

## Series 4 JANOS Operating System Release Notes

Updated as of Monday, February 03, 2020

### February 3, 2020 – Released 1.9

#### Benefits

- Updated JANOS operating system

#### New Features/Changes/Fixes

- Added support for Reverse LLMNR allowing network scanners to label IP addresses with hostnames
- Adjusted the release of socket data to reduce the chances that a message might be split across separate TCP packets
- Corrected Sockets race condition that caused occasional reception delays and blocking
- Fixed the incorrect signed display of large input counter values in JRMON and JMP Protocol
- Adds a BEACON announcement in the event of an IP conflict
- Improved NONCE management eliminating possible issues in the presence of port scanners
- Eliminated chance of buffer overrun during in FTP transfer
- Beacon REBOOT now works in all cases
- Eliminated potential difficulty in obtaining network capture file

### June 17, 2019 – Released 1.8

#### Benefits

- JMP Protocol implemented. Used by Q-Sys Core.

#### All-In-One Update Project Changes (Loads OS and all software on Series 4)

- Updated Serial to Ethernet application to 6.0

#### New Features/Changes/Fixes

- Implements the JANOS Management Protocol JMP
- Adds "Block" command to JSON interfaces
- Web Server limits the effects of extremely slow connections

### December 3, 2018 – Released 1.7.1

#### Benefits

- Updated JANOS operating system, Modbus application and Slaving application.

## All-In-One Update Project Changes (Loads OS and all software on Series 4)

- Updated Modbus application to version 1.7 to fix an issue with network packet formation.
- Updated Slaving application to version 1.5 and Slaving web page to allow the user to configure the state of the 'slaved relay' if the communications fail – Hold Last State or Relay On or Relay Off. This typically applies to a relay slaved to a different JNIOR so there is an external communications link.

## New Features/Changes/Fixes

- A Watchdog no longer causes reboot from foreground execution
- REGEX Alternation '|' has been corrected to properly work in Group
- Corrected NULL Pointer write issue when a Group which employs alternation appears at the start of a REGEX expression
- Resolved message pump memory issue relating to process termination
- Expand the channel range for setOutputRelay() from 0-11 to 0-15
- Corrected network capture filtering when an IP address is to be excluded
- Supports networks using Jumbo Frames
- Eliminated assertion associated with improper use of '%n' in System.out.printf.

## October 25, 2018 – Released 1.7 – B

### Benefits

- Updated JANOS operating system, JNIOR web page, Modbus application and Serial-to-Ethernet application.

## All-In-One Update Project Changes (Loads OS and all software on Series 4)

- Updated Modbus application to version 2.6 to fix an issue with reading and controlling relays 9 - 16.
- Updated Serial-to-Ethernet application to version 5.3 so default ports could be correctly changed.
- Updated the JNIOR web page (DCP) to version 2.2 with minor fixes and enhancements.

## New Features/Changes/Fixes

- Added ability to load single CA Certificate to be supplied on TLS connection
- Support TLS Client Certificate Verification on outgoing connections
- Added legacy PKCS1 support for externally generated certificates
- Corrected array issue with processing of deferred email transmissions
- Corrected memory issue with TAB use on the Command Line

## June 21, 2018 – Released 1.6.5 - A

### Benefits

- Updated SNMP and Modbus applications

## All-In-One Update Project Changes (Loads OS and all software on Series 4)

- Updated the SNMP application to version 2.4.1.494 to fix an issue that caused the SNMP application to fail when expansion modules were not connected.
- Updated the Modbus application to version 1.5.220 so that its revision level would be displayed in an Update project opened in the JNIOR Support Tool.

### May 25, 2018 – Released 1.6.5

#### Benefits

- **NOTE: Starting with version 1.6.5 and beyond, the secure (encrypted) connections (i.e. HTTPS for the web page over port 443) have been ENABLED again.**
- Continues to enhance the INTEG JANOS operating system and JNIOR functionality.
- Updated Dynamic Control Page (DCP). The DCP is the main JNIOR web page and very helpful.

## All-In-One Update Project Changes (Loads OS and all software on Series 4)

- Updated the Dynamic Control Page (DCP) which is the web page for the Series 4 to version 2.1. Fixed a few bugs and added a few minor new features. Corrected the slider and configuration functionality for the 3 Channel LED Dimmer modules.
- Updated the SNMP application to version 2.4 to fix a memory leak.

