Software Maintenance Release Note

Version 276-05

for AR450S and AR44xS series routers, and Rapier i and AT-8800 series switches

This software maintenance release note lists the issues addressed and enhancements made in Maintenance Version 276-05 for Software Release 2.7.6. Release details are listed in the following table:

Models	Series	Release File	Date	Size (bytes)	GUI file
AR440S, AR441S, AR450S	AR400	54276-05.rez	8 September 2006	4512716	d440se27.rsc, d441se27.rsc, d450se27.rsc
Rapier 24i, Rapier 48i, Rapier 16fi	Rapier i	86276-05.rez	8 September 2006	4312896	dr24ie27.rsc, dr48ie27.rsc, dr16ie27.rsc
AT-8824, AT-8848	AT-8800	86276-05.rez	8 September 2006	4312896	d8824e27.rsc, d8848e27.rsc

Caution: Using a maintenance version on the wrong model may cause unpredictable results, including disruption to the network.

This maintenance release note should be read in conjunction with the following documents:

- **Release Note for Software Version 2.7.6** for AT-8800, Rapier i, AT-8700XL, AT-8600, AT-9900, AT-8900 and AT-9800 Series Switches and AR400 and AR700 Series Routers (document number C613-10462-00 Rev A)
- your router or switch's **Document Set for Software Release 2.7.5**. This document set is available on the CD-ROM that shipped with your router or switch, or from www.alliedtelesis.co.nz/documentation/documentation.html

Caution: Information in this release note is subject to change without notice and does not represent a commitment on the part of Allied Telesis Inc. While every effort has been made to ensure that the information contained within this document and the features and changes described are accurate, Allied Telesis Inc. can not accept any type of liability for errors in, or omissions arising from the use of this information.

Enabling and Installing this Release

To use this maintenance release you must have a base release license for Software Release 2.7.6. Contact your distributor or reseller for more information. To enable this release and install it as the preferred release, use the commands:

```
enable rel=xx276-05.rez num=2.7.6

set install=pref rel=xx276-05.rez
```

where *xx* is the prefix to the filename, as shown in the table on page 1. For example, to install the release on an AR440S router, use the commands:

```
enable rel=54276-05.rez num=2.7.6

set install=pref rel=54276-05.rez
```

Levels

The issues addressed in this Maintenance Version include a level number. This number reflects the importance of the issue that has been resolved. The levels are:

Level 1 This issue will cause significant interruption to network services, and there is no work-around.

Level 2 This issue will cause interruption to network service, however there is a work-around.

Level 3 This issue will seldom appear, and will cause minor inconvenience.

Level 4 This issue represents a cosmetic change and does not affect network operation.

Features in 276-05

Software Maintenance Version 276-05 includes all resolved issues and enhancements in earlier versions, and the resolved issues and enhancements in the following tables. In the tables, for each product series:

- "Y" in a white column indicates that the resolution is available in Version 276-05 for that product series.
- "-" in a white column indicates that the issue did not apply to that product series.
- a grey-shaded column indicates that Version 276-05 was not released on that product series.

Level 1

CR	Module	Level	Description	AR44xS/ AR450S	AR7x5	AR750S	Rapier i	AT-8800	AT-8600	AT-8700XL	AT-8948	AT-9900	AT-9800
CR00013147	**ATM**	**1**	Excessive CPU usage was occurring when an SHDSL link was up. This resulted in low throughput and dropped packets. This issue has been resolved.	Y	-	-	-	-	-	-	-	-	-
CR00013288	**ADSL**	**1**	For AR440S and AR441S ADSL routers, the Annex A and Annex B firmware has been upgraded. On AR440S routers, this resolves an issue which meant that the ADSL link could be unreliable at 3km when connected to a specific type of DSLAM.	Y	-	-	-	-	-	-	-	-	-

Level 2

CR	Module	Level	Description	AR44xS/ AR450S	AR7x5	AR750S	Rapier i	AT-8800	AT-8600	AT-8700XL	AT-8948	AT-9900	AT-9800
CR00012606	**STP**	**2**	Processing of an invalid STP packet could result in an STP timeout value being incorrectly set to 0. This issue has been resolved, so the timeout can never be set to 0.	-	-	-	Y	Y	-	-	-	-	-

Level 3

CR	Module	Level	Description	AR44xS/ AR450S	AR7x5	AR750S	Rapier i	AT-8800	AT-8600	AT-8700XL	AT-8948	AT-9900	AT-9800
CR00013672	**ATM**	**3**	An SNMP Walk of the ATM MIB would fail to complete properly, as it would not advance through the channel list. This issue has been resolved.	Y	-	-	-	-	-	-	-	-	-

Level 4

No level 4 issues

Enhancements

CR	Module	Level	Description	AR44xS/ AR450S	AR7x5	AR750S	Rapier i	AT-8800	AT-8600	AT-8700XL	AT-8948	AT-9900	AT-9800
CR00012881	**IP Gateway**	**-**	The IP implementation has been enhanced to accept IP interfaces with a /31 netmask. This results in a slightly non-standard subnet that has no network address or broadcast address. This has become a popular extension to IP, because it reduces wastage of IP addresses on point-to-point links.	Y	-	-	Y	Y	-	-	-	-	-
CR00013444	**IP Gateway**	**-**	RIPv2 can now use authentication passwords that contain almost any printable character, including characters such as $, % and &. The ? character is interpreted as asking for parameter help, so this is not usable anywhere inside a password. Also, a password cannot contain double quotes (") as the first character of the string. The RIP password length is now strictly enforced at 16 characters. The command handler no longer accepts a password with more characters than this.	Y	-	-	Y	Y	-	-	-	-	-

Features in 276-04

Software Maintenance Version 276-04 includes all resolved issues and enhancements in earlier versions, and the resolved issues and enhancements in the following tables. In the tables, for each product series:

- "Y" in a white column indicates that the resolution is available in Version 276-04 for that product series.
- "-" in a white column indicates that the issue did not apply to that product series.
- a grey-shaded column indicates that Version 276-04 was not released on that product series.

  "-" in a grey column indicates that the issue did not apply to that product series.

  "Y" in a grey column indicates that the issue applied to that product series. These issues are resolved in the next Version (276-05).

Level 1

CR	Module	Level	Description	AR44xS/ AR450S	AR7x5	AR750S	Rapier i	AT-8800	AT-8600	AT-8700XL	AT-8948	AT-9900	AT-9800
CR00007273	**Switch**	**1**	If a user created a configuration file that contained port trunk settings before VLAN port settings, then a loop occurred when the switch rebooted with this configuration. This issue has been resolved.	-	-	-	Y	Y	Y	Y	-	-	-
CR00011711	**PIM v6**	**1**	For IPv6, the router or switch could restart when PIM-SM detected that the primary RPF interface to an (S,G) routing entry had changed because the RPF interface had gone down. When the interface went down, PIM-SM recalculated the RPF to the source for the (S,G) entry, and if PIM-SM only found a non-PIM neighbour as the RPF to the source for the (S,G), the router or switch could restart. This issue has been resolved.	Y	-	Y	Y	Y	-	-	-	-	-

CR	Module	Level	Description	AR44xS/ AR450S	AR7x5	AR750S	Rapier i	AT-8800	AT-8600	AT-8700XL	AT-8948	AT-9900	AT-9800
CR00011994	**IPsec**	**1**	When both Software QoS and IPSec were configured on the router or switch, it sometimes rebooted. This happened if the IPSec SA bundle was suddenly deleted while packets were still queued in Software QoS. For example, this issue was more likely to occur if the **expirykbytes** parameter of the **create ipsec bundlespecification** command was configured, and the hard expiry kilobyte limit for an IPSec SA bundle was reached quickly. This issue has been resolved.	Y	-	Y	Y	-	-	-	-	-	-
CR00012196	**IPv6**	**1**	When RIPng deleted a route from the IPv6 route table, routing for associated IPv6 flows was not updated correctly. This caused data forwarding on those flows to use invalid routes. This issue has been resolved.	Y	-	Y	Y	Y	-	-	-	-	-
CR00012461	**IPv6**	**1**	Sometimes the router or switch rebooted when it received Neighbour Advertisements that did not properly conform to RFC 2461. This issue has been resolved. The router or switch no longer reboots if it receives non-conformant ND packets. If debugging is enabled, the router or switch now also displays useful information about the non-conformant packets.	Y	-	Y	Y	Y	-	-	-	-	-
CR00012571 CR00013183	**IPv6**	**1**	The router or switch sometimes rebooted when running a configuration script that included RIPng (RIPv6). This issue has been resolved.	Y	-	Y	Y	Y	-	-	-	-	-
CR00012614	**Switch**	**1**	When PIM6 was configured on the switch, and it received an IPv6 multicast stream for which it had no downstream interface to forward the stream to, a reboot could occur. This issue was resolved in a previous software version (as CR00012097) but this version includes an improved resolution.	Y	-	Y	Y	Y	-	-	-	-	-
CR00013025	**DVMRP**	**1**	Receiving a DVMRP Graft or Prune message occasionally caused the router or switch to reboot. This issue has been resolved.	Y	-	Y	Y	Y	-	-	-	-	-

CR	Module	Level	Description	AR44xS/ AR450S	AR7x5	AR750S	Rapier i	AT-8800	AT-8600	AT-8700XL	AT-8948	AT-9900	AT-9800
CR00013413	**IP Gateway, Load Balancer**	**1**	If the router or switch was configured with a local interface IP address and the interface to which this address belonged did not have a logical interface with index 0, a number of connectivity issues from this router or switch occurred, in which the router or switch was not able to communicate with UDP, TCP or PING. This issue has been resolved.	Y	-	Y	Y	Y	Y	Y	-	-	-
CR00013457	**VLAN**	**1**	When ports were added to a currently-disabled RSTP domain, the ports could start to discard packets (because their STP state was set to Discarding). This issue has been resolved. When ports are added to a disabled RSTP domain, they remain in a Forwarding state.	-	-	-	Y	Y	Y	Y	-	-	-
CR00013743	**Switch**	**1**	If a user created a configuration file that contained LACP settings and VLAN port settings, then a loop occurred when the switch rebooted with this configuration. This issue has been resolved.	-	-	-	Y	Y	Y	Y	-	-	-
CR00013758	**IPv6**	**1**	If a user manually deleted a Neighbour Discovery cache entry (by using the command **delete ipv6 nd**), the router or switch sometimes rebooted some time later. This issue has been resolved.	Y	-	Y	Y	Y	-	-	-	-	-

Level 2

CR	Module	Level	Description	AR44xS/ AR450S	AR7x5	AR750S	Rapier i	AT-8800	AT-8600	AT-8700XL	AT-8948	AT-9900	AT-9800
CR00009079	**MLD Snooping, IPv6, Switch**	**2**	When MLD snooping creates an All Router group, it also (correctly) adds router ports to other groups. However, when MLD Snooping detected that there were no more router ports in the network, it deleted the All Router group but did not delete the router ports from the other groups. This issue has been resolved.	-	-	-	Y	Y	-	-	-	-	-
CR00009212	**Bridge**	**2**	The Bridge cannot be configured to bridge PPPoE packets from an Ethernet interface that has also been configured as a PPPoE interface. Previously, such a Bridge configuration would appear to succeed. However the Bridge would not bridge PPPoE packets and the router would restart when the command **reset bridge** was entered. This issue has been resolved. Note: if you want to bridge PPPoE packets, do not also configure the router as a PPPoE endpoint (by using the command **create ppp=*number* over=eth*x*-any**).	Y	-	Y	-	-	-	-	-	-	-
CR00009213	**MSTP**	**2**	Because of an MSTP issue, the switch did not always send a BPDU with an agreement flag to its designated bridge, even if the switch was synchronised with the latest spanning tree information from the designated bridge. This prevented the designated port on the designated bridge from making a fast transition to the forwarding state. The result was that the network could take up to two times the "forward delay" time to fully converge. This issue has been resolved.	-	-	-	Y	Y	Y	Y	-	-	-
CR00009826	**IP Gateway**	**2**	When a static ARP is deleted, the router or switch sends out an ARP request to attempt to create a dynamic ARP for that IP address. Previously, the router or switch did not process the ARP response correctly and therefore did not add the ARP to its ARP table. This issue has been resolved. When a static ARP is deleted, the router or switch attempts to create a dynamic ARP for that IP address, and will successfully add it to the ARP table if a device responds.	Y	-	Y	Y	Y	Y	Y	-	-	-

CR	Module	Level	Description	AR44xS/ AR450S	AR7x5	AR750S	Rapier i	AT-8800	AT-8600	AT-8700XL	AT-8948	AT-9900	AT-9800
CR00010177	**Firewall**	**2**	When a session had been initiated from the LAN side of the firewall and the SIP ALG received a re-invite packet for that session from the WAN side, the SIP ALG did not replace the Call ID string in the re-invite packet. This issue has been resolved.	Y	-	Y	Y	Y	-	-	-	-	-
CR00010513	**BGP,** **IP Gateway**	**2**	BGP did not update its route table when a blackhole route changed in IP. This issue has been resolved.	Y	-	Y	Y	Y	-	-	-	-	-
CR00010593	**IPv6**	**2**	The router sometimes forwarded packets to directly connected hosts whose corresponding IPv6 ND cache entry was still in INCOMPLETE state. This caused it to send the packets to incorrect MAC addresses and egress ports. This issue has been resolved.	Y	-	Y	Y	Y	-	-	-	-	-
CR00011120	**VRRP**	**2**	Packets transmitted from VRRP sometimes contained random VLAN tags or VLAN Priority information. This issue has been resolved.	Y	-	Y	-	-	-	-	-	-	-
CR00011175	**IPv6**	**2**	After a route's metric and/or preference changed, the route's position in the Equal Cost Multi Path chain was not always updated properly. This sometimes caused the forwarding process to select a sub-optimal route. This issue has been resolved.	Y	-	Y	Y	Y	-	-	-	-	-
CR00011434	**File**	**2**	The router or switch sometimes rebooted when copying a very large file (several Mbytes). This issue has been resolved by improving the copy process so that it uses fewer memory buffers.	Y	-	Y	Y	Y	Y	Y	-	-	-

CR	Module	Level	Description	AR44xS/ AR450S	AR7x5	AR750S	Rapier i	AT-8800	AT-8600	AT-8700XL	AT-8948	AT-9900	AT-9800
CR00011490	**MLD, MLD Snooping**	**2**	The following issues occurred: ■ an MLDv2 Report message parsing issue meant that sometimes the router or switch recognised only the first multicast group address in the message. ■ if the **robustness**, **qinterval** or **qrinterval** were changed, groups' initial timeout period was sometimes set to 260 instead of being calculated by using the following formula from RFC 3810: robustness * qinterval + qrinterval ■ the Other Querier Timeout—the timeout period for registration of the "All Router" group—was not calculated by using the following formula from RFC 3810: robustness * qinterval + qrinterval/2 ■ When **robustness**, **qinterval** or **qrinterval** were set to non-default values, the timeout values (or MA timers) of newly reported multicast address groups were not updated to reflect these changed values. ■ MLD & MLD Snooping groups were sometimes incorrectly set with a timer value that was inconsistent with the internally maintained individual port timers. Therefore, registered groups could lose port members temporarily. These issues have been resolved. This CR also included enhancements to MLD and MLD Snooping; see "Enhancements to MLD and MLD Snooping (CR00011490)" on page 65.	Y	-	Y	Y	Y	-	-	-	-	-
CR00011638	**PIM 6**	**2**	Occasionally, PIM6 Sparse Mode did not elect the router or switch as the BSR when no other PIM neighbour was present. This issue has been resolved. When no other BSR candidates are present, the router or switch correctly becomes the BSR.	Y	-	Y	Y	Y	-	-	-	-	-

