FORUM SYSTEMS RELEASE NOTES

FORUM SENTRY VERSION 9.47.9

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Forum Systems Release Notes, February 11, 2026

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Table of Contents

1. Installation / Upgrade Documentation and Technical Support

Please refer to the following documents which will assist in the installation of the Forum Sentry hardware appliance, virtual appliance, AMI, and software deployments:

- FS_Sentry_V9.9_Hardware_Installation_Guide
- FS_Sentry_V9.9_Software_Installation_Guide
- FS_Sentry_V9.9_Quick_Start_Guide
- FS_Sentry_V9.9_VMware_VirtualOS_Installation_Guide
- FS_Sentry_V9.9_Amazon_AMI_Installation_Guide

The Full PDF documentation, including the documents mentioned above, can be found here:

Forum Systems Support Help Desk

1.1 Upgrade Instructions

The full upgrade instructions for each Forum Sentry form factor are located here:

Upgrading Forum Sentry

1.2 Technical Support

Online Knowledgebase and Help Desk

Visit the Forum Systems Support Help Desk site for documentation, FAQs, best practice guides, and to open Help Desk tickets:

Forum Systems Support Help Desk

Registration is required for full KB access.

Forum Systems Support Contact Info:

Email: support@forumsys.com
US Toll Free: 1-888-811-0060 option 2
UK Toll Free: 0870-820-0350 option 2
International: +1-781-791-7510 option 2

2. Minimum Requirements

2.1 Requirements for the Forum Sentry Non-Hardware Instances

The minimum requirements for all non-hardware Sentry instances are now consolidated and located in the online Knowledge Base article linked below.

Forum Sentry Minimum Requirements

3. Known Issues / Important Changes

Please See section 4.1 for all changes related to this specific release

3.1 Version 9 Important Changes

9.47.9
- Adds support for XSLT v3.0 with the Transform Document Task
- Upgrade ClamAV engine to 1.4 LTS
- Resolves issue with ClamAV HTTP Updates
- Resolves issue with HTTP to SFTP protocol mixing
- Several changes related to the Salesforce Pub/Sub policies, see details in section 4.1 below

9.43.0
- Adds option to export JSON representation of a Content Policy (export only)
- Adds new Salesforce Pub/Sub network policy type which utilizes HTTP/2 and gRPC
- Upgrades ClamAV engine to v1.0.9
- Adds option to reset logging levels automatically at a future time
- Updates ActiveMQ Libraries to 5.15.16
- Adds ability to configure status codes for error tracking on the Performance Monitoring page

9.31.7
- Upgrades ClamAV Engine to v1.0.8
- Adds JWS Verification task

9.30.6
- With v9.30.6, the 556x model is now EOL and the upgrade packages are no longer posted to the downloads page, customers with 556x hardware devices that are not yet EOL should contact Forum Systems Support to obtain upgrade packages
- Resolves issue with Identify Document tasks configured with JSON based filters

9.30.3
- Adds JWS Signature task

9.28.0
- Adds support for TACACS+ protocol

9.22.1
- Adds support for RADIUS protocol
- Resolves "NoModuleMemory" issue with HSM hardware appliances
- Upgrades MySQL JDBC Driver to version 3.4.1
- Upgrades MQ Libraries to version 9.4.0.0

9.17.2
- Updates DB2 JDBC Driver to version 4.33
- Updates SQL Server JDBC Driver to version 12.6.3
- Resolves issue connecting to IBM MQ 8.0.0.4 with AMS

9.16.21
- Resolves DB2 Data Source connection issue caused by 9.12.1

9.16.12
- A new AWS EC2 AMI for the 656X ForumOS platform has been published
- Added feature to support MFA using TOTP per RFC 6238. Includes TOTP QR Code generator for Mobile App registration. Compatible with all RFC 6238 apps such as Google Authenticator, DUO, Authy, etc.

9.12.1
- Semantic Versioning Update – Sentry now uses Semantic Versioning. This versioning scheme will cause more significant jumps in GA release version numbers than in past releases as the new version scheme relays more information about the types of changes found in the releases. Please see section 3.3 below regarding Semantic Versioning for more information.
- Licensing changes may be required to upgrade from v9.1 to v9.12.1 – please contact Forum Systems Support for more information prior to attempting an upgrade.
- Changes related to TLS v1.3 half close and synchronization issues
- Resolves issue with cached data not clearing properly on expiration
- ClamAV Important Information
    - 656X Model (ForumOS 5.X) - Updates the ClamAV Engine to 1.0.6
    - 556X Model (ForumOS 4.X) - Remains unchanged at 0.103.11 – this ClamAV engine is EOL in September 2024, contact Forum Systems Support for info on migrating to the 656X model

9.1.301
- Adds support for Okta SSO for WebAdmin Access
- Adds option to include or exclude Global Variables with the FSX import
- Improves reboot time when large local caches exist
- Data Source Monitoring page improvements

9.1.280
- Resolves issue with Remote Syslog Policies

9.1.276
- Optimizations for Data Source Monitoring

9.1.273
- Upgrades MQ Libraries to v9.3.3.0

9.1.267
- Adds system alerts for license expiration
- Adds Data Source policy monitoring
- Performance improvements for the Execute JavaScript task

9.1.241
- Updates to the ClamAV Engine
- Adds logging for runtime connection limiting due to licensing

9.1.236
- Enhancement to the For-Loop task for asynchronous processing

9.1.222

- Adds support for Redis for distributed caching

9.1.193
- Adds the ability to lock Task List Groups to prevent overwriting on policy import
- Adds the ability to edit XSLT directly within the Transform Document task
- Resolves issue with Signature Verification task
- Resolves issue with Identify Document task

