



**Router/4.2.12**

Version: 2873

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# Releases/Router/4.2.12

ImageStream Linux Version 4.2.12-45 is now available as a general availability (GA) release for all ImageStream routers except the Envoy.

This software release is provided at no charge to all ImageStream customers. Version 4.2.12-45 is a maintenance release that is recommended for all customers who wish to run the latest GA release on routers other than the Envoy.

This release note documents commands and features added between version 4.2.11-59 and version 4.2.12-45.

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The following bugs have been fixed in Version 4.2.12:

## Quagga BGP Assertion Failure

Version 4.2.12 fixes an assertion failure crash with bgpd when processing 32-bit ASNs larger than 100,000.

## ATM Autosensing PPP Fix

Version 4.2.12 fixes a problem with "encapsulation aal5autopp" dropping PPP frames without LLC/SNAP headers. Release 18 fixes an Autosense PPP problem when switching from PPPoA without LLC/SNAP headers to PPPoE with LLC/SNAP headers on a PVC.

## PCI 440 T1/E1/SSI Fixes

Version 4.2.12 fixes some firmware and driver problems related to the 440 T1/E1/SSI cards.

## PCI 530 DS3/E3 Fixes

Version 4.2.12-30 fixes a transmit timed out race condition in the 530-DE driver.

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## New Features in Version 4.2.12

### Add-on package support framework

Version 4.2.12 adds a basic framework for adding extra software packages to the router's primary flash drive or a secondary flash or hard drive. ImageStream currently has several add-on packages available for beta testing including Asterisk, Apache Web Server, Wireshark, Squid Web Cache, and Snort Intrusion Detection.

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Detailed revision history:

revision 45

date: 2010/07/19  
dhcprelay: Bind to the first client IP address and use this address as the "gateway" IP reported to the server

revision 44

date: 2010/06/15  
Add daemon keepalives to quagga daemons.

revision 43

date: 2010/06/07  
Backport certain kernel support functions to allow eth\_header user chain to function under 4.2.

revision 42

date: 2010/05/25  
Add support for the Envoy.

revision 41

date: 2010/04/13  
Add new policy-based QoS system backported from the 4.4 series.

revision 40

date: 2010/04/09  
Quagga BGPd: Add BGP scan timer load check to avoid a condition where the workqueue is never able to be depleted due to lack of CPU time. This could occur when a BGP session was cleared or dropped at the same time as the BGP scan timer expired causing bgpd to run at 100% usage indefinitely if the router had multiple full BGP feeds.

revision 39

date: 2010/02/26  
Configmgr: Fix a bug which caused RADIUS information to be ignored for Virtual Template interfaces other than the first.  
Bridging: Use 1024 bytes instead of 1900 for the command length as bash can fail at around 1890+.  
530-TEJ: Fix an Rx overflow problem that could cause a port to stop receiving data in channelized mode when the T1/E1 loses signal and comes back.

revision 38

date: 2010/02/03

Fix problems with bridges not removing IP addresses properly.

Fix shutdown problems with bridges, Ethernet, VLANs and tunnels.

- If an interface was marked as shutdown when Inetics loaded the interface could not be brought up without changing a parameter on the interface.

### revision 37

date: 2010/01/25

Fix dhcprelay crash with malformed options.

### revision 36

date: 2010/01/18

Add RADIUS login support.

### revision 35

date: 2010/01/15

Configmgr bugfix: Allow PPPoE server mode to run on bridge interfaces (bvi).

### revision 34

date: 2009/12/15

440: Revert back to previous firmware due to problems with T1 card initialization failure.

### revision 33

date: 2009/12/07

Allow multiple ip helper commands (DHCP Relay)

### revision 32

date: 2009/11/19

Fix a BGP MD5 problem with listener sockets not getting the MD5 password set.

### revision 31

date: 2009/11/06

Add Quagga 0.99.15 with many bugfixes for BGP and OSPF.

### revision 30

date: 2009/09/18

PPP: Don't initiate IPV6CP by default but respond if the other end request it.

Also clean up include files to allow compilation under 4.2

530-DE: Fix a race condition bug which caused the driver to detect a transmit

timeout when none had really occurred.

