



**IndustrialPro™ Routers (SN and RAM Series)
EnterprisePro™ IP/V Routers (A/M/R D-Series)
Wireless Modems**

Release Notes
Through Version 3.14 / 4.14

July 2013

IndustrialPro™ Routers (SN Series)

Release Notes

CHANGE HISTORY

| Version | Date | Description |
|---------|-------------------|----------------------------|
| 3.14 | July 2, 2012 | Release 3.14 |
| 3.13 | December 20, 2012 | Release 3.13 |
| 3.12 | October 16, 2012 | Release 3.12 |
| 3.11 | June 22, 2012 | Release 3.11 |
| 3.10 | January 13, 2012 | Release 3.10 |
| 3.09 | June 24, 2011 | Release 3.09 |
| 3.08 | March 16, 2011 | Release 3.08 |
| 3.07 | January 11, 2011 | Release 3.07 |
| 3.06 | October 12, 2010 | Release 3.06 |
| 3.05 | October 5, 2010 | Release 3.05 |
| 3.04 | May 8, 2010 | Release 3.04 – Pre Release |
| | | |

Note: Version 4.xx image filenames contain “g25” and are intended for LTE units only. Please refer to the Reflashing Guide for additional information.

| Version | Date | Description |
|---------|-------------------|---------------------------------|
| 4.14 | July 2, 2013 | SN/RAM Release 4.14 – LTE / G25 |
| 4.13 | January 3, 2013 | SN/RAM Release 4.13 – LTE / G25 |
| 4.01 | November 30, 2012 | SN/RAM Release 4.01 – LTE / G25 |
| 4.00 | October 22, 2012 | SN/RAM Release 4.00 – LTE / G25 |



Sixnet, LLC Corporate Headquarters
331 Ushers Road, Ballston Lake, NY 12019

CONNECT. MONITOR. CONTROL.
T +1 518 877 5173 F +1 518 877 8346

IndustrialPro™ Routers (SN Series)

Release Notes

Sixnet Wireless Firmware Release 3.14 / 4.14

- Release Date: 07/02/2013

New Features

- Analog In functions enabled for SN-67xx units.
- RAM units will not reboot for cellular subsystem restarts. This is now isolated.

Enhancements

- Additional chipset statistics available in cardstats display.
- Automation functions highlighted in separate menu.
- Updates to USB Reset procedure on R3000 family products.
- PPP Dial-on-Demand (DoD) noted in main status screen.

Bug Fixes

- DNP3 auto restart improvements.
- Modbus I/O Transfer default mode changed to Wait4Reply instead of RapidFire.
- SN-67xx model serial port errors resolved.
- SplitLan mode stability improvements for RAM-6621 and 6821
- SNMP response fixed for network info on NAT IP ranges.
- Non-specific NAT/MASQ entries will use no IP rather than 0.0.0.0 for source IP ranges. This will create dynamic rules, rather than static rules for Firewall Masquerading.
- PPPoE MTU fixed to follow changeable Ethernet MTU.
- JBM XML Lib fully updated for current features.
- GatherConfigs now includes the openvpn directory.



Sixnet, LLC Corporate Headquarters
331 Ushers Road, Ballston Lake, NY 12019

CONNECT. MONITOR. CONTROL.
T +1 518 877 5173 F +1 518 877 8346

IndustrialPro™ Routers (SN Series)

Release Notes

Sixnet Wireless Firmware Release 3.13 / 4.13

- Release Date: 12/20/2012

New Features

- RAM Models: DNP3 Slave Support Added
- RAM Models: Firewall linkage to DNP3 listening socket added.
- RAM Models: New Digital Input counter option.

Enhancements

- RAM Models: Test I/O Screens updated with better column readability.
- Full SNMP MIB-II added for SN/RAM, updating limited MIB-II
- ECIO fields added for 67xx models, Verizon LTE (E362)
- Module temperature reporting added to cardstats values
- Reflashing method now scans for new NAND bad blocks before updating firmware.
- SixView Manager client now exchanges Unit XML Config file with SVM v2.2
- Boot time improved. Now 13% faster.

Aircard/RF Module Support

- MC7700 Support for Bell Mobility, AT&T, and Rogers

Bugfixes

- SNProxy - Fix for custom user generation.
- SNMP will no longer rewrite private IP octets, stalling snmpwalk operations in IPT mode.
- Restores udev boot speed improvements when reflashing from older versions and saving configs.
- 68xx-HSPA models reported 2G signal strength when in 3G service. Proper RSSI now reported.
- SerialIP UDP Broadcaster fix - return path IP could change based on sequence of recv packets.



