Oracle® SD-WAN Edge 7.3 P5 H1

Release Notes

Original Publication Date: Nov 1, 2019

Table of Contents

About This Document

Talari APN release notes inform customers of added features, resolved issues, requirements for use, and known issues in the latest Talari APN releases.

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.

References

The following documents are available:

- *Talari Glossary*
- *Talari Appliance Quick Start Guide*
- *Talari APN 7.3 GA New Features Guide*
- *Talari APN 7.3 GA Configuration File Reference*
- *Talari Aware 4.3 GA P5 Release Notes*

About This Product

Talari Appliances

APN 7.3 GA P5 H1 supports Talari Appliances functioning as Network Control Nodes (NCNs) or Client Nodes.

The following Talari Appliances are compatible with APN 7.3 GA P5 H1:
- Talari Physical Appliances: E50, T510, T860, E100, E500, T3010, E1000, T5000, T5200
- Talari Virtual Appliances: VT800, VT800-128, CT800, CT800-128

Note: The E50 and T510 Appliances only function as Client Nodes.

Capacity by Appliance Model

The following table details the supported network scale for each Talari Appliance model when running APN 7.3 GA P5 H1.

Model	Max Static Conduits	Max Dynamic Conduits	Max WAN Ingress Paths	Max WAN Egress Paths	Max Flows (TCP Term off)	Max Flows (TCP Term on)	Max Public WAN Links	Max Private WAN Links
E50	8	4	36	36	32,000	500	3	32
T510	8	4	36	36	64,000	500	3	32
T730	16	8	72	72	64,000	4,000	8	32
T750	32	16	216	216	64,000	8,000	8	32
T860	32	16	216	216	64,000	8,000	8	32
E100	32	16	216	216	64,000	8,000	8	32
E500	32	16	216	216	64,000	16,000	8	32
T3010	128	32	576	576	256,000	16,000	8	32
E1000	200	32	1,000	1,000	256,000	16,000	8	32
T5000	256	32	1,152	1,152	512,000	16,000	8	32
T5200	550	32	5,500	5,500	512,000	16,000	8	32
VT800	32	16	216	216	64,000	8,000	8	32
VT800128	128	32	576	576	256,000	16,000	8	32
CT800	16	8	120	120	64,000	5,000	8	32
CT800128	128	32	576	576	256,000	16,000	8	32

Table 1: Network Scale by Talari Appliance Model

Supported Combinations

APN 7.3 GA P5 H1 is supported in combination with the following level(s) of Talari Aware:

☐ Aware 4.3 GA P5

To deploy this level of APN on your network, each Talari Appliance must be running a supported level of Talari OS. If an OS update is required, see the *Talari OS Partition Update Guide* for instructions.

The following versions of Talari OS support APN 7.3 GA P5 H1:

Talari Appliance Model	Tala ri OS	
	OS 4.6	OS 5.1
E50	--	YES
T510	--	YES
T730	YES	--
T750	YES	--
T860	--	YES
E100	--	YES
E500	--	YES
T3010	--	YES
E1000	--	YES
T5000	--	YES
T5200	--	YES
VT800	--	YES
VT800-128	--	YES
CT800	--	YES
CT800-128	--	YES

Supported Web Browsers

The Talari Web Console is supported in latest versions of the following web browsers:

- Microsoft IE9 – IE11
- Mozilla Firefox
- Google Chrome

Supported browsers must have cookies enabled.
Supported browsers must have JavaScript installed and enabled.

Resolved Issues in APN 7.3 GA P5 H1

The following issues have been fixed since APN 7.3 GA P5:

ID	Issue Description
18346	Occasionally, when a T510 is under heavy load it will reboot unexpectedly with no indication in the logs of the cause. This is caused by the appliance running out of memory.

Known Issues in APN 7.3 GA P5 H1

The following issues are known to exist in APN 7.3 GA P5 H1:

ID	Issue Description	Workaround	Targeted Fix
18515	On the T5200 and T5000v2, some flows may see extra delay between packets. If a real-time flow such as a voice call is impacted by this issue, call quality will be degraded.	None	Future
18502	Service Chaining with Palo Alto does not work as expected. Contact Support for a workaround.	See Issue Description	TBD
18450	Some platforms could experience frequent reboots due to the Linux kernel falsely detecting a fault and triggering a reboot. Contact Support for a workaround.	See Issue Description	Future
18393	If a user performs the **Manage Appliance > OS Partition > Change OS Partition** operation to an OS Partition which was installed using a software release older than APN 7.3 P4 or APN 7.2 P6, followed by an OS Install and another OS Switch (with no new software installation operations), it is possible that the web console will be disabled on the appliance. The standard operation of uploading, installing and changing OS Partition one time will not cause this to occur.	None	Future
18392	If user-defined local route subnet is masked by a Virtual IP subnet, a configuration warning will be raised alerting the user that the route has been removed automatically, but the route is not removed.	None	Future

ORACLE®

| 18260 | Unknown memory corruption on some T860 appliances causes a service impacting memory dump, causing the Talari service to restart. This issue is only seen on some T860s. | None | TBD |

