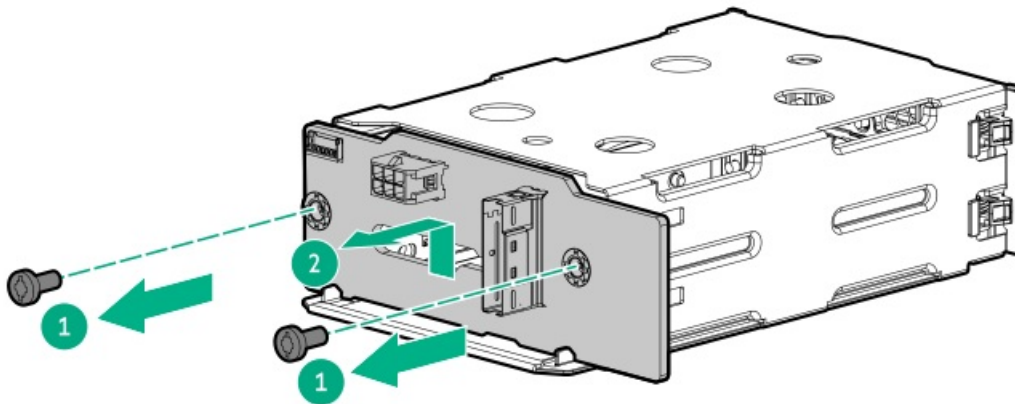
#### Procedure

1. Power down the server.
2. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
3. Do one of the following:
  - Extend the server from the rack.
  - Remove the server from the rack.
4. Remove the access panel.
5. Remove all drives.

Note where each drive was installed.
6. Disconnect all cables from the drive backplane.
7. Remove the drive cage.



8. Remove the backplane.



#### Results

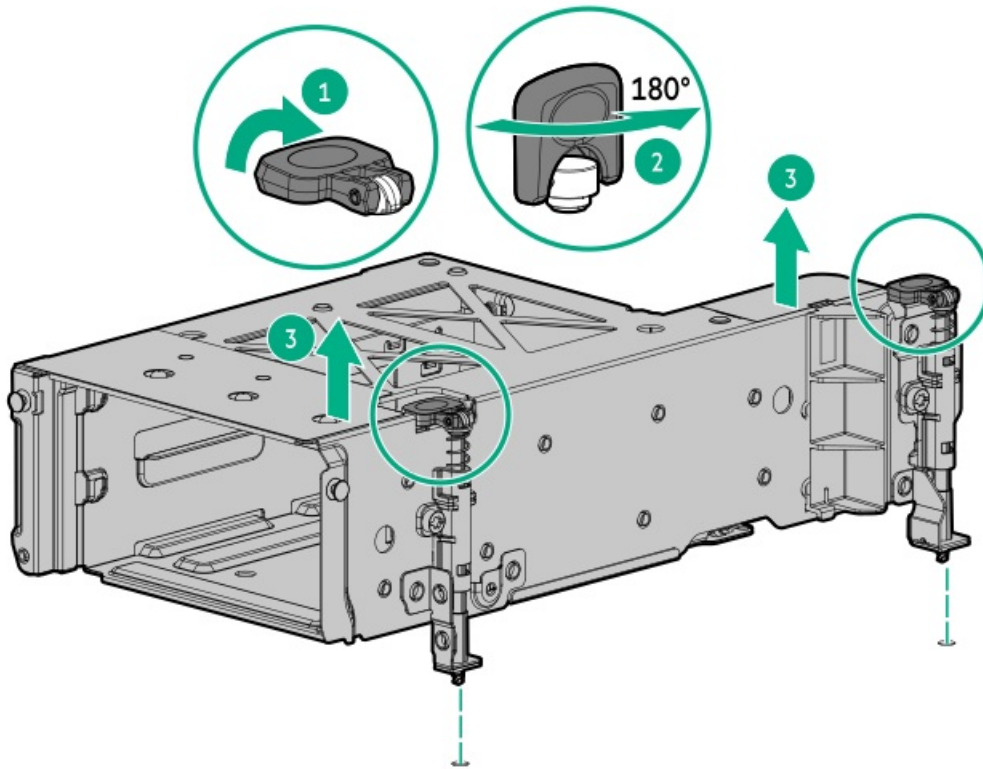
To replace the component, reverse the removal procedure.

## Removing and replacing the 2 LFF riser cage backplane

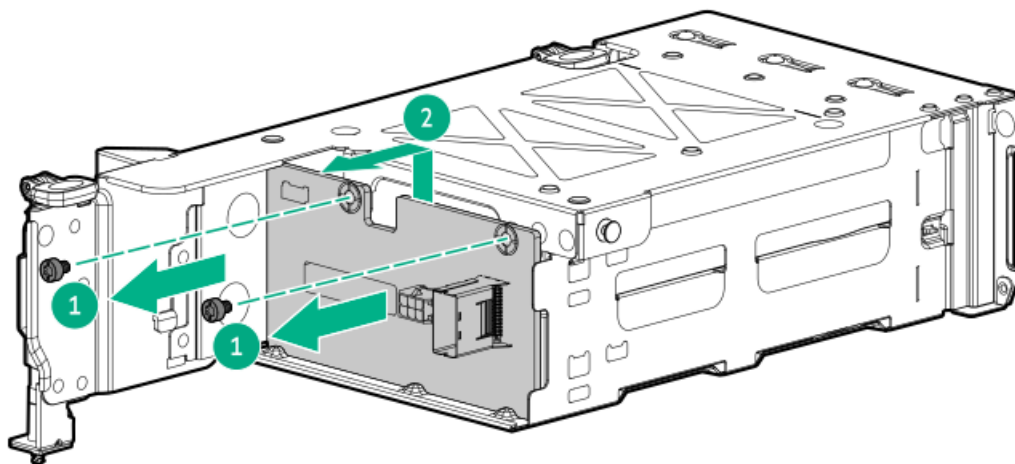
#### Procedure

1. Power down the server.
2. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
3. Do one of the following:

- Extend the server from the rack.
  - Remove the server from the rack.
4. Remove the access panel.
  5. Remove all drives from the riser cage.
  6. Disconnect all cables from the drive backplane.
  7. Remove the drive cage.



8. Remove the backplane.



#### Results

To replace the component, reverse the removal procedure.



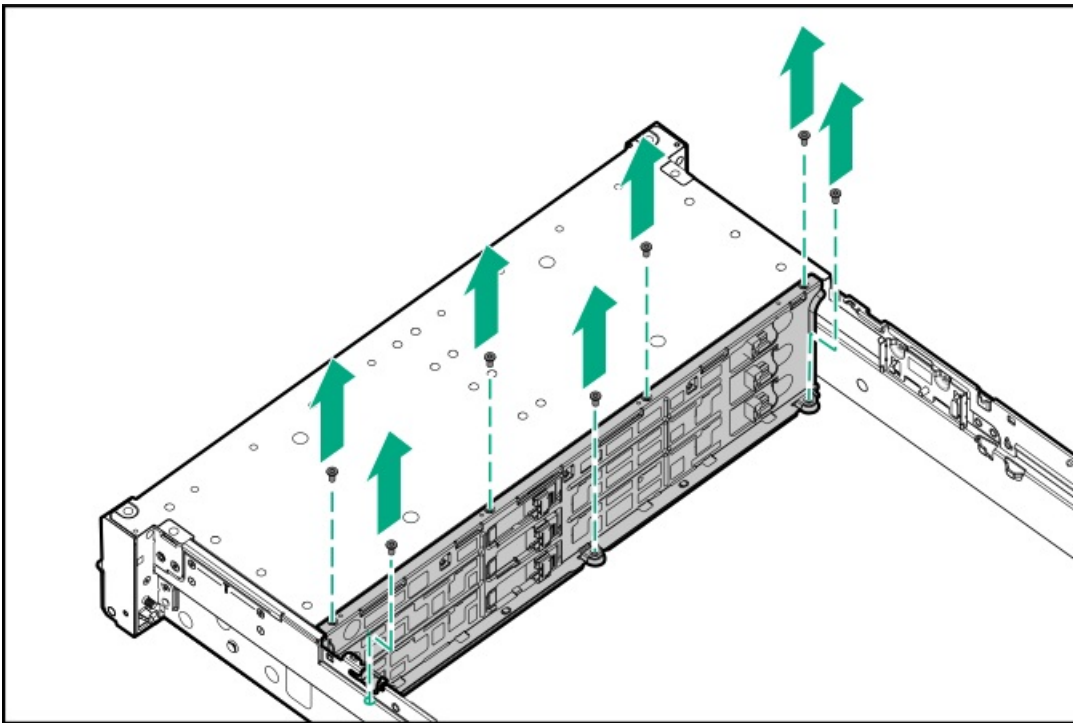
# Removing and replacing the LFF backplane assembly

## Prerequisites

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

## Procedure

1. Power down the server.
2. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
3. Do one of the following:
  - Extend the server from the rack.
  - Remove the server from the rack.
4. Remove the access panel.
5. Remove the fan cage).
6. Remove all drives.
7. Disconnect all cables connected to the LFF backplane assembly.
8. Remove the LFF backplane assembly.



## Results

To replace the component, reverse the removal procedure.

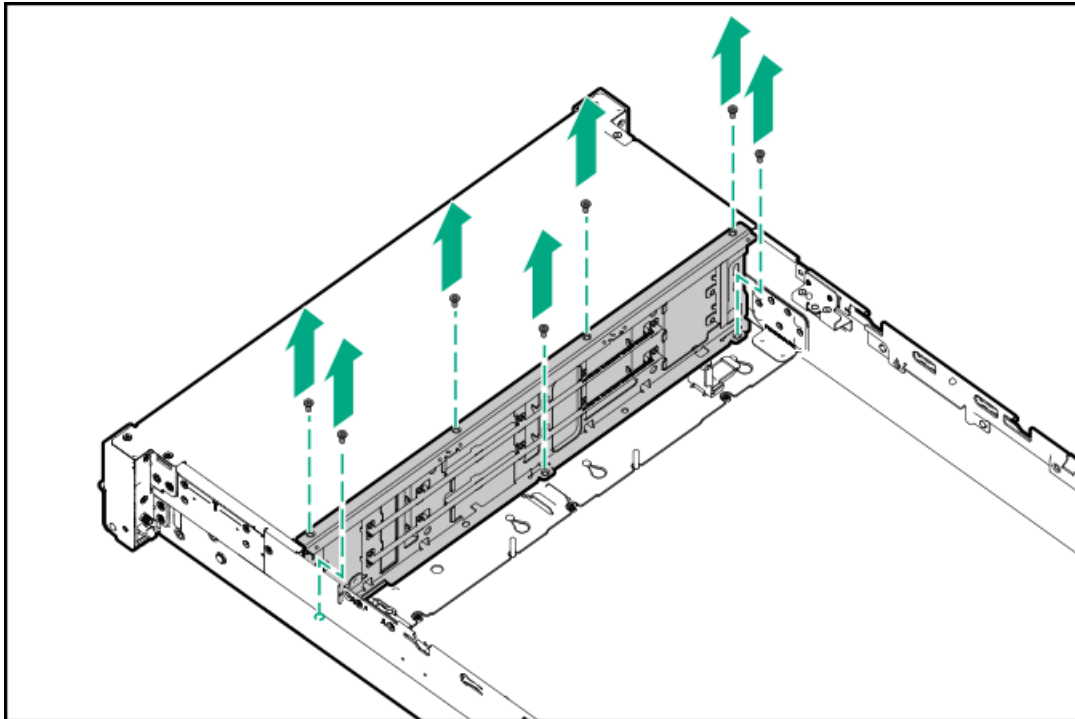
# Removing and replacing a front LFF drive backplane

## Prerequisites

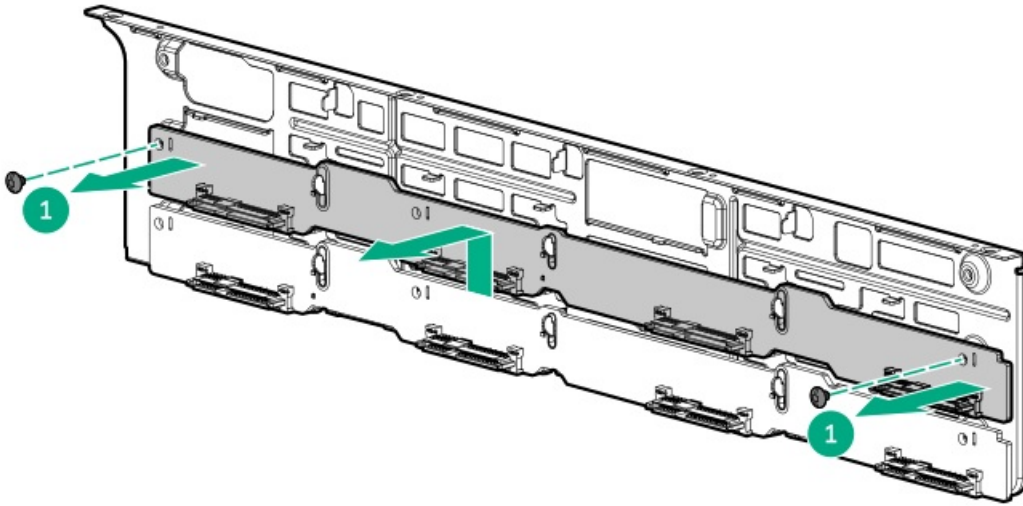
Before you perform this procedure, make sure that you have a T-15 Torx screwdriver available.

## Procedure

1. Power down the server.
2. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
3. Do one of the following:
  - Extend the server from the rack.
  - Remove the server from the rack.
4. Remove the access panel.
5. Remove the fan cage.
6. Remove all drives.
7. Disconnect all cables connected to the backplane.
8. Remove the LFF backplane assembly.



9. Remove the drive backplane.



### Results

To replace the component, reverse the removal procedure.

## Removing and replacing the Systems Insight Display

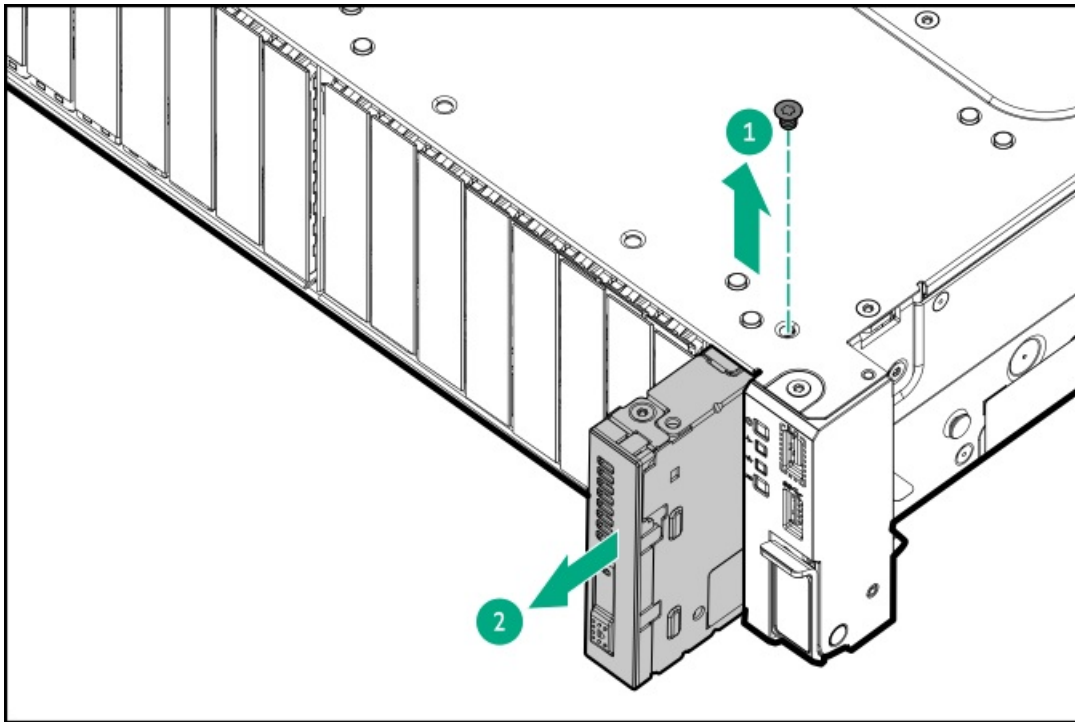
### Prerequisites

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

### Procedure

1. Power down the server.
2. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
3. Do one of the following:
  - Extend the server from the rack.
  - Remove the server from the rack.
4. Remove the access panel.
5. Disconnect the cable from the system board.

Carefully feed the cable to the front of the server.
6. Remove the display.



## Results

To replace the component, reverse the removal procedure.

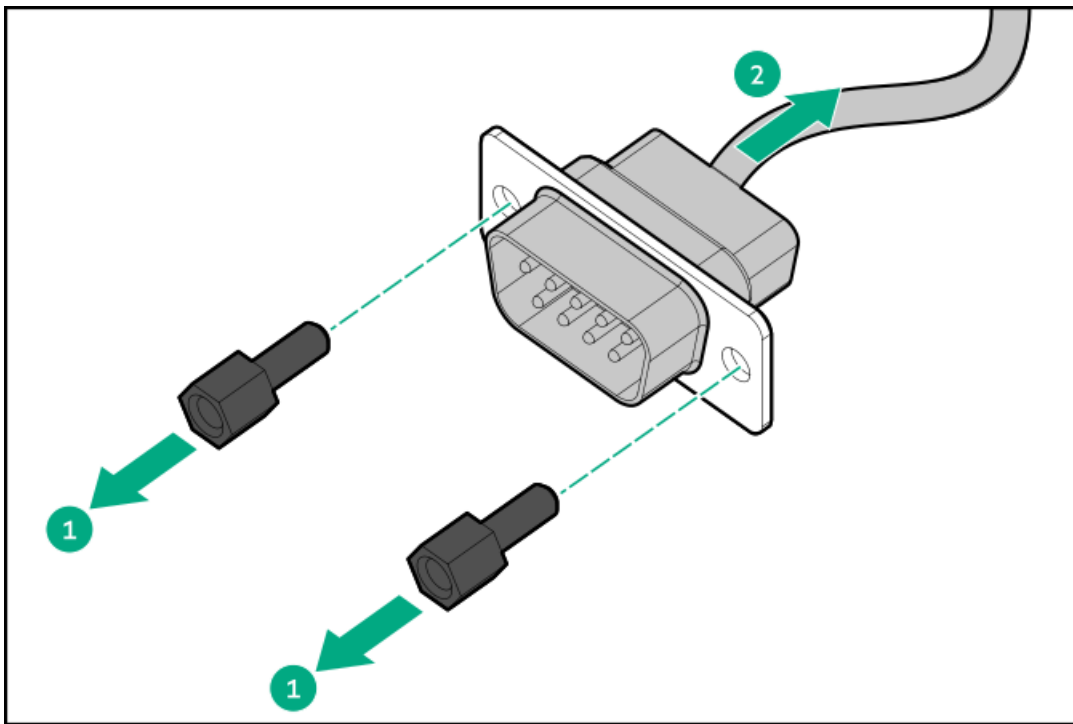
## Removing and replacing the serial port

### Prerequisites

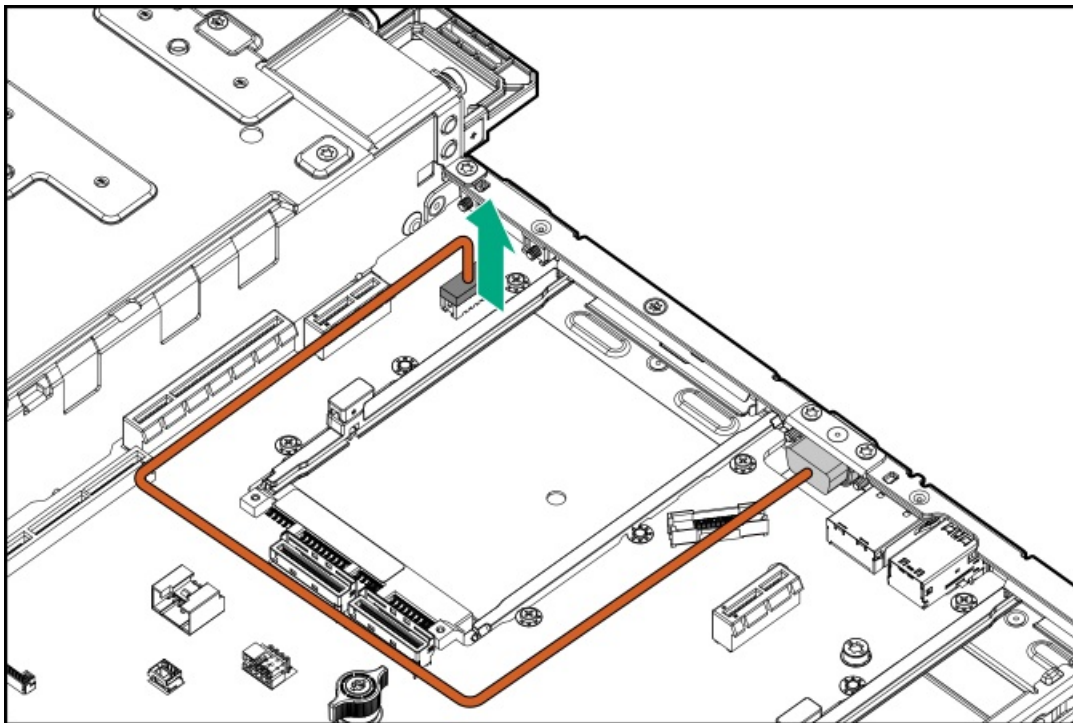
Before you perform this procedure, make sure that you have a 5mm nut driver.

### Procedure

1. Power down the server.
2. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
3. Do one of the following:
  - Extend the server from the rack.
  - Remove the server from the rack.
4. Remove the access panel.
5. Using a 5mm nut driver, remove the serial port.



6. Disconnect and remove the serial cable.



#### Results

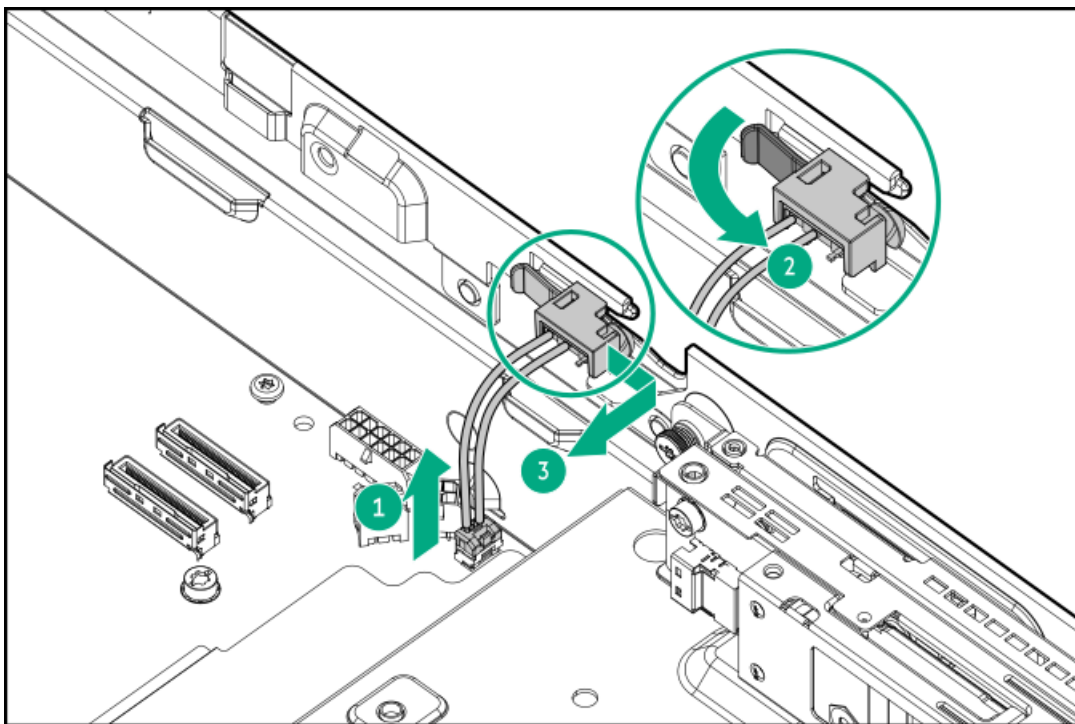
To replace the component, reverse the removal procedure.

## Removing and replacing the chassis intrusion detection switch

### About this task

## Procedure

1. [Power down the server.](#)
2. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
3. Do one of the following:
  - [Extend the server from the rack.](#)
  - [Remove the server from the rack.](#)
4. [Remove the access panel.](#)
5. Remove the chassis intrusion detection switch.



## Results

To replace the component, reverse the removal procedure.

## Removing and replacing a DIMM

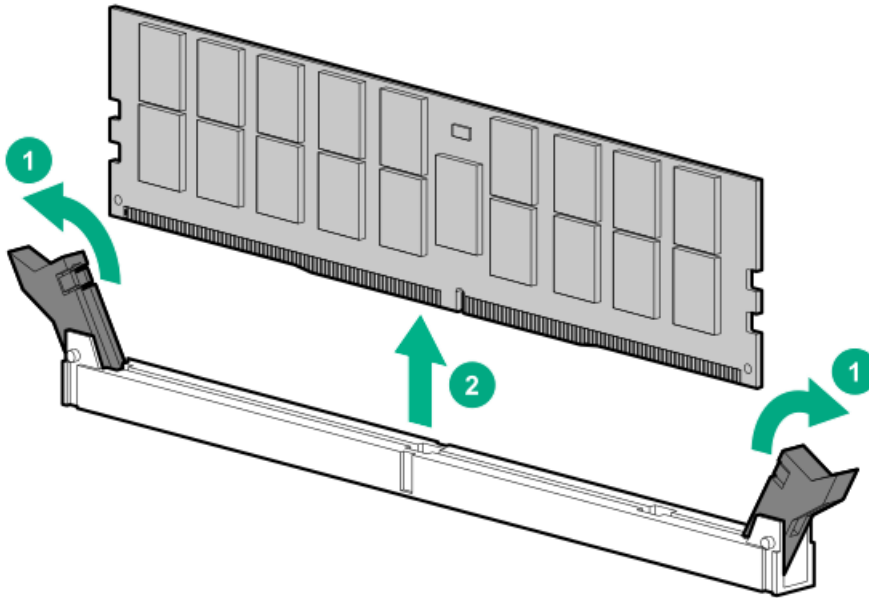
### About this task

To identify the DIMMs installed in the server, see [DIMM slot locations.](#)

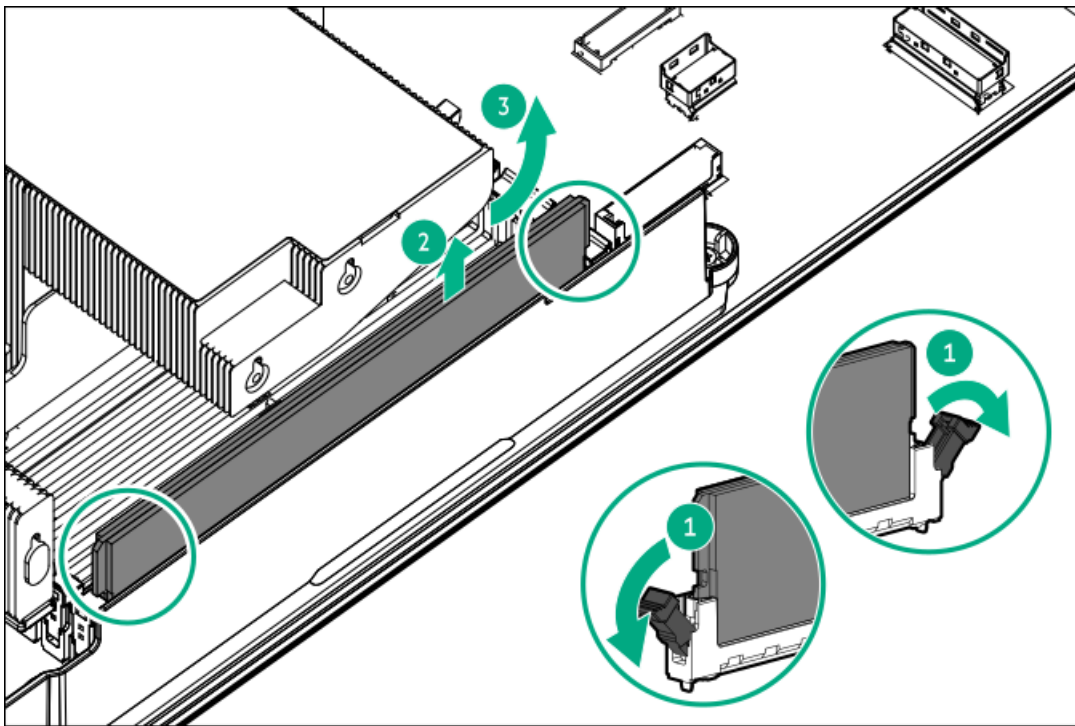
## Procedure

1. Power down the server.

2. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
3. Do one of the following:
  - Extend the server from the rack.
  - Remove the server from the rack.
4. Remove the access panel.
5. If needed, do one of the following:
  - Remove the air baffle.
  - Remove the midplane drive cage.
6. Remove the DIMM.



To remove DIMMs in a max-performance heatsink configuration, carefully unlatch and remove the DIMM:



## Results

To replace the component, reverse the removal procedure.

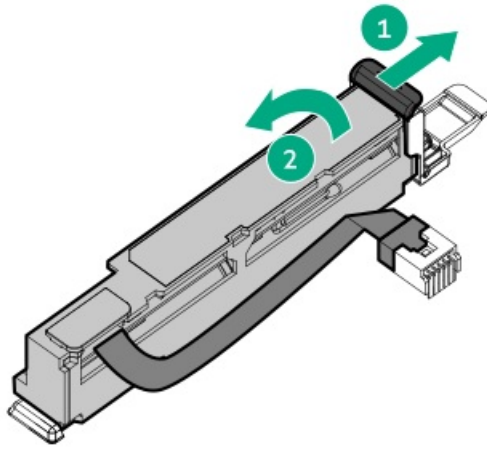
For DIMM configuration information, see the server user guide.

## Removing and replacing an energy pack

### Procedure

1. Power down the server.
2. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
3. Disconnect any external cables that are connected to the expansion board.
4. Do one of the following:
  - Extend the server from the rack.
  - Remove the server from the rack.
5. Remove the access panel.
6. Do one of the following:
  - Remove the air baffle.
  - Remove the midplane drive cage.
7. Remove the fan cage.
8. Disconnect the energy pack cable, and then remove the energy pack.





## Results

To replace the component, reverse the removal procedure.

## Removing and replacing a type-o storage controller

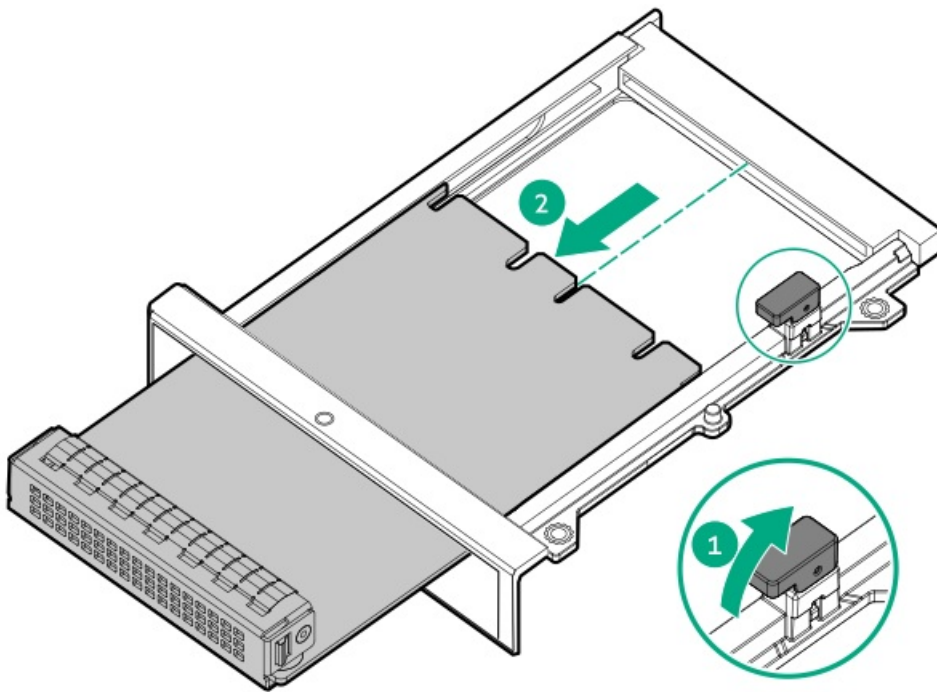
### About this task



**WARNING:** To reduce the risk of personal injury, electric shock, or damage to the equipment, remove power from the server by removing the power cord. The front panel Power On/Standby button does not shut off system power. Portions of the power supply and some internal circuitry remain active until AC power is removed.

### Procedure

1. Power down the server.
2. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
3. Disconnect any external cables that are connected to the expansion board.
4. Do one of the following:
  - Extend the server from the rack.
  - Remove the server from the rack.
5. Remove the access panel.
6. If installed, remove the riser cage.
7. Remove the OCP 3.0 adapter.



To replace the component, reverse the removal procedure.

## Removing and replacing a type-p storage controller

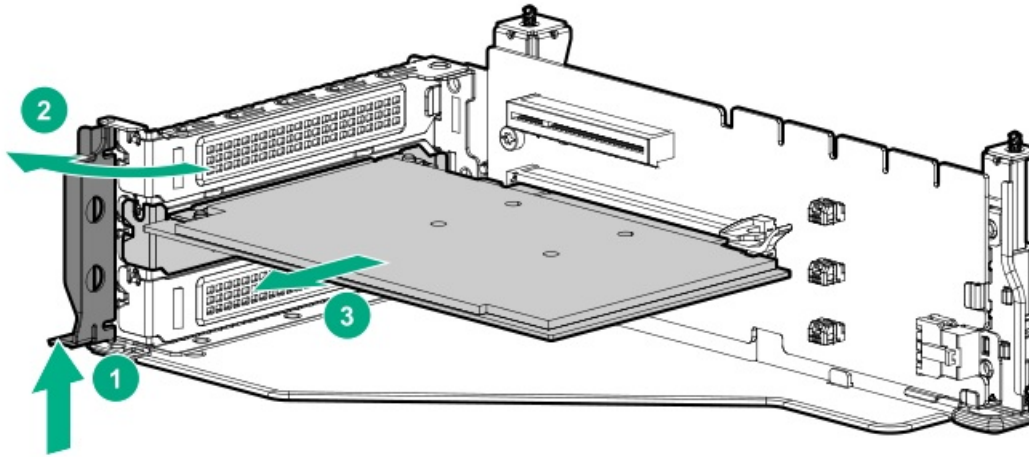
### About this task

**WARNING:** To reduce the risk of personal injury, electric shock, or damage to the equipment, remove power from the server by removing the power cord. The front panel Power On/Standby button does not shut off system power. Portions of the power supply and some internal circuitry remain active until AC power is removed.

### Procedure

1. Power down the server.
2. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
3. Do one of the following:
  - Extend the server from the rack.
  - Remove the server from the rack.
4. Remove the access panel.
5. Remove the riser cage:
  - Remove the primary riser cage.
  - Remove the secondary riser cage.
6. Disconnect any cables from the storage controller.

Note the connection for each cable.
7. Remove the storage controller from the riser.



## Results

To replace the component, reverse the removal procedure.

## Removing and replacing an NS204i-u boot device

### About this task

---

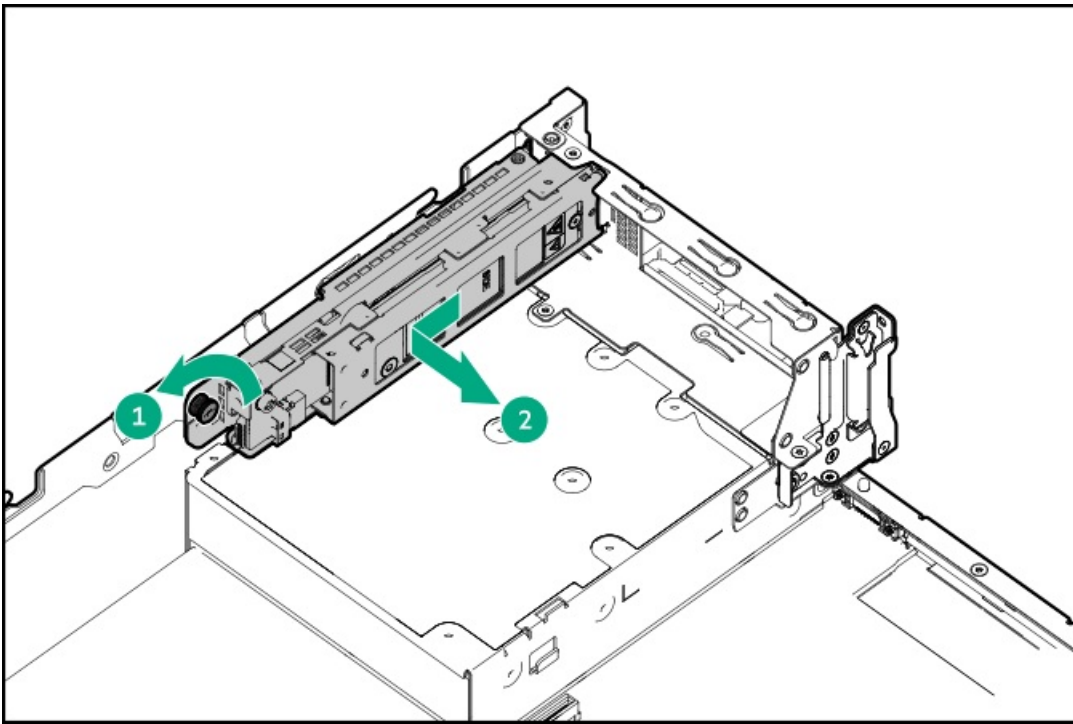
**WARNING:** To reduce the risk of personal injury, electric shock, or damage to the equipment, remove power from the server by removing the power cord. The front panel Power On/Standby button does not shut off system power. Portions of the power supply and some internal circuitry remain active until AC power is removed.

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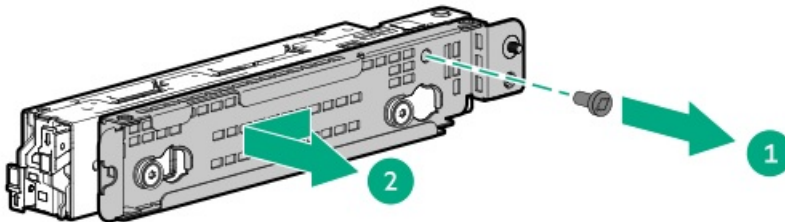
### Procedure

1. Power down the server.
2. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
3. Do one of the following:
  - Extend the server from the rack.
  - Remove the server from the rack.
4. Remove the access panel.
5. Disconnect any cables from the boot device.

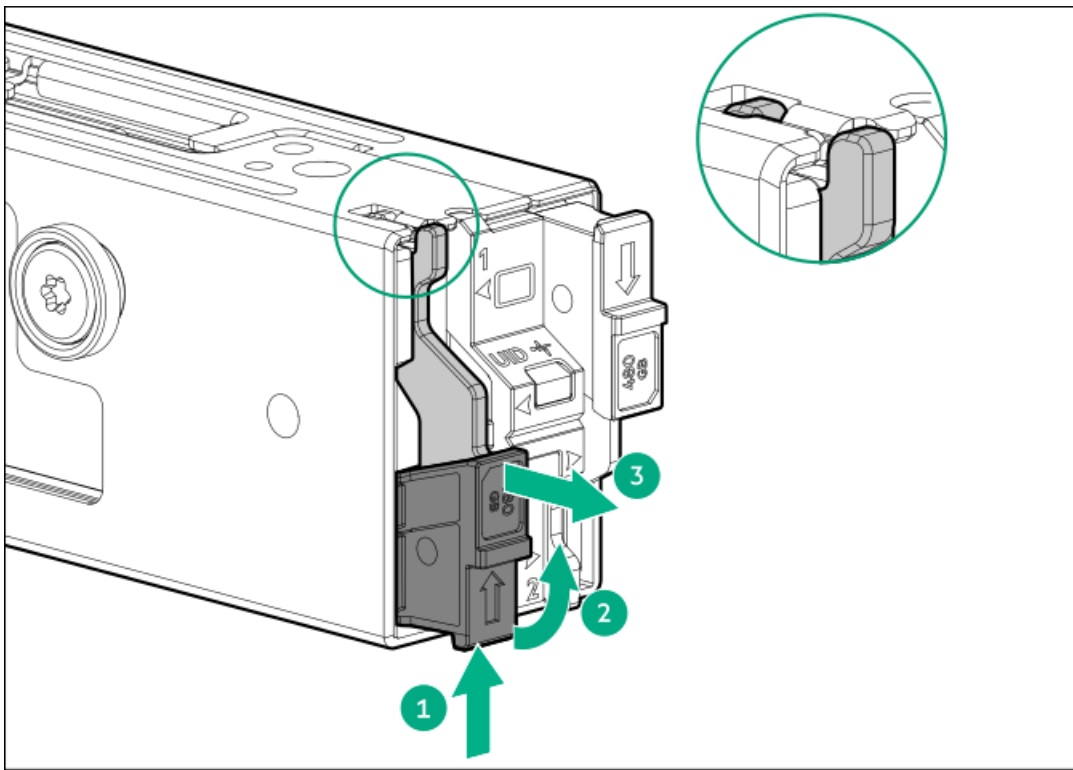
Note the connection for each cable.
6. Remove the boot device.



7. Remove the boot device bracket.



8. Remove the boot device drives.



### Results

To replace the component, reverse the removal procedure.

## Removing and replacing a processor or heatsink

### Prerequisites

- Identify the heatsink and processor socket components.
- Review the processor cautions.
- Before you perform this procedure, make sure that you have the following items available:
  - T-30 Torx screwdriver
  - Alcohol wipe

### About this task

**WARNING:** To reduce the risk of personal injury from hot surfaces, allow the drives, power supplies, and 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

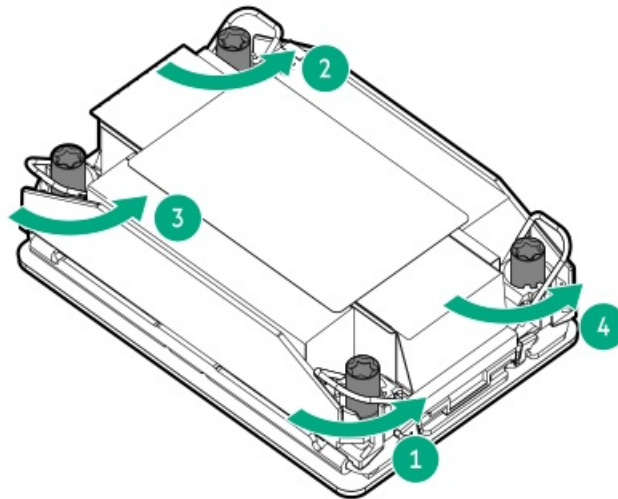
1. Power down the server.
2. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.

3. Disconnect all peripheral cables from the server.
4. If the server is installed in an enclosure or a rack, remove the server and place it on a flat, level work surface.
5. Remove the access panel.
6. Remove the air baffle and all components that block access to the heatsink and processor.
7. Allow all internal system components to cool before continuing.

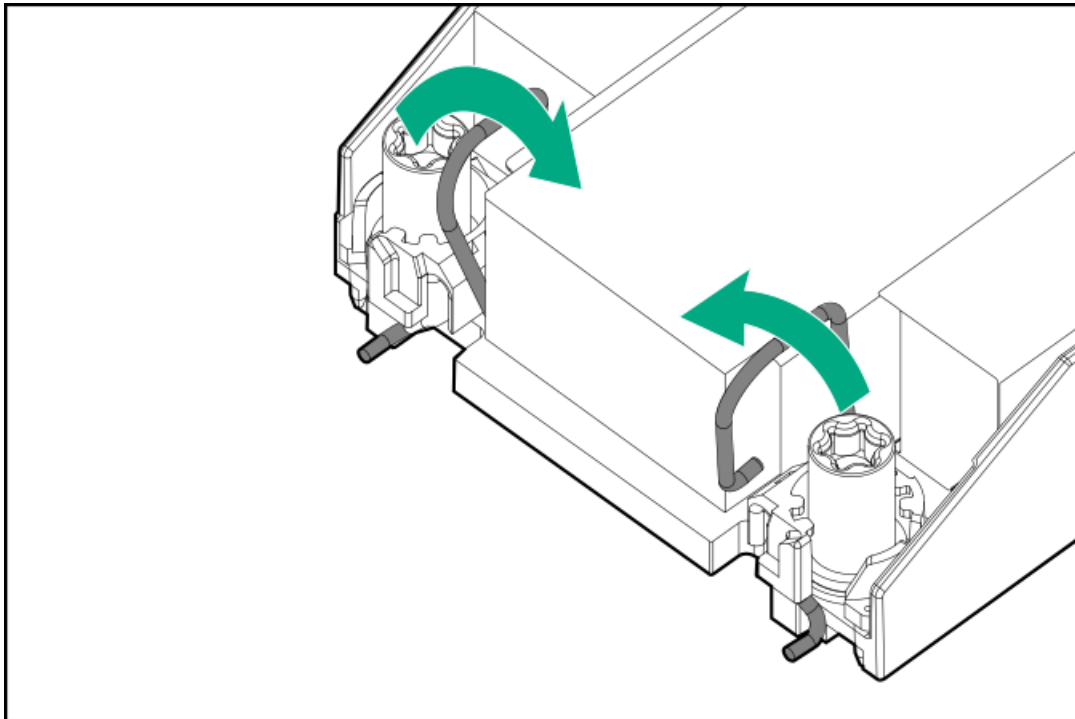
8.  **CAUTION:**

Heatsink screws must be tightened and loosened in alternating sequence. Do not over-tighten the screws as this might damage the system board or the processor socket.

Use a T-30 Torx screwdriver to loosen one pair of diagonally opposite heatsink screws (callouts 1 and 2), and then loosen the other pair of heatsink screws (callouts 3 and 4).



9. Set the anti-tilt wires to the unlocked position.



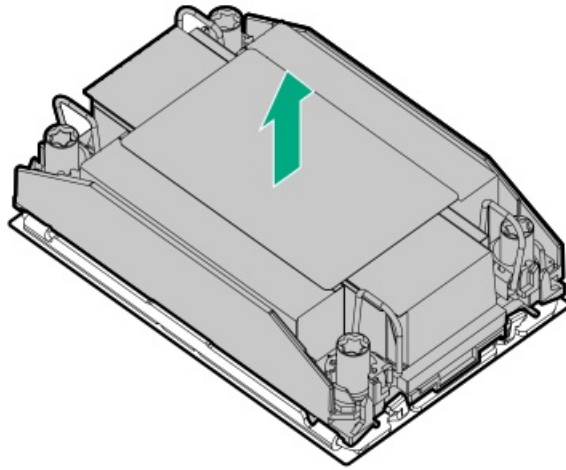
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10. **CAUTION:**

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.

---

Lift the processor-heatsink module straight up from the system board.



11. Place the processor-heatsink module on a flat work surface with its contact side facing up.

---

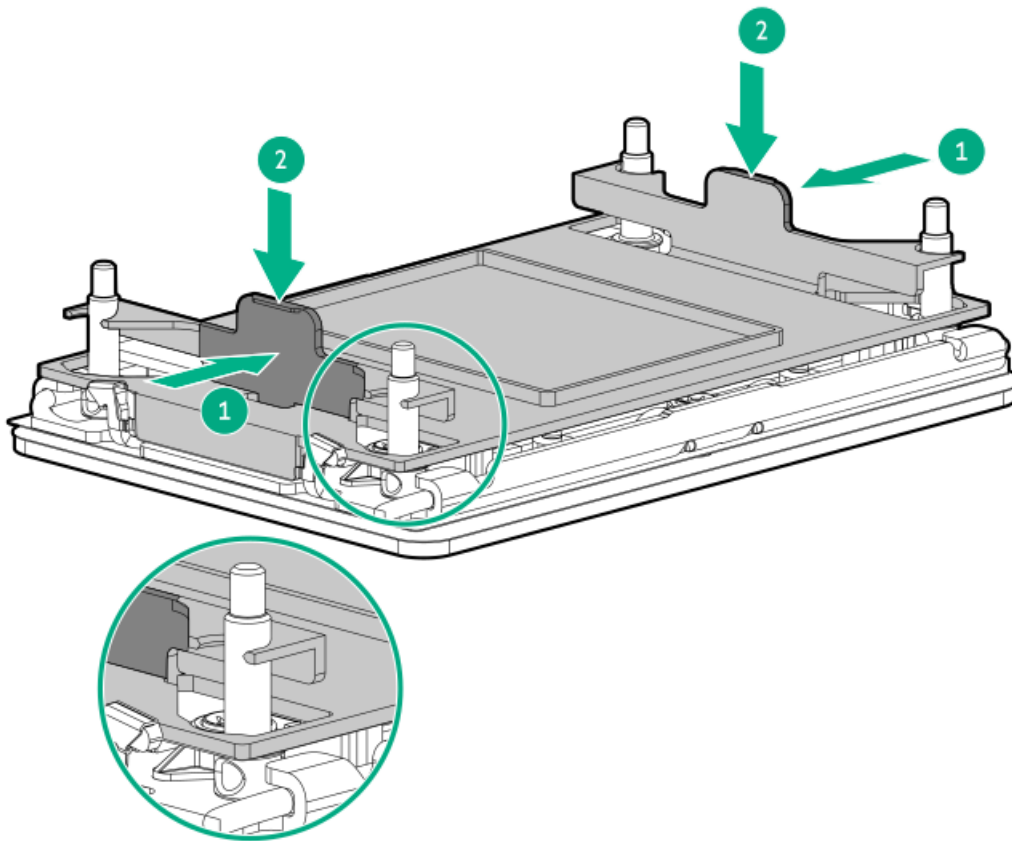
12. **CAUTION:** Do not press down on the dust cover. Pressing down on the dust cover might damage the processor socket.


---

If you are not immediately installing the replacement processor-heatsink module, install the dust cover on the empty processor socket:

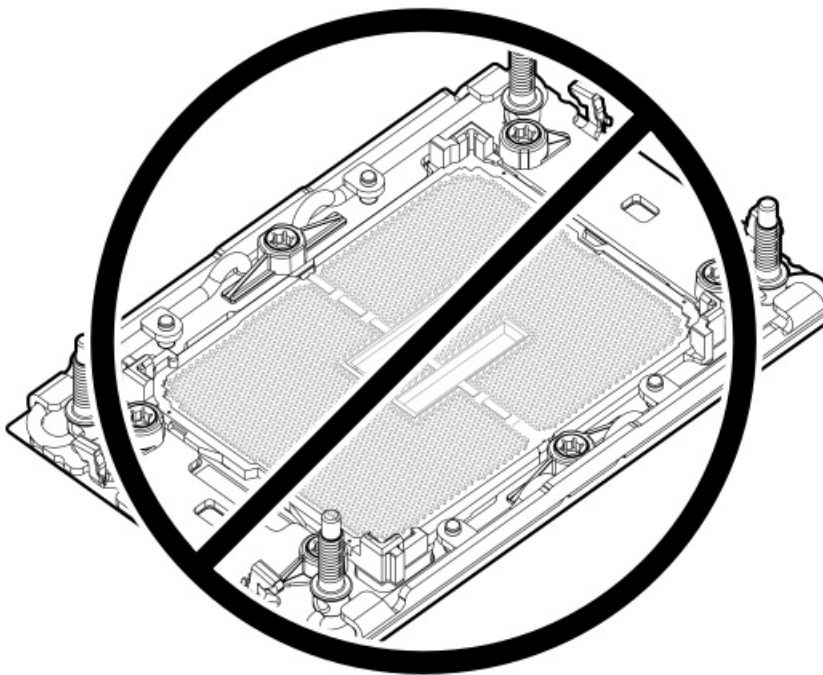
- a. Press and hold the grip tabs on the dust cover (callout 1).
- b. Carefully lower the dust cover onto the bolster plate guide posts (callout 2).

Make sure that the corner holes of the dust cover are properly engaged with the guide posts on the bolster plate.

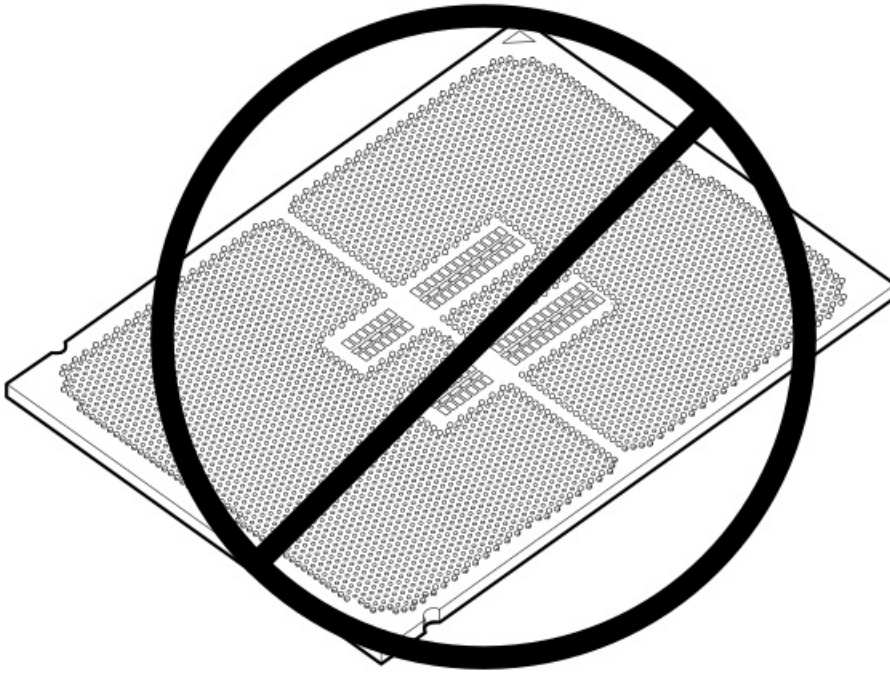


- 
13.  **CAUTION:**  
**THE PINS ON THE PROCESSOR SOCKET AND ON THE PROCESSOR ARE VERY FRAGILE AND EASILY DAMAGED.** Any damage to them might require replacing the system board.
- 

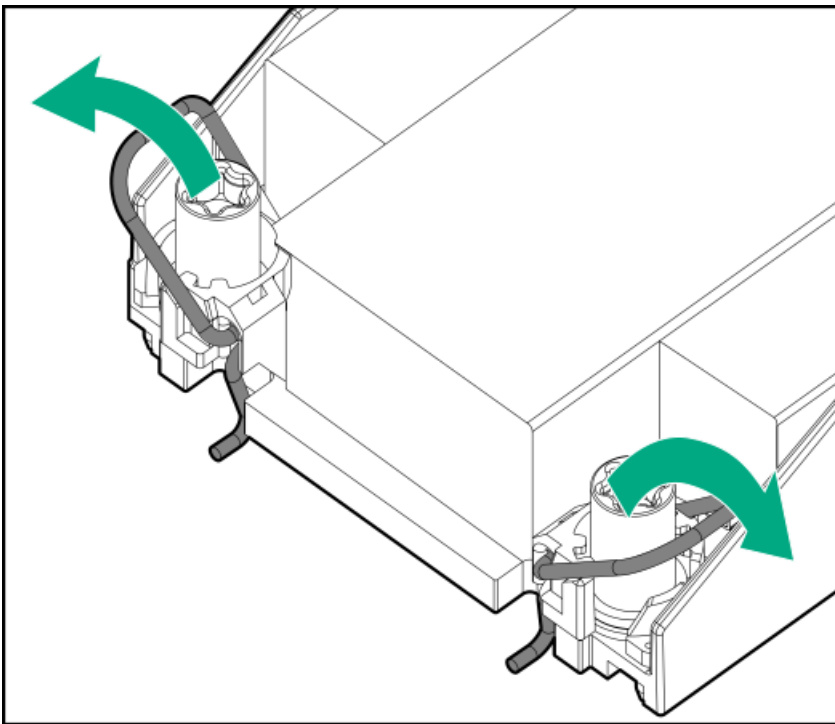
Do not touch the pins on the processor socket and the processor.







14. Set the anti-tilt wires to the locked position.



15.  **NOTE:**

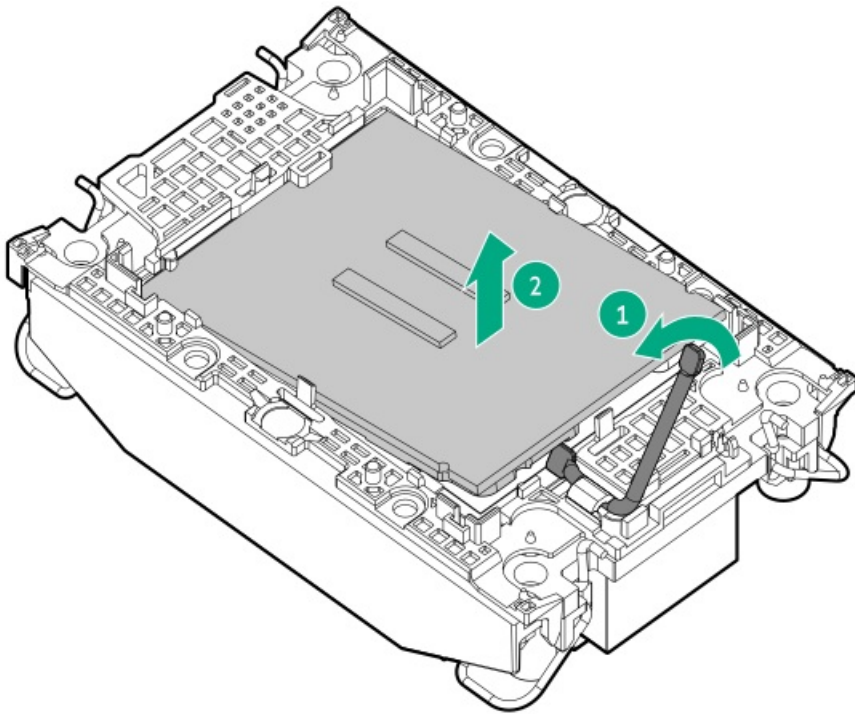
Some processor carriers have a thermal interface material (TIM) breaker lever; some do not. For information about removing a processor without a TIM breaker lever, see the server maintenance and service guide.

Remove the processor from the heatsink:

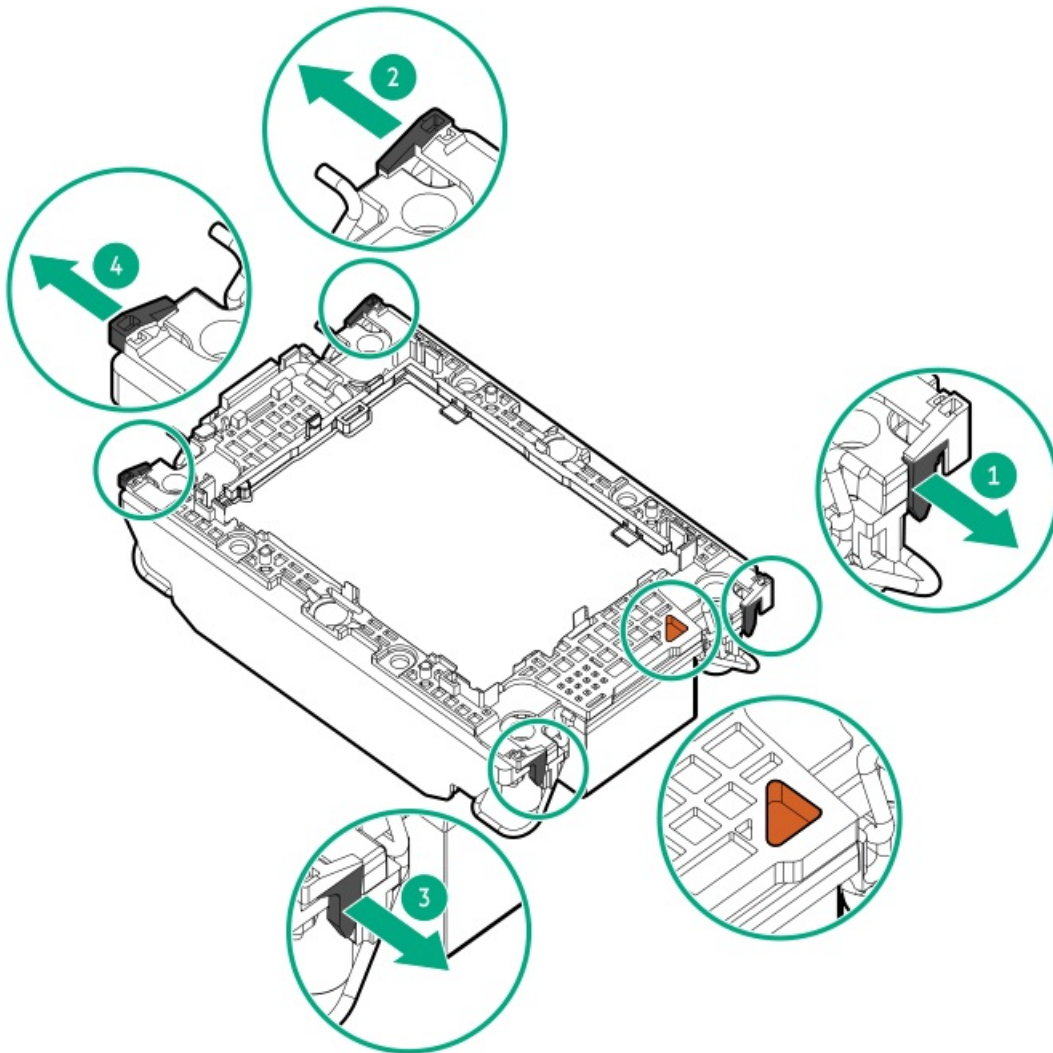
- a. Open the TIM breaker lever (callout 1).

