Omni Switch 10K/ 6900

Release 7.3.2.689.R01

The following is a list of issues that have been identified and corrected in AOS software release. This document is intended to be used as a pre-upgrade guide and does not replace the Release Notes which are created for every GA release of software.

Important Notice: For a copy of software release not posted on the Web or if you have any question or concern please contact Alcatel's Technical Support Department.

Alcatel·Lucent Enterprise

Problems Fixed Between Builds 345 and 374

PR	**182527**	Build:	7.3.2.355.R01
Summary:	PMD is generated each time an IP interface is created		
Explanation:	SlNi crash has been fixed		

PR	**182383**	Build:	7.3.2.358.R01
Summary:	OS6900 - BPDU not properly tunneled through SAP ports; STP loop seen after ISSU upgrade to 7.3.1.730		
Explanation:	Placeholder added to store the lag port in ipms.		

PR	**182249**	Build:	7.3.2.359.R01
Summary:	IGMP packets receives on Omni switch port which is not a part of specific VLAN.		
Explanation:	Switch may trap a packet to CPU prior to the vlan port association check in the HW, add check in pkt_drv for all IP and IPv6 packets for this condition and prevent processing of this packet.		

PR	**182258**	Build:	7.3.2.360.R01
Summary:	After reload of OS6900 VC setup ldap configuration is missing		
Explanation:	Merging change 179918(7.3.3.R01) to propagate correct parameters for ldap-server option, hash-key to 7.3.2.R01		

PR	**182291**	Build:	7.3.2.361.R01
Summary:	LACP not establishing between AOS 7 and HP Proliant server.		
Explanation:	Merge LACPDU actor port number change from 7xx		

PR	**182641**	Build:	7.3.2.363.R01
Summary:	OS10K 40G ping lost throughout the switch after upgrade from 7.2.1.354.R02 to 7.3.2.344.R01		
Explanation:	Flag has to be set for BCD for arp-usage-request while refreshing		

PR	**182814**	Build:	7.3.2.370.R01
Summary:	DNS is not working on OS6900		
Explanation:	Forward UDP port allow messages to peers		

PR	**184043**	Build:	7.3.2.374.R01
Summary:	Two OS6900-virtual chassis connected via static linkagg learning MAC-address in wrong ports running A		
Explanation:	changes done for Updating log information with port and agg number		

Problems Fixed Between Builds 375 and 413

PR	**183158**	Build:	7.3.2.375.R01
Summary:	OS6900 - Auto-Fabric feature: new switch out of box automatically generate a SPB configuration witho		
Explanation:	New cli has been introduced to remove auto generated global config by auto-fabric on some condition		

PR	**183294**	Build:	7.3.2.375.R01
Summary:	OS6900, Auto-fabric feature: one minute discovery logs flooding swlog.		
Explanation:	the issue got resolved by modifying auto-fabric.		

PR	**180081**	Build:	7.3.2.376.R01
Summary:	wants to see the traps On Console prompt		
Explanation:	added "debug trap display" feature command to see the traps On Console prompt		

PR	**184043**	Build:	7.3.2.379.R01
Summary:	Two OS6900-virtual chassis connected via static linkagg learning MAC-address in wrong ports running A		
Explanation:	changes done for Updating log information with port and agg number		

PR	**183459**	Build:	7.3.2.382.R01
Summary:	"debug stp bpdu-stats show" output is not consistent with stpni_printStats		
Explanation:	Changes done to STP BPDU STATS support for VC		

PR	**185452**	Build:	7.3.2.388.R01
Summary:	10K-VC is not displaying correct STP states on uplinks, creating a network loop		
Explanation:	STP state mismatch during VC takeover is fixed		

PR	**182566**	Build:	7.3.2.392.R01
Summary:	ACL action "priority" modifies 802.1p field		
Explanation:	ACL "priority" modifying 802.1p field issue has been fixed		

PR	**186260**	Build:	7.3.2.396.R01
Summary:	lost OSPF neighbors and ERP issue after the upgrade.		
Explanation:	ERP Ring configuration having one link as Multi Chassis VFL link corrected during upgrade from 731 to 732.		

PR	**185771**	Build:	7.3.2.396.R01
Summary:	With OS 6900 after the port monitoring command it is not responsive and not able to remove the port		
Explanation:	Allow deletion of port monitoring of slave chassis, when it is down.		

PR	**186592**	Build:	7.3.2.398.R01
Summary:	10K/6900 VC - log flooding console session after ISSU upgrade or vc-takeover		
Explanation:	Proper handling of error condition in STP socket		

PR	**186739**	Build:	7.3.2.398.R01
Summary:	ERROR: Invalid interface number. Flag=0x 208 chassis 2 mode 2 ready 1 connected 0		
Explanation:	incorrect port number is resolved by reconnection when TCP connection is lost in ready state		

PR	**186335**	Build:	7.3.2.400.R01
Summary:	OS10K: Experience L3 Packet Lost if inject 8000 arp broadcast into Qtagg port		
Explanation:	ARP CPU Queue will now use "Static Buffer" instead of Dynamic Buffer.		

PR	**184864**	Build:	7.3.2.401.R01

Summary:	Ping loss to Edge switch when the Slave becomes Master after ISSU upgrade.
Explanation:	Linkagg messaging synchronized during ISSU Upgrade from 731 to 732.

PR	**186816** Build: 7.3.2.402.R01
Summary:	OS10K: 4 port VFL-LINK Virtual Chassis primary switch crashed and slave took over
Explanation:	Memory leak fixed in STP

PR	**185277** Build: 7.3.2.403.R01
Summary:	Messages "ipni arp info(5) arp info overwritten" seen after upgrading OS6900 to 7.3.2.344.R01.
Explanation:	arp info overwritten logs have been fine tuned

PR	**187240** Build: 7.3.2.406.R01
Summary:	OS6900: Nov 3 01:46:27 AdminDC-L5-120 swlogd: portMgrNi main error(2) : [pmVcPeerRxCB:1045] Unknown
Explanation:	Error msg clean up done to resolve the issue

PR	**187165** Build: 7.3.2.408.R01
Summary:	ChassisSupervisor fan & temp Mgr info(5) temperature 67 <= 74, lower fan_load to 55%
Explanation:	Fan curve table has been updated with the proper high temperature values

PR	**186299** Build: 7.3.2.410.R01
Summary:	Unnecessary DHCP Offer / Ack packets received from OmniSwitch.
Explanation:	If FORWARD_PER_VLAN is configured and the Next Hop address is not Configured then DHCP_REP gets dropped

PR	**186545** Build: 7.3.2.410.R01
Summary:	Health monitor trap doesn't mentioned the chassis number in VC
Explanation:	show health monitor trap displays chassis number as well in VC

PR	**187228** Build: 7.3.2.411.R01
Summary:	OSPF remains in Init state when master switch turned off in Virtual Chassis configuration with SPB
Explanation:	Invalid BMAC Entries are deleted

PR	**187461** Build: 7.3.2.412.R01
Summary:	10K-VC ISSU upgrade failed
Explanation:	Changed ISSU timeout to 12 minutes

PR	**187279** Build: 7.3.2.413.R01
Summary:	unit-0 port_cbl_cable entry 0 parity error.
Explanation:	Disable parity error check for port_cbl_table

PR	**187863** Build: 7.3.2.413.R01
Summary:	OS10K: a linkagg port is not processing the incoming BPDU packets
Explanation:	STP NI discarding the BPDUS' for 6800 because of length check has been fixed

Problems Fixed Between Builds 414 and 438

PR	**185453**	Build:	7.3.2.417.R01
Summary:	Flood rate applied goes missing in show configuration snapshot		
Explanation:	[MRR]: Show config snapshot issue for uucast flood-limit		

PR	**187413**	Build:	7.3.2.418.R01
Summary:	cp: write error: No space left on device.		
Explanation:	ERP logs has been moved from /var/log to swlog.		

PR	**187931**	Build:	7.3.2.418.R01
Summary:	Need crash analysis on OS6900 in VC setup		
Explanation:	Crash while processing Linkagg packet is fixed.		

PR	**187494**	Build:	7.3.2.419.R01
Summary:	All the OSPF neighbor went "INIT" state when VC Master power off		
Explanation:	Update the Soft VP list during takeover to avoid duplicate VP id for the Multicast SDP ports.		

PR	**187330**	Build:	7.3.2.421.R01
Summary:	OS6900 timezone and swlog time synchronization issue		
Explanation:	tzset API is used to update the time zone in swlog timestamp		

PR	**188302**	Build:	7.3.2.422.R01
Summary:	plGetPortInfoFromBasePort@7483: Out of range VC chassis ID 3 error message seen in logs		
Explanation:	Error logs have been modified		

PR	**188346**	Build:	7.3.2.423.R01
Summary:	stpni_printStats table - code changes needed in order to print the local port number.		
Explanation:	stpni_printStats table display has been fine tuned		

PR	**188685**	Build:	7.3.2.424.R01
Summary:	boot.cfg.1.err error created after the reload		
Explanation:	Snapshot issue for BVLAN description has been fixed		

PR	**184661**	Build:	7.3.2.425.R01
Summary:	Misleading error for VPA creation on a port without chassis-id		
Explanation:	Misleading error has been fixed		

PR	**188226**	Build:	7.3.2.425.R01
Summary:	linkAggCmm main info(5) Wrong index number 1 message seen in swlogs		
Explanation:	Linkagg ni log messages have been fine tuned		

PR	**187190**	Build:	7.3.2.426.R01
Summary:	Port in master unit remains down after VFL link split		
Explanation:	User ports in master remains operationally up even after VFL split.		

PR	**188516**	Build:	7.3.2.428.R01

Summary:	OS6900 Crash(Dump Analysis)
Explanation:	crash is due to invalid ipv6 packet. And it got resolved

PR	**188069**	Build:	7.3.2.429.R01
Summary:	MC-LAG secondary is not routing after upgrade to 7.3.2.R01		
Explanation:	Debug has been added to collect the static route mismatch between CMM and Ni hardware.		

PR	**187237**	Build:	7.3.2.432.R01
Summary:	10K-VC :: SLB VIP@ connectivity issue when launching vc-takeover		
Explanation:	QOS Redirect policy configuration corrected during Takeover.		

PR	**189190**	Build:	7.3.2.432.R01
Summary:	show license info is blank after reload of OS6900 VC-732.R01		
Explanation:	Fix done for the show license-info display issue		

PR	**188675**	Build:	7.3.2.433.R01
Summary:	OS6900 switch getting rebooted very often and pmd generated.		
Explanation:	The scenario in which ARP for PBR gateway IP getting resolved in software instead of hardware is handled.		

PR	**189281**	Build:	7.3.2.434.R01
Summary:	Parity errors in OS6900 running 732.413.R01 causing the switch not to learn mac-addresses properly.		
Explanation:	Port_cbl_table parity error is seen on Tor box and packet getting dropped		

PR	**189589**	Build:	7.3.2.436.R01
Summary:	When CMM_A of the primary Virtual Chassis is removed, arp broadcast packets stopped forwarding out o		
Explanation:	After vc-takeover make sure that the ipmscmm process on the secondary CMM connects up to the primary CMM so that the SPB services forwarding state is preserved.		

PR	**187628**	Build:	7.3.2.436.R01
Summary:	OS6900: snmpget of oid returns next entry in table instead of correct one.		
Explanation:	snmpget was returning internal gport instead of the user port, fixed		

PR	**189005**	Build:	7.3.2.436.R01
Summary:	Unable to ping Loopback0 of OS6900 from OS6850		
Explanation:	The Loopback0 list lookup was missing in the IP driver and was properly added.		