Sixnet, LLC Corporate Headquarters
331 Ushers Road, Ballston Lake, NY 12019

CONNECT. MONITOR. CONTROL.
T +1 518 877 5173 F +1 518 877 8346

IndustrialPro™ Routers (SN Series)

Release Notes

Sixnet Wireless Firmware Release 3.12

- Release Date: 10/16/2012

New Features

- RAM Models: WAN/LAN division on 6x21 models allow wired/cell WAN fail-over
- RAM Models: Test I/O Screens for monitoring and updating internal register variables.
- RAM Models: New Digital Input counter option.
- New model RAM-6021 supported for wired WAN/LAN routing and firewall.
- New firewall option: Ranged NAT 1-1 to provide large scale network remapping
- Multicast Routing supported with Expert mode options for mrouted, pimd, igmpoxy, and smcroute.
- SMS interface available for SDK applications (All models except 6400 series)
- SNProxy - webserver proxy to provide optimized HTTPS encapsulation to HTTP devices protected behind the firewall.
- Firewall FTP deep packet inspection available to dynamically coordinate a protected FTP Server.

Enhancements

- Improved GUI Speed with 10-50% improvements for most screens.
- Improved boot time speed for SN/RAM models.
- Improved Cellular statistics available with connected carrier PLMN ID (HSPA).
- DHCP Server Leases view to observe client's connected.
- DHCP Server MAC address fixed association now supported.
- Updated Zebra Advanced routing utilities to latest Quagga version 0.99.21
- Added Contrack table display
- SNMP fields added for LTE Cellular options.

Aircard/RF Module Support

- MC8705 Support available for HSPA+ modules

Bugfixes

- Hardware flow control added to SerialIP options.
- Custom firewall rules appear immediately after a reflashing first bootup.
- RAM6K: HWIO Control for onboard Digital Out (DO) fixed.
- Fixed IPSec Server mode, when setup without Peer IDs would not match PSK.
- Fixed R3120 Wifi Open Network mode (no encryption option).
- Deleting a firewall ACL Whitelist while still assigned will revert to the default ACL.
- Improved handling of internal module detection, if USB host is out of sync at boot time.



Sixnet, LLC Corporate Headquarters
331 Ushers Road, Ballston Lake, NY 12019

CONNECT. MONITOR. CONTROL.
T +1 518 877 5173 F +1 518 877 8346

IndustrialPro™ Routers (SN Series)

Release Notes

Sixnet Wireless Firmware Release 3.11

- Release Date: 6/22/2012

Release Summary

- I/O ports integrated for RAM usage with Modbus and SDK (BT-6000)
- DHCP Relay capabilities added
- GRE Tunnel limit now 99
- DVR Capture code (TransSniff) integrated into GUI
- Serial IP now has UDP Broadcaster (Multi-Unicast).
- Added PMTU control and MTU settings per interface.
- Added detailed switch status information (BT-6x21)
- Modbus I/O Transfer update interval maximum increased to 9999 seconds.
- DHCP Server can target specific IPs to specific MAC Addresses
- Default SVM Client check-in interval 6hrs, and error retry at 4hrs.
- SDK Interface and methods improved

Aircard Support

- Verizon LTE 4G, Novatel USB551L (Improved)
- T-Mobile ZTE Rocket 4G
- AT&T LTE - Momentum 4G (Sierra 313U)
- Bell LTE - Turbo Stick 4G (Ovation U679)
- Rogers LTE - Rocket Stick 4G (Sierra 330U)
- Telus LTE - Ovation MC679 4G

Bugfixes

- SN/RAM-68xx, Driver upgrade. Improves occasional small packet loss.
- R3000 would occasionally fail to start reflashing. ROM detection more reliable.
- SerialIP (gwlnx) UDP Header bug fixed.
- SerialIP display of IP/Ports corrected for "2Way" mode.
- OpenVPN clears connection tracking correctly
- Fixed - Certificate Manager could lose SSL certs when upgrading firmware.
- Fixed - RAM-6000 could corrupt firewall when upgrading from 3.09 to 3.10.
- Cellular CURRENT_RSSI reported uniformly across additional aircards for SNMP reporting.
- Fixed - Modbus Remote Stations did not display correctly over 8 entries.
- Fixed - Modbus serial port usage could collide with SerialIP usage of same port.
- Fixed - VRRP Interval parameter now setup properly.
- Improved browser display of Cellular Provisioning pages.
- Fixed - %any usage in IPsec PSK for VPN Server mode.



