Installing and Administering Avaya Vantage™ in an Avaya Aura® or IP Office Environment

Release 2.0.1
Issue 3
March 2019

Note

Using a cell, mobile, or GSM phone, or a two-way radio in close proximity to an Avaya IP telephone might cause interference.

Documentation disclaimer

“Documentation” means information published in varying mediums which may include product information, operating instructions and performance specifications that are generally made available to users of products. Documentation does not include marketing materials. Avaya shall not be responsible for any modifications, additions, or deletions to the original published version of Documentation unless such modifications, additions, or deletions were performed by or on the express behalf of Avaya. End User agrees to indemnify and hold harmless Avaya, Avaya's agents, servants and employees against all claims, lawsuits, demands and judgments arising out of, or in connection with, subsequent modifications, additions or deletions to this documentation, to the extent made by End User.

Link disclaimer

Avaya is not responsible for the contents or reliability of any linked websites referenced within this site or Documentation provided by Avaya. Avaya is not responsible for the accuracy of any information, statement or content provided on these sites and does not necessarily endorse the products, services, or information described or offered within them. Avaya does not guarantee that these links will work all the time and has no control over the availability of the linked pages.

Warranty

Avaya provides a limited warranty on Avaya hardware and software. Refer to your sales agreement to establish the terms of the limited warranty. In addition, Avaya’s standard warranty language, as well as information regarding support for this product while under warranty is available to Avaya customers and other parties through the Avaya Support website: https://support.avaya.com/helpcenter/getGenericDetails?detailId=C20091120112456651010 under the link “Warranty & Product Lifecycle” or such successor site as designated by Avaya. Please note that if You acquired the product(s) from an authorized Avaya Channel Partner outside of the United States and Canada, the warranty is provided to You by said Avaya Channel Partner and not by Avaya.

“Hosted Service” means an Avaya hosted service subscription that You acquire from either Avaya or an authorized Avaya Channel Partner (as applicable) and which is described further in Hosted SAS or other service description documentation regarding the applicable hosted service. If You purchase a Hosted Service subscription, the foregoing limited warranty may not apply but You may be entitled to support services in connection with the Hosted Service as described further in your service description documents for the applicable Hosted Service. Contact Avaya or Avaya Channel Partner (as applicable) for more information.

Hosted Service

THE FOLLOWING APPLIES ONLY IF YOU PURCHASE AN AVAYA HOSTED SERVICE SUBSCRIPTION FROM AVAYA OR AN AVAYA CHANNEL PARTNER (AS APPLICABLE), THE TERMS OF USE FOR HOSTED SERVICES ARE AVAILABLE ON THE AVAYA WEBSITE, HTTPS://SUPPORT.AVAYA.COM/LICENSEINFO UNDER THE LINK “Avaya Terms of Use for Hosted Services” OR SUCH SUCCESSOR SITE AS DESIGNATED BY AVAYA, AND ARE APPLICABLE TO ANYONE WHO ACCESSES OR USES THE HOSTED SERVICE. BY ACCESSING OR USING THE HOSTED SERVICE, OR AUTHORIZING OTHERS TO DO SO, YOU, ON BEHALF OF YOURSELF AND THE ENTITY FOR WHOM YOU ARE DOING SO (HEREINAFTER REFERRED TO INTERCHANGEABLY AS “YOU” AND “END USER”), AGREE TO THE TERMS OF USE. IF YOU ARE ACCEPTING THE TERMS OF USE ON BEHALF A COMPANY OR OTHER LEGAL ENTITY, YOU REPRESENT THAT YOU HAVE THE AUTHORITY TO BIND SUCH ENTITY TO THESE TERMS OF USE. IF YOU DO NOT HAVE SUCH AUTHORITY, OR IF YOU DO NOT WISH TO ACCEPT THESE TERMS OF USE, YOU MUST NOT ACCESS OR USE THE HOSTED SERVICE OR AUTHORIZE ANYONE TO ACCESS OR USE THE HOSTED SERVICE.

Licenses

THE SOFTWARE LICENSE TERMS AVAILABLE ON THE AVAYA WEBSITE, HTTPS://SUPPORT.AVAYA.COM/LICENSEINFO, UNDER THE LINK “AVAYA SOFTWARE LICENSE TERMS (Avaya Products)” OR SUCH SUCCESSOR SITE AS DESIGNATED BY AVAYA, ARE APPLICABLE TO ANYONE WHO DOWNLOADS, USES AND/OR INSTALLS AVAYA SOFTWARE, PURCHASED FROM AVAYA INC., ANY AVAYA AFFILIATE, OR AN AVAYA CHANNEL PARTNER (AS APPLICABLE) UNDER A COMMERCIAL AGREEMENT WITH AVAYA OR AN AVAYA CHANNEL PARTNER. UNLESS OTHERWISE AGREED TO BY AVAYA IN WRITING, AVAYA DOES NOT EXTEND THIS LICENSE IF THE SOFTWARE WAS OBTAINED FROM ANYONE OTHER THAN AVAYA, AN AVAYA AFFILIATE OR AN AVAYA CHANNEL PARTNER; AVAYA RESERVES THE RIGHT TO TAKE LEGAL ACTION AGAINST YOU AND ANYONE ELSE USING OR SELLING THE SOFTWARE WITHOUT A LICENSE. BY INSTALLING, DOWNLOADING OR USING THE SOFTWARE, OR AUTHORIZING OTHERS TO DO SO, YOU, ON BEHALF OF YOURSELF AND THE ENTITY FOR WHOM YOU ARE INSTALLING, DOWNLOADING OR USING THE SOFTWARE (HEREINAFTER REFERRED TO INTERCHANGEABLY AS “YOU” AND “END USER”), AGREE TO THESE TERMS AND CONDITIONS AND CREATE A BINDING CONTRACT BETWEEN YOU AND AVAYA INC. OR THE APPLICABLE AVAYA AFFILIATE (“AVAYA”).

Avaya grants You a license within the scope of the license types described below, with the exception of Heritage Nortel Software, for which the scope of the license is detailed below. Where the order documentation does not expressly identify a license type, the applicable license will be a Designated System License as set forth below in the Designated System(s) License (DS) section as applicable. The applicable number of licenses and units of capacity for which the license is granted will be one (1), unless a different number of licenses or units of capacity is specified in the documentation or other materials available to You. “Software” means computer programs in object code, provided by Avaya or an Avaya Channel Partner, whether as stand-alone products, pre-installed on hardware products, and any upgrades, updates, patches, bug fixes, or modified versions thereto. “Designated Processor” means a single stand-alone computing device. “Server” means a set of Designated Processors that hosts (physically or virtually) a software application to be accessed by multiple users. “Instance” means a single copy of the Software executing at a particular time: (i) on one physical machine; or (ii) on one deployed software virtual machine (“VM”) or similar deployment.

License types

Designated System(s) License (DS). End User may install and use each copy or an Instance of the Software only: 1) on a number of Designated Processors up to the number indicated in the order; or 2) up to the number of Instances of the Software as indicated in the order, Documentation, or as authorized by Avaya in writing. Avaya may require the Designated Processor(s) to be identified in the order by type, serial number, feature key, Instance, location or other specific designation, or to be provided by End User to Avaya through electronic means established by Avaya specifically for this purpose.

Shrinkwrap License (SR). You may install and use the Software in accordance with the terms and conditions of the applicable license agreements, such as “shrinkwrap” or “clickthrough” license accompanying or applicable to the Software (“Shrinkwrap License”).

Heritage Nortel Software

“Heritage Nortel Software” means the software that was acquired by Avaya as part of its purchase of the Nortel Enterprise Solutions Business in December 2009. The Heritage Nortel Software is the software contained within the list of Heritage Nortel Products located at https://support.avaya.com/LicenseInfo under the link “Heritage Nortel Products” or such successor site as designated by Avaya. For Heritage Nortel Software, Avaya grants Customer a license to use Heritage Nortel Software provided hereunder solely to the extent of the authorized activation or authorized usage level, solely for the purpose specified in the Documentation, and solely as embedded in, for execution on, or for communication with Avaya equipment. Charges for Heritage Nortel Software may be based on extent of activation or use authorized as specified in an order or invoice.

Copyright

Except where expressly stated otherwise, no use should be made of materials on this site, the Documentation, Software, Hosted Service, or hardware provided by Avaya. All content on this site, the documentation, Hosted Service, and the product provided by Avaya including the selection, arrangement and design of the content is owned either by Avaya or its licensors and is protected by copyright and other intellectual property laws including the sui generis rights relating to the protection of databases. You may not modify, copy, reproduce, republish, upload, post, transmit or distribute in any way any content, in whole or in part, including any code and software unless expressly authorized by Avaya. Unauthorized reproduction, transmission, dissemination, storage, and or use without the express written consent of Avaya can be a criminal, as well as a civil offense under the applicable law.

Virtualization

The following applies if the product is deployed on a virtual machine. Each product has its own ordering code and license types. Unless otherwise stated, each Instance of a product must be separately licensed and ordered. For example, if the end user customer or Avaya Channel Partner would like to install two Instances of the same type of products, then two products of that type must be ordered.

Third Party Components

“Third Party Components” mean certain software programs or portions thereof included in the Software or Hosted Service may contain software (including open source software) distributed under third party agreements (“Third Party Components”), which contain terms regarding the rights to use certain portions of the Software (“Third Party Terms”). As required, information regarding distributed Linux OS source code (for those products that have distributed Linux OS source code) and identifying the copyright holders of the Third Party Components and the Third Party Terms that apply is available in the products, Documentation or on Avaya’s website at: https://support.avaya.com/Copyright or such successor site as designated by Avaya. The open source software license terms provided as Third Party Terms are consistent with the license rights granted in these Software License Terms, and may contain additional rights benefiting You, such as modification and distribution of the open source software. The Third Party Terms shall take precedence over these Software License Terms, solely with respect to the applicable Third Party Components to the extent that these Software License Terms impose greater restrictions on You than the applicable Third Party Terms.

The following applies only if the H.264 (AVC) codec is distributed with the product. THIS PRODUCT IS LICENSED UNDER THE AVC PATENT PORTFOLIO LICENSE FOR THE PERSONAL USE OF A CONSUMER OR OTHER USES IN WHICH IT DOES NOT RECEIVE REMUNERATION TO (i) ENCODE VIDEO IN COMPLIANCE WITH THE AVC STANDARD (“AVC VIDEO”) AND/OR (ii) DECODE AVC VIDEO THAT WAS ENCODED BY A CONSUMER ENGAGED IN A PERSONAL ACTIVITY AND/OR WAS OBTAINED FROM A VIDEO PROVIDER LICENSED TO PROVIDE AVC VIDEO. NO LICENSE IS GRANTED OR SHALL BE IMPLIED FOR ANY OTHER USE. ADDITIONAL INFORMATION MAY BE OBTAINED FROM MPEG LA, L.L.C. SEE HTTP://WWW.MPEGLA.COM.

Service Provider

THE FOLLOWING APPLIES TO AVAYA CHANNEL PARTNER’S HOSTING OF AVAYA PRODUCTS OR SERVICES. THE PRODUCT OR HOSTED SERVICE MAY USE THIRD PARTY COMPONENTS SUBJECT TO THIRD PARTY TERMS AND REQUIRE A SERVICE PROVIDER TO BE INDEPENDENTLY LICENSED DIRECTLY FROM THE THIRD PARTY SUPPLIER. AN AVAYA CHANNEL PARTNER’S HOSTING OF AVAYA PRODUCTS MUST BE AUTHORIZED IN WRITING BY AVAYA AND IF THOSE HOSTED PRODUCTS USE OR EMBED CERTAIN THIRD PARTY SOFTWARE, INCLUDING BUT NOT LIMITED TO MICROSOFT SOFTWARE OR CODECS, THE AVAYA CHANNEL PARTNER IS REQUIRED TO INDEPENDENTLY OBTAIN ANY APPLICABLE LICENSE AGREEMENTS, AT THE AVAYA CHANNEL PARTNER’S EXPENSE, DIRECTLY FROM THE APPLICABLE THIRD PARTY SUPPLIER.

WITH RESPECT TO CODECS, IF THE AVAYA CHANNEL PARTNER IS HOSTING ANY PRODUCTS THAT USE OR EMBED THE H.264 CODEC OR H.265 CODEC, THE AVAYA CHANNEL PARTNER ACKNOWLEDGES AND AGREES THE AVAYA CHANNEL PARTNER IS RESPONSIBLE FOR ANY AND ALL RELATED FEES AND/OR ROYALTIES. THE H.264 (AVC) CODEC IS LICENSED UNDER THE AVC PATENT PORTFOLIO LICENSE FOR THE PERSONAL USE OF A CONSUMER OR OTHER USES IN WHICH IT DOES NOT RECEIVE REMUNERATION TO: (I) ENCODE VIDEO IN COMPLIANCE WITH THE AVC STANDARD (“AVC VIDEO”) AND/OR (II) DECODE AVC VIDEO THAT WAS ENCODED BY A CONSUMER ENGAGED IN A PERSONAL ACTIVITY AND/OR WAS OBTAINED FROM A VIDEO PROVIDER LICENSED TO PROVIDE AVC VIDEO. NO LICENSE IS GRANTED OR SHALL BE IMPLIED FOR ANY OTHER USE. ADDITIONAL INFORMATION FOR H.264 (AVC) AND H.265 (HEVC) CODECS MAY BE OBTAINED FROM MPEG LA, L.L.C. SEE HTTP://WWW.MPEGLA.COM.

Compliance with Laws

You acknowledge and agree that it is Your responsibility for complying with any applicable laws and regulations, including, but not limited to laws and regulations related to call recording, data privacy, intellectual property, trade secret, fraud, and music performance rights, in the country or territory where the Avaya product is used.

Preventing Toll Fraud

“Toll Fraud” is the unauthorized use of your telecommunications system by an unauthorized party (for example, a person who is not a corporate employee, agent, subcontractor, or is not working on your company's behalf). Be aware that there can be a risk of Toll Fraud associated with your system and that, if Toll Fraud occurs, it can result in substantial additional charges for your telecommunications services.

Avaya Toll Fraud intervention

If You suspect that You are being victimized by Toll Fraud and You need technical assistance or support, call Technical Service Center Toll Fraud Intervention Hotline at +1-800-643-2353 for the United States and Canada. For additional support telephone numbers, see the Avaya Support website: https://support.avaya.com or such successor site as designated by Avaya.

Security Vulnerabilities

Information about Avaya’s security support policies can be found in the Security Policies and Support section of https://support.avaya.com/security.

Suspected Avaya product security vulnerabilities are handled per the Avaya Product Security Support Flow (https://support.avaya.com/css/P8/documents/100161515).

Downloading Documentation

For the most current versions of Documentation, see the Avaya Support website: https://support.avaya.com, or such successor site as designated by Avaya.

Contact Avaya Support

See the Avaya Support website: https://support.avaya.com for product or Hosted Service notices and articles, or to report a problem with your Avaya product or Hosted Service. For a list of support telephone numbers and contact addresses, go to the Avaya Support website: https://support.avaya.com (or such successor site as designated by Avaya), scroll to the bottom of the page, and select Contact Avaya Support.

Regulatory Statements

Australia Statements

Handset Magnets Statement:

⚠ **Danger:**

The handset receiver contains magnetic devices that can attract small metallic objects. Care should be taken to avoid personal injury.

Industry Canada (IC) Statements

RSS Standards Statement

This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions:

1. This device may not cause interference, and
2. This device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes:

1. L'appareil ne doit pas produire de brouillage, et
2. L'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Radio Transmitter Statement

Under Industry Canada regulations, this radio transmitter may only operate using an antenna of a type and maximum (or lesser) gain approved for the transmitter by Industry Canada. To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (EIRP) is not more than that necessary for successful communication.

Conformément à la réglementation d'Industrie Canada, le présent émetteur radio peut fonctionner avec une antenne d'un type et d'un gain maximal (ou inférieur) approuvé pour l'émetteur par Industrie Canada. Dans le but de réduire les risques de brouillage radioélectrique à l'intention des autres utilisateurs, il faut choisir le type d'antenne et son gain de sorte que la puissance isotrope rayonnée équivalente ne dépasse pas l'intensité nécessaire à l'établissement d'une communication satisfaisante.

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

Radiation Exposure Statement

This equipment complies with FCC & IC RSS102 radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Cet équipement est conforme aux limites d'exposition aux rayonnements ISEDétablies pour un environnement non contrôlé. Cet équipement doit être installé et utilisé avec un minimum de 20 cm de distance entre la source de rayonnement et votre corps.

Japan Statements

Class B Statement

This is a Class B product based on the standard of the VCCI Council. If this is used near a radio or television receiver in a domestic environment, it may cause radio interference. Install and use the equipment according to the instruction manual.

この装置は、クラスＢ情報技術装置です。この装置は、家庭環境で使用することを目的としていますが、この装置がラジオやテレビジョン受信機に近接して使用されると、受信障害を引き起こすことがあります。
取扱説明書に従って正しい取り扱いをして下さい。　　　　　ＶＣＣＩ－Ｂ

Denan Power Cord Statement

Danger:

Please be careful of the following while installing the equipment:

- Please only use the connecting cables, power cord, and AC adapters shipped with the equipment or specified by Avaya to be used with the equipment. If you use any other equipment, it may cause failures, malfunctioning, or fire.
- Power cords shipped with this equipment must not be used with any other equipment. In case the above guidelines are not followed, it may lead to death or severe injury.

警告

本製品を安全にご使用頂くため、以下のことにご注意ください。

- 接続ケーブル、電源コード、AC アダプタなどの部品は、必ず製品に同梱されております添付品または指定品をご使用ください。添付品指定品以外の部品をご使用になると故障や動作不良、火災の原因となることがあります。
- 同梱されております付属の電源コードを他の機器には使用しないでください。上記注意事項を守らないと、死亡や大怪我など人身事故の原因となることがあります。

México Statement

The operation of this equipment is subject to the following two conditions:

1. It is possible that this equipment or device may not cause harmful interference, and
2. This equipment or device must accept any interference, including interference that may cause undesired operation.

La operación de este equipo está sujeta a las siguientes dos condiciones:

1. Es posible que este equipo o dispositivo no cause interferencia perjudicial y
2. Este equipo o dispositivo debe aceptar cualquier interferencia, incluyendo la que pueda causar su operación no deseada.

Power over Ethernet (PoE) Statement

This equipment must be connected to PoE networks without routing to the outside plant.

U.S. Federal Communications Commission (FCC) Statements

Compliance Statement

The changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

To comply with the FCC RF exposure compliance requirements, this device and its antenna must not be co-located or operating to conjunction with any other antenna or transmitter.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interferences that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designated to provide reasonable protection against harmful interferences in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interferences to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Radiation Exposure Statement

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment . This equipment should be installed and operated with minimum distance of 8 in or 20 cm between the radiator and your body. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

EU Countries

This device when installed complies with the essential requirements and other relevant provisions of the EMC Directive 2014/30/EU, Safety LV Directive 2014/35/EU, and Radio Equipment Directive 2014/53/EU. A copy of the Declaration may be obtained from http://support.avaya.com or Avaya Inc., 4655 Great America Parkway, Santa Clara, CA 95054–1233 USA.

WiFi and BT transmitter

- Frequencies for 2412-2472 MHz, transmit power: 19.84 dBm
- Frequencies for 5180-5240 MHz, transmit power: 22.5 dBm

General Safety Warning

- Use only the Avaya approved Limited Power Source power supplies specified for this product.
- Ensure that you:
  - Do not operate the device near water.
  - Do not use the device during a lightning storm.
  - Do not report a gas leak while in the vicinity of the leak.
  - For Accessory Power Supply - Use Only Limited Power Supply Delta Electronics Inc. model:ADP-30HR B ,output: 48Vdc, 0.66A.

Trademarks

The trademarks, logos and service marks (“Marks”) displayed in this site, the Documentation, Hosted Service(s), and product(s) provided by Avaya are the registered or unregistered Marks of Avaya, its affiliates, its licensors, its suppliers, or other third parties. Users are not permitted to use such Marks without prior written consent from Avaya or such third party which may own the Mark. Nothing contained in this site, the Documentation, Hosted Service(s) and product(s) should be construed as granting, by implication, estoppel, or otherwise, any license or right in and to the Marks without the express written permission of Avaya or the applicable third party.

Avaya is a registered trademark of Avaya Inc.

All non-Avaya trademarks are the property of their respective owners. Linux® is the registered trademark of Linus Torvalds in the U.S. and other countries.

Android, Google and Google Play are trademarks of Google Inc.

Device Usage Consent

By using the Avaya device you agree that Avaya, from time to time,may collect network and device data from your device and may use suchdata in order to validate your eligibility to use the device.

Contents

Chapter 1: Introduction

Purpose

This document provides checklists and procedures for installing, configuring, administering, and troubleshooting Avaya Vantage™ in an Avaya Aura® or IP Office environment. This document is primarily intended for implementation engineers and administrators.

This document does not cover third-party call control environments. For information about deploying Avaya Vantage™ in a third-party call control environment, see *Installing and Administering Avaya Vantage™ in a Third Party Call Control Environment*.

Change history

Issue	Date	Summary of changes
Release 2.0, Issue 1	July 2018	• Added the wired and wireless handset model names in Optional components for the Avaya Vantage device on page 23. • Removed references to the Kensington lock slot in Specifications on page 16. • Added the SNTP server configuration requirement in Initial setup checklist on page 26. • Updated Software and hardware requirements on page 27. • Added a new section Device deployment through Device Enrollment Services on page 34. • Added information about Device Enrollment Services support. • Added information about using Avaya Aura® Utility Services as a file server in File server setup on page 40. • Updated Parameter configuration for secure installation on page 68. • Updated the information about DNS server data configuration in Device configuration checklist on page 86. • Updated “About this task” in Setting up a file server address on page 89. • Added information about logging in as an administrator in Setting the Avaya Aura Device Services server address on page 90, Setting up an HTTP proxy and exception on page 91, and Configuring SIP server settings on page 92. • Updated Package names of CSDK-based applications on page 101. • Added a new chapter: Kiosk mode configuration on page 109. • Updated Restoring factory settings from the Settings menu on page 112. • Updated information about the local log level in Enabling verbose logging on page 114. • Mentioned the Gmail sharing limitation in Generating a debug report on page 114. • Updated Device upgrade process on page 121. • Updated the cause information in Firmware is corrupted on page 129. • Updated parameter descriptions throughout the appendix.

Table continues…

Issue	Date	Summary of changes
		• Removed information about unsupported configuration parameters.
Release 2.0, Issue 2	September 2018	• Added information about the Avaya Vantage™ K155 device. • Added Installing the K155 wireless module on page 48. • Updated Device deployment through Device Enrollment Services on page 34. • Updated the sections under Application setup on page 96. This chapter also includes information about installing applications from unknown sources. • Updated the sections under Device upgrade on page 121.

Table continues…

Issue	Date	Summary of changes
Release 2.0.1, Issue 3	March 2019	• Updated Specifications on page 16. • Added New in this release on page 24. • Updated Initial setup checklist on page 26. • Removed the “Server configuration” chapter. The information from that chapter is now in the “Initial setup and connectivity” chapter. • Added Deployment comparison between Avaya Aura and IP Office on page 31. • Updated Settings file worksheet on page 37. • Updated Connecting the Avaya Vantage device to the network on page 45. • Added Installation wizard considerations on page 46 and Setting up K165 or K175 using the Android installation wizard on page 46. • Added and updated information about security features in Chapter 4, “Security configuration”. • Updated Certificate management on page 58 and Certificate usage by applications on page 60. • Added Configuration priority for the CSDK-based telephony application on page 73. • Added Device configuration using Avaya Aura Device Services on page 85. • Added ACTIVE_CSDK_BASED_PHONE_APP parameter usage on page 100. • Added a new “Emergency call configuration” chapter. • Added a new “Directory search configuration” chapter. • Updated Debugging and monitoring options on page 113. • Updated Generating a debug report on page 114. • Updated Generating an audio report on page 116. • Added Copying debug report from internal flash memory on page 118. • Indicated that only TLS is supported in an Avaya Aura® environment. • Updated Automatic upgrades on page 125. • Added Scenario: Performing a scheduled upgrade on page 126. • Added Video is not available on page 130. • Added Screen lock is enabled but the swipe to unlock action does not prompt for the password on page 131.

Table continues…

Issue	Date	Summary of changes
		• Added Some applications do not support Android 8.1 on page 132. • Added Software distribution packages cannot be uploaded using the Utility Server on page 131. • Updated Documentation on page 134. • Updated parameter descriptions throughout Appendix A. • Added Appendix B, “Parameter configuration examples in the settings file”. • Minor rephrasing throughout the document.

Chapter 2: Avaya Vantage™ overview

Avaya Vantage™ is an Android™ device that combines the advantages of a customizable unified communications solution and a fully functional Android device. You can use the Avaya Breeze® Client SDK and custom applications to integrate communications into business processes using your Avaya Vantage™ device.

According to your business needs, you can choose from the following Avaya Vantage™ device variants:

- Avaya Vantage™ K175: Standard device with an 8-inch screen and an integrated camera for full access to video calls and conferences. You can cover the camera using a mechanical camera shutter.
- Avaya Vantage™ K165: Standard device with an 8-inch screen that does not include an integrated camera. You can still receive video from other users.
- Avaya Vantage™ K155: Device with a small 5-inch screen. The device also includes a physical keypad and an integrated camera, but it does not include a mechanical camera shutter.

Avaya Vantage™ works with Avaya Aura®, IP Office, and third-party call control environments.

Avaya Vantage™ supports the following Avaya Breeze® Client SDK-based telephony applications:

- Avaya Vantage™ Connect
- Avaya Equinox®

  Avaya Equinox® on Avaya Vantage™ only supports Avaya Aura®. IP Office and third-party call control deployments are not supported.

Related links

Specifications on page 16
Optional components for the Avaya Vantage device on page 23
New in this release on page 24

Specifications

The following table provides Avaya Vantage™ device specifications. Differences between device models are mentioned as applicable.

Feature	Specifications
Screen	Avaya Vantage™ K165 and K175: • Capacitive 8-inch touch screen. • Resolution: 800×1280 px. • 24-bits color depth. Avaya Vantage™ K155: • Capacitive 5-inch touch screen. • Resolution: 1280×720 px. • 24-bits color depth.
Internal storage	16 GB flash memory.
Memory	2 GB of RAM.
Operating system	Android 8.1.
Ethernet	• RJ45 primary Gigabit Ethernet (10/100/1000 Mbps) PoE LAN port. • RJ45 secondary Gigabit Ethernet (10/100/1000 Mbps) port for a computer.
Bluetooth	Bluetooth 4.1 supporting High Speed (HS), Low Energy (LE), and Enhanced Data Rate (EDR) functionality.
Supported Bluetooth profiles	• Headset Profile (HSP) in the Audio Gateway role. • Hands Free Profile (HFP) in the Audio Gateway role. • Human Interface Device Profile (HID) as the Bluetooth HID host for Bluetooth keyboards and mice. • Phone Book Access Profile (PBAP) in the Phone Book Server Equipment (PSE) and Phone Book Client Equipment (PCE) roles. • Advanced Audio Distribution Profile (A2DP) in the Source (SRC) role. • Object Push Profile (OPP) in the Push server and Push client roles.
Wi-Fi	• Wireless access point mode • Wi-Fi 802.11a/b/g/n • Wi-Fi 802.11ac on the 5 GHz band • Hotspot
Power	• Power over Ethernet EEE 802.3af (Class 3) or 802.3at (Class 4). The following is related to the power allocated from the single USB port on Avaya Vantage™: - Up to 100mA if using PoE 802.3af. - Up to 500mA if using PoE 802.3at. • Dedicated 48V AC power supply. Use Delta Electronics Inc. model ADP-30HR B, output 48V DC, 0.66A. Power allocation for the device USB port is up to 500mA.

Table continues…

Feature	Specifications
Headphone connectors	• 3.5 mm headset connector. ⚠ **Warning:** Avoid listening at a high volume on devices that are connected to the 3.5 mm connector to prevent hearing damage. • RJ9 headset connector for a high-quality wired headset.
USB port	USB 2.0 general purpose port. Avaya Vantage™ K165 and K175 have a Type-C USB port. Avaya Vantage™ K155 has a Type-A USB port. The maximum USB port power is 500mA when the device is connected to an AC adapter or a Class 4 PoE switch. When connected to a Class 3 PoE switch, the maximum power supply is 100mA. USB devices that require more power than 500mA are not supported.
Supported USB accessories	• USB flash drive for data transfer to and from the device. Support is limited to USB flash drives with up to 32 GB of storage. • Multi-port USB hub. • USB headset. • Mouse. • Keyboard. • Android devices. Support is only limited to charging the Android device. Data transfer is not supported. • USB camera.
Audio	Wideband audio available on all transducers, handset, headset, and handsfree. Supported codecs: • G.722 • G.711 • G.729 • G.726 • Opus

Table continues…

Feature	Specifications
Supported headsets	• Wideband Bluetooth headset. • 3.5 mm headset. • RJ9 headset. • USB headset. ⚠ **Warning:** To prevent hearing damage, avoid using a high volume setting.
Physical keys	Avaya Vantage™ K155 includes the following physical keys: • Android keys • Audio mute • Video mute • Headset • Speaker • Volume control • Keypad with the numbers 0 to 9, the asterisk (*), and the pound (#) key K165 and K175 include volume control keys.
Physical security	Security lock slot.
Stand	Adjustable stand for K165 and K175 that you can use either as a desk stand or a wall-mounted stand. Fixed-angle, detachable stand for K155.

Wireless handset specifications

A wired or wireless handset can optionally be used with Avaya Vantage™. The following are the supported specifications for the wireless handset:

Specification	Avaya Vantage™ wireless handset
System	Bluetooth 4.1
Bluetooth profiles	• Hands-free Profile 1.6 • Headset Profile
Battery	0.56 W, 3.7 V Li-Ion battery.
Battery charger	Li-Ion battery management system.
Charging system	Contactless charging system: inductive coupling to the cradle.

Table continues…

Specification	Avaya Vantage™ wireless handset
Controls	• Volume controls. • **Power** button. • **Mute** button.
Indicators	Blue LED indicator.
Operating environment temperature	0 to 49 °C (32 to 120 °F).
Battery charging environment temperature	0 to 40 °C (32 to 104 °F).

Wireless handset features

Range

The handset uses Bluetooth technology. As a Class 2 device, the handset nominal range is 10 meters. In practical use this range might vary depending on the environment. If the handset was out of range, the connection is reestablished automatically when the handset is back in range. When the handset is not in range for more than 22 minutes, it turns off to prevent battery discharge. If the handset was turned off, the connection is reestablished automatically when the handset is turned on and back in range.

Battery service life

If used carefully, the expected service life of the battery is several years. Although the battery capacity is diminished over time, in general it does not affect normal handset use.

Battery talk time

When fully charged, the new battery provides approximately 12 hours of talk time. You might need to charge the battery before the first use to achieve the full talk time. To prevent damage to the battery, the protection system does not allow the battery to discharge below a certain point. Avaya Vantage™ displays the battery charge level on the Notifications panel.

Battery standby time

When fully charged, the new battery provides approximately 60 hours of standby time. When the handset is not in range or Avaya Vantage™ is turned off for approximately 22 minutes, the handset is turned off automatically to save battery. To turn on the handset again, press the **Power** button for approximately 2 seconds. The handset is not turned on automatically even if it is returned to the cradle.

Battery charging

The handset supports a contactless charging system. To charge the handset, place it in its cradle. If the battery charge is low, the handset will notify you with warning tones. When you hear the warning tones, return the handset to its cradle to charge the battery.

The handset uses a Lithium-Ion battery with the battery management and protection system. The protection system allows to prevent the following situations:

- Overcharging.
- Over-discharging.

- Charging if the ambient temperature is higher than 40 °C (102 °F).

Note:

During an active call using the speaker, the device does not charge the handset to avoid audio disruption from the speaker.

Battery recharge time

The battery fully recharges in less than 3 hours. You do not need to fully discharge the battery before charging.

Battery disposal

At the end of the service life, remove the battery and deliver it to a battery recycling depot. Do not dispose of the battery in the normal waste stream.

Wireless handset LED indicator

The blue LED indicator shows the current state of the handset and is also used to indicate user actions.

Wireless handset state	LED indication	Notes
Wireless handset is in the Pairing mode.	LED flashes every 0.5 seconds.	Wireless handset exits the Pairing mode in 150 seconds.
Pairing completed successfully.	LED flashes 10 times at 0.1 seconds rate.	None
Wireless handset is used in a call	LED flashes 3 times every 3 seconds	None
Wireless handset is turned on and is connected to its base (Connected mode).	LED flashes 2 times every 5 seconds.	None
Wireless handset is trying to establish connection to its base (Linkback mode).	LED flashes every 0.5 seconds.	None
Wireless handset is out of range and is not trying to establish connection to its base (Standby mode).	LED flashes every 5 seconds.	Wireless handset is turned off after 22 minutes.
Incoming call.	LED flashes 3 times every 7 seconds.	None
Mute.	LED is on and flashes 3 times every 4 seconds.	None
Wireless handset has been turned on.	LED flashes 4 times.	None
Wireless handset has been turned off.	LED flashes 3 times.	None

Power button

The **Power** button provides the following functionality:

Action	How to use	Handset LED confirmation
Turn on the handset	Press and hold the button for 2.4 seconds	LED flashes 4 times
Turn off the handset	Press and hold the button for 3.2 seconds	LED flashes 3 times
Enable pairing mode	Press and hold the button for 10 seconds	LED flashes at 0.5 seconds rate

Camera specifications

The following Avaya Vantage™ devices include an integrated camera:

- K175
- K155

The Avaya Vantage™ K165 device does not include an integrated camera, but you can use an external USB camera. Regardless of whether you connect an external camera, you can still receive video from other devices.

Camera specifications for Avaya Vantage™ devices with an integrated camera

- Native full HD resolution of 2.1 megapixels (1920 x 1080 p).

  However, Avaya Vantage™ Connect and Avaya Equinox® do not utilize the full HD resolution.
- Fixed focus of 50 cm.
- Focus range of 28 cm to infinity.
- Field of view of 77.5 degrees.
- Anti-flicker filter of 50 or 60 Hz.
- Auto exposure.
- Auto white balance.
- Camera activity LED indicator.

  Avaya Vantage™ notifies users that the integrated camera is active by using the green LED indicator.

  The built-in LED indicator only works for the integrated camera, but not when you use an external camera.
- Mechanical privacy shutter for the K175 device.

External, third-party cameras

You can use an external USB camera with Avaya Vantage™. If you connect a USB camera to a K155 or K175 device, then the external camera is prioritized over the integrated camera. You cannot choose or switch between cameras.

For a list of supported cameras and other third-party components, see the Compatibility Matrix.

Note:

When Avaya Vantage™ is connected to an AC adapter or an 802.3at PoE (Class 4) switch, the maximum power allocated to the USB port is 500mA. When connected to an 802.3af PoE (Class 3) switch, the maximum power allocated to the USB port is 100mA. If the USB camera requires more power than 100mA and an 802.3at PoE switch is not available, connect the device to an external AC adapter.

Camera state configuration

A user can enable or disable the integrated camera and the external third-party USB camera, if connected to Avaya Vantage™, through the **Settings** menu. You can control whether users can have this capability by defining the CAMERASTAT parameter.

For more information about the CAMERASTAT parameter, see General phone functionality on page 141.

Environmental specifications

The following are the permissible environmental specification ranges for operating and storing the Avaya Vantage™ device:

Operating temperature of device	0 °C to 45 °C (32 °F to 113 °F)
Relative humidity	10% to 95% non-condensing
Storage temperature	-10 °C to 50 °C (14 °F to 122 °F)

Optional components for the Avaya Vantage™ device

You can use the following optional components with the Avaya Vantage™ device:

- J1B1 wired handset and cradle kit
- J2B1 wireless handset and cradle kit
- Replacement handset cord
- AC power adapter (international)
- AC power cord for regions
- Wireless module for K155

You must order these optional components separately.

New in this release

Avaya Vantage™ Release 2.0.1 introduces the following:

Application rebranding

The Avaya Vantage™ Basic application has been renamed to Avaya Vantage™ Connect.

Avaya Vantage™ Connect Release 2.0.1 is only supported with Avaya Vantage™ Release 2.0.1 firmware. Earlier Avaya Vantage™ firmware versions are not supported. You can only install Avaya Vantage™ Connect 2.0.1 on an Avaya Vantage™ device with Android 8.1.

Third-party call control deployments

Avaya Vantage™ and Avaya Vantage™ Connect now support third-party call control deployments. The third-party call control environment interoperates with the BroadSoft SIP management server. For more information about third-party call control deployments, see *Installing and Administering Avaya Vantage™ in a Third Party Call Control Environment*.

You can deploy Avaya Equinox® in an Avaya Aura® environment. It is not supported in IP Office or third-party call control environments.

Operating system support

Avaya Vantage™ now supports the Android 8.1 operating system (OS). This OS introduces look-and-feel changes to the UI and to some icons, including the applications icon on the Home screen.

Avaya Equinox® support on K155

You can use Avaya Vantage™ Connect or Avaya Equinox® on a K155 device.

LDAP directory support

Avaya Vantage™ now supports LDAP directory search. You can use Avaya Vantage™ Connect, Avaya Equinox®, or the standard Android Contacts area available on Avaya Vantage™ to search for LDAP directory contacts.

Configuration Verifier

A new option is available to verify that the device is properly configured. From the **Settings** menu, navigate to **Debugging options** > **Configuration verifier**.

Camera status

You can now enable or disable the camera from the **Settings** menu by navigating to **Sound & Audio & Camera** > **Camera settings** > **Camera status**.

Headset and camera support

Third-party USB cameras and USB headsets are supported. For more information about supported cameras and headsets, see the Compatibility Matrix.

Other installation and administration enhancements

Other enhancements in this release include:

- An installation wizard for K165 and K175 devices.
- Debug report enhancements.
- Identity certificate support for Avaya Breeze® Client SDK applications.

New in Android 8.1

Android 8.1 introduces a number of visual changes to the UI. The following is a summary of key changes for Avaya Vantage™:

- The **Settings** menu has been reorganized and the navigation has changed.
- The icon that is used to access all installed applications has changed from ⊞ to ^. Other application icons have also changed slightly.
- On K165 and K175, the Android navigation buttons grow dim if they are not in use for more than two seconds.
- The theme automatically changes to light or dark depending on the wallpaper colors.

Chapter 3: Initial setup and connectivity

Initial setup checklist

The following checklist describes tasks that you must perform to set up your Avaya Vantage™ device.

No.	Task	Notes	✔
1	Determine whether you are setting up the device in an environment with Device Enrollment Services.	You can install Avaya Vantage™ in the following ways: • With the Device Enrollment Services discovery process: The installation process begins after the phone is connected to a network. This is an automated process. For more information about installation with Device Enrollment Services, see Device deployment through Device Enrollment Services on page 34. • Without the Device Enrollment Services discovery process: The installation process includes a series of manual preconfiguration tasks as mentioned in this checklist.	
2	Review prerequisite information.	If you do not have all required software and hardware, Avaya Vantage™ might not function as expected. See Software and hardware requirements on page 27.	
3	Gather preinstallation data.	Preinstallation data is required to perform initial parameter setup and to create user accounts for Avaya Vantage™.	
4	Set up a DHCP server.	See DHCP server setup on page 39. This task is also applicable in a Device Enrollment Services environment.	

Table continues…

No.	Task	Notes	✔
5	Set up a file server.	See File server setup on page 40. This task does not apply in a Device Enrollment Services environment.	
6	Obtain the device firmware and `46xxsettings.txt` file, and save them on the file server.	See Downloading device firmware on page 42. For information about configuring parameters in the settings file, see Configuring parameters in the settings file on page 43. This task does not apply in a Device Enrollment Services environment. However, you need a settings file if the provisioning URL in Device Enrollment Services is set to `https://des.avaya.com`. For more information, see “Profile management” in *Using Avaya Device Enrollment Services to Manage Endpoints*.	
7	Configure SNTP servers.	Ensure that an SNTP server is reachable from the network where you are installing Avaya Vantage™ and the SNTPSRVR value is set with the SNTP server address. See SNTP server setup on page 43. This task is also applicable in a Device Enrollment Services environment.	
8	Connect Avaya Vantage™ to your network and, if required, to a power supply.	Connection to a power adapter is only required in certain conditions. For more information, see Power and network connectivity on page 44.	
9	(Optional) Install the wireless module on the K155 device.	For Wi-Fi and Bluetooth connectivity on the K155 device, install the wireless module on the device. On K165 and K175, the wireless capability is built-in. See Installing the K155 wireless module on page 48.	
10	(Optional) Connect a handset.	This step is required only if you want to use a handset with Avaya Vantage™. See Connecting a handset to Avaya Vantage on page 50.	

