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PT-CPC441x Ethernet Switch

Errata List and Release Notes

Document Part Number 115P0015

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Revision History

Revision	Reason	Affected Pages	Date
23p9	Information related to Patch 5.5.9	All	8/26/05
24	Information related to Release 5.5.15	All	3/31/06
24p1	Information related to Release 5.5.16	All	4/6/06
24p2	Information related to Release 5.5.19	All	5/10/06
24p3	Information related to Release 5.5.20	All	5/30/06
24p4	Information related to Release 5.5.21– Updated IR1729	All	6/15/06
24p5	Information related to Release 5.5.24	All	11/13/06
25	Information related to Release 5.5.30	All	05/09/07

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1. PT-CPC441x Release Notes

1.1 Overview

This document provides information on newly added features, bug fixes incorporated between releases, and documentation regarding the known errata for each release. This document contains confidential information. It should not be distributed without authorization.

This section covers the current state of the product at time of this writing. It provides an overview of all of the product releases and allows the user to see which bugs are completed and which are still outstanding.

Following this section is a separate section for each release. These sections contain information regarding the new features added and bugs fixed by that release. These sections also identify the revision of each component included in the release.

1.2 Components Affected

The PT-CPC4411 and PT-CPC4416 are composed 6 major components: Hardware, Boot PROM, Boot Loader, SMB Firmware, Software and User Manual. Each of these components is maintained separately, and has individual revision histories. A product release is a snapshot of each of these components at a particular revision. See the individual Release Sections in this document for the revision of each of these components for a particular release.

The following table provides the PTI part numbers for each major component of the CPC441x product:

Table 1: Component Part Numbers

Component	PTI Part Number	Current Revision
CPC4411F Hardware	120P0433 120Q0595 (RoHS)	70 40
CPC4411E Hardware	120P1433 120Q1595 (RoHS)	70 40
CPC4416N Hardware	120P0435 120Q0555 (RoHS)	70 20
CPC4416F Hardware	120P1435 120Q1555 (RoHS)	70 30
CPC4411 Boot PROM	810P0678 810Q0855 (RoHS)	60 (6.0.0) 10 (1.0.0)
CPC4416 Boot PROM	810P0679 810Q0816 (RoHS)	61 (6.1.0) 61 (6.1.0)
SMB Firmware (Both models)	810P0581	31 (1.03)
CPC4411 Boot Loader	810P0680	21 (5.5.30)
CPC4411 Software and MIB	810P0681	21 (5.5.30)
CPC4416 Boot Loader	810P0682	21 (5.5.30)
CPC4416 Software and MIB	810P0683	21 (5.5.30)
CPC441x User Manual	126P0433	41

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1.3 Errata Summary

The following tables summarize all of the reported errata by component for all versions of the product. Errata that have been fixed are shaded. Errata are organized by component. There is a separate table for each major component.

1.3.1 Hardware Errata

The following table outlines the known errata in the Hardware component of the CPC441x:

Table 2: Hardware Errata

PTI Bug Tracking Number	Description	Reported In Release	Fixed In Release
1329-lsh	A decision is made on each packet leaving the switch as to whether it should or should not have a VLAN tag. If a packet is Layer 3 switched and a Layer 4-7 Packet Filter also redirects the packet to a specific port (ACTION bit 5), the packet will always be sent with a tag. Also, if a packet is Layer 3 switched and is also mirrored, the packet sent on the "Mirror To" port will always be sent with a tag. In this case, the Layer 3 destination port will be tagged or untagged correctly.	120P043310 120P143310 120P043510 120P143510	
2920	The CPC4416 Hardware built at revision 60 and lower does not have enough Ethernet MAC Addresses assigned to it to support operation with a FlexNAT daughter card. If your CPC4416 is at one of these revisions, then it must be returned to the factory to be updated before it can be used with a FlexNAT adapter.	120P043510 120P143510	120P043570 120P143570
N/A	The CPC4411 has a zero-ohm resistor populated on it that connects signal ground to chassis ground.	120P043350 120P143350	120P043360 120P143360
2955	Glitches on the DUART chip select line can cause the the DUART's interrupt register to clear before software could read it; as a result, the console port serial receiver may become inoperable. This affects the CPC4411 only – not the CPC4416.	120P043360 120P143360	120P043370 120P143370
3493	On the RoHS CPC4411, the gigabit link/activity LEDs will blink as if there is activity with a link when there is no optical cable installed.	120Qx59510	120Qx59530

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PTI Bug Tracking Number	Description	Reported In Release	Fixed In Release
	NOTE: The fix to this problem requires both Hardware and Software to change. The Hardware revision needed is 30 or higher. The software revision must be 5.5.24 or higher. Older software will work on new and old boards, but the LED issue will be present unless both are up to date.		

1.3.2 Boot PROM Errata

The following table outlines the known errata in the Boot PROM component of the CPC441x:

Table 3: Boot PROM Errata

PTI Bug Tracking Number	Description	Reported In Release	Fixed In Release
NA	Fixed improper handling of corrupt or missing TFTP packets and fixed 29lv160 Application Flash programming algorithm. These changes affect the manufacturing environment only and do not affect the operation of the switch in the field. Also, changed the POC TOD Battery Test to report a WARNING when the Battery Low is indicated. This allows the switch to boot even if the battery is low.	810P067830	810P067840
N/A	When using the CPC4416 with a FlexLink adapter, and the FlexLink faults, the CPC4416 displays two messages indicating that the fault occurred. The second message can be ignored.	810P067930	810P067940
N/A	The Time of Day Interrupt Test could fail with a low battery and cause the switch not to boot. The switch should be allowed to boot with a bad battery. Corrected a problem with the POC TOD Interrupt Test that caused false errors seen after changing the TOD battery or after a battery power failure (board powered down while the battery is below minimum operating voltage of the TOD device).	810P067840 810P067940	810P067850 810P067950

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N/A	When using the CPC4416 with a FlexLink adapter, and the FlexLink fails POC, the Fault LED on the FlexLink is not illuminated and the switch will continue to boot. The switch will then typically fail to establish connectivity with the FlexLink during the Application initialization.	810P067950	810P067952

1.3.3 Boot Loader Errata

The following table outlines the known errata in the Boot Loader component of the CPC441x:

Table 4: Boot Loader Errata

PTI Bug Tracking Number	Description	Reported In Release	Fixed In Release

1.3.4 SMB Firmware Errata

The following table outlines the known errata in the SMB Firmware component of the CPC441x:

Table 5: SMB Firmware Errata

PTI Bug Tracking Number	Description	Reported In Release	Fixed In Release

1.3.5 Application Software Errata

The following table outlines the known errata in the Software component of the CPC441x:

Table 6: Application Software Errata

PTI Bug Tracking Number	Description	Reported In Release	Fixed In Release
1729	There is no way to configure the switch to filter all multicast addresses. If both "rfc2674q:dot1qForwardUnregisteredStaticPorts" and "rfc2674q:dot1qForwardAllStaticPorts" are nil, the switch should filter all mcasts, but it floods them instead. A modification was put in place in 5.4.38 to allow the user to specify whether the switch should flood unknown multicasts or not. The default setting is to flood, but the user may change this so that the switch will not flood. To use this feature requires taking advantage of an undocumented debug mechanism on the switch to override the startup condition of the switch chip driver. Please contact support@pt.com if you	5.3.111	

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PTI Bug Tracking Number	Description	Reported In Release	Fixed In Release
	need information on how to do this. Refer to IR#1729.		
2013	dot1dTpFdb Table entries are sorted by VLAN and MAC address, but this table is not VLAN aware. When the user accesses this table through SNMP, it may appear that entries are not sorted by MAC Address as they should be. The dot1qTpFdb table is VLAN aware and entries are sorted by VLAN and MAC address. This table appears properly when accessed through SNMP.	5.3.111	
2247	There is only one cwd 'current working directory' supported by vxWorks. If a cd command is issued on any CLI session, either the console or any telnet session, it will be seen by all other sessions.	5.3.111	
2280	When an IP interface is deleted, the entries in the Routing Table to support that interface are not removed. This may cause OSPF and RIP to continue to advertise the switch as a path to the now deleted interface. If RIP or OSPF are in use and an interface is deleted, the switch must be rebooted to allow RIP and OSPF to register the change.	5.3.111	5.5.4
2367	A high load of broadcast traffic prevents the switch from performing a 'save' operation. The save reports 'save error'. Remove the traffic load if this occurs and re-execute the 'save'.	5.3.111	
2396	If a route requires an ICMP redirect, the packets using that route must be seen by the CPU in order to generate the ICMP message. If the route is in hardware, then the CPU does not see the packets and cannot send the ICMP Redirect. This may cause a higher level of traffic on the network than would otherwise occur.	5.3.111	
2536	When configuring more than 8 VLANs, the switch fails to establish the proper egress port list for the default VLAN. Until this is corrected, limit the number of VLANs to 8 or less.	5.3.204	5.5.4
2558	The Route table is not CIDR compliant. The route table in the switch MIB is indexed by Destination network. The Destination network parameter, however, does not include the subnet mask for the route, so two networks with the same apparent Destination network value, cannot co-exist. An example is 10.10.0.0/24 has the same Destination network value as 10.10.0.0/16. These are different networks, though.	5.3.111	
2643	If a user creates an IP interface, the system will add the IP ALL_HOST MCAST address to the hardware filtering database. VRRP/OSPF/RIP will also add "system L2 multicast entries in hardware in order to receive their desired protocol advertisements. If a user changes the VID associated with the interface that these protocols are using, their multicast entries will not be updated to reflect the new VID in hardware. It is recommended that the user perform a reboot if the VID associated with an IP interface is modified after the interface has been in use.	5.3.112	5.5.26

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PTI Bug Tracking Number	Description	Reported In Release	Fixed In Release
2804	If an interface is being used for VRRP and it has multiple IP Addresses associated with it (multi-homed), then if you delete one of the IP Addresses on the interface, the VRRP packets will be sent out with a source IP Address of 0.0.0.0. It is recommended that you disable the VRRP instance before making changes to the interfaces that are being used for VRRP.	5.3.204	
2822	When using SNMP to get the next table entry for multiple objects, the switch returns the incorrect table entry for all but the first object. For example, a GETNEXT for multiple table objects will return the next entry for the first table object, but will send the next of the next entry for the subsequent objects (one entry is skipped). It is recommended that GETNEXT be only used for a single object at a time.	5.3.204	5.5.1
2832	If a save operation is performed too soon after VLAN modifications, then NVM Save errors may be reported. If these occur, another save is recommended. A few second delay after making changes to VLANs before doing a save will avoid this.	5.3.111	
2833	The SNMP MIB Object, dot3adAggPortAttachedAggID, returns 0 when LAG is disabled. This object should always return the interface index of the aggregator that the port is attached to, whether LAG is enabled or not. As a workaround, ignore this object if LAG is not enabled.	5.3.204	
2864	When using the CPC4416 with a FlexLink adapter, if the user configures a FlexNAT interface with an address that exists on a system route, a system crash can occur. To work around this IR the user should not use addresses in the ranges 224.X.X.X or 240.X.X.X.	5.4.2	
2946	When the MGMT0 port is forced down or there is no link partner attached to it at boot, an error messages is generated, “`nvmLib.c:3390 Failed IDB_NVM_SET for ptiIPManagement:ptiMgmtDuplexSpeedSet (0x0)`” This message can be safely ignored.	5.4.0	5.5.1
2987	When the switch is inserting a Layer-3 hardware table entry, it looks up the port on which the next hop MAC Address is located. If the MAC Address is not found the ARP table entry is deleted for that host. This was done to force the host to talk because the next packet destined for this host will require an ARP request/reply. However, the code makes no attempt to determine if the ARP entry being deleted is static or dynamic and will delete the entry even though if it is a static entry.	5.4.2	5.5.24
3013	Multiple telnets to the switch can exhaust available system memory. The number of allowed telnets has been reduced to 2 in revision 5.4.9. This is a temporary fix.	5.4.8	
3058	During task startup (ie. at boot), when using RSTP a short-	5.4.9	

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PTI Bug Tracking Number	Description	Reported In Release	Fixed In Release
	lived loop may occur if the switch is interconnected with more than one other switch or bridge. This is caused by the fact that the RSTP task does not get enough CPU cycles at boot to properly participate in the RSTP protocol. As a work-around for this condition, it is recommended that all links be disabled by boot.lua and enabled at the end of rc.lua. This keeps the switch disconnected from the network until it is ready. For sample scripts or more information, please contact support@pt.com/		
3081	The DHCP Server does not support the pmid option. This option is used to allow the client to specify parameters provided by the server.	5.4.2	
3136	RIP should generate a triggered update after a "route delete". The update should contain the route with an infinity metric which notifies neighbors that the route is no longer valid. If the router doesn't send the update it can lead to split horizon and it takes RIP an extended period to timeout the route.	5.4.107	
3143	If a network interface is being advertised with OSPF, and the interface is deleted, the switch will produce an error message such as the following, which can safely be ignored; **# ip delete sw0** **05/25/2056 19:01:42 0x6422e80 (tPtiCon): ROUTE_IF_NEWADDR cannot find entry w/ index 1100001 (tmsL3Mib.c 2006)** **#** If a save operation is attempted after this occurs, the save will fail as follows. **# save** **saving ..nvmLib.c:3341 idbGet Failed for rfc1850:ospfIfAreaId** **nvmLib.c:3344 Errno = 00c8000a 0-0000000a 1-00000000 2-00000000 3-00000002 4-00000000** **nvmLib.c:3341 idbGet Failed for rfc1850:ospfIfStatus** **nvmLib.c:3344 Errno = 00c8000a 0-0000000a 1-00000000 2-00000000 3-00000002 4-00000000** **.....done** **#**	5.4.107	5.5.0
3144	If a default gateway is learned via OSPF, the user cannot then use the CLI to configure a static default gateway.	5.4.107	
3170	OSPF Virtual Links (to allow for areas not attached to area 0) do not operate properly. This feature should not be used.	5.4.107	
3177	The switch allows the user to enter illegal netmasks for IP configurations. Netmasks are required to be contiguous 1's for the network portion.	5.4.107	5.5.2
3196	Invalid Host routes may be displayed with the 'route show'	5.4.107	

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PTI Bug Tracking Number	Description	Reported In Release	Fixed In Release

	command. This can occur if a host sends to an unreachable target, and then the switch cannot resolve the path to send back the ICMP Unreachable messages to the source host.
	
	These entries indicate that the subnet mask is all 1's, the Description field is set to 'local' and Use Hardware flag is off.
	
	`# route show`
	`Destination Subnet Mask Next Hop Description UseHW S`
	`7.7.7.24 255.255.255.255 10.18.24.222 local off`
	
	This is a display issue only and these entries should be ignored.		

3234	A potential mismatch in client ID's can occur between the server and switch client. The configuration file on the server side requires syntax of "TYPE : ID" in the CLID field. The switch client will accept any 1 or 2 byte input from the CLI. If the CLID is specified with only 1 byte of input (0x12 for example), the result is not right aligned to form 0x0012, but is instead left aligned to form 0x1200. This results in a client ID mismatch between the server and client. The CLI should accept both 1 and 2 byte inputs, however the input should be right aligned. As a workaround, use a single byte CLID if possible.	5.4.107	
3238	The CLI forces the user to specify a VID for the MGMT port when adding a DHCP client. The MGMT port of the switch does not have a VID.	5.4.107	
3250	When an interface supporting a route entry is removed, the route entry is not removed. This can lead to invalid entries in the route cache. As a workaround, remove all static routes that are associated with an interface before the interface is removed.	5.4.107	
3251	The switch does not work as an Area Border Router to a Stubby Area. This configuration requires that the switch advertise itself to the Stubby Area as a default gateway, but that does not currently work.	5.4.107	
3258	If Integrity Test 1 (MAC test) fails on a port, then all ports of the switch become disabled. The partner does not lose link, but the switch will report that link is down, and no traffic will be forwarded on any port. The desired operation is to allow good ports to continue functioning.	5.4.107	5.4.110
3265	RSTP may lock up when SNMP Traps for RSTP Topology changes are enabled. The following messages may be seen;	5.4.110	5.5.4

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PTI Bug Tracking Number	Description	Reported In Release	Fixed In Release
	"interrupt: unable to send RSTP tick"		
3267	When multiple switches are used with OSPF, the OSPF Neighbor State machine can get stuck or lead to incorrect router states when the switches are under a heavy network load. This can happen at start up or following the removal or insertion of one of the switches. The result is that the routing tables never converge and traffic does not flow. Toggling OSPF off and on corrects the problem.	5.4.107	5.5.1
3273	The number of files and subdirectories present in the root directory cannot exceed 126. If more files are required on the switch, subdirectories may be used.	5.4.2	
3281	The fix to IR3258 introduced a bug where the failure of one PHY would disable some PHYs that had not failed.	5.4.110	5.5.1
3289	Whenever a string is the allowed field in the FRU, there is no provision to force the user to put in at least two characters. When One character is entered, this leads to a type/length field of C1, which is the value indicating there are no more fields following. This also leads to non-zero bytes after the C1 which is a violation of the Platform Management FRU Information Storage Definition v1.0. This can be avoided by always entering a minimum of two characters in each FRU field.	5.4.2	5.5.4
3290	The sysUpTime MIB variable rolls over to zero after 248 days. This should be 497+ days.	5.4.2	5.5.5
3291	When using OSPF and the DR-OTHER brings up a new link it sends an LSA update to allDRouters. The Switch should then retransmit the LSA out the interface it received it on, and consider that retransmission to be an implicit acknowledgement. The Switch, however, sends an explicit ACK additionally. This is not believed to cause any interoperability problems.	5.5.1	
3298	When the system uptime gets nears its rollover value of 248 days, the ARP cache timers do not function properly. An ARP entry is placed in the cache with an expiry time in the future (say 20 minutes). The expiry time is kept as a tick counter. If the current tick count plus the ARP timeout value causes an overflow, the expiry tick timer will have a lower absolute value than the current time. This causes the ARP entry to age on the next arptimer tick. This prevents ARP cache entries from being maintained and prevents the switch from communicating on the network. Once the system uptime rolls over, the switch will begin communicating again until the next rollover.	5.5.0	5.5.5
3302	If a tftp transfer is initiated to a server on which the tftp service is disabled, and the initiating task is running at a priority lower than the network manager (eg. telnet or backgroung Lua script), the task loops endlessly consuming CPU cycles. This results in slow performance for any task running at a low priority - including SNMP.	5.5.0	5.5.5

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PTI Bug Tracking Number	Description	Reported In Release	Fixed In Release
3304	In some cases the switch may be required to send a packet made up of more than 20 mbufs. If the amount of data in each mbuf is less than 75, then a 1500 byte packet will require more than 20 mbufs. The code arbitrarily limits the number of mbufs in a transmit unit to 20. If this number is exceeded, the following messages will be seen and the packet will not be sent. MBUF train types [2] [1] [1] [1] [1] [1] [1] [1] [1] [1] [1] [1] [1] [1] [1] [1] [1] [1] [1] [1] [1] [1] [1] 05/25/2005 13:48:00 0x63ebe80 (tFtpdServ1): Too many mb uf fragments port=0 dmaTransferCount=1 clRefCnt=1, clSize=128 Pool: mBlkCnt=400, sgCount=21 PACKET len=70 00c08b07 815c00c0……. (PACKET DUMP)	5.5.0	5.5.5
3305	When MACs are learned on port 24, the port number is displayed as nil with 'fdb learned'. This problem also prevents Layer-3 switching to port 24, since we are not able to build the hardware route entries. Layer-2 switching works, though, since the MAC is really learned by the hardware and the software is not involved in Layer-2 switching.	5.5.0	5.5.5
3306	When an ARP entry is updated with a new MAC Address without coincident link changes, the hardware table may not be updated. This may lead to invalid forwarding of frames to the IP Address until the ARP entry for this IP is erased.	5.5.0	5.5.5
3307	When you try to modify the VID or Retry value for a DHCP Client entry that is enabled, the CLI reports an error such as; “dhcp client vid: set tmsL3SwEndMappingRowStatus create failed” The DHCP Client entry is also disabled as a result of this.	5.5.0	5.5.5
3309	When the switch issues an ICMP Error message - such as; Host Unreachable, Redirect, etc., the source address in the ICMP packet is the first IP Address found on the interface. This is not always the best IP Address. With multi-homing, an interface can have multiple IP Addresses. The IP Address that best matches the target of the ICMP should be used. This problem can cause incorrect reports of paths taken through a switch when using traceroute.	5.5.0	5.5.5
3310	FTP of large file onto switch when switch is acting as client can cause truncated file or Data Exceptions.	5.5.0	5.5.6
3312	If ‘ip forward’ is set to OFF after the switch has learned Layer-3 routes in hardware, the switch will continue to route packets via hardware until these entries age out. Entries age out when the ARP entry for the target ages, which may take up to 60 minutes.	5.5.0	

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PTI Bug Tracking Number	Description	Reported In Release	Fixed In Release
3313	The CPC441x has a much lower amount of free memory when running the 5.5.0-5.5.5 code revisions, than it had when running 5.4.x. This has led to scenarios where the switch runs out of memory and reports a message like the following; "07/05/2005 14:01:30 0xfa29c0 (tLuaEventHandler): memPartAlloc: block too big - 68 in partition 0x7b6818." This is especially possible when multiple telnets are in process.	5.5.0	5.5.6
3315	The FTP or TFTP transfer of large files to or from the switch file-system, from a console-based CLI, can cause protocol timeouts for network protocols such as STP, RSTP, RIP, OSPF, or VRRP. This is due to the fact that the console interface runs at a higher priority than the network, and the file transfer may starve these protocols. It is recommended that large file transfers be performed using a telnet-based CLI (ie. telnet to the switch and perform the transfer).	5.5.0	5.5.10
3317	When using the FTP server on the switch to transfer large files over and over, very close together, the server hangs after ~50 transfers, and no FTP transfers are processed again without a reboot.	5.5.0	5.5.24
3320	When adding Packet Filters that specify an Ingress port, the switch does not install the filter and it generates a set of messages similar to the following; **08/02/2005 21:16:34 0x148c070 (tPtiCon): Unable to install filter (9992 0 0xffffff2)** **08/02/2005 21:16:34 0x148c070 (tPtiCon): ptiUserInclusiveFilterRulesStatusSet: addHwFilter failed**	5.5.0	5.5.7
3322	When a port transitions to the Spanning Tree Forwarding state, the hardware route cache is flushed. This is done to ensure that the switch will re-evaluate the paths to the next-hop for each route and reprogram the hardware with the best path available. Flushing of the cache can cause packet loss. If a port is not configured to run STP/RSTP, then the transition to Forwarding should not cause the cache to flush.	5.5.0	5.5.7
3323	When running the install.lua script for 5.5.x, the following error occurs when the file, cpc4400.mib is attempted to be transferred; Getting Support Files From X.X.X.X Error code 1: File not found tftpGet: Error occurred while transferring the file. Error getting files. Install Aborted	5.5.0	5.5.8

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PTI Bug Tracking Number	Description	Reported In Release	Fixed In Release
	The file should be cpc4400.mi2.		