CR	Module	Level	Description	AR44xS/ AR450S	AR7x5	AR750S	Rapier i	AT-8800	AT-8600	AT-8700XL	AT-8948	AT-9900	AT-9800
CR00011907	**IP Gateway**	**2**	Previously, if the IP Helper attempted to redirect packets to an address that matched the network broadcast address of the egress interface, the packets were only forwarded if **directedbroadcast=yes** for the egress interface. By default, **directedbroadcast=no**, so such packets were dropped. This issue has been resolved. IP can now distinguish between packets redirected by the IP Helper and real directed broadcast packets. If **directedbroadcast=no**, IP still redirects packets from IP Helper when necessary.	Y	-	Y	Y	Y	Y	Y	-	-	-
CR00012364	**IPv6**	**2**	For IPv6, if there were multiple equal cost multipath (ECMP) static routes to a destination, and one or more links for the routes became inactive, the inactive route was sometimes still chosen for forwarding. This caused brief data delivery failure to the destination. This issue has been resolved.	Y	-	Y	Y	Y	-	-	-	-	-
CR00012407	**STAR**	**2**	When the STAR protocol was used for link-layer encryption, the channel setup failed continuously on heavy traffic. This issue has been resolved.	Y	-	Y	Y	-	-	-	-	-	-
CR00012476	**IGMP**	**2**	If IGMP snooping was enabled but IGMP was not enabled, the snooper behaved as if IGMP snooping fast leave had been enabled even when it had not been. This meant that as soon as the snooper received a Leave message, the port left the group. This issue has been resolved. Note that fast leave is disabled by default.	Y	-	Y	Y	Y	Y	Y	-	-	-
CR00012534	**IP Gateway**	**2**	If the router or switch received an IP packet that had been sent as an Ethernet broadcast, the router or switch responded as if the packet had been sent to its IP address, even when the packet was destined for a different IP address. In particular, the router or switch processed and responded to ICMP and TCP packets that were sent as Ethernet broadcasts to different IP addresses. These caused the router or switch to send ICMP echo responses or TCP reset packets. This issue has been resolved. Such Ethernet broadcast packets are generally not valid packets, so the router or switch now discards them.	Y	-	Y	Y	Y	Y	Y	-	-	-

CR	Module	Level	Description	AR44xS/ AR450S	AR7x5	AR750S	Rapier i	AT-8800	AT-8600	AT-8700XL	AT-8948	AT-9900	AT-9800
CR00012624	**VRRP, IP Gateway**	**2**	Under certain network conditions in which VRRP entities become temporarily unsynchronised, the router or switch could receive a gratuitous ARP from a self-elected VRRP master when the router or switch was still the master. This caused the existing master to create an ARP entry that incorrectly redirected packets towards the other VRRP entity even after the other entity had become a slave again. This issue has been resolved. The router or switch no longer accepts gratuitous ARPs from other VRRP entities while it is still the Master.	Y	-	Y	Y	Y	Y	Y	-	-	-
CR00012657	**STP**	**2**	When STP was operating with a large number of VLANs in the same STP region, the switch sometimes rebooted while processing topology change notifications (TCNs). This issue has been resolved.	-	-	-	Y	Y	Y	Y	-	-	-
CR00012674	**IPv6**	**2**	The router or switch sometimes rebooted when it was about to send an MLDv2 source specific query. This issue has been resolved.	Y	-	Y	Y	Y	-	-	-	-	-
CR00012679	**IPv6, PIMv6**	**2**	For IPv6, PIM sometimes failed to forward multicast packets when MLD snooping was enabled and MLDv2 was used by multicast receivers/clients to report group membership. This issue has been resolved.	Y	-	Y	Y	Y	-	-	-	-	-
CR00012681	**IPv6, MLD**	**2**	Valid MLDv2 listener reports that contained two or more source addresses were sometimes rejected by the router or switch because it treated them as invalid packets. This could cause multicast clients to unexpectedly stop receiving multicasts. This issue has been resolved.	Y	-	Y	Y	Y	-	-	-	-	-
CR00012741	**Core, File, Stack**	**2**	The command **create config=*filename* set** did not copy the configuration file to all switches in the stack, but only saved the file onto the current switch. This issue has been resolved.	-	-	-	Y	Y	Y	Y	-	-	-

CR	Module	Level	Description	AR44xS/ AR450S	AR7x5	AR750S	Rapier i	AT-8800	AT-8600	AT-8700XL	AT-8948	AT-9900	AT-9800
CR00012743	**IP Gateway**	**2**	When a device that is connected to a router or switch interface leaves a multicast group, the router or switch (correctly) responds by sending out a Query message over that interface. In the default configuration, it also sends a second Query message one second later, for redundancy. Previously, if the router or switch interface was deleted after the first Query but before the second Query, the router or switch rebooted. This issue has been resolved. If the interface is deleted, the router or switch no longer attempts to send more Queries.	Y	-	Y	Y	Y	Y	Y	-	-	-
CR00012825 CR00013458	**MLD Snooping,** **IPv6, Switch**	**2**	An issue occurred in IPv6 multicasting if multiple ports were registered to receive data from the All Routers group. When one of the ports timed out, the entries for all of the ports were purged, even if the other ports' timers had not expired. The router or switch also sometimes flooded IPv6 multicast traffic undesirably when the MLD All Routers snooping group contained more than one port. These issues have been resolved.	Y	-	Y	Y	Y	-	-	-	-	-

CR	Module	Level	Description	AR44xS/ AR450S	AR7x5	AR750S	Rapier i	AT-8800	AT-8600	AT-8700XL	AT-8948	AT-9900	AT-9800
CR00012846	**ASYN, Log**	**2**	The following issues occurred with sending log messages to an asynchronous port: ■ The log messages output on an asynchronous port were corrupt. ■ When log messages were output to an asynchronous port, that port was (correctly) locked. However, the port remained locked after the asynchronous log output definition was destroyed, and after the log output's destination was changed from asynchronous to something else. ■ It was possible for a user to change the log output destination to an asynchronous port while the user was logged into the asynchronous port. This resulted in the user losing access to the command line interface. ■ It was possible to create a log output definition with an asynchronous port as the destination even when another user was logged into that asynchronous port. This resulted in the other user losing access to the command line interface. ■ If a user changed the log output destination to an asynchronous port and specified invalid parameters in the command, an error message was displayed but the new output destination was saved anyway. ■ The **set** command allowed a user to specify an asynchronous port as the destination without specifying the asynchronous port number. The number defaulted to asyn0, which may not have been the desired port. These issues have been resolved.	Y	-	Y	Y	Y	Y	Y	-	-	-
CR00012868	**ENCO**	**2**	Entering the command **create enco key=*number* ip=?** caused the router or switch to reboot. This issue has been resolved.	Y	-	Y	Y	Y	Y	Y	-	-	-
CR00012951	**IPv6**	**2**	RIPng (for IPv6) sometimes sent sub-optimal routes to its neighbours. When RIPng was configured in a network with loop topology, this could cause unstable routing table entries on the neighbours (the metric kept being updated, as a result of updates from neighbours). This issue has been resolved. RIPng no longer sends sub-optimal routes.	Y	-	Y	Y	Y	-	-	-	-	-

CR	Module	Level	Description	AR44xS/ AR450S	AR7x5	AR750S	Rapier i	AT-8800	AT-8600	AT-8700XL	AT-8948	AT-9900	AT-9800
CR00012952	**Bridge**	**2**	If a tagged packet was bridged out of a VLAN interface, the interface always added a VLAN tag into the packet, even though the packet was already tagged. This issue has been resolved.	Y	-	Y	-	-	-	-	-	-	-
CR00012991	**ATM**	**2**	The maximum allowed value of the **vpi** parameter in the commands **add** and **set atm channel** has been increased from 8 to 15.	Y	-	-	-	-	-	-	-	-	-
CR00013023	**OSPF**	**2**	An issue occurred when OSPF was configured to create passive interfaces by default (**set ospf passiveinterfacedefault=on**) but an OSPF interface was not passive (**set ospf interface=*interface* passive=off**). This interface setting was saved in the configuration file or output resulting from the commands **create config** and **show config dynamic**, but any other changes to interface settings were not saved (such as changes to authentication settings). If the router or switch rebooted, these other interface changes were lost. This issue has been resolved.	Y	-	Y	Y	Y	Y	Y	-	-	-
CR00013077	**IPv6**	**2**	When an IPv6 address was deleted on the router or switch, and that IPv6 address had previously been learnt by a remote IPv6 node, then the router or switch would reboot if it received an ICMPv6 Neighbour Solicitation message from the remote node. This meant, for example, that if you successfully pinged an address on the router or switch, then deleted that address, then attempted to ping the old address again, the router or switch would reboot. This issue has been resolved.	Y	-	Y	Y	Y	-	-	-	-	-
CR00013081	**Switch, STP**	**2**	When STP was enabled on ports in a trunk group, the non-master ports did not have the same state as the master port in the switch's hardware STG table. This could, on rare occasions, create a broadcast storm. This issue has been resolved. All ports in a trunk group follow the master port in the hardware STG table.	-	-	-	Y	Y	Y	Y	-	-	-

CR	Module	Level	Description	AR44xS/ AR450S	AR7x5	AR750S	Rapier i	AT-8800	AT-8600	AT-8700XL	AT-8948	AT-9900	AT-9800
CR00013083	TACACS+, User	2	After a very large number of successful logins via TACACS+ authentication, the router or switch would reboot. This issue has been resolved.	Y	-	Y	Y	Y	Y	Y	-	-	-
CR00013096 CR00013718	IPv6	2	When the router or switch learned a better IPv6 route to exactly the same destination as an existing route, the router or switch did not always change existing data flows so that they used the new route. This meant that existing flows did not always follow the optimal path. This issue has been resolved. When the router or switch learns a better IPv6 route, both new and existing flows now use it. Also, the commands **create ipv6 interface** and **set ipv6 interface** now include a new parameter: **metric**. This allows you to set the RIP metric of link local interfaces to a desired value. Note that the **metric** parameter is only valid on link local interfaces.	Y	-	Y	Y	Y	-	-	-	-	-
CR00013234	IP Gateway	2	If the router or switch attempted to email log output, and used a domain name server that gave a non-standard response to the DNS query, the router or switch sometimes rebooted. This issue has been resolved.	Y	-	Y	Y	Y	Y	Y	-	-	-
CR00013276	UPnP	2	In UPnP, Msearch requests were stored indefinitely, which eventually exhausted the router's memory and caused it to reboot. This issue has been resolved. Msearch requests are now deleted once the router has finished with them.	Y	-	Y	-	-	-	-	-	-	-
CR00013309	L2TP	2	When an L2TP LAC Client (for example, a Microsoft Windows XP VPN Client) activated an L2TP tunnel to a router or switch that was operating as an LNS, the dynamic PPP interface on the LNS left out the PPP authentication phase. This also prevented the interface from obtaining an IP address by remote IP assignment from a User Database entry. This issue has been resolved.	Y	-	Y	Y	Y	-	-	-	-	-

CR	Module	Level	Description	AR44xS/ AR450S	AR7x5	AR750S	Rapier i	AT-8800	AT-8600	AT-8700XL	AT-8948	AT-9900	AT-9800
CR00013437	**SCC**	**2**	If a PRI or BRI interface had severe transmission difficulties due to a faulty communications link, it could cause the router or switch to reboot. This issue has been resolved. A faulty PRI or BRI communications link can no longer take the whole router or switch down.	Y	-	Y	Y	-	-	-	-	-	-
CR00013529	**PIMv6**	**2**	When the router or switch used PIM for multicast routing, and an IPv6 multicast client joined a group, then left it, then attempted to rejoin it, sometimes the attempt to rejoin was not successful. This issue has been resolved.	Y	-	Y	Y	Y	-	-	-	-	-
CR00013785	**IPv6, Utility**	**2**	IPv6 sometimes chose a suboptimal route for routing when there were more than two routes destined to the same network. This issue has been resolved.	Y	-	Y	Y	Y	-	-	-	-	-

Level 3

CR	Module	Level	Description	AR44xS/ AR450S	AR7x5	AR750S	Rapier i	AT-8800	AT-8600	AT-8700XL	AT-8948	AT-9900	AT-9800
CR00008192	**Switch**	**3**	The following issues occurred with the counters that are displayed by the **show interface=*port-number* counter** command: ■ If a switch port received a broadcast or multicast packet with an error (such as a bad CRC error), the ifInUcastPkts counter—the number of unicast packets received— was incremented. This issue has been resolved. ■ On AT-9800 series switches, the ifInErrorOctets counter is a count of packets, not octets. Therefore, this counter has been renamed to ifInErrors.	-	-	-	Y	Y	Y	Y	-	-	-
CR00010345	**Firewall**	**3**	When the HTTP proxy URL filter had entries that allowed certain domains and also had entries that denied certain keywords, the supposedly-allowed domains were denied if they contained the denied keywords. The proxy allowed the page /index.html from such domains, but no other pages. This issue has been resolved. The proxy no longer checks allowed domains against the keyword list.	Y	-	Y	Y	Y	-	-	-	-	-
CR00010504	**IP Gateway**	**3**	When a VRRP master was configured with VRRP adoption enabled, pings from the VRRP master to its own VR IP address failed. This issue has been resolved.	Y	-	Y	Y	Y	Y	Y	-	-	-
CR00011444	**Asyn**	**3**	If information was sent to a console (asyn) port that had no cable plugged into it, excessive CPU usage occurred. This issue has been resolved.	Y	-	Y	Y	Y	Y	Y	-	-	-

CR	Module	Level	Description	AR44xS/ AR450S	AR7x5	AR750S	Rapier i	AT-8800	AT-8600	AT-8700XL	AT-8948	AT-9900	AT-9800
CR00011598	PIM, PIM6	3	Previously the SPTbit on a PIM device was not set under the following conditions: ■ when a PIM neighbor was the RP (Rendezvous Point), **and** ■ when the PIM neighbor was not the RPF (Reverse Path Forwarding) neighbor to the Source; that is, it did not have a direct connection to the Source traffic stream. In this situation, the SPTbit remained unset. This resulted in the non-RP PIM device continually sending register messages awaiting a register STOP. This issue has been resolved. Non-RP PIM devices no longer continually send register messages.	Y	-	Y	Y	Y	-	-	-	-	-
CR00011710	Core	3	When the router sent a RADIUS accounting STOP packet, the packet's Acct-Session-Time was always zero, no matter how long the session had been active for. This issue has been resolved.	Y	-	Y	Y	Y	-	-	-	-	-
CR00012128	IP Gateway	3	When the router or switch recalculated the IP checksum after decrementing the TTL value, it was possible for the checksum to be 0xFFFF. This conformed to RFC 1141 but not to RFC 1624. For switches, note that this issue did not affect IP hardware routing, only packets routed by the CPU. This issue has been resolved. Checksums are now calculated in accordance with RFC 1624.	Y	-	Y	Y	Y	Y	Y	-	-	-
CR00012194 CR00002547	IPv6	3	When a user changed the settings for IPv6 Neighbour Discovery advertisement of the prefix of an existing IPv6 interface route, then the changes were not saved in the configuration file or output resulting from the commands **create config** and **show config dynamic**. If the router or switch rebooted, the changes were lost. This issue only occurred if the existing interface route and the modified prefix had the same prefixlength. This issue has been resolved.	Y	-	Y	Y	Y	-	-	-	-	-