#### New Features/Changes/Fixes

- Corrected FTP listing issue created by the v1.6.4 release
- Corrected getRegistryList method memory leak
- Corrected 412DMX light *Flickering*
- Corrected 412DMX NAND Flash processing issue
- Corrected FTP transfer restart issue

### March 29, 2018 – Released 1.6.4

#### Benefits

- **NOTE: Starting with version 1.6.3 and beyond, the secure (encrypted) connections (i.e. HTTPS for the web page over port 443) has been disabled. Please contact INTEG if you were using this feature BEFORE you update.**
- **NOTE: Starting with version 1.6.3 and beyond, the Beacon functionality to set the JNIOR IP address and hostname via the JNIOR Support Tool now uses a login. Support Tool version 7.3 handles the login so Support Tool version 7.3 is required with JANOS version 1.6.3 and beyond.**
- Continues to enhance the INTEG JANOS operating system and JNIOR functionality.
- Updated Dynamic Control Page (DCP). The DCP is the main JNIOR web page and very helpful.

## All-In-One Update Project Changes (Loads OS and all software on Series 4)

- Updated the Dynamic Control Page (DCP) which is the new web page for the Series 4 to version 2.0.4. Fixed a few bugs and added a few minor new features. Corrected a problem where the DCP did not properly or completely reconnect when left open during a reboot.

- Updated the SNMP application to version 2.3 to handle the external temperature sensor, temperature/humidity sensor and the external analog modules.

## New Features/Changes/Fixes

- TTL is now configurable
- Prevent multiple Console sessions per Websocket connection.
- Corrected PHP processing of URL parameters whose value is blank.
- WebServer supports DEFLATE content encoding
- Corrected race condition with localhost socket connect.
- Added JNIOR Protocol logging to /protocol.log.
- Improved SDRAM stability by removing wait() instruction.
- Fixed WebServer lockout after failure to start.
- Corrected COM and AUX Parity configuration
- Corrected occasional character drop over serial channels

## January 3, 2018 – Released 1.6.3

### Benefits

- **NOTE: Starting with version 1.6.3, the secure (encrypted) connections (i.e. HTTPS for the web page over port 443) has been disabled. Please contact INTEG if you were using this feature BEFORE you update.**
- **NOTE: Starting with version 1.6.3, the Beacon functionality to set the JNIOR IP address and hostname via the JNIOR Support Tool uses a login. Support Tool version 7.3 handles the login so Support Tool version 7.3 is required with JANOS version 1.6.3 and beyond.**
- Continues to enhance the INTEG JANOS operating system and JNIOR functionality.
- Updated Dynamic Control Page (DCP). The DCP is the main JNIOR web page and very helpful.

### All-In-One Update Project Changes (Loads OS and all software on Series 4)

- Updated the Dynamic Control Page (DCP) which is the new web page for the Series 4 to version 2.0.4. Fixed a few bugs and added a few minor new features.
- Updated the Modbus Server (slave) program to version 1.5.

## New Features/Changes/Fixes

- Recognizes 412DMX configuration.
- Corrected issue with ZIP/JAR non-compressed blocks.
- Modified Websocket Reply Message so it properly indicates the message number.
- SAFE\_MODE skips App Registration in case an issue is caused by a corrupt JAR.
- Corrected TLSv1.2 Client Hello packet length.
- Added Registry key Email/SMTPTS allowing email transfer over port 465 if TRUE.
- Fixed File System GetAbsPath routine adding a necessary NULL pointer check.
- Corrected memory leak associated with ConsoleProcess (exec) usage from applications.
- Fixed memory issue in TLSv1.0 and TLSv.1.1
- Corrected GC race condition causing memory errors.
- Corrected MANIFEST folder recursion with wildcard file specification.
- Corrected date timestamp in the manifest.json database.

- Empty JSON array no longer returns with 1 null object.

## October 2, 2017 – Released 1.6.2

### Benefits

- **RECOMMENDED UPDATE FOR ALL SERIES 4 CONTROLLERS.** Continues to enhance the INTEG JANOS operating system and JNIOR functionality and makes it the most robust and secure release of JANOS to-date.
- Updated Dynamic Control Page (DCP). The DCP is the main JNIOR web page and very helpful.