This action breaks the adhesion between the processor and the heatsink.

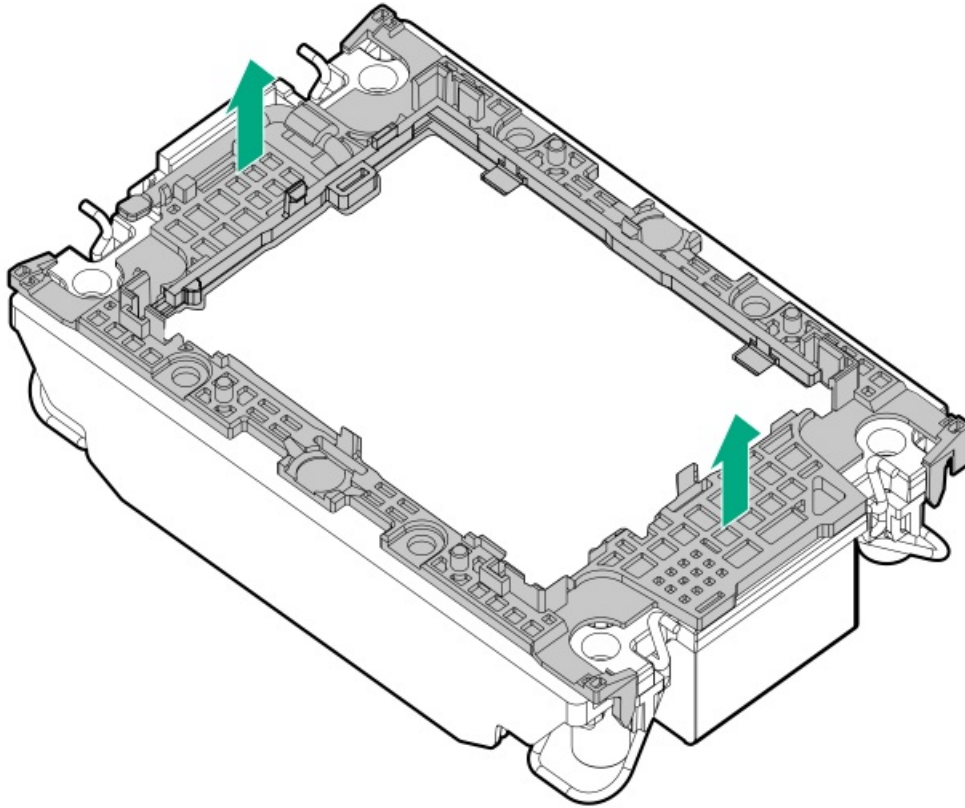
- b. Hold the processor on its edges, and then remove it from the carrier (callout 2).



c. Starting from the pin 1 corner and moving in an opposite manner, disengage the processor carrier release tabs from the heatsink (callouts 1-4).



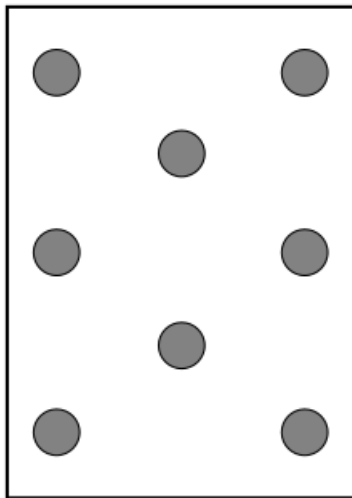
- d. Lift the processor carrier away from the heatsink.



- 16. If you are using the same heatsink, use an alcohol wipe to remove the existing thermal grease from the heatsink.

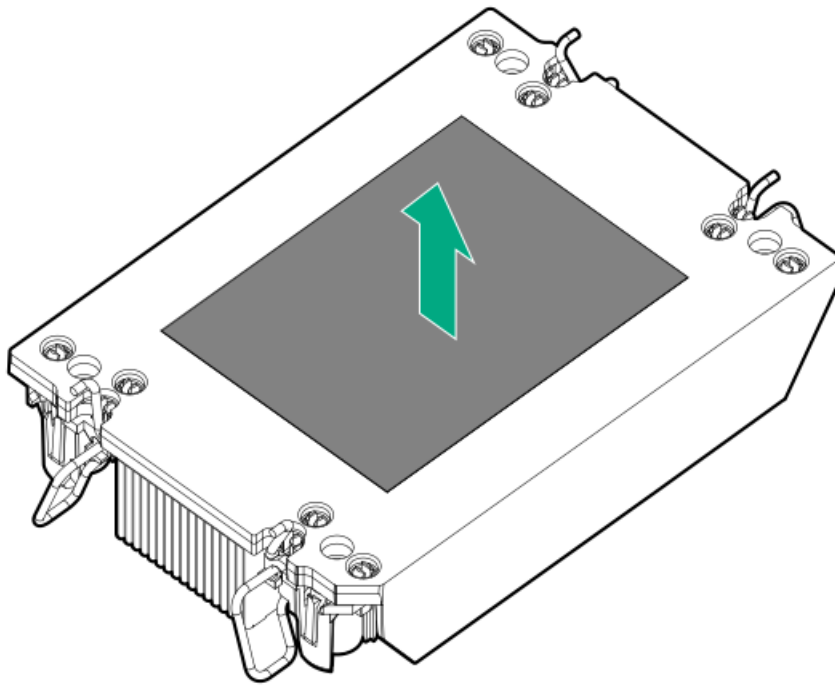
Allow the alcohol to evaporate before continuing.

- 17. 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.

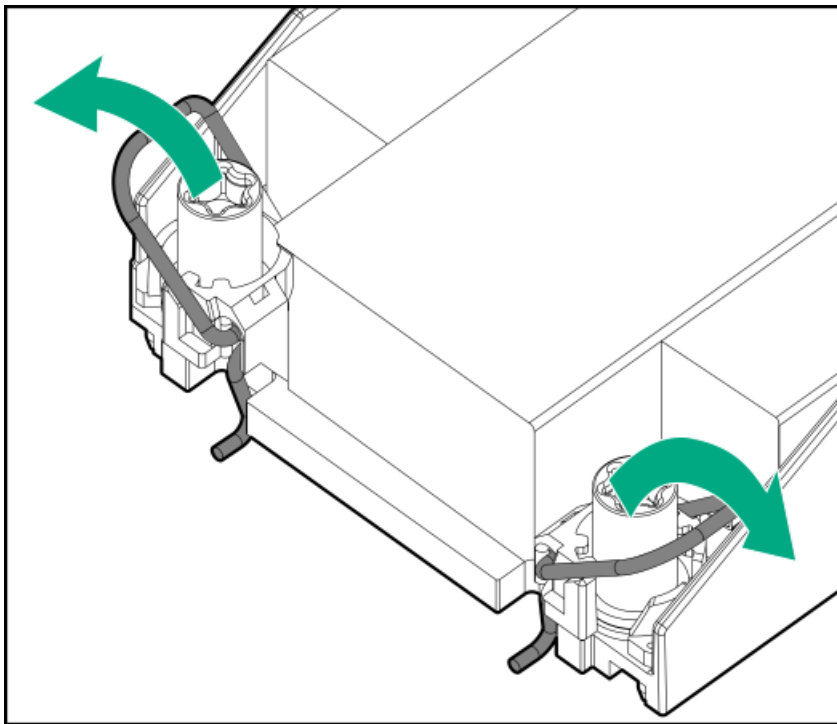


- 18. If you are using a new heatsink, remove the protective film from the thermal interface material.





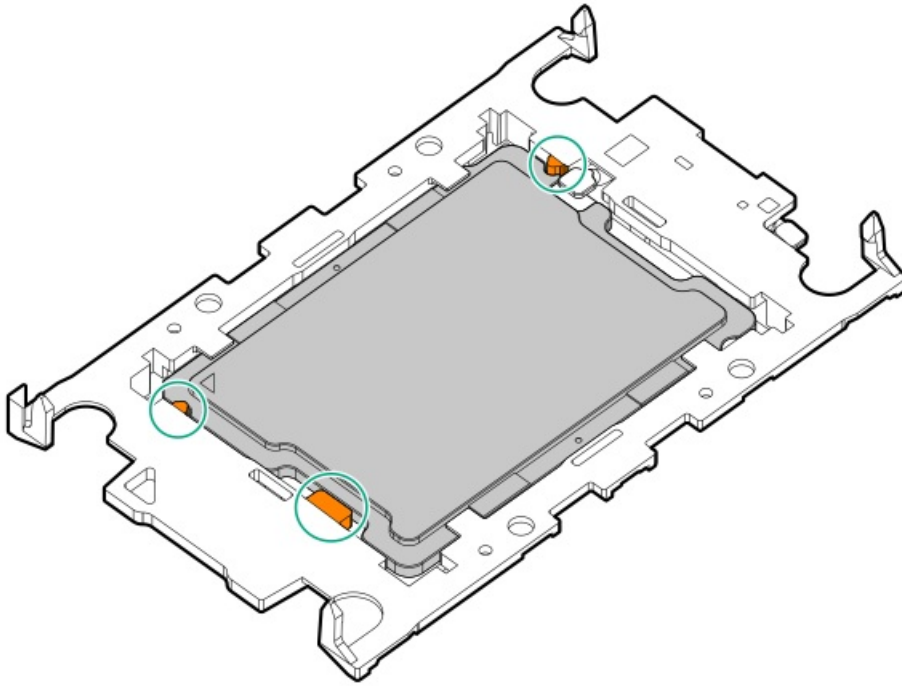
19. Set the anti-tilt wires to the locked position.



20. Verify that the processor is securely latched to the processor carrier.

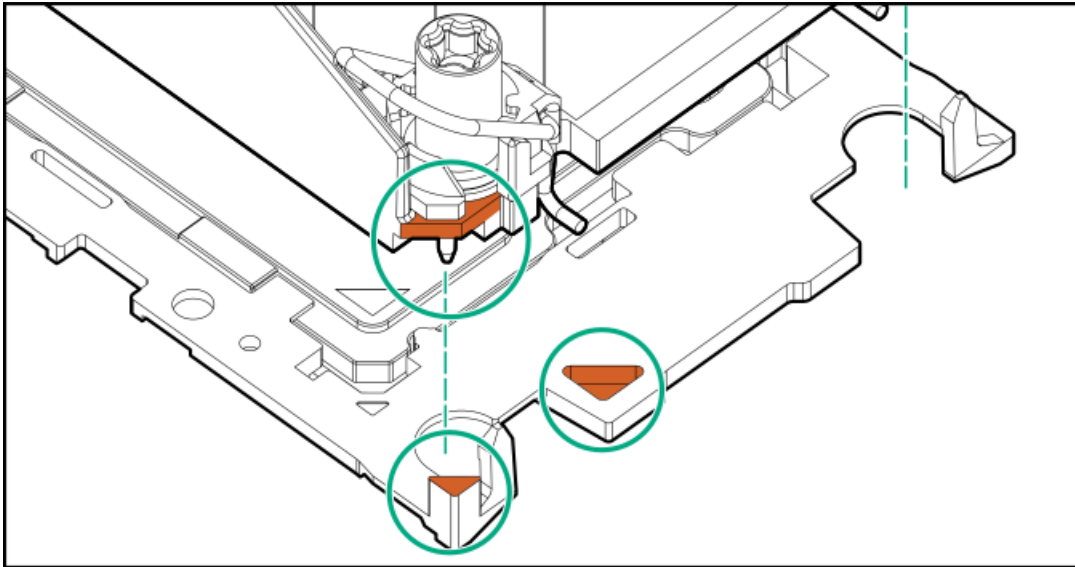
The following illustration calls out the keying feature tabs that secure the processor. Different processor carriers will have these tabs in different locations.





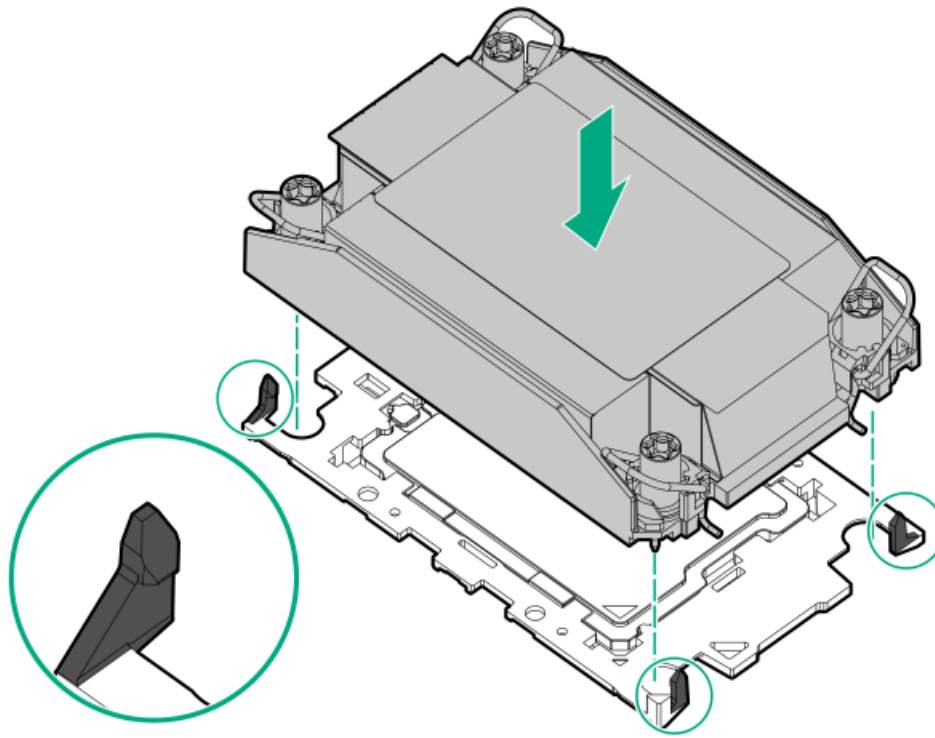
21. Attach the heatsink to the processor carrier:

- a. Align the pin 1 indicator on the processor carrier with that on the heatsink.



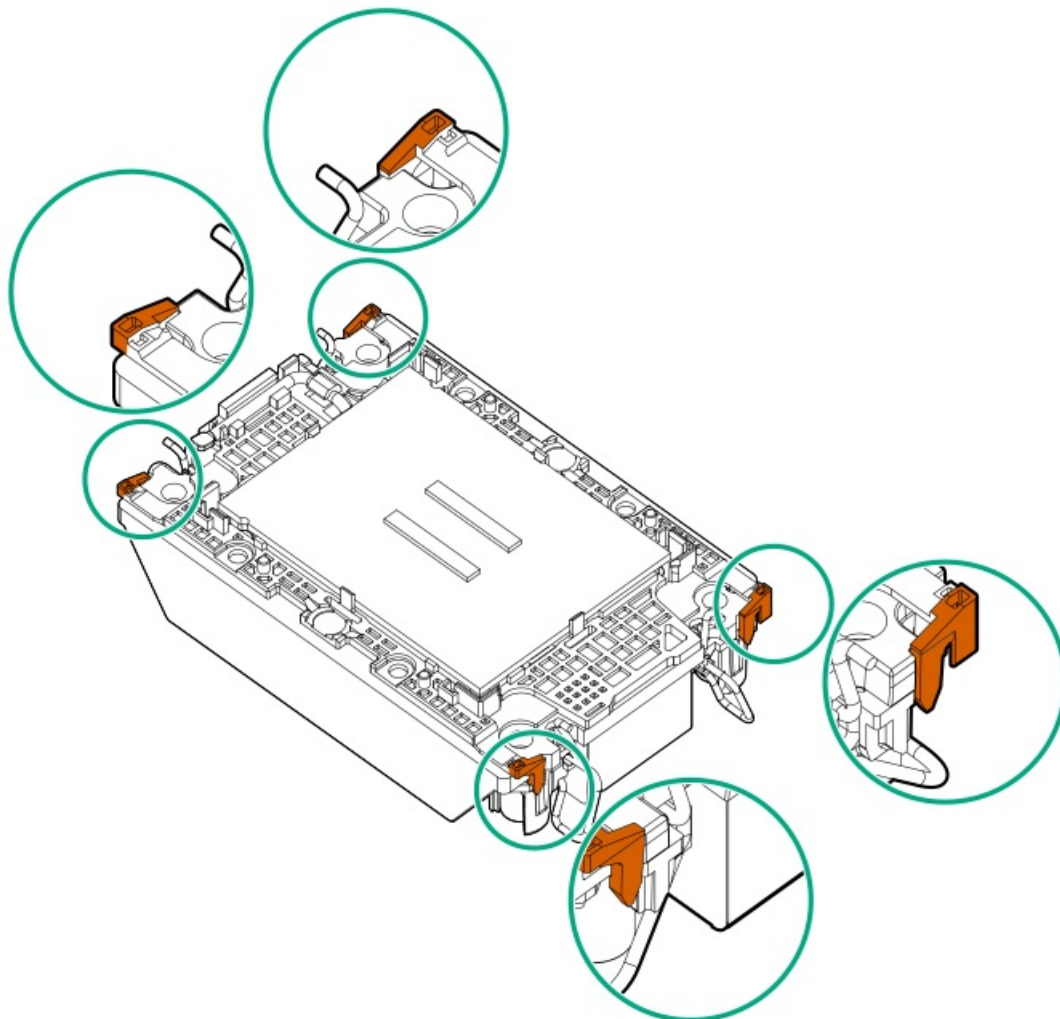
- b. Lower the heatsink on the processor carrier until the carrier tabs snap into place.

There will be an audible click to indicate that the heatsink is properly latched on the processor carrier.

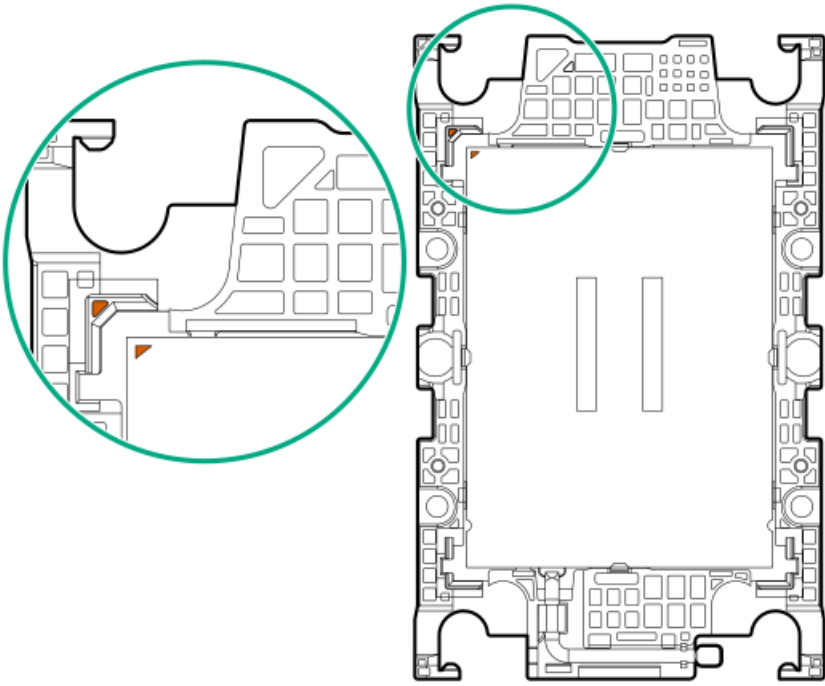


22. Perform the following verification steps:

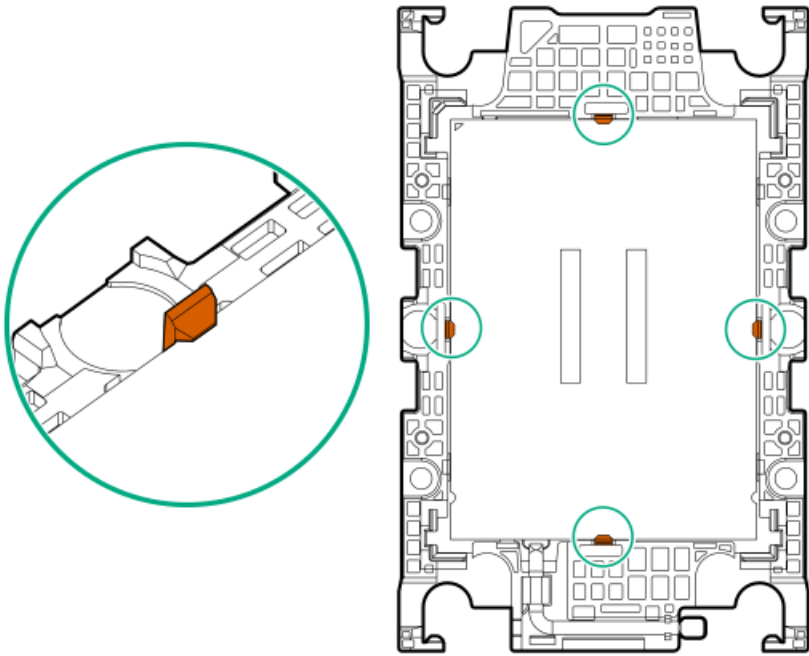
- a. Verify that the tabs on the processor carrier are securely latched on the heatsink.



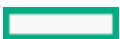
b. Verify that the pin 1 indicators on the processor and processor carrier are aligned.

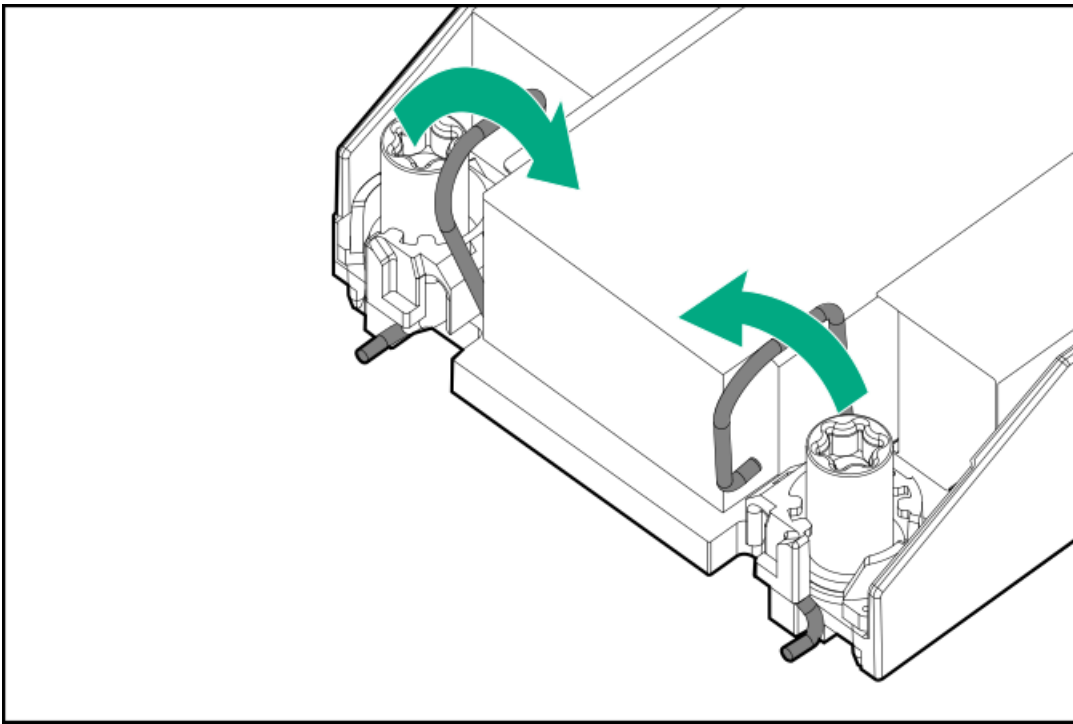


c. Verify that the processor is properly secured by the carrier snaps.



23. Set the anti-tilt wires to the unlocked position.





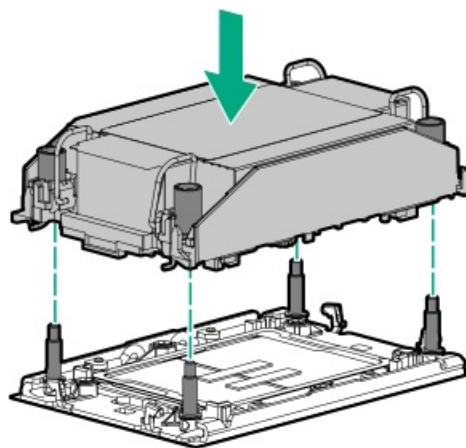
24. **CAUTION:**

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.

Install the processor-heatsink module:

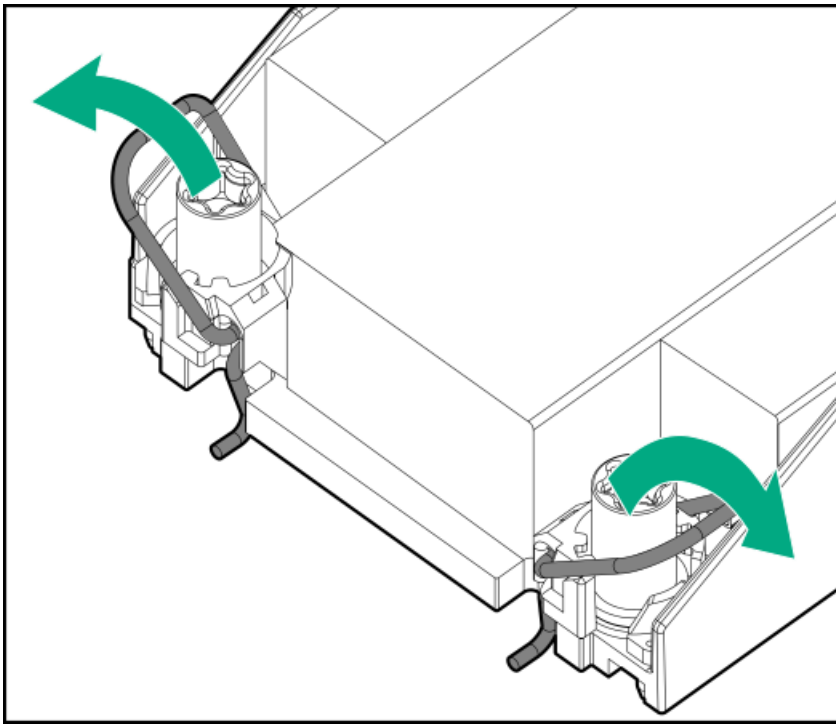
- a. When using a torque wrench to tighten the heatsink screws, set it to 0.9 N-m (8 in-lb) of torque .
- b. Note the **Front of server** text on the heatsink label to correctly orient the processor-heatsink module over the bolster plate.
- c. Carefully lower the processor-heatsink module onto the bolster plate guide posts.

The posts are keyed so that the module can only be installed one way. Make sure that the module is properly seated on the bolster plate before securing the screws.

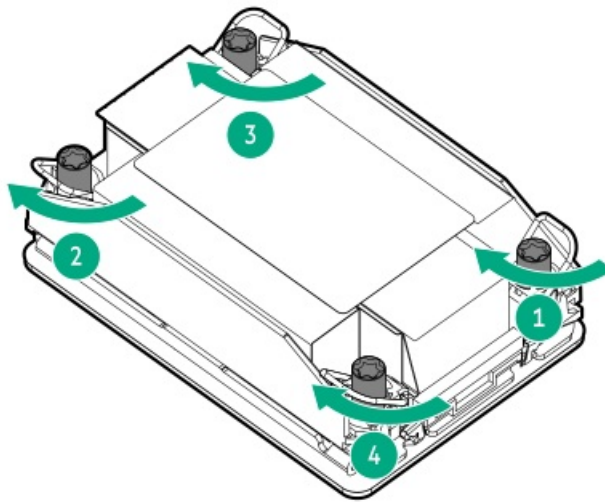


- d. Set the anti-tilt wires to the locked position.





- e. Use a T-30 Torx screwdriver to tighten one pair of diagonally opposite heatsink screws (callouts 1 to 2), and then tighten the other pair of heatsink screws (callouts 3 to 4).



- 25. Install the air baffle and other removed hardware components.
- 26. Install the access panel.
- 27. If the server was removed from an enclosure or a rack, reinstall it now.
- 28. Connect all peripheral cables to the server.
- 29. Connect each power cord to the server.
- 30. Connect each power cord to the power source.
- 31. Power up the server.

**Results**

The installation is complete.

# Removing and replacing the direct liquid cooling assembly

## Prerequisites

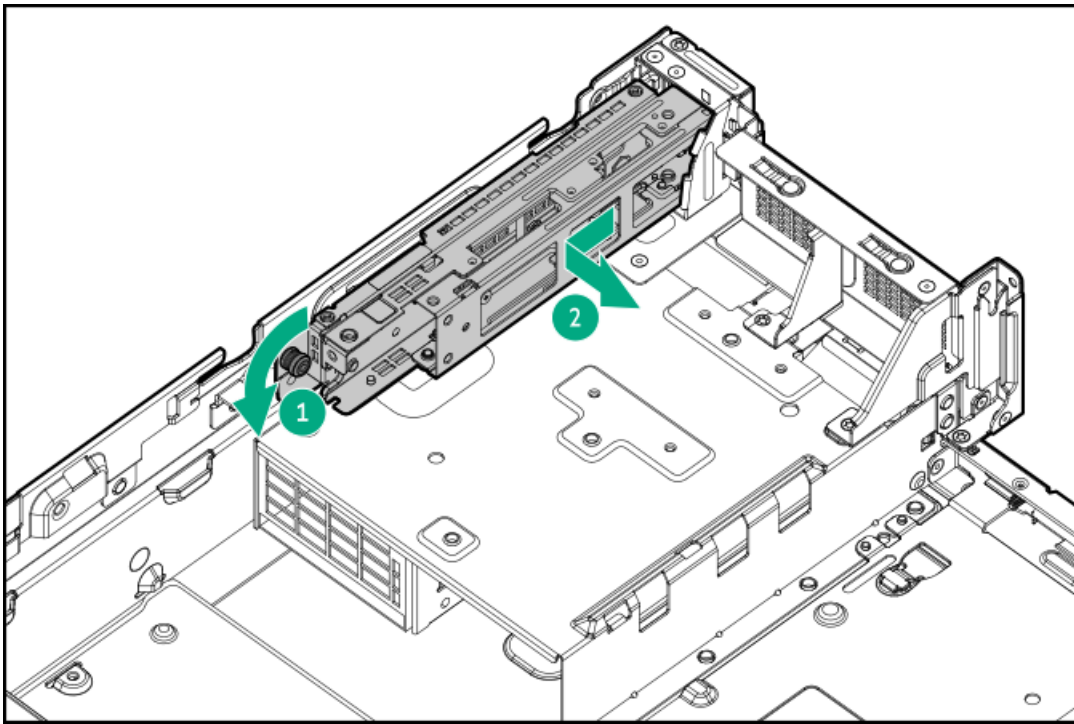
- Read the **HPE Cray XD Direct Liquid Cooling System Site Preparation, User, and Maintenance Guide** :  
<http://www.hpe.com/info/xdDLCguide>
- Identify liquid cooling components
- In addition to the tools and materials required for the DLC System, be sure you also have the following:
  - T-30 Torx screwdriver
  - T-10 Torx screwdriver

## About this task

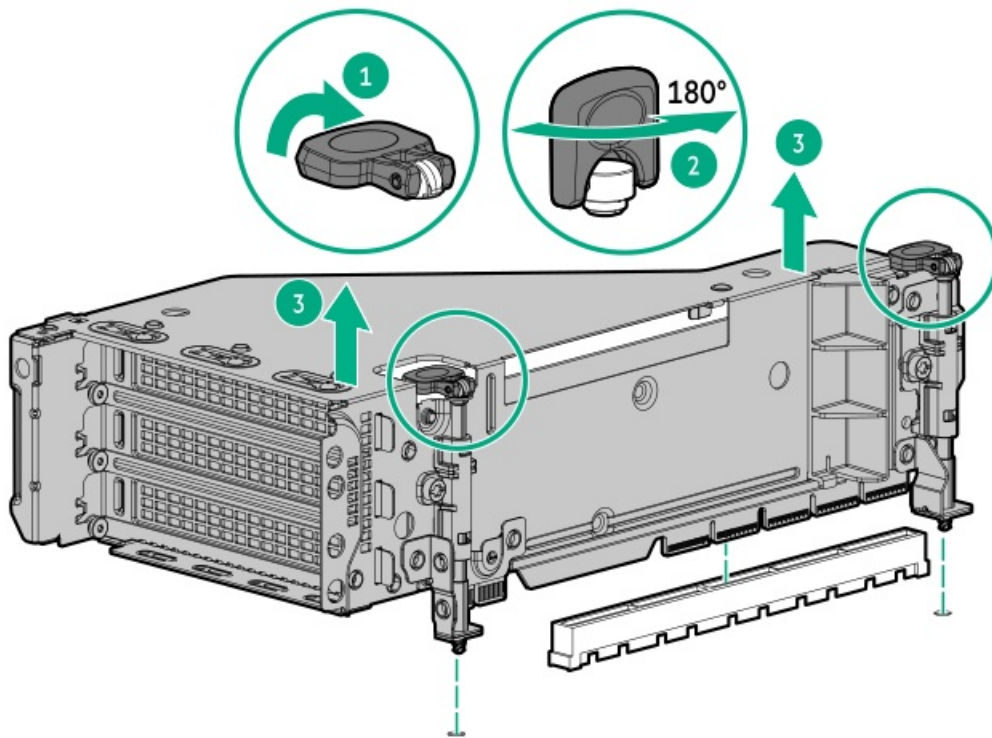
The entire cooling loop must be removed as one unit. Do not attempt to remove riser cages or cold plates separately.

## Procedure

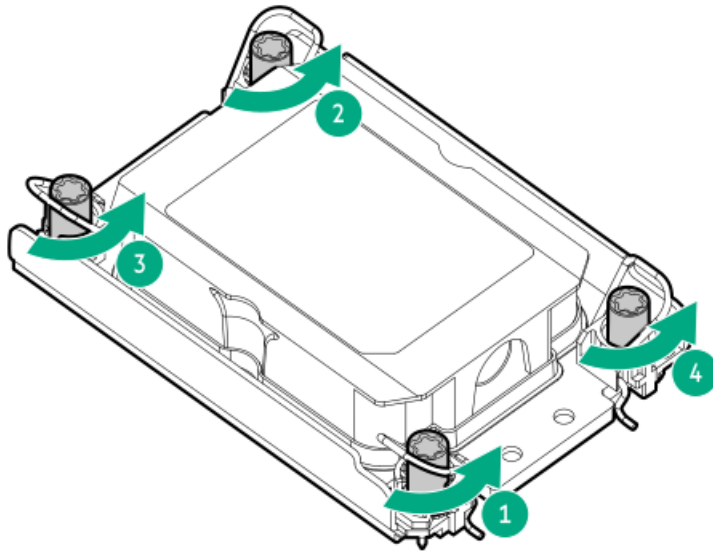
1. Back up all server data.
2. Power down the server.
3. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
4. Disconnect the hoses from the DLC manifold.
5. Remove the server from the rack.
6. Remove the access panel.
7. Prepare to remove the components.
  - a. Loosen the riser cage or NS204i-u boot device. Set it on the slot or chassis while you loosen the cold plate nuts.
    - For the NS204i-u assembly:



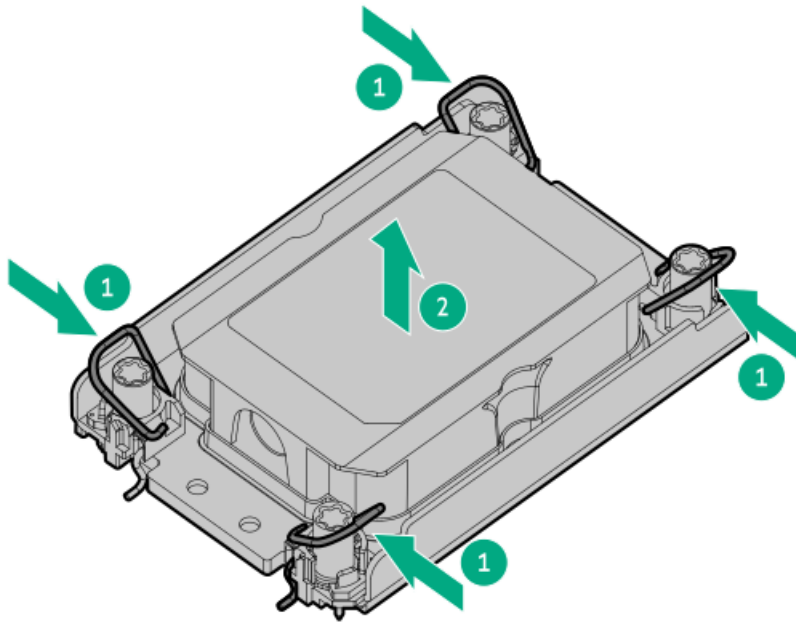
- For the PCIe assembly:



- Using a T-30 Torx screwdriver, loosen the nuts on both cold plates.

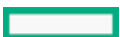


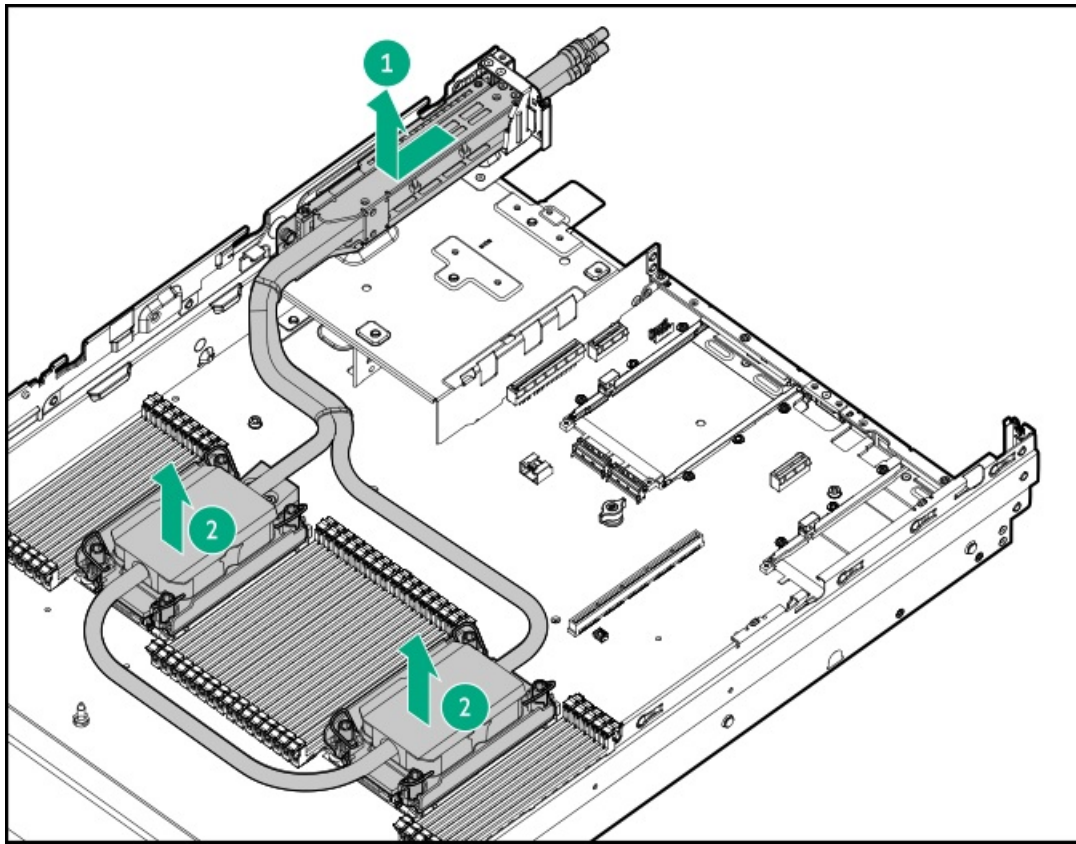
c. Verify that the nuts are disengaged. Partially lift the cold plates away from the socket, and then set them back down.



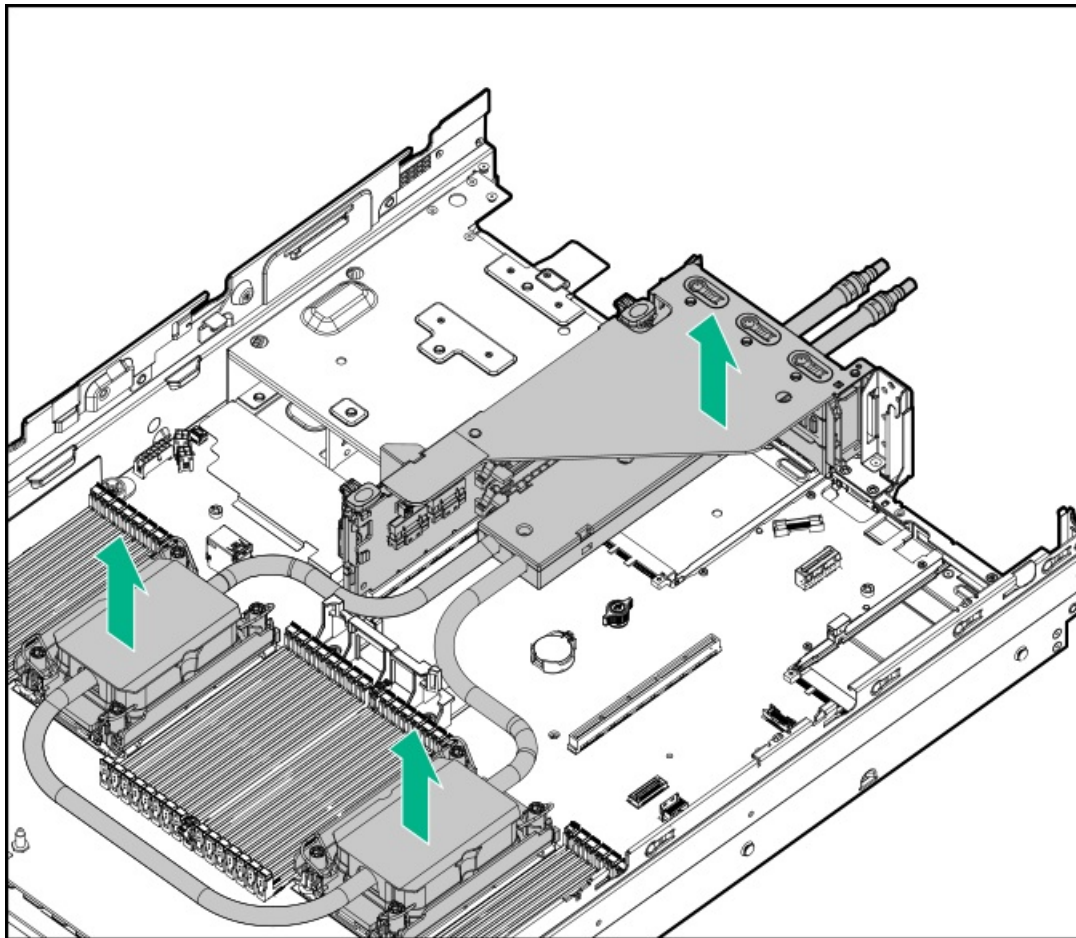
8. Holding the hose between the cold plates and the riser cage, lift the assembly away from the server.

- To remove the NS204i-u assembly:





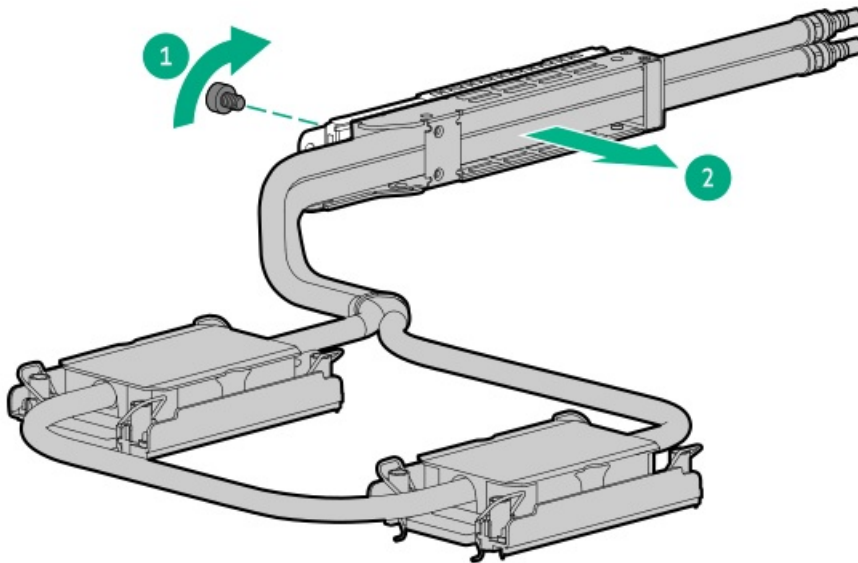
- To remove the PCIe assembly:



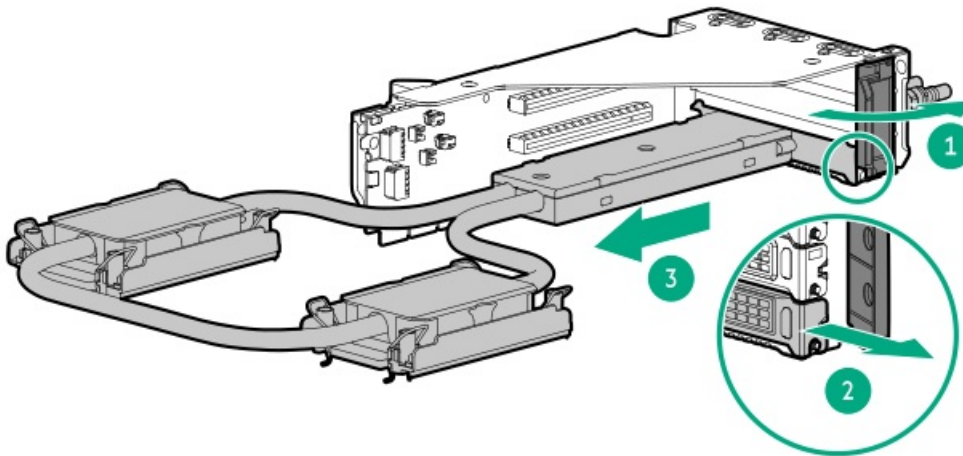
9. Set the assembly upside down on a flat surface.

10. Remove the bracket.

- To remove the NS204i-u assembly:



- To remove the riser cage assembly:



## Results

To replace the assembly, reverse the removal procedure.

## Removing and replacing the system battery

### About this task

The system battery provides power to the real-time clock. If the server no longer automatically displays the correct date and time, you might need to replace the system battery.



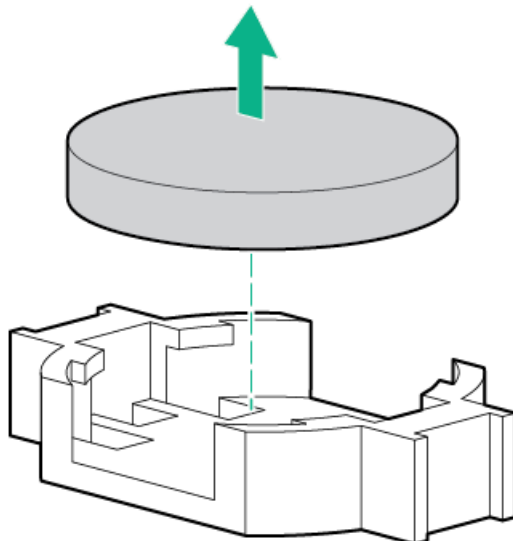
**WARNING:** The computer contains an internal lithium manganese dioxide, a vanadium pentoxide, or an alkaline battery pack. A risk of fire and burns exists if the battery pack is not properly handled. To reduce the risk of personal injury:

- 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 of in fire or water.
- Replace only with the spare designated for this product.

---

## Procedure

1. Power down the server ([Power down the server](#)).
2. Remove all power:
  - Disconnect each power cord from the power source.
  - Disconnect each power cord from the server.
3. Do one of the following:
  - Extend the server from the rack ([Extend the server from the rack](#)).
  - Remove the server from the rack ([Remove the server from the rack](#)).
4. Remove the access panel ([Remove the access panel](#)).
5. If installed, remove the tertiary PCIe riser cage ([Remove the riser cage](#)).
6. Locate the battery ([System board components](#)).
7. Remove the battery.



8. To replace the component, reverse the removal procedure.
9. Properly dispose of the old battery.

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

# Removing and replacing the system board

## Prerequisites

- Be sure you have a T-30 Torx screwdriver.
- Note where all drives, controllers, DIMMs, cables and other options were installed before replacing the system board.
- Note any secure boot keys.
- Note the serial and product IDs

## Procedure


### Removing the system board

1. Power down the server.
2. Remove all power:
  - a. Disconnect each power cord from the power source.
  - b. Disconnect each power cord from the server.
3. Remove the server from the rack.
4. Remove all power supplies.
5. Remove the access panel.
6. Do one of the following:
  - Remove the air baffle.
  - Remove the midplane drive cage.
7. Remove the primary or secondary PCIe riser cage.
8. If installed, remove the tertiary PCIe riser cage.
9. Remove the OCP 3.0 adapter.
10. Remove all DIMMs.
11. Remove the fan cage.
12. Disconnect all cables connected to the system board.
13. Observe the following cautions.

---

 **CAUTION:** Loosen each nut or screw in the order indicated. Otherwise, damage might occur to components.

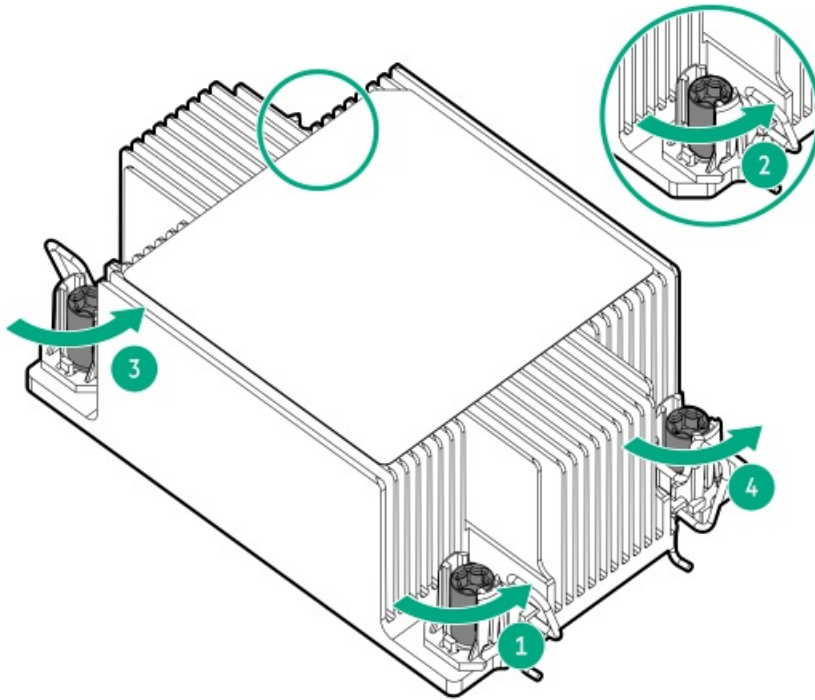
---

 **CAUTION:** Install the processor as soon as possible after removing it. Do not leave the socket unpopulated for extended periods of time.

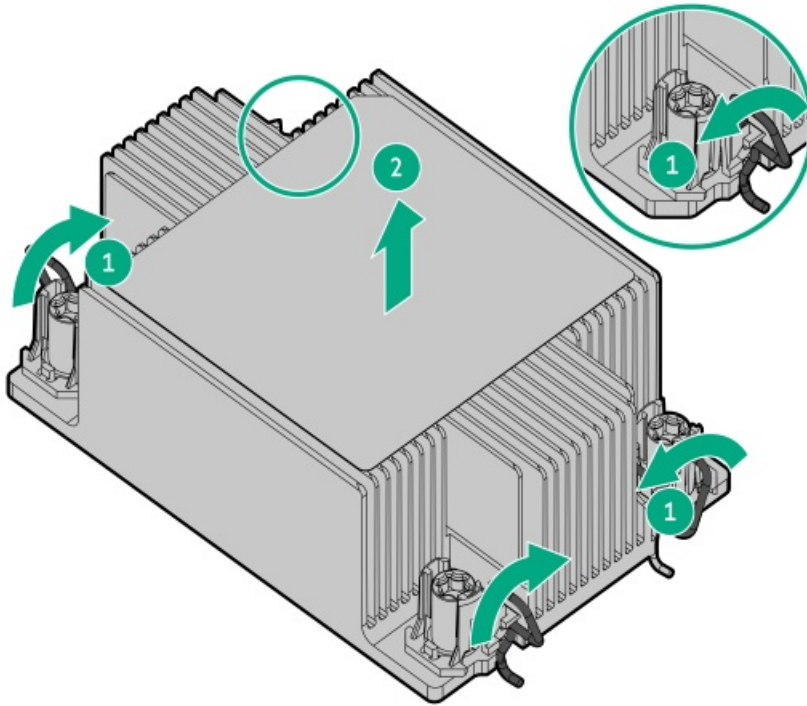
---

14. Remove the processor heatsink assembly:
  - a. Allow the heatsink to cool.
  - b. Using a T-30 Torx screwdriver, loosen the heatsink nuts.  
  
A standard heatsink is shown.





c. Lift the processor heatsink assembly up and away from the system board.



d. Turn the processor heatsink assembly over and place it on a work surface with the processor assembly facing up.

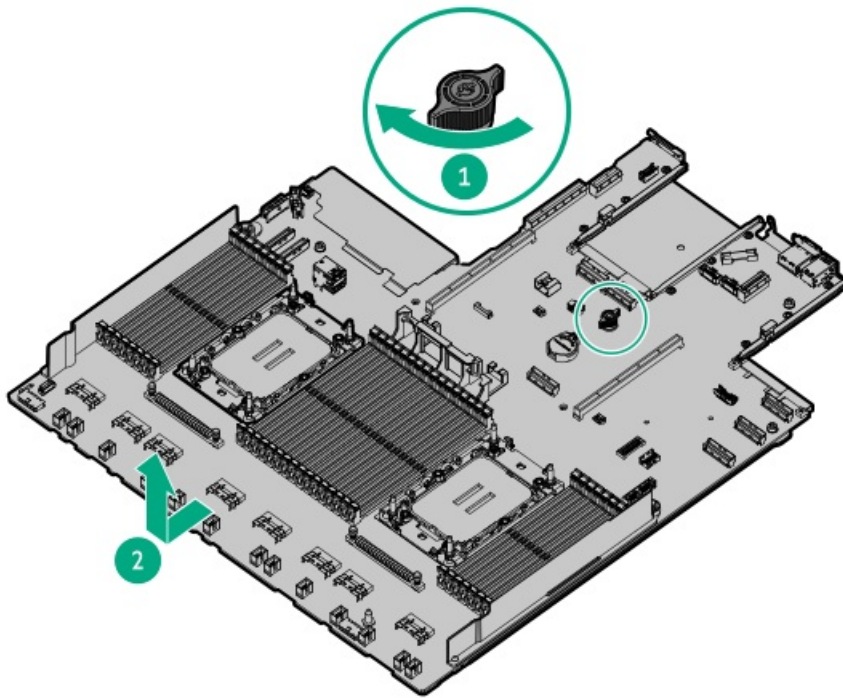
e. Install the dust cover.

15. Loosen the system board thumbscrews.

16. Remove the system board.

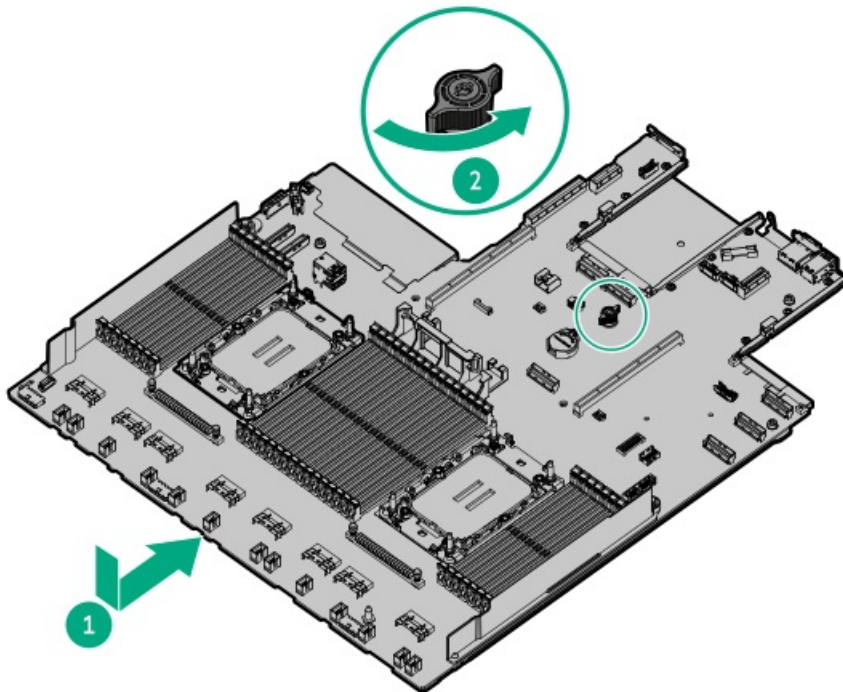
Use the handle near the DIMM slots to lift the system board.





### Replacing the system board

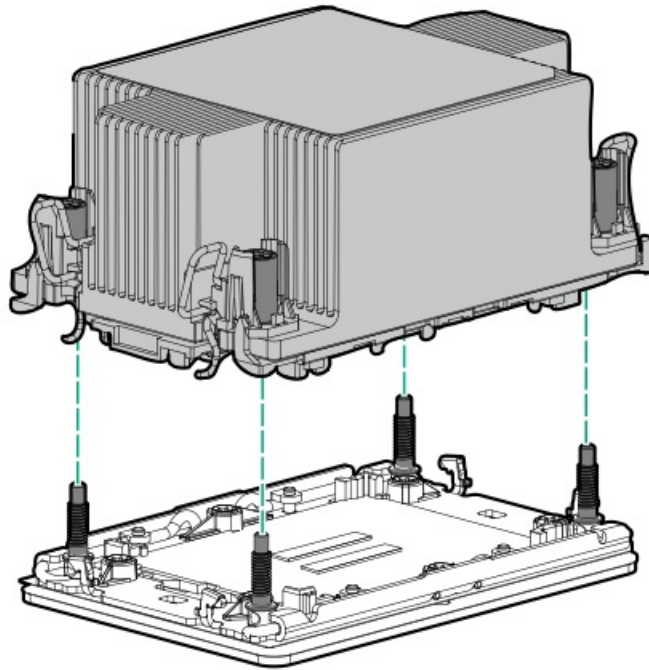
17. Install the spare system board.



18. Install the processor-heatsink assembly:

- a. Remove the dust cover from the socket.
- b. On the heatsink, identify the front-of-server label and look for the notched corner to verify the pin 1 indicator.
- c. Unlock the heatsink latches.
- d. Align the assembly and gently lower it down until it sits on the socket.