ID	Issue Description	Workaround	Targeted Fix
18256	If the OS partition goes over 63% during an OS upgrade, it will trigger a warning. After the upgrade completes, the the old OS file will be removed. This may trigger a Hard Disk Usage Error which is then resolved without requiring any action from the user.	None	TBD
18124	SNMPv3 may restart continually on Talari appliances running OS 5.0 or earlier.	None	TBD
18123	In some cases, the total number of application sessions displayed on the **Application > Dashboard** screen under **Top 5 Live Applications** may be incorrect. The correct number of connections may be verified by going to **Statistics > Firewall > Connection** and filtering on Application to get the correct count.	See Issue Description	Future
17852	When an HA pair are directly connected using a fiber port and Primary Reclaim is not enabled, if the Primary goes down and then comes back up it may automatically become active without any prompting, even though the Secondary has taken over as the active appliance. It can take a few seconds for the fiber port to initialize and this is why the primary takes control. Once the port is up, the standby will return back to its standby state.	None	TBD
17825	On the E1000 with 10G Fiber Expansion Card, the UI allows the user to turn autonegotiation on or off for the fiber links (ports 9 and 10) under **Configuration > Local Network Settings**. This setting is ignored because the user cannot enable autonegotiation for the fiber links and set the speed.	None	TBD

ID	Issue Description	Workaround	Targeted Fix
17564	Pushing a configuration change which adds a rule to override conduit traffic to passthrough may cause a service impacting memory dump.	None	TBD
17201	During the Change Management process there is a small chance that, after the new configuration finishes staging and the users clicks "OK" to move to the Activation screen, the application will immediate start the activation process without waiting for the user to click "OK" or Cancel.	None	TBD
ID	**Issue Description**	**Workaround**	**Targeted Fix**
17191	When making major configuration changes to Firewall and QoS Rules simultaneously, there is a small possibility of causing a service impacting memory dump on a client device. The workaround is to restart the appliance.	See Issue Description	TBD
16738	In some cases, when a conduit goes down and then comes back up, all the routes may not re-populate as expected.	None	TBD
16555	In very rare cases the database files on the appliance may become corrupted, preventing MySQL from starting. As a result, most functionality on the appliance will not work.	None	TBD
16173	When enabling or disabling a path or conduit, an invalid path or conduit may sometimes be shown in the list.	None	TBD
15794	When performing an OS Update (upload of OS package or installation of the uploaded OS), if the Web Console times out or the user navigates away from the page, the resulting underlying system state causes the OS Version for the Backup partition to be reported as "-1". The workaround is to reboot the appliance and try the OS upload or install operation again.	See Issue Description	TBD

3rd Party Issues Affecting APN 7.3 GA P5

The following 3rd party issues are known to affect 7.3 GA P5:

ID	Issue Description	Workaround	Targeted Fix

14734	Opening configuration files containing a very large number of sites into the APN Configuration Editor using Internet Explorer (IE) may take anywhere from 10-30 seconds to load. As a workaround, use Chrome or Firefox.	See Issue Description	None
12610	When using Chrome, the Regenerate HTTPS Certificates page is displayed a second time after the initial count down completes. The workaround is to use another browser.	See Issue Description	None

ID	Issue Description	Workaround	Targeted Fix
11268	In certain conditions where an SNMP-polled Cisco device learns multiple EIGRP routes with the same network ID but different lengths (e.g., 10.26.16.0/20 and 10.26.16.0/24), the router will only insert the first route from its routing table into the SNMP table. Cisco IOS devices list the longest match first (/24), whereas Cisco Nexus devices list the shortest match first (/20). As a result, a Talari Appliance polling for routes will only receive one of the routes and which one it receives depends on the device being polled. This could cause connectivity issues.	None	None
8664	On T3010 and T5000 appliances, holding the red "X" button on the front of the unit for less than 10 seconds will not power down the unit. Holding the button for more than 4 seconds but less than 10 will cause a "Power Off" message to be displayed but the unit will not shut down. In order to clear the "Power Off" message and re-display the management IP address, re-apply the existing management interface settings under **Manage Appliance > Ethernet Interface Settings -> Management Interface**. Also note that shutting the unit down using the power button does not perform a graceful shutdown.	See Issue Description	None

8127	When using Chrome, under **Manage Appliance -> Users / Authentication**, certain fields in the RADIUS section (if RADIUS is enabled) or the TACACS+ section (if TACACS+ is enabled) may be incorrectly filled with login credentials saved by Chrome for the Site. This is an auto-fill issue in Chrome. Workaround is to use another browser or to replace incorrect auto-fill information with correct information before attempting to apply changes to the RADIUS or TACACS+ settings.	See Issue Description	None
7179	When console cable is plugged in to a Talari Appliance and attached out to some external device (e.g. a terminal server), noise on the console cable may interrupt appliance boot sequence. Workaround is to unplug console cable from appliance, to unplug console cable from external device, or to connect to appliance locally and restart interrupted boot sequence from command line. Issue is tied to Linux boot loader and is not within the APN Software product itself. Issue is being documented here for customer awareness.	See Issue Description	None

Enhancements/Features in Previous Releases

Enhancements/Features in APN 7.3 GA P5

The following issues have been enhanced or added since APN 7.3 GA P4:

ID	Issue Description
18288	Enhanced Open Source License Integration with improved diagnostics.

Enhancements/Features in APN 7.3 GA P4

The following issues have been enhanced or added since APN 7.3 GA P3:

ID	Issue Description
17581	APN 7.3 GA P4 introduces the VT800-128 and CT800-128, which support up to 128 conduits. The CT800-128 increases the maximum throughput in AWS to 500Mbps full duplex.
13482	APN 7.3 GA P4 introduces the Threshold Alerting, which provides the ability to monitor WAN link usage and trigger an alert if a user-defined usage threshold for a site is exceeded.

| 12758 | The performance of the Appliance Staging step of the Change Management process has been improved. |

Enhancements/Features in APN 7.3 GA P3

The following issues have been enhanced or added since APN 7.3 GA P2:

ID	Issue Description
17580	Beginning in APN 7.3 GA P3, customers who do not wish to depend on the public Talari Registration Server may host a Talari Private Registration Server for use during the Easy 1st Install process.
17561	APN 7.3 GA P3 introduces support for the Talari E500 appliance.