Software and hardware requirements

Ensure that you have the following before you install Avaya Vantage™.

Components and other software requirements

The following components must be installed and configured on your network. For more information about supported product releases, see Avaya Compatibility Matrix.

- Avaya Aura® or IP Office server components. You can deploy Avaya Vantage™ with one of the following:
  - The latest Avaya Aura® Release 6.3 Service Pack or a higher release.
  - IP Office Release 11.0.

    IP Office only supports Avaya Vantage™ Connect. Other clients are not currently supported in the IP Office environment.
- A DHCP server for providing dynamic IP addresses.

  In an environment without Device Enrollment Services, the DHCP server also provides the address details of the file server that the device uses.
- A file server for downloading software distribution packages and the settings files that contain the device configuration.

  You can use an external HTTP or HTTPS file server. In the Avaya Aura® environment, you can use the Utility Server, which is embedded in Avaya Aura® Device Services, as a file server. In the IP Office environment, the IP Office system can act as a file server for most phones. However, you must use an external HTTP or HTTPS file server for hosting and downloading software distribution packages for Avaya Vantage™ due to the size and number of files.
- Avaya Session Border Controller for Enterprise. This is an optional component.

  Tip:

  You must ensure that Avaya Session Border Controller for Enterprise is configured to accept the new SIP user agent for Avaya Vantage™ Connect. For more information, see Avaya Session Border Controller for Enterprise configuration on page 33.
- One of the following conference servers for audio and video conference:

  In Avaya Aura®: Avaya Aura® Conferencing or Scopia Elite MCU

  In IP Office: Avaya Scopia® XT Series

Hardware requirements

Ensure that the LAN:

- Uses Ethernet Category 5e or Ethernet Category 6 cabling.
- Has the 802.3at or 802.3af PoE specification.

If your network does not support the 802.3at or 802.3af PoE specification, you can use an AC power adapter, which you can order separately.

Related links

Avaya Aura configuration for Avaya Vantage on page 29

IP Office configuration for Avaya Vantage on page 30

Deployment comparison between Avaya Aura and IP Office on page 31

Avaya Session Border Controller for Enterprise configuration on page 33

Avaya Aura® configuration for Avaya Vantage™

When Avaya Vantage™ is deployed in an Avaya Aura® environment, you can configure the following servers:

- Avaya Aura® System Manager: To create users for Avaya telephony applications, such as Avaya Equinox® and Avaya Vantage™ Connect and to use Personal Profile Management (PPM).
- Avaya Aura® Device Services: To use Unified Login to log in to Avaya Vantage™ and to manage contacts.

This does not apply if your deployment uses IP Office.

Avaya Aura® System Manager configuration

Configure the Avaya Aura® System Manager server to:

- Create users for telephony applications installed on Avaya Vantage™, such as Avaya Equinox® and Avaya Vantage™ Connect.
- Manage public contacts and shared addresses.
- Use Personal Profile Management (PPM).

For video calls, you must also ensure that video is enabled in the System Manager user configuration.

For information about Avaya Aura® System Manager installation and administration, see:

- *Deploying Avaya Aura® System Manager on System Platform*
- *Administering Avaya Aura® System Manager*

PPM configuration

Personal Profile Management (PPM) is a service provided by Avaya Aura® System Manager. PPM is not supported if you do not use Avaya Aura® environment.

Avaya Vantage™ uses PPM to:

- Obtain emergency numbers.
- Obtain configuration parameters that impact the Avaya Vantage™ platform.
- Back up and restore specific user configuration settings, such as language or time format settings. When the user logs in to any registered device, PPM restores user data on the device.

CSDK-based applications, such as Avaya Vantage™ Connect, use PPM for the following purposes:

- For contact management, such as retrieving and updating of PPM or Avaya Aura® contacts.
- To obtain emergency numbers and Differentiated Service Code Point (DSCP) values.
- To obtain application configuration parameters.

Until SIP registration succeeds, Avaya Vantage™ uses IP addresses specified in SIP_CONTROLLER_LIST for the getInitialEndpointConfiguration request. If the PPM server is unreachable, Avaya Vantage™ tries the next IP address from SIP_CONTROLLER_LIST. Similarly, after SIP registration is complete, Avaya Vantage™ uses IP addresses from SIP_CONTROLLER_LIST to perform all other PPM requests. If the PPM server is unreachable, Avaya Vantage™ tries the next IP address from SIP_CONTROLLER_LIST.

PPM is disabled if the value of ACTIVE_CSDK_BASED_PHONE_APP is “” (null string), or if the application specified in ACTIVE_CSDK_BASED_PHONE_APP is not installed.

Avaya Aura® Device Services configuration

Configure the Avaya Aura® Device Services server to:

- Use Unified Login credentials for logging in to Avaya Vantage™.
- Manage contacts.

For information about Avaya Aura® Device Services installation and administration, see:

- *Deploying Avaya Aura® Device Services*
- *Administering Avaya Aura® Device Services*

You can also use the Utility Server, which is embedded in Avaya Aura® Device Services, as a file server. For information about migrating from Avaya Aura® Utility Services to the new Utility Server, see “Migrating Utility Server data” in *Administering Avaya Aura® Device Services*.

IP Office configuration for Avaya Vantage™

To deploy Avaya Vantage™ in an IP Office environment, the following requirements apply:

- IP Office Server Edition, IP Office Select, or IP500 V2 system running IP Office Release 11.0.
- A separate HTTP or HTTPS file server to host the Avaya Vantage™ firmware and APKs.

For more information, see the following documents:

- *Avaya IP Office™ Platform Solution Description* and *Avaya IP Office™ Platform Feature Description* for general information about IP Office.
- *Avaya IP Office™ Platform SIP Telephone Installation Notes* for information about configuring the IP Office system for Avaya Vantage™.
- *Administering Avaya IP Office™ Platform with Manager* and *Administering Avaya IP Office™ Platform with Web Manager* for information about administering IP Office using IP Office Manager or IP Office Web Manager.

This information does not apply to Avaya Aura® deployments.

Deployment comparison between Avaya Aura® and IP Office

Deployment option or feature	Options with Avaya Aura®	Options with IP Office
File server functionality	You can use: • An external HTTP or HTTPS file server. • Utility Server, which is embedded in Avaya Aura® Device Services, as a file server. For information about: - The Utility Server web interface, see “Working with the Utility Server” in *Administering Avaya Aura® Device Services*. - Migrating from Avaya Aura® Utility Services to the Utility Server in Avaya Aura® Device Services, see “Migrating Utility Server data” in *Administering Avaya Aura® Device Services*.	You can use: • An external HTTP or HTTPS file server. • The IP Office system as the file server for the settings files and an external HTTP or HTTPS file server to host the Avaya Vantage™ software distribution packages. An external HTTP or HTTPS file server is required because the size of the Avaya Vantage™ software distribution packages exceeds the maximum file capacity of IP Office. In the IP Office cloud environment, Google bucket is also supported for hosting firmware packages.

Table continues…

Deployment option or feature	Options with Avaya Aura®	Options with IP Office
Settings file for device configuration	You can manually define configuration parameters in the `46xxsettings.txt` file. Automatic configuration is also available through Avaya Aura® Device Services.	When using IP Office as a file server along with an external HTTP or HTTPs server, you can use the automatically generated `46xxsettings.txt`. Avaya recommends that you do not modify the automatically generated settings file. To define additional configuration parameters or to override the configuration settings from the automatically generated settings file, you can use the `46xxspecials.txt` file. If the `46xxspecials.txt` file is added to the IP Office system SD card, IP Office then automatically adds the `GET 46xxspecials.txt` line at the end of the `46xxsettings.txt` file. The query directs the device to read the settings in the `46xxspecials.txt` file. Alternatively, you can enable querying of the `46xxspecials.txt` file using the NoUser Source Number (NUSN) `ENABLE_46XXSPECIALS_TXT`.
Avaya CSDK telephony applications [1]	Both Avaya Vantage™ Connect and Avaya Equinox® are supported.	Only Avaya Vantage™ Connect is supported.

Table continues…

[1] A feature matrix for Avaya Vantage™ Connect is available in *Using Avaya Vantage™ Connect*.

Deployment option or feature	Options with Avaya Aura®	Options with IP Office
Contact management	You can use Personal Profile Management (PPM) or Avaya Aura® Device Services for managing enterprise contacts. Avaya Vantage™ Connect and Avaya Equinox® support search for enterprise contacts.	You can manage enterprise contacts as IP Office system contacts and hunt group contacts across small community network (SCN). You can also manage external contacts in LDAP and HTTP directories configured on IP Office. You must define the USER_STORE_URI parameter for retrieving IP Office contacts. Avaya Vantage™ Connect and the Android Contacts area support contact search through the centralized IP Office system directory for enterprise contacts, and the personal directory for the user's personal contact. ✚ **Tip:** IP Office directory contacts are only available when the device has connectivity to IP Office on a public network.

For more information about deploying Avaya Vantage™ in the IP Office environment, see *Avaya IP Office™ Platform SIP Telephone Installation Notes*.

Avaya Session Border Controller for Enterprise configuration

The Avaya Session Border Controller for Enterprise (Avaya SBCE) is a network device that controls real-time session traffic between networks. Avaya SBCE manages the endpoints or user agents that are authorized to use a network. If you plan to use Avaya Vantage™ Connect in networks controlled by Avaya SBCE, you must configure the Avaya Vantage™ Connect SIP user agent on Avaya SBCE.

An Avaya Vantage™ Connect SIP user agent uses the `Avaya Vantage Connect/<Application Version> (<Build number>;ro.avaya.product.model;<CSDK version>)` format, where:

- `<Application Version>` is the version of the Avaya Vantage™ Connect application.
- `<Build number>` is the build number of the Avaya Vantage™ Connect application. For example: `0302`
- `ro.avaya.product.model` is the MODEL4 value.
- `<CSDK version>` is the Avaya Breeze® Client SDK version.

The following is an example of the configured Avaya Vantage™ Connect SIP user agent: `Avaya Vantage Connect/2.0.1.0 (0302;K175D02A;261.0.20)`.

In an existing deployment, if you are upgrading the firmware from release 2.0.0.1 or earlier to release 2.0.1 with Avaya Vantage™ Connect, you might need to modify the existing user agent rules to authorize the use of Avaya Vantage™ Connect. If an existing rule is defined in a generic manner that can authorize the Avaya Vantage™ Connect user agent, for example a partial string match to `Avaya Vantage`, then you need not modify the rule.

For more information about configuring user agents on Avaya SBCE, see *Administering Avaya Session Border Controller for Enterprise*.

In the IP Office environment, with Avaya SBCE resiliency, remote workers are not supported if networks are controlled by Avaya SBCE and the SIP controller is defined in an IP address format instead of an FQDN format.

Device deployment through Device Enrollment Services

Device Enrollment Services

Device Enrollment Services provides a mechanism for Avaya endpoints to be securely authenticated and redirected to the provisioning server. The DNS address of Device Enrollment Services is hard coded to the device firmware. After you connect the out-of-the-box device to the network, Device Enrollment Services redirects the device to the provisioning server and then the installation procedure begins automatically.

For the Device Enrollment Services environment to work, the service provider or enterprise administrator must configure a provisioning server in Device Enrollment Services for the device's MAC address. Alternatively, you can use a numeric enrollment code. For more information about Device Enrollment Services, see *Using Avaya Device Enrollment Services to Manage Endpoints*.

Avaya Vantage™ deployment through Device Enrollment Services

For the Avaya Vantage™ device to attempt Device Enrollment Services discovery, ensure that:

- DES_STAT is set to 2 in the DHCP site-specific option number (SSON), which is 242 by default.
- FILE_SERVER_URL, HTTPSRVR, and TLSSRVR are not provided by DHCP or LLDP.
- The file server address is not configured manually in the **Settings** menu.

When these conditions are met, the device attempts to communicate with Device Enrollment Services during startup to obtain the provisioning server address. If the device was not associated with a customer site and activated in Device Enrollment Services, then Avaya Vantage™ prompts for a numeric enrollment code when it is started for the first time. This code is generated through Device Enrollment Services.

After the startup process is completed successfully through Device Enrollment Services, the Avaya Vantage™ device does not attempt Device Enrollment Services discovery on subsequent reboots. The Avaya Vantage™ device reattempts Device Enrollment Services discovery only if the administrator performs one of the following while DES_STAT is set to 2:

- Resets the device to its factory defaults.

- Activates the service from **Settings** > **Network & Internet** > **More** > **Auto Provisioning**.

The administrator can disable the Device Enrollment Services discovery for Avaya Vantage™ by setting DES_STAT to 0 or 1 in DHCP SSON.

Preinstallation data

System Manager user profile worksheet

To create a user profile on System Manager for Avaya Vantage™ Connect or Avaya Equinox® in the Avaya Aura® environment, you must have the following information:

Identity tab

- **First Name**
- **Last Name**
- **Login Name**
- **Password**
- **Localized Display Name**
- **Endpoint Display Name**
- **Language Preference**
- **Time Zone**

For video calls, you must also ensure that video is enabled in the System Manager user configuration.

Communication Profile tab

Section	Field
Communication Profile section	**Communication Profile Password**
Communication Address section	**Handle Types** are for: • **Avaya SIP** • **Avaya E.164** • **Avaya Presence/IM** if Presence is used
	Handle Fully Qualified Address
Session Manager Profile section	**Primary Session Manager**
	Secondary Session Manager
	Origination Application Sequence
	Termination Application Sequence

Table continues…

Section	Field
	Survivability Server
	Home Location
CM Endpoint Profile section	**System**
	Profile Type
	Extension
	Use Existing Endpoints
	Endpoint Template
	Voice Mail Number
Messaging Profile section	**System**
	Mailbox Number
	Template
	Password
	Delete Subscriber on Unassign of Subscriber from User or on Delete User

IP Office SIP user and extension settings

Use IP Office Manager or IP Office Web Manager to configure a SIP user and then configure the extension settings for the user. For information about the key settings to be configured, see *Avaya IP Office™ Platform SIP Telephone Installation Notes* for Release 11.0.

DHCP settings worksheet

You need the following information for dynamically assigning IP addresses to Avaya Vantage™ devices and for the initial configuration that is performed through DHCP options. In the following table, populate the values for your deployment:

Option or parameter	Your value
Range of IP addresses	
DHCP options	
FILE_SERVER_URL	
HTTPSRVR	
TLSSRVR	

Important:

- If you are installing the device in a Device Enrollment Services environment, where Device Enrollment Services redirects the device to the file server, do *not* define the parameters FILE_SERVER_URL, HTTPSRVR, or TLSSRVR.

- If the FILE_SERVER_URL parameter is defined, Avaya Vantage™ ignores HTTPSRVR and TLSSRVR.

Settings file worksheet

In the following tables, populate the parameter values suitable for your deployment. These system-wide parameters that you must configure in the `46xxsettings.txt` file are generally required for each Avaya Vantage™ device.

Note:

In the IP Office environment with IP Office as the file server, most of the following parameters are generated automatically. However, TIMEZONE and ACTIVE_CSDK_BASED_PHONE_APP are not part of the automatically generated `46xxsettings.txt` file. ACTIVE_CSDK_BASED_PHONE_APP is part of the automatically generated upgrade file. You can configure additional parameters and override parameters in the automatically generated configuration files using the `46xxspecials.txt`.

For detailed description of the parameters, see Appendix A, “Supported configuration parameters”.

For some parameter configuration examples, see Appendix B, “Parameter configuration examples in the settings file”.

System settings

Parameter	Your value
FILE_SERVER_URL	
TRUSTCERTS	
ADMIN_PASSWORD or PROCPSWD	
ISO_SYSTEM_LANGUAGE	
ADMINTIMEFORMAT	
TIMEZONE	
COUNTRY	
PUSH_APPLICATION	
ACTIVE_CSDK_BASED_PHONE_APP	
USER_INSTALL_APPS_GOOGLE_PLAY_STORE	

The ACTIVE_CSDK_BASED_PHONE_APP parameter is for environments with Avaya Vantage™ Connect or Avaya Equinox® as the Avaya Breeze® Client SDK-based application. Do *not* set the PUSH_APPLICATION and ACTIVE_CSDK_BASED_PHONE_APP parameters through Avaya Aura® Device Services.

Note:

- IP Office only supports Avaya Vantage™ Connect on Avaya Vantage™. The current IP Office release does not support Avaya Equinox® on Avaya Vantage™.

- In Release 2.0, the K155 device only supports Avaya Vantage™ Connect. In Release 2.0.1, K155 supports Avaya Equinox®.

Network settings

Parameter	Your value
DNSSRVR	
DOMAIN	
SNTPSRVR	

Important:

You must configure SNTPSRVR if the default Avaya and NIST SNTP servers are not accessible over the internet. Specifying an SNTPSRVR value that is reachable from your network is essential for SIP registration and initial device setup when you start up Avaya Vantage™.

SIP interface settings

Parameter	Your value	Notes
SIPDOMAIN		
SIP_CONTROLLER_LIST		
SIMULTANEOUS_REGISTRATIONS		For the IP Office environment, set this parameter to 1.

Server environment settings

Parameter	Your value	Notes
ENABLE_AVAYA_ENVIRONMENT		For the IP Office and third-party call control environments, set this parameter to 0. For the Avaya Aura® environment, accept the default value, 1.
ENABLE_IPOFFICE		For the IP Office environment, set this parameter to 1. For the Avaya Aura® and third-party call control environments, accept the default value, 0.
DISCOVER_AVAYA_ENVIRONMENT		For the IP Office and third-party call control environments, set this parameter to 0. For the Avaya Aura® environment, accept the default value, 1.
USER_STORE_URI		Required parameter for the IP Office environment only. Specify the URI to be used for backup and retrieval of IP Office contacts.

Related links

[Device configuration using a 46xxsettings.txt settings file](#) on page 82

DHCP server setup

Set up a DHCP server to:

- Dynamically assign IP addresses to Avaya Vantage™ devices.
- Provision device and site-specific configuration parameters through various DHCP options.

In a Device Enrollment Services environment, the DHCP server is mainly used to assign IP addresses to the devices. The device receives the file server address from Device Enrollment Services.

Setting up a DHCP server

About this task

Use this procedure to set up a third-party DHCP server. Avaya Vantage™ supports any DHCP server software as long as the software is correctly configured.

In the IP Office environment, you can use either the IP Office system as the DHCP server or a third-party DHCP server. For more information, see *Avaya IP Office™ Platform SIP Telephone Installation Notes*.

Before you begin

Get the following from your server software vendor:

- All required licenses for the server software.
- Instructions for server software installation and configuration.

Procedure

1. Install the DHCP server software according to the server software vendor’s instructions.
2. Create a DHCP scope to define the range of IP addresses to use.

   You can define different scopes from different types of devices.
3. Configure the required DHCP options.

   The DHCP site-specific option that you configure must match the Site Specific Option Number (SSON) that Avaya Vantage™ uses. The default SSON that Avaya Vantage™ uses is 242.

File server setup

A file server is an HTTP or HTTPS server that is used for downloading and storing software distribution packages, `K1xxSupgrade.txt` and `46xxsettings.txt` files that contain most of the device configuration, and other files required for Avaya Vantage™ devices. When Avaya Vantage™ starts or restarts, it checks for software updates and settings files on the specified file servers. Therefore the file server address is the most important configuration for the device deployment.

Important:

While setting up a file server for Avaya Vantage™, you must take into consideration the following:

- Memory space available on the file server.
- Size of the extracted software distribution packages, that include the firmware and `.apk` files.

  The size of the software distribution package that is meant for K155, K165, and K175 combined is approximately 1 GB.
- Size of additional application `.apk` files you want to install.
- Size of other media files that you might use, such as ringtones and wallpapers.

File server address configuration

You can provide file server addresses using one of the following methods:

- DHCP
- LLDP
- The **Settings** menu on the Avaya Vantage™ device
- Device Enrollment Services
- `46xxsettings.txt` settings file
- Avaya Aura® Device Services for Avaya Aura®

You can also provide this information using the installation wizard on K165 and K175 devices.

In a Device Enrollment Services environment, Device Enrollment Services redirects the device to the file server to be used. The service provider or enterprise administrator configures the file server in Device Enrollment Services for the device. Device Enrollment Services supports a file server URL in either the FQDN or IP address format. While the file server can be an HTTP or HTTPS server, Avaya recommends that you use HTTPS with an FQDN. For more information about Device Enrollment Services, see *Using Avaya Device Enrollment Services to Manage Endpoints*.

The FILE_SERVER_URL parameter is used to assign the file server address. For LLDP, you can specify the file server address in the file server TLV.

You can also specify the file server address using the following parameters:

- HTTPSRVR, HTTPDIR and HTTPPORT parameters for an HTTP server.

- TLSSRVR, TLSDIR and TLSPORT parameters for an HTTPS server.

If the FILE_SERVER_URL parameter is defined, Avaya Vantage™ ignores all other parameters.

Utility Server as the file server

In the Avaya Aura® environment, you can use the Utility Server as a file server. The Utility Server is now embedded in Avaya Aura® Device Services. For information about migrating from the legacy Avaya Aura® Utility Services to the new Utility Server, see “Migrating Utility Server data” in *Administering Avaya Aura® Device Services*.

You must include the root CA certificate of the Utility Server identity certificate in TRUSTCERTS.

The Utility Server web interface does not support upload of zip files larger than 800 MB. If you have problems uploading the Avaya Vantage™ software distribution package file, see Software distribution packages cannot be uploaded using the Utility Server on page 131.

IP Office system as the file server

In the IP Office environment, Avaya Vantage™ can accept settings files, including `K1xxSupgrade.txt` and `46xxsettings.txt`, from the IP Office system as a file server. However, Avaya Vantage™ requires an external HTTP or HTTPS file server for hosting and downloading software distribution packages due to the size and number of files. The address of the IP Office system is used as the file server address for the device. The IP Office system then redirects the request for firmware files to the configured HTTP or HTTPS server IP address on the IP Office system. In this dual server configuration mode, you get the option of using the auto-generated `46xxsettings.txt` file.

For more information about setting up the file server in the IP Office environment, see *Avaya IP Office™ Platform SIP Telephone Installation Notes*.

Setting up a file server

About this task

Use this procedure to configure an HTTP or HTTPS file server. The file server is used to download and store distribution packages and settings files for Avaya Vantage™.

Avaya Vantage™ supports any HTTP or HTTPS server software as long as the software is correctly configured.

Before you begin

Get the following from your server software vendor:

- All required licenses for the server software.
- Instructions for server software installation and configuration.

Procedure

1. Install the HTTP or HTTPS server software according to the server software vendor’s instructions.

   For HTTPS connections, ensure that TRUSTCERTS includes the root CA certificate of the HTTPS file server identity certificate.

After trusted certificates are downloaded, then the HTTPS file server identity certificate is verified. You must use Device Enrollment Services for secure redirection or use staging to download trusted certificates in a secure environment first.

2. Download the software distribution package and the `46xxsettings.txt` settings file.
3. Extract the distribution package and save the extracted files and the `46xxsettings.txt` settings file on the file server.

Software distribution package size

Avaya provides three software distribution packages for Avaya Vantage™ devices. The following table provides the distribution package details and their approximate sizes:

Software distribution package for	Approximate size
K155, K165, and K175 combined	1 GB
K165 and K175 (This package is only meant for Utility Server)	785 MB
K155 (This package is only meant for Utility Server)	475 MB

Downloading device firmware

Before you begin

Ensure that your file server is set up.

Procedure

1. Go to the Avaya Support website.
2. In the **Enter Product Name** field, enter `Avaya Vantage`.
3. In the **Choose Release** field, click the required release number.

   The site displays a list of the latest downloads.

Do the following to download a firmware package:

4. In the Downloads section, click the entry with the required firmware version.

   The site displays the Downloads page with the information about the selected firmware version and the list of package files available for downloading.
5. In the **File** field, click the zipped file and save the file on the file server.
6. Extract the zipped file and save it at an appropriate location on the file server.

Do the following to download the `46xxsettings.txt` file:

7. In the Downloads section, click the entry with the `46xxsettings.txt` file.

The site displays the Downloads page with information about the settings file software version and the link for downloading the settings file.

8. In the **File** field, click the `46xxsettings.txt` file link, and save the file at an appropriate location on the file server.

Configuring parameters in the settings file

About this task

Use this procedure to modify the settings file with appropriate values to provision the device configuration parameters.

Procedure

1. On the file server, go to the location where the `46xxsettings.txt` file is downloaded.
2. Open the `46xxsettings.txt` file in a text editor.
3. Set the required parameters as the following:

   ```
   SET <parameter_name> <parameter_value>
   ```

   For more information about the supported configuration parameters, see “Appendix A, Supported configuration parameters”.
4. Save the `46xxsettings.txt` file.

Result

On the next polling period, Avaya Vantage™ downloads the file and applies the settings.

Related links

Customization of the settings file on page 82
User group configuration in the settings file on page 84

SNTP server setup

Access to an SNTP server for time synchronization is essential for SIP registration and initial device setup when you start Avaya Vantage™. Avaya Vantage™ with an Avaya Breeze® Client SDK application must have time input through an SNTP server for successful SIP registration and login.

The SNTPSRVR parameter provides the SNTP server addresses to Avaya Vantage™. You can configure the SNTPSRVR parameter using one of the following options. The options are listed in order of precedence, from the lowest to highest priority:

- DHCP option 42.
- `46xxsettings.txt` file.
- Avaya Aura® Device Services configuration or the **Settings** menu.

The value of the SNTPSRVR parameter can be a comma-separated list of SNTP server addresses, which can be IP addresses or fully-qualified domain names. The parameter has the following default value:

```
“0.avaya.pool.ntp.org,1.avaya.pool.ntp.org,2.avaya.pool.ntp.org,
3.avaya.pool.ntp.org,129.6.15.28,132.163.97.1”
```

If you cannot reach the default SNTP servers, you must update the SNTPSRVR value to point to one or more SNTP servers that are accessible from your network.

If no SNTP server is available on your network, you can set up your own SNTP servers. Configure your SNTP servers according to the vendor’s configuration instructions. You must ensure that the SNTP server is reachable from the network where you are installing Avaya Vantage™.

Power and network connectivity

The following sections describe how to power up your Avaya Vantage™ device and connect it to the network.

Power management

Avaya Vantage™ can receive power from the following sources:

- 802.3af PoE (Class 3)
- 802.3at PoE (Class 4)
- 48 Vdc power supply

If you use the 802.3at networking switch or the power adapter, Avaya Vantage™ USB port delivers up to 500mA. If you use the 802.3af networking switch, Avaya Vantage™ USB port delivers up to 100mA.

You can use a 48-volt, 30-watt power adapter to power Avaya Vantage™ in the following conditions:

- You are using Wi-Fi to connect to the network instead of using a PoE networking switch port.
- The networking switch port does not support the 802.3af or 802.3at PoE specification.
- The device requires more power than a 802.3af PoE networking switch port can provide, and 802.3at PoE port is unavailable. For example, a USB device that requires more than 0.5 watts is connected to Avaya Vantage™ and only 802.3af PoE ports are available. In this case, you must connect Avaya Vantage™ to a power adapter.

You must purchase the power adapter separately.

If Avaya Vantage™ is connected to both a 48 Vdc power supply and a PoE networking switch port and you disconnect one of the power sources, then the following occurs:

- If you disconnect the power adapter, Avaya Vantage™ reboots. If the networking switch supports the 802.3at or 802.3af specification, Avaya Vantage™ continues to work after the reboot.
- If you disconnect the networking switch, Avaya Vantage™ continues to work without a reboot.

If Avaya Vantage™ is already connected to a PoE networking switch and you connect the power adapter to the device, Avaya Vantage™ continues to work without a reboot.

Connecting the Avaya Vantage™ device to the network

About this task

Use this procedure to install your Avaya Vantage™ device on your network. The procedure also describes how to go through the Device Enrollment Services discovery process for automatic setup of the device.

Before you begin

Ensure that the required phone hardware is set up.

If you are using Device Enrollment Services and Device Enrollment Services is configured to use a numeric enrollment code, get the numeric enrollment code.

If installing without Device Enrollment Services discovery, ensure the following:

- Required phone hardware is set up.
- File server is configured.
- Firmware package is downloaded and extracted to the file server.
- The settings file is configured for the deployment environment.

Procedure

1. **(Optional)** Connect a power adapter to the 48-V DC power connector at the back of the device and plug the power adapter into an electrical outlet if:

    - Your network does not support the 802.3at (PoE) or 802.3af (PoE) injector specification.
    - You want to use a Wi-Fi connection.

2. To use a wired Ethernet connection, plug one end of an Ethernet cable into the LAN port at the back of Avaya Vantage™ and the other end into an available LAN port on your network.

    Avaya Vantage™ powers up and starts to initialize.

    If configured, the device gets the file server address from DHCP or LLDP. Otherwise, it attempts Device Enrollment Services discovery and one of the following occurs:

    - Device Enrollment Services provides the file server address to the device automatically. In this case, no further action is required from you.

- You must enter a numeric enrollment code for Device Enrollment Services to redirect the device to the file server.

3. **(Optional)** If prompted, enter the 8-digit numeric enrollment code.

   The numeric enrollment code is generated on the Device Enrollment Services web interface. After you enter the code, Device Enrollment Services provides the file server address. If you do not enter the enrollment code and tap **Cancel** instead, the Device Enrollment Services process is cancelled and you must configure the device manually.

Result

After the device receives the configuration file server address, it starts downloading the required configuration files and updated firmware files from the file server. When there is a software image upgrade, the process can take approximately 1 hour. If there is no software upgrade, the startup process typically takes between 4 to 20 minutes. After the configuration is complete, the device displays a background, which indicates that you can now log in and use the device.

If the device does not receive the file server configuration from Device Enrollment Services, the Android installation wizard is displayed to help you set up your K165 and K175 devices. The wizard is not available on K155 devices.

Installation wizard considerations

When you start a new device for the first time or perform a factory reset, the K165 and K175 devices present an installation wizard to help you set up your device. If the key configuration for the device is already completed, then the installation wizard is not displayed.

If the file server and ACTIVE_CSDK_BASED_PHONE_APP are configured and the Avaya Breeze® Client SDK application is installed, then the installation wizard is not displayed. In this case, you can log in to the device right away using your SIP or enterprise user credentials.

If automatic redirection to the file server through Device Enrollment Services discovery is successful, the installation wizard is not displayed.

If the file server is not configured using DHCP, LLDP, or Device Enrollment Services discovery, then the installation wizard can help you to complete the file server configuration.

Setting up K165 or K175 using the Android installation wizard

About this task

When you power up a new K165 or K175 device for the first time or perform a factory reset, and the device configuration is not complete, the Android installation wizard is displayed to help you set up your K165 or K175 device.

For more information about when the installation wizard is displayed, see Installation wizard considerations on page 46.

Note:

The installation wizard is not currently available on K155 devices. On K155, you can configure the file server manually from **Settings** > **Network & Internet** > **More** > **File Server**.

Procedure

1. On the Welcome screen, choose your preferred language and tap **Start**.
2. If prompted, on the Network Mode Selection screen, choose how you want to connect to the network.
3. **(Optional)** If you set the network mode to Wi-Fi, do the following to connect to a Wi-Fi network:
    a. On the Connect to Wi-Fi screen, select the required network from the available Wi-Fi networks.
    b. For a network that requires authentication, enter the network credentials and select the appropriate CA certificate option from the following:
        - **Use system certificates**
        - **Do not validate**
        - **List of trusted certificates installed on Wi-Fi certificate repository**, if available

          On a new device, no trusted certificates are installed in the repository, so you cannot select this option.

    c. Tap **Connect**.
4. On the Copy apps & data screen, choose one of the following:
    - **Copy your data**: Use this option to restore user-defined device configuration, such as language settings and application data, which is backed up using a personal account, such as a Google account.
    - **Set up as new**: Use this option to set up the device as a new device.
5. Follow the prompts on the wizard screens to set up Google accounts and services.
6. On the Avaya Vantage Configuration screen, verify and update the following configuration information as needed:
    - **File Server**: The configuration file server address. If you want the device to point to a different file server, modify the **File Server** value.

      You can also configure the file server manually from **Settings** > **Network & Internet** > **More** > **File Server**.
    - **Credentials**: User name and password that the device uses for file server authentication. Provide these credentials if the file server requires HTTP authentication.
    - **GROUP**: The user group identifier for a specific configuration set for the device. Enter the required user group identifier from the configuration sets available in the settings file.
    - **File Server Configuration Source**: The source through which the device receives the file server address. This field is ready-only.

7. Tap **Advanced** to view additional configuration information.

   The device gets the following configuration information through DHCP and the values are auto-populated in these read-only fields:

   - **DHCP Site Specific Option Number (SSON)**: The DHCP option to set site-specific configuration parameters. In most cases, DHCP option 242 is displayed.
   - **DNS Server** and **DNS Domain**: The DNS server address and domain used in your organization.

8. Tap **Next**.

Result

The device starts downloading the required configuration files and updated firmware files from the file server. The device might restart as it loads the updated firmware files. When there is a software image upgrade, the process can take approximately 1 hour. If there is no software upgrade, the startup process typically takes between 4 to 20 minutes. After the configuration is complete, the device displays a background, which indicates that you can now log in and use the device.

Installing the K155 wireless module

About this task

Use this procedure to install the wireless module on the K155 device for Wi-Fi and Bluetooth connectivity. The wireless module is an optional component and you can order this module separately.

This procedure is not applicable for the K165 and K175 devices.

Before you begin

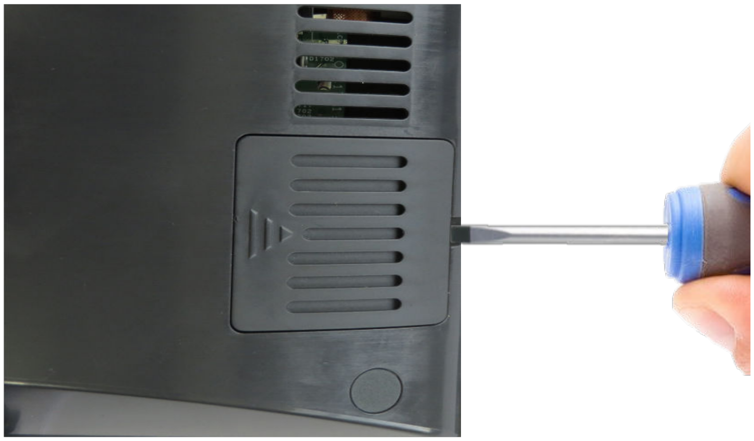
Get a flat screwdriver that fits into the opening of the module panel.

Ensure that the K155 device is not connected to a power source.

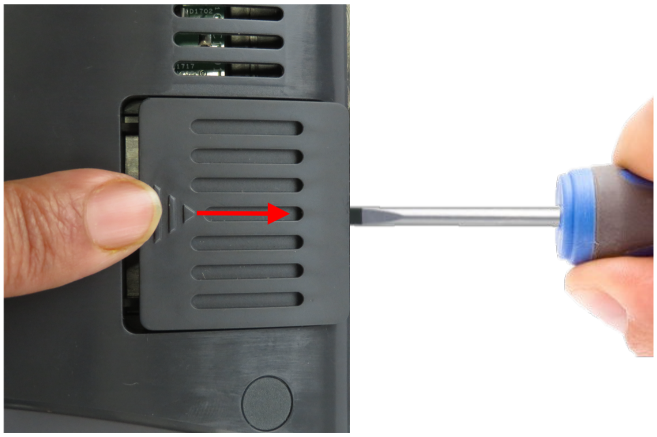
Procedure

1. Insert the screwdriver into the opening of the module panel to release the latch.

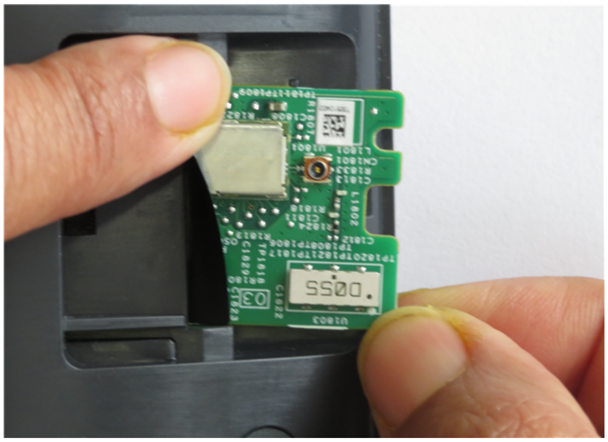
   Do not pry open the panel.



2. To remove the module panel, slide the panel out in the direction of the arrow.



3. Insert the wireless module into the slot.



4. Slide the module panel inward to close it.

   You do not need a screw to fasten the module. The inside of the module panel has a small protrusion that keeps the module in place.

Configuring Wi-Fi from the Settings menu

About this task

Use this procedure to configure a Wi-Fi network using the **Settings** menu on the device.

Procedure

1. Tap **Settings**.
2. Tap **Network & Internet** > **Network mode**.
3. Select **Wi-Fi**.
4. On the Network & Internet screen, tap **Wi-Fi**, and choose the required network.
5. For a network that requires authentication, enter the network credentials and select the appropriate CA certificate option from the following:
   - **Use system certificates**
   - **Do not validate**
   - **List of trusted certificates installed on Wi-Fi certificate repository**, if available

     On a new device, no trusted certificates are installed in the repository, so you cannot select this option.
6. Tap **Connect**.

   If the credentials are authenticated successfully, the device connects to the Wi-Fi network.

Connecting a handset to Avaya Vantage™

Avaya Vantage™ provides a built-in speaker and microphone, so a handset is not required to make and manage calls. You can purchase either wired or wireless handsets separately. To use a handset with Avaya Vantage™, you also need to connect a handset cradle.

Connecting the handset cradle to Avaya Vantage™

About this task

Use this procedure to connect your handset cradle to the Avaya Vantage™ device. The handset cradle is required for both wired and wireless handsets.

⚠ **Warning:**

When installing the cradle, be careful not to bend the Avaya Vantage™ connector pins.

Before you begin

- Ensure that you have the following equipment:
  - Avaya Vantage™ device.
  - Handset cradle with a connection cable.
  - Handset cradle stand, which varies according to the device variant.

    For K165 or K175, use the adjustable cradle stand with the crossbar that comes with the handset kit. For K155, use the fixed-angle cradle stand that comes with the device.
- Ensure that the Avaya Vantage™ device is not connected to a power source.

Procedure

1. Place the device with the right side touching the table top so that the left side, which is where the handset cradle must be attached, is facing up.
2. On the left side of the Avaya Vantage™ device, remove the rubber gasket that protects the cradle connector pins.

   One cradle connector pin is closed so that you can position the cradle in the correct direction.
3. Connect the handset cradle cable to the cradle connector of the Avaya Vantage™ device.

   ✚ **Tip:**

   Bend the cradle cable to make an arc so that you can join the cable with the cradle connector easily.
4. Connect the cradle to the Avaya Vantage™ device while ensuring that the connection cable is not squeezed between the cradle and the device.
5. **(Optional)** For K165 or K175, connect the handset cradle stand crossbar to the slot in the Avaya Vantage™ stand.
6. Connect the handset cradle to the cradle stand using the hinge on the rear panel of the cradle.

Next steps

Connect Avaya Vantage™ to the power source.

Connecting a wired handset

About this task

Use this procedure to connect a wired handset to your Avaya Vantage™.

Before you begin

Ensure that the handset cradle is connected to the Avaya Vantage™ device.

Procedure

1. Plug the non-spiral end of the handset cord into the handset connector on the handset cradle.
2. Plug the other end into the connector on the handset.

Connecting a wireless handset

About this task

Use this procedure to connect or pair a wireless handset with your Avaya Vantage™ device. After pairing a wireless handset with your Avaya Vantage™ device, you cannot use the wired handset. You can pair only one wireless handset with a device at a time.

You need administrative privilege to remove the pairing with the wireless handset.

