Cajun™ P120 Version 3.1 Release Notes

This document contains information related to the Cajun P120 Workgroup Switch that was not included in the User's Guide. This document also describes compatibility with Network Management software, known problems, and other information required for proper installation and use of the product.

Contents

The Cajun P120 is supplied with the following software devices:

- Cajun P120 software Ver: 3.1.0
- Cajun P120 Standalone Manager Ver: 3.0.2

Cajun P120 Documentation

For this version of the Cajun P120 we have produced a color printed Cajun P120 Quick Start Guide. This Guide details the initial Setup, Installation and Configuration of the Cajun P120 Switch. Additional information is included in the User's Guides.

The Cajun P120 Manager User's Guide and the P120 User's Guide are in the accompanying Compact Disk (CD) in Adobe® Acrobat® Ver. 3.0 format and can be viewed using the Adobe Acrobat Reader application Version 3.0 or higher. The Reader can be downloaded free of charge from the Adobe WWW site:

http://www.adobe.com/prodindex/acrobat/readstep.html

The files are in the Directory: `Documentation` on the CD, and are named:

`Cajun P120 Manager.pdf` (P120 Standalone Manager)

and

`Cajun P120 Users Guide.pdf` (P120 User's Guide).

New Features in Version 3.*x*

- Configuration Upload/Download
- Layer 2 Security
- Enhanced Standard SMON Support
- GBIC Expansion Module Support
- Modified Password Scheme
- BUPS Management
- Autonegotiation on Gigabit ports

Configuration Upload/Download

This function provides ease of configuration. The user can download a configuration file to all switches or simply copy the configuration of one switch to another.

You can load the configuration file either using the Cajun Campus CLI or via the Update Master application which supports the whole all Cajun Campus family.

The device constructs an ASCII file (named according to the user request) that contains all configurable parameters. You should not edit this file.

In order to prevent possible conflicts due to duplication of IP addresses, all IP address related MIB parameters are ignored on download. When you copy a configuration from one device to another, the Device IP and Gateway remain unchanged.

Layer 2 Security

The security function detects packets of unknown origin, prevents them from entering the switch, and alerts the Device Manager in case of such intrusion attempts. Once a station is registered in a Secured port address table it cannot communicate via any other port. However, if such a station does try to communicate via another port, the management will not receive an intrusion detection warning.

Detection

The detection of unknown origin packets depends on three parameters:

- The packet's source **MAC** address
- The Ingress **port**
- The packet's **VLAN** tag.

Enabling the secured mode on a port, freezes all the information learnt on this port. This frees the user from performing the learning procedure for each host individually. Yet, the user (after securing the port) can still add or delete hosts manually using the Cajun Campus CLI.

Prevention

Unauthorized packets and/or packets of unknown origin are not allowed to enter the switch or to be switched, and are discarded.

Notification

The device alerts the Manager each time a packet from an unauthorized origin is detected. The alert message uses the SNMP trap mechanism and contains the intruder's MAC address. An anti-flooding mechanism is defined to prevent overloading the network/console (denial of service attacks).

The security feature is supported at the port level, providing security to each port individually.

For each port two modes are defined:

- **Not secured** – in this mode, the learning process of the port is enabled.
- **Secured mode** – in this mode the port prevents unknown packets from entering the switch by discarding them. The agent sends a notification to the Manager.

Security cannot be configured to ports belonging to a Link Aggregation Group (LAG), or to ports running Spanning Tree or those with Redundancy enabled.

Reset and Power Down

The device maintains its security configuration and address list intact after reset or power down. In a secured port, the device saves the port security configuration and all addresses learnt on this port in the flash memory.

On power up, the initialization process checks for the existence of a saved file in the flash memory and maintains its previous configuration as described by the file.

BUPS Support and Management

The Cajun P120 device manager supports BUPS (Back-up-Power Supply) management and alerts the console in case of power supply failure. In addition, the device includes a connector to the Cajun P330/P120 BUPS. One BUPS can supply Backup power to up to 4 Cajun P120 modules in case of a failure in the internal Cajun P120 power supply.

SMON Support

The Cajun P120 software version 3.0 supports the basic SMON capabilities as defined in the SMON standard – RFC2613:

- VLAN statistics
- Priority statistics
- Copy port configuration.

GBIC Expansion Sub-module

The Cajun X120G2 Expansion Sub-Module is the GBIC (1.25 Gbit/s Gigabit Ethernet) Expansion sub-module for the Cajun P120 family of standalone switches.

Note: In order to use the Cajun X120G2 module, the Embedded S/W of the Cajun P120 switch must be Version 2.1 or higher. You can download the S/W from: http://www.lucentnetworks.com/.

The X120G2 can be used either as a Gigabit Ethernet link or as a high Bandwidth backplane for connecting switches. The introduction of the GBIC interface to the Cajun P120 family presents an added value over the existing Gigabit Ethernet expansion modules. You can insert any of the Lucent-approved GBIC transceivers into the X120G2 Expansion sub-module socket. This provides you with a highly modular and customizable Gigabit Ethernet interface. The GBIC transceivers are hot-swappable.

Lucent Approved GBIC Transceivers

Caution: All Lucent approved GBICs are 5V. Do not Insert a 3.3V GBIC

Lucent supplies the following two GBIC transceivers for the Cajun P120 X120G2 Expansion Sub-modules. You can order these directly from your local Lucent representative using the PEC or COM Codes:

Type	Description	PEC Code	COM Code
GBIC SX Transceiver	Multimode Fiber 1000BaseSx (550 m)	4705-122	108659228
GBIC LX Transceiver	Single-mode Fiber 1000BaseLx (10 km)	4705-121	108659210

In addition, Lucent has tested and approved a number of GBIC transceivers from other manufacturers for use with the Cajun X120G2 Expansion sub-module. An up-to-date list can be found in Lucent Networks' World-Wide Web site at the following address: http://www.lucentnetworks.com/
Click on the "Supported Devices" icon.