Sixnet, LLC Corporate Headquarters
331 Ushers Road, Ballston Lake, NY 12019

CONNECT. MONITOR. CONTROL.
T +1 518 877 5173 F +1 518 877 8346

IndustrialPro™ Routers (SN Series)

Release Notes

Sixnet Wireless Firmware Release 3.10

- Release Date: 1/13/2012

Release Summary

- Openssh 5.9p1 security update
- Improved GUI load times
- Improved Config Import performance and operation
- Improved Firewall loading and applying performance
- DHCP Lease status available in Expert Mode
- Ping Alive supports multiple hosts in Expert Mode
- Expanded GRE tunnel support to 99 tunnels
- Added support for MC5728 EVDO modules, Verizon and Sprint
- Improved handling of SIM unlock PINs
- Added DHCP-Relay capabilities
- Added support for embedded Novatel LTE E362 Verizon module

Modbus

- Integrated Modbus listening port into firewall options
- Improved Register address display in IO Transfers
- Fixed wrong labels for Discrete Input and Discrete Output
- Default Send Mode for RS232 is now Wait4Reply
- RS232 Mode fixed and uses LED correctly
- Improved expert mode handling of .xml files

Serial IP

- GUI support for integrated configuration of all options
- Full serial port support for 2-wire to full RS-232 signaling
- Optional AT Command interpretation for Modem Emulation
- AT Commands support "dialing" an IP address/port
- Supports fixed size packets of serial data stream to IP packets
- Network connections support TCP and UDP
- TCP Server and Client modes supported
- Broadcasting supported to multiple network endpoints (TCP and UDP)
- Multi-mode support for simultaneous TCP Server and Client

Aircard Support for:

- Verizon LTE 4G, Novatel USB551L
- T-Mobile, Jet 2.0 (Huawei E182E)
- Generic HSPA/Claro, ZTE MF626
- Generic HSPA, Nokia CS-18



Sixnet, LLC Corporate Headquarters
331 Ushers Road, Ballston Lake, NY 12019

CONNECT. MONITOR. CONTROL.
T +1 518 877 5173 F +1 518 877 8346

IndustrialPro™ Routers (SN Series)

Release Notes

- Generic HSPA, Sierra Wireless 310U, 312U and 320U

Bugfixes ¶

- Upgraded DHCP Client for SN/RAM functionality
- CLI User for Modbus fixed after upgrading firmware
- Fixed sporadic blank page in Sprint Provisioning page
- Fixed firewall duplicate whitelist entries
- Fixed firewall handling of ICMP packets on IPSec interfaces
- Fixed early reboot with misconfigured SIM settings
- Fixed RS232 front panel LED display when UART in use
- Fixed IPSec Aggressive mode
- Fixed allowing longer passwords for user accounts
- Added reset of conntrack tables on OpenVPN connection start/stop
- Fixed SIM usage for newer SIMs on SN/RAM-64xx series
- Changed USB Network mode to disable default gateway



Sixnet, LLC Corporate Headquarters
331 Ushers Road, Ballston Lake, NY 12019

CONNECT. MONITOR. CONTROL.
T +1 518 877 5173 F +1 518 877 8346

IndustrialPro™ Routers (SN Series)

