



Promentum ATCA

December 22, 2006 Release Notes

This document announces general availability of new components in the RadiSys Promentum™ family, the first commercially-available ATCA platform with 10-Gigabit Ethernet Fabric connectivity. Additional information on RadiSys products and services can be found at www.radisys.com.

New to the Promentum product family

The December 2006 hardware and software release adds the following components to the RadiSys Promentum product family.

- General availability of the ATCA-2210 Switch and Control Module, which supports 10-Gbps Ethernet on the ATCA Fabric interface
- General availability of the 10-Gb Fabric Interface Card (FIC) for the ATCA-7010 Packet Processing Module
- General availability of AC and DC solutions for the ATCA-6006 5U/6-slot Shelf including support for the ATCA-2210
- First fully-supported release of Layer 3 routing (Fabric Interface only) and support for the NTS features resident on the ATCA-2210
- First release of SNMP agent support for RFC1213-MIB, SNMPv2-MIB, IF-MIB, IP-MIB, TCP-MIB, UDP-MIB, EtherLike-MIB, and IEEE8023-LAG-MIB modules
- First release of APIs for module state management, Flash and file system management, software image management, Ethernet management and NTS management.

A number of other improvements and defect fixes have been made to the product family during the development of these products.

Technical Publications

These manuals, along with the other ATCA product manuals, are available for download via the ATCA product pages on the RadiSys public web site:

www.radisys.com/products/AdvancedTCA.cfm. You will be asked to register to use the site.

Promentum ATCA Product	Manual Description	Part Number	Notes
ATCA-2100 Switch and Control Module	Hardware Reference	007-01483-0000	No changes since previous release
	Installation Guide	007-01618-0000	No changes since previous release
ATCA-2210 Switch and Control Module	Switch and Control Module Reference	007-02376-0000	New publication
	Installation Guide	007-02524-0000	New publication
ATCA-3000 Disk Storage Module	Hardware Reference	007-01484-0000	No changes since previous release
ATCA-4000 Compute Module	ATCA-4000 Hardware Reference	007-01485-0000	No changes since previous release
	Release Note	007-02596-0000	No changes since previous release
	ATCA-4200 Hardware Reference	007-02077-0000	No changes since previous release
ATCA-6006 5U Shelf	1U Power Enclosure Installation	007-02546-0000	New publication
	Shelf Alarm Panel Installation	007-02547-0000	New publication
ATCA-7010 Packet Processing Module	Hardware Reference	007-01538-0001	No changes since previous release
	Software Reference	007-01525-0001	No changes since previous release
	Installation Guide	007-01621-0001	No changes since previous release
SYS-6000 and SYS-6010 12U Platforms	Platform Hardware Reference	007-02616-0000	New publication. Replaces ATCA-6000 Hardware Reference and SYS-6000 Platform Reference.
	Installation Guide	007-01756-0001	Updated
SYS-6006 5U Platform	Platform Hardware Reference	007-02116-0000	New publication
	Installation Guide	007-02522-0000	New publication
All Platforms— SYS-6000/6006/6010	Shelf Management Software Reference	007-02256-0000	New publication
	Ethernet Switching Software Reference	007-02276-0000	New publication
	Fibre Channel Software Reference	007-01520-0000	No changes since previous release
	IP Routing Software Reference	007-02676-0000	New publication
	Firmware and Software Upgrade	007-01836-0002	Updated
	ATCA Release Notes	007-01531-0002	Updated

Known limitations

Some limitations were discovered during the testing of these products, and are listed here for your information. RadiSys is evaluating these problems and will endeavor to resolve them as soon as possible.

Technical publications

The manuals listed in the previous table have no known issues at this time.

General system limitations

Ethernet and NTS APIs are only supported on the local processor of the ATCA-2210

The Ethernet and NTS APIs do not support accessibility from a remote processor. Applications using these APIs must be built for the local management processor on the ATCA-2210 and included in the software image.

Workaround: Build your application for the ATCA-2210

Resolution: This feature will be implemented in a future release.

