AIM system Firmware Release Note

Version 4.4

Adder Technology Limited

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AIM System V4.4 Firmware release note

Scope

Adder conducts advanced accelerated life testing on all our products to ensure any potential reliability issues are uncovered prior to any field installations. As the AIM (AdderLink Infinity Manager) hardware and endpoints are used frequently in mission critical applications, this equipment is a top priority for such testing.

The release of code 4.4 significantly increases the longevity of the manager hardware when used in installations in excess of 2,000 endpoints and multiple fast switching applications (<150 per minute) Although the majority of installations are not of this size and complexity, Adder recommends that all users upgrade to the latest code to take full advantage of the increased resilience this release provides.

Parts affected

AIM-yy-xxx (where yy is the endpoint license and xxx is the country code)
ALIF1002T-xxx
ALIF1002R-xxx
ALIF2000T-xxx
ALIF2002T-xxx
ALIF2112T-xxx
ALIF2000R-xxx
ALIF2020T-xxx
ALIF2020R-xxx

Previous version

This Release Note details the changes between this version and version 4.2.

⚠ **IMPORTANT: If AIM is upgraded to 4.4 then the Endpoints must also be upgraded to 4.3 in order to maintain compatibility.**

Package contents

The upgrade package contains the following;

1. Release notes
2. AIM image V4.4.40323
3. Endpoint code for the following endpoints V4.4.40349 – Reliability release.

IMPORTANT: After upgrading to this Reliability release, it will only be possible to upgrade to another firmware release that also has the same reliability fix. It contains all the changes in 4.3.40381 plus a low level change to the way that the flash memory is accessed and managed.

Part No	Generic	Detailed name
AIM-yy-xxx	none	Upgrade_4.4.40323.tar.gz.asc
ALIF1002T-xxx	TX2s	Upgrade_dvix2_backup_adder.bin.txs.4.4.40349 Upgrade_dvix2_main_adder.bin.txs.4.4.40349
ALIF1002R-xxx	RX2s	Upgrade_dvix2_backup_adder.bin.rxs.4.4.40349 upgrade_dvix2_main_adder.bin.rxs.4.4.40349

ALIF2000T-xxx	TX2	Upgrade_dvix2_backup_adder.bin.tx.4.4.40349 upgrade_dvix2_main_adder.bin.tx.4.4.40349
ALIF2002T-xxx	TX2b	Upgrade_dvix2_backup_adder.bin.txb.4.4.40349 upgrade_dvix2_main_adder.bin.txb. 4.4.40349
ALIF2112T-xxx	TX2v	Upgrade_dvix2_backup_adder.bin.txv.4.4.40349 upgrade_dvix2_main_adder.bin.txv.4.4.40349
ALIF2000R-xxx	RX2	Upgrade_dvix2_backup_adder.bin.rx. 4.4.40349 upgrade_dvix2_main_adder.bin.rx. 4.4.40349
ALIF2020T-xxx	TX2t	Upgrade_dvix2_backup_adder.bin.txt. 4.4.40349 upgrade_dvix2_main_adder.bin.txt. 4.4.40349
ALIF2020R-xxx	RX2t	Upgrade_dvix2_backup_adder.bin.rxt.4.4.40349 upgrade_dvix2_main_adder.bin.rxt. 4.4.40349

New features

IGMPv3 Support

There is a new option on the network settings page to select which version of IGMP to use. The default setting is force IGMPv2 which is the existing behavior of the ALIF endpoints. However, there is now a new setting force IGMPv3. In order to use this then your network must be compatible with IGMPv3.

When IGMPv3 is enabled, there are six globally unique multicast groups; Video 0 on ETH1, Video 0 on ETH2, Video 1 on Eth1, Video 1 on ETH2, Audio on ETH1 and Audio on ETH2. Every RX unit is instructed to join these multicast groups and select the appropriate source address of the TX unit to connect to.

Using IGMPv3 reduces the number of multicast groups that are required, and thus reduces the amount of multicast routing that is required. The network load is reduced and security is improved. On a multi-subnet system there is only the requirement to route six multicast groups.

