

Release Notes

OmniAccess Stellar AP

AWOS Release 4.0.7 - MR4 Release

These release notes accompany the OmniAccess Stellar Operating System (AWOS) Release 4.0.7 software for the Stellar APs. This document provides important information on individual software and hardware features. Since much of the information in the release notes is not included in the hardware and software user manuals, it is important to read all sections of this document before installing new hardware or loading new software.

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Related Documentation

The release notes should be used in conjunction with the associated manuals as listed below. User manuals can be downloaded at: <https://myportal.al-enterprise.com/>.

Stellar AP Quick Start Guide

The Quick Start Guide assists you in quickly connecting to and configuring the Stellar AP.

Stellar AP Installation Guide

It provides technical specifications and installation procedures for the Stellar AP.

Stellar AP Configuration Guide

It includes procedures for managing and configuring all aspects of the Stellar AP using the built-in web interface.

Technical Tips, Field Notices, Upgrade Instructions

Contracted customers can visit our customer service website at: <https://myportal.al-enterprise.com/>.

Hardware Supported

- AP1101, AP1201, AP1220 series, AP1230 series, AP1251, AP1251-RW-B, AP1261-RW-B, AP1201H, AP1201L, AP1201HL, AP1320 series, AP1360 series, AP1201BG, AP1301, AP1301H, AP1311, AP1331, AP1351, AP1451, AP1431, AP1411.

New Software Features and Enhancements

The following software features are new with this release, subject to the feature exceptions and problem reports described later in these release notes:

Feature	Platform Support

Fixed Problem Reports Between Build 4.0.7.3043 and 4.0.7.4053

PR	Description
ALEISSUE-1750 Case number: 00717724	<p>Summary: AP1201BG: Unable to connect BG to the SSID with space.</p> <p>Explanation: Fixed the Wizard page for AP1201BG not support SPACE character in SSID configuration. Click for additional information</p>
ALEISSUE-1780 Case number: 00733306	<p>Summary: AP-13xx dropping the packet bigger when L2gre tunnel mtu size.</p> <p>Explanation: Added a patch for kernel to avoid the packet drop issue. Click for additional information</p>
ALEISSUE-1787 Case number: 00737208	<p>Summary: In AP1231 web GUI, "Password" is seen instead of "Password seed".</p> <p>Explanation: Modified the "Password" description of "Root Account" to "Password seed". Click for additional information</p>
ALEISSUE-1797 Case number: 00732047	<p>Summary: Max EIRP for 2.4 Ghz is less with Malaysia code.</p> <p>Explanation: Modified the MAX EIRP power for Malaysia to satisfied regulatory requirements. Click for additional information</p>
ALEISSUE-1830 Case number: 00743796	<p>Summary: AP 1311: Access Point Random Reboots.</p> <p>Explanation: Added a kernel patch to fix this kernel panic issue. Click for additional information</p>

Fixed Problem Reports Between Build 4.0.7.2032 and 4.0.7.3043

PR	Description
ALEISSUE-1732 Case number: 00717064	<p>Summary: BYOD users unable to logout, getting error "Your device got offline"</p> <p>Explanation: During roaming, the new AP failed to send the accounting start message, resulting in the STA being offline on the server side. Click for additional information</p>
ALEISSUE-1747 Case number: 00725152	<p>Summary: Default channel Width is on 80 in 4.0.5 MR5 but in 4.0.7 its 40 why this change.</p> <p>Explanation: Fix the issue where the AP does not use an 80MHz bandwidth as the initial bandwidth when the automatic bandwidth is set to "auto" Click for additional information</p>
ALEISSUE-1748 Case number: 00723391	<p>Summary: Force 5G not happening.</p> <p>Explanation: Fix the issue where clients are not being marked as "Force 5G" in certain scenarios. Click for additional information</p>
ALEISSUE-1762 Case number: 00723131	<p>Summary: Stellar 1301: VLAN management problem via Access Role Profile</p> <p>Explanation: Update WIFI FW. Click for additional information</p>