Enhancements/Features in APN 7.3 GA P2

The following issues have been enhanced or added since APN 7.3 GA P1:

Enhancements/ Features in APN 7.3 GA P1

ID	Issue Description
17119	Signature Library v1.0 includes more than 100 pre-set application signatures for use in conjunction with Enhanced Application Identification.

16584	Port State Reflection may now be enabled on interface groups which contain more than 2 Ethernet ports.
ID	**Issue Description**
17688	When adding an application policy which uses a site for internet or intranet backhauling, that site must have either WAN to WAN Forwarding or Conduit to Internet/Intranet Forwarding enabled.

The following issues have been enhanced or added since APN 7.3 GA:

ID	**Issue Description**
17478	The "Top Applications" section on the landing dashboard has been renamed "Top Network Protocols" to better reflect the type of information provided.
17401	System Information has been moved from the dropdown in the upper right-hand corner to the side navigation bar.
17352	When configuring BGP neighbors, users may now enable the Next Hop Self option to advertise the Talari's source address as the next hop. Next Hop Self is enabled by defa Additionally, users may now enable the Use Next Hop option when configuring BGP Import Filters as long as Recursive Route is also enabled. When Use Next Hop is enabled, the next hop will be used to find the Conduit Service for routes imported as Conduit routes. By default Use Next Hop is disabled and the source router is used to find the Conduit Service for routes imported as Conduit routes.
17351	Users can now check the "Allow Return Flow" box when configuring a Static NAT Policy. This will allow inbound connections that match specific outbound connections based on that defined Static NAT policy. Previously, it was necessary to manually configure a separate policy. Additional firewall policies may be required in certain scenarios.
17329	Users may now clone an application from the Talari Defined Applications section. After clicking the Clone icon and then applying the change, the application is cloned to the User Defined Applications section where the user can edit the application as needed.

Enhancements/ Features in APN 7.3 GA

The following issues have been enhanced or added since APN 7.2 GA P3:

Enhancements/ Features in APN 7.2 GA P3

The following issues have been enhanced or added since APN 7.2 GA P2:

ID	**Issue Description**

ORACLE

ORACLE

ID	Issue Description
16537	APN 7.3 GA introduces Enhanced Application Identification, which allows for application-based steering, as well as application health and network usage information.
16547	APN 7.2 P3 introduces Configuration Versioning and Comparison, which allows users to more easily audit configuration changes.
16497	Talari appliances are now capable of forwarding packets with IP datagrams of up to 2000 bytes.

Enhancements/ Features in APN 7.2 GA P1

The following issues have been enhanced or added since APN 7.2 GA:

ID	Issue Description
16613	Change Management activity is now logged to the APN_change_management.log and APN_change_management_summary.log files.
16548	APN 7.2 P1 introduces enhanced maximum throughput for the E100. The E100 now supports up to 500 Mbps. Please note that enabling features such as WANOp and Service Chaining will result in lower maximum throughput. Service Chaining will require the use of one port (1, 2, 3 or 4). It is recommended that all of the other ports are configured for non-service chaining use to maximize throughput.
15597	The Talari service will no longer be disabled when a duplicate IP is detected. Instead, an event will be generated for the duplicate IP, and a warning will be displayed on the home page.

Enhancements/ Features in APN 7.2 GA

The following issues have been enhanced or added since APN 7.1 GA P2:

ID	Issue Description
16174	The site template feature in the configuration editor can now be used with all model types.
ID	Issue Description

16117	To support service providers who perform NAT/PAT when forwarding Talari frames to the Internet, we have enhanced our path identification process to support checking the source IP and source port when performing a path lookup.
	This solves an issue for provider WANs where multiple Talari client sites are NAT'd to the same public IP address.
16055	APN 7.2 GA introduces a new and improved user interface, including a new landing dashboard and new navigation
15975	APN 7.2 introduces support for configuring up to four DHCP Relay Server IP Addresses per Virtual Interface.
15960	APN 7.2 provides a new at-a-glance dashboard for WAN Optimization with more detailed reports and more data about the protocols being optimized.
15890	APN 7.2 introduces integration with the Palo Alto GlobalProtect Cloud service via IPsec tunnel. The APN Configuration Editor has a Palo Alto GPCS IPsec Tunnel option with pre-defined values to simplify configuration for the user.
15578	A note has been added in the Configuration Editor at all locations where a Rule may be configured to clarify that Drop Limit and Disable Limit values in milliseconds are not valid for Bulk Classes.
9672	APN 7.2 introduces the ability to set duplicate VIPs at multiple different sites when the VIP is Private and the associated Interface Group is defined as Untrusted.

Resolved Issues in Previous Releases

Resolved Issues in APN 7.3 GA P4

The following issues have been fixed since APN 7.3 GA P3:

ID	Issue Description
18204	When viewing System Information on a virtual Talari appliance, the /home partition may show a negative value for Hard Disk Usage.
18202	When DNS proxy is enabled or an application with domain name matching is enabled, receiving a DNS reply containing an error may case a service impacting memory dump.

18177	When DNS proxy is enabled or an application with domain name matching is enabled, receiving an unsupported DNS packet may cause a service impacting memory dump.

