Oracle Talari E1000 Installation Guide



Purpose

This guide will help you set up your E1000 using typical deployment scenarios.

E1000 Overview



The E1000 is an extension of the E-series of Oracle Talari Appliances and intended for use in large branch or regional offices that require higher performance and port density than the E100 provides. The E1000 supports all major Talari Adaptive Private Network (APN) features, including Service Chaining, and WAN Optimization.

IMPORTANT:



Your E1000 ships with a piece of foam behind the faceplate to prevent damage during shipping. The foam must be removed before powering on the appliance to avoid overheating the device. (Please refer to the Unpacking and Inspection Checklist for instructions.)

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E1000 Hardware Options

To best meet the needs of Talari customers worldwide, the E1000 appliance allows for three different hardware ordering options:

E1000 (with No Expansion Card)

E1000 + 10 G Fiber (2 Port) Expansion Card

E1000 + Fail to Wire Copper (4 Port) Expansion Card

Determining E1000 Hardware Option

Each E1000 hardware option can be visually identified by comparing the back of the appliance to the **E1000 Back**Panel images on pages 4-6 of this guide.

If the E1000 is still in the original shipping box, the hardware option can also be identified by the last line of text on the external shipping label.

Related Publications

The following documents are available:

- Talari APN 7.0 New Features Guide
- Talari APN 7.0 GA P2 Release Notes
- Talari Appliance E1000 Hardware Guide

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My Oracle Support

My Oracle Support (https://support.oracle.com) is your initial point of contact for all product support and training needs. A representative at Customer Access Support (CAS) can assist you with My Oracle Support registration.

Call the CAS main number at 1-800-223-1711 (toll-free in the US), or call the Oracle Support hotline for your local country from the list at http://www.oracle.com/us/support/contact/index.html. When calling, make the selections in the sequence shown below on the Support telephone menu:

- 1. Select 2 for New Service Request.
- 2. Select 3 for Hardware, Networking, and Solaris Operating System Support.
- 3. Select one of the following options:
 - For technical issues such as creating a new Service Request (SR), select 1.
 - For non-technical issues such as registration or assistance with My Oracle Support, select 2.

You are connected to a live agent who can assist you with My Oracle Support registration and opening a support ticket.

My Oracle Support is available 24 hours a day, 7 days a week, 365 days a year.

Emergency Response

In the event of a critical service situation, emergency response is offered by the Customer Access Support (CAS) main number at 1-800-223-1711 (toll-free in the US), or call the Oracle Support hotline for your local country from the list at http://www.oracle.com/us/support/contact/index.html. The emergency response provides immediate coverage, automatic escalation, and other features to ensure that the critical situation is resolved as rapidly as possible.

A critical situation is defined as a problem with the installed equipment that severely affects service, traffic, or maintenance capabilities, and requires immediate corrective action. Critical situations affect service and/or system operation resulting in one or several of these situations:

 A total system failure that results in loss of all transaction processing capability

- Significant reduction in system capacity or traffic handling capability
- Loss of the system's ability to perform automatic system reconfiguration
- Inability to restart a processor or the system
- Corruption of system databases that requires service affecting corrective actions
- Loss of access for maintenance or recovery operations
- Loss of the system ability to provide any required critical or major trouble notification

Any other problem severely affecting service, capacity/traffic, billing, and maintenance capabilities may be defined as critical by prior discussion and agreement with Oracle.

Locate Product Documentation on the Oracle Help Center Site

Oracle Communications customer documentation is available on the web at the Oracle Help Center (OHC) site, http://docs.oracle.com. You do not have to register to access these documents. Viewing these files requires Adobe Acrobat Reader, which can be downloaded at http://www.adobe.com.

- 1. Access the Oracle Help Center site at http://docs.oracle.com.
- 2. Click Industries.
- 3. Click the Oracle Communications link.