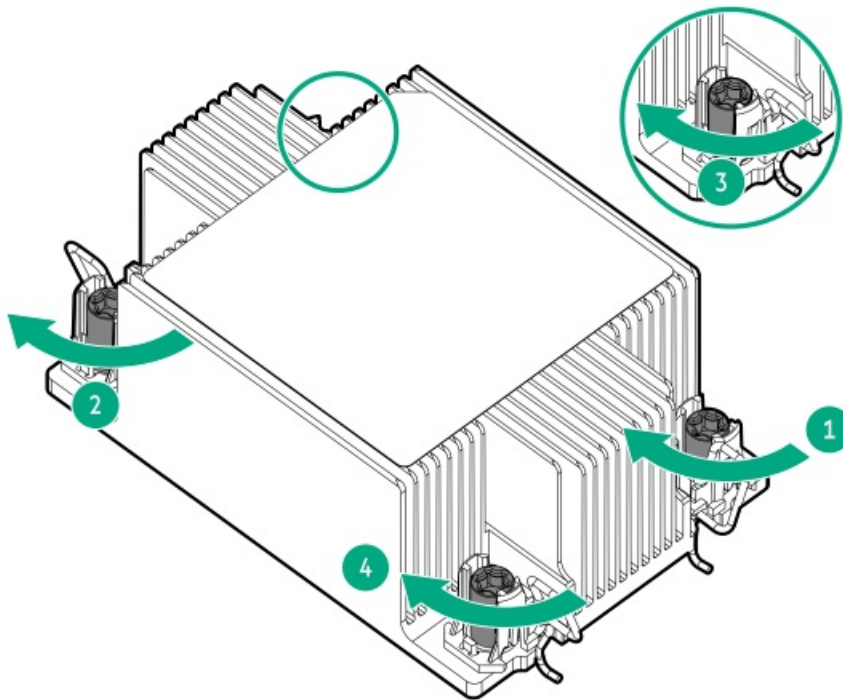




The heatsink and socket are keyed. The processor will only install one way.

Be sure to fully engage the latches.

- e. Using a T-30 Torx screwdriver, tighten the nuts.



19. Install all cables and components removed from the failed system board.

20. Install the access panel.

21. Install the power supplies.

22. Power up the server.

23. Ensure all firmware, including option cards and embedded devices, is updated to the same versions to ensure that the latest drivers are being used.
24. Re-enter any Secure Boot Keys that were previously added in the Secure Boot configuration.
25. Re-enter the server serial number and the product ID:
  - a. During the server startup sequence, press the **F9** key to access UEFI System Utilities.
  - b. Select System Configuration > BIOS/Platform Configuration (RBSU) > Advanced Options > Advanced System ROM Options > Serial Number, and then press the **Enter** key.
  - c. Enter the serial number and press the **Enter** key. The following message appears:  
Only qualified service personnel must modify the serial number. This value must always match the serial number on the chassis.
  - d. To clear the warning, press the **Enter** key.
  - e. Enter the serial number and press the **Enter** key.
  - f. From the System Utilities screen, select System Configuration > BIOS/Platform Configuration (RBSU) > Date and Time.
  - g. Select a setting, and then complete your entry:
    - 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.
    - Time Zone—Select your current time zone for the system.
    - Daylight Savings Time:
      - Enabled—Adjusts the local time displayed by one hour for Daylight Savings Time.
      - Disabled—Does not adjust the local time displayed for Daylight Savings Time.
    - 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 between Windows operating systems set in Legacy BIOS boot mode.
  - h. Save your settings.
  - i. Select Product ID. The following warning appears:  
Warning: The Product ID must ONLY be modified by qualified service personnel. This value must always match the Product ID on the chassis.
  - j. Enter the product ID and press the **Enter** key.
  - k. To confirm exiting System Utilities, press the **F10**

key.

- I. The server automatically reboots.

## Results

The replacement is complete.

# Troubleshooting

## Subtopics

### Troubleshooting resources

## 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](#).

# Cabling

## Subtopics

### Cabling guidelines

### Cabling diagrams

## 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

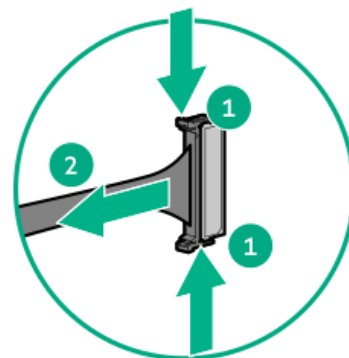
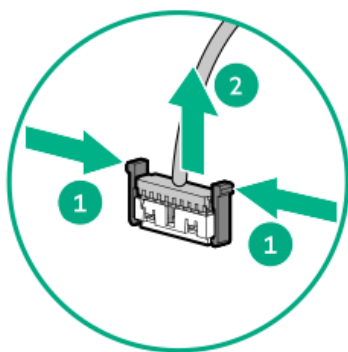
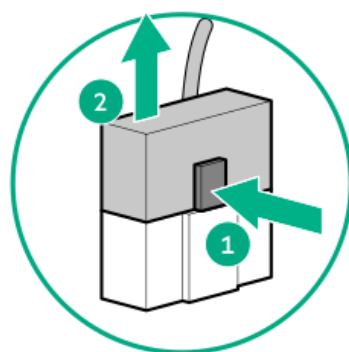
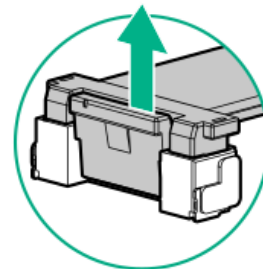
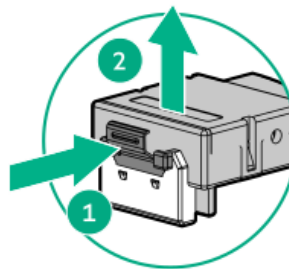
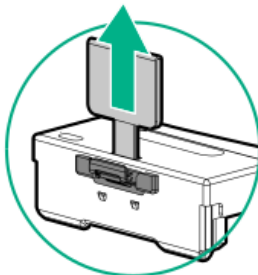
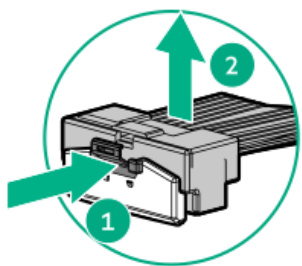
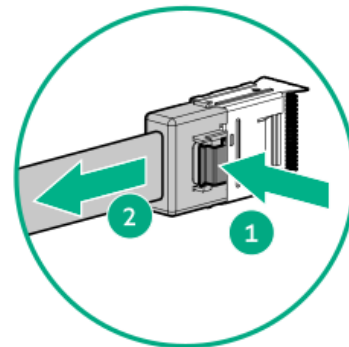
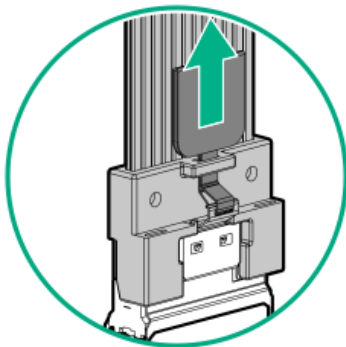
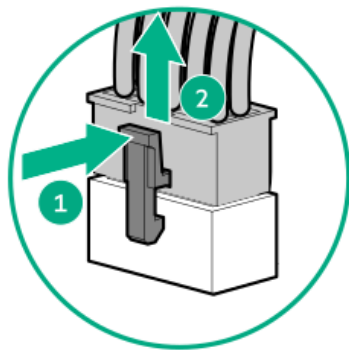
- Drive and power supply backplane ports
- Expansion board ports (controllers, adapters, expanders, risers, and similar boards)
- Note the label near each cable connector. This label indicates the destination port for the cable connector.
- Some data cables are prebent. Do not unbend or manipulate the 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.

## Cabling diagrams

Observe the following:

- Before cabling components, see the [cabling guidelines](#).
- Use the cable part number or search feature to find your diagram.

### Drive backplanes

| Component cabling | Cable part number |
|-------------------|-------------------|
| EDSFF cabling     | <u>P51556-001</u> |

| <b>Component cabling</b> | <b>Cable part number</b> |
|--------------------------|--------------------------|
|                          | <u>P51555-001</u>        |
|                          | <u>P51542-001</u>        |
|                          | <u>P51542-001</u>        |
|                          | <u>P53288-001</u>        |
|                          | <u>P51564-001</u>        |
|                          | <u>P51544-001</u>        |
| 8 SFF box 1 cabling      | <u>P51545-001</u>        |
|                          | <u>P51546-001</u>        |
|                          | <u>P51549-001</u>        |
|                          | <u>P51550-001</u>        |
|                          | <u>P51551-001</u>        |
|                          | <u>P51552-001</u>        |
|                          | <u>P51553-001</u>        |
|                          | <u>P51548-001</u>        |
|                          | <u>P51543-001</u>        |
|                          | <u>P53287-001</u>        |
|                          | <u>P53285-001</u>        |
|                          | <u>P51556-001</u>        |
|                          | <u>P22904-001</u>        |
|                          | <u>P22905-001</u>        |
| 8 SFF box 2 cabling      | <u>P51545-001</u>        |
|                          | <u>P51547-001</u>        |
|                          | <u>P51546-001</u>        |
|                          | <u>P22905-001</u>        |
|                          | <u>P51551-001</u>        |
|                          | <u>P51552-001</u>        |
|                          | <u>P22904-001</u>        |
|                          | <u>P53286-001</u>        |
| 8 SFF box 3 cabling      | <u>P51545-001</u>        |
|                          | <u>P51546-001</u>        |
|                          | <u>P22904-001</u>        |
|                          | <u>P14330-001</u>        |
|                          | <u>P51553-001</u>        |
|                          | <u>P53287-001</u>        |
|                          | <u>P51543-001</u>        |
| 8 SFF box 7 cabling      | <u>P51554-001</u>        |
|                          | <u>P22903-001</u>        |
|                          | <u>P14329-001</u>        |
| Front 2 SFF cabling      | <u>P51555-001</u>        |
|                          | <u>P51556-001</u>        |
|                          | <u>P22905-001</u>        |
|                          | <u>P51545-001</u>        |
| Rear 2 SFF cabling       | <u>P22903-001</u>        |



| Component cabling        | Cable part number                 |
|--------------------------|-----------------------------------|
|                          | <a href="#"><u>P14329-001</u></a> |
|                          | <a href="#"><u>P51554-001</u></a> |
|                          | <a href="#"><u>P51557-001</u></a> |
| LFF cabling              | <a href="#"><u>P51559-001</u></a> |
|                          | <a href="#"><u>P51560-001</u></a> |
|                          | <a href="#"><u>P51561-001</u></a> |
|                          | <a href="#"><u>P58791-001</u></a> |
|                          | <a href="#"><u>P46047-001</u></a> |
|                          | <a href="#"><u>P51563-001</u></a> |
|                          | <a href="#"><u>P51558-001</u></a> |
| Riser enablement cabling | <a href="#"><u>P46031-001</u></a> |
|                          | <a href="#"><u>P46034-001</u></a> |
|                          | <a href="#"><u>P51571-001</u></a> |
|                          | <a href="#"><u>P46032-001</u></a> |
|                          | <a href="#"><u>P46028-001</u></a> |
|                          | <a href="#"><u>P46026-001</u></a> |
|                          | <a href="#"><u>P46029-001</u></a> |
|                          | <a href="#"><u>P46030-001</u></a> |

## Power

| Component cabling                                      | Cable part number                 |
|--|-----------------------------------|
| Front EDSFF boxes 1-3                                  | <a href="#"><u>P51577-001</u></a> |
| Rear 2 SFF riser cage                                  | <a href="#"><u>P51574-001</u></a> |
| Front 8 SFF boxes 1-3                                  | <a href="#"><u>869825-001</u></a> |
| Front 4 LFF box 1                                      | <a href="#"><u>P14341-001</u></a> |
| Front 4 LFF box 2/3                                    | <a href="#"><u>P14342-001</u></a> |
| Front 2 SFF side-by-side                               | <a href="#"><u>P14343-001</u></a> |
| 8 SFF midplane + 2 LFF riser cage + 2 SFF rear stacked | <a href="#"><u>P51575-001</u></a> |
| Smart battery  | <a href="#"><u>P45618-001</u></a> |
| GPU power  | <a href="#"><u>869820-001</u></a> |
| GPU power + sideband                                   | <a href="#"><u>P58422-001</u></a> |

## NS204i-u cabling

| Component cabling           | Cable part number                 |
|-----------------------------|-----------------------------------|
| NS204i-u data cabling (SFF) | <a href="#"><u>P51579-001</u></a> |
| NS204i-u power cabling      | <a href="#"><u>P54089-001</u></a> |
| NS204i-u data cabling (LFF) | <a href="#"><u>P51578-001</u></a> |

## OCP bandwidth

| Component cabling     | Cable part number          |
|-----------------------|----------------------------|
| OCP bandwidth upgrade | <a href="#">P43736-001</a> |
|                       | <a href="#">P43735-001</a> |
|                       | <a href="#">P43734-001</a> |

## Systems Insight Display

| Component cabling       | Cable part number          |
|-------------------------|----------------------------|
| Systems Insight Display | <a href="#">P48971-001</a> |

## I/O cabling

| Component cabling    | Cable part number          |
|----------------------|----------------------------|
| SFF media bay USB    | <a href="#">P50731-001</a> |
| SFF media bay DP/USB | <a href="#">P14314-001</a> |
| LFF Display Port     | <a href="#">869808-001</a> |
| SFF/LFF ODD          | <a href="#">756914-001</a> |

## Front power switch

| Component cabling          | Cable part number          |
|----------------------------|----------------------------|
| SFF/LFF front power switch | <a href="#">P43727-001</a> |

## Serial port cabling

| Component cabling | Cable part number          |
|-------------------|----------------------------|
| Serial port cable | <a href="#">P45623-001</a> |

## Subtopics

[EDSFF cabling](#)

[8 SFF box 1 cabling](#)

[8 SFF box 2 cabling](#)

[8 SFF box 3 cabling](#)

[Mid 8 SFF cabling](#)

[Front 2 SFF cabling](#)

[Rear 2 SFF cabling](#)

[LFF cabling](#)

[Riser enablement cabling](#)

[Power cabling](#)

[GPU cabling](#)

[NS204i-u boot device cabling](#)

OCP bandwidth upgrade

Systems Insight Display cabling

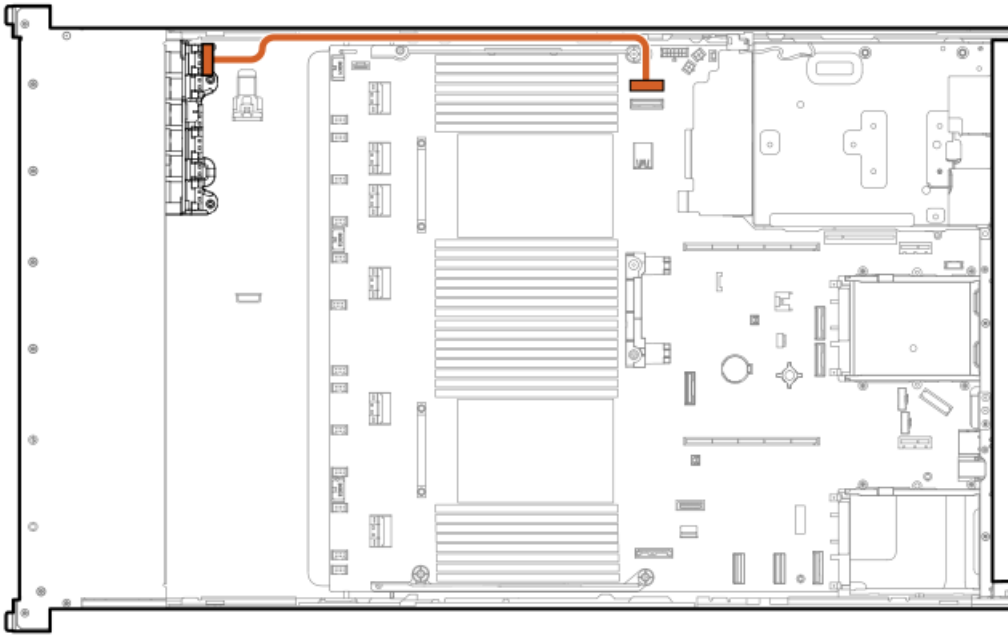
I/O cabling

Front power switch cabling

Serial port cabling

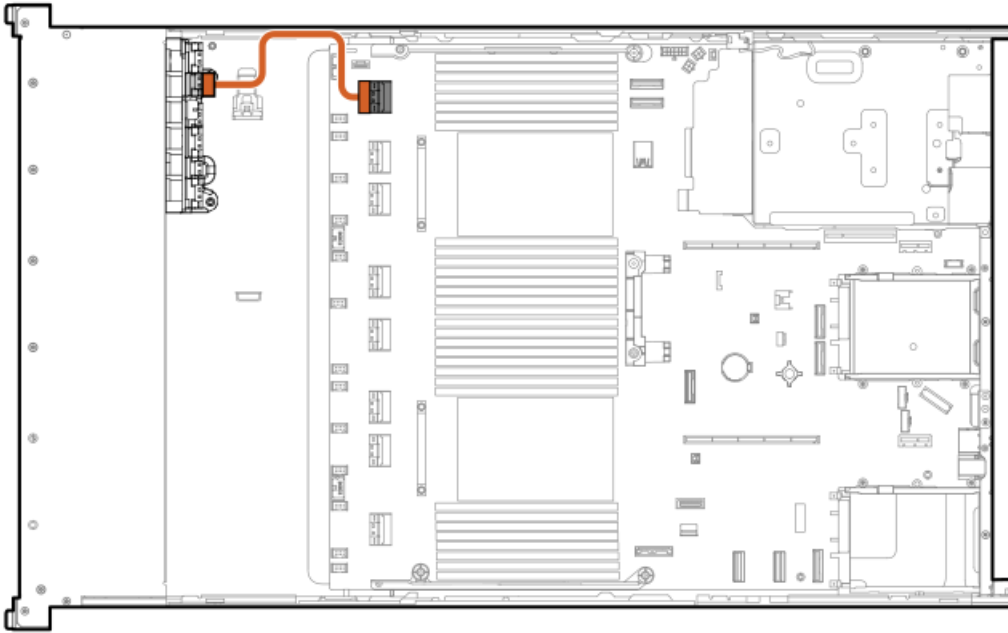
## EDSFF cabling

EDSFF box 1 port 1



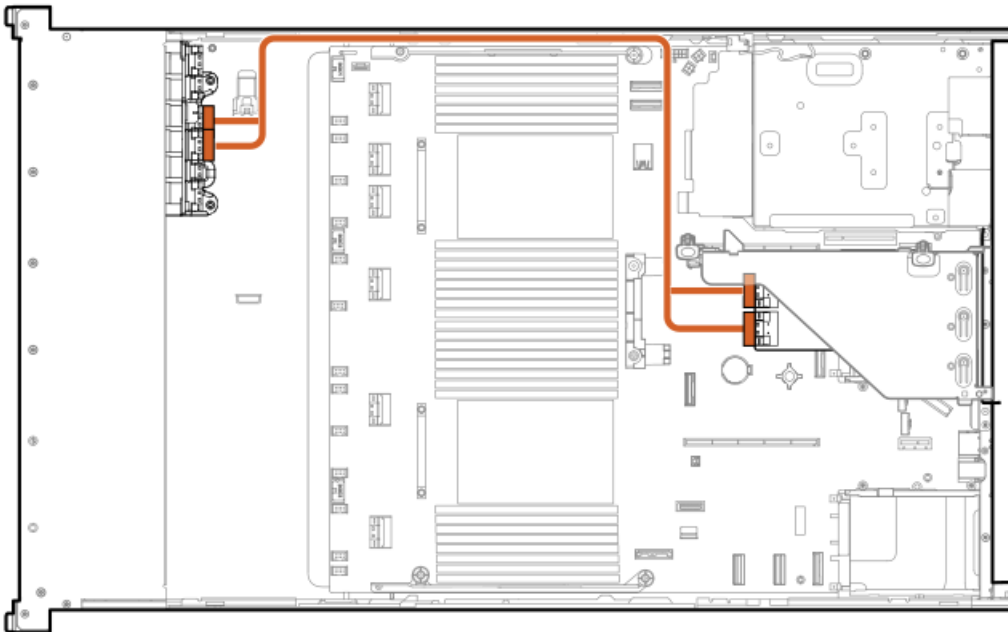
| Cable part number | Color  | From            | To           |
|-------------------|--------|-----------------|--------------|
| P51556-001        | Orange | Drive backplane | System board |

Front EDSFF box 1 port 2



| Cable part number | Color  | From            | To           |
|-------------------|--------|-----------------|--------------|
| P51555-001        | Orange | Drive backplane | System board |

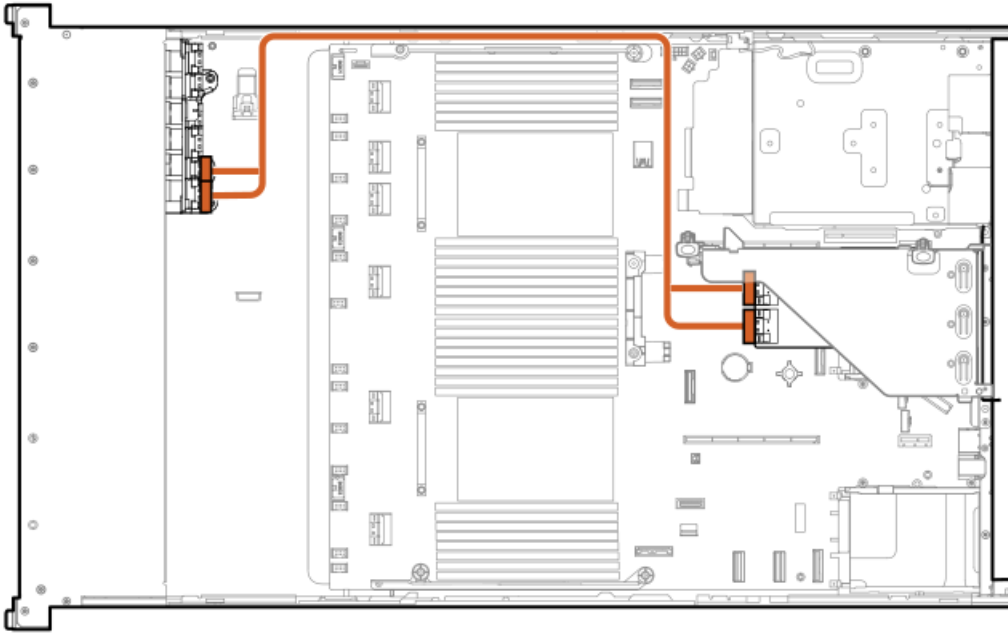
EDSFF box 1 ports 3 and 4



| Cable part number | Color  | From            | To                         |
|-------------------|--------|-----------------|----------------------------|
| P51542-001        | Orange | Drive backplane | Secondary riser controller |

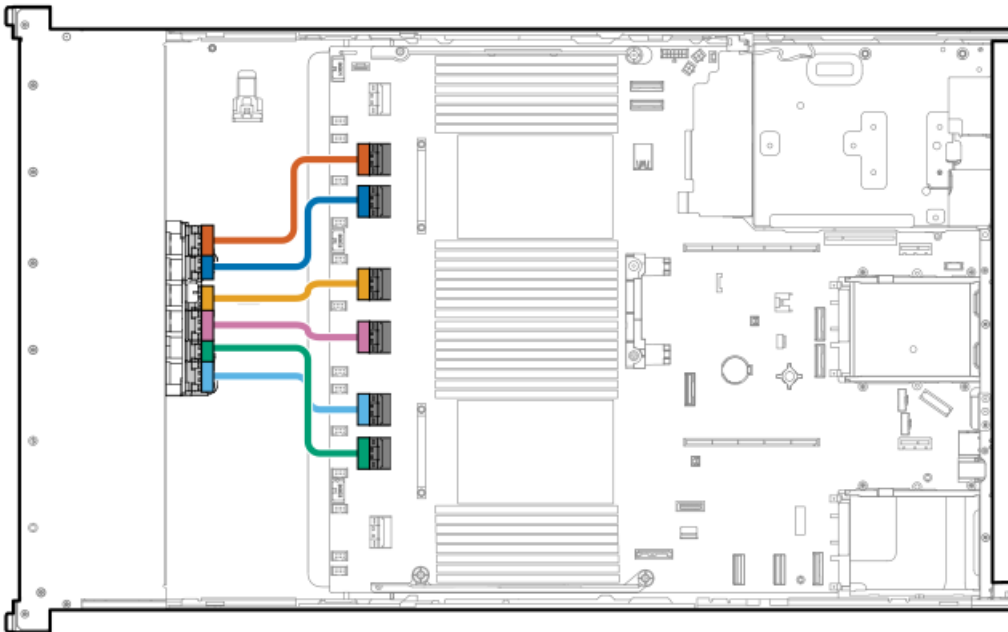
EDSFF box 1 ports 5 and 6





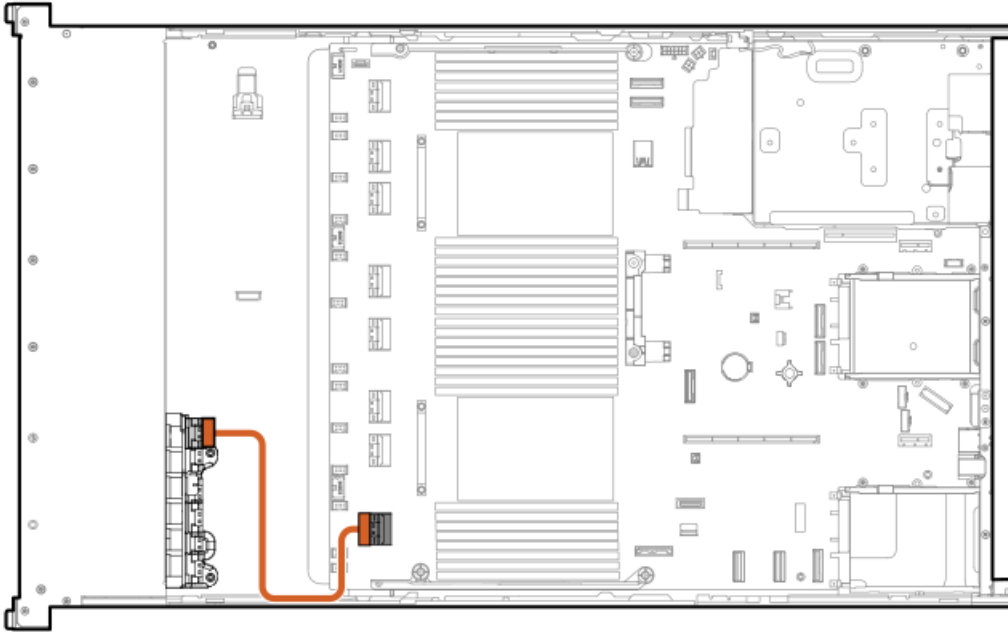
| Cable part number | Color  | From                 | To                         |
|-------------------|--------|----------------------|----------------------------|
| P51542-001        | Orange | EDSFF box 1 port 5/6 | Secondary riser controller |

**EDSFF box 2 ports 1-6**



| Cable part number | Color      | From            | To           |
|-------------------|------------|-----------------|--------------|
| P53288-001        | Orange     | Drive backplane | System board |
|                   | Blue       | Drive backplane | System board |
|                   | Yellow     | Drive backplane | System board |
|                   | Pink       | Drive backplane | System board |
|                   | Green      | Drive backplane | System board |
|                   | Light blue | Drive backplane | System board |

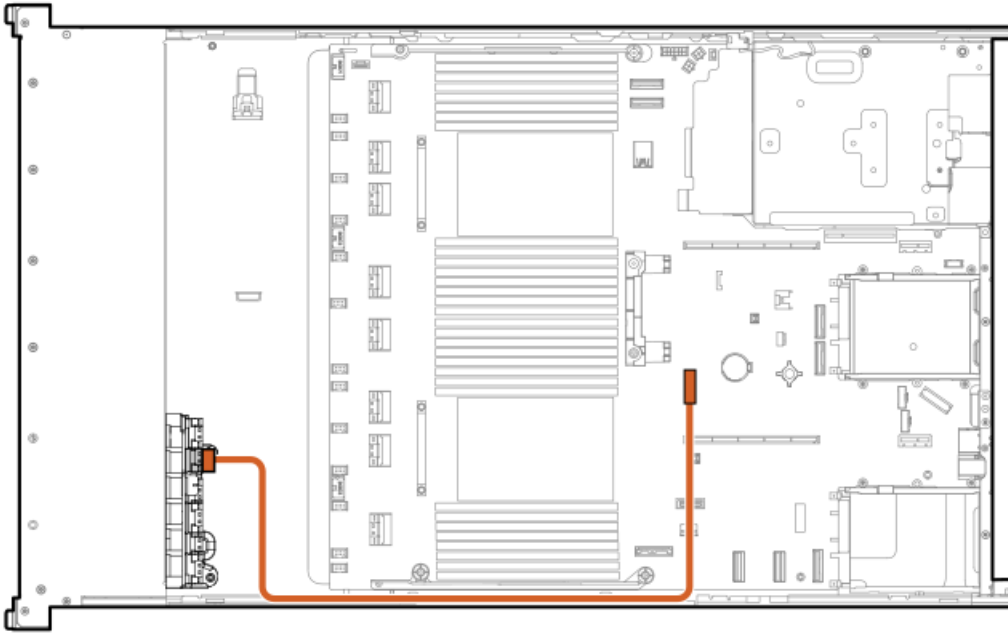
EDSFF box 3 port 1



| Cable part number | Color  | From            | To           |
|-------------------|--------|-----------------|--------------|
| P51555-001        | Orange | Drive backplane | System board |

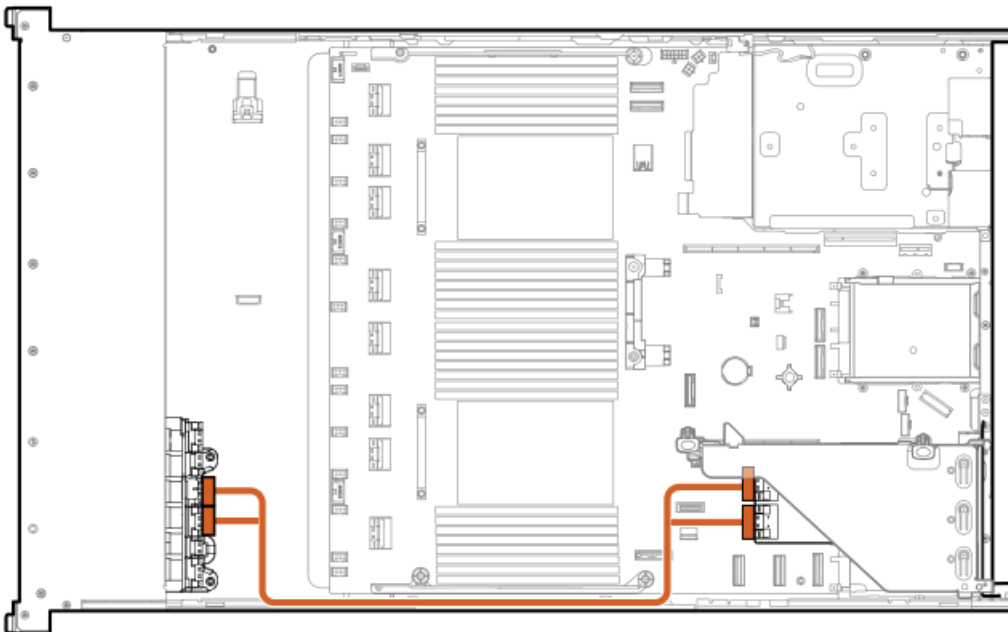
EDSFF box 3 port 2





| Cable part number | Color  | From            | To           |
|-------------------|--------|-----------------|--------------|
| P51564-001        | Orange | Drive backplane | System board |

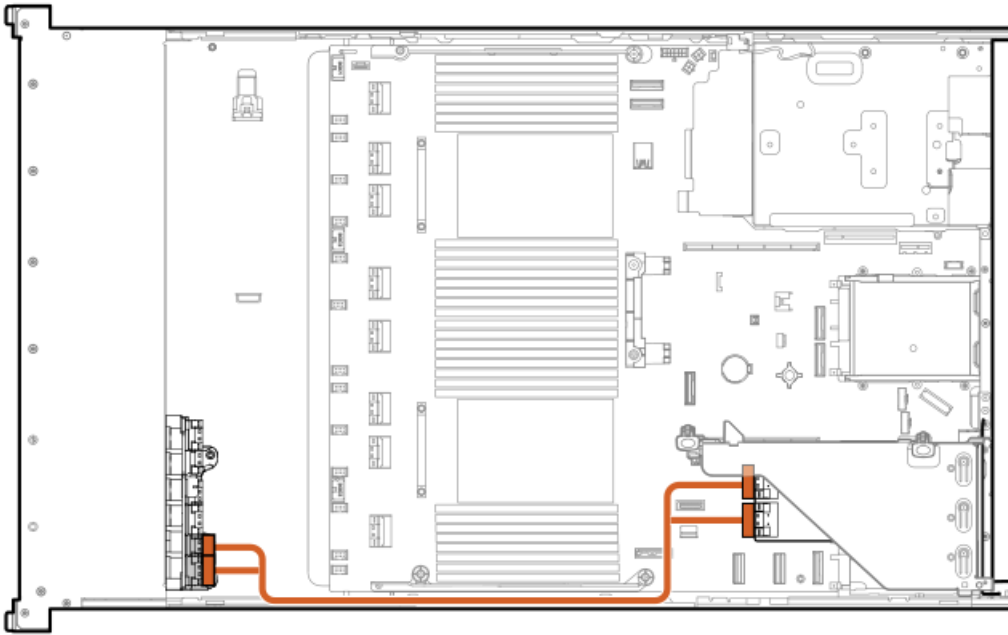
EDSFF box 3 ports 3 and 4



| Cable part number | Color  | From            | To                       |
|-------------------|--------|-----------------|--------------------------|
| P51544-001        | Orange | Drive backplane | Primary riser controller |

EDSFF box 3 ports 5 and 6

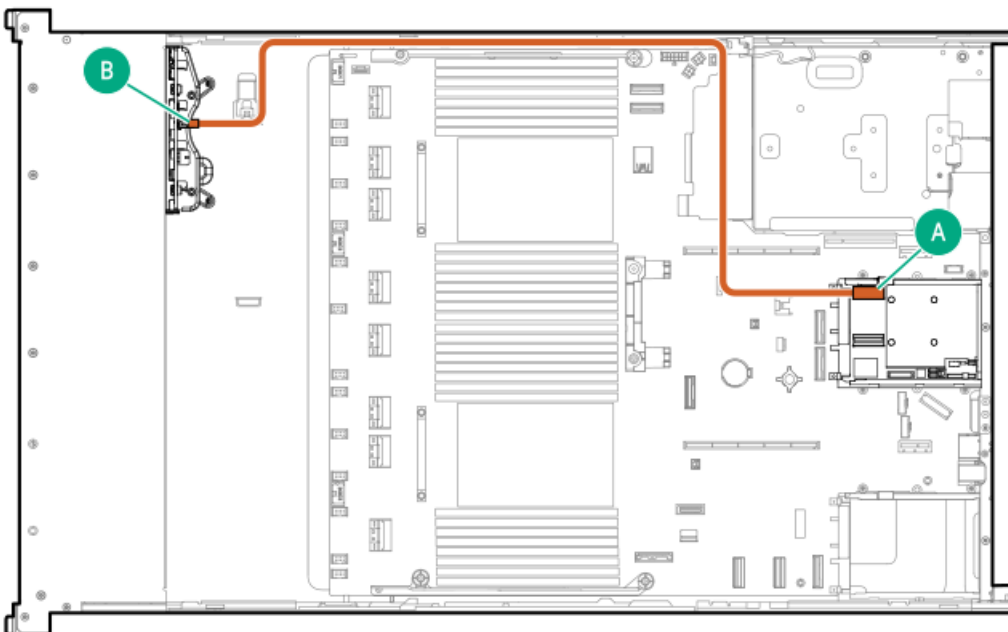




| Cable part number | Color  | From            | To                       |
|-------------------|--------|-----------------|--------------------------|
| P51544-001        | Orange | Drive backplane | Primary riser controller |

## 8 SFF box 1 cabling

8 SFF box 1: Secondary type-o controller

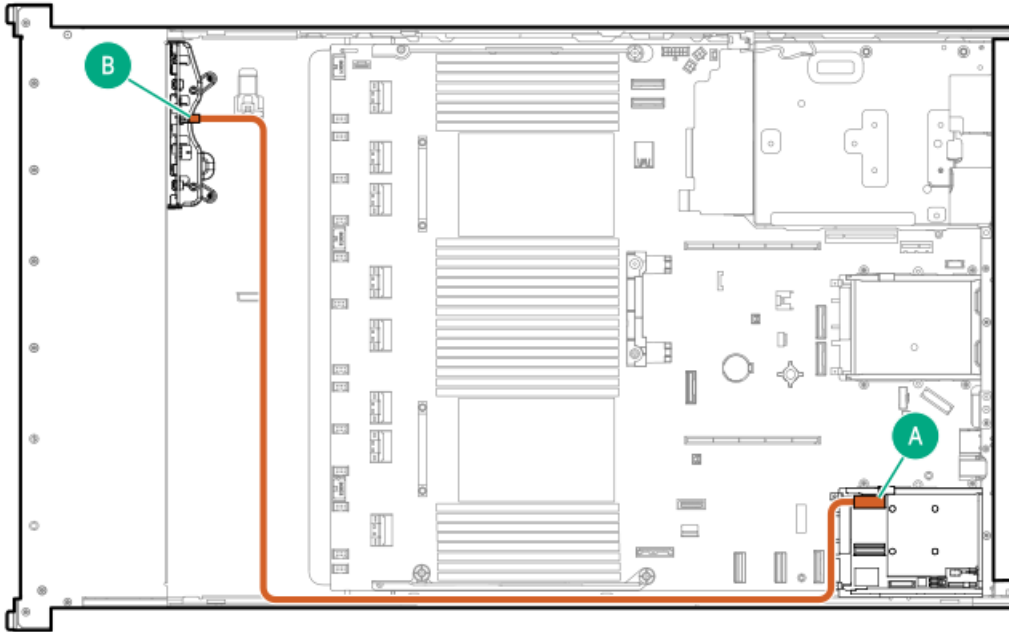




| Cable part number       | Color  | From            | To                          |
|-------------------------|--------|-----------------|-----------------------------|
| P51545-001 <sup>1</sup> | Orange | Drive backplane | Secondary type-o controller |

<sup>1</sup> Option kit: P48813-B21

**8 SFF box 1: Primary type-o controller**

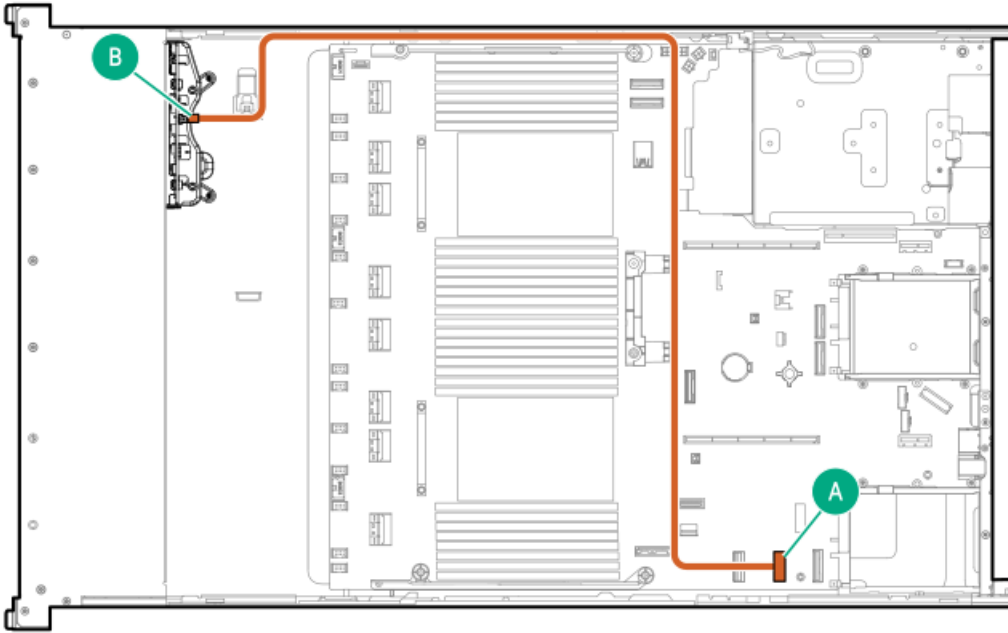


| Cable part number       | Color  | From            | To                        |
|-------------------------|--------|-----------------|---------------------------|
| P51545-001 <sup>1</sup> | Orange | Drive backplane | Primary type-o controller |

<sup>1</sup> Option kit: P48813-B21

**8 SFF box 1: Onboard controller**

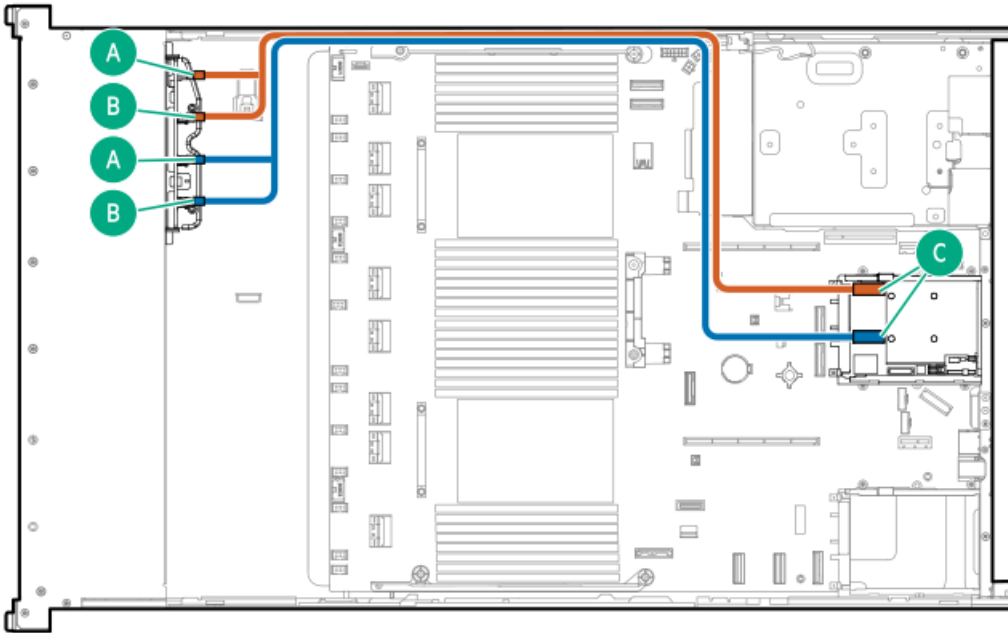




| Cable part number       | Color  | From            | To           |
|-------------------------|--------|-----------------|--------------|
| P51545-001 <sup>1</sup> | Orange | Drive backplane | System board |

<sup>1</sup> Option kit: P48813-B21

8 SFF box 1: to OCP 2

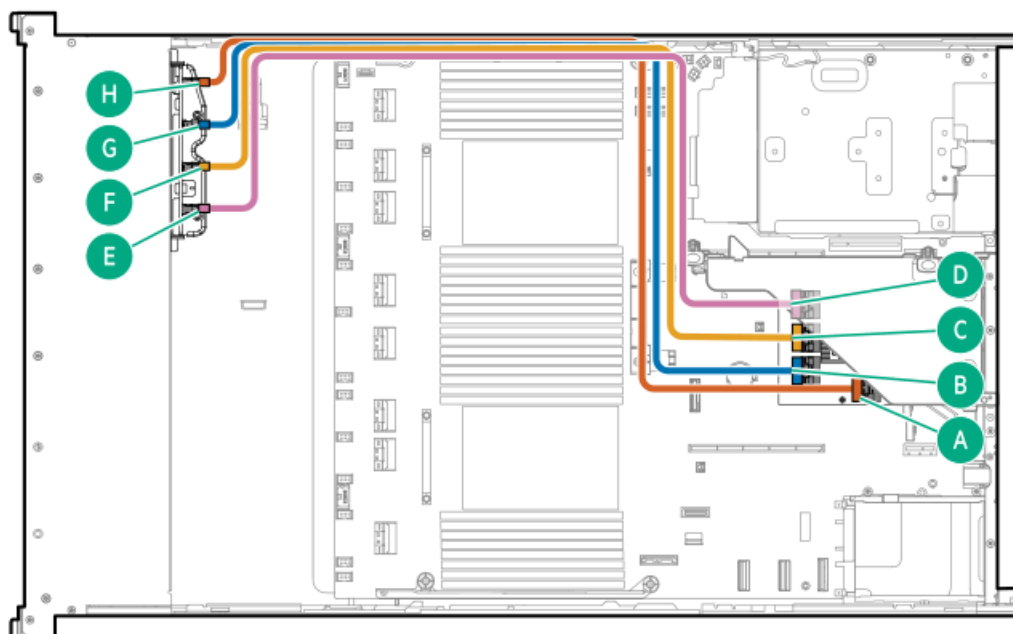


| Cable part number       | Color  | From            | To                          |
|-------------------------|--------|-----------------|-----------------------------|
| P51546-001 <sup>1</sup> | Orange | Drive backplane | Secondary type-o controller |



<sup>1</sup> Option kit: P48829-B21

**8 SFF box 1: Secondary type-p controller**

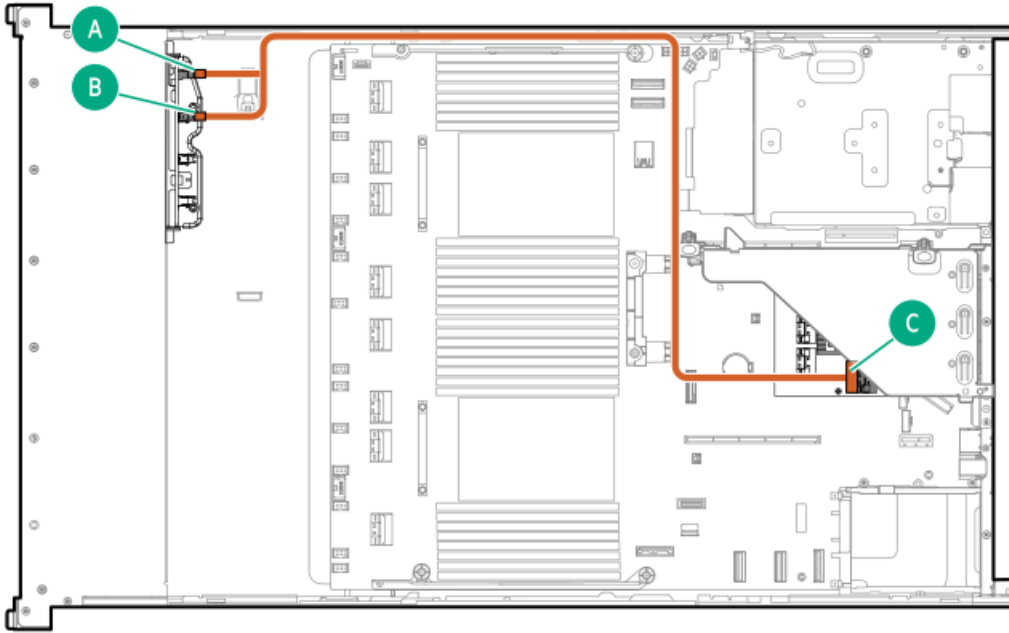


| Cable part number       | Color  | From            | To                          |
|-------------------------|--------|-----------------|-----------------------------|
| P51549-001 <sup>1</sup> | Orange | Drive backplane | Secondary type-p controller |
|                         | Blue   | Drive backplane | Secondary type-p controller |
|                         | Yellow | Drive backplane | Secondary type-p controller |
|                         | Pink   | Drive backplane | Secondary type-p controller |

<sup>1</sup> Option kit: P48831-B21

**8 SFF box 1:**

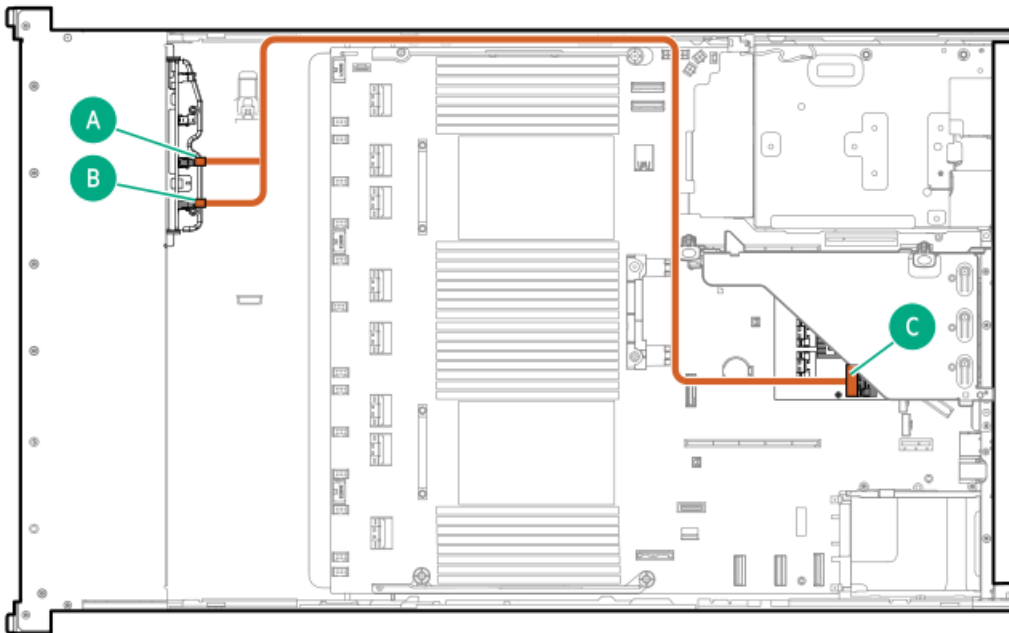




| Cable part number       | Color  | From            | To                          |
|-------------------------|--------|-----------------|-----------------------------|
| P51548-001 <sup>1</sup> | Orange | Drive backplane | Secondary type-p controller |

<sup>1</sup> Option kit: P48832-B21

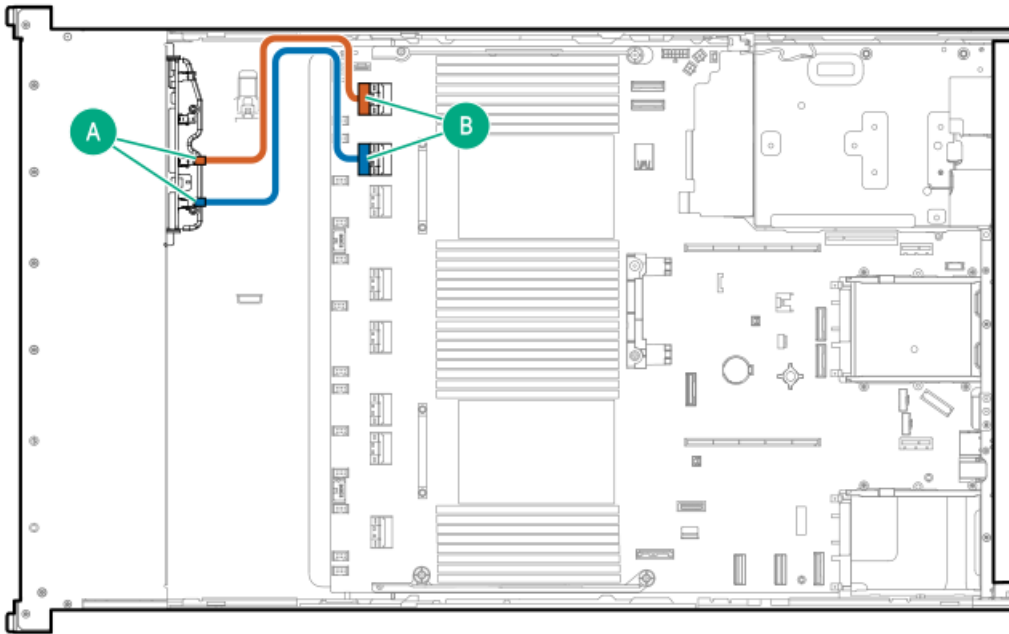
8 SFF box 1: Secondary type-p controller



| Cable part number       | Color  | From            | To                          |
|-------------------------|--------|-----------------|-----------------------------|
| P51548-001 <sup>2</sup> | Orange | Drive backplane | Secondary type-p controller |

2 Option kit: P48832-B21

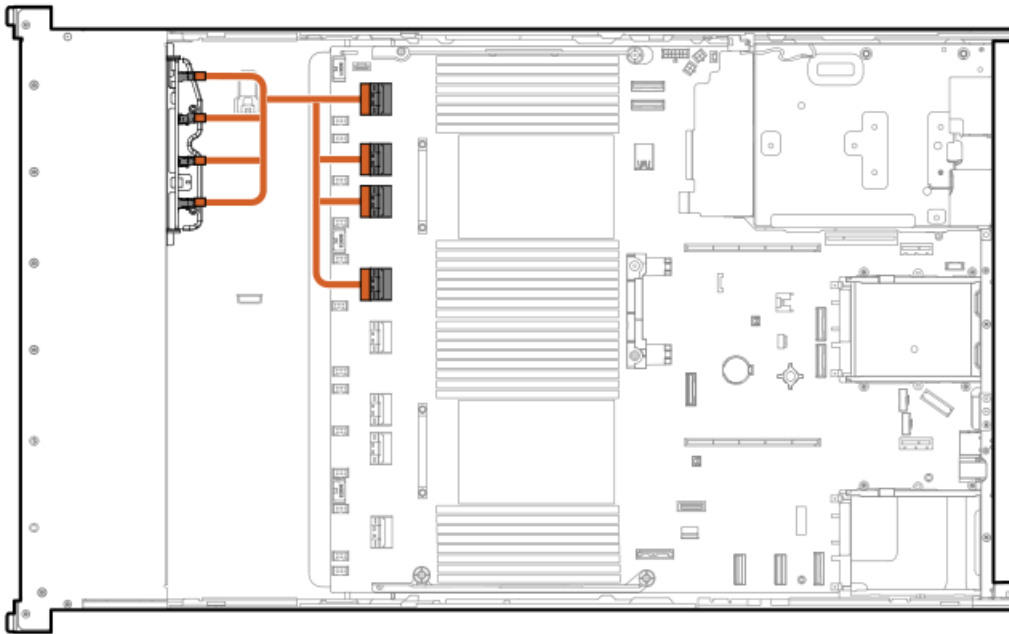
8 SFF box 1: System board



| Cable part number       | Color  | From                     | To                    |
|-------------------------|--------|--------------------------|-----------------------|
| P51543-001 <sup>1</sup> | Orange | Drive backplane port 3/4 | System board port 7/8 |

1 Option kit: P48825-B21

8 SFF box 1: System board



| Cable part number       | Color  | From            | To                     |
|-------------------------|--------|-----------------|------------------------|
| P53285-001 <sup>1</sup> | Orange | Box 1 ports 1-4 | System board ports 5-8 |

<sup>1</sup> Option kit: P48825-B21

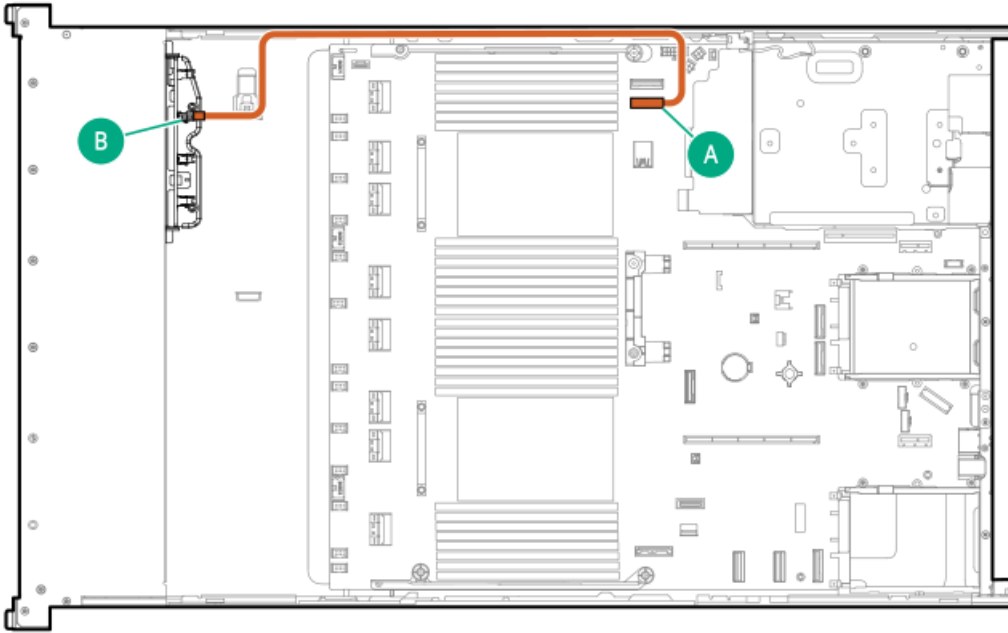
**8 SFF box 1: System board**



| Cable part number       | Color  | From        | To           |
|-------------------------|--------|-------------|--------------|
| P51556-001 <sup>1</sup> | Orange | 8 SFF box 1 | System board |

<sup>1</sup> Option kit: P48825-B21

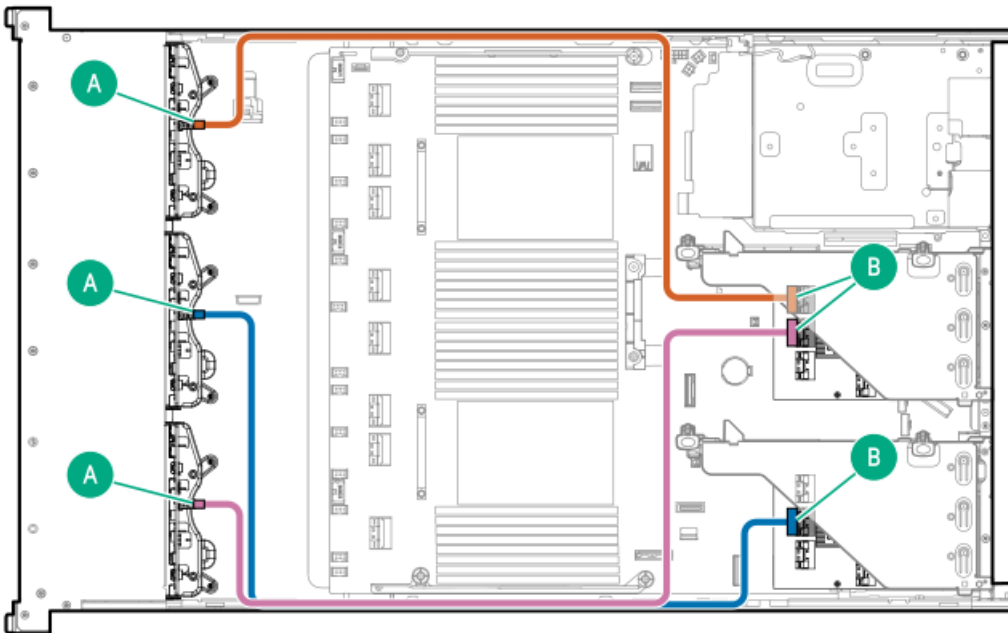
**8 SFF box 1: System board**



| Cable part number       | Color  | From        | To           |
|-------------------------|--------|-------------|--------------|
| P51556-001 <sup>2</sup> | Orange | 8 SFF box 1 | System board |

<sup>2</sup> Option kit: P48825-B21

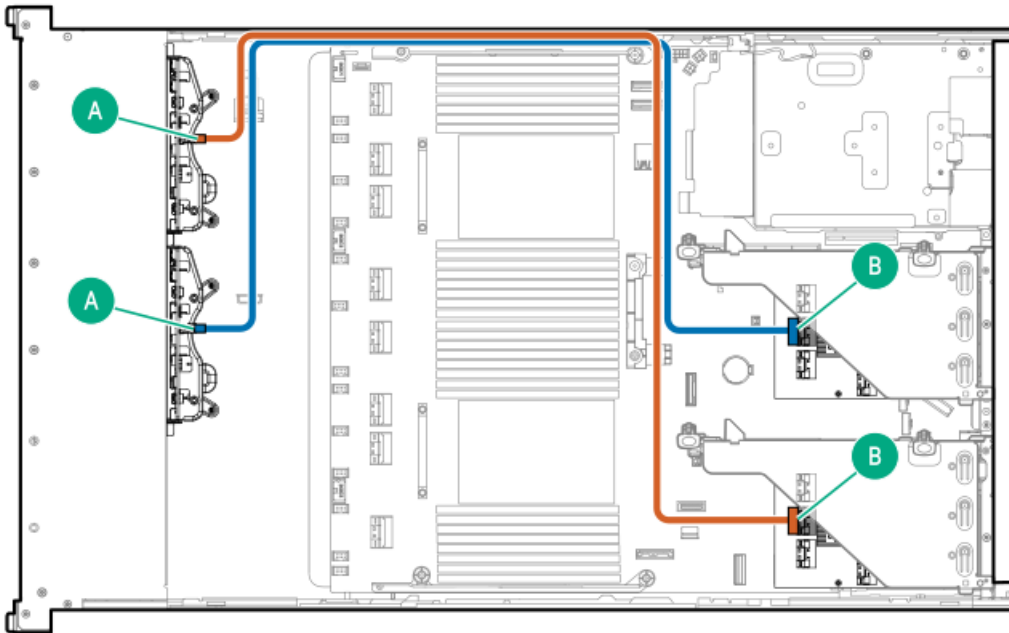
**8 SFF box 1-3: Primary and secondary type-p controllers**



| Cable part number       | Color  | From            | To                          |
|-------------------------|--------|-----------------|-----------------------------|
| P22904-001 <sup>1</sup> | Orange | Drive backplane | Secondary type-p controller |
|                         | Blue   | Drive backplane | Secondary type-p controller |
|                         | Pink   | Drive backplane | Primary type-p controller   |