Fixed Problem Reports Between Build 4.0.7.1019 and 4.0.7.2032

PR	Description
ALEISSUE-1523 Case number: 00668283, 00691949	<p>Summary: Stellar AP's crashing Randomly with Kernel Panic</p> <p>Explanation: Update in new Driver to fix the crash. Click for additional information</p>
ALEISSUE-1617 Case number: 00689188	<p>Summary: Frist HTTP packet from the client is not getting redirected during CP authentication</p> <p>Explanation: Adjust the HTTP interception logic to ensure that the first HTTP message sent by the client can be intercepted correctly. Click for additional information</p>
ALEISSUE-1627 Case number: 00707547	<p>Summary: AP1311 crashing randomly with reason as "Unknown Reason" in reset record</p> <p>Explanation: Crash due to abnormal GRE packet. Click for additional information</p>

<p>ALEISSUE-1685 Case number: 00707019</p>	<p>Summary: AP1321's need randomly rebooted to allow users on network.</p> <p>Explanation: Update in new Driver to fix the problem. Click for additional information</p>
<p>ALEISSIE-1704 Case number: 00713127</p>	<p>Summary: OAW AP-1201H (RAP) while upgrading to the code 4.0.7.14 notice kernel panic reboot client keep on disconnecting</p> <p>Explanation: Fixed the bug in the kernel where some malformed packages were causing kernel panic. Click for additional information</p>
<p>ALEISSUE-1709 Case number: 00715681</p>	<p>Summary: Why Stellar current EIRP is 12 dBm when the rfProfile tx Power range is 17 min 20 max?</p> <p>Explanation: Fixed the bug the AP using the error gain value, it caused AP EIRP only 12 dBm. Click for additional information</p>
<p>ALEISSUE-1715 Case number: 00710818, 00717646, 00725619</p>	<p>Summary: AP kick-off client by disconnect reason 15 Mostly for 2.4 users.</p> <p>Explanation: AP stops in between the WPA key exchange. Update in new Driver to fix the problem. Click for additional information</p>
<p>ALEISSUE-1716 Case number: 00715539</p>	<p>Summary: Logs coming in loop: resource temporally unavailable</p> <p>Explanation: Adjust the unnecessary log level to debug Click for additional information</p>
<p>ALEISSUE-1722 Case number: 00718008</p>	<p>Summary: All 5G ATH interface go to Not-Associated</p> <p>Explanation: Added Optimization to recover 5G interface when it stuck in abnormal status. Click for additional information</p>
<p>ALEISSUE-1724/ ALEISSUE-1736 Case number: 00717597,0071 2584</p>	<p>Summary: OVC: Clients are not authenticating from the ucopia</p> <p>Explanation: Fixed the http server config lost. Click for additional information</p>
<p>ALEISSUE-1729 Case number: 00716377</p>	<p>Summary: Anet Communications: OAW-AP1221-AWOS 4.0.7.14: Default gateway on non-wan interface is not working</p> <p>Explanation: Fixed the issue where the default route configuration option was not work. Click for additional information</p>

Fixed Problem Reports Between Build 4.0.7.14 and 4.0.7.1019

PR	Description
ALEISSUE-1590 Case number:	<p>Summary: No ability to configure channels 149 - 165 on 5Ghz in UK with OVE or OVC</p> <p>Explanation: Support channels 149-165 in wifi driver and hanlet. Click for additional information</p>
ALEISSUE-1638 Case number:	<p>Summary: Roaming with GTTS tunnelling is not working</p> <p>Explanation: Fixed the AP apply the error Access Role Profile to user when roaming in GTTS tunnel scenario. Click for additional information</p>
ALEISSUE-1653 Case number:	<p>Summary: AP drop back to 40 MHz after reboot</p> <p>Explanation: In the automatic channel selection scenario, the AP does not save the bandwidth information, causing inconsistency bandwidth after the AP restarts. Click for additional information</p>
ALEISSUE-1664 Case number:	<p>Summary: Unable to remove domain in Walled Garden</p> <p>Explanation: The judgment condition of the URL is problematic, causing the page to be unable to be deleted. Click for additional information</p>
ALEISSUE-1666 Case number:	<p>Summary: When there are more than 2 AP 1301 connected to switch, the AP communication is lost</p> <p>Explanation: The dumb switch forwards LACP packets, causing the aggregation of the wired interfaces of two APs together, resulting in network failure,we can disabled LACP by ECC in OV mode. Click for additional information</p>

Fixed Problem Reports Between Build 4.0.5MR5 and 4.0.7.14

PR	Description
ALEISSUE-1605 Case number: 00690518	<p>Summary: AP 1101 is reaching 100% CPU and getting struck.</p> <p>Explanation: High CPU usage is caused by 'DRM' module. Click for additional information</p>