9.1.189
- Adds Asynchronous option for parallel task list processing
- Adds Performance Monitoring stats to the Sentry REST API
- ClamAV Engine Updated to 0.103.4
- Resolves issue with simultaneous Sentry REST API transactions triggering a deadlock

9.1.166
- Adds new Event Log feature to simplify troubleshooting
- Adds new option to Remove Transport Header task to remove all incoming HTTP headers
- Resolves issue with NFS caching policies - if using the NFS caching feature it is recommended that you upgrade to this release as soon as possible
- Adds support for OpenAPI v3.0
- Adds support for TLSv1.3 for all Sentry virtual types and non-HSM appliances
- Adds new feature to limit max threads per Content Policy
- Adds performance improvements to the Transform Document task
- Several improvements to the Configuration Compare feature

9.1.142
- Several improvements for NFS caching were added with Sentry v9.1.142, if using the NFS caching feature it is recommended that you upgrade to this release as soon as possible
- Global Variables can now be renamed
- Global Variables can now be automated via the REST API

9.1.132
- The new 6564 and 6563 hardware model has been released and requires Sentry v9.1.132 or newer
- Several tasks now support processing JSON payloads directly, including the Mapping To/From and Identify Document tasks
- ForumOS v5.0 (running on the 656X platform only) now utilizes chrony for NTP
- The Access Log length field now represents the length of the request payload rather than the response payload

9.1.97
- New Scheduler feature allows for scheduling API calls generated by Sentry

9.1.81
- Distributed caching via NFS is now available in Sentry.
- Support for creating JWTs (OAuth IdP policies) and verifying JWTs (UIDAC task) is now available in Sentry.
- Enhancements to the Query Database task allow for easier variable substitution.
- There was a potential breaking change to the Sentry REST API with v9.1.81. The Import operation for FSG files now requires a new parameter "removeOrphans" set as either true or false. This was resolved in later releases.

9.1.47
- A new Global Variables feature allows for parameterizing fields within Sentry policies to simplify policy promotion across environments.
- Support for the PostgreSQL Database has been added (new Data Source type).

- Support added for processing Cobol Copybook payloads.
- Removes the 'Block Encrypted Archives' option from the onboard ClamAV engine.
- A change to the Convert JSON to XML task could break existing task lists when using the value "XML" as the root element name

9.1.22
- The maximum CPU cores and memory limits have been increased for the Sentry virtual instances (OVA, AMI, Azure, and software) to 12 cores and 64GB respectively.
- A new 9.1 OVA for the ForumOS Virtual Appliance is available for download.

9.1 (all)
All non-hardware instances of Forum Sentry (including software, virtual appliance, and AMI) will require a v9 license or a Flex license to upgrade to v9.1. Please contact Forum Systems Support to obtain the necessary license before upgrading.
- The Forum API DevPortal is now available with the release of Forum Sentry v9.1. Please contact Forum Systems Support or your Account Manager for more information.
- The Forum Sentry PortalAPI is now available for communication with the Forum API DevPortal
- A new AI Log includes important runtime logging events and latency timing metrics condensed into a single line format which can be easily supplied to SIEM and Machine Learning engines
- New OpenAPI Content Policies allows for simple policy configurations via OpenAPI document upload
- Forum Sentry now supports forward SSL/TLS proxy use cases with man-in-the-middle inspection
- Support for SAML Metadata files has been added for simplifying SAML SSO use cases
- The embedded MQ libraries were upgraded to version 8.0.0.13 which include updated SSL cipher suites
- The embedded ActiveMQ libraries were upgraded to version 5.15.9
- The embedded WebLogic libraries were upgraded to version 12C
- The embedded ClamAV engine has been upgraded to 0.102.2
- New database schemas are available for all Data Source types
- Forum Sentry Virtual Appliances and AWS EC2 instances running the legacy ForumOS version 3.2/3.3 (instances launched with older OVA files and older AMIs) are not upgradeable to v9.1. New VMs and EC2 instances will be needed. The ForumOS version can be found with the "show general" command in the ForumOS CLI. Please contact Forum Systems Support for assistance migrating policies and licenses.
- Multiple updates were made to the SSH Enabled Ciphers, MACs, and Key Exchanges (as shown on the System Settings page) that are used with the Forum Sentry CLI as well as with runtime SFTP network policies

3.2   Release Notes for Older Versions

All previous important changes and known issues, as listed in previous release notes, can be found here:

Forum Sentry Release Notes

3.3   Semantic Versioning Change with Sentry v9.12.1 and Later

Semantic Versioning (SemVer) is the adopted Sentry versioning scheme that helps communicate changes in software releases

Major Version (X): This number increases when potentially backward-incompatible changes are introduced to Sentry. For example, if Sentry is on version 1.2.5 and a breaking code change is made, the new version would be 2.0.0

Minor Version (Y): Minor versions indicate backward-compatible changes or new functionality that doesn't impact existing Sentry policies. If substantial internal code changes are made, the minor version can also be incremented. For instance, updating from 2.0.1 to 2.1.0 signifies a non-breaking change.

Patch Version (Z): Patch versions are reserved for backward-compatible bug fixes. These changes should not impact existing Sentry policies. For example, going from 2.1.0 to 2.1.1 indicates a bug fix.

In summary, SemVer provides a structured way to convey meaning about Sentry software changes, making it easier for customers to understand version updates and their impact.

