Release Notes and Product Information Guide for Open Networking Adapter 1101GT

Release 1.0
NN48800-400
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Chapter 1: Introduction

Purpose

These Release Notes provide important information about this release of the Open Networking Adapter (ONA). For installation and initial setup information, refer to the ONA Quick Install Guide that came with your ONA.

Documentation

For installation and initial setup information of the Open Networking Adapter (ONA), refer to the Quick Install Guide that came with your ONA.

Note:

The ONA works only with the Avaya Virtual Services Platform 4000 Series. For more information about configuring features, refer to the VOSS documentation. See *Documentation Reference for VSP Operating System Software*, NN47227-100 for a list of all the VSP 4000 documents.

Training

Ongoing product training is available. For more information or to register, you can access the Web site at http://avaya-learning.com/.

Viewing Avaya Mentor videos

Avaya Mentor videos provide technical content on how to install, configure, and troubleshoot Avaya products.

About this task

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Procedure

- To find videos on the Avaya Support website, go to http://support.avaya.com and perform one of the following actions:
  - 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 perform one of the following actions:
  - 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:

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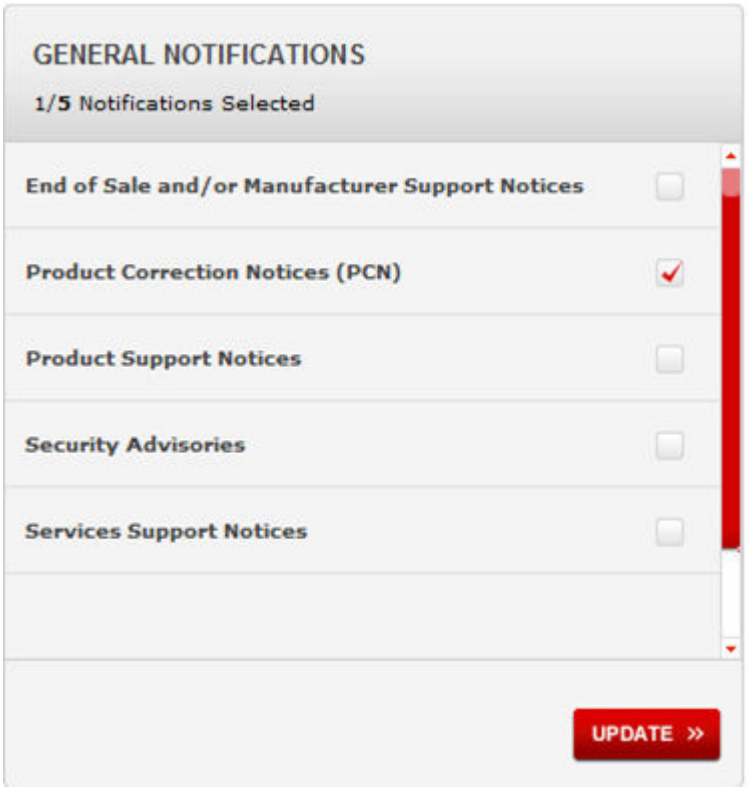
Subscribe to e-notifications to receive an email notification when documents are added to or changed on the Avaya Support website.

About this task

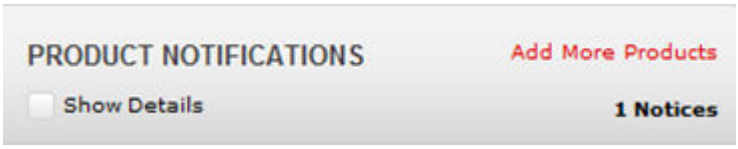
You can subscribe to different types of general notifications, for example, Product Correction Notices (PCN), which apply to any product or a specific product. You can also subscribe to specific types of documentation for a specific product, for example, Application & Technical Notes for Virtual Services Platform 7000.