The NTS API does not manage the clock based resource on reboot

The Network Timing Subsystem does not manage the clock based resources by default. If it is enabled, it will not manage the resources correctly when the blade is rebooted. When manage based resource is enabled, the NTS API does not allow clock output to the backplane if the bused resource tokens are not owned by the blade or its partner. On blade startup, when the managed bused resource is enabled, the NTS API will request bused token ownership from the shelf manager. If the ownership is not granted, the ensuing output commands are not allowed because of no right to drive the bus. This will result in no output clocks driven to the backplane on startup.

Workaround: Do not enable managed bused resource across reboots. Even though this is disabled by default, in the case where it has been enabled, the CLI command to disable this feature is:

```
blade-mgmt config no network-clock-select manage-based-resource
```

Resolution: RadiSys is investigating ways to address this issue.

Issue No: RSYS00037564

ATCA-2210 Switch and Control Module limitations

IPMI Address may be invalid if the ATCA-2210 is installed incorrectly

If the ATCA-2210 is inserted into the chassis and engaged with the backplane too slowly, the module may read the IPMI address information from the backplane before the address value is stable. If this occurs the blade will send an IPMI event that it has an invalid address and will not transition from the M1 state. The blue hot swap LED will continue to blink and payload power will not be applied until the module is removed and reinstalled.

Workaround: Unplug the ATCA-2210 and fully insert into the backplane quickly.

Resolution: This issue will be addressed in a future release.

Issue No: RSYS00037735

ATCA-2210 thermal thresholds cause fans to speed-up at ambient temps

Under certain circumstances, the ATCA-2210 may cause the shelf fans to speed up even at lab-ambient temperatures. The system should continue to operate normally unless there are other more severe thermal issues. The current temperature thresholds in the IPMI firmware were chosen conservatively and could possibly be raised after further thermal testing.

Workaround: Modify the non-critical temperature thresholds

Resolution: This issue will be addressed in a future release.

Issue No: RSYS00010840, RSYS00010889

Recommended Copper SFP modules for ATCA-2210 only support 1Gb speed

The only recommended Copper SFP module is the Molex 1000Base-T (RadiSys P/N 077-00142-0000). There are no recommended solutions for 10/100/1000 Base-T Copper

Workaround: None

Resolution: This issue may be addressed in a future release.

Issue No: RSYS00011359

COM-E location is not fully supported on the ATCA-2210

The COM-E site and corresponding SAS hard disk site on the ATCA-2210 are operational but have not been thoroughly validated. Contact RadiSys for assistance in getting your specific COM-E and/or SAS hard drive operational. Some revisions of the ATCA-2210 will require a factory update before they can be used with a COM-E and disk module.

Workaround: None

Resolution: This issue will be addressed in a future release.

Issue No: RSYS00010541, RSYS00010977

Blade management limitations

Some CLI commands fail silently with missing arguments

Some CLI commands fail silently with missing arguments. If the user types the CLI command and then types <enter>, the CLI gives no feedback or response. For example, in the blade management context, the "blade-mgmt show" and "blade-mgmt service" commands will not give the user feedback unless the user types <tab> or '?'.

Workaround: If a CLI command is given that results in no response, type the command again and type <tab> or '?' to get online help.

Resolution: This issue will be addressed in a future release.

Issue No: RSYS00010906

Master CLI 'copy' command does not roll up all running configurations

The Master CLI 'copy' should roll up all running configurations. Currently, it only operates on the blade management context.

Workaround: Save the Base and Fabric Ethernet configuration separately by entering into the base or fabric context, and using the copy command from there. Also, FTP any modified *.conf file off the blade separately. For example, snmpd.conf, dhcpd.conf, or ntp.conf.

Resolution: RadiSys is investigating ways to address this issue.

Issue No: RSYS00011027

ATCA-6006 limitations

ATCA-6006 is only compliant to -48VDC

The ATCA-6006 product specification characterizes the product as being rated -48VDC/-60VDC. The current units are only compliant to the -48VDC portion of the rating. This should be satisfactory for most applications. The 60VDC rating is required by the PICMG 3.0 specification; however, operation at this voltage level is less common.