3324	The FTP or TFTP transfer of large files to or from the switch file-system, from a console-based CLI, can cause Integrity test #4 to fail because it is testing for network starvation and this occurs during the transfer - see IR3315 above. This is due to the fact that the console interface runs at a higher priority than the network, and the file transfer may starve the network – eg;
	
	`Getting Application File From 147.139.30.250`
	`08/12/2005 11:46:49 0x10b5aa8 (tL1Integrity): Error while running Test number 4: The error code returned was 27.`
	`08/12/2005 11:46:49 0x10b5aa8 (tL1Integrity): Disabling test number 4, due to 1 consecutive failures.`
	
	It is recommended that large file transfers be performed using a telnet-based CLI (ie. telnet to the switch and perform the transfer).
		5.5.0	5.5.10

3325	GUID is a 16 byte Unique Identifier that is displayed to the user as a ASCII character string. The fist 8 byte of GUID is converted to string (16 ASCII characters) instead of all 16 bytes. This does not affect any operation of the switch and only affects the ability to properly see the GUID from the CLI.	5.5.0	5.5.25
3326	If a host is not present (no L2 entry), but the switch has an entry in its ARP cache for the host, and a high rate of traffic is going to that host, then the switch may get overloaded until the ARP cache times out. Once the ARP cache times out then the ARP filter will protect the CPU.	5.5.0	5.5.11
3327	The switch does not send ICMP Unreachable messages when forwarding packets to a non-existent target. This is a side-effect of a protective mechanism that installs a dummy route entry in hardware when there is no ARP resolution for the next-hop.	5.5.0	5.5.11
3334	A Data Exception could occur when the switch attempts to connect to a host that is not present in the network. This was introduced in 5.5.8 and did not exist in prior patch versions.	5.5.8	5.5.9
3335	Both the STP and the RSTP should indicate port as Disabled when port is administratively Disabled with "span port enable" command. Instead, the "span bridge show" shows port as Forwarding when the Link is UP. Disabled ports will not switch user's traffic and should be displayed as Disabled by the "span bridge show" command. This is a s display issue only. The hardware state is correct.	5.5.1	5.5.10

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PTI Bug Tracking Number	Description	Reported In Release	Fixed In Release
	This can occur when a port is disabled using the CLI command 'span port enable x off' or via SNMP or IDB using, 'rfc1493:dot1dStpPortEnable.		
3336	A loop can form in the network when RSTP is used. This has been seen in situations where the switch is not directly connected to the Root when the Root is removed. The problem seems to be related to old Bridge information circulating amongst the remaining bridges. When the Root bridge stops sending BPDUs (eg. when it is removed from the network), the switch may continue to advertise the missing Root Bridge information for up to MaxAge seconds. Setting MaxAge to a low value (6 seconds is recommended), appears to reduce the potential for the loop to form.	5.5.1	
3337	If the MAC Address of the default gateway moves to a new port, without link going away on the previous port, there is a chance that the hardware route table will not be updated with the new port. This can occur following a spanning tree topology change.	5.5.1	5.5.9
3340	The CLI appears to allow the user to set the same address on the mgmt0 interface and an SW interface A failure is indicated (as it should be), if you first set the mgmt0 interface and then the sw interface. If you set the sw interface first and the the mgmt0 interface the command appears to succeed and displaying the interfaces shows both to have the same address. However, only the sw interface actually will be usable.	5.5.0	
3344	Using SNMP to configure packet filters can result in invalid states when a Filter Rule is established without having a valid Mask. The creation of the Filter Rule reports a failure, but the Rule is partially created and cannot be deleted. An example is shown below. The log message shows where the SNMP command to create the illegal Filter Rule had failed. # 09/12/2005 18:55:45 0x1509428 (tSnmp): ptiUserInclusiveFilterRulesStatusSet: addHwFilter failed # filter mask show # filter rule show Index: 1 Priority: 0 Port: 1 Precedence: 0 Ingress port: 0 Egress port: 0 Action: 65 Mask #: 0 Description: mirror http Status: valid 00000000: 0000 0000 0000 0000 0000 0000 0000 0000 *.....*	5.5.0	5.5.24

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PTI Bug Tracking Number	Description	Reported In Release	Fixed In Release
	00000010: 0800 0000 0000 0000 0000 0006 0000 0000 *.....* 00000020: 0000 0000 0000 0000 0050 0000 0000 0000 *.....P.....* 00000030: 0000 0000 0000 0000 0000 0000 0000 0000 *.....* # # filter rule delete 1 09/12/2005 18:55:52 0x14a64b8 (tPtiCon): Unable to destroy filter - No Template List (10049 33 0xffffffff) 09/12/2005 18:55:52 0x14a64b8 (tPtiCon): ptiUserInclusiveFilterRulesStatusSet: delHwFilter failed filter rule delete: (error) # filter rule show #		
3346	The switch exposes a possible security hole by opening two TCP ports running a debug service on them which cannot be disabled. This might be exploited in a hostile attack on the switch.	5.5.0	5.5.11
3348	Following the transfer of a file to the switch using FTP or SFTP, the size of the file may be incorrectly reported as the value, 4294967295, which is equivalent to -1. As a temporary workaround, check the file size after transferring it to the switch. If it is not the proper size, delete the file, and transfer it to the switch again.	5.5.0	5.5.28
3352	When logging to Flash, the CPU can stop processing the RSTP protocol for more than 3 seconds. This may cause failures in the RSTP protocol when a Hello timer value of 1 second is in effect. It is recommended that the Hello timer be set to 2 seconds to reduce the potential for this condition or that logging to Flash be disabled.	5.5.0	5.5.10
3358	A condition has been observed that causes telnet to hang when accessing the switch. This is not fully characterized, but is believed to be exacerbated by starting a session and then killing the session from the client before the login: prompt is provided.	5.5.0	5.5.11
3359	If you configure an IP Address on an interface (eg. sw0) in one VLAN and then configure another IP Address on that same interface in another VLAN, the switch accepts the setting and moves all IP Addresses on that interface to the second VLAN. The switch should reject this. Here is an example; # ip config sw0 10.1.1.1 255.0.0.0 3 # ip stats sw Interface: sw0	5.5.0	5.5.25

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PTI Bug Tracking Number	Description	Reported In Release	Fixed In Release
	Name: None Status: Active MAC: 00:c0:8c:58:24:f7 VID: 3 IP address: 10.1.1.1 Netmask: 255.0.0.0 # ip config sw0 192.168.1.1 255.255.255.0 1 # ip stats sw Interface: sw0 Name: None Status: Active MAC: 00:c0:8c:58:24:f7 VID: 1 IP address: 10.1.1.1 Netmask: 255.0.0.0 IP address: 192.168.1.1 Netmask: 255.255.255.0 #		
3360	FDB learning in a split-path Layer-3 configuration may cause route table to be configured with incorrect ports. This is a configuration where packets between two hosts use the switch as a gateway in on direction, but use another path for the reverse direction. This can cause the switch to incorrectly set the port number of the next–hop of one of the paths incorrectly. It is recommended that this type of configuration be avoided.	5.5.0	5.5.11
3365	Certain CLI commands can cause VRRP or RSTP protocol errors and Integrity Test 4 failures. This is caused by the command consuming too much CPU at a higher priority than the network task. This prevents these protocols from receiving packets in a timely fashion. These commands include; **# port link all** **# lag config actor akey all** **# lag config aggr all**	5.5.0	5.5.11
3367	If RSTP is disabled on a port, that port is still processed in calculating the STP states every second. This causes the state machines to consume more CPU bandwidth than needed.	5.5.0	5.5.10
3368	If the user employs a program to login to the switch, and provides the password very quickly upon seeing the Password: prompt, there is a chance that you will not get a CLI prompt after you send the password. The problem is caused because the code sends the Password: prompt and then changes the TTY settings to turn off ECHO (to prevent the password from being displayed). Turning off ECHO flushes the input buffer (discarding the provided password). A human would not be able to provide a password between the prompt	5.5.0	5.5.12

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PTI Bug Tracking Number	Description	Reported In Release	Fixed In Release
	and reprogramming the TTY line, but a program could. Shutting down the session and trying again if no prompt is seen within a certain timeframe will get around the problem. We have corrected the code for this by reprogramming the TTY before offering the Password: prompt.		
3372	Undefined objects, cpc4400CommonMiscMgmtDHCPClientRetries and cpc4400CommonMiscMgmtDHCPClientID are listed in cpc4400.mi2 MIB file. These are misspellings of the intended object names; cpc4400CommonMiscDHCPClientRetries and cpc4400CommonMiscDHCPClientID	5.5.0	5.5.11
3373	Syntax error in ptiSwitch.mib file at line 230. The characters "----" are treated as an arithmetic operator by some SNMP MIB compilers.	5.5.0	5.5.11
3380	If you configure the switch with multiple IP addresses on an interface and generate traffic to one of the IP addresses, and while traffic is running, you delete that IP address and then re-configure it, the switch will end up with an entry in the L3 Filter Table that will restrict traffic to that IP. The L3 Filter Table is a table of IP addresses that are targets for traffic that the switch does not have ARP resolution for, The switch will restrict traffic destined to these IP addresses in order to avoid being bogged down with trying to route packets to a nonexistent host. When the IP address is initially configured and traffic is started to that IP, the source of the traffic is using the switch's MAC Address as the target. When the IP is deleted, the source continues to use the switch's MAC Address, but now the IP is no longer that of the switch, and the switch tries to route the packets. There is no host with that IP, so the IP is added to the filter table to limit the amount of traffic to that IP being sent up the stack. When the IP address is reconfigured, the filter entry is not removed and now traffic to that IP is restricted unnecessarily.	5.5.0	5.5.13
3381	If a packet is sent to an IP Address that the switch owns, an internally created L4-L7 Packet Filter causes the packet to go to CPU, based only on a match of the Destination IP. In cases where the switch provides a Layer-2 path to a gateway which then routes packets back to the switch, the switch will receive and process duplicate packets.	5.5.0	5.5.13
3385	Under heavy broadcast loads, the switch may be unable to manage the RSTP protocol. This is because the network load consumes CPU bandwidth and it is unable to process network traffic as required by this protocol.	5.5.0	5.5.14
3386	When running RSTP and the current Root bridge is removed, the state information about that bridge continues to be advertised by the switch unless the switch is directly attached and detects the links from the Root going down. This may cause a short-lived loop in the network.	5.5.0	

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PTI Bug Tracking Number	Description	Reported In Release	Fixed In Release
	Note: The likelihood of this problem occurring is greater in code revisions lower than 5.5.14.		
3391	When multiple static network routes exist where two or more of these routes are in overlapping networks (for example, 10.10.0.0/16 and 10.0.0.0/8), then the route with the longer netmask may be erroneously deleted when the route with the shorter netmask is removed from hardware. The CLI will continue to show the longer netmask route, but it will not be usable.	5.5.13	5.5.29
3393	When ARP Verify is enabled and the MAC Address of an IP changes and the switch misses the gratuitous ARP, the switch may latch the old MAC Address permanently. This problem was introduced in 5.5.5 with the change associated with IR3298.	5.5.5	5.5.14
3394	Using the 'edit' CLI command, if you enter a single line that is greater than 512 bytes, the switch may overflow an internal buffer and cause a memory corruption or take an exception.	5.5.0	5.5.25
3396	Execution of the running.cli script generated with the CLI **running** command may cause RSTP or VRRP protocol failures or may cause Integrity Test 4 to fail. This is caused by the fact that the establishment of many settings consumes CPU bandwidth and it is unable to process network traffic as required by these protocols.	5.5.0	5.5.14
3403	Simultaneous SFTP accesses can result in connection failure and/or an error similar to the following being reported on the client, **"Disconnecting: Bad packet length 3156237182."**	5.5.14	5.5.23
3411	The current working directory of the console CLI interferes with the working directory for SFTP. If the console CLI is not currently positioned in the flash: filesystem, then SFTP cannot change directory to the flash: filesystem. Note that the fix for this problem still leaves the case that when the SFTP session changes to "/", the working directory is moved to where the Console CLI is located. You should use absolute path directory name including the filesystem name (eg. "flash:/"), or use relative path movement (eg. "../../") to get around this.	5.5.14	5.5.22
3419	Using the cli() call in a Lua script and the process of starting and stopping CLI instances (Telnet, SSH, Console login/logout) can cause memory to become fragmented. If memory is fragmented to the point where no block is larger than ~1.5M, no more CLI instances can be started.	5.5.0	5.5.14
3420	Packets destined to the Broadcast IP address (255.255.255.255) are throttled from arriving at the switch CPU to a very low level. This was designed to prevent overload on the CPU. The low rate of packets allowed,	5.5.0	5.5.15

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PTI Bug Tracking Number	Description	Reported In Release	Fixed In Release
	however, has been shown to cause problems when the switch receives many DHCP Discover packets close together. These are destined to the Broadcast IP Address and the throttle mechanism restricts the rate that DHCP leases are provided. This problem was introduced in 5.4.25.		
3422	If a script is executed from a telnet session and then the telnet session is killed before the script completes (that is, prior to the CLI prompt re-appearing), then not telnets are allowed until the script completes.	5.5.0	
3424	The running command does not capture the state of rstp edgeport, pointtopoint, or holdcount when RSTP is enabled. These parameters are only valid when RSTP is used.	5.5.0	5.5.15
3425	The SFTP server added in 5.5.14 does not support V2 SFTP clients. A connection is not allowed to be established.	5.5.14	5.5.15
3426	If an SNMP access is made without a specified index, the switch should always return an error. Following an access with a valid index, however, an access without a specified index will use the index supplied by the previous access and will succeed.	5.5.0	5.5.25
3427	When a static multicast MAC is added with no Mandatory or Forbidden ports specified, the CLI reports a failure that these ports are not exclusive of each other.	5.5.0	
3430	The settings for ‘ip forward’ and ‘ip ttl’ are not saved and restored across reboots. These parameters are supposed to be durable.	5.5.0	5.5.24
3431	SFTP of large files does not work reliably.	5.5.15	5.5.16
3432	If SSHD is disabled and a connection attempt is made to the switch, the switch will ignore the request rather than close the session. This causes the client to pend forever waiting for the connection. The switch should close the session to inform the client that it cannot service the request.	5.5.15	5.5.16
3439	SFTP performance is 4 times worse than FTP. This was caused by debug code left enabled in the 5.5.16 release.	5.5.16	5.5.17
3440	When using SFTP, you cannot change the working directory to be ramdisk. The default root directory is '/' and SFTP clients keep track of the current directory location, so changing to ramdisk: turns into a command to change directory to '/ramdisk:'. This is not a valid directory on the switch and so it fails. Note that the fix for this is such that when changing the current working directory between ramdisk: and flash: filesystems, you must be located at the root directory (ie. ‘cd /’ before you do ‘cd ramdisk:’.	5.5.16	5.5.17
3443	File permissions viewed from SFTP do not match those seen from CLI. The permissions seen from CLI include permissions for GRP and OTHERs. Permissions seen from SFTP only display USER permissions, The switch is a single-user device, so this is not normally a problem.	5.5.16	5.5.22
3444	SFTP Read performance is very slow for large files such as the switch image file. The performance of ‘PUT’ was	5.5.16	5.5.18

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	improved with IR3439, but not 'GET'. This IR addresses the 'GET' performance.		
3445	When running a background Lua script to provide a critical system function, it may be useful to monitor the operation of that script and to include it in the evaluation of switch integrity. An API has been developed to allow the user to configure the system watchdog timer to include the operation of a user script. Contact PTI support at support@pt.com if for guidance if use of this API is needed.	5.5.0	5.5.24
3446	When using a Lua script to walk the static route table and a default gateway is configured, the script will end up looping forever unless certain precautions are taken. The cause is that the index to the entry for the default gateway is 0.0.0.0 and the idbGetNext code treats this index as meaning "get the first table entry". The index of the first table entry is returned as 0.0.0.0 and this is used in the subsequent idbGetNext call. The code still interprets this as "get the first table entry", and the same entry is returned., etc, etc. To avoid this, check if an entry at 0.0.0.0 exists and process it, then start the getNext calls at index, 0.0.0.1. If you require an example, please contact PTI customer support.	5.5.0	
3450	The MIB parameter, dot1dStpRootPort returns a portID (priority plus port number) rather than simply a port number as defined in the MIB.	5.5.0	5.5.24
3453	The Port Path Cost parameter is not manageable on the switch. The RSTP MIB parameter, dot1dStpPortAdminPathCost should be implemented to provide this. (see New Feature section below).	5.5.0	5.5.19
3458	A semaphore deadlock can occur if simultaneous SNMP activity and CLI or Lua script activity is being performed. This causes SNMP activity to cease and CLI or Lua scripts that access rfc1213 parameters (eg. sysUptime, sysContact, sysLocation) will also cease.	5.5.0	5.5.20
3463	The switch allows the user to set the UDP Port Numbers used for DHCP to unique values for each interface. However the underlying OS does not support this operation. NOTE: The workaround for this is to have the DHCP code select the UDP port numbers configured on the first DHCP interface and use these for all interfaces on which DHCP is used. To avoid confusion, please configure all DHCP interfaces to use the same UDP ports.	5.5.0	5.5.20
3464	A TFTP access violation error causes the loss of one of the allowed TFTP sessions. A TFTP access violation error occurs if you try to write to a file that exists when tftpd-access settings do not allow this. If 10 errors occur, then all of the allowed sessions will have been used up and no further TFTP accesses will be allowed.	5.5.0	5.5.20
3465	When using client DHCP, the switch does not support the documented feature that a Server IP address and Lua file may	5.5.0	5.5.20

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	be provided. BootP does support this operation.		
3470	A condition has been observed where the switch acting as VRRP Master can stop sending advertisements and cycle between two states - one state causing the VRRP task to preempt network operation and cause loss of connectivity, and the other state where connectivity is restored, but still no advertisements are sent. The cycle time of this behavior is 36 minutes.	5.4.0	5.5.21
3471	If DHCP server provides SIAD, but no Default Gateway, the SIAD is not set in the MIB.	5.5.0	5.5.21
3476	The Integrity Tests on the switch include a check that there is at least 16K bytes free at all times. Unless there is a memory leak, the available memory should never go below this. However, a big in the memory statistics utility can cause this check to fail reporting that the amount of free memory is -1 (negative 1) bytes.	5.5.0	5.5.24
3477	Port Designated Bridge and Port ID's are reported incorrectly via SNMP. Instead of reporting the ID of the Designated Bridge or Port, the switch always reports its own Bridge or Port ID.	5.5.0	5.5.24
3478	When the user accesses the RowStatus MIB object for a Secure Host IP Table entry that does not exist, an error message is logged to indicate that the access failed. This message does not indicate that there is was a failure, but simply that the entry did not exist. The message should be removed. A sample of the message is shown below; "05/17/2006 20:11:32 0x1434ff0 (tPtiCon): ptiSystemSecureHostStatus: secureHostIPGet failed"	5.5.0	5.5.22
3481	A particular port state transition when running RSTP occurs erroneously. This problem may cause longer than necessary resolution of RSTP protocol. The particular problem is described in the following test result; When port was a Root Port (Learning and Forwarding) and protocol information expired on the port and the protocol partner was no longer answering to RSTP BPDUs, the port should transition to DESIGNATED_DISCARD followed by DESIGNATED_LEARN and DESIGNATED_FORWARD. It should stay in the discarding and learning state for the duration of the Forward Delay time. Instead, such port did not go into a DESIGNATED_DISCARD but continued to forward traffic for the FD time and then went into DESIGNATED_LEARN for the FD time followed by the DESIGNATED_FORWARD.	5.5.0	5.5.24
3484	The Level One Integrity Tests on the CPC6600 do not include the 10G inter-switch link between the two switch chips. This data path should be covered by the Switch Chip and/or MAC Tests.	5.5.0	5.5.24
3485	The proper sequence for adding a static unicast MAC entry is	5.5.0	5.5.24