### All-In-One Update Project Changes (Loads OS and all software on Series 4)

- Updated the Dynamic Control Page (DCP) which is the new web page for the Series 4 to version 2.0.3. Fixed a few bugs and added a few minor new features.
- Updated the Task Manager program to version 7.0 to allow it to work with the JNIOR Model 414 (12 inputs). The updated Task Manager web page version 4.0 is only available via the JNIOR Support Tool version 7.2 where it can be run under Tools as a standalone Java application due to the security issues around running Java in a browser.
- Updated the Modbus Server (slave) program to version 1.3.1 to fix a minor issue where it did not populate its program details in the DCP – Configuration – Applications web page.

### New Features

- Allows time zone customization and modification
- Implemented Regex support for lazy matches
- Added Mark After Break timing to the AUX serial port.
- Added application messaging to the built-in Websockets interface.
- Added 250 Kbaud serial capability.
- AUX port on the Model 410 now supports DMX512 protocol.

### Changes

- A custom Syslog server port may be specified.
- Upgraded default RSA keys to 1024-bit.

### Bug Fixes

- Corrected potential memory concern with network loopback
- Corrected potential memory concern with syslog and process termination
- Corrected Regular Expressions alternation
- Fixed issue where regex wildcard '.' no longer matches carriage returns and line feeds
- Corrected deadlock issue with downloading jniorsys.log using the DCP.
- Corrected Beacon protocol to work with remote hosts
- Corrected watchdog issue with buffer overrun on line input.
- Fixed issue in starting the WebServer after the process table has been full.
- Fixed issue where WebServer/DCP was accepting blank username as guest login.
- Corrected DCP loading issue that occurs when the JNIOR Protocol Server is disabled.
- Corrected memory management issue with TCP comms and process termination.

- Fixed an issue where a bad formatted IpConfig/Allow syntax error caused lock-up on boot

## May 17, 2017 – Released 1.6.1

### Benefits

- **RECOMMENDED UPDATE FOR ALL SERIES 4 CONTROLLERS.** Continues to enhance the INTEG JANOS operating system and JNIOR functionality and makes it the most robust and secure release of JANOS to-date.
- Updated Dynamic Control Page (DCP). The DCP is the main JNIOR web page and very helpful.

### All-In-One Update Project Changes (Loads OS and all software on Series 4)

- Updated the Dynamic Control Page (DCP) which is the new web page for the Series 4 to version 1.4.3. Fixed a few bugs and added a few minor new features.
- Updated the Task Manager program to version 5.3.3 and Task Manager web page applet to version 3.9.314.1234 to fix a variety of issues and added a new “Other” commands as an Action. This field allows you to enter and execute JNIOR telnet/commands.
- Updated the Modbus Server (slave) program to version 1.3.1 to fix a minor issue.
- Updated the Slave Service program to version 1.3.0 to automatically use default settings for the JNIOR port (9200) and username and password when ‘localhost’ is used. Localhost is used when slaving outputs to I/O on the localJNIOR and not a remote JINOR.

### New Features

- Created public WebServer area
- Added support for v3 SSL Certificates
- Supports adding SSL Alternative Name certificate extensions using SSL/Cert/SAN Registry key
- Updated TLS to eliminate the POODLE vulnerability
- TLS now supports Secure Renegotiation per RFC 5746
- Access control IpConfig/Allow expanded allowing complex filtering
- Hidden files are possible now
- Added low-level RS485 AUX port driver control

### Changes

- Extended java.util.Json class to support Enumeration
- JANOS.setInputCounter() method now updates monitor packet/message content
- More stringent Registry Key validation

### Bug Fixes

- Corrected TLS for CVE 2016-2107 to eliminate associated crash
- Addressed the possibility of a BRK assertion occurring at process creation
- Corrected occasional ERR\_INCOMPLETE\_CHUNKED\_ENCODING encountered with PHP rendering

## February 1, 2017 – Released 1.6

### Benefits

- Improved Real Time Clock (RTC) programming maintaining accurate time over longer periods.
- Enhanced Time Management tools so time can be set and checked easily in more ways.
- Programmatic access to the active IoLog with filtering providing for fast precision event reporting.
- Added Websockets support for File access and Syslog monitoring. The JNIOR can now be completely maintained through the DCP connection port eliminating the need for separate Telnet and FTP connections.
- Added NETSTAT pro-active network packet capture with filtering. The resulting capture file is compatible with Wireshark and therefore easily reviewed and analyzed.