Workaround: Units will be physically marked with a model designation of ATCA-6006-48 and a voltage rating of 48VDC

Resolution: This feature will be implemented in a future release.

ATCA-6006 requires additional power conditioning to comply with Class A EMC limits

Use of the ATCA-6006 without additional power conditioning will result in non-compliant EMC performance. RadiSys represents compliant performance only when the ATCA-6006 is applied in combination with a standalone Tectrol AC power supply (available as an orderable product from RadiSys).

Workaround: Use the ATCA-6006 with an external power conditioning unit

Resolution: This issue will be addressed in a future release.

Issue No: RSYS00010324

Shelf Manager limitations

Bused E-key requests may timeout after a Shelf Manager switchover

A bused E-key request may time out after a shelf manager switchover.

Workaround: None

Resolution: This issue will be addressed in a future release.

Issue No: RSYS00011303

IPMB Isolation on an AMC could disrupt the Shelf Manager Function

In some instances, inserting an AMC may place an event in the SEL without raising an alarm. The AMC can be assumed to be healthy if there are no other communication problems.

Workaround: None

Resolution: This issue will be addressed in a future release.

Issue No: RSYS00037604

Base/Fabric Ethernet switch limitations

De-configured router port may still be listed in 'show ip interface brief'

After manually configuring and de-configuring a router interface, that interface may still show up in the output of 'show ip interface brief'. This happens if you delete the IP address before disabling routing on that interface. Even though it shows up in 'show ip interface brief', the interface will not show up in 'show running config' and if you save the configuration and restart the interface will not appear, as expected.

Workaround: Disable routing before removing the IP address from an interface

Resolution: This issue will be addressed in a future release.

Issue No: RSYS00037272

L3 Routing over LAG is problematic

Routing over a LAG does not work. This is limited to L3 routing. L2 switching over a LAG does work.

Workaround: None

Resolution: This issue will be addressed in a future release.

Issue No: RSYS00037355

The "show logging" command displays fields for unsupported and unsettable features

The "show logging" command displays logging types and information that are unsupported in the Base/Fabric Ethernet switch software. Specifically, the Logging Client Local Port, Console Logging, Console Logging Severity Filter, and Buffered Logging commands cannot be modified from the factory defaults. Also, when executing CLI Command Logging, the user needs to look in the switchdrv.log file (in /var/run/switchdrv/base or var/run/switchdrv/fabric directories) to view the logs

Workaround: None

Resolution: This issue will be addressed in a future release.

Issue No: RSYS00037376

ATCA-4200 Compute Module

ATCA-4200 may come up with payload Power LED red instead of green

The ATCA-4200 may power up with the payload Power LED red instead of green without any events being logged. This is likely an issue with redundant power feeds to the blades

Workaround: Insure that redundant power feeds are working correctly

Resolution: No action planned

Issue No: RSYS00010330

ATCA-4200 may not recover E-keys after an ATCA-2210 hot-swap

The ATCA-4200 may not recover its E-keys after the ATCA-2210 is hot-swapped out and reinserted. This appears to be a problem only when the ATCA-2210 is inserted into Slot 8 of the ATCA-6000 shelf.

Workaround: Extract and reinsert the ATCA-4200 to restore the E-keys

Resolution: This issue will be addressed in a future release of the IPMC firmware.

Issue No: RSYS00010330

ATCA-7010 Packet Processing Module with 10-Gb FIC

The ATCA-7010 and 10-Gb FIC have no known issues at this time.

Resolved limitations since August 2006 EAU Information

The following limitations have been resolved since the August 2006 EAU Information was published.