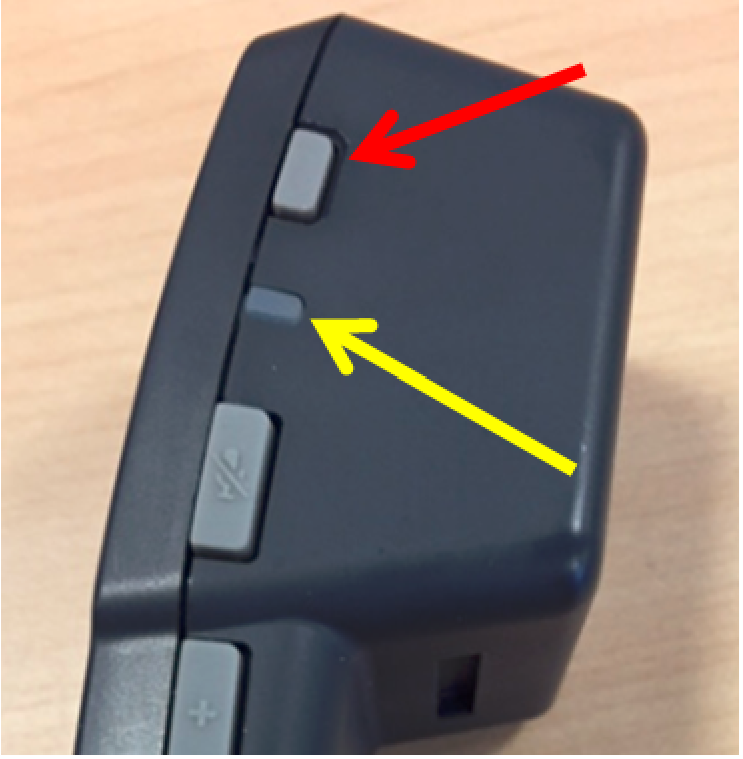
Before you begin

Ensure the following:

- The device startup process is complete and you are logged on to the device.
- The handset cradle is connected to your Avaya Vantage™ device.
- The handset battery is charged by placing the handset in the cradle.
- The wireless handset is turned off.

Procedure

1. Lift the wireless handset from the cradle, and press and hold the top **Power** button for at least 10 seconds to enter the pairing mode.



To indicate that the handset is in the pairing mode, the handset LED starts flashing.

2. On the Home screen, tap **Applications**.
3. Tap **Settings** > **Connected devices** > **Bluetooth**.
4. Turn Bluetooth on.
5. In the list of available devices, tap the entry that matches the ID on the handset label.

   When pairing is successful, Avaya Vantage™ displays the wireless handset in the list of paired devices as connected.

Result

You can now use your wireless handset for calls as long as the handset is turned on. When the handset is turned off, you cannot use it for calls, but it is still paired with Avaya Vantage™. When you turn on the handset the next time, you do not need to repeat the pairing procedure.

Chapter 4: Security configuration

The following are the key security features that are available for Avaya Vantage™:

- Device access control and user privacy through user account and device lock functionality. For more information, see Access control and user privacy on page 55.
- Complex administrator passwords to access administrator options from the **Settings** menu on the device. For more information, see Administrator password configuration on page 57.
- Certificate management for secure communication between devices, applications, and other network entities.
    - Identity certificate and trusted certificate support. Avaya Vantage™ supports up to 100 trusted certificates in either the PEM or DER format.
    - Android built-in trusted certificates that all Android applications installed on Avaya Vantage™ can use.

      According to the value set for the ENABLE_PUBLIC_CA_CERTS parameter, Device Enrollment Services, HTTP or HTTPS file downloads, PPM, SCEP over HTTPS, and Avaya Aura® Device Services use these trusted certificates.
    - No built-in Avaya product certificates including Avaya SIP Product Root CA certificate. Also, no Avaya product certificates are part of the software distribution package.

  For more information about certificate usage on Avaya Vantage™, see Certificate management on page 58.
- Support for Device Enrollment Services, which provides secure redirection of a new device to the file server. For more information, see Device Enrollment Services for secure redirection to the file server on page 64.
- Support for synchronization of time with the configured SNTP servers. For more information, see Time synchronization on page 65.
- Support for the SSH protocol to provide a secure mechanism for Avaya personnel to log in to the device remotely and perform the required operations in a secure environment. For more information, see SSH access control on page 65.
- Support for SRTP on the Avaya Breeze® Client SDK applications. The supported Avaya Breeze® Client SDK applications are Avaya Vantage™ Connect and Avaya Equinox®. SRTP provides confidentiality and message authentication to media traffic going over the LAN infrastructure. With SRTP, Avaya Vantage™ can encrypt calls between two or more endpoints to prevent eavesdropping.
- Secure signaling support on the Avaya Breeze® Client SDK application through SIP-TLS.

- TLS support for all services, such as HTTPS file downloads and SCEP over HTTPS.
- 802.1x EAP-TLS and EAP-MD5 authentication methods for Ethernet.
- Support for the following Wi-Fi security protocols: WEP, WPA, WPA2 PSK, and 802.1x, including EAP-PEAP, EAP-TLS, EAP-TTLS, and EAP-PWD with phase two authentication.
- No non-secure protocols and services, such as FTP, Telnet, TFTP, rlogin, and rsh, except for Android Debug Bridge (ADB), which is disabled by default. For more information, see Android Debug Bridge configuration on page 66.
- Support for VLAN separation mode using configuration parameters. For more information, see VLAN separation on page 66.
- Ability to disable Google Play. For more information, see Access to Google Play applications for K165 and K175 on page 101.
- Ability to disable the installation of applications from unknown sources. For more information, see Access to applications from unknown sources on page 102.
- Application download control using an XML-based configuration file. For more information, see Application download control through an XML-based configuration file on page 102.
- No root access allowed for applications. VPN tunnels for monitoring traffic are over the Wi-Fi interface only. There is no VPN support over Ethernet.
- Support for antivirus and antimalware applications.
- Android security features, such as disk encryption, remote wipe, and SELinux running in enforcing mode.
- Use of the latest Android security patches on each Avaya Vantage™ release.
- Support for hardware-based random number generators.
- Ability to disable trust agents and Google Smart lock using the TRUST_AGENTS_STAT and TRUST_AGENTS_SMARTLOCK_STAT parameters.
- Ability to disable the USB port using the ENABLE_USB_GENERAL_PURPOSE parameter.
- Ability to disable wireless Bluetooth and Wi-Fi connections using the BLUETOOTHSTAT and WIFISTAT parameters.
- Ability to disable the wireless access point using the WIFIAPSTAT parameter.

Access control and user privacy

To access Avaya Vantage™ telephony features, you have your own login credentials. When using Avaya Vantage™ Connect or Avaya Equinox® on Avaya Vantage™ as the telephony application, the device supports the following two login modes:

- SIP credentials for SIP controller authentication.
- User enterprise credentials for authentication through Avaya Aura® Device Services. This option is applicable only in the Avaya Aura® environment.

Avaya Vantage™ provides lock and log out functions for user privacy. When you lock Avaya Vantage™, other users cannot unlock the device. When Avaya Vantage™ is locked, you can receive calls or make emergency calls, but cannot access user data. If login is performed using SIP credentials, you must use the SIP password to unlock the device. If login is performed using Avaya Aura® Device Services enterprise credentials, you must use the enterprise user password to unlock the device.

You can control the locked state of the device using the following options:

- The **Screen lock** option in the **Settings** > **Security & location** menu.
- The ENABLE_PHONE_LOCK parameter.

To enable logout when the device is locked, you can set the ALLOW_LOGOUT_WHEN_LOCKED parameter. For more information, see Phone lock and idle time parameters on page 206.

Note:

With IP Office, you must configure the location-specific emergency numbers in the `46xxspecials.txt` file to enable emergency calling from locked devices.

When you log out from Avaya Vantage™, the station is available for other users without access to the previous user's data. When a new user logs in, Avaya Vantage™ clears the previous user's personal data and removes all applications installed by the previous user. Applications that are installed through the PUSH_APPLICATION parameter in the settings file are not affected. When the previous user logs in again, Avaya Vantage™ restores the following information:

- The user-defined device configuration, such as language settings, which is stored on PPM or a backup server in the Avaya Aura® environment.
- The Android application data that is backed up in a personal account, such as a Google account.

Password security policies

In the SIP login password, you can use:

- Numbers: 0 – 9
- Capital letters: A – Z
- Lowercase letters: a – z
- Special characters: ~!@#$%^&*_-+=`|\(){}[]:;”’<>,.?/

In addition, the password length must be a minimum of 5 characters for the Screen lock feature on Avaya Vantage™ to work properly.

In the Avaya Aura® environment, you can configure password policies for Avaya Vantage™ using System Manager.

With IP Office, the SIP user password is required when creating a new user. For more information, see *Avaya IP Office™ Platform SIP Telephone Installation Notes*.

If you use an Exchange account on Avaya Vantage™, then security policies configured for Avaya Vantage™ must comply with the security policies configured for the Microsoft Exchange server. If the device password does not comply with the Microsoft Exchange server policies, you might not be able to use your Exchange account. Microsoft Exchange server policies must allow the usage of numeric SIP passwords when using the SIP login method. Contact your Microsoft Exchange server vendor to obtain information about configuring password security policies.

Note:

If you use the Unified Login feature, there are no issues with the Microsoft Exchange server security policies. Avaya Vantage™ uses the Unified Login credentials to access the Exchange account.

Administrator password configuration

You must set up an administrator password to enable device administrator settings on Avaya Vantage™. Avaya Vantage™ uses the ADMIN_PASSWORD or PROCPSWD parameters to store the password and provide access to administrator options in the **Settings** menu.

- If ADMIN_PASSWORD is configured, Avaya Vantage™ uses the ADMIN_PASSWORD value and ignores the PROCPSWD value.
- If ADMIN_PASSWORD is not configured and PROCPSWD has a value different from the default, Avaya Vantage™ uses the PROCPSWD value.
- If ADMIN_PASSWORD is not configured and PROCPSWD uses the default value, you cannot access administrator options in the **Settings** menu on Avaya Vantage™.

In an IP Office environment, ADMIN_PASSWORD is added to the automatically-generated `46xxsettings.txt` file if the NUSN is set for the administrator password in IP Office Manager.

You can change the value of ADMIN_PASSWORD and PROCPSWD using the **`SET`** command in the `46xxsettings.txt` file. You can also change the value of PROCPSWD using:

- The `name=value` pair in a DHCPACK message sent by your DHCP server.
- PPM service configuration. You cannot configure ADMIN_PASSWORD through PPM. For more information about configuring the PROCPSWD value through PPM, see *Administering Avaya Aura® Session Manager*.

Certificate management

Digital certificates are electronic documents that are used to confirm the identity of the device or application to other network entities. A number of Avaya Vantage™ applications use these certificates, which include built-in Android trusted certificates and downloaded trusted certificates.

- Avaya Vantage™ platform applications:
    - Android: Wi-Fi 802.1x authentication, Exchange and Google accounts, and browsers using HTTPS.
    - Avaya: Configuration and firmware file downloads using HTTPS, SCEP over HTTPS, Avaya Aura® Device Services or authenticated file server, and PPM.
- Avaya Breeze® Client SDK-based applications: Avaya Vantage™ Connect and Avaya Equinox®.
- Communication applications: Certificates for different activities, such as SIP connectivity using SIP over TLS, PPM over TLS, and connections to Avaya Aura® Device Services servers.

Avaya Vantage™ supports installation of certificates using the following methods:

- Downloading trusted certificates using the TRUSTCERTS configuration parameter.

  TRUSTCERTS can support a list of up to 100 PEM and DER format root and intermediate trusted certificates located on the file server. You can also add trusted certificates using Android trusted certificate installation methods.

  You can configure TRUSTCERTS using the `46xxsettings.txt` file and Avaya Aura® Device Services. Configuration using Avaya Aura® Device Services gets a higher precedence than `46xxsettings.txt`.
- Downloading an identity certificate as the PKCS12 file.

  Avaya Vantage™ downloads a PKCS12 file from a URL specified in the PKCS12URL configuration parameter. If the PKCS12PASSWORD configuration parameter does not contain a valid password for the PKCS12 file, Avaya Vantage™ prompts you to enter the password. If the PKCS12 file contains a trusted certificate, Avaya Vantage™ installs the PKCS12 file without the trusted certificate. You can specify the list of trusted certificates on Avaya Vantage™ only through TRUSTCERTS.

  The PKCS12 file must include the friendly name and key usage fields. Otherwise, the PKCS12 file installation on Avaya Vantage™ will not be successful.
- Generating an identity certificate using SCEP.

  Avaya Vantage™ generates and installs a new identity certificate using SCEP according to the MYCERTURL, MYCERTCN, MYCERTDN, and MYCERTCAID parameters.

  Avaya Vantage™ gives preference to the PKCS12 file over SCEP. When both the PKCS12URL and SCEP parameters are configured, Avaya Vantage™ uses the identity certificate installed using PKCS12URL.

You can review certificates installed on the Avaya Vantage™ device from the **Settings** menu:

- The USER tab in **Settings** > **Security & location** > **Encryptions & credentials** > **Trusted credentials** presents all downloaded trusted certificates. The tab also displays the identity certificate installed using SCEP or PKCS12URL.

- The SYSTEM tab in **Settings** > **Security & location** > **Encryptions & credentials** > **Trusted credentials** presents built-in Android trusted certificates.

Android built-in trusted certificates

Avaya Vantage™ supports the use of Android built-in trusted certificates by all Android applications installed on Avaya Vantage™. By default, Avaya Breeze® Client SDK applications use built-in Android trusted certificates.

The use of Android built-in trusted certificates by some applications depends on the ENABLE_PUBLIC_CA_CERTS parameter setting. If ENABLE_PUBLIC_CA_CERTS is set to 1, then Avaya Vantage™ can use the Android built-in trusted certificates for application services such as Avaya Aura® Device Services, PPM, configuration and image file downloads, and 802.1x EAP-TLS.

Downloaded trusted certificates

To store trusted certificates downloaded using TRUSTCERTS, Avaya Vantage™ uses the Android “VPN and APPS” and “Wi-Fi” repositories. These certificates are available to all Android applications. The “Wi-Fi” repository contains only the downloaded trusted certificates. The “VPN and APPS” repository contains the Android built-in trusted certificates and the downloaded trusted certificates according to TRUSTCERTS.

The Avaya Breeze® Client SDK application uses the trusted certificate in the Android “VPN and APPS” repository.

When user enterprise credentials are used for login, you must configure the root CA of the Avaya Aura® Device Services server identity certificate in TRUSTCERTS *even if* it is part of Android built-in trusted certificates. Unlike other downloaded trusted certificates, the **USER** tab in **Settings** > **Security & location** > **Encryptions & credentials** > **Trusted credentials** does not display the root CA of the Avaya Aura® Device Services server identity certificate.

Identity certificates generated using SCEP or downloaded using PKCS12 file

Identity certificates generated using SCEP or downloaded using PKCS12 file are stored in the Android “VPN and APPS” and “Wi-Fi” repositories. Avaya Vantage™ platform applications, the Avaya Breeze® Client SDK application, and all Android applications can access the repositories to use identity certificates.

Avaya Breeze® Client SDK applications use identity certificates for services, such as SIP connectivity, PPM, and Avaya Aura® Device Services, in the Avaya Aura® environment only. IP Office does not support client certificate validation.

Consideration while deploying Avaya Vantage™ at remote location

For a new Avaya Vantage™ device, the trusted certificate repository is initially empty. As long as the trusted certificate repository remains empty, Avaya Vantage™ trusts any HTTPS file server. No initial validation of the HTTPS file server certificate occurs until trusted certificates are downloaded to the device. Therefore, Device Enrollment Services is the recommended method for new device deployments for remote users. If you do not use Device Enrollment Services, then staging is recommended to download trusted certificates to the device before sending the device to the end user.

Certificate usage by applications

The following table shows certificates that are used by different applications on Avaya Vantage™. The use of built-in Android trusted certificates by some applications depends on the ENABLE_PUBLIC_CA_CERTS parameter setting.

Application	Built-in Android trusted certificates	Downloaded trusted certificates according to the TRUSTCERTS parameter [2]	Identity certificate generated using SCEP or PKCS12 file [3]
Wi-Fi 802.1x with EAP-TLS, EAP-TTLS	Y	Y	Y
Ethernet 802.1x with EAP-TLS	Y Only when ENABLE_PUBLIC_CA_CERTS is set to 1.	Y	Y
HTTPS configuration and image files download	Y Only when ENABLE_PUBLIC_CA_CERTS is set to 1.	Y	Y
PPM	Y Only when ENABLE_PUBLIC_CA_CERTS is set to 1.	Y	Y
SCEP over HTTPS	Y Only when ENABLE_PUBLIC_CA_CERTS is set to 1.	Y	Y
Avaya Aura® Device Services or authentication file server	Y Only when ENABLE_PUBLIC_CA_CERTS is set to 1.	Y	Y
Device Enrollment Services	Y		

Table continues…

[2] Device users can install trusted certificates using Android certificate installation methods, such as through Chrome. These certificates are available to *all* Android applications.

[3] Device users can install identity certificates using Android certificate installation methods, such as through Chrome. These certificates are available to all Android applications except Avaya Breeze® Client SDK applications.

Application	Built-in Android trusted certificates	Downloaded trusted certificates according to the TRUSTCERTS parameter [2]	Identity certificate generated using SCEP or PKCS12 file [3]
Redirected file server from Device Enrollment Services	Y[4]		
Avaya Breeze® Client SDK applications	Y	Y	Y
Browser	Y	Y	N
Exchange account	Y	Y	Y
Google account	Y	Y	N
Approved third-party applications (included in ID_CERT_APPLICATION_LIST)	Y	Y	Y
Non-approved third-party applications (not included in ID_CERT_APPLICATION_LIST)	Y	Y	N

Note:

For information about IP Office security certificates, see *Avaya IP Office™ Platform SIP Telephone Installation Notes* for Release 11.0.

Generating a PKCS12 file with a friendly name

About this task

Use this procedure to generate a self-signed PKCS12 certificate file with a friendly name embedded.

Before you begin

Ensure that the `openssl` commands are available on the server console that you want to use for generating the certificate. If no OpenSSL package is found, install the latest OpenSSL package on the system.

[2] Device users can install trusted certificates using Android certificate installation methods, such as through Chrome. These certificates are available to *all* Android applications.

[3] Device users can install identity certificates using Android certificate installation methods, such as through Chrome. These certificates are available to all Android applications except Avaya Breeze® Client SDK applications.

[4] If Device Enrollment Services provides private CA certificates, then the private CA is used to validate the identity certificate of the redirected file server. Otherwise, the built-in Android trusted certificates are used.

Procedure

1. Run the following command to generate a new private key and Certificate Signing Request (CSR):

   ```
   openssl req -out CSR.csr -new -newkey rsa:2048 -nodes -keyout
   privateKey.key
   ```

   The command generates a 2048-bit RSA private key and writes it to the `privateKey.key` file. The command also generates the `CSR.csr` file that is to be signed.

2. Run the following command to generate a self-signed certificate:

   ```
   openssl req -x509 -sha256 -nodes -days 365 -newkey rsa:2048 -keyout
   privateKey.key -out certificate.pem
   ```

   The command output is the `certificate.pem` file, which contains the signed certificate.

3. Run the following command to generate a CSR based on an existing certificate:

   ```
   openssl x509 -x509toreq -in certificate.pem -out CSR.csr -signkey
   privateKey.key
   ```

   The command generates the `CSR.csr` file which is the CSR based on the existing `certificate.pem` file.

4. Run the following command to generate the PKCS12 file with the friendly name:

   ```
   openssl pkcs12 -export -in certificate.pem -inkey privateKey.key -
   name "friendlyName" -out cert.p12.new
   ```

   The command output is the `cert.p12.new` file, which is the new PKCS12 file with the friendly name.

5. Run the following command to read the certificate:

   ```
   openssl pkcs12 -info -nodes -in cert.p12.new
   ```

Adding a friendly name to an existing PKCS12 file

About this task

Use this procedure to add a friendly name to an existing PKCS12 file.

Procedure

1. Run the following command to extract the private key used in the certificate:

   ```
   openssl pkcs12 -in cert.p12.new -nocerts -out privateKey.key
   ```

   In this command, `cert.p12.new` is the PKCS12 file without the friendly name field.

   The command extracts the private key from the PKCS12 file to the `privateKey.key` file.

2. Run the following command to extract the identity certificate from the PKCS12 file:

```
openssl pkcs12 -in cert.p12.new -clcerts -nokeys -out
certificate.pem
```

The command extracts the identity certificate from the PKCS12 file, `cert.p12.new`, to the `certificate.pem` file.

3. Run the following command to generate a new PKCS12 file with the friendly name:

```
openssl pkcs12 -export -in certificate.pem -inkey privateKey.key -
name "friendlyName" -out cert2.p12.new
```

The command output is the `cert2.p12.new` file, which is the new PKCS12 file with the friendly name.

Use of Avaya product certificates

Avaya Vantage™ does not contain any built-in Avaya product certificates, such as the Avaya SIP Product CA certificate. These certificates are also not part of the software distribution package. You can extract and install the Avaya SIP Product CA certificate for various services that Avaya Vantage™ and the Avaya Breeze® Client SDK application use. You can install such certificates on Avaya Vantage™ using the TRUSTCERTS parameter.

Obtaining the Avaya SIP Product CA certificate

Procedure

1. On System Manager Web Console, in the Services area, click **inventory** > **Manage Elements**.

   The system displays the Manage Elements screen.
2. Choose the Session Manager instance from the list.
3. In the **More Actions** field, click **Configure Trusted Certificates**.

   The system displays the Trusted Certificates screen.
4. Choose an Avaya SIP Product CA certificate from the list.

   For example, `trust-cert.pem`.
5. Click **Export**.
6. Save the file to a location on your system.
7. Perform one of the following:
   - Upload the CA Certificate to a website and send your users the link.
   - Send the CA certificate through email as an attachment.

8. To download the CA certificate to Avaya Vantage™, do the following:
    a. Upload the CA certificate to the file server.
    b. In the `46xxsettings.txt` file, modify the TRUSTCERTS parameter value to include the CA certificate file.

Obtaining the Avaya Aura® System Manager CA certificate

About this task

If you have a server with a certificate issued by Avaya Aura® System Manager, you must distribute the Avaya Aura® System Manager CA certificate to the device of the users using this procedure.

In an Avaya Aura® environment, Avaya Vantage™can use the Avaya Aura® System Manager CA certificate for SIP, PPM, and Avaya Aura® Device Services.

Procedure

1. On System Manager Web Console, in the Services area, click **Security** > **Certificates** > **Authority**.
2. Click **Download pem file**.
3. Save the file to a location on your system.
4. Perform one of the following:
    - Upload the CA Certificate to a website and send your users the link.
    - Send the CA certificate through email as an attachment.
5. To download the CA certificate to Avaya Vantage™, do the following:
    a. Upload the CA certificate to the file server.
    b. In the `46xxsettings.txt` file, modify the TRUSTCERTS parameter value to include the CA certificate file.

Device Enrollment Services for secure redirection to the file server

Device Enrollment Services provides a mechanism for Avaya endpoints to be securely authenticated and redirected to a preconfigured provisioning server. The DNS address of Device Enrollment Services is hard-coded to the device firmware. After you connect the out-of-the-box device to the network, Device Enrollment Services redirects the device to the provisioning server and then the installation process begins automatically.

For a fresh Avaya Vantage™ device, the trusted certificate repository is initially empty. With other methods of obtaining the file server address, such as DHCP, LLDP, and manual configuration using the **Settings** menu or the installation wizard, no initial validation of the HTTPS file server certificate occurs until trusted certificates are downloaded to the device. Therefore, Device Enrollment Services is the recommended method for new device deployments for remote users. If you do not use Device Enrollment Services, you must consider staging to download trusted certificates to the fresh device before sending the device to the end user.

Time synchronization

Access to an SNTP server for time synchronization is essential for SIP registration and initial device setup when you start Avaya Vantage™. Avaya Vantage™ with an Avaya Breeze® Client SDK application must have time input through an SNTP server for successful SIP registration and login.

The SNTPSRVR parameter provides the SNTP server addresses to Avaya Vantage™. You can configure the SNTPSRVR parameter using one of the following options. The options are listed in order of precedence, from the lowest to highest priority:

- DHCP option 42.
- `46xxsettings.txt` file.
- Avaya Aura® Device Services configuration or the **Settings** menu.

The value of the SNTPSRVR parameter can be a comma-separated list of SNTP server addresses, which can be IP addresses or fully-qualified domain names. The parameter has the following default value:

```
“0.avaya.pool.ntp.org,1.avaya.pool.ntp.org,2.avaya.pool.ntp.org,
3.avaya.pool.ntp.org,129.6.15.28,132.163.97.1”
```

If you cannot reach the default SNTP servers, you must update the SNTPSRVR value to point to one or more SNTP servers that are accessible from your network.

SSH access control

Avaya Vantage™ supports remote access through SSH for troubleshooting. SSH provides a secure mechanism for Avaya personnel to log in to the device remotely and perform the required operations in a secure environment. By default, SSH access is disabled. You can control SSH access through the following:

- The SSH_ALLOWED parameter.
- The **Settings** menu on the device.

By default, SSH remote users do not have root access or access to private user data, such as:

- Private keys of digital certificates
- Authentication credentials for SIP, HTTP, 802.1X, and Exchange

- Contact and call log information
- Personal browser information, such as bookmarks, URL history, and cookies

Android Debug Bridge configuration

Avaya Vantage™ supports Android Debug Bridge (ADB). By default, ADB remains disabled on Avaya Vantage™. If ADB is required for Android application development, you can enable ADB through the **Settings** menu on the device.

You can control ADB support using the ADBSTAT parameter. You can set the parameter value to one of the following:

- 0: To completely disable ADB support. When ADBSTAT is set to 0, you cannot enable ADB through the **Settings** menu.
- 1: To be able to enable ADB through the **Settings** menu on the device.

Since ADB is a non-secure protocol, Avaya recommends that you enable ADB for Android application development purposes only. Otherwise, set ADBSTAT to 0.

Enabling or disabling ADB through the Settings menu

About this task

Use this procedure to enable or disable ADB on the Avaya Vantage™ device through the **Settings** menu. You can only enable ADB through **Settings** if ADBSTAT is set to 1.

Procedure

1. Open the **Settings** menu.
2. Tap **System** > **Developer options**.
3. **(Optional)** If **Developer options** is not available, do the following to enable developer mode:
    a. Tap **About Avaya Vantage**.
    b. Tap the **Build number** field seven times.
    c. If prompted, enter the device PIN.
4. On the Developer options screen, enable or disable ADB mode.

VLAN separation

VLANs provide a means to segregate your network into distinct groups or domains. VLANs also provide a means to prioritize the network traffic into each of these distinct domains. Therefore, it is recommended to have separate VLANs for voice and data. Avaya Vantage™ devices with dual Ethernet ports have an internal network switch that can use VLANs to segregate traffic between the LAN port, the computer port, and the internal port that goes to the CPU of the device.

Avaya Vantage™ supports a full VLAN separation between data and voice VLANs. You can configure the internal network switch for VLAN separation using configuration parameters through LLDP, DHCP, and the `46xxsettings.txt` file.

Full VLAN separation

It is recommended to have a full VLAN separation between data and voice VLANs. For a full VLAN separation mode on Avaya Vantage™, the VLAN configuration must meet the following conditions:

- VLANSEP is 1
- L2Q is 0 or 1
- L2QVLAN is not equal to 0
- PHY2VLAN is not equal to 0
- L2QVLAN is not equal to PHY2VLAN
- VLANTEST is 0 or the timer is less than VLANTEST

The device tries to obtain an IP address from the DHCP server on the voice VLAN. If the device gets an IP address, it sends all the tagged packets on the voice VLAN. Set the PHY2VLAN parameter to the data VLAN so that untagged packets from the computer are assigned to the data VLAN. Tagged packets from VLAN computers other than the data VLAN are blocked. PHY2VLAN is important for a *full* VLAN separation between the computer and the device VLANs.

VLAN configuration parameters

Parameter	Set to	Notes
L2Q	0, 1, or 2	Specifies 802.1Q VLAN tagging mode. Assign one of the following values: • Auto (0) or Tag (1): The device sends tagged packets on L2QVLAN until the VLANTEST time. If the DHCP server is unreachable, the device sends untagged packets. On Avaya Vantage™, the behavior is the same for both values. • Untag (2): The device sends untagged packets.
L2QVLAN	Non-zero value	Specifies the 802.1Q VLAN identifier. This parameter must not have the same value as PHY2VLAN.
VLANTEST	0 to 999	Specifies the number of seconds to wait for a DHCPOFFER message reception on a non-zero VLAN. The default value is 60 seconds.
VLANSEP	1	Enables VLAN separation.

Table continues…

Parameter	Set to	Notes
PHY2TAGS	0 or 1	Specifies whether tags are stripped from frames forwarded to the secondary Ethernet interface. • 0: VLAN tags are removed from frames forwarded to the secondary Ethernet interface. • 1: VLAN tags are not removed from frames forwarded to the secondary Ethernet interface.
PHY2VLAN	Non-zero value	Specifies the value of the 802.1Q VLAN identifier for tagged frames through the secondary Ethernet interface. This parameter must not have the same value as L2QVLAN.

Parameter configuration for secure installation

For secure installation, configure the following parameters.

Parameter	Set to	Description
TRUSTCERTS	File names of required trusted certificates	Provides the file names of certificates to be used for authentication. It supports both root and intermediate certificates and can contain up to 100 certificate files. Avaya Vantage™ supports both PEM and DER file formats. When you provide relative file paths in the value, Avaya Vantage™ downloads the file from the HTTP or HTTPS file server defined in FILE_SERVER_URL, HTTPSRVR, or TLSSRVR if TRUSTCERTS is configured in the `46xxsettings.txt` file. If TRUSTCERTS is defined on Avaya Aura® Device Services, the file is downloaded from Avaya Aura® Device Services according to USER_AUTH_FILE_SERVER_URL.

Table continues…

Parameter	Set to	Description
TLSSRVRID	1	Specifies that TLS server identification is required. Certificates installed on the servers must have a common name that matches the FQDN of the established connection. If it does not match, the connection is dropped. When set to 1, the identity certificate of Avaya Vantage™ services must have Subject Alternative name with the FQDN or IP address of the service or the FQDN or IP address of the service in the common name. If even one of the services used by Avaya Vantage™ or the Avaya Breeze® Client SDK application has an identity certificate that does not meet the mentioned criteria, you must set TLSSRVRID to 0. Otherwise, there will be no TLS connection. Some additional considerations: • If the PPM identity certificate is signed by Avaya SIP product root CA, then TLSSRVRID must be explicitly set to 0. • Avaya Breeze® Client SDK applications require the SIP domain in the Subject Alternative Name of the SIP controller identity certificate. If there is no such field, TLSSRVRID must be set to 0. • TLSSRVRID for Avaya Equinox® running on any Android device has default value 0, however on Avaya Vantage™, the default is 1. For an environment where certificate validation is not required, you must configure TLSSRVRID as 0 for Avaya Equinox® on Avaya Vantage™.
TLS_VERSION	1	Specifies the supported TLS version for all TLS connections used by Android and Avaya applications. Supported values: • 0: TLS versions 1.0 and 1.2 are supported. • 1: TLS version 1.2 only is permitted.
AUTH	1	Ensures usage of HTTPS file servers for configuration and software file downloads. Once AUTH is set to 1 and the device downloads the trusted certificates, the device can only download files from the HTTPS server with certificates that can be validated using the trusted certificate repository.
FILE_SERVER_URL	The address of your HTTPS file server	Assigns HTTPS or TLSRVR file servers.
SSH_ALLOWED	0	Keeps SSH disabled.

Table continues…

Parameter	Set to	Description
ADBSTAT	0	Keeps ADB disabled.
ADMIN_PASSWORD or PROCPSWD	A complex password other than the default value	Enables access to administrator options in the **Settings** menu on the device using the administrator password.
USER_INSTALL_APPS_UNKNOWN_SOURCES	0	Keeps installation of third-party applications from unknown sources disabled. End users cannot change the permission through the **Settings** menu on the device

SCEP parameters

Parameter	Type	Default value	Description
MYCERTURL	String	Null	Specifies the URL to access the SCEP server. The device attempts to contact the server only if this parameter is set to something other than its default value.
MYCERTCN	String	$SERIALNO	Specifies the Common Name (CN) for SUBJECT in the SCEP certificate request. The values can either be $SERIALNO or $MACADDR. If the value includes the string $SERIALNO, that string will be replaced by the serial number of the phone. If the value includes the string $MACADDR, that string will be replaced by the MAC address of the phone.
MYCERTDN	String	Null	Specifies the common part of SUBJECT in the SCEP certificate request. This value defines the part of SUBJECT in a certificate request including Organizational Unit, Organization, Location, State, and Country that is common for requests from different devices.
MYCERTKEYLEN	Numeric	2048	Specifies the private key length in bits to be created in the device for certificate enrollment. The supported value is 2048.
MYCERTREPLACE	Numeric	90	Specifies the period of the certificate's validity interval. This period is specified as a percentage. Avaya Vantage™ uses this percentage to calculate the date of the certificate replacement before its expiration. The range is from 1 to 99. When the configured period is over, Avaya Vantage™ generates a new pair of private and public keys and requests to sign the new CSR using SCEP from the CA server.

Table continues…

Parameter	Type	Default value	Description
MYCERTCAID	String	CAIdentifier	Specifies the Certificate Authority Identifier. CA servers might require a specific CA Identifier string in order to accept GetCA requests. If the device works with such a CA, the CA identifier string can be set through this parameter.
CERT_INSTALL_APPLICATION_LIST	String	all	Specifies applications that can install trusted and identity certificates on Avaya Vantage™.
ID_CERT_APPLICATION_LIST	String	all	Specifies applications that can access identity certificates stored on Avaya Vantage™.
SCEPPASSWORD	String	$SERIALNO	Specifies a challenge password to use with SCEP. The value of SCEPPASSWORD, if not null, is included in a challengePassword attribute in SCEP certificate signing requests. If the value contains $SERIALNO, $SERIALNO is replaced by the value of SERIALNO. If the value contains $MACADDR, $MACADDR is replaced by the value of MACADDR without the colon separators.

PKCS12 parameters

Configure the following parameters for a PKCS12 file download to Avaya Vantage™.

Parameter	Type	Default value	Description
PKCS12URL	String	Null	Specifies the URL where a PKCS12 file containing an identity certificate is stored.
PKCS12PASSWORD	String	Null	Specifies a PKCS12 password.

Chapter 5: Device configuration

The following list shows the methods you can use to configure Avaya Vantage™. The methods are listed in order of precedence, from the lowest to highest priority:

- LLDP. This is the lowest priority.
- DHCP. This includes the following options:
  - Standard
  - Option 43
  - Option 242
- `46xxsettings.txt` file.
- Avaya Aura® Device Services for Avaya Aura®.
- PPM for Avaya Aura®.
- **Settings** menu on the device. This is the highest priority.

  ✱ **Note:**

  The installation wizard on Avaya Vantage™ K165 and K175 devices and Device Enrollment Services have the same priority as the **Settings** menu.

Most parameters are configurable through multiple methods. When Avaya Vantage™ receives a new parameter value, it checks precedence rules to determine whether the new value must be applied. Avaya Vantage™ changes the parameter value only if the precedence level of the new value source is higher than the precedence level of the current value source. If a source precedence level is not defined for a parameter, Avaya Vantage™ does not use the parameter values provided by that source.

For parameter descriptions, see “Appendix A: Supported configuration parameters”.

Configuration verification

To verify configuration and ensure that the device is ready to use, see Verifying device configuration on page 94.

Configuration priority for the CSDK-based telephony application

On Avaya Vantage™, Avaya Equinox® does not support DNS service discovery through an email address followed by the retrieval of configuration data from the chosen location. Instead, Avaya Vantage™ collects the configuration data and then shares it with Avaya Vantage™ Connect or Avaya Equinox®.

The following is the order of precedence, from lowest to highest priority, in which information is shared with the CSDK-based telephony application:

- `46xxsettings.txt` file. This is the lowest priority source.
- Avaya Aura® Device Services configuration .
- DHCP, LLDP, and the **Settings** menu for certain parameters, such as SIPDOMAIN and SIP_CONTROLLER_LIST.
- Default values enforced on certain parameters to ensure that a specific action is performed. For example, the TRUSTCERTS value is sent to the application as `""` because Avaya Vantage™ downloads the trusted certificate. The CSDK-based telephony application does not need to do this.

You can use the new Utility Server, which is embedded in Avaya Aura® Device Services, as a file server. In an environment with the Avaya Aura® Device Services Utility Server, you can choose where to configure various parameters. For example, you can configure Avaya Vantage™ platform or device parameters in the `46xxsettings.txt` file and configure CSDK-based application parameters in Avaya Aura® Device Services. Remember the priority list above. Avaya Aura® Device Services takes priority over the `46xxsettings.txt` file.

Important:

Do *not* define the PUSH_APPLICATION and ACTIVE_CSDK_BASED_PHONE_APP parameters through Avaya Aura® Device Services. Avaya Vantage™ does not collect this configuration information from Avaya Aura® Device Services.

In an environment with Avaya Aura® Utility Services as the file server, but without Avaya Aura® Device Services, all relevant parameters, including CSDK application parameters, must be configured in the `46xxsettings.txt` file.

Device configuration using LLDP

LLDP is an open standards layer 2 protocol that IP deskphones use to advertise their identity and capabilities and to receive administration from an LLDP server. LAN equipment can use LLDP to manage power, administer VLANs, and provide some administration. The transmission and reception of LLDP is specified in IEEE Std 802.1AB-2009.

Avaya Vantage™ supports transmission and reception of LLDP using Ethernet line interface. Avaya Vantage™ uses the LLDP_ENABLED parameter to determine whether LLDP is enabled on the device. You can assign one of the following values:

- 0: The transmission and reception of LLDP is disabled.
- 1: The transmission and reception of LLDP is enabled. This is the default value.
- 2: The transmission and reception of LLDP is enabled. The transmission of LLDP is started only after Avaya Vantage™ receives an LLDP frame. Avaya Vantage™ transmits the first LLDP frame within 2 seconds after the first LLDP frame is received.

After transmission is started, LLDP Data Units (LLDPDU) are transmitted every 30 seconds.

When Wi-Fi is selected as the network mode, the Ethernet ports on Avaya Vantage™ are disabled and Avaya Vantage™cannot transmit LLDP frames over Ethernet.

After receiving an LLDP frame, Avaya Vantage™ encodes the frame and stores the value of the frame in the LLDP_RCV_CONTENT parameter. Avaya Vantage™ uses the frame data only if the following conditions:

- The received frame has the destination MAC address set to the reserved group multicast address (01:80:C2:00:00:0E)
- The Ethernet protocol type is 88:CC

Avaya Vantage™ processes the value of LLDP_RCV_CONTENT every time the value of LLDP_RCV_CONTENT changes.

Initial values of parameters transmitting in LLDP frames

The following table shows the initial values of LLDP fields that are set by Avaya Vantage™ before the first LLDP frame is transmitted.

LLDP field	Value
LLDP_TTL	120
LLDP_SYSTEM_NAME	The host name sent to the DHCP server in DHCP option 12.
LLDP_BRIDGE	0
SNMP_SYS_OID	A string in the dotted-decimal character format that represents the value of the sysObjectID object in the MIB-II system group.

Table continues…

LLDP field	Value
LLDP_MAU	• 10 if the Ethernet line interface is operating at 10Mbps, half-duplex • 11 if the Ethernet line interface is operating at 10Mbps, full-duplex • 15 if the Ethernet line interface is operating at 100Mbps, half-duplex • 16 if the Ethernet line interface is operating at 100Mbps, full-duplex • 29 if the Ethernet line interface is operating at 1000Mbps, half-duplex • 30 if the Ethernet line interface is operating at 1000Mbps, full-duplex
MANUFACTURER	Avaya
POE_USED	1
POE_TYPICAL	Typical PoE power usage of the device with enabled backlight. The parameter is measured in watts.
POE_MAX	Maximum PoE power usage of the device with enabled backlight. The parameter is measured in watts. Avaya Vantage™ uses 13 for this parameter.

TLV impact on system parameter values

Avaya Vantage™ uses data transmitted in LLDP Type-Length-Value (TLV) elements to set configuration parameters. If a received LLDP frame contains a TIA LLDP-MED Capabilities TLV, then Avaya Vantage™ processes other TLVs in the frame only if the TIA LLDP-MED Capabilities TLV contains a Device Type of 0 or 4. TLVs are processed in the order that they are received.