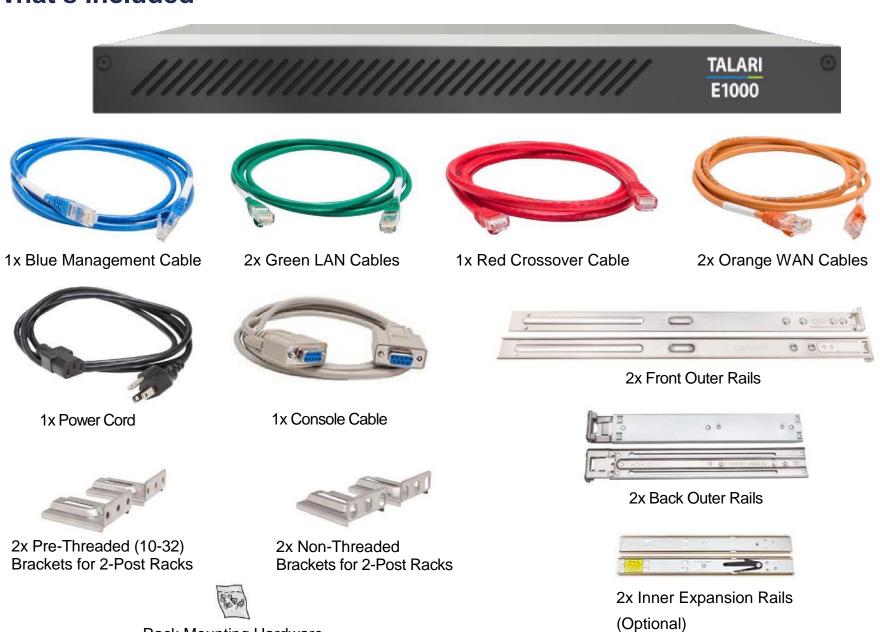
Under the SD-WAN header, select a product.

4. Select the Release Number.

A list of the entire documentation set for the selected product and release appears.

5. To download a file to your location, right-click the PDF link, select Save target as (or similar command based on your browser), and save to a local folder.

What's Included



Rack Mounting Hardware

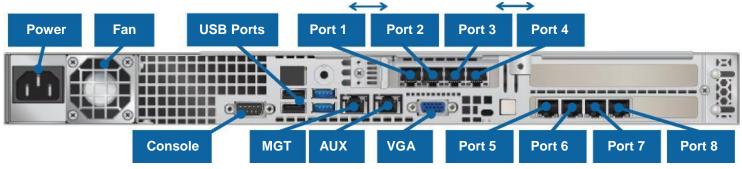
E1000 Front Panel



E1000 Back Panel

The Talari E1000 may be ordered with **three different hardware options**. Installation will vary based on which E1000 hardware option is being deployed. Each E1000 hardware option can be visually identified by comparing the back of the appliance to the E1000 back panel images below. Where necessary, separate sub-sections for each hardware option are provided within this guide.

E1000: No Expansion Card



Power: A/C Power Connector

Fan: Fan exhaust

Port 1: Gigabit Ethernet (Bypass pair with Port 2)
Port 2: Gigabit Ethernet (Bypass pair with Port 1)
Port 3: Gigabit Ethernet (Bypass pair with Port 4)
Port 4: Gigabit Ethernet (Bypass pair with Port 3)
Console: DB9 console port (115200/8-N-1)

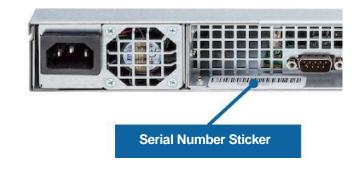
USB ports (4): For connecting keyboard and mouse

MGT: Management port

AUX: Auxiliary management port, used for Manual Install

VGA Port: For connecting a monitor

Ports 5 – 8: Gigabit Ethernet ports (non-bypass) Serial Number Sticker: Used for Easy 1st Install



E1000: 10G Fiber (2 Port) Expansion Card



The E1000: 10G Fiber (2 Port) appliance (shown directly above) is identical to the E1000: No Expansion Card device (shown on page 4) with the addition of the following:

Port 9: 10 Gigabit Ethernet (non-bypass) **Port 10:** 10 Gigabit Ethernet (non-bypass)

Note: The E1000 with 10G Fiber (2 Port) appliance does <u>not</u> ship with SFP modules. When ordering or using existing SFP modules with this appliance, the following SFP modules are supported in conjunction with the E1000 10G Fiber (2 Port) expansion card:

Description	Intel Part
Intel (Short Range) Dual Rate 10GBASE-SR/1000BASE-SX (Supplier Part FTLX8571D3BCVIT1 or AFBR-709DMZ-IN2)	E10GSFPSR
Intel (Long Range) Dual Rate 10GBASE-LR/1000BASE-LX (Supplier Part FTLX1471D3BCVI31)	E10GSFPLR
Intel Ethernet SFP+ 10GbE direct attach passive copper Twinaxial Cable (Available in 1 Meter, 3 Meter, and 5 Meter lengths)	1 Meter: XDACBL1M 3 Meter: XDACBL3M 5 Meter: XDACBL5M

E1000: Fail to Wire Copper (4 Port) Expansion Card



The E1000: Fail to Wire Copper (4 Port) appliance (shown directly above) is identical to the E1000: No Expansion Card appliance (shown on page 4) with the addition of the following:

Port 9: Gigabit Ethernet (Bypass pair with Port 10)

Port 10: Gigabit Ethernet (Bypass pair with Port 9)

Port 11: Gigabit Ethernet (Bypass pair with Port 12)

Port 12: Gigabit Ethernet (Bypass pair with Port 11)

Unpacking and Inspection Checklist

☐ Remove E1000 appliance and accessories from box.
☐ Remove E1000 from plastic wrapping.
☐ Inspect appliance for signs of damage.
☐ Remove foam insert wedged between faceplate and inner front of appliance by using thumbscrews on front of appliance to
loosen faceplate. (Faceplate is hinged and will swing down. See E1000 Front Panel section for location of thumbscrews.)
☐ Remove warning stickers from top of appliance faceplate and power receptacle.
☐ Re-secure faceplate using thumbscrews.
☐ Confirm appliance has expected hardware option. (See <i>E1000 Back Panel</i> section to identify.)
☐ Ensure all accessories are included. (See What's Included section for complete list.)

Rack Mounting

The E1000 ships with hardware for a 4-Post Rack mount, or a 2-Post Rack mount. The instructions below will provide the most efficient rack mounting of the device based upon selected rack type.

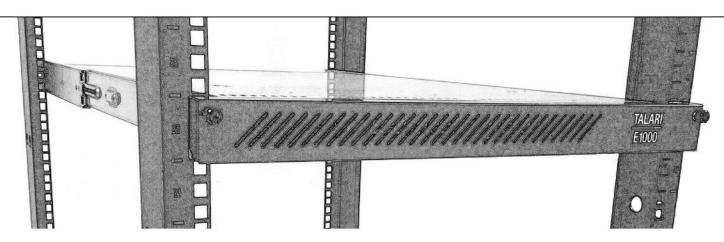
Safety Recommendations

Prior to installing the device in a rack, adhere to the following rack installation guidelines:

- Ensure that there is adequate airflow in the rack. Restricted airflow can damage the equipment.
- Leave at least 1U of vertical space between each device installed in the rack.
- The rack width and depth should allow for proper serviceability and cable management.
- Ensure the rack is properly secured to the floor or ceiling.
- Ensure the rack is properly grounded.
- Ensure the installer is properly grounded and wearing appropriate safety equipment.
- Always load the rack from the bottom up.
- Load the heaviest devices in the rack first.
- Make sure the rack is level and stable before pulling a device out of the rack.
- Do not move racks by yourself; at least two people are recommended to move a rack.
- Cables should be easily identifiable.

4-Post Rack Mounting (Recommended)

The 4-Post Rack Mount of the E1000 is designed to be simple, and can be accomplished without the need for screws or brackets.



Layout & Required Components:

- 2x Front Outer Rails
- 2x Back Outer Rails
- 2x Inner Expansion Rails (optional; inner expansion rails allow the chassis to be pulled out further when rack mounted for enhanced serviceability)

Rail Assembly

- 1. Place the rails with the arrows indicating front and back of the device in the correct direction.
 - **Note:** For both front and back rails for the E1000 it is important to ensure that they are pointing in the correct orientation (Front or Back) even if the arrows or the text are displayed upside down.
- 2. Place one of the Back Outer Rails on top of one of the Front Outer Rails and align the pegs (circled in Figures 1 and 2 below in blue) with the matching holes (circled in green).



Figure 2: Peg and Holes on Back Outer Rail

3. Repeat with second set of rails.

If using the optional Inner Expansion Rails, place the Inner Expansion Rails on the appliance behind the pre-installed inner rails, aligning the holes in the Inner Expansion Rail with the holes in the side of the chassis (circled in blue below).