ID	Issue Description
18173	When a new routing domain is added to the Talari configuration, it is automatically enabled at the NCN site without input from the user.
18152	High memory allocation may cause some T510 appliances to reboot unexpectedly.
18134	When making a routing-related configuration update, if the OSPF area interface or BGP neighbor changes, the Talari appliance may reboot unexpectedly.
18091	Talari appliances are vulnerable to CVE-2017-6316.
18090	When multiple Internet services are configured on a WAN link, the usage reports for the WAN link show identical values for all Internet services.
18070	Hair-pinning traffic from one Talari site through another may cause a service impacting memory dump.
18054	If an existing WAN link's access interface IP address is swapped with another WAN link's access interface IP address and the WAN links do not have public IP learning enabled, the paths associated with one WAN link may stay dead.
18048	If the Clear Duration for an alarm is set to 0 seconds, the alarm may be triggered even if the trigger duration has not been met.
18044	When an application policy is used to route an application to an internet or intranet service, overriding the APN route table, the return packets may be dropped if the service is on an untrusted interface.
17993	If more than 256 applications are configuration using domain name as a match criterion, it may cause a service impacting memory dump when attempting to resolve an application's domain name.

17968	When managing APN Appliance Settings using Aware, Aware does not accept the following symbols as part of a TACACS password, although they are permitted by the appliance: < > & ' "
17962	After bringing up a new appliance and applying Radius-enabled appliance settings from Aware, accessing the appliance via ssh with a Radius account does not work.
17961	A Periodic Status Report scheduled to run once per week may contain less than 3 days' worth of data. Periodic Status Reports run once per week are expected to contain 3 to 7 days' worth of data.

ID	Issue Description
17954	Informational logging messages regarding DHCP may be wrongly classified as errors.
17952	On the T3010, T5000, and T5200, using the AUX port in the Talari configuration may generate a large number of error messages in the APN_common.log when the Talari service is started.
17949	In some cases, gateway reachability for a path may incorrectly indicate that the gateway is unreachable, causing the path to stay DEAD even though the gateway is up.
17944	If a configuration update to update the appliance model at a site is activated before the hardware is updated, and the old appliance is still cabled in and active, the conduit may continuously transition between good and dead until the old appliance is removed.
17931	When uploading an appliance package with a name longer than 100 characters to Local Change Management, the package name will be truncated and the Local Change Management Process will fail.
17924	T510 appliances running Talari OS 4.X may show no data for Appliance Reports.
17916	WAN Optimization does not optimize SMB traffic, resulting in poor performance for this traffic type.

17898	If a configuration change is made which removes one or more remote WAN links for a conduit and disables bandwidth auto-learning for all remaining remote WAN links for the conduit, taking a diagnostic dump after the configuration update may cause a service impacting memory dump.
17892	A Service Event message stating that the appliance does not have an HA license may be generated on appliances at sites configured for HA. There is no impact to the Talari service or HA functionality associated with these messages.
17882	When provisioning WAN links the value specified in the Configuration editor does not match the value shown under View Configuration.
17879	Multiple appliances may have the same SNMPv3 engine ID.
17868	In some cases a software installation may not clear the log entries from the previous software level.

ID	Issue Description
17862	For platforms requiring a license, if the capacity is not set correctly the WAN link rate will be adjusted to 0 Mbps and it will cause a service impacting memory dump.
17861	Parameters entered through the web UI that contain the "&" character get corrupted.
17851	If there is Dynamic NAT rule configured for Internet service with an inside IP address configured as 0.0.0.0/0, and that Internet service does not use a WAN link on an untrusted interface, the NAT rule will be removed after a software update unless it has one of the following qualities: • Has "Allow Related" enabled • Has IPSec or GRE passthrough enabled • Has an inside zone configured If upgrading from a release other than APN 7.2 P5 or APN 7.3 P1, the Dynamic NAT rule for Internet service may be removed if all of the WAN links used by the Internet service are on trusted interfaces and the inside IP address for the Dynamic NAT rule is configured as 0.0.0.0/0.
17848	The configuration compiler incorrectly allows configurations with a number of paths exceeding the maximum supported by the appliance.

ID	Issue Description
17819	Exporting a configuration may cause the following error to be displayed: "The requested operation could not be completed... contact Talari Support." This may be due to file ownership issues.
17801	When upgrading to APN 7.3 or later from a prior release, importing the current configuration and then exporting it may result in a warning stating, "This config does not appear to be sourced from the running configuration. Activation of this export may overwrite changes made by username: ".
17739	In some cases the SNMP agent on the appliance may not get started properly, resulting in OIDs from the Talari Enterprise MIB not being recognized.
17717	When the WAN link for a client site is being PATed, other client sites may not learn the new ports and as a result the paths to those sites may stay DEAD.
17657	Creating a diagnostic may take a long time to complete if the configured DNS server is unreachable at the time the diagnostic is taken.
ID	**Issue Description**
17052	When editing a configuration in the Basic view of the Configuration Editor, it is possible to rename an existing site with the same name as another existing site. If this occurs, the configuration will be invalid. Attempting to correct the configuration by renaming or deleting the edited site will result in a red error banner being displayed, and the site will not be renamed or deleted.
16845	If a duplicate IP is detected and a configuration update is made to remove the duplicate IP from the Talari configuration, a warning banner will still be displayed on the appliance even though the duplicate IP has been removed.
16785	In rare cases the /tmp directory may be corrupted, preventing software updates from occurring.
15722	The amount of free space remaining on the hard drive is calculated incorrectly on WANOp-capable platforms. **Note:** Immediately after upgrading to APN 7.3 GA P4, the corrected calculation may cause the appliance to initiate an automated cleanup process and generate an email alert notifying users that the disk is near full capacity and a cleanup has occurred. This will only happen once.
15508	An Internet service utilizing a single WAN link permits the mode for the WAN link to be set to Load Balance.