Release Notes

Sixnet Wireless Firmware Release 3.09

- Release Date: 6/24/2011

Release Summary

- Added support for ModBus protocol (RAM edition only)
 - Added IO DB kernel module for storage of register information (Industrial Pro Plus Only)
 - Added Command Line Interface for ModBus Configuration (Industrial Pro Plus Only)
 - Added Base Station ID and GPS Lat/Long coordinates to Sixview Manager Check-In information
 - Added Support for SN/BT units push button reset to factory default, if held for 3 sec. on power-up.
 - Added leftsourceip option to IPsec tunnels.
 - Updated contact information on Web Interface
 - Updated OpenSSL Libraries to latest version 0.9.8r
 - Optimized Web Interface to decrease GUI page load times
 - Lightbar v1.45 - fix for Wireless DoD mode (double strobe)
 - Added integration between gwlnx protocol converter and GUI engine to improve screen load times.
 - Updated Status screen display for IP Transparency mode
 - Added Private IP option to IP Transparency mode to pass more local addresses to the world.
 - Added vsftp to expert mode
 - Added ntpd to expert mode
 - Updated OpenVPN to v2.1.4
 - Changed default SixViewManager ports from 48080 to 18080
 - Changed default SixViewManager servers to server1.sixviewmanager.com/server2.sixviewmanager.com
 - Added Status screen display of wireless/cellular uptime.
-
- Detection Support for the Vodafone/Huawei K4505 GSM cellular modem

Bugfixes

- Corrected IPSEC configuration of "Road Warrior Mode" to function properly when Remote IP address is empty/unknown
- Fixed firewall parsing of Filter Rules section to allow multiple filters on a interface pair.
- Fixed firewall General Setting IPsec Allow option to allow IPsec interfaces to be untrusted/external interfaces.
- Fixed firewall IPsec option to allow Filter Rules to restrict traffic on internal IPsec connections.
- Fixed OOB raw mode to ignore all combinations with ~ chars during TCP mode.
- System Startup date will be Jan 1, 2011 if clock is before 2011.



Sixnet, LLC Corporate Headquarters
331 Ushers Road, Ballston Lake, NY 12019

CONNECT. MONITOR. CONTROL.
T +1 518 877 5173 F +1 518 877 8346

IndustrialPro™ Routers (SN Series)

Release Notes

Sixnet Wireless Firmware Release 3.08

- Release Date: 3/16/2011

Release Summary

- Added robust connectivity handling for SixView Manager client
- Added user-level support for rewriting U-Boot environmental variables
- Additional SNMP variables for GSM carriers
- Optimized cron to handle date changes
- Added SNTP server support
- Added VSFTP for SDK use
- Updated DNS to allow more than one search host
- Added support for Sierra MC5725 provisioning
- Added support for Bell Mobility MC5727/MC5728 provisioning
- Added support for Cellcom MC5728 provisioning
- Added VRRP Status file for runtime statistics
- Added support for Cellular Roaming control from GAU
- Added GSM Provisioning capability to GAU, displays additional information
- Optimized support for Remote Reflashing for all models

- Added support for new aircards
 - AT&T USBConnect Shockwave HSPA+ USB modem
 - Verizon Pantech UML290 4G LTE USB modem (beta)

Bugfixes

- OpenSwan Ipsec Nat-T loop bug
- IPtrans's DHCPD fails when DHCPD already running
- IPSEC routes get out of order when default interface is reconfigured
- Fix jbmupdate gatherconfigs import behavior
- Modify PowerDownCellModem.pl to not kill all pppd processes
- IPIP tunnel page bugs
- Repaired GAU Menu option to include USB Port network configuration



Sixnet, LLC Corporate Headquarters
331 Ushers Road, Ballston Lake, NY 12019

CONNECT. MONITOR. CONTROL.
T +1 518 877 5173 F +1 518 877 8346

IndustrialPro™ Routers (SN Series)

Release Notes

Sixnet Wireless Firmware Release 3.07

- Release Date: 1/11/2011

Release Summary

- Support for SN/BT-64xx models
- Improved support and help info for flashing low memory (32Meg BT) units, particularly through the GUI
- New modems supported:
 - Franklin U600
 - Improved ZTE MF668 support
 - Cinterion MC75
- IPsec VPN Server mode support
- IPsec VPN X.509 Certificate support
- SIM PIN Unlock support
- GSM/HSPA International RF Band selection
- IP Transparency Router Mode - Provides advanced routing features while presenting simple configuration for connected devices
- Additional Sixnet rebranding changes
- Ping Alive - Supports new options for connection testing

Bugfixes

- Fixed various GUI reflashing problems with low memory units
- rxidle value changed back to 150 from 0 in previous release
- DNSMasq updated to latest version which solves some DNS resolution problems
- CDC/ACM detection error solved which was preventing the device from recognizing certain modems on boot up
- VRRP Screen - handle multiple VRRP instances much better
- Network Interface VLAN settings simplified and streamlined



Sixnet, LLC Corporate Headquarters
331 Ushers Road, Ballston Lake, NY 12019

CONNECT. MONITOR. CONTROL.
T +1 518 877 5173 F +1 518 877 8346

IndustrialPro™ Routers (SN Series)

Release Notes

Sixnet Wireless Firmware Release 3.06

- Release Date: 10/12/2010

Release Summary

- Improved support and help info for flashing low memory (32Meg BT) units, particularly through the GUI
- Improved support for preserving unit configuration across reflashing
- Improved provisioning support:
 - Added SIP option for Sprint and Verizon, required for Sprint LAC/LNS support.
 - Provisioning screen now updates page with progress of provisioning process and module status
 - Added Sprint datalink provisioning support for 250U (3G mode only).

