Release Notes for Versions 5.3.x of Model 281x, 331x, 331xA, and 331xS Ethernet Agent Software

Bay Networks

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Introduction

These release notes contain information about Ethernet agents versions 5.3.x for Model 281x, 331x, 331xS, and 331xA Network Management Modules (NMMs). For more information about these NMMs themselves, refer to the documentation shipped with these products. To obtain these agents, refer to your LattisWorks Support Plan and then contact your local sales office.

These release notes cover the following topics:

- New features
- Bug fixes
- Known problems
- Configuration file changes
- Operational notes

New Features

Table 1 lists the new features for each of the Model 281x, 331x, 331xS, and 331xA Ethernet agents, versions 5.3.x.

Table 1. New features for versions 5.3.x of Model 281x, 331x, 331xS, and 331xA Ethernet agents

New feature	Model 281x	Model 331x	Model 331xS	Model 331xA
Supports the Model 3174, 3299, and 331xSA modules.	N/A	Yes	Yes	Yes
Supports the Model 3314SA fiber link redundant port table.	N/A	Yes	Yes	Yes
Provides redundant switchover control on the Model 3304A and 331xSA modules.	N/A	Yes	Yes	Yes
Provides 802.2 frame support for IPX.	Yes	Yes	Yes	Yes
Provides software redundant links on 10BASE-T and 10BASE-F ports.	Yes	No	No	No

Table 1. New features for versions 5.3.x of Model 281x, 331x, 331xS, and 331xA Ethernet agents (continued)

New feature	Model 281x	Model 331x	Model 331xS	Model 331xA
Software redundant link configuration information is saved to NVRAM.	Yes	No	No	No
The keyword 2k-sw-red has been added to the Model 281x module configuration file for setting up redundant links through the configuration file.	Yes	No	No	No
The keyword 2k-UpLink-Stats has been added to the Model 281x module configuration file to specify whether uplink port statistics (AUI/FIBER port) on Model 281x module products will be included or excluded from threshold slot (segment) level statistics.	Yes	No	No	No
Supports multisegment topology.	No	No	Yes	Yes

New Module Support

Table 2 lists the new modules supported for each of the Model 281x, 331x, 331xS, and 331xA Ethernet agents, versions 5.3.x.

Table 2. New module support for these version 5.3.x Ethernet agents

Module	Description
3313SA	Model 3313SA Ethernet NMM
3314SA	Model 3314SA Ethernet NMM
3174	Model 3174 Communications Controller Module
3299C	Model 3299-C Terminal Multiplexor Adapter Module
3299U	Model 3299-U TTP Terminal Multiplexor Adapter Module
3299F	Model 3299-F Fiber Optic Terminal Adapter Module
Alcatel-Ethnmm	NMM part of Alcatel Ethernet Workgroup Concentrator
Alcatel-Ethhm1	Host part of Alcatel Ethernet Workgroup Concentrator
Alcatel-Ethhm	Cascaded Alcatel Ethernet Workgroup Concentrator

Supported MIBs

The following MIBs are supported in the 5.3.x release of the Model 281x, 331x, 331xS, and 331xA Ethernet agents:

- RFC 1213 (MIB-II)
- RFC 1215 (SNMP Generic Trap MIB)
- RFC 1516 (SNMP Repeater MIB)
- RFC 1271 (RMON MIB)
- RFC 1515 (MAU MIB, 331xS and 331xA agents only)
- RFC 1398 (EtherLike MIB, 331xS and 331xA agents only)
- IPX MIB, version 1.1.0
- RMON Trap MIB
- SynOptics® Common Trap MIB, version 1.4.0
- SynOptics Ethernet Trap MIB, version 1.4.0
- SynOptics Common MIB, version 4.7.0
- SynOptics Ethernet MIB, version 4.6.0

MIB Removed

The IEEE802.3 MIB is no longer supported because it has been replaced by the EtherLike MIB (RFC 1398) for the Model 331xS and 331xA agents.