<p>ALEISSUE-1536 Case number: 00682998</p>	<p>Summary: Generated a log when WLAN Client Signal to Noise Ratio is less than 25 dB. Explanation: Added log for lower SNR client. Click for additional information</p>
<p>ALEISSUE-1586 Case number: 00686188</p>	<p>Summary: IPhone not able to connect to Stellar AP in 4.0.5 Explanation: Incorrect PMF parameter cause the issue. Click for additional information</p>
<p>ALEISSUE-1590 Case number: 00684901</p>	<p>Summary: No ability to configure channels 149 - 165 on 5Ghz in UK with OVE or OVC. Explanation: Added 149-165 channels in UI for country code UK in CLUSTER mode. Click for additional information</p>
<p>ALEISSUE-1544 Case number: 00661046</p>	<p>Summary: Stellar AP running with NaaS Licensing shall generate logs when device is entering into grace period and into degraded mode. Explanation: Added log when AP is entering into grace period and into degraded mode. Click for additional information</p>
<p>ALEISSUE-1648</p>	<p>Summary: Disable & re-enabled the wired port OV Discovery Profiles will lead to the trust tag function not work. Explanation: Fix the wire configuration lost in some situation. Click for additional information</p>
<p>ALEISSUE-1657</p>	<p>Summary: Unable to change WAN VLAN interface of AP to tagged vlan with static ip address. Explanation: Fix the VLAN configuration was lost in certain scenarios.</p>
<p>ALEISSUE-1635</p>	<p>Summary: Kernel Panic crash-AP1361. Explanation: Added Null-pointer checking in kernel.</p>
<p>ALEISSUE-1578</p>	<p>Summary: Mesh-Link stability Issue. Explanation: Optimized RF configuration loading logic to avoid impacting mesh links.</p>
<p>ALEISSUE-1502</p>	<p>Summary: Gratitious ARP packet is looped on the stellar mesh AP. Explanation: Added a mechanism to prevent broadcast storms on mesh links.</p>

Open/Known Problems

The problems listed here include problems known at the time of the product's release. Any problems not discussed in this section should be brought to the attention of the Service and Support organization as soon as possible. Please contact customer support for updates on problem reports (PRs) where no known workaround was available at the time of release.

PR	Description	Workaround
WCF	WCF Feature is not supported when WLAN Client is running behind an HTTP Proxy.	No workaround.
WCF	WCF Feature is not supported when WLAN Client is using mobile applications, there is no restrictions (packets are not dropped by AP, no redirection to Restricted Web page).	No workaround.
Management VLAN	When the management VLAN is enabled, setting the static IP may fail	The static IP must be set first, and then enable the management VLAN.
DPI	[reflexive] configure link tracking. DPI_DROP does not take effect.	After modifying the reflexive, the client needs to go online and offline again, which can return to normal.
AP stateful ipv6 address	The ipv6 address of the dual-stack AP, AP is a stateful address. After configuring the open type of WLAN, to associate the WLAN, with the wireless network card of win 7 11n set to single-stack V6, check the network on-off condition of the V6 address.	When you manually configure a V6 address of the same network segment on the client as the gateway address, you can communicate with the same network address.
DPI FTP policy	Create one policy list binding and two policies, results that the user cannot access the ftp.	No workaround.
WCF	WCF does not support L3 roaming scenarios.	No workaround.
Option82	After enabling option82 feature, in some scenarios, user roaming and reacquiring IP addresses can cause a brief broadcast storm.	Will be fixed in future release.
AP1411 Radio configuration	After switching the radio, the previously unused band is set to a disabled state (Express).	Manually enable the band in AP RF.
SNMPv3	Some special characters can cause SNMP communication issues. The special characters include the following: \$, ", ()	Don't using these special characters.
6G wIPS	6G radio not support wIPS feature.	Will be supported in future release.
6G Dedicated scanning	6G radio not support Dedicated scanning feature.	Will be supported in future release.
mDNS	AP1411/AP1431 not support mDNS feature.	Will be supported in future release.
ALEISSUE-1529	AP1101 rebooted due to kernel panic.	No workaround.
DPI	DPI memory leak issue.	Will be fixed in future release.
Mesh	If AP working on DFS channel, the client/mesh client can't connect to AP.	Workaround: Change the channel to non-DFS channel.
PPSK	PPSK feature the AP applied an error VLAN to client.	Workaround: Enable MAC authentication. Will be fixed on AWOS 4.0.7MR5
Force 5G	The Force 5G feature does not work for certain specific clients.	Will be fixed on AWOS 4.0.7MR5
Client Isolate	The client can't access network in Mesh non-root AP and Client Isolate is enabled on wlan.	Workaround: Disable Client Isolate. Will be fixed on AWOS 4.0.7MR5