For more information, please visit: https://semver.org/

4. Feature Enhancements and Bug Fixes

4.1 Summary of Enhancements in Release 9.47.9 [02/11/2026]

Enhancements and Bug Fixes

- **Caching**
    - Resolves issue with large, expired cache keys not being removed from cache
    - Resolves issue with response caching null pointer exception when remote server does not return a Content-Type
    - Resolves issue with Redis policies failing to parse redis:// URLs without a path

- **ClamAV**
    - Upgrades ClamAV engine to 1.4 LTS
    - Resolves issue with ClamAV HTTP Updates
    - Resolves issue with Zip file processing bypassing RamDisk

- **Content / WSDL Policies**
    - Adds option for JSON Export for WSDL Policies in the WebAdmin
    - JSON Export for Content Policies no longer includes Domain information
    - Resolves issue with some Global Variables not listed in the JSON Export for a Content Policy
    - Resolves issue with Task List filter on the Virtual Directories tab
    - Resolves issue with ACLs on WSDL Policies

- **Global Variables**
    - Resolves issue with group selection after filtering Global Variables with a search

- **Logging**
    - Resolves sporadic timing issue with Access log "follow transaction" showing empty transactions
    - Resolves issue with JMX policies with the ForumOS AMI

- **Network Policies**
    - Resolves issue with HTTP to SFTP protocol mixing
    - Resolves issue with changing a Group Listener policy name breaking the associated Content Policy

- **REST API**
    - REST API responses for HTTP listeners now include listener host value

- **Salesforce Pub/Sub Network Policies**
    - Adds ability to capture ReplayID and EventUuid with Salesforce Pub/Sub events
    - Resolves issue with Salesforce Pub/Sub listener policies disconnecting intermittently
    - Resolves issue with Salesforce Pub/Sub listener policies still consuming messages after being disabled

- o Resolves rare issue with system lockup when importing Salesforce Pub/Sub network policies
- o Resolves naming issue with Salesforce Pub/Sub policies (now gRPC instead of gRCP)
- o Resolves issue with Tenant ID field displayed as User ID when modifying Salesforce Pub/Sub policies

- **Security Policies**
  - o Adds Lock option for IP ACLs to avoid overwriting upon policy import
  - o PGP Decryption now uses appropriate key from session key packets rather than first key or sub key that matches
  - o Resolves issue with the DEFAULT Signer Group losing the included CA certs

- **System / CLI / WebAdmin**
  - o Improves output of CLI networking commands when multiple macs are present
  - o Resolves issue with CLI enable mode not timing out when connected via SSH
  - o Resolves issue with bootstrap export file incorrectly specifying the WAN interface for all routes
  - o Resolves issue with online help with Sentry software instances

- **Task Processing**
  - o Adds backwards compatibility for Process Attachments change/fix introduced in v9.30.6
  - o Adds support for XSLT v3.0 with the Transform Document Task
  - o Adds Name Pool recovery/reset mechanism for "Saxon name pool is full" scenario with Transform Document task
  - o The Transform Document Saxon parsing engine was updated to 12.9
  - o Resolves issue with Execute JavaScript task with 'Log & Halt Processing" option

4.2   Summary of Enhancements – Recent GA Releases

For release notes for previous branches, please see:

[Forum Sentry Release Notes](#)

Summary of Enhancements in Release 9.43.0 [09/05/2025]

- **Caching**
  - o Resolves issue with Cache-Control policy not honoring the Expires header
  - o Resolves issue with HEAD method caching
  - o Resolves issue with Expire All function on User Policy Cache Page

- **ClamAV**
  - o Updates ClamAV engine to v1.0.9
  - o Resolves issue with max recursion setting - negative numbers no longer allowed

- **Configuration Management**
  - o Improves Compare output of tasks with files associated
  - o Resolves issue with Compare output for Documents
  - o Resolves issue with Compare output for Error Templates
  - o Resolves issue with Compare output for User Policies
  - o Resolves issue with Compare output for STS Policies
  - o Resolves issue with Compare output for deleted Global Variables
  - o Resolves issue with Compare output for Cipher Suite ordering
  - o Resolves issue with importing the same FSG file twice
  - o Resolves issue exporting FSG from Overview page with all components selected
  - o Resolves GDM import issue due to self-referencing Task Lists and Task List Groups
  - o Resolves issue importing Signer Group FSGs from older releases

- **Content Policies**

- Adds ability to export a JSON representation of a Content Policy (export only)
- Resolves UI issue with the Edit button on Virtual Directory Page for Task Lists / Task List Groups

- **Data Source Policies**
  - Resolves issue with Oracle schema
  - Resolves issue with the address missing on Oracle RAC policies

- **Global Variables**
  - Adds option to use Global Variables for symmetric keys
  - Resolves issue with default name of exported files (properties and FSG)
  - Resolves issue with exporting to database returning to Overview page
  - Resolves issue editing Global Variable values when two variables have the same name
  - Resolves issue caused by attempting to create a Global Variable with no name

- **Logging**
  - Adds option to reset logging levels at a future time
  - Adds request and response payload logging with JSON Content-Types (application/*+json)
  - Resolves issue with Access log URI truncation
  - Resolves issue with REST API Access logs showing -1 length
  - Resolves issue with User Identity and Access Control task logging
  - Resolves issue with RSA SecureID logging
  - Resolves issue with Audit log related to the Exclude Monitoring option
  - Resolves issue with Audit log related to password changes
  - Resolves issue with the Access Log export feature
  - Resolves issue with Event Log response errors
  - Resolves issue with Event Log with multiple browser tabs
  - Resolves issue with the Logging Settings page related to editing the associated Backup policy
  - Resolves issue with S3 backups for logs