Ensure that the arrow on each Inner Expansion Rail points towards the back of the appliance. Each Inner Expansion Rail is attached with two small flat top screws, included in the mounting hardware.

Note: See Removal section for important safety information about removing an appliance with Inner Expansion Rails installed.

Installation

1. Mount the assembled outer rails to the rack by using the self-locking arm locks on each end (circled in Figures 3 and 4 below in blue). Make sure the "Front" arrow is pointing towards the front of the rack and the "Back" arrow is pointing to the back of the rack. The rails will click into place.



Figure 4: Self-locking Arm Lock on Front Outer Rail

Carefully slide the E1000 onto the installed rails on the rack and push the device along the rails until you hear a click from the Side Rail Locks on both sides. Some slight resistance when sliding the appliance into the rack is expected and intended.

Removal

1. To remove the chassis pull the device forward out of the rack until the Side Rail Locks are visible.

2. Depress the Side Rail Locks (circled in blue below) to allow the device to be unlocked from the rails.

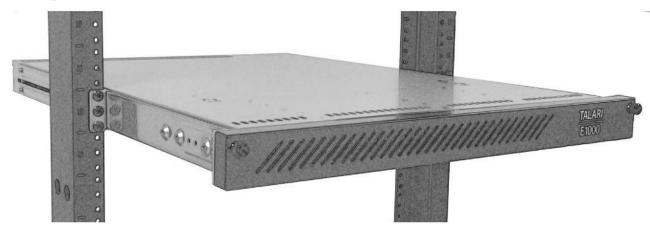


Figure 5: Side View of E1000 Showing Side Rail Locks

- 3. Remove chassis from rails.
- 4. Once chassis has been removed, rails can be unlocked from the rack by depressing the self-locking arm locks on each end of the outer rails (see Figures 3 and 4, circled in blue).

Note: When removing an appliance with Inner Expansion Rails installed, please note that each Inner Expansion Rail has an additional Side Rail Lock which must be depressed before the appliance can be removed from the rack. If a person attempts to remove an appliance with Inner Expansion Rails from a rack without assistance, there is an increased risk of dropping and damaging the appliance. **Do not attempt removal of an E1000 with Inner Expansion Rails installed without assistance.**

2-Post Rack Mounting



Layout & Required Components:

- 2x Front Outer Rails
- 2x Pre-Threaded (10-32) Brackets for 2-Post Racks

OR

- 2x Front Outer Rails
- 2x Non-Threaded Brackets for 2-Post Racks (For use with your own cage nuts and rack screws)

Assembly

5. Attach 1 selected mounting bracket to the raised oblong middle section of one of the Front Outer Rails with a short rounded screw (contained in rack mounting hardware bag). Ensure that the Front arrow on the bracket points towards the front of the rail. a. **Note:** The word "Limit" on the Front Outer Rail should still be visible once the bracket is joined to the Front Outer Rail.



6. Repeat with second Front Outer Rail.

Installation

- 7. Facing front of rack, install each assembled Front Outer Rail (with joined bracket) to the two post rack using rack screws (not provided).
- 8. Slide the E1000 onto the rail arms until you hear the click from the Side Rail Locks on the E1000 indicating proper installation.

Removal

- 9. Pull side of device towards the front of the rack until the E1000 Side Rail Locks are exposed.
- 10. Depress the Side Rail Locks on both sides of the E1000 simultaneously and then continue to pull device forward until released from rails.



Figure 6: Side View of E1000 Showing Side Rail Locks

Network Deployment Options

Before getting started it is important to determine how the E1000 will be deployed. When considering deployment options for the E1000, please note that all bypass pairs will default to Fail-To-Block until configured otherwise.