The transceivers comply with:

- EMC Emission: US – FCC Part 15, Subpart B, Class A;
  Europe – EN55022 class A
- Immunity: EN50082-1
- Safety: UL for US UL 1950 Std., C-UL (UL for Canada) C22.2 No.950 Std., Food and Drug Administration (FDA) 21 CFR 1040.10 and 1040.11, and CE for Europe EN60950 Std. Complies with EN 60825-1.

Note that a Cajun P120 module with C/S 3.0 and higher recognizes the type of GBIC transceiver inserted. In a P120 with C/S 2.0 and below the GBIC transceiver type is shown as 'unknown'.

Modified Password Scheme

All passwords can now be changed from the User, Privileged and Tech Security Levels.

Autonegotiation on Gigabit Ports

Autonegotiation on Gigabit ports enables two end points of the link to advertize and agree upon the Flow Control mechanism. Note that Gigabit autonegotiation is possible only on Gigabit Expansion sub-modules with C/S 1.0 and higher.

Important Notes

IP Multicast Filtering

This feature improves the network throughput in an audio/video application environment. To ensure that this feature operates correctly check the following:

- IP Multicast groups in the range 224 – 239.0.0.x cannot be filtered
- Do not activate the IP Multicast feature when there is no Router in the network
- When you use the 3LS module in the Cajun M400 chassis for IP Multicast routing, you should not enable the IP Multicast filtering feature.
- By default, IP Multicast filtering begins 10 minutes after the first client joins the IP Multicast Group.
- By default, filtering stops for 2 minutes after a configuration change.
- When using the Cajun P550 router, do not enable the IP Multicast Snooping option in the Cajun P550.

Default Password

The default password for the Privileged (Enabled) mode has been changed from 'lucent' to 'enable' (when upgrading from Embedded S/W version 1.0.x to 2.0).

Telnet Password

In order to reach the module via Telnet you must use the default password `norm`.

Tagging Mode

In S/W Version 2.0 and higher, all VLANs, including the Port-VLAN, are tagged in tagging ports.

Changed Default Setting

- Spanning Tree default is now Enabled
- Gigabit port Flow Control default is now Autonegotiation.

RMON

The Cajun P120 supports four RMON groups:

- Statistics
- History
- Alarm
- Events.

These groups may be used with Hewlett Packard's NetMatrix™ Site Manager.

Please note the following:

1. There are 40 pre-defined entries in the Alarm group. To define entry parameters, you should use the 'modify' option.
2. Only the 'Rising and Falling' Alarm is supported.
3. The Alarm interval value should be 1, 5 or 10 seconds.

FEFI

The Cajun P120 supports FEFI (Far End Fault Indication) on the 100Base-Fx ports. This enables the Cajun P120 to detect and report a link failure even if it is only a Tx line failure (while the Rx line is still OK).

When a 100Base-Fx port receives a FEFI indication, a switchover to a redundant link occurs, if there is one assigned to this port. If the port is part of a LAG, then the traffic from this link will be moved to the other links of the LAG, until the link's fault status has been corrected.

LAG

You can use the Cajun P120 to define up to 4 Link Aggregation Groups (LAG) with 8 ports each. Each LAG includes a 'Base' port that is shown in the management application. When you disable a LAG you should deactivate the 'Base' port last. Ports belonging to a LAG, cannot be Secured.

Spanning Tree Protocol, Redundancy and Security

The Cajun P120 supports the standard Spanning Tree Protocol (STP) for avoiding loops in the networks. STP may also be used to provide resilience to the network due to its ability to detect failed links and activating dormant links. When the Spanning Tree Algorithm is not enabled, local resiliency is obtained by using the Link Redundancy feature of the Cajun P120. This feature allows you to create pairs of links, in which a preliminary link is backed up by a secondary link.

You should not activate Link Redundancy and Spanning Tree simultaneously.

Port Mirroring (Copy Port)

Port mirroring enables you to troubleshoot your network by defining a source port and a destination port. Once this is defined, the destination port reflects all traffic from the source port.

Port mirroring should be within the same VLAN.

You should delete the existing Source and Destination port definitions for Copy Port **before** defining a new pair in order to prevent improper mirroring due to the old definition.

SMON License

Enter the SMON License by using the Cajun Campus Command Line Interface (CLI). Refer to the documentation provided with the SMON License.

Problems Fixed

The following two problems (in version 3.0.12 only) have been fixed:

Broadcast Storms

The P120 takes a broadcast packet sent from any station which is in the same VLAN but has a different subnetwork address and forwards it to its default gateway as a MAC unicast packet.

The configured Default Gateway (Router) takes this packet and redistributes this packet as a MAC broadcast.

This causes a broadcast storm in the network.

System Name

Changes you make to the system name are not retained after a reset since resetting the Cajun P120 restores the system-name to the default value, CajunP120.

Known Problems

- In CajunView Standalone Manager Ver. 2.0 and above, when you change a port from Tagging Mode to Clear Mode then Auto-negotiation on this port may be disabled.
- When a tagged packet's VLAN-ID field is 0, the Priority field is modified as follows:
  - Packets whose Priority is 3 or less will be set to Priority 0
  - Packets whose Priority is 4 or more will be set to Priority 7
- The 'Out Broadcast' frame counter counts both Broadcast and Multicast frames.
- The 'Out Multicast' frame counter counts Unknown Unicast frames.

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