- **Network Policies**
  - Adds new Salesforce Pub/Sub Network Policy type which utilizes HTTP/2 and gRPC
  - Updates ActiveMQ Libraries to 5.15.16
  - Resolves issue with Group Listener policies not reflecting the correct status
  - Resolves issue with changes to HTTP Remote policies configured with Global Variables

- **REST API**
  - Resolves issue with Access logs showing -1 length
  - Resolves issue with IDP Rules when creating a WSDL Policy via API

- **Security Policies**
  - Adds ability to use Global Variables for symmetric keys
  - Adds option to Decryption policies for payloads encrypted with asymmetric algorithms (not supported on HSM appliances)
  - Adds option to lock Signer Groups
  - Adds behavior to filter out expired certificates during import
  - Resolves issue with UI cipher selection with TLSv1.3 policies
  - Resolves issue with OpenPGP key expiration email alerting
  - Resolves issue with importing CSRs as X.509 certificates

- **System / WebAdmin**
  - Adds ability to configure status codes for error tracking on the Performance Monitoring page
  - Adds support for SSH key ED448
  - Resolves issues deleting policies that reference missing dependencies
  - Resolves issue with Overview page search feature
  - Resolves issue with SNMP binding to incorrect IP with software instances
  - No longer possible to configure time synchronizing to unreachable NTP server
  - Resolves issue with Traceroute network utility

- o Resolves issue with interface aliases
- o Resolves issue with runDiagnostics utility missing NTP and lsof stats
- o Resolves issue with Redis Policy errors displaying incorrectly
- o Resolves issue that allowed creation of duplicate backup policies
- o Resolves issues with double and single quotes used in search fields

- **Task Processing**
  - o Adds option to enable IDP Rules within Enrich Message task
  - o Adds Break option to For Loop task
  - o Adds Base64URLEncode and Base64URLDecode options to Convert Value task
  - o Expands width of Task List selection box on Task List Groups page
  - o Improves the Replace Document task - larger window and filtering by labels
  - o Resolves issue importing XSLT with undefined parameters
  - o Resolves issue with Transform Document task "Saxon name pool is full" error
  - o Resolves issue with Identify Document task header filters being removed
  - o Resolves JavaScript error (UI issue) with Task Lists
  - o Resolves dependency issue between Error Templates and Task Lists / Task List Groups
  - o Resolves issue with Query Database task where source name values disappeared
  - o Resolves issue with Process Attachment task related to removing headers
  - o Resolves issue with Query Database task related to JSON formatted queries
  - o Resolves issue with Task List / Task List Group corruption related to identical naming
  - o Resolves issue with JWE Decryption task
  - o Resolves UI issue with Task Lists tab
  - o Resolves issue with generating transient type SAML assertions
  - o Resolves issue with JWS Verification task related to selecting multiple algorithms
  - o Resolves issue with Task List widget in Custom Auth policies

Summary of Enhancements in Release 9.31.7 [02/28/2025]

- **Caching**
  - o Resolves error on Cache Meter page when filtering multiple cache policies

- **ClamAV**
  - o Updates ClamAV engine to 1.0.8

- **Data Source Policies**
  - o Reverts DB2 JDBC Driver to version 4.28

- **Global Variables**
  - o Resolves naming issue with exported SSH key global variables

- **Logging**
  - o Resolves issue with Syslog output listing 127.0.0.1 as system IP
  - o Resolves issue with Audit log for Convert Value task

- **System**
  - o Renews expired default WebAdmin certificate
  - o Resolves issue upgrading via HTTP URL

- **Task Processing**
  - o Adds JWS Verification task

Summary of Enhancements in Release 9.30.6 [02/03/2025]

- **REST API**
  - o Resolves issue with REST API FSG imports

- **Task Processing**
  - Resolves issue with Identify Document task with JSON based filters
  - Resolves issue with the Process Attachments task with removal of large attachments

Summary of Enhancements in Release 9.30.3 [01/15/2025]

- **Content Policies**
  - Adds the ability to associate a Schedule policy to a Content Policy

- **Logging**
  - Improves System log for Schedule policies
  - Resolve issue with AI logs written to Audit log

- **Network Policies**
  - Changes TACACS authorization request to default to pass

- **REST API**
  - Resolves issue with REST API FSG imports breaking existing Content Policies

- **Security Policies**
  - Resolves issue importing PKCS P12 keypairs

- **System**
  - Adds Licensed Version to licensing information
  - Resolves issue with viewing Differences with the Compare feature with non-admin accounts

- **Task Lists**
  - Adds JWS Sign Capability
  - Resolves issue saving For Loop task with 'log and continue' option
  - Resolves issue viewing Task Lists associated to a Content Policy

Summary of Enhancements in Release 9.28.0 [11/22/2024]

- **ClamAV**
  - Updates ClamAV engine to 0.103.12

- **Data Source Policies**
  - Updates MySQL JDBC Driver to version 3.4.1

Summary of Enhancements in Release 9.22.1 [10/11/2024]

- **ClamAV**
  - Updates ClamAV engine to 0.103.12

- **Data Source Policies**
  - Updates MySQL JDBC Driver to version 3.4.1

- **Logging**
  - Resolves issue with Log Rotation

- **Network Policies**
  - Adds support for RADIUS protocol
  - Updates MQ Libraries to 9.4.0.0
  - Resolves issue renaming SFTP policies