### All-In-One Update Project Changes (Loads OS and all software on Series 4)

- Updated the Dynamic Control Page (DCP) which is the new web page for the Series 4 to version 1.3.5. Added Folders, Syslog, Peers and About tab. The Folders tab allows the user to view, delete and transfer files. The Syslog tab provides a real-time view of the jniorsys.log. Added more expansion modules and ability to edit descriptions for expansion module I/O.
- Updated the Task Manager program to version 5.3.2 and Task Manager web page applet to version 3.8.509.1134 to fix a variety of issues.
- Updated the Modbus Server (slave) program to version 1.3.0 to fix the 90 second timeout on the Modbus connection and to automatically create three configuration registry keys when the program starts – Timeout duration, Modbus login enabled – true or false, and Modbus port.
- No longer load the older JNIOR Monitor, Control, and Configuration applet. The applet is still available via the JNIOR Support Tool.

### New Features

- Added JANOS.setCtrlC() programmatic control of Ctrl-C use
- Method added to the Timebase class for setting the clock
- NTP update period is now configurable
- Registry keys added to disable Websocket Files and Console functionality
- Registry key added to disable BEACON announcements
- Wide listing option added for DIR and LS commands
- NETSTAT -U option enumerates open UDP ports
- NETSTAT -C generates packet capture file
- Added packet capture filtering and promiscuous mode
- Websocket interface supports file management
- Added SENDMAIL -S to skip text entry
- Iolog class refresh provides for timestamp filtering

### Changes

- Trimmed RTC for better accuracy
- Existing files opened with "w+" will now be empty
- Programs (and batch files) without Execute attributes now cannot be run

### Bug Fixes

- Corrected memory leak associated with syslog server reports
- Eliminated risk of command line buffer overrun
- Corrected issue impacting TLS secure connections to 2MB/4MB units

- Corrected small network memory leak
- Fixed updating Domain Name through Support Tool
- Network retries no longer block thread progress
- lolog correctly shows inputs after reboot
- Corrected PHP string comparisons using logical operators
- Corrected TCP/IP received packet order issue with connection close
- Corrected WebServer random loading delays
- Corrected memory issue associated with the enumeration of alarmed external devices
- Corrected potential buffer overrun with WebServer authorization and large URI
- Corrected PHP short-circuit handling of logical expressions
- Resolved major TLS issue that impacted system integrity
- Eliminated possible buffer overrun on username/password entry
- Corrected JNIOR Protocol memory issue with device read error

## August 11, 2016 – Released 1.5 Build 0.1

### Bug Fixes

- Corrected the buffer length issue for loading the DCP web page on small memory JNIOR Series 4 built in 2013 and 2014.

### All-In-One Update Project Changes (Loads OS and all software on Series 4)

- Released the NEW Dynamic Control web Page (DCP) that replaces the Java Applets as the main JNIOR web page for monitoring and controlling I/O and configuration. The Java Applets coming from the JNIOR no longer run in Chrome and soon Firefox and Internet Explorer due to an overall industry concern for security. The Java Applets are still loaded on the JNIOR and can be accessed by typing `JNIOR_IP_address/configure` in your browser (Internet Explorer). Or launching the standalone Java Applets from the JNIOR Support Tool using versions already loaded on the PC.

## July 20, 2016 – Released 1.5

### New Features

- Application watchdog logs additional text information
- Added PHP `unpack()` function used in extracting binary data
- Added `Math.asin`, `Math.acos`, `Math.atan`, and `Math.atan2`
- Adds `printf` formatting for applications
- Added `JANOS.getFreeFlash()`
- Enable PHP `ereg_replace`

### Changes

- Lowered priority of the scheduled Security Update
- Better handles PHP temporary values improving performance
- `ArrayUtils` will now throw `ArrayIndexOutOfBoundsException`
- Socket assigned port number if not specified
- JAR integrity check revised

### Bug Fixes

- Corrected Immutable bounds checks to prevent negative address, offset or length
- Issues with Application Watchdogs and update/reboot procedures eliminated
- Corrects PHP exit and die statement issue



- Corrected swapEndian for sign extension issues
- Corrected JAR file issues with IntelliJ and Eclipse
- Corrected guest WebServer login
- Corrected memory bug in file decompression
- Eliminated memory contention related to millisecond polling routines