<sup>1</sup> Option kit: P54874-B21

**8 SFF boxes 1 and 2: Primary and secondary type-p controllers**



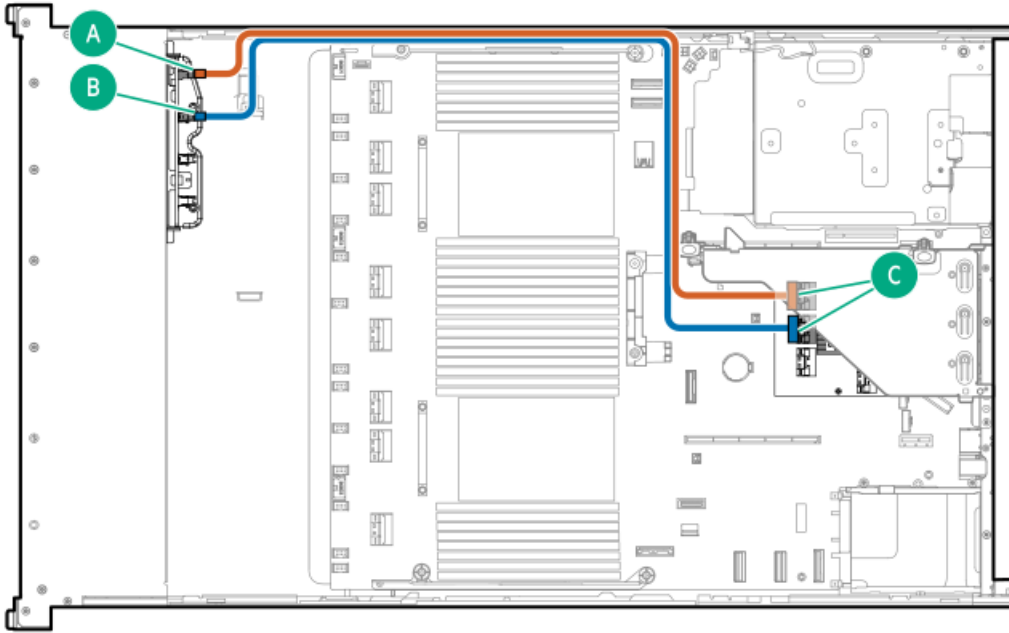
| Cable part number       | Color  | From                  | To                          |
|-------------------------|--------|-----------------------|-----------------------------|
| P22905-001 <sup>1</sup> | Orange | Box 1 drive backplane | Primary type-p controller   |
|                         | Blue   | Box 2 drive backplane | Secondary type-p controller |

<sup>1</sup> Option kit: P54874-B21

**8 SFF box 1: Secondary type-p controller**





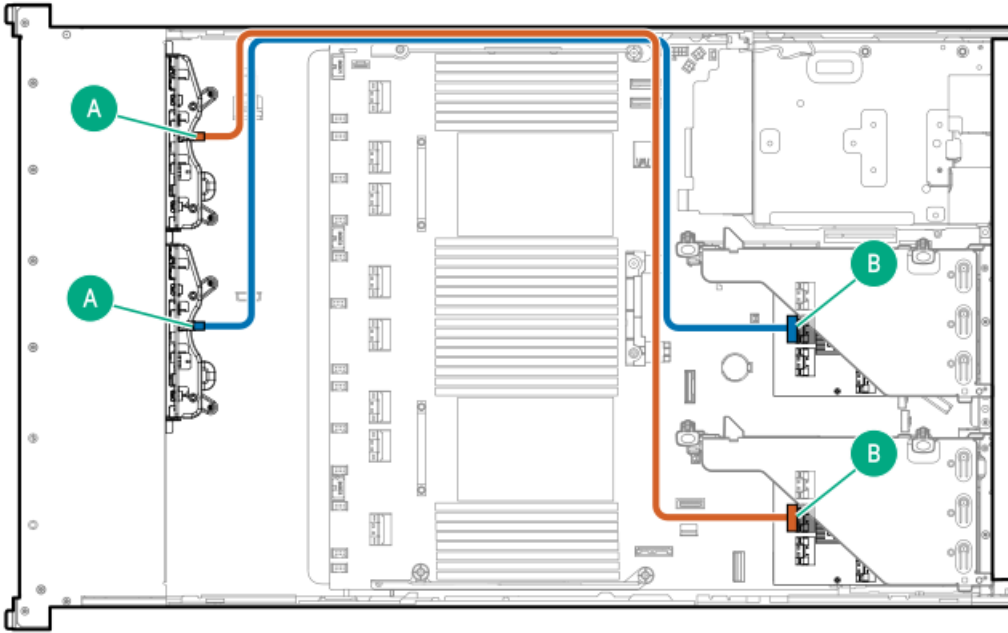


| Cable part number       | Color  | From            | To                          |
|-------------------------|--------|-----------------|-----------------------------|
| P22905-001 <sup>1</sup> | Orange | Drive backplane | Secondary type-p controller |
|                         | Blue   | Drive backplane | Secondary type-p controller |

<sup>1</sup> Option kit: P54874-B21

## 8 SFF box 2 cabling

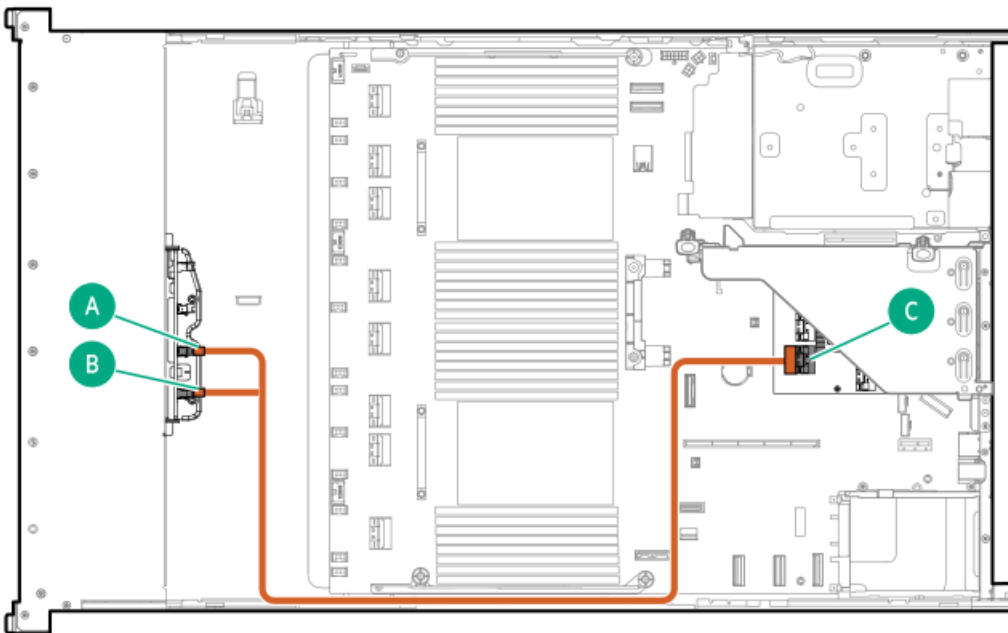
8 SFF boxes 1 and 2: Primary and secondary type-p controllers



| Cable part number       | Color  | From                  | To                          |
|-------------------------|--------|-----------------------|-----------------------------|
| P22905-001 <sup>1</sup> | Orange | Box 1 drive backplane | Primary type-p controller   |
|                         | Blue   | Box 2 drive backplane | Secondary type-p controller |

<sup>1</sup> Option kit: P54874-B21

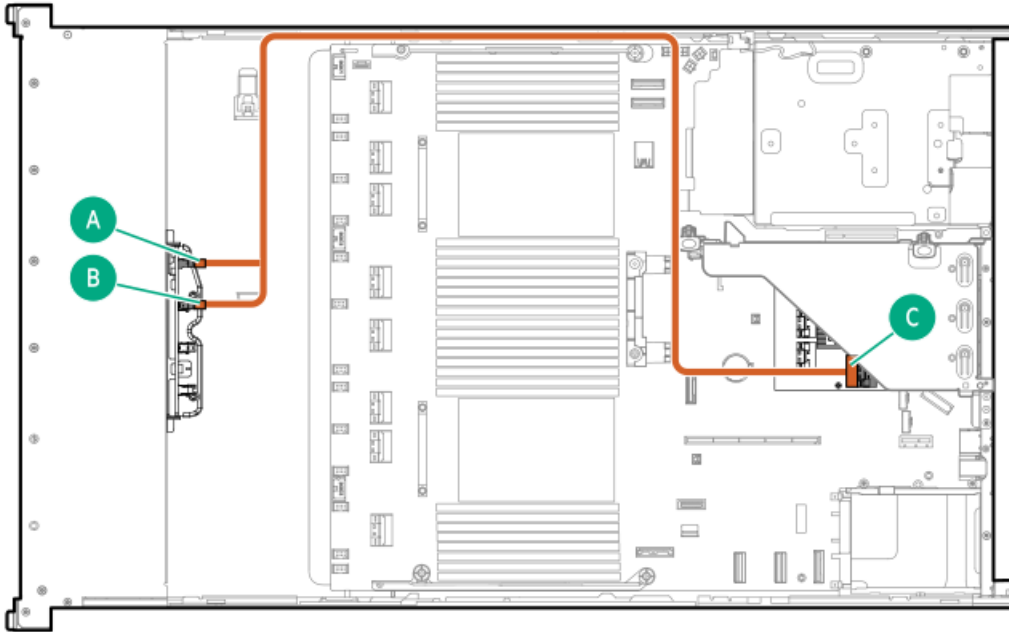
**8 SFF box 2: Secondary type-p controller**



| Cable part number       | Color  | From            | To                          |
|-------------------------|--------|-----------------|-----------------------------|
| P51547-001 <sup>1</sup> | Orange | Drive backplane | Secondary type-p controller |

<sup>1</sup> Option kit: P48832-B21

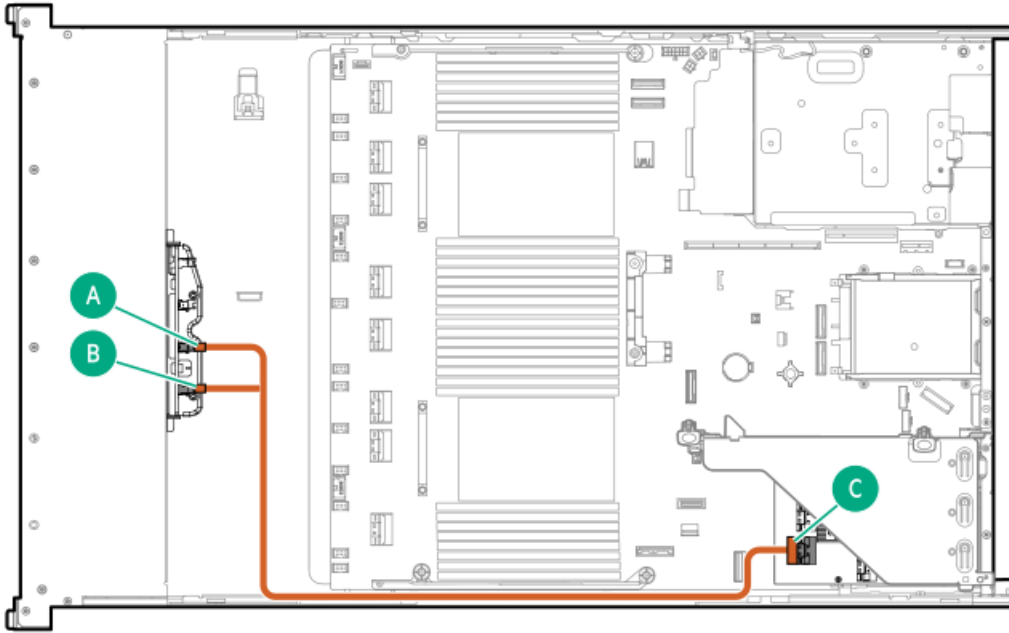
8 SFF box 2: Secondary type-p controller



| Cable part number       | Color  | From            | To                          |
|-------------------------|--------|-----------------|-----------------------------|
| P51547-001 <sup>2</sup> | Orange | Drive backplane | Secondary type-p controller |

<sup>2</sup> Option kit: P48832-B21

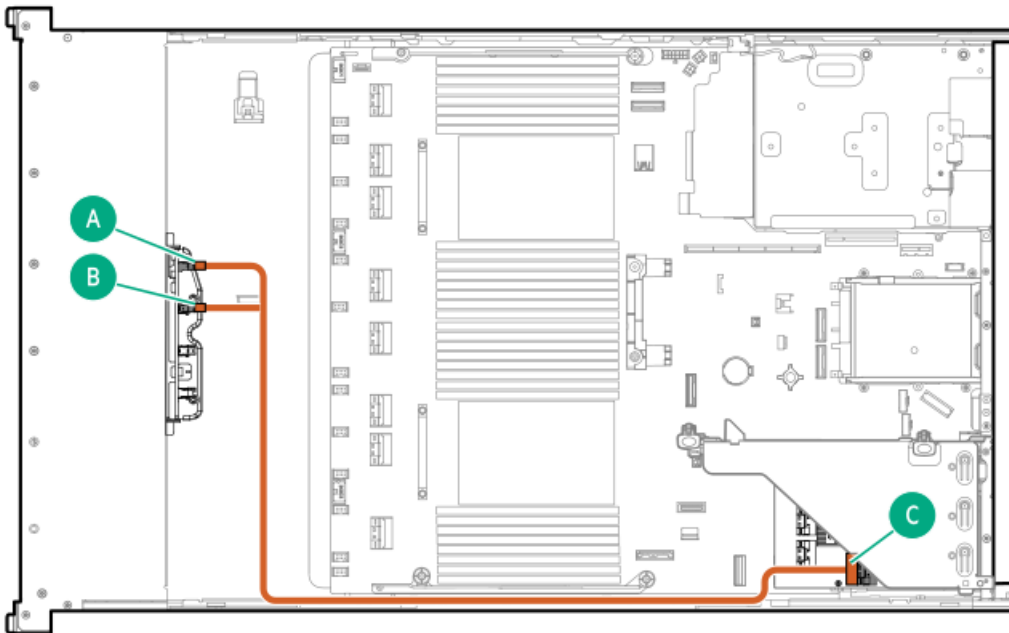
8 SFF box 2: Primary type-p controller



| Cable part number       | Color  | From            | To                        |
|-------------------------|--------|-----------------|---------------------------|
| P51547-001 <sup>1</sup> | Orange | Drive backplane | Primary type-p controller |

<sup>1</sup> Option kit: P48832-B21

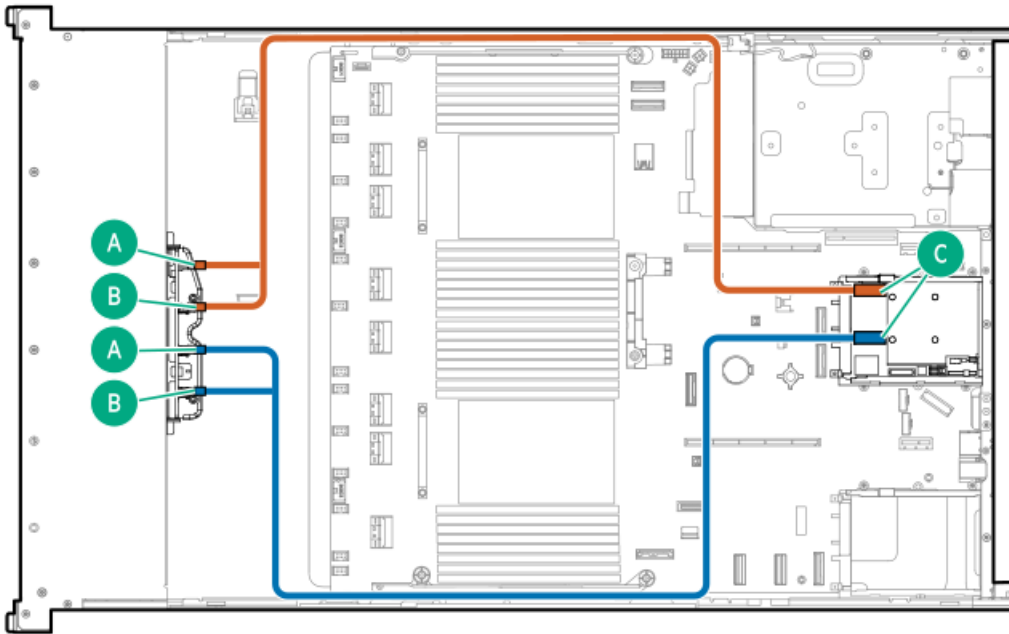
**8 SFF box 2: Primary type-p controller**



| Cable part number       | Color  | From            | To                        |
|-------------------------|--------|-----------------|---------------------------|
| P51547-001 <sup>1</sup> | Orange | Drive backplane | Primary type-p controller |

1 Option kit: P48832-B21

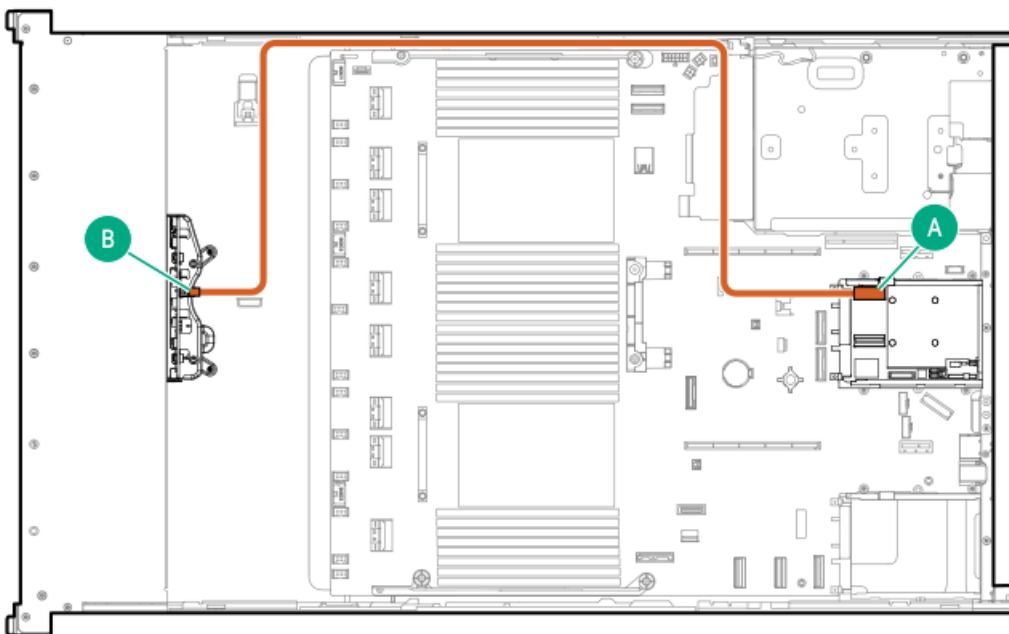
8 SFF box 2: Secondary type-o controller



| Cable part number       | Color  | From            | To                          |
|-------------------------|--------|-----------------|-----------------------------|
| P51546-001 <sup>1</sup> | Orange | Drive backplane | Secondary type-o controller |

1 Option kit: P48829-B21

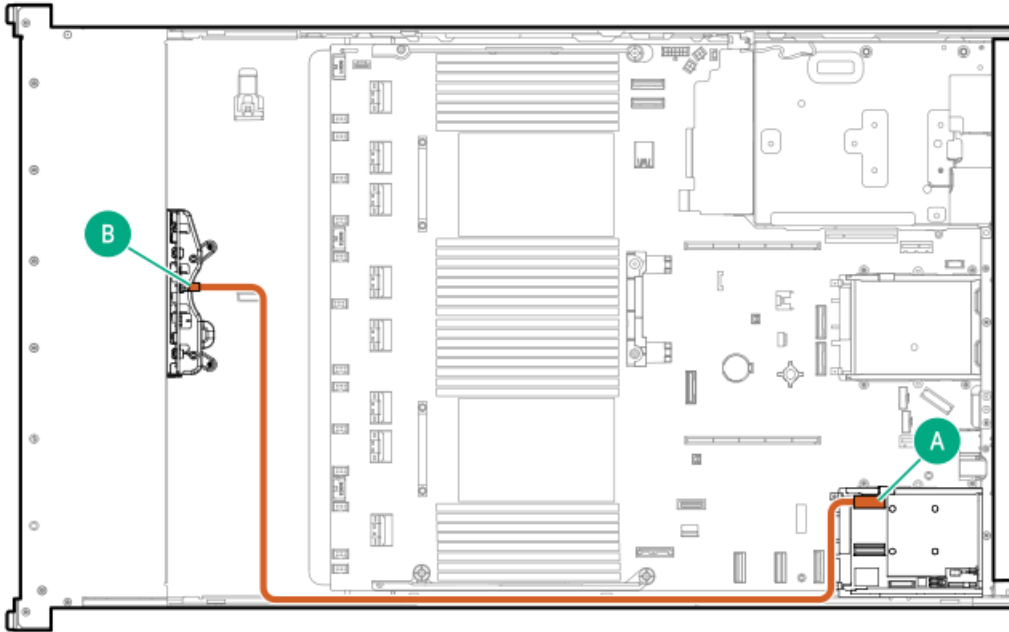
8 SFF box 2: Secondary type-o controller



| Cable part number       | Color  | From            | To                          |
|-------------------------|--------|-----------------|-----------------------------|
| P51545-001 <sup>1</sup> | Orange | Drive backplane | Secondary type-o controller |

<sup>1</sup> Option kit: P48813-B21

8 SFF box 2: Primary type-o controller

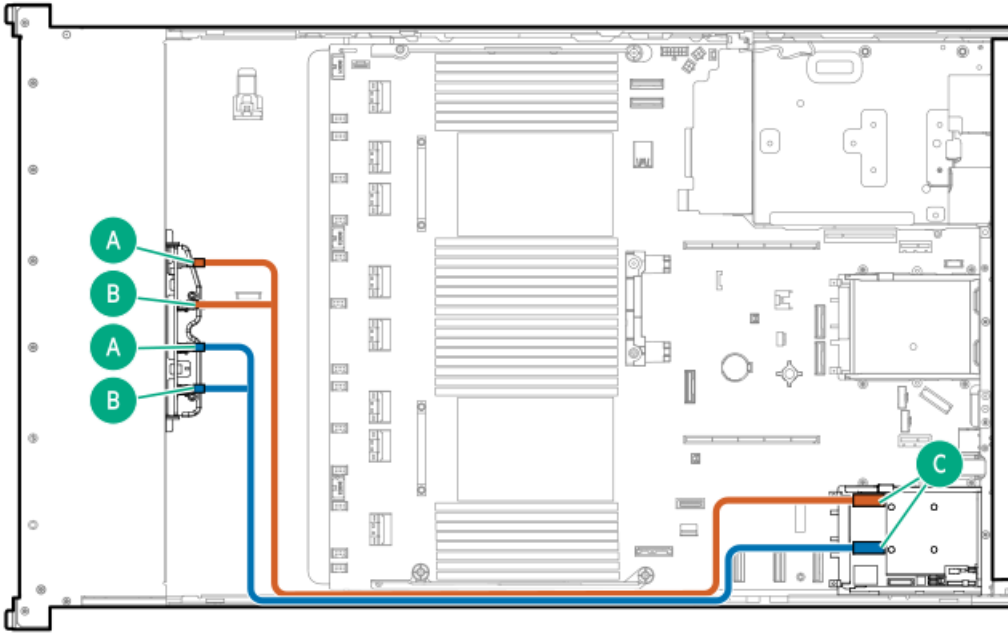


| Cable part number       | Color  | From            | To                        |
|-------------------------|--------|-----------------|---------------------------|
| P51545-001 <sup>1</sup> | Orange | Drive backplane | Primary type-o controller |

<sup>1</sup> Option kit: P48813-B21

8 SFF box 2 to OCP 1

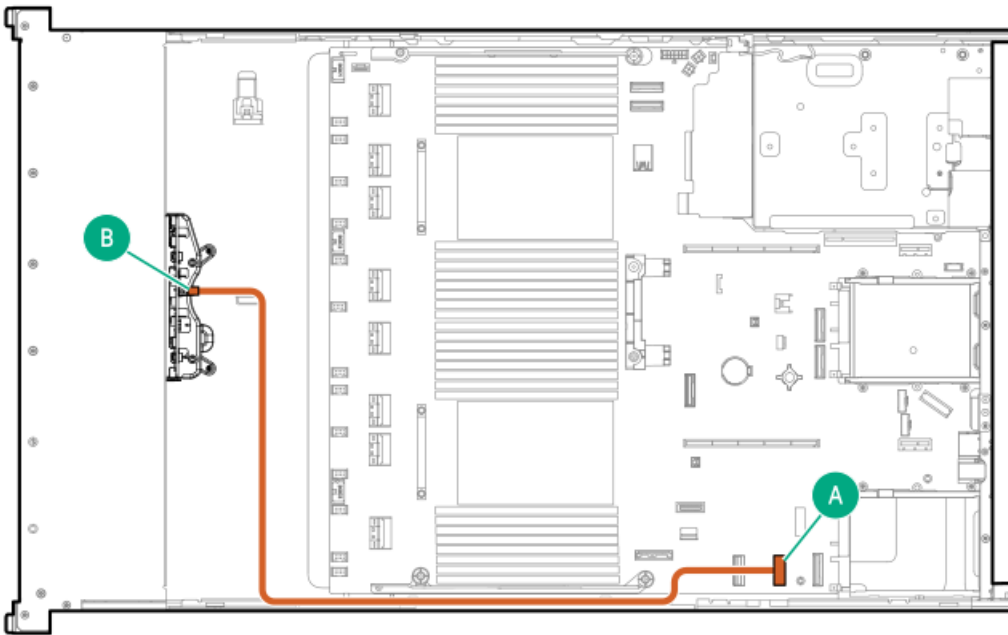




| Cable part number       | Color  | From            | To                        |
|-------------------------|--------|-----------------|---------------------------|
| P51546-001 <sup>1</sup> | Orange | Drive backplane | Primary type-o controller |

<sup>1</sup> Option kit: P48829-B21

**8 SFF box 2: System board**

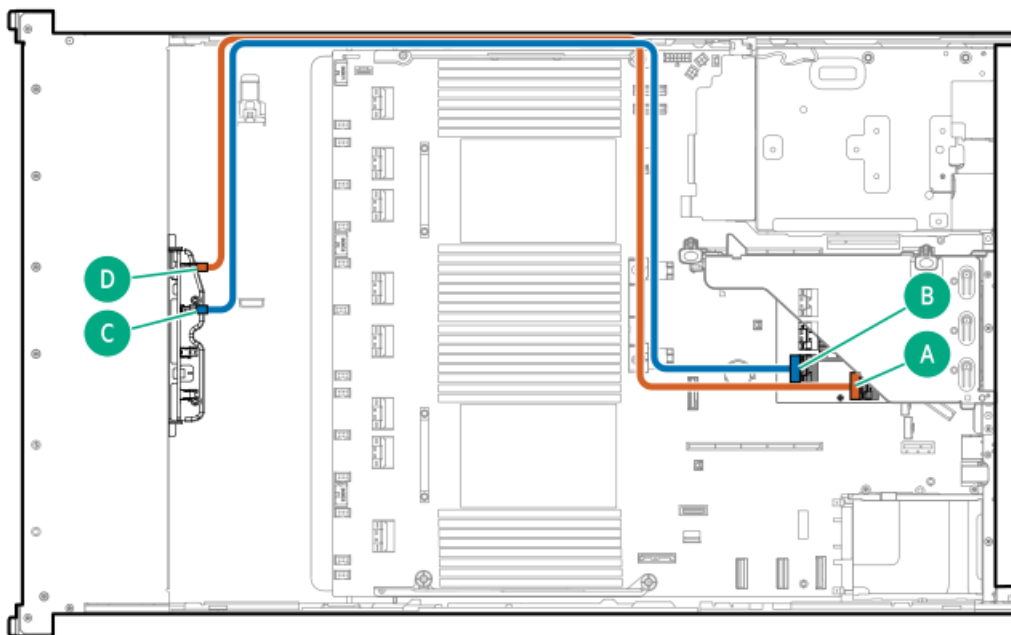


| Cable part number       | Color  | From            | To           |
|-------------------------|--------|-----------------|--------------|
| P51545-001 <sup>1</sup> | Orange | Drive backplane | System board |



1 Option kit: P48813-B21

**8 SFF box 2: Secondary type-p controller**



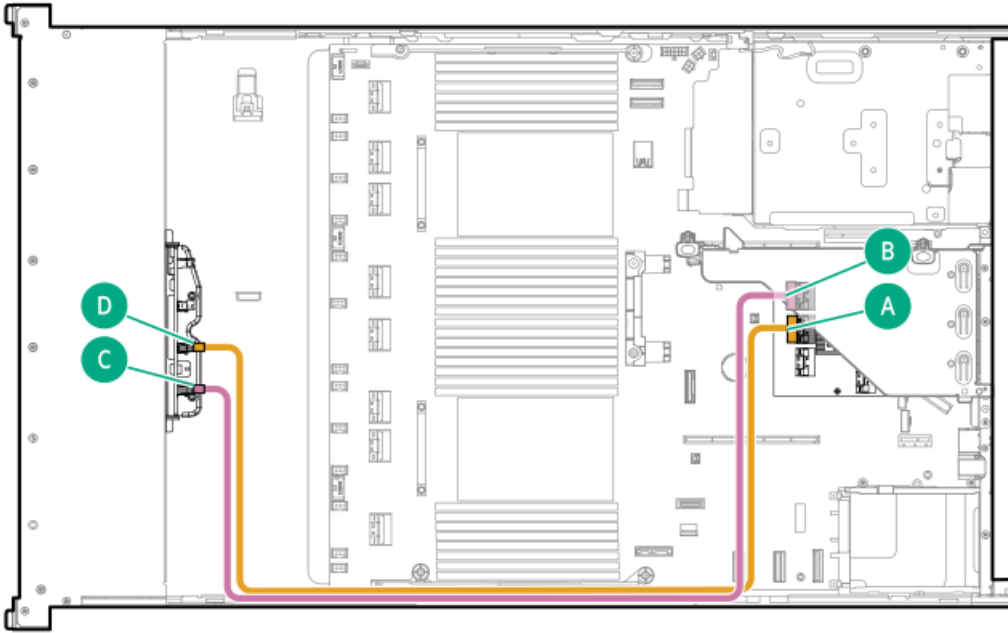
| Cable part number       | Color  | From            | To                          |
|-------------------------|--------|-----------------|-----------------------------|
| P51550-001 <sup>1</sup> | Yellow | Drive backplane | Secondary type-p controller |
|                         | Pink   | Drive backplane | Secondary type-p controller |

1 Option kit: P48831-B21

**8 SFF box 2: Secondary type-p controller**

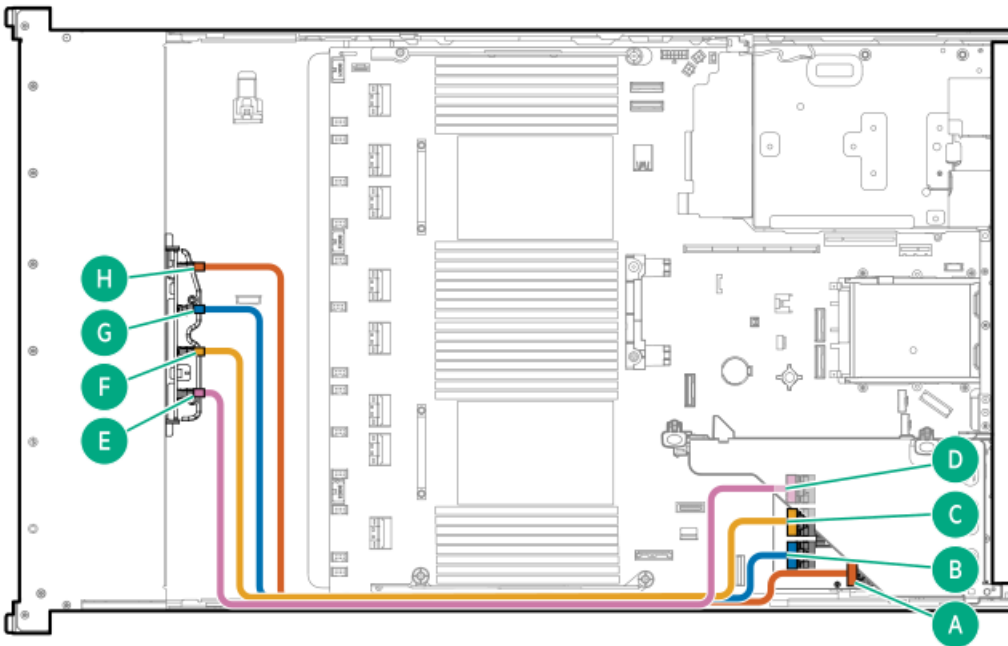






| Cable part number       | Color  | From            | To                          |
|-------------------------|--------|-----------------|-----------------------------|
| P51551-001 <sup>1</sup> | Yellow | Drive backplane | Secondary type-p controller |
|                         | Pink   | Drive backplane | Secondary type-p controller |

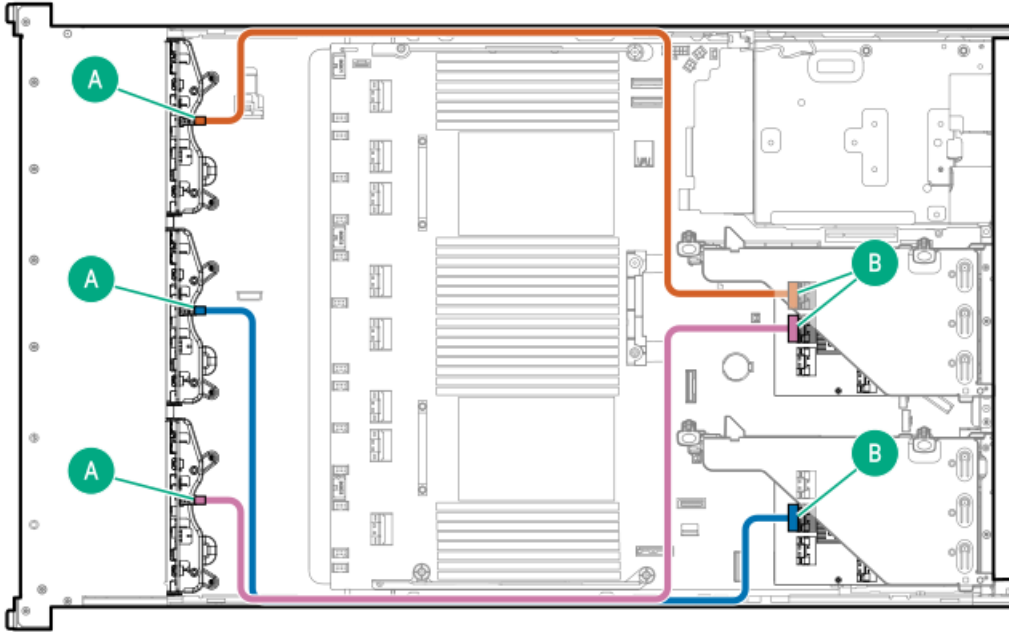
<sup>1</sup> Option kit: P48831-B21



| Cable part number       | Color  | From            | To                        |
|-------------------------|--------|-----------------|---------------------------|
| P51552-001 <sup>1</sup> | Orange | Drive backplane | Primary type-p controller |
|                         | Blue   | Drive backplane | Primary type-p controller |
|                         | Yellow | Drive backplane | Primary type-p controller |
|                         | Pink   | Drive backplane | Primary type-p controller |

<sup>1</sup> Option kit: P48831-B21

8 SFF box 1-3: Primary and secondary type-p controllers

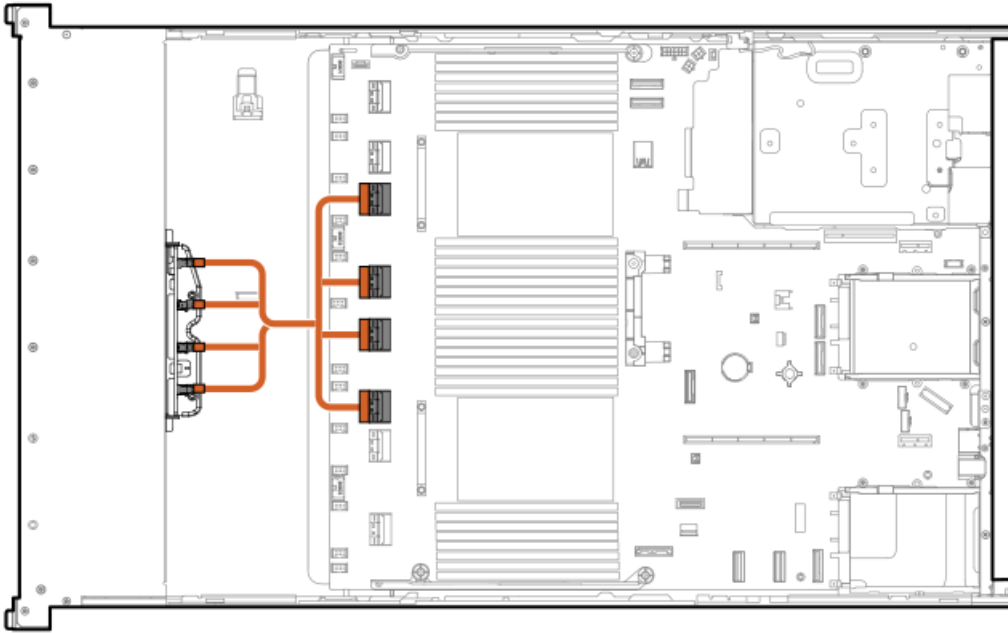


| Cable part number       | Color  | From            | To                          |
|-------------------------|--------|-----------------|-----------------------------|
| P22904-001 <sup>1</sup> | Orange | Drive backplane | Secondary type-p controller |
|                         | Blue   | Drive backplane | Secondary type-p controller |
|                         | Pink   | Drive backplane | Primary type-p controller   |

<sup>1</sup> Option kit: P54874-B21

8 SFF NVMe box 2 to system board cabling



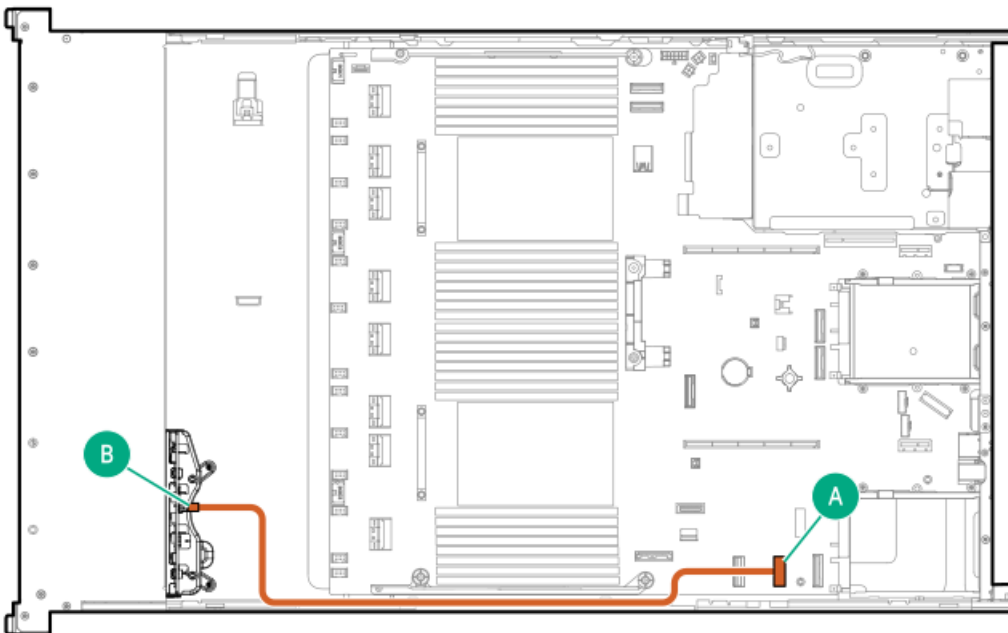


| Cable part number       | Color  | From            | To                     |
|-------------------------|--------|-----------------|------------------------|
| P53286-001 <sup>1</sup> | Orange | Box 2 ports 1-4 | System board ports 3-6 |

<sup>1</sup> Option kit: P48825-B21

## 8 SFF box 3 cabling

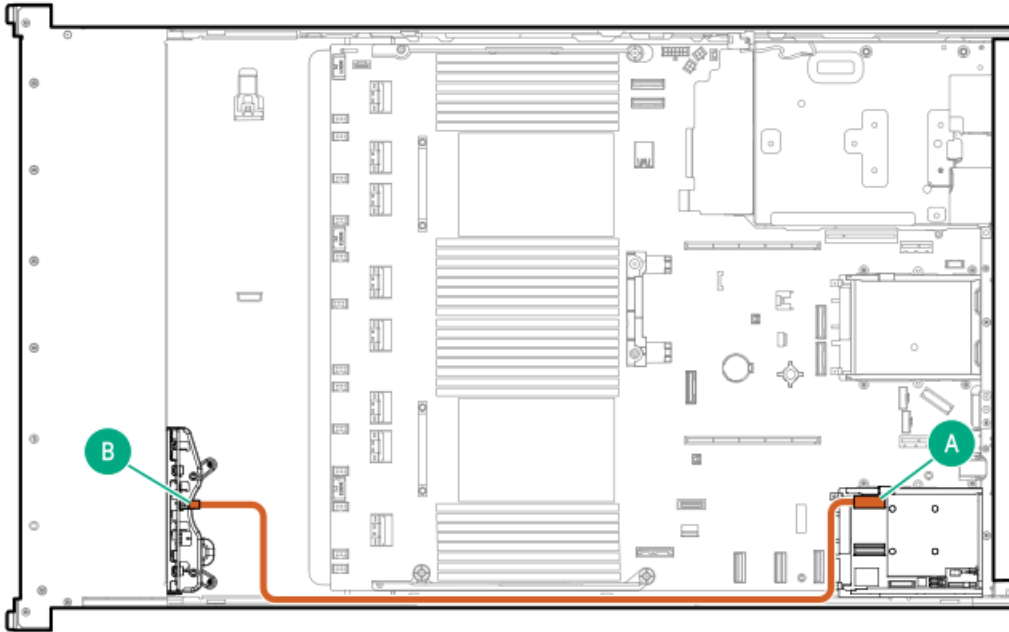
### 8 SFF box 3: System board



| Cable part number       | Color  | From            | To           |
|-------------------------|--------|-----------------|--------------|
| P51545-001 <sup>1</sup> | Orange | Drive backplane | System board |

<sup>1</sup> Option kit: P48813-B21

**8 SFF box 3: Primary type-o controller**

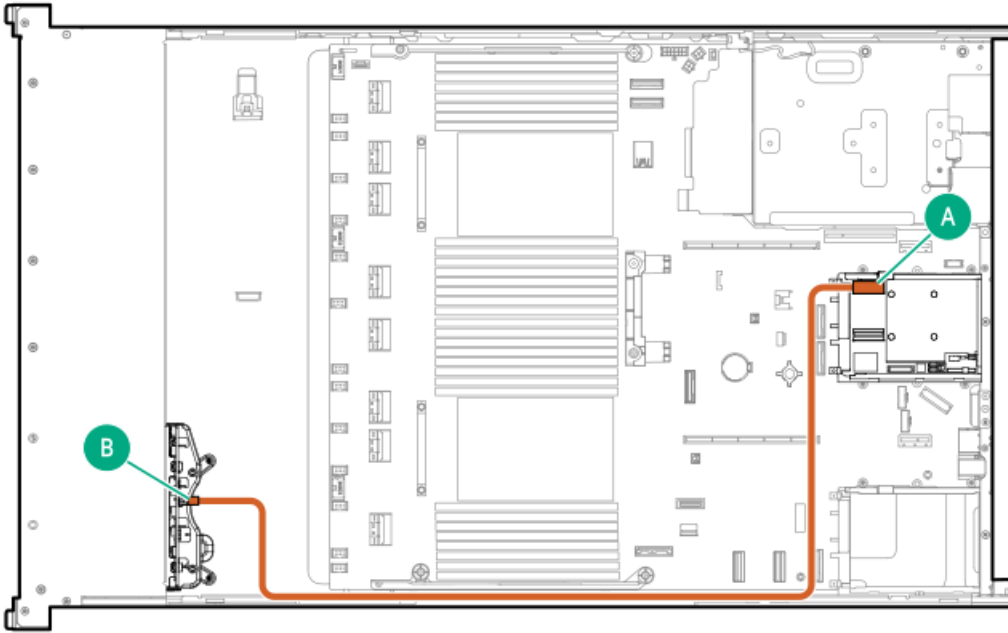


| Cable part number       | Color  | From            | To                        |
|-------------------------|--------|-----------------|---------------------------|
| P51545-001 <sup>1</sup> | Orange | Drive backplane | Primary type-o controller |

<sup>1</sup> Option kit: P48813-B21

**8 SFF box 3: Secondary type-o controller**

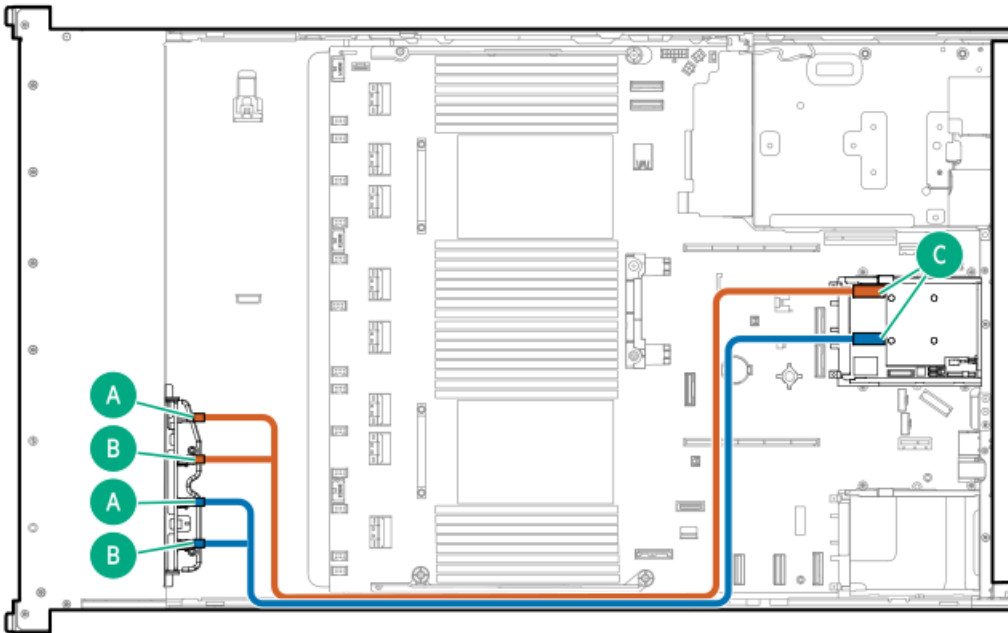




| Cable part number       | Color  | From            | To                          |
|-------------------------|--------|-----------------|-----------------------------|
| P51545-001 <sup>1</sup> | Orange | Drive backplane | Secondary type-o controller |

<sup>1</sup> Option kit: P48813-B21

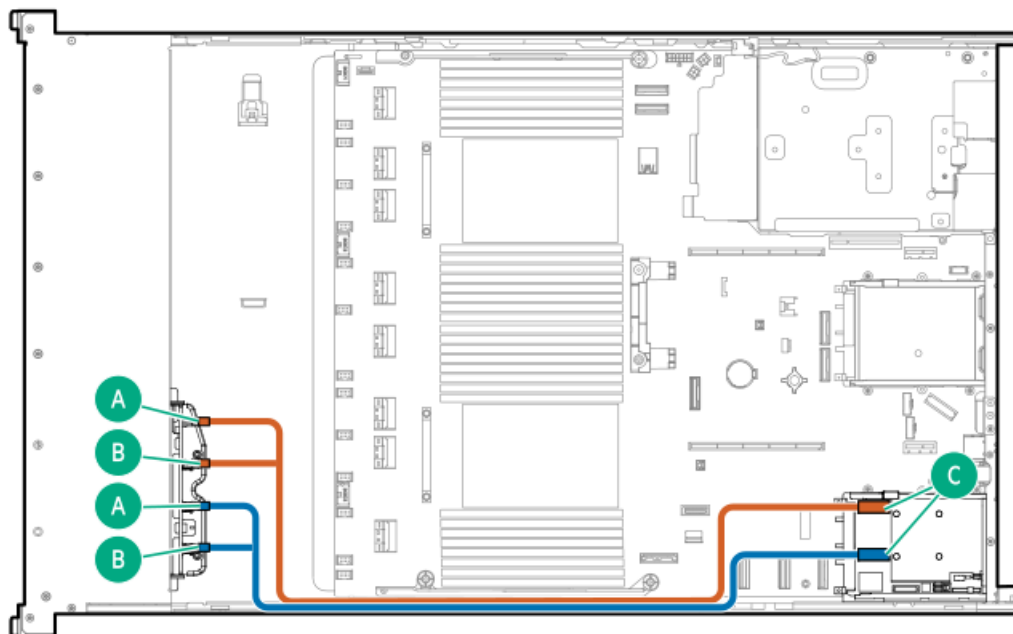
8 SFF box 3: Secondary type-o controller



| Cable part number       | Color  | From            | To                          |
|-------------------------|--------|-----------------|-----------------------------|
| P51546-001 <sup>1</sup> | Orange | Drive backplane | Secondary type-o controller |

1 Option kit: P48829-B21

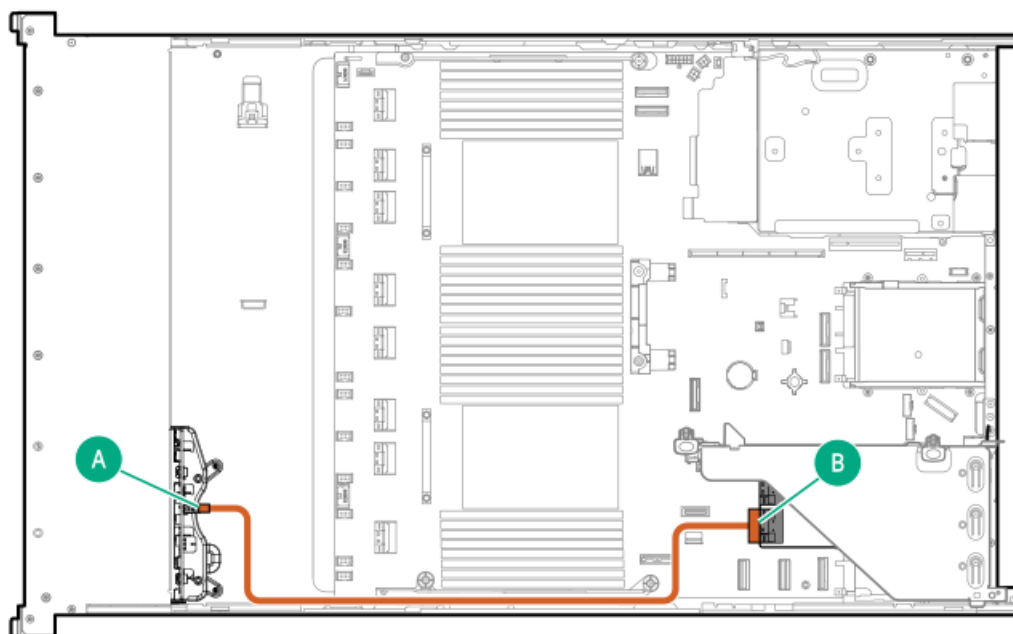
### 8 SFF box 3: Primary type-o controller



| Cable part number       | Color  | From            | To                        |
|-------------------------|--------|-----------------|---------------------------|
| P51546-001 <sup>1</sup> | Orange | Drive backplane | Primary type-o controller |

1 Option kit: P48829-B21

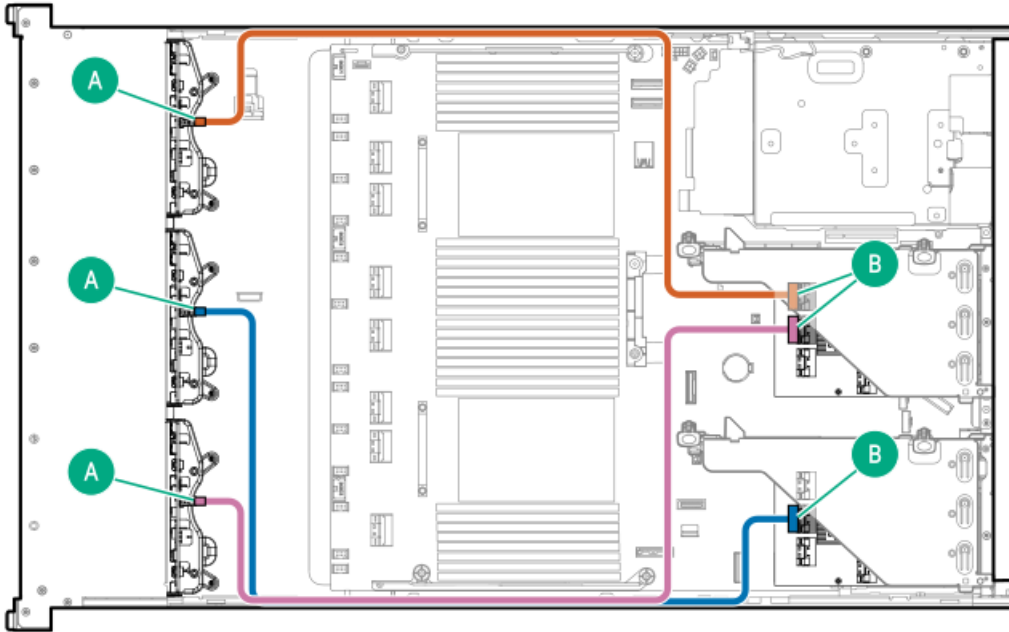
### 8 SFF box 3: Primary type-p controller



| Cable part number       | Color  | From            | To                        |
|-------------------------|--------|-----------------|---------------------------|
| P22904-001 <sup>1</sup> | Orange | Drive backplane | Primary type-p controller |

<sup>1</sup> Option kit: P54874-B21

**8 SFF box 1-3: Primary and secondary type-p controllers**

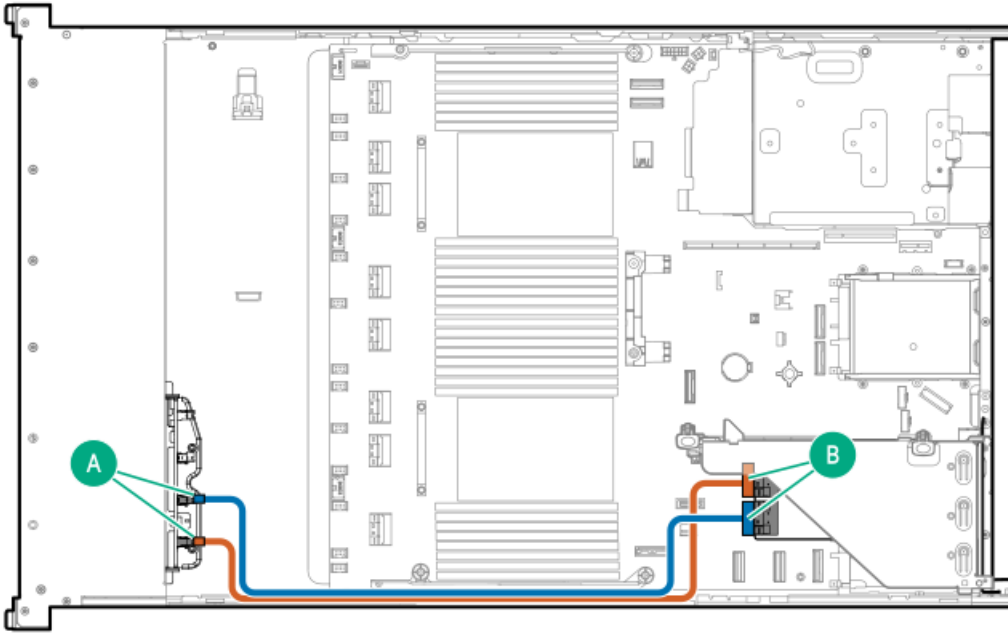


| Cable part number       | Color  | From            | To                          |
|-------------------------|--------|-----------------|-----------------------------|
| P22904-001 <sup>1</sup> | Orange | Drive backplane | Secondary type-p controller |
|                         | Blue   | Drive backplane | Secondary type-p controller |
|                         | Pink   | Drive backplane | Primary type-p controller   |

<sup>1</sup> Option kit: P54874-B21

**8 SFF box 3: Primary type-p controller**

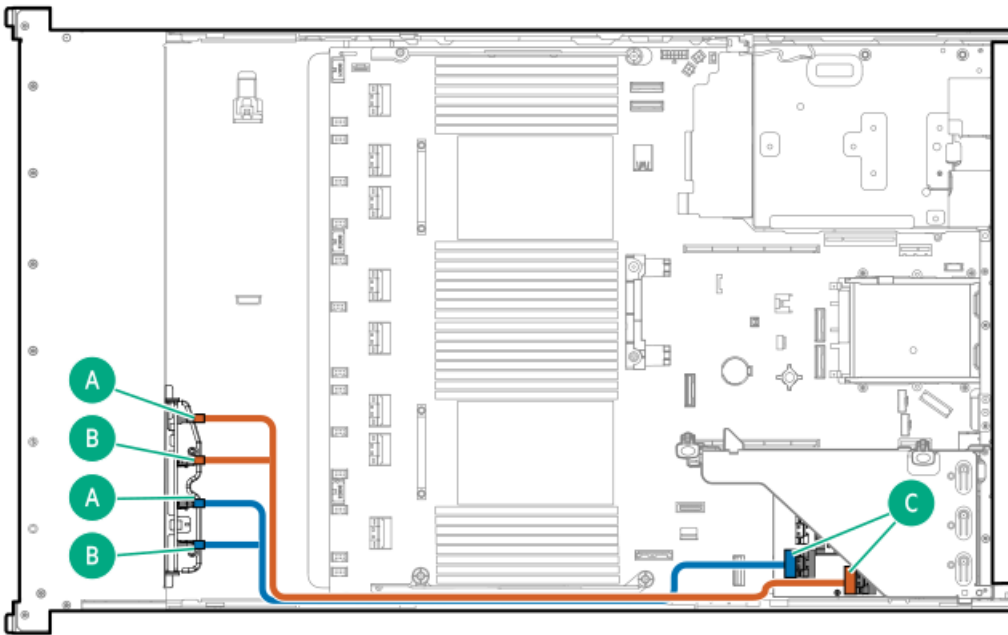




| Cable part number       | Color  | From            | To                        |
|-------------------------|--------|-----------------|---------------------------|
| P22904-001 <sup>1</sup> | Orange | Drive backplane | Primary type-p controller |