PR	**188623**	Build:	7.3.2.436.R01
Summary:	Possible memory leak of slNi process		
Explanation:	Memory leak in slNi fixed with debug functionality added to understand the issue in detail if the problem occurs again.		

PR	**188383**	Build:	7.3.2.437.R01
Summary:	10K MCLAG back-to-back design - Connectivity issues when disabling then enabling NIs		
Explanation:	Hardware settings are properly updated for MClag ports when linkAgg goes down		

PR	**190038**	Build:	7.3.2.438.R01

Summary:	OS10K crashing because of BGP task.
Explanation:	Crash due to a null community string and proper checks added for the same.

Problems Fixed Between Builds 439 and 469

PR	**189672** Build: 7.3.2.441.R01
Summary:	OSPF -unplanned- graceful restart does not work as expected during VC Master chassis failure MD5 seq
Explanation:	OSPF Gracefulness mechanism has been changed for MD5 Authentication

PR	**189944** Build: 7.3.2.441.R01
Summary:	"interface ingress-bandwidth" and "interface flood-limit" deletion failed in AOS 7.
Explanation:	Proper handling of interface commands during bootup

PR	**190683** Build: 7.3.2.441.R01
Summary:	OS10K - Multiple IPRM logs getting displayed in console after rebooting 10K
Explanation:	Do not display swlogs on console for static route addition

PR	**189017** Build: 7.3.2.441.R01
Summary:	EMP ip address is not reachable after changing the ip address.
Explanation:	Modification of EMP Address is handled properly

PR	**190436** Build: 7.3.2.441.R01
Summary:	vfcn error: [vfccQsHandleLinkEvents:276] VFCC : gport 12 LINK UP Invalid Speed 0 sts 1.
Explanation:	Perform Ethoam violation only if the link is UP

PR	**186115** Build: 7.3.2.441.R01
Summary:	Confd task suspension after ISSU upgrade in Chassis-1
Explanation:	Configuration buffer allocation and reallocation bits are properly handled

PR	**182153** Build: 7.3.2.443.R01
Summary:	Issue with DoS attacks on OS10K.
Explanation:	Unsupported DoS attacks are removed from display commands.

PR	**186262** Build: 7.3.2.443.R01
Summary:	App-fingerprint not working with MC-LAG
Explanation:	As App-fingerprint not supported with MC-LAG, display an error when configured.

PR	**189563** Build: 7.3.2.443.R01
Summary:	6900-VC ISSU upgrade from 7.3.1.777.R01 to 7.3.1.780.R01 failed
Explanation:	StpNi connect with stpcmm mechanism improved during takeover and issue.

PR	**189709** Build: 7.3.2.443.R01
Summary:	An error is thrown when copying files between VC members
Explanation:	NFS related issues are resolved.

PR	**184885** Build: 7.3.2.443.R01
Summary:	Mac-learning issue on OS10K

Explanation:	Inter NI MAC Keepalive messages are restricted for Static Mac.

PR	**189845** Build: 7.3.2.444.R01
Summary:	slCmm library(plApi) error(2) plGetChassisSlotPortFromGport@1324: Invalid port type 2 (gport 0x20000
Explanation:	Proper Linkagg and Default port validations are taken care

PR	**188535** Build: 7.3.2.445.R01
Summary:	VLAN inactive in a VC
Explanation:	Vlan inactive issue is fixed

PR	**190839** Build: 7.3.2.445.R01
Summary:	In a specific scenario eoamCmm task generates pmd.
Explanation:	Refined code to prevent double free scenarios which will in turn prevents crash due to double free or corruption

PR	**191308** Build: 7.3.2.446.R01
Summary:	In OS6900 running 7.3.2.439, the command vrrp delay is not taking effect.
Explanation:	User configured VRRP delay is applied during bootup

PR	**191275** Build: 7.3.2.447.R01
Summary:	OS6900 no description of udp relay is seen in show configuration snapshot output
Explanation:	Port description is saved in the snapshot

PR	**191201** Build: 7.3.2.450.R01
Summary:	Remote Fault Propagation is not working on OS6900.
Explanation:	Proper operational status of RFP violation is updated

PR	**191586** Build: 7.3.2.452.R01
Summary:	OS6900-X20 Crash-Vrrp was not working after crash.
Explanation:	Error handling in port validation of UDP Module introduced

PR	**191494** Build: 7.3.2.455.R01
Summary:	10K-VC : invalid IP state
Explanation:	Generation for few Internal IP Interface events for VC VFL ports is restricted.

PR	**191547** Build: 7.3.2.456.R01
Summary:	FP_METER_TABLE entry 1 parity error
Explanation:	Disable fp_meter_parity control

PR	**190572** Build: 7.3.2.460.R01
Summary:	OS6900 errors seen frequently: ipni arp info(5) arp info overwritten messages
Explanation:	With sflow configured, arp will be properly learned on the corresponding ports.

PR	**190581** Build: 7.3.2.463.R01
Summary:	Constant high CPU on OS6900 Virtual Chassis
Explanation:	Reset tcam calculation if rule was previously forcefully paired

Problems Fixed Between Builds 470 and 548

PR	**191966**	Build:	7.3.2.470.R01
Summary:	IP multicast streams are not recovered after a vc-takeover		
Explanation:	Work around to recover ip multicast streams after takeover.		

PR	**193208**	Build:	7.3.2.471.R01
Summary:	ISSU of OS6900-VC fails with 1G uplinks when upgrading to 7.3.2.469.R01		
Explanation:	Soft fix done to avoid 1G uplink failure during ISSU upgrade		

PR	**193169**	Build:	7.3.2.474.R01
Summary:	ERROR: Can't mix EMP and non EMP gateways on ECMP static routes		
Explanation:	changes done to remove the static route which is configured in overlapping network(subnet) with EMP in non-default VRF		

PR	**193481**	Build:	7.3.2.475.R01
Summary:	OS6900 automatically rebooted.		
Explanation:	Close open port 13002 for QoSCMM		

PR	**192932**	Build:	7.3.2.477.R01
Summary:	SPB counters are not correct for ingress traffic for local SPB port		
Explanation:	Fix stats allocation issue due to mismatch in software and hardware counters; Fix stats allocation issue when linkagg flaps.		

PR	**192774**	Build:	7.3.2.478.R01
Summary:	Specific VLAN config removed from OS6900 chassis using "diff" and "cp" commands.		
Explanation:	MIP OVERFLOW case in vlan description has been handled.		

PR	**191901**	Build:	7.3.2.479.R01
Summary:	OS10k switch crashed with generating PMD file.		
Explanation:	Memory leak in source learning task is corrected to free the memory appropriately.		

PR	**192432**	Build:	7.3.2.479.R01
Summary:	bcmd rpcs alert message: +++ slnHwlrnCbkHandler:657 no buffer ALERT!! Error.		
Explanation:	SlNi to BCM software reconnect mechanism has been optimized.		

PR	**191615**	Build:	7.3.2.480.R01
Summary:	Reload of Ni-1 on 10K VC resulted in lost all OSPF routes		
Explanation:	VFL Member port Synchronization optimized according to the secondary CMM presence		

PR	**187638**	Build:	7.3.2.480.R01
Summary:	In specific scenario, svcCmm generated pmd.		
Explanation:	Crash due to usage of long string as description in service spb sap configuration is fixed.		

PR	**193888**	Build:	7.3.2.483.R01
Summary:	Security group saw that TCP port 12000 is open		
Explanation:	Port is now open only for local interface		

PR	**191665** Build: 7.3.2.484.R01
Summary:	OS6900 ICMPv6 neighbor solicitation issue.
Explanation:	Packet length correction incorporated for neighbor solicitation message

PR	**192836** Build: 7.3.2.485.R01
Summary:	OS6900: ARP replies seen on ports which are not tagged for the vlan.
Explanation:	Don't process ARP\IP\IPv6 packets in software, if these packets are seen on ports which are not in the vlan from where the ARP request is sent.

PR	**192184** Build: 7.3.2.486.R01
Summary:	Ni 8 crashed with PMD files
Explanation:	Log enhancement has been added to print the stpNi socket connection "error number"

PR	**191395** Build: 7.3.2.486.R01
Summary:	10G Linkagg port s Link Quality changes to N/A after VC takeover.
Explanation:	During takeover, link-quality information is not sent to the CMM by the NI in the new Master. Hence Link Quality is displayed as N/A in the new Master. Changes has been done to send Link Quality information also to the CMM during takeover.

PR	**193908** Build: 7.3.2.487.R01
Summary:	In 6900SES CMD alarm(1) CLI log trigger for any configuration change via MIP_gateway in swlog events
Explanation:	Appropriate log levels has been added, swlog level changed to info.

PR	**189003** Build: 7.3.2.489.R01
Summary:	SNMPWALK shows incorrect port number
Explanation:	Code changes has been done to display the base port in which Mac-address gets learned instead of its gport

PR	**193883** Build: 7.3.2.490.R01
Summary:	OS10k specific static routes not installed at Ni level
Explanation:	Request routes from iprm if route addition has failed due to interface routes not being programmed

PR	**188434** Build: 7.3.2.491.R01
Summary:	Ni7 interface counters show as zero when the interfaces are up and passing traffic on OS10K
Explanation:	For GNI-U48NI,counter interval is set properly for counter collection

PR	**184338** Build: 7.3.2.491.R01
Summary:	OS 10K fans working at 85 % after upgrade to 7.3.1.748
Explanation:	Resetting the default temperature of NI/Slot, if NI is removed.

PR	**189109** Build: 7.3.2.492.R01
Summary:	When service spb sap port description is above 23 characters, invalid output is seen in "Ingress Pkt
Explanation:	Truncate display while the text to write into a character array is oversized

PR	**182317** Build: 7.3.2.492.R01
Summary:	udpRelayCmmd library(plApi) error

Explanation:	Validation addition done in port library to avoid errors

PR	**193228** Build: 7.3.2.494.R01
Summary:	In 6900 ChassisSupervisor Power Mgr alert message: PS 1 reported down error
Explanation:	Retry Mechanism is implemented in i2cMgrHwProcessMsg during intermittent i2c bus error

PR	**192901** Build: 7.3.2.495.R01
Summary:	OS10k NI 1 parking issue due to core. Bcmd dump in niX/pmd/work
Explanation:	Changed PMD startup sequence

PR	**186715** Build: 7.3.2.496.R01
Summary:	OS10K - VC split
Explanation:	If the VFL interface is down, then admin disable of the VFL interface is not allowed.

PR	**194452** Build: 7.3.2.496.R01
Summary:	Unable to set SLB hashing to SRC-IP for SLB.
Explanation:	SLB hashing options were modified to be in line with the CLI

PR	**182528** Build: 7.3.2.497.R01
Summary:	MAC address collisions
Explanation:	Callbacks routines were incorporated for MAC address collisions

PR	**191622** Build: 7.3.2.498.R01
Summary:	OS6900: Duplicate configuration present for SPB in "show configuration snapshot"
Explanation:	show configuration snapshot will not display duplicate SPB configuration.

PR	**194664** Build: 7.3.2.499.R01
Summary:	+++ vrrpPortRegister: unable to calculate port range
Explanation:	Code changes has been to find the endGport based on MAX_NI_SLOTS value .