Example instructions for some of the most common deployment scenarios are provided below:

E1000 as a Router (Gateway, Fail to Block)

Description: The E1000 is deployed as the WAN gateway for the site, and bypass pairs are configured as Fail-To-Block. Use this design if you plan to use the Talari Appliance as the edge device for the site. Proceed to the pages below based on your installation method:

Easy 1st Install: Page 14 Manual Install: Page 18

E1000 as Layer 2 Fail-To-Wire (Overlay)

Description: The E1000 is deployed on the LAN side of the gateway, and bypass pairs are configured as Fail-To-Wire. Use this design if you prefer to retain existing edge devices or plan to install an alternative edge device on the WAN side of the Talari Appliance. Proceed to the pages below based on your installation method:

Easy 1st Install: Page 14 Manual Install: Page 18

E1000 with MPLS & Internet Hybrid

Description: The E1000 is deployed as an overlay for MPLS while performing routing/firewall capabilities for internet links. Use this design if recommended by your SA, or if you have an MPLS/Internet hybrid network and will not be using the CE Router Replacement functionality of the Talari APN. Proceed to the pages below based on your installation method:

Easy 1st Install: Page 14 Manual Install: Page 18

Other Options

There are other deployment options, and our Talari Implementation team members will assist you with planning and deploying your new appliance.

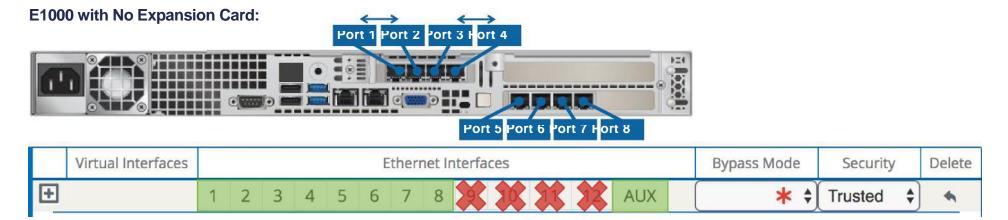
Installation Options

Easy 1st Install

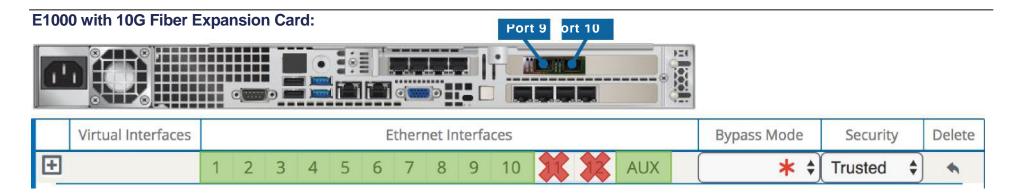
Important Note:

If the Talari configuration for the E1000 does not match the installed hardware (for example, if the appliance is an E1000 with No Expansion Card and an interface between 9 and 12 is configured), the Talari service be disabled when the package is applied, and the appliance will need to be factory defaulted before Easy 1st Install can be attempted again.

Valid ports for each hardware option are <u>highlighted in green below</u>, while invalid ports are indicated with a red symbol:

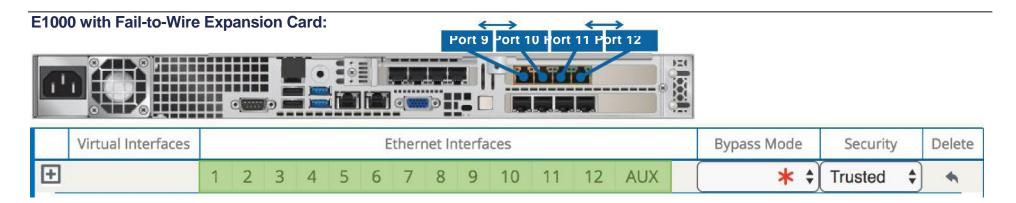


- Port 1: Gigabit Ethernet (Bypass pair with Port 2)
- **Port 2:** Gigabit Ethernet (Bypass pair with Port 1)
- Port 3: Gigabit Ethernet (Bypass pair with Port 4)
- Port 4: Gigabit Ethernet (Bypass pair with Port 3)
- Port 5: Gigabit Ethernet (non-bypass)
- Port 6: Gigabit Ethernet (non-bypass)
- Port 7: Gigabit Ethernet (non-bypass)
- Port 8: Gigabit Ethernet (non-bypass)



Port 9: 10 Gigabit Ethernet (non-bypass) **Port 10:** 10 Gigabit Ethernet (non-bypass)

Note: Ports 9 and 10 should only be configured with Bypass Mode set as Fail-to-Block on an E1000 with 10G Fiber expansion card. The 10G Fiber expansion card does not support Fail-to-Wire, and the Talari service will not start if a configuration specifying Fail-to-Wire for these ports is applied to an E1000 with 10G expansion card.