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	to for make an SNMP set with dot1qStaticUnicastAllowedToGoTo then follow with a set of permanent(3) to the same entry with dot1qStaticUnicastStatus. However, if the first set to dot1qStaticUnicastAllowedToGoTo didn't form correctly or that first step was skipped the following exception can be seen: # data access Exception current instruction address: 0x001af99c Machine Status Register: 0x0000b030 Data Access Register: 0x2150894f Condition Register: 0x42000040 Data storage interrupt Register: 0x0000b030 Task: 0x1508ec0 "tSnmp"		
3486	The "span rstp version" should set the rstpMIB:dot1dStpVersion. Instead, it sets the rstpOEM: rstpOEMBridgeStpAdminVersion. The former is related to the "span version" command. The "span version" command sets the rstpOEM: rstpOEMBridgeStpAdminVersion to switch between the 802.1D-2004 RSTP code and the 802.1D-1998 STP code. This command requires saving and rebooting the switch. The 'span rstp version" needs to set the rstpMIB:dot1dStpVersion to force the RSTP code to operate in the STP compatibility mode. This command does not require rebooting the switch and takes effect immediately.	5.5.0	5.5.24
3487	When the RSTP switch is connected to the STP switch and a port comes UP then such port should stay in Discarding State for ForwardDelay and in Learning State for ForwardDelay. Instead, incorrectly, the port transitions to Learning and Forwarding without using ForwardDelay timers.	5.5.0	5.5.24
3488	RSTP should disregard BPDUs with Protocol Version != 0. The switch allows BPDUs like this to be processed.	5.5.0	5.5.24
3489	If a Spanning Tree or RSTP BPDU has a malformed LLC Header (eg. Length field does not match frame), the frame is still passed to the protocol to be processed. The MAC and LLC headers are not checked by the receiver and are not made available to higher layers.	5.5.0	
3490	The SNMP get for the Designated Root is returning a bridge's ID instead of the Root Bridge ID.	5.5.0	5.5.24
3491	When running RSTP, the switch may incorrectly ignore updated priority vector information from its RSTP protocol partner. This problem may cause longer than necessary resolution of RSTP protocol.	5.5.0	5.5.24
3492	The Beacon process sends Unicast or Multicast Beacon packets at regular intervals. Users may monitor these to	5.5.0	5.5.24

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	ensure that the switch is operating. If the user creates a Unicast Beacon and the target host goes away or has no UDP service on the configured Beacon Port, then the Beacon task stops and sets the Beacon Instance to 'NotInService'. If the user is using Unicast or Multicast Beacons and the source interface goes away, then the Beacon also stops.		
3499	When using the Switch Host Security mechanism, the following incorrect behavior may be seen; • If both "allowed" and "denied" entries are present, only the "denied" entries are processed. • If an entry had a specific protocol number, the interface name would be ignored. The rule would incorrectly apply for all interfaces. The proper behavior is; • All "denied" entries should be processed before any "allowed" entries. • Entries with both a specific protocol number and a specific interface name specified should be processed independently.	5.5.0	5.5.22
3500	The switch discards RSTP BPDUs with MessageAge greater than MaxAge. However, the specification indicates that these BPDUs should be processed by the Port Information State Machine.	5.5.0	5.5.24
3501	When you specify 0.0.0.0 as the Source IP Address of a Unicast Beacon, the switch should choose the IP Address of the appropriate switch interface to get to the specified destination IP Address. The CLI disallows this and reports an error.	5.5.0	5.5.25
3503	The Bridge Priority should be only allowed with values incremented by 4096. Setting Bridge Priority to a different value should fail, but is allowed by the switch.	5.5.0	5.5.24
3505	The RSTP should treat RSTP BPDUs with the port role set to UNKNOWN as Configuration BPDUs sent from the designated port. Instead, the switch interprets these BPDUs as RSTP and the Port Information State Machine (17.18) rcvdInfo() treats them as OTHER. In some circumstances, this can result in longer than necessary, or possibly no, resolution of RSTP protocol.	5.5.0	5.5.24
3506	The RSTP switch should discards the BPDUs that contain the same Bridge ID and port ID as the port on which they are received. Instead the RSTP detects such condition as loop condition and blocks such port. Ports should be blocked if they received BPDUs containing the same Bridge ID as the local bridge but different port ID. This represents a case when two ports of the same bridge are connected directly to each	5.5.0	5.5.24

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	other thus causing a loop.		
3508	The switch allows Invalid VRRP entries to be created by SNMP. For instance, when no IP address is assigned to an interface, you should not be able to associate a VRRP instance to that interface. If you create an invalid VRRP instance using SNMP and then delete it with the CLI, the switch will take a watchdog, indicating that a protected task (the VRRP task) has died.	5.5.0	5.5.28
3509	The VRRP implementation on the switch allows a user to specify 1 and only 1 associated ip address for a given vrrp instance. When acting as the backup router, however, it will learn additional associated IP addresses if the master VRRP router advertises more than 1 associated IP address. When the switch assumes the master role it will attempt to advertise these learned associated ip addresses. Advertising these learned addresses is not proper protocol, and the advertisement is formed incorrectly advertising the learned address as the address 0.0.0.0.	5.5.0	5.5.29
3510	The switch CLI does not support commands to add, delete, or display SNMP Version 3 users. DES encryption for SNMPv3 does not work properly. SNMPv3 should not be used in 5.5.x	5.5.0	
3511	The switch does not allow the user to configure certain legal values of the RSTP Timers. RSTP Timer values are specified in the RSTP 802.1D-2004 section 17.14. The validation test for the values is not per the specification and some legal values are disallowed.	5.5.0	5.5.24
3512	When running RSTP and after receiving a BPDU with new information, some ports may still send BPDUs with old information for several seconds This problem may cause longer than necessary resolution of RSTP protocol.	5.5.0	5.5.24
3513	The RSTP implementation on the PTI switch, runs all its state machines once a second. Because of this, it may not transition into the intermediate states when receiving more than one BPDU on a port. This problem may cause longer than necessary resolution of RSTP protocol.	5.5.0	5.5.24
3514	If a port is not an edge port and is not connected to another switch then bringing the LINK UP or re-enabling such port should cause such port to state for some time in DISCARDING and LEARNING state before transitioning to FORWARDING state . Instead, such port transitions into FORWARDING without any delay.	5.5.0	5.5.24
3516	When using SSH to access the switch, the session hangs after 1000 bytes have been input.	5.5.0	5.5.22
3517	An SNMP Walk of the Beacon Table returns entries out of order.	5.5.0	5.5.24
3518	If the switch is configured with multiple IP addresses on an interface and is configured to source Beacons from one of those addresses, and that address is deleted, the Beacons continue to be sent from that address. The Beacons stop if all of the IP Addresses on the interface are removed.	5.5.0	5.5.26

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PTI Bug Tracking Number	Description	Reported In Release	Fixed In Release
3522	Setting the filename of the image file to reprogram the IPMC ('ipmi pm progfile'), to a name that is greater than 128 characters can lead to an overflow condition that corrupts memory.	5.5.0	5.5.25
3523	The implementation of the STP code which transitions between the short and long aging timer upon detection of a Topology Change, is incorrect. The problem is that the STP code works on the assumption, that since the switch itself generated a topology change, it can switch over to a short aging without any further delay. According to the specification, the switch should wait until it receives a Configuration BPDU with TC flag set from the Root Bridge before switching over to the short aging time. This is a minor problem in that it simply causes early aging of FDB entries.	5.5.0	5.5.24
3524	If an improper interface descriptor is given in a "switch security hostip add" no error message is given and "none" is assumed. For example, # switch security hostip add 10.0.0.3 255.255.255.255 allowed 17 udp3 # switch security hostip show SECURE HOST IP TABLE IP Address Subnet Mask IP Result List Type IP Protocol Interface Name --- 10.0.0.3 255.255.255.255 10.0.0.3 allowed 17 none # An error message should be given, and the entry addition should be denied.	5.5.0	5.5.25
3526	Static ARP entries added with 'ip arp add' command are not restored after a reboot. These should be durable. The implementation of this variable does not lend itself to be made durable. ARP entries with static MAC Addresses should be re-establish by rc.lua on boot.	5.5.0	
3527	If you use the 'route ospf interface admin' command to turn this setting off, then save your settings and perform a switch reset, the setting is reported as on after the reset. The setting should be durable and saved by the save command.	5.5.0	
3528	Several counters from the RFC1213 ifTable and RFC2233 ifXTable are not reported properly for the network interfaces. They are reported correctly for the ap and ag interfaces. The reporting of the following MIB objects are affected: ifXTable:ifInMulticastPkts	5.5.0	5.5.24

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PTI Bug Tracking Number	Description	Reported In Release	Fixed In Release
	ifXTable:ifInBroadcastPkts ifXTable:ifOutMulticastPkts ifXTable:ifOutBroadcastPkts ifXTable:ifHCInOctets ifXTable:ifHCInUcastPkts ifXTable:ifHCInMulticastPkts ifXTable:ifHCInBroadcastPkts ifXTable:ifHCOutOctets ifXTable:ifHCOutUcastPkts ifXTable:ifHCOutMulticastPkts ifXTable:ifHCOutBroadcastPkts ifTable:ifInOctets ifTable:ifInUcastPkts ifTable:ifInNUcastPkts ifTable:ifInDiscards ifTable:ifInErrors ifTable:ifInUnknownProtos ifTable:ifOutOctets ifTable:ifOutUcastPkts ifTable:ifOutNUcastPkts ifTable:ifOutDiscards ifTable:ifOutErrors		
3536	The ‘gettime’ command prints garbage log message when setting time via time serve protocol. For example, # gettime 192.168.1.1 time 08/29/2006 20:33:57 0x14a5a68 (tPtiCon): TPClient: getting time from 192.168.1.1 08/29/2006 20:33:57 0x14a5a68 (tPtiCon): TPClient: time set to: JP¸ doing 'gettime 192.168.1.1 ntp' works properly however. # gettime 192.168.1.1 ntp 08/29/2006 20:34:03 0x14a5a68 (tPtiCon): NTPClient: getting time from 192.168.1.1 # 08/29/2006 20:34:04 0x14a5a68 (tPtiCon): NTPClient: time set to: TUE AUG 29 20:34:04 2006	5.5.0	5.5.24
3538	According to ptiSystem.mib, the description of ptiCommonMiscDateTime is "Get or Set the system time and date. The value is expressed in number of UTC seconds since January 1, 1900." and is of type "OCTET STRING (SIZE(1..64))". The correct definition is an OCTET String in the format "hh:mm:ss mm/dd/yyyy"	5.5.0	5.5.24
3539	Setting the date and time via SNMP may cause an exception. According to ptiSystem.mib, the description of ptiCommonMiscDateTime is "Get or Set the system time and date. The value is expressed in number of UTC seconds since January 1, 1900." and is of type "OCTET STRING (SIZE(1..64))"	5.5.0	5.5.24

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	However, attempting to set the date, passing an integer value results in a fault. For example, snmpset -IR 192.168.1.21 ptiCommonMiscDateTime.0 x 300 data access Exception current instruction address: 0x0001a6b0 Machine Status Register: 0x0000b030 Data Access Register: 0x05a42000 Condition Register: 0x24000080 Data storage interrupt Register: 0x0000b030 Task: 0x1508ab8 "tSnmp"		
3540	Setting time via SNMP doesn't actually set the time on the switch. For example, sending the command: snmpset -IR 192.168.1.21 ptiCommonMiscDateTime.0 s "00:00:00 08/30/2006" This sets the time according to snmp, and if you do a snmpget of ptiCommonMiscDateTime.0 you will see that the time is incrementing from what you set it to. However, if you do a "date" command from the CLI, it still shows the old date and time.	5.5.0	5.5.24
3541	The hardware route table entry for a host is established when the switch is asked to route traffic for the host. It is not established simply based on having port and MAC information as determined from the ARP process. This may introduce a short delay in the ability of the switch to route to the host at high speeds, even after the switch has valid FDB and ARP cache information for the host.	5.5.0	
3542	Simultaneous SSH accesses can result in connection failure and/or an error similar to the following being reported on the client, **"Disconnecting: Bad packet length 3156237182."**	5.5.14	5.5.23
3547	Adding 200+ Static Multicast MAC entries causes the switch CPU to become overloaded with GARP Timer processing. This occurs even if GARP is disabled. The switch should support 255 entries when GARP is disabled.	5.5.0	
3548	If you connect to the switch via HTTP server on the "Management Configuration - Switch" panel the option IGMP Snooping can't be validate and when he save the configuration he get the message: Object Name: tmsIgmpSnoop:tmsIgmpSnoopEnable, Error Code: 0x00c8000b (noSuchObject)."	5.5.0	5.5.29
3549	When an interface has multiple IP Addresses, the Gratuitous ARPs for all of the addresses uses the first address as the source ip address. Gratuitous ARPs are expected to have a	5.5.0	5.5.25

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PTI Bug Tracking Number	Description	Reported In Release	Fixed In Release
	target ip set to the same address as the source ip. This behavior does not seem to impact operation.		
3550	When an interface has multiple IP Addresses in the same subnet, the switch only answers ping to itself for the first address of the interface. External pings work until you perform a ping from the switch to itself, at which time external pings stop working for 30 seconds.	5.5.0	5.5.26
3551	When a packet is passed to the CPU to be routed, the switch decrements TTL. The software routing function then decrements TTL again. This causes TTL to be decremented twice for some packets forwarded by the switch. Once the hardware routing tables are established, packets are routed by hardware and TTL is decremented once.	5.5.0	
3553	If remote logging is enabled, and a log message is sent out while the log server is down, the server will not receive any new messages once it comes back online.	5.5.0	5.5.25
3554	If you enable a remote logging instance multiple times, then multiple messages will be sent to the target specified by that instance. Also, if you disable that instance, the CLI will report that the instance is disabled, but messages will still be logged (one less each time it is disabled).	5.5.0	5.5.25
3555	If the switch is Layer-3 switching traffic to a target for which a hardware entry is not established (either MAC Address or port is unknown), then the traffic will be passed to the CPU to allow the target to be resolved and a hardware entry to be established. If the CPU is currently resolving the MAC or Port to a Host, then further traffic to that Host is squelched until the entry is resolved or a short timer (see IR3570) expires. This operation can cause some segments of fragmented packets to not be delivered until the hardware route table is established.	5.5.0	5.5.24
3557	Enabling and Disabling Logging to a Remote Server may cause the loss of a File Descriptor. There are 60 File Descriptors allocated in the switch. If this sequence is performed enough times, then file access will be impacted.	5.5.0	5.5.24
3558	When using SNMP to walk the dot1dTpFdbPort table, entries are not returned. However, once a dot1dTpFdbTable request is made, all subsequent calls to dot1dTpFdbPort will behave correctly until another switch reset is performed. The problem is that the switch requires a VLAN ID internally and the default VLAN ID used in the look up for dot1dTpFdbPort is not initialized until an access to dot1dTpFdbTable is made. This problem may be avoided by using the dot1q MIB instead of dot1d.	5.5.0	5.5.25
3563, 3564, 3565, 3569	If a switch interface is configured as a DHCP client and the switch currently has another interface programmed with a default gateway, which is in hardware, then the DHCP responses from the server will be routed by hardware toward the default gateway.	5.5.0	
3570	The ARP Refresh timer ranges between 10 and 60 minutes. Timer values above 10 minutes may lead to excessive delay	5.5.0	5.5.24

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PTI Bug Tracking Number	Description	Reported In Release	Fixed In Release
	in detecting changes in MAC Address associated with the IP Address of hosts. Also, while waiting for ARP resolution, the switch installs a dummy route into its hardware tables to prevent high volumes of traffic from overwhelming the CPU until the hardware route table is established. These dummy route entries are installed for 60 seconds. Network topology changes can cause short-lived loss of connectivity (often on the order of 3-5 seconds). This short term connectivity loss can lead to a dummy route being added which slows recovery of connectivity to some hosts by an additional 60 seconds. The ARP Refresh timer now ranges from 5-10 minutes rather than 10-60 minutes. The bogus route added while waiting for ARP resolution was reduced from a default of 60 seconds to 5 seconds. This can be over-ridden in setup.sh by setting the variable, l3ArpDelaySecs to the number of seconds desired. Contact PTI support at support@pt.com if for guidance if adjusting this timer is needed.		
3573	The switch stops checking for switch chip failures when one of the chips fails. This prevents detection of a second chip failure. The action taken for a chip failure should be to take the switch offline or to reboot, so this should not normally be an issue.	5.5.0	5.5.25
3577	The number of SSH and SFTP sessions is limited to 2. This is too restrictive. The number of sessions should be modeled against the number of Telnets and FTP sessions allowed (2 + 4).	5.5.0	5.5.24
3578	Some of the Link Aggregation MIB parameters allows values outside the accepted range. They either accept an invalid parameter or they modify the current value given invalid input. The expectation is that the MIB will reject an invalid input and NOT change the current value. OIDs affected: dot3adAggActorAdminKey, dot3adAggActorSystemPriority, dot3adAggPortActorSystemPriority, dot3adAggPortPartnerAdminKey, dot3adAggPortPartnerAdminPort, lagPathCostAlgorithm, lagStaticNoTimeoutOnOff, lagAggregateOrIndividual Valid values are accepted and processed properly.	5.5.0	5.5.26
3580	The gettime function from the CLI outputs a logMsg on every invocation. When logging to flash, this can degrade the flash faster than desired. To allow the log messages to be turned off, a global variable was added, **suppress_gettime_messages**, which can be set via setup.sh. The default value of this variable is zero (0) which allow the log messages to be output. Setting this value to a non-zero value will suppress these log messages. Contact PTI support at support@pt.com if for guidance if disabling these messages is needed.	5.5.0	5.5.24
3581	If the switch is configured with an SNMP Trap target located on the Mgmt0 port, and no switch links are established, traps	5.5.0	5.5.24

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PTI Bug Tracking Number	Description	Reported In Release	Fixed In Release
	will not be sent.		
3582	Previously, changing the DHCP client transmit and listen port does not take effect until the switch is reset. If DHCP clients are configured on multiple interfaces, the transmit and listen port for the first interface will be used for all DHCP client interfaces. If no DHCP clients are configured when the switch is started, and a DHCP client is added to the switch, it will use the default ports until the switch is reset. With the code change, the DHCP client task will not be started at boot if no DHCP clients are configured. If a DHCP client is configured after boot, and it is the first DHCP client on the switch, the DHCP client task will be started using the client's configured transmit and listen ports. If multiple DHCP clients are configured, the transmit and listen ports associated with the first DHCP client will be used for all clients.	5.5.0	5.5.25
3583	The initial prompt sent in a telnet session may not include a leading carriage return. This may cause problems with expect scripts that look for a CR-LF-# sequence to detect a prompt.	5.5.0	5.5.25
3592	If the switch is configured to send SNMP traps to multiple TCP ports, and the first port for the trap target address is non-responsive (eg. Service not Available), the traps will not get to any of the other specified target ports. This only happens if there are multiple tcp port numbers used for the same IP address.	5.5.0	5.5.24
3596	In order to create labels that contain special characters in the CLI (eg. In naming a route or IP Interface Description), the user must place quotes around the label. However, the 'running' command does not capture this type of label properly. To avoid this, use labels that do not use spaces, tabs, or '=' characters.	5.5.0	5.5.25
3597	If a Lua event handler performs a logMsg() call, the message may be corrupted if the event handler exits before the message is displayed. A related issue is that the taskID of the logging function may be displayed as "deadTask".	5.5.0	5.5.24
3600	The MAC Address programmed into the switch chip to be used for MAC Control Frames (eg. Pause) is taken from the AG instead of the AP. In the current software design, these MACs are the same and there is no affect on the user, but this may change in the future and the AP MAC should be used.	5.5.0	5.5.25
3601	If a switch chip fails L1 Integrity Test, the Phys attached should be reset to force link to be de-asserted at any attached clients. This does not occur and attached clients do not lose link.	5.5.0	5.5.26 (Updated after 5.5.25)
3602	CLI commands cannot be used in boot.lua. Unpredictable results may occur. To avoid this, use IDB sets.	5.5.0	5.5.25
3603	A small amount of memory is lost when the switch issues a Trap reporting that one of L1 Integrity tests have failed. Since failures are rare, and the loss is small (~16 bytes per failure), this should not cause any long term issues.	5.5.0	5.5.25

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PTI Bug Tracking Number	Description	Reported In Release	Fixed In Release
3604	If a port fails the MAC Integrity test, its link is de-asserted but the software still indicates that link is up.	5.5.0	5.5.25
3605	If a Beacon is created with links down, it's RowStatus is not Active. If the settings are saved, and the board rebooted, then and NVM error occurs on boot and the Beacon is not restored. A related issue is that when a Multicast Beacon is Active and all links go down, an error message is generated every ten seconds. # 11/10/2006 15:44:30 0x124cff0 (tBeacon): beaconSend: write failed 3997697 line 599 These issues are side-effects of the fix to IR3492.	5.5.24	
3607	The time taken to generate SSH Keys on the switch can take up to 20 minutes. This is considered excessive and should be reduced.	5.5.0	
3608	Using SNMP to configure Static Routes can lead to situations where the switch believes that all of the available route entries are in use when they are not. This is caused when you perform multiple adds and deletes of Static Routes using SNMP and results in a failure to add any more static routes.	5.5.0	5.5.26
3609	Under heavy Layer-3 traffic volumes, when many ARP updates are received (ie. new MACs associated with IP Addresses), some may be missed. This causes the ARP cache of the switch to be out of sync for up to 10 minutes, which is the ARP refresh period. It is recommended that multiple Gratuitous ARPs be issued by hosts that 'take over' ownership of an IP Address that may have previously been used by a different host.	5.5.0	
3610	The change for IR3484 caused the L1Integrity task to utilize 64-bit registers which are not saved and restored across task switches. This could result in a corruption of a register used by another task.	5.5.24	5.5.25
3611	If the log task fails to start, a semaphore created for its use is not deleted. This causes a leak of a small amount of memory. This is not a problem that would be detectable by the user.	5.5.0	5.5.25
3615	The 'help' screen for the 'ip config' command does not specify the maximum length allowed for the description of the interface. The maximum length is 15 characters.	5.5.0	5.5.26
3617	MIB objects for dot3Stats are not incremented properly. One example is that Jabber Frames are not counted under dot3StatsFCSErrors. Jabber Frames are frames that are both too long AND have a bad FCS.	5.5.0	
3618	If the switch is programmed to not reboot on Watchdog and a watchdog timeout occurs, links are forced down, but the CLI continues to report that they are up,	5.5.0	
3619	When the Switch Chip test or the Stuck Receiver test fails, the switch may report inconsistent integrity status for the MACs and PHYs. If either of these tests fail, the switch chip is inaccessible and the MACs and PHYs attached to the chip should be considered unavailable as well. It is recommended	5.5.0	5.5.26