PR	**181297** Build: 7.3.2.499.R01
Summary:	Unable to issue "show configuration snapshot" and "write memory".
Explanation:	Buffer overflow issue has been fixed

PR	**193931** Build: 7.3.2.502.R01
Summary:	VRRP Master router is not responding to client with correct VRRP MAC address.
Explanation:	Code changes has been to populate the VrrpAddrMsg to peer chassis and after ipcmmNiBcastMsg is called .

PR	**192561** Build: 7.3.2.509.R01
Summary:	During ISSU upgrade 10K-VC LACP port remains up for few sec while switch starts rebooting, which is
Explanation:	Port down registration was missing and the ports were not shut down on time. Fixed.

PR	**194460** Build: 7.3.2.515.R01
Summary:	show LACP port range seeing internal error
Explanation:	Linkagg MIP Functionality buffer usage optimized to avoid getting internal error.

PR	**196510**	Build:	7.3.2.544.R01
Summary:	server-cluster 1 loopback command not working properly		
Explanation:	HaVlan issues fixed		

PR	**187160**	Build:	7.3.2.548.R01
Summary:	6900-VC ISSU upgrade failed, chassis2 rebooted thrice		
Explanation:	Spanning tree update synchronization between NI and CMM Optimized.		

PR	**192874**	Build:	7.3.2.473.R01
Summary:	Ref PR# 191901: Wrong socket structure makes infinite loop of flush events from stpNi to SlNi		
Explanation:	Source Learning and STP NI task socket connection optimized in case of reconnect after a disconnect.		

PR	**188390**	Build:	7.3.2.539.R01
Summary:	Port-Mirroring causing issues in the network.		
Explanation:	Port Mirroring and Policy based Mirroring conflicts are resolved.		

PR	**191995**	Build:	7.3.2.479.R01
Summary:	AOS6900 rebooted automatically, analysis required.		
Explanation:	OV querying the invalid interface is properly handled in the Ethernet CMM.		

PR	**193637**	Build:	7.3.2.533.R01
Summary:	OS10K: ISSU upgrade from 7.3.2.413.R01 to 7.3.2.469.R01 causes VFL-links down		
Explanation:	Peer VFL information sync is done during bootup.		

PR	**193657**	Build:	7.3.2.505.R01
Summary:	In 6900 VC to code 7.3.2.469.R01, we still see MAC address learned from port 2/1/10 having one link		
Explanation:	Mac Address Wrongly Learnt in Linkagg member port issue corrected		

PR	**194509**	Build:	7.3.2.503.R01
Summary:	Error "Invalid entry: "pvst+compatibility"" in boot.cfg.1.err file		
Explanation:	PVST+ Mode setting optimized to avoid getting boot.cfg error during reload.		

PR	**184523**	Build:	7.3.2.500.R01
Summary:	[OS 10K]- HA VLAN not flooding packets correctly, if source and destination are on the same port, p		
Explanation:	In OS10K, traffic destined and routed to a L3 cluster VIP is not sent back to the incoming port when this port is a member of the cluster. A CLI has been introduced to enable this capability: server-cluster <cluster-id> loopback {enable/disable}		

PR	**193399**	Build:	7.3.2.503.R01
Summary:	OS10k : Malformed /BAD FCS - STP BPDUs sent out from the 10 gig ports		
Explanation:	STP Packet size optimized to send exact size.		

PR	**193899**	Build:	7.3.2.488.R01
Summary:	OS6900 ISSU From 7.3.2.439 to 7.3.2.469.R01 caused INACTIVE VLAN 1		
Explanation:	Vlan inactive state issue has been fixed		

PR	**194397** Build: 7.3.2.525.R01
Summary:	OS6900: Many TCP ports are still open detected by nmap scanner
Explanation:	Port is now open only for local interface

PR	**192974** Build: 7.3.2.472.R01
Summary:	User ports remains down upon restoration after a VC split and chassis reboot
Explanation:	Changes done to handle the user ports after restoration from VC-split

PR	**194465** Build: 7.3.2.503.R01
Summary:	OS10K: PVST+ BPDUs sent by 10 GIG ports are of length 55 and are shown under malformed group.
Explanation:	Correction in length calculation for PVST+ BPDU were done

PR	**187396** Build: 7.3.2.520.R01
Summary:	BUG: spinlock lockup on CPU#0 issue on OS6900 with VC
Explanation:	OSPF task would use ioctl call instead of raw file open to read data from socket

PR	**183522** Build: 7.3.2.500.R01
Summary:	Unable to display the VLAN in configuration.
Explanation:	VLAN Display optimized to avoid getting Overflow condition.

PR	**195626** Build: 7.3.2.541.R01
Summary:	DHCP-Relay issue on OS6900.
Explanation:	Changing DHCP offer packet as Broadcast(L2).

PR	**195083** Build: 7.3.2.524.R01
Summary:	OpenSSL vulnerability CVE-2014-0224 and CVE-2014-0160
Explanation:	OpenSSL vulnerability CVE-2014-0224 and CVE-2014-0160 has been handled.

Problems Fixed Between Builds 549 and 613

PR	**194902** Build: 7.3.2.558.R01
Summary:	VC reloaded when policy based port mirroring is configured.
Explanation:	validation performed in NI module before processing the packet

PR	**197409** Build: 7.3.2.561.R01
Summary:	Master chassis reloaded in VC and Slave stuck in boot-monitor
Explanation:	Disabled sysrq utility to avoid kernel crash

PR	**197744** Build: 7.3.2.568.R01
Summary:	IP Helper doesn't relay DHCP Offer in MC-LAG
Explanation:	Do not send the DHCP Reply packet to UDP Relay CMM if the packet is received by IPNI for routing.

PR	**196470** Build: 7.3.2.571.R01
Summary:	Port mirroring not working on master chassis after failover.
Explanation:	Changes to support port mirroring after vc-takeover

PR	**197171** Build: 7.3.2.572.R01
Summary:	(MC-LAG + OS10K) L3 bit not set for VRRP MAC in hardware in VRRP Master after takeover.
Explanation:	Do not process the remote mac delete request for VRRP router MAC on the VRRP Master switch

PR	**197639** Build: 7.3.2.573.R01
Summary:	SPB 6900 with a hairpin can't ping from its console to a 6850 tagged interface connected via a SAP p
Explanation:	Vlan port association check not done for virtual ports

PR	**195324** Build: 7.3.2.574.R01
Summary:	Links flaps seen on 10Gig BEB switches in SPB in environment
Explanation:	Changes to generate traps on port change events

PR	**197694** Build: 7.3.2.574.R01
Summary:	OS6900: *** buffer overflow detected ***: /bin/etherCmm terminated.
Explanation:	Buffer overflow has been handled by incrementing the buffer size

PR	**198357** Build: 7.3.2.576.R01
Summary:	Loss of OSPF adjacency during OSPF configuration in OS10k switch
Explanation:	Creation of OSPF interface is restricted. OSPF interface creation not allowed when VLAN is not associated with the IP Interface

PR	**195445** Build: 7.3.2.577.R01
Summary:	OS6900 SPB-M MAC addresses are not seen after failover-recovery and ping loss issue.
Explanation:	Prevented message Corruption in sdp creation for tandem mode

PR	**195490** Build: 7.3.2.577.R01
Summary:	VC of 2 X OS6900-X40 , master rebooted and VC is down due to confd task crash in VC-1.
Explanation:	Fix done for "Write memory is not allowed during VC Synchronization"

PR	**197720** Build: 7.3.2.577.R01
Summary:	ChassisSupervisor memMgr alert Not Supported The top 20 memory hogs in Not Supported are ....
Explanation:	Changing the console level logging to switch logs.

PR	**197323** Build: 7.3.2.578.R01
Summary:	OS6900 rebooted with generating the PMD for ipmsni and lldpNi and vlan stacking issue is seen after
Explanation:	Corrected the logic to send VSTK VPA to Vlan manager

PR	**198914** Build: 7.3.2.580.R01
Summary:	Display error message while configuring Rtr interface
Explanation:	Changed the mip error message on router vlan

PR	**198549** Build: 7.3.2.581.R01
Summary:	Implement TRAP/ SWLOG notification upon failure to add MAC due to TABLE FULL/ BUCKET FULL conditions

Explanation:	Code Changes have been done to Enable Notification when hash collision happens due to TABLE FULL/ BUCKET FULL

PR	**199051**	Build:	7.3.2.583.R01
Summary:	OS6900 admin password changes do not sync up across VC		
Explanation:	Password changed in master chassis should get reflected on slave chassis in a VC.		

PR	**197200**	Build:	7.3.2.585.R01
Summary:	Qos ingress-bandwidth not working properly		
Explanation:	Changes have been done to support "depth" option for "policy rule"		

PR	**199559**	Build:	7.3.2.585.R01
Summary:	VFL-link shows up on the master and down the on Slave with only CMM-B		
Explanation:	VFL information will be properly synced with the CMMB.		

PR	**198934**	Build:	7.3.2.587.R01
Summary:	OS6860 tail .bash_history command disclose the username/passwords		
Explanation:	Command line containing password will not be stored in bash history.		

PR	**198903**	Build:	7.3.2.587.R01
Summary:	OS6900-X20 crashed after authenticating the telnet client via tacacs server.		
Explanation:	From the trace, crash occurred while reading the buffer of size 570 in which the maximum size of the buffer defined is 500.		

PR	**199426**	Build:	7.3.2.588.R01
Summary:	UNP vlan-xlation config missing in boot.cfg & missing after reboot		
Explanation:	For CLI Command unp spb-profile params vlan-xlate and multicast-mode changes are incorporated in snapshot.		

PR	**199440**	Build:	7.3.2.590.R01
Summary:	Vulnerability in SSLv3 (POODLE / CVE -2014- 3566)		
Explanation:	Disable SSLv3 to mitigate POODLE attack		

PR	**199077**	Build:	7.3.2.591.R01
Summary:	Sflow sampling rate caused NI reboot and backoff algorithm activation		
Explanation:	Correction for Sfow backoff algorithm.		

PR	**200025**	Build:	7.3.2.593.R01
Summary:	VC of 10Ks dropping traffic crossing the VFL when using IGMP mode		
Explanation:	When server-cluster is running in IGMP mode, send traffic to the cluster ports on the remote chassis, if required.		

PR	**200251**	Build:	7.3.2.594.R01
Summary:	please wait ....." issue		
Explanation:	Port monitoring issues are fixed		

PR	**200511**	Build:	7.3.2.596.R01
Summary:	ISSU upgrade failed with OS6900 X40 with OS-XNI-U12 VFL uplink		
Explanation:	stpNi connecting mechanism with stpCmm during vc-takeover process optimized to have retry		

mechanism.

PR	**200356** Build: 7.3.2.596.R01
Summary:	10K-VC :: unable to configure port-monitoring on a port while this port is up
Explanation:	In a VC of 2 10K with dual CMM, issue in updating the link status to secondary CMM in the event of secondary down/ready is corrected

PR	**200504** Build: 7.3.2.598.R01
Summary:	10K-VC :: vcsetup.cfg is missing on both CMM from Chassis-2 after reboot
Explanation:	Fix has been done to synchronize the vcsetup.cfg file in both CMMA and CMMB before reboot.