Procedure

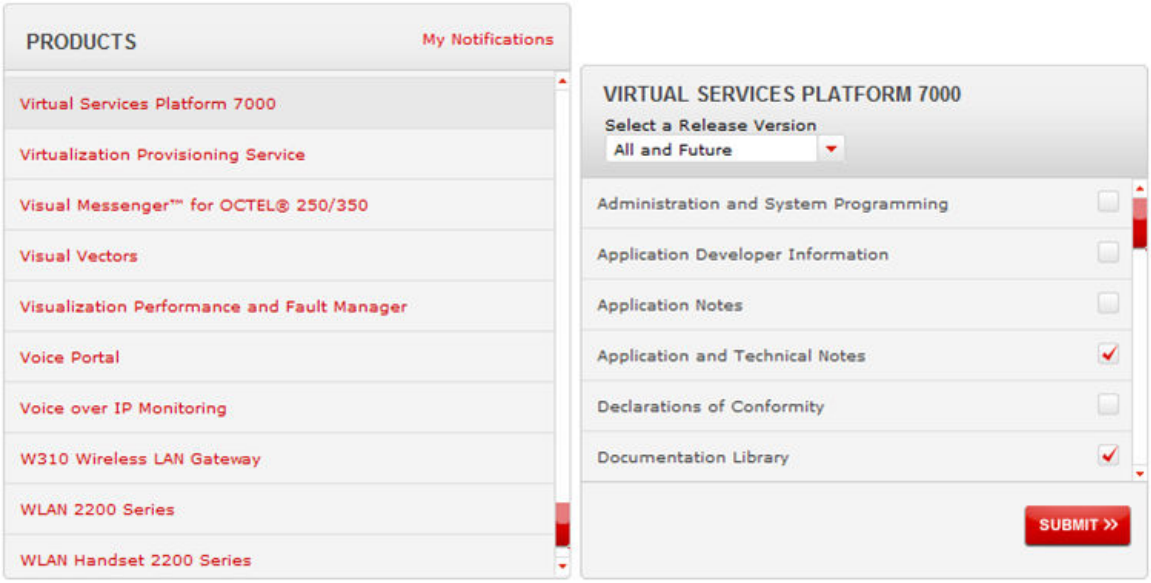
1. In an Internet browser, go to https://support.avaya.com.
2. Type your username and password, and then click **Login**.
3. Under **My Information**, select **SSO login Profile**.
4. Click **E-NOTIFICATIONS**.
5. In the GENERAL NOTIFICATIONS area, select the required documentation types, and then click **UPDATE**.



6. Click **OK**.
7. In the PRODUCT NOTIFICATIONS area, click **Add More Products**.



8. Scroll through the list, and then select the product name.
9. Select a release version.
10. Select the check box next to the required documentation types.



11. Click **Submit**.

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Go to the Avaya Support website at http://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.

Searching a documentation collection

On the Avaya Support website, you can download the documentation library for a specific product and software release to perform searches across an entire document collection. For example, you can perform a single, simultaneous search across the collection to quickly find all occurrences of a particular feature. Use this procedure to perform an index search of your documentation collection.

Before you begin

- Download the documentation collection zip file to your local computer.
- You must have Adobe Acrobat or Adobe Reader installed on your computer.

Procedure

1. Extract the document collection zip file into a folder.
2. Navigate to the folder that contains the extracted files and open the file named <*product_name_release*>.pdx.

3. In the Search dialog box, select the option **In the index named <*product_name_release*>.pdx**.
4. Enter a search word or phrase.
5. Select any of the following to narrow your search:
   - Whole Words Only
   - Case-Sensitive
   - Include Bookmarks
   - Include Comments
6. Click **Search**.

   The search results show the number of documents and instances found. You can sort the search results by Relevance Ranking, Date Modified, Filename, or Location. The default is Relevance Ranking.

Chapter 2: New in this release

This is a new document for ONA Release 1.0 so all the features are new in this release. The following sections highlight the major features.

Fabric Extend

Key solution attributes of Avaya Fabric Connect have included rapid time to service, Layer 2 and Layer 3 Unicast and IP Multicast virtualization, fast network convergence in case of failures, and scalable IP multicast. Until now Fabric Connect required dedicated physical or emulated point-to-point Ethernet links to enable all fabric benefits. With the introduction of Avaya Fabric Extend, the Fabric Connect Core can now be extended across Broadcast Ethernet (referred to as FE-VID) and IP routed (referred to as FE-IP) networks..

This feature enables the extension of Fabric Connect to address the following customer needs:

- Data center interconnect (DCI) over IP WAN or Ethernet LAN services.
- Fabric overlay across a Layer 3 VPN service over an MPLS network.
- Fabric to the branch over IP MPLS VPNs, MPLS VPLS, or VLAN tunnels (Pseudo wire-MPLS or PBB E-Lines).
- Fabric Overlay for IP campus network

Important:

Some of the use cases above may require fragmentation and reassembly due to IP MTU limitations. For those situations, an ONA with VSP 4000 Series is required at both ends of the Fabric Extend connection to deliver Fabric Extend with fragmentation and reassembly.

For more information, see *Configuring Avaya Fabric Connect on VSP Operating System Software*, NN47227-510.

Fragmentation and reassembly

The ONA/VSP 4000 combination supports IP fragmentation and reassembly on Fabric Extend tunnels.