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PTI Bug Tracking Number	Description	Reported In Release	Fixed In Release
	that the user select 'Go Offline' or 'Reboot' as the action to take upon failure of either of these tests.		
3620	When you use SNMP to configure switch host security and you create an entry for SNMP (eg. to allow SNMP from your client's IP), the entry is initially created with a Denied type and you have to change it to Allowed with another SNMP Set. This causes the SNMP session that you are using to configure the entry to be disallowed and you cannot set the type field. Until this is corrected, use the CLI to add this type of entry.	5.5.0	5.5.26
3621	When a MAC Integrity failure occurs, the port associated with the MAC should be taken offline and any commands that can be executed on the port should not take effect and display an error message. After failing a MAC, the following commands are still accepted and do not produce an error message: port autoneg admin advertise port autoneg admin restart port framesize	5.5.0	5.5.26
3622	After a MAC or a Chip Integrity Test fails, the ports associated with the MAC or Chip are all marked as notPresent. This is expected behavior. If you try to bring one of those ports up or down while in this state, nothing happens but there is no error message displayed to the user to let them know the command did not work.	5.5.0	
3623	When starting up a telnet session, it may hang if a current SSH session is outputting characters. Also the SSH session may be prematurely aborted when starting a telnet session. These issues only occur when starting a telnet session and can be avoided by not using SSH and Telnet simultaneously. As a temporary aid to avoiding issues with this IR, we have added two variables in 5.5.25 to allow setting of the number of concurrent SSH and/or telnet sessions. They are ptiNumTelnetSessions and ptiNumSSHSessions. The values of these variables may be overridden using setup.sh. Contact PTI support at support@pt.com for instructions on how to do this if needed.	5.5.14	5.5.28
3624	The ether-like MIB parameters; ifMauAutoNegRemoteSignaling, ifMauAutoNegRemoteFaultAdvertised, and ifMauAutoNegRemoteFaultReceived do not return values when queried. These parameters should be supported to allow SNMP management of Auto-negotiation.	5.5.0	
3625	When a PHY Integrity failure occurs, the port associated with the PHY should be taken offline and any commands that can be executed on the port should not take effect and display an error message. After failing a PHY, the following commands are still accepted and do not produce an error message:	5.5.0	

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PTI Bug Tracking Number	Description	Reported In Release	Fixed In Release
	port autoneg admin advertise port autoneg admin restart port framesize		
3626	If you have the integrity tests set to perform both logging and a reboot after a PHY failure, all of the logging should be completed before the switch reboots. Currently, only the first port affected by a four port PHY failures is logged before the switch reboots.	5.5.0	
3627	The current MIB definition for the Integrity Error Code is: ptiIntegrityTestErrorCode OBJECT-TYPE SYNTAX INTEGER ACCESS read-only STATUS mandatory DESCRIPTION "An unique error code produced when this test fails and a variable binding in a trap if one is produced." ::= { ptiIntegrityTestEntry 3 } The MIB definition should indicate that the error code is an Integer representation of the port integrity status, and that it is in the reverse order. This is not a "unique" error code, like the mib currently states.	5.5.0	
3628	A failure in the MAC Integrity test does not always bring down link on the port associated with failed MAC. This is intermittent and the circumstances are not understood at this point, but the issue is under investigation.	5.5.0	5.5.26
3629	When Beacons are configured to be sent at 100ms intervals, they may occasionally be transmitted late. Delays up to 500ms have been seen.	5.5.0	5.5.25
3630	When using VRRP and the Master transitions to Initialize state a "zero priority" packet is not sent as required by the RFC.	5.5.0	5.5.26
3632	When the Integrity test for a PHY that is located on the second switch chip fails, the CLI command "port link all" will show the ports failed as expected but the MIB "oemArchIfaceLink.1.PORT" or "cpc4400ArchIfaceLink.1.PORT" (where PORT is the failed port) does not report the port as being down. This works properly for the first chip, however.	5.5.0	5.5.26
3633	Using SNMP to set the vrrpOperRowStatus parameter from Active to Disabled while vrrpOperAdminState is Active, causes a watchdog error on the switch. As a workaround, set vrrpOperAdminState to Disabled before setting vrrpOperRowStatus. The second issue is that you cannot re-activate a VRRP instance after you de-activate it in this way. You must destroy the row and recreate a new instance. To	5.5.0	5.5.28

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PTI Bug Tracking Number	Description	Reported In Release	Fixed In Release
	temporarily disable and then re-enable a VRRP instance with SNMP, you may set vrrpOperAdminState to Disabled and Active.		
3634	The default threshold for low memory condition is set at 1M. This value is too high and prevents the last 1M of system memory to be used. This value should be set to 16K. A variable, ptiLowMemoryThreshold may be used to override this value in setup.sh. Contact PTI support at support@pt.com for instructions on how to do this if needed.	5.5.14	5.5.25
3635	When VRRP Authentication is enabled and VRRP switches have the same password, they do not communicate. One switch should become master, and the other should become backup. Instead both switches become master and both give error below: 12/11/2006 15:04:53 0x124d978 (Vrrp2): VRRP: receive an invalid passwd! 12/11/2006 15:04:53 0x124d978 (Vrrp2): vrrp_read: Received VRRP Packet Validation Failed	5.5.0	
3636	The switch CLI will not allow using rename when the source and destination file names only differ in case. As a work-around, rename the source file to a temporary name and the rename that to the desired name. Example; # remane cpc4400.Z x # rename x cpc4400.z	5.5.0	
3640	Invalid VRRP advertisement packets sent to the switch do not cause an increment of the VRRP Statistics counters; vrrpStatsAdvertiseIntervalErrors vrrpStatsIpTtlErrors vrrpStatsInvalidTypePktsRcvd vrrpStatsInvalidAuthType vrrpStatsAuthTypeMismatch vrrpStatsPacketLengthErrors	5.5.0	
3641	If you cause a failure of an integrity test, the error message that is logged to the screen and a log file if this option is enabled used to display the port number that failed. Now the message is showing a hex representation of the bitmap of failed ports. Prior to 5.5.24, the messages used to look like: 12/18/2006 13:10:19 0x14ec9a0 (tL1Integrity): Error while running Test number 1: The error code returned was 1 on port(s) 1. 12/18/2006 13:10:21 0x14ec9a0 (tL1Integrity): Error while running Test number 1: The error code returned was 1 on port(s) 2. 12/18/2006 13:10:23 0x14ec9a0 (tL1Integrity): Error while running Test number 1: The error code returned was 1 on port(s) 3.	5.5.25	5.5.26

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PTI Bug Tracking Number	Description	Reported In Release	Fixed In Release
	12/18/2006 13:10:25 0x14ec9a0 (tL1Integrity): Error while running Test number 1: The error code returned was 1 on port(s) 4. 12/18/2006 13:10:27 0x14ec9a0 (tL1Integrity): Error while running Test number 1: The error code returned was 1 on port(s) 5. Now they look like: 12/18/2006 13:10:19 0x14ec9a0 (tL1Integrity): Error while running Test number 1: The error code returned was 1 on port(s) 00000001. 12/18/2006 13:10:21 0x14ec9a0 (tL1Integrity): Error while running Test number 1: The error code returned was 1 on port(s) 00000002. 12/18/2006 13:10:23 0x14ec9a0 (tL1Integrity): Error while running Test number 1: The error code returned was 1 on port(s) 00000004. 12/18/2006 13:10:25 0x14ec9a0 (tL1Integrity): Error while running Test number 1: The error code returned was 1 on port(s) 00000008. 12/18/2006 13:10:27 0x14ec9a0 (tL1Integrity): Error while running Test number 1: The error code returned was 1 on port(s) 00000010. The fix will be to restore the message to the previous format.		
3642	The DHCP server and relay only supports a total of six interfaces. If more than six interfaces are configured to support DHCP Services, the switch may lock up. The lockup problem is believed to have been introduced with the change associated with IR3564.	5.5.25	5.5.26
3643	When Span Port Protocol is Disabled on the Port Connected to the Root, the Switch Does not become Root. The switch should stop processing RSTP PDUs on the port and should assume that it is the Root.	5.5.0	
3644	A password recovery mechanism exists where a password can be generated for a switch when its serial number is known. The algorithm to generate this password is not published outside of PTI. This backdoor password is currently accepted as the password for the switch when connecting to the console, telnet, or SSH. It should be restricted to console access only so that physical access is required.	5.5.0	
3645	DHCP server does not handle multiple simultaneous requests. If multiple requests from different clients are seen back to back, they will not be serviced. This problem is believed to have been introduced with the change associated with IR3564. It is recommended that DHCP Server not be used with 5.5.25.	5.5.25	5.5.26
3649	Because of the fix of IR3553, a new bug arose which can cause some remote log messages to not be sent. This only affects 5.5.25.	5.5.25	5.5.26

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PTI Bug Tracking Number	Description	Reported In Release	Fixed In Release
3650	The output of the 'ls –l' command in an SFTP session changed in 5.5.25. The file sizes and read-write permissions are no longer displayed.	5.5.25	5.5.26
3651	Near the time when the vxWorks tick timer rolls over between 0x7fffffff to 0x80000000, ARP Cache entries cannot be maintained. This is very similar to the problem described in IR3298, but it occurs 124 days after the switch is booted and then recurs every 248 days following. The length of the outage can be up to 60 minutes for releases between 5.5.5 and 5.5.23. For 5.5.24 and above, the outage will be less than 10 minutes. This difference is due to the change made for IR3570.	5.5.5	5.5.26
3652	Following a sequence of adds and deletes of static multicast MAC Addresses, the switch may become unable to add new multicast entries even though there is room for more in the table. A message similar to the following will be logged if this occurs; 12/29/2006 02:27:05 0x15e7928 (tGarpRecv): bcmGmrpCreate: Unable to add multicast adress (0 10) This problem is not totally understood at this writing and is currently being investigated, but it is believed to have been introduced into 5.5.25 with the change associated with IR3629.	5.5.25	5.5.26
3653	When the switch powers up with RSTP enabled, and you disable and re-enable RSTP, the switch hardware port states may be inconsistent with the RSTP protocol. It is recommended that RSTP not be disabled and re-enabled on the fly until this is corrected.	5.5.0	5.5.26
3660	If you enter multiple 'ipmi fru xxx apply' commands, where xxx is one of the FRU Areas, without actually changing anything in that area, the FRU area that is specified gets corrupted.	5.5.0	5.5.26
3664	The switch is susceptible to the ping of death denial of service attack. Although it does not lock up the board, as is typical with the ping of death attack, the board does stop responding to pings during the attack thus a denial of service on ICMP is successful.	5.5.0	
3666-3669	RIP Management allows illegal values to be assigned to various parameters.	5.5.0	5.5.26
3671	When a port is removed from all VLANs, its spanning tree algorithm port state is locked at whatever state it had prior to the VLAN removal. This may not match its state in the hardware. It is recommended to force link down on a port before removing it from all VLANs. This will force the port state to be disabled.	5.5.0	5.5.28
3672	The following MIB Parameters in the OSPF General Group do not return values; **ospfMulticastExtensions** and **ospfDemandExtensions**. These should at least support Getting the default values of these parameters	5.5.0	5.5.28

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PTI Bug Tracking Number	Description	Reported In Release	Fixed In Release
3673	If a User Defined Trap is being issued and an internal failure occurs on the access of a MIB variable whose value is being reported in the trap, then a semaphore may be taken and not released, which may lead to an eventual deadlock.	5.5.0	5.5.26
3674	The OSPF MIB variable, ospfAreaStatus does not destroy the Area when the value 6 is set. It does not accept the value as valid. The MIB also accepts the value of 7, which is not a valid value.	5.5.0	5.5.26
3676	The switch may lock up during the initialization of the IPMI FRU as shown below. The probability of this appears very low and was brought out by a continuous reboot test after 1562 successful boots. **PTI-FILTERS MIB .... Completed** **PTI-SSHMGMT MIB .... Completed** **CPC4400 MIB .... Completed** **Startup PTI-IPMI-FRU ....**	5.5.0	5.5.29
3677	The OSPF MIB ospfStubMetricType will not accept any values other than 1. This MIB should be able to be set to 1=ospfMetric, 2=comparableCost or 3=nonComparable. Note: As part of the change associated with this issue, the ability to set the OSPF stub metric type when creating an OSPF stub area has been removed. Previously if any value other than 1 (the default value) was passed to "route ospf stub add" the command would fail. The PTI implementation of OSPF only supports a stub metric type of "ospfMetric".	5.5.0	5.5.28
3678	The switch may fail to boot and will continuously produce the message shown below. The probability of this is very low, but has been seen on at least two occasions on different boards. !!! Error: bad argument #2 to `format' (string expected, got nil) ... in format, line -1, source =C ... in (anonymous), line 175, source @cli.lua ... in (anonymous), line -1, source =(luac) !!!	5.5.0	
3679	While fixing IR 3619, a new problem was created. IR 3619 was a request to have all PHYs, MACs and Chips reported as failed, when one chip fails instead of just reporting the one chip and the associated MACs and PHYs as failed. The integrity status command now reports all of the MACs, PHYs, and Chips as failed, and the ports are taken off-line, but the log message that is displayed only lists the ports that would have actually failed for the chip that failed.	5.5.0	5.5.27
3680	Code inspection revealed that several tasks were being created without setting the VxWorks FFP_TASK flag. This	5.5.0	5.5.28

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PTI Bug Tracking Number	Description	Reported In Release	Fixed In Release
	flag tells the OS to save and restore Floating Point registers when switching the task in and out. This flag should always be set to allow usage of FP functions from all tasks. There is no known bug corrected by this change.		
3681	Code inspection of the change associated with IRs 3563 and 3569 indicate that there is an error condition that is not handled properly. This could result in a failure of the DHCP client to acquire an IP Address.	5.5.25	
3683	When configuring 'switch security hostip' entries, and "none" is given for the interface, the new hostip entries are installed successfully. However when a specific interface is specified, the additions are handled incorrectly; 1. With "Deny" on a specific interface for a specific ip, that system is still allowed communication 2. With "Allow" on a specific interface for a specific ip, all systems are then blocked	5.5.0	5.5.28
3685	If an Integrity Test failure is configured to send a Trap on failure, the trap that is issued indicates the wrong Integrity Test has failed and the error code for the test is incorrect. This was introduced in 5.5.26 with the change associated with IR3619 and 3621.	5.5.26	5.5.27
3687	While running Link Aggregation throughput tests, the switch did not consistently reach throughput speed within the timeframe required by the test. This indicates that there is a learning delay when using Link Aggregation.	5.5.0	
3698	The MIB for managing the FRU Record (ptiIPMIFRU.mib) defines the Product Version field as an Integer32 instead of OctetString. This prevents proper management of this parameter using SNMP. Please use CLI until this issue is resolved.	5.5.0	5.5.28
3703	The current implementation of the telnet server is that upon establishment of a telnet session, the telnet server starts a CLI session which performs the login validation. There are two issues with this approach. 1) Starting a CLI session uses up a lot of CPU and memory on the switch, if an attacker were to repeatedly telnet to the switch, even without having a valid user name and password, the CPU would be impacted. 2) Starting a CLI session takes a long time, the user has to wait for the CLI to fully load and start running before they are given a login prompt. By moving the telnet authentication out of the CLI, and into the telnet server code, the switch will only load the CLI if the user has provided a valid user name and password.	5.5.0	5.5.28
3706	When the switch forwards a packet to a next-hop host on the same network that the packet was received on, it should issue an ICMP Redirect message to the source. The switch does not. This may cause a higher level of traffic on the network	5.5.0	

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PTI Bug Tracking Number	Description	Reported In Release	Fixed In Release
	than would otherwise occur.		
3709	If you use SNMP to set up Packet Filter Rules and set an illegal value for the Action, the switch may panic.	5.5.0	5.5.28
3737	A typo exists in the message printed when a Lua Event Handler does not exist – the word launch is misspelled; # 02/28/2007 08:10:25 0x14d5490 (tLuaEventHandler): unable to **lauch** event handler script (flash:/samples/linkevent.lua) -- lua_dofile returns 2	5.5.0	5.5.28
3747	RMON Alarms are incorrectly triggered on start-up. When alarmStartupAlarm is set to risingAlarm(1) and the alarmTable records are created with traffic less than the alarmFallingThreshold, an alarmFallingEvent is incorrectly triggered. It should not be triggered at startup because the alarmStartupAlarm is set to rising. It should not be triggered after startup because the traffic had not previously exceeded the alarmRisingThreshold. Similarly, when alarmStartupAlarm is set to fallingAlarm(2) and the alarmTable is created with traffic greater than the alarmRisingThreshold, the alarmRisingEvent is incorrectly triggered. It should not be triggered at startup because the alarmStartupAlarm is set to falling. It should not be triggered after startup because the traffic had not previously dropped below the alarmFallingThreshold.	5.5.0	5.5.29
3748	A trap is not always issued on an RMON Alarm threshold crossing.	5.5.0	5.5.29
3750	The Lua Event Handler for RMON Rising/Falling Alarm is not invoked when an RMON Alarm occurs.	5.5.0	5.5.29
3751	The eventTable eventLastTimeSent is supposed to be the value of sysUpTime when an RMON event is triggered. Instead, it takes on a value less than sysUpTime, and may be the same value that etherHistoryStart uses.	5.5.0	5.5.29
3752	The following MIB Parameters in the OSPF General Group do not return values; **ospfMulticastForwarding** and **ospfIfDemand**. These should at least support Getting the default values of these parameters.	5.5.0	5.5.29
3755	When three or more switches are configured as IGMP Queriers, and the current Querier is disabled, the next highest priority switch becomes the new Querier. However, the remaining switch(es) may not update their status indicating the IP Address of the new Querier and may continue the original switch as the Querier. This does not affect the operation of the Queriers, but only affect the status that they display.	5.5.0	5.5.29
3763	The 1 MByte ramdisk on the CPC Switch product line is created with a 128 KByte cache. Since RAM disks have no moving parts, a cache is unneeded and wasteful.	5.5.0	5.5.29
3764	If you delete the IP Address that currently in-use supporting a VRRP instance, the switch panics and takes a watchdog.	5.5.0	5.5.29

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PTI Bug Tracking Number	Description	Reported In Release	Fixed In Release
	Before deleting an IP interface, ensure that there are no VRRP instances currently using that interface.		
3767	The Lua API function idbObjIdAnySet() does not work given the usage from the switch manual. Please avoid using this API until this issue is corrected.	5.5.0	5.5.29
3778	When the switch is acting as an FTP server and two or more clients attempt to access the board simultaneously, the data returned to the client or the data written to the board may be corrupt. Please avoid multiple simultaneous FTP sessions, and verify the file size following all transfers until this issue is resolved.	5.5.0	
3779	The traceroute command on the CLI may lock up when tracing a local unreachable host. The traceroute command also consumes a high level of CPU cycles and when it is executed at the CLI, it may impact the operation of timed protocols such as VRRP and STP. Please avoid using traceroute from the switch until this is resolved.	5.5.0	5.5.29
3780	If an error occurs when adding a Filter Rule, the rule entry is left in the system but is in a 'Not Ready' state. An error could occur, for example, if an invalid Mask is specified, or the Filter is incompatible with the specified Mask. The side effect of leaving the rule in place is that the user may not add another rule with that same index and the rule is not displayed with the 'filter rule show' command. An error message is displayed when the 'filter rule add' command fails. Until this problem is corrected, the user should execute a 'filter rule delete' command to remove the rule following a failure to add the rule.	5.5.0	5.5.29
3781	The change associated with IR3550, causes bogus routes to be displayed with the 'route show' command. A bogus route is present when there is no ARP resolution to a host. An example is shown below. `192.168.1.1  255.255.255.255  127.0.0.1 local off` These entries should be ignored.	5.5.26	5.5.29
3782	When a Host Security entry is added with a non-specific network interface, then the user is unable to delete this entry and gets a message like the following; **# switch security hostip add 192.168.1.2 255.255.255.255 allowed** **# switch security hostip delete 192.168.1.2 255.255.255.255 0 0** **switch_hostIP status type remove: (error)** **# 03/27/2007 09:59:24 0x1695d68 (tPtiCon): ptiSystemSecureHostStatus: removeSecureHostEntryfailed** **#**	5.5.0	5.5.29
3784	It's been observed that there's a delay between performing an 'sshd enable on' and when ssh clients are able to connect. This delay appears to be between 1 and 10 seconds. The 'sshd enable' command reports a state of 'on', however if an ssh session is immediately started, it will get terminated by the switch.	5.5.0	