CR	Module	Level	Description	AR44xS/ AR450S	AR7x5	AR750S	Rapier i	AT-8800	AT-8600	AT-8700XL	AT-8948	AT-9900	AT-9800
CR00012287	IPv6	3	If a user set the preferred or valid timers for IPv6 router advertisements to **infinite** (using the command **set ipv6 interface**), the resulting advertisement packets did not have a value of infinite. This issue has been resolved.	Y	-	Y	Y	Y	-	-	-	-	-
CR00012708	many	3	The command **show debug active** displays information about currently-active debugging for many modules at once. Similarly, the command **disable debug active** disables debugging for many modules in a single step. This Software Version extends the list of modules that these commands act on. They now apply to all modules with debug support, except for DS3, ACC, Q931, SA, SYN, TPAD, and X25C.	Y	-	Y	Y	Y	Y	Y	-	-	-
CR00012786	IP Gateway	3	When a link that had RIP configured on it went down, so that the router or switch used an alternative route, output from the command **show ip route** sometimes displayed incorrect information when the link came back up. When the link first comes back up, the route's RIP metric is still 16, so the alternative route is still the "best" route to the target. However, **show ip route** sometimes displayed a disabled route over the original link, with a RIP metric of 16, as the best route, even though the router or switch correctly used the alternative route. This issue has been resolved.	Y	-	Y	Y	Y	Y	Y	-	-	-
CR00012856	Switch	3	When a port had no learn limit, adding a switch filter entry with the **learn** parameter specified (using the command **add switch filter action=forward dest=*macaddress* port=*x* learn**) turned on port security with a learn limit of 1. This stopped the port from learning new MAC addresses, except through more filter entries. This issue has been resolved. Adding a filter with the **learn** parameter specified no longer turns on port security.	-	-	-	Y	Y	Y	Y	-	-	-

CR	Module	Level	Description	AR44xS/ AR450S	AR7x5	AR750S	Rapier i	AT-8800	AT-8600	AT-8700XL	AT-8948	AT-9900	AT-9800
CR00012895	**IP Gateway**	**3**	Previously, the router accepted ARP entries with multicast IP and MAC addresses when the MAC disparity feature was disabled. The MAC disparity feature is disabled by default. The issue has been resolved. The router now discards such ARP entries unless the MAC disparity feature has been enabled by using the command **enable ip macdisparity**.	Y	-	Y	-	-	-	-	-	-	-
CR00013048	**Firewall**	**3**	When IP NAT or firewall NAT was used, the router or switch sometimes generated ICMP messages that specified the wrong source IP address. This meant that the response to traceroute could be incorrect. This issue has been resolved.	Y	-	Y	Y	Y	-	-	-	-	-
CR00013049	**IPv6**	**3**	The router or switch sometimes rebooted when it processed a large number of multicast routes that were created as the result of receiving a large amount of data from more than 500 multicast groups. This issue has been resolved.	Y	-	Y	Y	Y	-	-	-	-	-
CR00013060	**IPv6**	**3**	Previously, if IPv6 had a dynamic Neighbour Discovery cache entry for a particular IPv6 address, it prevented users from adding a static entry for the same IPv6 address. This issue has been resolved. Users can now overwrite dynamic Neighbour Discovery cache entries with static entries.	Y	-	Y	Y	Y	-	-	-	-	-
CR00013093	**Switch**	**3**	When traffic on a port was mirrored and that port had a learn limit set, packets from the CPU (such as ARP replies and ICMP replies) were not always mirrored. This issue has been resolved.	-	-	-	Y	Y	Y	Y	-	-	-
CR00013117	**IPv6, PIM, PIMv6**	**3**	A router or switch running PIM6 occasionally rebooted in certain network topologies when links were very busy. The circumstances that caused this crash are very unusual, but the code has been made more robust to cope with them.	Y	-	Y	Y	Y	-	-	-	-	-

CR	Module	Level	Description	AR44xS/ AR450S	AR7x5	AR750S	Rapier i	AT-8800	AT-8600	AT-8700XL	AT-8948	AT-9900	AT-9800
CR00013421	**BGP**	**3**	When a user created a BGP module trigger for the **peerstate** event, the router or switch did not allow specification of the **script** or **state** parameters. This issue has been resolved. All such generic parameters are now available with module-specific triggers.	Y	-	Y	Y	Y	-	-	-	-	-
CR00013473 CR00013516	**DVMRP**	**3**	Values for some DVMRP settings (including **ttlthreshold** and **metric**) were not saved in the configuration file or output resulting from the commands **create config** and **show config dynamic**. If the router or switch rebooted, the values were not applied. This issue has been resolved.	Y	-	Y	Y	Y	-	-	-	-	-
CR00013525	**Stack**	**3**	Different versions of the management stacking feature are not compatible with each other, which means that AT-9924Ts or x900-24XT series switches can only be stacked with other AT-9924Ts or x900-24XT switches. This software version includes checks to prevent incompatible software from being stacked.	-	-	-	Y	Y	Y	Y	-	-	-
CR00013547	**VLAN**	**3**	When DHCP snooping was enabled on the router or switch, performing a walk of the MIB variables in that router or switch could result in incorrect termination of the walk. This was because certain SNMP packets were incorrectly interpreted as DHCP packets. This issue has been resolved.	-	-	-	Y	Y	Y	Y	-	-	-
CR00013714	**SSH**	**3**	The router or switch's SSH server occasionally disconnected an SSH client because of a checksum error. This occurred because the server did not decrypt the SSH session key correctly. This issue has been resolved.	Y	-	Y	Y	Y	Y	Y	-	-	-

Level 4

CR	Module	Level	Description	AR44xS/ AR450S	AR7x5	AR750S	Rapier i	AT-8800	AT-8600	AT-8700XL	AT-8948	AT-9900	AT-9800
CR00001359	**Eth, Bridge, Switch, LLDP, IP Gateway**	**4**	For all Ethernet-like interfaces, the router or switch now uses an ifType value of ethernetCsmacd, instead of the deprecated value of iso88023Csmacd.	Y	-	Y	Y	Y	Y	Y	-	-	-
CR00009443	**Core**	**4**	If the router had a temperature lower than zero, it displayed the temperature as a positive number in, for example, the command **show system**. For example, if the temperature was -1°C, it displayed 254. This issue has been resolved. Negative temperatures are now displayed correctly.	-	-	Y	-	-	-	-	-	-	-
CR00010427	**PPP, IP Gateway**	**4**	When a user entered the command **reset ppp=*instance*** to reset a PPP interface with a dynamically allocated IP address, the router or switch produced an erroneous log message. This issue has been resolved.	Y	-	Y	Y	Y	-	-	-	-	-
CR00011098	**IPsec, ISAKMP, Firewall, Utility**	**4**	If two IPsec peers both initiate negotiation of a secure IPsec connection at exactly the same time, two IPsec SA bundles will be created for what is essentially only a single VPN connection. Previously, when one peer's IPsec SA bundles soft-expired, the peer would re-negotiate both SA bundles, even though only one SA bundle would be used. This issue has been resolved, so that only one bundle will be re-negotiated when multiple identical SA bundles exist.	Y	-	Y	Y	Y	-	-	-	-	-

CR	Module	Level	Description	AR44xS/ AR450S	AR7x5	AR750S	Rapier i	AT-8800	AT-8600	AT-8700XL	AT-8948	AT-9900	AT-9800
CR00011311	**IPsec**	**4**	In output of the commands **show ipsec policy** and **show ipsec policy sabundle**, the value for the number of bytes currently used by each SA bundle was sometimes truncated. This issue has been resolved, and both commands now display the correct number. As part of this, output of the command **show ipsec policy** has been modified so that the expiry limits in bytes and in seconds display on separate lines. Also, if the **expirykbytes** parameter of the command **create** or **set ipsec bundlespecification** was given a value higher than 4193280, the router or switch instead used a lower value. This issue has been resolved. If you specify a value above 4193280, the router or switch now displays a warning message and sets the expiry limit to 4193280 kbytes.	Y	-	Y	Y	Y	-	-	-	-	-
CR00012270	**Remote Telnet**	**4**	The “?” help description for the **enable** command stated that the parameter **rtelnet** would “Disable the use of remote telnet to control an asyn port”. This issue has been resolved. The query now states that the command **enable rtelnet** enables remote telnet.	Y	-	Y	Y	-	-	-	-	-	-
CR00012755	**Install, Stacking**	**4**	If the local command **show config dynamic** was entered as a host-directed command, the switch gave an incorrect error message. This issue has been resolved. If you attempt to direct **show config dynamic** to a host, the switch now responds with the message “Command is local, do not use host direction”.	-	-	-	Y	Y	Y	Y	-	-	-

CR	Module	Level	Description	AR44xS/ AR450S	AR7x5	AR750S	Rapier i	AT-8800	AT-8600	AT-8700XL	AT-8948	AT-9900	AT-9800
CR00012774	**IP Gateway, TCP**	**4**	In an unusual network configuration where the IP subnet on one interface was a subset of that on another interface, it was possible for the results of a trace route to show erroneous information. This issue has been resolved. A search for an interface using an address within the interface's subnet now finds the most specific match for the address.	Y	-	Y	Y	Y	Y	Y	-	-	-
CR00013174	**Asyn, Core, Log, Scripting, Show**	**4**	The console port’s autobaud mode was determined incorrectly during start-up. This caused the router to unnecessarily reconfigure the console port for 9600 8N1 before printing any bootup messages. This issue has been resolved.	-	-	Y	-	-	-	-	-	-	-

Enhancements

CR	Module	Level	Description	AR44xS/ AR450S	AR7x5	AR750S	Rapier i	AT-8800	AT-8600	AT-8700XL	AT-8948	AT-9900	AT-9800
CR00011490	**MLD, MLD Snooping**	-	Several enhancements have been made to MLD and MLD Snooping, in accordance with RFC 3810, *Multicast Listener Discovery Version 2 (MLDv2) for IPv6*. For details, see "Enhancements to MLD and MLD Snooping (CR00011490)" on page 65. This CR also fixed some issues in MLD and MLD Snooping; see "CR00011490" on page 11.	Y	-	Y	Y	Y	-	-	-	-	-
CR00012015	**BGP**	-	BGP backoff has been enhanced in the following ways: ■ in output of the command **show bgp backoff**, a new field called "command status" displays "DISABLED" if the backoff feature has been manually disabled. Otherwise, the field displays "ENABLED". ■ BGP backoff only operates if at least one BGP peer exists and has been enabled. If no peers exist, the "backOff state" field displays "PEER DISABLED".	Y	-	Y	Y	Y	-	-	-	-	-
CR00012369	**IPv6**	-	Previously, output of the command **show ipv6 route** displayed the whole IPv6 route table. With this enhancement, this command only displays: ■ all static routes ■ all interface routes ■ RIPng routes that are alive and are the best route for each unique destination network To display the whole IPv6 route table, use the new command **show ipv6 route full**. This enhancement makes IPv6 consistent with the route display for IPv4.	Y	-	Y	Y	Y	-	-	-	-	-

CR	Module	Level	Description	AR44xS/ AR450S	AR7x5	AR750S	Rapier i	AT-8800	AT-8600	AT-8700XL	AT-8948	AT-9900	AT-9800
CR00012850 CR00013109 CR00013683	File	-	Previously, a user could delete the preferred software release and the current boot configuration file (by using the command **delete file**), without first setting a new preferred release or boot configuration file. Therefore, it was possible to accidentally delete these files, which caused network disruptions if the router or switch restarted. If the router or switch restarted after the user had deleted the preferred release, it booted from the default software. Similarly, if the router or switch restarted after the user had deleted the current boot configuration file, it started up with no configuration. This enhancement ensures that users can no longer delete the preferred software release or the current boot configuration file. If you want to delete the files without specifying new preferred files, first use the commands **delete install=pref** or **set config=none** to stop the files from being preferred. Note that this enhancement does not apply to routers or switches that are manufactured for the Japanese market. Japanese users can still delete the preferred software release and the current boot configuration file.	Y	-	Y	Y	Y	Y	Y	-	-	-
CR00012881	IP Gateway	-	The IP implementation has been enhanced to accept IP interfaces with a /31 netmask. This results in a slightly non-standard subnet that has no network address or broadcast address. This has become a popular extension to IP, because it reduces wastage of IP addresses on point-to-point links.	Y	-	Y	Y	Y	Y	Y	-	-	-
CR00013004	IPsec	-	The maximum number of concurrent IPsec SA bundles that are allowed per IPsec policy has been increased from 40 to 100, so that IPsec can now support up to 100 concurrent roaming Microsoft Windows hosts. Site-to-site VPN connections are not usually limited by the number of SA bundles per policy, because different IPsec policies with different traffic selectors can be configured to support more IPsec VPN connections. However, the number of SA bundles per policy did limit configurations that support roaming Windows laptops (IPsec transport mode connections over L2TP), because the only traffic selectors known ahead of time are **lport=1701** and **transportprotocol=udp**.	Y	-	Y	Y	Y	-	-	-	-	-

Features in 276-03

Software Maintenance Version 276-03 includes all resolved issues and enhancements in earlier versions, and the resolved issues and enhancements in the following tables. In the tables, for each product series:

- "Y" indicates that the resolution is available in Version 276-03 for that product series.
- "-" indicates that the issue did not apply to that product series.

Level 1

CR	Module	Level	Description	AR44xS / AR450S	AR7x5	AR750S	Rapier i	AT-8800	AT-8600	AT-8700XL	AT-8948	AT-9900	AT-9800
CR00012654 CR00013388	Switch	1	Under heavy CPU utilisation, particularly when many SFPs were installed, AT-9924SP switches sometimes did not correctly detect the installed status of SFPs or reflect the correct link state. This issue has been resolved. The switch now reports the correct state once the heavy load is removed.	-	-	-	-	-	-	-	-	Y	-

Level 2

No level 2 issues

Level 3

No level 3 issues

Level 4

No level 4 issues

Enhancements

No enhancements

Features in 276-02

Software Maintenance Version 276-02 includes all resolved issues and enhancements in earlier versions, and the resolved issues and enhancements in the following tables. In the tables, for each product series:

- "Y" indicates that the resolution is available in Version 276-02 for that product series.
- "-" indicates that the issue did not apply to that product series.