Captive Portal	The client can access the network without CP authentication in roaming scenarios.	Workaround: Set a default ARP in Authentication Strategy.
WIPS	The module loading configuration is abnormal.	Will be fixed on AWOS 4.0.7MR5

Limitations and/or Dependencies

Feature	AP Model	Limitations and/or Dependencies
Dynamic VLAN	All	1. In Express mode the support of Dynamic VLAN Attribute returned by the Radius Server is not supported since AWOS 4.0.x
WCF	All	<ol style="list-style-type: none"> WCF does not support http over proxy scenario. WCF does not support blocking mobile applications access. Client’s packets are not restricted (packet not dropped by AP, no redirection to Restricted Web Page) WCF does not support RAP scenario. When using Iphone roaming between Aps, reject page can’t be redirected when using Safari, but it works ok for other browser such as Chrome If the mobile device has already cached the DNS for the corresponding URL, the WCF functionality will not take effect. WCF Feature is not supported when WLAN Client enabled secure DNS (DoT or DoH)
HTTPs CP over proxy	All	For iOS does not support to configure URL to bypass the proxy, this function does not work on iOS devices.
AP 802.1x client	All	Wireless clients can’t connect to internet on untag VLAN with AOS switch due to AOS switch treat all untag devices as 802.1x client.
Wired Port	AP1201HL	<ol style="list-style-type: none"> AP1201HL switches to a Group with downlink configuration, wired client cannot access it. AP1201HL enables trust tag and option 82, wired client may not obtain IP address
DRM	All	In some cases, when the channel utilization reaches more than 90%, the channel does not switch automatically, which seriously affects the user experience.
IGMP Snooping	All Stellar Wi-Fi 6 AP Models	For 11AX devices, if there is no multicast querier in the environment, the conversion from multicast to unicast may fail. We recommend that the switch of IGMP Snooping feature be turned on by default.
Mesh	All	Multicast to unicast is not supported in Mesh mode.
DPI	AP1201/ AP1220 series/ AP1251	When DPI function is enabled, it is recommended to have an initial free memory size of about 30MB after AP booting up for system stable running. If the booting up free memory size is far less than 30MB, suggest removing unnecessary WLAN/VLAN/Policy/DPI rule on AP1201/AP1220/AP1251.
Bypass VLAN	AP1201H/ AP1201HL	If the bypass VLAN function is enabled, setting VLAN id A, and setting the management VLAN to tag VLAN id is also A, which will cause the AP itself to be inaccessible and affect the operation of AP. Therefore, there is a restriction here that the tag for managing VLAN cannot be the same as bypass.
mDNS	AP1201H/ AP1201HL /AP1261-RW-B	AP1201H/1201HL/AP1261-RW-B Downlink Terminal does not support mDNS message forwarding.
Show device name	All	When some clients connect to wlan, there is no option12 field in the dhcp message, so its hostname cannot be displayed.
Management VLAN Static IP LACP	AP1351/A P1451	When configure LACP + Management VLAN + Static IP for AP1351, the network will not be reachable after AP reboot if LACP aggregated link is formed, the workaround of this issue should be disable LACP on switch side.
Link aggregation	All	Link aggregation with management VLANs has a certain probability of failure
Link aggregation	AP1351	There is very low probability on AP1351 that ethernet PHY fail to receive messages in the scenario of link aggregation.
ALEISSUE-1294	All	This improvement might cause some lower version of SSH clients cannot connect to Stellar AP running this new build, upgrade SSH client version will avoid this problem.