- **Task Lists**
  - Adds JSON support to Add XML Node task

- o Adds JSON support to Archive task
- o Adds JSON support to Log task
- o Adds JSON support to Virus Scan task
- o Adds JWE Decryption task
- o Resolves issue with DB Query task related to aggregation attributes
- o Resolves issue using JSON Array as Sample document
- o Resolves issue with Archive task comment field

- **System**
  - o Resolves "NoModuleMemory" error with HSM appliances

Summary of Enhancements in Release 9.17.2 [09/23/2024]

- **Data Source Policies**
  - o Updates DB2 JDBC Driver to version 4.33
  - o Updates SQL Server JDBC Driver to version 12.6.3
  - o Adds PostgreSQL library version to the Genel Info Library page

- **Network Policies**
  - o Adds option to lock network policies
  - o Resolves issue connecting to IBM MQ 8.0.0.4 with AMS

- **REST API**
  - o Change to API responses for Task Lists and Task List Groups

- **Task Lists**
  - o Resolves issue with error response for Validate JSON task

Summary of Enhancements in Release 9.16.21 [08/15/2024]

- **Data Source Policies**
  - o Resolves DB2 Data Source connection issue caused by 9.12.1
  - o Upgrades Oracle JDBC driver to v23.4.0.24.05

- **REST API**
  - o Change to API responses for SMTP Remote Policies
  - o Change to API responses for Group Remote Policies
  - o Change to API responses for Syslog Policies
  - o Change to API responses for Task List Group Policies

- **Task Lists**
  - o Resolves UI issue with Add XML Node task

Summary of Enhancements in Release 9.16.12 [08/06/2024]

- **Data Source Policies**
  - o Updates the PostgreSQL JDBC driver to v42.7.3

- **Logging**
  - o Adds protocol headers and JMS properties to debug logs for response messages
  - o Resolves issue with Audit logging of user policy changes

- **Network Policies**
  - o Addresses compatibility issues with WS_FTP Professional that prevented it from connecting to SFTP servers after the Sentry v8 to v9 upgrade

- **System**
  - New ForumOS AMI now supports ENA
  - Improved filename for Global Variables FSG export
  - Resolves configuration corruptions issues related to Task Lists and Task List Groups that may result in missing policies
  - Added system option to allow importing of newer FSX and FSG files into older releases
  - Resolves issue with hung CLI after failure during an upgrade initiated via CLI

- **Task Processing**
  - Added feature to support MFA using TOTP per RFC 6238. Includes TOTP QR Code generator for Mobile App registration. Compatible with all RFC 6238 apps such as Google Authenticator, DUO, Authy, etc.
  - Adds Global Variable support to User Identity and Access Control task
  - JSON Validation task now supports drafts versions 4, 7, 2019-09, and 2020-12.
  - Resolves size limit issues with Zip processing task

Summary of Enhancements in Release 9.12.1 [07/08/2024]

- **Cache Policies**
  - Resolves issue with cache policies not clearing data properly on expiration

- **ClamAV**
  - 656X Model (ForumOS 5.X) - Updates the ClamAV Engine to 1.0.6
  - 556X Model (ForumOS 4.X) - Remains unchanged at 0.103.11 – this ClamAV engine is EOL in September 2024, contact Forum Systems Support for assistance migrating to the 656X Model

- **Content Policies**
  - Resolves issue with wildcards used in virtual directory paths

- **Logging**
  - Adds payload logging for MQ transactions
  - Resolves issue with sorting the Access Log by Status Code

- **Network Policies**
  - Adds support for attributes (dynamic values) with SMTP Remote policies

- **REST API Policies**
  - Adds new operation that returns data source (database) statistics

- **SSL / TLS Policies**
  - Changes related to TLS v1.3 half close and synchronization issues
  - Adds labeling support for protocols

- **System**
  - Semantic Versioning Update – see section 3.3 of this document.
  - Licensing changes may be required to upgrade from v9.1 to v9.12.1 – please contact Forum Systems Support for more information prior to attempting an upgrade.
  - Add support for RAMDISK allocation beyond 96GB with applicable licensing
    New ClamAV option to change from SCAN to MULTISCAN
  - Improves FSX configuration loading speed by resolving an issue where the configuration referenced an inaccessible DNS server.
  - Adds CLI command to report disk space "show df"

- **Task Processing**
  - Adds Locking for Task Lists and Tasks

- o Update to the Query DB task to allow for dynamic data sets to be passed as individual elements
- o Adds breadcrumb navigation to Task Lists when accessing from Task List Group
- o Adds support for JWE
- o Resolves issue with broken JavaScript not being detected when saving the Execute JavaScript task

Summary of Enhancements in Release 9.1.301 [02/16/2024]

- **Access Policies**
  - o Adds support for Okta SSO for WebAdmin Access Okta

- **Monitoring**
  - o Adds DB Query runtime task failures to error count on Data Sources Monitoring page
  - o Resolves Data Sources Monitoring screen issue – now the page accurately shows # of Errors rather than % of Errors

- **REST API**
  - o OpenAPI 3.1 Spec Document for JSON Policies now available via API

- **System**
  - o Adds option to include or exclude Global Variables with the FSX import
  - o Improves IPv6 routing configuration
  - o Improves reboot time when there are large local caches
  - o Resolves issue with temp directory not clearing
  - o Changes timing for server initialization CLI warning messages on reboot
  - o Resolves error handling issue for Backup policies
  - o Resolved Database Monitoring screen issue – now the page accurately shows # of Errors rather than % of Errors

- **Task Processing**
  - o Improves input/output with the Execute JavaScript task
  - o Adds ability to set user attributes from JavaScript
  - o Resolves issue with JavaScript in the Map Attributes and Headers task