<sup>1</sup> Option kit: P54874-B21

8 SFF box 3: Primary type-p controller

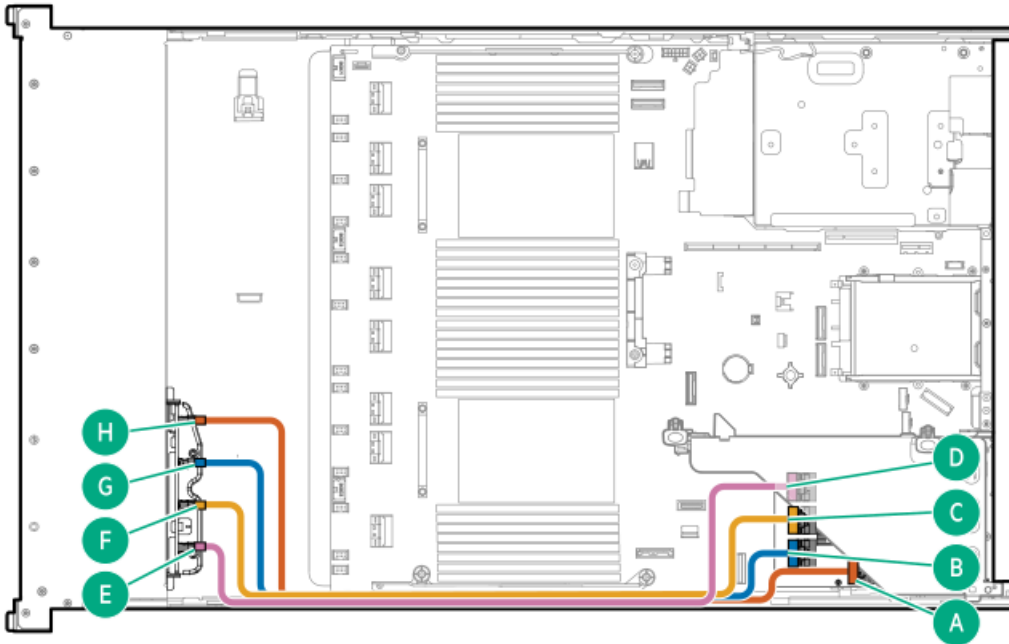




| Cable part number       | Color  | From            | To                        |
|-------------------------|--------|-----------------|---------------------------|
| P14330-001 <sup>1</sup> | Orange | Drive backplane | Primary type-p controller |
|                         | Blue   | Drive backplane | Primary type-p controller |

<sup>1</sup> Option kit: P48832-B21

8 SFF box 3: Primary type-p controller

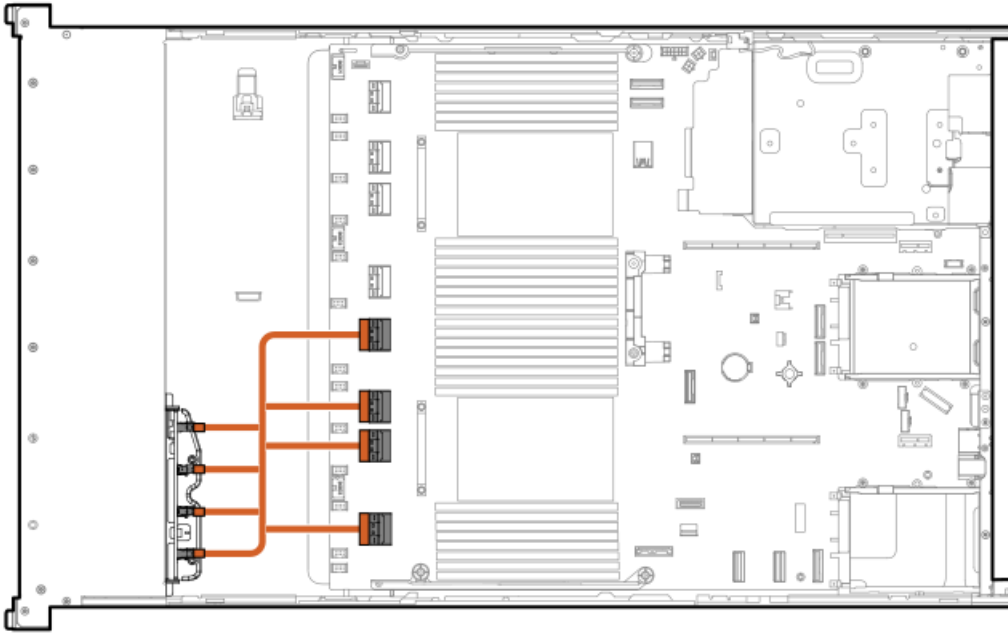


| Cable part number       | Color  | From            | To                        |
|-------------------------|--------|-----------------|---------------------------|
| P51553-001 <sup>1</sup> | Orange | Drive backplane | Primary type-p controller |
|                         | Blue   | Drive backplane | Primary type-p controller |
|                         | Yellow | Drive backplane | Primary type-p controller |
|                         | Pink   | Drive backplane | Primary type-p controller |

<sup>1</sup> Option kit: P48831-B21

8 SFF box 3: System board

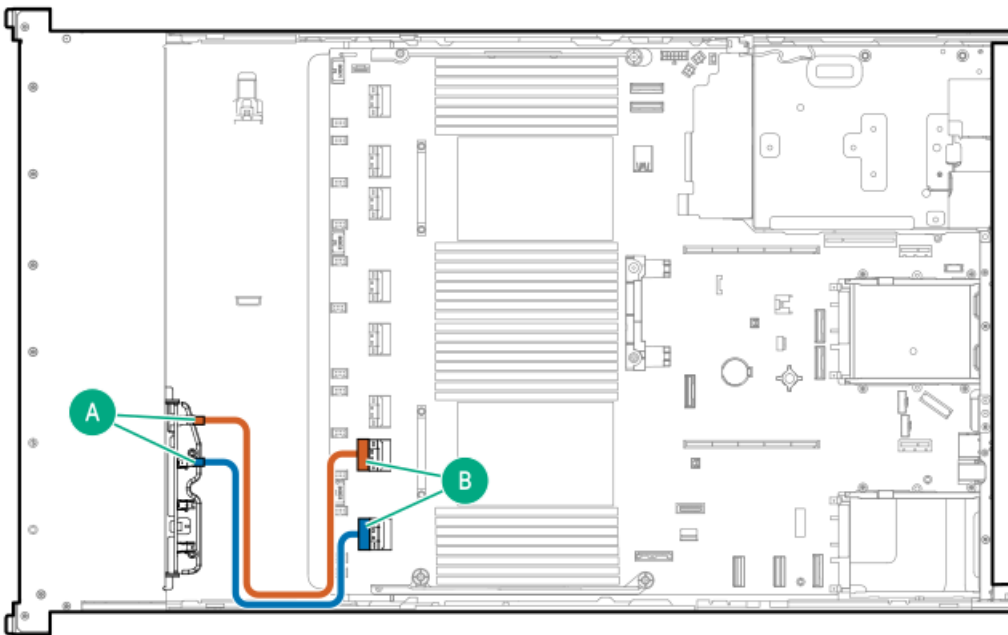




| Cable part number       | Color  | From            | To                     |
|-------------------------|--------|-----------------|------------------------|
| P53287-001 <sup>1</sup> | Orange | Box 3 ports 1-4 | System board ports 1-4 |

Option kit: P48825-B21

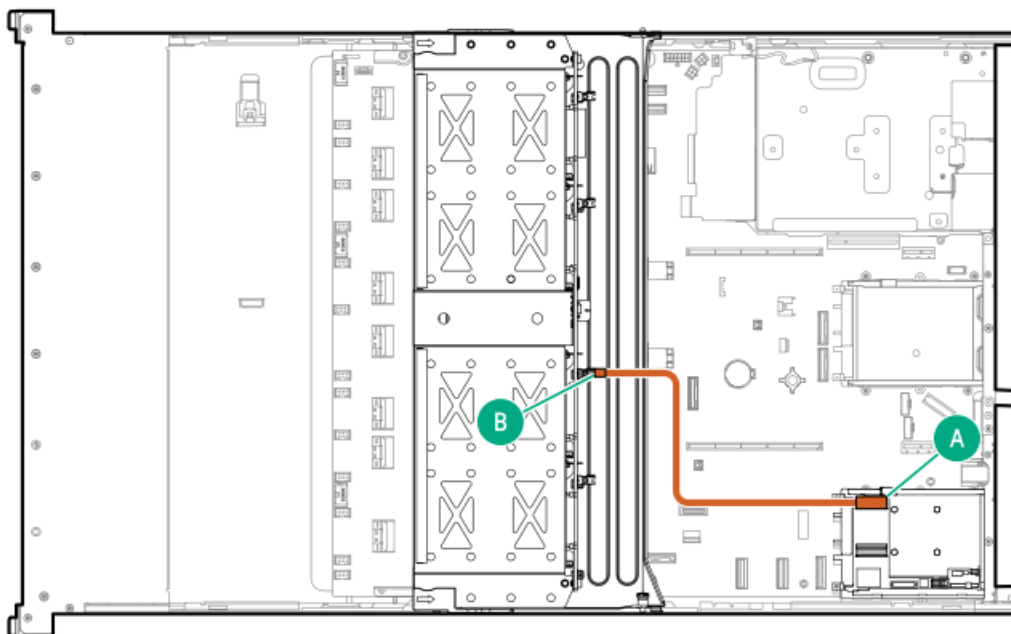
<sup>1</sup>  
8 SFF box 3: System board



| Cable part number       | Color  | From                         | To                        |
|-------------------------|--------|------------------------------|---------------------------|
| P51543-001 <sup>1</sup> | Orange | Drive backplane port 1 and 2 | System board port 1 and 2 |

## Mid 8 SFF cabling

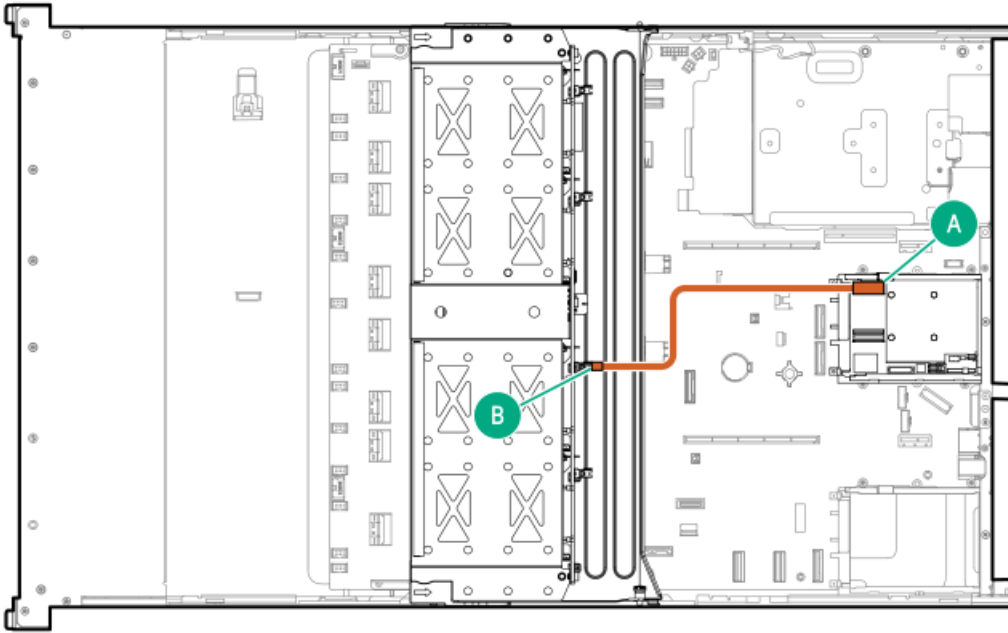
### 8 SFF box 7: Primary type-o controller



| Cable part number       | Color  | From            | To                        |
|-------------------------|--------|-----------------|---------------------------|
| P51554-001 <sup>1</sup> | Orange | Drive backplane | Primary type-o controller |

### 8 SFF box 7: Secondary type-o controller

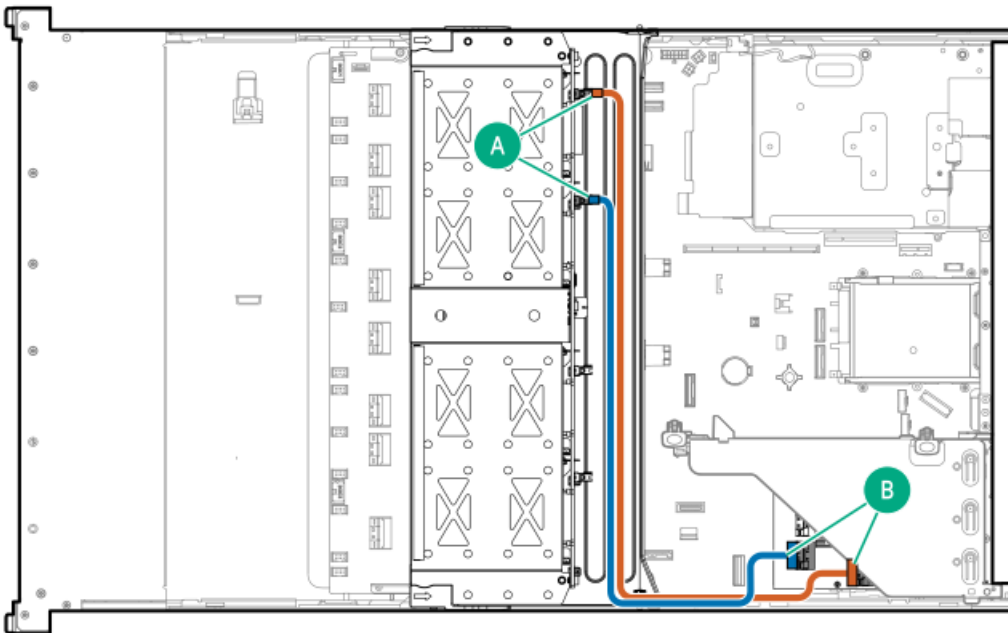




| Cable part number       | Color  | From            | To                          |
|-------------------------|--------|-----------------|-----------------------------|
| P51554-001 <sup>1</sup> | Orange | Drive backplane | Secondary type-o controller |

<sup>1</sup> Option kit: P48815-B21

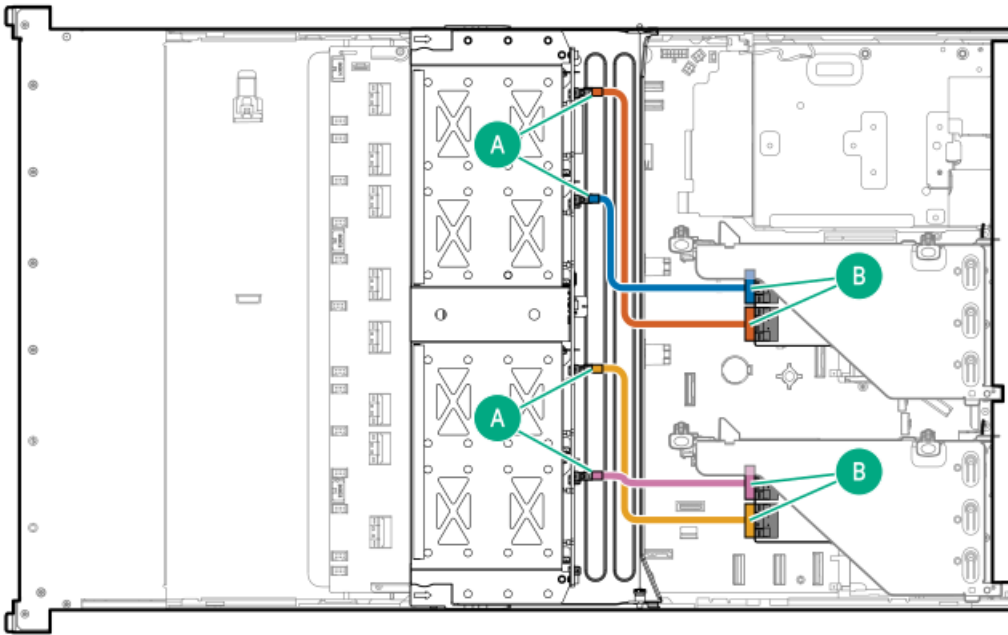
**8 SFF box 7: Primary type-p controller**



| Cable part number       | Color  | From            | To                        |
|-------------------------|--------|-----------------|---------------------------|
| P22903-001 <sup>1</sup> | Orange | Drive backplane | Primary type-p controller |

1 Option kit: P48816-B21

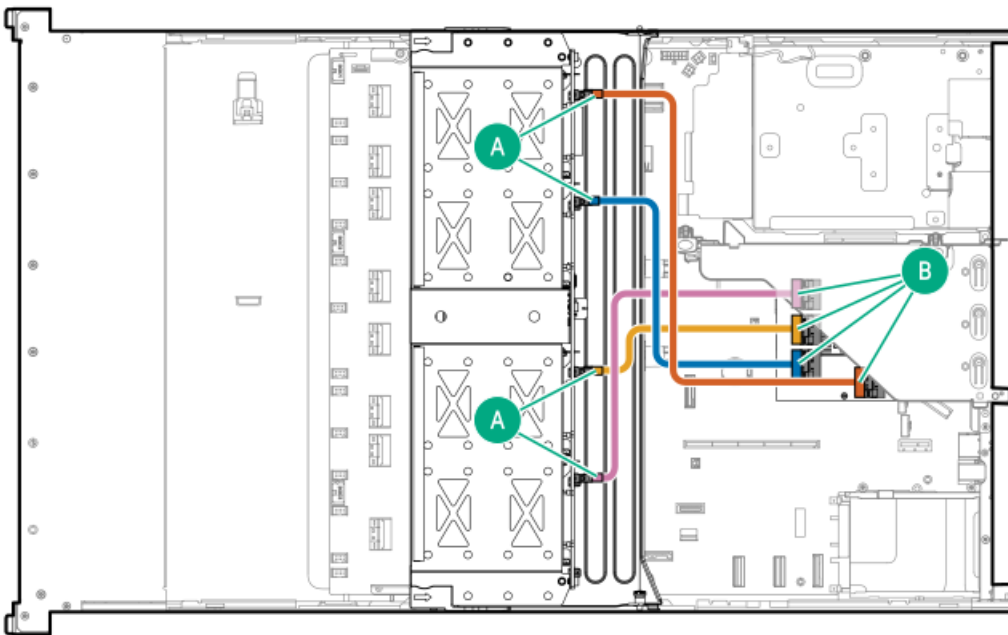
### 8 SFF midplane drive cabling: Type-p controllers



| Cable part number       | Color  | From            | To                                       |
|-------------------------|--------|-----------------|--|
| P14329-001 <sup>1</sup> | Orange | Drive backplane | Primary and Secondary type-p controllers |

1 Option kit: P48816-B21

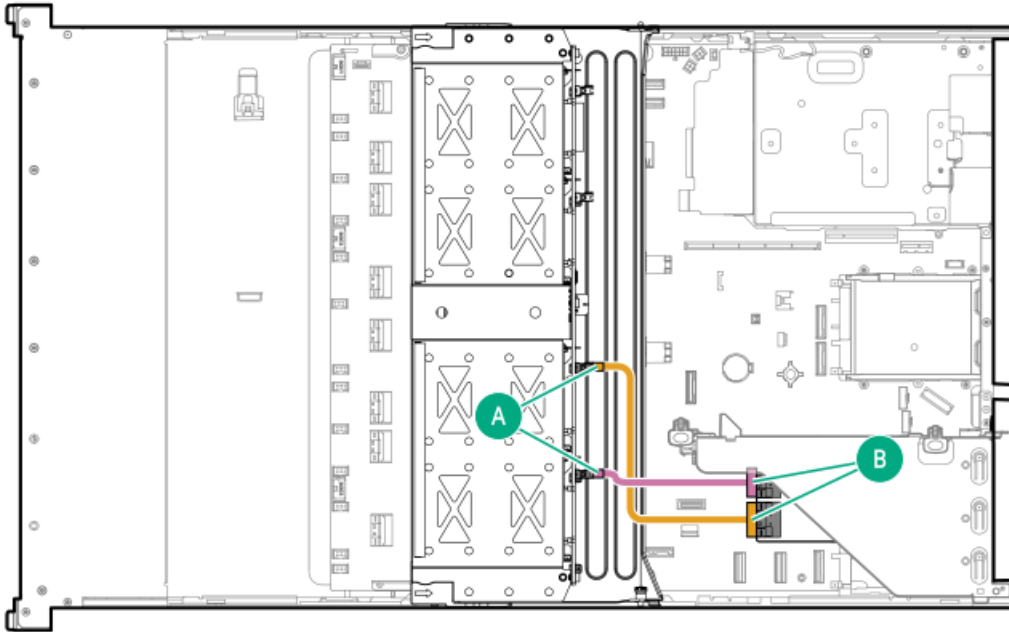
### 8 SFF midplane drive cabling: Secondary type-p controller



| Cable part number       | Color  | From            | To                          |
|-------------------------|--------|-----------------|-----------------------------|
| P14329-001 <sup>1</sup> | Orange | Drive backplane | Secondary type-p controller |

<sup>1</sup> Option kit: P48810-B21

### 8 SFF midplane drive cabling: Primary type-p controller



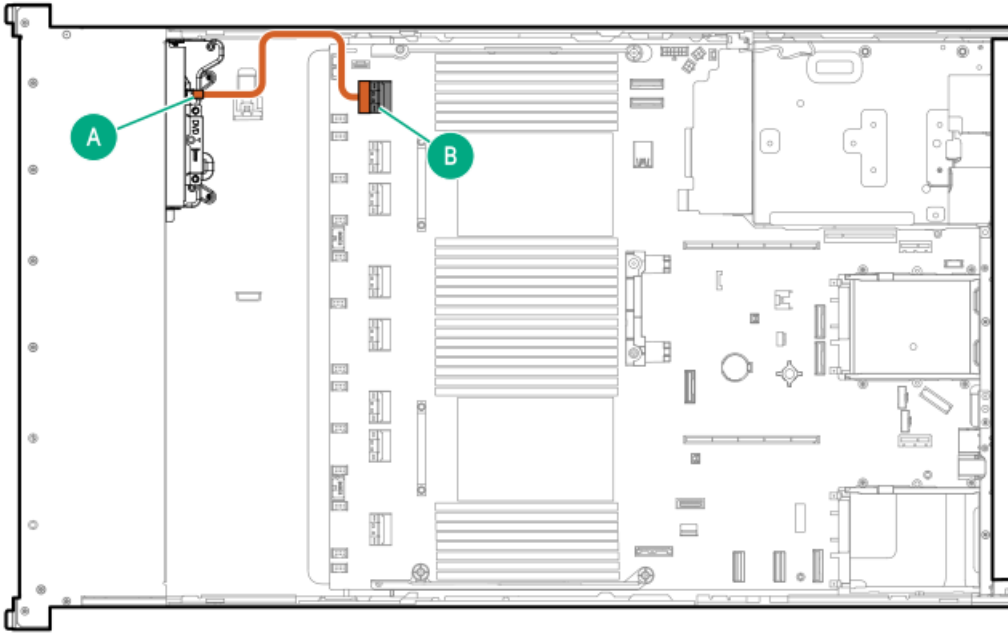
| Cable part number       | Color  | From            | To                        |
|-------------------------|--------|-----------------|---------------------------|
| P14329-001 <sup>1</sup> | Orange | Drive backplane | Primary type-p controller |

<sup>1</sup> Option kit: P48810-B21

### Front 2 SFF cabling

2 SFF box 1: System board

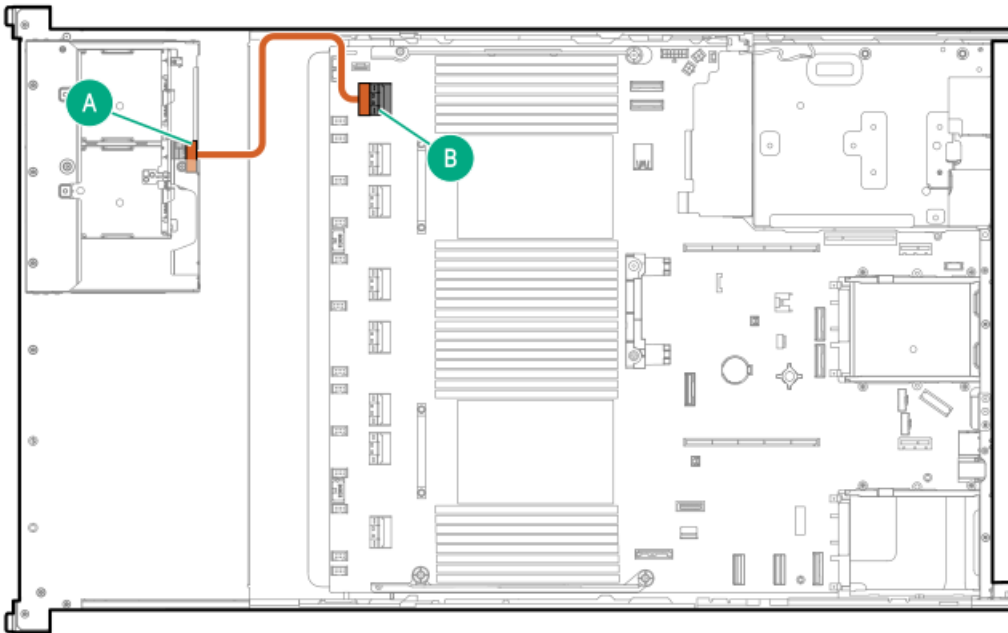




| Cable part number       | Color  | From            | To           |
|-------------------------|--------|-----------------|--------------|
| P51555-001 <sup>1</sup> | Orange | Drive backplane | System board |

<sup>1</sup> Option kit: P52153-B21

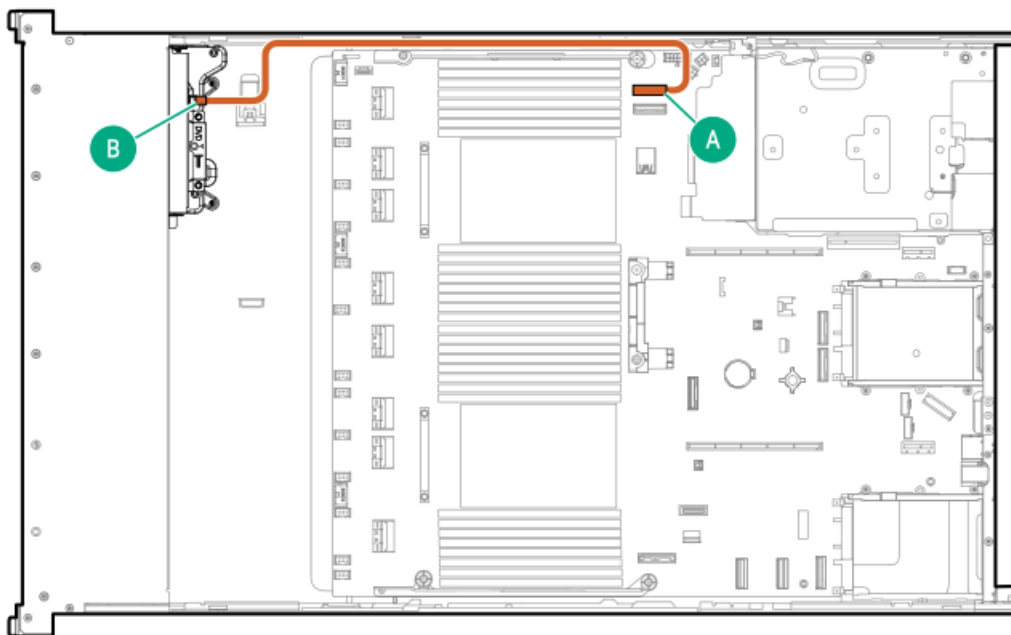
2 SFF box 1: to system board cabling



| Cable part number       | Color  | From            | To           |
|-------------------------|--------|-----------------|--------------|
| P51555-001 <sup>1</sup> | Orange | Drive backplane | System board |

1 Option kit: P52153-B21

2 SFF box 1: System board



| Cable part number       | Color  | From            | To           |
|-------------------------|--------|-----------------|--------------|
| P51556-001 <sup>1</sup> | Orange | Drive backplane | System board |

1 Option kit: P52153-B21

2 SFF box 1: System board

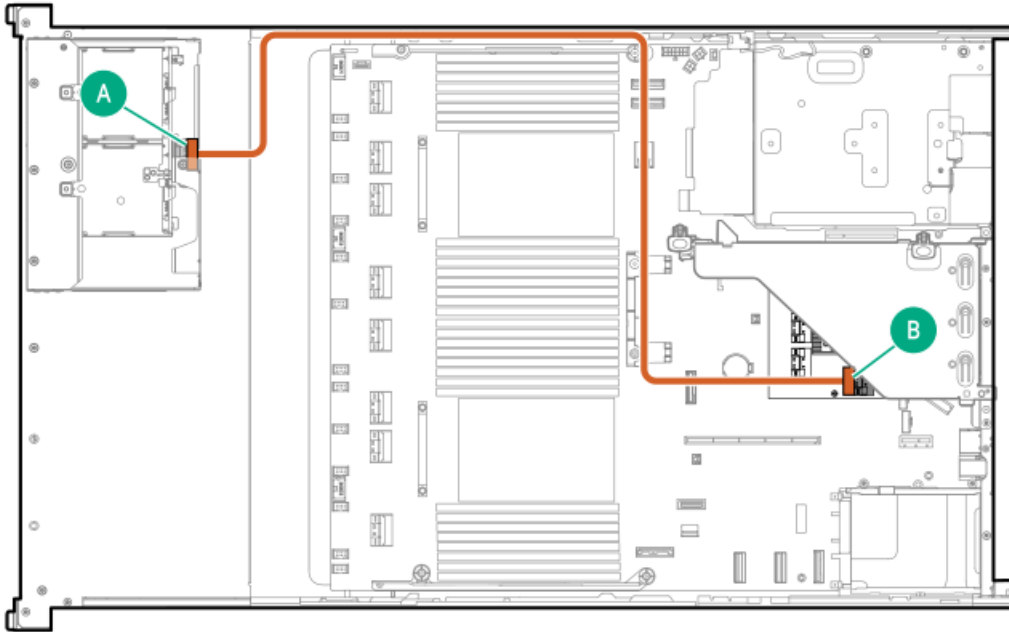




| Cable part number       | Color  | From            | To           |
|-------------------------|--------|-----------------|--------------|
| P51556-001 <sup>1</sup> | Orange | Drive backplane | System board |

<sup>1</sup> Option kit: P52153-B21

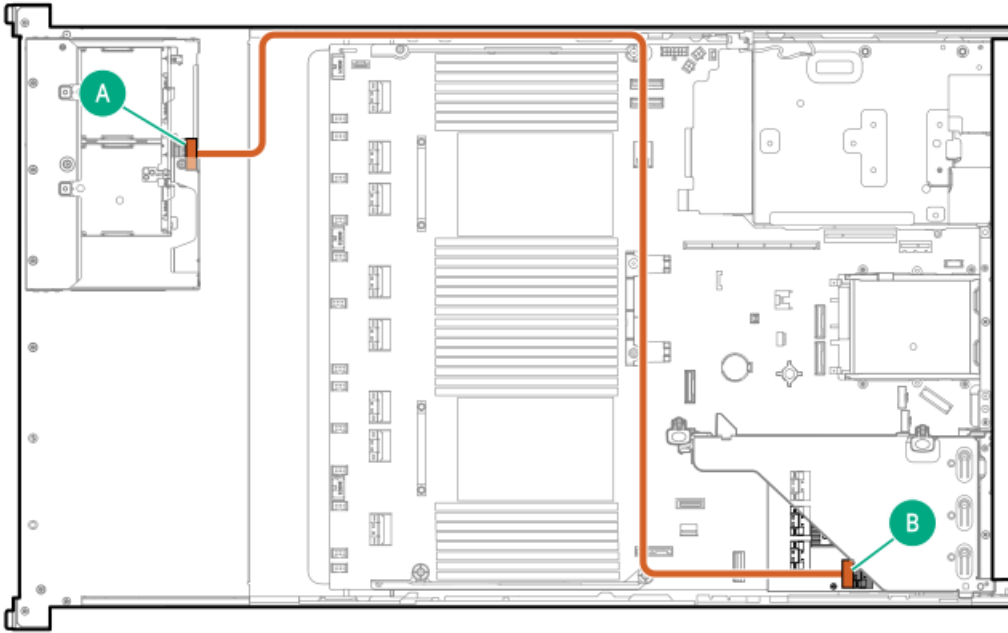
2 SFF box 1: Secondary type-p controller



| Cable part number       | Color  | From            | To                          |
|-------------------------|--------|-----------------|-----------------------------|
| P22905-001 <sup>1</sup> | Orange | Drive backplane | Secondary type-p controller |

<sup>1</sup> Option kit: P54874-B21

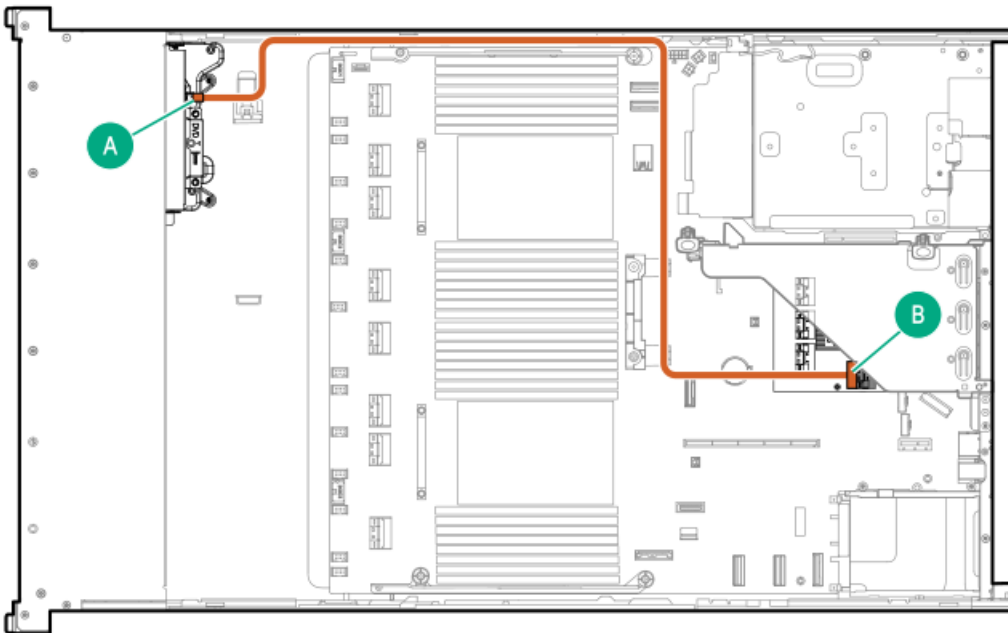
2 SFF box 1: Primary type-p controller



| Cable part number       | Color  | From            | To                        |
|-------------------------|--------|-----------------|---------------------------|
| P22905-001 <sup>1</sup> | Orange | Drive backplane | Primary type-p controller |

<sup>1</sup> Option kit: P54874-B21

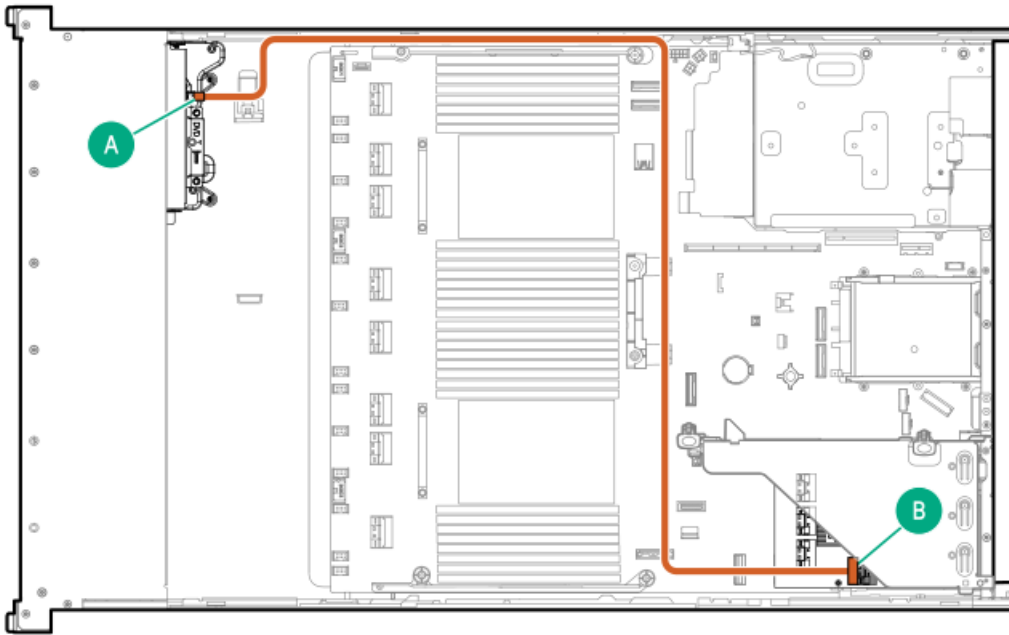
2 SFF box 1: Secondary type-p controller



| Cable part number       | Color  | From            | To                          |
|-------------------------|--------|-----------------|-----------------------------|
| P22905-001 <sup>2</sup> | Orange | Drive backplane | Secondary type-p controller |

2 Option kit: P54874-B21

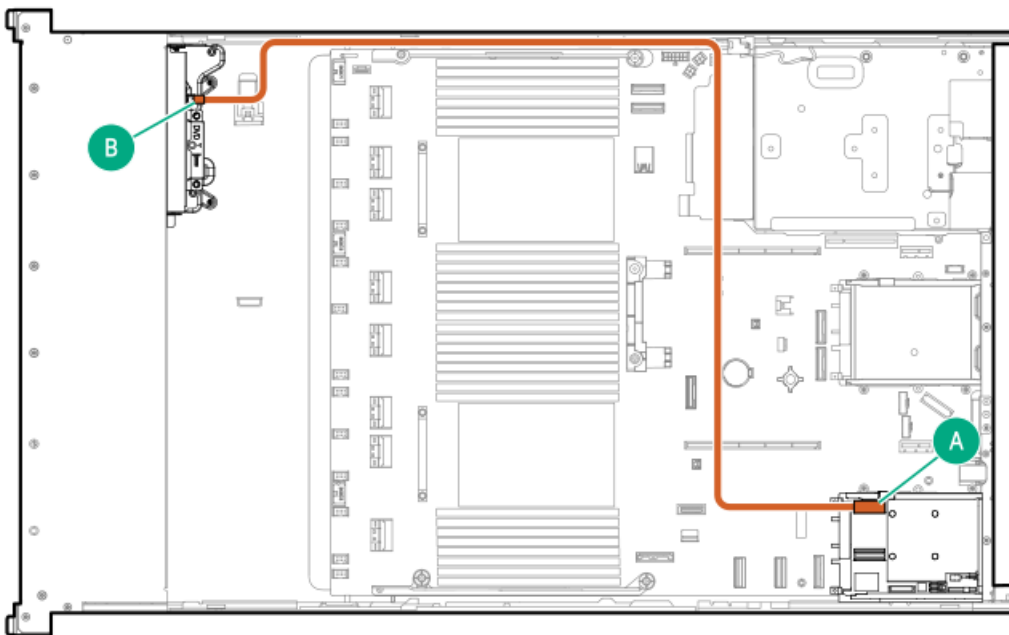
2 SFF box 1: Primary type-p controller



| Cable part number       | Color  | From            | To                        |
|-------------------------|--------|-----------------|---------------------------|
| P22905-001 <sup>2</sup> | Orange | Drive backplane | Primary type-p controller |

2 Option kit: P54874-B21

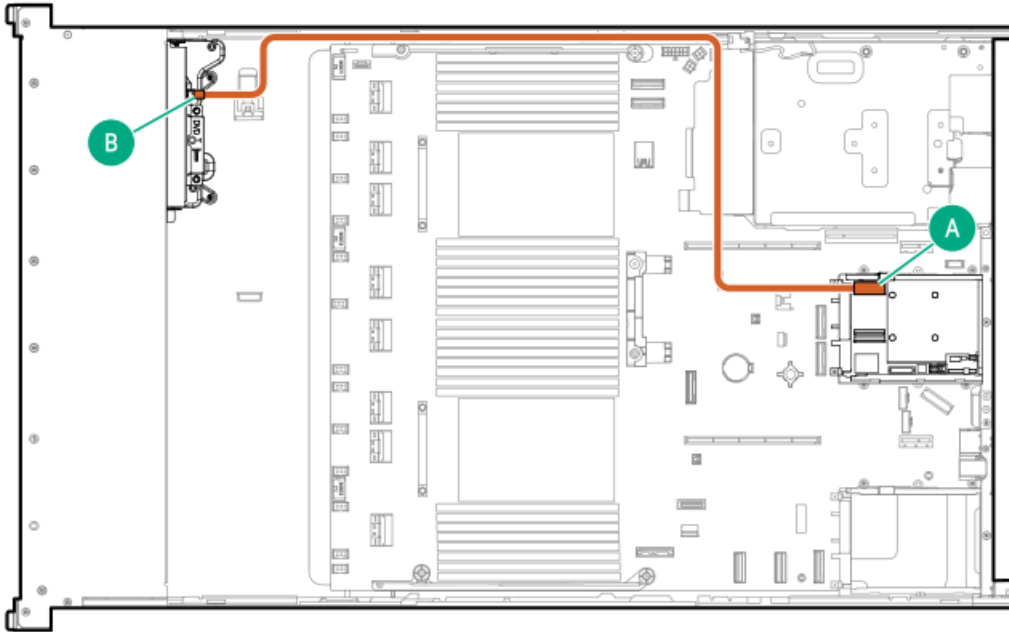
2 SFF box 1: Primary type-o controller



| Cable part number       | Color  | From            | To                        |
|-------------------------|--------|-----------------|---------------------------|
| P51545-001 <sup>1</sup> | Orange | Drive backplane | Primary type-o controller |

<sup>1</sup> Option kit: P48813-B21

2 SFF box 1: Secondary type-o controller

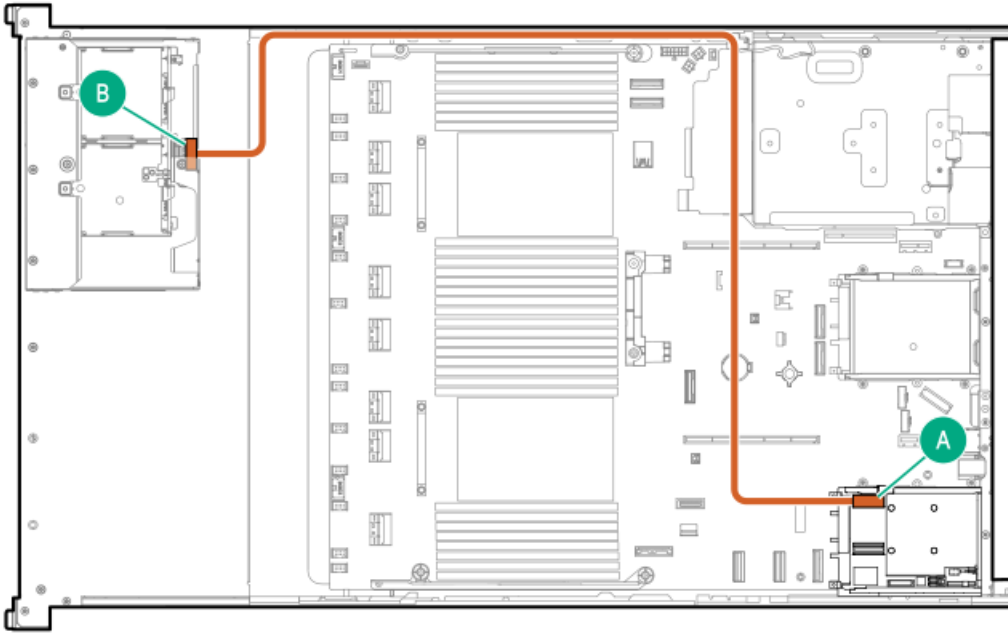


| Cable part number       | Color  | From            | To                          |
|-------------------------|--------|-----------------|-----------------------------|
| P51545-001 <sup>1</sup> | Orange | Drive backplane | Secondary type-o controller |

<sup>1</sup> Option kit: P48813-B21

2 SFF box 1: Primary type-o controller

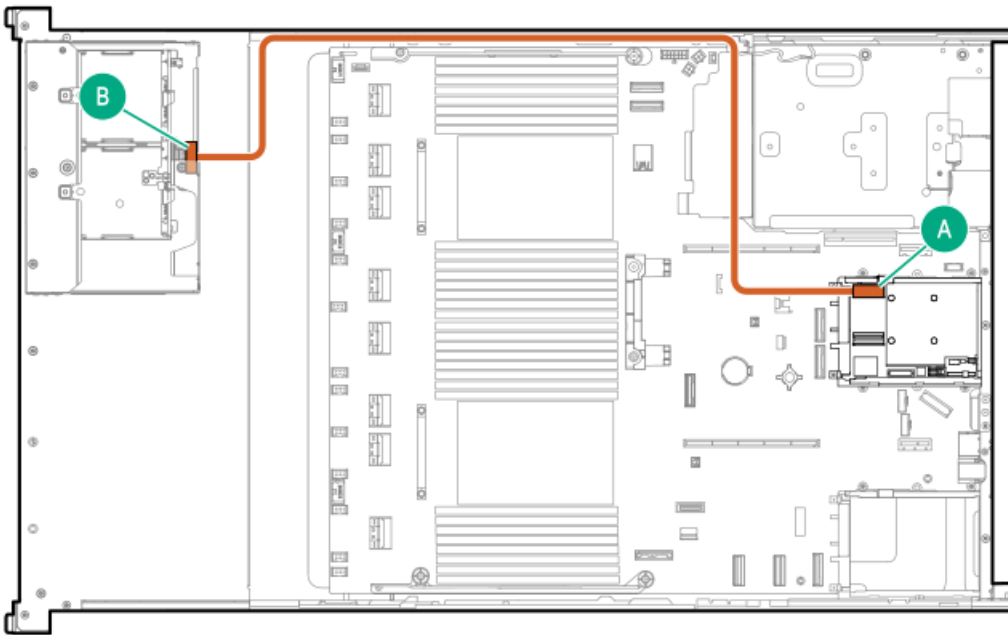




| Cable part number       | Color  | From            | To                        |
|-------------------------|--------|-----------------|---------------------------|
| P51545-001 <sup>2</sup> | Orange | Drive backplane | Primary type-o controller |

<sup>2</sup> Option kit: P48813-B21

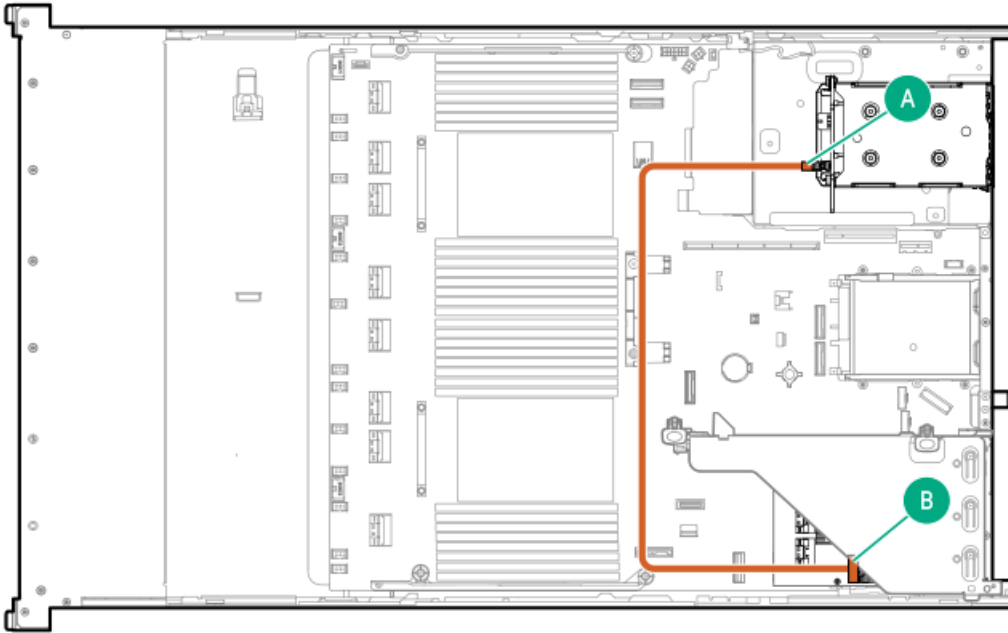
2 SFF box 1: Secondary type-o controller



| Cable part number       | Color  | From            | To                          |
|-------------------------|--------|-----------------|-----------------------------|
| P51545-001 <sup>2</sup> | Orange | Drive backplane | Secondary type-o controller |

## Rear 2 SFF cabling

### 2 SFF box 6: Primary type-p controller

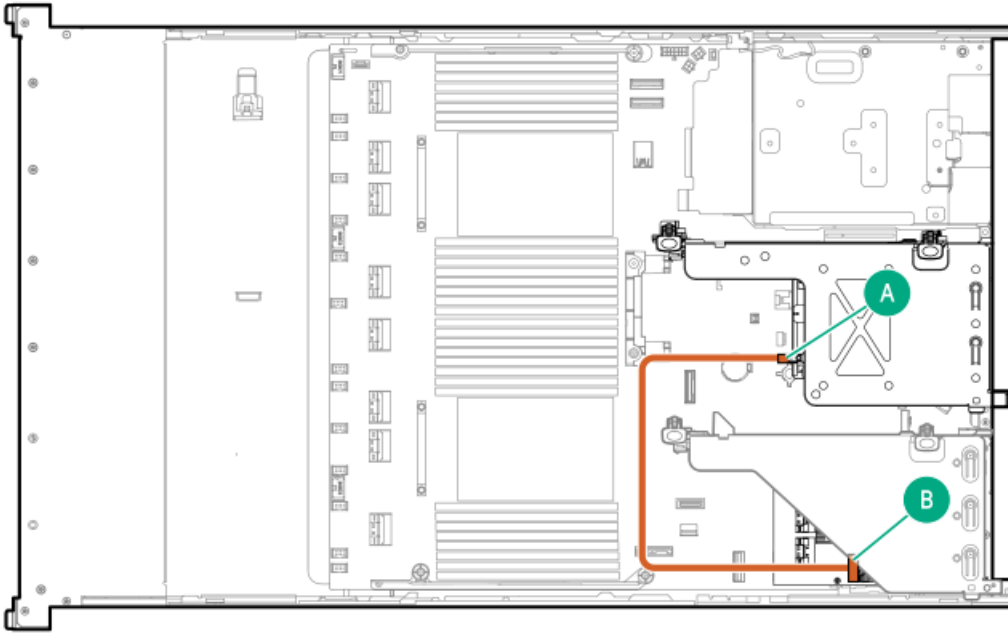


| Cable part number       | Color  | From            | To                        |
|-------------------------|--------|-----------------|---------------------------|
| P22903-001 <sup>1</sup> | Orange | Drive backplane | Primary type-p controller |

<sup>1</sup> Option kit: P48816-B21

### 2 SFF box 5: Primary type-p controller

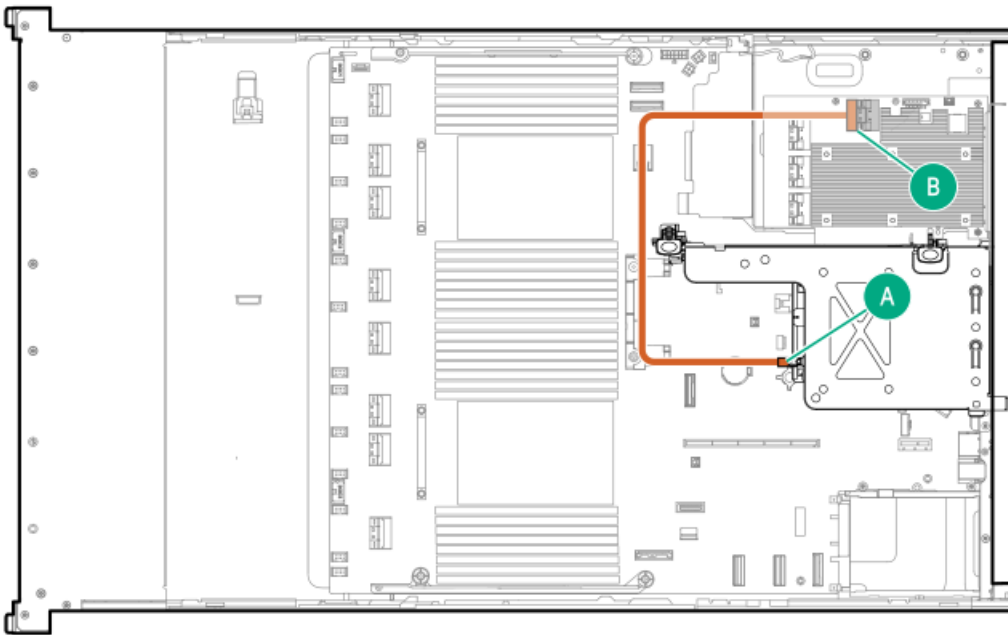




| Cable part number       | Color  | From            | To                        |
|-------------------------|--------|-----------------|---------------------------|
| P22903-001 <sup>2</sup> | Orange | Drive backplane | Primary type-p controller |

<sup>2</sup> Option kit: P48816-B21

2 SFF box 5: Tertiary type-p controller

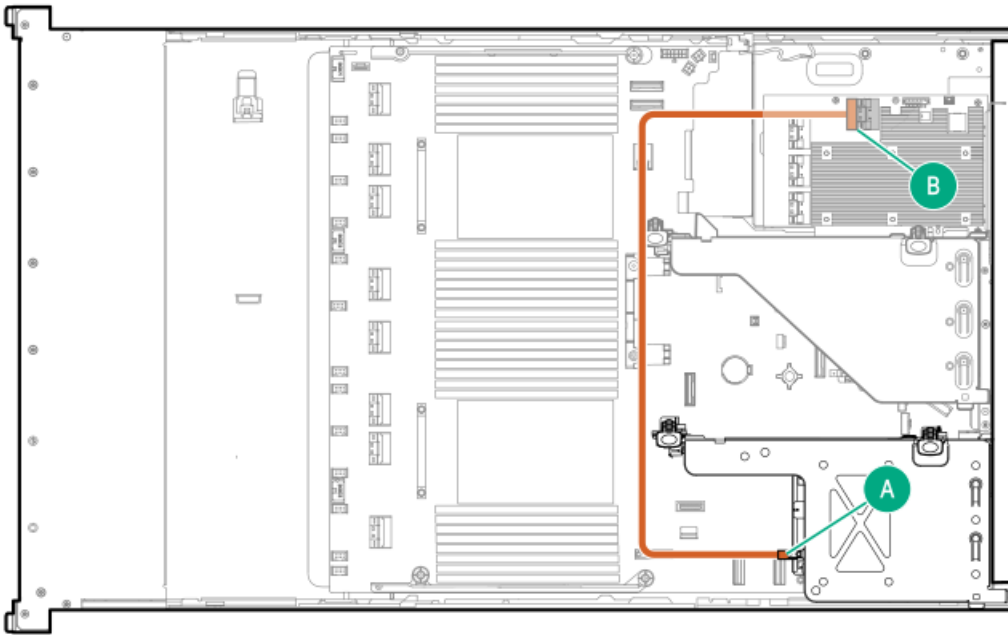


| Cable part number       | Color  | From            | To                        |
|-------------------------|--------|-----------------|---------------------------|
| P22903-001 <sup>3</sup> | Orange | Drive backplane | Primary type-p controller |



3 Option kit: P48816-B21

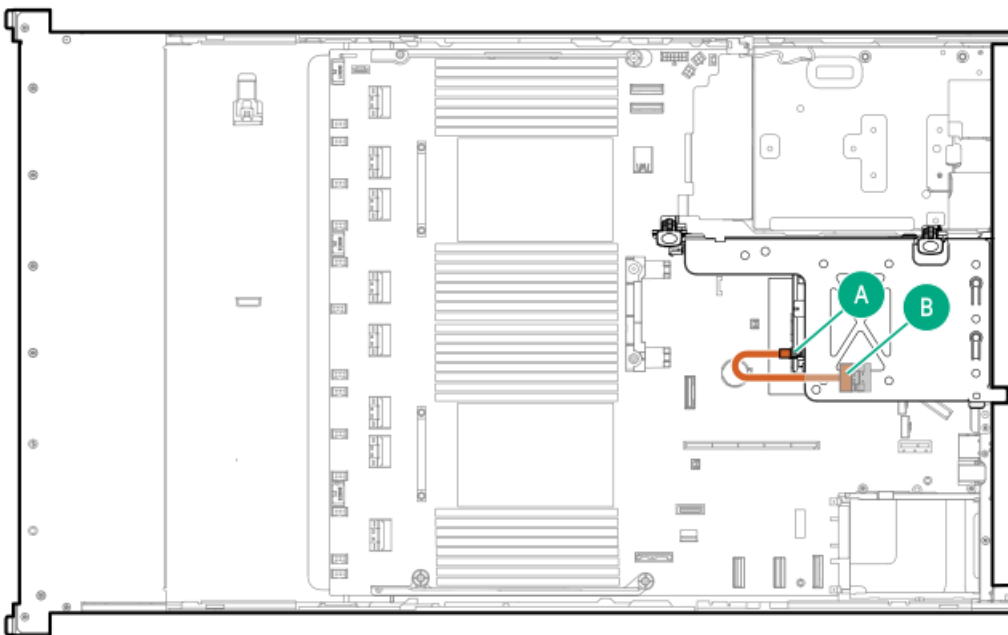
2 SFF box 4: Tertiary type-p controller



| Cable part number       | Color  | From            | To                        |
|-------------------------|--------|-----------------|---------------------------|
| P22903-001 <sup>4</sup> | Orange | Drive backplane | Primary type-p controller |

4 Option kit: P48816-B21

Secondary 2 SFF riser cage: Secondary Type-p controller

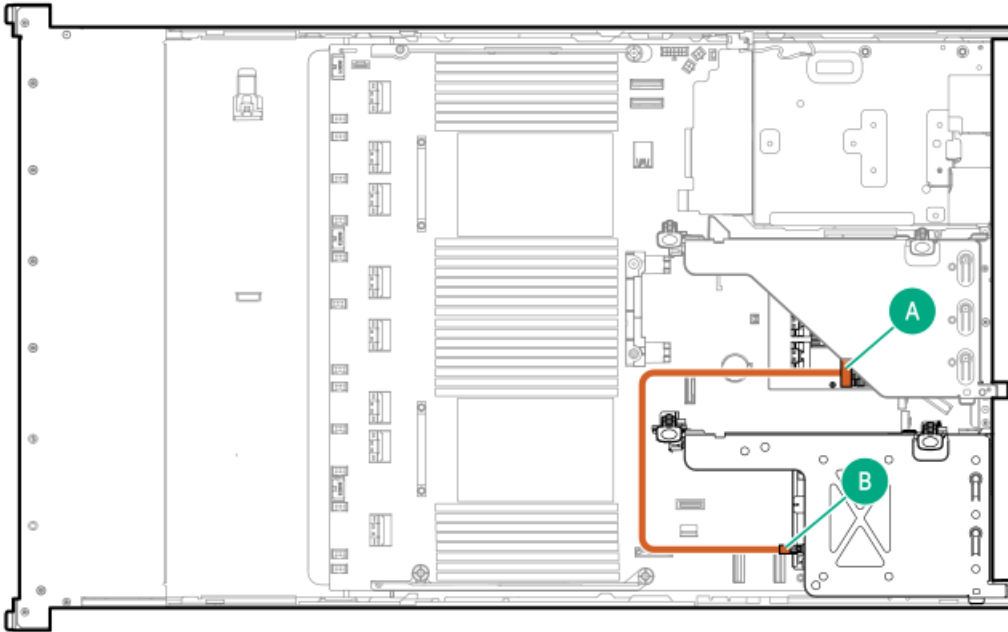




| Cable part number       | Color  | From            | To                          |
|-------------------------|--------|-----------------|-----------------------------|
| P14329-001 <sup>1</sup> | Orange | Drive backplane | Secondary type-p controller |

<sup>1</sup> Option kit: P48816-B21

Primary 2 SFF riser cage: Secondary type-p controller

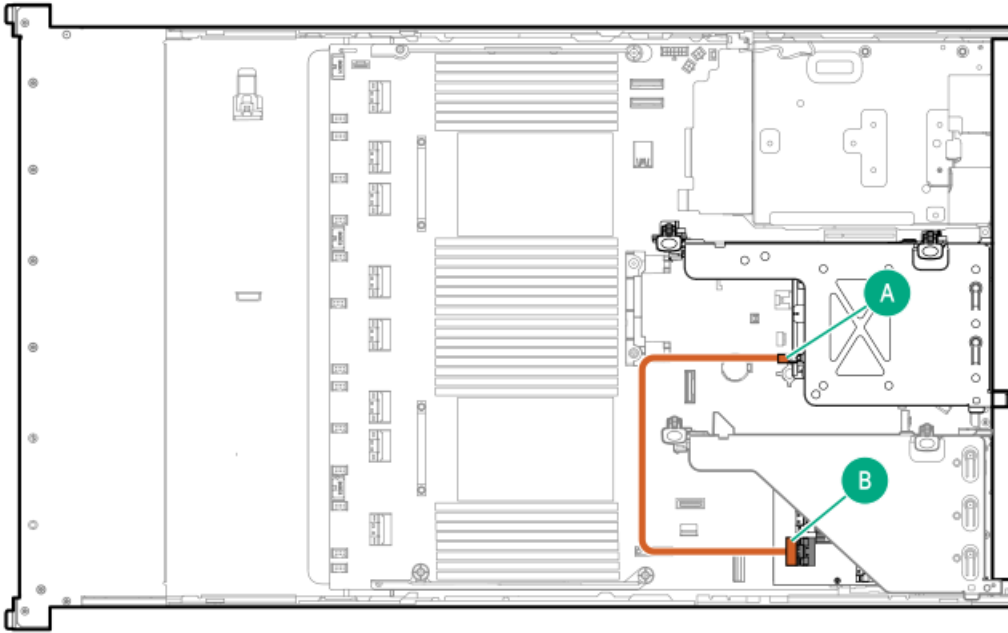


| Cable part number       | Color  | From            | To                          |
|-------------------------|--------|-----------------|-----------------------------|
| P14329-001 <sup>2</sup> | Orange | Drive backplane | Secondary type-p controller |