Port 9: Gigabit Ethernet (Bypass pair with Port 10)
Port 10: Gigabit Ethernet (Bypass pair with Port 9)
Port 11: Gigabit Ethernet (Bypass pair with Port 12)
Port 12: Gigabit Ethernet (Bypass pair with Port 11)

Note: Ports 9 and 10 may be configured in either Bypass Mode on an E1000 with Fail-to-Wire expansion card, as may ports 11 and 12.

Easy 1st Install Site Deployment Criteria:

NCN:

- Easy 1st Install can be used once the Network Control Node (NCN) has been set up for your network. If the E1000 being deployed is intended to become the NCN, please see the instructions for manual installation.
- Active Appliance Package: The NCN must be running an active configuration which includes the E1000 for the site being installed.

Client Site Connectivity:

- Internet, DHCP, and DNS connectivity to the management interface are required to use Easy 1st Install. If one or more are not available, please see the instructions for manual installation. If the management interface is connected to the LAN segment, communication with the public Internet will be blocked and Easy 1st Install will fail.
- Cable the LAN and WAN ports in accordance with the Talari configuration for the site.

Use NCN to Upload Client Package to Registration Server:

- 11. Log in to the Web Console of the NCN.
- 12. Navigate to **Manage Network > Appliance Installation.**

- 4. Locate the Site name of the E1000 being deployed.
- 13. Click the Edit pencil to open the Set Serial Number window.
- 14. Enter the serial number of the E1000 being deployed and click the Set Serial Number button. (Refer to Page 4 for assistance locating the serial number.)
- 15. Observe the **Upload/Activate** column. Click the **Upload/Activate** text when it appears.
- 16. Continue to observe the **Upload/Activate** column. Once the text reads **Upload Complete**, proceed to the next section.

Deploy the Talari Appliance:

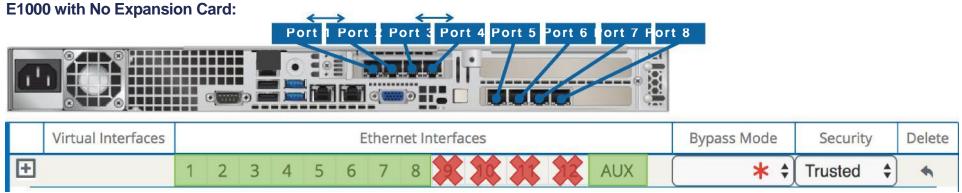
- 17. Ensure that the appliance management interface is cabled for Internet connectivity.
- 18. Connect the power cord to the E1000. Connect the other end to an appropriately grounded power source. The E1000 will power on automatically.
- 19. The E1000 will begin the Easy 1st Install process. Please allow up to ten minutes for the process to complete. (From the NCN Web Console, observe the **Manage Network > Appliance Installation** page for status updates during installation.)
- 20. Once the Easy 1st Install process has completed, the Talari service will automatically be enabled.

Manual Install

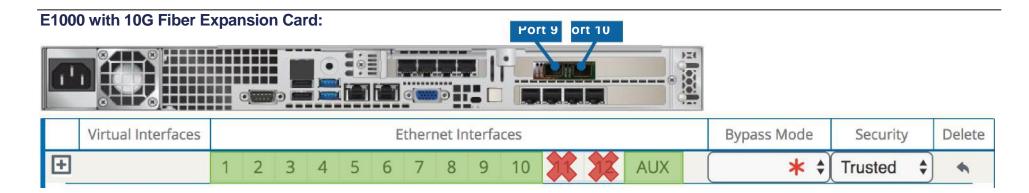
Important Note:

If the Talari configuration for the E1000 does not match the installed hardware (for example, if the appliance is an E1000-Base and an interface between 9 and 12 is configured), the Talari service will be disabled when the package is applied. A corrected package will have to be uploaded via Local Change Management (as outlined in steps 4-7 of Deploying the Talari Appliance) to bring up the Talari service.