## All-In-One Update Project Changes (Loads OS and all software on Series 4)

- No changes with this release. All files, except the OS, are the same as release 1.3 and 1.4

## April 7, 2016 – Released 1.4

### New Features

- Web Server supports compressed ZIP folders/libraries
- PHP now supports floatval() and doubleval()
- WebServer SSL port no longer fixed at 443
- PHP now supports the foreach statement
- Added PHP isset() and empty() variable tests
- PHP strings now support all 256 byte codes and are no longer ASCIIIZ
- PHP array initialization supports '='>' syntax
- PHP count() function supports recursion
- Added Octal and Hexadecimal character entry in PHP double-quoted strings
- Added PHP functions bin2hex() and hex2bin()
- Added PHP urldecode() function
- PHP return statement is now functional
- Implemented Latching Reset and Clearing Counters/Usage through Websockets
- ConsoleProcess class added to provide access to session streams
- Application access to console Environment added
- Jumper (between LAN and RS-232 ports) now functions as a RESET SWITCH
- You can optionally specify a username in Registry keys for user IDs
- Implemented PHP exit() and die() constructs
- The \$\_SERVER array is now available in PHP
- Added Externals/\$Devices key for tracking device presence
- Socket connection timeout can be adjusted
- TLS v1.2 is now supported including SHA2 (SHA256) signed certificates.

### Changes

- Events/Services key now disables OnAlarm and OnUsage events
- Websockets authentication remains valid after reboot

### Bug Fixes

- Corrected Email Retry Delay to use correct Registry Key Email/RetryDelay
- Corrected issue with REBOOT through HTML5 Command Console
- Eliminates SYSLOG packets when the SYSLOG server is not configured
- Corrected OnBoot notification when DHCP in use
- Corrected Registry corruption issue with name conflicts
- PHP now properly performs comparisons between doubles
- Corrected assertion issue with PHP header(), syslog() and var\_dump() statements which have void return
- Corrected DNS timeout utilization
- Corrected websocket external device read to consistently return an empty string for absent devices
- Corrected WebServer/Path use

- Corrected memory leak associated with JAR file use
- Corrected PHP getRegistryList() with node or wildcard specifications
- Corrects JNIOR Protocol issue reading Registry keys longer than 255 characters
- Corrected Beacon Reboot issue

### **All-In-One Update Project Changes (Loads OS and all software on Series 4)**

- No changes with this release. All files, except the OS, are the same as release 1.3

## **August 17, 2015 – Released 1.3**

### **New Features**

- Applications can specify minimum OS requirements
- Support for Syslog Servers
- Added Watchdog class for applications
- Added limited batch file (.BAT) functionality
- Added ECHO command
- Implemented TCP/IP Keepalive
- Added ability to recover from a corrupt Flash File System
- Console access now possible through Websocket interface
- An application can check if other instances of the application are running
- Unit registers with the local network
- Added array() construct to PHP
- Added \$LastNtpSuccess Registry functionality

### **Changes**

- Improved reliability of FTP upload in Passive Mode
- Now supports TLS v1.1
- FTP Server supports MLST and MLSD

### **Bug Fixes**

- Corrected time zone abbreviations for DST in Date class
- Corrected implementation of java.lang.Math.IEEEremainder
- Corrected IllegalMonitorStateException that occurs when creating thousands of new threads
- Fixed issue preventing assertions from setting the Attention flag
- Corrected issue that ignores the '\u0000' character formatting in JSON strings
- DATE command -N option no longer corrupts the IpConfig/NTPServer key
- Corrected missing native for JANOS.killProcess
- Corrected NTP request to be Version 4 compliant
- Corrected issue with array usage in PHP
- Corrected issue with NULL assignment in PHP

### **All-In-One Update Project Changes (Loads OS and all software on Series 4)**

- Updated the Java Applets used for the web pages to the new security requirements. Updated JNIOR configuration web page and Task Manager web page.
- Updated the Task Manager application program to fix a variety of issues.