PR	**200540** Build: 7.3.2.600.R01
Summary:	OS6900 *** buffer overflow detected ***: /bin/vmCmm terminated
Explanation:	Increased array size of vlan description in vm_db_event_s structure to accommodate NULL character

PR	**200589** Build: 7.3.2.602.R01
Summary:	10K-VC: After inserting new CMM-A in Slave chassis "CI1", Master chassis crashed and Traffic losses
Explanation:	During VC-takeover, the MIP message timeout of confd process is reduced to 2 Minutes.

PR	**200847** Build: 7.3.2.604.R01
Summary:	IPRM not advertising the OSPF ECMP changes correctly to BGP.
Explanation:	Checking iprm for the route exists before deleting the network route

PR	**201101** Build: 7.3.2.606.R01
Summary:	PVST+ length differs from Third party length 50 and Alcatel is 49.
Explanation:	The Length of the PVST packet will be 50 Bytes.

PR	**200885** Build: 7.3.2.606.R01
Summary:	10K VC :: traffic stopped when Master is rebooted and joined VC as Slave
Explanation:	A Warning message is provided whenever write memory is given with Slave chassis down.

PR	**200889** Build: 7.3.2.607.R01
Summary:	OS6900 svlan configuration is not getting saved in configuration.
Explanation:	Svlan configuration snapshot issue has been fixed

PR	**199391** Build: 7.3.2.613.R01
Summary:	OS6900-VC rebooted on 09-Oct-2014 and after a week Slave unit crashed with USB task.
Explanation:	The system may crash when USB is extracted without disabling USB with the command “usb disable”. A warning message is now displayed when enabling USB (CAUTION: Do "usb disable" before removing usb.). A new option has been added to mount the USB in a sync mode “usb enable mode sync”, hence allowing the USB to be extracted without disabling USB first. In this mode, the write operations to USB are slower.

PR	**194265** Build: 7.3.2.570.R01
Summary:	Tx Lost frames increasing on the VFL links of OS6900 VC after the reload of switches.
Explanation:	removed command "virtual-chassis chassis-id <chassis-id> vf-link <vfl-id> default-vlan <vid>.

PR	**187323** Build: 7.3.2.582.R01
Summary:	Switch crashed during stpNi initialization.
Explanation:	stpNi crash has been fixed

PR	**197698** Build: 7.3.2.565.R01
Summary:	Traffic is getting dropped during the VC takeover
Explanation:	eoamNi task getting primaryCmm IP During Takeover corrected.

PR	**198963** Build: 7.3.2.612.R01
Summary:	Virtual Chassis crash/reboot during a Juniper Firewall failover test with memory error message in lo
Explanation:	improvements done to avoid unnecessary pruning

PR	**197398** Build: 7.3.2.566.R01
Summary:	HA-VLAN dropping packets when crossing the VFL
Explanation:	HAVLAN L3 Loopback feature is added for 6900.

PR	**196724** Build: 7.3.2.559.R01
Summary:	Unable to ping VRIP address form master router.
Explanation:	Ping issues to VRIP address from Master router has been fixed

PR	**195794** Build: 7.3.2.574.R01
Summary:	SAP port has 100% packet drops with max frame size 9173 bytes
Explanation:	Change made to extend the MTU size (9216) to include mac-in-mac header in Jumbo packet

PR	**196817** Build: 7.3.2.563.R01
Summary:	vm_insert_page error inserting new egress buff
Explanation:	Fix has been done to decrement page count while unmapping packets from tasks.

PR	**200541** Build: 7.3.2.603.R01
Summary:	10K-VC :: Master is unable to provide information about new inserted CMM on Slave
Explanation:	Corrected the display issue seen on master chassis(show cmm) when inserting a new cmm on slave chassis

PR	**201294** Build: 7.3.2.612.R01
Summary:	HA-VLAN server-cluster loobpack loopback in IGMP mode
Explanation:	Don’t loopback L2 cluster destined traffic due to matching L3 cluster with loopback enabled

PR	**198606** Build: 7.3.2.590.R01
Summary:	SPB-M adds VLAN tag 4095 for an untagged VLAN traffic when one link of SAP linkagg goes down.
Explanation:	Handling the hardware properly during sap purge event

Problems Fixed Between Builds 614 and 689

PR	**201228**	Build:	7.3.2.621.R01
Summary:	Unable to check the memory status for the port connected on the slave chassis		
Explanation:	addressed the issue while displaying the health status of the port		

PR	**197682**	Build:	7.3.2.621.R01
Summary:	PVST+ stats has not changed even pvst+ bpdu received on 10K. It's always Off stats		
Explanation:	To send PVST state from NI to CMM to show proper state in show CLI , whenever PVST+ BPDUs are exchanged.		

PR	**198469**	Build:	7.3.2.622.R01
Summary:	OS6900 we get the error message in swlog ipcmmd library(plApi) error(2) plGetIfIndexFromGport@1617 f		
Explanation:	Handled the case for Internal gport.		

PR	**201934**	Build:	7.3.2.626.R01
Summary:	Creation of tagged RTR-PORT does not delete the default VLAN 1		
Explanation:	Remove the port from default vlan 1 if the port is configured as tagged IP router port.		

PR	**201715**	Build:	7.3.2.628.R01
Summary:	22 seconds packet drop seen when the power is removed from the master unit in VC		
Explanation:	Do not include inactive ports in graceful restart process		

PR	**201946**	Build:	7.3.2.632.R01
Summary:	debug set multi-chassis loop-detection action vpa-down command to be used permanently in OS 10K		
Explanation:	Fix provided to retain debug command after reboot.		

PR	**202873**	Build:	7.3.2.633.R01
Summary:	OS6900 switch crashed due to SaaCMM task		
Explanation:	Conditional check added to avoid crash due to saaCmm.		

PR	**202574**	Build:	7.3.2.633.R01
Summary:	Multicast routing packets with TTL=0 or 1 is being forwarded on the PIM enable interface.		
Explanation:	Set the TTL threshold while configuring egress L3 interface table		

PR	**203184**	Build:	7.3.2.635.R01
Summary:	OSPF graceful restart not working properly during CMM Takeover		
Explanation:	Synchronize the route information in both CMMs for smooth takeovers		

PR	**202815**	Build:	7.3.2.636.R01
Summary:	OS6900 display issue in web view		
Explanation:	Fix done to display all the images in the flash properly		

PR	**202864**	Build:	7.3.2.637.R01
Summary:	OS10K: Write memory not successful and display "Please wait"		
Explanation:	Handled DEFERRED case properly to avoid please wait issues in slCmm.		

PR	**202994**	Build:	7.3.2.638.R01
Summary:	CPU Spikes on VC and more than 60000 Mac-address learnt on Linkagg 4		
Explanation:	Software mac aging timer implementation		

PR	**202556**	Build:	7.3.2.639.R01
Summary:	6900 switch up time resets to 0 after up time of 497.1 days without reboot.		
Explanation:	Correct the discrepancies between kernel uptime and uptime in show system o/p.		

PR	**203380**	Build:	7.3.2.641.R01
Summary:	Logs appeared after re-set the uptime "ChassisSupervisor CS Main info(5) CSP_SetChassisMode mode 2 -		
Explanation:	After 497.10 days, the swlog will not be flooded with the synchronization message.		

PR	**203039**	Build:	7.3.2.642.R01
Summary:	OS 10K NI 2 parity errors, rebooted. Crashed and not up.		
Explanation:	Port Manager NI EOAS Timeout issue resolved.		

PR	**201945**	Build:	7.3.2.644.R01
Summary:	OS6900-VC ISSU failed with crash files for QOS task.		
Explanation:	QoS ISSU issues resolved		

PR	**203768**	Build:	7.3.2.646.R01
Summary:	Master Switch reloaded of VC went to Shut down mode		
Explanation:	Reasons for image verification failure is captured with errors		

PR	**203169**	Build:	7.3.2.646.R01
Summary:	Switch Suddenly stopped sending out traps		
Explanation:	Changes has been done to close the file descriptor properly in reactor socket to avoid fd leak.		

PR	**202469**	Build:	7.3.2.646.R01
Summary:	10K-VC Traffic losses noticed after ISSU from 732.584 to 732.613		
Explanation:	Linkagg port state cleanup during ISSU		

PR	**203384**	Build:	7.3.2.648.R01
Summary:	Getting the error message "plGetChassisSlotPortFromIfIndex@1302"		
Explanation:	Fix done to check linkagg ifindex before calling plGetChassisSlotPortFromIfIndex in udprelay context during vctakeover		

PR	**204122**	Build:	7.3.2.650.R01
Summary:	OS10K analysis for continuous reboot.		
Explanation:	Debug addition to help debugging image copy failure between master and slave chassis		

PR	**203814**	Build:	7.3.2.653.R01
Summary:	ARP not flooded to the MC-LAG local port when only one link is up in MC-Dynamic LAG.		
Explanation:	ARP flood issue in MC-LAG is resolved		

PR	**204531**	Build:	7.3.2.657.R01

Summary:	ARP Poison not working in OS 10K
Explanation:	Learn arp from the received GARP REPLY packets

PR	**204749** Build: 7.3.2.660.R01
Summary:	OS10K: Unable to initial an Arp when an DHCP unicast come into the IPNI/CPU
Explanation:	Route the DHCP Discover Packets, if it is already relayed and it is trapped to CPU for resolving ARP

PR	**204943** Build: 7.3.2.667.R01
Summary:	OS6900: VFL members showing down on the secondary Chassis but actually it is up
Explanation:	VFL display issue on Slave Chassis is resolved

PR	**204192** Build: 7.3.2.670.R01
Summary:	10K-VC ISSU from 732.584 to 732.646 failed
Explanation:	Changes done to handle the VC-scenario for detecting the Ni down event by vlanmgrcmm

PR	**204834** Build: 7.3.2.674.R01
Summary:	Impact analysis on our products with CVE-2015-0291 t1_lib.c in OpenSSL 1.0.2.
Explanation:	Code changes done to fix openSSL vulnerabilities CVE-2015-0287, CVE-2015-0289, CVE-2015-0292, CVE-2015-0209, CVE-2015-0288

PR	**205434** Build: 7.3.2.676.R01
Summary:	Issue with Vlan port association while performing VC-Takeover
Explanation:	VM CMM and VM NI DBs sync issue during takeover is resolved

PR	**203275** Build: 7.3.2.679.R01
Summary:	OS10k Switch got crashed after mounting the USB in the OS10k switch.
Explanation:	Fix done to avoid the System crashing when an invalid/damaged USB is inserted into the system.

Under Verification:

PR	**177354** Build: 7.3.2.16.R01
Summary:	OS6900 Sflow not working with 7.3.1 code, works fine with 7.2.1.R02. Sflow UDP packet shows source p
Explanation:	Use the same UDP source port which was used for sflow when using direct ipni to send packets, ipni was populating 1027 , as the source UDP port when sending sflow packets.

PR	**176980** Build: 7.3.2.43.R01
Summary:	ERP state in pending with blocked ports on non-RPL node.
Explanation:	Fixed the wrong aged check on linkagg port join

PR	**178279** Build: 7.3.2.77.R01
Summary:	OS 6900 -X20 switch with 7.3.1.R01 the message linkAggCmm main info(5) mip_msg_queuing NO 1 error s
Explanation:	Log clean up done.