<sup>2</sup> Option kit: P48816-B21

Secondary 2 SFF riser cage: Primary type-p controller

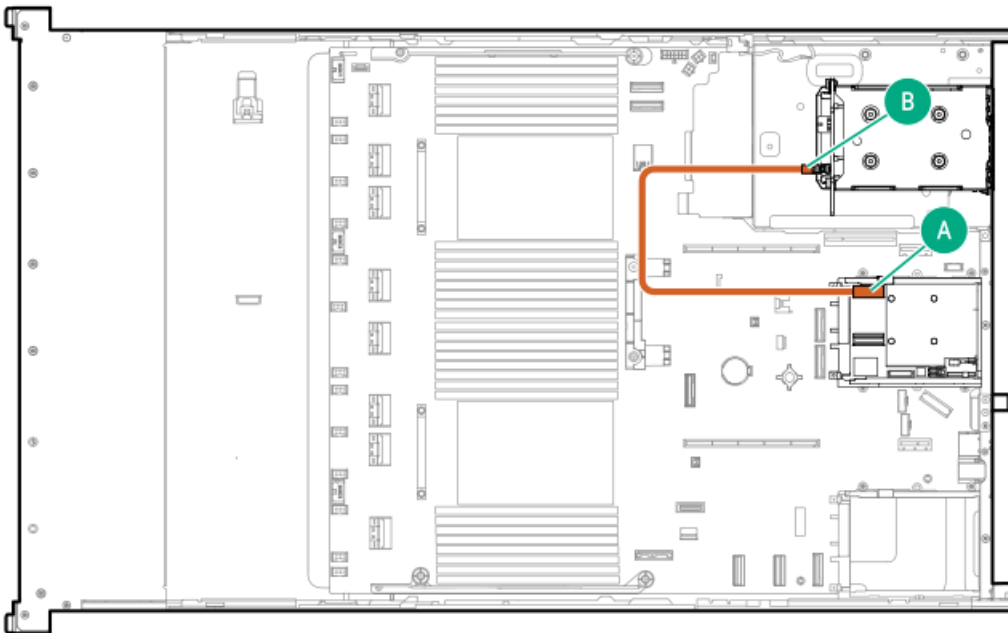




| Cable part number       | Color  | From            | To                        |
|-------------------------|--------|-----------------|---------------------------|
| P14329-001 <sup>1</sup> | Orange | Drive backplane | Primary type-p controller |

<sup>1</sup> Option kit: P48816-B21

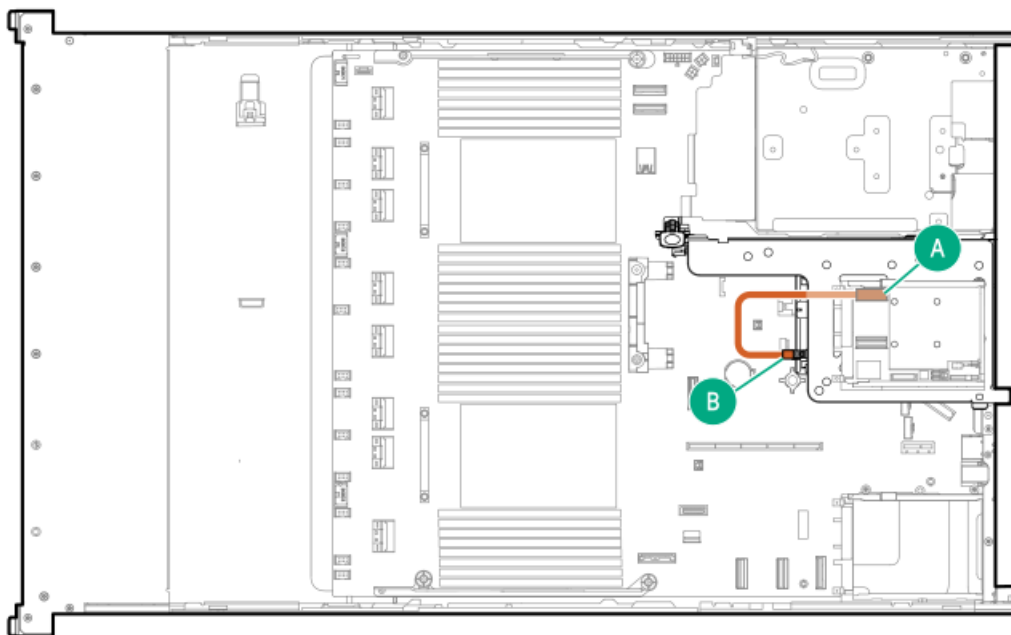
2 SFF box 6: Secondary type-o controller



| Cable part number       | Color  | From            | To                |
|-------------------------|--------|-----------------|-------------------|
| P51554-001 <sup>1</sup> | Orange | Drive backplane | Type-o controller |

1 Option kit: P48811-B21

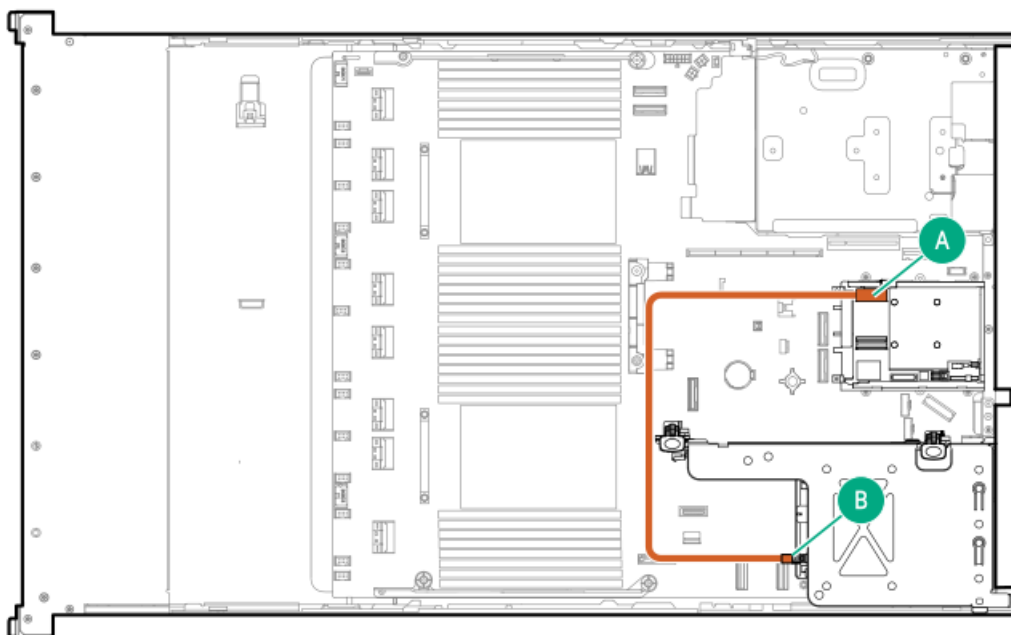
2 SFF box 5: Secondary type-o controller



| Cable part number       | Color  | From            | To                |
|-------------------------|--------|-----------------|-------------------|
| P51554-001 <sup>2</sup> | Orange | Drive backplane | Type-o controller |

2 Option kit: P48811-B21

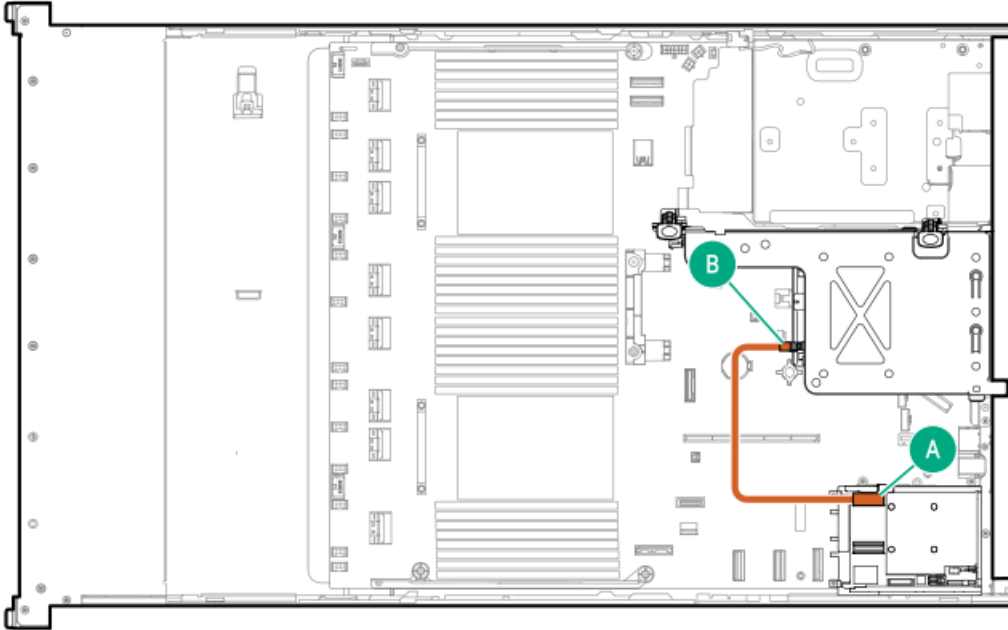
2 SFF box 4: Secondary type-o controller



| Cable part number       | Color  | From            | To                |
|-------------------------|--------|-----------------|-------------------|
| P51554-001 <sup>3</sup> | Orange | Drive backplane | Type-o controller |

<sup>3</sup> Option kit: P48811-B21

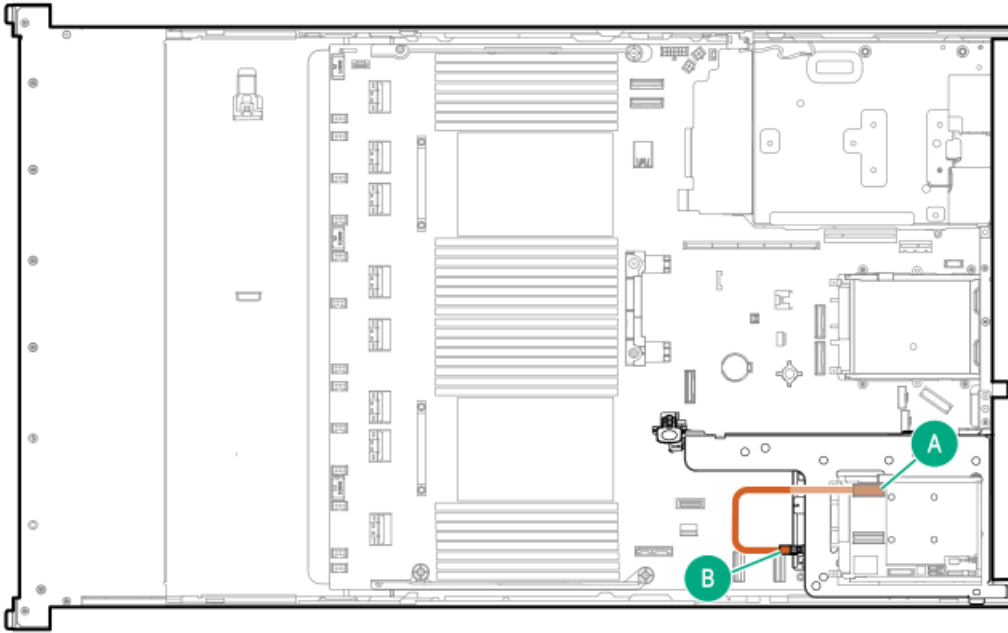
2 SFF box 5: Primary type-o controller



| Cable part number       | Color  | From            | To                |
|-------------------------|--------|-----------------|-------------------|
| P51554-001 <sup>4</sup> | Orange | Drive backplane | Type-o controller |

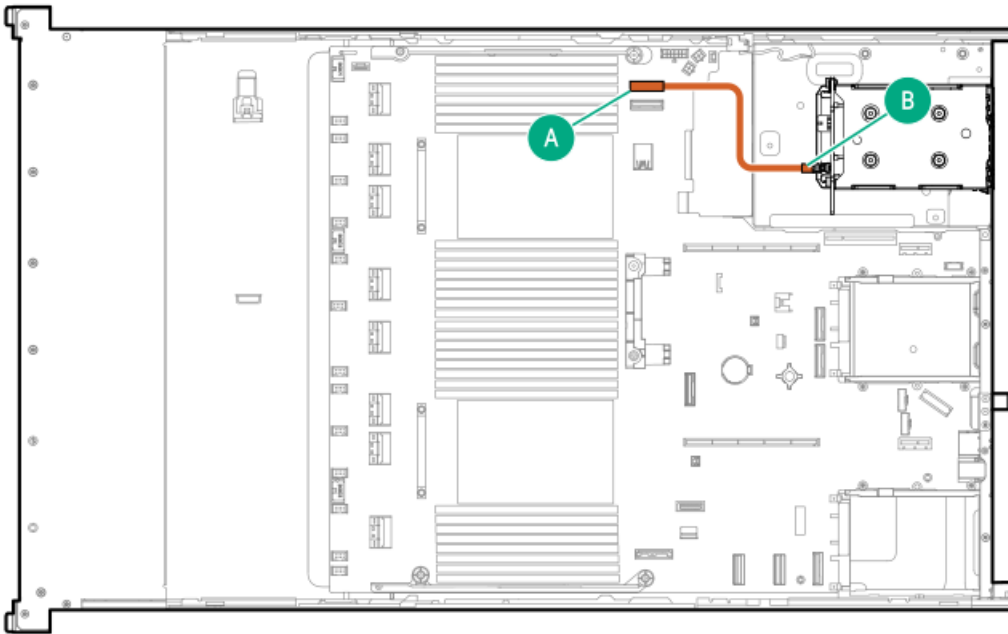
<sup>4</sup> Option kit: P48811-B21

2 SFF box 4: Primary type-o controller



| Cable part number       | Color  | From            | To                        |
|-------------------------|--------|-----------------|---------------------------|
| P51554-001 <sup>1</sup> | Orange | Drive backplane | Primary type-o controller |

<sup>1</sup> Option kit: P48811-B21

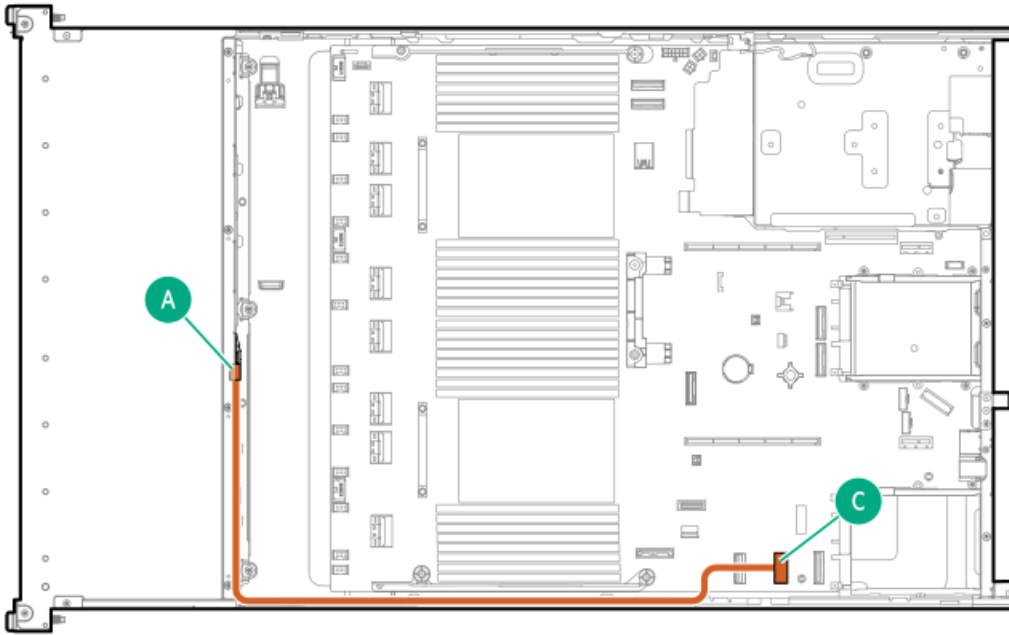


| Cable part number       | Color  | From            | To           |
|-------------------------|--------|-----------------|--------------|
| P51557-001 <sup>1</sup> | Orange | Drive backplane | System board |

<sup>1</sup> Option kit: P48811-B21

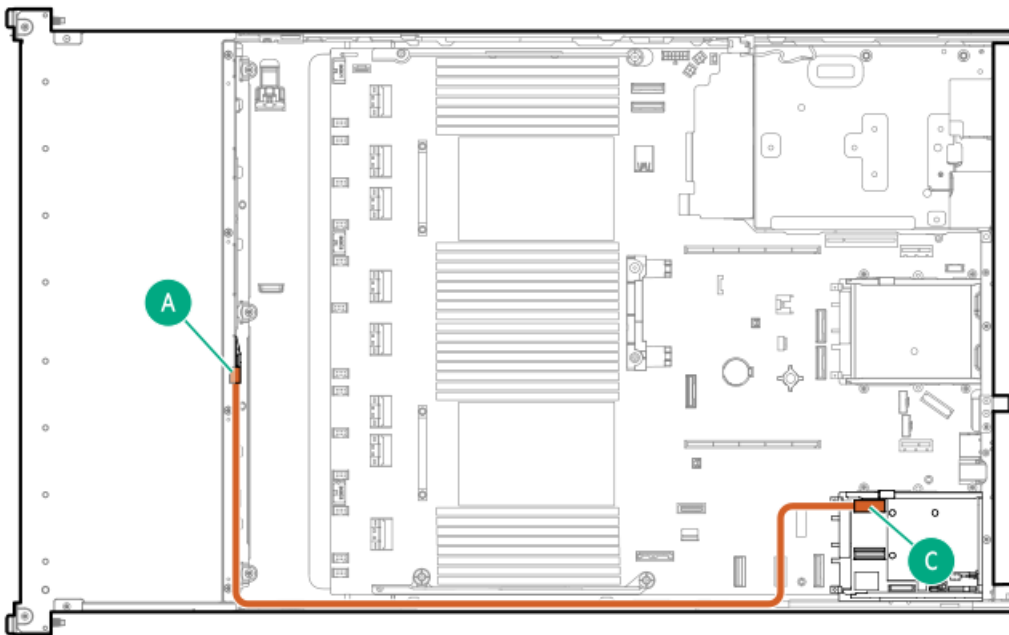
## LFF cabling

### LFF box 2 or 3: System board



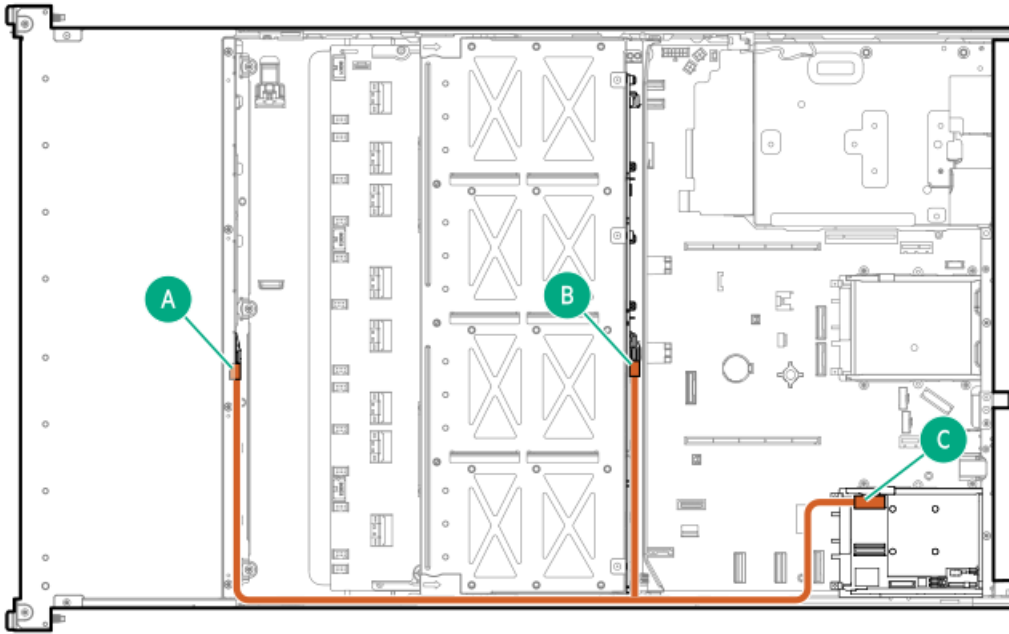
| Cable part number | Color  | From            | To           |
|-------------------|--------|-----------------|--------------|
| P51559-001        | Orange | Drive backplane | System board |

### LFF box 2 or 3: Primary type-o controller



| Cable part number | Color  | From           | To                        |
|-------------------|--------|----------------|---------------------------|
| P51559-001        | Orange | LFF box 2 or 3 | Primary type-o controller |

LFF box 1 and 7: Primary type-o controller

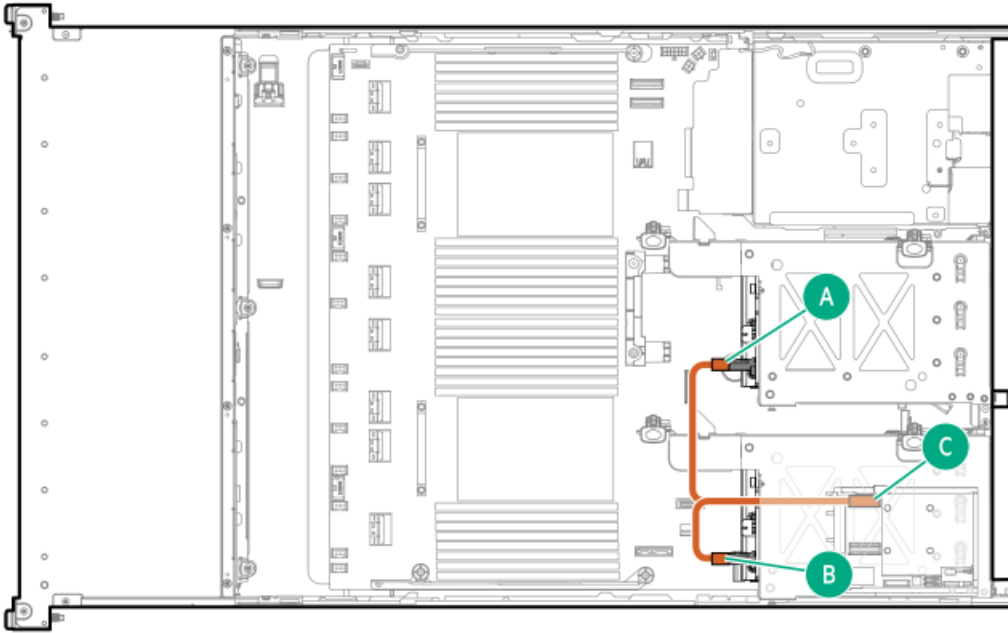


| Cable part number       | Color  | From            | To                        |
|-------------------------|--------|-----------------|---------------------------|
| P51560-001 <sup>1</sup> | Orange | LFF box 1 and 7 | Primary type-o controller |

<sup>1</sup> Option kit: P56995-B21

LFF box 4 and 5: Primary type-o controller

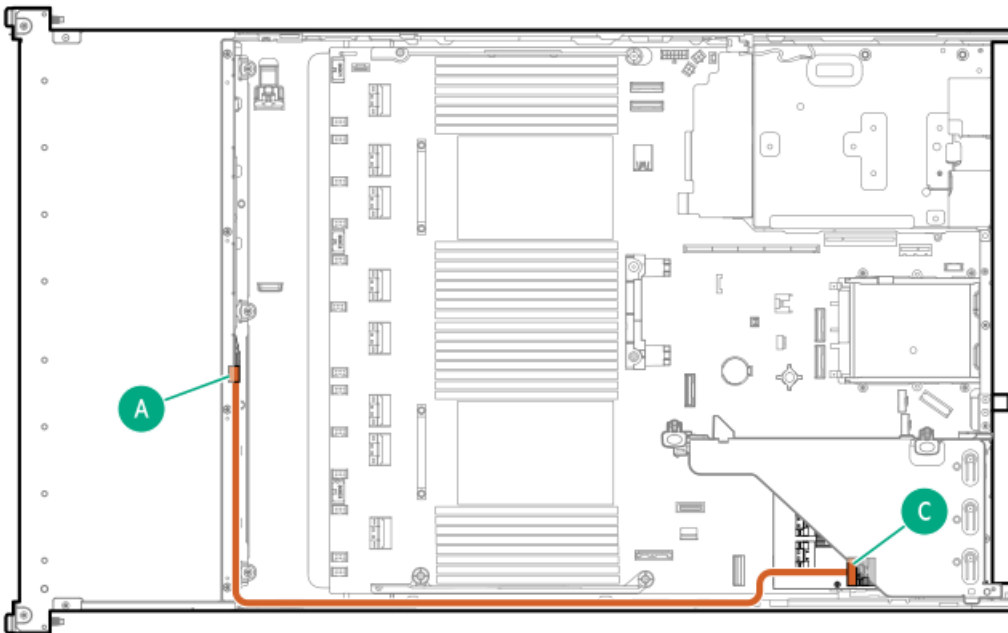




| Cable part number       | Color  | From            | To                        |
|-------------------------|--------|-----------------|---------------------------|
| P51561-001 <sup>1</sup> | Orange | LFF box 4 and 5 | Primary type-o controller |

<sup>1</sup> Option kit: P48823-B21

LFF box 2 and 3: Primary type-p controller



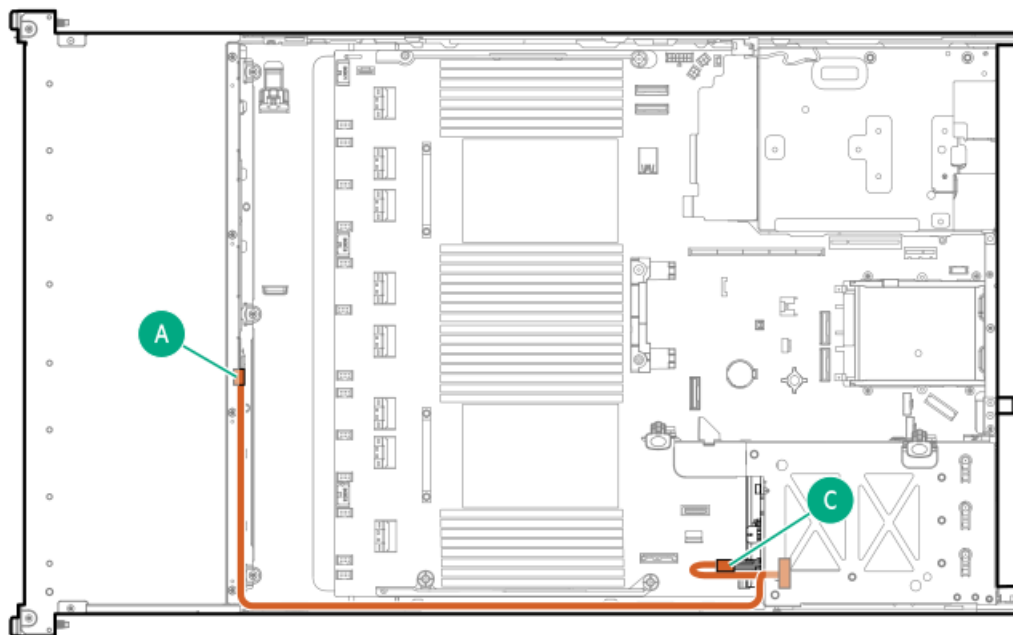
| Cable part number       | Color  | From            | To                        |
|-------------------------|--------|-----------------|---------------------------|
| P58791-001 <sup>1</sup> | Orange | LFF box 2 and 3 | Primary type-p controller |





1 Option kit: P56995-B21

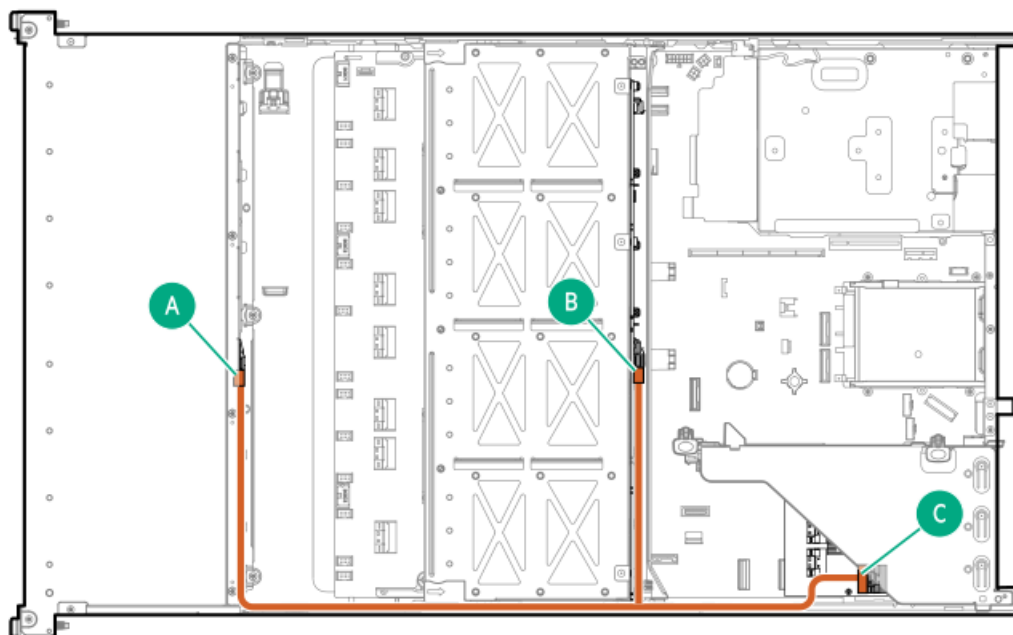
**LFF box 1 and 4: Primary type-p controller**



| Cable part number       | Color  | From            | To                        |
|-------------------------|--------|-----------------|---------------------------|
| P46047-001 <sup>1</sup> | Orange | LFF box 1 and 4 | Primary type-p controller |

1 Option kit: P48823-B21

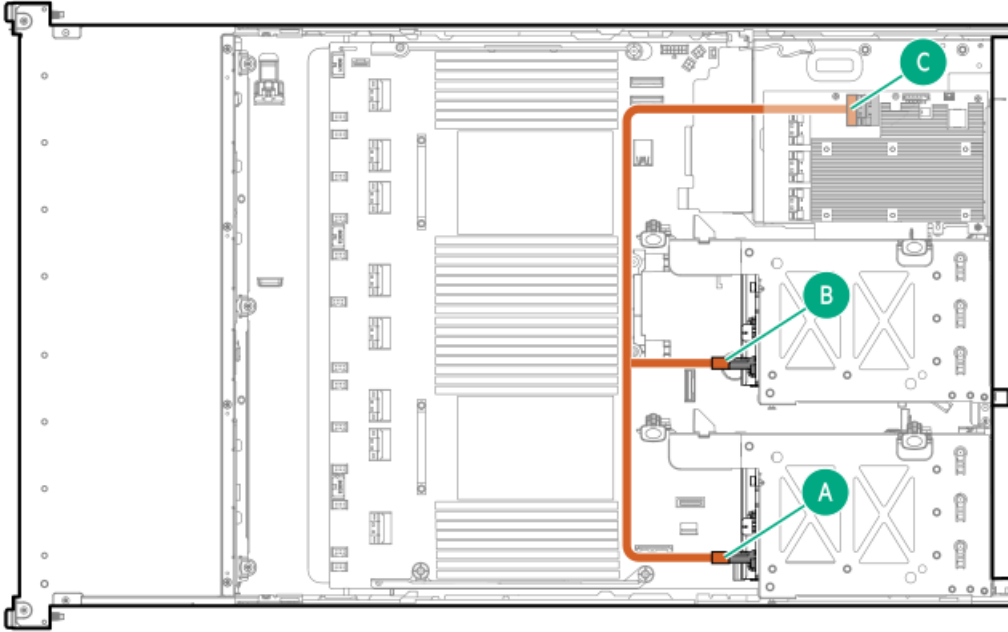
**LFF box 1 and box 7: Primary type-p controller**



| Cable part number       | Color  | From                | To                        |
|-------------------------|--------|---------------------|---------------------------|
| P51563-001 <sup>1</sup> | Orange | LFF box 1 and box 7 | Primary type-p controller |

<sup>1</sup> Option kit: P56995-B21

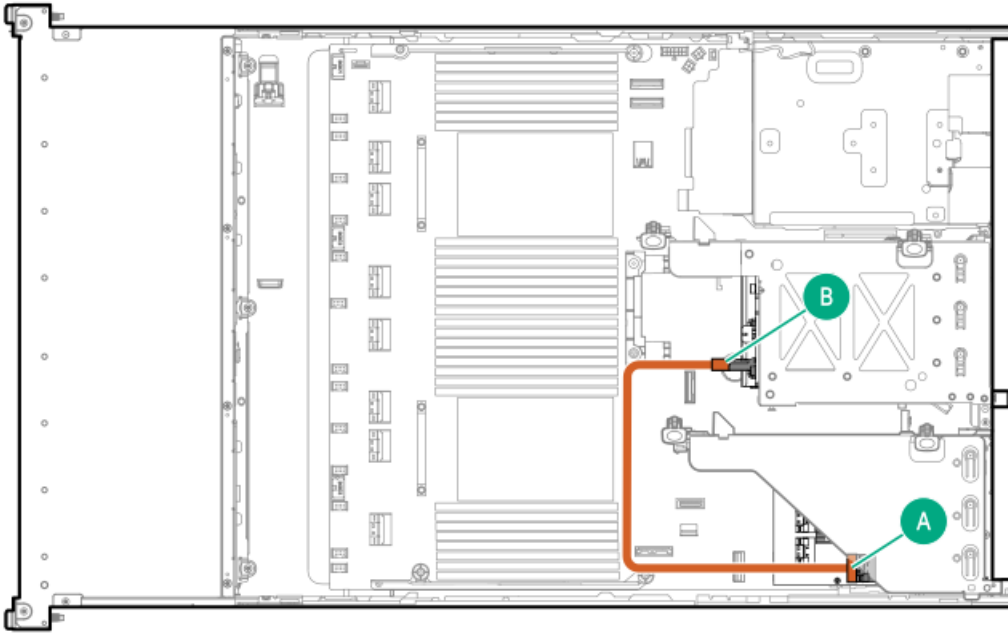
2 LFF box 4 and 5: Tertiary type-p controller



| Cable part number       | Color  | From            | To                         |
|-------------------------|--------|-----------------|----------------------------|
| P51558-001 <sup>1</sup> | Orange | Drive backplane | Tertiary type-p controller |

<sup>1</sup> Option kit: P48823-B21

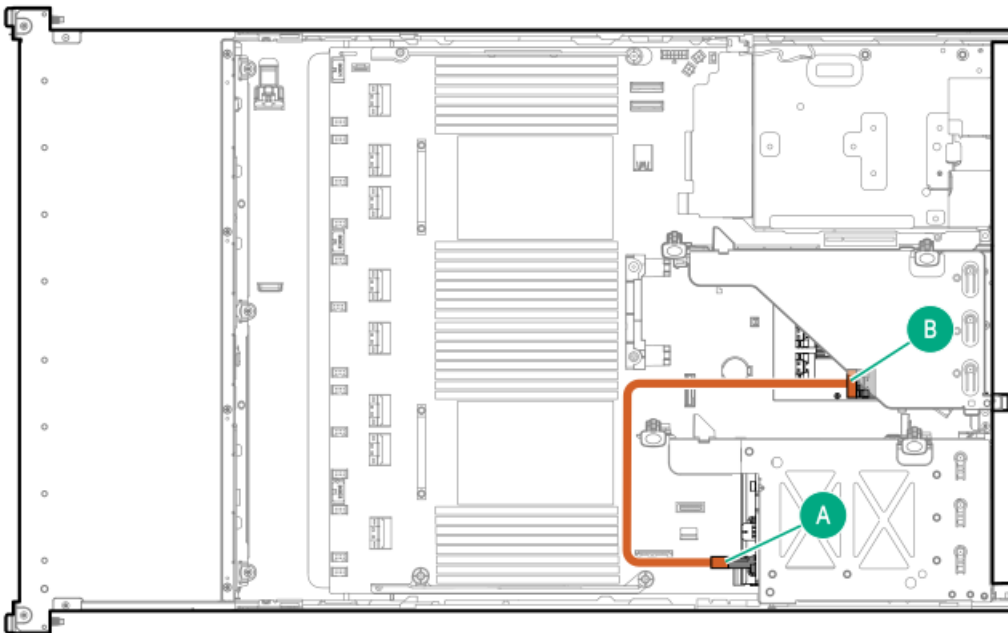
2 LFF box 5: Primary type-p controller



| Cable part number       | Color  | From            | To                        |
|-------------------------|--------|-----------------|---------------------------|
| P51558-001 <sup>1</sup> | Orange | Drive backplane | Primary type-p controller |

<sup>1</sup> Option kit: P48823-B21

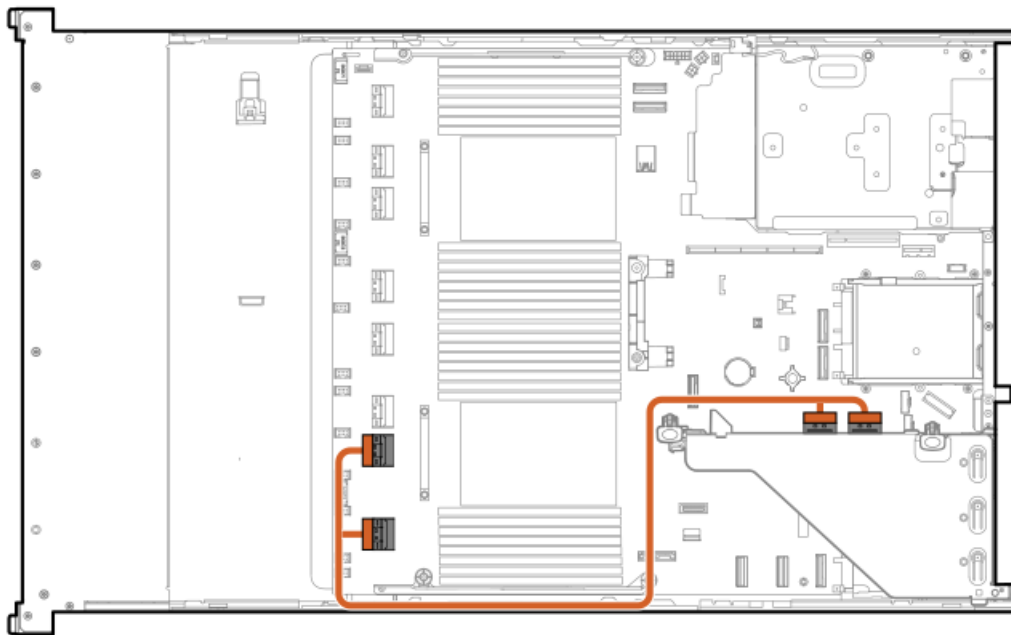
2 LFF box 4: Secondary type-p controller



| Cable part number       | Color  | From            | To                          |
|-------------------------|--------|-----------------|-----------------------------|
| P51558-001 <sup>1</sup> | Orange | Drive backplane | Secondary type-p controller |

## Riser enablement cabling

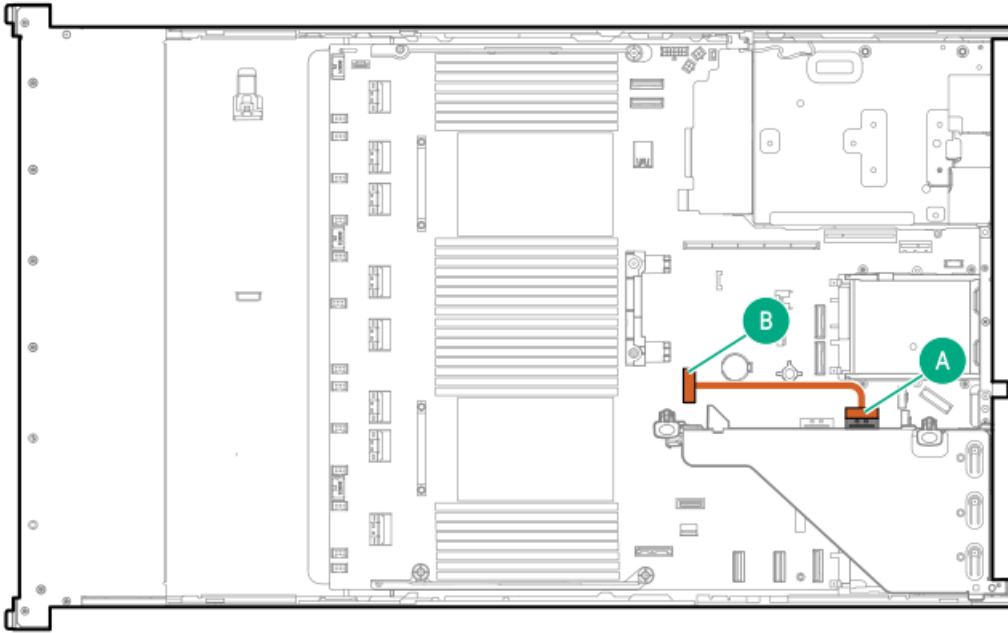
### Primary riser



| Cable part number       | Color  | From          | To           |
|-------------------------|--------|---------------|--------------|
| P46031-001 <sup>1</sup> | Orange | Primary riser | System board |

### Primary riser

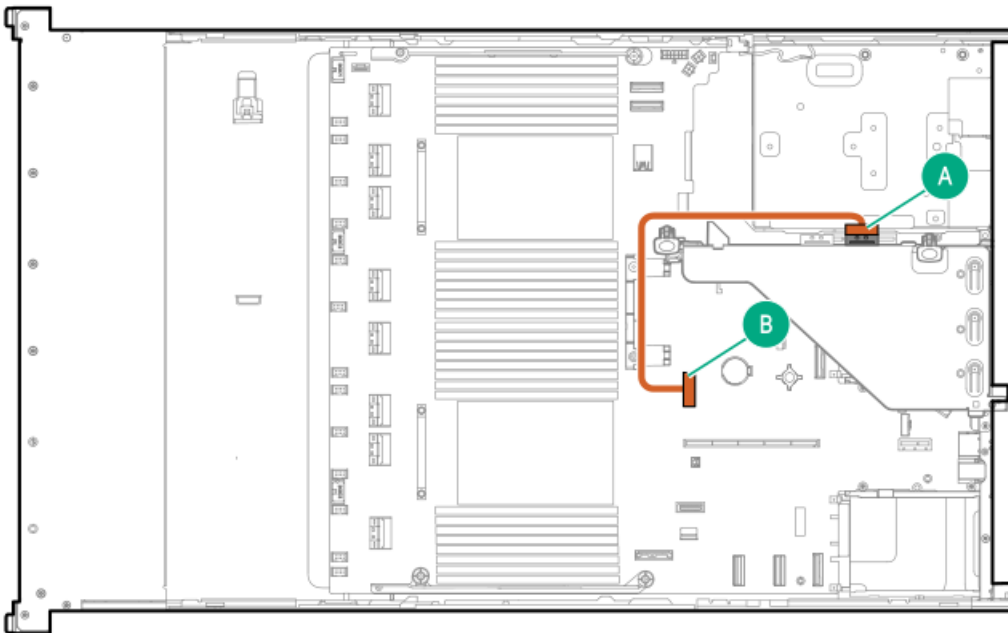




| Cable part number       | Color  | From        | To           |
|-------------------------|--------|-------------|--------------|
| P46034-001 <sup>1</sup> | Orange | Riser board | System board |

<sup>1</sup> Option kit: P56073-B21

**Secondary riser**

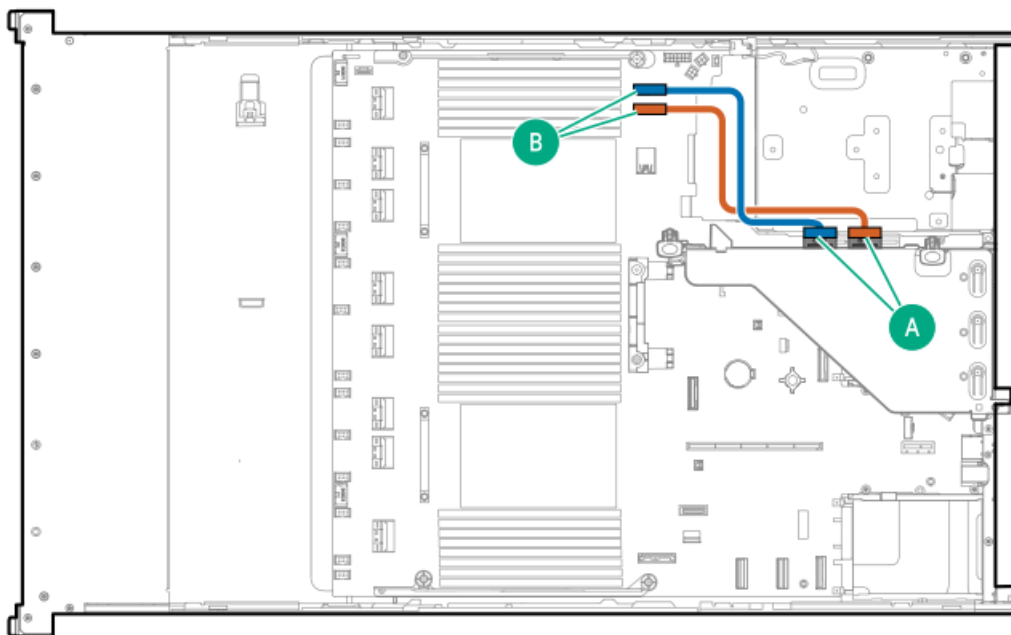


| Cable part number       | Color  | From        | To           |
|-------------------------|--------|-------------|--------------|
| P46034-001 <sup>1</sup> | Orange | Riser board | System board |



1 Option kit: P56074-B21

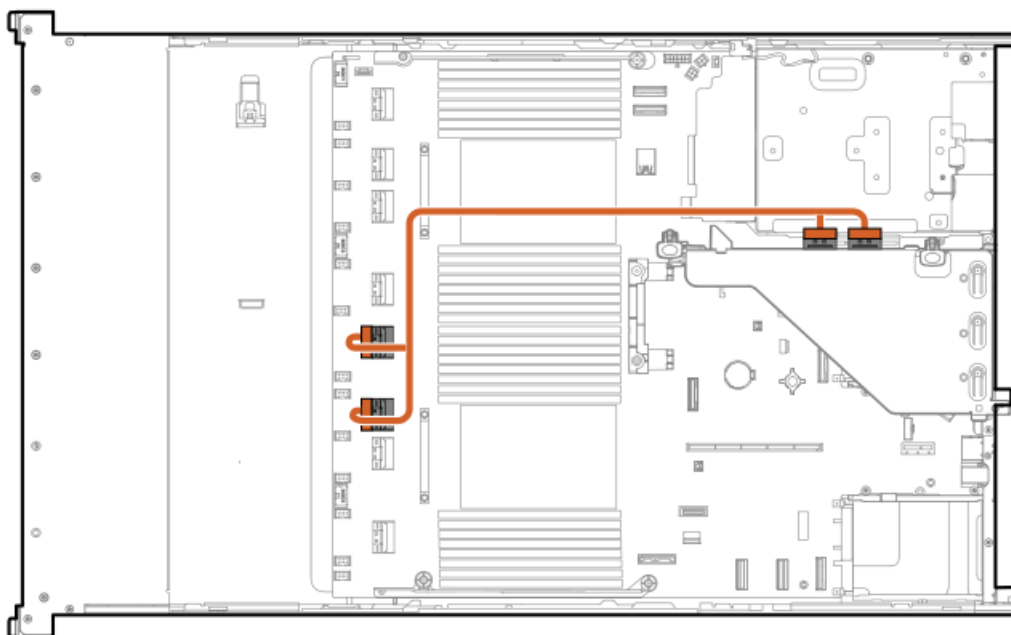
### Secondary riser



| Cable part number       | Color  | From        | To           |
|-------------------------|--------|-------------|--------------|
| P46034-001 <sup>2</sup> | Orange | Riser board | System board |

2 Option kit: P56074-B21

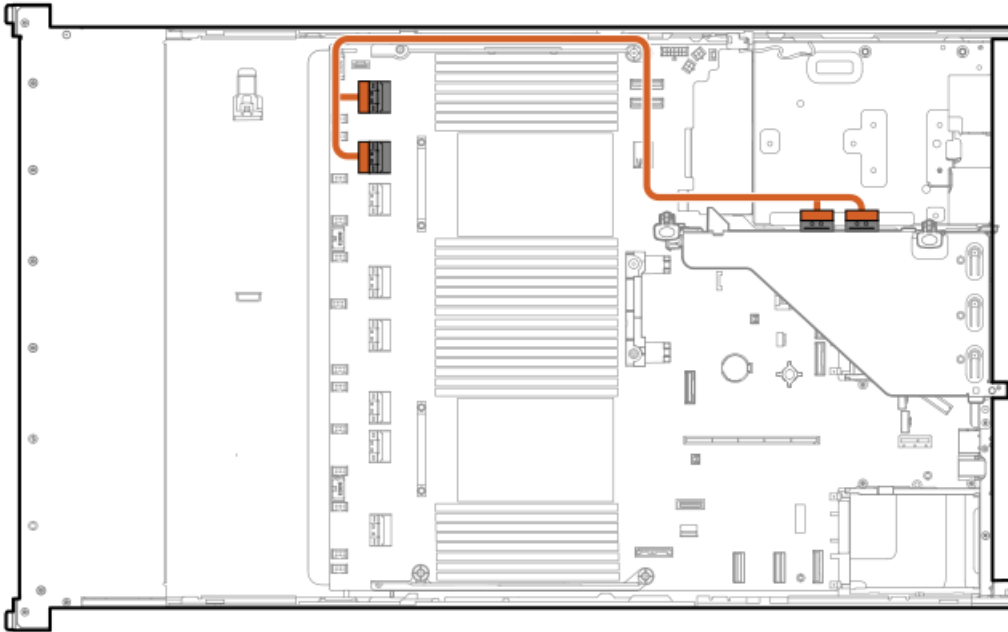
### Tertiary riser



| Cable part number       | Color  | From        | To           |
|-------------------------|--------|-------------|--------------|
| P51571-001 <sup>1</sup> | Orange | Riser board | System board |

<sup>1</sup> Option kit: P56074-B21

**Secondary riser**

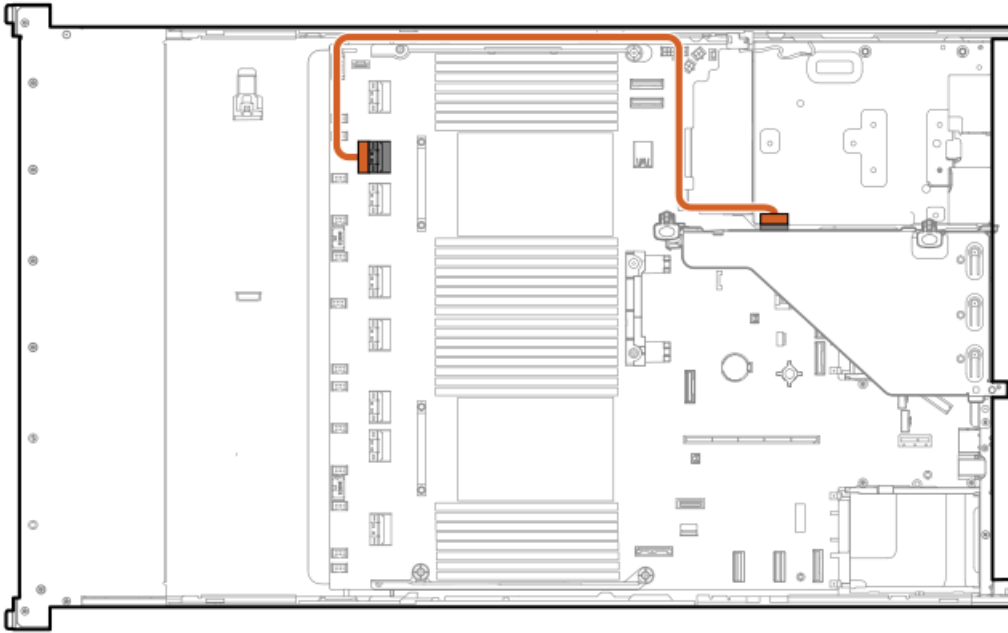


| Cable part number       | Color  | From            | To           |
|-------------------------|--------|-----------------|--------------|
| P46032-001 <sup>1</sup> | Orange | Secondary riser | System board |

<sup>1</sup> Option kit: P56074-B21

**Tertiary riser**

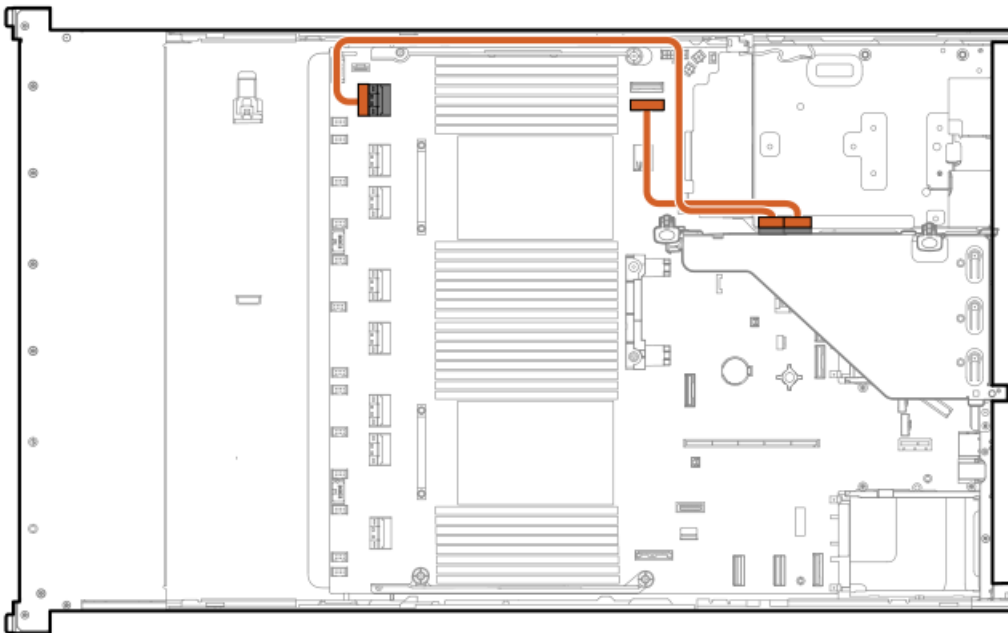




| Cable part number       | Color  | From            | To           |
|-------------------------|--------|-----------------|--------------|
| P46028-001 <sup>1</sup> | Orange | Secondary riser | System board |

<sup>1</sup> Option kit: P48804-B21

**Tertiary riser**



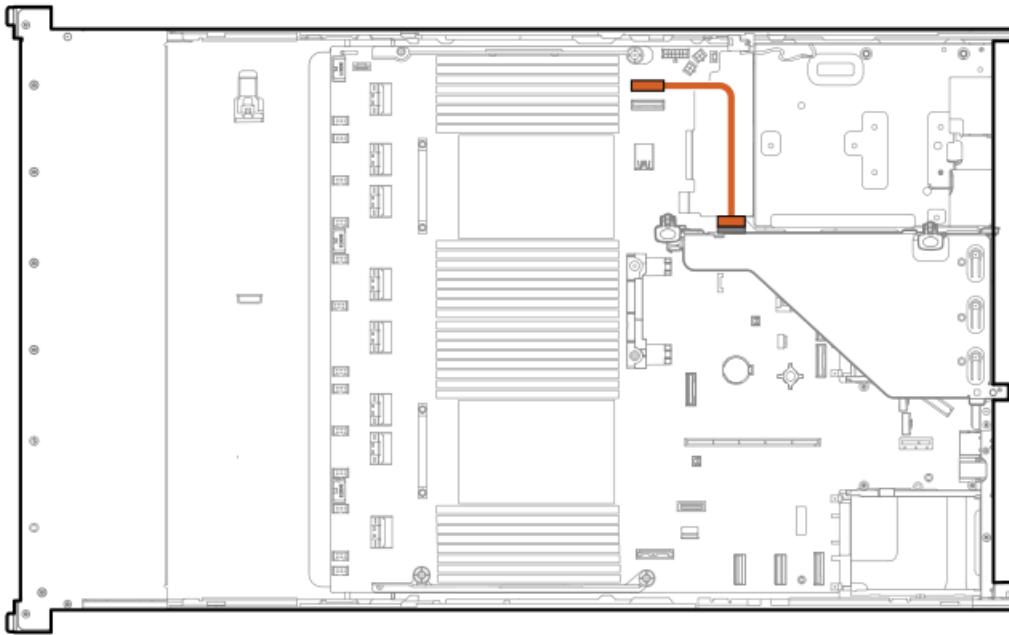
| Cable part number       | Color  | From           | To           |
|-------------------------|--------|----------------|--------------|
| P46026-001 <sup>1</sup> | Orange | Tertiary riser | System board |





Option kit: P48804-B21

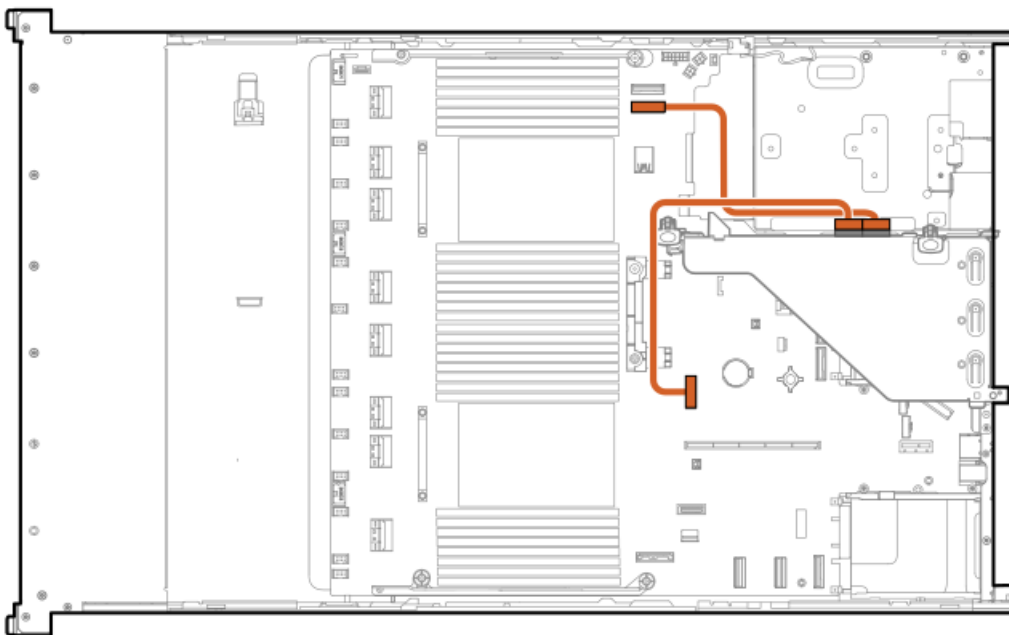
<sup>1</sup>  
Tertiary riser



| Cable part number       | Color  | From           | To           |
|-------------------------|--------|----------------|--------------|
| P46029-001 <sup>1</sup> | Orange | Tertiary riser | System board |