This race was much more likely to occur when a substantial amount of traffic is transmitted from a userspace thread such as OpenVPN rather than forwarded

from another card in interrupt context.

#### revision 29

date: 2009/08/31

Update Apache package from 4.4.0 to support PAM authentication.

#### revision 28

date: 2009/08/23

DHCP server: Fix a segmentation fault problem with the recent shared-network update.

#### revision 27

date: 2009/08/17

configmgr: DHCP Server: Added command option "shared-network <name>" to the "ip dhcp pool" command. In order to run multiple pools on a single interface this parameter is required to properly configure the DHCP server. All dhcp pools which will run on the same interface must specify the same shared network name parameter.

```
ip dhcp pool <pool_ID> [ shared-network <name> ]
```

Example: ip dhcp pool 0 shared-network OnEthernet1

[http://wiki.imagestream.com/wiki/DHCP\\_Server#Multiple\\_DHCP\\_pools\\_on\\_a\\_single\\_interface](http://wiki.imagestream.com/wiki/DHCP_Server#Multiple_DHCP_pools_on_a_single_interface)

#### revision 26

date: 2009/07/28

POS/OC3: Fix a problem with the Rx path when more than one card is present.

Kernel: Fix a problem with USB EHCI handoff for the upcoming Gateway Express SBC.

#### revision 25

date: 2009/07/26

dhcp server: Allow multiple subnets per interface via automatic shared network support for subnets on the same interface.

#### revision 24

date: 2009/07/10

1104-03 Revert driver for OC3 card back to the pre-OC12 merge and create completely separate main driver code for the OC3 and OC12 cards. This is a temporary fix for transmit timeout problems with the OC3 card with the new main driver which has OC12 support.

#### revision 23

date: 2009/07/02

Add snmpset utility.

#### revision 22



date: 2009/06/12  
Add IPTraf and IFTop traffic viewing utilities to stats.

#### revision 21

date: 2009/06/10  
Fix image-based updates on routers that do not boot from /dev/hda.

#### revision 20

date: 2009/05/22  
OpenSSH: Update to 5.2p1  
OpenSSL: Update to 0.9.8k

#### revision 19

date: 2009/05/01  
Quagga; Fixed a bug with BGP which could cause an assertion failure crash if a 32-bit ASN larger than 100,000 was received.

#### revision 18

date: 2009/04/29  
ATM: Fix a problem with autoppp not re-enabling LLC/SNAP headers after switching from PPPoA without SNAP to PPPoE with SNAP.

#### revision 17

date: 2009/04/23  
Added pcnet32 net driver and BusLogic SCSI driver for VMs.

#### revision 16

date: 2009/02/23  
Change Apache defaults to user/group webmaster/webmaster for Apache 2.2.8.

#### revision 15

date: 2009/02/06  
440: Fix E1 unstructured mode -- wasn't working.

#### revision 14

date: 2009/02/04  
530-DE: The hardware reset routine is now called from tasklet which allows it to be called from the poll routine's stuck transmit queue detection.

#### revision 13

date: 2009/01/22  
Raise the minimum flash drive requirement to 64 MB. The base software packages will exceed the available space on certain 32 MB flash drives.

## revision 12

date: 2009/01/19

530-DE: Add simple check to xmit routine to be sure we're not overwriting the chip's current tx descriptor. Add hardware reset routine to allow the Inetics watchdog timer to reset the port.

440: Firmware fixes from Andrew.

## revision 11

date: 2009/01/17

Add frox ftp file caching support to squid.

## revision 10

date: 2009/01/16

USB: Backport 2.6's Workaround for flaky usb devices for compatability with particular USB 1.0 devices.

## revision 9

date: 2009/01/15

Addon packages: fix a menuEngine path problem in the init scripts caused by moving the addons to their own menu directory.

## revision 8

date: 2009/01/09

1004-03: Fix a problem with the driver not being loaded correctly (bzip vs gzip) and re-enable the hardware watchdog for the OC3 card which had been disabled in the OC12 driver.

## revision 7

date: 2008/12/30

dhcprelay: fix a memory leak when adding agent/circuit id options.

kernel: fix for dev\_get\_by\_name calls to replace the passed in name with the actual device name so programs doing an SIOCGIFADDR ioctl will get the address for Ethernet0 properly.