Bugfixes

- Fixed GUI reflashing problems with v3.05
- Fixed GUI Display issue for Verizon provisioning screen
- This release replaces v3.05



Sixnet, LLC Corporate Headquarters
331 Ushers Road, Ballston Lake, NY 12019

CONNECT. MONITOR. CONTROL.
T +1 518 877 5173 F +1 518 877 8346

IndustrialPro™ Routers (SN Series)

Release Notes

Sixnet Wireless Firmware Release 3.05

- Release Date: 10/05/2010

Release Summary

- New aircards/modules supported:
 - Sierra USB 308
 - Sierra Aircard 503
- Sierra 250U (3G support only)
 - ZTE MF668
 - ZTE K3805-Z
 - Option GlobeTrotter HSUPA
 - Option ICON 542
 - LG USB Connect Turbo
 - Pantech UMW190
 - <http://sixnet.com/content/aircard-86.cfm> for a complete list
- OpenSSL updated to version 0.9.8o, which fixes multiple security issues in previous versions
- Significantly improved bootup times due to modification to hotplug
- Smaller firmware image size
 - Removed DHCP Relay.
- Support for PRL information in SixView Manager client updates
- Support for restoring a device configuration after a firmware update
- Supports firmware updates through SixView Manager
- New "Router Mode" option for IP transparency
 - Will route traffic to the cellular network, bypassing NAT/PAT.
 - Used with SIP mode for Sprint LAC/LNS
- Support for many VRRP instances (up to 10)
- IPsec now supports X.509 certificate
- VLAN configuration supported through GUI interface
- Default RxIdle changed to 0 to disable feature by default
- TCP Socket test added to Status options screen (uses telnet to probe remote ports)

Bugfixes

- Firewall configuration for Filter Rules fixed
- Connection Tracking bug found with gianfar ethernet driver on D-Series
- IP Fallback improvements to prevent leaking packets after switching interfaces.



Sixnet, LLC Corporate Headquarters
331 Ushers Road, Ballston Lake, NY 12019

CONNECT. MONITOR. CONTROL.
T +1 518 877 5173 F +1 518 877 8346

IndustrialPro™ Routers (SN Series)

Release Notes

Sixnet Wireless Firmware Release 3.04

- Release Date: 7/19/2010

Release Summary

- New aircards/modules supported:
 - o Sierra 888 Compass GSM
 - o Sierra MC5725 embedded EVDO module
 - o Sierra USB 306 (Telus)
 - o Sierra USB 305 Lightning
 - o Huawei USB E182 GSM
 - o Huawei USB E168C CDMA
 - o C-motech (Franklin Wireless) Sprint U301 (3G mode only)
- Greatly improved support for VLAN configurations
- Adds serial TTY support for SN (BlueTree) models
- Adds firewall whitelisting support
- Adds support for Wifi models
- Adds support for USB ethernet device to SN (BlueTree) models
- Adds support for restoring device configuration after firmware upgrade
- Adds support for D005 4-port RS232 daughtercard
- Adds new "routing mode" option to IP transparency
- Adds SIP support for Sierra Sprint Aircards - Sprint LAC/LNS support
- Adds support for running multiple instances of VRRPd
- Adds support for user access controls in the GAU
- Adds ECIO value reporting for Novatel modems
- GAU interface rebranded with Sixnet colors and logos

Bugfixes

- Fixed OpenSWAN bug: "waiting for ppp0 to become free. Usage count = -1"
- Fixed firewall redirect rules for local redirect
- Fixed GAU bug preventing entry of illegal XML characters (in password fields).



Sixnet, LLC Corporate Headquarters
331 Ushers Road, Ballston Lake, NY 12019

CONNECT. MONITOR. CONTROL.
T +1 518 877 5173 F +1 518 877 8346