Bug Fixes

The following problems have been corrected in the 5.3.x release of the Model 281x, 331x, 331xS, and 331xA Ethernet agents:

- A condition existed in which false ARP Response broadcast packets were sent out for the address of the default gateway every four hours. Some IP stacks learned this information, and communications with the gateway were lost. This problem has been resolved. [Bug ID 2986]
- The default threshold trap interval is 10 seconds, but it may be set for a higher interval. If this parameter were set at more than 10 seconds for previous versions of the Model 331x agent and a “cross” threshold were exceeded, a trap would be sent for each trap duration exceeding the threshold. For previous versions of the Model 331xA and 331xS agents, the trap would be sent only for the first instance of the trap being exceeded and not for the following violations. The 5.3.x agents now properly send a trap for each duration exceeded for a cross threshold. For example, a threshold with a duration of 20 seconds may have consecutive 20-second windows during which the threshold is exceeded. For previous versions of the agents, a trap would be sent only upon the first instance for which the threshold was exceeded and not for the following instances. The agent now properly sends a trap for the duration specified. [Bug ID 2983]
- A Model 3800 module with two Ethernet daughtercards installed—one on channel A and one externally connected—previously reported that it was connected to channel AB even though it was not connected to the B channel. This problem has been corrected. [Bug ID 2985]
- The default baud rate is now set to 9600 for all platforms. [Bug ID 2988]
- The Boot File Name shown in the Expanded View™ Show Profile display for an NMM no longer includes extraneous characters appended at the end of the name. (To display the boot filename, select an NMM in Expanded View, then select Show Profile from the Configuration menu for that NMM.)
- Autopartition and jabber traps are now sent when appropriate. [Bug ID 2995]

- IPX packet discrepancies have been resolved. [Bug IDs 2451, 2454, 2456, and 4738]
- Model 331xS NMMs no longer repartition interconnect ports of NMMs enabled by other NMMs in the chassis when the original NMM is reset. Firmware revisions E and F function properly in this respect; firmware revision D does not function properly in this respect. [Bug ID 2996]
- The use-stored-config keyword is now correctly supported in the NMM configuration files. [Bug ID 3002]
- The threshold duration parameter is now read from the configuration file correctly. [Bug ID 2984]
- On a Model 3304A host module, when the port is in a redundant fault mode, the partition is now displayed correctly. [Bug ID 2993]
- A repeater health trap no longer is sent erroneously upon system startup.
- The load-mode local-only parameter in the configuration file now operates correctly. [Bug ID 2994]
- In environments with Cisco Systems routers, an ICMP destination unreachable response is no longer sent when the received packet is an IGRP update packet with a broadcast address that is the local broadcast address. [Bug ID 4228]
- A correct value now is returned for the source of configuration information for an NMM. [AIT Bug ID 49]
- On Model 281x platforms, performing an initial local load and local configuration now properly sets the ping-router timer to 10 seconds by default. This problem is also fixed for the same scenario that exists on 331x NMMs if set to factory defaults before a local load is performed.

Known Problems

Table 3 lists known problems affecting the 5.3.x versions of Ethernet agents and indicates whether each problem affects the Model 281x, 331x, 331xS, or 331xA agents.

Table 3. Known problems in the 5.3.x versions of the Model 281x, 331x, 331xS, or 331xA Ethernet agents

Problem	Model 281x	Model 331x	Model 331xS	Model 331xA
When jabbering occurs, a trap is not sent to indicate this problem. For more information, see the Technical Bulletin TB-Ethernet-9401. [Bug ID 2990]	N/A	N/A	Yes	Yes
Subnet masks that do not consist of continuous 1s when translated as binary digits are not supported. (For example, the subnet mask 255.255.255.0 is supported, but the subnet mask 255.255.251.0 is not supported.) [AIT Bug ID 31]	Yes	Yes	Yes	Yes
Concentrator fragment errors report the sum of fragment and runt packets. [AIT Bug ID 44]	Yes	Yes	Yes	Yes
Late collision counter baselining is not supported for the following Ethernet host modules: Models 3307HD, 3304B, and 3308B. (This feature is specified in the SNMP Repeater MIB, RFC 1516).	N/A	N/A	Yes	Yes
Partitioned ports on a Model 3302 Ethernet Host Module do not display correctly.	N/A	Yes	Yes	Yes

Configuration File Changes

This section describes new parameters listed in the sample configuration files shipped with Optivity® (versions later than 6.0 for UNIX and 5.3 or later for Windows).

Use an ASCII text editor such as vi to edit parameter values or to add or delete parameter entries. To use existing example entries in the configuration file or to activate parameters that are commented out when there is no default, delete the pound sign (#) before the parameter and then modify the appropriate parameter value. Make sure all uncommented parameters begin in the first column.