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PTI Bug Tracking Number	Description	Reported In Release	Fixed In Release
3785	When the switch is master of a VRRP instance, an L2 Table entry exists to perform L3 Routing for packets that are directed to the VRRP MAC. When VRRP Mastership is lost, this entry should be deleted and possibly replaced by a simple L2 entry to pass this traffic to the port where the new master resides. Under heavy load conditions, the switch may not remove the L2 table entries that have the L3 bit set when the switch loses VRRP mastership. This prevents traffic from being forwarded to the new VRRP Master and causes loss of connectivity. This problem was introduced into 5.5.28 as a result of the change associated with IR3705. It is recommended that VRRP not be used with revision 5.5.28.	5.5.28	5.5.29
3789	The Lua event handler for "1493 topology change" may be invoke multiple times on a single topology change event when running RSTP. This does not affect STP. The number of events may be up to twice the number expected.	5.5.0	
3790	When a VRRP instance is deleted, the following message may be seen. It may be safely ignored; **04/05/2007 12:30:35 0x1254920 (): task deadVRRP ERROR: arpDelete failed**	5.5.0	
3793	Although the RMON MIB (RFC 1757) defines the counters for various packet sizes (eg. etherStatsPkts256to511Octets) as **receive** packet counts, the silicon used on the switch implements these statistics as **receive AND transmit** packet counts.	5.5.0	
3802	The following messages are displayed when performing a 'ipmi fru apply' command. The FRU changes do get applied and these messages can be ignored, but it is recommended that you check the new values with the 'ipmi fru show' command to be sure. This was introduced in 5.5.29 **smp_psp_read_response_process: ERROR too many smb_get_data()** **smb_psp_write: smb_psp_read_response_process failed (retryCnt=5)**	5.5.29	5.5.30
3804	Accessing the RMON History Control Table via SNMP can cause the switch to hang. Do not use RMON History Group until this issue is corrected. This was introduced in 5.5.29.	5.5.29	5.5.30
3805	The 'port config' CLI Command does not report the same values as were set by the user. This was introduced in 5.5.29.	5.5.29	5.5.30
3806	The alarmRising and alarmFalling alarms are being generated each time the threshold is crossed. An event should not be generated for a threshold until the opposite threshold is crossed. (See text from RFC1757 and RFC 2819).	5.5.0	
3811	If an IP interface supporting Static Routes is deleted, the routes are also deleted. However, underlying information about the static routes is left on the switch and can cause	5.5.0	

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PTI Bug Tracking Number	Description	Reported In Release	Fixed In Release
	errors as shown below to be reported if the settings are saved; # save saving ..nvmLib.c:3341 idbGet Failed for tmsL3Mib:tmsL3IpStaticMask nvmLib.c:3344 Errno = 00c8000a 0-00000000 1-00000000 2-00000000 3-00000000 nvmLib.c:3341 idbGet Failed for tmsL3Mib:tmsL3IpStaticNextHop nvmLib.c:3344 Errno = 00c8000a 0-00000000 1-00000000 2-00000000 3-00000000 nvmLib.c:3341 idbGet Failed for tmsL3Mib:tmsL3IpStaticName nvmLib.c:3344 Errno = 00c8000a 0-00000000 1-00000000 2-00000000 3-00000000 nvmLib.c:3341 idbGet Failed for tmsL3Mib:tmsL3IpStaticUseHw nvmLib.c:3344 Errno = 00c8000a 0-00000000 1-00000000 2-00000000 3-00000000 nvmLi.b.c:3341 idbGet Failed for tmsL3Mib:tmsL3IpStaticGateway nvmLib.c:3344 Errno = 00c8000a 0-00000000 1-00000000 2-00000000 3-00000000 nvmLib.c:3341 idbGet Failed for tmsL3Mib:tmsL3IpStaticRowStatus These messages can be safely ignored. Only valid settings on the switch will be saved.		
3813	The tmsL3Mib.mi2 file has a parameter named, tmsL3IpStaticAllowDefaultRouteInHw, which has the same OID value as the parameter, tmsL3IpStaticRouteCurrentRows. Both have the value, { tmsL3IpStatic 8 }. This MIB file is not provided to customers and this issue should not have any affect on switch users.	5.5.0	
3815	Lua event handler for RMON events should be triggered when a threshold value is hit exactly. However, the even handler is only triggered after the threshold is crossed.	5.5.0	
3830	The switch chip contains a large frame buffer which is not covered by the background integrity tests. If a failure occurs in the frame buffer, the switch could forward corrupted packets with recalculated (good) FCS. The integrity tests need to be enhanced to cover this case. The probability of this kind of error is very low.	5.5.0	
3836	After an 'sshd key show' reveals an ssh key is active, one must wait an addition amount of time (~10 seconds) before one can attempt to log in using that key. Otherwise, the switch will terminate any sessions started with that key.	5.5.4	
3844	There are two issues that are seen in the PTI Private RSTP MIB file. 1. The object dot1dStpPortAdminPathCost is not correctly	5.5.0	

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PTI Bug Tracking Number	Description	Reported In Release	Fixed In Release
	defined in the mib. It is a part of Dot1dStpExtPortEntry and therefore needs to be included in the SEQUENCE definition for that entry. This does not effect mib ordering but does prevent some SNMP clients from successfully compiling the mib. 2. The second issue is more subtle but has the effect of relocating the objects defined in the rstp mib file to a location other then the intended location. The responsible line in the mib file reads dot1dStp OBJECT IDENTIFIER ::= { rstpMIBObjects 1 } This line essentially creates a second dot1dStp object under rstpMIBObjects. This line should not be in the file. The oids in this file are intended to extend tables in the bridge mib. For example the object 'dot1dStpVersion' is defined as leaf node 16 in the rstp mib file. The intent of this definition was to extend the dot1stp table in the bridge mib not to create a new table beginning at leaf node 16. Some SNMP clients ignore this line and place the objects in their proper location under the bridge mibs do1dstp group. However, the net-snmp utilitiy, **snmpget**, interprets the files such that the objects appear under rstpMIBObjects. If however, you walk the mib using 'snmpwalk -v 2c -c public <IP> dot1dstp', the main part of the dot1dStp table is ignored and all you see are the additional rstp definitions.		
3850	If you configure a Lua event handler to run on change of status of an AG or SW, the handler may execute when a link associated with the AG/SW goes down, but other link(s) are still up. The event should only trigger on the last link change. It is recommended that the handler check the status of the links.	5.5.0	
3854	When a port transitions from Forwarding to Discarding and the port is currently used for L3 switching, the L3 table may not be updated to remove the port or to replace the now Discarding port with one that is Forwarding. If a link change or a Spanning Tree topology change is associated with the port state change, then the L3 table is updated. However, there are cases that can result in a port state change which does not involve either a link change or a topology change. One example is when a state change is caused by port path cost changes on a bridge. The L3 table will eventually be updated by the ARP-refresh mechanism, but this could take up to 10 minutes.	5.5.0	
3863	When trying to log into the Web interface on the switch via one of the switch ports when there is no link on the management port, the switch will fault. This does not occur when there is a link on the Management port. When you click	5.5.0	

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PTI Bug Tracking Number	Description	Reported In Release	Fixed In Release
	on "Click To Login" the http task to take an exception as shown below; **05/11/2007 07:52:59 0x13afd08 (tHTTPd): panic: accept** **program** **Exception current instruction address: 0x00000000** **Machine Status Register: 0x0008b030** **Condition Register: 0x24000048** **Task: 0x13afd08 "tHTTPd"**		

1.3.6 User Manual Errata

The following table outlines the known errata in the User Manual (PTI Part Number 113P0367) component of the CPC441x:

Table 7: User Manual Errata

PTI Bug Tracking Number	Description	Reported In Release	Fixed In Release
2924	The durability of parameters is not clearly described.	10	20
N/A	Added information on 5.4 Features.	10	20
2963	The details of the Beacon frame describing the revision field, length, timestamp, and optional user data should be described in the User Manual. The manual should also give some guidance on the use of the priority field - especially as it relates to the rate of operation and loss limit that attached clients are configured for.	20	41
3002	The Link Trap code has a throttle mechanism that allows it to send only one link trap every 5 seconds. The User Manual does not describe this behavior. The user should not depend solely on Traps to determine link states from the switch. It is advisable to poll for the current link state after a link change trap is seen.	20	30
N/A	When walking the Static Route (cpc4400L3IpStaticTable), in a Lua script using idbGetNext(), the switch can get into an infinite loop. A description of the proper way to perform this walk is needed in the Lua Examples section of the manual.	30	41
N/A	A clarification is needed in the manual that the VRRP interval value must be	30	41

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PTI Bug Tracking Number	Description	Reported In Release	Fixed In Release
	the same for all switches configured to support a VRRP instance.		
N/A	A description of the SC Fiber port on the CPC4411 is needed in the Specifications section.	40	41
N/A	The V(I/O) voltage requirements and pin-out are not included in the Specifications chapter.	40	41
N/A	The description of the idbObjIdAnySet Lua function is incorrect. An example of usage is also needed.	40	41
N/A	The management of OSPF Metric Type on a Stub Area has been removed and the manual updated to reflect that.	40	41
N/A	The DHCP Configuration for providing a default router address was mis-spelled. It was spelled, 'router', when the correct spelling is 'rout'.	40	41
N/A	The link Aggregation configuration for Actor Delay was described as a single value for the switch, when it is actually a per-port setting.	40	41
N/A	The Packet Filter usage of the Egress port filter is not clear. The Egress Port filter can only be used for known unicast MAC addresses.	40	41
N/A	The usage of DHCP client consumes packet filters. A note to this effect was added to the manual.	40	41
N/A	RMON Receive Statistics include counts of packets sent as well. This is a silicon issue and needs to be noted in the manual.	40	41
N/A	A clarification needs to be made regarding the fact that the Action value in a Packet Filter is specified in Decimal.	40	41
N/A	A clarification needs to be made regarding the fact that Packet Filter settings are NOT saved across reboots.	40	41

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2. Latest Changes

This section outlines the changes made to this document relative to the previous revision of this document.

2.1 Current Component Revisions

The following table provides the PTI part numbers for each major component of the CPC441x product:

Table 8: Component Part Numbers

Component	PTI Part Number	Current Revision
CPC4411F Hardware	120P0433 120Q0595 (RoHS)	70 40
CPC4411E Hardware	120P1433 120Q1595 (RoHS)	70 40
CPC4416N Hardware	120P0435 120Q0555 (RoHS)	70 20
CPC4416F Hardware	120P1435 120Q1555 (RoHS)	70 30
CPC4411 Boot PROM	810P0678 810Q0855 (RoHS)	60 (6.0.0) 10 (1.0.0)
CPC4416 Boot PROM	810P0679 810Q0816 (RoHS)	61 (6.1.0) 61 (6.1.0)
SMB Firmware (Both models)	810P0581	31 (1.03)
CPC4411 Boot Loader	810P0680	21 (5.5.30)
CPC4411 Software and MIB	810P0681	21 (5.5.30)
CPC4416 Boot Loader	810P0682	21 (5.5.30)
CPC4416 Software and MIB	810P0683	21 (5.5.30)
CPC441x User Manual	126P0433	41

2.2 New Features

The following new features have been introduced in this revision;

MGMT0 Port Multi-homing

The switch now supports multi-homing on the MGMT0 port. A side-effect of this enhancement is that the new software removes any IP settings configured on the MGMT0 port when a ‘switch defaults’ is performed. Previously, MGMT0 settings were maintained in a file named ‘persist’. These settings are now stored in the ‘durable’ file.

IGMP Querier

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The switch now supports the ability to periodically send IGMP Query PDUs on a VLAN by VLAN basis. This enhances the ability to use IGMP in a Layer-2 environment to create multicast domains without requiring the presence of an IGMP Router. Please refer to the User Manual for more information on this feature.

DHCP Client Enhancements

The switch now supports the ability to use DHCP client to acquire an IP Address on any of the switch's network interfaces. This required a change to the CLI commands for these functions ('bootp' and 'dhcp client' command groups) to include a mandatory network interface argument. Please refer to the User Manual for more information on this feature.

OSPF and RIP Bug Fixes

There have been many bugs with OSPF and RIP in earlier releases of the switch software that prevented their use in most applications. These have been corrected and the corrections have resulted in new commands and possibly modified usage of previously existing commands. Please refer to the User Manual for more information on the routing command set and the operation of the routing protocol feature.

Level 1 Integrity Enhancements

The switch Level 1 Integrity test subsystem has been modified to allow for better notification of failure and to allow the switch to continue operation after a PHY or MAC failure. The following bullets describe the changes made to this subsystem;

- The MAC and PHY tests are now recoded to run on a per-MAC and per-PHY basis, rather than as a MAC and PHY subsystem of the board, as was done previously.
- The MAC and PHY tests now continue to run on those devices that have not failed. Previous to this change, three consecutive failures of any device in each of these subsystems caused the test for the entire subsystem to be disabled.
- A single failure of a test will now cause the test to be disabled for the device that failed. For the MAC test, the one port that failed will no longer be tested. For the PHY test, all of the ports that are supported by the failed PHY will be disabled.
- The test status (Error Code) for each test will be modified from being a device number in the upper 16 bits and an error code in the low 16 bits, to being a bit map of the devices that have failed the test. This status will remain intact until the switch is reset.
- No configuration actions are allowed on a failed device.
- No traffic is forwarded to or from a failed device.

Please refer to the User Manual and CPC6600 MIB for more information on this feature.

SSH/SFTP Enhancements (5.5.14)

SFTP has been added to this release to allow for secure transfer of files to and from the switch. SSH was present prior to this release, but this release adds several new commands to allow for the management of SSH Key Files. The following text will be added to the Switch Management Chapter of the User Manual and it describes the new SSH/SFTP features;

SSH/SFTP

The switch supports secure remote management and file transfer through SSH and SFTP. SSH is a software based mechanism that automatically encrypts and decrypts messages sent between the client and the server (switch). A client that runs SSH may connect to the switch and manage it via a CLI session

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without the risk of the traffic being monitored or intercepted. In addition to operating a secure CLI session, the switch supports secure file transfer using SFTP. SFTP operates like FTP except that all network traffic is encrypted and decrypted as with SSH. The switch uses SSHv2 and operates as a server only.

SSH and SFTP are disabled by default. Both may be enabled by using the “sshd enable on” command.

The switch supports both password and public-key authentication for SSH and SFTP. The switch and the SSH client both have a public key that may be exchanged prior to establishing a connection. If these keys are exchanged and installed at each end prior to making a connection, then the switch and the client will use these keys to authenticate each other and allow the session to be established without the need for typing in a password. If the client does not have the switch’s public key or vice-versa, then automatic authentication will fail and the switch will force a password to be provided. This is the same password that is established as the CLI password for telnet or console-based CLI access. If the proper password is provided, then the session is established.

When the user attempts to connect to the switch, the switch will send its public key to the client machine. If the client does not have the correct key for the switch, then the client will typically display a message that asks the user to verify that the switch is actually the host that the user believes he/she is connecting to. This message typically includes a short (16-digit) fingerprint of the switch’s public key. The switch provides a CLI command that allows the fingerprint of the key file to be displayed (“sshd key export”). This fingerprint should be used to validate that the user has connected to the proper switch. If the user accepts the fingerprint as identifying the switch, the client software typically allows the server’s key to be added to a known_hosts file to avoid this step after the initial connection is established.

In order to prepare for public-key authentication, the user should export the switch’s public key to an ASCII formatted file and then incorporate the contents of this file into the client’s known_hosts file. This process is specific to each client and you should consult the documentation for the SSH client software being used. The public key file for each potential client should be placed on the switch in the directory, “flash:/private” and then each of the client keys needs to be registered in the authorized client key registry. This is done by executing the command, “sshd key add” for each client key. Once client keys have been registered, they may be managed using the “sshd key show” and “sshd key remove” commands.

SFTP is enabled whenever SSH is enabled. The same authorized access as described for SSH above, applies to SFTP. The password used for SFTP access is teh same password as is used for SSH, Telnet and Console access to the CLI.

The following text will be added to the Switch Management Chapter of the User Manual and it describes the new SSH Key Management commands;

Add a Client Public Key To the Registry

Synopsis

`sshd key add [keyfile]`

Where:

`keyfile` is an ASCII Label identifying the Client Key File.

Description

Client keys for SSH are stored in the directory, ‘flash:/private’. Each Key File that is in use is listed in a registry file named. id_dsa.pub, which is also located in the directory, ‘flash:/private’. This command adds a key file name to the

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registry file and enables the SSH Server to use the key for client authorization. The key file must be placed into the directory, 'flash:/private', before adding it to the registry.

Export the Host Public Key to ASCII Format

Synopsis

`sshd key export [keyfile]`

Where:

`keyfile` is an ASCII Label identifying the Client Key File.

Description

Export the Switch's Public Key to Base64 Content-Transfer-Encoding. This generates an ASCII file containing the SSHD Public Host Key of the switch, allowing the key to be added to a client's known_hosts key file. The name of the output file may be provided as an argument. If no output filename is provided, the default is 'flash:/private/id_dsa.pub'. A 16-digit fingerprint of the key is displayed which may be used by the client to validate the key.

Generate New Host Public and Private Keys

Synopsis

`sshd key generate`

Description

Generate new public and private authentication keys for ssh. The user is prompted to enter some random text which is used to add entropy to the cryptographic algorithms used by SSH. The new key files are stored as a series of MPINTs in the files flash:/private/sshkey.pub and flash:/private/sshkey.prv. The new public key file may be exported to ASCII format with the 'sshd key export' command and then added to the known_hosts key file on the client machine.

Remove a Client Public Key From the Registry

Synopsis

`sshd key remove [keyfile]`

Where:

`keyfile` is an ASCII Label identifying the Client Key File.

Description

Client keys for SSH are stored in the directory, 'flash:/private'. Each Key File that is in use is listed in a registry file named. id_dsa.pub, which is also located in the directory, 'flash:/private'. This command removes a key file name from the registry file and disables the SSH Server from using it for client authorization.

Display the Client Public Keys Stored in the Registry

Synopsis

`sshd key show`

Description

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Client keys for SSH are stored in the directory, 'flash:/private'. Each Key File that is in use is listed in a registry file named. id_dsa.pub, which is also located in the directory, 'flash:/private'. This command displays all of the currently registered Client Keys.

RSTP Port Path Cost Management (5.5.19)

The RSTP MIB has been enhanced to allow support of the port path cost. The MIB variable, dot1dStpPortAdminPathCost has been implemented along with associated CLI commands. This parameter is provided in the current darft standard for the RSTP MIB. The MIB definition for this parameter is;

"The administratively assigned value for the contribution of this port to the path cost of paths toward the spanning tree root.
Writing a value of '0' assigns the automatically calculated default Path Cost value to the port. If the default Path Cost is being used, this object returns '0' when read.

This complements the object dot1dStpPortPathCost or dot1dStpPortPathCost32, which returns the operational value of the path cost.

The value of this object MUST be retained across reinitializations of the management system."

The following text will be added to the Switch Management Chapter of the User Manual and it describes the new command;

Set Administrative Path Cost on a Port (RSTP Only) or Display Operation Path Cost on a Port (both STP and RSTP)

Synopsis

`span port pathcost <portlist> [pathcost]`

Where:

`portlist` is a List of Port numbers. (Refer to "List and Port" on page x.)
`pathcost` is a new path cost value between 0…200000000 (Only if RSTP is running)

Description

Set the administratively assigned value for the contribution of this port to the path cost of paths toward the spanning tree root. Writing a value of '0' assigns the automatically calculated default Path Cost value to the port (based on port speed).

If no pathcost value is specified, then this command displays both the administrative path cost (RSTP) and the operational path cost (STP or RSTP) of the port.