## May 7 2015 – Released 1.2.2

### New Features

- Beacon protocol enhanced with Attention\_Required flag
- Graceful handling of corrupt/truncated JAR file

### Changes

- Adjusted JRMON counter display to handle large count values
- Reboot via JNIOR Protocol or Beacon performs coordinated process shutdown
- Unrecognized HTTP-Request no longer causes watchdog

### Bug Fixes

- Corrected entry of large (>1,000,000,000) counter setting in JRMON
- Corrected MSS issue in the TCP stack
- Corrected cache locking issue with renaming files in flash
- Corrected edit access to '\$' Registry keys

### All-In-One Update Project Changes (Loads OS and all software on Series 4)

- Updated SNMP Application to fix multiple issues
- Updated Configuration web page (Java applets) to handle LED Dimmer Module in External I/O tab, corrected handling of SNMP enabling, and added enhancements to JNIOR e-mail configuration on Configuration/Misc tab

## April 6 2015 – Released 1.2.1

### Changes

- Reboot through JNIOR Protocol now closes connections and applications
- Input counters set using raw (not scaled) counts

### Bug Fixes

- Corrected TCP retransmission algorithm
- Corrected IP checksum error in delayed carry recursion
- Bug corrected in text to floating-point interpretation

## April 2 2015 – Released 1.2

### New Features

- FTP Server OPTS command implemented
- Implement Regex Registry search to the REGISTRY command
- Added assertion text for message pump related dump
- Implement setIn(), setOut() and setErr() in java.lang.System class
- Issues RST packets on attempts to communicate with non-existent connections
- Vector and Hashtable classes support generic typing

- Support enum enumerations
- Implemented input counter multiplier

## Changes

- Eliminate potential network deadlock on connect
- Generate Registry INI file content in alphabetical order
- `com.integpg.system.Immutable.exists()` no longer throws unwanted `IOException`
- Java application source level restrictions have been lifted. Was 1.4
- Adjusted Telnet options for compatibility with Series 3
- Adjusted TCP Retransmit Timer algorithm per RFC 6298
- Monitor packet sent when counter set via JRMON

## Bug Fixes

- Some connections were not being gracefully closed on reboot
- Correct serial port read timeout issue
- Removes residual `/temp` folder content on old 2MB/4MB units
- Releases residual LISTENER sockets after application termination
- Corrected potential memory corruption in `java.lang.Object.clone()`
- Correct issue with `lastIndexOf(int)` with substrings
- `JANOS.getInputCounter()` returns counters for Model 414 channels 9-12
- `JANOS.setInputCounter()` handles 414 extended channels
- Eliminate potential deadlock on IO interrupt
- Corrected issue where processor would run at 100% if telnet connection was dropped while client was at the registry command prompt
- Corrected REBOOT command trying to terminate non-existent processes
- Fixed Web Server blocking issue
- Corrected reboot procedure used by JNIOR Protocol

## January 29 2015 – Released 1.1

### Critical

- There was a critical memory bug fix to the JNIOR protocol server. All customers that use the JNIOR Protocol are advised to upgrade to this version.

### New Features

- Add Device/TimeZone Registry key
- Implemented command line escape character `\`
- Allows KILL by program name
- Adds `-R` option to CERTMGR to reset credentials to factory default

### Changes

- Object serialization in Java no longer supported
- Backslash `\` path separator no longer supported

### Bug Fixes

- Correct below freezing Type 28 temperature sensor readings
- Fix JNIOR Protocol device enumeration issue that occurs with 4 or more modules
- Corrects Protocol Server memory corruption on reconnect
- Counter change now forces Websocket Update

## January 8 2015 – Released 1.0.7

### Moderate

- There was bug fix to the FTP server where it would not work well OS X, UNIX, LINUX, Android and IOS clients. All customers that use clients on these platforms to FTP files are encouraged to upgrade to this version.

### New Features

- implemented FTP SITE command for DIRSTYLE
- added the Registry Key FTP/UnixStyle to configure the default system style

### Changes

- reports DIN 9-12 in JNIOR Protocol external/extended monitor packet
- improved assertion macros to provide textual descriptions

### Bug Fixes

- corrected FTP SYST command to report the proper system style
- corrected FileInputStream.available() to include pending buffer data
- Beacon reports actual JNIOR Protocol port when it is changed from default
- corrects I/O configuration issues with 412 and 414. Fixes Inversion of din4 for the 412.

## November 24 2014 – Released 1.0.6

### Critical

- There was a critical fix to the statuses of outputs 9 – 12 on the 412. All customers using the JNIOR model 412 are advised to upgrade to this version.