12215	When a configured interface is not used or goes down, the common.log could be flooded with excess logging messages.

Resolved Issues in APN 7.3 GA P2

The following issues have been fixed since APN 7.3 GA P1:

ID	Issue Description
17850	For internet traffic with load balance enabled and dynamic NAT enabled, if the WAN link picked changes for the first packet of the connection, it may cause a service impacting memory dump.
17829	If different WAN links have the same public IP address and different ports, the paths associated with those WAN links may not come up correctly in certain situations.
17824	Excessive error messages may be logged to the APN_ip_learned log when the same IP address matches different application domain names. The messages indicate that the connection will only be matched to the first application found.
17821	If connection state tracking is enabled for an internet or intranet IPsec tunnel, user traffic cannot go through the IPSec tunnel.

ID	Issue Description
17814	Editing rules to enable/disable WANOp may cause a service impacting memory dump.
17811	If a WAN link has public IP auto-learn disabled and the port for that WAN link will be changed by a NAT device, the updated port will not be learned by other appliances and the paths associated with that WAN link will be marked dead.
17791	When out of order packets are received, debug messages can spam APN_paths.log. With the fix, the messages are removed and will only show if TRP_RESEQUENCE_DEBUG is set to 1 under Serviceability Attributes.
17756	In rare circumstances, the generated configuration files for bird may be missing crucial information, causing it to abort execution. Additional logging whenever bird restarts has been added to provide more information regarding the root cause.
17754	If an Intranet or Internet IPSec tunnel is configured using a virtual IP address which is not configured for use by a WAN link as a local IP address, it may cause a service impacting memory dump.

17708	When an application is configured and the match criteria include domain name(s), in some situations it may cause a service impacting memory dump.
17704	Exporting a configuration package over 2 MB in size from Aware to the NCN may result in a memory dump. Full resolution of this issue is dependent upon upgrading to Aware 4.3 P2. Please see the **Talari Aware 4.3 P2 Release Notes** for more information.
17694	When adding a new application policy, if no other application policies are defined, the configuration editor may not display all of the available service types in the "Dest Service Types" dropdown.
17689	Application health probe traffic does not use the same service as user application traffic.
17683	If an appliance is under heavy load and a configuration update is made that changes a firewall policy, it may cause a service impacting memory dump.
17682	If a bad packet is received from a peer appliance with dynamic conduits is being created, it may cause a service impacting memory dump.
17665	If different WAN links use the same public IP address but different ports and one of the ports used is 65535, it may cause a service impacting memory dump.
17658	The Application Health Table on the Application Dashboard may display information for all probe-enabled live applications, rather than the top 10.

ID	Issue Description
17641	The Web Console allows the user to delete all Admin-level users, including the last Admin-level user, which could put the appliance into a state where no Admin-level users exist to log into.
17629	The APN_common.log may have many entries indicating that the message queue between internal applications and the Talari service has returned an error (due to the internal message queue being full).
17618	If the number of MPLS Queues configured at a site is greater than the number of virtual IP addresses and all of those queues are being used for intranet service, memory may be corrupted, causing a service impacting memory dump or unexpected behavior.
17599	When the password for SMTP Authentication is pushed from Aware via Manage > Appliance Settings > Notification Settings, it will be set incorrectly on the appliance. The workaround is to change the password for SMTP Authentication directly on the appliance via Event Management > Configure Alarms.
17584	It is possible for an OS partition update to fail because the Install Image step fails to format the backup partition. A reboot of the appliance in this state will clear the issue.
17566	If the Talari service is restarted on the NCN when a client site with HA has both the primary and secondary appliances disabled, Aware will only poll the primary appliance.
17555	When a site is deleted, it may not be properly removed from site groups or application policies.
17550	If a dynamic conduit is created between two sites with non-matching MPLS queues (for example, one site has EF and Default queues, while the other only has a Default queue), and a packet is received at a site with a DSCP tag set which doesn't exist at that site, it may cause a service impacting memory dump.
17545	If a WAN Link has Autodetect Public IP enabled, it should have path for conduit to every possible NCN. This is not correctly enforced in the Configuration Editor.
17389	If the REST API is used to do an os_partition/install_image operation after a Change OS Partition operation, a reboot will cause the appliance to fail. The UI does not allow Install Image right after a Change OS Partition as the user should either reboot or do another Change OS Partition, but the REST API does not enforce the same constraint.

17373	If a user is added with a username that contains the text "talariuser" (ex: "talariuser1" or "newtalariuser"), then an OS partition update will cause the default user "talariuser" to be deleted.

ID	Issue Description
16800	When using SNMP Route Learning, if the gateway changes for a route and then changes back, the route is not automatically propagated back into the APN if "Gateway Based Eligibility" is checked.
16792	Very rarely, when performing a software upgrade on an APN with an E100, the conduit to the E100 may go down due to a potential kernel issue. The workaround is to restart the appliance.
16764	Paths to the NCN with a WAN link configured with a public IP address may go dead in certain situations.
15348	Very rarely, a Linux kernel issue may cause the T860 to become unresponsive or experience significant performance degradation, requiring a reboot to resolve.

Resolved Issues in APN 7.3 GA P1

The following issues have been fixed since APN 7.3 GA:

ID	Issue Description
17553	In some cases, the UI could log to a file that will not wrap around. This has the potential to fill up the disk if the UI is left connected to an appliance for extremely long periods of time.
17548	When making a configuration update to add or remove an ethernet interface, and a rule or class is not also changed, it may cause the port which is changed to work improperly. Making another configuration update after the port is in this state may cause a service impacting memory dump.
17544	On appliances using Service Chaining with a guest VM, the bridged interfaces between the Talari and the guest VM may be removed when the Talari appliance reboots.
17499	When overriding an application to a service, the session may show the wrong service in use on the **Statistics > QoS > Applications** screen.
17493	The NCN may log a large number of port-learning messages if a remote WAN link with IP learning enabled has multiple paths to the NCN using different source ports.