For example, a section in the configuration file concerning uplink statistics appears as follows by default:

```
#
# 2k-UpLink-Stats off
#
```

To turn on counting uplink statistics with counters for threshold values, you would edit this section as follows:

```
#
2k-UpLink-Stats on
#
```

CAUTION: *Always make a backup copy of the NMM configuration file to use as a reference before editing the NMM configuration file.*

Link-based Software Redundant Links

The 2k-sw-red parameter determines the pairs for a 10BASE-T or 10BASE-FL software redundant link. A maximum of four software redundant links can be set up, either all on one line or on multiple lines. Enter keywords for each pair in the following order: *ActiveSlot ActivePort StandbySlot StandbyPort*. The default number of pairs is 0.

The configuration file entry for the 2k-sw-red parameter follows.

```
#
# Configure the Software Redundant Links
#
# Basic Format is
# 2k-sw-red ActiveSlot ActivePort StandbySlot StandbyPort
#
# Maximum number of Software Redundant Links that may be set up is 4.
#
# When link-based redundant links are specified in this config file, it may be done in
# one or multiple lines. However, if multiple lines are used, every new line must start
# with the key word "2k-sw-red". A redundant pair may also not be split into different
```

```
# lines; it must be defined completely in the same line.
#
# Following each key word there can be 1 to 4 pair inputs. Each pair is entered in
# ActiveSlot, ActivePort, StandbySlot, and StandbyPort order.
#
# Some examples:
# 2k-sw-red 1 2 3 4                          - one pair
# 2k-sw-red 1 2 3 4 2 1 4 3 5 1 5 6          - 3 pairs specified in one line
# 2k-sw-red 1 2 3 4 2 1 4 3 5 1 5 6 4 4 4 17   - 4 pairs specified
#
# 2k-sw-red 1 2 3 4                          - 3 pairs in 2 lines
# 2k-sw-red 5 1 5 6 2 1 4 3
#
# 2k-sw-red 1 2 3 4
# 2k-sw-red 2 1 4 3                          - 3 pairs in 3 lines
# 2k-sw-red 5 1 5 6
#
```

Threshold Uplink Port

The 2k-UpLink-Stats parameter determines whether the uplink port (AUI/FIBER port) in System 2000™ products includes or excludes the uplink statistics from values used in threshold calculations for the slot (segment). Select from the following values:

- The value “on” specifies that the uplink port is included in the threshold slot (segment) level.
- The value “off” specifies that the uplink port is excluded from the threshold slot (segment) level.

You must specify these values in lowercase letters. The default is “off.”

The configuration file entry for the 2k-UpLink-Stats parameter follows.

```
#
# A switch used to specify whether to include or exclude the Up Link port statistics
# (AUI/FIBER port) in with the threshold slot level statistics. Valid values are "on" or
# "off" (all lower case). Default is off.
#
# For example:
# 2k-UpLink-Stats on
#
```

Operational Notes

This section covers general operational notes and those specific to the link-based software redundant links feature.

General Operational Notes

The following general operational notes apply to the 5.3.x release of the Model 281x, 331x, 331xS, and 331xA Ethernet agents:

- Early versions of the 5.3.0 release of the Model 281x, 331x, and 331xA Ethernet agents were shipped mistakenly with Optivity LAN 6.0 for UNIX. These versions can cause problems with certain applications in Optivity LAN 6.0 for UNIX. Do not use any 5.3.x agents earlier than 5.3.1.
- If you observe a discrepancy between the statistics displayed in the Optivity RMON displays and those in the Optivity Statistics displays, the difference is due to the age of the statistics. RMON statistics are gathered once every second, whereas the statistics appearing in the Statistics displays are gathered by a free-running counter that obtains the statistics whenever the user requests them. [Bug ID 3004]
- Conflicting IP addresses may exist for the next-router-hop-address in the routing tables of the agent. As a temporary workaround, reset the NMM in order to flush its routing tables. [Bug ID 3197]

- After a local load of a Model 331xS or 331xA NMM, either direct from the factory or reset to factory defaults, the default gateway is pinged too often. To resolve this problem, set the ping-time parameter in the configuration file to 60, and then download the configuration file to the NMM. [Bug ID 5925]

Operational Notes Specific to Link-based Software Redundant Links

Three redundant link capability types are available with Bay Networks™ products:

- Type 1—Hardware Notify, Hardware Swap to Standby Execute

  This type of redundant link is supported on adjacent ports of the same module of the System 5000™ and System 3000™ 10BASE-F products that support Remote Fault Signaling. (The transition from active to standby mode for a Type 1 redundant link occurs in a matter of microseconds.)