System parameter name	TLV name	Impact
L2QVLAN and L2Q	IEEE 802.1 VLAN Name	L2Q is set to 1 (ON). L2QVLAN is set to the VLAN ID contained in the TLV. A check is made as to whether a reset is necessary to obtain a new IP address due to a change in the values of the parameters L2Q or L2QVLAN. VLAN Name TLV is ignored if: • The value of USE_DHCP is 0 and the value of IPADD is not 0.0.0.0. • The current value of L2QVLAN was set by a TIA LLDP MED Network Policy TLV. • The VLAN name in the TLV does not contain the substring “voice” in lower-case, upper-case or mixed-case ASCII characters anywhere in the VLAN name.
L2Q, L2QVLAN	TIA LLDP MED Network Policy (Voice) TLV	L2Q is set to 2 (OFF) if the Tagged Flag T is set to 0 L2Q is set to 1 (ON) if the Tagged Flag T is set to 1. L2QVLAN - Set to the VLAN ID in the TLV. A check is made as to whether a reset is necessary to obtain a new IP address due to a change in the values of the parameters L2Q or L2QVLAN. This TLV is ignored if: • The value of USE_DHCP is 0 and the value of IPADD is not 0.0.0.0. • The Application Type is not 1 (Voice) or 2 (Voice Signaling). • The Unknown Policy Flag (U) is set to 1.
VLAN_IN_USE	TIA LLDP MED Network Policy (Voice Signaling)	VLAN_IN_USE - set to the VLAN ID in the TLV. This TLV is ignored if: • The value of USE_DHCP is 0 and the value of IPADD is not 0.0.0.0. • The Application Type is not 1 (Voice) or 2 (Voice Signaling). • The Unknown Policy Flag (U) is set to 1.
SIP_CONTROLLER_LIST	Proprietary Call Server TLV	SIP_CONTROLLER_LIST will be set to the IP addresses specified in the TLV.
TLSSRVR and HTTPSRVR	Proprietary File Server TLV	FILE_SERVER_URL will be set to the IP addresses specified in the TLV.

Table continues…

System parameter name	TLV name	Impact
L2Q	Proprietary 802.1 Q Framing	If the TLV value is 1, L2Q is set to 1 (On). If the TLV value is 2, L2Q is set to 2 (Off). If the TLV value is 3, L2Q is set to 0 (Auto). A check is made as to whether a reset is necessary to obtain a new IP address due to a change in the values of the parameters L2Q or L2QVLAN. This TLV is ignored if: • The value of USE_DHCP is 0 and the value of IPADD is not 0.0.0.0. • The current L2QVLAN value was set by an IEEE 802.1 VLAN name. • The current L2QVLAN value was set by a TIA LLDP MED Network Policy (Voice) TLV.

Device configuration using DHCP options

Avaya Vantage™ connects to the DHCP server during the boot up. You can use the DHCP server to provide the following information to the device:

- IP address
- Subnet mask
- IP address of the HTTP or HTTPS file server
- IP address of the DNS server
- IP address of the SNTP server

You can configure the DHCP server to provision additional device and site-specific configuration parameters through various DHCP options.

Configurable DHCP options

The following options can be configured on the DHCP server:

Option	Description
Option 43	Specifies the encapsulated vendor-specific options that clients and servers use to exchange information. To use this option, Avaya Vantage™ sends option 60 with the value ccp.avaya.com. Option 43 is processed only if the first code in the option is 1 with a value of 6889. All values are interpreted as strings of ASCII characters that are accepted with or without a null termination character. Any invalid value is ignored and the corresponding parameter value is not set.
Option 55	Specifies the parameter request list. Acceptable values are: • 1 for subnet mask. • 3 for router IP addresses. • 6 for domain name server IP address or addresses. • 7 for log server IP address or addresses. • 15 for domain name. • 26 for interface MTU. • 42 for NTP servers. • 43 for vendor-specific information. • 120 for Session Initiation Protocol (SIP) servers. • DHCP_SSON for DHCP site-specific option numbers. You can assign a value between 128 and 254.
Option 57	Specifies the maximum DHCP message size. The maximum packet size can be up to 1500 bytes. The default value is 1000.
Option 60	Specifies the vendor class identifier. To use option 43, Avaya Vantage™ sends option 60 with the value ccp.avaya.com.
Option 242	Specifies site-specific options. Option 242 is optional. If you do not configure this option, ensure that key parameters, such as the following, are configured elsewhere: • FILE_SERVER_URL • HTTPSRVR • TLSSRVR

Avaya Vantage™ sends options 55, 57, and 60 to the DHCP server to provide additional information required to configure the device.

For more information about configurable DHCP options, see RFC 2132.

Codes for option 43

The codes supported by option 43 and the corresponding parameters are listed in the following table:

Code	Parameter
1	Does not set any parameter. The value must be 6889.

Table continues…

Code	Parameter
2	HTTPSRVR
3	HTTPDIR
4	HTTPPORT
5	TLSSRVR
6	TLSDIR
7	TLSPORT
8	TLSSRVRID
9	L2Q
10	L2QVLAN
15	SIP_CONTROLLER_LIST
18	FILE_SERVER_URL

Avaya Vantage™ uses information from option 43 only if the first code of option 43 is 1 with a value of 6889. All values are interpreted as strings of ASCII characters. Avaya Vantage™ ignores invalid values and does not set the corresponding parameters.

Parameter configuration through DHCPACK

Parameter	Set to
DHCP lease time	The value of Option 51 if received.
DHCP lease renew time	The value of Option 58 if received.
DHCP lease rebind time	The value of Option 59 if received.
DOMAIN	The value of Option 15 if received.
DNSSRVR	The value of Option 6 if received, which might be a list of IP addresses.
HTTPSRVR	The siaddr value if it is not zero. The parameter is not set if the siaddr value is zero.
IPADD	The yiaddr value.
LOGSRVR	The value of Option 7 if received, which might be a list of IP addresses.
MTU_SIZE	The value of Option 26 if received.
NETMASK	The value of Option 1 if received.
ROUTER	The value of Option 3 if received, which might be a list of IP addresses.
ROUTER_IN_USE	The giaddr value if this value not equal to zero and the current value of ROUTER_IN_USE is 0.0.0.0. In other cases, the parameter is not set.
SIP_CONTROLLER_LIST	The value of Option 120 if received, which might be a list of IP addresses or DNS names.
SNTPSRVR	The value of Option 42 if received, which might be a list of IP addresses.

DHCP site-specific options

You can specify configuration parameters for a certain Avaya Vantage™ device and assign these parameters through DHCP using site-specific options.

DHCP site-specific options allow you to specify configuration parameters for a certain Avaya Vantage™ device and assign these parameters through DHCP. A site-specific option is a sequence of comma-separated `name=value` pairs, where:

- `name` is the name of a configuration parameter. `name` is case-insensitive.
- `value` is the value that is assigned to a configuration parameter with the name matching to the value of `name`. The value of `value` is case-sensitive. To include spaces, tabs, or commas in `value`, you must use double quotes (“”).

The following is an example of a site-specific option that specifies:

- Two HTTPSRVR addresses.
- The ID of the Voice Virtual Local Access Network that the device must connect to.
- The ICMPDU parameter, which defines that Destination Unreachable messages must not be transmitted.

```
HTTPSRVR=“135.51.77.120,135.51.77.139”,L2QVLAN=5,ICMPDU=0
```

The default DHCP option to set the site-specific configuration parameters is 242. You can also use any option ranging between 128 and 254.

Note:

When the device receives DHCP ACK contents options 43 and 242, the device uses option 242.

To use configuration parameters on Avaya Vantage™, you must specify the option in **DHCP Site-Specific Option Number (SSON)** on the device interface.

Site-specific configuration parameters

The following table contains a list of site-specific configuration parameters that you can define for the device.

Parameter	Description
CAPTIVE_PORTAL_SERVER	Specifies the URL of a captive portal server.
FILE_SERVER_URL	Specifies the list of URL for downloading image and configuration files. This parameter has higher precedence over HTTPSRVR, HTTPPORT, HTTPDIR, TLSSRVR, TLSDIR, and TLSPORT.

Table continues…

Parameter	Description
HTTPDIR	Specifies the path to prepend to all configurations and data files the device might request when starting up, that is, the path, relative to the root of the HTTP file server, to the directory in which the device configuration and date files are stored. The path may contain no more than 127 characters and may contain no spaces. HTTPDIR is the path for all HTTP operations. The command is `SET HTTPDIR=<path>`. In configurations where the upgrade and binary files are in the default directory on the HTTP server, do not use the `HTTPDIR=<path>`.
HTTPPORT	Destination port for HTTP requests. The default value is 80.
HTTPSRVR	IP addresses or DNS names of HTTP file servers used for downloading settings and firmware files during startup. Since the firmware files are digitally signed, TLS is not required for security. However, configuration files are not digitally signed, so it is recommended to use HTTPS servers for storing configuration and firmware files.
ICMPDU	Controls the extent to which ICMP destination unreachable messages are sent in response to messages sent to closed ports so as not to reveal information to potential hackers. The default value is 1. Use this value to send destination unreachable messages for closed ports used by the traceroute command.
ICMPRED	Controls whether ICMP Redirect messages are processed. The default value is 0, which means that redirect messages are not processed.
L2Q	802.1Q tagging mode. The default value is 0 for the automatic tagging mode.
L2QVLAN	VLAN ID of the voice VLAN. The default value is 0.
PROCPSWD	Security string used to access local procedures. The default value is 27238.
SIP_CONTROLLER_LIST	SIP proxy or registrar server IP or DNS addresses that can be 0 to 255 characters. Enter the IP address in the dot-decimal notation. For example: `127.0.0.1`. You can provide several IP addresses separated by commas and without spaces between entries. The default is null, which means there are no controllers.
TIMEZONE	Time zone configuration in the Olson name format. For example, `America/New_York` or `Europe/Isle_of_Man`.
TLSDIR	Used as a path name that is prepended to all file names used in HTTPS GET operations during initialization. The string length can be from 0 to 127.
TLSPORT	Destination TCP port used for requests to an HTTPS server ranging from 0 to 65535. The default value is 443, which is the standard HTTPS port.
TLSSRVR	IP addresses or DNS names of Avaya file servers used to download configuration and firmware files. Transport Layer Security (TLS) is used to authenticate the server and to provide encrypted data exchange between Avaya Vantage™ and the server.
USER_AUTH_FILE_SERVER_URL	Specifies the user authenticated file server URL. Enter the address using either the dot-decimal or domain name format. Add a port number, if required. In the current release, Avaya Vantage™ supports Avaya Aura® Device Services user authentication servers only.

Table continues…

Parameter	Description
VLANTEST	The number of seconds to wait for a DHCPOFFER on a non-zero VLAN. The default value is 60 seconds.

Device configuration using a 46xxsettings.txt settings file

You can administer Avaya Vantage™ devices centrally using the `46xxsettings.txt` settings file that Avaya provides with the devices. The settings file is a text file that resides on a file server and contains configuration parameters.

You can download the `46xxsettings.txt` file from the Avaya Support website and edit it to add your own custom settings.

Important:

In an IP Office environment, Avaya strongly recommends that you allow the IP Office system to auto-generate the settings files for devices rather than using the uploaded file. This helps to automatically adjust the settings provided to devices to match changes made in the IP Office system configuration. For more information, see *Avaya IP Office™ Platform SIP Telephone Installation Notes*.

Customization of the settings file

The `46xxsettings.txt` settings file contains configuration parameters required to customize Avaya Vantage™ for your enterprise. You can customize the settings file to provide different parameters to devices according to various conditions, such as the following:

- Subnet of the your organization's network.
- IP address of the device.
- User group.
- Device model.

You can use the following to add your own custom settings to the `46xxsettings.txt` file:

Item	Description	Structure	Example
Tag	Specifies a string in the file. Avaya Vantage™ navigates to that string when it interprets the corresponding **`Goto`** command.	A single `#` character followed by a single space character followed by a tag name. Tag name must not include spaces. `#` *`<TAG_NAME>`*	`# K175SETTINGS`

Table continues…

Item	Description	Structure	Example
Goto command	Allows Avaya Vantage™ to directly navigate to the specified tag skipping all parameters between the **Goto** command and the tag mentioned in the command.	`GOTO` followed by a single space character and a tag name in the following format: `GOTO <TAG_NAME>`	`GOTO K175SETTINGS`
Conditional statement	Compares the value of a specified parameter to a some reference value. If the value of the parameter exactly matches the reference value, Avaya Vantage™ directly navigates to the tag specified in the condition. If the parameter does not exist or values do not match, Avaya Vantage™ ignores the conditional statement. Avaya Vantage™ supports the following parameters as testable parameters: • GROUP • MODEL • MODEL4 • MACADDR • IPADDR • SUBNET	`IF $<PARAMETER_NAME> SEQ <REFERENCE_VALUE> GOTO <TAG_NAME>`	`IF $MODEL4 SEQ K175 GOTO K175SETTINGS`
SET command	Assigns a value to the specified parameter. If the value is incorrect, Avaya Vantage™ does not assign it to the parameter. In this case, Avaya Vantage™ continues to use the default or previously assigned value.	`SET <PARAMETER_NAME> <PARAMETER_VALUE>`	`SET FILE_SERVER_URL http://192.168.125.161`

Table continues…

Item	Description	Structure	Example
GET command	Avaya Vantage™ tries to download the specified settings file from the file server. If the file exists, Avaya Vantage™ downloads this file, stops to interpret the current settings file, and tries to interpret the downloaded settings file. If Avaya Vantage™ cannot download the file, it continues to interpret the current settings file.	GET *<FILE_NAME>*	GET Settings.txt
Comment	Provides additional information about the configuration process. Avaya Vantage™ does not interpret comments.	A string started with two pound characters (##). ## *<COMMENT>*	## The following section contains upgrade-related parameters

The 46xxsettings.txt settings file must use UTF-8 encoding. All commands, parameter names, and tags are case insensitive and must use ASCII symbols.

Avaya Vantage™ handles the lines of the settings file one by one. Avaya Vantage™ interprets only one command per line. All arguments of the command must be placed on the same line as the command. To include spaces in an argument value, you must enclose the value using double quotes (“”).

User group configuration in the settings file

Use the conditional statements with the GROUP parameter to assign specific parameters or parameter values to different user groups.

The following example shows a simple settings file configuration for two user groups with the numbers 20 and 35.

```
IF $GROUP SEQ 20 GOTO CALLCENTER
IF $GROUP SEQ 35 GOTO MANAGERS
GOTO END
# CALLCENTER
## Section with parameters for Group 20 ##
SET <parameter1> <value>
SET <parameter2> <value>
SET <parameter3> <value>
GOTO END

# MANAGERS
## Section with parameters for Group 35 ##
SET <parameter1> <value>
SET <parameter2> <value>
SET <parameter3> <value>

# END
```

You can also configure GROUP from the **Settings** menu under **Network & Internet** > **More** > **Group**. In addition, Device Enrollment Services enables the configuration of FILE_SERVER_URL and GROUP for a specific Mac address or per numeric enrollment code.

After configuring user groups, you must assign a specific user group to the device. For more information, see Setting a user group for a specific configuration on page 91.

Configuring parameters in the settings file

About this task

Use this procedure to modify the settings file with appropriate values to provision the device configuration parameters.

Procedure

1. On the file server, go to the location where the `46xxsettings.txt` file is downloaded.
2. Open the `46xxsettings.txt` file in a text editor.
3. Set the required parameters as the following:

   ```
   SET <parameter_name> <parameter_value>
   ```

   For more information about the supported configuration parameters, see “Appendix A, Supported configuration parameters”.
4. Save the `46xxsettings.txt` file.

Result

On the next polling period, Avaya Vantage™ downloads the file and applies the settings.

Related links

Customization of the settings file on page 82
User group configuration in the settings file on page 84

Device configuration using Avaya Aura® Device Services

Avaya Aura® Device Services is used for retrieving configuration data when the USER_AUTH_FILE_SERVER_URL parameter points to the Avaya Aura® Device Services server. The Avaya Vantage™ device retrieves configuration data from `acs/resources/configurations` in Avaya Aura® Device Services and shares it with the CSDK-based telephony application, which can either be Avaya Vantage™ Connect or Avaya Equinox®.

Important:

Avaya Aura® Device Services platform configuration for Android devices is not assigned to Avaya Vantage™ because Avaya Vantage™ devices are not detected as Android devices.

Therefore, configuration settings in Avaya Aura® Device Services for Android devices are not sent to Avaya Vantage™.

If the SIP user credentials are configured in Avaya Aura® Device Services, then you do not need to enter your credentials when logging in to Avaya Vantage™. Otherwise, you must enter your credentials to log in. The device can also retrieve the contact picture from Avaya Aura® Device Services to present on the Lock screen.

Do *not* define the PUSH_APPLICATION and ACTIVE_CSDK_BASED_PHONE_APP parameters through Avaya Aura® Device Services. Avaya Vantage™ does not collect this configuration information from Avaya Aura® Device Services.

Device configuration using the Settings menu on the device

Device configuration checklist

The following checklist describes task you must perform to configure Avaya Vantage™ device settings.

No.	Task	Notes	✔
1.	Configure your administration password.	Avaya Vantage™ does not provide access to Administrator mode if the default administrator password is used. See Administrator password configuration on page 57.	
2.	Ensure that you are using the Administrator mode to configure the device.	Improper modification of some settings can lead to a device malfunction. Therefore, such settings are available to administrators only. See Enabling administrator settings on the device on page 88.	

Table continues…

No.	Task	Notes	✔
3.	Configure the file server data.	You must provide an address of a file server that is used to store software distribution packages and settings files. If the file server address is configured through DHCP, LLDP, or Device Enrollment Services, you do not need to configure the file server address. The address can be either an IP address in dotted-decimal format or an FQDN. See Setting up a file server address on page 89.	
4.	Configure the DNS server data.	You must provide the address of the DNS server used in your organization. In most cases, the DNS server address is provided through DHCP. You can also configure DNS server data statically or through the `46xxsettings.txt` file. Both the Wi-Fi and Ethernet interfaces use the configured DNS server and domain information. The option to configure DNS information specifically for each Wi-Fi network is unavailable. Therefore, if a user toggles between the Wi-Fi and Ethernet interfaces, then the configured DNS information is applicable for both interfaces. See Setting the DNS name and address on page 89.	
5.	Configure a user group.	You must specify a user group number to provide configuration parameters according to the assigned user group. See Setting a user group for a specific configuration on page 91.	
6.	Configure HTTP proxy server settings.	You must provide an address of a server that acts as a gateway between your organization's local network and other networks. If required, specify addresses that can bypass the proxy server. See Setting up an HTTP proxy and exception on page 91.	

Table continues…

No.	Task	Notes	✔
7.	Configure SIP server settings.	You must have a SIP server to make and handle calls. Additional SIP servers can be configured to provide system survivability. If the `46xxsettings.txt` file cannot be downloaded, you can configure SIP settings through the **Settings** menu of the device See Configuring SIP server settings on page 92.	
8.	Configure a DHCP site-specific option number.	You must specify a DHCP site-specific option number to provide configuration parameters according to the assigned site-specific option. See Setting up a DHCP site-specific option number on page 93.	
9.	Configure access to third party applications.	Specify which applications an end user can install. See Access to Google Play applications for K165 and K175 on page 101.	

Enabling administrator settings on the device

About this task

You can enable administrator settings on Avaya Vantage™. In the administrator mode, the device displays administrative **Settings** menu options that are unavailable to end users, such as the **SIP proxy settings** menu.

Before you begin

Get the administrator password that is set through ADMIN_PASSWORD or PROCPSWD.

In an IP Office environment, set ADMIN_PASSWORD using the `SET_ADMIN_PASSWORD=x` NUSN, where `x` is the password that is added to the autogenerated `46xxsettings.txt` file. For example:

```
SET_ADMIN_PASSWORD=Avaya@1234
```

Procedure

When you are logged in, do the following:

1. On the Home screen, tap **Applications**.
2. Tap **Settings**.
3. In the upper-right corner of the screen, tap **Menu** > **Admin login**.
4. Enter the administrator password, and tap **OK**.

When you are logged out, do the following:

5. On the Login screen, tap the **Settings** (⚙) icon.
6. In the upper-right corner of the screen, tap **Menu** > **Admin login**.
7. Enter the administrator password, and tap **OK**.

Setting up a file server address

About this task

Use this procedure to set up a file server address for downloading software distribution packages and settings files.

If the file server address is configured through DHCP or LLDP, you do not need to configure the file server address in the **Settings** menu of Avaya Vantage™. If Device Enrollment Services is used, then the file server redirection URL information is configured in Device Enrollment Services.

Procedure

1. On the Home screen, tap **Applications**.
2. Tap **Settings**.
3. Tap **Network & Internet** > **More** > **File Server**.
4. Enter the HTTP or HTTPS address of your file server.

   A file server URL must have one of the following format:

   - `http://hostname[:port][/path]`
   - `https://hostname[:port][/path]`

   Where:

   - `hostname` is either an IP address in dotted-decimal format or an FQDN.
   - `port` is an optional port number.
   - `path` is an optional path to the directory where distribution packages and other files are stored.

Setting the DNS name and address

About this task

As an alternative to administering DNS using DHCP, you can specify DNS server data manually. Use this procedure to set the domain name and address of your DNS server.

Procedure

1. On the Home screen, tap **Applications**.
2. Tap **Settings**.

3. Tap **Network & Internet** > **More** > **DNS**.
4. Tap **DNS Server**.
5. Enter the IP address of the primary DNS server in **DNS Server 1**.
6. **(Optional)** If required, enter the IP address of the secondary DNS server in **DNS Server 2**.
7. Tap **OK**.
8. Tap **Domain**.
9. Enter the domain name of the DNS server.
10. Tap **OK**.

Setting the Avaya Aura® Device Services server address

About this task

Use this procedure as an alternative to administering the Avaya Aura® Device Services server address by using the `46xxsettings.txt` file. You can set the server address of Avaya Aura® Device Services if you want to use the Unified Login feature.

You must log in as an administrator to configure the Avaya Aura® Device Services information on the device through the **Settings** menu.

Note:

Avaya Aura® Device Services is supported in the Avaya Aura® environment only.

Before you begin

Get the administrator password that is set through ADMIN_PASSWORD or PROCPSWD.

Procedure

1. On the Home screen, tap **Applications**.
2. Tap **Settings**.
3. In the upper-right corner of the screen, tap **Menu** > **Admin login**, and enter the administrator password.
4. Tap **Network & Internet** > **More** > **Avaya Aura Device Services (AADS)**.
5. Enter the address of the Avaya Aura® Device Services server, and tap **OK**.

Related links

Administrator password configuration on page 57

Enabling administrator settings on the device on page 88

Setting a user group for a specific configuration

About this task

You can create several configuration sets and upload a specific set to the Avaya Vantage™ device according to a group identifier assigned to the device. Use this procedure to set a group identifier to the device. You can only set the group identifier using the **Settings** menu of Avaya Vantage™.

Procedure

1. On the Home screen, tap **Applications**.
2. Tap **Settings**.
3. Tap **Network & Internet** > **More** > **GROUP**.
4. Enter the group identifier.

   The group identifier must be an integer between 0 and 999 inclusively.
5. Tap **OK**.

Setting up an HTTP proxy and exception

About this task

Use this procedure to specify the address of an HTTP proxy server. You can also enter exceptions to bypass the proxy server.

You can configure the HTTP proxy through the **Settings** menu only as an administrator.

Before you begin

Get the administrator password that is set through ADMIN_PASSWORD or PROCPSWD.

Procedure

1. On the Home screen, tap **Applications**.
2. Tap **Settings**.
3. In the upper-right corner of the screen, tap **Menu** > **Admin login**, and enter the administrator password.
4. Tap **Network & Internet** > **More**, and tap **HTTP/S Proxy Settings**.
5. Tap **Proxy host name[:port]**.
6. Enter the HTTP proxy host name with a port number.
7. Tap **OK**.
8. (Optional) To bypass the proxy server for some specific addresses, do the following:
   a. Tap **Bypass proxy for**.
   b. Enter one or more server addresses to bypass the proxy server.

Use commas to separate addresses.

c. Tap **OK**.

Related links

Administrator password configuration on page 57

Enabling administrator settings on the device on page 88

Configuring SIP server settings

About this task

Use this procedure to register Avaya Vantage™ to the SIP server.

You can configure the SIP server and SIP domain through the **Settings** menu only as an administrator.

Before you begin

Get the administrator password that is set through ADMIN_PASSWORD or PROCPSWD.

Procedure

1. On the Home screen, tap **Applications**.
2. Tap **Settings**.
3. In the upper-right corner of the screen, tap **Menu** > **Admin login**, and enter the administrator password.
4. Tap **Network & Internet** > **More**, and tap **SIP Settings**.
5. Tap **SIP domain**, enter the domain name for registration, and tap **OK**.
6. Do the following to add a SIP server to the SIP servers list:

   a. Tap **SIP proxy settings**.

   b. In the upper right corner, tap **Add**.

   c. In the **SIP proxy server** field, enter the address of the SIP proxy server.

   You can use either the dotted-decimal or DNS name format.

   d. In the **Transport type** field, select the appropriate transport protocol.

   In the Avaya Aura® environment, select **TLS**. The Avaya CSDK-based applications, Avaya Vantage™ Connect and Avaya Equinox®, do not support TCP in the Avaya Aura® environment.

   Avaya Vantage™ does not support UDP.

   e. **(Optional)** In the **SIP port** field, enter a port number for the server to use.

   Avaya Vantage™ uses the following default port numbers:

   - 5060 for TCP

- 5061 for TLS

Related links

Enabling administrator settings on the device on page 88

Administrator password configuration on page 57

Setting up a DHCP site-specific option number

About this task

Use this procedure to assign a Site-Specific Option Number (SSON). Avaya Vantage™ uses SSON to determine which set of site-specific parameters must be downloaded from the DHCP server. This number must match a similar number option set on the DHCP server. You can set the SSON using only the **Settings** menu of Avaya Vantage™.

Procedure

1. On the Home screen, tap **Applications**.
2. Tap **Settings**.
3. Tap **Network & Internet** > **More** > **DHCP Site-Specific Option Number (SSON)**.
4. Enter the required SSON.

   The number must be in a range between 128 to 254.

Additional network configuration

Setting the Ethernet interface control

Procedure

1. Open the **Settings** menu.
2. Tap **Network & Internet** > **Ethernet**.
3. Tap **Interfaces**.
4. **(Optional)** If the interface options are disabled, enable the administrator mode.
5. To view the Ethernet mode, tap **Ethernet**.

   The Ethernet mode is set to auto negotiation and cannot be modified.
6. To configure the secondary Ethernet interface, tap **PC Ethernet** and select one of the following:
   - **Disabled**: To disable the PC Ethernet interface.
   - **Auto**: To enable and configure the PC Ethernet mode to auto negotiation.

Setting the 802.1x authentication mode

Procedure

1. Open the **Settings** menu.
2. Tap **Network & Internet** > **Ethernet**.
3. Tap **IEEE 802.1x authentication**.

   You might need to enter the administrator password.
4. **(Optional)** To change the setting for the Pass through mode, tap **Pass through mode**, and select one of the following options:
   - **Multicast pass through**: To enable multicast pass-through without proxy logoff.
   - **Multicast pass through and proxy logoff**: To enable multicast pass-through with proxy logoff.
   - **Off**: To disable multicast pass-through.
5. **(Optional)** To change the setting for the Supplicant mode, tap **Supplicant mode**, and select one of the following options:
   - **Off**: To disable the Supplicant operation.
   - **On, unicast EAPOL only**: To enable the Supplicant operation. The device responds only to received unicast Extensible Authentication Protocol over LAN (EAPOL) messages.
   - **On, unicast and multicast EAPOL**: To enable the Supplicant operation. The device responds to received unicast and multicast EAPOL messages.
6. **(Optional)** To change the Extensible Authentication Protocol (EAP) type to be used for IEEE 802.1x authentication, tap **EAP Type**, and select one of the following options:
   - **EAP-MD5**
   - **EAP-TLS**

Verifying device configuration

About this task

Use this procedure to verify that the Avaya Vantage™ device is properly configured and ready to use.

Procedure

1. Tap **Settings** > **Debugging options**.
2. Tap **Configuration verifier**.

3. On the Configuration verifier screen, ensure that the status of the following validations are PASS:

    - **Network Status**: Validates whether the IP address is defined and the device is connected to the network.
    - **DNS Status**: Validates whether a DNS server is configured and reachable.
    - **SNTP Status**: Validates whether an SNTP server is configured and reachable to synchronize the device clock.
    - **File Server Status**: Validates whether the file server address is received from a configuration source and the file server is reachable.
    - **AADS Status**: Validates whether Avaya Aura® Device Services is configured and reachable.

        The Configuration verifier screen only displays this status if Avaya Aura® Device Services is configured for your setup. This field is applicable only for the Avaya Aura® environment.

    - **SIP Settings Status**: Validates whether the SIP domain and SIP controllers are configured.

        In the Avaya Aura® environment, connectivity to the PPM service is also validated.

        ✱ **Note:**

        SIP Settings Status does not validate SIP registration for the Avaya Breeze® Client SDK telephony application.

    - **Phone Application Status**: Validates whether a telephony application is defined as the active application and installed successfully.
    - **Misc Status**: Validates whether the administrator password is configured correctly. You can use the administrator password to access administrator options in the **Settings** menu on Avaya Vantage™.
    - **Camera Status**: Validates whether the camera for the device is enabled.

4. To see the details for one of the configuration items, tap the appropriate item.

    The configuration verifier displays the configuration details and status. If the status is NOTICE or FAIL, the verifier displays the possible reasons for the configuration failure. Sometimes the configuration might be correct, but verification might fail because of network connectivity issues.

    If any required configuration is missing or incorrect, modify the appropriate configuration parameter definitions.

Chapter 6: Application setup

This chapter describes how to set up applications on Avaya Vantage™. Avaya Vantage™ supports the installation of Avaya telephony applications and third-party applications.

The Avaya Vantage™ Connect and Avaya Equinox® Android Package Kits (APK) are bundled with the Avaya Vantage™ firmware package file and pushed automatically to the Avaya Vantage™ device. If you want to use one of these Avaya Breeze® Client SDK applications as the active telephony application, you can set the ACTIVE_CSDK_BASED_PHONE_APP parameter in the settings file. The application you define in the parameter is installed automatically from the application APKs that are available on the device's local memory. Unless you define one of these bundled applications as the active telephony application, the application remains disabled and hidden. If a newer version of Avaya Vantage™ Connect or Avaya Equinox® becomes available in Google Play, the Avaya Vantage™ device displays an upgrade notification.

Install and update options

You can install or update applications on Avaya Vantage™ through the following options:

- The "Push application" method. Using this method, you can initiate automatic installation, upgrade, or uninstallation of applications without end user intervention. To push an application on the device, you must upload the application APK file on the HTTP or HTTPS server and provide the path to the file in the `46xxsettings.txt` file through the PUSH_APPLICATION parameter.

  Important:

  You must specify each application only once. If you specify an application more than once, Avaya Vantage™ might not work as expected.

- Google Play. You must enable access to Google Play by using the USER_INSTALL_APPS_GOOGLE_PLAY_STORE parameter. End users can download applications from Google Play for K165 and K175. You can restrict installation of certain applications by using a configuration file.
- Third-party application stores or unknown sources. You must enable installation of applications from unknown sources by using the USER_INSTALL_APPS_UNKNOWN_SOURCES parameter. This option is disabled by default. When enabled, end users can download application APKs from common third-party application stores or other sources, such as emails or websites, to Avaya Vantage™.

With the Avaya telephony application APKs that are bundled with the Avaya Vantage™ firmware package, you do not need to use the installation options listed above. However, if you choose to install or update using these options, they take priority over the bundled APKs. If you use one of these options, Avaya Vantage™ Connect and Avaya Equinox® will still remain hidden and disabled until one of these applications is defined as the active telephony application using ACTIVE_CSDK_BASED_PHONE_APP.

The installation options, in order of priority, for the Avaya Breeze® Client SDK applications are:

1. Google Play store (for K165 and K175)
2. PUSH_APPLICATION parameter
3. Bundled APKs

Note:

IP Office only supports Avaya Vantage™ Connect. Other applications, such as Avaya Equinox® on Avaya Vantage™, are not currently supported with IP Office.

Automatic update of embedded Android applcations

Starting from Release 2.0.1, on K165 and K175, the embedded Android applications get updated automatically unless you disable the auto-update option in Google Play store.

For Avaya Vantage™ firmware releases earlier than 2.0.1, you must add these applications to the white list in an XML-based configuration file to enable automatic update.

Pushing applications onto the Avaya Vantage™ device

About this task

Use this procedure to push applications to Avaya Vantage™ without end user intervention. Through the PUSH_APPLICATION parameter, you can initiate automatic installation, upgrade, or uninstallation of applications.

Important:

While setting the PUSH_APPLICATION parameter, you must specify each application only once. If you specify an application more than once, Avaya Vantage™ might not work as expected.

Do *not* set the PUSH_APPLICATION parameter through Avaya Aura® Device Services.

Before you begin

Ensure that you have uploaded the application APK file on the HTTP or HTTPS file server or a network endpoint.

Procedure

1. Open the `46xxsettings.txt` settings file in a text editor.
2. To push a new application to the device, do one of the following depending on the scenario:
   - The settings file contains the string `SET PUSH_APPLICATION` *`<a list of URLs>`* and the list of URLs contains at least one entry: Enter a comma after the last entry, followed by the URL where the new application package file is located.
   - The settings file does *not* contain the string `SET PUSH_APPLICATION` *`<a list of URLs>`*: Add a new string with the text `SET PUSH_APPLICATION`, followed by a space and the URL where the application package file is located.

If the application package file is stored in the root directory of the HTTP or HTTPS file server, you can provide the file name only. If the application package file is stored in a subdirectory of your HTTP or HTTPS file server, you must provide a relative path to the file. If the application package file is stored on a network endpoint, you must provide the full path to the package file.

3. To upgrade an application that was already pushed to the device, do the following:
    a. In the string `SET PUSH_APPLICATION <a list of URLs>`, locate the URL of the previous version of the application package file.
    b. Replace this URL with the URL where the latest version of the application package file is located.
4. Save the settings file.
5. Upload the settings file on the file server.

Result

In the next polling period, Avaya Vantage™ downloads the settings file and the application package and installs the application on the device.

Related links

Uninstalling a pushed application on page 98

Push command examples

The following is a simple example of using the **Push** command when the application package file is stored in the root directory of your HTTP or HTTPS file server:

```
SET PUSH_APPLICATION "com.avaya.android.vantage.basic_release_2.0.0.0.apk"
```

The following is a simple example of using the **Push** command when the application package file is stored on a network endpoint:

```
SET PUSH_APPLICATION "http://www.avaya.com/applications/download/
com.avaya.android.vantage.basic_release_2.0.0.0.apk"
```

Uninstalling a pushed application

Procedure

1. Open the `46xxsettings.txt` settings file in a text editor.
2. From the string containing the **`SET PUSH_APPLICATION`** command, delete the path to the application that must be uninstalled.
3. Save the settings file.
4. Upload the settings file on the file server.

Result

On the next polling period, Avaya Vantage™ uninstalls the application from the device.

Avaya telephony applications supported on Avaya Vantage™

Application	Avaya Breeze® Client SDK application?
Avaya Vantage™ Connect	Yes
Avaya Equinox®	Yes
Avaya Vantage™ Open	No

If you want to use an Avaya Breeze® Client SDK telephony application, you also need to set up the ACTIVE_CSDK_BASED_PHONE_APP parameter. For more information, see Setting up an Avaya Breeze Client SDK application as the active telephony application on page 99.

Note:

Avaya Vantage™ with IP Office Release 11.0 only supports the Avaya Vantage™ Connect application. Avaya Equinox® and Avaya Vantage™ Open are not supported.

Setting up an Avaya Breeze® Client SDK application as the active telephony application

About this task

If you want to use an Avaya Breeze® Client SDK application as the active telephony application, you must set up the ACTIVE_CSDK_BASED_PHONE_APP parameter.

The Avaya Vantage™ Connect and Avaya Equinox® APKs are bundled in the Avaya Vantage™ firmware package and pushed automatically to the Avaya Vantage™ device. However, unless you define one of these bundled applications as the active telephony application, the application remains disabled and hidden.

For more information about acceptable values for the ACTIVE_CSDK_BASED_PHONE_APP parameter, see Package names of CSDK-based applications on page 101.

Important:

Only one Avaya Breeze® Client SDK application can be the active telephony application at a time. Therefore, ACTIVE_CSDK_BASED_PHONE_APP must contain only one package name.

Do *not* set the ACTIVE_CSDK_BASED_PHONE_APP parameter through Avaya Aura® Device Services.

Procedure

1. Open the `46xxsettings.txt` settings file in a text editor.

2. If the settings file contains the string `SET ACTIVE_CSDK_BASED_PHONE_APP` *<"application package name">*, replace the existing package name with the package name of the required application.
3. If the settings file does not contain the string `SET ACTIVE_CSDK_BASED_PHONE_APP` *<"application package name">*, do the following:
    a. Create a new string in the file below the string `SET PUSH_APPLICATION` *<a list of URLs>*.
    b. In the new string, enter the following:

       `SET ACTIVE_CSDK_BASED_PHONE_APP` *<"name of the application package">*

   For example:

```
SET PUSH_APPLICATION
com.avaya.android.vantage.basic_playstore_2.0.0.0.0406_100718_120334e.apk
SET ACTIVE_CSDK_BASED_PHONE_APP "com.avaya.android.vantage.basic"
```

4. Save and upload the settings file on the file server.

   In the next polling period, Avaya Vantage™ downloads the settings file and applies the settings accordingly.

   If not already installed, the telephony application that you define in the ACTIVE_CSDK_BASED_PHONE_APP parameter is installed using the APK available on the device's local memory. Avaya Vantage™ enables the application for the end user.

ACTIVE_CSDK_BASED_PHONE_APP parameter usage

Depending on the ACTIVE_CSDK_BASED_PHONE_APP value, Avaya Vantage™ operates in the following modes:

- If the ACTIVE_CSDK_BASED_PHONE_APP value contains the name of an Avaya Breeze® Client SDK application, Avaya Vantage™ operates in the CSDK-based application mode. When in this mode, Avaya Vantage™ supports the Login screen and configuration sharing. For information about how to set the active CSDK-based application in this parameter, see Setting up an Avaya Breeze Client SDK application as the active telephony application on page 99.
- If ACTIVE_CSDK_BASED_PHONE_APP is set to the default value (""), Avaya Vantage™ does not operate in the CSDK-based application mode. In this case, some configuration parameters are not supported and some options are not available on the **Settings** menu of Avaya Vantage™. You can still configure unsupported parameters, but Avaya Vantage™ and its telephony applications will not use the configured values.

Outside of the CSDK-based application mode, user configuration backups on PPM are not supported. If a parameter supports backing up on PPM and is supported in the non CSDK application mode, then this parameter keeps the configured value unless you revert the device to its default factory settings.

Package names of CSDK-based applications

The following table shows package names of the CSDK-based phone applications. If you want to use the CSDK-based phone application, you need to set the ACTIVE_CSDK_BASED_PHONE_APP parameter using the corresponding package name.

Application	Package name
Avaya Equinox®	“com.avaya.android.flare”
Avaya Vantage™ Connect	“com.avaya.android.vantage.basic”

Parameter settings for IP Office environments

With IP Office as the file server, the `K1xxSupgrade.txt` file is automatically-generated. This file defines the ACTIVE_CSDK_BASED_PHONE_APP and PUSH_APPLICATION parameters, as shown in the following example:

```
## IPOFFICE/11.0.0.0.0 build 830 10.133.134.138 AUTOGENERATED
SET APPNAME K1xx_SIP-R1_1_0_1_3105.tar
SET ACTIVE_CSDK_BASED_PHONE_APP "com.avaya.android.vantage.basic"
SET PUSH_APPLICATION
com.avaya.android.vantage.basic_playstore_1.1.0.1.0002_280318_8334068.apk
```

Note:

If you include the line `GET 46xxsettings.txt`, then all lines after this line will be ignored. You must include such lines in the `46xxsettings.txt` file.

Access to Google Play applications for K165 and K175

For K165 and K175, Google Play is the main source of Android applications. According to your company’s policies, you can determine:

- Whether end users can install applications from Google Play. You can control access to Google Play by using the USER_INSTALL_APPS_GOOGLE_PLAY_STORE parameter in the `46xxsettings.txt` file. By default, the parameter value is set to 1 to enable installation of applications from Google Play. To disable Google Play for device users, set USER_INSTALL_APPS_GOOGLE_PLAY_STORE to 0.
- Which applications end users can install from Google Play. You can restrict installation of certain applications by using an XML-based configuration file. See Application download control through an XML-based configuration file on page 102.

Access to applications from unknown sources

On Avaya Vantage™, installation of third-party applications from unknown sources is disabled by default. End users can change the permission through the **Settings** menu. When you enable this option, end users can download application APKs from common third-party application stores and other sources, such as emails and websites, to Avaya Vantage™.