17489	If more than 3 remote WAN links are DHCP clients with different UDP ports, some paths may become stuck in the DEAD state. The learned IP addresses are not used correctly in the path table at the NCN or Geo-Diverse NCN, resulting in the paths being down.

ID	Issue Description
17466	If the Change Management file transfer process is interrupted because the file transfer process dies, the file transfers will not work when the file transfer process is restarted.
17460	For particularly large networks, Change Management may lock up during the update process.
17457	When the **Applications > Service Type Data** screen is refreshed, the page contents are not updated.
17448	On the **Monitor > Flows** screen, flows cannot be filtered by application name or DSCP tag.
17436	The Service Type Data section on the **Application > Dashboard** may not display the correct application count and bandwidth data.
17427	Under certain conditions (for example, switching an appliance from Secondary NCN mode to Client mode), the Local Change Management UI may not show the option to upload and activate an appliance package.
17421	The Talari appliance may send class data to Aware which causes all classes on the Aware **Monitor > Reports > Classes** screen to be incorrectly assigned the type of "control_class".
17419	On a T5200, pushing a configuration update with changes to Rules or Classes may cause buffer loss. If buffer loss builds up significantly, it will affect performance on the appliance. Examine the APN_misc.log file for buffer loss messages. If performance becomes seriously degraded, restarting the Talari service will clear the condition.
17416	A change to the probing interval for an application will not be applied properly to applications with active probes.

17415	When Dynamic Conduits are torn down due to lack of use, they are incorrectly shown as dead in the Site Conduits and Conduit Health portions of the landing dashboard.
17404	When multiple last resort standby WAN links are configured, the last standby WAN link may not come up as expected.
17379	In some cases, a non-service impacting memory dump could occur when the forwarding service is starting up. This memory dump is not service impacting as it is a result of inadvertently starting a second copy of the forwarding service.

ID	Issue Description
17336	In some cases, conduit traffic could experience lost packets when a flow is just beginning.
17335	When an application has no match criteria using domain name, the probing interval drop down list is not disabled.
17334	Appliances using Service Chaining may go down after upgrading to R7.2 P3 or later, if the VM is both installed and running at the time of the upgrade. This can be prevented by shutting down the VM before upgrading. If the appliance goes down, restarting the appliance should resolve the issue.
17328	When application traffic is configured to steer to the Intranet service at a destination site which has multiple routing domains and wan-to-wan forwarding enabled, the traffic may not be steered as desired if the routing domain name is not explicitly selected from the dropdown for the Intranet service at the destination site under **Connections > [Site] > Intranet Services > [Service Name] > Basic Settings**.
17325	When a Zscaler IPsec tunnel is configured, flows using application-based routing will show an incorrect service name on the **Monitor > Flows** screen. Flows are correctly routed through Zscaler.
17321	When renaming or deleting a Site, Site Group, Source Network, Application, or Category from an application policy definition, it may not be renamed or deleted correctly.
17313	If multiple users have been created on the NCN, comments will not show up as expected in the Configuration Editor's Save/Save As and Export dialog boxes.

ID	Issue Description
17004	When adding Dynamic NAT to an untrusted WAN link, the Talari service may need to be restarted for the NAT policy to take effect. This includes the automatically generated Dynamic NAT Policy created when adding a new Internet service.
15671	When Rebind Flow on Change is enabled on a rule that also has TCP Termination or WAN Optimization enabled, TCP Termination may lock up for matching flows. As a result, Rebind Flow on Change can no longer be enabled on a rule unless TCP Termination and WAN Optimization are disabled.
17288	On the **Statistics > QoS > Applications** screen, sorting on the numerical columns (Packets Received, Kbps Received, Packets Sent, Kbps Sent, and Sessions) does not work as expected.
17285	When viewing Applications in the Advanced View of the Configuration Editor, it appears that the user can check to enable or disable applications directly from the list view without selecting the Edit icon first.
17256	If a string containing invalid symbols is pasted into the comment field when exporting or saving a configuration, it may cause the comment to be lost or corrupt the configuration file. The invalid symbols are \ " ' & < > and carriage return.
17224	On the T3010, T5000, and T5200 platforms, it is possible for an ethernet port to fail to initialize, leading to the Talari service being disabled. The error handling has been improved to detect this situation and automatically issue a reboot, which will resolve the issue.

Resolved Issues in APN 7.3 GA

The following issues have been fixed since APN 7.2 GA P3:

ID	Issue Description
17157	On T3010 appliances that do not have WAN Optimization enabled, processing large amounts of TCP terminated traffic may cause a service impacting memory dump.
17114	Under **Statistics > QoS > Applications**, the number of sessions may not be decremented properly when a connection ends.
17108	A kernel watchdog has been enabled for VT800 platforms so that if user space processes hang, the VM can automatically reboot itself.
ID	**Issue Description**

17315	When DNS proxy is enabled, if many DNS requests are received in short period of time for same domain name and with the same query ID, it may cause service impacting memory dump.
16922	In rare cases, the forwarding service may not be able to initialize network namespaces due to a Linux kernel bug. When this happens, the appliance will be automatically rebooted so that the system can work around the bug. This has only been observed in older Talari OS versions running on older Talari appliances.
15648	WANOp on TCP sessions using SMBv1, SMBv2, or SMBv3 may show slower performance that non-WAN Optimized sessions for files, especially those that are either encrypted or smaller than 100MB. The workaround is to avoid enabling WANOp for TCP sessions using SMB/CIFS protocol. Ports used are 445, 137, 138, and 139.