Channel ID numbering

The channel ID numbering has been made dynamic. Channel IDs are now created randomly when required and deleted after use. This means that AIM will never run out of channel IDs which could have been an issue pre 4.3 where the channel IDs where auto-incremented and never deleted.

Serial number tracking

AIM now records the ALIF endpoints serial number in its database. This is exposed by using the API get_devices method.

SNMP changes

The following changes have been added to the SNMP agent used in AIM;

- Traps - AIM should send a Trap when an Infinity device goes down or comes up. The trap to indicate the reason, if it is known.
- MIB additions for Infinity units:
  - The unit's serial number should be exposed.
- MIB additions for Infinity network:
  - The number of active connections.
  - The number of receivers.
  - The number of transmitters.
- MIB additions for AIM state:
  - CPU usage.
  - Memory usage.

- Software version.

Syslog message format

Syslog messages now follow a standard format based upon RFC 5424 but is proprietary to Adder.

LDAPS support

The Active directory interface has been updated to support LDAPS. Entering {ldaps://<ipaddress>/} into the domain controller field means the Active directory will now connect using certificates.

Quantitative measures

150 channel changes a minute.

Aim will support 150 channel changes in a minute. Faster switching rates are possible but AIM support cannot be guaranteed.

Large Infinity Architecture

Support for up to 2,048 ALIF endpoints has been confirmed.

Instructions to follow to upgrade to 4.4

Before you upgrade

If upgrading from 4.0 ensure there are enough addresses in your IP Address pool to allocate to all required ports. Note: teaming devices will require 2 IP Addresses each.
On the Primary AIM browse to the Home>Servers TAB and ensure “Require Authentication?” is set to No (This prevents issues when upgrading any secondary AIM servers).

The upgrade process

1. Ensure all devices are connected and online in AIM.
2. Upload the v4.4 AIM firmware package to your Primary AIM server.
3. Once the Firmware is uploaded into its partition, the Secondary AIM will become Acting Primary. The primary temporally stops responding to the backup as the update is applied. You will need to redirect your browser back to the Primary IP Address. The primary will become available once the v4.4 image has been uploaded.
4. On browsing back to the Primary, you will see that a Reboot button has appeared, click this to reboot the AIM into the v4.4 firmware image.
5. Login and upload the v4.3 firmware packages for your Transmitters and Receivers.
6. Upgrade Transmitters and Receivers Main and backup Firmware in the usual way.
7. Once the Primary AIM and Endpoints are all running at v4.3, browse to the secondary AIM
8. Upload the v4.3 firmware package to the secondary AIM server and reboot on completion.

The Upgrade should now be complete, check the “Servers” TAB on the primary AIM to confirm both AIM’s are upgraded and synchronised.

Changes since V4.3.40381 ALIF-Endpoint code

Id	Summary
6096	Low Level Control Change. Changed the way that the flash memory is accessed and managed.

Changes since 4.3.38918 ALIF-Endpoint code

Id	Summary
6258	The Default EDID definitions have been updated. VESA and CEA timing modes are now supported as relevant.
6293	Haserl has been updated to fix a security vulnerability
6299	USB reliability improvements made when connected to the Apple MAC PRO
5898	Changes made to prevent the ALIF from using an old IP address lease if it failed to contact a DHCP server. This prevents the random rebooting of ALIF endpoints.
6222	Changes made to improve USB reliability when connected to a USB3.0 controller.
6177	Improvements to the USB reliability when switching with more than 7 USB devices.
5917	Ilyama Prolite T2236MSC-B2-Ten-point touch screen is now supported.
5655	USB channel changes has a memory leak. It was possible after a large number of channel changes for a USB device not to be recognised. An error message disconnect and reconnect the Transmitter would pop up.
3865	Support for a 3M-Microtouch screen was intermittent.
6117	Hub port allocation- when the USB hub size was set to 7 devices there where occasions when switching multiple devices that one would fail to enumerate.
6103	New device couldn't be added if ports where reserved but unused. If one of the USB ports on the receiver was reserved but not used, then these reversed ports where being connected to the USB host which meant that new devices could not be added as the port list was full. Now an unused reserved port is not including in the device list.
6105	Erroneous connection failure- when switching with more than 8 USB devices some of the devices could fail after switching.