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2.3 Errata Corrections

The following tables itemize the bugs corrected in this Release relative to the previous releases:

Table 9: Hardware Errata Fixes

PTI Bug Tracking Number	Description	Reported In Release

Table 10: Firmware Errata Fixes

PTI Bug Tracking Number	Description	Reported In Release
N/A	When using the CPC4416 with a FlexLink adapter, and the FlexLink fails POC, the Fault LED on the FlexLink is not illuminated and the switch will continue to boot. The switch will then typically fail to establish connectivity with the FlexLink during the Application initialization.	810P067950

Table 11: Boot Loader Errata Fixes

PTI Bug Tracking Number	Description	Reported In Release

Table 12: Application Software Errata Fixes

PTI Bug Tracking Number	Description of fix	Reported In Release
2280	When an IP interface is deleted, the entries in the Routing Table to support that interface are not removed. This may cause OSPF and RIP to continue to advertise the switch as a path to the now deleted interface. If RIP or OSPF are in use and an interface is deleted, the switch must be rebooted to allow RIP and OSPF to register the change.	5.3.111
2536	When configuring more than 8 VLANs, the switch fails to establish the proper egress port list for the default VLAN. Until this is corrected, limit the number of VLANs to 8 or less.	5.3.204
2643	If a user creates an IP interface, the system will add the IP ALL_HOST MCAST address to the hardware filtering database. VRRP/OSPF/RIP will also add "system L2 multicast entries in hardware in order to receive their desired protocol advertisements. If a user changes the VID associated with the interface that these protocols are using, their multicast entries will not be updated to reflect the new VID in hardware. It is recommended that the user perform a reboot if the VID associated with an IP interface is modified after the interface has been in use.	5.3.112
2822	When using SNMP to get the next table entry for multiple objects, the switch returns the incorrect table entry for all but the first object. For example, a GETNEXT for multiple table objects will return the next entry for the first table object, but	5.3.204

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PTI Bug Tracking Number	Description of fix	Reported In Release
	will send the next of the next entry for the subsequent objects (one entry is skipped). It is recommended that GETNEXT be only used for a single object at a time.	
2946	When the MGMT0 port is forced down or there is no link partner attached to it at boot, an error messages is generated, "`nvmLib.c:3390 Failed IDB_NVM_SET for ptiIPManagement:ptiMgmtDuplexSpeedSet (0x0)`" This message can be safely ignored.	5.4.0
2987	When the switch is inserting a Layer-3 hardware table entry, it looks up the port on which the next hop MAC Address is located. If the MAC Address is not found the ARP table entry is deleted for that host. This was done to force the host to talk because the next packet destined for this host will require an ARP request/reply. However, the code makes no attempt to determine if the ARP entry being deleted is static or dynamic and will delete the entry even though if it is a static entry.	5.4.2
3143	If a network interface is being advertised with OSPF, and the interface is deleted, the switch will produce an error message such as the following, which can safely be ignored; **# ip delete sw0** **05/25/2056 19:01:42 0x6422e80 (tPtiCon): ROUTE_IF_NEWADDR cannot find entry w/ index 1100001 (tmsL3Mib.c 2006)** **#** If a save operation is attempted after this occurs, the save will fail as follows. **# save** **saving ..nvmLib.c:3341 idbGet Failed for rfc1850:ospfIfAreaId** **nvmLib.c:3344 Errno = 00c8000a 0-0000000a 1-00000000 2-00000000 3-00000002 4-00000000** **nvmLib.c:3341 idbGet Failed for rfc1850:ospfIfStatus** **nvmLib.c:3344 Errno = 00c8000a 0-0000000a 1-00000000 2-00000000 3-00000002 4-00000000** **.....done** **#**	5.4.107
3177	The switch allows the user to enter illegal netmasks for IP configurations. Netmasks are required to be contiguous 1's for the network portion.	5.4.107
3258	If Integrity Test 1 (MAC test) fails on a port, then all ports of the switch become disabled. The partner does not lose link,	5.4.107

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PTI Bug Tracking Number	Description of fix	Reported In Release
	but the switch will report that link is down, and no traffic will be forwarded on any port. The desired operation is to allow good ports to continue functioning.	
3265	RSTP may lock up when SNMP Traps for RSTP Topology changes are enabled. The following messages may be seen; “interrupt: unable to send RSTP tick”	5.4.110
3267	When multiple switches are used with OSPF, the OSPF Neighbor State machine can get stuck or lead to incorrect router states when the switches are under a heavy network load. This can happen at start up or following the removal or insertion of one of the switches. The result is that the routing tables never converge and traffic does not flow. Toggling OSPF off and on corrects the problem.	5.4.107
3281	The fix to IR3258 introduced a bug where the failure of one PHY would disable some PHYs that had not failed.	5.4.110
3289	Whenever a string is the allowed field in the FRU, there is no provision to force the user to put in at least two characters. When One character is entered, this leads to a type/length field of C1, which is the value indicating there are no more fields following. This also leads to non-zero bytes after the C1 which is a violation of the Platform Management FRU Information Storage Definition v1.0. This can be avoided by always entering a minimum of two characters in each FRU field.	5.4.2
3290	The sysUpTime MIB variable rolls over to zero after 248 days. This should be 497+ days.	5.4.2
3298	When the system uptime gets nears its rollover value of 248 days, the ARP cache timers do not function properly. An ARP entry is placed in the cache with an expiry time in the future (say 20 minutes). The expiry time is kept as a tick counter. If the current tick count plus the ARP timeout value causes an overflow, the expiry tick timer will have a lower absolute value than the current time. This causes the ARP entry to age on the next arptimer tick. This prevents ARP cache entries from being maintained and prevents the switch from communicating on the network. Once the system uptime rolls over, the switch will begin communicating again until the next rollover.	5.5.0
3302	If a tftp transfer is initiated to a server on which the tftp service is disabled, and the initiating task is running at a priority lower than the network manager (eg. telnet or backgroung Lua script), the task loops endlessly consuming CPU cycles. This results in slow performance for any task running at a low priority - including SNMP.	5.5.0
3304	In some cases the switch may be required to send a packet made up of more than 20 mbufs. If the amount of data in each mbuf is less than 75, then a 1500 byte packet will require more than 20 mbufs. The code arbitrarily limits the number of mbufs in a transmit unit to 20. If this number is exceeded, the	5.5.0

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PTI Bug Tracking Number	Description of fix	Reported In Release
	following messages will be seen and the packet will not be sent. MBUF train types [2] [1] [1] [1] [1] [1] [1] [1] [1] [1] [1] [1] [1] [1] [1] [1] [1] [1] [1] [1] [1] 05/25/2005 13:48:00 0x63ebe80 (tFtpdServ1): Too many mb uf fragments port=0 dmaTransferCount=1 clRefCnt=1, clSize=128 Pool: mBlkCnt=400, sgCount=21 PACKET len=70 00c08b07 815c00c0……. (PACKET DUMP)	
3305	When MACs are learned on port 24, the port number is displayed as nil with 'fdb learned'. This problem also prevents Layer-3 switching to port 24, since we are not able to build the hardware route entries. Layer-2 switching works, though, since the MAC is really learned by the hardware and the software is not involved in Layer-2 switching.	5.5.0
3306	When an ARP entry is updated with a new MAC Address without coincident link changes, the hardware table may not be updated. This may lead to invalid forwarding of frames to the IP Address until the ARP entry for this IP is erased.	5.5.0
3307	When you try to modify the VID or Retry value for a DHCP Client entry that is enabled, the CLI reports an error such as; “dhcp client vid: set tmsL3SwEndMappingRowStatus create failed” The DHCP Client entry is also disabled as a result of this.	5.5.0
3309	When the switch issues an ICMP Error message - such as; Host Unreachable, Redirect, etc., the source address in the ICMP packet is the first IP Address found on the interface. This is not always the best IP Address. With multi-homing, an interface can have multiple IP Addresses. The IP Address that best matches the target of the ICMP should be used. This problem can cause incorrect reports of paths taken through a switch when using traceroute.	5.5.0
3310	FTP of large file onto switch when switch is acting as client can cause truncated file or Data Exceptions.	5.5.0
3313	The CPC441x has a much lower amount of free memory when running the 5.5.0-5.5.5 code revisions, than it had when running 5.4.x. This has led to scenarios where the switch runs out of memory and reports a message like the following; “07/05/2005 14:01:30 0xfa29c0 (tLuaEventHandler): memPartAlloc: block too big - 68 in partition 0x7b6818.” This is especially possible when multiple telnets are in process.	5.5.0

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PTI Bug Tracking Number	Description of fix	Reported In Release
3317	When using the FTP server on the switch to transfer large files over and over, very close together, the server hangs after ~50 transfers, and no FTP transfers are processed again without a reboot.	5.5.0
3320	When adding Packet Filters that specify an Ingress port, the switch does not install the filter and it generates a set of messages similar to the following; **08/02/2005 21:16:34 0x148c070 (tPtiCon): Unable to install filter (9992 0 0xffffffff2)** **08/02/2005 21:16:34 0x148c070 (tPtiCon): ptiUserInclusiveFilterRulesStatusSet: addHwFilter failed**	5.5.0
3322	When a port transitions to the Spanning Tree Forwarding state, the hardware route cache is flushed. This is done to ensure that the switch will re-evaluate the paths to the next-hop for each route and reprogram the hardware with the best path available. Flushing of the cache can cause packet loss. If a port is not configured to run STP/RSTP, then the transition to Forwarding should not cause the cache to flush.	5.5.0
3323	When running the install.lua script for 5.5.x, the following error occurs when the file, cpc441x.mib is attempted to be transferred; Getting Support Files From X.X.X.X Error code 1: File not found tftpGet: Error occurred while transferring the file. Error getting files. Install Aborted The file should be cpc4400.mi2.	5.5.0
3315	The FTP or TFTP transfer of large files to or from the switch file-system, from a console-based CLI, can cause protocol timeouts for network protocols such as STP, RSTP, RIP, OSPF, or VRRP. This is due to the fact that the console interface runs at a higher priority than the network, and the file transfer may starve these protocols. It is recommended that large file transfers be performed using a telnet-based CLI (ie. telnet to the switch and perform the transfer).	5.5.0
3324	The FTP or TFTP transfer of large files to or from the switch file-system, from a console-based CLI, can cause Integrity test #4 to fail because it is testing for network starvation and this occurs during the transfer - see IR3315 above. This is due to the fact that the console interface runs at a higher priority than the network, and the file transfer may starve the network – eg; Getting Application File From	5.5.0

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PTI Bug Tracking Number	Description of fix	Reported In Release
	147.139.30.250 08/12/2005 11:46:49 0x10b5aa8 (tL1Integrity): Error while running Test number 4: The error code returned was 27. 08/12/2005 11:46:49 0x10b5aa8 (tL1Integrity): Disabling test number 4, due to 1 consecutive failures. It is recommended that large file transfers be performed using a telnet-based CLI (ie. telnet to the switch and perform the transfer).	
3325	GUID is a 16 byte Unique Identifier that is displayed to the user as a ASCII character string. The fist 8 byte of GUID is converted to string (16 ASCII characters) instead of all 16 bytes. This does not affect any operation of the switch and only affects the ability to properly see the GUID from the CLI.	5.5.0
3326	If a host is not present (no L2 entry), but the switch has an entry in its ARP cache for the host, and a high rate of traffic is going to that host, then the switch may get overloaded until the ARP cache times out. Once the ARP cache times out then the ARP filter will protect the CPU.	5.5.0
3327	The switch does not send ICMP Unreachable messages when forwarding packets to a non-existent target. This is a side-effect of a protective mechanism that installs a dummy route entry in hardware when there is no ARP resolution for the next-hop.	5.5.0
3334	A Data Exception could occur when the switch attempts to connect to a host that is not present in the network. This was introduced in 5.5.8 and did not exist in prior patch versions.	5.5.8
3337	If the MAC Address of the default gateway moves to a new port, without link going away on the previous port, there is a chance that the hardware route table will not be updated with the new port. This can occur following a spanning tree topology change.	5.5.1
3335	Both the STP and the RSTP should indicate port as Disabled when port is administratively Disabled with "span port enable" command. Instead, the "span bridge show" shows port as Forwarding when the Link is UP. Disabled ports will not switch user's traffic and should be displayed as Disabled by the "span bridge show" command. This is a s display issue only. The hardware state is correct. This can occur when a port is disabled using the CLI command ‘span port enable x off’ or via SNMP or IDB using, ‘rfc1493:dot1dStpPortEnable.	5.5.1
3344	Using SNMP to configure packet filters can result in invalid states when a Filter Rule is established without having a valid	5.5.0

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PTI Bug Tracking Number	Description of fix	Reported In Release

	Mask. The creation of the Filter Rule reports a failure, but the Rule is partially created and cannot be deleted. An example is shown below. The log message shows where the SNMP command to create the illegal Filter Rule had failed.
	
	`# 09/12/2005 18:55:45 0x1509428 (tSnmp): ptiUserInclusiveFilterRulesStatusSet: addHwFilter failed`
	`# filter mask show`
	`# filter rule show`
	`Index: 1`
	`Priority: 0`
	`Port: 1`
	`Precedence: 0`
	`Ingress port: 0`
	`Egress port: 0`
	`Action: 65`
	`Mask #: 0`
	`Description: mirror http`
	`Status: valid`
	`00000000: 0000 0000 0000 0000 0000 0000 0000 0000 *.....*`
	`00000010: 0800 0000 0000 0000 0000 0006 0000 0000 *.....*`
	`00000020: 0000 0000 0000 0000 0050 0000 0000 0000 *.....P.....*`
	`00000030: 0000 0000 0000 0000 0000 0000 0000 0000 *.....*`
	
	`#`
	`# filter rule delete 1`
	`09/12/2005 18:55:52 0x14a64b8 (tPtiCon): Unable to destroy filter - No Template List ( 10049 33 0xffffffff)`
	`09/12/2005 18:55:52 0x14a64b8 (tPtiCon): ptiUserInclusiveFilterRulesStatusSet: delHwFilter failed`
	`filter rule delete: (error)`
	`# filter rule show`
	`#`	

3346	The switch exposes a possible security hole by opening two TCP ports running a debug service on them which cannot be disabled. This might be exploited in a hostile attack on the switch.	5.5.0
3348	Following the transfer of a file to the switch using FTP or SFTP, the size of the file may be incorrectly reported as the value, 4294967295, which is equivalent to -1. As a temporary workaround, check the file size after transferring it to the switch. If it is not the proper size, delete the file, and transfer it to the switch again.	5.5.0
3352	When logging to Flash, the CPU can stop processing the	5.5.0

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PTI Bug Tracking Number	Description of fix	Reported In Release
	RSTP protocol for more than 3 seconds. This may cause failures in the RSTP protocol when a Hello timer value of 1 second is in effect. It is recommended that the Hello timer be set to 2 seconds to reduce the potential for this condition or that logging to Flash be disabled.	
3358	A condition has been observed that causes telnet to hang when accessing the switch. This is not fully characterized, but is believed to be exacerbated by starting a session and then killing the session from the client before the login: prompt is provided.	5.5.0

3359	If you configure an IP Address on an interface (eg. sw0) in one VLAN and then configure another IP Address on that same interface in another VLAN, the switch accepts the setting and moves all IP Addresses on that interface to the second VLAN. The switch should reject this. Here is an example;
	
	`# ip config sw0 10.1.1.1 255.0.0.0 3`
	`# ip stats sw`
	
	`Interface: sw0`
	`Name: None`
	`Status: Active`
	`MAC: 00:c0:8c:58:24:f7`
	`VID: 3`
	`IP address: 10.1.1.1`
	`Netmask: 255.0.0.0`
	`# ip config sw0 192.168.1.1 255.255.255.0 1`
	`# ip stats sw`
	
	`Interface: sw0`
	`Name: None`
	`Status: Active`
	`MAC: 00:c0:8c:58:24:f7`
	`VID: 1`
	`IP address: 10.1.1.1`
	`Netmask: 255.0.0.0`
	`IP address: 192.168.1.1`
	`Netmask: 255.255.255.0`
	`#`
		5.5.0

3360	FDB learning in a split-path Layer-3 configuration may cause route table to be configured with incorrect ports. This is a configuration where packets between two hosts use the switch as a gateway in on direction, but use another path for the reverse direction. This can cause the switch to incorrectly set the port number of the next–hop of one of the paths incorrectly. It is recommended that this type of configuration be avoided.	5.5.0
3365	Certain CLI commands can cause VRRP or RSTP protocol	5.5.0

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PTI Bug Tracking Number	Description of fix	Reported In Release
	errors and Integrity Test 4 failures. This is caused by the command consuming too much CPU at a higher priority than the network task. This prevents these protocols from receiving packets in a timely fashion. These commands include; **# port link all** **# lag config actor akey all** **# lag config aggr all**	
3367	If RSTP is disabled on a port, that port is still processed in calculating the STP states every second. This causes the state machines to consume more CPU bandwidth than needed.	5.5.0
3368	If the user employs a program to login to the switch, and provides the password very quickly upon seeing the Password: prompt, there is a chance that you will not get a CLI prompt after you send the password. The problem is caused because the code sends the Password: prompt and then changes the TTY settings to turn off ECHO (to prevent the password from being displayed). Turning off ECHO flushes the input buffer (discarding the provided password). A human would not be able to provide a password between the prompt and reprogramming the TTY line, but a program could. Shutting down the session and trying again if no prompt is seen within a certain timeframe will get around the problem. We have corrected the code for this by reprogramming the TTY before offering the Password: prompt.	5.5.0
3372	Undefined objects, cpc4400CommonMiscMgmtDHCPClientRetries and cpc4400CommonMiscMgmtDHCPClientID are listed in cpc4400.mi2 MIB file. These are misspellings of the intended object names; cpc4400CommonMiscDHCPClientRetries and cpc4400CommonMiscDHCPClientID	5.5.0
3373	Syntax error in ptiSwitch.mib file at line 230. The characters "----" are treated as an arithmetic operator by some SNMP MIB compilers.	5.5.0
3380	If you configure the switch with multiple IP addresses on an interface and generate traffic to one of the IP addresses, and while traffic is running, you delete that IP address and then re-configure it, the switch will end up with an entry in the L3 Filter Table that will restrict traffic to that IP. The L3 Filter Table is a table of IP addresses that are targets for traffic that the switch does not have ARP resolution for, The switch will restrict traffic destined to these IP addresses in order to avoid being bogged down with trying to route packets to a nonexistent host. When the IP address is initially configured and traffic is started to that IP, the source of the traffic is using the switch's MAC Address as the target. When the IP is deleted, the source continues to use the switch's MAC Address, but now the IP is no longer that of the switch, and the switch tries to route the packets. There is no host with that IP, so the IP is added to the filter table to limit the amount	5.5.0

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PTI Bug Tracking Number	Description of fix	Reported In Release
	of traffic to that IP being sent up the stack. When the IP address is reconfigured, the filter entry is not removed and now traffic to that IP is restricted unnecessarily.	
3381	If a packet is sent to an IP Address that the switch owns, an internally created L4-L7 Packet Filter causes the packet to go to CPU, based only on a match of the Destination IP. In cases where the switch provides a Layer-2 path to a gateway which then routes packets back to the switch, the switch will receive and process duplicate packets.	5.5.0
3385	Under heavy broadcast loads, the switch may be unable to manage the RSTP protocol. This is because the network load consumes CPU bandwidth and it is unable to process network traffic as required by this protocol.	5.5.0
3391	When multiple static network routes exist where two or more of these routes are in overlapping networks (for example, 10.10.0.0/16 and 10.0.0.0/8), then the route with the longer netmask may be erroneously deleted when the route with the shorter netmask is removed from hardware. The CLI will continue to show the longer netmask route, but it will not be usable.	5.5.13
3393	When ARP Verify is enabled and the MAC Address of an IP changes and the switch misses the gratuitous ARP, the switch may latch the old MAC Address permanently. This problem was introduced in 5.5.5 with the change associated with IR3298.	5.5.5
3394	Using the 'edit' CLI command, if you enter a single line that is greater than 512 bytes, the switch may overflow an internal buffer and cause a memory corruption or take an exception.	5.5.0
3396	Execution of the running.cli script generated with the CLI **running** command may cause RSTP or VRRP protocol failures or may cause Integrity Test 4 to fail. This is caused by the fact that the establishment of many settings consumes CPU bandwidth and it is unable to process network traffic as required by these protocols.	5.5.0
3403	Simultaneous SFTP accesses can result in connection failure and/or an error similar to the following being reported on the client, **"Disconnecting: Bad packet length 3156237182."**	5.5.14
3411	The current working directory of the console CLI interferes with the working directory for SFTP. If the console CLI is not currently positioned in the flash: filesystem, then SFTP cannot change directory to the flash: filesystem.	5.5.14
3419	Using the cli() call in a Lua script and the process of starting and stopping CLI instances (Telnet, SSH, Console login/logout) can cause memory to become fragmented. If memory is fragmented to the point where no block is larger than ~1.5M, no more CLI instances can be started.	5.5.0

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PTI Bug Tracking Number	Description of fix	Reported In Release
3420	Packets destined to the Broadcast IP address (255.255.255.255) are throttled from arriving at the switch CPU to a very low level. This was designed to prevent overload on the CPU. The low rate of packets allowed, however, has been shown to cause problems when the switch receives many DHCP Discover packets close together. These are destined to the Broadcast IP Address and the throttle mechanism restricts the rate that DHCP leases are provided. This problem was introduced in 5.4.25.	5.5.0
3424	The running command does not capture the state of rstp edgeport, pointtopoint, or holdcount when RSTP is enabled. These parameters are only valid when RSTP is used.	5.5.0
3425	The SFTP server added in 5.5.14 does not support V2 SFTP clients. A connection is not allowed to be established.	5.5.14
3426	If an SNMP access is made without a specified index, the switch should always return an error. Following an access with a valid index, however, an access without a specified index will use the index supplied by the previous access and will succeed.	5.5.0
3430	The settings for 'ip forward' and 'ip ttl' are not saved and restored across reboots. These parameters are supposed to be durable.	5.5.0
3431	SFTP of large files does not work reliably.	5.5.15
3432	If SSHD is disabled and a connection attempt is made to the switch, the switch will ignore the request rather than close the session. This causes the client to pend forever waiting for the connection. The switch should close the session to inform the client that it cannot service the request.	5.5.15
3439	SFTP performance is 4 times worse than FTP. This was caused by debug code left enabled in the 5.5.16 release.	5.5.16
3440	When using SFTP, you cannot change the working directory to be ramdisk. The default root directory is '/' and SFTP clients keep track of the current directory location, so changing to ramdisk: turns into a command to change directory to '/ramdisk:'. This is not a valid directory on the switch and so it fails. Note that the fix for this is such that when changing the current working directory between ramdisk: and flash: filesystems, you must be located at the root directory (ie. 'cd /' before you do 'cd ramdisk:'.	5.5.16
3444	SFTP Read performance is very slow for large files such as the switch image file. The performance of 'PUT' was improved with IR3439, but not 'GET'. This IR addresses the 'GET' performance.	5.5.16
3445	When running a background Lua script to provide a critical system function, it may be useful to monitor the operation of that script and to include it in the evaluation of switch integrity. An API has been developed to allow the user to configure the system watchdog timer to include the operation of a user script. Contact PTI support at support@pt.com if for	5.5.0

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PTI Bug Tracking Number	Description of fix	Reported In Release
	guidance if use of this API is needed.	
3450	The MIB parameter, dot1dStpRootPort returns a portID (priority plus port number) rather than simply a port number as defined in the MIB.	5.5.0
3453	The Port Path Cost parameter is not manageable on the switch. The RSTP MIB parameter, dot1dStpPortAdminPathCost should be implemented to provide this. (see New Feature section below).	5.5.0
3458	A semaphore deadlock can occur if simultaneous SNMP activity and CLI or Lua script activity is being performed. This causes SNMP activity to cease and CLI or Lua scripts that access rfc1213 parameters (eg. sysUptime, sysContact, sysLocation) will also cease.	5.5.0
3463	The switch allows the user to set the UDP Port Numbers used for DHCP to unique values for each interface. However the underlying OS does not support this operation. NOTE: The workaround for this is to have the DHCP code select the UDP port numbers configured on the first DHCP interface and use these for all interfaces on which DHCP is used. To avoid confusion, please configure all DHCP interfaces to use the same UDP ports.	5.5.0
3464	A TFTP access violation error causes the loss of one of the allowed TFTP sessions. A TFTP access violation error occurs if you try to write to a file that exists when tftpd-access settings do not allow this. If 10 errors occur, then all of the allowed sessions will have been used up and no further TFTP accesses will be allowed.	5.5.0
3465	When using client DHCP, the switch does not support the documented feature that a Server IP address and Lua file may be provided. BootP does support this operation.	5.5.0
3470	A condition has been observed where the switch acting as VRRP Master can stop sending advertisements and cycle between two states - one state causing the VRRP task to preempt network operation and cause loss of connectivity, and the other state where connectivity is restored, but still no advertisements are sent. The cycle time of this behavior is 36 minutes.	5.4.0
3471	If DHCP server provides SIAD, but no Default Gateway, the SIAD is not set in the MIB.	5.5.0
3476	The Integrity Tests on the switch include a check that there is at least 16K bytes free at all times. Unless there is a memory leak, the available memory should never go below this. However, a big in the memory statistics utility can cause this check to fail reporting that the amount of free memory is -1 (negative 1) bytes.	5.5.0
3477	Port Designated Bridge and Port ID's are reported incorrectly via SNMP. Instead of reporting the ID of the Designated Bridge or Port, the switch always reports its own Bridge or Port ID.	5.5.0