Resolved Issues in APN 7.2 GA P3

The following issues have been fixed since APN 7.2 GA P2:

ID	Issue Description
17105	Under heavy load with a large number of IP datagrams that have been fragmented into smaller frames, it is possible to lose buffers, resulting in frame drops and poor performance. This could cause conduit and path instability. The workaround is to restart the appliance.
17104	When IPsec tunnels are used within conduits, large packets can cause buffers to not be counted properly and could lead to exhaustion of packet buffers. This results in an impact to WAN ingress packet performance.
17054	For WAN links with Autodetect Public IP enabled, if the WAN link is moved from one access interface to another it may cause the paths to other client sites to go dead.
17002	During the startup process on a VT800, a potential race condition could trigger a 'Bad file descriptor' error and prevent the Talari service from starting properly.
16994	After renaming a configured Intranet Service, the updated service is not applied to any Static NAT Rules which are configured to use that Intranet Service. The workaround is to edit the Static NAT rule and select the renamed Intranet Service from the dropdown.
16992	When SNMP Route Learning is enabled and an Include Rule is configured to match the route cost, the route may not be removed when the route cost changes.

16983	If TCP Termination or WAN Optimization is enabled at a site which also has an Internet Service with Dynamic NAT Policies enabled, a local route becoming unreachable may cause a service impacting memory dump.
16975	Configuring multiple equivalent routes across different routing domains was not allowed and triggered an audit check when matching routes were detected.
16951	When an Internet Service is configured on an untrusted interface, ICMP responses to pings initiated using the Ping Interface option in the Talari UI will be blocked by the firewall.
16856	On an E1000 experiencing high utilization, creating a diagnostic may cause all conduits at the site to temporarily go DEAD.
ID	**Issue Description**
16803	In an effort to queue traffic appropriately in certain scenarios (for example, when an APN is configured with a high bandwidth WAN link and a low bandwidth WAN link which are sometimes unstable), the default calculation for minimum bandwidth previously used for paths on a WAN link has been increased. This allows for a WAN link or path to recover much quicker as Talari heartbeat frames are not dropped or delayed. As a result, an Audit Warning could be issued during the configuration process if a WAN link does not have enough bandwidth available for all paths defined, alerting the user to change the shares provisioned per site/path to allow more bandwidth for a path.
16630	In situations where a WAN link with a lot of bandwidth fails and the remaining WAN links have little bandwidth, excessive congestion on the remaining WAN links can occur.
16158	If the user defines an UDP-based application and then uses the application definition in a rule which has WANOp enabled, an Audit Warning will be issued during the configuration process. The warning states that the traffic defined in the application definition is UDP and cannot be WAN Optimized, as WANOp only is only performed on TCP based applications.
15708	In rare situations, a race condition involving dynamic NAT may result in a service impacting memory dump. This rare condition only occurs when using the Talari firewall with dynamic NAT configured.

Resolved Issues in APN 7.2 GA P2

The following issues have been fixed since APN 7.2 GA P1 H1:

ID	**Issue Description**

ID	Issue Description
16940	On the WAN Optimization Dashboard, CIFS flows are incorrectly labelled as SSH flows.
16933	When a configuration update adds a new Ethernet Interface on an appliance, the appliance is not able to transmit packets from the newly configured port until the Talari service is restarted.
16930	When upgrading to APN 7.1 P2 or above from prior release, a valid configuration with more than 72 manually added paths at a site may fail to load or compile in the Configuration Editor or Change Management, resulting in EC310 and EC312 errors for the extra paths.
16914	When performing a configuration update, if WANOp is enabled or disabled at the same time as an Ethernet port is added on a T5200, T3010, or E1000, it may cause a service impacting memory dump.
ID	**Issue Description**
16883	The count of Good and Dead Conduits on the landing dashboard may not be correct on HA appliances.
16863	If a Port Forwarding Rule is added to a symmetric Dynamic NAT Policy on an Internet Service and the Internet Service is in load balancing mode, viewing **Statistics > Firewall > NAT Policies** on the Talari web console may cause a service impacting memory dump.
16854	When multiple Intranet services are configured at a single site on different WAN links, if a packet with a DSCP tag arrives from an Intranet service which is not included in the route table it may cause a service impacting memory dump.
16825	On a T3010, low priority threads may be starved out if the CPU they are assigned to gets too busy. This may cause a service impacting memory dump.

Resolved Issues in APN 7.2 GA P1 H1

The following issues have been fixed since APN 7.2 GA P1:

ID	Issue Description
16826	The Conduit Usage section of the main Dashboard does not show the correct data. The workaround is to click the Conduit Usage header to view the details on the Conduit Statistics screen.

16812	Disabling and enabling the Talari service on the E100 or E50 may cause the appliance to reboot.

Resolved Issues in APN 7.2 GA P1

The following issues have been fixed since APN 7.2 GA:

ID	Issue Description
16782	Performing a configuration update to remove the AUX port and then reverting to the previous configuration may cause a service impacting memory dump.
16780	When multiple WAN links with Internet or Intranet service enabled use the same gateway and DSCP tagging is not used to identify the WAN links, WAN Egress Internet/Intranet traffic may be accounted to the wrong WAN link. Additionally, if the Internet Service is configured for load balancing across these WAN links, the WAN link used for WAN Ingress traffic will rebind based on the WAN link used for WAN Egress traffic.
16720	For rules defined in a Conduit Default Set, if a specific drop depth is not set, it may not be recalculated properly after changing the rate for a WAN link.