Valid ports for each hardware option are <u>highlighted in green below</u>, while invalid ports are indicated with a red symbol:

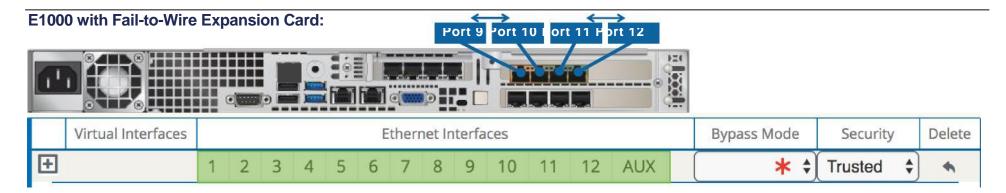


- Port 1: Gigabit Ethernet (Bypass pair with Port 2)
- Port 2: Gigabit Ethernet (Bypass pair with Port 1)
- **Port 3:** Gigabit Ethernet (Bypass pair with Port 4)
- Port 4: Gigabit Ethernet (Bypass pair with Port 3)
- Port 5: Gigabit Ethernet (non-bypass)
- Port 6: Gigabit Ethernet (non-bypass)
- Port 7: Gigabit Ethernet (non-bypass)
- Port 8: Gigabit Ethernet (non-bypass)



Port 9: 10 Gigabit Ethernet (non-bypass) **Port 10:** 10 Gigabit Ethernet (non-bypass)

Note: Ports 9 and 10 should only be configured with Bypass Mode set as Fail-to-Block. The 10G Fiber expansion card does not support Fail-to-Wire, and the Talari service will not start if a configuration specifying Fail-to-Wire for these ports is applied to an E1000 with 10G expansion card.



Port 9: Gigabit Ethernet (Bypass pair with Port 10)
Port 10: Gigabit Ethernet (Bypass pair with Port 9)
Port 11: Gigabit Ethernet (Bypass pair with Port 12)
Port 12: Gigabit Ethernet (Bypass pair with Port 11)

Note: Ports 9 and 10 may be configured in either Bypass Mode on an E1000 with Fail-to-Wire expansion card, as may ports 11 and 12.

Manual Install Site Deployment Criteria:

Manual (Legacy) Install requires physical access to the appliance. The end user will require a PC which can be connected directly to the AUX port of the Talari Appliance via an Ethernet cable.

Cable the LAN and WAN ports in accordance with the Talari configuration for the site.

Pre-Deployment Requirements:

The network administrator must have an active configuration which includes a client package for this site running on the NCN. An appropriate IP address, subnet mask, and gateway for the management interface should be provided for the on-site user to configure.

If the network administrator will have access to the new appliance once an on-site user configures the management interface, proceed to step 4 of Deploying the Talari Appliance. If not, the on-site user will require the client package from the running configuration:

- 21. From the Web Console of the NCN, navigate to Manage Network > Change Management.
- 22. Download the active package for the new client site.
- 23. Send the zipped client package to the on-site user who will be deploying the appliance.

Deploying the Talari Appliance:

1. Connect the power cord to the E1000. Connect the other end to an appropriately grounded power source. The E1000 will power on automatically.

- **2.** Connect your PC directly to the AUX Port of the E1000.
- **3.** From the PC connected to the Talari:
 - a. Change the IP address of your PC to 192.168.0.1.
 - b. Change the Subnet Mask of your PC to 255.255.255.252.
 - c. Open a web browser and go to the Talari web console at 192.168.0.2. The username is *talariuser* and the default password is *talari*. **We strongly recommend changing the default password as soon as possible.**
 - d. Select Manage Appliance > Local Network Settings from the pull-down menu.
 - e. Set the IP Address, Subnet Mask, and Gateway IP Address for the Talari as provided by your network administrator.
 - f. Click Change Settings. If your network administrator will be applying the configuration package, you may now restore the original network settings on your PC.
- **4.** To apply the configuration package, navigate to **Manage Appliance > Local Change Management**.
- **5.** Click Browse and select the .zip package provided by your network administrator, then click Upload.
- **6.** When the upload is complete, click Next to proceed to activation.
- **7.** Click Activate Staged to complete the process.
- 8. Once the activation process has completed, navigate to Manage Network > Service/WAN Links and enable the Talari service.
- 9. You may now restore the original network settings on your PC.