### New Features

- Added Type F9 LED Dimmer Module to read/write device block library
- native socketRead() throws IOException if socket closes
- implements the model 414
- JSON string escapement implemented
- Websocket Monitor message includes alarms ONLY when alarm triggered
- Websocket Monitor message includes a Model string
- implemented Websocket access for external devices
- Websocket Meta data carried in Requests and Responses
- Added Registry reset operation for use in sanitizing
- Added EGREP command with GREP and FIND aliases
- Regular Expression classes have been added to the Java Library and PHP

### Changes

- application assertions are emphasized in the log
- eliminated extra Registry message when a key is removed
- increased maximum message pump queue count to 200
- sends monitor packet when input counters reset by application
- improves handling of model differences for the 410, 412 and 414

- iolog transition flags now an option
- Security Update delayed until 8 hours after boot

## Bug Fixes

- corrected Registry restore allowing the full set of valid characters
- corrected ROUT9 thru ROUT12 status issues on the 412
- resolved issue with an assertion within a critical section
- corrects JVM issue with loading large class files
- Correct potential memory issue with the external device array
- JanosClasses.jar is now consistent no longer containing reference issues
- corrected issue with pulsed external relay mask
- corrected reporting of external 4ROUT pulsing in the iolog

## September 22 2014 – Released 1.0.5

### New Features

- Implemented legacy *sendMail()* method which appears now in the **JANOS** class
- added serial port notification handling

### Changes

- changed *getChar()* blocking to wait-notify to eliminate 100% CPU indication

### Bug Fixes

- corrected *send()* and *reset()* method names in MailComposer class to conform to standards
- corrected version number in dump.log
- fixed issue with flash file system verification
- corrected issue with logging assertions for non-system processes
- fixed issue with flash file system block mapping
- corrected flash segment reclaim algorithm

## August 12 2014 – Released 1.0.4

### New Features

- Application *onClose()* notification is sent when RST packet received.
- FTPClient class now available in the library.
- Command line FTP client application available - must be loaded
- Added *Network.isActive()* method so applications can check network availability
- You can now define User Functions in PHP.
- Added *File.setLastModified()* method.
- PHP can include files.
- Added PHP File listing functions and much more.
- Added -S option to the RMDIR command to recursively remove an entire directory tree.
- Opening a ServerSocket on a random port by setting port=0 now works

### Changes

- expanded search paths for application commands to include /flash and /etc.

- Restored default admin:admin account.
- Enabled ability to change RS-232 port input buffer size.

## Bug Fixes

- Corrected issue with renaming folders.
- Corrected JNIOR Protocol monitor packet scheduling.
- Fixed issue with /temp folder memory allocation.
- Corrected FTP NLST abbreviated directory listing format.
- Corrects lock-up when closing a Java socket that hasn't been used for output.
- Corrected loss of data when Secure connections are closed too quickly.
- Fixed issues with *Date.parse()*
- Fixed glitch with command line TAB.
- Corrected display of identifiers in NV command.
- Corrected issue with setting invalid floating point values.
- Corrected PHP issue with '\$' jquery statements in double-quoted strings.
- Corrected JVM issues with casting multi-dimensional arrays.
- Corrected GC issue with object arrays stored as an object.
- *SocketOutputStream.write()* methods are now blocking so data is not lost.

## July 3 2014 – Released 1.0.3

### New Features

- Secure Telnet sessions are indicated as secure in the log.
- Can now configure Digital Input Conditioning through Registry
- Added memory testing during boot

### Changes

- PHP sever-side scripting enhancements
- Improved TCP packet blocking for transmission

### Bug Fixes

- Web Server now properly detects closing connections in the TIME\_WAIT state
- Corrected ASN.1 issue resulting from cstring class modifications in v1.0.2
- Corrected issue where external devices stopped responding
- Removed extra FIN-ACK in FTP (closing after write)
- Corrected duration of TCP timeouts

## June 4 2014 – Released 1.0.2

### New Features

- Implementation of the JNIOR Model 412
- Server side scripting expanded so PHP can be used for file downloads

### Changes

- Enhanced Java and PHP use of strings
- Input inversion now takes effect immediately
- DATE command option -N now provides clock sync status

## **Bug Fixes**

- A variety changes to miscellaneous items.