ID	Issue Description
16711	The Purge Dynamic Route button on the **Statistics > WAN > Routes** screen is not working. The work around is to switch to Classic View and purge dynamic routes there.
16706	When both Internet and Intranet services are defined at a site and there is a rule to override Internet service to Conduit service, receiving packets from the Internet service will cause service impacting memory dump.
16701	Flows using IPsec tunnels for Intranet or Internet service may not be freed properly, resulting in a service impacting memory dump.
16699	When using the Configuration Editor when the vertical scrollbar is present, pop-up dialog boxes may pop up above the top of the screen and the user will need to scroll up to make them visible. The workaround is to scroll up to the dialog box in order to use it.

16694	On large networks (with more than 100 sites), when Aware has been disconnected from the network for an extended period of time and requires "Stats Catchup" to collect data and sync up with the network, it may never successfully catch up to the stats.
16687	Appliances which use IPMI to monitor fans and power supplies may generate false alerts after a software upgrade. This issue does not impact system operations.
16684	In certain scenarios when using WANOP with WAN to WAN forwarding there can be delay in establishing the TCP session between sites. This typically occurs when there is path loss or insufficient bandwidth from the intermediary site to the destination site
16672	Under Monitor > Statistics > Routes, Site ID is improperly displayed for Intranet Route Service. Site ID should be * for Intranet Routes.
16655	A service impacting memory dump may occur during a major configuration update to a newly installed appliance with no user traffic.
16649	When GRE or IPSec encapsulated traffic hits a configured static NAT rule, it may cause a service impacting memory dump.
16645	On an E100, if WANOP is enabled and Port 5 is in use, a burst of traffic on Port 5 may cause a service impacting memory dump.
16632	The Diagnose > Log Files page could allow a user to view system files they should not have access to.

ID	Issue Description
16609	Any flow change (including a rule configuration change, or a flow switching to internet because the conduit has gone down) may result in a service impacting memory dump.
16594	In cases where all sites in the APN reside in a single subnet, unnecessary ARP requests are sent for all VIPs in the APN.
16587	A reboot during the installation of a software package can cause an appliance to have incorrect information about what software version it is running. If this happens on an NCN, this can lead to an outage of the entire APN.
16585	With TCP Termination enabled, if the SYN/ACK is delayed too long while a TCP connection is being established it may cause a service impacting memory dump.
16575	In some circumstances, Change Management can misinterpret the version information of packages. This can lead to invalid packages being distributed through the APN.
16564	DHCP Server or DHCP Relay may stop working when the Talari service starts or restarts. The workaround is to restart the DHCP Server or DHCP Relay from **Monitor > DHCP**.
16554	After modifying the match criteria for an Application in the Talari Configuration, existing flows using the modified match criteria are not updated.
16486	On the **Configuration > APN Configuration Editor** screen, if the Import button is pressed too soon before the screen finishes rendering completely, the Import APN Configuration From Change Management drop-down can be empty. The workaround is to refresh the screen and try again.
16442	When Internet Access For All Routing Domains is enabled on a WAN Link, connections from different Routing Domains may get mixed up if they go to same destination IP/port.
11704	In some situations, the IKEv2 SA rekey is using the max lifetime instead of the configured value for IKE lifetime.
ID	**Issue Description**

| 16529 | When a Dynamic Conduit are enabled between two client sites, if a routing domain exists only at the client sites but not at the intermediate site, a service impacting memory dump will occur after the Dynamic Conduit is created. |

Resolved Issues in APN 7.2 GA

The following issues have been fixed since APN 7.1 GA P2:

ID	Issue Description
16446	If a user updates a Port Forwarding Rule for a Dynamic NAT Policy while a flow is using an outside port (in use with current flow) there can be a service impacting memory dump. This will happen when the user performs a second configuration change to the Dynamic NAT Port Forwarding Rule.
16445	Making a configuration update which includes interface changes may cause service impacting memory dump.
16393	When Path MTU is configured on a Dynamic Conduit, there may be a small window while the Dynamic Conduit is disconnecting where the Dynamic Conduit can get stuck in a pending state and not be properly removed.
16392	After a configuration update where a Model or Site name of a client is changed, the hyperlink for that site in the home page may be broken.
16373	On the Change Management screen of an NCN running an HA configuration, the Currently Staged column in the table may contain no timestamp for the configuration. This is a display only issue: the software and configuration packages are still correct and may be downloaded from the Download Package 'staged' links in the table.
16371	Exporting SNMPv3 settings from Aware may not work as expected.
16317	With TCP Termination or WANOp enabled, streams transferred by TCP may have an extra byte appended at the end. This can cause problems with some protocols.
16173	When disabling a path, an invalid path may sometimes be shown in the list.
16171	In some configurations of the VT800 running in Azure, the CLI can output warning messages from the sudo command. While these messages are annoying, they are harmless.

ORACLE

16148	When IPsec is configured on a Conduit, WAN Link Usage statistics in the Receive direction are not collected properly when IPsec packets have been fragmented.
16118	On the Monitor -> Statistics -> WAN Link Usages screen, the Usage % column under the Usages and Permitted Rates table is incorrectly calculated, and can be off by a factor of 100.
16028	Adding a VLAN to an existing Interface in Basic View of the Configuration editor creates an additional, blank Virtual IP Address.
15007	Bad path probation is not enforced when Bad Loss Sensitivity is disabled.

ORACLE®

ORACLE®