This feature addresses situations where the network does not support MTU sizes over 1500 bytes with Fabric Extend tunnels enabled. If the maximum MTU size has to be fewer than 1594 bytes, then you require fragmentation and reassembly of packets. The VSP 4000s with ONAs support fragmentation and reassembly, but you must have VSP 4000s with ONAs at BOTH ends of the IP WAN connection.

The ONA 1101GT provides for the IP MTU of the Network port to be reduced from the default setting of 1950 bytes to 1500 bytes or lower. The MTU reduction feature with Fabric Extend is provided to facilitate the connection of two Fabric Connect networks over an IP network with any MTU without requiring end stations on the networks to reduce their MTU. The ONA 1101GT with the IP MTU of the network port set to 1500 bytes will fragment Fabric Extend VXLAN tunnel packets

exceeding 1500 bytes. The ONA 1101GT will also reassemble fragmented Fabric Extend VXLAN tunnel packets at the tunnel termination point. The IP fragmentation and reassembly RFC 791 describes the procedure for IP fragmentation, and transmission and reassembly of datagrams and RFC4963 and RFC4459 detail limitations and network design considerations when using fragmentation to avoid out of order packets and performance degradation.

For more information, see *Configuring Avaya Fabric Connect on VSP Operating System Software*, NN47227-510.

Chapter 3: Important notices

This section provides important information for this release.

Documentation updates

The following documentation updates will be included in the next version of the *Quick Install Guide*, NN48800-300 that ships with the ONA:

Gloss regulatory testing

The following statement will be added to the regulatory section.

GS Statement

This device is not intended for use in the direct field of view at visual display workplaces. To avoid incommoding reflexions at visual display workplaces this device must not be placed in the direct field of view.

Modifying Manual Configuration parameters

On page 12, replace step 4 in the *Modifying Manual Configuration parameters* section with the following:

4. Continue pressing and holding the reset button until the Status LED cycles through a steady red/green/blue. Then release the reset button and the Status LED flashes a steady amber, which indicates that the Manual Configuration menu is running.

File names

This section describes the ONA software files.

Software files

The following table provides the details of the ONA software files.

File name	Description	File sizes (bytes)
VEGA1101_GA.v1.0.0.0_oss-notice.txt	Optional: Master Copyright file.	1,187,278

Table continues…

File name	Description	File sizes (bytes)
VEGA1101_GA.v1.0.0.0.tgz	System software image for the ONA 1101GT.	48,647,992
VEGA1101_GA.v1.0.0.0.sha512	SHA512 Checksum file for ONA.	321
VEGA1101_GA.v1.0.0.0.sha512.sig	SHA512 Checksum file Digital Signature for ONA.	128
VEGA1101_GA.v1.0.0.0.md5	MD5 hash information.	129
VEGA1101_GA.v1.0.0.0.md5.sig	MD5 Digital Signature for ONA.	128

Supported operational modes

ONA Release 1.0 uses **Operational Mode 1** to support Fabric Extend. To set the operational mode, use the ONA's Manual Configuration menu.

Blinking white LED on power up

When you first power up the ONA, the Status LED blinks white. This is the expected behavior, and it just means that the mode set in the Manual Configuration menu is not supported in this release.

Use the following steps to change the mode to Fabric Extend (Mode 1):

1. Connect a PC to the RJ-45 port on the Device side of the ONA.
2. Insert a paper clip into the reset switch. Press and hold the reset button before applying power to the ONA.
3. Connect the cable from the network switch to the Network side of the ONA for PoE power. If PoE power is unavailable, connect an external power adapter.
4. Continue pressing and holding the reset button until the ONA powers up. The Status LED cycles through a steady red/green/blue until it flashes a steady amber, which indicates that the Manual Configuration menu is running.
5. On the PC, use a browser to connect to the ONA configuration menu with the address http://192.168.100.1/.
6. Click **Edit Parameters**.
7. Change the **Operational Mode** parameter to `1` to enable Fabric Extend.
8. Click "Save" to store the parameters in persistent memory.
9. Click **Return to Configuration page**.
10. Click **Reboot into Operational Mode**.
11. Disconnect the PC.

Technical specifications

The following tables provide the technical specifications for the ONA 1101GT.