PR	**177986** Build: 7.3.2.91.R01
Summary:	BPDUs from OS10K-VC are not tunneled across the PBB network

Explanation:	There was an issue with the way we setup the egress mask for trunk ports. This meant that the egress mask for the trunk port of a remote chassis was being applied on the same port of the local chassis. I have modified the way we setup the egress mask on remote chassis. Btw, we use this egress_mask for linkagg access ports to prevent loopback b/w ports of the trunk. This is required when the ports of the trunk are on remote NIs/Chassis. Traffic can ingress on any of the ports of the trunk. We need to ensure this traffic does not egress on other ports of the trunk essentially forming a loopback. The egress_mask helps to prevent this loopback

PR	**180706** Build: 7.3.2.264.R01
Summary:	Issue with sflow agent ip and VIP interface having same IP, sflow packets not generating.
Explanation:	Allow assignment of configured agent IP to sflow source IP packets.

PR	**177492** Build: 7.3.2.315.R01
Summary:	OS 6900 Need to confirm whether disable the NFS to protect according to Vulnerability report.
Explanation:	iptables to block external access to sunrpc &nfsd to protect according to vulnerability report

PR	**181043** Build: 7.3.2.331.R01
Summary:	Not all the LACP ports seen during MIB walk.
Explanation:	Check added to check for the received OID during MIB walk.

PR	**180667** Build: 7.3.2.363.R01
Summary:	Management ports such as Loopback, EMP, Management, etc., and routing interfaces report interface spe
Explanation:	report 1Gbps for ifSpeed for ip interfaces on vlans

PR	**182596** Build: 7.3.2.396.R01
Summary:	per-vlan IP-HELPER configuration is displaying in the switch even after removing the VLAN
Explanation:	Code change is done to remove "ip helper per vlan only"configuration as well as "generic udprelay dstvln" configuration while removing the VLAN

PR	**184465** Build: 7.3.2.412.R01
Summary:	6900 VC-pair master rebooted and unable to login master
Explanation:	vm_insert_page() debug and fixes from 7.X.X

PR	**186988** Build: 7.3.2.415.R01
Summary:	OS6900: High CPU caused by port-monitoring pmmcmmd task.
Explanation:	Implementation of Reconnect of Socket in case of failure

PR	**188746** Build: 7.3.2.449.R01
Summary:	lldpCmm library(plApi) error(2) plGetIfIndexFromBasePort@1649: Get port info (basePort 40000055)
Explanation:	During snmp walk, lldp will not display error in swlog.

PR	**187675** Build: 7.3.2.456.R01
Summary:	We can’t access to one of 6900 by telnet or ssh. Even ping can’t reach to this switch.
Explanation:	Changes have been made so that the Vlan translation bitmask will be synchronized between hardware and software

PR	**192308**	Build:	7.3.2.459.R01
Summary:	OS6900: TCP port 179 display issue.		
Explanation:	show tcp ports will properly display the TCP statistics.		

PR	**192915**	Build:	7.3.2.482.R01
Summary:	Slave takeover fails and port remains in listening state during the takeover.		
Explanation:	Linkagg Debugging mechanism added to collect required logs for future issue occurrence.		

PR	**189185**	Build:	7.3.2.500.R01
Summary:	Display issue in AOS6900 when IPV6 BGP is configured.		
Explanation:	display issue fixed for show ipv6 routes		

PR	**194494**	Build:	7.3.2.501.R01
Summary:	10K-VC is not sending logs to Syslog server because it is using a wrong IP@ as the source		
Explanation:	Syslog server source address is recalculated during EMP interface UP/DOWN.		

PR	**186868**	Build:	7.3.2.506.R01
Summary:	10K-VC IP connectivity issue after vc-takeover due to wrong STP status on AGG 101		
Explanation:	STP Socket connectivity optimized during VC Takeover.		

PR	**195049**	Build:	7.3.2.534.R01
Summary:	Connectivity issue from an edge switch to reach servers connected to OS10K.		
Explanation:	Linkagg member port moving to attached state optimized.		

PR	**198293**	Build:	7.3.2.573.R01
Summary:	QOS Inbound issue - ARP packets getting dropped		
Explanation:	In MC-Lag setup, for packets reaching the CPU the policy condition with source port or destination port will be matched in the software context.		

PR	**199396**	Build:	7.3.2.583.R01
Summary:	portmgrcmm library(plApi) error(2)		
Explanation:	Few swlog level changed from error to debug.		

PR	**201488**	Build:	7.3.2.612.R01
Summary:	Configured L2 server-cluster(HA-VLAN), IGMP joins/reports not processed		
Explanation:	Correct the priority of havlan hardware entries, so that IGMP traffic doesn't match the HAVLAN hardware entries but correctly match IGMP entries		

PR	**201111**	Build:	7.3.2.625.R01
Summary:	"debug $(pidof vrrp) "call vrrpIgnoreVrid(0,70)" command to ignore unwanted VRRP packets not active		
Explanation:	"debug vrrp set ignoreVrrpVrid <VRID>" added to CLI		

PR	**202666**	Build:	7.3.2.631.R01
Summary:	OS10K ISSU upgrade issue		
Explanation:	Bug fixed to support OS10K Standalone ISSU.		

PR	**200188**	Build:	7.3.2.634.R01

Summary:	OS6900 VC FP_COUNTER parity errors and mac-learning issue.
Explanation:	Fix done to avoid parity errors on FP_COUNTER_TABLE

PR	**200904**	Build:	7.3.2.638.R01
Summary:	Mac address not getting flushed on OS10K switch.		
Explanation:	Software mac aging timer implementation		

PR	**201500**	Build:	7.3.2.647.R01
Summary:	Authentication is not working after entering incorrect password for more than 3 times.		
Explanation:	Debug improvement for RADIUS- AAA communication issue		

PR	**201048**	Build:	7.3.2.647.R01
Summary:	Unable to authenticate SSH using the TACACs server and PAM: pam_open_session(): Have exhausted maxim		
Explanation:	To calculate correct server timeout while deleting pending transactions from list.		

PR	**200827**	Build:	7.3.2.649.R01
Summary:	The "^" character shifted in case of "?"		
Explanation:	Corrected the issue in positioning ^ for the help condition in cli commands		

PR	**199019**	Build:	7.3.2.653.R01
Summary:	QoS Port not functioning correctly in OS6900		
Explanation:	New CLI has been added for the QoS per port Ingress depth and Egress Depth.		

PR	**204227**	Build:	7.3.2.656.R01
Summary:	OS6900 - ISSU upgrade having close to 7 seconds packet drop for L3 traffic.		
Explanation:	Issues with IPCMM and vlan manager sync during vc takeover is resolved		

PR	**203978**	Build:	7.3.2.656.R01
Summary:	During OS6900-ISSU upgrade, the OSPF routes where not written to the NI-2.		
Explanation:	Issues with IPCMM and vlan manager sync during vc takeover is resolved		

PR	**203474**	Build:	7.3.2.660.R01
Summary:	[10k-VC]Slave Chassis not taking over after removing both CMMs on primary unit		
Explanation:	Reboot NI when both CMMs are removed.		

PR	**205546**	Build:	7.3.2.679.R01
Summary:	Network problems after plug out both CMM-Bs of a 10KVC		
Explanation:	Don t disturb Slave to master communication when secondary CMM in slave is pulled out		

PR	**205749**	Build:	7.3.2.684.R01
Summary:	Need analysis for the NI crash on OS10K		
Explanation:	Code change has been done to display the MAC address properly.		

PR	**178288**	Build:	7.3.2.94.R01
Summary:	OS10K - STP BLK linkagg does not transition from BLK/BACK to FWD/DESG state		
Explanation:	changes has been done to make pim checking AGED should happen only after timer expiration for proper STP BLK linkagg transition from BLK/BACK to FWD/DESG state.		

PR	**177686** Build: 7.3.2.45.R01
Summary:	Reference to PR# 176980. Connectivity issue between MC-LAG peers for newly created VLANs.
Explanation:	Changes has been done for erpv2 stg writing problem in MCLAG setup, for not to miss newly added stg

PR	**191741** Build: 7.3.2.493.R01
Summary:	[TYPE1] Issues with System daylight savings.
Explanation:	CST6SASK is being added in CLI for SASK timezone

PR	**192493** Build: 7.3.2.514.R01
Summary:	OS6900 - Incorrect DDM display when port is admin down
Explanation:	Fix provided to show infinity when port is admin down

PR	**190891** Build: 7.3.2.442.R01
Summary:	OS6900 Incorrectly ARPs for its own VRRP address.
Explanation:	ARP, ICMP and UDP packets alone is handled for VRRP Address.

PR	**187998** Build: 7.3.2.420.R01
Summary:	NI crashed due to ip6nid task
Explanation:	Save and restore before and after IP6NI Resolve.

PR	**195502** Build: 7.3.2.534.R01
Summary:	ACK packet from the PXE server is getting dropped by OS10K
Explanation:	Classifying UDP packet to DHCP by checking both source and destination UDP port numbers.

PR	**202896** Build: 7.3.2.639.R01
Summary:	OS6900 issue with qos policy for TCP traffic
Explanation:	Correctly set-up the qos range checks in hardware

PR	**203406** Build: 7.3.2.650.R01
Summary:	rtr-port configured on OS6900 switch participating in spantree when running on flat mode
Explanation:	IP Router Port will not participate in STP in flat mode.

PR	**205963** Build: 7.3.2.686.R01
Summary:	OS 10K logs flooding in the swlogs ": slCmm REACT info(5) NO_CONSOLE:(140.217)secondaryCmmSocketCon
Explanation:	In MC-LAG, after takeover, the SLCMM of Seconday will able to connect to SLCMM of Primary.

PR	**198831** Build: 7.3.2.589.R01
Summary:	6900 LACP not loaded
Explanation:	Socket recovery mechanism added in case of socket connectivy failure between lagCmm with lacpNi and CLI Mip Gateway.

PR	**201113** Build: 7.3.2.625.R01
Summary:	Not possible to disable the command "debug $(pidof vrrp) call vrrpIgnoreVrid(0,70)" at runtime.

Explanation:	"debug vrrp set resetIgnoreVrrpVrid <vrid>" added to CLI

PR	**201881** Build: 7.3.2.625.R01
Summary:	NTP Vulnerability query - CVE-2014-9293 CVE-2014-9294 CVE-2014-9295 CVE-2014-9296 CVE-2013-5211
Explanation:	Code changes done to fix NTP vulnerabilities CVE-2014-9295 & CVE-2013-5211. Other vulnerabilities(CVE-2014-9293,CVE-2014-9294,CVE-2014-9296) do not affect AOS.

PR	**192436** Build: 7.3.2.476.R01
Summary:	OS6900T-VC-In specific scenario vc-takeover caused new Master go into shutdown state.
Explanation:	Deadlock in etherNI task is fixed now.

PR	**194274** Build: 7.3.2.491.R01
Summary:	OS10k - need to increase the maximum number of sessions allowed for NTP clients
Explanation:	Increased the number of NTP clients that can be associated with NTP Server. Increased the value from 64 to 128

PR	**188441** Build: 7.3.2.431.R01
Summary:	OS10K is not forwarding the DHCP relayed unicast packet received on the VFL.
Explanation:	Code changes to handle software processing for DHCP relayed unicast packet received on theVFL.

PR	**197398** Build: 7.3.2.583.R01
Summary:	HA-VLAN dropping packets when crossing the VFL
Explanation:	HAVLAN L3 Loopback feature is added for 6900.

PR	**197661** Build: 7.3.2.682.R01
Summary:	OS6900: tx loss frames on SPB interface ports
Explanation:	Tx Lost frames for the SPB Interface corrected.