You can change this installation setting by using the USER_INSTALL_APPS_UNKNOWN_SOURCES parameter in the settings file. You can set the value of USER_INSTALL_APPS_UNKNOWN_SOURCES to one of the following:

- 0: Installation of third-party applications is disabled. End users cannot change the status through the **Settings** > **Security & location** menu on the device.
- 1: Installation of third-party applications is disabled by default. End users can change the status through the **Settings** > **Security & location** menu. This is the default setting.
- 2: Installation of third-party applications is enabled by default. End users can change the status through the **Settings** > **Security & location** menu.

When installation from unknown sources is enabled, on K155, Application Stores Links (🛒) becomes available and provides links to common third-party application stores, such as F-Droid and GetJar.

Application download control through an XML-based configuration file

You can control the download of certain applications from Google Play or unknown sources by completing a black or white list section in an XML-based configuration file:

- White list: End users can install applications from the white list only. End users cannot install any applications that are not in the white list. If the white list section is configured and the list is empty, users cannot install applications from Google Play or any other sources.
- Black list: End users cannot install applications that are mentioned in the black list. If the black list is empty, users can install any third-party application from Google Play and unknown sources.

You can configure either a white list or a black list, but not both at a time.

The APPS_CONTROL_FILE parameter defines the location of the configuration file.

If the configuration file is not specified, users can install any application from Google Play and unknown sources.

Example: XML-based application control file with a white list

```
<?xml version="1.0" encoding="utf-8"?>
<applicationControl
xmlns="http://xml.avaya.com"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
```

```
xsi:schemaLocation="http://xml.avaya.com applicationControl.xsd">
  <allowedUserInstalledAppsUsingGooglePlayStore type="whitelist">
    <app packagename="com.avaya.android.flare" />
    <app packagename="com.avaya.android.vantage.basic" />
  </allowedUserInstalledAppsUsingGooglePlayStore>
</applicationControl>
```

Editing a black or white list

Before you begin

If you do not already have one, create an XML-based configuration file for third-party application control.

Procedure

1. Open the XML-based configuration file in a text editor.
2. To add or edit the black list, do the following:
    a. **(Optional)** If the `<allowedUserInstalledAppsUsingGooglePlayStore type=“blacklist”>` section is not already present in the configuration file, add the section:

    ```
    <allowedUserInstallAppsUsingGooglePlayStore type=“blacklist”>

    </allowedUserInstallAppsUsingGooglePlayStore>
    ```

    b. In the `<allowedUserInstalledAppsUsingGooglePlayStore type=“blacklist”>` section, list the applications you want to include.

    Use the following format to list the application:

    `<app packagename=“<Type the package name here>” />`

    Example:

    ```
    <allowedUserInstallAppsUsingGooglePlayStore type=“blacklist”>
        <app packagename=“com.restricted.application” />
        <app packagename=“com.hacker.software” />
    </allowedUserInstallAppsUsingGooglePlayStore>
    ```

3. To add or edit the white list, do the following:
    a. **(Optional)** If the `<allowedUserInstalledAppsUsingGooglePlayStore type=“whitelist”>` section is not already present in the configuration file, add the section:

    ```
    <allowedUserInstalledAppsUsingGooglePlayStore type=“whitelist”>

    </allowedUserInstallAppsUsingGooglePlayStore>
    ```

    b. In the `<allowedUserInstalledAppsUsingGooglePlayStore type=“whitelist”>` section, list the applications you want to include.

    Use the following format:

    `<app packagename=“<Type the package name here>” />`

Example:

```
<allowedUserInstallAppsUsingGooglePlayStore type=“whitelist”>
    <app packagename=“com.avaya.communicator” />
    <app packagename=“com.avaya.android.vantage.basic” />
</allowedUserInstallAppsUsingGooglePlayStore>
```

4. Save the configuration file.
5. Upload the file on the file server.
6. In the settings file, set the APPS_CONTROL_FILE parameter to define the URL that specifies the location of the XML-based configuration file.

Result

On the next polling period, Avaya Vantage™ downloads the file and applies the settings.

Chapter 7: Emergency call configuration

To make emergency calls on Avaya Vantage™, you must configure location-specific emergency numbers.

In an Avaya Aura® environment, you can make an emergency call when you are logged out of Avaya Vantage™ or when Avaya Vantage™ is in the locked state.

In an IP Office environment, you can make an emergency call only when you are logged in to Avaya Vantage™. You can also make an emergency call from a locked device.

You can configure emergency numbers as follows:

- For Avaya Aura®: Through PPM.
- For IP Office: Through the `46xxspecials.txt` file.

You can control Lock mode for the device using one of the following:

- The ENABLE_PHONE_LOCK parameter.
- The **Screen lock** option in the **Settings** > **Security & location** menu.

Parameters for emergency numbers

The following table lists the parameters you must configure to add emergency numbers in an IP Office environment. You must set these parameters in the IP Office `46xxspecials.txt` file.

Parameter	Default value	Description
PHNEMERGNUM	Null string	Specifies the emergency number with the highest priority. Avaya Vantage™ dials this number when a user taps **Auto - dial** for an emergency call. The parameter value can contain up to 30 characters. You can use `0-9`, `*`, and `#` characters.
PHNMOREEMERGNUMS	Null string	Specifies an additional list of emergency numbers. The value of the parameter is a list of emergency numbers separated by commas without any spaces between entries. The parameter value can contain up to 100 numbers. Each number can contain up to 30 characters. You can use `0-9`, `*`, and `#` characters.

Note:

In an Avaya Aura® environment, do not define these parameters in the `46xxsettings.txt` file. Instead, configure emergency numbers in PPM through the System Manager web console. In addition, for emergency call support when you are logged out of the device, you must configure the SIP_CONTROLLER_LIST parameter using the `46xxsettings.txt` file, DHCP, LLDP, or the **Settings** menu on the device. If you only configure SIP_CONTROLLER_LIST in Avaya Aura® Device Services, emergency calls do not work as expected.

Chapter 8: Directory search configuration

Directory search and contact functionality comparison

The following table summarizes contact management on Avaya Vantage™ when deployed with different communication systems and telephony applications:

Active telephony application on Avaya Vantage™	Avaya Aura® contacts (PPM or Avaya Aura® Device Services)	IP Office directory contacts	BroadSoft directory contacts
Avaya Vantage™ Connect	Accessible through contact search: Yes You can add, edit, and delete personal enterprise contacts.	Accessible through contact search: Yes You can add, edit, and delete contacts in the personal directory.	Accessible through contact search: Yes You can add, edit, and delete contacts in the personal directory.
	Accessible from the standard Android Contacts area: No	Accessible from the standard Android Contacts area: Yes	Accessible from the standard Android Contacts area: Yes
Avaya Equinox®	Accessible through contact search: Yes You can add, edit, and delete personal enterprise contacts.	Not supported.	Not supported.
	Accessible from the standard Android Contacts area: No		

This document is focused on Avaya Aura® and IP Office deployments. For information about BroadSoft, see *Installing and Administering Avaya Vantage™ in a Third Party Call Control Environment*.

Avaya Aura® contact management

In an Avaya Aura® environment, contact search and contact management functionality is provided through the following:

- PPM, which is a service provided by System Manager
- Avaya Aura® Device Services

Related links

[PPM configuration](#) on page 29

[Avaya Aura Device Services configuration](#) on page 30

IP Office contact search options

In the IP Office environment, Avaya Vantage™ Connect and the standard Contacts area (👤) on the Avaya Vantage™ device support a centralized IP Office directory contact search, which includes the following:

- IP Office system contacts and hunt group contacts across a small community network (SCN)
- External contacts in the LDAP, system, and HTTP directories configured on IP Office

LDAP directory search

Avaya Vantage™ supports LDAP directory search. If your enterprise contacts are maintained using an LDAP directory service, you can configure Avaya Vantage™ to connect to the directory server and enable LDAP directory search. Avaya Vantage™ supports any directory server that supports LDAPv3.

Every application that uses the standard Android directory provider can perform an LDAP directory search. You can use Avaya Vantage™ Connect and the standard Android Contacts area available on Avaya Vantage™ to search for LDAP directory contacts.

LDAP directory search configuration

To enable or disable LDAP directory search on Avaya Vantage™, you must set the DIRENABLED_PLATFORM parameter to 1 in the `46xxsettings.txt` file. By default, this parameter is set to 0 (Disabled).

You must also define some additional parameters for Avaya Vantage™ to be able to use the LDAP directory service. For a complete list of parameters, see [LDAP directory service settings](#) on page 226.

Chapter 9: Kiosk mode configuration

You can configure Avaya Vantage™ and supported applications to work in Kiosk mode. With this mode, you can limit the applications that end users can access. Therefore, end users will only be able to access specific applications for a predetermined purpose and will not be able to access the underlying system.

For the device to work as a kiosk, you must pin the Avaya Kiosk application as a special Home screen launcher, where only predefined applications are available to the end user. To avoid getting a scroll bar, Avaya recommends that you define up to six applications to be pinned on the Home screen of the launcher.

When Avaya Vantage™ is in Kiosk mode:

- The end user cannot change the location of the application icons presented on the Home screen of the launcher.
- The device does not display a notification bar.
- The Android **Home** button is unavailable.
- Users can only use the **Back** button to return to the Home screen.

Kiosk mode configuration checklist

No.	Task	Notes	✔
1	Push the Avaya Kiosk application to the Avaya Vantage™ device.	Use the PUSH_APPLICATION parameter to install the Kiosk application on the device. The Avaya Kiosk application APK file is part of the Avaya Vantage™ firmware distribution package. For more information about pushing applications to the device, see Pushing applications onto the Avaya Vantage device on page 97.	

Table continues…

No.	Task	Notes	✔
2	Define the Android applications to be locked on the Home screen.	Use the PIN_APP parameter to pin the required Android applications on the Home screen of the launcher. To avoid getting a scroll bar, Avaya recommends that you define up to six applications to be pinned on the Home screen. You must also include the Avaya Kiosk application package name in the PIN_APP parameter value. For a list of applications that can be pinned in Kiosk mode, see Applications to be pinned in the Kiosk mode on page 110. To unpin, see Unpinning applications in Kiosk mode on page 111.	
3	Customize the wallpaper.	Use the CURRENT_LOGO parameter to set a wallpaper of your choice for the Home screen. Avoid using a white background image. The **Lock** icon used for exiting Kiosk mode is dimmed and difficult to see on a white background.	
4	Reboot the device.	After you complete the necessary configuration, reboot the device to apply the settings.	
5	Log on to the device and start the Kiosk mode.	This is a one-time activity. On subsequent reboots, the special Home screen for the Kiosk mode opens automatically. See Starting Kiosk mode for the first time on page 111.	

Applications to be pinned in the Kiosk mode

Use the PIN_APP parameter to pin the required applications to the Home screen of the launcher. The following is a list of application packages that must be part of the PIN_APP parameter value:

- “com.avaya.endpoint.avayakiosk”: This is the Avaya Kiosk application that provides the special Home screen.

To provide telephony capabilities to end users in the Kiosk mode, you can pin one of the following Avaya CSDK-based telephony applications:

- “com.avaya.android.vantage.basic”: Avaya Vantage™ Connect.
- “com.avaya.android.flare”: Avaya Equinox®.

Changes to the PIN_APP parameter setting only take effect after you reboot the Avaya Vantage™ device.

If you want the lock and logout options to be available in the Kiosk mode, specify the login package, “com.avaya.endpoint.login”, in the PIN_APP parameter value.

An example of the parameter setting:

```
SET PIN_APP
“com.avaya.endpoint.avayakiosk,com.avaya.android.vantage.basic,com.android.chrome,com.av
aya.endpoint.login,com.avaya.endpoint.avayavoiceassistant”
```

Unpinning applications in Kiosk mode

Procedure

To unpin applications, log in using the administrator password defined in ADMIN_PASSWORD or PROCPSWD.

Starting Kiosk mode for the first time

Before you begin

- Complete the configuration tasks. See Kiosk mode configuration checklist on page 109.
- Reboot the Avaya Vantage™ device.

Procedure

1. Log on to the device using the SIP user credentials.
2. On the Home screen, tap the Avaya Kiosk application icon.

   The device displays the special Home screen of the launcher and the icons for the pinned applications.

   On subsequent reboots, the special Home screen opens automatically.

Exiting the Kiosk mode

About this task

Use this procedure to exit the Kiosk mode and access the device normally.

Procedure

1. On the Home screen of the launcher, tap the **Lock** icon located at the bottom-right side of the screen.
2. Enter the administrator password that is configured in ADMIN_PASSWORD or PROCPSWD.
3. Tap **OK**.

Chapter 10: Maintenance

Restoring factory settings from the Settings menu

About this task

Use this procedure to remove all user information stored on the device and to restore original manufacturer settings. This procedure describes how to perform a factory reset from the **Settings** menu on the device. You can also perform a factory reset from the boot recovery menus.

Resetting a device removes the following information from the device:

- All administered values
- User-specified data, including information about all accounts
- Device settings
- Application data and settings that were not loaded as part of the device firmware
- Wi-Fi network configuration

To be able to recover settings or data after a factory reset, you must back them up using a personal third-party account, such as Google™ account.

Before you begin

Get the administrator password that is set through ADMIN_PASSWORD or PROCPSWD.

In an IP Office environment, you must set the ADMIN_PASSWORD using the `SET_ADMIN_PASSWORD=x` NUSN, where `x` is the password that is added to the autogenerated `46xxsettings.txt` file. For example:

```
SET_ADMIN_PASSWORD=Avaya@1234
```

Procedure

1. On the Home screen, tap **Applications**.
2. Tap **Settings**.
3. In the upper-right corner of the screen, tap **Menu** > **Admin login**, and enter the administrator password.
4. Tap **System** > **Reset options** > **Factory data reset**.
5. Tap **Reset device**.
6. Tap **Erase everything**.

   The device restarts. The process takes approximately 20 minutes to complete.

Related links

Firmware is corrupted on page 129

Rebooting Avaya Vantage™ from the Settings menu

About this task

Use this procedure to restart Avaya Vantage™ manually. You can also reboot Avaya Vantage™ to initiate an upgrade.

Procedure

1. Go to the **Settings** menu.
2. Tap **System** > **Reset options**.
3. Tap **Reboot** and then tap **Yes** to confirm.

   If the file server contains a new version of software, Avaya Vantage™ downloads and installs updates according to the configured upgrade policy.

Failover and survivability

If the control server that is currently active fails, the exact behavior of a communication application is determined by the application's internal policies. The exact list of operations that can be performed during failover might be different for each application.

Debugging and monitoring options

Avaya Vantage™ enables you to generate debug and audio debug reports that support personnel can use to diagnose audio and video issues on the device. The debug report contains various detailed logs. You can also generate a separate audio report that contains only audio logs. You can enable SSH remote access on the device for Avaya support personnel to access the device for remote troubleshooting.

When you are using the Avaya Equinox® client as the active telephony application on Avaya Vantage™, you can also allow the client to collect detailed diagnostic logs and quality-related data. From the Avaya Equinox® client settings, navigate to the Support tab and turn on **Enable Diagnostics**. Additionally, you can view the audio and video statistics of an ongoing conference call by pressing and holding the call timer on Avaya Equinox®. For more information about collecting diagnostics and quality statistics, see:

- "Support, alerts, and log files" in *Using Avaya Equinox® for Android, iOS, Mac, and Windows*.

- “Network considerations and diagnostics” in *Planning for and Administering Avaya Equinox® for Android, iOS, Mac, and Windows*.

Enabling verbose logging

About this task

Use this procedure to set the scope of log messages and the events to be included in log messages.

Before you begin

Get the administrator password that is set through ADMIN_PASSWORD or PROCPSWD.

Procedure

1. On the Home screen, tap **Applications**.
2. Tap **Settings**.
3. In the upper-right corner of the screen, tap **Menu** > **Admin login**, and enter the administrator password.
4. Tap **Debugging options**.
5. Tap **Log**.
6. Tap **Log Categories** and select the log categories to be included in log messages.
7. Tap **Remote Logging** to configure parameters for system logging.
    a. Select the **Remote Logging** check box to enable system logging.
    b. From the **Remote Log Level** list, select the events to be included in log messages.

       By default, logs only include errors.
    c. In the **Remote log server** field, provide the address of the server where you want logs to be stored.
8. Tap **Local logging** to configure parameters for local logging.
    a. Select the **Local Logging** check box to enable local logging.
    b. From the **Local Log Level** list, select the events to be included in log messages.

       The default setting is 4, which displays warnings.
    c. Tap **Clear Local Log Files** to delete local logging files and core dump files.

Generating a debug report

About this task

Use this procedure to generate a debug report that captures detailed event and audio logs for use by support personnel. The debug option is also available when you are logged out of the device.

You can save the report in the internal flash memory of Avaya Vantage™, on a USB mass storage device, or on an HTTP server. When you generate a debug report, Avaya Vantage™ overwrites any existing report, if applicable. The report remains available in the internal flash memory for up to 14 days.

Record the encryption password carefully because you cannot decrypt the report without the password.

Before you begin

To save the report on a USB mass storage device, connect it to the Avaya Vantage™ device.

Procedure

1. Tap **Settings**.
2. Tap **Debugging options** > **Generate debug report**.
3. **(Optional)** On the Debug report page, complete the following information as required:
   - **Select date that the problem was observed**
   - **Select time that the problem was observed**
   - **Select Problem**
   - **Problem Description**
4. Enter the password for encryption and decryption of the report.

   If the DEBUG_REPORT_PASSWORD parameter is configured, the password is populated automatically based on the parameter value. The password is masked in the field. You cannot modify the password that comes from the DEBUG_REPORT_PASSWORD parameter.
5. Select one of the following destinations to store the report:
   - **Internal flash memory**
   - **HTTP/S file server**
   - **USB flash drive**

   The **USB flash drive** option is available only when a USB mass storage device is already connected to Avaya Vantage™.

   On K155, you must scroll down to view and select an option.

   To copy and share a report easily from K155, Avaya recommends that you choose the **HTTP/S file server** or **USB flash drive** option to store the report. If you store the report in the internal flash memory on K155, you need to follow a different procedure to retrieve the report from the internal memory.
6. **(Optional)** If you select the **HTTP/S file server** option, enter the HTTP server address and path, as well as the user name and password if server authentication is required.

   If the BRURI parameter is configured, the HTTP server details are populated automatically in the respective fields based on the BRURI value. You cannot change these values.

If the BRURI parameter is not configured, the HTTP server detail entries are saved for the next debug or audio reports. You can modify these details.

7. Tap **Generate**.

   Avaya Vantage™ generates a debug report, `debugreport.tar.gz`, and stores it in the internal flash memory at `/mnt/sdcard/AvayaVantageLogs`. If you select the USB flash drive or HTTP/S option, a copy of the report is saved in the selected destination.

8. **(Optional)** On K165 and K175, to share the report, click <.

   You can share the report through most email systems, with the exception of Gmail, which does not support `tar.gz` files. Instead of Gmail, you can use Google Drive.

   The success of the sharing operation depends on the file size and the selected option. For example, while most email systems support an attachment that is up to 20 MB only, Google Drive can support up to 10 GB.

   The < icon is not available if you are logged out of the device.

Related links

Copying debug report from internal flash memory on page 118

Generating an audio report

About this task

Use this procedure to generate a separate audio debug report instead of a complete debug report. The audio debugging option is also available when you are logged out of the device.

You can save the report in the internal flash memory of Avaya Vantage™, on a USB mass storage device, or on an HTTP server. When you generate an audio report, Avaya Vantage™ overwrites any existing report, if applicable. The report remains available in the internal flash memory for up to 14 days.

Ensure that you record the encryption password carefully because you cannot decrypt the report without the password.

Before you begin

- To enable audio debug recording, ensure that ENABLE_RECORDING is set to `1`. You can set this parameter in the settings file or through Avaya Aura® Device Services for Avaya Aura® deployments.
- To save the report on a USB mass storage device, connect it to the Avaya Vantage™ device.

Procedure

1. Tap **Settings**.
2. Tap **Debugging options** > **Generate audio report**.
3. **(Optional)** On the Audio report page, complete the following information as required:
   - **Select date that the problem was observed**

- **Select time that the problem was observed**
- **Select Problem**
- **Problem Description**

4. Enter the password for encryption and decryption of the report.

   If the DEBUG_REPORT_PASSWORD parameter is configured, the password is populated automatically based on the parameter value. The password is masked in the field. You cannot modify the password that comes from the DEBUG_REPORT_PASSWORD parameter.

5. Select one of the following destinations to store the report:

   - **Internal flash memory**
   - **HTTP/S file server**
   - **USB flash drive**

   The **USB flash drive** option is available only when a USB mass storage device is already connected to Avaya Vantage™.

   On K155, you must scroll down to view and select an option.

   To copy and share a report easily from K155, Avaya recommends that you choose the **HTTP/S file server** or **USB flash drive** option to store the report. If you store the report in the internal flash memory on K155, you need to follow a different procedure to retrieve the report from the internal memory.

6. **(Optional)** If you select the **HTTP/S file server** option, enter the HTTP server address and path, as well as the user name and password if server authentication is required.

   If the BRURI parameter is configured, the HTTP server details are populated automatically in the respective fields based on the BRURI value. You cannot change these values.

   If the BRURI parameter is not configured, the HTTP server detail entries are saved for the next debug or audio reports. You can modify these details.

7. Tap **Generate**.

   Avaya Vantage™ generates an audio report, `media_report.tar.gz`, and stores it in the internal flash memory at `/mnt/sdcard/AvayaVantageLogs`. If you select the USB flash drive or HTTP/S option, a copy of the report is saved in the selected destination.

8. **(Optional)** On K165 and K175, to share the report, click <.

   You can share the report through most email systems, with the exception of Gmail, which does not support `tar.gz` files. Instead of Gmail, you can use Google Drive.

   The success of the sharing operation depends on the file size and the selected option. For example, while most email systems support an attachment that is up to 20 MB only, Google Drive can support up to 10 GB.

   The < icon is not available if you are logged out of the device.

Related links

Copying debug report from internal flash memory on page 118

Copying debug report from internal flash memory

About this task

Use this procedure to copy log reports from the internal flash memory of Avaya Vantage™ to a USB flash drive. This procedure is useful to retrieve a debug report from the internal flash memory of a K155 device, which does not support the Android share option.

Before you begin

Connect the USB flash drive to the Avaya Vantage™ device.

Procedure

1. Tap **Settings**.
2. Tap **Storage** > **Files** > **AvayaVantageLogs**.
3. Long press the debug archive file to select it.
4. In the upper-right corner of the screen, tap **More Menu** > **Move to**.
5. On the new page, tap ≡ and then choose **USB DRIVE**.
6. Tap **MOVE**.

Opening a debug or audio report

About this task

Use this procedure to decrypt a debug or audio report. To review log data, you must decrypt the reports.

Procedure

1. Copy the report to a folder on your computer.
2. Open the command line interface and navigate to the folder where you copied the report.
3. Run one of the following commands:
   - To decrypt the debug report:

     ```
     openssl aes-128-cbc -d -salt -k <password> -in debugreport.tar.gz
     -out debugreport.decrypted.tar.gz
     ```

   - To decrypt the audio report:

     ```
     openssl aes-128-cbc -d -salt -k <password> -in
     media_report.tar.gz -out media_report.decrypted.tar.gz
     ```

   Replace *<password>* with the password that you provided when generating the report.

On Windows-based computers, you can install OpenSSL from binaries to run the **openssl** command.

The decrypted reports are saved in the following archive files:

- Debug report: `debugreport.decrypted.tar.gz`
- Audio report: `media_report.decrypted.tar.gz`

4. To extract the decrypted archive file, do one of the following:
   - On Windows-based computers, use any program that can extract zip archives.
   - On Linux systems, run the following command:

     ```
     tar -zxvf <archive_file_name>
     ```

Configuring the SSH server settings

About this task

Use this procedure to enable challenge-response authentication on SSH.

Before you begin

Get the administrator password that is set through ADMIN_PASSWORD or PROCPSWD.

Procedure

1. Tap **Settings**.
2. In the upper-right corner of the screen, tap **Menu** > **Admin login**, and enter the administrator password.
3. Tap **Debugging options** > **SSH server settings**.
4. **(Optional)** To enable SSH remote access to the device, enable **SSH server mode**.
5. **(Optional)** To enable sroot access to the device, enable **SSH server root mode**.

Enabling port mirroring

About this task

Use this procedure to copy the Ethernet packets that are transmitted or received on the network to the secondary Ethernet port.

This functionality is only available if you have an embedded Ethernet switch on Avaya Vantage™.

Before you begin

Get the administrator password that is set through ADMIN_PASSWORD or PROCPSWD.

Procedure

1. Tap **Settings**.

2. In the upper-right corner of the screen, tap **Menu** > **Admin login**, and enter the administrator password.
3. Tap **Debugging options** > **Port mirroring**.
4. Select the **Port mirroring** check box.

Pinging a device on the network

About this task

Use this procedure to ensure that Avaya Vantage™ can reach a particular IP address or a host on the network.

This option is also available when you are logged out of the device.

Procedure

1. Tap **Settings**.
2. Tap **Debugging options** > **Host to ping**.
3. Enter the IP address or host name of the device.
4. Tap **OK**.

   If Avaya Vantage™ can resolve the IP address, it displays the ping statistics that include the number of packets transmitted and received, packet loss percentage, and time taken.

Chapter 11: Device upgrade

You must upgrade the Avaya Vantage™ firmware to keep the device up-to-date, gain access to new features, and enhance stability and security.

Avaya Vantage™ downloads upgrade images and configuration files from a file server by using HTTP or HTTPS.

Firmware upgrade options

You can perform the device firmware upgrade in the following ways:

- Automatic: Configure the device to poll periodically for a newer version of the software in the file server and automatically download the upgraded software.

  In the IP Office environment, the IP Office system uses the push method for software upgrades. Therefore you must disable the automatic poll mechanism by setting the UPGRADE_POLICY parameter to 0.

- Manual: Upgrade the device manually without the device waiting for a polling interval by:
  - Using the **Update now** option in the **Settings** > **System** > **About Avaya Vantage** > **Software information** menu on the device. With this option, the device immediately downloads and installs the software if an updated software version is available.
  - Rebooting the device from the **Settings** > **System** > **Reset options** menu on the device, System Manager, IP Office System Status Application, or IP Office System Monitor. If an updated version of software is available, then the device upgrades immediately after the reboot or later according to the upgrade policy configured for the device.

Device upgrade process

Avaya Vantage™ upgrade images consist of packages. During the upgrade process, Avaya Vantage™ downloads and installs only new or changed packages from the upgrade image.

To perform an upgrade, Avaya Vantage™ does the following:

1. Receives the file server address from DHCP, LLDP, Device Enrollment Services, or the device interface.
2. Connects to the file server and searches for the `K1xxSupgrade.txt` file.

   If IP Office is the file server, it auto-generates an appropriate file unless one has been uploaded to its file storage.

3. Compares its software version with the version specified in the `K1xxSupgrade.txt` file.
4. If a newer version of a software distribution package is available, downloads the required package.
5. Applies the new software.
6. Locates and downloads the `46xxsettings.txt` settings file that is specified in the `K1xxSupgrade.txt` file.

   You must ensure that the `46xxsettings.txt` file is available on the file server. Otherwise Avaya Vantage™ does not apply the software updates.

   If IP Office is the file server, it auto-generates an appropriate file and adjusts various settings in that auto-generated file to match the settings in the IP Office system configuration.

Firmware upgrade prerequisites

Before upgrading the device firmware, you must perform the following actions:

- Provide a path to the file server in the FILE_SERVER_URL parameter. The device can receive the file server address from DHCP, LLDP, Device Enrollment Services, or the device interface.

  Note:

  If FILE_SERVER_URL is not defined, Avaya Vantage™ uses HTTPSRVR, HTTPPORT, and HTTPDIR for an HTTP file server, or TLSSRVR, TLSPORT, and TLSSIR for an HTTPS file server.
- Ensure that the upgrade-related parameters, such as UPGRADE_POLICY and UPGRADE_POLLING_PERIOD, that control the upgrade policy are set correctly in the `46xxsettings.txt` file according to your requirement.
- Save the updated `46xxsettings.txt` settings file on the file server.

  If you change the parameter configuration for the upgrade policy, Avaya Vantage™ implements these changes after a reboot or the next polling.
- Download the newest firmware distribution package on the file server.

Parameters for defining upgrade policy

To define the upgrade policy for Avaya Vantage™ devices, you can set the following parameters:

Parameter	Default value	Description
UPGRADE_POLLING_PERIOD	60	Specifies the interval between two consecutive attempts of polling the upgrade files and the settings files. The polling interval is measured in minutes. Assign one of the following values: • 0: Polling is disabled. • 5 to 10080: Polling is enabled. The minimum polling interval you can define is 5 minutes. The parameter value range supported by Avaya Vantage™ is 0, 5-10080. If you define a value from 1 to 4, Avaya Vantage™ considers it as invalid and takes the default value of 60 minutes. In each polling, the upgrade files and the settings files are downloaded if modified. If any change is identified to the settings file, then the device applies the new settings. The device checks whether a newer version of the firmware is available on the file server. If a newer version is detected, then it is downloaded and installed according to the upgrade rules defined by the parameters UPGRADE_POLICY, UPGRADE_DLOAD_START, UPGRADE_DLOAD_END, UPGRADE_INSTALL_DATE_TIME, DLOAD_RND_AFTER_RESET, and DLOAD_RND. If the UPGRADE_POLICY value is 0, then UPGRADE_POLLING_PERIOD is ignored. The upgrade and settings files are downloaded only after a reboot. For upgrades to take place immediately after a polling, you must set UPGRADE_POLICY to 2.
UPGRADE_POLICY	0	Specifies the upgrade policy. Assign one of the following values: • 0: Avaya Vantage™ downloads and installs the firmware files after a reboot only. The device does not automatically poll the server for upgrade and configuration files at intervals. For IP Office deployments, use this value. • 1: Avaya Vantage™ downloads and installs the firmware files according to upgrade policy rules and management application settings. Avaya Vantage™ does not perform the upgrade after a reboot. • 2: Avaya Vantage™ downloads and installs the firmware files after any reboot and according to upgrade policy rules and management application settings. **Note:** If you want to enforce an immediate upgrade at a device reboot instead of waiting for a scheduled upgrade, set the UPGRADE_POLICY value to 2.

Table continues…

Parameter	Default value	Description
UPGRADE_DLOAD_START	00	Specifies a time when Avaya Vantage™ starts trying to download new upgrade image files. The value of parameter is a string in the [Ddd]hh format, where: • [Ddd] is a day of the week. The valid values are Sun, Mon, Tue, Wed, Thu, Fri, or Sat. This component is optional. If the component is omitted, Avaya Vantage™performs polling every day. • hh is one or two numeric digits representing the hour of the day. The range is from 0 to 23. If the value of UPGRADE_DLOAD_START is equal to the value of UPGRADE_DLOAD_END, then no polling period is specified and Avaya Vantage™ can download upgrade files at any time. UPGRADE_DLOAD_START and UPGRADE_DLOAD_END are ignored if UPGRADE_POLICY is set to 0. These parameters are applicable only when UPGRADE_INSTALL_DATE_TIME is configured to a *future* date.
UPGRADE_DLOAD_END	00	Specifies a time when Avaya Vantage™ stops trying to download new upgrade image files. Even after the specific time is up, any ongoing file downloads are taken to completion. However, new file downloads are scheduled for the next download timeframe. The parameter value is in the format similar to UPGRADE_DLOAD_START.
UPGRADE_INSTALL_DATE_TIME	1970-01-01T00:00	Specifies the date and time when Avaya Vantage™ starts to install the downloaded upgrade files. The value of the parameter uses the YYYY-MM-DDThh:mm format, where: • YYYY is four numeric digits representing the year • MM is two numeric digits representing the month. • dd is two numeric digits representing the day of the month. • T is the time separator. • hh is two numeric digits representing a hour of the day. The range is from 0 to 23. • mm is two numeric digits representing minutes of the hour. The range is from 0 to 59. If the default value is used or the value is set to a past date and UPGRADE_POLICY is set to 2, Avaya Vantage™ installs upgrade files immediately after downloading irrespective of other parameter definitions.

Table continues…

Parameter	Default value	Description
DLOAD_RND_AFTER_RESET	0	Specifies the maximum length of the interval Avaya Vantage™ waits after reboot before attempting to download the upgrade files. The interval is measured in seconds. Assign one of the following values: • 0: The interval is not specified. Avaya Vantage™ starts the download immediately after reboot. • 1 – 32767: After reboot, Avaya Vantage™ delays the download. The exact delay interval is determined as a random number in a range between 0 and the DLOAD_RND_AFTER_RESET value. Avaya recommends that you configure randomized download time in an environment where multiple devices access the file server at the same time.
DLOAD_RND	3600	Specifies the maximum length of an interval between two consecutive attempts of background downloading. The interval is measured in seconds. Assign one of the following values: • 0: The interval is not specified. Avaya Vantage™ performs background download attempts without delay. • 1 – 32767: Avaya Vantage™ inserts a delay between two background download attempts. The exact delay interval is determined as a random number in a range between 0 and the DLOAD_RND value.

Automatic upgrades

You can configure the settings file to allow Avaya Vantage™ to periodically check for a newer version of software on the file server. If the file server contains new software, Avaya Vantage™ automatically downloads and installs upgrade files. Avaya Vantage™ downloads upgrade files in the background so the download does not affect the user experience.

Automatic upgrades do not interrupt active calls. Avaya Vantage™ starts the upgrade after all calls are completed.

You can specify the following upgrade policies in the settings file:

- Schedule the download for a specific time and day of the week.
- Schedule installation for a specific date and time.
- Set the polling interval for a new image file.

For Avaya Vantage™ to automatically download and install upgrade files, set the UPGRADE_POLICY parameter value to 1 or 2.

Related links

Parameters for defining upgrade policy on page 122

Scenario: Performing a scheduled upgrade

About this task

This scenario describes how to perform a scheduled upgrade for multiple Avaya Vantage™ devices together on January 25, 2019.

Procedure

1. Ensure that the devices to be upgraded point to the correct file server address.
2. In the settings file, set the following parameters for the scheduled upgrade:

   ```
   SET UPGRADE_DLOAD_START 22
   SET UPGRADE_DLOAD_END 23
   SET UPGRADE_POLICY 1
   SET UPGRADE_INSTALL_DATE_TIME 2019-01-25T22:00
   ```

   ❗ **Important:**

   Defining UPGRADE_INSTALL_DATE_TIME correctly is very important. If the value is set to a past date or left at the default setting, the installation date is considered to be missed and Avaya Vantage™ starts downloading and installing upgrade files immediately irrespective of other parameter definitions.
3. Save the updated file on the file server.
4. Wait for the next polling period to occur so that the device downloads the settings file and applies the new upgrade schedule.

   Avaya Vantage™ downloads the settings file and applies the configuration based on the polling interval that you define in UPGRADE_POLLING_PERIOD. Do not download the firmware distribution package to the file server before the polling occurs. Otherwise, the device will download the package and start upgrading according to the earlier upgrade rules instead of the new upgrade schedule.
5. Download the latest firmware distribution package to the file server.

Result

Every night from 10 PM to 11 PM until January 25, 2019, Avaya Vantage™ tries to download the new image files from the file server. At 10 PM on 2019-01-25, all devices pointing to the file server are upgraded together. The UPGRADE_POLICY value of 1 ensures that the devices do not upgrade during a reboot before the scheduled date and time.

If you want devices to upgrade at a reboot as well as at the scheduled time, set the UPGRADE_POLICY value to 2.

Upgrading Avaya Vantage™ using the Update option

About this task

Use this procedure to manually check for upgrade files and to download and install upgrade files immediately if updated software is available.

Procedure

1. Go to the **Settings** menu of the device.
2. Tap **System** > **About Avaya Vantage** > **Software information**.
3. Tap **Update now**.

   If the file server contains new software, Avaya Vantage™ starts the upgrade. If Avaya Vantage™ has the latest software, the `Your phone is up to date` message is displayed on the screen.

Upgrading Avaya Vantage™ using System Manager

About this task

Use this procedure to perform a bulk upgrade of Avaya Vantage™ in the Avaya Aura® environment.

The actual procedure might differ depending on the System Manager version you are using. For more information, see *Administering Avaya Aura® System Manager*.

Procedure

1. Log in to System Manager.
2. In the System Manager interface, provide the range of Avaya Vantage™ IP addresses that require an upgrade.
3. Click **Reboot**.

   After reboot, Avaya Vantage™ downloads the upgrade file from the file server. Avaya Vantage™ compares the current version of the software with the version specified in the upgrade file. If the file server contains the newer version of software, Avaya Vantage™ performs the upgrade.

Upgrading Avaya Vantage™ using IP Office

About this task

Use this procedure to perform an upgrade of Avaya Vantage™ in the IP Office environment.

Procedure

To upgrade a specific Avaya Vantage™ device, do the following:

1. Restart the device using one of the following IP Office applications:

   - System Status Application
   - System Monitor

   For more information, see *Using Avaya IP Office™ Platform System Monitor* and *Using Avaya IP Office™ Platform System Status Application*.

   If an updated version of software is available for Avaya Vantage™, then the device upgrades immediately after the reboot.

To upgrade all Avaya Vantage™ devices, do the following:

2. Upgrade the IP Office system using the Upgrade Wizard of IP Office Manager.
3. Select the check box to restart all SIP devices in the environment after the system upgrade.

   For more information about upgrading through IP Office Manager, see *Administering Avaya IP Office™ Platform with Manager*.

   The upgrade process updates any SIP phone firmware files held on the system. If an updated version of software become available for Avaya Vantage™, then the device upgrades immediately after the reboot.

CSDK-based application upgrades

Avaya Vantage™ Connect or Avaya Equinox® can be configured as the active CSDK-based telephony application on Avaya Vantage™. You can update the CSDK-based application on Avaya Vantage™ through the following options:

- The “Push application” method. Through the PUSH_APPLICATION parameter, you can initiate automatic installation of the latest version of the application without any intervention from the end user.
- Google Play. If a newer version of Avaya Vantage™ Connect or Avaya Equinox® becomes available in Google Play, Avaya Vantage™ displays an upgrade notification. End users can update the application from Google Play for K165 and K175.
- Android Package Kits (APKs). These APKs of the CSDK-based applications are bundled in the Avaya Vantage™ firmware package file and pushed automatically to the Avaya Vantage™ device. If installation of applications from unknown sources is enabled, then end users can also download application APKs from other sources, such as emails or websites.

For more information about installing and updating applications on Avaya Vantage™, see the sections under Application setup on page 96.

Chapter 12: Troubleshooting

This chapter describes known troubleshooting issues that customers might encounter while performing installation, configuration, and maintenance.

Firmware is corrupted

Condition

Firmware is corrupted so you must restore firmware to its original state.

Cause

Firmware corruption can occur because of a power outage when the device is upgraded, or because of a corrupt system file or an invalid checksum file.

Solution

Use the boot recovery procedure to clear the device and restore Avaya Vantage™ to its factory settings.

Use the boot recovery menu options only when the device does not boot up properly for some reason. The boot recovery menu provides you options to delete all stored data or swap the boot banks on the device and try to bring up the Android operating system again.

1. Connect an external USB keyboard to the device.

   If the keyboard is USB Type-A, then you require a USB Type-A to Type-C adapter to connect to the USB Type-C port on the K165 or K175 device.

2. Reboot the device.
3. Press and hold **Volume Up**.

   After the boot, Avaya Vantage™ displays the Recovery menu.

   Note:

   You can navigate within the Recovery menu using the following buttons:

   - To navigate between menu options, press **Volume Up** or **Volume Down**.
   - To select the menu option, press and hold **Volume Up** or **Volume Down**.

4. Tap **Enter BRM** to navigate to Avaya Vantage™ boot recovery options.
5. Enter the administrator password using the external USB keyboard connected to the device.

Avaya Vantage™ starts the boot recovery procedure and displays a list of options.

6. Select one of the following options:
   - **Reboot**: Stops the boot recovery procedure and reboots the device.
   - **Clear phone** : Resets the device to its factory settings.
   - **Erase /cache only**: Erases the cache partition of the device that is primarily used to store recovery logs and temporary files.
   - **Erase /data only**: Erases the data stored on the device.
   - **Swap memory banks**: Swaps the boot banks on the device so the primary boot bank becomes the secondary boot bank. Avaya Vantage™ always has 2 copies of firmware:
     - Current firmware. Avaya Vantage™ uses this firmware to boot up.
     - Previously installed firmware. This firmware is updated every time the firmware on the device is upgraded.
   - **Force SELinux Permissive mode**: Starts the system with SELinux in Permissive mode. When Permissive mode is enabled, the SELinux security policy is disabled, but the system still logs all events related to the security policy.