Table 1: Physical specifications

Specifications	ONA 1101GT
Height	1.496 in. (38 mm)
Width	2.716 in. (69 mm)
Depth	3.622 in. (92 mm)

Table 2: Electrical specifications

Specifications	ONA 1101GT
Maximum power consumption	9.6 W
Normal operation power	~7.5 W
Input rating when using PoE power from the VSP4000	PoE 48 V @ 200 mA
Thermal rating	32.76 BTU/hr @35° C 25.59 BTU/hr @25° C
MTBF rating	@35° C 1,611,922 hours @25° C 2,240,389 hours

The following table lists the specifications for the 10W 100-240 AC power adapter. This adapter is sold separately and comes with four snap-in plug adapters: Type A (U.S. and Japan), Type B (EU), Type G (UK), and Type I (AUS and China). The part number is EC1105E11-E6.

Table 3: Optional AC power adapter specifications

Specifications	ONA 1101GT
Input	110-240 V AC, 50-60 Hz, 0.4 A Max
Output	5V DC, 2A

Table 4: Environmental specifications

Specifications	ONA 1101GT
Operating Temperature	0° C to 35° C (32° F to 95° F)
Storage Temperature	–40° C to 85°C (-40° F to 185° F)
Operating Humidity	0 to 95 percent noncondensing
Storage Humidity	0 to 95 percent noncondensing
Maximum Operating Altitude	3,048m (10 000 feet) above sea level
Acoustic Noise	None

Chapter 4: Software upgrade

This section describes two different ways to upgrade the ONA software. Click on one of the following methods for the details on how to upgrade the ONA:

- Upgrading a standalone ONA on page 16—This method uses a PC and a web browser to access the ONA's Manual Configuration menu.

  Note:

  Avaya recommends using this upgrade method when you first receive your ONA.

- Upgrading a deployed ONA on page 17—This method uses the VSP 4000 connected to the ONA.

  Note:

  If you have already deployed your ONA, Avaya recommends using this upgrade method to avoid disconnecting it from the VSP 4000.

Upgrading a standalone ONA

Use this procedure to upgrade the ONA when you first receive it. This method uses a PC to access the ONA's Manual Configuration menu.

Procedure

1. From the PC that you are going to use for this upgrade procedure, go to the Avaya Support website, http://support.avaya.com, and download the ONA software image that you want to use.
2. Connect a PC to the RJ-45 port on the Device side of the ONA.

   Note:

   Make sure the PC's network port is enabled with DHCP client.
3. Insert a paper clip into the reset switch. Press and hold the reset button before applying power to the ONA.
4. Connect the cable from the network switch to the Network side of the ONA for PoE power. If PoE power is unavailable, connect an external power adapter.

5. Continue pressing and holding the reset button until the Status LED cycles through a steady red/green/blue. Then release the reset button and the Status LED flashes a steady amber, which indicates that the Manual Configuration menu is running.

   Note:

   After this step, wait for a few seconds so that the PC gets an IP address for the ONA over DHCP.

6. On the PC, use a browser to connect to the ONA configuration menu with the address http://192.168.100.1.

   Note:

   You cannot go directly to this web page. You must complete steps 1–5 first.

7. Click **Upgrade Software**.
8. Select the software upgrade package that you want to upload.
9. Click **Send** to upload the image to the ONA. This may take up to five minutes.

   Note:

   Do not refresh or close the webpage during the upgrade.

10. Click **Return to Configuration page**.
11. Click **Reboot into Operational Mode**.
12. Disconnect the PC.

Upgrading a deployed ONA

Use this procedure to upgrade the software on an ONA that has already been deployed.

Perform the steps in this procedure on the VSP 4000 connected to the ONA that you want to upgrade.

Procedure

1. Enter Global Configuration mode:

   ```
   enable
   configure terminal
   ```

2. Configure the boot flag to enable the SSH daemon:

   ```
   boot config flags sshd
   ```

3. Enable SSH globally on the switch:

   ```
   ssh
   ```

4. Verify that SSH is globally enabled:

```
show ssh global
```

Important:

You must enable **both** the SSH boot flag daemon and SSH globally.

5. Verify that the SSH daemon and server are enabled:

   ```
   show logging file
   ```

6. Go to the Avaya Support website, http://support.avaya.com and download the ONA software image that you want to use.

7. Verify that the ONA has an IP address, and is up and running. This includes the Network and Device ports:

   ```
   show khi fe-ona detail
   ```

   Note:

   Before the ONA can get an IP tunnel source address from the VSP 4000, the following steps must be taken:

   - Connect the Device and Network ports on the ONA to the VSP 4000.
   - Make sure that the ONA is connected to a DHCP server. If a DHCP server is unavailable, statically configure an IP tunnel source address on the ONA.
   - Create a Management VLAN on the ONA that includes the Network port.
   - Designate the Device port for the IP tunnel source address in the configuration file.