ALEISSUE-1343	AP1201H(L)	VLAN 4090-4094 is not allowed configured.
11K	Aps without scan radio	To make sure 11k function work as expected, we should configure the AP background scanning on “Working Channel and Non-working Channel”.
Enhanced Open WLAN	All	Mobile devices with Apple iOS do not support OWE, Mobile devices with Android 10 or later support OWE, Computers with Windows 10 version 2004 or later and a wireless adapter that supports OWE.
Client Isolation Whitelist	All	Client A connect to WLAN1 with ARP1, and Client B connect to WLAN2 with ARP2, in this case, If Client A and B needs to communicate to each other, both of the two clients need to be added into whitelist, either one of Clients add into whitelist can't ensure communication between these two clients.
Express mode WLAN number	All	Starting with AWOS 4.0.5 in Express mode, we can create 15 user SSIDs on clusters with following models. <ul style="list-style-type: none"> • AP1301H, AP132x, AP1331, AP136x, AP1351 & AP1451 If a cluster has any of the following models, limit remains at 7 user SSIDs. <ul style="list-style-type: none"> • AP1311, AP1301, AP12xx and AP1101
ALEISSUE-1367	All	OV IP was not supposed to be included in the local breakout IP range.
RAP wired downlink port	All Stellar AP with downlink wired port.	<ol style="list-style-type: none"> 1. Trust tag VLAN ID should not be same as Mac VLAN ID. 2. After enabled trust tag, should not use VLAN0. 3. Don't support authentication and policy rules.
Certificate management	All	In express mode, the password of the certificate does not support special characters.
WPA3+11r	All	Some clients do not support WPA3+11r.

New Software Feature Descriptions

Mesh Enhancement (OVE&OVC)

Currently, Mesh/Bridge AP connections use WPA2 encryption. We need to provide an option "Encryption Type" with a dropdown menu. the default selected option varies with different products (or radio), and users can choose WPA3. WPA3 will operate using WPA3_PSK_SAE_AES (Both(wpa2&wpa3)). This means that if both endpoints are configured with WPA3, they will operate with WPA3 security; otherwise, they will use WPA2 encryption. This will provide flexibility for the Mesh setup, but once all Mesh nodes are configured and available, they will operate with higher security.

The configurable range for different products is as follows:

Products	Radio	Key Management
11AC	2.4G/5G	Both(wpa&wpa2) wpa2-personal
11AX	2.4G/5G	Both(wpa&wpa2) wpa2-personal , Both(wpa2&wpa3) wpa3-personal
11AX	6G	wpa3-personal

The default configuration for 4.0.7MR3 is as follows:

Products	Radio	Key Management
11AC	2.4G/5G	wpa2-personal
11AX	2.4G/5G	Both(wpa2&wpa3)
11AX	6G	wpa3-personal

11AC devices:

The screenshot shows the 'Access Points' configuration page with the following settings:

- Home > Network > AP Registration > Access Points
- Section: Access Points
- Section: Edit Mesh Configuration
- Enable: Yes, No
- Is Root: Yes, No
- *SSID:
- Band: 2.4G, 5G, 6G
- *Encryption Type: Both(WPA & WPA2)
- *Mcast Rate:
- *Passphrase: Both(WPA & WPA2) (selected), WPA2-Personal
- *Confirm Passphrase:
- Mode: Mesh, Bridge
- Buttons: Apply, Cancel

11AX devices:

The screenshot shows the 'Access Points' configuration page. The breadcrumb trail is 'Home > Network > AP Registration > Access Points'. The page title is 'Access Points'. Below the title is the 'Edit Mesh Configuration' section. The configuration includes: 'Enable' (radio buttons for Yes and No, with Yes selected), 'Is Root' (radio buttons for Yes and No, with Yes selected), '*SSID' (text input field), 'Band' (radio buttons for 2.4G, 5G High, 5G Low, and 6G, with 5G High selected), '*Encryption Type' (dropdown menu showing 'Both(WPA & WPA2)'), '*Mcast Rate' (dropdown menu with a search bar and options: 'Both(WPA2 & WPA3)', 'Both(WPA & WPA2)', 'WPA2-Personal', and 'WPA3-Personal'), '*Passphrase' (text input field), '*Confirm Passphrase' (text input field), and 'Mode' (dropdown menu showing 'WPA2-Personal' and 'WPA3-Personal'). There are 'Apply' and 'Cancel' buttons at the bottom right. A note indicates that an asterisk (*) denotes a required field.

BLE 3rd party integration requires send raw data of unknown advType (OVE&OVC)

According to the sent BLE report data, if "advtype" is selected as "Unknown", the reported device data does not include rawData.