Summary of Enhancements in Release 9.1.280 [10/06/2023]

- **Global Variables**
  - o Performance optimization for Password type variables

- **Logging**
  - o Resolves issue with Remote Syslog policies disabling at midnight
  - o Improves Audit Log entries for Global Variables
  - o Adds status code filtering for Event Log

Summary of Enhancements in Release 9.1.276 [09/21/2023]

- **Data Sources**
  - o Adds optimizations for Data Source Monitoring page

- **Logging**
  - o Adds optimizations for logging performance

Summary of Enhancements in Release 9.1.273 [09/11/2023]

- **Access Control**

- o   Adds IPv6 support to IP ACLs

- **Caching**
  - o   Resolves issue with Redis clustering

- **Network Policies**
  - o   Upgrades MQ Libraries to v9.9.3.3.0
  - o   Resolves issue with MQ Group Remote policies

- **Task Processing**
  - o   Resolves issues processing user attributes built from the Query LDAP task

Summary of Enhancements in Release 9.1.267 [08/24/2023]

- **Caching**
  - o   Adds Global Variable support to Redis policies
  - o   Improves logging with Redis caching

- **Data Sources**
  - o   Adds Data Source policy monitoring
  - o   Modifies connection pool timeout – previously it was immediate, now it is two minutes before timeout

- **Global Variables**
  - o   Adds floating buttons on the Global Variables page
  - o   Adds Global Variable support to Redis policies

- **Logging**
  - o   Adds log entry indicating if cached value was retrieved from local cache or Redis
  - o   Resolve issue with full URL data missing when printing connection issues

- **Network Policies**
  - o   Resolves UI issue with SSL policy option being reset in MQ policies
  - o   Updates the Read Timeout setting on HTTP/S Remote policies – the max seconds allowed changed from 600 to 3600
  - o   Resolves issue with DNS cache settings on HTTP/S Remote policies

- **System**
  - o   Adds system alerts for license expiration
  - o   Resolves issues with IPv6 listeners bound to WAN interface
  - o   Resolves UI issue with Backup Policies page

- **Task Processing**
  - o   Resolves issue with XSD schema validation
  - o   Performance improvements for the Execute JavaScript task
  - o   Performance improvements for the Validate JSON task
  - o   Resolves issue with Query LDAP task

Summary of Enhancements in Release 9.1.241 [04/04/2023]

- **Cache Policies**
  - o   Resolves issue with Cache Meter page
  - o   Resolves issue with Cache-Control

Summary of Enhancements in Release 9.1.236 [03/22/2023]

- **Cache Policies**
  - Resolves issue with Cache Meter page
  - Resolves issue with Cache-Control header being added to requests
  - Resolves issue cache store task run after cache read task

- **Logging**
  - Adds log rotation for ClamAV logs

- **System**
  - Adds timeout for queued data source transactions

- **Task Processing**
  - Adds asynchronous processing support for the For-Loop task
  - Resolves issues with attributes in the JavaScript task
  - Resolves issues with asynchronously processing Enrich Message tasks

Summary of Enhancements in Release 9.1.222 [02/16/2023]

Enhancements and Bug Fixes
- **Cache Policies**
  - Adds support for Redis for distributed API caching

- **Content Policies**
  - Resolves issue with URL encoded query parameter processing

- **Logging**
  - Adds RabbitMQ network policy logging to AI log
  - Resolves FTP network policy logging issue in AI log

- **System**
  - Significant improvements to the configuration (FSX and FSG) Compare functionality
  - Adds Duplicate Handler option for Global Variable imports – Fail, Ignore, Overwrite
  - Adds ForumOS CLI commands for NTP troubleshooting
  - Resolves issues with expired logging data being stored on disk indefinitely and cleans disk of expired logging data

- **Task Processing**
  - Resolves issues with XPath functions applied to JSON payloads with the Identify Document and similar mapping tasks
  - Resolves issue with Map Attributes from XML/JSON task related to JSON payloads with null fields
  - Resolves issue with DateTime mapping source
  - Resolves issue with JavaScript source values being removed from mapping tasks

Summary of Enhancements in Release 9.1.193 [10/19/2022]

Enhancements and Bug Fixes

- **Task Processing**
  - Adds the ability to lock Task List Groups to prevent overwriting on policy import
  - Adds the ability to edit XSLT directly within the Transform Document task
  - Resolves issue with Signature Verification task
  - Resolves issue with Identify Document task

Summary of Enhancements in Release 9.1.189 [10/11/2022]

Enhancements and Bug Fixes

- **Cache Policies**
  - Adds options to read and store to the Cache Response task

- **Global Variables**
  - Adds Global Variables support for SSH Private Keys

- **Logging**
  - Transaction logs now show Session ID in browser tab
  - Resolves issue with System logs always being printed after pattern match / replace is applied regardless of log threshold

- **Monitoring**
  - Adds Performance Monitoring stats to the Sentry REST API
  - Extends Performance Monitoring time interval
  - Resolves issue with error percentages on the Performance Monitor page

- **Network Policies**
  - Resolves issue with WebLogic network policies not connecting to WebLogic 14

- **Sentry REST API**
  - Adds Performance Monitoring stats to the Sentry REST API
  - Resolves issue with simultaneous Sentry REST API transactions triggering a deadlock

- **System**
  - Adds option to remove proxy settings with GDM Agent Overrides
  - Adds User Preference to require an Agent with Exports
  - Adds a Clear button to the Network Utilities page
  - Resolves issue with "Changes Only" option of Backup Policies
  - ClamAV Engine Updated to 0.103.4
  - Resolved ClamAV scanning error "max size for a file exceeded"