## revision 6

date: 2008/12/29

Fix adsl stop script so it properly terminates the adsl-connect script.

MRRU now set to 1524 instead of 1500 to properly handle multilink on a single link.

## revision 5

date: 2008/12/10

Fix ADSL routes so they are added to the correct config files. Also set mrru to 1500 when using multilink with ADSL.

MLPPP: Return 0 instead of 1 from mlppp\_xmit() if we fail to transmit on a slave to avoid double-freeing the skb.

**revision 4**

date: 2008/12/09

RADIUS: Fix NULL pointer dereference if no gateway is sent for the Framed-Route option.

**revision 3**

date: 2008/12/08

ATM: Fix encapsulation aal5autoppp so that it will properly sense frames without SNAP headers. Previously we required SNAP headers to autosense. Now we also switch our transmit mode between SNAP and MUX PPP to match the frames being received.

**revision 2**

date: 2008/12/05

Fix menus for addon packages. Moved them to a separate add-on package menu as well. Some packages like wireshark and asterisk had the wrong .menuTitles which were copied from the Web administration package.

**revision 1**

date: 2008/11/26

Start of 4.2.12 from 4.2.12-pre-31

**Revision history from 4.2.12-pre:****revision 31**

date: 2008/11/26

Added quagga 0.99.10 with bgp md5 working.

**revision 30**

date: 2008/11/24

Added RealTek 8168 10/100/1000 Ethernet support for the Gateway.

**revision 29**

date: 2008/11/12

440: Added a global 5 second delay in sand\_probe() for old firmware after wait\_cnt is decremented to 0.

**revision 28**

date: 2008/11/10

440: Update to June 30 drivers which fixes a stuck transmitter bug and an initialization problem on cards with older firmware.

**revision 27**

date: 2008/10/30

Added an updated forcedeth.o (Nvidia Nforce) ethernet module for the GE1000.

**revision 25**

date: 2008/10/29  
Recompile sand release 66.

**revision 24**

date: 2008/10/20  
Add support for multiple pppoe adsl sessions - one per interface now.

**revision 23**

date: 2008/09/22  
Added base add-on package/config scripts for snort.

**revision 22**

date: 2008/08/04  
Install latest vconfig recompiled without c++ dependancy.  
Install current libstdc++ library from gcc 3.3.4 required by Squid, Snort and our upcoming configmgr.

**revision 21**

date: 2008/07/22  
Fix an openvpn server mode script logic bug that logged the username of authentication requests to a temporary file even when debugging was disabled (default).

**revision 19**

date: 2008/07/03  
Added Asterisk support (version 1.4.21.1).

**revision 17**

date: 2008/06/19  
Added 440 driver with more statistics available from 440ctl.

**revision 16**

date: 2008/06/13  
Added new 440 reset code.

**revision 15**

date: 2008/06/06  
Fix Bonder reload problem. It wouldn't change the ARPHRD device type on reload because the interface needed to be ifconfig'd down first.

**revision 14**

date: 2008/06/04  
Add split horizon bridging support. Add latest tcpdump version 3.9.5 and gulp

for high-speed packet capture.

### revision 13

date: 2008/06/03

Add Intel IDE chipset support and DMA support for generic IDE drivers.

### revision 12

date: 2008/05/28

Modify linuxrc to support hdb, hdc, hdd, hde, hdf, hdg, hgh.

### revision 11

date: 2008/05/14

Add ext3 support for addon packages.

### revision 10

date: 2008/04/22

dhcp-relay is now tracked by the configmgr persistent run command api to restart the daemon if it dies.

### revision 8

date: 2008/04/16

Fixed a NULL pointer dereference in the new dhcp server ip exclude code.

### revision 7

date: 2008/03/17

Remove extra powercode packages.

Opencalea: Add syslog debugging to tap and lea\_collection. Add statistics file to both programs as well. tap is in /tmp/tap\_%d.status (pid) and lea\_collection is /tmp/collector\_%d.status (pid).

### revision 6

date: 2008/03/14

Fix ADSL ip address dhcp problem - wasn't working!

### revision 5

date: 2008/03/12

Added DHCP server fix from 4.2.12-pre.

### revision 1

date: 2008/03/11

First release of 4.2.12-pre from 4.2.11-53