Changes since 4.4.39920 AIM code

Id	Summary
6264	The system logs are now being rotated in order to prevent the disc becoming full.
6317	The admin site index page was taking a long time to load. The number of active connections shown on this page has been changed so only 5 active connections are now shown.
6312	There is a new setting in order to disable password recovery. This can be found on the settings/General page.
6291	There are two new setting is order to disable/enable OSD hotkeys and connection Hotkeys. This can be found on the global receivers' page. Disabling the OSD hotkeys prevents the connection hotkeys from being enabled. If the OSD hotkeys are enabled, then the connection hotkeys can be enabled and disabled.
6296	After being fully reset it is now possible to add the AIM back into the cluster. Previously the primary still has a record of its old CA certificate and it was not possible to overwrite this with the new certificate, from the new primary.
6276	When an AIM was deleted from the cluster it was possible for the ALIF endpoints to become disconnected. This was due to the fact the ALIF certificates issued by the deleted AIM are no longer valid. Now the ALIFs will automatically rekey new certificates before the cluster table gets updated.

Changes since 4.2

The below table details all the customer reported bugs fixed since the 4.2 release.

Id	Summary
5896	Audio source IP address is now included in the IGMPv3 report.
5857	It is now no longer possible to access any unmerged html templates
5616	HPZR30W monitor the EDIDS are now read correctly when changing from Dual link to single link video resolutions.
4816	After upgrading a backup server that has now been promoted as the primary server the endpoints are now longer reported as being offline.
5842	A new API command Create_Temp_channel has been added to the API. This channel is automatically deleted after two hours. It is created without any permissions so it can be used in the OSD or web-ui. All API users have access to this channel. If the temp channel has permissions assigned within the two hours, it becomes a permanent channel and is not automatically deleted.
5764	AD users were not being added to AD groups. When using the preview function of the AD page it was possible that users would not be added to a group. This has now been resolved so the preview function works in the same way as save and synch.
5705	A new Api method “update_device” has been added which can be called to update the description and location fields in the webui.
5610	HP KUS1205 card reader is now fully supported.

Known issues

This section contains a list of key issues and limitations that have been identified during development and test and have yet to be resolved.

Issue#	Description
5956	If you have a lot of very large backup files stored on the AIM manager it may not be possible to upload an upgrade file. Workaround- If you delete any unnecessary backup files then it is possible to upgrade.
5961	When using Multi-subnet mode, it is not possible to re-add the original factory reset primary back into a cluster. Workaround- If you need to add a replacement primary into a cluster ensure that it is factory fresh.
5532	After upgrading a backup AIM server with require authentication enabled. The backup is in an unconfigured and quiescent state. Details: If require authentication is enabled on the server’s settings then a backup server will report itself as unconfigured and quiescent after upgrading. Recovery: Reset the backup AIM and re-add it to the cluster Workaround: ensure that require authentication is set to no and there is no cluster password in use when upgrading the backup AIM.
4640	AIM does not save a "\" in the NTP keys Details: It is not possible to use an ntp key containing the \ character. Recovery: none Workaround: do not use the \ in the NTP key
3193	Multicast IP Base Details: It is possible to set the multicast IP bases to 224.0.0.0, 225.0.0.0, 226.0.0.0, 224.128.0.0 or 237.0.0.0 which could potential flood the network as these addresses reserved for network protocols. Recovery: None Workaround: Don’t set the Multicast IP base to these addresses.

5763	The Maximum number of AD users that can be a member of an AD group is 1499. If there are 1500 or more users in a group, then the group is returned as empty.
5894	When the OSD is called up on video resolutions 800x600 or below it is not possible to use the scroll bars to move around the menu.