- **Task Processing**
  - Adds Asynchronous option for parallel task list processing
  - Adds options to read and store to the Cache Response task
  - Adds native JSON support to the Identify Document task
  - Adds native JSON support to the Query Database task
  - Adds JavaScript as mapping source
  - Enhancements added to the Process Attachments task to target Content or Headers

Summary of Enhancements in Release 9.1.166 [08/14/2022]

Enhancements and Bug Fixes

- **Cache Policies**
  - Resolves issue with NFS cache policies not reconnecting properly

- **Content Policies**
  - Adds support for OpenAPI v3.0 for OpenAPI Policies

- **Global Variables**
  - Adds support for Global Variables to Cache Policies
  - Adds ability to selectively import/export Global Variables

- **Logging**
  - Adds new Event Log feature for simplified troubleshooting

- **REST API**
  - Adds operation to retrieve WS Monitoring Statistics

- **Security Policies**
  - Adds support for TLSv1.3 for Sentry virtual types (virtual appliance, AMI, Windows and Linux software) and non-HSM hardware devices – TLSv1.3 is not yet supported on HSM hardware devices

- **System**
  - Adds new System Preference to limit Max Thread per Content Policy
  - Resolves issue with WebAdmin users saving newly set passwords
  - Includes several enhancements and fixes to the Compare feature

- **Task Processing**
  - Adds new option to Remove Transport Header task to remove all incoming HTTP headers
  - Adds performance optimizations to Transform Document task
  - Resolves base64 decoding issues
  - Resolves issue with XML array elements being incorrectly mapped to aggregation attributes
  - Resolves issue with the proxy URL option within the SAML UIDAC task

Summary of Enhancements in Release 9.1.142 [05/09/2022]

Enhancements and Bug Fixes

- **Cache Policies**
  - Resolves issue with cache returning 0 bytes
  - Improves logging for NFS caching
  - Improves handling of NFS server or connectivity issues that could cause slow reboots or other Sentry issues
  - Other general NFS caching improvements

- **Global Variables**
  - Adds GDM Transfer option for Global Variables
  - Adds support for Global Variables to the REST API
  - Adds the ability to rename Global Variables
  - Adds Global Variables to the Overview page

- **Logging**
  - Resolves issue with the System log indicating a failure to start a listener without providing the name of the policy
  - Improves on the automatic password obfuscation in the System log
  - Resolves issue with the length field in the Access Log
  - Resolves issue with Access Log becoming unavailable

- **Network Policies**
  - Adds ability to set the SFTP path/directory dynamically
  - Improves MQ network policies to prevent thread starvation

- **REST API**
  - Adds support for Global Variables
  - Resolves deadlock issue with multiple concurrent FSG imports via the REST API

- **System**
  - Adds the ability to enable/disable network policies in the ForumOS CLI
  - Resolves deadlock issue with multiple concurrent FSG imports via the REST API

- **Task Processing**

- Adds several transaction and policy details as available user attributes for runtime processing, including the names of content policies, network policies, virtual directories, operations, and messages
- Improves usability / resolves saving issue with Map Attributes and Headers task
- Resolves issue with Convert JSON task related to accent characters
- Resolve issue with Convert JSON task with a single XML element text node with an array attribute
- General improvements to the SAML generation task

Summary of Enhancements in Release 9.1.132 [03/23/2022]

Enhancements and Bug Fixes

- **Cache Policies**
    - Resolves issue with NFS Cache Policies not reconnecting automatically
    - Resolves issue with the Extend Timeout option on Cache Policies
    - Resolves issues with the checkboxes on the Cache Policies
    - Resolves issue with empty cache responses

- **Content Policies**
    - Resolves issue creating WSDL Policies via the REST API
    - Deprecates WSDL based STS Policies
    - Resolves rare issue exporting WSDL Policies

- **Data Sources**
    - Updates Oracle driver to v19c

- **Identity and Access Control**
    - Resolves issue with Custom Auth access policies being created without required task lists
    - Resolves issue with Digest Auth with static user

- **Logging**
    - The Access log length field now represents the length of the request payload rather than the response payload
    - Adds support for pattern match with replace for the Access Logs
    - Enhances retry logging for HTTP Group Remote policies
    - Improves output of logs removing unnecessary word wrapping

- **Network Policies**
    - Adds ability to utilize a list of hosts for RabbitMQ policies
    - Adds ability to remove and modify JMS properties on Solace Messages
    - Adds support for Global Variables to TibcoEMS policies
    - Enhances retry logging for HTTP Group Remote policies
    - Resolves issue setting order of remotes in HTTP Group Remote policies with failover strategy
    - Resolves UI issues related to HTTP Group Remote policies
    - Enhances MQ network policies to make the user field optional
    - Resolves issue with MQ CorrelationID not being set properly
    - Resolves "There is a JMS Processed being handled" issue with MQ remote policies

- **REST API**
    - Adds option to set ACL on WSDL Operations via the REST API
    - Resolves issue creating WSDL Policies via the REST API

- **Security / PKI**
    - Improves searching functionality on the Signer Groups page
    - Resolves SSL cipher suite issues with HSM Sentry models

- **System**
  - New 6564 and 6563 hardware models now available, requiring v9.1.132 or newer
  - The ForumOS now utilizes chrony for NTP
  - Adds the ability to "lock" User ACLs so they cannot be updated upon FSG import
  - Update to prevent browser from auto-filling credential WebAdmin fields
  - Resolves issue resetting the WS Monitoring stats
  - Resolves issue with slow processing of MIME GZIP over 100MB
  - Adds ability to enable/disable IPv6 with Virtual Appliances
  - Resolves issues with ForumOS "show network phy-settings" CLI command
  - Resolves issue with Log Rollover/Backup with S3 Backup Policies
  - Adds field validation for Network Utilities
  - Changes related to Log4j – Note that Log4j is disabled in Sentry and therefore Sentry is not exposed to Log4Shell or recent CVEs around Log4j. However, out of an overabundance of caution, included in this release is a new Log4j revision that patches CVE-2021-4104 and CVE-2019-17571.