Level 1

CR	Module	Level	Description	AR44xS / AR450S	AR7x5	AR750S	Rapier i	AT-8800	AT-8600	AT-8700XL	AT-8948	AT-9900	AT-9800
CR00011691	**Switch**	**1**	Previously, if trunk ports were configured and/or STP was enabled, the CPU flooded GARP frames in an incorrect manner, which could cause network loops. This issue has been resolved. GMRP frames are (correctly) flooded, and GVRP frames are now only flooded if GARP is disabled.	-	-	-	Y	Y	Y	Y	Y	Y	-
CR00011694	**Core, Switch**	**1**	If the switch had learned a very large number of routes from BGP and the interface went down, IP ran out of memory when recalculating the best routes to use. This was exacerbated when the high memory usage triggered the BGP backoff mechanism which in turn disabled the BGP peers, which caused IP to recalculate even more routes. The switch eventually rebooted due to memory exhaustion. This issue has been resolved by improvements to memory allocation and IP route queuing, and by enforcing limits on the number of IP routes.	-	-	-	Y	Y	-	-	Y	Y	Y
CR00012097	**Switch**	**1**	When PIM6 was configured on the switch, and it received an IPv6 multicast stream for which it had no downstream interface to forward the stream to, a reboot could occur. This issue has been resolved.	-	-	-	Y	Y	-	-	Y	Y	Y

Level 2

CR	Module	Level	Description	AR44xS / AR450S	AR7x5	AR750S	Rapier i	AT-8800	AT-8600	AT-8700XL	AT-8948	AT-9900	AT-9800
CR00000529	IPv6, PIM6	2	When a better route for multicast traffic became available, PIM for IPv6 did not recalculate the route and switch the traffic to use it. This issue has been resolved.	Y	Y	Y	Y	Y	-	-	Y	Y	Y
CR00006475	IP Gateway, PIM	2	When PIM-DM or PIM-SM was forwarding traffic through the CPU at high data rates and an SG entry was deleted, it was possible for the router or switch to reboot. This issue has been resolved.	Y	Y	Y	Y	Y	-	-	Y	Y	Y
CR00007522	IP Gateway	2	The switch's hardware IP route table occasionally did not contain the most optimal route to a destination. This meant packets were sometimes sent via sub-optimal routes. An additional effect was that when multiple equal-cost routes existed a less than complete set of those routes would be utilised. This issue has been resolved, so that the switch forwards packets via the best IP route(s) available.	-	-	-	Y	Y	Y	Y	Y	Y	Y
CR00007741	TCP, TPAD	2	TPAD TCP sessions now have a keepalive timer applied to them. If a TPAD TCP session is inactive and therefore there is no response to the TCP keepalives, then after 3 keepalive attempts, 10 seconds apart, the TPAD TCP session is closed. This frees up the TCP listen port to allow subsequent TPAD transactions via that TCP port. This TCP keepalive facility only applies to TPAD-related TCP traffic.	Y	Y	Y	Y	-	-	-	-	-	-
CR00007950	SSH	2	When a user is logged into the router or switch via an ASYN port and uses the SSH client to send a command to a remote SSH server, the server sends the response and the SSH session is closed as expected. However, the tail end of the response was sometimes not received by the user logged into the ASYN port. This issue has been resolved.	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

CR	Module	Level	Description	AR44xS / AR450S	AR7x5	AR750S	Rapier i	AT-8800	AT-8600	AT-8700XL	AT-8948	AT-9900	AT-9800
CR00008699	**Switch**	**2**	Previously, when 300 MAC address filters were added to a port and the port was reset, the CPU became 100% utilised. This issue has been resolved.	-	-	-	Y	Y	Y	Y	-	-	-
CR00008992	**IPv6**	**2**	The router or switch sometimes unexpectedly stopped forwarding IPv6 multicast traffic if the multicast's upstream path changed. This could occur, for example, when the path changed because an interface went down.	Y	Y	Y	Y	Y	-	-	Y	Y	Y
CR00009201	**ARP**	**2**	An ARP timeout caused the removal of the ARP entry, resulting in packet loss until the entry was re-added. This issue has been resolved.	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
CR00009280	**ATM**	**2**	When the router was using IPsec and either IPoEoA or IPoA, and it received traffic from a VLAN at a higher rate than it could transmit over the ADSL link, eventually the ATM interface would intermittently stop transmitting traffic. This issue has been resolved.	Y	-	-	-	-	-	-	-	-	-
CR00009283	**Switch**	**2**	If a 48-port switch learned many thousands of MAC addresses, it rebooted when the addresses timed out. This issue has been resolved.	-	-	-	Y	Y	Y	Y	-	-	-
CR00009539	**IP Gateway**	**2**	The IP DNS cache feature was not designed to include MX (Mail Exchange) DNS records. In some circumstances, MX DNS entries were added to the IP DNS cache and the name of a DNS record was incorrectly associated with the IP address of the MX entry. This stopped the router or switch from correctly resolving A-record requests for the affected domain name. This issue has been resolved by ensuring that MX entries are never added to the IP DNS cache.	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
CR00010265	**Switch**	**2**	When the ingress and egress port were defined in an Layer 3 filter with an action of **deny**, the filter denied the traffic to be sent out all the egress ports and not just the egress port specified in the filter. This issue has been resolved.	-	-	-	Y	Y	Y	Y	-	-	-

CR	Module	Level	Description	AR44xS / AR450S	AR7x5	AR750S	Rapier i	AT-8800	AT-8600	AT-8700XL	AT-8948	AT-9900	AT-9800
CR00010886	IPv6, IP Gateway, PPP	2	When a user enabled a Dial-on-Demand PPP interface, sometimes the router or switch did not apply the associated IP route change. This meant that routes via the Dial-on-Demand PPP interface were not available for use. When this occurred, routed traffic failed to activate the associated Dial-on-Demand PPP interface. This issue has been resolved.	Y	Y	Y	Y	Y	-	-	Y	Y	Y
CR00011060	IP Gateway, PIM	2	In networks with redundancies handled by protocols such as STP and trunking, upstream PIM neighbours may move from one port to another. When this happened, PIM-DM failed to re-establish multicast routes with all of its downstream interfaces listed properly. This caused the switch to eventually stop sending multicasts for that group via that route. This issue has been resolved.	-	-	-	Y	Y	-	-	Y	Y	Y
CR00011128	BGP	2	When running a BGP network using route reflectors, changing the cluster ID on a router or switch could cause a restart of some of the BGP clients. This issue has been resolved.	Y	Y	Y	Y	Y	-	-	Y	Y	Y
CR00011304	VRRP	2	VRRP did not function correctly when the switch was configured with protected VLANs. This issue has been resolved.	-	-	-	Y	Y	Y	Y	-	-	-
CR00011305	IPv6, Utility	2	RIPng (RIPv6) occasionally advertised sub-optimal routes to its neighbour when the router or switch was placed in a looped network topology. This issue has been resolved.	Y	Y	Y	Y	Y	-	-	Y	Y	Y
CR00011338	ASYN	2	If a cable carrying a continuous stream of characters is connected to a port on an 4-port ASYN PIC, the ASYN port did not always receive the characters correctly. This was because of a port synchronisation failure to the character stream. This issue has been resolved. The port now detects the synchronisation failure and continues to attempt synchronisation to the character stream until successful.	Y	Y	Y	Y	-	-	-	-	-	-

CR	Module	Level	Description	AR44xS / AR450S	AR7x5	AR750S	Rapier i	AT-8800	AT-8600	AT-8700XL	AT-8948	AT-9900	AT-9800
CR00011349	**SYN**	**2**	At low baud rates, a synchronous connection was unable to reach 100% utilisation of the available bandwidth. The queueing mechanism has been improved to allow 100% link utilisation. Flag sharing between back-to-back HDLC frames is now supported for synchronous connections.	Y	Y	Y	Y	-	-	-	-	-	-
CR00011396	**PIM on IPv6**	**2**	When a user specified a static RP candidate and saved the configuration with the **create config** command, the resulting configuration file did not include the RP candidate. Therefore, rebooting the router or switch deleted the static RP candidate entry. This issue has been resolved.	Y	Y	Y	Y	Y	-	-	Y	Y	Y
CR00011411	**PoE**	**2**	When multiple telnet sessions where open on the AT-8624PoE switch, and the command **show switch port** was entered, the switch command line became unresponsive for several minutes. This issue has been resolved.	-	-	-	-	-	Y	-	-	-	-
CR00011586	**Switch**	**2**	When a port is no longer a member of any VLAN as an untagged port, it would discard received untagged BPDU packets. Note that this issue only occurred on AT-8900 and AT-9900 switches; other switches already correctly handled untagged frames on tagged ports when required. This issue has been resolved.	-	-	-	-	-	-	-	Y	Y	-
CR00011587	**Switch**	**2**	Previously, if a port was a tagged member of a VLAN, it was not able to transmit untagged frames to that VLAN. This issue has been resolved. When required, STP BPDUs can now to be sent untagged out a port, even if the port is configured as a tagged member of a VLAN.	-	-	-	-	-	-	-	Y	Y	-
CR00011645	**Switch**	**2**	After an AT-8800 series switch was powered down or rebooted, non auto-negotiating copper GBICs did not correctly handle Ethernet PAUSE frames. This issue has been resolved.	-	-	-	-	Y	-	-	-	-	-

CR	Module	Level	Description	AR44xS / AR450S	AR7x5	AR750S	Rapier i	AT-8800	AT-8600	AT-8700XL	AT-8948	AT-9900	AT-9800
CR00011665	**PRI**	**2**	When using an unstructured TDM group over an E1 mode PRI interface, occasionally a high level of errors was experienced. This may have caused the link to be unstable, or may have resulted in reduced data throughput. This issue has been resolved.	Y	Y	Y	Y	-	-	-	-	-	-
CR00011746	**BGP**	**2**	If the router or switch failed to establish a BGP peer session because of unsuccessful Open message exchanges, no further attempts to establish the peer connection were made. This issue has been resolved. The router or switch now continues to attempt to establish the session, with 60 second intervals between attempts.	Y	Y	Y	Y	Y	-	-	Y	Y	Y
CR00011780	**BOOTP**	**2**	Previously, if a user entered the command **set bootp relay option82 port=*portnum*** without also specifying one of the required **subscriberid** or **trusted** parameters, the router or switch would incorrectly report "Operation Successful". This issue has been resolved. The router or switch now reports that one of the parameters **subscriberid** or **trusted** must also be specified as part of this command.	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
CR00011809	**Firewall**	**2**	The SIP application layer gateway (ALG) did not correctly handle SIP packets that had an extension parameter added to the "From" field. In VoIP networks that added this extension parameter, users telephoning out from the private network could not hear the recipient talk, because the VoIP voice data was not passed from the remote client to the client on the private side. This issue has been resolved.	Y	Y	Y	Y	Y	-	-	-	-	Y
CR00011844	**IPv6**	**2**	IPv6 interfaces did not work over a PPP link on switches or AR44x routers. When the interface received IPv6 traffic, the router or switch rebooted. This issue has been resolved.	Y	-	-	Y	Y	-	-	Y	Y	Y

CR	Module	Level	Description	AR44xS / AR450S	AR7x5	AR750S	Rapier i	AT-8800	AT-8600	AT-8700XL	AT-8948	AT-9900	AT-9800
CR00011855	**TCP, UPnP**	**2**	TCP sessions would sometimes “hang” in the Close Wait state. This behaviour occurred when a UPnP notification session was closed by the control point (usually Windows XP, SP2), via a “200 OK” message that contained a “Connection: close” field, that also had the TCP/FIN flag set. Because these TCP sessions were not closing, eventually all available TCP resources could be used up, preventing new TCP sessions from opening. This issue has been resolved. Such TCP sessions now close correctly.	Y	Y	Y	-	-	-	-	-	-	-
CR00011940	**Switch**	**2**	Previously, if all configured IP interfaces were down or had been deleted, broadcast frames were not sent to the switch’s CPU. This meant, for example, that VLANs on the switch did not receive PPPoE traffic if all IP interfaces were down.	-	-	-	-	-	-	-	Y	Y	-
CR00011991	**WAN load balancer**	**2**	An issue occurred when the router accessed multiple WAN load balancer healthcheck hosts, and was configured as a firewall that performed enhanced NAT. Instead of testing the health of each healthcheck host through every WAN LB resource (and therefore over all relevant WAN interfaces), the router only tested through one WAN LB resource. If that one WAN interface lost connectivity to the Internet, the WAN LB incorrectly thought that all WAN LB resources had become unavailable. This issue has been resolved. The WAN LB now correctly checks the health of all healthcheck hosts through all WAN LB resource interfaces.	Y	Y	Y	-	-	-	-	-	-	-
CR00011992	**Firewall**	**2**	When the firewall was enabled, it failed to process some RTSP packets, so clients behind the firewall failed to load some web pages that used RTSP (TCP port 7070). This issue has been resolved.	Y	Y	Y	Y	Y	-	-	-	-	Y

CR	Module	Level	Description	AR44xS / AR450S	AR7x5	AR750S	Rapier i	AT-8800	AT-8600	AT-8700XL	AT-8948	AT-9900	AT-9800
CR00012013	**VLAN**	**2**	When MLD snooping was enabled and the switch received IPv6 multicast packets (such as MLD Query, Report or Done messages; IPv6 NS packets; and IPv6 RA packets) on a non-master port of a trunk group, it incorrectly forwarded them out the master port. This resulted in a packet loop. This issue has been resolved.	-	-	-	Y	Y	-	-	Y	Y	Y
CR00012067	**OSPF**	**2**	A summary LSA was not turned into a route if the destination and mask fell inside one of the router or switch’s active ranges, unless it exactly matched the active range’s address and mask. This complied with RFC 1583 section 16.2. However, the recommended behaviour has been modified in RFC 2328 section 16.2. To comply with this, the LSA is now calculated if it falls inside one of the router or switch’s active ranges.	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
CR00012096	**Core, LLDP, Switch, Utility**	**2**	The LLDP module and several monitoring features started up when they were not needed. This impacted on performance. This issue has been resolved, and therefore performance has been improved, especially for the AR440S router.	Y	-	-	-	-	-	-	-	-	-
CR00012108	**Switch**	**2**	The command **disable switch port=*port-number* link=disable** did not correctly disable the link for port 12 or 24 on AT-9924SP switches. It only disabled ports 12 and 24 in software. This issue has been resolved.	-	-	-	-	-	-	-	-	Y	-
CR00012119	**Load balancer**	**2**	Previously, only one **resstate** trigger could be created for each load balancer resource. This meant, for example, that you could create a trigger to activate a script when a resource went down, but could not activate another script when the resource came back up again. This issue has been resolved. You can now define different triggers to trigger off each of the different states available for a given resource (such as **lbstate=up** and **lbstate=closing**).	Y	Y	Y	Y	Y	-	-	Y	Y	Y

CR	Module	Level	Description	AR44xS / AR450S	AR7x5	AR750S	Rapier i	AT-8800	AT-8600	AT-8700XL	AT-8948	AT-9900	AT-9800
CR00012140	PIM	2	If the link between two PIM Sparse Mode neighbours was removed, sometimes one of the neighbours rebooted. This issue has been resolved.	Y	Y	Y	Y	Y	-	-	Y	Y	Y
CR00012167	Switch	2	When MAC address entries time out in the switch’s ARP table, the switch re-ARPs for the entry’s MAC address and adds the entries back if it gets a reply. When 48-port switches re-added the entry, sometimes they associated it with the wrong port number. This stopped the switch from transmitting traffic to that MAC address. This issue has been resolved.	-	-	-	Y	Y	Y	Y	-	-	-
CR00012204	PPP, Eth, IP Gateway, VRRP	2	If VRRP and/or PPP interfaces underwent many state changes, slow memory leaks occurred. This issue has been resolved.	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
CR00012232 CR00012430	Firewall, SIP ALG	2	Some SIP phones may alter or periodically refresh the session information for a call, by sending a re-invite message while the call is in progress. Previously, when a call was established between two SIP phones on the private side of the firewall and one of the phones attempted to update the session information, the call became corrupted. This meant that one of the callers stopped hearing the other. This issue has been resolved.	Y	Y	Y	Y	Y	-	-	-	-	Y
CR00012233	BOOTP	2	When the router or switch acted as a relay agent to process BOOTP requests that contained option 82, it modified the option 82 information of packets even when their giaddr field was set to a non-zero value. The router or switch applied the policy specified by the command: `set bootp relay option82 policy={drop|keep|replace}` This issue has been resolved. As required by RFC 3046, the router or switch now forwards client DHCP packets that have a non-zero giaddr field without modifying their option 82 fields.	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