To support sending rawData to a third-party server, we need to add the following configuration: In "Network -> AP Registration -> IOT/Location/Advanced Analytics Server", when EngineType is set to "Stellar Asset Tracking", in the "Allowed Scan Types List", we will change "Unknown" to "Unknown rssi" and add an option "Unknown rssi & rawData" to the selection list.

The screenshot shows the 'IoT/Location/Advanced Analytics Server' configuration page. The breadcrumb trail is 'IoT/Location/Advanced Analytics Server'. The page title is 'IoT/Location/Advanced Analytics Server'. Below the title is the 'Add New Profile' section. The configuration includes: '*Name' (text input field with 'ccc-lbs-raw'), 'Description' (text input field), '*Engine Type' (dropdown menu showing 'Stellar Asset Tracking'), '*Server IP/Host' (text input field), 'Server Port Number' (text input field), 'SSL/TLS' (text input field), 'BLE Location' (dropdown menu with options: 'KonTLM', 'iBeaconPB', 'KonSP', 'Unknown rssi', and 'Unknown rssi & rawData', with 'Unknown rssi & rawData' selected and highlighted with a red box), '*Upload Interval' (text input field), '*Scanning Type Allowlist' (dropdown menu showing 'KonLoc, Unknown rssi & rawData'), and '*RSSI Format' (dropdown menu showing 'Average'). There are 'Apply' and 'Cancel' buttons at the bottom right. A note indicates that an asterisk (*) denotes a required field.

Support enable/disable LACP (Express)

Customer is having a non-intelligent POE switch, due to the LACP is formed between 2 APs. Hence need an option to disable LACP of the AP in express mode.

AP Configuration

Primary Name	IP	Firmware	Operate	Model
PVM				
AP-65:00	172.16.102.85(AP) (M)	4.0.7.3040	cfig reboot	OAW-AP1431
SVM				
MEMBER				
Joining				
Pending				
Neighboring Group				
AP-0E:E0	172.16.102.79	4.1.6.14		
AP-36:D0	172.16.102.92	4.0.8.5		
AP-11:20	192.168.28.210	4.0.7.3040		
AP-01:80	172.16.102.59	4.0.7.3040		
AP-50:90	172.16.102.11	4.0.1.25		
AP-BB:50	172.16.102.20	4.1.6.16		
AP-77:A0	172.16.102.43	4.0.8.9004		
AP-66:00	172.16.102.51	4.0.7.9032		
AP-00:20	172.16.102.6	4.0.1.16		

Detailed Information

Firmware: 4.0.7.3040
Upgrade Time: Tue Dec 12 19:16:21 2023
Upgrade Flag: Successful

IP Mode: DHCP [Edit](#)

IPV4

IP: 172.16.102.85
Netmask: 255.255.255.0
Default gateway: 172.16.102.254
DNS: 219.141.136.10

IPV6

IP: fe80::8a3c:93ff:fe55:6500/64
Default gateway:
DNS:

AP Mode: Express [Edit](#)

Link Aggregation: on

[Reboot All AP](#) [Clear All Configuration](#) [Backup All Configuration](#) [Restore All Configuration](#) [Upgrade All Firmware](#) [Connect To Cloud](#) [Convert To Enterprise](#)

Technical Support

Alcatel-Lucent Enterprise technical support is committed to resolving our customer’s technical issues in a timely manner. Customers with inquiries should contact us at:

Region	Phone Number
North America	1-800-995-2696
Latin America	1-877-919-9526
Europe Union	+800 00200100 (Toll Free) or +1(650)385-2193
Asia Pacific	+65 6240 8484

Email: ale.welcomecenter@al-enterprise.com

Internet: Customers with Alcatel-Lucent service agreements may open cases 24 hours a day via Alcatel-Lucent’s support web page at: <https://myportal.al-enterprise.com/>.

Upon opening a case, customers will receive a case number and may review, update, or escalate support cases on-line. Please specify the severity level of the issue per the definitions below. For fastest resolution, please have telnet or dial-in access, hardware configuration—module type and revision by slot, software revision, and configuration file available for each switch.

Severity 1 - Production network is down resulting in critical impact on business—no workaround available.

Severity 2 - Segment or Ring is down or intermittent loss of connectivity across network.

Severity 3 - Network performance is slow or impaired—no loss of connectivity or data.

Severity 4 - Information or assistance on product feature, functionality, configuration, or installation.

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