Video is not available

Condition

Video is not visible during calls.

Solution

1. Do one of the following:
   - If your deployment uses Avaya Aura®, ensure that the endpoint is configured with video enabled in System Manager and Communication Manager.

     From the list of features, enable **IP Softphone** and **IP Video Softphone**.
   - If your deployment uses IP Office, ensure that the IP Office server is configured to support video.
2. In the settings file, set ENABLE_VIDEO to `1`.

   In an IP Office deployment, if this parameter is not in the automatically generated settings file, configure it in the `46xxspecials.txt` file.

Video remains stuck after it is resumed

Condition

In an Avaya Aura® environment, video is paused and then resumed. The video remains stuck for one or two minutes even after it is resumed.

Solution

In Communication Manager, on the system-parameters feature form, set **Long Hold Call Timer (seconds)** to `0`.

Screen lock is enabled but the swipe to unlock action does not prompt for the password

Condition

Screen lock is enabled on Avaya Vantage™. However, when you swipe up on the Lock screen, the device is unlocked without any prompt for the password.

Solution

- In the settings file, set ENABLE_PHONE_LOCK to `1`.
- Ensure that the password for the SIP extension that you use to log on to the device contains a minimum of 5 characters.

  If the SIP extension password length is less than 5 characters, the device does not get locked.
- To activate the Lock screen in the Kiosk mode, add the “com.android.systemui” package to the application list in the PIN_APP value.

  Example:

  ```
  SET PIN_APP
  “com.avaya.endpoint.avayakiosk,com.avaya.android.vantage.basic,com.avaya.endpoint.lo
  gin,com.android.systemui”
  ```

Software distribution packages cannot be uploaded using the Utility Server

Condition

You might experience issues uploading the Avaya Vantage™ software distribution zip file to the Utility Server, which is embedded in Avaya Aura® Device Services. The Utility Server web interface has a file upload limit of 800 MB. The size of the software distribution package that is meant for K155, K165, and K175 combined is approximately 1 GB.

Solution

Use the **`SCP`** command to copy the zip file to the Utility Server. Then use the Utility Server web interface to activate the Avaya Vantage™ software package. For more information about working with the Utility Server web interface, see *Administering Avaya Aura® Device Services*.

Some applications do not support Android 8.1

Condition

Some Android applications do not function as expected after the Avaya Vantage™ firmware is upgraded to Release 2.0.1. These applications do not support Android 8.1 and can only run on Android 6.x.

Important:

Avaya Vantage™ Connect Release 2.0.1 is only supported with Avaya Vantage™ Release 2.0.1 firmware. Earlier Avaya Vantage™ firmware versions are not supported. You can only install Avaya Vantage™ Connect 2.0.1 on an Avaya Vantage™ device with Android 8.1.

Solution

Downgrade the Avaya Vantage™ firmware to Release 2.0 so that the Android OS is also downgraded to 6.0.1.

1. Ensure that upgrade parameters, such as UPGRADE_POLICY and UPGRADE_POLLING_PERIOD, are set correctly in the settings file.
2. Save the updated settings file on the file server.
3. Ensure that the Avaya Vantage™ device is pointing to the correct file server.
4. Download the Release 2.0 firmware distribution package to the file server.

   Avaya Vantage™ automatically performs a factory data reset. This is a software-triggered factory reset, which cannot be avoided. At the next polling period, Avaya Vantage™ downloads the Release 2.0 upgrade files and installs the files according to the configured upgrade policy.
5. Re-configure the Avaya Vantage™ device as required.

   If it is not done automatically, you must set up the file server. You must also add any required accounts, such as your Google account.

Some applications are not downgrading on K175 with Android 8.1

Condition

On the Avaya Vantage™ K175 device with Android 8.1, some applications, such as Avaya Equinox®, do not downgrade to an earlier release through the PUSH_APPLICATION method. Instead, the current release of the application remains on the device.

Solution

1. Uninstall the existing application version:
   a. In the `46xxsettings.txt` file, from the `SET PUSH_APPLICATION` command string, delete the path to the application.

   b. Save the file.

      On the next polling period, the application is uninstalled from the device. If you want to implement this change immediately, you can reboot the device.

   ⚠ **Warning:**

   Uninstalling results in the loss of application data.

2. After the application is uninstalled, push the earlier release of the application to the device:

   a. In the `46xxsettings.txt` file, in the `SET PUSH_APPLICATION` command string, add the path to the application APK file that you want to install.

   b. Save the file.

      On the next polling period, Avaya Vantage™ downloads the settings file and the application package, and installs the application on the device. If you want to implement this change immediately, you can reboot the device.

Chapter 13: Resources

Documentation

See the following related documents at http://support.avaya.com. Many of these documents are also available at http://documentation.avaya.com/.

Title	Use this document to:	Audience
Overview		
Avaya Aura® Session Manager Overview and Specification	Understand characteristics and capabilities, including feature descriptions, interoperability, performance specifications, security, and licensing requirements of Avaya Aura® Session Manager.	- Customers - Sales, services, and support personnel
Deploying		
Installing and Administering Avaya Vantage™ in a Third Party Call Control Environment	Install, configure, and maintain Avaya Vantage™ in a third-party call control environment. **Note:**	Implementation personnel and administrators
Deploying Avaya Aura® Session Manager	Deploy Avaya Aura® Session Manager.	Implementation personnel and service administrators
Deploying Avaya Aura® System Manager on System Platform	Deploy Avaya Aura® System Manager.	Implementation personnel and service administrators
Deploying Avaya Aura® Conferencing: Basic Installation	Deploy Avaya Aura® Conferencing.	Implementation personnel and service administrators
Avaya IP Office™ Platform SIP Telephone Installation Notes	Deploy SIP endpoints on IP Office.	Implementation personnel and service administrators
Administering		

Table continues…

Title	Use this document to:	Audience
Administering Avaya Aura® Session Manager	Administer and maintain Avaya Aura® Session Manager.	System administrators
Upgrading Avaya Aura® Session Manager	Upgrade Avaya Aura® Session Manager.	System administrators
Administering Avaya Aura® Conferencing	Administer Avaya Aura® Conferencing.	System administrators
Administering Avaya Session Border Controller for Enterprise	Administer Avaya Session Border Controller for Enterprise.	System administrators
Administering Avaya IP Office™ Platform with Manager	Perform administration tasks using IP Office Manager.	System administrators
Maintaining		
Maintaining Avaya Aura® Session Manager	Maintain Avaya Aura® Session Manager.	System administrators and IT personnel
Troubleshooting Avaya Aura® Session Manager	Troubleshoot known issues for Avaya Aura® Session Manager.	System administrators and IT personnel
Using		
Using the Avaya Vantage™ Device	Use the Avaya Vantage™device.	• End users • Support personnel
Using Avaya Vantage™ Connect	Use the Avaya Vantage™ Connect application.	End users
Using Avaya Equinox® for Android, iOS, Mac, and Windows	Use Avaya Equinox®.	• End users • Support personnel
Using Avaya Device Enrollment Services to Manage Endpoints	Use Device Enrollment Services to manage endpoints or devices.	Non-Avaya users, including service providers and resellers

Finding documents on the Avaya Support website

Procedure

1. Go to https://support.avaya.com.
2. At the top of the screen, type your username and password and click **Login**.
3. Click **Support by Product** > **Documents**.
4. In **Enter your Product Here**, type the product name and then select the product from the list.
5. In **Choose Release**, select an appropriate release number.

6. In the **Content Type** filter, click a document type, or click **Select All** to see a list of all available documents.

   For example, for user guides, click **User Guides** in the **Content Type** filter. The list displays the documents only from the selected category.

7. Click **Enter**.

Avaya Documentation Portal navigation

Customer documentation for some programs is now available on the Avaya Documentation Portal at https://documentation.avaya.com.

Important:

For documents that are not available on the Avaya Documentation Portal, click **Support** on the top menu to open https://support.avaya.com.

Using the Avaya Documentation Portal, you can:

- Search for content in one of the following ways:
  - Type a keyword in the **Search** field.
  - Type a keyword in **Search**, and click **Filters** to search for content by product, release, and document type.
  - Select a product or solution and then select the appropriate document from the list.
- Find a document from the **Publications** menu.
- Publish a PDF of the current section in a document, the section and its subsections, or the entire document.
- Add content to your collection by using **My Docs** (☆).

  Navigate to the **My Content** > **My Docs** menu, and do any of the following:
  - Create, rename, and delete a collection.
  - Add content from various documents to a collection.
  - Save a PDF of selected content in a collection and download it to your computer.
  - Share content in a collection with others through email.
  - Receive content that others have shared with you.
- Add yourself as a watcher by using the **Watch** icon (👁).

  Navigate to the **My Content** > **Watch list** menu, and do the following:
  - Set how frequently you want to be notified, starting from every day to every 60 days.
  - Unwatch selected content, all content in a document, or all content on the Watch list page.

  As a watcher, you are notified when content is updated or deleted from a document, or the document is removed from the portal.

- Share a section on social media platforms, such as Facebook, LinkedIn, Twitter, and Google +.
- Send feedback on a section and rate the content.

Note:

Some functionality is only available when you log in to the portal. The available functionality depends on the role with which you are logged in.

Viewing Avaya Mentor videos

Avaya Mentor videos provide technical content on how to install, configure, and troubleshoot Avaya products.

About this task

Videos are available on the Avaya Support website, listed under the video document type, and on the Avaya-run channel on YouTube.

Procedure

- To find videos on the Avaya Support website, go to https://support.avaya.com/ and do one of the following:
  - In **Search**, type `Avaya Mentor Videos` to see a list of the available videos.
  - In **Search**, type the product name. On the Search Results page, select **Video** in the **Content Type** column on the left.
- To find the Avaya Mentor videos on YouTube, go to www.youtube.com/AvayaMentor and do one of the following:
  - Enter a key word or key words in the **Search Channel** to search for a specific product or topic.
  - Scroll down Playlists, and click the name of a topic to see the available list of videos posted on the website.

  Note:

  Videos are not available for all products.

Support

Go to the Avaya Support website at https://support.avaya.com for the most up-to-date documentation, product notices, and knowledge articles. You can also search for release notes, downloads, and resolutions to issues. Use the online service request system to create a service request. Chat with live agents to get answers to questions, or request an agent to connect you to a support team if an issue requires additional expertise.

Using the Avaya InSite Knowledge Base

The Avaya InSite Knowledge Base is a web-based search engine that provides:

- Up-to-date troubleshooting procedures and technical tips
- Information about service packs
- Access to customer and technical documentation
- Information about training and certification programs
- Links to other pertinent information

If you are an authorized Avaya Partner or a current Avaya customer with a support contract, you can access the Knowledge Base without extra cost. You must have a login account and a valid Sold-To number.

Use the Avaya InSite Knowledge Base for any potential solutions to problems.

1. Go to http://www.avaya.com/support.
2. Log on to the Avaya website with a valid Avaya user ID and password.

   The system displays the Avaya Support page.
3. Click **Support by Product** > **Product Specific Support**.
4. In **Enter Product Name**, enter the product, and press `Enter`.
5. Select the product from the list, and select a release.
6. Click the **Technical Solutions** tab to see articles.
7. Select relevant articles.

Appendix A: Supported configuration parameters

Parameters for controlling configuration parameter downloads

Parameter	Type	Default value	Is set to default on reset	Description
GROUP	Numeric	0	Yes	Group identifier to download a specific configuration set for a dedicated user group during startup. The range is from 0 to 999. The parameter can be used in conditional statements in the `46xxsettings.txt` settings file. For provisioning, use the **Settings** > **Network & Internet** > **More** > **Group** menu on the device.
AUTH	Numeric	0	No	Authentication flag for all file downloads, including configuration and image files, and Avaya Aura® Device Services configuration retrieval. Assign one of the following values: • 0: Secure file downloading is not required. Avaya Vantage™ downloads firmware and configuration files from HTTP or HTTPS servers. • 1: Secure file downloading is required. Avaya Vantage™ downloads firmware and configuration files from HTTPS servers only. For provisioning, use the **`SET`** command in the `46xxsettings.txt` file.

Phone parameters

Parameter	Type	Default value	Is set to default on reset	Description
MODEL	String	Factory settings	No	Model identifier of the telephone, which includes the first 8 characters of the telephone's apparatus code. The length is from 8 to 10 ASCII characters. This parameter can be used in conditional statements in the `46xxsettings.txt` file. This parameter cannot be modified.
MODEL4	String	Factory settings	No	Name of the telephone model or the truncated model identifier. This parameter can have one of the following values: • K175 for the standard Avaya Vantage™ device with a camera. • K165 for the standard Avaya Vantage™ device without a camera. • K155 for the Avaya Vantage™ device with a small screen and a physical keypad. This parameter can be used in conditional statements in the `46xxsettings.txt` file. This parameter cannot be modified.
MACADDR	String	Factory settings	No	Media Access Control (MAC) address of the device. MACADDR always refers to the Ethernet MAC address. MACADDR contains six pairs of ASCII hexadecimal characters separated by colons. This parameter can be used in conditional statements in the `46xxsettings.txt` file.

General phone functionality

Audio parameters

Parameter	Type	Default value	Is set to default on reset	Description
BRANDING_VOLUME	Numeric	5	Yes	Specifies the level of the Avaya audio brand. Assign one of the following values: • 8: 9 db above nominal • 7: 6 db above nominal • 6: 3 db above nominal • 5: nominal • 4: 3 db below nominal • 3: 6 db below nominal • 2: 9 db below nominal • 1: 12 db below nominal For provisioning, use the **`SET`** command in the `46xxsettings.txt` file.

Table continues…

Parameter	Type	Default value	Is set to default on reset	Description

RINGTONES	String	Null		Specifies a list of audio files to be downloaded as ring tones and offered to users for selection.
				The list can contain 0 to 1023 octets of UTF-8 characters.
				Values are separated by commas without any intervening spaces. If the audio files are stored in the same directory configured in FILE_SERVER_URL, you can list the file names in the following format: `ring1.wav,ring2.wav,ring3.mp3,rin4.ogg`. If the file is stored in a different location, then use the tuple format: *`<Filename with sufix>=<path>/<filename>`*. For example: `name.ogg=URI`.
				If you are using `.mp3` or `.ogg` files that include the ID3 metadata container with a non-empty title field, the title field is displayed by Android in the list of ringtones. If the `.mp3` or `.ogg` file includes a metadata container with an empty title field, the file name is displayed. If a `.wav` file is used, the filename is always presented.
				When using the tuple format, the file name must include the audio file suffix. Changing the file suffix only with the same file name will not trigger a new download.
				For provisioning, use the **`SET`** command in the `46xxsettings.txt` file.
				For example:
				`SET RINGTONES "swhistle.wav,chorn.wav,ring4.mp3"`
				`SET RINGTONES "swhistle.wav=tones/swhistle.wav,ring4.mp3=mp3files/ring4.mp3"`

Table continues…

Parameter	Type	Default value	Is set to default on reset	Description
RINGTONESTYLE	Numeric	0		Specifies the style of ring tones. Assign one of the following values: • 0: North American ring tones are available (default). • 1: European ring tones are available. For provisioning, use the **SET** command in the 46xxsettings.txt file.

Video parameters

Parameter	Type	Default value	Is set to default on reset	Description
CAMERASTAT	Numeric	1		Controls whether the device user can enable or disable the integrated camera and the external third-party USB camera, if connected to the device, through the **Settings** menu. Assign one of the following values: • 0: Camera is disabled. The device user has no option to enable or disable the camera through the **Settings** menu. • 1: Camera is enabled. The device user has no option to enable or disable the camera through the **Settings** menu. • 2: The device user can enable or disable the camera through the **Settings** menu. When the camera is disabled, you can still see video from other users, but Android applications cannot transmit video from your camera. You also cannot take photos or video clips. For provisioning, use: • The **SET** command in the 46xxsettings.txt file. • The settings file received from Avaya Aura® Device Services.

Phone UI related settings

Specific audio settings

Parameter	Type	Default value	Is set to default on reset	Description
HEADSETBIDIR	Numeric	0	Yes	Specifies whether bidirectional signaling is supported on the headset interface. Bidirectional signalling allows you to forward off-hook events and incoming call alerts from Avaya Vantage™ to a headset when a headset base station is connected to the headset connector. Assign one of the following values: • 0: Disabled. • 1: Switch hook and alert signaling are both enabled. • 2: Only switch hook signaling is enabled. ❗ **Important:** This parameter must only be used when using a wireless headset if the base station is connected to the headset connector of the device. In other cases, such as when using a wired headset, the value must be set to 0. For provisioning, use: • The **SET** command in the `46xxsettings.txt` file. • The **Settings** > **Sound & Audio & Camera** > **Audio settings** > **Headset signaling** menu on the device. This parameter can be stored on the PPM or backup server.

Table continues…

Parameter	Type	Default value	Is set to default on reset	Description
AGCHAND	Numeric	0	No	Specifies Automatic Gain Control (AGC) for the handset. The options are: • 0: AGC is disabled. • 1: AGC is enabled. For provisioning, use: • The **SET** command in the `46xxsettings.txt` file. • The **Settings** > **Sound & Audio & Camera** > **Audio settings** > **Auto gain control (AGC)** > **Handset Auto Gain Control** menu on the device. This parameter can be stored on the PPM or backup server.
AGCHEAD	Numeric	0	No	Specifies Automatic Gain Control (AGC) for the headset. The options are: • 0: AGC is disabled. • 1: AGC is enabled. For provisioning, use: • The **SET** command in the `46xxsettings.txt` file. • The **Settings** > **Sound & Audio & Camera** > **Audio settings** > **Auto gain control (AGC)** > **Headset Auto Gain Control** menu on the device. This parameter can be stored on the PPM or backup server.
AGCSPKR	Numeric	0	No	Specifies Automatic Gain Control (AGC) for the speaker. The options are: • 0: AGC is disabled. • 1: AGC is enabled. For provisioning, use: • The **SET** command in the `46xxsettings.txt` file. • The **Settings** > **Sound & Audio & Camera** > **Audio settings** > **Auto gain control (AGC)** > **Speaker Auto Gain Control** menu on the device. This parameter can be stored on the PPM or backup server.

Table continues…

Parameter	Type	Default value	Is set to default on reset	Description
AUDIOSTHD	Numeric	0	Yes	Specifies headset sidetone settings. The options are: • 0: Normal level. • 1: Three levels softer than normal. • 2: Off (inaudible). • 3: One level softer than normal. • 4: Two levels softer than normal. • 5: Four levels softer than normal. • 6: Five levels softer than normal. • 7: Six levels softer than normal. • 8: One level louder than normal. • 9: Two levels louder than normal. For provisioning, use the **SET** command in the `46xxsettings.txt` file.
AUDIOSTHS	Numeric	0	Yes	Specifies handset sidetone settings. The options are: • 0: Normal level. • 1: Three levels softer than normal. • 2: Off (inaudible). • 3: One level softer than normal. • 4: Two levels softer than normal. • 5: Four levels softer than normal. • 6: Five levels softer than normal. • 7: Six levels softer than normal. • 8: One level louder than normal. • 9: Two levels louder than normal. This parameter is supported by wired handsets only. For provisioning, use the **SET** command in the `46xxsettings.txt` file.

Table continues…

Parameter	Type	Default value	Is set to default on reset	Description
HEADSET_PROFILE	Numeric	0	Yes	Specifies the headset audio profile selected by the user. The range is from 0 to 20. If the value of HEADSET_PROFILE is 0, the headset audio profile is not selected. For provisioning, use the **Settings** > **Sound & Audio & Camera** > **Audio settings** > **Headset profile** menu on the device. This parameter can be stored on the PPM or backup server.
HEADSET_PROFILE_DEFAULT	Numeric	1	Yes	Specifies the number of the default headset audio profile. The range is from 1 to 20. For provisioning, use the **`SET`** command in the `46xxsettings.txt` file.
HEADSET_PROFILE_NAMES	String	Null	Yes	Specifies names to be displayed for headset audio profile selection. The value of the parameter is a list of profile names separated by commas without any spaces between entries. If profile names include spaces, the list must use quotations. Names must not contain commas or double quote characters. To retain the default name of a specific profile, do not provide a new name for the profile. The parameter can contain up to 0 to 255 octets of UTF-8 characters. For provisioning, use the **`SET`** command in the `46xxsettings.txt` file. For example, to rename the first and third profiles and to retain the default name of the second profile, enter the following: `SET HEADSET_PROFILE_NAMES “Profile 1,,Profile 3”`

Table continues…

Parameter	Type	Default value	Is set to default on reset	Description
HANDSET_PROFILE	Numeric	0	Yes	Specifies the handset audio profile selected by the user. The range is from 0 to 20. If the value of HANDSET_PROFILE is 0, the handset audio profile is not selected. For provisioning, use the **Settings** > **Sound & Audio & Camera** > **Audio settings** > **Handset profile** menu on the device. This parameter can be stored on the PPM or backup server.
HANDSET_PROFILE_DEFAULT	Numeric	1	Yes	Specifies the number of the default handset audio profile. The range is from 1 to 20. For provisioning, use the **`SET`** command in the `46xxsettings.txt` file.
HANDSET_PROFILE_NAMES	String	null string	Yes	Specifies names to be displayed for handset audio profile selection. The value of the parameter is a list of profile names separated by commas without any spaces between entries. If profile names include spaces, the list must use quotations. Names must not contain commas or double quote characters. To retain the default name of a specific profile, do not provide a new name for the profile. The parameter can contain up to 0 to 255 octets of UTF-8 characters. For provisioning, use the **`SET`** command in the `46xxsettings.txt` file. For example, to rename the first and third profiles and to retain the default name of the second profile, enter the following: `SET HANDSET_PROFILE_NAMES “Profile 1,,Profile 3”`

Specific display settings

Parameter	Type	Default value	Is set to default on reset	Description
LOGOS	String	Null	Yes	Specifies a list of custom logo definitions or wallpapers that can be used as a background on the display. Each entry in the list is a logo label followed by an equal sign (=) followed by a logo file name or URL. Entries are separated by commas without any intervening spaces. The logo URL can be specified using either absolute or relative format. If the relative format is used, the origin is the directory specified by FILE_SERVER_URL. Avaya Vantage™ supports the following file types: PNG, JPG (JPEG), GIF, and BMP. GIF is presented without animation. The screen of the K165 and K175 devices is 8 inches with a resolution of 800x1280 (width x height) pixels. Therefore, Avaya recommends that you use the image size of 800x1280 pixels, which fits the entire screen and appears on all pages. The image size of 600x1280, 2400x1280, or 3200x1280 provides scrolling on all pages. The screen of the K155 device is 5 inches with a resolution of 1280x720 (width x height) pixels. Use an image size that fits the entire screen and appears on all pages. For provisioning, use the **`SET`** command in the `46xxsettings.txt` file. For example: `SET LOGOS “Red Balloon=redballoon.jpg,Blue Balloon=https://123.456.7.8./blueballoon.jpg,Purple=../purple.jpg”`

Table continues…

Parameter	Type	Default value	Is set to default on reset	Description
CURRENT_LOGO	String	Null	Yes	Specifies the background image to display on Avaya Vantage™. The value of the parameter is one of the logo labels specified in the LOGOS parameter. When the value is null, the default logo or wallpaper is displayed. For provisioning, use the **`SET`** command in the `46xxsettings.txt` file. For example: If LOGOS is defined as `“Red Balloon=redballoon.jpg,Blue Balloon=blueballoon.jpg”`, then you can set CURRENT_LOGO as one of the following: • `SET CURRENT_LOGO “Red Balloon”` • `SET CURRENT_LOGO “Blue Balloon”`

Table continues…

Parameter	Type	Default value	Is set to default on reset	Description
ADMIN_INITIAL_SCREEN	String	PHONE	Yes	This parameter specifies whether the Home screen or Telephony screen is presented as the initial screen after the user logs in to Avaya Vantage™ or ends all calls. Avaya Vantage™ uses this parameter only when the **Settings** > **Display** > **Screen presented after login** field is configured as **Admin default**, which is the default setting. If the **Screen presented after login** field is not default, the ADMIN_INITIAL_SCREEN parameter value is not enforced. Assign one of the following values: • HOMESCREEN: The Home screen is presented as the initial screen after the user logs in or ends all calls. • PHONE: The Telephony screen is presented as the initial screen after the user logs in or ends all calls. If the user navigates to some other application screen during an active call, then the Telephony screen is not presented after the call ends. This parameter is *not* supported in the non Avaya Breeze® Client SDK application based mode. For provisioning, use the **`SET`** command in the `46xxsettings.txt` file.

Language and country settings

Parameter	Type	Default value	Is set to default on reset	Description
ISO_SYSTEM_LANGUAGE	String	en_US	Yes	Specifies the device system language. ISO_SYSTEM_LANGUAGE uses the `LL[_CC]` format where: • `LL` is a language code. The language code is represented by two lowercase letters. For example: `en`. For more information about codes, see ISO 639-1. • `CC` is an optional country code. The country code is represented by two uppercase letters. For example: `GB`. For more information about codes, see ISO 3166-1. If you use an optional country code, then the language code and the country code must be separated by the underscore symbol. For provisioning, use the **`SET`** command in the `46xxsettings.txt` file.
COUNTRY	String	USA	Yes	Specifies a country where Avaya Vantage™ is used. This parameter is used for country-specific Wi-Fi and anti-flickering frequency settings. If Avaya Vantage™ cannot identify the country specified in the parameter, it applies default settings. For provisioning, use the **`SET`** command in the `46xxsettings.txt` file.

Date and time settings

Parameter	Type	Default value	Is set to default on reset	Description
TIMEZONE	String	Etc/GMT	Yes	Specifies the time zone in the Olson name format. For example: `America/New_York`. For more information about the name format and for a list of time zones, see the Time Zone Database. For provisioning, use: • DHCP option 242. • The **SET** command in the `46xxsettings.txt` file. With IP Office, set this parameter in the `46xxspecials.txt` file.
ADMINTIMEFORMAT	Integer	0	Yes	Specifies whether Avaya Vantage™ uses the 12-hour or 24-hour time format. The options are: • 0: Use the 12-hour time format. • 1: Use the 24-hour time format. Avaya Vantage™ uses the selected time format in all areas that displays time, including the top bar, call log, and calendar. For provisioning, use: • The **SET** command in the `46xxsettings.txt` file. • The **Settings** menu on the device. • The settings file received from Avaya Aura® Device Services.

Server addresses and ports

Parameter	Type	Default value	Is set to default on reset	Description
DES_STAT	Numeric	2		Specifies whether to attempt Device Enrollment Services discovery if there is no configuration file server provisioned on the device. Discovery is attempted when the device is starting. You can assign one of the following values: • 0: Device Enrollment Services discovery is disabled and can only be enabled by resetting the device to its default settings. • 1: Device Enrollment Services discovery is disabled and can be enabled by changing the value of DES_STAT to 2. • 2: Device Enrollment Services discovery is enabled. When DES_STAT is set to 2 and FILE_SERVER_URL is not retrieved from DHCP or LLDP, the device attempts to communicate with Device Enrollment Services during startup to obtain the provisioning or file server address. In addition, if the file server is configured through **Settings**, Device Enrollment Services discovery will not be triggered. For provisioning, use: • DHCP option 242. The precedence is 3. • The **`SET`** command in the `46xxsettings.txt` file. The precedence is 5.

Table continues…

Parameter	Type	Default value	Is set to default on reset	Description
DNSSRVR	String	0.0.0.0	Yes	Specifies up to three IP addresses of DNS servers in the dotted decimal format. The value of the parameter is a list of IP addresses separated by commas without any spaces between entries. Avaya Vantage™ tries to connect to the DNS servers in the order specified in the parameter. Both the Wi-Fi and Ethernet interfaces use the configured DNS server and domain information. An option to configure DNS information specifically for each Wi-Fi network is unavailable. Therefore, if a user toggles between the Wi-Fi and Ethernet interfaces, then the configured DNS information is applicable for both interfaces. For provisioning, use: • The Option 6 value in a DHCPACK message. • The **`SET`** command in the `46xxsettings.txt` file. • The **Settings** menu on the device.
DOMAIN	String	Null	Yes	Specifies a domain name. Avaya Vantage™ uses domain names when DNS names in configuration parameter values are resolved to IP addresses. If DOMAIN is null, all DNS names must be fully qualified. If servers in a network are in more than one sub-domain, server DNS names must include the sub-domain name and DOMAIN must be set to the lowest level common domain. For provisioning, use: • The Option 15 value in a DHCPACK message. • The **`SET`** command in the `46xxsettings.txt` file.

Table continues…

Parameter	Type	Default value	Is set to default on reset	Description
FILE_SERVER_URL	String	Null	Yes	Specifies the configured file server URLs for downloading firmware and configuration files. Avaya Vantage™ tries to connect to file servers in the order specified in the parameter. The value of the parameter is a list of file server addresses separated by commas without any spaces between entries. A file server URL must use one of the following formats: • `http://hostname[:port][/path]` • `https://hostname[:port][/path]` In the URL: • `hostname` is either an IP address in the dotted decimal format or a domain name. • `port` is an optional port number. • `path` is an optional path to a directory where distribution packages and other files are stored. Users can provide URLs of HTTP servers without the leading `http://`. Users must explicitly specify `https://` for HTTPS servers. The default port for HTTP is 80. The default port for HTTPS is 443. If this parameter is set, Avaya Vantage™ ignores the HTTPSRVR, HTTPPORT, HTTPDIR, TLSSRVR, TLSSRVRDIR, and TLSPORT parameters. For provisioning, use: • LLDP Avaya/Extreme Proprietary File Server TLV. The precedence is 1. • DHCP option 43. The precedence is 2. • A `name=value` pair in a DHCPACK message. The precedence is 2. • The siaddr field value in the DHCPACK message. The precedence is 2. Only the dotted decimal format is supported. Avaya Vantage™ considers addresses received using this method as HTTP server addresses. • The **`SET`** command in the `46xxsettings.txt` file. The precedence is 3. • The **Settings** menu on the device. The precedence is 5.

Table continues…

Parameter	Type	Default value	Is set to default on reset	Description
HTTPPROXY	String	Null	Yes	Specifies an address of an HTTP proxy server. A proxy server address uses the `hostname[:port]` format, where: • `hostname` is either an IP address in the dotted decimal format or a domain name. • `port` is an optional port number. This parameter is not a URL. Therefore, you must not begin the value with `http://`. The range is the default string length. For provisioning, use: • The **`SET`** command in the `46xxsettings.txt` file. • The **Settings** menu on the device.
HTTPEXCEPTION DOMAINS	String	Null	Yes	Specifies domains that are excluded for use of the HTTP proxy server. The value of the parameter is a list of domains separated by commas without any spaces between entries. The range is the default string length. A HTTP connection for SCEP is set up through HTTPPROXY only if the rightmost part of the domain specified in MYCERTURL does not match any domain specified in this parameter. For provisioning, use: • The **`SET`** command in the `46xxsettings.txt` file. • The **Settings** menu on the device.

Table continues…

Parameter	Type	Default value	Is set to default on reset	Description
HTTPSRVR	String	0.0.0.0	Yes	Specifies a list of IP or DNS addresses of HTTP file servers for downloading firmware and configuration files. Avaya Vantage™ uses this parameter only if FILE_SERVER_URL and TLSSRVR are not set. The value of the parameter is a list of HTTP file server addresses separated by commas without any spaces between entries. The value can contain up to 255 ASCII characters. For provisioning, use: • LLDP Avaya/Extreme Proprietary File Server TLV. The precedence is 1. • DHCP option 43. The precedence is 2. • A `name=value` pair in a DHCPACK message. The precedence is 2. • The siaddr field value in the DHCPACK message. The precedence is 2. Only the dotted decimal format is supported. • The **SET** command in the `46xxsettings.txt` file. The precedence is 3.
TLSSRVR	String	0.0.0.0	Yes	Specifies a list of IP or DNS addresses of HTTPS file servers for downloading firmware and configuration files. Avaya Vantage™ uses this parameter only if FILE_SERVER_URL is not set. The value of the parameter is a list of HTTPS file server addresses separated by commas without any spaces between entries. The value can contain up to 255 ASCII characters. For provisioning, use: • LLDP Avaya/Extreme Proprietary File Server TLV. The precedence is 1. • DHCP option 43. The precedence is 2. • A `name=value` pair in a DHCPACK message. The precedence is 2.

Table continues…

Parameter	Type	Default value	Is set to default on reset	Description
HTTPDIR	String	Null	Yes	Specifies a path to the directory of the HTTP file server where configuration files and software images are stored. The path is relative to the root of the HTTP file server. Avaya Vantage™ prepends the parameter value to all file names used in HTTP **GET** operations. Avaya Vantage™ uses this parameter only if FILE_SERVER_URL is not set. The parameter value can contain up to 127 characters. Do not use this parameter in configurations where files are stored in the default directory of the HTTP server. For provisioning, use: • A `name=value` pair in a DHCPACK message. • DHCP option 43. • The **SET** command in the `46xxsettings.txt` file.
TLSDIR	String	Null	Yes	Specifies a path to the directory of the HTTPS file server where configuration files and software images are stored. The path is relative to the root of the HTTPS file server. Avaya Vantage™ prepends the parameter value to all file names used in HTTPS **GET** operations. Avaya Vantage™ uses this parameter only if FILE_SERVER_URL is not set. The parameter value can contain up to 127 characters. For provisioning, use: • A `name=value` pair in a DHCPACK message. • DHCP option 43. • The **SET** command in the `46xxsettings.txt` file.

Table continues…

Parameter	Type	Default value	Is set to default on reset	Description
HTTPPORT	Numeric	80	Yes	Specifies the destination TCP port for HTTP requests. The range is from 0 to 65535. Avaya Vantage™ uses this parameter only if FILE_SERVER_URL is not set. For provisioning, use: • A `name=value` pair in a DHCPACK message. • DHCP option 43. • The **`SET`** command in the `46xxsettings.txt` file.
TLSPORT	Numeric	443	Yes	Specifies the destination TCP port for HTTPS requests. The range is from 0 to 65535. Avaya Vantage™ uses this parameter only if FILE_SERVER_URL is not set. For provisioning, use: • A `name=value` pair in a DHCPACK message. • DHCP option 43. • The **`SET`** command in the `46xxsettings.txt` file.

Table continues…

Parameter	Type	Default value	Is set to default on reset	Description
SIP_CONTROLLER_LIST	String	Null	Yes	Specifies a list of IP addresses of SIP proxy or registrar servers. The entries in the list are separated by commas without any spaces between entries. Each entry in the list has the following format: `host[:port][;transport=xxx]`, where: • `host` is an IP address in the dotted decimal or DNS format. • `port` is the optional port number. If the port number is not specified, Avaya Vantage™ uses the following default values: - 5060 for TCP - 5061 for TLS • `transport` is the optional transport type. The supported options are TLS or TCP. If the transport type is not specified, Avaya Vantage™ uses TLS as the default transport type. In the Avaya Aura® environment, set the transport protocol as TLS. Avaya Breeze® Client SDK applications do not support TCP with Avaya Aura®. The parameter value can have up to 255 characters. This parameter is *not* supported in the non Avaya Breeze® Client SDK application based mode. For provisioning, use: • LLDP Avaya/Extreme Proprietary Call Server TLV. The precedence is 1. • DHCP option 43. The precedence is 3. • A `name=value` pair in a DHCPACK message. The precedence is 3. • The **SET** command in the `46xxsettings.txt` file. The precedence is 4. • The value stored on the PPM or backup server. The precedence is 5. • The **Settings** menu on the device. The precedence is 5.

Table continues…

Parameter	Type	Default value	Is set to default on reset	Description
				❗ **Important:** For emergency call support when you are logged out of the device, you must configure the SIP_CONTROLLER_LIST parameter using the `46xxsettings.txt` file, DHCP, LLDP, or the **Settings** menu on the device. If you only configure SIP_CONTROLLER_LIST in Avaya Aura® Device Services, emergency calls do not work as expected.
SIPDOMAIN	String	Null	Yes	Specifies the SIP domain name used for SIP registration. The value of the parameter can have up to 255 characters. This parameter is *not* supported in the non Avaya Breeze® Client SDK application based mode. For provisioning, use: • The **`SET`** command in the `46xxsettings.txt` file. • The value stored on the PPM server. • The **Settings** menu on the device.
SNTPSRVR	String	0.avaya.pool.ntp.org,1.avaya.pool.ntp.org,2.avaya.pool.ntp.org,3.avaya.pool.ntp.org,129.6.15.28,132.163.97.1	Yes	Specifies a list of Simple Network Time Protocol (SNTP) server FQDNs or IP addresses. Avaya Vantage™ uses this parameter to retrieve date and time information from SNTP servers. The value of the parameter is a list of SNTP server FQDNs or IP addresses using either the dotted decimal or DNS format. Entries in the list are separated by commas without any spaces between entries. The parameter value can contain up to 255 characters. For provisioning, use: • DHCP option 42. • The **`SET`** command in the `46xxsettings.txt` file.

Table continues…

Parameter	**Type**	**Default value**	**Is set to default on reset**	**Description**
USER_AUTH_FILE_SERVER_URL	String	Null	Yes	Specifies a list of user authenticated file server URLs. • If this parameter is configured, Avaya Vantage™ displays the Unified Login screen. In the current release, Avaya Vantage™ supports Avaya Aura® Device Services user authentication servers only. If you did not provide the user's SIP extension and password in Avaya Aura® Device Services, Avaya Vantage™ will also prompt the user to enter the SIP extension and password. • If this parameter is not configured, Avaya Vantage™ displays the SIP Login screen. In this case, the user only needs to enter the SIP extension and password to log in to Avaya Vantage™. The value of the parameter is a list of file server addresses separated by commas without any spaces between entries. A file server URL must use one of the following formats: • `http://hostname[:port]` • `https://hostname[:port]` In the URL: • `hostname` is either an IP address in the dotted decimal format or a domain name. • `port` is an optional port number. Users can provide URLs of HTTP servers without the leading `http://`. Users must explicitly specify `https://` for HTTPS servers. The default port for HTTP is 80. The default port for HTTPS is 443. For provisioning, use: • A `name=value` pair in a DHCPACK message. • The **`SET`** command in the `46xxsettings.txt` file. • The **Settings** menu on the device.

Server environment settings

Define the following parameters to identify the deployment environment:

Parameter	Type	Default value	Is set to default on reset	Description
ENABLE_AVAYA_ENVIRONMENT	Numeric	1	Yes	Specifies whether the device is configured for use in an Avaya or a third-party call control environment. You can assign one of the following values: • 0: The device operates in a mode to comply with a third-party SIP proxy provisioning with SIPPING-19. For the IP Office and third-party call control environments, use this value. • 1: The device operates in the Avaya environment with advanced SIP telephony features and PPM.
DISCOVER_AVAYA_ENVIRONMENT	Numeric	1	Yes	Specifies whether the device should discover and verify if the SIP controller supports Advanced SIP Telephony (AST) feature set. You can assign one of the following values: • 0: The device operates in a mode where AST features are not available. For IP Office and third-party call control environments, use this value. • 1: The device determines whether the SIP controller supports AST features in the Avaya environment. If the device receives a positive response, then it synchronizes with PPM. If the device does not receive a response, it operates in a mode where AST features are not available.
ENABLE_IPOFFICE	Numeric	0	Yes	Specifies whether the deployment environment is IP Office. You can assign one of the following values according to the deployment environment: • 0: Deployment environment other than IP Office. • 1: IP Office environment.

Network settings

The following sections describe network configuration settings, such as Ethernet, VLAN, QoS, and IEEE 802.1X.

General settings

Parameter	Type	Default value	Is set to default on reset	Description
IPADD	String	0.0.0.0	Yes	Specifies the IP address of the Avaya Vantage™ device. The range is from 7 to 15 ASCII characters. This is a testable parameter. The parameter can be used in conditional statements in the `46xxsettings.txt` file. For provisioning, use: • The yiaddr field value in the DHCPACK message. • For provisioning, use the **Settings** > **Network & Internet** > **Ethernet** > **IP interface** > **Static IP settings** menu on the device.
ROUTER	String	0.0.0.0	Yes	Specifies an IP address or a list of addresses of default routers or gateways in the IP network. Entries in the list are separated by commas without any spaces between entries. The parameter can contain up to 127 characters. For provisioning, use: • The Option 3 value in a DHCPACK message. • For provisioning, use the **Settings** > **Network & Internet** > **Ethernet** > **IP interface** > **Static IP settings** menu on the device.
NETMASK	String	0.0.0.0	Yes	Specifies an IP subnet mask. This parameter specifies one IP address in the dotted decimal format. The range is from 7 to 15 ASCII characters. For provisioning, use: • The Option 1 value in a DHCPACK message. • For provisioning, use the **Settings** > **Network & Internet** > **Ethernet** > **IP interface** > **Static IP settings** menu on the device.
SUBNET	String	0.0.0.0	Yes	Specifies the subnet of the telephone. A value of SUBNET is a value of a bitwise **`AND`** operation performed on values of IPADD and NETMASK. The parameter can be used in conditional statements in the `46xxsettings.txt` file.