PR	**195576** Build: 7.3.2.535.R01
Summary:	VC is working fine on the network but 3 6900 T40 switches connected to this VC has a wired behavior.
Explanation:	The phy polling duration is increased as required for the T40 switch.

PR	**205182** Build: 7.3.2.675.R01
Summary:	OS10K VC ISSU upgrade failed from 7.3.1 to 7.3.2 and crash due to confd task
Explanation:	Confd Task Buffer handling during ISSU from 7.3.1 to 7.3.2 has been improved to avoid free the buffer twice.

PR	**198841** Build: 7.3.2.625.R01
Summary:	BGP route for multi-hop neighbor learnt correctly but IPRM shows incorrect gateway for this route.
Explanation:	BGP route for multi-hop neighbor learnt correctly and IPRM shows correct gateway for this route.

PR	**190072** Build: 7.3.2.469.R01
Summary:	Read-Write All attributes selected from Webview doesn't give all privileges to the user authenticate
Explanation:	fixed the AAA privilege mismatch between CLI & webview

PR	**187493** Build: 7.3.2.491.R01
Summary:	The OAM Loopback displays "100% packet loss" and Link trace displays "ERROR: LTR Entry does not exist.
Explanation:	Populate lagg gport in auto-mip upon bootup

PR	**184425** Build: 7.3.2.394.R01
Summary:	ARP Enhancement.
Explanation:	Improve efficiency of processing netlink arp messages

PR	**183742** Build: 7.3.2.367.R01
Summary:	OS6900: Frame Loss on traffic across Virtual Fabric Link
Explanation:	Ignore the TEMP flag when comparing arp flags.

PR	**195978** Build: 7.3.2.539.R01
Summary:	Dynamic routes learned via ospf missing after Issu upgrade
Explanation:	debug counters added during ospf addition to check the missing action.

PR	**203142** Build: 7.3.2.660.R01
Summary:	OS10K ISSU upgrade issue
Explanation:	During Power ON NI, the delay for checking the Power Good Status of NI has been increased to avoid NI getting reseted again and again.

PR	**202046** Build: 7.3.2.625.R01
Summary:	NTPD Vulnerability: ntpd version 4.2.7 and previous versions allow attackers to overflow several bu
Explanation:	Code changes done to fix NTP vulnerabilities CVE-2014-9295 & CVE-2013-5211. Other vulnerabilities do not affect AOS.

PR	**178419** Build: 7.3.2.89.R01
Summary:	OS6900 switch running 7.3.1.645.R01, system name changing to default after a reboot.
Explanation:	System string is verified for Quotes "

PR	**181188** Build: 7.3.2.271.R01
Summary:	MSTI configuration is not displayed on OS6900 VC setup
Explanation:	MIP_OVERFLOW handling is done during msti vlan snapshot view

PR	**191914** Build: 7.3.2.494.R01
Summary:	Unable to disable/delete/create any new port monitoring session after reloading the master chassis.
Explanation:	Port Monitoring config to be stored even during port is not up to avoid CLI error in Port Monitoring.

PR	**191041** Build: 7.3.2.452.R01
Summary:	6900-VC :: ISSU failures, vmNi task failed to acknowledge VC takeover
Explanation:	VlanMgrNi VCTakeover During ISSU Syncronization optimized.

PR	**202665** Build: 7.3.2.643.R01
Summary:	VFL-LINK lost between virtual chassis without any external influence

Explanation:	Debug addition to help debugging the NI status in the event of health check

PR	**204685**	Build:	7.3.2.669.R01
Summary:	Slave unit in a VC trying to establish TCP connection to the BGP neighbor		
Explanation:	Do not initiate TCP connection to BGP neighbor from Slave chassis		

PR	**204937**	Build:	7.3.2.672.R01
Summary:	OS10K: Issue with power slot.		
Explanation:	Changes done to avoid a Power Supply slot from getting configured if the previous PS in the slot failed during configuration.		

PR	**204243**	Build:	7.3.2.653.R01
Summary:	High CPU and other instabilities seen on OS10K after upgrade.		
Explanation:	Issues with keepalive mechanism resolved		

PR	**205938**	Build:	7.3.2.685.R01
Summary:	OS 10K NI's were rebooted after the removal of primary CMM		
Explanation:	In case of MCLAG, Primary CMM extraction will not cause NI reboot.		

PR	**202371**	Build:	7.3.2.629.R01
Summary:	DTLS Vulnerability query - CVE-2014-3571 CVE-2015-0206		
Explanation:	Fixed openssl vulnerabilities CVE-2014-3571 CVE-2015-0206.		

Known Issues:

PR	**160766**
Summary:	SNMP user password is allowed to be size of 6, but report authentication error when polled from OV
Explanation:	AAA allows user password size of 6 characters. However, if the same user is used for SNMP switch will report authentication failed since Omni Vista is expecting minimum password size of 8 characters.
Workaround:	Create a password with a minimum of 8 characters.

PR	**204655**
Summary:	Node_Sync Error message" seen and VC-split occurred
Explanation:	During continuous reload or takeover with scripts of OS 10K VC at times VC split occurs and chassis moves to shut down state.

PR	**197398**
Summary:	HA-VLAN traffic lost for 30-40 seconds on VC-Takeover
Explanation:	After the chassis rebooted, the link aggregation ports are operational before the HAVLAN configuration is applied, causing traffic received on this chassis to be discarded for 30-40 seconds.

Limitation:	**ISSU from 7.3.1.R01 to 7.3.2.R02 impacts L3 traffic for 30-60 seconds**
Summary:	Due to design changes between 7.3.1.R01 and 7.3.2.R01, the routing table cannot be synchronized on chassis running these major versions. This impacts routed traffic convergence during an ISSU as slave chassis running 7.3.2.R01 cannot synchronize the routing table from the master chassis still running 7.3.1.R01. This situation recovers once the master chassis reboots and the slave chassis transitions to the master state and learns back all the routes from the routing protocols.

Limitation:	**ISSU not supported from AOS version between 7.3.2.454.R01 and 7.3.2.468.R01.**
Summary:	These intermediate releases had an issue than may cause the VFL ports to remain down.

New Hardware:

1. New Compact Flash Component

The OS6900-X20, OS6900-X40 models have begun to ship with a new compact flash component. This maintenance release addresses the following issue identified between the USB flash drive and this new compact flash component in the 7.3.2.R01 GA release.

PR 198427
Summary: Transferring large files to the CMM (200+MB) using the USB flash drive causes switch to reboot on OS6900-X20 and OS6900-X40 models.
Workaround: Upgrade to this 7.3.2.548.R01 or higher, or use a different method such as FTP or SFTP to transfer files.

Identifying Chassis with New Compact Flash Component
Use the 'show cmm' command to determine if the OS6900-X20 or OS6900-X40 has the new compact flash component. Models manufactured after October 20th, 2014 have the new compact flash component. The chassis Revision is 'E' or higher for the X20 or 'D' or higher for the X40 the chassis contains the new flash component.

Example:

```
-> show cmm
Module in slot CMM-A
  Model Name:                     OS6900-X40,
  Module Type:                    0x5062202,
  Description:                    40 SFP+ W/2EXP SLOT,
  Part Number:                    903168-90,
  Hardware Revision:              C04,
  Serial Number:                  M0960002,
  Manufacture Date:               Oct  22 2014,
  FPGA/CPLD - Physical 1:         1.3.0,
  FPGA/CPLD - Physical 2:         2.2.0,
  Admin Status:                   POWER ON,
  Operational Status:             UP,
  Max Power:                      230,
  CPU Model Type:                  MPC 8572,
  MAC Address:                    00:e0:b1:e7:09:a3,
```

New Software Features:

1. IP Routed Port

Platforms: OS10K, OS6900

Routed port is a physical port that behaves like a port on the router and behaves like a regular IP interface. The routed port (rtr-port) IP interface allows associating the IP interface with the rtr-port and the rtr-vlan in a single configuration unlike the three step mechanism: create the VLAN, associate the port with the VLAN, and then create an IP interface.

The routed port IP interface can be associated to a particular rtr-port and rtr-vlan to handle the specified type of frames (tagged or untagged) using the ip interface command.

CLI Guidelines:
ip interface <name> rtr-port {port <*[chassis/]slot/port*> | linkagg <*agg_num*>} {untagged | tagged} vlan <*num*>

Syntax Definitions:

name Text sting up to 32 characters. Use quotes around string if description contains multiple words with spaces between them. The value is case-sensitive.

rtr-port The physical port associated with the IP interface (device type "RTR-PORT"). The rtr-port can be the "slot/ port" to identify the port or the "agg-num" in case of a link aggregation port. This parameter is mandatory for an RTR-PORT IP interface.

vlan An unused VLAN on the system to be associated with this IP interfaces. This parameter is mandatory for an RTR-PORT IP interface.
Tagged or untagged, specifies whether to handle 802.1q frames or untagged frames on the specified port. This parameter is optional and defaults to type "untagged" if not specified.

For example, to associate the IP interface IP1 with the router port 2 in slot 1 and router VLAN 20 to handle untagged frames, the CLI configuration will be:

->ip interface IP1 rtr-port port 1/2 untagged vlan 20

Note: The vlan used to associate with the IP interface must be an unused VLAN. To modify the parameters rtr-port, vlan, and type (tagged/untagged), the IP interface must be recreated to change the association.

2. HA-Vlan Loopback Option

Platforms: OS10K, OS6900

With the current server-cluster (HAVLAN) implementation on OS10K, when a port or LAG is configured as member for the server-cluster and the “client IP” interface(s), traffic destined to the cluster IP address and received on this port or LAG is not flooded back to this port or LAG.

New CLI option has been provided to enable Loopback for HaVlan. The command is supported only on OS10K and is specific to L3 mode

Commands usage:
server-cluster <cluster-id> loopback {enable/disable}

Usage:
The command is used to enable/disable haVlan loopback.
By default, loopback will be disabled for the server cluster group.
To enable/disable loopback, the admin status of the server cluster group should be disabled.

Limitations:
None

3. SWLOG Archive

Platforms: OS10K, OS6900

Swlog Archive feature provides additional debugging functionality by archiving old swlog files under the directory /flash/swlog_archive.
With this new feature, swlog files for the switch were increased from original 6 to 20.
Swlog 0-6 were present under /flash directory and remaining logs from 7 to 20 were archived and present under /flash/swlog_archive. The log rotation is being carried out for 20 swlog files and latest 20 swlog files were kept in the switch.
The swlog_archive folder is part of tech_support eng tar file and it will be available using show tech-support eng CLI command.
The archives file swlogvc.tar present under /flash/swlog_archive can be extracted using tar command to get the required swlog archive files (7-20).Each swlog files in archive were internally zipped and tar utility is needed to untar the individual swlog file. These untarred swlog files can be viewed normally in windows using any text files viewer application.

CLI Display Commands:
show tech-support eng

Limitations:
None

4. Flash Space Monitor

Platforms: OS10K, OS6900

The Flash Space monitoring feature will monitor the flash space usage of the chassis and will throw the below warning message whenever the flash space usage has crossed above the predefined flash threshold percentage.

Wed May 28 22:08:25 : healthCmm main warning message:
+++ CPU crossed Below the Threshold Limit!
+++ Flash Space usage crossed above the threshold!!! Please Do cleanup

The above warning message was added as part of Health Monitor and it will be displayed in both the console and swlog for every one minute if the flash space usage is greater than the flash threshold. This message is displayed in console for every one minute to have immediate action by the customer to free some flash space.
On seeing the messages in the console, it is expected that the customer should check the used space of flash with the help of below command and has to do clean up, so that flash space usage should be under the flash threshold.