CR	Module	Level	Description	AR44xS / AR450S	AR7x5	AR750S	Rapier i	AT-8800	AT-8600	AT-8700XL	AT-8948	AT-9900	AT-9800
CR00012304	**TPAD**	**2**	TPAD previously had issues when the LRC (Longitudinal Redundancy Check) at the end of a transaction was 0x00 **and** the transaction was via the TCP port. The transaction would stall in the box and eventually time out the X.25 call. This issue has been resolved. TPAD transactions now accept an LRC with a value of 0x00 and operate as normal.	Y	Y	Y	Y	-	-	-	-	-	-
CR00012319	**IPv6**	**2**	If the router or switch received a packet that was destined for a link-local address that did not exist, it tried to forward the packet. This caused it to reboot. For example, if a user pinged a non-existent link-local address, the router or switch rebooted. This issue has been resolved by ensuring that the router or switch does not attempt to forward or route packets destined for a link-local interface. Such packets should not be forwarded because they are intended for the local link.	Y	Y	Y	Y	Y	-	-	Y	Y	Y
CR00012396	**Firewall, Software QoS**	**2**	When the router or switch was running software QoS and performing NAT through the firewall, it did not check egress classifiers against the pre-NAT address of translated packets. This issue has been resolved.	Y	Y	Y	Y	-	-	-	-	-	-

CR	Module	Level	Description	AR44xS / AR450S	AR7x5	AR750S	Rapier i	AT-8800	AT-8600	AT-8700XL	AT-8948	AT-9900	AT-9800
CR00012482	Core, Utility, Stacking	2	A few commands on the switch are local commands—they relate only to the switch on which the user types them, and not to any other switch in the stack. The **edit** command is one such command. Previously, local commands were directed across the stack, which meant they could be sent to other stack members. This caused the following issues with the **edit** command: ■ The editing window displayed the command response from other stack members ■ If the user closed the file and tried to edit it again, the switch displayed an error message stating that the file was being edited by another user These issues have been resolved, resulting in the following changes: ■ Local commands now cannot be host directed. A local command that is host directed will be refused. ■ Local commands are not sent to other stack members. Previously, local commands were sent but were not actioned on other stack members—a "not applicable to this host" message informed users of this. ■ The command **show config dynamic** is now a local command. ■ The command **disable stack** cannot be run from a script.	-	-	-	Y	Y	Y	Y	Y	Y	-
CR00012533	IP Gateway	2	Under some router configurations (for example, WAN load balancing), performing a trace route from a Microsoft Windows PC caused the router to reboot. This issue has been resolved.	Y	Y	Y	-	-	-	-	-	-	-

CR	Module	Level	Description	AR44xS / AR450S	AR7x5	AR750S	Rapier i	AT-8800	AT-8600	AT-8700XL	AT-8948	AT-9900	AT-9800
CR00012613	**Firewall**	**2**	When the WAN load balancer was used with IP NAT (instead of firewall NAT), and an FTP session was established to a server on the public network, the router did not correctly establish a return session. This meant data was unable to flow correctly back from the server, and the router rebooted. This issue has been resolved. Note that the WAN load balancer is not designed for use with IP NAT, because IP NATs are not associated with interfaces. Configurations that use an IP NAT cannot vary the global IP address (the **gblip** parameter) based on the outgoing interface, so the WAN load balancer sends all traffic out with the same source address. Therefore, the return traffic probably comes back via the WAN load balancer resource that is associated with the global IP. The impact is that the WAN load balancer balances the outgoing traffic but not the return traffic. We recommend using firewall NAT instead of IP NAT with the WAN load balancer.	Y	Y	Y	-	-	-	-	-	-	-
CR00012649	**Switch, MLD Snooping**	**2**	The switch sometimes flooded IPv6 multicast traffic undesirably, if the MLD All Routers snooping group contained more than one port and another snooping group contained no ports. In this situation, when a port timed out of the All Routers group, multicast traffic from the empty snooping group was flooded to all ports on the switch. Flooding continued until the last port timed out of the All Routers group. This issue has been resolved.	-	-	-	Y	Y	-	-	Y	Y	Y
CR00012689	**IP Gateway, IGMP proxy**	**2**	When IGMP proxy was configured and a user first deleted the upstream interface, then deleted a downstream interface, the router or switch sometimes rebooted. Note that this issue did not occur if the downstream interface was deleted first. This issue has been resolved.	Y	Y	Y	Y	Y	Y	Y	-	-	-

Level 3

CR	Module	Level	Description	AR44xS / AR450S	AR7x5	AR750S	Rapier i	AT-8800	AT-8600	AT-8700XL	AT-8948	AT-9900	AT-9800
CR00006900	**BGP,** **IP Gateway**	**3**	If the metric on a blackhole route was changed using the command **set ip route** and this caused another route, which was being suppressed by the blackhole route, to become preferred, that route could sometimes fail to be imported into BGP. This issue has been resolved.	-	-	-	-	-	-	-	Y	Y	-
CR00008741	**Switch**	**3**	On 48-port switches, when a user created a static MAC address entry on a port (using the **add switch filter** command) and then entered a learn limit on that port, the static MAC address entry was sometimes deleted. This issue has been resolved.	-	-	-	Y	Y	Y	Y	-	-	-
CR00009379	**Appletalk**	**3**	When the router or switch was using AppleTalk, it occasionally failed to process traffic. When this occurred, entering AppleTalk commands could cause the router or switch to reboot. This issue has been resolved.	Y	Y	Y	Y	Y	-	-	Y	Y	Y
CR00009918	**RSVP**	**3**	When RSVP reserved more than about 30 sessions, the router or switch sometimes rebooted. This issue has been resolved.	Y	Y	Y	Y	Y	-	-	Y	Y	Y
CR00010080	**Classifier**	**3**	If a user defined a classifier to match **ethformat=snap-untagged protocol=ip**, and used that classifier in a hardware filter to discard matching packets, and saved the configuration, then the classifier in the resulting configuration file did not work properly. This issue has been resolved.	-	-	-	-	-	-	-	Y	Y	-

CR	Module	Level	Description	AR44xS / AR450S	AR7x5	AR750S	Rapier i	AT-8800	AT-8600	AT-8700XL	AT-8948	AT-9900	AT-9800
CR00010508	**BGP**	**3**	When the router or switch received a BGP update message and created new prefix entries for the routes in the update, it reversed the order of the AS segments. This issue has been resolved.	Y	Y	Y	Y	Y	-	-	Y	Y	Y
CR00010952	**IPv6**	**3**	If either of the following were configured for MLD: ■ a **qinterval** greater than 32 seconds ■ a **qrinterval** greater than 128 seconds then the router or switch sent MLDv2 query packets with incorrect Maximum Response Code and Querier's Query Interval Code fields. This issue has been resolved.	Y	Y	Y	Y	Y	-	-	Y	Y	Y
CR00010953	**IPv6**	**3**	Previously, it was possible to enter values for the **set ipv6 mld qrinterval** command that were higher than was specified in RFC 2710. This issue has been resolved. The valid range for **qrinterval** is now 1 to 8387 seconds. Note that if the router or switch acts as an MLDv1 querier and **qrinterval** is set to more than 65 seconds, then the Maximum Response Code in MLDv1 query packets will be set to 65535 milliseconds, because this is the highest valid value for that field.	Y	Y	Y	Y	Y	-	-	Y	Y	Y
CR00011105	**IP Gateway**	**3**	Configuring more than about 100 logical IP interfaces decreased the firewall performance. This issue has been resolved. Firewall performance is now very good even when 600 logical IP interfaces are configured.	Y	Y	Y	-	-	-	-	-	-	-
CR00011316	**System**	**3**	Previously, entering the command **set summertime** could cause extra digits to appear in the output of the commands **show ip interface** and **show config dynam=trigger**. This issue has been resolved.	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

CR	Module	Level	Description	AR44xS / AR450S	AR7x5	AR750S	Rapier i	AT-8800	AT-8600	AT-8700XL	AT-8948	AT-9900	AT-9800
CR00011510	IPsec	3	The maximum SPI value has been increased in the commands: create ipsec saspecification=*spec-id* inspi=*spi* outspi=*spi* [*other parameters*] set ipsec saspecification=*spec-id* inspi=*spi* outspi=*spi* [*other parameters*] The *spi* is now an integer in the range 256 to 4294967295.	Y	Y	Y	Y	Y	-	-	-	-	-
CR00011659	TTY, VRRP	3	When VRRP debug was enabled from a telnet session, the debugging did not stop when the telnet session closed. If the next telnet session got the same TTY number as the closed session, VRRP debug output was displayed immediately the session started. This made it possible for unauthorised users to view the debug output. This issue has been resolved.	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
CR00011687	BOOTP	3	The command **set bootp relay maxhops** is now supported, in addition to the existing command **set bootp maxhops**.	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
CR00011774	Switch	3	The dot1qTpFdbPort MIB entry displays the ports on which the switch has learned MAC addresses. Previously, the switch started the list of ports at port 0 instead of port 1. This issue has been resolved.	-	-	-	Y	Y	Y	Y	Y	Y	Y
CR00011784	IP Gateway	3	If the router received an ARP response for an address outside of the receiving interface's subnet, it discarded the ARP response. This is the intended behaviour on some AR410 routers (see CR00010261) but not on AR7x5 routers. This issue has been resolved. AR7x5 routers now forward such ARP responses.	-	Y	-	-	-	-	-	-	-	-

CR	Module	Level	Description	AR44xS / AR450S	AR7x5	AR750S	Rapier i	AT-8800	AT-8600	AT-8700XL	AT-8948	AT-9900	AT-9800
CR00011888	**Switch**	**3**	When a trunk group on a 48-port switch spanned multiple switch instances, the switch sometimes did not transmit traffic. The ports in each instance are: *Models* / *First instance* / *Second instance* Rapier 48i, AT-8748XL, AT-8648T/2SP / 1-24, 49 / 25-48, 50 AT-8848 / 1-24, 50 / 25-48, 49 This issue has been resolved.	-	-	-	Y	Y	Y	Y	-	-	-
CR00011931	**VLAN**	**3**	After users added multiple ports to one private VLAN as tagged ports, those ports could not be added to another private VLAN as tagged ports by using a single command (they could be added one port at a time). This issue has been resolved.	-	-	-	Y	Y	Y	Y	Y	Y	-
CR00011943	**IP Gateway**	**3**	Previously, it was possible to modify settings for the default local IP interface when it had no IP address. However, these settings were invalid so the router or switch did not save them. This issue has been resolved. Settings for the default local IP interface now cannot be changed unless the interface has an IP address assigned to it.	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
CR00011969	**OSPF**	**3**	When a user changed the **asexternal** setting for OSPF, sometimes OSPF did not correctly update the LSA database. This issue has been resolved.	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
CR00012014	**Switch**	**3**	Setting a port's speed to a fixed speed (such as **100mfull**) should also disable **automdi** on the port. Previously, if the switch set the port speed to a fixed speed during start-up before the switch had fully initialised, auto MDI was not disabled. This issue has been resolved.	-	-	-	-	-	-	-	Y	Y	-

CR	Module	Level	Description	AR44xS / AR450S	AR7x5	AR750S	Rapier i	AT-8800	AT-8600	AT-8700XL	AT-8948	AT-9900	AT-9800
CR00012036	**Firewall**	**3**	Previously, the command **set firewall policy=*policy-name* othertimeout=*minutes*** did not change the timeout period for firewall GRE sessions. This issue has been resolved. Note that when a firewall session establishes, its timeout is initially set to 5 minutes. Once the session processes two or more packets, its timeout changes to the value specified by this command.	Y	Y	Y	Y	Y	-	-	-	-	Y
CR00012040	**IP Gateway, WAN load balancer**	**3**	If policy-based routing and the WAN load balancer were both configured, the load balancer balanced traffic even if it matched the routing filter. Because the purpose of policy-based routing is to control the route that traffic uses, this was incorrect. This issue has been resolved. Traffic that matches a policy-based routing filter now bypasses the WAN load balancer.	Y	Y	Y	-	-	-	-	-	-	-
CR00012175	**OSPF**	**3**	In a segmented NBMA network, in which more than one designated router was elected for the network, sometimes the router or switch did not add the routes to the extra designated routers. Note that a segmented network like this only occurs as the result of an incorrect configuration. This issue has been resolved. The router or switch correctly determines routes in such a network.	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
CR00012265	**ATM**	**3**	Previously, ATM interfaces stopped transmitting when any of the following happened: ■ the command **reset pri** was entered ■ the command **reset bri** was entered ■ more than two ISDN calls were opened (on Software Versions prior to 2.7.6) This issue has been resolved.	Y	-	-	-	-	-	-	-	-	-

CR	Module	Level	Description	AR44xS / AR450S	AR7x5	AR750S	Rapier i	AT-8800	AT-8600	AT-8700XL	AT-8948	AT-9900	AT-9800
CR00012283	**Switch**	**3**	Previously, it was not possible to create two protocol-based VLANs on the same ports if they had the same protocol but a different Ethernet encapsulation. This issue has been resolved, so you can now create such VLANs.	-	-	-	-	-	-	-	Y	Y	-
CR00012305	**QoS**	**3**	When a user entered a **maxbandwidth** for QoS, the switch sometimes displayed a message that said the bandwidth units were "kbytes" instead of kilobits per second. This issue has been resolved.	-	-	-	Y	Y	Y	Y	-	-	-
CR00012307	**VLAN**	**3**	Previously, when MSTP was configured it was not possible to delete ports from VLANs in the MSTP CIST, unless MSTP was first disabled. This issue has been resolved. Deleting such ports is now permitted.	-	-	-	Y	Y	Y	Y	Y	Y	-
CR00012314	**TACACS+, Telnet**	**3**	If a user connects to the router or switch via telnet and is authenticated using TACACS+, previously the rem_addr field in the TACACS+ packets contained the text "Telnet x" (where x was the number of the telnet session) instead of the remote IP address. This issue has been resolved. The rem_addr field now contains the remote IP address.	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
CR00012322	**Classifier**	**3**	If a user created a classifier that specified an IP address without specifying a protocol (for example, **create classifier=1 ipda=20.20.20.10/24**), and saved the configuration with the **create config** command, the resulting configuration file included a value for protocol (for example, **create class=1 prot="ip" ipda=20.20.20.10/24**). This prevented the router or switch from applying the classifier to IPsec tunnelled traffic. This issue has been resolved. The protocol value is no longer added to such classifiers, which leaves them matching the default of **any**.	Y	Y	Y	Y	-	-	-	-	-	-

CR	Module	Level	Description	AR44xS / AR450S	AR7x5	AR750S	Rapier i	AT-8800	AT-8600	AT-8700XL	AT-8948	AT-9900	AT-9800
CR00012329	**Asyn**	**3**	When the router sent a continuous stream of data over a permanent assignment, and the ASYN port at the receiving end of the tunnel was significantly slower than the ASYN port at the sending end, the sending router eventually rebooted. This was because the router had to queue packets and eventually ran out of memory. This issue has been resolved. The router now stops receiving ASYN data when memory is low, so its queue does not get too full.	Y	Y	Y	-	-	-	-	-	-	-
CR00012359	**Switch**	**3**	You can now return the description of a switch port to its original blank value by entering the following command: `set switch port=`*`port-number`*` description=` and providing no value for the **description** parameter.	Y	-	Y	Y	Y	Y	Y	Y	Y	Y
CR00012413	**Logging**	**3**	When a user creates permanent log filters, the existing default filter is moved to the bottom of the list of filters, instead of being deleted. This behaviour is correct. However, output of the command **show config dyn=log** previously included commands to delete the default filter then add it back in, which was confusing. This issue has been resolved. The output of the command **show config dyn=log** now only includes the default filter if the user has specified the default filter in a command. To see all existing filters, use the command **show log output=permanent full**.	-	Y	-	Y	Y	-	Y	Y	Y	Y
CR00012427	**Logging**	**3**	If a user modified the permanent log by destroying it and creating a new one, and then saved the configuration with the command **create config**, the resulting configuration file included the command **destroy log output=permanent**. Therefore when the router or switch restarted it destroyed the log and all entries. This issue has been resolved. The command **create config** now writes the command **set log output=permanent** to the configuration file instead of the **destroy** and **create** commands.	-	Y	-	Y	Y	-	Y	Y	Y	Y