Table continues…

Parameter	Type	Default value	Is set to default on reset	Description
USE_DHCP	Numeric	1	Yes	Specifies whether Avaya Vantage™ uses a static IP address or receives the IP address through DHCP. The options are: • 0: Use a static IP address configured on the device. • 1: Obtain the IP address automatically through DHCP. For provisioning, use the **Settings** > **Network & Internet** > **Ethernet** > **IP interface** > **Use DHCP** menu on the device.
DHCP_SSON	Numeric	242	Yes	Specifies the site-specific option number for DHCP. The range is from 128 to 254. For provisioning, use the **Settings** > **Network & Internet** > **More** > **DHCP Site Specific Option Number (SSON)** menu on the device.
DHCPSTD	Integer	0	Yes	Specifies the DHCP lease violation flag. Assign one of the following values: • 1: To comply with the DHCP standard. When the DHCP lease expires, Avaya Vantage™ immediately releases an IP address. • 0: To enter the proprietary state. When the DHCP lease expires, Avaya Vantage™ continues to use the IP address. For provisioning, use the **`SET`** command in the `46xxsettings.txt` file.
ICMPDU	Integer	1	Yes	Specifies whether Avaya Vantage™ generates Internet Control Message Protocol (ICMP) Destination Unreachable (DU) messages to inform the source host that a port is unreachable. Assign one of the following values: • 0: DU messages are not transmitted. • 1: DU messages are only transmitted for a UDP port that ranges from 33,434 to 33,523. • 2: DU messages are transmitted. For provisioning, use: • A `name=value` pair in a DHCPACK message. • The **`SET`** command in the `46xxsettings.txt` file.

Table continues…

Parameter	Type	Default value	Is set to default on reset	Description
ICMPRED	Integer	0	Yes	Specifies whether Avaya Vantage™ processes ICMP redirect messages. Assign one of the following values: • 0: Avaya Vantage™ does not process received redirect messages. • 1: Avaya Vantage™ processes received redirect messages according to RFC 1122. For provisioning, use: • A `name=value` pair in a DHCPACK message. • The **SET** command in the `46xxsettings.txt` file.
MTU_SIZE	Integer	1500	Yes	Specifies the Maximum Transmission Unit (MTU) size. Assign one of the following values: • 1496 • 1500 This parameter is applicable for wired Ethernet connections only and is not used for Wi-Fi. Avaya Vantage™ uses MTU_SIZE to provide compatibility with Ethernet switches that do not support the longest maximum frame length possible with tagged frames. For provisioning, use: • A `name=value` pair in a DHCPACK message. • The Option 26 value in the DHCPACK message. • The **SET** command in the `46xxsettings.txt` file.
NETWORK_MODE	Numeric	1	Yes	Specifies the active network interface. The available options are: • 1: Wired Ethernet connection is active. • 2: Wi-Fi connection is active. For provisioning, use the **Settings** > **Network & Internet** > **Network mode** menu on the device.

Table continues…

Parameter	Type	Default value	Is set to default on reset	Description
IPV6STAT	Numeric	1		Controls whether Avaya Vantage™ blocks all incoming and outgoing IPv6 traffic. For Avaya Vantage™, set this parameter to 0 to block IPv6 traffic because Avaya Vantage™ does not support IPv6. This parameter is applicable for both wired Ethernet and wireless connections. For provisioning, use the **`SET`** command in the `46xxsettings.txt` file.
BLUETOOTHSTAT	Integer	1	Yes	Specifies whether Bluetooth is allowed for user configuration. Assign one of the following values: • 0: Bluetooth and the **Bluetooth** menu are disabled in the **Settings** menu on the device. The user cannot enable Bluetooth. • 1: Bluetooth and the **Bleutooth** menu are enabled in the **Settings** menu on the device. The user can enable or disable Bluetooth. For provisioning, use the **`SET`** command in the `46xxsettings.txt` file.
BLUETOOTH_FEATURES_SHARED_VIA_STAT	Integer	0	Yes	Specifies whether users have access to **Shared via Bluetooth** options in the **Setting** menu on the device. • 0: Users cannot use **Shared via Bluetooth**. • 1: Users can use **Shared via Bluetooth**. For provisioning, use the **`SET`** command in the `46xxsettings.txt` file.
TRUST_AGENTS_STAT	Integer	1	Yes	Specifies whether users can configure trust agents. • 0: Users cannot access **Trust agents** in the **Settings** menu. All trust agents are disabled. • 1: Users can access **Trust agents** in the **Settings** menu. Users can enable or disable the available trust agents For provisioning, use the **`SET`** command in the `46xxsettings.txt` file.

Table continues…

Parameter	Type	Default value	Is set to default on reset	Description
TRUST_AGENTS_SMARTLOCK_STAT	Integer	1	Yes	Specifies whether users can configure the Google Smart Lock feature. • 0: Users cannot access **Smart Lock** in the **Settings** menu. Smart Lock (Google) is disabled. • 1: Users can access **Smart Lock** in the **Settings** menu. Users can enable or disable the Smart Lock (Google) feature. For provisioning, use the **`SET`** command in the `46xxsettings.txt` file.
TRUST_AGENTS_AVAYA_SMARTLOCK_STAT	Integer	1	Yes	Specifies whether users can configure the Avaya Smart Lock feature. • 0: Users cannot access **Avaya Smart Lock** in the **Settings** menu. The Avaya Smart Lock feature is disabled. • 1: Users can access **Avaya Smart Lock** in the **Settings** menu. Users can enable or disable the Avaya Smart Lock feature. For provisioning, use the **`SET`** command in the `46xxsettings.txt` file.
WIFISTAT	Integer	1	Yes	Specifies whether users can configure Wi-Fi. • 0: Wi-Fi is disabled. Users cannot enable Wi-Fi. • 1: Wi-Fi is enabled. Users can configure Wi-Fi settings from the **Settings** menu on the device. For provisioning, use the **`SET`** command in the `46xxsettings.txt` file.
WIFIAPSTAT	Numeric	0	Yes	Specifies whether users can configure the WI-FI access point. • 0: WI-FI access point is disabled. Users cannot enable the access point. • 1: Users can enable and configure the access point. For provisioning, use the **`SET`** command in the `46xxsettings.txt` file.

Table continues…

Parameter	Type	Default value	Is set to default on reset	Description
WIFI_CON_STATUS_ON_LOGOUT	Numeric	1	Yes	Specifies whether Avaya Vantage™ keeps information about wireless connections after logout. • 0: Avaya Vantage™ deletes information about Wi-Fi connections, such as Wi-Fi passwords. • 1: Avaya Vantage™ keeps information about Wi-Fi connections and the active wireless connection, such as Wi-Fi passwords. This parameter is *not* supported in the non Avaya Breeze® Client SDK application based mode. For provisioning, use the **SET** command in the `46xxsettings.txt` file.
GRATARP	Integer	0	Yes	Specifies whether an existing Address Resolution Protocol (ARP) cache entry is updated with a MAC address received in a gratuitous ARP message. Assign one of the following values: • 0: Avaya Vantage™ ignores gratuitous ARP messages. • 1: Avaya Vantage™ uses gratuitous ARP messages to update the existing ARP cache entry. For provisioning, use the **SET** command in the `46xxsettings.txt` file.

Ethernet interface settings

Parameter	Type	Default value	Is set to default on reset	Description
PHY1STAT	Numeric	1	Yes	Specifies the speed and duplex mode of Ethernet line interface. The accepted value of this parameter is 1, which specifies auto negotiation of speed and duplex.

Table continues…

Parameter	Type	Default value	Is set to default on reset	Description
PHY2STAT	Numeric	1	Yes	Disables the secondary Ethernet line interface or specifies its speed and duplex mode. Assign one of the following values: • 0: The secondary Ethernet interface is disabled. • 1: Speed and duplex mode of the secondary Ethernet interface are auto negotiated. For provisioning, use: • A `name=value` pair in a DHCPACK message. • DHCP option 43. • The **`SET`** command in the `46xxsettings.txt` file. • The **Settings** > **Network & Internet** > **Ethernet** > **Interfaces** > **PC Ethernet** menu on the device.
PHY2_AUTOMDIX_ENABLED	Numeric	1		Specifies whether auto-MDIX is enabled on the secondary Ethernet port. Assign one of the following values: • 0: Auto-MDIX is disabled. • 1: Auto-MDIX is enabled. For provisioning, use the **`SET`** command in the `46xxsettings.txt` file.
PORT_MIRRORING	Numeric	0		Specifies whether Ethernet packets transmitted or received on the primary Ethernet port are copied to the secondary Ethernet port. Assign one of the following values: • 0: Disabled. • 1: Enabled. For provisioning, use the **Settings** > **Debugging options** > **Port mirroring** menu on the device.

VLAN settings

Parameter	Type	Default value	Is set to default on reset	Description
L2Q	Numeric	0	Yes	Specifies 802.1Q tagging mode. Assign one of the following values: • 0: Auto • 1: On • 2: Off For provisioning, use: • A `name=value` pair in a DHCPACK message. The precedence is 1. • DHCP option 43. The precedence is 1. • The **SET** command in the `46xxsettings.txt` file. The precedence is 3. • LLDP. The precedence is 4. - The Avaya/Extreme Proprietary 802.1Q Framing TLV. - The parameter is set indirectly by receiving a VLAN name with the “voice” prefix in the IEEE 802.1 VLAN Name TLV. - The T flag in the TIA LLDP MED Network policy TLV. • The **Settings** > **Network & Internet** > **Ethernet** > **VLAN** > **VLAN tagging (802.1Q)** menu on the device. The precedence is 5.

Table continues…

Parameter	Type	Default value	Is set to default on reset	Description
L2QVLAN	Numeric	0	Yes	Specifies the 802.1Q VLAN identifier. The range is from 0 to 4094. This parameter is initialized from L2QVLAN_INIT after turning the device on. The parameter is not initialized from L2QVLAN_INIT after reset. For provisioning, use: • A `name=value` pair in a DHCPACK message. The precedence is 1. • DHCP option 43. The precedence is 1. • The **SET** command in the `46xxsettings.txt` file. The precedence is 3. • LLDP. The precedence is 4. - The parameter is set indirectly by receiving a VLAN name with the "voice" prefix in the IEEE 802.1 VLAN Name TLV. - The TIA LLDP MED Network policy TLV. The **Settings** > **Network & Internet** > **Ethernet** > **VLAN** > **VLAN** menu on the device. The precedence is 5.
VLANTEST	Numeric	60	Yes	Specifies the number of seconds that Avaya Vantage™ waits for DHCPOFFER message reception on a non-zero VLAN. The range is from 0 to 999. For provisioning, use: • A `name=value` pair in a DHCPACK message. • The **SET** command in the `46xxsettings.txt` file. • The **Settings** > **Network & Internet** > **Ethernet** > **VLAN** > **VLAN test timer** menu on the device.

Table continues…

Parameter	Type	Default value	Is set to default on reset	Description
PHY2TAGS	Numeric	0		Controls whether VLAN tags are stripped from frames forwarded to the secondary Ethernet interface. Assign one of the following values: • 0: VLAN tags are removed from frames forwarded to the secondary Ethernet interface. 1: VLAN tags are not removed from frames forwarded to the secondary Ethernet interface. For provisioning, use the **`SET`** command in the `46xxsettings.txt` file.
PHY2VLAN	Numeric	0		Specifies the value of the 802.1Q VLAN identifier that is used to identify tagged frames through the secondary Ethernet interface. Valid values are 0 through 4094. For provisioning, use: • The **`SET`** command in the `46xxsettings.txt` file. The precedence is 3. • LLDP. The precedence is 4.
VLANSEP	Numeric	1		Specifies whether the VLAN separation is enabled or disabled. Assign one of the following values: • 0: Disabled. • 1: Enabled. For provisioning, use the **`SET`** command in the `46xxsettings.txt` file.

Note:

The parameters VLANSEP, PHY2TAGS, PHY2VLAN, DOT1X, PHY2_AUTOMDIX_ENABLED, and PHY2STAT are supported by K165 and K175 devices that have an embedded Ethernet switch.

All K155 devices have an embedded Ethernet switch.

IEEE 802.1X settings

Parameter	Type	Default value	Is set to default on reset	Description
DOT1X	Numeric	0	Yes	Specifies whether the IEEE 802.1X Pass through operating mode is enabled on Avaya Vantage™. Pass through is the forwarding of Extensible Authentication Protocol over LAN (EAPOL) frames between the device's Ethernet line interface and its secondary (PC) Ethernet interface. The options are: • 0: EAPOL multicast pass-through is enabled without proxy logoff. • 1: EAPOL multicast pass-through is enabled with proxy logoff. • 2: EAPOL multicast pass-through is disabled. For provisioning, use: • The **SET** command in the `46xxsettings.txt` file. • The **Settings** > **Network & Internet** > **Ethernet** > **IEEE 802.1x authentication** > **Pass through mode** menu on the device.
DOT1XSTAT	Numeric	0	Yes	Specifies whether the IEEE 802.1X supplicant operating mode for Ethernet is enabled on Avaya Vantage™. The options are: • 0: Supplicant operation is disabled. • 1: Supplicant operation is enabled. Avaya Vantage™ responds only to received unicast Extensible Authentication Protocol over LAN (EAPOL) messages. • 2: Supplicant operation is enabled. Avaya Vantage™ responds to received unicast and multicast EAPOL messages. For provisioning, use: • The **SET** command in the `46xxsettings.txt` file. • The **Settings** > **Network & Internet** > **Ethernet** > **IEEE 802.1x authentication** > **Supplicant mode** menu on the device.

Table continues…

Parameter	**Type**	**Default value**	**Is set to default on reset**	**Description**
DOT1XEAPS	String	MD5	Yes	Specifies a list of Extensible Authentication Protocol (EAP) methods for IEEE 802.1x authentication. Assign one of the following values: • TLS • MD5 The range is a default string length. For provisioning, use: • The **SET** command in the `46xxsettings.txt` file. • The **Settings** > **Network & Internet** > **Ethernet** > **IEEE 802.1x authentication** > **EAP Type** menu on the device.
DOT1XID	String	Ethernet MAC Address of the device ($MACADDR) without the colon separators	Yes	Specifies the IEEE 802.1X Supplicant identifier for the Ethernet option. For provisioning, use: • The **SET** command in the `46xxsettings.txt` file. • The **Settings** > **Network & Internet** > **Ethernet** > **IEEE 802.1x authentication** > **802.1x credentials** menu on the device.
DOT1XPSWD	String	Null	Yes	Specifies the IEEE 802.1X password for the Ethernet option. For provisioning, use: • The **SET** command in the `46xxsettings.txt` file. • The **Settings** > **Network & Internet** > **Ethernet** > **IEEE 802.1x authentication** > **802.1x credentials** menu on the device.

Other operational parameters and settings

The following sections describe configuration parameters that control Avaya Vantage™ behavior, but do not relate to network operations or UI appearance.

Active phone application

Parameter	Type	Default value	Is set to default on reset	Description
ACTIVE_CSDK_BASED_PHONE_APP	String	null string	Yes	The package name of an active CSDK-based phone application. Only one CSDK-based application can be active at a time. When the parameter is set to the default value, Avaya Vantage™ operates in the non Avaya Breeze® Client SDK application based mode. In this case, the Login screen and configuration sharing are not supported. Some configuration parameters are also not supported. **Important:** The ACTIVE_CSDK_BASED_PHONE_APP must only be used when the active phone application is an Avaya Breeze® Client SDK application. Otherwise, this parameter must use the default value. For provisioning, use the **`SET`** command in the `46xxsettings.txt` file. With IP Office, this parameter is automatically-generated and is present in the `K1xxSupgrade.txt` file.

Application settings

Parameter	Type	Default value	Is set to default on reset	Description
PUSH_APPLICATION	String	null string	Yes	Specifies a list of applications that administrators define for installation on Avaya Vantage™. Each entry in the list represents a URL of the application. The URL can be specified using: • The relative path format. The origin is the directory specified by the FILE_SERVER_URL or HTTPDIR and TLSDIR parameters depending on whether the download uses HTTP or HTTPS. • The absolute path format. In this case, the URL must begin with `http://` or `https://`. Each entry of the list must be separated by commas without any spaces between entries. Each entry consists of an application's display name followed by an equal sign (=) and a file name or URL. If display names contain space characters, you must enclose the list using double quotes. For provisioning, use the **SET** command in the `46xxsettings.txt` file. With IP Office, this parameter is automatically-generated and is present in the `K1xxSupgrade.txt` file.
APPS_CONTROL_FILE	String	null string	Yes	Specifies a path to a file containing third-party applications installation rules for end users (black and white lists). The path is represented by a URL. The URL can be specified using: • Relative path format. Origin is the directory specified by the FILE_SERVER_URL or HTTPDIR and TLSDIR parameters depending on whether the download uses HTTP or HTTPS • Absolute path format. In this case, the URL must begin with `http://` or `https://` For provisioning, use the **SET** command in the `46xxsettings.txt` file.

Table continues…

Parameter	Type	Default value	Is set to default on reset	Description
USER_INSTALL_APPS_GOOGLE_PLAY_STORE	Numeric	1	Yes	Specifies whether end users can install applications from Google Play. Assign one of the following values: • 0: End users cannot install applications. • 1: End users can install applications. For provisioning, use the **SET** command in the `46xxsettings.txt` file. With IP Office, configure this parameter in the `46xxspecials.txt` file.

PIN_APP	String	null string	Yes	Specifies the package name of the application that must be pinned after a device restart. If this parameter is configured and the specified application is installed, Avaya Vantage™ shows this application after login. Users cannot switch to another application or navigate to the Home screen.
				You can also specify a comma-separated list of package names for applications to be pinned using an Avaya Launcher. You must push the launcher onto the device using the PUSH_APPLICATION parameter. PIN_APP can include a list of application, login, and upgrade package names.
				For provisioning, use the **SET** command in the `46xxsettings.txt` file.
				Examples:
				`SET PIN_APP "com.avaya.android.vantage.basic"`
				`SET PIN_APP "com.avaya.android.vantage.basic,com.avaya.endpoint.avayakiosk,com.avaya.endpoint.login,com.avaya.endpoint.upgrade"`

Table continues…

Parameter	Type	Default value	Is set to default on reset	Description
USER_INSTALL_APPS_UNKNOWN_SOURCES	Numeric	1	Yes	Specifies whether third-party applications from unknown, non-Google Play sources can be installed on Avaya Vantage™. Assign one of the following values: • 0: Installation of third-party applications from unknown sources is disabled. End users cannot change the status through the **Settings** menu on the device. • 1: Installation of third-party applications from unknown sources is disabled by default. End users can change the status through the **Settings** menu. • 2: Installation of third-party applications from unknown sources is enabled by default. End users can change the status through the **Settings** menu. When installation of applications from unknown sources is enabled, end users can download application APKs from non-Google Play sources, such as common third-party application stores, emails, and websites. For provisioning, use the **`SET`** command in the `46xxsettings.txt` file.

Emergency call settings

The following table describes which parameters to configure for location-specific emergency numbers.

Parameter	**Type**	**Default value**	**Is set to default on reset**	**Description**
PHNEMERGNUM	String	Null string	Yes	Specifies the emergency number with the highest priority. Avaya Vantage™ dials this number when a user taps **Auto - dial** for an emergency call. The parameter value can contain up to 30 characters. You can use `0-9`, `*`, and `#` characters. This parameter is *not* supported in the non Avaya Breeze® Client SDK application based mode. With IP Office, set this parameter in the `46xxspecials.txt` file. In an Avaya Aura® deployment, configure emergency numbers in the PPM server. Do not use this parameter.
PHNMOREEMERGNUMS	String list	Null string	Yes	Specifies an additional list of emergency numbers. The value of the parameter is a list of emergency numbers separated by commas without any spaces between entries. The parameter value can contain up to 100 numbers. Each number can contain up to 30 characters. You can use `0-9`, `*`, and `#` characters. This parameter is *not* supported in the non Avaya Breeze® Client SDK application based mode. With IP Office, set this parameter in the `46xxspecials.txt` file. In an Avaya Aura® deployment, configure emergency numbers in the PPM server. Do not use this parameter.

Protocol-specific parameters

Certificates configuration parameters

Parameter	Type	Default value	Is set to default on reset	Description
TRUSTCERTS	String	null string	Yes	Specifies file names of trusted certificates, which are used for authentication. If you are providing several file names, use commas to separate them. You can upload up to 100 trusted certificates on Avaya Vantage™. The maximum length of the parameter value is 1024 symbols. Avaya Vantage™ supports both the PEM and DER file formats. For provisioning, use the **SET** command in the `46xxsettings.txt` file.
MYCERTURL	String	null string	Yes	Specifies the URL for the Simple Certificate Enrollment Protocol (SCEP) server. Avaya Vantage™ attempts to contact the server if the parameter value is not the default. A valid URL must start with `http://`. For provisioning, use the **SET** command in the `46xxsettings.txt` file.
MYCERTCN	String	$SERIALNO	Yes	Specifies the Common Name (CN) for SUBJECT in a SCEP certificate request. If the parameter value contains the `$SERIALNO` string, Avaya Vantage™ replaces this string with the device serial number. If the parameter value contains the `$MACADDR` string, Avaya Vantage™ replaces that string with the device MAC address. **Note:** The parameter value must not contain the `*` symbol. If the parameter value contains this symbol, Avaya Vantage™ considers the value to be invalid. For provisioning, use the **SET** command in the `46xxsettings.txt` file.

Table continues…

Parameter	Type	Default value	Is set to default on reset	Description
MYCERTDN	String	Null	Yes	Specifies the common part of SUBJECT in a SCEP certificate request. This value defines the part of SUBJECT that is common for requests from different devices, such as Organizational Unit, Organization, Location, State, and Country. The parameter value must start with the slash (`/`) symbol. ✱ **Note:** Do no use the asterisk (`*`) symbol. If the value contains this symbol, Avaya Vantage™ considers the value to be invalid. For example: `/C=US/ST=CA/L=MILPITAS/O=Avaya` For provisioning, use the **`SET`** command in the `46xxsettings.txt` file.
MYCERTKEYLEN	Integer	2048	Yes	Specifies the RSA private key length in bits. The private key is used on the device for certificate enrollment. Avaya Vantage™ only supports keys with a length of 2048 bits. For provisioning, use the **`SET`** command in the `46xxsettings.txt` file.
MYCERTCAID	String	CAIdentifier	Yes	Specifies the Certificate Authority Identifier (CAI). Certificate Authority servers might require a specific CAI string in order to accept GetCA requests. If Avaya Vantage™ works with such a Certificate Authority, the CA identifier string must be set through this parameter. For provisioning, use the **`SET`** command in the `46xxsettings.txt` file.

Table continues…

Parameter	Type	Default value	Is set to default on reset	Description
SCEPPASSWORD	String	$SERIALNO	Yes	Specifies a password to use with SCEP. The non-null value of SCEPPASSWORD is included in a challengePassword attribute in SCEP certificate signing requests. If the value contains $SERIALNO, $SERIALNO is replaced with the value of SERIALNO. If the value contains $MACADDR, $MACADDR is replaced with the value of MACADDR without the colon separators. For provisioning, use: • The **SET** command in the `46xxsettings.txt` file. • The **Settings** menu on the device.
MYCERTREPLACE	Numeric	90	Yes	Specifies the period of the certificate's validity interval. This period is specified as a percentage. Avaya Vantage™ uses this percentage to calculate the date of the certificate replacement before its expiration. When the configured period is over, Avaya Vantage™ tries to download the newest version of the certificate from the SCEP server. The range is from 1 to 99. For provisioning, use the **SET** command in the `46xxsettings.txt` file.

Table continues…

Parameter	Type	Default value	Is set to default on reset	Description
ENABLE_PUBLIC_CA_CERTS	Numeric	0	Yes	Specifies whether embedded Android trusted certificates are used by application services, such as Avaya Aura® Device Services, PPM, 802.1x EAP-TLS, SCEP, and file downloads using HTTPS. You can assign one of the following values: • 0: The services do not use embedded Android trusted certificates. • 1: The services use embedded Android trusted certificates. In the following cases, this parameter is enforced to 1 even if it was configured as 0: • When Avaya Vantage™ is installed in a Device Enrollment Services environment. • When Avaya Vantage™ obtains the provisioning server address from a redirect from Device Enrollment Services. • When Device Enrollment Services was used before and no private CA is retrieved from Device Enrollment Services. For provisioning, use the **SET** command in the `46xxsettings.txt` file.
CA_CERT_BLACKLIST	String	Null	Yes	Specifies a list of comma-separated SHA-1 signatures of Android embedded trusted certificates, which must be blocked. Use this parameter to disable specific trusted certificates due to certificate revocation or if you do not trust the certificate. Only add certificates that are not already disabled in Android. You can find the list of these certificates in the `/data/misc/keychain/pubkey_blacklist.txt` file. This parameter can contain up to 1024 characters. For provisioning, use the **SET** command in the `46xxsettings.txt` file. For example: `SET CA_CERT_BLACKLIST 410f36363258f30b347d12ce4863e433437806a8,c4f9663716cd5e71d6950b5f33ce041c95b435d1`

Table continues…

Parameter	Type	Default value	Is set to default on reset	Description
PKCS12URL	String	Null	Yes	Specifies the URL to be used to download a PKCS #12 file. This file contains an identity certificate and its private key. The parameter value can contain up to 255 ASCII characters. The address can contain the following options: • $SERIALNO: This options is replaced with the Avaya Vantage™ serial number • MACADDR: This option is replaced with the Avaya Vantage™ MAC address without colons For example: An Avaya Vantage™device has the 00-24-D7-E4-2E-98 MAC address. The URL of the PKCS file is specified as `http://<path_to_the_file>/pkc12file_$MACADDR.cer`. In this case, the PKCS file for the device must have the `pkc12file_0024D7E42E98` name. For provisioning, use the **`SET`** command in the `46xxsettings.txt` file.
PKCS12PASSWORD	String	Null	Yes	Specifies a PKCS #12 file password. For provisioning, use: • The **`SET`** command in the `46xxsettings.txt` file. • The **Settings** menu on the device.
PKCS12_PASSWD_RETRY	String	3	Yes	Specifies the number of failed attempts to enter the password for the PKCS#12 file. If the user fails to enter the correct password, Avaya Vantage™ will not install the PKCS#12 file. The range is from 0 to 100, where 0 means that the user cannot retry to enter the password. For provisioning, use the **`SET`** command in the `46xxsettings.txt` file.

Table continues…

Parameter	Type	Default value	Is set to default on reset	Description
CERT_INSTALL_APPLICATION_LIST	String	all	Yes	Specifies which applications can install trusted and identity certificates on Avaya Vantage™. Assign one of the following values: • all: All applications can install certificates. • Null string: No application can install certificates. • A list of comma-separated application package names: Only the specified applications can install certificates. List entries are separated by commas. For example: `SET CERT_INSTALL_APPLICATION_LIST flare.avaya.com,vantage.basic.avaya.com` For provisioning, use the **`SET`** command in the `46xxsettings.txt` file.
ID_CERT_APPLICATION_LIST	String	all	Yes	Specifies which applications can access the identity certificate stored on Avaya Vantage™. Assign one of the following values: • all: All applications can access certificates. • Null string: No application can access certificates. The exception is an active phone application defined in ACTIVE_CSDK_BASED_PHONE_APP. • A list of comma-separated application package names: Only the specified applications can access certificates. For example: `SET CERT_INSTALL_APPLICATION_LIST flare.avaya.com,vantage.basic.avaya.com` For provisioning, use the **`SET`** command in the `46xxsettings.txt` file.

Table continues…

Parameter	Type	Default value	Is set to default on reset	Description
DELETE_MY_CERT	String	0	Yes	Specifies whether Avaya Vantage™ should delete the installed identity certificate. Assign one of the following values: • 0: The installed identity certificate remains on the system. • 1: The installed identity certificate will be deleted from the system. For provisioning, use: • DHCP option 242. • The **SET** command in the `46xxsettings.txt` file.
CERT_WARNING_DAYS	Numeric	60	Yes	Specifies the number of days before the certificate expiry date when Avaya Vantage™starts to display certificate expiration warning messages. Avaya Vantage™ displays the warning message every seven days. This parameter relates to trusted certificates, OSCP certificates, EASG certificates, and the identity certificate. The range is from 0 to 99. If the value set to 0, Avaya Vantage™ does not display certificate expiration warning messages. For provisioning, use the **SET** command in the `46xxsettings.txt` file.
EASG_SITE_CERTS	String	null string	Yes	Specifies EASG site certificate file names. These certificates are used by technicians when they do not have access to the Avaya network to generate EASG responses for SSH login. The value of the parameter is a list of file names separated by commas without any spaces between entries. The value can contain up to 255 ASCII characters. To delete the EASG trusted certificate from the device, remove the corresponding file name from EASG_SITE_CERTS. For provisioning, use the **SET** command in the `46xxsettings.txt` file.

Table continues…

Parameter	Type	Default value	Is set to default on reset	Description
EASG_SITE_AUTH_FACTOR	String	null string	Yes	Specifies the EASG site authentication factor code associated with the EASG site certificate. The value of the parameter can contain from 10 to 20 alphanumeric characters. For provisioning, use the **`SET`** command in the `46xxsettings.txt` file.

Captive Portal

Parameter	Type	Default value	Is set to default on reset	Description
CAPTIVE_PORTAL_SERVER	String	connectivitycheck.gstatic.com	Yes	Specifies the URL of the captive portal server for HTTP authentication to use the Internet. Use the `[http://]`*`hostname`*`[:`*`port`*`][/`*`path`*`]` format, where: • `hostname` is either an IP address in the dotted decimal format or a domain name. • `port` is an optional port number. • `path` is an optional path to the server. If you want to disable the detection mechanism, use the null string as the parameter value. For provisioning, use: • DHCP option 242. • The **`SET`** command in the `46xxsettings.txt` file.

TLS

Parameter	Type	Default value	Is set to default on reset	Description
TLSSRVRID	Integer	1	Yes	Specifies whether the TLS server identification is required. Assign one of the following values: • 0: Certificate validation is not required. TLS connection is established in all cases. • 1: Certificate match required. TLS connection is established only if the server identity matches the servers certificate. For provisioning, use: • DHCP option 43. • The **SET** command in the `46xxsettings.txt` file.
TLS_VERSION	Numeric	1	Yes	Specifies which TLS versions are supported with all TLS connections used by Android and Avaya applications. Assign one of the following values: • 0: TLS versions 1.0 and 1.2 are supported. • 1: TLS version 1.2 only is permitted. **Note:** Before upgrading to Release 1.1 or 2.0, you must verify that the TLS version 1.2 is enabled on the HTTP/S file server if HTTP/S is used. Otherwise, the device cannot download configuration and image files from the HTTP/S file server. For provisioning, use the **SET** command in the `46xxsettings.txt` file.

LLDP

Parameter	Type	Default value	Is set to default on reset	Description
LLDP_ENABLED	Integer	1	Yes	Specifies whether LLDP is enabled. Assign one of the following values: • 0: Disabled. • 1: Enabled. • 2: Enabled. Avaya Vantage™ starts to transmit LLDP frames only after receiving of an LLDP frame. For provisioning, use the **`SET`** command in the `46xxsettings.txt` file.

Logging and debugging parameters

Event log settings

Parameter	Type	Default value	Is set to default on reset	Description
LOGSRVR	String	Null	Yes	Specifies an address of a server where syslog messages are stored. For Avaya Vantage™, you can define the IP address of the syslog server in the dotted decimal or DNS format. The parameter value can have up to 255 characters. For provisioning, use: • DHCP option 7 in a DHCPACK message. • The **Settings** menu on the device.
SYSLOG_ENABLED	Integer	0	Yes	Specifies whether Avaya Vantage™ generates syslog messages. Assign one of the following values: • 0: Syslog messages are disabled. • 1: Syslog messages are enabled. For provisioning, use: • The **`SET`** command in the `46xxsettings.txt` file. • The **Settings** menu on the device.

Table continues…

Parameter	Type	Default value	Is set to default on reset	Description
SYSLOG_LEVEL	Integer	3	Yes	Specifies the severity level of syslog messages. Avaya Vantage™ sends a syslog message if a severity level of an event is equal or less than the value specified in this parameter. Assign one of the following values: • 3: Error • 4: Warning • 5: Notice • 6: Informational • 7: Debug For provisioning, use: • The **SET** command in the `46xxsettings.txt` file. • The **Settings** menu on the device.
LOCAL_LOGS_ENABLED	Integer	1	Yes	Specifies whether Avaya Vantage™ stores log messages. Assign one of the following values: • 0: Local log storage is disabled. • 1: Local log is storage is enabled. For provisioning, use: • The **SET** command in the `46xxsettings.txt` file. • The **Settings** menu on the device.

Table continues…

Parameter	Type	Default value	Is set to default on reset	Description
LOCAL_LOG_LEVEL	Integer	4	Yes	Specifies the severity level for local log messages. Avaya Vantage™ stores a log message if a severity level of an event is equal or less than the value specified in this parameter. Assign one of the following values: • 3: Error • 4: Warning • 5: Notice • 6: Informational • 7: Debug For provisioning, use: • The **`SET`** command in the `46xxsettings.txt` file. • The **Settings** menu on the device.

Table continues…

Parameter	Type	Default value	Is set to default on reset	Description
LOG_CATEGORY	String	ALL	Yes	Specifies a list of logging categories. The parameter value is a list of comma-separated keywords representing logging categories. Logging implementation blocks all traces at the Warning or lower severity levels unless the category corresponding to a given trace is enabled. The device filters all ANDROID and KERNEL syslog or log categories in the following cases: • You do not configure this parameter for these categories. • The parameter value is not set to ALL. If the log level is set to Warning or a lower level, this parameter enables low-level traces from adaptors or managers. This parameter applies to both syslog and local logging mechanisms. The supported categories are: ALL, ANDROID, 8021X, ADAPMGR, CERTMGMT, CONFIG, CONFIG_MULTI, CORE, DATETIME, DAVDATA, DEVICE, DHCP, EEPROMDATA, ENCRYPT, EXTAPP, FAILOVER, FAVORITE, HISTORY, HTTP, KERNEL, LLDP, LOCALDATA, MSGMGR, MSG_ROUTING, NETADAP, NETMGR, ONEXPAUCDATA, PERSLABELS, PLATFORM_COMP, PPMDATA, PPMMESSAGE, POWER, QOS, SCRIPT, SCRIPTDATA, SECURITY, SSHDADAP, THREADWDOG, UI, UPGRADE, VMM, and WEB. For provisioning, use: • The **SET** command in the `46xxsettings.txt` file. • The **Settings** menu on the device.

For additional event log parameters that are supported by the CSDK-based applications, see Avaya Breeze Client SDK application parameters on page 209.

Debug report settings

Parameter	Type	Default value	Is set to default on reset	Description
BRURI	String	Null		Specifies the URI of the HTTP server where the debug and audio debug reports can be saved. You can specify the server URL in the following format: `http://[username:password]hostname[:port][/path]` • `username:password` are optional HTTP server authentication credentials. • `hostname` is either an IP address in the dotted decimal format or an FQDN. • `port` is an optional port number. • `path` is an optional path to the directory where the reports are to be stored on the server. For provisioning, use: • The **`SET`** command in the `46xxsettings.txt` file. • The settings file received from Avaya Aura® Device Services.
DEBUG_REPORT_PASSWORD	String	Null		Specifies the encryption password for debug and audio debug reports that you can generate on Avaya Vantage™. When defined, the debug report and audio report encryption password is populated automatically. The device user cannot change this password when generating a debug report. For provisioning, use: • The **`SET`** command in the `46xxsettings.txt` file. • The settings file received from Avaya Aura® Device Services. For security reasons, Avaya recommends that you configure this parameter in the `46xxsettings.txt` file only when the configuration file is downloaded from the HTTP or HTTPS file server or redirected through Device Enrollment Services and there is mutual certificate authentication.

Audio debug recording settings

Parameter	Type	Default value	Is set to default on reset	Description
ENABLE_RECORDING	Integer	0	Yes	Specifies whether audio debug recording is enabled for users. On Avaya Vantage™, this parameter controls whether audio recording is enabled as part of the audio report. Assign one of the following values: • 0: Audio debug recording is disabled. • 1: Audio debug recording is enabled. For provisioning, use: • The **SET** command in the `46xxsettings.txt` file. • The settings file received from Avaya Aura® Device Services.

SSH settings

Note:

The SSH server settings on the endpoints are used by Avaya Services for debugging purposes only.

Parameter	Type	Default value	Is set to default on reset	Description
SSH_ALLOWED	Integer	0	Yes	Specifies whether the Secure Shell (SSH) is enabled. Assign one of the following values: • 0: Disabled. • 1: Enabled, with challenge and response authentication. For provisioning, use: • The **SET** command in the `46xxsettings.txt` file. • The **Settings** menu on the device.
SSH_BANNER_FILE	String	Null	Yes	Specifies a file name or URL of a file containing a warning message. This message is displayed on a SSH client before authentication. For provisioning, use the **SET** command in the `46xxsettings.txt` file.

Table continues…

Parameter	Type	Default value	Is set to default on reset	Description
SSH_IDLE_TIMEOUT	Integer	10	Yes	Specifies the number of minutes of inactivity after which an SSH connection is terminated. The range is from 0 to 32767. Assign one of the following values: • 0: No timeout. • 1 –32767: Number of minutes of inactivity after which SSH is disabled. For provisioning, use the **SET** command in the `46xxsettings.txt` file.
SSH_ROOT_ALLOWED	Numeric	0	Yes	Specifies whether sroot access is allowed. Assign one of the following values: • 0: sroot access is disabled. • 1: sroot access is enabled. For provisioning, use: • The **SET** command in the `46xxsettings.txt` file. • The **Settings** menu on the device.

ADB settings

Parameter	Type	Default value	Is set to default on reset	Description
ADBSTAT	Numeric	1	Yes	Specifies whether Android Debug Bridge (ADB) is enabled for application development purpose on Avaya Vantage™. • 0: ADB is disabled and the option to enable ADB from the **Settings** menu of the device is disabled. • 1: ADB is disabled, but you can enable it from the **Settings** > **Developer options** > **Debugging** menu. Since ADB is a non-secure protocol, Avaya recommends that you enable ADB for Android application development only. Otherwise, set ADBSTAT to 0. For provisioning, use the **SET** command in the `46xxsettings.txt` file.

USB parameters

Parameter	Type	Default value	Is set to default on reset	Description
ENABLE_USB_GENERAL_PURPOSE	Numeric	1	Yes	Specifies whether the USB general purpose port is enabled. Assign one of the following values: • 0: USB port is disabled. • 1: USB port is enabled. For provisioning, use the **`SET`** command in the `46xxsettings.txt` file. In Avaya Aura®, PPM does not back up or restore the parameter.

Upgrade-related parameters

If the upgrade policy parameters are changed, Avaya Vantage™ implements these changes after a reboot or the next polling.

Parameter	Type	Default value	Is set to default on reset	Description
UPGRADE_POLLING_PERIOD	Integer	60	Yes	Specifies the interval between two consecutive attempts of polling the upgrade files and the settings files. The polling interval is measured in minutes. Assign one of the following values: • 0: Polling is disabled. • 5 to 10080: Polling is enabled. The minimum polling interval you can define is 5 minutes. The parameter value range supported by Avaya Vantage™ is 0, 5-10080. If you define a value from 1 to 4, Avaya Vantage™ considers it as invalid and takes the default value of 60 minutes. In each polling, the upgrade files and the settings files are downloaded if modified. If any change is identified to the settings file, then the device applies the new settings. The device checks whether a newer version of the firmware is available on the file server. If a newer version is detected, then it is downloaded and installed according to the upgrade rules defined by the parameters UPGRADE_POLICY, UPGRADE_DLOAD_START, UPGRADE_DLOAD_END, UPGRADE_INSTALL_DATE_TIME, DLOAD_RND_AFTER_RESET, and DLOAD_RND. If the UPGRADE_POLICY value is 0, then UPGRADE_POLLING_PERIOD is ignored. The upgrade and settings files are downloaded only after a reboot. For upgrades to take place immediately after a polling, you must set UPGRADE_POLICY to 2. UPGRADE_POLLING_PERIOD is not affected by UPGRADE_DLOAD_START and UPGRADE_DLOAD_END parameters. Also, this parameter has no effect on any ad hoc upgrade command that is triggered by the management application or through the device UI. For provisioning, use the **SET** command in the `46xxsettings.txt` file.