- Type 2—Hardware Notify, Software Swap to Standby Execute

  This type of redundant link is supported on the System 5000 10BASE-F products that support Remote Fault Signaling and when the ports defined as a redundant pair are on separate modules; for example, port 1 of slot 1, with port 1 of slot 7. (The transition from active to standby mode for a Type 2 redundant link occurs in 1 to 2 seconds.)

- Type 3—Software Notified, Software Swap to Standby

  This type of redundant link is supported only on the 10BASE-F and 10BASE-T ports of Model 281x products (and on Model 281xSA hubs with the Model 281xSA Ethernet agent, version 1.3, installed). The 5.3.x release of the Model 281x Ethernet agent addresses the Type 3 redundant link for the System 2000 products. (The transition from active to standby mode for a Type 3 redundant link occurs in 2 to 10 seconds.)

The following operational notes are specific to link-based software redundant links for the 5.3.x release of the Model 281x Ethernet agent:

- When downloading NMMs, all parameters in the configuration file take priority over the same parameters on the NMM stored in NVRAM if the configuration information is loaded remotely. This rule applies even if configuration file parameters are commented out and an entry already exists in NVRAM. In this case, the default values from the configuration file overwrite existing information in NVRAM. The scenario for link-based redundant links is the *only* exception to this rule beginning in the 5.3.1 release on the Model 281x Ethernet agent.

  The rationale behind this approach is to let users initially create settings of redundant links in the configuration file but then allow them the flexibility to modify the settings later from the network management station. Link-based redundant links can then be maintained in the event of a reboot, even when current settings have not yet been updated in the configuration files. This approach also prevents accidental loops in the network from occurring.

  Since this approach may also present a conflict with NVRAM and configuration files, the rules for what takes priority apply as in the following examples:

  Rule 1—When software redundant links have been defined and saved to NVRAM using the Write to EEPROM command through the service port, or these links have been stored in NVRAM using the Save Configuration command from the Configuration menu of the Model 281x Expanded View chassis, that information will remain in NVRAM through a power reset. This outcome occurs even if there is *no* redundant link entry in the configuration file of the NMM and load-mode for configuration information is set to remote-only or remote-with-local-backup.

  Rule 2—When redundant link entries in the configuration file conflict with what is currently stored in NVRAM, the information stored in NVRAM takes precedence over that in the configuration file. For example, if NVRAM contains the following:

  ```
  2k-sw-red  1 2 1 3
  ```

  and the configuration file contains the following:

  ```
  2k-sw-red  1 2 1 6
  ```

the following remains and is saved to NVRAM:

```
2k-sw-red  1 2 1 3
```

Rule 3—When entries in the configuration file differ from entries currently in NVRAM, the entries in the configuration file are added as separate redundant link entries (in addition to what is already stored in NVRAM). For example, if NVRAM contains the following:

```
2k-sw-red  1 2 1 3
```

and the configuration file contains the following:

```
2k-sw-red  2 2 2 3
```

the following remains and is saved to NVRAM:

```
2k-sw-red  1 2 1 3
2k-sw-red  2 2 2 3
```

- To set up redundant links initially, edit a configuration file of a Model 281x chassis. A future Optivity release will allow you to use a friendlier GUI to set up and tear down redundant links.
- In order to break off a redundant configuration, either you can use a MIB browser to set the RedundMode parameter of either one of the ports in a redundant pair to Standalone or you can delete the redundant link setup in NVRAM.
- Currently, you can eliminate redundant links from NVRAM by either using a MIB browser or resetting the NMM to factory defaults from the service port. To permanently eliminate redundant links from NVRAM, you must remove any instances of redundant link settings from the configuration file.
- During a reboot of a Model 281x chassis configured to support software redundant links, the redundant links configuration is lost for about 20 to 30 seconds (that is, until NVRAM is reread). Thus, a loop in the network exists for that period of time. This situation occurs because although the configuration settings are stored in NVRAM, they are not read until the boot process completes chassis diagnostics.