<sup>1</sup> Option kit: P48804-B21

Tertiary riser

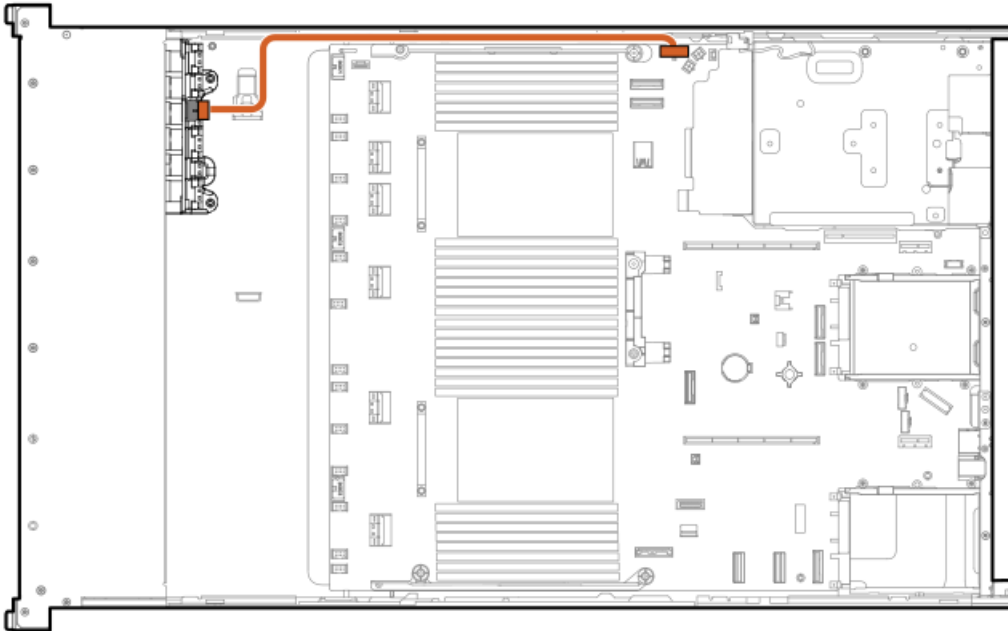


| Cable part number       | Color  | From           | To           |
|-------------------------|--------|----------------|--------------|
| P46030-001 <sup>1</sup> | Orange | Tertiary riser | System board |

<sup>1</sup> Option kit: P48804-B21

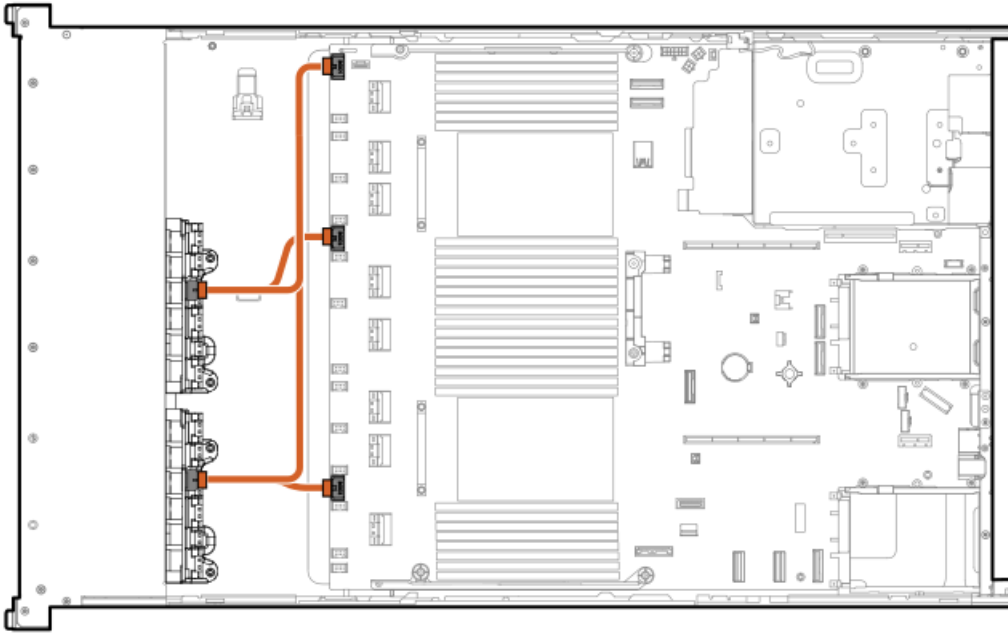
## Power cabling

### EDSFF box 1



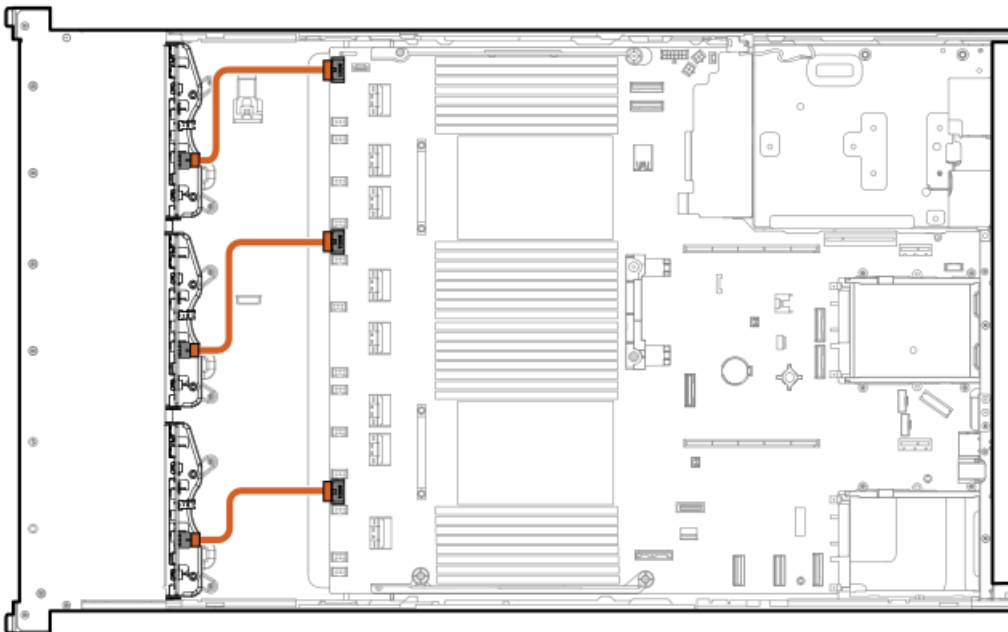
| Cable part number | Color  | From            | To           |
|-------------------|--------|-----------------|--------------|
| P51577-001        | Orange | Drive backplane | System board |

### EDSFF boxes 2 and 3



| Cable part number | Color  | From            | To           |
|-------------------|--------|-----------------|--------------|
| P46048-001        | Orange | Drive backplane | System board |

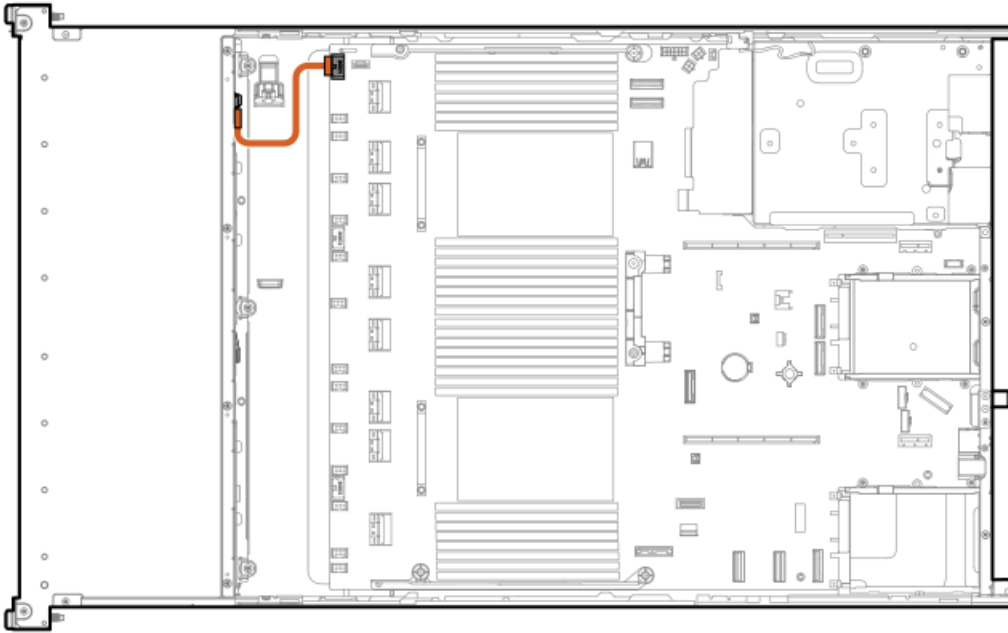
8 SFF boxes 1-3



| Cable part number       | Color  | From            | To           |
|-------------------------|--------|-----------------|--------------|
| 869825-001 <sup>1</sup> | Orange | 8 SFF backplane | System board |

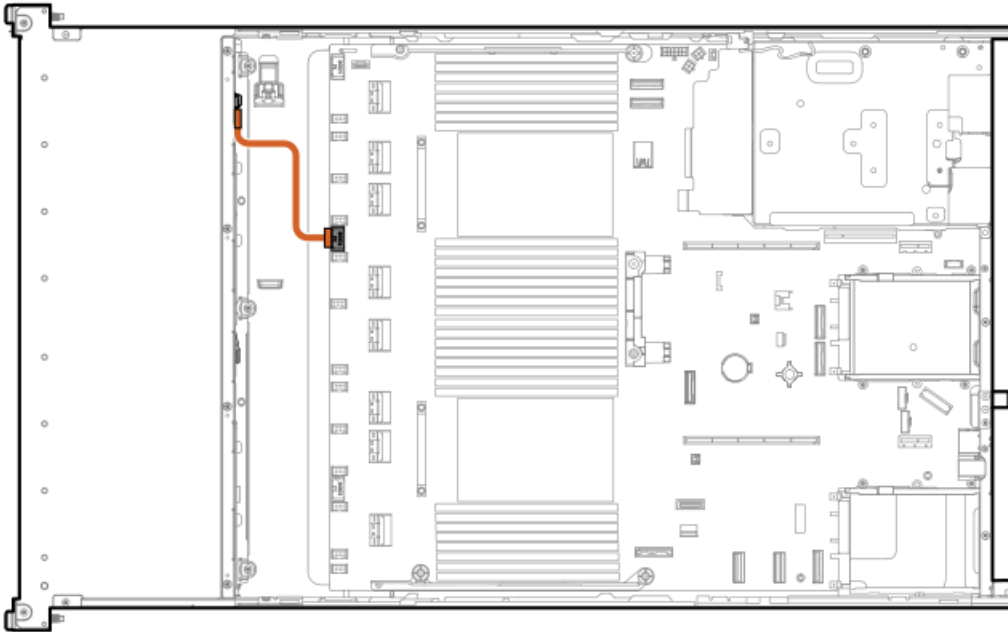
<sup>1</sup> Option kit: P50727-B21

#### 4 LFF box 1



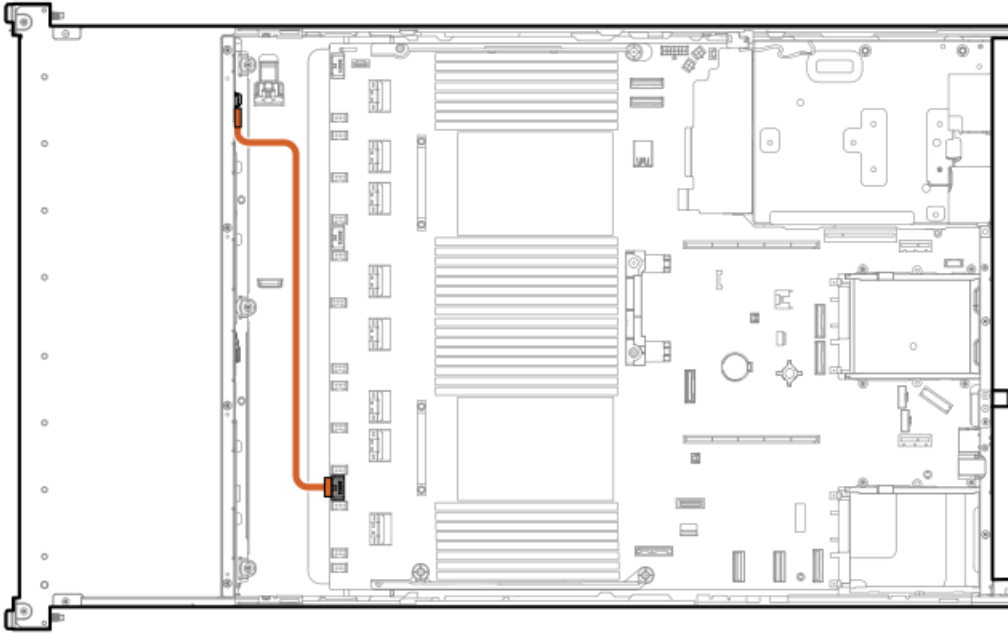
| Cable part number | Color  | From                  | To           |
|-------------------|--------|-----------------------|--------------|
| P14341-001        | Orange | 4 LFF backplane box 1 | System board |

#### 4 LFF box 2



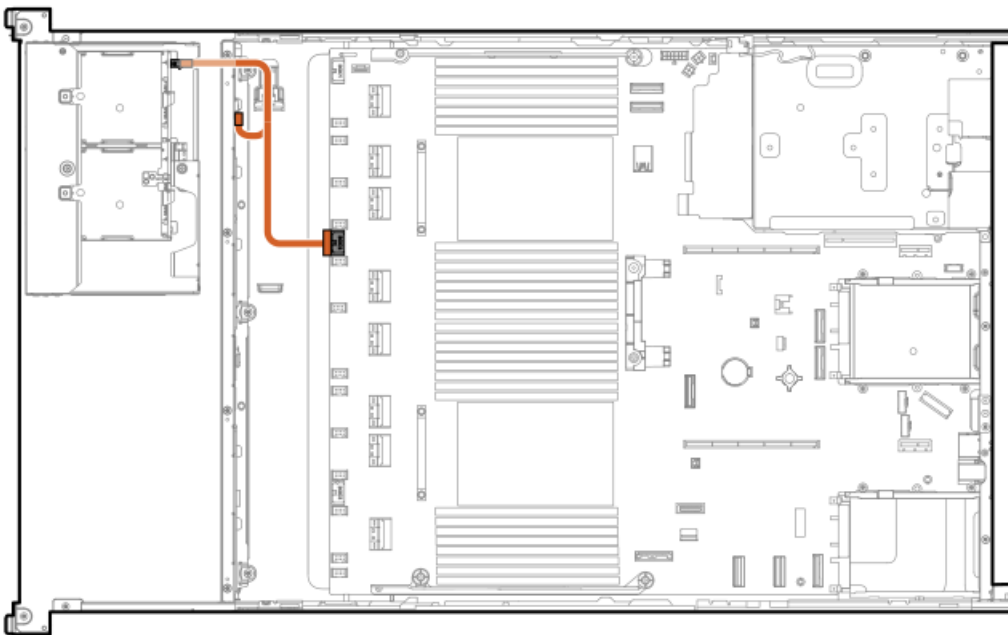
| Cable part number | Color  | From                  | To           |
|-------------------|--------|-----------------------|--------------|
| P14342-001        | Orange | 4 LFF backplane box 2 | System board |

4 LFF box 3



| Cable part number | Color  | From                  | To           |
|-------------------|--------|-----------------------|--------------|
| P14342-001        | Orange | 4 LFF backplane box 3 | System board |

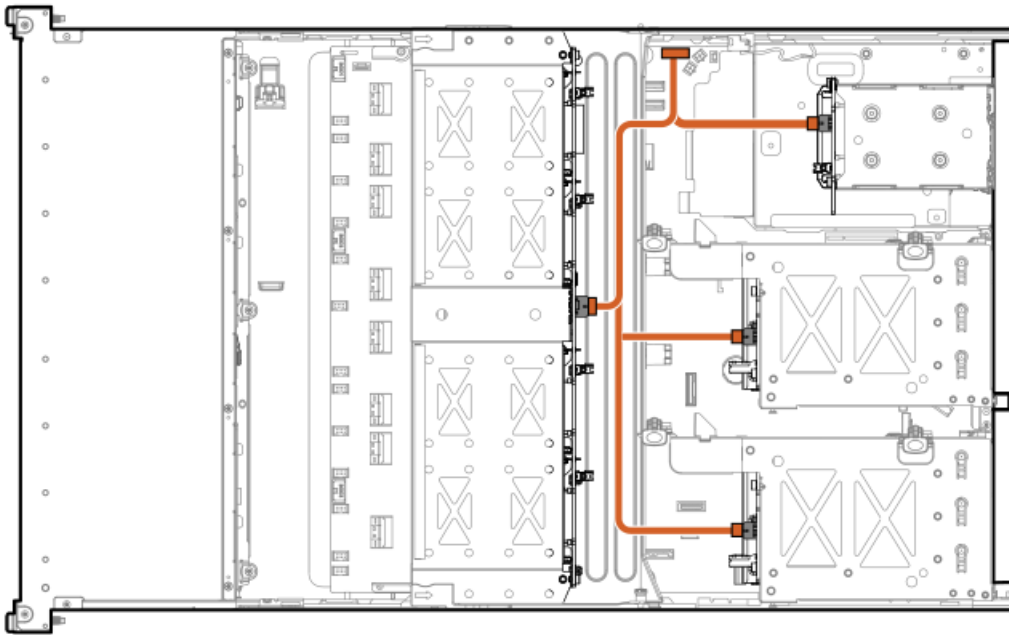
2 SFF side-by-side



| Cable part number       | Color  | From            | To           |
|-------------------------|--------|-----------------|--------------|
| P14343-001 <sup>1</sup> | Orange | Drive backplane | System board |

1 Option kit: P48812-B21

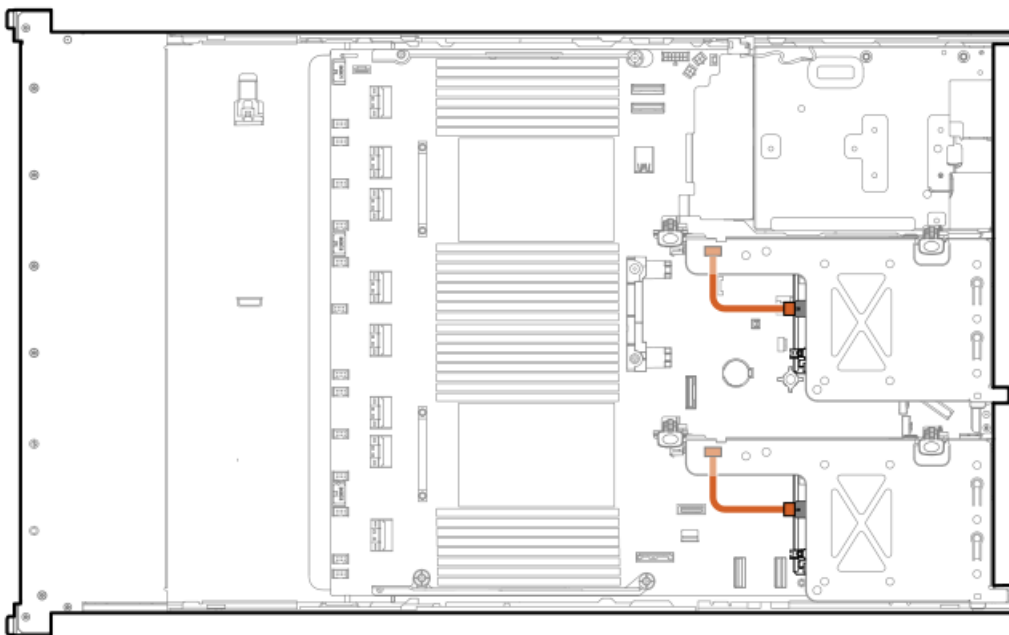
8 SFF midplane + 2 LFF riser cage + 2 SFF rear stacked power



| Cable part number       | Color  | From             | To           |
|-------------------------|--------|------------------|--------------|
| P51575-001 <sup>1</sup> | Orange | Drive backplanes | System board |

1 Option kit: P48823-B21

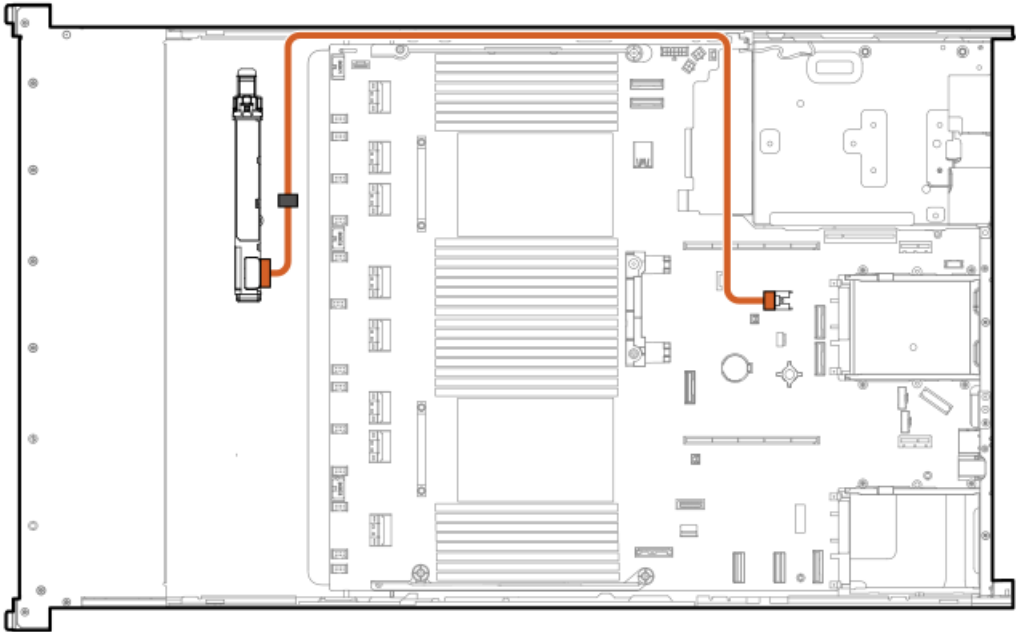
2 SFF box 4 and 5



| Cable part number       | Color  | From            | To                    |
|-------------------------|--------|-----------------|-----------------------|
| P51574-001 <sup>1</sup> | Orange | 2 SFF backplane | Riser power connector |

<sup>1</sup> Option kit: P48810-B21

### Smart battery cabling

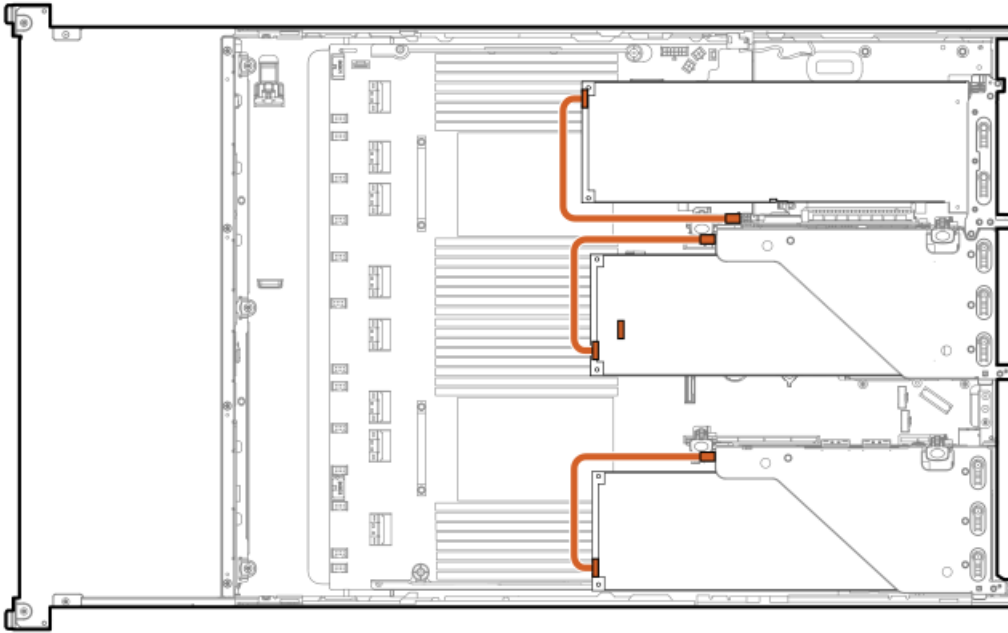


| Cable part number | Color  | From          | To           |
|-------------------|--------|---------------|--------------|
| P45618-001        | Orange | Smart battery | System board |

### GPU cabling

#### GPU power cabling

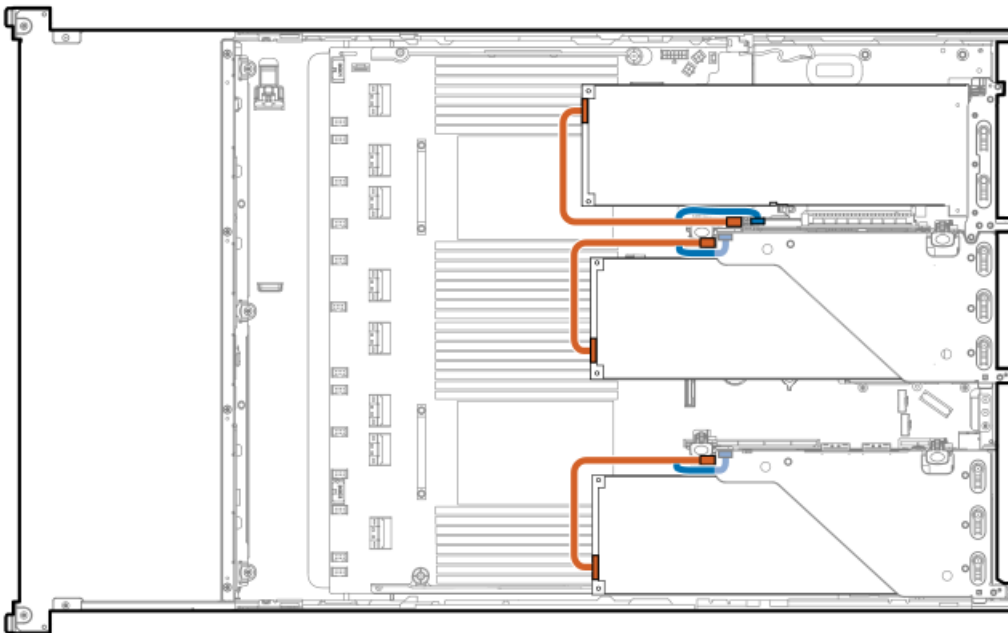




| Cable part number       | Color  | From | To    |
|-------------------------|--------|------|-------|
| 869820-001 <sup>1</sup> | Orange | GPU  | Riser |

<sup>1</sup> Option kit: P39102-B21

**GPU power + sideband cabling**



| Cable part number       | Color  | From | To    |
|-------------------------|--------|------|-------|
| P58422-001 <sup>1</sup> | Orange | GPU  | Riser |

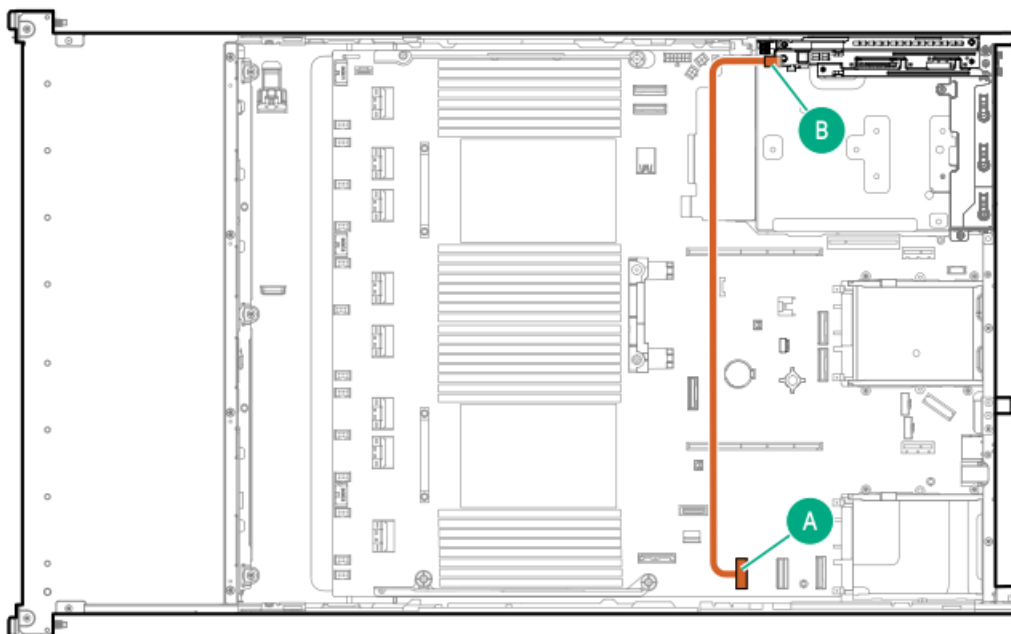




<sup>1</sup> Option kit: P56072-B21

## NS204i-u boot device cabling

Data for SFF chassis

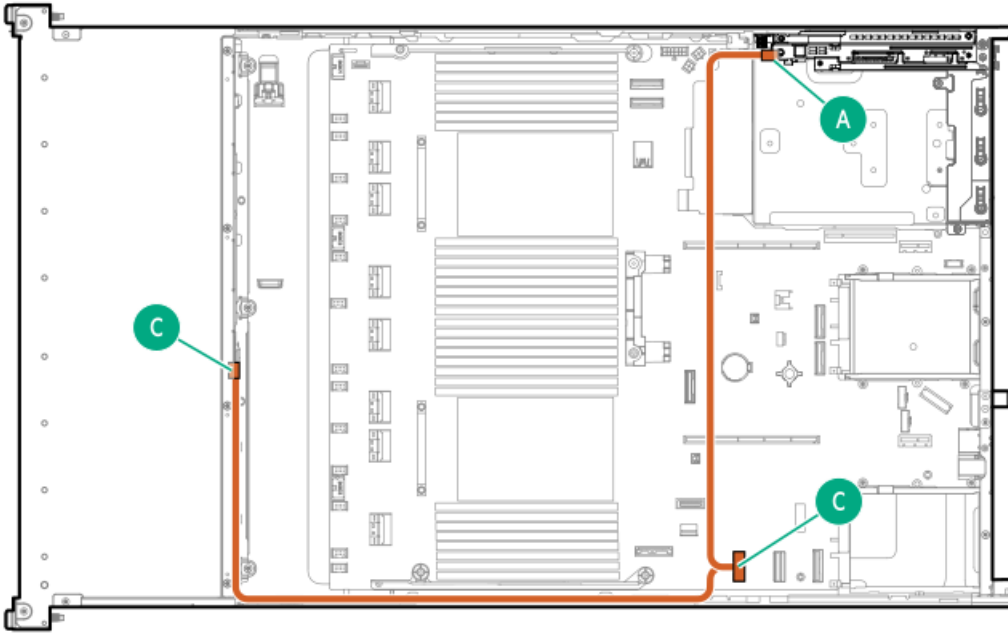


| Cable part number       | Color  | From                 | To           |
|-------------------------|--------|----------------------|--------------|
| P51579-001 <sup>1</sup> | Orange | NS204i-u boot device | System board |

<sup>1</sup> Option kit: P52152-B21

Data for LFF chassis

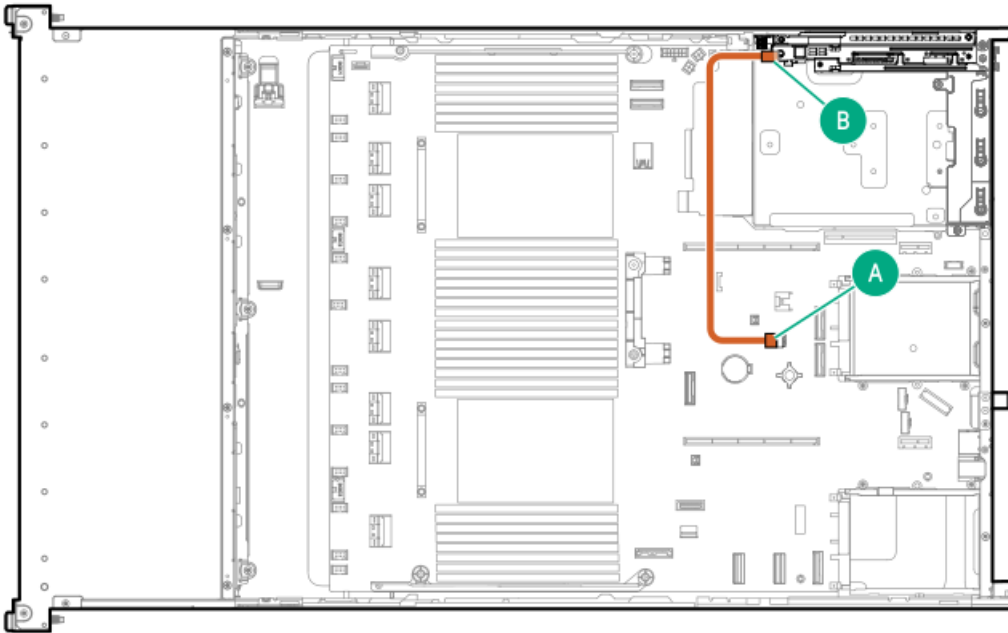




| Cable part number       | Color  | From                 | To           |
|-------------------------|--------|----------------------|--------------|
| P51578-001 <sup>1</sup> | Orange | NS204i-u boot device | System board |

<sup>1</sup> Option kit: P52152-B21

**Power for SFF/LFF**

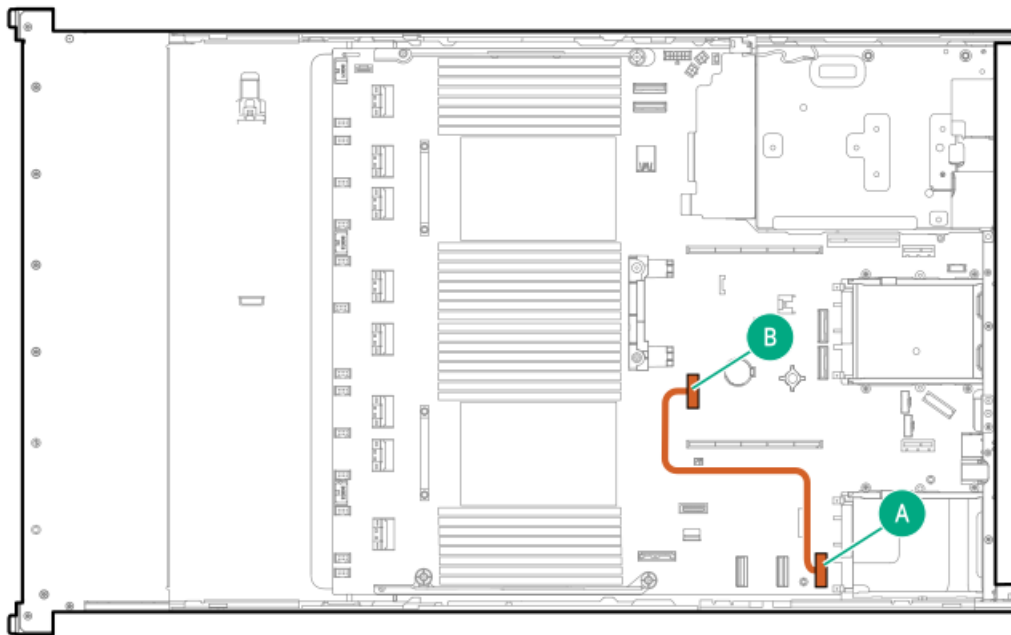


| Cable part number       | Color  | From                 | To           |
|-------------------------|--------|----------------------|--------------|
| P54089-001 <sup>1</sup> | Orange | NS204i-u boot device | System board |

1 Option kit: P52152-B21

## OCP bandwidth upgrade

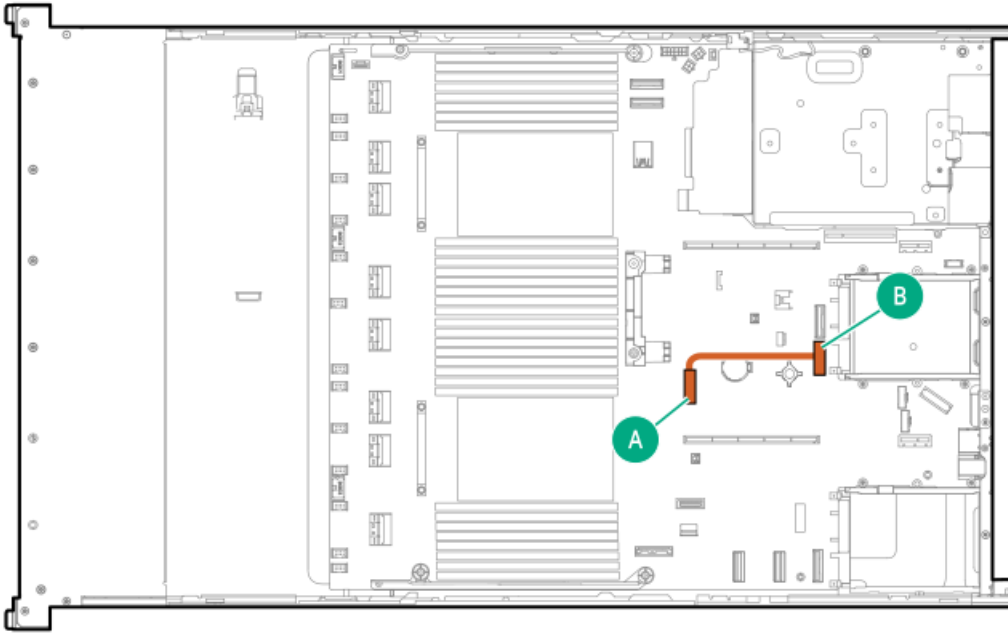
OCP slot 14



| Cable part number       | Color  | From         | To           |
|-------------------------|--------|--------------|--------------|
| P43736-001 <sup>1</sup> | Orange | System board | System board |

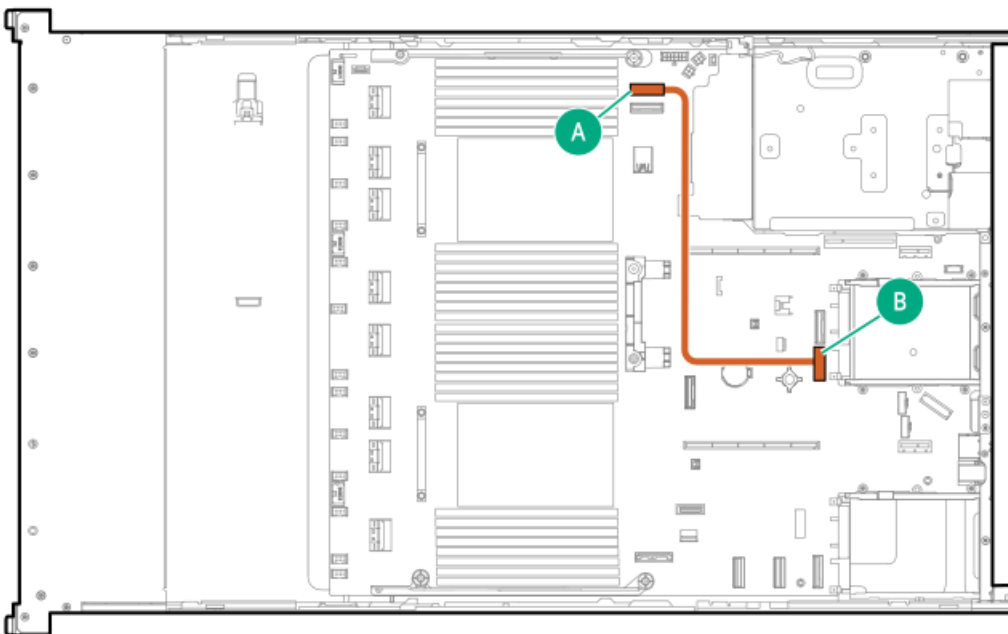
1 Option kit: P48827-B21

OCP slot 15



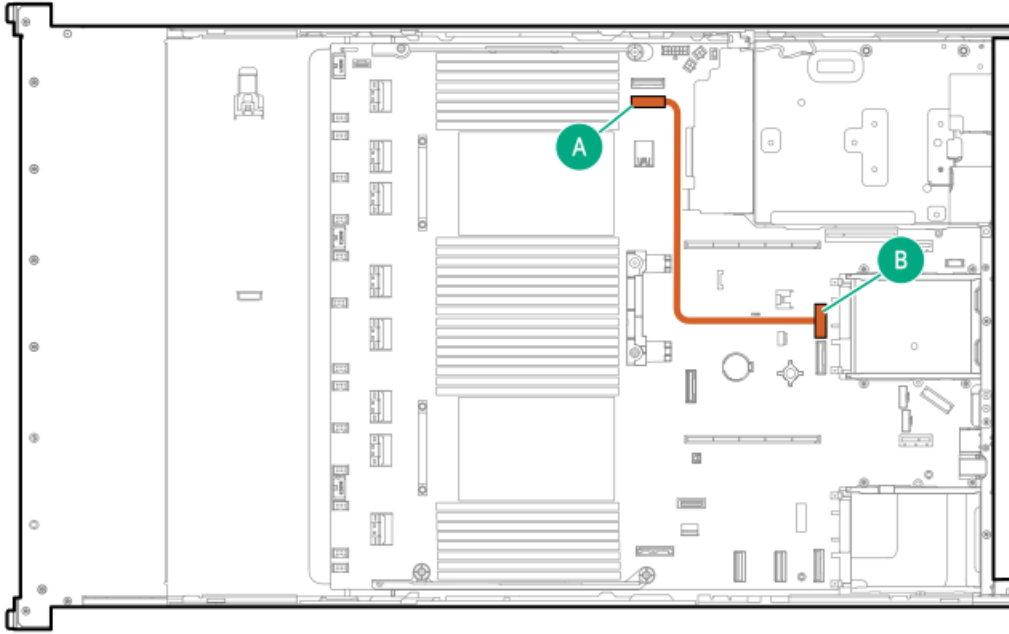
| Cable part number | Color  | From         | To           |
|-------------------|--------|--------------|--------------|
| P43735-001        | Orange | System board | System board |

OCP slot 15



| Cable part number       | Color  | From         | To           |
|-------------------------|--------|--------------|--------------|
| P43734-001 <sup>1</sup> | Orange | System board | System board |

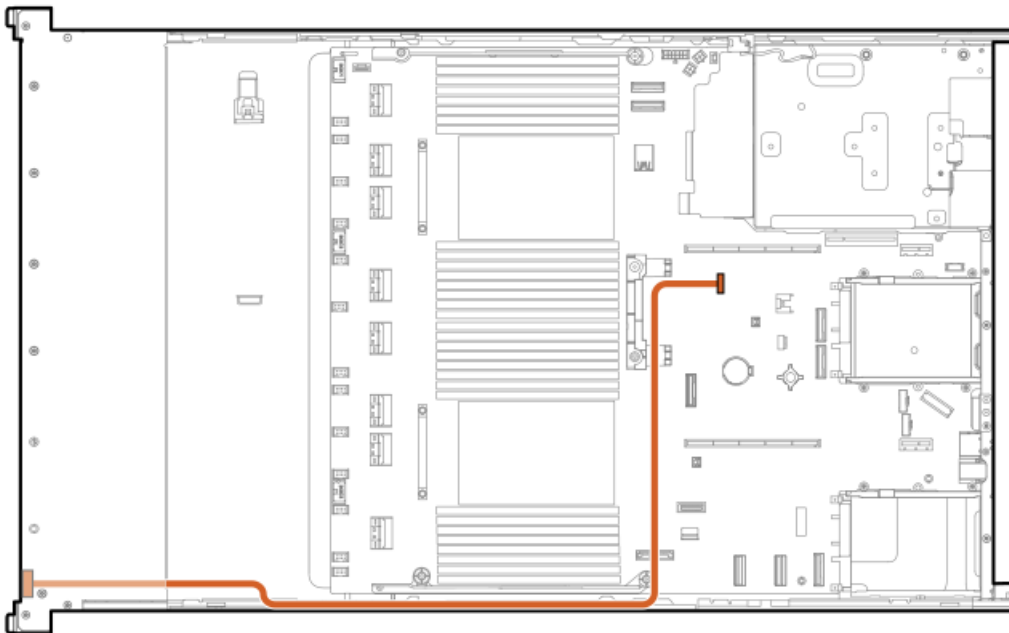
<sup>1</sup> Option kit: P48830-B21



| Cable part number       | Color  | From         | To           |
|-------------------------|--------|--------------|--------------|
| P43734-001 <sup>1</sup> | Orange | System board | System board |

<sup>1</sup> Option kit: P48830-B21

### Systems Insight Display cabling

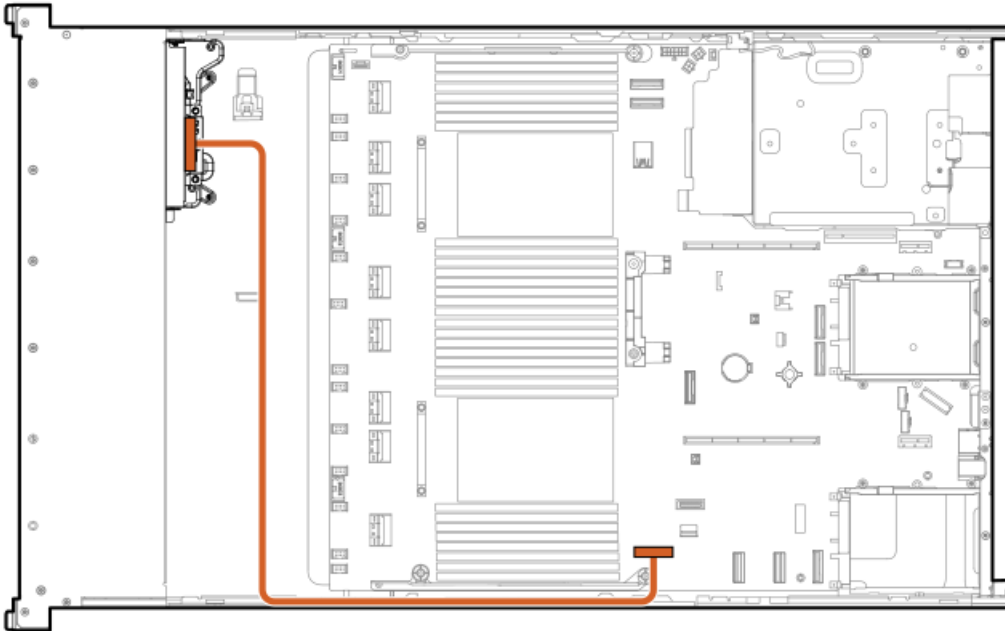


| Cable part number       | Color  | From                    | To           |
|-------------------------|--------|-------------------------|--------------|
| P48971-001 <sup>1</sup> | Orange | Systems Insight Display | System board |

<sup>1</sup> Option kit: P48819-B21

## I/O cabling

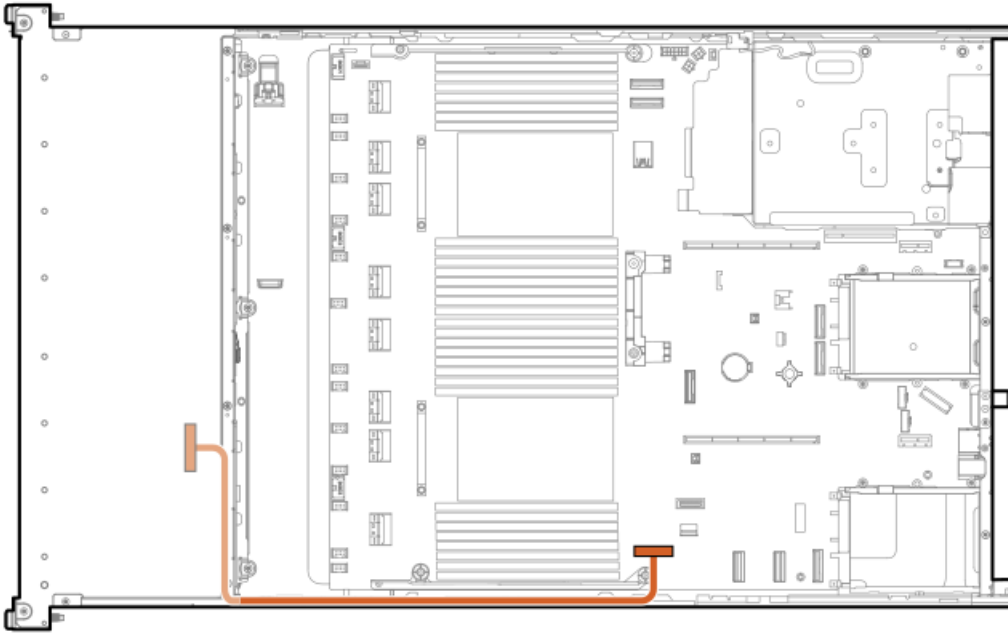
### SFF optical disk drive



| Cable part number       | Color  | From    | To           |
|-------------------------|--------|---------|--------------|
| 756914-001 <sup>1</sup> | Orange | SFF ODD | System board |

<sup>1</sup> Option kit: 726536-B21

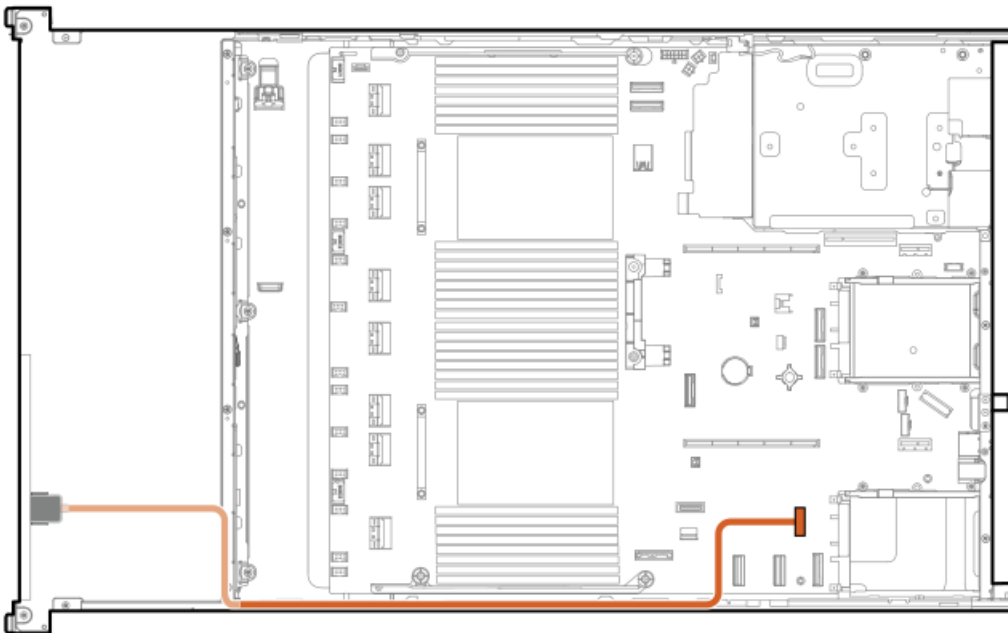
### LFF optical disk drive



| Cable part number       | Color  | From    | To           |
|-------------------------|--------|---------|--------------|
| 756914-001 <sup>1</sup> | Orange | LFF ODD | System board |

<sup>1</sup> Option kit: 726537-B21

**LFF DisplayPort**



| Cable part number       | Color  | From              | To           |
|-------------------------|--------|-------------------|--------------|
| 869808-001 <sup>1</sup> | Orange | Front DisplayPort | System board |

<sup>1</sup> Option kit: P52150-B21

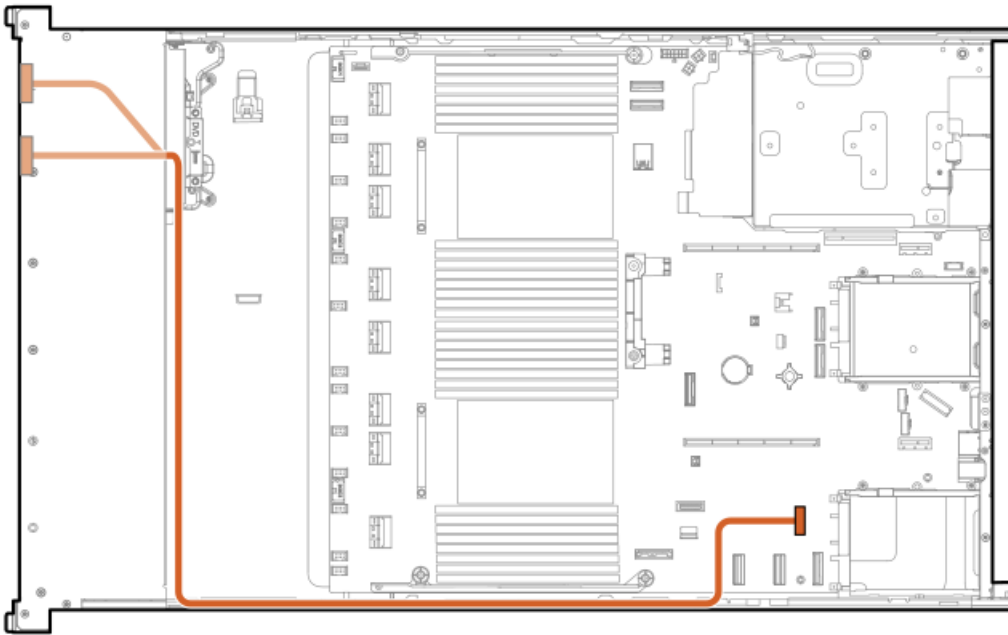
**SFF UMB USB cabling**



| Cable part number       | Color  | From           | To           |
|-------------------------|--------|----------------|--------------|
| P50731-001 <sup>1</sup> | Orange | Front USB port | System board |

<sup>1</sup> Option kit: P50728-B21

**SFF UMB DisplayPort/USB cabling**

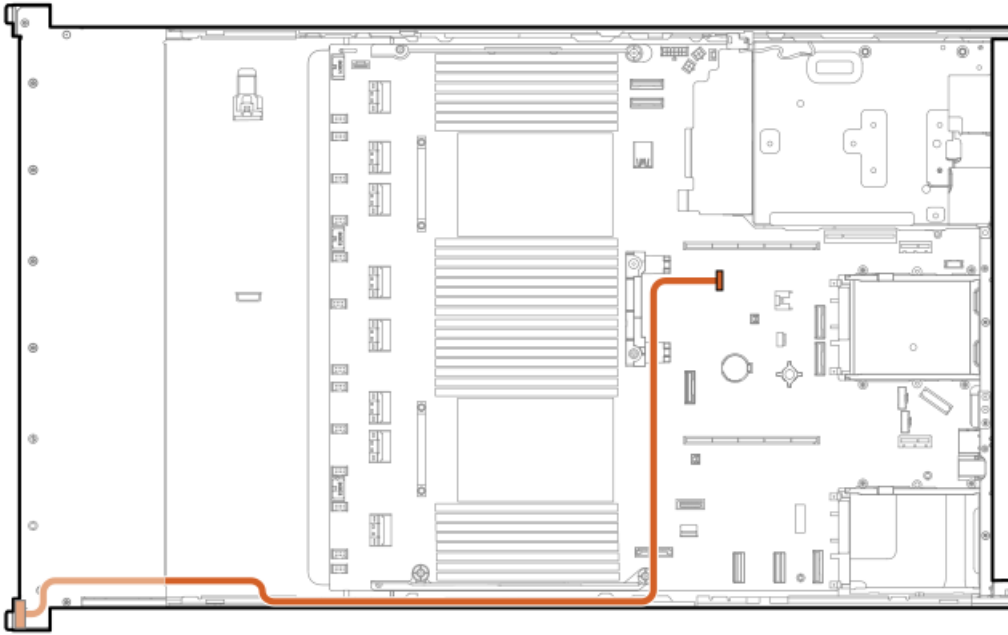




| Cable part number       | Color  | From                | To           |
|-------------------------|--------|---------------------|--------------|
| P14314-001 <sup>1</sup> | Orange | Universal media bay | System board |

<sup>1</sup> Option kit: P50728-B21

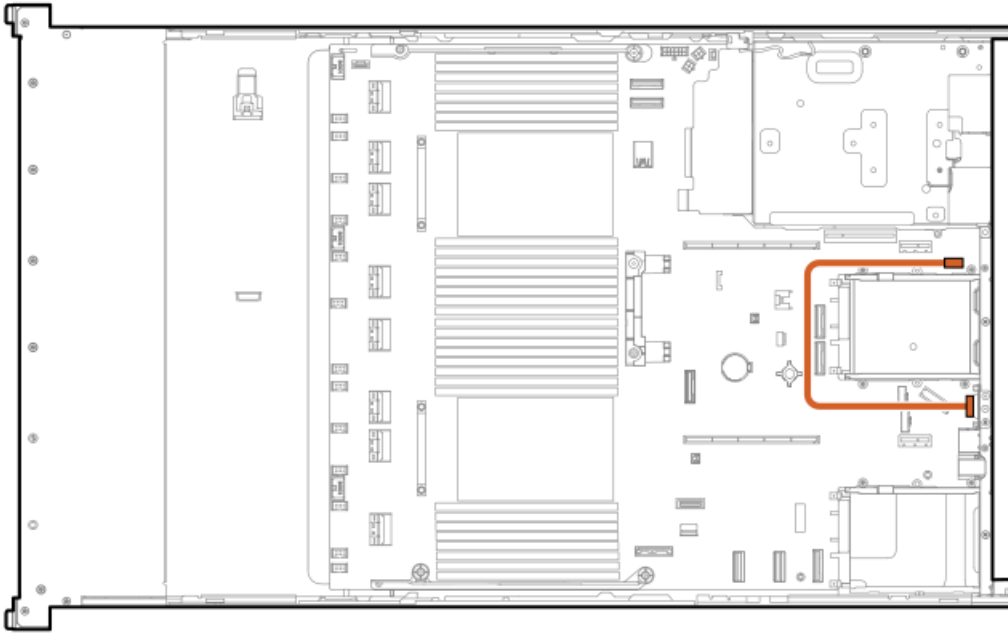
## Front power switch cabling



| Cable part number | Color  | From               | To           |
|-------------------|--------|--------------------|--------------|
| P43727-001        | Orange | Front power switch | System board |

## Serial port cabling





| Cable part number       | Color  | From        | To           |
|-------------------------|--------|-------------|--------------|
| P45623-001 <sup>1</sup> | Orange | Serial port | System board |

<sup>1</sup> Option kit: P48824-B21

## Component identification

### Subtopics

[Front panel components](#)

[Front panel LEDs and buttons](#)

[Rear panel components](#)

[Rear panel LEDs](#)

[System board components](#)

[HPE Basic Drive LED definitions](#)

[EDSFF SSD LED definitions](#)

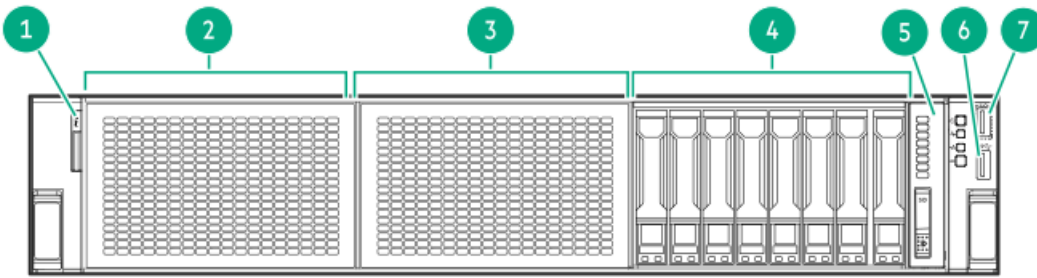
[Drive boxes and numbering](#)

[HPE NS204i-u Boot Device components](#)

[HPE NS204i-u Boot Device LED definitions](#)

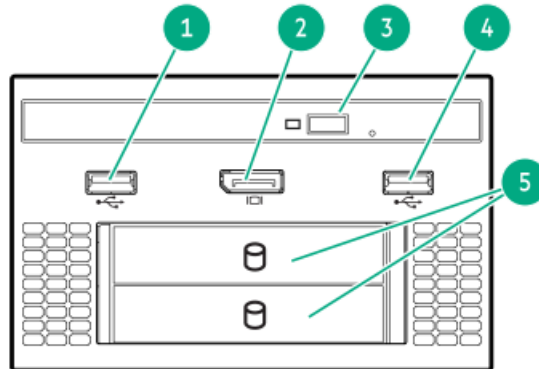
## Front panel components

## SFF front panel components



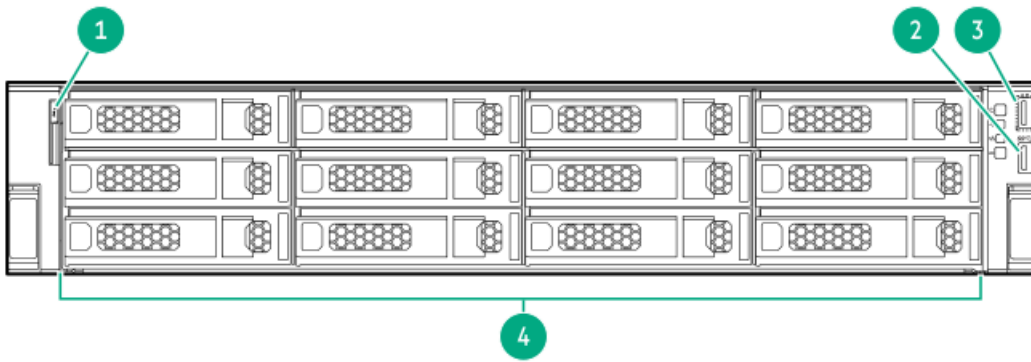
| Item | Description                                    |
|------|--|
| 1    | Serial number/iLO information pull tab         |
| 2    | 8 SFF drives or universal media bay (optional) |
| 3    | 8 SFF drives (optional)                        |
| 4    | 8 SFF drives                                   |
| 5    | <u>Systems Insight Display</u> (optional)      |
| 6    | USB 3.2 Gen 1 port                             |
| 7    | iLO Service Port                               |