Usage:
-> su
Entering maintenance shell. Type 'exit' when you are done.
TOR #-> df -h /flash

The above warning messages will be stopped once if the flash space usage is crossed below the flash threshold.
The default value of flash threshold is 75%. This can be configured at run time also with the help of below command.

-> health threshold flash <num>

<num> can accept the values from 1 to 99 (considered as percentage). But it is advisable not to have the flash threshold configured more than 85%, so that in case of any crash or unexpected events, the pmd generated will be complete and we will have all the logs.
The flash threshold value can be viewed by giving the below command.

-> show health configuration

5. BGP 4-Octet Autonomous System Number (ASN)

Platforms: OS10K, OS6900

An Omni Switch with the BGP support for 4-octet ASN capability automatically advertises itself as being capable of handling 4-octet ASNs. Omni Switch AOS is backward-compatible with other BGP devices that are not capable of 4-octet ASNs. The Omni Switch supports transitive optional path attributes for interoperability with BGP devices that do not support 4-octet ASNs. This feature provides the following:

- BGP Support for 4-octet (32 bit) ASN for BGP neighbor interoperability and path attribute interoperability as per RFC 6793.
- Capabilities Advertisement with BGP-4 - The advertisement and discovery of 4-octet ASN capability by using the BGP CAPABILITY FIELDS.
- Support for two new optional transitive attributes AS4_PATH and AS4_AGGREGATE. These attribute are used for interaction with NEW BGP speaker and OLD BGP speakers.
- To establish a neighbor relationship between non-mappable BGP 4-octet ASNs with BGP 2-octet ASNs the reserved 2-octet ASN AS_TRANS (23456) is used.
- AS Specific Extended Community will be used for non-mappable 4-octet ASNs. Mappable 2-octet ASNs will still use the standard BGP communities attribute
- The 4-octet ASN is represented in one of three ways:
  - asplain (simple decimal notation)
  - asdot+ (two 16-bit values as low-order and high-order)
  - asdot (a mixture of asplain and asdot+).

Usage:
The ASN value can be set with any of the 3 formats in the following BGP commands:
-> ip bgp autonomous-system value
-> ip bgp neighbor <ip_address> remote-as value
-> ipv6 bgp neighbor <ipv6_address> remote-as value

The community string in a AS:NN notation is also enhanced to support the ASN in any of the 3 formats.

For display purpose, a global ASN output format is configurable with the following command:
-> ip bgp asn-format {asplain |asdot} (default is asplain)

The global ASN output format can be verified with the following command
->show ip bgp

Example:
The following examples show how to configure the local BGP ASN as 65535 in the three different formats:
-> ip bgp autonomous-system 65535 (asplain format)
-> ip bgp autonomous-system 0.65535 (asdot+ format)
-> ip bgp autonomous-system 65535 (asdot format)

The following examples show how to configure the local BGP ASN as 65538 in the three different formats:
-> ip bgp autonomous-system 65538 (asplain format
-> ip bgp autonomous-system 1.2 (asdot+ format)
-> ip bgp autonomous-system 1.2 (asdot format)

6. BGP IPV6 Route Reflector

Platforms: OS10K, OS6900

Similar to IPv4 neighbors, an IPv6 neighbor can now be configured as client for route reflector.

The BGP specification states that a BGP speaker cannot advertise a route to an I-BGP neighbor if that BGP speaker originally heard the route from another I-BGP speaker. This results in a requirement for a full mesh of I-BGP sessions within an AS. However, full mesh connectivity has never been a scalable solution especially in large networks.
When route reflection is configured on internal BGP speakers in an autonomous system, the topology does need not be fully meshed. The route reflector takes responsibility for passing internal BGP-learned routes to its peers.

Usage:

- To globally configure the route reflection :
  -> [no] ip bgp client-to-client reflection

  By default, route reflection is disabled.

- To configure route reflector on an IPV4 BGP neighbor :
  -> [no] ip bgp neighbor <ipv4-address> route-reflector-client

  By default, route reflector is disabled.

- To configure route reflector on an IPV6 BGP neighbor:
  -> [no] ipv6 bgp neighbor <ipv6-address> route-reflector-client

  By default, route reflector is disabled.
  Examples:
  -> ipv6 bgp neighbor 2001::1 route-reflector-client
  -> no ipv6 bgp neighbor 2001::1 route-reflector-client

7. IPv4 Route Advertisement

Platforms: OS10K, OS6900

For networks migrating to IPv6 and having both IPv4 and IPV6 BGP speakers, the advertisement of Ipv4 routes to IPv4 or IPv6 neighbors needs to be controlled.
A new “activate-ipv4” option has been implemented to allow the IPv4 routes advertisement for a given IPv4 or IPv6 neighbors.

Usage:

- To configure Ipv4 route advertisement on a IPv4 BGP neighbor:
  -> [no] ip bgp neighbor <ip_address> activate-ipv4

  By default, this is enabled
  Examples:
  -> ip bgp neighbor 172.22.2.115 activate-ipv4
  -> no ip bgp neighbor 172.22.2.115 activate-ipv4

- To configure Ipv4 route advertisement on a IPv6 BGP neighbor:
  -> [no] ipv6 bgp neighbor <ipv6_address> activate-ipv4

  By default, this is enabled.
  Examples:
  -> ipv6 bgp neighbor 2001::1 activate-ipv4
  -> no ipv6 bgp neighbor 2001::1 activate-ipv4

Notes:
A debug command (debug ip bgp ipv4-disable-for-ipv6-peer enable) was introduced in earlier AOS releases to disable the advertisement of ipv4 routes for all ipv6 neighbors. This is useful to avoid disabling the activate-ipv4 for each ipv6 neighbor.
By default, this debug command is not enabled, hence allowing the control of the activate-ipv4 on a per ipv6 neighbor. If the debug command was previously set, is must be removed (debug ip bgp ipv4-disable-for-ipv6-peer disable).

8. BGP IPV6 Policy Routing

Platforms: OS10K, OS6900

BGP now supports policy-based route processing for IPv6 prefixes and peers.

BGP selects routes for subsequent advertisement by applying policies available in a pre-configured local Policy Information database. This support of policy-based routing provides flexibility by applying policies based on the path (i.e. AS path list), community attributes (i.e. community lists), specific ipv4 destinations (i.e. prefix lists), specific ipv6 destinations (i.e. prefix6 lists), etc.

You can also configure route-maps to include all of the above in a single policy.

For BGP to do policy-based routing, each BGP peer needs to be tied to inbound and/or outbound policies (direction based on whether routes are being learned or advertised). Each one of the above policies can be assigned as an in-bound or out-bound policy for a peer.

First, you must create policies that match one of the specified criteria:

- AS Paths. An AS Path list notes all of the ASs the route travels through to reach its destination.
- Community List. Communities can affect route behavior based on the definition of the community.
- Prefix List. Prefix List policies filter IPv4 routes based on a specific network address, or a range of network addresses.
- Prefix6 List. Prefix6 List policies filter IPv6 routes based on a specific network address, or a range of network addresses.
- Route Map. Route map policies filter routes based by amalgamating other policies into one policy.

Then you must assign these policies to a peer. Policies can be assigned to affect routes learned from the peer, routes being advertised to the peer, or both. The policies can be applied to both IPv4 and IPv6 routes and peers.

The following commands are used to create the policies mentioned above:

```
ip bgp policy aspath-list name “regular expression”
ip bgp policy community-list name {none | no-export | no-advertise | no-export-subconfed |
                                   num:num}
ip bgp policy prefix-list name ip_address ip_mask
ip bgp policy prefix6-list name ipv6_address/prefix_length
ip bgp policy route-map name sequence_number
```

Usage:

- To assign an inbound AS path list filter to an IPv6 neighbor:
  -> ipv6 bgp neighbor <ipv6-address> in-aspathlist {string | none}

  The AS path list name (InboundASpath in the example below) is created using the ‘ip bgp policy aspath-list’ command. Any inbound IPv4/IPv6 routes from the BGP peer must match this AS path filter before being accepted or passed to inbound policy.

  The value **none** is used to de assign an input aspath filter list from this peer.

  Examples:
  -> ipv6 bgp neighbor 2001::1 in-aspathlist InBoundAspath
  -> ipv6 bgp neighbor 2001::1 in-aspathlist none

- To assign an outbound AS path list filter to an IPv6 neighbor:
  -> ipv6 bgp neighbor <ipv6-address> out-aspathlist {string | none}

  The AS path list name (OutboundASpath in the example below) is created using the ‘ip bgp policy aspath-list’ command. Any outbound IPv4/IPv6 routes from the BGP peer must match this AS path filter before being advertised or passed to outbound policy.

  The value **none** is used to de assign an output aspath filter list from this peer.

Examples:
-> ipv6 bgp neighbor 2001::1 out-aspathlist OutBoundAspath
-> ipv6 bgp neighbor 2001::1 out-aspathlist none

- To assign an inbound community list filter to an IPv6 neighbor:
  -> ipv6 bgp neighbor <ipv6-address> in-community list {string | none}

  The Community filter list name (InboundCommList in the example below) is created using the 'ip bgp policy community-list' command. Any inbound IPv4/IPv6 routes from the BGP peer must match this community filter before being accepted or passed to inbound policy.

  The value **none** is used to de assign an input community filter list from this peer.

  Examples:
  -> ipv6 bgp neighbor 2001::1 in-communitylist InBoundCommList
  -> ipv6 bgp neighbor 2001::1 in-communitylist none

- To assign an outbound community list filter to an IPv6 neighbor:
  -> ipv6 bgp neighbor <ipv6-address> out-communitylist {string | none}

  The Community filter list name (OutboundCommList in the example below) is created using the 'ip bgp policy community-list' command. Any outbound IPv4/IPv6 routes from the BGP peer must match this community filter before being advertised or passed to outbound policy.

  The value **none** is used to de assign an output community filter list from this peer.

  Examples:
  -> ipv6 bgp neighbor 2001::1 out-communitylist OutBoundCommList
  -> ipv6 bgp neighbor 2001::1 out-communitylist none

- To assign an inbound prefix filter list to an IPv6 neighbor:
  -> ipv6 bgp neighbor <ipv6-address> in-prefixlist {string | none}

  The prefix list name (InboundPrefix in the example below) is created using the 'ip bgp policy prefix-list' command. Any inbound IPv4 routes from the BGP peer must match this prefix filter before being accepted or passed to inbound policy.

  The value **none** is used to deassign an input prefix filter list from this peer.

  Examples:
  -> ipv6 bgp neighbor 2001::1 in-prefixlist InBoundPrefix
  -> ipv6 bgp neighbor 2001::1 in-prefixlist none

- To assign an outbound prefix filter list to an IPv6 neighbor:
  -> ipv6 bgp neighbor <ipv6-address> out-prefixlist {string | none}

  The prefix list name (OutboundPrefix in the example below) is created using the 'ip bgp policy prefix-list' command. Any outbound IPv4 routes from the BGP peer must match this prefix filter before being advertised or passed to outbound policy.

  The value **none** is used to deassign an output prefix filter list from this peer.