   The syntax for the IP tunnel source address is: **`ip-tunnel-source-address <A.B.C.D> port <slot/port> [mtu <750-1950>] [vrf WORD<1-16>]`**.

8. Upgrade the ONA:

   ```
   fe-ona image-upgrade <ONAReleaseFile> [Username] [Password]
   ```

   Note:

   The Username and Password are required. This is only optional if you did not change the defaults from `rwa`/`rwa`.

9. Check the status of the upgrade:

   ```
   show khi fe-ona status
   ```

   Note:

   When the upgrade finishes, the ONA automatically reboots.

Example

```
Switch(config)# boot config flags sshd
Switch(config)# show ssh global
Total Active Sessions  : 0
        version                 : v2only
        port                    : 22
        max-sessions            : 4
```

```
        timeout                 : 60
        action rsa-host key     : rsa-hostkeysize 2048
        action dsa-host key     : dsa-hostkeysize 1024
        rsa-auth                : true
        dsa-auth                : true
        pass-auth               : true
        sftp enable             : true
        enable                  : false

Switch(config)# ssh
CP1  [10/27/15 13:40:05.882:UTC] 0x000d861c 00000000 GlobalRouter SSH INFO SSH Server
Enabled

Switch(config)# show ssh global
Total Active Sessions  : 0
        version                 : v2only
        port                    : 22
        max-sessions            : 4
        timeout                 : 60
        action rsa-host key     : rsa-hostkeysize 2048
        action dsa-host key     : dsa-hostkeysize 1024
        rsa-auth                : true
        dsa-auth                : true
        pass-auth               : true
        sftp enable             : true
        enable                  : true

Switch(config)# show logging file
CP1  [10/27/15 13:40:05.882:UTC] 0x000d861c 00000000 GlobalRouter SSH INFO SSH Server
Enabled
CP1  [10/27/15 13:40:05.882:UTC] 0x0000461f 00000000 GlobalRouter SNMP INFO SSH server
enabled

Switch(config)# show khi fe-ona detail
=========================================================
               ONA RUNTIME INFORMATION
=========================================================
ONA Port Number : 1/8
ONA Management Address : 11.1.1.100
Tunnel Source IP Address : 40.1.1.4
ONA LLDP Port Status : Enabled
ONA Device Port Status : UP
ONA Device Status : UP
MTU : 1950
ONA Network Port Number : 1/6
ONA Mac(ARP) Address : 10:cd:ae:69:c6:d0
ONA Source VlanId : 11
ONA Source Vlan IP : 11.1.1.1
ONA Gateway IP: 11.1.1.1
ONA Management IP Mask : 255.255.255.0
ONA Bootmode : 1
ONA Uptime : 2 days, 12:07:11
pbit-to-dscp-map p0=0 p1=0 p2=10 p3=18 p4=26 p5=34 p6=46 p7=46

Switch(config)# fe-ona image-ugprade VEGA1101_beta.1.0.0.0int014.tgz
CP1  [10/26/15 10:51:07.294:UTC] 0x00378603 00000000 GlobalRouter ONA INFO Periodic ONA
Image upgrade status :DOWNLOAD_IN_PROGRESS

Switch(config)# show khi  fe-ona status
=========================================================
               ONA STATUS
=========================================================
ONA Device Status : UP
Running Release Name : VEGA1101_beta.1.0.0.0int009
Image Upgrade Status : DOWNLOAD_IN_PROGRESS
```

```
Image File Is Being Used For Upgrade: VEGA1101_beta.1.0.0.0int014.tgz
-----------------------------------------------------

Switch(config)# show khi  fe-ona status
=========================================================
               ONA STATUS
=========================================================
ONA Device Status : UP
Running Release Name : VEGA1101_beta.1.0.0.0int014
Last Image Upgrade Status : UPGRADE_SUCCESS
Last Image File Used For Upgrade: VEGA1101_beta.1.0.0.0int014.tgz
---------------------------------------------------------
```

Chapter 5: Known issues and limitations

This chapter details the known issues and limitations found in this release. Where appropriate, use the workarounds provided.

Known issues in this release

This section identifies the known issues in this release.

Issue number	Description	Workaround
VOSS-1693	The ONA upgrade command (**`fe-ona image-upgrade`**) requires that you enter a username and password if you changed them from the defaults (rwa/rwa). However, this command does not support special characters.	Do not use ampersands, slashes, asterisks, or other special characters in passwords.

Limitations in this release

This section lists known limitations and expected behaviors that may first appear to be issues.

Issue number	Description
wi01234289	HTTP management of the ONA is not supported when it is deployed with a VSP 4000 Series device.