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PTI Bug Tracking Number	Description of fix	Reported In Release
3478	When the user accesses the RowStatus MIB object for a Secure Host IP Table entry that does not exist, an error message is logged to indicate that the access failed. This message does not indicate that there is was a failure, but simply that the entry did not exist. The message should be removed. A sample of the message is shown below; "05/17/2006 20:11:32 0x1434ff0 (tPtiCon): ptiSystemSecureHostStatus: secureHostIPGet failed"	5.5.0
3481	A particular port state transition when running RSTP occurs erroneously. This problem may cause longer than necessary resolution of RSTP protocol. The particular problem is described in the following test result; When port was a Root Port (Learning and Forwarding) and protocol information expired on the port and the protocol partner was no longer answering to RSTP BPDUs, the port should transition to DESIGNATED_DISCARD followed by DESIGNATED_LEARN and DESIGNATED_FORWARD. It should stay in the discarding and learning state for the duration of the Forward Delay time. Instead, such port did not go into a DESIGNATED_DISCARD but continued to forward traffic for the FD time and then went into DESIGNATED_LEARN for the FD time followed by the DESIGNATED_FORWARD.	5.5.0
3484	The Level One Integrity Tests on the CPC6600 do not include the 10G inter-switch link between the two switch chips. This data path should be covered by the Switch Chip and/or MAC Tests.	5.5.0
3485	The proper sequence for adding a static unicast MAC entry is to for make an SNMP set with dot1qStaticUnicastAllowedToGoTo then follow with a set of permanent(3) to the same entry with dot1qStaticUnicastStatus. However, if the first set to dot1qStaticUnicastAllowedToGoTo didn't form correctly or that first step was skipped the following exception can be seen: # data access Exception current instruction address: 0x001af99c Machine Status Register: 0x0000b030 Data Access Register: 0x2150894f Condition Register: 0x42000040 Data storage interrupt Register: 0x0000b030 Task: 0x1508ec0 "tSnmp"	5.5.0
3486	The "span rstp version" should set the rstpMIB:dot1dStpVersion. Instead, it sets the rstpOEM: rstpOEMBridgeStpAdminVersion. The former is related to the "span version" command. The "span version" command sets the rstpOEM:	5.5.0

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PTI Bug Tracking Number	Description of fix	Reported In Release
	rstpOEMBridgeStpAdminVersion to switch between the 802.1D-2004 RSTP code and the 802.1D-1998 STP code. This command requires saving and rebooting the switch. The 'span rstp version" needs to set the rstpMIB:dot1dStpVersion to force the RSTP code to operate in the STP compatibility mode. This command does not require rebooting the switch and takes effect immediately.	
3487	When the RSTP switch is connected to the STP switch and a port comes UP then such port should stay in Discarding State for ForwardDelay and in Learning State for ForwardDelay. Instead, incorrectly, the port transitions to Learning and Forwarding without using ForwardDelay timers.	5.5.0
3488	RSTP should disregard BPDUs with Protocol Version != 0. The switch allows BPDUs like this to be processed.	5.5.0
3490	The SNMP get for the Designated Root is returning a bridge's ID instead of the Root Bridge ID.	5.5.0
3491	When running RSTP, the switch may incorrectly ignore updated priority vector information from its RSTP protocol partner. This problem may cause longer than necessary resolution of RSTP protocol.	5.5.0
3492	The Beacon process sends Unicast or Multicast Beacon packets at regular intervals. Users may monitor these to ensure that the switch is operating. If the user creates a Unicast Beacon and the target host goes away or has no UDP service on the configured Beacon Port, then the Beacon task stops and sets the Beacon Instance to 'NotInService'. If the user is using Unicast or Multicast Beacons and the source interface goes away, then the Beacon also stops.	5.5.0
3499	When using the Switch Host Security mechanism, the following incorrect behavior may be seen; • If both "allowed" and "denied" entries are present, only the "denied" entries are processed. • If an entry had a specific protocol number, the interface name would be ignored. The rule would incorrectly apply for all interfaces. The proper behavior is; • All "denied" entries should be processed before any "allowed" entries. • Entries with both a specific protocol number and a specific interface name specified should be processed independently.	5.5.0
3500	The switch discards RSTP BPDUs with MessageAge greater than MaxAge. However, the specification indicates that these	5.5.0

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PTI Bug Tracking Number	Description of fix	Reported In Release
	BPDUs should be processed by the Port Information State Machine.	
3501	When you specify 0.0.0.0 as the Source IP Address of a Unicast Beacon, the switch should choose the IP Address of the appropriate switch interface to get to the specified destination IP Address. The CLI disallows this and reports an error.	5.5.0
3503	The Bridge Priority should be only allowed with values incremented by 4096. Setting Bridge Priority to a different value should fail, but is allowed by the switch.	5.5.0
3505	The RSTP should treat RSTP BPDUs with the port role set to UNKNOWN as Configuration BPDUs sent from the designated port. Instead, the switch interprets these BPDUs as RSTP and the Port Information State Machine (17.18) rcvdInfo() treats them as OTHER. In some circumstances, this can result in longer than necessary, or possibly no, resolution of RSTP protocol.	5.5.0
3506	The RSTP switch should discards the BPDUs that contain the same Bridge ID and port ID as the port on which they are received. Instead the RSTP detects such condition as loop condition and blocks such port. Ports should be blocked if they received BPDUs containing the same Bridge ID as the local bridge but different port ID. This represents a case when two ports of the same bridge are connected directly to each other thus causing a loop.	5.5.0
3508	The switch allows Invalid VRRP entries to be created by SNMP. For instance, when no IP address is assigned to an interface, you should not be able to associate a VRRP instance to that interface. If you create an invalid VRRP instance using SNMP and then delete it with the CLI, the switch will take a watchdog, indicating that a protected task (the VRRP task) has died.	5.5.0
3509	The VRRP implementation on the switch allows a user to specify 1 and only 1 associated ip address for a given vrrp instance. When acting as the backup router, however, it will learn additional associated IP addresses if the master VRRP router advertises more than 1 associated IP address. When the switch assumes the master role it will attempt to advertise these learned associated ip addresses. Advertising these learned addresses is not proper protocol, and the advertisement is formed incorrectly advertising the learned address as the address 0.0.0.0.	5.5.0
3511	The switch does not allow the user to configure certain legal values of the RSTP Timers. RSTP Timer values are specified in the RSTP 802.1D-2004 section 17.14. The validation test for the values is not per the specification and some legal values are disallowed.	5.5.0
3512	When running RSTP and after receiving a BPDU with new information, some ports may still send BPDUs with old information for several seconds This problem may cause longer than necessary resolution of RSTP protocol.	5.5.0

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PTI Bug Tracking Number	Description of fix	Reported In Release
3513	The RSTP implementation on the PTI switch, runs all its state machines once a second. Because of this, it may not transition into the intermediate states when receiving more than one BPDU on a port. This problem may cause longer than necessary resolution of RSTP protocol.	5.5.0
3514	If a port is not an edge port and is not connected to another switch then bringing the LINK UP or re-enabling such port should cause such port to state for some time in DISCARDING and LEARNING state before transitioning to FORWARDING state . Instead, such port transitions into FORWARDING without any delay.	5.5.0
3516	When using SSH to access the switch, the session hangs after 1000 bytes have been input.	5.5.0
3517	An SNMP Walk of the Beacon Table returns entries out of order.	5.5.0
3518	If the switch is configured with multiple IP addresses on an interface and is configured to source Beacons from one of those addresses, and that address is deleted, the Beacons continue to be sent from that address. The Beacons stop if all of the IP Addresses on the interface are removed.	5.5.0
3522	Setting the filename of the image file to reprogram the IPMC ('ipmi pm progfile'), to a name that is greater than 128 characters can lead to an overflow condition that corrupts memory.	5.5.0
3523	The implementation of the STP code which transitions between the short and long aging timer upon detection of a Topology Change, is incorrect. The problem is that the STP code works on the assumption, that since the switch itself generated a topology change, it can switch over to a short aging without any further delay. According to the specification, the switch should wait until it receives a Configuration BPDU with TC flag set from the Root Bridge before switching over to the short aging time. This is a minor problem in that it simply causes early aging of FDB entries.	5.5.0
3524	If an improper interface descriptor is given in a "switch security hostip add" no error message is given and "none" is assumed. For example, # switch security hostip add 10.0.0.3 255.255.255.255 allowed 17 udp3 # switch security hostip show SECURE HOST IP TABLE IP Address Subnet Mask IP List Result IP Type Interface Protocol Name ---------- 10.0.0.3 255.255.255.255 10.0.0.3 allowed 17	5.5.0

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PTI Bug Tracking Number	Description of fix	Reported In Release
	none # An error message should be given, and the entry addition should be denied.	
3528	Several counters from the RFC1213 ifTable and RFC2233 ifXTable are not reported properly for the network interfaces. They are reported correctly for the ap and ag interfaces. The reporting of the following MIB objects are affected: ifXTable:ifInMulticastPkts ifXTable:ifInBroadcastPkts ifXTable:ifOutMulticastPkts ifXTable:ifOutBroadcastPkts ifXTable:ifHCInOctets ifXTable:ifHCInUcastPkts ifXTable:ifHCInMulticastPkts ifXTable:ifHCInBroadcastPkts ifXTable:ifHCOutOctets ifXTable:ifHCOutUcastPkts ifXTable:ifHCOutMulticastPkts ifXTable:ifHCOutBroadcastPkts ifTable:ifInOctets ifTable:ifInUcastPkts ifTable:ifInNUcastPkts ifTable:ifInDiscards ifTable:ifInErrors ifTable:ifInUnknownProtos ifTable:ifOutOctets ifTable:ifOutUcastPkts ifTable:ifOutNUcastPkts ifTable:ifOutDiscards ifTable:ifOutErrors	5.5.0
3536	The ‘gettime’ command prints garbage log message when setting time via time serve protocol. For example, # gettime 192.168.1.1 time 08/29/2006 20:33:57 0x14a5a68 (tPtiCon): TPClient: getting time from 192.168.1.1 08/29/2006 20:33:57 0x14a5a68 (tPtiCon): TPClient: time set to: JP¸ doing 'gettime 192.168.1.1 ntp' works properly however. # gettime 192.168.1.1 ntp 08/29/2006 20:34:03 0x14a5a68 (tPtiCon): NTPClient: getting time from 192.168.1.1 # 08/29/2006 20:34:04 0x14a5a68 (tPtiCon): NTPClient: time set to: TUE AUG 29 20:34:04 2006	5.5.0
3538	According to ptiSystem.mib, the description of ptiCommonMiscDateTime is "Get or Set the system time and date. The value is expressed in number of UTC seconds since	5.5.0

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PTI Bug Tracking Number	Description of fix	Reported In Release
	January 1, 1900." and is of type "OCTET STRING (SIZE(1..64))". The correct definition is an OCTET String in the format "hh:mm:ss mm/dd/yyyy"	
3539	Setting the date and time via SNMP may cause an exception. According to ptiSystem.mib, the description of ptiCommonMiscDateTime is "Get or Set the system time and date. The value is expressed in number of UTC seconds since January 1, 1900." and is of type "OCTET STRING (SIZE(1..64))" However, attempting to set the date, passing an integer value results in a fault. For example, snmpset -IR 192.168.1.21 ptiCommonMiscDateTime.0 x 300 data access Exception current instruction address: 0x0001a6b0 Machine Status Register: 0x0000b030 Data Access Register: 0x05a42000 Condition Register: 0x24000080 Data storage interrupt Register: 0x0000b030 Task: 0x1508ab8 "tSnmp"	5.5.0
3540	Setting time via SNMP doesn't actually set the time on the switch. For example, sending the command: snmpset -IR 192.168.1.21 ptiCommonMiscDateTime.0 s "00:00:00 08/30/2006" This sets the time according to snmp, and if you do a snmpget of ptiCommonMiscDateTime.0 you will see that the time is incrementing from what you set it to. However, if you do a "date" command from the CLI, it still shows the old date and time.	5.5.0
3542	Simultaneous SSH accesses can result in connection failure and/or an error similar to the following being reported on the client, **"Disconnecting: Bad packet length 3156237182."**	5.5.14
3548	If you connect to the switch via HTTP server on the "Management Configuration - Switch" panel the option IGMP Snooping can't be validate and when he save the configuration he get the message: Object Name: tmsIgmpSnoop:tmsIgmpSnoopEnable, Error Code: 0x00c8000b (noSuchObject)."	5.5.0
3549	When an interface has multiple IP Addresses, the Gratuitous ARPs for all of the addresses uses the first address as the source ip address. Gratuitous ARPs are expected to have a target ip set to the same address as the source ip. This behavior does not seem to impact operation.	5.5.0

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PTI Bug Tracking Number	Description of fix	Reported In Release
3550	When an interface has multiple IP Addresses in the same subnet, the switch only answers ping to itself for the first address of the interface. External pings work until you perform a ping from the switch to itself, at which time external pings stop working for 30 seconds.	5.5.0
3553	If remote logging is enabled, and a log message is sent out while the log server is down, the server will not receive any new messages once it comes back online.	5.5.0
3554	If you enable a remote logging instance multiple times, then multiple messages will be sent to the target specified by that instance. Also, if you disable that instance, the CLI will report that the instance is disabled, but messages will still be logged (one less each time it is disabled).	5.5.0
3555	If the switch is Layer-3 switching traffic to a target for which a hardware entry is not established (either MAC Address or port is unknown), then the traffic will be passed to the CPU to allow the target to be resolved and a hardware entry to be established. If the CPU is currently resolving the MAC or Port to a Host, then further traffic to that Host is squelched until the entry is resolved or a short timer (see IR3570) expires. This operation can cause some segments of fragmented packets to not be delivered until the hardware route table is established.	5.5.0
3557	Enabling and Disabling Logging to a Remote Server may cause the loss of a File Descriptor. There are 60 File Descriptors allocated in the switch. If this sequence is performed enough times, then file access will be impacted.	5.5.0
3558	When using SNMP to walk the dot1dTpFdbPort table, entries are not returned. However, once a dot1dTpFdbTable request is made, all subsequent calls to dot1dTpFdbPort will behave correctly until another switch reset is performed. The problem is that the switch requires a VLAN ID internally and the default VLAN ID used in the look up for dot1dTpFdbPort is not initialized until an access to dot1dTpFdbTable is made. This problem may be avoided by using the dot1q MIB instead of dot1d.	5.5.0
3570	The ARP Refresh timer ranges between 10 and 60 minutes. Timer values above 10 minutes may lead to excessive delay in detecting changes in MAC Address associated with the IP Address of hosts. Also, while waiting for ARP resolution, the switch installs a dummy route into its hardware tables to prevent high volumes of traffic from overwhelming the CPU until the hardware route table is established. These dummy route entries are installed for 60 seconds. Network topology changes can cause short-lived loss of connectivity (often on the order of 3-5 seconds). This short term connectivity loss can lead to a dummy route being added which slows recovery of connectivity to some hosts by an additional 60 seconds. The ARP Refresh timer now ranges from 5-10 minutes rather than 10-60 minutes. The bogus route added while waiting for ARP resolution was reduced from a default of 60 seconds to 5	5.5.0

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	seconds. This can be over-ridden in setup.sh by setting the variable, l3ArpDelaySecs to the number of seconds desired. Contact PTI support at support@pt.com if for guidance if adjusting this timer is needed.	
3573	The switch stops checking for switch chip failures when one of the chips fails. This prevents detection of a second chip failure. The action taken for a chip failure should be to take the switch offline or to reboot, so this should not normally be an issue.	5.5.0
3577	The number of SSH and SFTP sessions is limited to 2. This is too restrictive. The number of sessions should be modeled against the number of Telnets and FTP sessions allowed (2 + 4).	5.5.0
3578	Some of the Link Aggregation MIB parameters allows values outside the accepted range. They either accept an invalid parameter or they modify the current value given invalid input. The expectation is that the MIB will reject an invalid input and NOT change the current value. OIDs affected: dot3adAggActorAdminKey, dot3adAggActorSystemPriority, dot3adAggPortActorSystemPriority, dot3adAggPortPartnerAdminKey, dot3adAggPortPartnerAdminPort, lagPathCostAlgorithm, lagStaticNoTimeoutOnOff, lagAggregateOrIndividual Valid values are accepted and processed properly.	5.5.0
3580	The gettime function from the CLI outputs a logMsg on every invocation. When logging to flash, this can degrade the flash faster than desired. To allow the log messages to be turned off, a global variable was added, **suppress_gettime_messages**, which can be set via setup.sh. The default value of this variable is zero (0) which allow the log messages to be output. Setting this value to a non-zero value will suppress these log messages. Contact PTI support at support@pt.com if for guidance if disabling these messages is needed.	5.5.0
3581	If the switch is configured with an SNMP Trap target located on the Mgmt0 port, and no switch links are established, traps will not be sent.	5.5.0
3582	Previously, changing the DHCP client transmit and listen port does not take effect until the switch is reset. If DHCP clients are configured on multiple interfaces, the transmit and listen port for the first interface will be used for all DHCP client interfaces. If no DHCP clients are configured when the switch is started, and a DHCP client is added to the switch, it will use the default ports until the switch is reset. With the code change, the DHCP client task will not be started at boot if no DHCP clients are configured. If a DHCP client is configured after boot, and it is the first DHCP client on the switch, the DHCP client task will be started using the client's configured transmit and listen ports. If multiple	5.5.0

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PTI Bug Tracking Number	Description of fix	Reported In Release
	DHCP clients are configured, the transmit and listen ports associated with the first DHCP client will be used for all clients.	
3583	The initial prompt sent in a telnet session may not include a leading carriage return. This may cause problems with expect scripts that look for a CR-LF-# sequence to detect a prompt.	5.5.0
3592	If the switch is configured to send SNMP traps to multiple TCP ports, and the first port for the trap target address is non-responsive (eg. Service not Available), the traps will not get to any of the other specified target ports. This only happens if there are multiple tcp port numbers used for the same IP address.	5.5.0
3596	In order to create labels that contain special characters in the CLI (eg. In naming a route or IP Interface Description), the user must place quotes around the label. However, the 'running' command does not capture this type of label properly. To avoid this, use labels that do not use spaces, tabs, or '=' characters.	5.5.0
3597	If a Lua event handler performs a logMsg() call, the message may be corrupted if the event handler exits before the message is displayed. A related issue is that the taskID of the logging function may be displayed as "deadTask".	5.5.0
3600	The MAC Address programmed into the switch chip to be used for MAC Control Frames (eg. Pause) is taken from the AG instead of the AP. In the current software design, these MACs are the same and there is no affect on the user, but this may change in the future and the AP MAC should be used.	5.5.0
3601	If a switch chip fails L1 Integrity Test, the Phys attached should be reset to force link to be de-asserted at any attached clients. This does not occur and attached clients do not lose link.	5.5.0
3602	CLI commands cannot be used in boot.lua. Unpredictable results may occur. To avoid this, use IDB sets.	5.5.0
3603	A small amount of memory is lost when the switch issues a Trap reporting that one of L1 Integrity tests have failed. Since failures are rare, and the loss is small (~16 bytes per failure), this should not cause any long term issues.	5.5.0
3604	If a port fails the MAC Integrity test, its link is de-asserted but the software still indicates that link is up.	5.5.0
3605	If a Beacon is created with links down, it's RowStatus is not Active. If the settings are saved, and the board rebooted, then and NVM error occurs on boot and the Beacon is not restored. A related issues is that when a Multicast Beacon is Active and all links go down, an error message is generated every ten seconds. # 11/10/2006 15:44:30 0x124cff0 (tBeacon): beaconSend: write failed 3997697 line 599 These issues are side-effects of the fix to IR3492.	5.5.24
3607	The time taken to generate SSH Keys on the switch can take	5.5.0