## SFF media bay components



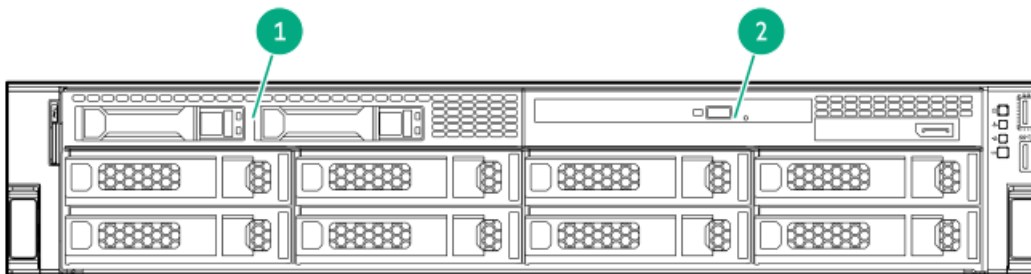
| Item | Description                           |
|------|---------------------------------------|
| 1    | USB 2.0 port                          |
| 2    | DisplayPort 1.1a                      |
| 3    | Optical disc drive (optional)         |
| 4    | USB 2.0 port                          |
| 5    | Front 2 SFF stacked drives (optional) |

## 12 LFF front panel components



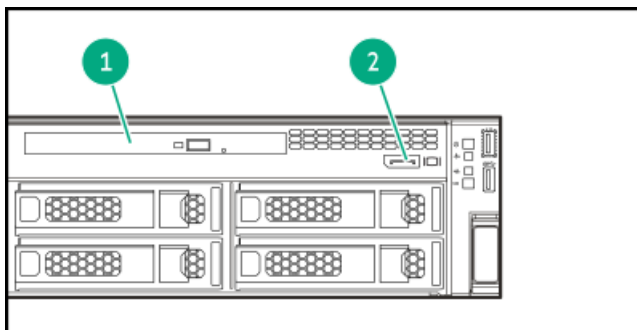
| Item | Description                            |
|------|--|
| 1    | Serial number/iLO information pull tab |
| 2    | USB 3.2 Gen 1 port                     |
| 3    | iLO Service Port                       |
| 4    | LFF drives                             |

#### 8 LFF front panel components



| Item | Description                          |
|------|--------------------------------------|
| 1    | 2 SFF side by side drives (optional) |
| 2    | LFF media bay                        |

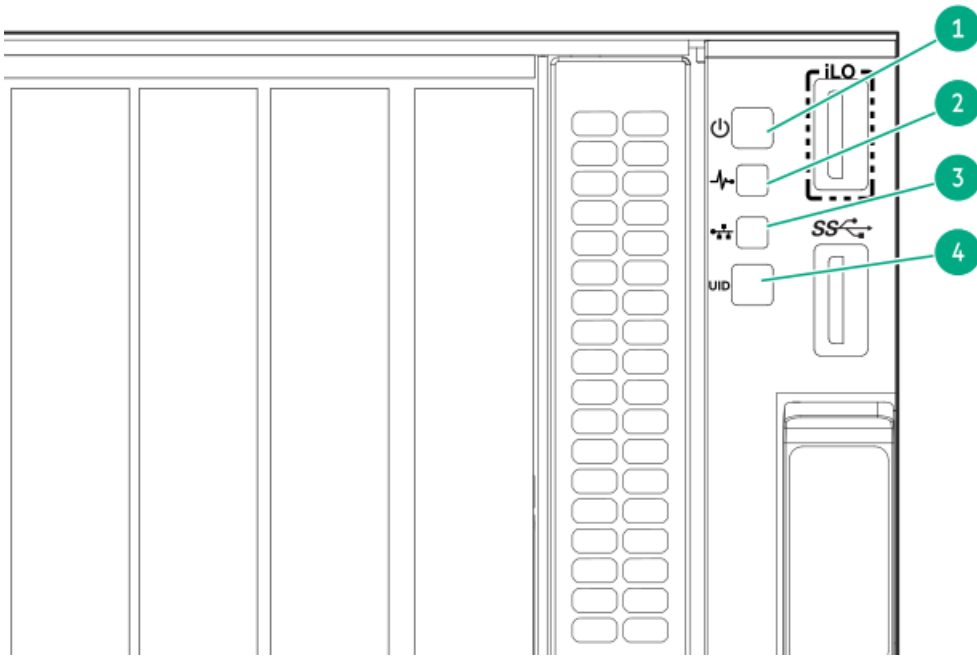
#### LFF media bay components



| Item | Description        |
|------|--------------------|
| 1    | Optical disk drive |
| 2    | DisplayPort 1.1a   |

# Front panel LEDs and buttons

SFF



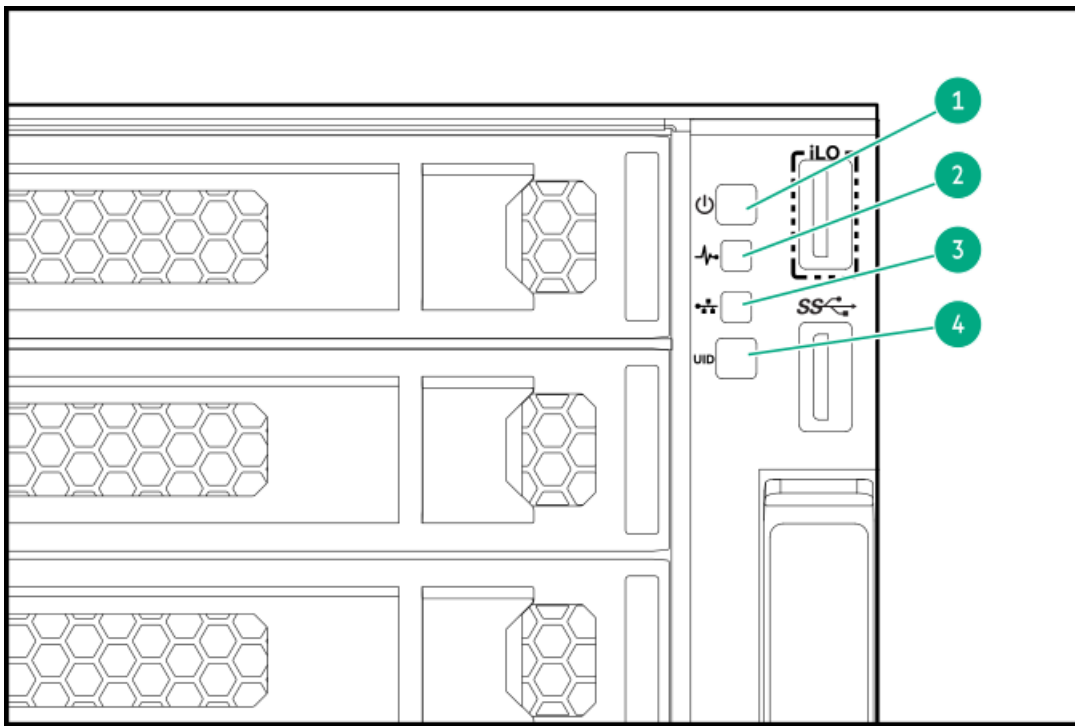
| Item | Description   | Status  |
|------|---|---|
| 1    | Power On/Standby button and system power LED <sup>1</sup> | <ul style="list-style-type: none"> <li>• Solid green = System on</li> <li>• Flashing green (1 Hz/cycle per sec) = Performing power on sequence</li> <li>• Solid amber = System in standby</li> <li>• Off = No power present <sup>2</sup></li> </ul>   |
| 2    | Health LED <sup>1</sup>                                   | <ul style="list-style-type: none"> <li>• Solid green = Normal</li> <li>• Flashing green (1 Hz/cycle per sec) = iLO is rebooting</li> <li>• Flashing amber = System degraded</li> <li>• Flashing red (1 Hz/cycle per sec) = System critical <sup>3</sup></li> </ul>  |
| 3    | NIC status LED <sup>1</sup>                               | <ul style="list-style-type: none"> <li>• Solid green = Link to network</li> <li>• Flashing green (1 Hz/cycle per sec) = Network active</li> <li>• Off = No network activity</li> </ul>  |
| 4    | UID button/LED <sup>1</sup>                               | <ul style="list-style-type: none"> <li>• Solid blue = Activated</li> <li>• Flashing blue: <ul style="list-style-type: none"> <li>○ 1 Hz/cycle per sec = Remote management or firmware upgrade in progress</li> <li>○ 4 Hz/cycle per sec = iLO manual reboot sequence initiated</li> <li>○ 8 Hz/cycle per sec = iLO manual reboot sequence in progress</li> <li>○ Off = Deactivated</li> </ul> </li> </ul> |

<sup>1</sup> When all four LEDs described in this table flash simultaneously, a power fault has occurred.

<sup>2</sup> Facility power is not present, the power cord is not attached, no power supplies are installed, power supply failure has occurred, or the power button cable is disconnected.

<sup>3</sup> If the health LED indicates a degraded or critical state, review the system IML or use iLO to review the system health status.

LFF



| Item | Description   | Status  |
|------|---|---|
| 1    | Power On/Standby button and system power LED <sup>1</sup> | <ul style="list-style-type: none"> <li>• Solid green = System on</li> <li>• Flashing green (1 Hz/cycle per sec) = Performing power on sequence</li> <li>• Solid amber = System in standby</li> <li>• Off = No power present <sup>2</sup></li> </ul>   |
| 2    | Health LED <sup>1</sup>                                   | <ul style="list-style-type: none"> <li>• Solid green = Normal</li> <li>• Flashing green (1 Hz/cycle per sec) = iLO is rebooting</li> <li>• Flashing amber = System degraded</li> <li>• Flashing red (1 Hz/cycle per sec) = System critical <sup>3</sup></li> </ul>  |
| 3    | NIC status LED <sup>1</sup>                               | <ul style="list-style-type: none"> <li>• Solid green = Link to network</li> <li>• Flashing green (1 Hz/cycle per sec) = Network active</li> <li>• Off = No network activity</li> </ul>  |
| 4    | UID button/LED <sup>1</sup>                               | <ul style="list-style-type: none"> <li>• Solid blue = Activated</li> <li>• Flashing blue: <ul style="list-style-type: none"> <li>○ 1 Hz/cycle per sec = Remote management or firmware upgrade in progress</li> <li>○ 4 Hz/cycle per sec = iLO manual reboot sequence initiated</li> <li>○ 8 Hz/cycle per sec = iLO manual reboot sequence in progress</li> <li>○ Off = Deactivated</li> </ul> </li> </ul> |

<sup>1</sup> When all four LEDs described in this table flash simultaneously, a power fault has occurred.

<sup>2</sup> Facility power is not present, the power cord is not attached, no power supplies are installed, power supply failure has occurred, or the power button cable is disconnected.

<sup>3</sup> If the health LED indicates a degraded or critical state, review the system IML or use iLO to review the system health status.

## Subtopics

### [UID button functionality](#)

### [Front panel LED power fault codes](#)

### [Systems Insight Display LEDs](#)

### [Systems Insight Display combined LED descriptions](#)

## UID button functionality

The UID button can be used to identify a specific server in a rack or display the Server Health Summary when the server will not power on. For more information, see the latest HPE iLO User Guide on the [Hewlett Packard Enterprise website](#).



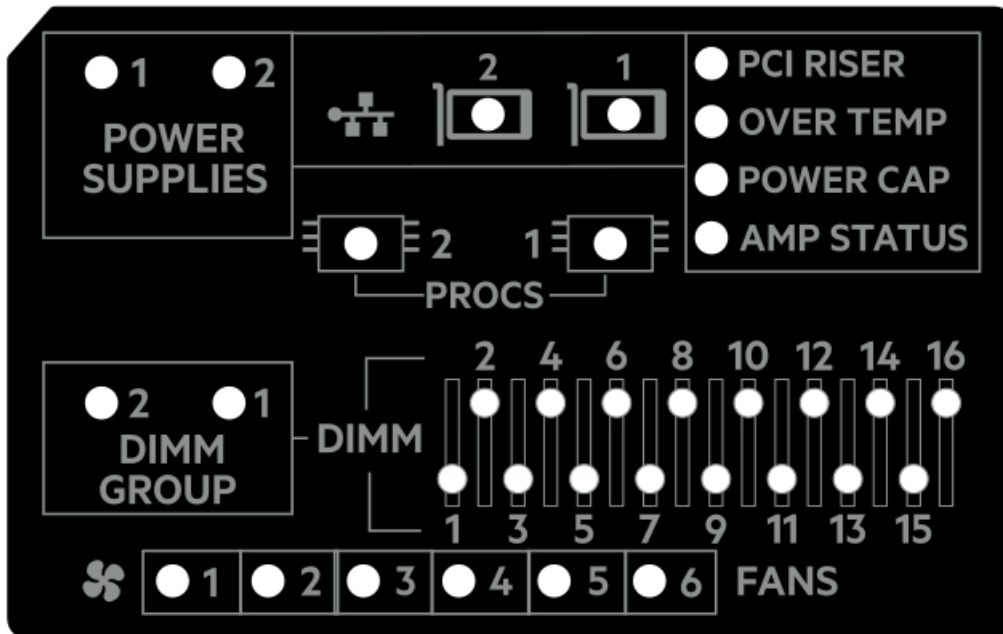
## Front panel LED power fault codes

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    |
| OCP adapter                                   | 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   |

## Systems Insight Display LEDs

The Systems Insight Display LEDs represent the system board layout. The display enables diagnosis with the access panel installed.



| Description                 | Status   |
|-----------------------------|--|
| Processor LEDs              | Off = Normal<br>Amber = Failed processor   |
| DIMM LEDs                   | Off = Normal<br>Amber = Failed DIMM or configuration issue   |
| DIMM group LEDs             | Off = Normal<br>Amber = Failed DIMM group or configuration issue   |
| Fan LEDs                    | Off = Normal<br>Amber = Failed fan or missing fan  |
| NIC LEDs <sup>1</sup>       | Off = No link to network<br>Solid green = Network link<br>Flashing green = Network link with activity<br>If power is off, the front panel LED is not active. For status, see <a href="#">Rear panel LEDs</a> . |
| Power supply LEDs           | Off = Normal<br>Solid amber = Power subsystem degraded, power supply failure, or input power lost.   |
| PCI riser LED               | Off = Normal<br>Amber = Incorrectly installed PCI riser cage   |
| Over temp LED               | Off = Normal<br>Amber = High system temperature detected   |
| Power cap LED               | Off = System is in standby, or no cap is set.<br>Solid green = Power cap applied   |
| AMP <sup>2</sup> Status LED | Off = AMP modes disabled<br>Solid green = AMP mode enabled<br>Solid amber = Failover<br>Flashing amber = Invalid configuration   |

<sup>1</sup> Embedded NIC ports are not equipped on the server. NIC LEDs on the Systems Insight Display will flash based on the network adapter port activity. In the case of a dual-port adapters, only NIC LED 1 and 2 will illuminate to correspond with the activity of the respective network ports.

<sup>2</sup> To configure Advanced Memory Protection, see the latest [UEFI System Utilities user guide](#).

When the health LED on the front panel illuminates either amber or red, the server is experiencing a health event. For more information on the combination of these LEDs, see [Systems Insight Display combined LED descriptions](#).

## Systems Insight Display combined LED descriptions

The combined illumination of the following LEDs indicates a system condition:

- Systems Insight Display LEDs
- System power LED

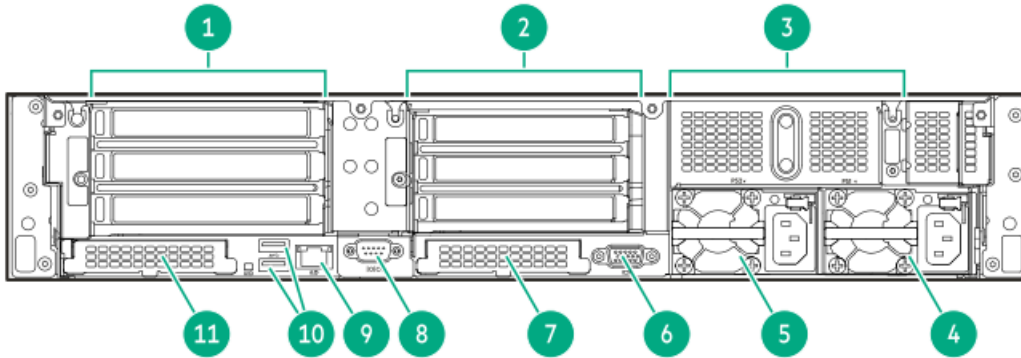
- Health LED



| Systems Insight Display LED and color | Health LED | System power LED | Status   |
|---------------------------------------|------------|------------------|--|
| Processor (amber)                     | Red        | Amber            | One or more of the following conditions might exist: <ul style="list-style-type: none"> <li>Processor in socket X has failed.</li> <li>Processor X is not installed in the socket.</li> <li>Processor X is unsupported.</li> <li>ROM detects a failed processor during POST.</li> </ul>  |
| Processor (amber)                     | Amber      | Green            | Processor in socket X is in a pre-failure condition.   |
| DIMM (amber)                          | Red        | Green            | One or more DIMMs have failed.   |
| DIMM (amber)                          | Amber      | Green            | DIMM in slot X is in a pre-failure condition.  |
| Over temp (amber)                     | Amber      | Green            | The Health Driver has detected a cautionary temperature level.   |
| Over temp (amber)                     | Red        | Amber            | The server has detected a hardware critical temperature level.   |
| PCI riser (amber)                     | Red        | Green            | The PCI riser cage is not seated properly.   |
| Fan (amber)                           | Amber      | Green            | One fan has failed or has been removed.  |
| Fan (amber)                           | Red        | Green            | Two or more fans have failed or been removed.  |
| Power supply (amber)                  | Red        | Amber            | One or more of the following conditions might exist: <ul style="list-style-type: none"> <li>Only one power supply is installed and that power supply is in standby.</li> <li>Power supply fault.</li> <li>System board fault.</li> </ul>   |
| Power supply (amber)                  | Amber      | Green            | One or more of the following conditions might exist: <ul style="list-style-type: none"> <li>Redundant power supply is installed and only one power supply is functional.</li> <li>AC power cord is not plugged into redundant power supply.</li> <li>Redundant power supply fault.</li> <li>Power supply mismatch at POST or power supply mismatch through hot-plug addition.</li> </ul> |
| Power cap (off)                       | —          | Amber            | Standby.   |
| Power cap (green)                     | —          | Flashing green   | Waiting for power.   |
| Power cap (green)                     | —          | Green            | Power is available.  |
| Power cap (flashing amber)            | —          | Amber            | Power is not available.  |

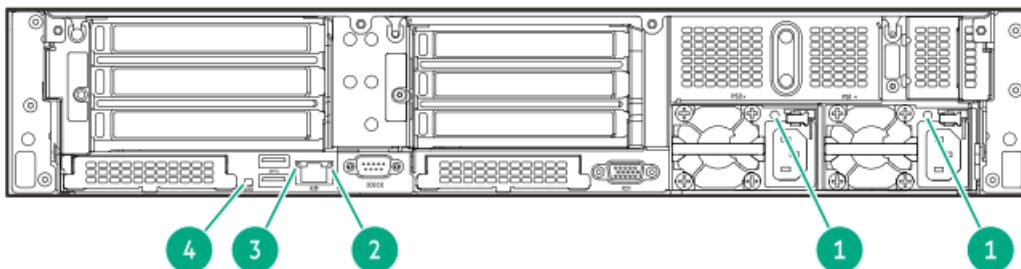
**IMPORTANT:** If more than one DIMM slot LED is illuminated, further troubleshooting is required. Test each bank of DIMMs by removing all other DIMMs. Isolate the failed DIMM by replacing each DIMM in a bank with a known working DIMM.

## Rear panel components



| Item | Description                                     |
|------|---|
| 1    | Primary riser slots 1-3 (optional drive cage)   |
| 2    | Secondary riser slots 4-6 (optional drive cage) |
| 3    | Tertiary riser slots 7-8 (optional drive cage)  |
| 4    | Power supply 1 (PS1)                            |
| 5    | Power supply 2 (PS2)                            |
| 6    | Video port (VGA)                                |
| 7    | OCP slot 15                                     |
| 8    | Serial port (optional)                          |
| 9    | iLO Management Port                             |
| 10   | USB 3.2 Gen 1 ports                             |
| 11   | OCP slot 14                                     |

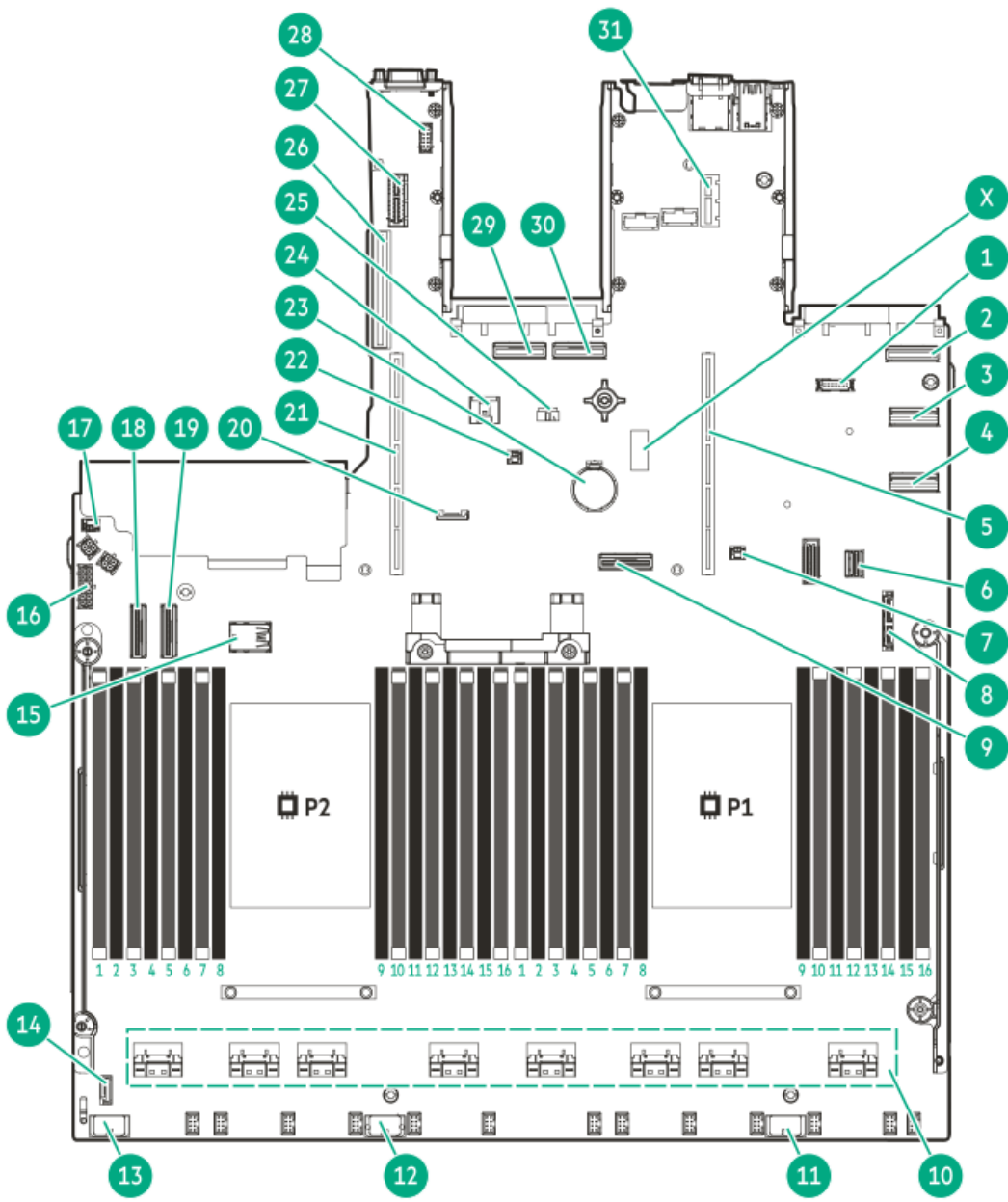
## Rear panel LEDs



| Item | Description      | Status  |
|------|------------------|---|
| 1    | Power supply LED | <ul style="list-style-type: none"><li>• Off = System is off or power supply has failed</li><li>• Solid green = Normal</li></ul>                                 |
| 2    | Status LED       | <ul style="list-style-type: none"><li>• Off = No network activity</li><li>• Solid green = Link to network</li><li>• Flashing green = Network activity</li></ul> |
| 3    | Link LED         | <ul style="list-style-type: none"><li>• Off = No network link</li><li>• Green = Network link</li></ul>  |
| 4    | UID LED          | <ul style="list-style-type: none"><li>• Off = Deactivated</li><li>• Solid blue = Activated</li><li>• Flashing blue = System is being managed remotely</li></ul> |

## System board components





| Item | Description                                   |
|------|---|
| X    | System maintenance switch                     |
| 1    | Front DisplayPort/USB 2.0 connector           |
| 2    | OCP slot 14 port 2                            |
| 3    | LP SlimSAS port 2                             |
| 4    | LP SlimSAS port 1                             |
| 5    | Primary riser connector                       |
| 6    | Front I/O & USB 3.2 Gen 1 port connector      |
| 7    | OCP slot 14 backup power connector            |
| 8    | SATA optical port                             |
| 9    | Socket 1 MCIO port 1                          |
| 10   | x8 SlimSAS ports <sup>1</sup>                 |
| 11   | Drive box 3 power connector                   |
| 12   | Drive box 2 power connector                   |
| 13   | Drive box 1 power connector                   |
| 14   | Signal connector                              |
| 15   | Internal USB ports <sup>2</sup>               |
| 16   | Backplane power connector                     |
| 17   | Chassis Intrusion Detection switch connector  |
| 18   | Socket 2 MCIO port 2                          |
| 19   | Socket 2 MCIO port 1                          |
| 20   | SID connector                                 |
| 21   | Secondary riser connector                     |
| 22   | OCP slot 15 backup power connector            |
| 23   | System battery                                |
| 24   | Energy pack connector                         |
| 25   | NS204i-u power connector                      |
| 26   | Tertiary riser connector                      |
| 27   | Auxiliary power connector for secondary riser |
| 28   | Serial port connector (optional)              |
| 29   | OCP slot 15 port 1                            |
| 30   | OCP slot 15 port 2                            |
| 31   | Auxiliary power connector for primary riser   |

<sup>1</sup> The SlimSAS ports are numbered 1B-4B, 1A-4A from left to right. B is for processor 2 and A is for processor 1.  
<sup>2</sup> Top = USB 3.2 Gen 1 port, Bottom = USB 2.0 port

## Subtopics

[System maintenance switch descriptions](#)

[DIMM label identification](#)

[DIMM slot locations](#)

[Heatsink and processor socket components](#)



## System maintenance switch descriptions

| Position              | Default | Function  |
|-----------------------|---------|---|
| S1 <sup>1</sup>       | Off     | <ul style="list-style-type: none"><li>Off—iLO security is enabled.</li><li>On—iLO 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  |

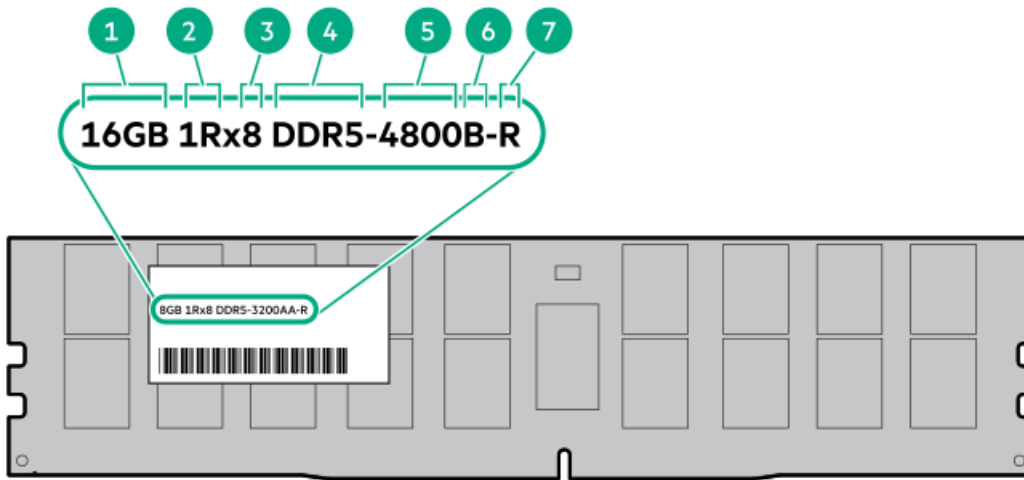
- <sup>1</sup> To access the redundant ROM, set S1, S5, and S6 to On.
- <sup>2</sup> When the system maintenance switch position 6 is set to the On position, the system is prepared to restore all configuration settings to their manufacturing defaults.
- <sup>3</sup> When the system maintenance switch 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](#):

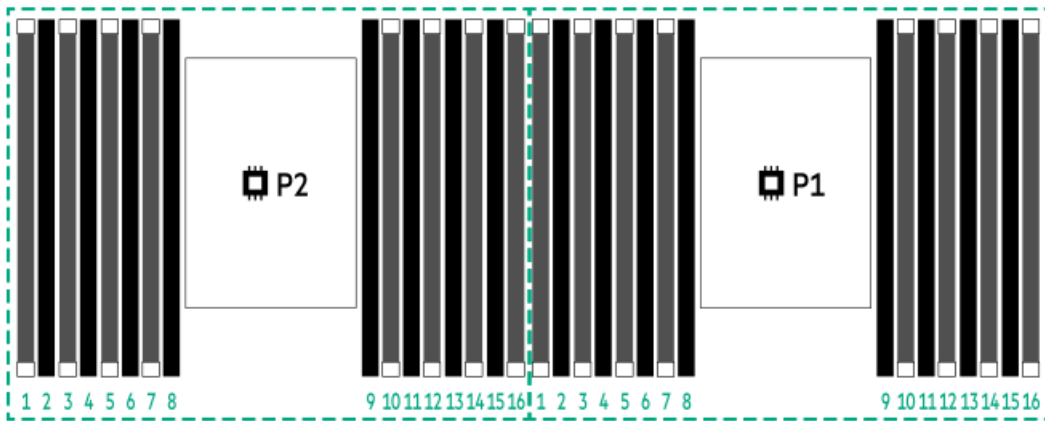
<https://www.hpe.com/docs/server-memory>



| Item | Description          | Example   |
|------|----------------------|---|
| 1    | Capacity             | 16 GB<br>32 GB<br>64 GB<br>128 GB<br>256 GB                     |
| 2    | Rank                 | 1R—Single rank<br>2R—Dual rank<br>4R—Quad rank<br>8R—Octal rank |
| 3    | Data width on DRAM   | x4—4-bit<br>x8—8-bit  |
| 4    | Memory generation    | PC5—DDR5  |
| 5    | Maximum memory speed | 4800 MT/s   |
| 6    | CAS latency          | B—42-42-42<br>B—50-42-42 (for 128 GB and 256 GB capacities)     |
| 7    | DIMM type            | R—RDIMM (registered)  |

## DIMM slot locations

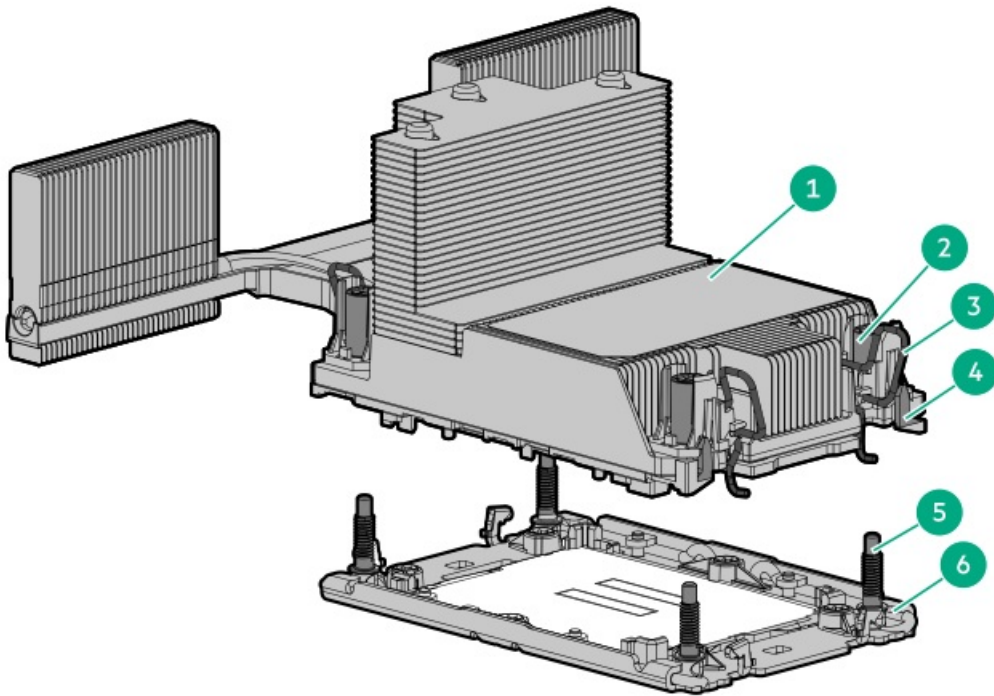
DIMM slots are numbered sequentially (1 through 16) for each processor.



  
**Front of server**

## Heatsink and processor socket components

A high-performance heatsink is shown. Your heatsink might look different.



| Item | Description                            |
|------|--|
| 1    | Processor-heatsink module <sup>1</sup> |
| 2    | Heatsink nuts                          |
| 3    | Heatsink latches                       |
| 4    | Processor carrier latches              |
| 5    | Alignment screws                       |
| 6    | Bolster plate                          |

<sup>1</sup> This module consists of the heatsink attached to the processor that is already secured in its carrier.

## 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.

| 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:

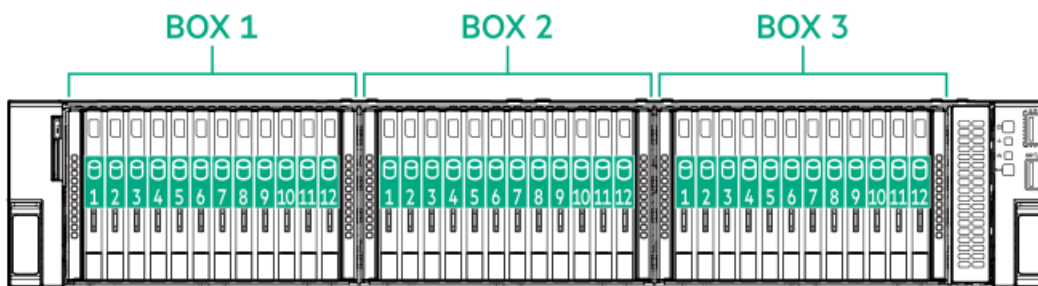
- Amber/blue LED—Managed by the drive backplane in conjunction with the storage controller and is used to indicate drive status.
- Green LED—Managed by the drive itself and indicates the drive activity.

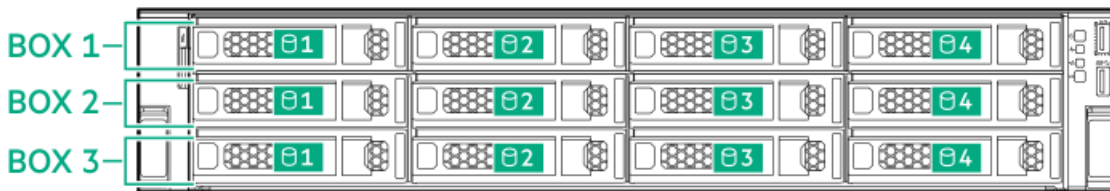
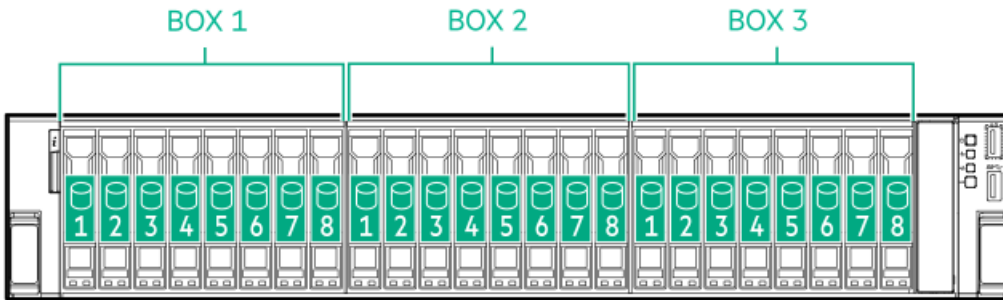
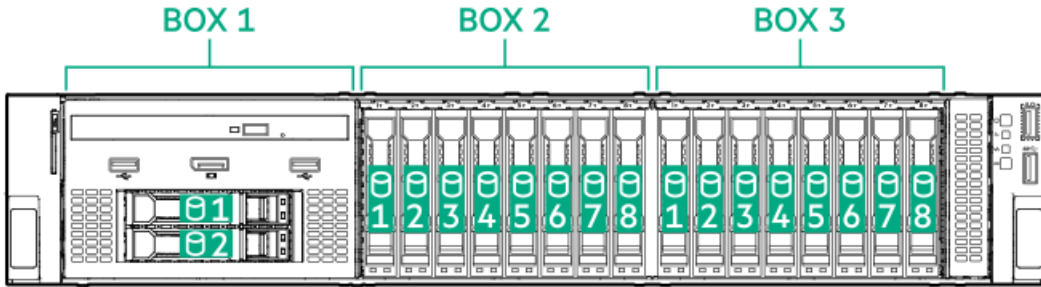
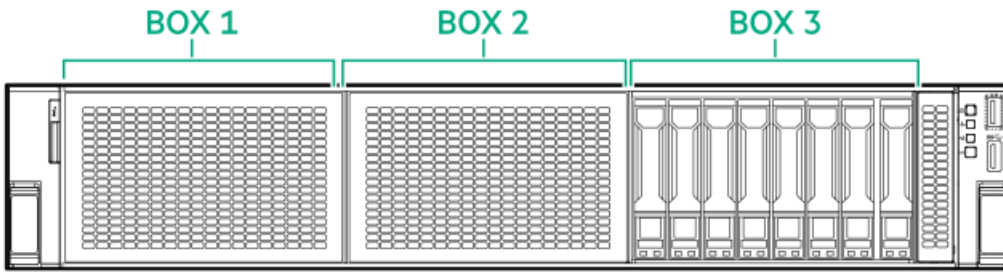


| Item | LED             | State                                    | Definition  |
|------|-----------------|--|---|
| 1    | Fault/Locate    | Solid amber                              | This drive has failed, is unsupported, or is invalid.   |
|      |                 | Solid blue                               | 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  |

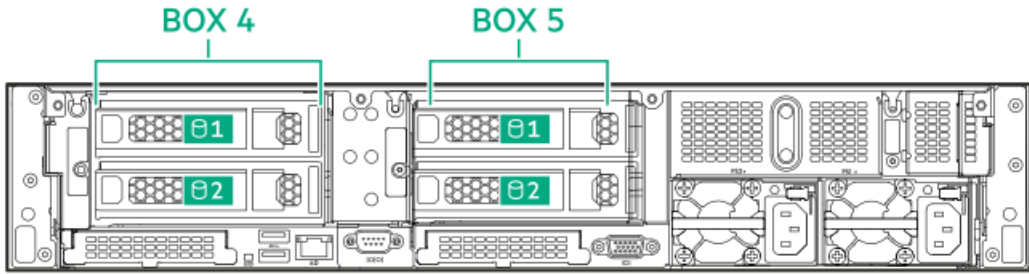
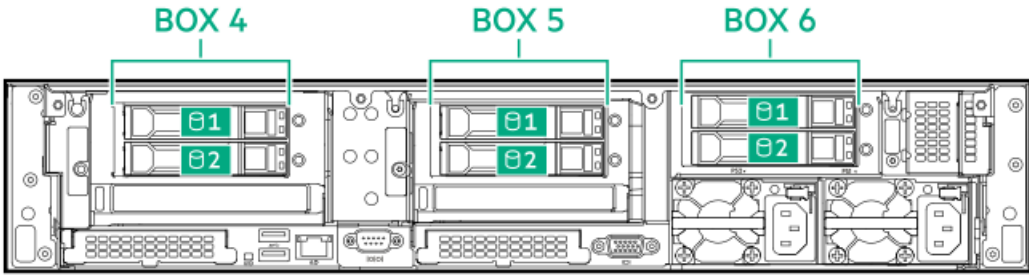
## Drive boxes and numbering

Front boxes

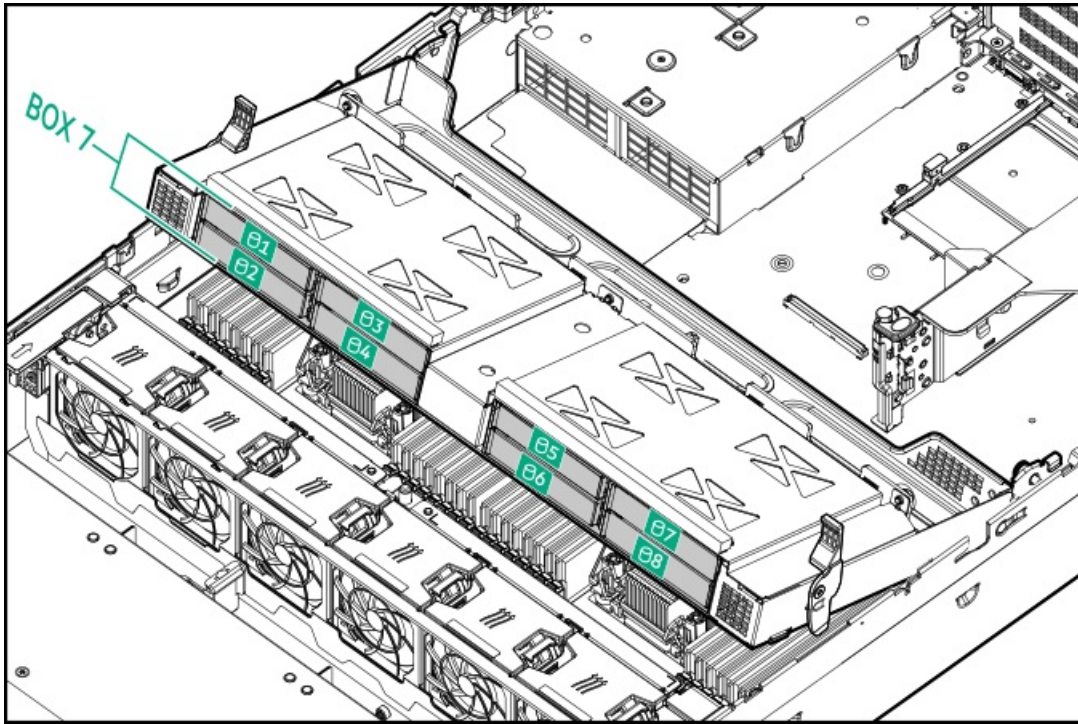




Rear boxes

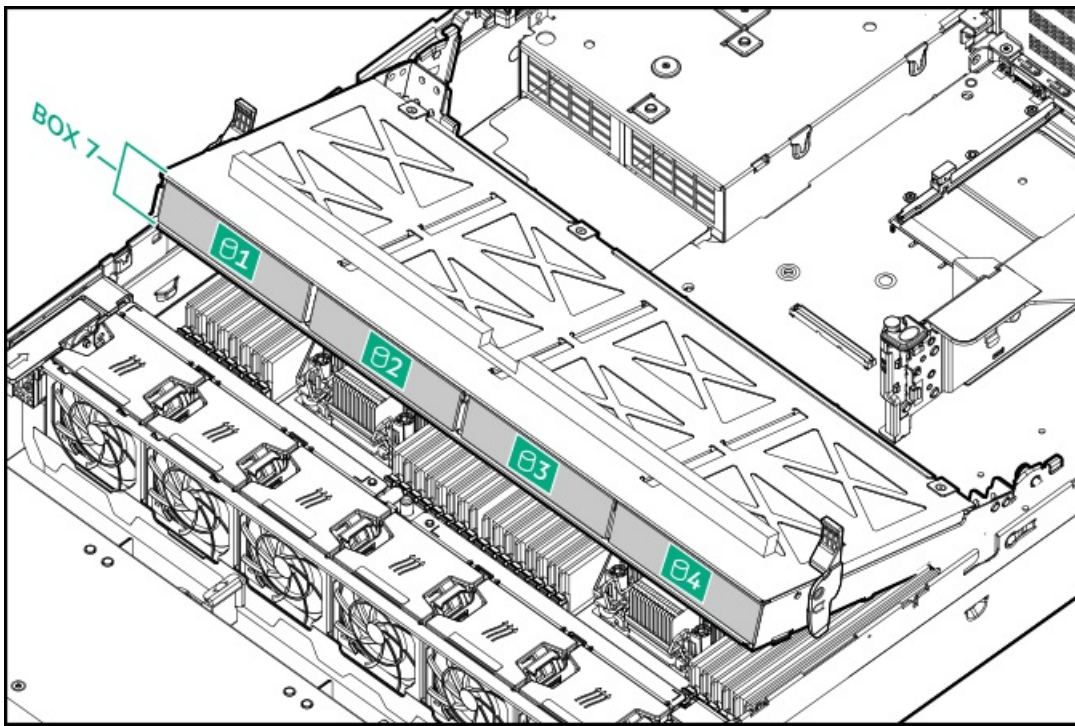


Midplane box (SFF)

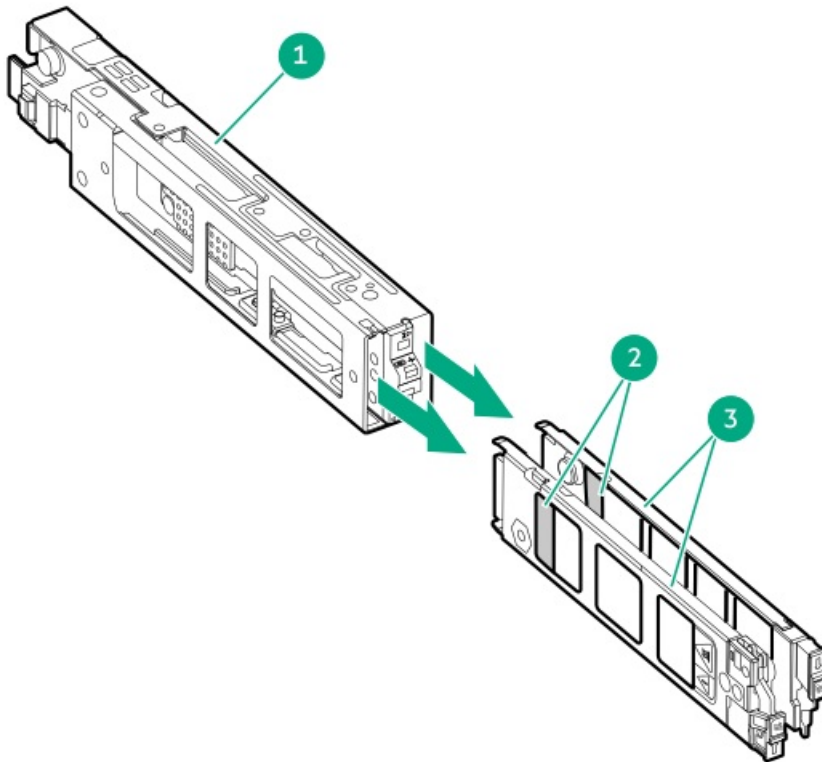


Midplane box (LFF)





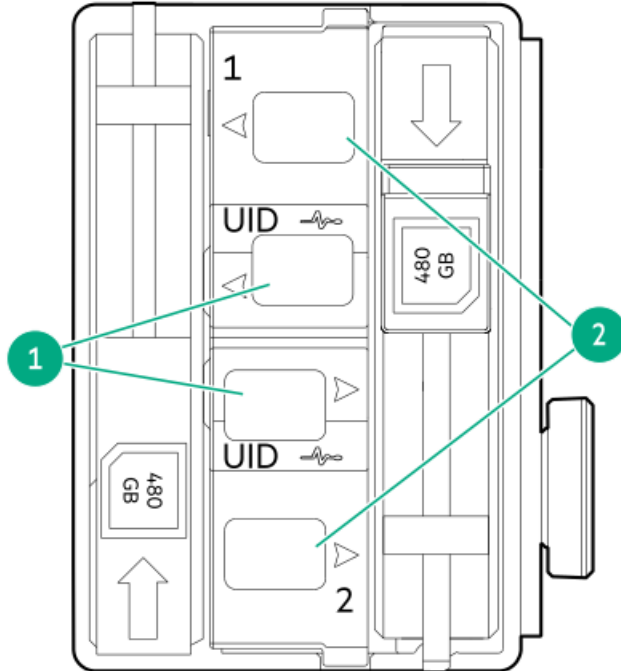
### HPE NS204i-u Boot Device components



| 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.  |

## 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://www.hpe.com/info/dl380gen11-doc>).

- 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](#)

[Managing Linux-based high performance compute clusters](#)

## Updating firmware or system ROM

| To  | Use  |
|---|--|
| Download service packs  | Service Pack for ProLiant (SPP)<br><a href="https://www.hpe.com/servers/spp/download">https://www.hpe.com/servers/spp/download</a> |
| Deploy service packs to a single server   | Smart Update Manager (SUM)<br><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<br><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<br><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<br/><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<br/><a href="https://www.hpe.com/support/ilo6">https://www.hpe.com/support/ilo6</a></li> <li>UEFI System Utilities<br/><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<br/><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<br/><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)<br/><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<br/><a href="https://www.hpe.com/info/powershell/docs">https://www.hpe.com/info/powershell/docs</a></li> <li>iLO RESTful API<br/><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<br/><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><br/><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<br/><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<br><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<br><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<br><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<br/><a href="https://www.hpe.com/support/MRSA">https://www.hpe.com/support/MRSA</a></li> <li>• HPE MR StorCLI User Guide<br/><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<br><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<br><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<br><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<br><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<br/><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<br/><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 Configuration Lock feature enabled. | Server Configuration Lock User Guide for HPE ProLiant servers and Server HPE Synergy<br><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<br><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<br><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<br><a href="https://www.hpe.com/support/ilo6">https://www.hpe.com/support/ilo6</a>                                    |
| Multiple servers           | HPE OneView<br><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<br><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<br><a href="https://www.hpe.com/support/hpcm_manuals">https://www.hpe.com/support/hpcm_manuals</a>                     |
| Optimize your applications.  | HPE Performance Analysis Tools<br><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<br><a href="https://www.hpe.com/info/cray-pe-user-guides">https://www.hpe.com/info/cray-pe-user-guides</a> |

## Safety, warranty, and regulatory information

### Subtopics

[Regulatory information](#)

[Warranty information](#)

### 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>

#### Subtopics

[Notices for Eurasian Economic Union](#)

[Turkey RoHS material content declaration](#)

[Ukraine RoHS material content declaration](#)

## Notices for Eurasian Economic Union



### Manufacturer and Local Representative Information

#### Manufacturer information:

Hewlett Packard Enterprise Company, 1701 E Mossy Oaks Road, Spring, TX 77389 U.S.

#### Local representative information Russian:

- **Russia**  
ООО "Хьюлетт Паккард Энтерпрайз", Российская Федерация, 125171, г. Москва, Ленинградское шоссе, 16А, стр.3, Телефон: +7 499 403 4248 Факс: +7 499 403 4677
- **Kazakhstan**  
ТОО «Хьюлетт-Паккард (К)», Республика Казахстан, 050040, г. Алматы, Бостандыкский район, проспект Аль-Фараби, 77/7, Телефон/факс: + 7 727 355 35 50

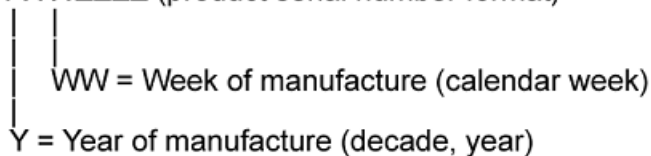
#### Local representative information Kazakh:

- **Russia**  
ЖШС "Хьюлетт Паккард Энтерпрайз", Ресей Федерациясы, 125171, Мәскеу, Ленинград тас жолы, 16А блок 3, Телефон: +7 499 403 4248 Факс: +7 499 403 4677
- **Kazakhstan**  
ЖШС «Хьюлетт-Паккард (К)», Қазақстан Республикасы, 050040, Алматы қ., Бостандық ауданы, Әл-Фараби даңғ ылы, 77/7, Телефон/факс: +7 727 355 35 50

#### Manufacturing date:

The manufacturing date is defined by the serial number.

CCSYWWZZZZ (product serial number format)



If you need help identifying the manufacturing date, contact [tre@hpe.com](mailto:tre@hpe.com).

## Turkey RoHS material content declaration

Türkiye Cumhuriyeti: AEEE Yönetmeliğine Uygundur

## Ukraine RoHS material content declaration

Обладнання відповідає вимогам Технічного регламенту щодо обмеження використання деяких небезпечних речовин в електричному та електронному обладнанні, затвердженого постановою Кабінету Міністрів України від 3 грудня 2008 № 1057

## Warranty information

To view the warranty information for your product, see the [warranty check tool](#).

## Specifications

### Subtopics

[Environmental specifications](#)

[Mechanical specifications](#)

[Power supply specifications](#)

[Hot-plug power supply calculations](#)

## Environmental specifications

| Specification                     | Value  |
|-----------------------------------|--|
| Temperature range <sup>1</sup>    | —  |
| Operating                         | 10°C to 35°C (50°F to 95°F)  |
| Nonoperating                      | -30°C to 60°C (-22°F to 140°F)   |
| Relative humidity (noncondensing) | —  |
| Operating                         | Minimum to be the higher (more moisture) of -12°C (10.4°F) dew point or 8% relative humidity<br>Maximum to be 24°C (75.2°F) dew point or 90% relative humidity |
| Nonoperating                      | 5% to 95%<br>38.7°C (101.7°F), maximum wet bulb temperature  |

<sup>1</sup> All temperature ratings shown are for sea level. An altitude derating of 1.0°C per 304.8 m (1.8°F per 1000 ft) to 3048 m (10,000 ft) is applicable. No direct sunlight allowed. Maximum rate of change is 20°C per hour (36°F per hour). The upper limit and rate of change might be limited by the type and number of options installed.



For certain approved hardware configurations, the supported system inlet temperature range is extended:

- 5°C to 10°C (41°F to 50°F) and 35°C to 40°C (95°F 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 (2953 ft) to a maximum of 3048 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 3048 m (10,000 ft).

The approved hardware configurations for this system are listed on the [Hewlett Packard Enterprise website](#).

## Mechanical specifications

| Specification       | Value                |
|---------------------|----------------------|
| Height              | 8.75 cm (3.44 in)    |
| Depth, SFF          | 72.70 cm (28.62 in)  |
| Depth, LFF          | 73.25 cm (28.84 in)  |
| Width               | 44.80 cm (17.64 in)  |
| Weight, SFF minimum | 16.00 kg (35.27 lbs) |
| Weight, SFF maximum | 37.00 kg (81.57 lbs) |
| Weight, LFF minimum | 18.00 kg (39.68 lbs) |
| Weight, LFF maximum | 37.00 kg (81.57 lbs) |

## 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:

- [HPE 800 W Flex Slot Platinum Hot-plug Low Halogen Power Supply](#)
- [HPE 1000 W Flex Slot Titanium Hot-plug Power Supply](#)
- [HPE 1600 W Flex Slot Platinum Hot-plug Low Halogen Power Supply](#)

For detailed power supply specifications, see the QuickSpecs on the [Hewlett Packard Enterprise website](#) (<https://www.hpe.com/info/proliant/powersupply>).

### Subtopics

[HPE 800 W Flex Slot Platinum Hot-plug Low Halogen Power Supply](#)

[HPE 1000 W Flex Slot Titanium Hot-plug Power Supply](#)

[HPE 1600 W Flex Slot Platinum Hot-plug Low Halogen Power Supply](#)

## HPE 800 W Flex Slot Platinum Hot-plug Low Halogen Power Supply

| Specification              | Value   |
|----------------------------|---|
| <b>Input requirements</b>  | —   |
| Rated input voltage        | 100 VAC to 127 VAC<br>200 VAC to 240 VAC<br>240 VDC for China only  |
| Rated input frequency      | 50 Hz to 60 Hz<br>Not applicable to 240 VDC   |
| Rated input current        | 9.1 A at 100 VAC<br>4.4 A at 200 VAC<br>3.6 A at 240 VDC for China only   |
| Maximum rated input power  | 899 W at 100 VAC<br>867 W at 200 VAC<br>864 W at 240 VDC for China only   |
| BTUs per hour              | 3067 at 100 VAC<br>2958 at 200 VAC<br>2949 at 240 VAC for China only  |
| <b>Power supply output</b> | —   |
| Rated steady-state power   | 800 W at 100 VAC to 127 VAC input<br>800 W at 100 VAC to 240 VAC input<br>800 W at 240 VDC input for China only |
| Maximum peak power         | 800 W at 100 VAC to 127 VAC input<br>800 W at 100 VAC to 240 VAC input<br>800 W at 240 VDC input for China only |

## HPE 1000 W Flex Slot Titanium Hot-plug Power Supply



| Specification              | Value  |
|----------------------------|--|
| <b>Input requirements</b>  | —  |
| Rated input voltage        | 100 VAC to 127 VAC<br>200 VAC to 240 VAC<br>240 VDC for China only |
| Rated input frequency      | 50 Hz to 60 Hz   |
| Rated input current        | 11.3 A at 100 VAC<br>6.1 A at 200 VAC                              |
| Maximum rated input power  | 1103 W at 100 VAC<br>1064 W at 200 VAC                             |
| BTUs per hour              | 3764 at 100 VAC<br>3629 at 200 VAC                                 |
| <b>Power supply output</b> | —  |
| Rated steady-state power   | 1000 W at 100 VAC to 127 VAC<br>1000 W at 200 VAC to 240 VAC input |
| Maximum peak power         | 1000 W at 100 VAC to 127 VAC<br>1000 W at 200 VAC to 240 VAC       |

## HPE 1600 W Flex Slot Platinum Hot-plug Low Halogen Power Supply

| Specification              | Value   |
|----------------------------|---|
| <b>Input requirements</b>  | —   |
| Rated input voltage        | 200 VAC to 240 VAC<br>240 VDC for China only                  |
| Rated input frequency      | 50 Hz to 60 Hz  |
| Rated input current        | 8.7 A at 200 VAC<br>7.5 A at 230 VAC                          |
| Maximum rated input power  | 1734 W at 200 VAC<br>1727 W at 230 VAC                        |
| BTUs per hour              | 5918 at 200 VAC<br>5891 at 230 VAC                            |
| <b>Power supply output</b> | —   |
| Rated steady-state power   | 1600 W at 200 VAC to 240 VAC input<br>1600 W at 240 VDC input |
| Maximum peak power         | 2200 W for 1 ms (turbo mode) at 200 VAC to 240 VAC input      |

## Hot-plug power supply calculations

For hot-plug power supply specifications and calculators to determine electrical and heat loading for the server, see the Hewlett Packard Enterprise Power Advisor website (<https://www.hpe.com/info/poweradvisor/online>).

## Websites

### General websites

Single Point of Connectivity Knowledge (SPOCK) Storage compatibility matrix

<https://www.hpe.com/storage/spock>

Storage white papers and analyst reports

<https://www.hpe.com/storage/whitepapers>

For additional websites, see [Support and other resources](#).

### Storage websites

## Support and other resources

### Subtopics

[Accessing Hewlett Packard Enterprise Support](#)

[Accessing updates](#)

[Remote support](#)

[Customer self repair](#)

[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>

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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### 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 Tech Care Service

<https://www.hpe.com/services/techcare>

HPE Complete Care

## Customer self repair

Hewlett Packard Enterprise customer self repair (CSR) programs allow you to repair your product. If a CSR part needs to be replaced, it will be shipped directly to you so that you can install it at your convenience. Some parts do not qualify for CSR.

For more information about CSR, contact your local service provider.

## Warranty information

To view the warranty information for your product, see the [warranty check tool](#).

## 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 (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. This process captures all document information.