CR	Module	Level	Description	AR44xS / AR450S	AR7x5	AR750S	Rapier i	AT-8800	AT-8600	AT-8700XL	AT-8948	AT-9900	AT-9800
CR00012468	OSPF	3	An OSPF router or switch could show large numbers of entries in its retransmission lists to certain neighbours under certain conditions (for example, in a congested Frame Relay network). In some cases, the number of items in the list was larger than the number of LSAs in the database. This issue has been resolved. Also, a new NRL debugging option has been added to OSPF, to show additions to and deletions from the neighbour retransmission list. To enable NRL debugging, use the command: `enable ospf debug=nrl` Note that this option may generate large amounts of debugging output on a large OSPF network. Use it with care. To disable NRL debugging, use the command: `disable ospf debug=nrl`	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
CR00012594	STT	3	With unidirectional traffic or small frames, an STT connection would sometimes stop passing data. This issue has been resolved.	Y	Y	Y	Y	-	-	-	-	-	-

Level 4

CR	Module	Level	Description	AR44xS / AR450S	AR7x5	AR750S	Rapier i	AT-8800	AT-8600	AT-8700XL	AT-8948	AT-9900	AT-9800
CR00003286	**Core, ISDN**	**4**	Previously, the log message generated when an ISDN call came up sometimes reported the channel as "channel unknown" when the channel was encoded as a channel map instead of a channel number. The type of encoding depends on the local ISDN provider, so this issue only occurred in some parts of the world. This issue has been resolved. When the channel has been encoded as a channel map, the log message now displays one of the following: ■ a channel number if only one channel is encoded (the most common case), or ■ the entire channel map in decimal format if more than one channel is encoded, for example: 28 11:51:21 3 ICC CALL UP ISDN call ACTIVE, direction IN , channel map 12.	Y	Y	Y	Y	-	-	-	-	-	-
CR00011995	**BGP**	**4**	To simplify displaying BGP memory usage, the command **show bgp memlimit bgp** has been removed. Use the command **show bgp memlimit scan** instead. Also, you can now display only the BGP backoff log messages by using either of the following commands: `show log type=55 subtype=backoff` `show log type=55 subtype=7`	Y	Y	Y	Y	Y	-	-	Y	Y	Y
CR00012043	**BGP**	**4**	When a user entered conflicting values for BGP backoff thresholds (the **backoff** and **low** parameters of the **set bgp backoff** command), the error message did not adequately show the dependency between these two parameters. This issue has been resolved. The error message now reads (for example): Error (3103332): BACKOFF parameter value 90 too low; must be greater than LOW parameter value 94.	Y	Y	Y	Y	Y	-	-	Y	Y	Y

Enhancements

CR	Module	Level	Description	AR44xS / AR450S	AR7x5	AR750S	Rapier i	AT-8800	AT-8600	AT-8700XL	AT-8948	AT-9900	AT-9800
CR00007105	**MSTP**	-	Two new commands have been added to simplify MSTP management: `enable mstp port={port-list|all}` `disable mstp port={port-list|all}` These commands enable or disable MSTP on the specified ports for the CIST and all currently-configured MSTIs, in a single step. Previously, this operation required two commands. For example, you can now use **enable mstp port={*port-list*|all}** instead of the following commands: `enable mstp cist port={port-list|all}` `enable mstp msti=instance port={port-list|all}`	-	-	-	Y	Y	Y	Y	Y	Y	-
CR00009825	**IP Gateway**	-	When a router or switch receives a packet and does not have an ARP entry for the destination address, it broadcasts an ARP Request message over the egress IP interface. If it does not receive a reply within a short time, it notifies the sending device that the destination was unknown. This enhancement lets you configure how long the router or switch waits for a response. Use the following new command to specify the timeout period in seconds: `set ip arpwaittimeout=1..30` The default is 1 second. You may need to increase the timeout period if you are communicating with devices that are slow to respond. The easiest way to see the effect is to ping an unavailable device. The timeout determines the delay between pinging an IP address and receiving the reply that the device is unreachable.	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
CR00011164	**Switch**	-	Improvements have been made to the throughput of AT-9924T/4SP switches when the AT-ACC01 accelerator card is installed.	-	-	-	-	-	-	-	-	Y	-

CR	Module	Level	Description	AR44xS / AR450S	AR7x5	AR750S	Rapier i	AT-8800	AT-8600	AT-8700XL	AT-8948	AT-9900	AT-9800
CR00011204	IP Gateway	-	This Software Version allows you to add ARP entries with multicast MAC addresses and allows the router or switch to accept packets with conflicting IP and MAC addresses. It introduces the **enable ip macdisparity** and **disable ip macdisparity** commands to support this. For more information, see "Adding Static ARP Entries with Multicast MAC Addresses (CR00011204)" on page 67.	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
CR00011271	Switch, Utility	-	A new switch filter feature enables you to use a switch filter to make a VLAN secure without preventing access to other VLANs. For more information, see "Securing a Single VLAN through Switch Filters (CR00011271)" on page 69.	-	-	-	Y	Y	Y	Y	-	-	-
CR00011565	ASYN	-	When an asynchronous port is in *ten mode*, it bundles together the characters that it receives within a certain time period, instead of passing them one at a time to a higher protocol layer for processing. The time period over which characters are bundled is called the *ten timer*. This enhancement enables you to reduce the length of the ten timer, to improve response times for remote terminal sessions. For more information, see "Making Asynchronous Ports Respond More Quickly (CR00011565)" on page 71.	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
CR00011615	Switch	-	When a switch port has been given a description, it is now possible to use an SNMP application to see the port description, through the Interfaces group of the MIB-II MIB ifDescr OID.	Y	-	Y	Y	Y	Y	Y	Y	Y	Y
CR00011724	BGP	-	You can now display: ■ the number of routes learned from a specific peer, by using the existing command **show bgp peer=*ip-address*** ■ information about each route learned from a specific peer, by using the new **peer** parameter in the command **show bgp route peer=*ip-address*** For more information see "Displaying Routes Learned from a Specific BGP Peer (CR00011724)" on page 73.	Y	Y	Y	Y	Y	-	-	Y	Y	Y

<table>
<tr><th>CR</th><th>Module</th><th>Level</th><th>Description</th><th>AR44xS / AR450S</th><th>AR7x5</th><th>AR750S</th><th>Rapier i</th><th>AT-8800</th><th>AT-8600</th><th>AT-8700XL</th><th>AT-8948</th><th>AT-9900</th><th>AT-9800</th></tr>
<tr><td>CR00012620</td><td><b>Bridging</b></td><td>-</td><td>By default, when the router receives a tagged packet on an Eth or VLAN interface and bridges it, the bridge strips out the packet’s VLAN tag. This enhancement enables you to set the bridge to instead retain the tag, by using <b>off</b>, <b>no</b> or <b>false</b> in the new command:
<code>set bridge stripvlantag={on|off|yes|no|true|false}</code>
The default is <b>on</b>. To see whether stripping is turned on or off, use the command:
<code>show bridge</code>
and check the new <b>StripVlantag</b> entry.</td><td>Y</td><td>Y</td><td>Y</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></tr>
<tr><td>CR00012692</td><td><b>L2TP</b></td><td>-</td><td>The connection between the router or switch, acting as an LNS, and a third party peer, acting as an LAC, can sometimes fail during PPP link negotiation. Frequent negotiation failures can indicate a compatibility problem between the third party peer and Proxy Authentication responses from the router or switch. With this enhancement, you can now disable Proxy Authentication on the router or switch for situations where the third party equipment is not compatible. Use <b>proxyauth=off</b> in the command:
<code>add l2tp ip=<i>ipadd</i>[-<i>ipadd</i>] ppptemplate=0..31</code>
<code>   [number={off|on|startup}] [pre13={off|on}]</code>
<code>   [proxyauth={off|on}]</code>
<code>   [tosreflect={off|on|false|true|no|yes}]</code>
The default for <b>proxyauth</b> is <b>on</b>. Proxy Authentication should not be disabled unless necessary.
To see whether Proxy Authentication is turned on or off, use the command:
<code>show l2tp ip</code>
and check the new <b>Proxy Authentication</b> entry.</td><td>Y</td><td>Y</td><td>Y</td><td>Y</td><td>Y</td><td>-</td><td>-</td><td>Y</td><td>Y</td><td>Y</td></tr>
</table>

Features in 276-01

Software Maintenance Version 276-01 includes the resolved issues and enhancements in the following tables. In the tables, for each product series:

- "Y" in a white column indicates that the resolution is available in Version 276-01 for that product series.
- "-" in a white column indicates that the issue did not apply to that product series.
- a grey-shaded column indicates that Version 276-01 was not released on that product series.

  "-" in a grey column indicates that the issue did not apply to that product series.

  "Y" in a grey column indicates that the issue applied to that product series. These issues are resolved in the next Version (276-02).

Level 1

No level 1 issues

Level 2

CR	Module	Level	Description	AR44xS / AR450S	AR7x5	AR750S	Rapier i	AT-8800	AT-8600	AT-8700XL	AT-8948	AT-9900	AT-9800
CR00008046	**PPP**	**2**	Previously, if the switch was acting as a PPPoE access concentrator, it was forwarding the first received ICMP Echo Request packet destined for a PPPoE client back to the sender. This has been resolved so the forwarding does not occur.	-	-	-	Y	Y	-	-	Y	Y	Y
CR00008244	**Switch**	**2**	When a user entered the command **disable switch port automdi** and saved the configuration with the **create config** command, the resulting configuration file did not include that command. This issue has been resolved.	-	-	-	-	-	-	-	Y	Y	-

CR	Module	Level	Description	AR44xS / AR450S	AR7x5	AR750S	Rapier i	AT-8800	AT-8600	AT-8700XL	AT-8948	AT-9900	AT-9800
CR00008742	**Switch**	**2**	Previously, if a switch port's learn limit was changed to a number that was less than the currently-learned number of MAC addresses, you were unable to delete the learned MAC addresses. The switch also did not lock the port. This issue has been resolved. The switch now deletes all learned MAC addresses and starts learning again.	-	-	-	Y	Y	Y	Y	Y	Y	Y
CR00008791	**PIM**	**2**	Previously, Layer 2 switching of multicast traffic did not always operate correctly when Layer 2 and Layer 3 multicast were being used at the same time. This issue has been resolved.	-	-	-	Y	Y	-	-	Y	Y	Y
CR00009236	**BGP**	**2**	For BGP prefixes learned from an external EBGP peer, which were subsequently distributed within the router or switch's own AS via Route Reflection, the teaching time to the IBGP peers was excessively slow. This issue has been resolved.	Y	Y	Y	Y	Y	-	-	Y	Y	Y
CR00009386	**SSH**	**2**	Previously, when the router or switch had encryption hardware installed, a slow memory leak occurred after multiple consecutive SSH connections were established. This issue has been resolved.	-	Y	-	Y	-	-	-	-	-	-
CR00010232	**STP**	**2**	STP and RSTP did not work correctly when a static MAC filter was added. This issue has been resolved, so that control traffic is not incorrectly discarded in the presence of configured switch filters. Also, configured switch filters are now applied to locally generated control traffic.	-	-	-	Y	Y	Y	Y	Y	Y	Y
CR00010278	**IP**	**2**	Multihomed IP interface addresses could not be used as the default local IP address. This issue has been resolved.	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
CR00010307	**Switch**	**2**	Invalid entries were sometimes added to the hardware IP table. This issue has been resolved.	-	-	-	-	-	-	-	Y	Y	-

CR	Module	Level	Description	AR44xS / AR450S	AR7x5	AR750S	Rapier i	AT-8800	AT-8600	AT-8700XL	AT-8948	AT-9900	AT-9800
CR00010539	**IP**	**2**	Sometimes the forwarding of packets occurred unnecessarily slowly. This happened if the forwarding interface was associated with an IP filter with a variable field pattern, such as TCP session or ICMP code and type. For switches, note that this issue occurred when the switch was routing IP packets in software, and had no effect on the hardware forwarding of packets. This issue has been resolved.	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
CR00010784	**Switch**	**2**	Previously, if a 48-port switch was configured with one or more port-specific hardware filters, followed by one or more non port-specific hardware filters, then the non port-specific filter was not correctly applied to half of the ports on the switch. This issue has been resolved by defining the following new command, which enables you to decide which mode you want the hardware filters to operate in: set switch hwf mode={psf|npsf} where: psf = port specific first (default mode) npsf = non port-specific first If the first filter is non port-specific, set the mode to **npsf**.	-	-	-	Y	Y	Y	Y	-	-	-
CR00010888	**Port Authentication**	**2**	When 802.1x port authentication was configured in multi-supplicant mode, supplicants with EAP-TLS, PEAP-MS-CHAPv2 or PEAL-TLS authentication methods were not able to access the network. This issue has been resolved.	Y	Y	Y	Y	Y	Y	Y	Y	Y	-
CR00010890	**PPP**	**2**	For a PPP interface over an ACC call, RADIUS accounting messages were not being sent. This issue has been resolved.	Y	Y	Y	Y	Y	-	-	-	-	-

CR	Module	Level	Description	AR44xS / AR450S	AR7x5	AR750S	Rapier i	AT-8800	AT-8600	AT-8700XL	AT-8948	AT-9900	AT-9800
CR00010896	**Switch**	**2**	AT-40/SC, AT-40/MT and AT-41/MT uplink modules would stay link down when they were set to a fixed speed. This issue has been resolved.	-	-	-	Y	-	-	Y	-	-	-
CR00010996	**Port Authentication**	**2**	When port authentication was using a RADIUS server, it sometimes stopped working after several hours. This was because port authentication generated RADIUS Accounting Request (STOP) messages with an incorrect Acct-Session-Time value. This issue has been resolved.	Y	Y	Y	Y	Y	Y	Y	Y	Y	-
CR00011040	**Ping**	**2**	When the router or switch was configured with multiple logical interfaces, it chose the source address of the ICMP Echo Reply incorrectly in some configurations. This issue has been resolved.	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
CR00011068	**SSL**	**2**	Previously, there was a memory corruption issue in the SSL client and server implementation. This issue has been resolved.	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
CR00011111	**IPX**	**2**	Forwarding an 802.3 or ETHII encapsulated IPX packet over a VLAN to a remote network occasionally caused the switch to reboot. This issue has been resolved.	-	-	-	Y	Y	Y	Y	Y	Y	Y