Examples:
-> ipv6 bgp neighbor 2001::1 out-prefixlist OutBoundPrefix
-> ipv6 bgp neighbor 2001::1 out-prefixlist none

- To assign an inbound policy map to an IPv6 neighbor:
  -> [no]ipv6 bgp neighbor <ipv6-address> route-map {string | none} {in | out}

  The route map policy name (InboundRoute in the example below) is created using the 'ip bgp policy route-map' command. Any inbound IPv4/IPv6 routes from the BGP peer must match this route map filter before being accepted or passed to inbound policy.

  The value **none** or the **no** form of this command is used to deassign an input route map from this peer.

  Examples:
  -> ipv6 bgp neighbor 2001::1 route-map InboundRoute in
  -> ipv6 bgp neighbor 2001::1 route-map none in
  -> no ipv6 bgp neighbor 2001::1 route-map in

- To assign an outbound policy map to an IPv6 neighbor:
  -> [no]ipv6 bgp neighbor <ipv6-address> route-map {string | none} {in | out}

  The route map policy name (OutboundRoute in the example below) is created using the 'ip bgp policy route-map' command. Any outbound IPv4/IPv6 routes from the BGP peer must match this route map filter before being advertised or passed to outbound policy.

  The value **none** or the **no** form of this command is used to deassign an output route map from this peer.

  Examples:
  -> ipv6 bgp neighbor 2001::1 route-map OutboundRoute out
  -> ipv6 bgp neighbor 2001::1 route-map none out
  -> no ipv6 bgp neighbor 2001::1 route-map out

- To assign a prefix6 matching list to a route map which identifies the matching criteria list of IPv6 prefixes:
  -> ip bgp policy route-map name sequence_number prefix6-list {string | none}

  The prefix6-list policy name (Prefix6List in the example below) is created using the 'ip bgp policy prefix6-list' command. By default, no prefix6 list is assigned to the route map.

  The value **none** is used to deassign a prefix6-list from the route map.

  Examples:
  -> ip bgp policy route-map routemap1 50 prefix6-list Prefix6List
  -> ip bgp policy route-map routemap1 50 prefix6-list none

- To assign a matching prefix6 primitive to be placed directly in a route map:
  -> ip bgp policy route-map name sequence_number match-prefix6
  {ipv6_address/mask_length | none}

  This command allows a matching prefix6 primitive to be placed directly in the route map. By default, no prefix6 primitive is assigned to the route map.

The value **none** is used to deassign a match-prefix6 from the route map.

Examples:
-> ip bgp policy route-map routemap1 50 match-prefix6 2001:1218:103::/64
-> ip bgp policy route-map routemap1 50 match-prefix6 none

9. BGP IPV6 Neighbor update-source-address

Platforms: OS10K, OS6900

Similar to IPv4 neighbors, an IPv6 neighbor can now be configured to specify the local IPv6 address from which an IPv6 peer will be contacted. This local address can be configured for internal and external BGP peers.

Usage:

- To configure the local IPv6 address from which this peer will be contacted::
  -> [no] ipv6 bgp neighbor <ipv6-address> update-source-address ipv6-address

  By default, no update-source-address is configured and the nearest interface is selected.

  The default is restored by using the [no] form of the command or by entering an all-zero address.

  This command differs from the existing 'ipv6 bgp neighbor update-source' command which configures the local IPv6 interface from which a BGP peer will be connected and is used when the IPv6 BGP peer is configured with its link-local address.

  The BGP peer is restarted after issuing this command.

  Examples:
  -> ipv6 bgp neighbor 2001::1 update-source-address 2401::1
  -> ipv6 bgp neighbor 2001::1 update-source-address ::
  -> no ipv6 bgp neighbor 2001::1 update-source-address

10. BGP IPV6 EBGP-Multi-hop Support

Platforms: OS10K, OS6900

Similar to IPv4 neighbors, an IPv6 neighbor can now be configured to support EBGP-multihop.

This allows IPv6 Peers to communicate with each other even when they are not directly connected. The absence of communication between disconnected peers can occur when a router that is not running BGP sits between two BGP speakers; in such a scenario the BGP speakers are multiple hops from each other. By enabling EBGP multihop for an IPv6 neighbor, you allow the BGP peers to speak to each other despite the non-BGP router that sits between them.

Usage:

- To configure EBGP-multihop on an IPv6 BGP neighbor :

-> [no] ipv6 bgp neighbor <ipv6-address> ebgp-multihop [ttl]

By default, ebgp-multihop is disabled and an external BGP peer is on a directly connected subnet. The default ttl value is 255.

The **no** form of the command is used to disable this.

EBGP-multihop allows you to configure an external BGP peer that is not directly connected and may be multiple hops away. It should be used with caution and only with guidance of qualified technical support.

The BGP peer is restarted after issuing this command.

Examples:
-> ipv6 bgp neighbor 2001::1 ebgp-multihop
-> ipv6 bgp neighbor 2001::1 ebgp-multihop 50
-> no ipv6 bgp neighbor 2001::1 route-reflector-client

11. BGP IPV6 Neighbor MD5 Authentication

Platforms: OS10K, OS6900

Similar to IPv4 neighbors, an IPv6 neighbor can now be configured to use MD5 authentication for the IPv6 TCP connections. This sets an encrypted MD5 signature for TCP sessions with this IPv6 peer in compliance with RFC 2385.

Usage:

- To configure MD5 for a BGP ipv6 neighbor :
  -> ipv6 bgp neighbor <ipv6-address> md5 key {string | none}

  By default, MD5 is disabled and no password is assigned.

  Entering the keyword **none** in place of a key removes the password and disables authentication:

  Due to security concerns the actual password that you specify in this command is encrypted using a 3DES algorithm before it appears in a saved snapshot file. Also, if you were to view this command in a snapshot file, or **boot.cfg** file, it would appear in a different syntax. The syntax for this command used for snapshot files is as follows:
  ipv6 bgp neighbor <ipv6-address> md5 key-encrypt encrypted_string
  However, you should not use this syntax to actually set an MD5 password; it will not work.
  The BGP peer is restarted after issuing this command.

  Examples:
  -> ipv6 bgp neighbor 2001::1 md5 key md5key
  -> ipv6 bgp neighbor 2001::1 md5 key none

12. IPv6 Interface Router Advertisement Preference

Platforms: OS10K, OS6900

Router preference is a 2-bit signed integer in IPv6 Router Advertisement packet which indicates whether to prefer this router over other default routers. If the Router Lifetime is zero, the preference value MUST be set to (00) by the sender and MUST be ignored by the receiver. If the Reserved (10) value is received, the receiver MUST treat the value as if it were (00)

ipv6 interface <abc> ra-preference {MEDIUM | LOW | HIGH}

Default: Medium

01 High
00 Medium (default)
11 Low
10 Reserved - MUST NOT be sentMedium

13. DHCPv6 Relay

Platforms: OS10K, OS6900

A DHCPv6 relay agent is required when the DHCPv6 client and server do not reside on the same network segment or LAN. The relay agent encapsulates received DHCPv6 client messages in a DHCPv6 relay-forward message and relays them to one or more destinations. Each relay destination can be a DHCPv6 server or another DHCPv6 relay agent.

The DHCPv6 Relay Agent functionality can be enabled and disabled globally. Relay operation is then configured and enabled on a per-interface basis. For each IPv6 interface up to 5 destination addresses may be configured. A destination address can be:

- A link-local unicast address
- A link-local multicast address
- A global unicast address

When the relay agent is directly connected to the client devices, an IPv6 global unicast address should be configured on the IPv6 interface for which relay has been enabled. If a global unicast address is not present, the DHCPv6 server may not be able to determine the pool from which addresses should be allocated.

When the relay agent is an intermediate hop in a chain of relay agents connecting DHCPv6 clients and servers, a global unicast address is not required on the relay interface.

Usage
To globally enabled DHCPv6 Relay
ipv6 dhcp relay admin-state {enable | disable}

To enable DHCPv6 Relay on an interface
ipv6 dhcp relay *if-name* admin-state {enable | disable}

To configure a destination address
[no] ipv6 dhcp relay *if-name* destination ip6-address [*scope-if-name]*
The scope-if-name or destination interface is required for a link-local unicast and multicast destination address.

To show the DHCPv6 Relay configuration
show ipv6 dhcp relay

Examples
ipv6 dhcp relay admin-status enabled
ipv6 dhcp relay vlan-41 destination ff02::1:2 vlan-100
ipv6 dhcp relay vlan-41 admin-state enable

ipv6 dhcp relay vlan-103 destination 2001:dbc8:8003::17
ipv6 dhcp relay vlan-103 destination 2001:dbc8:8004::99
ipv6 dhcp relay vlan-103 admin-state enable

ipv6 dhcp relay vlan-200 destination fe80::cb0:deff:fe5a:8e72 vlan-201
ipv6 dhcp relay vlan-200 destination fe80::cd0:deff:fe28:1ca5 vlan-202
ipv6 dhcp relay vlan-200 admin-state enable

ipv6 dhcp relay tunnel-1 destination 2001:dbc8:a23::ea77
ipv6 dhcp relay tunnel-1 admin-state enable

-> show ipv6 dhcp relay

```
DHCPv6 Relay: Enabled

Interface Relay Destination(s)              Status
----------+--------------------------------+--------
vlan-41   ff02::1:2 vlan-100                Enabled
vlan-103  2001:dbc8:8003::17                Enabled
          2001:dbc8:8004::99
vlan-200  fe80::cb0:deff:fe5a:8e72 vlan-201
          fe80::cd0:deff:fe28:1ca5 vlan-202
tunnel-1  2001:dbc8:a23::ea77               Enabled
```

Limitations

- The DHCPv6 Agent Relay is only supported on the default VRF
- The DHCPv6 Agent Relay requires at least one destination address to be configured on an interface
- The implicit relay to the “All DHCP Servers” FF05::1:3 site local address is not supported.
- The destination address cannot be a site or global scoped multicast address
- A maximum of 5 destination addresses can be configured per interface

14. Support for IPv6 Collector Address in SFLOW

Platforms: OS6900, OS10K

Sflow is a network monitoring tool used to provide details about the network usage and traffic pattern. Sflow Agent is the software which runs in the AOS switches and provides traffic information to the Sflow collector. Sflow collector is the external NMS software which will receive the traffic information from the receiver and provide analyzed data to the user.

Till now the Sflow UDP packets can send only to IPv4 Collector address. From this release, the sflow Agent should also able to send sampler packets to the IPv6 collector address. Accordingly, existing CLI is enhanced to configure IPv6 collector address in receiver.

Usage

To configure IPv6 collector address
sflow receiver <receiver_index> {name string | timeout {seconds | forever} | address {rfc-3513 | ipv4addr} | udp-port port | packet-size size Version num | release}

To remove configuration of receiver
sflow receiver <receiver_index> release address {rfc-3513 | ipv4addr}

To display the configuration of receiver
show sflow receiver

Examples

sflow receiver 1 name Test address 1616::2 timeout 30 packet-size 1400
sflow receiver 1 release address 1616::2
show sflow receiver

Receiver 1
Name = Test
Address = IP_V6 1616::2
UDP Port = 6343
Timeout = 30
Packet Size= 1400
DatagramVer= 5

Syntax Definitions:
(1) Receiver - Specifies the index of the receiver
(2) Name - Specifies the receiver name
(3) Address - Specifies the IPv4/IPv6 Collector address
(4) UDP Port - Specifies the UDP (destination) port
(5) Timeout – Specifies the Timeout value
(6) Packet Size - Specifies the maximum number of data bytes (size) that can be sent.
(7) DatagramVer - Specifies the version number

Limitations: None.