Promentum ATCA Product	Issue Number	Description	Resolution
General system	RSYS00010270	Only one E-Key record for each Fabric port is currently supported. To allow the use of both 1-Gb and 10-Gb modules in the same system, half of the slots have a 1-Gb E-Key and half have a 10-Gb E-Key	Fixed – This limitation has been removed. All of the slots support both 1GbE and 10GbE
	RSYS0010521	The ATCA-2210 has been designed and validated using a specific set of SFP and XFP modules. Testing has revealed that the use of third-party modules have caused problems in the operation of the ATCA-2210.	No Action Planned - Refer to the <i>ATCA-2210 Installation Guide</i> for the list of SFP and XFP modules supported.
Shelf manager	RSYS0010513	RMCP messages with invalid net functions (i.e., net functions not specified by IPMI v1.5 or PICMG 3.0) may cause the ATCA-2210 to fail and reboot.	Fixed
	RSYS0011166	The Shelf Manager web page interface is provided for demonstration and debug purposes only. Some features may not work and may not be present in future releases.	Fixed - Security of the web page interface has been increased with the addition of a login screen and a timeout (no activity). The default password is "rsys-atca" with a default timeout of 60 minutes.
	RSYS0010742	Occasionally a blade, fan, PEM or ATCA-5100 may remain in the insertion pending state (M3) when the entire chassis is powered up. This is a result of the blades failing to communicate with the shelf manager for a short time followed by failure of the error recovery methods. This has been observed to occur in less than 5% of chassis power-ups.	Fixed
	RSYS00011169	Occasionally the shelf manager will fail to read a shelf FRU on shelf power-up. This can cause other failures in the system, as some modules rely on the shelf information from the shelf manager to configure themselves on power-up. This problem has been seen in less than 2% of chassis power-ups.	Fixed

Promentum ATCA Product	Issue Number	Description	Resolution
Shelf manager (continued)	RSYS0011029	The new Platform Management CLI includes a command called "reset fru," which is intended to restore the Shelf FRU contents to factory default values. However, the Shelf Manager does not have a copy of the real factory default Shelf FRU. If the reset fru command is invoked, the Shelf Manager will use the Shelf FRU from the chassis it powers up in, which will most likely not be running the factory default Shelf FRU.	Fixed – The "reset fru" command has been removed
ATCA-2210 Switch and Control Module	RSYS00010979	Problems have been seen where link aggregation ports (port channel ports) do not correctly receive and act upon spanning tree BPDUs. This can cause a network loop.	Fixed
	RSYS00011003	The IF-MIB::ifName table dynamically adds and removes entries as link aggregation/port channels are added or removed. The CLI name for these interfaces is 4/N when N is a sequential number, but the ifName table reports that these interfaces have a name 'LAG- N'.	Fixed
	RSYS00011066	The CLI command "show arp" is intended to be used to display the Address Resolution Protocol (ARP) cache in the layer 3 routing layer of the ATCA-2210. Do not use this command, as it will lock up the ATCA-2210	Fixed
	RSYS00011068	Q-BRIDGE-MIB::dot1qVlanStaticRowStatus is used for VLAN creation and destruction. Testing has revealed some problems, especially when SNMP messages are sent in quick succession, such as when creating a VLAN and then verifying that it was created.	Fixed
	RSYS00011092	The ATCA-2210 can administratively shut down an interface via CLI or SNMP commands. When this is done, however, the link remains active on the backplane. An active link may prevent software from detecting a fault or a bonding driver from failing over to the other interface.	Fixed

Promentum ATCA Product	Issue Number	Description	Resolution
ATCA-2210 Switch and Control Module (continued)	RSYS00011100	The GARP VLAN Registration Protocol (GVRP) is used to dynamically cause ports to include or exclude themselves from a particular VLAN. Interfaces may be configured on a per-VLAN basis to participate in GVRP, or to be statically configured to include or exclude a VLAN. When GVRP is disabled on the ATCA-2210, interfaces that are statically configured to be included in a VLAN may be forced to the exclude state, preventing communication on that VLAN through the port.	Fixed
	RSYS00011111	Some problems have been observed when administratively enabling and disabling port channels (link aggregation interfaces) using SNMP IF-MIB::ifAdminStatus.	Fixed
	RSYS00010957, RSYS00010922, RSYS00037305	The linux "passwd" command can be run successfully by root on the ATCA-2210. However, non-root users are unable to successfully use this command to change their passwords.	No Action Planned – User passwords can be updated by root.
	RSYS00011167	Layer 3 Ethernet switching on the Fabric interface is currently available to allow customers to evaluate the feature. Layer 3 switching will be a customer option in future releases.	Fixed –ATCA-2210 can be purchased from RadiSys with or without L3 support. Contact RadiSys for the correct order codes.
ATCA-4200 Compute Module	RSYS0009500	When using the KCS interface on the IPMI controller, the OpenIPMI driver sends all messages through channel 0 (see the IPMI "send message" command), and specifies "no tracking" in bits 6:7 of the Channel Number parameter. When applications use this command, messages may return from the KCS interface indicating that the response is from channel 3, not channel 0. As a result, the OpenIPMI drive discards this response and resends the request.	Fixed – User needs to update to IPMI FW version 1.7 This FW release is available from Intel