CR	Module	Level	Description	AR44xS / AR450S	AR7x5	AR750S	Rapier i	AT-8800	AT-8600	AT-8700XL	AT-8948	AT-9900	AT-9800
CR00011213	**PIM 6**	**2**	Previously, the switch treated a valid bootstrap message as a bad message if it received the message on two or more interfaces, and when PIM6 operated in a looped or network topology that had multiple unicast routes to the same destination(s), it sometimes selected a sub-optimal route for RPF interface selection for RP and BSR elections. This issue has been addressed by an additional algorithm to deal with equal cost multipath routes as follows: a. if more than one route to the same given destination with equal cost exists, then the route with highest nexthop IP address value will be selected. b. if the nexthop IP address values are the same (the routes come from the same device on different interfaces), then the routes with highest interface index will be selected.	Y	Y	Y	Y	Y	-	-	Y	Y	Y
CR00011243	**ISAKMP**	**2**	Previously, if an IPsec/ISAKMP tunnel was under heavy load, an ISAKMP peer may have retransmitted messages. When the last message in an ISAKMP exchange was retransmitted, the remote peer did not expect to receive the second message after the exchange had finished and caused the router or switch to reboot. This issue has been resolved.	Y	Y	Y	Y	Y	-	-	-	-	-
CR00011269	**SSL**	**2**	When the SSL server had multiple concurrent users, some SSL sessions failed to establish, because the SSL handshakes failed. This issue has been resolved.	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
CR00011300	**User**	**2**	Previously, if the router or switch was acting as an 802.1x authenticator, and it received an illegal RADIUS packet (an Access-Reject packet with an EAP code of "successful"), the router or switch would reboot. This issue has been resolved. The switch now rejects such authentication requests.	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

CR	Module	Level	Description	AR44xS / AR450S	AR7x5	AR750S	Rapier i	AT-8800	AT-8600	AT-8700XL	AT-8948	AT-9900	AT-9800
CR00011324	**SSL**	**2**	A reboot could occur when the SSLv2 client received a hello message that had an incorrect challenge length. This issue has been resolved, so that the SSL server's resistance to denial of service attacks has been improved.	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
CR00011328	**PIM**	**2**	When the switch was using PIM to route multicast traffic, it sometimes rebooted if the command **show switch table=nh** was entered. This issue has been resolved.	-	-	-	-	-	-	-	Y	Y	-
CR00011337	**Environment Monitoring**	**2**	The switch did not record the system temperature, and therefore output of the command **show system** displayed the temperature as 0°C. This issue has been resolved.	-	-	-	-	-	-	-	-	-	Y
CR00011345	**MIB**	**2**	The ATR enterprise MIB includes objects for managing ping operations. These objects within the MIB are now fully supported. Minor modifications have also been made to the MIB. Download the latest atrouter.mib file from ftp.alliedtelesis.co.nz/pub/ar-mib/atrouter.zip.	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
CR00011387	**PPP**	**2**	Using an online limit for a PPP interface over PPPoE over a VLAN caused the router or switch to reboot when the online limit was reached. This issue has been resolved.	Y	Y	Y	Y	Y	-	-	Y	Y	Y
CR00011402	**SSL**	**2**	Previously, if an SSL client closed the TCP connection before the SSL handshake was complete then the SSL server was not forwarding the notification onto HTTP. The TCP session was left in the close wait state and HTTP, SSL and TCP sessions did not time out. This issue has been resolved.	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
CR00011473	**ISAKMP**	**2**	Configuring an ISAKMP policy with a 24-character name sometimes caused the router or switch to reboot. Also, it was possible to enter over-length names into the **isakmppolicy** parameter of the command **set ipsec policy**. Both issues have been resolved.	Y	Y	Y	Y	Y	-	-	-	-	-

CR	Module	Level	Description	AR44xS / AR450S	AR7x5	AR750S	Rapier i	AT-8800	AT-8600	AT-8700XL	AT-8948	AT-9900	AT-9800
CR00011585	**OSPF**	**2**	Adding the same OSPF stub or host twice caused OSPF to suspend its operation, causing neighbour relationships to eventually fail. This issue has been resolved.	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
CR00011611	**IP Multicast**	**2**	The router or switch did not forward multicast traffic addressed to 239.255.255.250, even when the router or switch was not involved with UPnP service discovery. This issue has been resolved. The router or switch now forwards the specified multicast traffic unless UPnP is enabled.	Y	Y	Y	Y	Y	-	-	Y	Y	Y
CR00011660	**DHCP snooping**	**2**	Previously, setting a port’s trusted state to true twice in succession would cause the switch to reboot. This issue has been resolved.	-	-	-	Y	Y	Y	Y	Y	Y	-
CR00011666	**CORE**	**2**	AR745 routers sometimes had a high CPU utilisation after restarting, although they were idle. This issue has been resolved.	-	Y	-	-	-	-	-	-	-	-
CR00011727	**UPNP**	**2**	Deleting a firewall policy that UPnP was using could cause the router to reboot.	Y	Y	Y	-	-	-	-	-	-	-

Level 3

CR	Module	Level	Description	AR44xS / AR450S	AR7x5	AR750S	Rapier i	AT-8800	AT-8600	AT-8700XL	AT-8948	AT-9900	AT-9800
CR00006439	**GUI**	**3**	When a user logged onto the router or switch through the GUI, the router or switch's log recorded several HTTP 404 (Not Found) errors. This was because the browser expected to see some images that the GUI resource file did not contain. This issue has been resolved. The expected images are now present.	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
CR00011055	**Classifier**	**3**	If a user attempts to change the range of TCP or UDP ports used by a classifier, the hardware filter table may not be updated if there is a lack of hardware filter table space. Previously, this resulted in a mismatch between the hardware and software filter tables. This issue has been resolved, such that if the port range change is not possible, both the software and hardware filter tables revert back to the original filter definitions.	-	-	-	-	-	-	-	Y	Y	-
CR00011123	**IP Multicast**	**3**	Previously, the switch dropped a multicast packet if the packet had IP options bits set and the switch had recently forwarded multicast data to the group address in the packet. This issue has been resolved.	-	-	-	Y	Y	-	-	Y	Y	Y
CR00011482	**Firewall**	**3**	The parameters **maxupnpportmap** and **icmpunreachabletimeout** were missing from the command **set firewall policy**. This issue has been resolved.	Y	Y	Y	Y	Y	-	-	-	-	Y
CR00011550	**IP multicast**	**3**	Performance of the switch's internal manipulations of IP multicast routes has been improved, and the stability of PIM-DM under extremely high loads has correspondingly been improved.	-	-	-	-	-	-	-	Y	Y	-
CR00011609	**DHCP snooping**	**3**	A new lease could be added to the DHCP snooping database as a full entry even after the maximum number of leases for the port had been exceeded. This issue has been resolved.	-	-	-	Y	Y	Y	Y	Y	Y	-

CR	Module	Level	Description	AR44xS / AR450S	AR7x5	AR750S	Rapier i	AT-8800	AT-8600	AT-8700XL	AT-8948	AT-9900	AT-9800
CR00011664	**PERM**	**3**	The IAC (interpret as control) characters (0xFF) are escaped when sent across the permanent assignment connection. If TCP could not send the entire buffer, the two IAC characters were previously split up, which resulted in extra IAC characters in the receive buffers. This issue has been resolved. IAC characters and their escape are no longer split over buffers.	Y	Y	Y	-	-	-	-	-	-	-
CR00011739	**IP**	**3**	Previously, a route map entry could not be deleted if the route map was used by BGP, OSPF or RIP. Now the route map entry can be deleted unless it is the last entry of the route map.	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
CR00011754	**VRRP**	**3**	Previously, when a ping was sent to the virtual router address of a VRRP pair, and VR IP address adoption was turned on (**adopt=on**), the reply message was sent back from the IP address of the interface that was being used, instead of from the IP address of the virtual router that was pinged. Some systems failed the ping because of this address mismatch. This issue has been resolved. Ping replies now come from the IP address of the virtual router that was pinged.	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

Level 4

CR	Module	Level	Description	AR44xS / AR450S	AR7x5	AR750S	Rapier i	AT-8800	AT-8600	AT-8700XL	AT-8948	AT-9900	AT-9800
CR00011004	**QoS**	**4**	Previously, if you used the ? or Tab keys to obtain help about the Quality of Service commands, the resulting help included references to RED curves, which are not available on the switch. This issue has been resolved—the help no longer refers to RED curves.	-	-	-	Y	Y	Y	Y	-	-	-
CR00011056	**Classifier**	**4**	Previously, it was possible to create multiple classifiers that classified packets according to the same UDP or TCP port range. This issue has been resolved. If you attempt to create such a classifier, the switch displays an error message.	-	-	-	-	-	-	-	Y	Y	-

Enhancements

CR	Module	Level	Description	AR44xS / AR450S	AR7x5	AR750S	Rapier i	AT-8800	AT-8600	AT-8700XL	AT-8948	AT-9900	AT-9800
CR00010196	**BGP, IP gateway, Switch**	**-**	A new feature enables you to set the maximum length of the hardware route update queue, and display the current queue size, status and maximum length. For more information, see "Route Update Queue Length (CR00010196)" on page 74.	-	-	-	-	-	-	-	Y	Y	-
CR00011355	**PERM**	**-**	Support for permanent assignments has been added to the router. Permanent assignments provide a method for creating permanent links between terminal ports on routers. For information and command syntax, see "Permanent Assignments (CR00011355)" on page 76.	Y	-	-	-	-	-	-	-	-	-
CR00011614	**ASYN**	**-**	Support for baud rates of 300, 600, 1200 and 2400 has been added to the ports on the AR024 PIC. This PIC provides 4 asynchronous ports.	Y	Y	Y	Y	-	-	-	-	-	-

Enhancements to MLD and MLD Snooping (CR00011490)

The following enhancements were made to MLD and MLD Snooping, in accordance with RFC 3810, *Multicast Listener Discovery Version 2 (MLDv2) for IPv6*.

MLD Packet Formats

MLD messages are now all sent with a hop limit of 1, a link-local source address, and the other format requirements of RFC 3810.

ICMP type for MLDv2 Reports

MLD Report messages now have an ICMP type of 143 by default, as specified by RFC 3810. The previous value was 255.

If you need to maintain backwards compatibility with earlier releases that use an ICMP type of 255, you can do so by using the new **v2draftcompat=yes** option in the command:

```
enable ipv6 mld interface=interface v2draftcompat={yes|no}
```

This enables the interface to receive MLDv2 reports with an ICMP type of 255. The default for **v2draftcompat** is **no**.

MLD Snooping Group Membership Display

The command **show mldsnooping** no longer displays the port members of the All Routers group in the list of ports for groups other than the All Routers group. This change makes the output of this command more like output from the command **show igmpsnooping**.

To illustrate the change, an example of the previous output is shown in Figure 1, and the new output is in Figure 2. In this example, port 9 is in the All Routers group, and is shown in bold.

Figure 1: Previous example output from the **show mldsnooping** command

```
.
.
.
Interface: vlan300 (vlan300)
-----------------------------------------------------------------------------
  Multicast Address ................ All Routers
    Ports ......................... 9

  Multicast Address ................ ff01:1:0::0101
    Ports ......................... 1, 2, 9
.
.
.
```

Figure 2: New example output from the **show mldsnooping** command

```
.
.
.
Interface: vlan300 (vlan300)
-----------------------------------------------------------------------------
  Multicast Address ................ All Routers
    Ports ......................... 9

  Multicast Address ................ ff01:1:0::0101
    Ports ......................... 1, 2
.
.
.
```

Adding Static ARP Entries with Multicast MAC Addresses (CR00011204)

This Software Version allows you to add ARP entries with multicast MAC addresses and allows the router or switch to accept packets with conflicting IP and MAC addresses. It introduces the **enable ip macdisparity** and **disable ip macdisparity** commands to support this.

Adding Static ARP Entries

Valid ARP entries are normally restricted to unicast IP with unicast MAC addresses. However, ARP entries can be configured with multicast MAC addresses when **macdisparity** is enabled. Static ARP entries with multicast MAC addresses are necessary for some third party networking solutions, such as server clustering.

Before you can add an ARP entry with a multicast MAC address, you must enable **macdisparity** using the command:

```
enable ip macdisparity
```

Once this feature is enabled, you can add an ARP entry with a multicast MAC address using the **add ip arp** command.

Accepting Packets with Conflicting Addresses

Enabling **macdisparity** also allows the router or switch to accept packets with conflicting IP and MAC addresses. Normally the router or switch discards these packets as being invalid.

Conflicting IP and MAC addresses include:

- A multicast IP address with a unicast MAC address
- A unicast IP address with a multicast MAC address

Macdisparity is disabled by default. When disabled, only ARP entries with unicast IP and MAC addresses can be added, and packets with conflicting addresses are discarded. Other routers or switches in the network may not accept packets with conflicting addresses unless configured to. To disable this functionality, use the command:

```
disable ip macdisparity
```

ARP entries with multicast MAC addresses must be removed before the **disable ip macdisparity** command will work. To see details on the current ARP entries, use the command:

```
show ip arp
```

To see whether **macdisparity** is enabled or disabled, use the command:

```
show ip
```

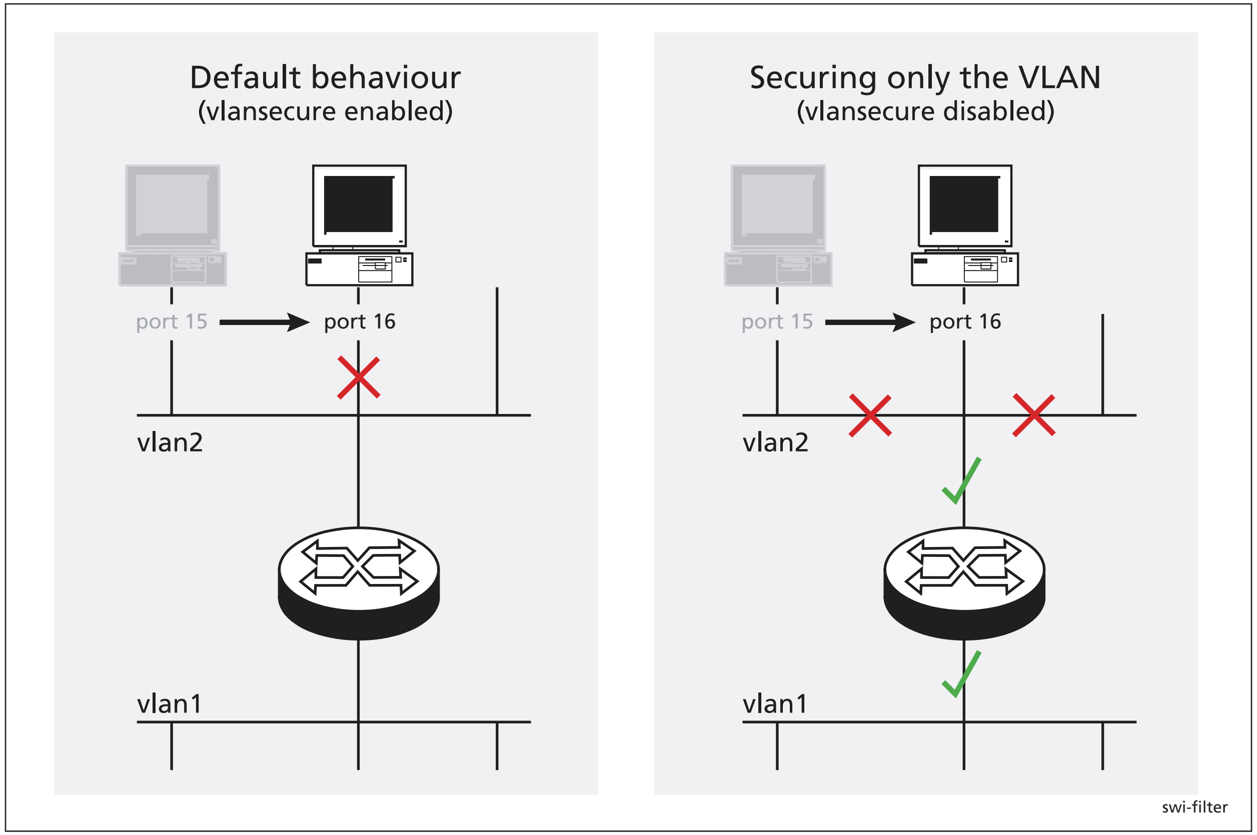
For an example of how to use ARP entries with multicast MAC addresses, see *Guideline to Windows 2003 Network Load Balancing Clustering with Allied Telesyn Switches*. This is available from the Resource Center on your Documentation and Tools CD-ROM, or from:
www.alliedtelesis.co.uk/en-gb/solutions/techdocs.asp?area=howto

Securing a Single VLAN through Switch Filters (CR00011271)

On AT-8824, Rapier 24i, AT-8724XL and AT-8624 switches, this enhancement enables you to use switch filters to secure only the current VLAN, instead of securing all VLANs on the switch. To turn on this feature, a new command disables "vlansecure" for filters (see "Configuring vlansecure" on page 70). Without this enhancement (the default situation) a switch filter only allows a host to access the network through a particular port on the switch. For example, if you have a PC connected to port 15 in vlan2, and define the following filter, the PC can only communicate when it is connected to port 15:

```
add switch filter entry=0 dest=pc-mac-address vlan=2 port=15 action=forward
```

With this enhancement, the above filter limits the host to accessing vlan2 through port 15, but does not prevent the host from accessing other VLANs through other ports in vlan2. For example, if the above filter exists and you move the PC to another port in vlan2, this enhancement prevents the PC from communicating with devices in vlan2 but allows it access to other VLANs on the switch. The following figure shows a PC that has been moved from port 15 to port 16 to illustrate the effect.