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PTI Bug Tracking Number	Description of fix	Reported In Release
	up to 20 minutes. This is excessive.	
3608	Using SNMP to configure Static Routes can lead to situations where the switch believes that all of the available route entries are in use when they are not. This is caused when you perform multiple adds and deletes of Static Routes using SNMP and results in a failure to add any more static routes.	5.5.0
3610	The change for IR3484 caused the L1Integrity task to utilize 64-bit registers which are not saved and restored across task switches. This could result in a corruption of a register used by another task.	5.5.24
3615	The 'help' screen for the 'ip config' command does not specify the maximum length allowed for the description of the interface. The maximum length is 15 characters.	5.5.0
3619	When the Switch Chip test or the Stuck Receiver test fails, the switch may report inconsistent integrity status for the MACs and PHYs. If either of these tests fail, the switch chip is inaccessible and the MACs and PHYs attached to the chip should be considered unavailable as well. It is recommended that the user select 'Go Offline' or 'Reboot' as the action to take upon failure of either of these tests.	5.5.0
3620	When you use SNMP to configure switch host security and you create an entry for SNMP (eg. to allow SNMP from your client's IP), the entry is initially created with a Denied type and you have to change it to Allowed with another SNMP Set. This causes the SNMP session that you are using to configure the entry to be disallowed and you cannot set the type field. Until this is corrected, use the CLI to add this type of entry.	5.5.0
3621	When a MAC Integrity failure occurs, the port associated with the MAC should be taken offline and any commands that can be executed on the port should not take effect and display an error message. After failing a MAC, the following commands are still accepted and do not produce an error message: port autoneg admin advertise port autoneg admin restart port framesize	5.5.0
3623	When starting up a telnet session, it may hang if a current SSH session is outputting characters. Also the SSH session may be prematurely aborted when starting a telnet session. These issues only occur when starting a telnet session and can be avoided by not using SSH and Telnet simultaneously. As a temporary aid to avoiding issues with this IR, we have added two variables in 5.5.25 to allow setting of the number of concurrent SSH and/or telnet sessions. They are ptiNumTelnetSessions and ptiNumSSHSessions. The values of these variables may be overridden using setup.sh. Contact PTI support at support@pt.com for instructions on how to do this if needed.	5.5.14

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PTI Bug Tracking Number	Description of fix	Reported In Release
3628	A failure in the MAC Integrity test does not always bring down link on the port associated with failed MAC. This is intermittent and the circumstances are not understood at this point, but the issue is under investigation.	5.5.0
3629	When Beacons are configured to be sent at 100ms intervals, they may occasionally be transmitted late. Delays up to 500ms have been seen.	5.5.0
3630	When using VRRP and the Master transitions to Initialize state a "zero priority" packet is not sent as required by the RFC.	5.5.0
3632	When the Integrity test for a PHY that is located on the second switch chip fails, the CLI command "port link all" will show the ports failed as expected but the MIB "oemArchIfaceLink.1.PORT" or "cpc4400ArchIfaceLink.1.PORT" (where PORT is the failed port) does not report the port as being down. This works properly for the first chip, however.	5.5.0
3633	Using SNMP to set the vrrpOperRowStatus parameter from Active to Disabled while vrrpOperAdminState is Active, causes a watchdog error on the switch. As a workaround, set vrrpOperAdminState to Disabled before setting vrrpOperRowStatus. The second issue is that you cannot re-activate a VRRP instance after you de-activate it in this way. You must destroy the row and recreate a new instance. To temporarily disable and then re-enable a VRRP instance with SNMP, you may set vrrpOperAdminState to Disabled and Active.	5.5.0
3634	The default threshold for low memory condition is set at 1M. This value is too high and prevents the last 1M of system memory to be used. This value should be set to 16K. A variable, ptiLowMemoryThreshold may be used to override this value in setup.sh. Contact PTI support at support@pt.com for instructions on how to do this if needed.	5.5.14
3641	If you cause a failure of an integrity test, the error message that is logged to the screen and a log file if this option is enabled used to display the port number that failed. Now the message is showing a hex representation of the bitmap of failed ports. Prior to 5.5.24, the messages used to look like: 12/18/2006 13:10:19 0x14ec9a0 (tL1Integrity): Error while running Test number 1: The error code returned was 1 on port(s) 1. 12/18/2006 13:10:21 0x14ec9a0 (tL1Integrity): Error while running Test number 1: The error code returned was 1 on port(s) 2. 12/18/2006 13:10:23 0x14ec9a0 (tL1Integrity): Error while running Test number 1: The error code returned was 1 on port(s) 3. 12/18/2006 13:10:25 0x14ec9a0 (tL1Integrity): Error while running Test number 1: The error code returned was 1 on	5.5.25

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PTI Bug Tracking Number	Description of fix	Reported In Release
	port(s) 4. 12/18/2006 13:10:27 0x14ec9a0 (tL1Integrity): Error while running Test number 1: The error code returned was 1 on port(s) 5. Now they look like: 12/18/2006 13:10:19 0x14ec9a0 (tL1Integrity): Error while running Test number 1: The error code returned was 1 on port(s) 00000001. 12/18/2006 13:10:21 0x14ec9a0 (tL1Integrity): Error while running Test number 1: The error code returned was 1 on port(s) 00000002. 12/18/2006 13:10:23 0x14ec9a0 (tL1Integrity): Error while running Test number 1: The error code returned was 1 on port(s) 00000004. 12/18/2006 13:10:25 0x14ec9a0 (tL1Integrity): Error while running Test number 1: The error code returned was 1 on port(s) 00000008. 12/18/2006 13:10:27 0x14ec9a0 (tL1Integrity): Error while running Test number 1: The error code returned was 1 on port(s) 00000010. The fix will be to restore the message to the previous format.	
3642	The DHCP server and relay only supports a total of six interfaces. If more than six interfaces are configured to support DHCP Services, the switch may lock up. The lockup problem is believed to have been introduced with the change associated with IR3564.	5.5.25
3645	DHCP server does not handle multiple simultaneous requests. If multiple requests from different clients are seen back to back, they will not be serviced. This problem is believed to have been introduced with the change associated with IR3564. It is recommended that DHCP Server not be used with 5.5.25.	5.5.25
3649	Because of the fix of IR3553, a new bug arose which can cause some remote log messages to not be sent. This only affects 5.5.25.	5.5.25
3650	The output of the 'ls –l' command in an SFTP session changed in 5.5.25. The file sizes and read-write permissions are no longer displayed.	5.5.25
3651	Near the time when the vxWorks tick timer rolls over between 0x7fffffff to 0x80000000, ARP Cache entries cannot be maintained. This is very similar to the problem described in IR3298, but it occurs 124 days after the switch is booted and then recurs every 248 days following. The length of the outage can be up to 60 minutes for releases between 5.5.5 and 5.5.23. For 5.5.24 and above, the outage will be less than 10 minutes. This difference is due to the change made for IR3570.	5.5.5
3652	Following a sequence of adds and deletes of static multicast MAC Addresses, the switch may become unable to add new	5.5.25

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PTI Bug Tracking Number	Description of fix	Reported In Release
	multicast entries even though there is room for more in the table. A message similar to the following will be logged if this occurs; 12/29/2006 02:27:05 0x15e7928 (tGarpRecv): bcmGmrpCreate: Unable to add multicast adress (0 10) This problem is not totally understood at this writing and is currently being investigated, but it is believed to have been introduced into 5.5.25 with the change associated with IR3629.	
3653	When the switch powers up with RSTP enabled, and you disable and re-enable RSTP, the switch hardware port states may be inconsistent with the RSTP protocol. It is recommended that RSTP not be disabled and re-enabled on the fly until this is corrected.	5.5.0
3660	If you enter multiple 'ipmi fru xxx apply' commands, where xxx is one of the FRU Areas, without actually changing anything in that area, the FRU area that is specified gets corrupted.	5.5.0
3666-3669	RIP Management allows illegal values to be assigned to various parameters.	5.5.0
3671	When a port is removed from all VLANs, its spanning tree algorithm port state is locked at whatever state it had prior to the VLAN removal. This may not match its state in the hardware. It is recommended to force link down on a port before removing it from all VLANs. This will force the port state to be disabled.	5.5.0
3672	The following MIB Parameters in the OSPF General Group do not return values; **ospfMulticastExtensions** and **ospfDemandExtensions**. These should at least support Getting the default values of these parameters	5.5.0
3673	If a User Defined Trap is being issued and an internal failure occurs on the access of a MIB variable whose value is being reported in the trap, then a semaphore may be taken and not released, which may lead to an eventual deadlock.	5.5.0
3674	The OSPF MIB variable, ospfAreaStatus does not destroy the Area when the value 6 is set. It does not accept the value as valid. The MIB also accepts the value of 7, which is not a valid value.	5.5.0
3676	The switch may lock up during the initialization of the IPMI FRU as shown below. The probability of this appears very low and was brought out by a continuous reboot test after 1562 successful boots. **PTI-FILTERS MIB .... Completed** **PTI-SSHMGMT MIB .... Completed** **CPC6600 MIB .... Completed** **Startup PTI-IPMI-FRU ....**	5.5.0
3677	The OSPF MIB ospfStubMetricType will not accept any	5.5.0

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PTI Bug Tracking Number	Description of fix	Reported In Release
	values other than 1. This MIB should be able to be set to 1=ospfMetric, 2=comparableCost or 3=nonComparable. Note: As part of the change associated with this issue, the ability to set the OSPF stub metric type when creating an OSPF stub area has been removed. Previously if any value other than 1 (the default value) was passed to "route ospf stub add" the command would fail. The PTI implementation of OSPF only supports a stub metric type of "ospfMetric".	
3679	While fixing IR 3619, a new problem was created. IR 3619 was a request to have all PHYs, MACs and Chips reported as failed, when one chip fails instead of just reporting the one chip and the associated MACs and PHYs as failed. The integrity status command now reports all of the MACs, PHYs, and Chips as failed, and the ports are taken off-line, but the log message that is displayed only lists the ports that would have actually failed for the chip that failed.	5.5.0
3680	Code inspection revealed that several tasks were being created without setting the VxWorks FFP_TASK flag. This flag tells the OS to save and restore Floating Point registers when switching the task in and out. This flag should always be set to allow usage of FP functions from all tasks. There is no known bug corrected by this change.	5.5.0
3683	When configuring ‘switch security hostip’ entries, and "none" is given for the interface, the new hostip entries are installed successfully. However when a specific interface is specified, the additions are handled incorrectly; 1. With "Deny" on a specific interface for a specific ip, that system is still allowed communication 2. With "Allow" on a specific interface for a specific ip, all systems are then blocked	5.5.0
3685	If an Integrity Test failure is configured to send a Trap on failure, the trap that is issued indicates the wrong Integrity Test has failed and the error code for the test is incorrect. This was introduced in 5.5.26 with the change associated with IR3619 and 3621.	5.5.26
3698	The MIB for managing the FRU Record (ptiIPMIFRU.mib) defines the Product Version field as an Integer32 instead of OctetString. This prevents proper management of this parameter using SNMP. Please use CLI until this issue is resolved.	5.5.0
3703	The current implementation of the telnet server is that upon establishment of a telnet session, the telnet server starts a CLI session which performs the login validation. There are two issues with this approach. 1) Starting a CLI session uses up a lot of CPU and memory on the switch, if an attacker were to repeatedly telnet to the switch, even without having a valid user name and password, the CPU would be impacted. 2) Starting a CLI session takes a long time, the user has to	5.5.0

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PTI Bug Tracking Number	Description of fix	Reported In Release
	wait for the CLI to fully load and start running before they are given a login prompt. By moving the telnet authentication out of the CLI, and into the telnet server code, the switch will only load the CLI if the user has provided a valid user name and password.	
3709	If you use SNMP to set up Packet Filter Rules and set an illegal value for the Action, the switch may panic.	5.5.0
3737	A typo exists in the message printed when a Lua Event Handler does not exist – the word launch is misspelled; # 02/28/2007 08:10:25 0x14d5490 (tLuaEventHandler): unable to **lauch** event handler script (flash:/samples/linkevent.lua) -- lua_dofile returns 2	5.5.0
3747	RMON Alarms are incorrectly triggered on start-up. When alarmStartupAlarm is set to risingAlarm(1) and the alarmTable records are created with traffic less than the alarmFallingThreshold, an alarmFallingEvent is incorrectly triggered. It should not be triggered at startup because the alarmStartupAlarm is set to rising. It should not be triggered after startup because the traffic had not previously exceeded the alarmRisingThreshold. Similarly, when alarmStartupAlarm is set to fallingAlarm(2) and the alarmTable is created with traffic greater than the alarmRisingThreshold, the alarmRisingEvent is incorrectly triggered. It should not be triggered at startup because the alarmStartupAlarm is set to falling. It should not be triggered after startup because the traffic had not previously dropped below the alarmFallingThreshold.	5.5.0
3748	A trap is not always issued on an RMON Alarm threshold crossing.	5.5.0
3750	The Lua Event Handler for RMON Rising/Falling Alarm is not invoked when an RMON Alarm occurs.	5.5.0
3751	The eventTable eventLastTimeSent is supposed to be the value of sysUpTime when an RMON event is triggered. Instead, it takes on a value less than sysUpTime, and may be the same value that etherHistoryStart uses.	5.5.0
3752	The following MIB Parameters in the OSPF General Group do not return values; **ospfMulticastForwarding** and **ospfIfDemand**. These should at least support Getting the default values of these parameters.	5.5.0
3755	When three or more switches are configured as IGMP Queriers, and the current Querier is disabled, the next highest priority switch becomes the new Querier. However, the remaining switch(es) may not update their status indicating the IP Address of the new Querier and may continue the original switch as the Querier. This does not affect the operation of the Queriers, but only affect the status that they display.	5.5.0
3763	The 1 MByte ramdisk on the CPC Switch product line is	5.5.0

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PTI Bug Tracking Number	Description of fix	Reported In Release
	created with a 128 KByte cache. Since RAM disks have no moving parts, a cache is unneeded and wasteful.	
3764	If you delete the IP Address that currently in-use supporting a VRRP instance, the switch panics and takes a watchdog. Before deleting an IP interface, ensure that there are no VRRP instances currently using that interface.	5.5.0
3767	The Lua API function idbObjIdAnySet() does not work given the usage from the switch manual. Please avoid using this API until this issue is corrected.	5.5.0
3779	The traceroute command on the CLI may lock up when tracing a local unreachable host. The traceroute command also consumes a high level of CPU cycles and when it is executed at the CLI, it may impact the operation of timed protocols such as VRRP and STP. Please avoid using traceroute from the switch until this is resolved.	5.5.0
3780	If an error occurs when adding a Filter Rule, the rule entry is left in the system but is in a 'Not Ready' state. An error could occur, for example, if an invalid Mask is specified, or the Filter is incompatible with the specified Mask. The side effect of leaving the rule in place is that the user may not add another rule with that same index and the rule is not displayed with the 'filter rule show' command. An error message is displayed when the 'filter rule add' command fails. Until this problem is corrected, the user should execute a 'filter rule delete' command to remove the rule following a failure to add the rule.	5.5.0
3781	The change associated with IR3550, causes bogus routes to be displayed with the 'route show' command. A bogus route is present when there is no ARP resolution to a host. An example is shown below. `192.168.1.1 255.255.255.255 127.0.0.1 local off` These entries should be ignored.	5.5.26
3782	When a Host Security entry is added with a non-specific network interface, then the user is unable to delete this entry and gets a message like the following; **# switch security hostip add 192.168.1.2 255.255.255.255 allowed** **# switch security hostip delete 192.168.1.2 255.255.255.255 0 0** **switch_hostIP status type remove: (error)** **# 03/27/2007 09:59:24 0x1695d68 (tPtiCon):** **ptiSystemSecureHostStatus: removeSecureHostEntryfailed** **#**	5.5.0
3785	When the switch is master of a VRRP instance, an L2 Table entry exists to perform L3 Routing for packets that are directed to the VRRP MAC. When VRRP Mastership is lost, this entry should be deleted and possibly replaced by a simple L2 entry to pass this traffic to the port where the new master resides. Under heavy load conditions, the switch may not remove the	5.5.28

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PTI Bug Tracking Number	Description of fix	Reported In Release
	L2 table entries that have the L3 bit set when the switch loses VRRP mastership. This prevents traffic from being forwarded to the new VRRP Master and causes loss of connectivity. This problem was introduced into 5.5.28 as a result of the change associated with IR3705. It is recommended that VRRP not be used with revision 5.5.28.	
3802	The following messages are displayed when performing a 'ipmi fru apply' command. The FRU changes do get applied and these messages can be ignored, but it is recommended that you check the new values with the 'ipmi fru show' command to be sure. This was introduced in 5.5.29 **smp_psp_read_response_process: ERROR too many smb_get_data()** **smb_psp_write: smb_psp_read_response_process failed (retryCnt=5)**	5.5.29
3804	Accessing the RMON History Control Table via SNMP can cause the switch to hang. Do not use RMON History Group until this issue is corrected. This was introduced in 5.5.29.	5.5.29
3805	The 'port config' CLI Command does not report the same values as were set by the user. This was introduced in 5.5.29.	5.5.29

Table 13: User Manual Errata Fixes

PTI Bug Tracking Number	Description	Reported In Release
2963	The details of the Beacon frame describing the revision field, length, timestamp, and optional user data should be described in the User Manual. The manual should also give some guidance on the use of the priority field - especially as it relates to the rate of operation and loss limit that attached clients are configured for.	20
3002	The Link Trap code has a throttle mechanism that allows it to send only one link trap every 5 seconds. The User Manual does not describe this behavior. The user should not depend solely on Traps to determine link states from the switch. It is advisable to poll for the current link state after a link change trap is seen.	20
N/A	When walking the Static Route (cpc4400L3IpStaticTable), in a Lua script using idbGetNext(), the switch can get into an infinite loop. A description of the proper way to perform this walk is needed in the Lua Examples section of the manual.	30
N/A	A clarification is needed in the manual that the VRRP interval value must be the same for all switches configured to support a VRRP instance.	30
N/A	A description of the SC Fiber port on the CPC4411 is needed in the Specifications section.	40
N/A	The V(I/O) voltage requirements and pin-out are not included in the Specifications chapter.	40
N/A	The description of the idbObjIdAnySet Lua function is incorrect. An example of usage is also needed.	40

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PTI Bug Tracking Number	Description	Reported In Release
N/A	The management of OSPF Metric Type on a Stub Area has been removed and the manual updated to reflect that.	40
N/A	The DHCP Configuration for providing a default router address was mis-spelled. It was spelled, 'router', when the correct spelling is 'rout'.	40
N/A	The link Aggregation configuration for Actor Delay was described as a single value for the switch, when it is actually a per-port setting.	40
N/A	The Packet Filter usage of the Egress port filter is not clear. The Egress Port filter can only be used for known unicast MAC addresses.	40
N/A	The usage of DHCP client consumes packet filters. A note to this effect was added to the manual.	40
N/A	RMON Receive Statistics include counts of packets sent as well. This is a silicon issue and needs to be noted in the manual.	40
N/A	A clarification needs to be made regarding the fact that the Action value in a Packet Filter is specified in Decimal.	40

2.4 Software Upgrade Issues

This section details the known issues with upgrading from previous versions of software to 5.5.30.

The new features and Routing fixes have resulted in new MIB/IDB settings and a new cpc4400.mi2 file is provided with 5.5.x. Previously, the switch MIB was not fully MIB-2 compliant, and was named cpc441x.mib. The new MIB is MIB-2 compliant. Objects that have been removed from the 5.4.x MIB file are now marked as OBSOLETE in the new 5.5.x MIB file. Wherever possible, OID numbers have been maintained in the transition from 5.4 to 5.5.

The changes between 5.4.x and 5.5.x include;

- RIP and OSPF private parameters were managed through the cpc4400L3IpMiscRoutingProtocol table. These are now managed via separate tables; cpc4400RipMiscGroup and cpc4400OspfGeneralGroup. The parameters and settings in the new MIB are also somewhat different. Please refer to cpc4400.mi2 for the new definitions.

- BootP and DHCP settings were managed through cpc4400CommonMiscBootpDHCPGroup and are now managed through cpc4400L3BootpDhcp. The parameters and settings in the new MIB are different for these variables. Please refer to cpc4400.mi2 for the new definitions.

- cpc4400MgmtIPIpAddress and cpc4400MgmtIPNetMask are removed. The management port is managed via the same IP table as the switch ports, cpc4400L3IpSubnetTable.

- The MIB group for IGMP Query, cpc4400CommonIgmpSnoopQueryAgentTable is added to support the Querier function.

- The Level One integrity test parameter cpc4400IntegrityTestErrorCode is redefined to allow the pass/fail status of a component to be readable. Please refer to cpc4400.mi2 for the new definition.

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- The cpc4400L3IpSubnetTable has been modified to allow for new status via the variable, cpc4400L3IpSubnetDynamic, when the interface is set by Bootp or DHCP. Please refer to cpc4400.mi2 for the new definition.

The following table identifies errors associated with running 5.5.30 with durable and persist files created by previous revisions of code. Identified NVM errors will go away after a save is performed, but unsaved settings will need to be manually re-established and saved.

Old Version	NVM Errors	Unsaved Settings	User Recommendations
5.3.X	N/A	N/A	The order of certain variables in the durable file had to be modified. This makes the durable file built with 5.3.X incompatible with 5.4.X. Remove the durable file and restore settings manually. As as alternative, the 'running' command may be used to capture the settings prior to the upgrade, then the running.cli script could be used to re-instantiate the settings.
5.4.X	N/A	N/A	The new features added to this release have caused the addition or removal of IDB/MIB objects. This makes the durable file built with 5.4.X incompatible with 5.5.X. Remove the durable file and restore settings manually. As an alternative, the 'running' command may be used to capture the settings prior to the upgrade, then the running.cli script could be used to re-instantiate the settings. Please note that if this method is used, and DHCP or BootP client operation is enabled, then the running.cli file must be manually adjusted to account for the new mandatory network interface argument to the 'dhcp client' and/or 'bootp' commands. If DHCP or BootP client operation was not enabled while running the 5.4.X code, then no changes are required to the running.cli file.
5.5.X	rstpMIB:dot1dStpPortAdminPathCost (one for each port)		The Port Path Cost variable was introduced in 5.5.19. Durable files created with previous revisions of code will not have settings stored for this variable. On boot, NVM will silently set the variable to its default value.

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			If an earlier version of code is booted with a durable file created after 5.5.19, then NVM will display warnings that this parameter is not valid. These can be ignored, but to remove these warnings on subsequent boots, execute a ‘save’ operation to create a new durable file.

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