Promentum ATCA Product	Issue Number	Description	Resolution
ATCA-4200 Compute Module (continued)	RSYS00010740	The "fwpiaupd" application, which is used to reflash the IPMI controller on the ATCA-4000 and ATCA-4200, is designed to be able to work via the on-board KCS interface or via an RMCP through the backplane. The application does not implement a "no security" option, however, and will therefore not work with the Shelf Manager RMCP server on the ATCA-2210.	Fixed – User needs to update to latest version of fwpiaupd
	RSYS00010404	The ATCA-2210 Shelf Manager sends "set port state" commands to each module for each E-Key record to selectively enable and disable port combinations. When the ATCA-2210 receives the last disable command for its last Fabric E-Key, it returns an error code but still takes the requested action. The shelf manager does not report that the E-Key was enabled successfully on this port because of the error code.	Fixed – User must update the IPMI Firmware to version 1.5.1 or later

Resolved limitations since the 1.4.7 Feature Release notes

The Promentum ATCA Release Notes for the 1.4.7 feature release includes known limitations from many of the components of the system. The following limitations were resolved after those release notes were published.

Note

This table does not include updates for the ATCA-2100. Those will be detailed when the next feature release for the ATCA-2100 is completed.

Section Number	Description	Resolution
3.1.1	ATCA-6006 Alarm I/O Module is unsupported	Fixed – The Alarm I/O module is now fully supported
3.1.2	ATCA-6006 is only supported with the RadiSys Shelf manager	No Action Planned – Use of the ATCA-6006 with a 3 rd party shelf manager will not be supported.
3.1.4	Firmware upgrade instructions document does not contain IPMB addresses for the ATCA-6006 shelf	Fixed
3.7.2	IPMI Send Message not handled correctly by IPMC (ATCA-4000)	Fixed – Update to IPMI FW version 1.17 (ATCA-4000). This FW release is available from Intel
3.8.2	Per-port flow control is not supported	Fixed
3.8.4	SNMP objects not populated	Fixed
3.8.5	SNMP does not support manipulation of spanning tree MIBs	Fixed
3.8.6	LAG creation does not update SNMP IF-MIB::ifTableLastChange and IF-MIB::ifLastChange.30	Fixed
3.8.7	SNMP IEEE8023-LAG-MIB::dot3adTablesLastChanged.0 may not be updated	Fixed
3.8.8	SNMP exposes interfaces 0/15 and 0/16 in 14-slot shelf	Fixed

Safety and EMC testing

The following table shows the status of safety and electromagnetic compatibility (EMC) testing as of the December 2006 release.

Module	Safety	Radiated Emissions	Conducted Emissions
ATCA-1000	Approved	EMC Class B	EMC Class A
ATCA-2100	Approved	EMC Class B	EMC Class A
ATCA-2210	Approved	EMC Class B	EMC Class A
ATCA-3000	Approved	EMC Class B	EMC Class A
ATCA-4000	Approved	EMC Class B	EMC Class A
ATCA-4200	Approved	EMC Class B	EMC Class A
ATCA-5000	Approved	EMC Class B	EMC Class A
ATCA-6000	Approved	EMC Class B	EMC Class A
ATCA-7010	Approved	EMC Class B	EMC Class A