Configuring vlansecure

To turn off the default behaviour, so that the filter prevents access to only the current VLAN when you move the host, use the new command:

```
disable switch filter vlansecure
```

To return to the standard filter behaviour, use the new command:

```
enable switch filter vlansecure
```

To display which mode the filtering behaviour is in, use the existing command:

```
show switch filter
```

This command now displays the additional field “VlanSecure”, which is either DISABLED or ENABLED.

Making Asynchronous Ports Respond More Quickly (CR00011565)

When an asynchronous port is in *ten mode*, it bundles together the characters that it receives within a certain time period, instead of passing them one at a time to a higher protocol layer for processing. The time period over which characters are bundled is set by the *ten timer*.

Bundling reduces the load on the CPU by spreading the character processing overhead across several characters. If a remote terminal session is involved, bundling also reduces the number of packets on the network by sending more characters in each packet. However, it reduces terminal responsiveness. A ten timer value of 100 milliseconds is generally a good compromise between responsiveness and processing overhead. If you need to increase the port's responsiveness, this enhancement enables you to reduce the length of the ten timer. To do this, use the new optional **tentimervalue** parameter in the **set asyn** command:

```
set asyn[=port-number] tentimervalue=20..100 [other optional parameters]
```

Specify the asynchronous port number unless you are logged in via the port you want to change.

The default **tentimervalue** is 100 milliseconds, which is the value it was set to before this enhancement.

To display a port's value for the ten timer, use the command:

```
show asyn=port-number
```

and check the new “Ten timer value” field, as shown in Figure 1. If the asynchronous port is a terminal server port in ten mode, the “Mode” field displays “Ten”.

Figure 1: New parameters in the output of the **show asyn=0** command

```
ASYN 0 : 0000001470 seconds   Last change at: 0000001465 seconds

ASYN information
Name ...................... Asyn 0
Status .................... enabled
Mode ...................... Ten
Data rate ................. 9600
Parity .................... none
Data bits ................. 8
Stop bits ................. 1
Test mode ................. no
In flow state (mode) ...... on  (Hardware)
Out flow state (mode) ..... off (Hardware)
Autobaud mode ............. disabled
Max tx queue length ....... 16
TX queue length ........... 3
Transmit frame ............ none
RX queue length ........... 0
IP address ................ none
Max transmission unit ..... 1500
Ten timer value ........... 100
.
.
.
```

Displaying Routes Learned from a Specific BGP Peer (CR00011724)

This enhancement enables you to display:

- the number of routes learned from a specific peer
- information about each route learned from a specific peer

Displaying the Number of Routes from a Peer

To display the number of routes learned from a specific peer, use the existing command:

```
show bgp peer=ip-address
```

and check the new “Routes learned” field (Figure 2).

Figure 2: New parameter in the output of the **show bgp peer** command for a specific peer

```
Peer ................ 192.168.10.1
Description ......... -
State ............... Idle
Policy Template ..... 4
Description ......... Test Template 1
Private AS filter ... Yes
Remote AS ........... 3
BGP Identifier ...... 172.20.25.2
Routes learned ...... 15
Authentication ...... None
Password .......... -
.
.
.
```

Displaying Information about the Routes from a Peer

To display information about each route learned from a specific peer, use the new **peer** parameter in the command:

```
show bgp route[=prefix] [peer=ip-address] [other optional parameters]
```

The **peer** parameter specifies the IP address of the peer. If you specify a peer, the router or switch only displays routes that it learned from that peer. If you specify the router or switch’s router ID, it displays all locally originated routes. The **peer** parameter has no default.

Note that this enhancement did not change any fields in the output of the **show bgp route** command; it simply provides another method of filtering the displayed routes.

Route Update Queue Length (CR00010196)

When hardware learning delay is enabled (the default), the switch learns new routes in software, then places them into a queue for adding them to its hardware routing table. Defaults have been set for the maximum number of entries in the queue, and depend on the amount of memory installed on the switch, as shown in the following table:

Memory Size (Mbytes)	Default length (number of entries)	Maximum possible length (number of entries)
up to 128	200000	200000
129-256	1000000	1500000
more than 256	3000000	4000000

You can alter the length of the queue, by using the following new command to specify the maximum number of entries in the queue:

```
set switch hwrouteupdate=1..maximum
```

The *maximum* depends on the amount of memory on the switch, as shown in the table above.

Output of the **show switch** command has been expanded to display information about the queue settings (Figure 3, Figure 4, Table 1).

Figure 3: Output of the **show switch** command when hardware learning delay is disabled

```
 Switch Configuration
------------------------------------------------------------
 Switch Address ............. 00-00-cd-12-78-03
 Learning ................... ON
 Ageing Timer ............... ON
 IP route:
    Learn delay ............. OFF
          queue limit ....... 1000000
          queue maximum ..... 1500000
          queue default ..... 1000000
    Updating hardware(status) 0 (Pending)
.
.
.
```

Figure 4: Output of the **show switch** command when hardware learning delay is enabled

```
 Switch Configuration
-----------------------------------------------------------
 Switch Address ............. 00-00-cd-12-78-03
 Learning ................... ON
 Ageing Timer ............... ON
 IP route:
    Learn delay ............. 4 ms
          queue size ........ 0
          queue limit ....... 1000000
          percent in use .... 0
          high water mark ... 0
          queue maximum ..... 1500000
          queue default ..... 1000000
    Updating hardware(status) 0 (Pending)
.
.
.
```

Table 1: New parameters in the output of the **show switch** command

Parameter	Meaning
Queue size	The number of entries currently in the hardware route update queue.
Queue limit	The maximum number of entries that the queue can hold.
Percent in use	The percentage of the queue limit that is currently used.
High water mark	The highest number of messages that have been seen on the queue since the switch last started up.
Queue maximum	The maximum value to which you can set the queue size. This depends on the amount of memory installed on the switch.
Queue default	The default maximum number of entries in the queue. This depends on the amount of memory installed on the switch.
Updating hardware (status)	The number of entries that the software has queued for writing into the hardware table, followed by the status. Status is Pending if the hardware is not currently processing queued routes and Active if it is currently processing the routes.

Permanent Assignments (CR00011355)

Permanent assignments provide a method for creating permanent links between terminal ports on routers. Any two terminal ports on a single router or on routers that can communicate with each other via TCP/IP can be set up to have a permanent assignment between them. Asynchronous traffic coming into each port is sent via TCP to other port and then sent out that port.

The most common use of permanent assignments is to provide access to network printers. However, permanent assignments can connect any asynchronous devices together. Other examples include connecting a terminal to a host computer asynchronous port and connecting an asynchronous port on a data logger to a computer for capturing the results of experiments.

Setting up a Permanent Assignment

To set up a permanent assignment, the port numbers of the ports and the IP addresses of the routers at each end of the link must be specified. Each permanent assignment is also given a name. The name is used for management convenience and for identification purposes when the permanent assignment's TCP connection is made at router boot or when the permanent assignment is created or reset. A short dialogue takes place between the two routers involved in the permanent assignment when the assignment is set up, to verify that the correct ports are being connected. This dialogue uses the permanent assignment name for verification. The name is case sensitive and must be identical for both ends of the permanent assignment.

Each end of the permanent assignment must be set up for the assignment to work correctly. A common cause of problems for permanent assignments is one end of the assignment being set up incorrectly.

A given permanent assignment has a different view looking from each end of the assignment. The terms *local* and *remote* are used to denote the ends of the assignment from one point of view. Thus there is a local and remote port and a local and remote router for each permanent assignment. Note that the local router is the router that the command is being entered on.

To set up one end of a permanent assignment use the command:

```
add perm=name
```

The name of the permanent assignment, the local and remote ports and the IP address of the remote router must all be specified in this command.

To display the configuration of the permanent assignment (Figure 5), use the command:

```
show perm
```

Figure 5: Example output from the **show perm** command

```
                  Port
 Name             Local  Remote  IP address
-----------------------------------------------
 laser-print      12     04      172.16.8.37
-----------------------------------------------
```

If the two ports of the permanent assignment are on different routers, the **add perm** command must be entered on each router. If both ports are on the same router, the command only needs to be entered once. The IP address specified may be any one of the IP addresses of the router in question.

A permanent assignment can be removed with the command:

```
delete perm=name
```

This command removes the permanent assignment from the local router. If the other port of the permanent assignment is on a remote router, the permanent assignment should also be removed from the remote router.

A permanent assignment can be reset with the command:

```
reset perm
```

This command breaks the current TCP connection being used for the permanent assignment and attempts a new connection. The terminal port being used for the permanent assignment is also reset.

Example

This example illustrates the process of setting up a permanent assignment. The assignment is to be established between port 2 on a router with IP address 172.26.4.1 and port 2 on a router with IP address 172.20.34.9, and is to be named main office. The commands to be executed on the router with address 172.26.4.1 are:

```
add perm=main office lport=2 rport=3 ip=172.20.34.9
show perm
```

which produces the output shown in Figure 6.

Figure 6: Example output from the **show perm** command for router 172.26.4.1

```
                   Port
  Name             Local  Remote  IP address
-----------------------------------------------
  main office      02     03      172.20.34.9
-----------------------------------------------
```

The commands to be executed on the router with address 172.20.34.9 are:

```
add perm=main office lport=3 rport=3 ip=172.26.4.1
show perm
```

which produces the output shown in Figure 7.

Figure 7: Example output from the **show perm** command for router 172.20.34.9

```
                   Port
  Name             Local  Remote  IP address
-----------------------------------------------
  main office      03     02      172.26.4.1
-----------------------------------------------
```

Since the name of the permanent assignment in this example contains embedded spaces, the whole name must be in double quotes when entered in a command.

Command Reference

This section describes commands available on the router to configure and manage permanent assignments.

add perm

Syntax

```
ADD PERM=perm-name LPORT=lport RPORT=rport IP=ipadd
```

where:

- *perm-name* is the name of the permanent assignment. The name is case- sensitive and must be identical on each router in the permanent assignment. If the name contains spaces, it must be in double quotes.
- *lport* is the number of the local asynchronous port for this permanent assignment. Ports are numbered sequentially starting with port 0.
- *rport* is the number of the remote asynchronous port for this permanent assignment. Ports are numbered sequentially starting with port 0.
- *ipadd* is the IP address of the remote router.

Description

This command adds one end of a permanent assignment. The permanent assignment must be specified by name, and the local and remote terminal ports and the IP address of the remote router must be specified.

The local and remote ends of a permanent assignment must be configured with the same name. Each permanent assignment on a given router must be configured with a different name.

Examples

To add a permanent assignment called *DataLogger* between port 1 on the local router and port 1 on a remote router with the IP address 172.16.38.5, use the command:

```
add perm=datalogger lport=1 rport=1 ip=172.16.38.5
```

Related Commands

delete perm
reset perm
set perm
show perm

delete perm

Syntax

```
DELete PERM=perm-name
```

where *perm-name* is the name of the permanent assignment. The name is case sensitive and must be identical on each router in the permanent assignment. If the name contains spaces, it must be in double quotes.

Description

This command removes a named permanent assignment from the local router. The permanent assignment must also be removed from the remote router.

Examples

To delete the permanent assignment called *DataLogger*, use the command:

```
del perm=datalogger
```

Related Commands

add perm
reset perm
set perm
show perm

reset perm

Syntax

```
RESET PERM=perm-name
```

where *perm-name* is the name of the permanent assignment. The name is case sensitive and must be identical on each router in the permanent assignment. If the name contains spaces, it must be in double quotes.

Description

This command resets a named permanent assignment. The port being used by the permanent assignment is reset and the TCP connection being used for the permanent assignment is reset. A new TCP connection is established for the permanent assignment.

Examples

To reset the permanent assignment called *DataLogger*, use the command:

```
reset perm=datalogger
```

Related Commands

add perm
delete perm
set perm
show perm

set perm

Syntax

```
SET PERM=perm-name [LPORT=lport] [RPORT=rport] [IP=ipadd]
```

where:

- *perm-name* is the name of the permanent assignment. The name is case sensitive and must be identical on each router in the permanent assignment. If the name contains spaces, it must be in double quotes.
- *lport* is the number of the local asynchronous port for this permanent assignment. Ports are numbered sequentially starting with port 0.
- *rport* is the number of the remote asynchronous port for this permanent assignment. Ports are numbered sequentially starting with port 0.
- *ipadd* is the IP address of the remote router.

Description

This command changes the configuration of an existing permanent assignment. The permanent assignment must be specified by name. At least one other parameter must be specified.

The remote end of the permanent assignment must also be configured on the remote router.

Examples

To change the local and remote asynchronous ports used by the permanent assignment called DataLogger to port 0, use the command:

```
set perm=datalogger lport=0 rport=0
```

Related Commands

delete perm
reset perm
show perm

show perm

Syntax

```
SHOW PERM[=perm-name]
```

where *perm-name* is the name of a permanent assignment

Description

This command displays the name, local and remote ports and remote IP address for all permanent assignments currently defined on the router. If a permanent assignment is specified by name, only that permanent assignment is displayed (Figure 8, Table 2).

Figure 8: Example output from the **show perm** command

```

                   Port
  Name             Local  Remote  IP address
------------------------------------------------
  laser-print      12     04      172.16.8.37
------------------------------------------------

```

Table 2: Parameters in output of the **show perm** command

Parameter	Meaning
Name	Name of the permanent assignment.
Local	Local port for the permanent assignment.
Remote	Remote port for the permanent assignment.
IP address	IP address of the remote router.

Examples

To display all the permanent assignments configured on the local router, use the command:

```
show perm
```

Related Commands

add perm
delete perm
reset perm
set perm