Table continues…

Parameter	Type	Default value	Is set to default on reset	Description
UPGRADE_POLICY	Integer	0	Yes	Specifies the upgrade policy. Assign one of the following values: • 0: Avaya Vantage™ downloads and installs the firmware files after a reboot only. The device does not automatically poll the server for upgrade and configuration files at intervals. For IP Office deployments, use this value. • 1: Avaya Vantage™ downloads and installs the firmware files according to upgrade policy rules and management application settings. Avaya Vantage™ does not perform the upgrade after a reboot. • 2: Avaya Vantage™ downloads and installs the firmware files after any reboot and according to upgrade policy rules and management application settings. For provisioning, use the **`SET`** command in the `46xxsettings.txt` file.

Table continues…

Parameter	Type	Default value	Is set to default on reset	Description
UPGRADE_DLOAD_START	String	00	Yes	Specifies a time when Avaya Vantage™ starts trying to download new upgrade image files. The value of parameter is a string in the `[Ddd]hh` format, where: • `[Ddd]` is a day of the week. The valid values are `Sun`, `Mon`, `Tue`, `Wed`, `Thu`, `Fri`, or `Sat`. This component is optional. If the component is omitted, Avaya Vantage™performs polling every day. • `hh` is one or two numeric digits representing the hour of the day. The range is from 0 to 23. If the value of UPGRADE_DLOAD_START is equal to the value of UPGRADE_DLOAD_END, then no polling period is specified and Avaya Vantage™ can download upgrade files at any time. UPGRADE_DLOAD_START and UPGRADE_DLOAD_END are ignored if UPGRADE_POLICY is set to 0. These parameters are applicable only when UPGRADE_INSTALL_DATE_TIME is configured to a *future* date. For provisioning, use the **`SET`** command in the `46xxsettings.txt` file.
UPGRADE_DLOAD_END	String	00	Yes	Specifies a time when Avaya Vantage™ stops trying to download new upgrade image files. Even after the specific time is up, any ongoing file downloads are taken to completion. However, new file downloads are scheduled for the next download timeframe. The value of the parameter uses the `[Ddd]hh` format, where: • `[Ddd]` is a day of the week. The valid values are `Sun`, `Mon`, `Tue`, `Wed`, `Thu`, `Fri`, or `Sat`. This component is optional. If the component is omitted, Avaya Vantage™performs polling every day. • `hh` is one or two numeric digits representing a hour of the day. The range is from 0 to 23. For provisioning, use the **`SET`** command in the `46xxsettings.txt` file.

Table continues…

Parameter	Type	Default value	Is set to default on reset	Description
UPGRADE_INSTALL_DATE_TIME	String	1970-01-01T00:00	Yes	Specifies the date and time when Avaya Vantage™ starts to install the downloaded upgrade files. The value of the parameter uses the `YYYY-MM-DDThh:mm` format, where: • `YYYY` is four numeric digits representing the year • `MM` is two numeric digits representing the month. • `dd` is two numeric digits representing the day of the month. • `T` is the time separator. • `hh` is two numeric digits representing a hour of the day. The range is from 0 to 23. • `mm` is two numeric digits representing minutes of the hour. The range is from 0 to 59. If the default value is used or the value is set to a past date and UPGRADE_POLICY is set to 2, Avaya Vantage™ installs upgrade files immediately after downloading irrespective of other parameter definitions. For provisioning, use the **`SET`** command in the `46xxsettings.txt` file.
DLOAD_RND_AFTER_RESET	Integer	0	Yes	Specifies the maximum length of the interval Avaya Vantage™ waits after reboot before attempting to download the upgrade files. The interval is measured in seconds. Assign one of the following values: • 0: The interval is not specified. Avaya Vantage™ starts the download immediately after reboot. • 1 – 32767: After reboot, Avaya Vantage™ delays the download. The exact delay interval is determined as a random number in a range between 0 and the DLOAD_RND_AFTER_RESET value. Avaya recommends that you configure randomized download time in an environment where multiple devices access the file server at the same time. For provisioning, use the **`SET`** command in the `46xxsettings.txt` file.

Table continues…

Parameter	Type	Default value	Is set to default on reset	Description
DLOAD_RND	Integer	3600	Yes	Specifies the maximum length of an interval between two consecutive attempts of background downloading. The interval is measured in seconds. Assign one of the following values: • 0: The interval is not specified. Avaya Vantage™ performs background download attempts without delay. • 1 – 32767: Avaya Vantage™ inserts a delay between two background download attempts. The exact delay interval is determined as a random number in a range between 0 and the DLOAD_RND value. For provisioning, use the **SET** command in the `46xxsettings.txt` file.

Security parameters

Parameter	Type	Default value	Is set to default on reset	Description
SELINUX_MODE	Numeric	1	N/A	Specifies the SELinux mode. • 0: Sets the permissive mode. • 1: Sets the enforcing mode. Setting the SELinux mode triggers a device reset. End users get the options to reset immediately or later. For provisioning, use the **SET** command in the `46xxsettings.txt` file.

General account IDs & passwords

Parameter	Type	Default value	Is set to default on reset	Description
SIPUSERNAME	String	Null	Yes	Specifies the user's account to register on a SIP server. This parameter is *not* supported in the non Avaya Breeze® Client SDK application based mode. For provisioning, use: • Enter the user account name on the Login screen. • Use the **`SET`** command in the settings file from Avaya Aura® Device Services. The `46xxsettings.txt` file from the HTTP or HTTPS server is not supported.
SIPPASSWORD	String	Null	Yes	Specifies the user's password used to register on a SIP server. The parameter value can contain up to 255 alphanumerical characters. This parameter is *not* supported in the non Avaya Breeze® Client SDK application based mode. For provisioning: • Enter the user account name on the Login screen. • Use the **`SET`** command in the settings file from Avaya Aura® Device Services. The `46xxsettings.txt` file from the HTTP or HTTPS server is *not* supported.
SIPHA1	String	Null	Yes	Specifies the HA1 hash value of the user's password used to register on a SIP server. HA1 is calculated as MD5 (username:domain:password). The parameter value can contain up to 255 alphanumerical characters. This parameter is *not* supported in the non Avaya Breeze® Client SDK application based mode. This parameter is only configurable from Avaya Aura® Device Services. The `46xxsettings.txt` file from the HTTP or HTTPS server is *not* supported.

Table continues…

Parameter	Type	Default value	Is set to default on reset	Description
PROCPSWD	String	27238	Yes	Specifies the password required to access local administrator menu options in the Settings menu on Avaya Vantage™. The parameter value can contain from 4 to 7 numeric characters. If both PROCPSWD and ADMIN_PASSWORD have default values, you cannot access administrator options in the Settings menu. For provisioning, use: • A `name=value` pair in a DHCPACK message. • The **SET** command in the `46xxsettings.txt` file. • The value stored on the PPM server.
ADMIN_PASSWORD	String	Null	Yes	Specifies the complex password required to access local administrator options in the Settings menu on Avaya Vantage™. The range is the default string length. • If ADMIN_PASSWORD is configured, Avaya Vantage™ ignores PROCPSWD. • If ADMIN_PASSWORD has the default value, Avaya Vantage™ uses PROCPSWD to provide access to administrator options in the Settings menu. If PROCPSWD has the default value, you cannot access administrator menu options. For provisioning, use the **SET** command in the `46xxsettings.txt` file. This parameter is supported in the Tablet mode.

Phone lock and idle time parameters

Parameter	Type	Default value	Is set to default on reset	Description
ENABLE_PHONE_ LOCK	Numeric	0	No	Specifies whether the Lock screen is enabled on the device. • 0: The Lock screen is disabled. • 1: The Lock screen is enabled. This parameter is *not* supported in the non Avaya Breeze® Client SDK application based mode. For provisioning, use: • The **SET** command in the 46xxsettings.txt file. • The **Settings** menu on the device.

Table continues…

Parameter	Type	Default value	Is set to default on reset	Description
PHONE_LOCK_IDLETIME	Numeric	60	No	Specifies the maximum interval of idle time in minutes after which Avaya Vantage™ is locked automatically. The range is from 1 to 10080. Avaya Vantage™ ignores this parameter if ENABLE_PHONE_LOCK is 0. The user can choose a smaller idle time than this parameter value in the **Settings** > **Security & location** > **Automatically lock** menu. Avaya Vantage™ uses this parameter value to determine the number of options it shows to the user in the **Settings** > **Security & location** > **Automatically lock** and **Settings** > **Display** > **Sleep** menus. By default, the **Automatically lock** and **Sleep** fields have the following options: 1, 2, 5, 10, 30 minutes, 1 hour, 2 hours, 5 hours, 10 hours, 1 day, 2 days, and 1 week. The minimum value is 1 minute. The maximum value is the minimum value between the PHONE_LOCK_IDLETIME value and the value specified by the Exchange policy. For example, if the PHONE_LOCK_IDLETIME value is 145 and the value specified by the Exchange policy is 123 minutes, then the **Automatically lock** field provides options from 1 minute to 2 hours inclusively. This parameter is *not* supported in the non Avaya Breeze® Client SDK application based mode. For provisioning, use the `SET` command in the `46xxsettings.txt` file.
PHONE_LOCK_PASSWORD_FAILED_ATTEMPTS	Numeric	8	Yes	Specifies the number of failed login attempts before Avaya Vantage™ becomes locked. The range is from 8 to 20. If the parameter set to 0, then the number of failed attempts is unlimited. This parameter is *not* supported in the non Avaya Breeze® Client SDK application based mode. For provisioning, use the `SET` command in the `46xxsettings.txt` file.

Table continues…

Parameter	Type	Default value	Is set to default on reset	Description
LOCK_SCREEN_LOCK_AFTER_TIMEOUT	Numeric	5	Yes	Specifies the Lock screen inactivity timeout in minutes. The range is from 1 to 10080. This parameter is *not* supported in the non Avaya Breeze® Client SDK application based mode. For provisioning, use the **Settings** menu on the device.
ALLOW_LOGOUT_WHEN_LOCKED	Numeric	1	Yes	Specifies whether users can log out from the Lock screen. Assign one of the following values: • 0: A user cannot perform logout when the device is locked. • 1: A user can perform logout from the Lock screen. • 2: When device is locked, an administrator can perform logout through the **Settings** menu only. In addition, the logout option is available only for administrator when the device is unlocked and logged in. This parameter is *not* supported in the non Avaya Breeze® Client SDK application based mode. For provisioning, use: • The **`SET`** command in the `46xxsettings.txt` file. • The settings file received from Avaya Aura® Device Services.
BAKLIGHTOFF	Numeric	10	Yes	Specifies the idle time in minutes after which the display backlight on the device is turned off. The range is from 0 to 999. For K155, the range is from 1 to 60. A value of 0 means that the display backlight is not turned off automatically when the phone is idle. For provisioning, use: • The **`SET`** command in the `46xxsettings.txt` file. • The **Settings** menu on the device. This parameter can be stored on the PPM or backup server.

Avaya Breeze® Client SDK application parameters

The following parameters are supported by Avaya Breeze® Client SDK applications, including Avaya Vantage™ Connect and Avaya Equinox®, on Avaya Vantage™.

For additional parameters specific to Avaya Vantage™ Connect, see Avaya Vantage Connect parameters on page 218.

For a detailed list of parameters supported by Avaya Equinox® on Avaya Vantage™, see *Planning for and Administering Avaya Equinox® for Android, iOS, Mac, and Windows*.

Avaya Aura® Device Services parameters

Parameter	Type	Default value	Is set to default on reset	Description
ACSENABLED	Numeric	0	Yes	Specifies whether Avaya Vantage™ Connect uses contacts stored on Avaya Aura® Device Services. You can assign one of the following values: • 0: Avaya Vantage™ Connect does not use contacts from Avaya Aura® Device Services. Instead, Avaya Vantage™ Connect uses PPM contacts. • 1: Avaya Vantage™ Connect uses contacts from Avaya Aura® Device Services. Avaya Vantage™ Connect does not use PPM contacts. For provisioning, use the **`SET`** command in the `46xxsettings.txt` file.
ACSSRVR	String	Null string	Yes	Specifies the address of Avaya Aura® Device Services contact services. The address is either an IP address in the dotted decimal format or a domain name. For provisioning, use the **`SET`** command in the `46xxsettings.txt` file.
ACSPORT	Numeric	443	Yes	Specifies the port number Avaya Vantage™ Connect uses to connect to Avaya Aura® Device Services contact services. For provisioning, use the **`SET`** command in the `46xxsettings.txt` file.

Table continues…

Parameter	Type	Default value	Is set to default on reset	Description
ACSSECURE	Numeric	1	Yes	Specifies whether a secure connection is used. Assign one of the following values: • 0: Secure connection is not used. Avaya Vantage™ Connect uses HTTP over TCP. • 1: Secure connection is used. Avaya Vantage™ Connect uses HTTPS over TLS. For provisioning, use the **SET** command in the `46xxsettings.txt` file.

RTP parameters

Parameter	Type	Default value	Is set to default on reset	Description
RTP_PORT_LOW	Numeric	5004	Yes	Specifies the minimum UDP port range value to be used by RTP/RTCP or SRTP/SRTCP connections. You can assign a value between 1024 and 65503. For provisioning, use the **SET** command in the `46xxsettings.txt` file.
RTP_PORT_RANGE	Numeric	40	Yes	Specifies the UDP port range that Avaya Vantage™ Connect uses for RTP/RTCP or SRTP/SRTCP connections. You can assign a value between 32 and 64511. The maximum value of the range is calculated as a sum of the RTP_PORT_LOW and RTP_PORT_RANGE values. For provisioning, use the **SET** command in the `46xxsettings.txt` file.

SRTP parameters

Parameter	Type	Default value	Is set to default on reset	Description
MEDIAENCRYPTI ON	String	1,2,9	Yes	Specifies which media encryption options are supported. The value of the parameter is a list of up to 3 options, which must be separated by commas. The following options are available: • 1: aescm128–hmac80 • 2: aescm128–hmac32 • 9: none • 10: aescm256–hmac80 • 11: aescm256–hmac32 For provisioning, use the **SET** command in the `46xxsettings.txt` file.
ENCRYPT_SRTCP	Numeric	0	Yes	Specifies whether RTCP packets are encrypted. SRTCP is only used if encryption is enabled using MEDIAENCRYPTION. Assign one of the following values: • 0: SRTCP is disabled. • 1: SRTCP is enabled. For provisioning, use the **SET** command in the `46xxsettings.txt` file.

Audio codec parameters

Parameter	Type	Default value	Is set to default on reset	Description
ENABLE_OPUS	Numeric	1	Yes	Specifies whether the OPUS codec is enabled. Assign one of the following values: • 0: Disabled. • 1: Enabled WIDEBAND_20K. • 2: Enabled NARROWBAND_16K. • 3: Enabled NARRWOBAND_12K. For Avaya Vantage™ Connect, this parameter is supported in both the Avaya Aura® and IP Office environments. For provisioning, use the **SET** command in the `46xxsettings.txt` file.
OPUS_PAYLOAD_TYPE	Numeric	116	Yes	Specifies the RTP payload type that is used for the OPUS codec. The range is from 96 to 127. This parameter is used when media offer is sent to the far end in **INVITE** or 200 OK when **INVITE** with no SDP is received. Avaya Vantage™ Connect does not support this parameter. For provisioning, use the **SET** command in the `46xxsettings.txt` file.

Video parameters

Parameter	Type	Default value	Is set to default on reset	Description
VIDEO_MAX_BANDWIDTH_ANY_NETWORK	Numeric	1280	Yes	Specifies the maximum bandwidth for video calls. The bandwidth is measured in kilobits per second (kbps). You can assign one of the following values: • 0: Video is blocked. • 1 to 10000: Maximum allowed bandwidth. For provisioning, use the **SET** command in the `46xxsettings.txt` file.

Table continues…

Parameter	Type	Default value	Is set to default on reset	Description
ENABLE_VIDEO	Numeric	1	Yes	Specifies whether video is enabled or disabled. You can assign one of the following values: • 0: Video is disabled. • 1: Video is enabled. For provisioning, use the **`SET`** command in the `46xxsettings.txt` file.

Logging parameters

Parameter	Type	Default value	Is set to default on reset	Description
LOG_VERBOSITY	Numeric	0	Yes	Specifies whether verbose logging is enabled. Assign one of the following values: • 0: Only Info log messages are collected. • 1: Debug and Info log messages are collected. Use this value to collect logs for debugging purposes. If the parameter value is changed, changes will be applied after reboot. **Note:** To collect application logs, you must also enable logging and set up the local and remote logging level on Avaya Vantage™. Assign one of the following values to the SYSLOG_LEVEL and LOCAL_LOG_LEVEL parameters: • Debug: To collect Debug log messages. • Notice: To collect Info log messages.
ANALYTICSENABLED	Integer	1	Yes	Defines whether to allow Avaya to collect data using Google Analytics on behalf of the administrator's user community. Assign one of the following values: • 0: Data collection is disabled. • 1: Data collection is enabled. For provisioning, use the **`SET`** command in the `46xxsettings.txt` file.

Table continues…

Parameter	Type	Default value	Is set to default on reset	Description
SUPPORTEMAIL	String	Null	Yes	Defines the default email address for sending diagnostic logs. The parameter value is used when you try to send the debug or audio report to an email application. For provisioning, use the **`SET`** command in the `46xxsettings.txt` file.

Contact parameters

Parameter	Type	Default value	Is set to default on reset	Description
NAME_SORT_ORDER	String	last,first	Yes	Specifies how contact names are sorted by the active Avaya Breeze® Client SDK application. You can assign one of the following values: • last,first: The active Client SDK application sorts contacts according to the last name and then the first name. • first,last: The active Client SDK application sorts contacts according to the first name and then the last name. For example: `SET NAME_SORT_ORDER "first,last"`. For provisioning, use the **`SET`** command in the `46xxsettings.txt` file. You can also set this parameter value using the settings menu option on the Client SDK application.
NAME_DISPLAY_ORDER	Numeric	0	Yes	Specifies how contact names are displayed by the active Avaya Breeze® Client SDK application. You can assign one of the following values: • 0: The active Client SDK application displays the last name followed by the first name. • 1: The active Client SDK application displays the first name followed by the last name. For provisioning, use the **`SET`** command in the `46xxsettings.txt` file. You can also set this parameter value using the settings menu option on the Client SDK application.

Dialing rule parameters

Parameter	Type	Default value	Is set to default on reset	Description
ENHDIALSTAT	Numeric	1	Yes	Specifies whether the dialing rules are used during certain dialing activities. Assign one of the following values: • 0: To disable the dialing algorithm. • 1: To enable the dialing algorithm for all outgoing calls.
PHNCC	String	Null string	Yes	Specifies the country code. Valid values are from 1 to 999.
PHNIC	String	Null string	Yes	Specifies the access code that you dial to make international calls. The value can be of 0 to 4 characters in length. The allowed characters are 0-9, *, and #.
PHNLD	String	Null string	Yes	Specifies the access code that you dial to make long distance calls. Valid values are from 0 to 9, and null string (“”). If long distance access code is not required, set the value to “”
PHNDPLENGTH	String	Null string	Yes	Specifies the length of internal extension numbers. The value must match the extension length set on the call server. The valid range is from 3 to 13.
PHNLDLENGTH	String	Null string	Yes	Specifies the length of national phone numbers of the country that is considered in the dial plan. Valid values are from 5 to 15.
PHNOL	String	Null string	Yes	Specifies the outside line access code, which is the number you press to access an external line. The value can be of 0 to 2 characters in length. The allowed characters are 0-9, *, and #.

Table continues…

Parameter	Type	Default value	Is set to default on reset	Description
APPLY_DIALINGRULES_TO_PLUS_NUMBERS	Numeric	0	Yes	Specifies whether to apply dialing rules on phone numbers with the plus sign (+) at the beginning. Assign one of the following values: • 0: To ignore the dialing rules for phone numbers that begin with the plus sign (+). • 1: To replace the plus sign (+) with dial plan digits. In Avaya Aura®, whenever possible, configure the plus (+) dialing option in Session Manager instead of enabling this parameter.
AUTOAPPLY_ARS_TO_SHORTNUMBERS	Numeric	1	Yes	Specifies whether to disable the dialing rules logic that automatically appends the outside line access code (PHNOL) to numbers that are shorter than the shortest extension length. Assign one of the following values: • 0: To disable the logic. The PHNOL code is not appended to numbers that are shorter than the shortest extension length. • 1: To enable the logic. The PHNOL code is appended to numbers that are shorter than the shortest extension length.
PHNREMOVEAREACODE	String	0	Yes	Specifies whether the area code must be removed for local calls. This parameter is obsolete. While it is still supported for backward compatibility, Avaya recommends that you use the newer parameter, DIALPLANLOCALCALLPREFIX.

Table continues…

Parameter	Type	Default value	Is set to default on reset	Description
DIALPLANLOCALCALLPREFIX	String	0	Yes	Indicates whether the area code must be removed for local calls. Assign one of the following values: • 0: To disable the removal of the area code for local calls. • 1: To enable the removal of the area code for local calls. **Note:** The area code is configured using DIALPLANAREACODE.
DIALPLANNATIONALPHONENUMLENGTHLIST	String	Null string	Yes	Specifies a list of national phone number length (PHNLDLENGTH) values separated by commas. This parameter takes precedence over PHNLDLENGTH. Example: `SET DIALPLANNATIONALPHONENUMLENGTHLIST 10,11`
DIALPLANEXTENSIONLENGTHLIST	String	Null string	Yes	Specifies a list of internal extension length (PHNDPLENGTH) values separated by commas. This parameter takes precedence over PHNDPLENGTH. Example: `SET DIALPLANEXTENSIONLENGTHLIST 7,8`
DIALPLANPBXPREFIX	String	Null string	Yes	Specifies the PBX main prefix.
PHNPBXMAINPREFIX	String	Null string	Yes	Specifies the PBX main prefix. This parameter is obsolete. While it is still supported for backward compatibility, Avaya recommends that you use the newer parameter, DIALPLANPBXPREFIX.
DIALPLANAREACODE	String	Null string	Yes	Specifies the area or city code.

Table continues…

Parameter	Type	Default value	Is set to default on reset	Description
SP_AC	String	Null string	Yes	Specifies the area or city code. This parameter is obsolete. While it is still supported for backward compatibility, Avaya recommends that you use the newer parameter, DIALPLANAREACODE.

Conferencing parameters

Parameter	Type	Default value	Is set to default on reset	Description
CONFERENCE_FACTORY_URI	String	Null string		Specifies the URI for network conferencing in an IP Office deployment. The URI consists of a dial string followed by @, followed by a domain. Example: `SET CONFERENCE_FACTORY_URI “93375000@avaya.com”` With IP Office, this parameter is automatically generated.

Avaya Vantage™ Connect parameters

Layer 3 QoS parameters

Important:

The following layer 3 QoS parameters are only used in the IP Office environment. In the Avaya Aura® environment, the value is taken from PPM and configured through System Manager.

Parameter	Type	Default value	Is set to default on reset	Description
DSCPAUD	Numeric	46	Yes	Specifies the decimal presentation of Differentiated Services Code Point (DSCP) for audio frames generated by the device. You can assign a value between 0 and 63. For provisioning, use: • The **`SET`** command in the `46xxsettings.txt` file. The precedence is 3. • The TIA LLDP MED Network policy TLV. The precedence is 4.
DSCPSIG	Numeric	34	Yes	Specifies the decimal presentation of DSCP for signaling frames generated by the device. You can assign a value between 0 and 63. For provisioning, use: • The **`SET`** command in the `46xxsettings.txt` file. The precedence is 3. • The TIA LLDP MED Network policy TLV. The precedence is 4.
DSCPVID	Numeric	34	Yes	Specifies the decimal presentation of DSCP for video frames generated by the device. You can assign a value between 0 and 63. For provisioning, use: • The **`SET`** command in the `46xxsettings.txt` file. The precedence is 3. • The TIA LLDP MED Network policy TLV. The precedence is 4.

Call option parameters

Parameter	Type	Default value	Is set to default on reset	Description
ENABLE_REDIAL	Numeric	1	Yes	Specifies whether the **Redial** button is available to users. Assign one of the following values: • 0: The **Redial** button is unavailable. • 1: The **Redial** button is available. For provisioning, use the **`SET`** command in the `46xxsettings.txt` file.
CCBTNSTAT	Numeric	1	Yes	Specifies whether you can enable or disable the conferencing, call transfer, call hold, and mute features separately using the corresponding parameters. Assign one of the following values: • 0: Avaya Vantage™ Connect uses the values of parameters related to these features. You can configure the availability of each feature separately. • 1: Avaya Vantage™ Connect ignores the values of parameters related to these features. All features are available to users. When CCBTNSTAT is set to 0, use the following parameters to configure feature availability: • CONFSTAT: For conferencing • HOLDSTAT: For call hold • MUTESTAT: For mute • XFERSTAT: For call transfer For provisioning, use the **`SET`** command in the `46xxsettings.txt` file.
HOLDSTAT	Numeric	1	Yes	Specifies whether the **Hold** button is available to users. Avaya Vantage™ Connect ignores this parameter if CCBTNSTAT is set to 1. Assign one of the following values: • 0: The **Hold** button is disabled. • 1: The **Hold** button is enabled. For provisioning, use the **`SET`** command in the `46xxsettings.txt` file.

Table continues…

Parameter	Type	Default value	Is set to default on reset	Description
MUTESTAT	Numeric	1	Yes	Specifies whether the **Mute** button is available to users. This option controls muting for both audio and video. Avaya Vantage™ Connect ignores this parameter if CCBTNSTAT is set to 1. Assign one of the following values: • 0: The **Mute** button is disabled. • 1: The **Mute** button is enabled. For provisioning, use the **`SET`** command in the `46xxsettings.txt` file.
CONFSTAT	Numeric	1	Yes	Specifies whether the **Conference** button is available to users. Avaya Vantage™ Connect ignores this parameter if CCBTNSTAT is set to 1. Assign one of the following values: • 0: The **Conference** button is disabled. • 1: The **Conference** button is enabled. For provisioning, use the **`SET`** command in the `46xxsettings.txt` file.
XFERSTAT	Numeric	1	Yes	Specifies whether the **Call transfer** button is available to users. Avaya Vantage™ Connect ignores this parameter if CCBTNSTAT is set to 1. Assign one of the following values: • 0: The **Call transfer** button is disabled. • 1: The **Call transfer** button is enabled. For provisioning, use the **`SET`** command in the `46xxsettings.txt` file.
POUND_KEY_AS_CALL_TRIGGER	Numeric	1		In off-hook dialing, specifies whether: • Pressing the pound key (#) triggers a call. • The pound key is considered a dialed digit. Assign one of the following values: • 0: The pound key is considered a dialed digit. • 1: The pound key triggers a call. In the IP Office environment, set POUND_KEY_AS_CALL_TRIGGER to 0. For provisioning, use the **`SET`** command in the `46xxsettings.txt` file.

Audio codec parameters

Parameter	Type	Default value	Is set to default on reset	Description
ENABLE_G711A	Numeric	1	Yes	Specifies whether the G.711 a-law codec is enabled. Assign one of the following values: • 0: Disabled. • 1: Enabled. For provisioning, use the **SET** command in the `46xxsettings.txt` file.
ENABLE_G711U	Numeric	1	Yes	Specifies whether the G.711 mu-law codec is enabled. Assign one of the following values: • 0: Disabled. • 1: Enabled. For provisioning, use the **SET** command in the `46xxsettings.txt` file.
ENABLE_G722	Numeric	1	Yes	Specifies whether the G.722 codec is enabled. Assign one of the following values: • 0: Disabled. • 1: Enabled. For provisioning, use the **SET** command in the `46xxsettings.txt` file.
ENABLE_G726	Numeric	1	Yes	Specifies whether the G.726 codec is enabled. Assign one of the following values: • 0: Disabled. • 1: Enabled. For provisioning, use the **SET** command in the `46xxsettings.txt` file.
ENABLE_G729	Numeric	1	Yes	Specifies whether the G.729A codec is enabled. Assign one of the following values: • 0: Disabled. • 1: Enabled without Annex B support. • 2: Enabled with Annex B support. For provisioning, use the **SET** command in the `46xxsettings.txt` file.

Audio parameters

Parameter	Type	Default value	Is set to default on reset	Description
ADMIN_CHOICE_RINGTONE	String	Default	Yes	Specifies the ring tone that Avaya Vantage™ Connect uses for incoming calls. When the parameter is set to “Default”, the Avaya built-in ringtone is used for incoming calls. Otherwise, you can specify the name of one of the ringtones available on the device. For provisioning, use the **`SET`** command in the `46xxsettings.txt` file.

Contact parameters

Parameter	Type	Default value	Is set to default on reset	Description
ENABLE_MODIFY_CONTACTS	Numeric	1	Yes	Specifies whether users can modify contacts. Assign one of the following values: • 0: Users cannot modify contacts. • 1: Users can modify contacts. For provisioning, use the **`SET`** command in the `46xxsettings.txt` file.

Display parameters

Parameter	Type	Default value	Is set to default on reset	Description
BRANDING_FILE	String	null string	Yes	Specifies the URL of a branding image. Avaya Vantage™ Connect displays this image on the top left corner of all screens instead of the Avaya logo. Specify the URL using the absolute path format, where the URL must start with either `http://` or `https://`. The image must use the following settings: • Resolution: 142x56. • File format: PNG, JPG, JPEG, GIF, or BMP. For provisioning, use the **`SET`** command in the `46xxsettings.txt` file.

IP Office parameters

When used as a file server, the IP Office system automatically generates the `46xxsettings.txt` file with the parameters that specify the settings of the Avaya Vantage™ device. The automatically generated `46xxsettings.txt` file includes parameter settings that are required for IP Office operation, including those that are automatically adjusted to match the configuration of the IP Office system. Avaya recommends that you do not modify the automatically generated settings file.

The automatically generated settings file does not include all the settings for Avaya Vantage™; for example, the emergency numbers. If the Lock mode is enabled, for the device user to be able to make an emergency call from a locked device, you must configure the location-specific emergency numbers in the `46xxspecials.txt` file. When enabled, you can use the `46xxspecials.txt` file for additional device settings or override selected settings in the automatically generated file. For more information about using a `46xxspecials.txt` file, see *Avaya IP Office™ Platform SIP Telephone Installation Notes*.

The following table lists a subset of IP Office core settings parameters that are supported on Avaya Vantage™.

Parameter	Type	Default value	Description
ENABLE_IPOFFICE	Numeric	0	Specifies whether the deployment environment is IP Office. The parameter takes one of the following values according to the deployment environment: • 0: Non IP Office environment. • 1: IP Office environment. For provisioning, use the **SET** command in the settings file.
ENABLE_AVAYA_ENVIRONMENT	Numeric	1	Specifies whether the device is configured for use in an Avaya or a third-party proxy environment. You can assign one of the following values: • 0: Operates in a mode to comply with third-party SIP proxy provisioning with SIPPING-19. For IP Office and third-party call control environments, use this value. • 1: Operates in the Avaya environment with advanced SIP telephony features and PPM.

Table continues…

Parameter	Type	Default value	Description
DISCOVER_AVAYA_ENVIRONMENT	Numeric	1	Specifies whether the device should discover and verify if the SIP controller supports Advanced SIP Telephony (AST) feature set. You can assign one of the following values: • 0: The device operates in a mode where AST features are not available. For IP Office and third-party call control environments, use this value. • 1: The device determines whether the SIP controller supports AST features in the Avaya environment. If the device receives a positive response, then it synchronizes with PPM. If synchronization. If the device does not receive a response, it operates in a mode where AST features are not available.
SIMULTANEOUS_REGISTRATIONS	Numeric	3	Specifies the number of Session Manager instances with which the device can simultaneously register. The range is from 1 to 3. In an IP Office environment, the value of the parameter is set to 1.
REGISTERWAIT	Numeric	900	Specifies the number of seconds between re-registrations with the current server. Valid values are from 30 to 86400.
USER_STORE_URI	String	Null	Specifies the URI to be used for backup and retrieval of IP Office contacts. The parameter specifies the IP Office directory path to the backup file, but does not specify the backup file name. With IP Office, set this parameter to the IP address or FQDN of IP Office so that Avaya Vantage™ can fetch IP Office contacts. For provisioning, use he `SET` command in the settings file.
PSTN_VM_NUM	String	Null	Specifies the telephone number to be dialed automatically when the telephony user presses the **Messaging** button. The specified number is used to connect to the user's voice mail system. PSTN_VM_NUM is used with IP Office and third-party SIP call control environments instead of MSGNUM.

Table continues…

Parameter	Type	Default value	Description
SUBSCRIBE_LIST_NON_AVAYA	String	reg, message-summary, avaya-ccs-profile	Specifies a comma-separated list of event packages to subscribe to after registration. Possible values: reg, dialog, mwi, ccs, message-summary, and avaya-ccs-profile. The values are not case sensitive. For IP Office, the recommended value is "reg, message-summary, avaya-ccs-profile". For a third-party SIP call control environment, the value can be set to "message-summary".

LDAP directory service settings

To enable or disable LDAP directory search on Avaya Vantage™ and to connect Avaya Vantage™ to the directory server, you must define the following parameters:

Parameter	Type	Default value	Is set to default on reset	Description
DIRENABLED_PLATFORM	Numeric	0	Yes	Specifies whether the LDAP directory search feature is enabled on Avaya Vantage™. You can assign one of the following values: • 0: LDAP directory search is disabled. • 1: LDAP directory search is enabled. For provisioning, use the **SET** command in the `46xxsettings.txt` file.
DIRSRVR	String	Null	Yes	Specifies the IP address or fully qualified domain name (FQDN) of the LDAP directory server. Valid values are zero or more addresses separated by commas without intervening spaces. For provisioning, use: • The **SET** command in the `46xxsettings.txt` file. • The settings file received from Avaya Aura® Device Services.

Table continues…

Parameter	Type	Default value	Is set to default on reset	Description
DIRSRVRPRT	Numeric	636	Yes	Specifies the port number for the LDAP directory server. For provisioning, use: - The **SET** command in the `46xxsettings.txt` file. - The settings file received from Avaya Aura® Device Services.
DIRTOPDN	String	Null	Yes	Specifies the LDAP search base. For provisioning, use: - The **SET** command in the `46xxsettings.txt` file. - The settings file received from Avaya Aura® Device Services. Example: **SET** `DIRTOPDN "dc=global,dc=avaya,dc=com"`
DIRSECURE	Boolean	1	Yes	Specifies whether to use TLS of TCP for LDAP. You can assign one of the following values: - 0: Use TCP. - 1: Use TLS. When you set to use TLS for LDAP, Avaya Vantage™ supports secure LDAP, that is, LDAPS. LDAPS supports both client and server authentication. For server authentication, you must add the trusted certificate to an HTTP or HTTPS server and include certificate in the TRUSTCERTS parameter value. Client authentication is based on the Avaya Vantage™ identity certificates installed using SCEP or PKCS12. For provisioning, use: - The **SET** command in the `46xxsettings.txt` file. - The settings file received from Avaya Aura® Device Services.

Table continues…

Parameter	Type	Default value	Is set to default on reset	Description
DIRREFERRALS	Numeric	1	Yes	Specifies whether Avaya Vantage™ supports LDAP referrals. You can assign one of the following values: • 0: LDAP referrals are disabled. • 1: LDAP referrals are enabled. For provisioning, use: • The **`SET`** command in the `46xxsettings.txt` file. • The settings file received from Avaya Aura® Device Services.

Appendix B: Parameter configuration examples in the settings file

Parameter configuration example for Avaya Aura® with SIP credentials

The following is a configuration example of mandatory parameters in the `46xxsettings.txt` file when the deployment environment is Avaya Aura® with SIP credentials:

```
SET TIMEZONE "America/New_York"
SET SNTPSRVR "149.12.34.567"
SET ACTIVE_CSDK_BASED_PHONE_APP "com.avaya.android.vantage.basic"
SET TRUSTCERTS "prod-sip-ca.crt"
SET SIP_CONTROLLER_LIST "135.12.345.670:5061;transport=tls"
SET SIPDOMAIN "avaya.com"
SET TLSSRVRID 0
SET USER_AUTH_FILE_SERVER_URL ""
```

The double quotes (“”) are optional for the above configuration parameter examples. However, to include spaces in a parameter value, you must enclose the value using double quotes (“”)

Some considerations while configuring parameters:

- When you are using SIP credentials, USER_AUTH_FILE_SERVER_URL must remain with the default value, which is null (“”).
- You must configure SNTPSRVR if the default Avaya and NIST SNTP servers are not accessible from the customer network. Specifying an SNTPSRVR value that is reachable from your network is essential for SIP registration and initial device setup when you start up Avaya Vantage™.
- You must set TLSSRVRID to 0 if:
  - Avaya default SIP Root CA certificates are used.
  - The identity certificate of Avaya Vantage™ services does not include Subject Alternative name with the FQDN or IP address of the services.
  - The SIP controller identity certificate does not include the correct SIP domain in Subject Alternative Name.
  - The identity certificate does not include a common name for other services.

Parameter configuration example for Avaya Aura® with user enterprise credentials

The following is a configuration example of mandatory parameters in the `46xxsettings.txt` file when the deployment environment is Avaya Aura® with user enterprise credentials:

```
SET TIMEZONE "America/New_York"
SET SNTPSRVR "149.12.34.567"
SET ACTIVE_CSDK_BASED_PHONE_APP "com.avaya.android.flare"
SET TRUSTCERTS "prod-sip-ca.crt,digi-intermed.txt"
SET SIP_CONTROLLER_LIST "135.12.345.670:5061;transport=tls"
SET SIPDOMAIN "avaya.com"
SET USER_AUTH_FILE_SERVER_URL “https://aads.service.com:8443”
SET TLSSRVRID 0
```

The double quotes (“”) are optional for the above configuration parameter examples. However, to include spaces in a parameter value, you must enclose the value using double quotes (“”)

Some considerations while configuring parameters:

- When you are using user enterprise credentials for authentication through Avaya Aura® Device Services, you must configure USER_AUTH_FILE_SERVER_URL.
- Although Avaya Aura® Device Services identity certificate root CA is available in the Android “VPN and APPS” trusted certificate repository, you must include it in the downloaded trusted certificates defined in TRUSTCERTS.
- You must configure SNTPSRVR if the default Avaya and NIST SNTP servers are not accessible from the customer network. Specifying an SNTPSRVR value that is reachable from your network is essential for SIP registration and initial device setup when you start up Avaya Vantage™.

Parameter configuration example for IP Office with SIP credentials

The following is an example of mandatory parameters included in the automatically generated settings file for an IP Office deployment with SIP credentials:

```
SET SNTPSRVR "149.12.34.567"
SET TRUSTCERTS "prod-sip-ca.crt"
SET SIP_CONTROLLER_LIST "135.12.345.670:5061;transport=tls"
SET SIPDOMAIN "avaya.com"
SET TLSSRVRID 1
SET ENABLE_IPOFFICE 1
SET SUBSCRIBE_LIST_NON_AVAYA "reg, message-summary, avaya-ccs-profile"
SET UPGRADE_POLICY 0
SET USER_STORE_URI "http://135.12.345.670:80"
SET SIMULTANEOUS_REGISTRATIONS 1
SET POUND_KEY_AS_CALL_TRIGGER 0
```

The double quotes (“”) are optional for the above configuration parameter examples. However, to include spaces in a parameter value, you must enclose the value using double quotes (“”)

Some points to consider for device configuration in the IP Office environment:

- The TIMEZONE and ACTIVE_CSDK_BASED_PHONE_APP parameters are not part of the automatically generated configuration file. ACTIVE_CSDK_BASED_PHONE_APP is part of the automatically generated upgrade file. You can configure TIMEZONE and additional parameters separately in the `46xxspecials.txt` file. You can also override parameters in the automatically generated configuration file using the `46xxspecials.txt` file.
- USER_AUTH_FILE_SERVER_URL must remain with the default value, which is null (“”).
- TLSSRVRID is set to 0 if:
  - The identity certificate of Avaya Vantage™ services does not include Subject Alternative name with the FQDN or IP address of the services.
  - The SIP controller identity certificate does not include the correct SIP domain in Subject Alternative Name.
  - The identity certificate does not include a common name field for other services.
- UPGRADE_POLICY is set to 0 because IP Office uses the push method for software upgrades instead of automatic polling for upgrade files by the device.

Index