- **Task Processing**
  - Improved JSON Processing - Tasks that utilize a DOCUMENT FILTER – EXPRESSION BUILDER, including the Identify Document task, Mapping tasks, and Convert tasks; now support processing JSON payloads directly – previously an XML to JSON conversion was required
  - New "For Loop" task to simplify logical task processing
  - Enhances processing/access of attachments and headers with Multipart payloads
  - Resolves issue with SAML proxy feature with the User Identity & Access Control task
  - Resolves issues with URL encoding
  - Resolves issues with XSLT transformations
  - Resolves issue with the Log and Map Attributes tasks where new entries are not properly saved
  - Resolves issue with chained zip processing tasks
  - Resolves issue with Map from XML task not mapping all occurrences of an element

Summary of Enhancements in Release 9.1.97 [09/24/2021]

Enhancements and Bug Fixes

- **Cache Policies**
  - Adds general search for cache keys
  - Adds ability to delete only expired keys
  - Adds ability to show more rows
  - Adds date to expiration column on cache meter page
  - Resolves issue with NFS caching causing delays in reboots and upgrades
  - Resolves issue with NFS caching related to deleting cached items

- **Content Policies**
  - New Scheduler feature allows for scheduling API calls generated by Sentry
  - Resolves issue with disabling NFS caching feature

- **Logging**
  - Resolves issue with non-privileged access users viewing the Audit log in the WebAdmin interface

- **Network Policies**
  - Resolves issue with HTTP to SFTP protocol mixing
  - Adds support for LS with SFTP protocol
  - Adds support for Global Variables to SFTP policies

- **System**
  - Resolves issues with Network Utilities page in the WebAdmin
  - Resolves issue with Compare feature

Summary of Enhancements in Release 9.1.89 [09/09/2021]

Enhancements and Bug Fixes

- **Cache Policies**
    - Resolves issue with NFS caching disabling an NFS mount
    - Resolves issue with NFS caching causing delays in reboots and upgrades
    - Resolves issue with NFS caching related to deleting cached items

- **REST API**
    - Updates the Import operation to not require the new "removeOrphans" flag improving backwards compatibility

- **Task List Processing**
    - Resolves JavaScript issues with Mapping and Identify Document tasks where new filters are not saved immediately
    - Removes 5mb size limit for XSD schema imports with the Validate Document Structure task

Summary of Enhancements in Release 9.1.81 [06/01/2021]

Enhancements and Bug Fixes

- **Access Policies**
    - Adds new option to enter a static set of user credentials (or Global Variables) for remote authentication on an HTTP remote policy
    - Resolves issue with "Force Password on Reset" option for Admin users

- **Cache Policies**
    - Adds shared / distributed caching via NFS
    - Resolves issue with enforcement of Cache-Control max-age HTTP response header directive

- **ClamAV**
    - Updates ClamAV engine to 0.103.3

- **Content Policies**
    - Enhances multipart web form data processing
    - Resolves issue importing certain WSDLs to create a WSDL Policy
    - Resolves issue with the Sentry REST API related to the JSON Policies operation

- **Data Source Policies**
    - Enhances Query Database task to support CREATE with Postgres Data Sources
    - General improvements to the Test option in Data Source policies

- **Global Variables**
    - Adds support for Global Variables to remote path field
    - Adds support for Global Variables to UIDAC task
    - Enhances support for Global Variables within MQ network policies
    - Resolves issue with Global Variables page search functionality

- **Logging / Monitoring**
    - Changes AI log to use the pipe " | " delimiter
    - Improvements to the Performance Monitoring screen for service mode policies

- **Network Policies**
    - Adds new option to enter a static set of user credentials (or Global Variables) for remote authentication on an HTTP remote policy

- Enhances support for Global Variables with MQ policies
- Removes requirement for Queue Manager field value in MQ policies
- General improvements for HTTP to SFTP protocol mixing
- General improvements for JMS CorrelationID processing
- REST API improvement related to Solace network policies
- Adds new option to enter a static set of user credentials (or Global Variables) for remote authentication on an HTTP remote policy

- **OAuth / OpenID Connect**
  - Adds support for JWT validation to the User Identity & Access Control task
  - Adds support for mapping Identity Attributes to tokens generated with the Client Credentials Grant Type

- **PKI**
  - Resolves issue with SSL policies utilizing DHE and ECDHE based ciphers on Sentry HSM hardware appliances
  - Resolves issue with search feature on Signer Groups page

- **REST API**
  - Potential breaking change - the Import operation for FSG files now requires a new parameter "removeOrphans" set as either true or false

- **System / WebAdmin**
  - Adds ability to rename Documents
  - Adds new option to FSG import to remove policy objects that would no longer be used after the import (removes orphaned policy objects)
  - Resolves issue with asymmetric routing
  - Resolves issue overwriting User accounts when importing FSGs created for an Agent with the option to not override User Groups enabled
  - Resolves issue with the Label filter on Task List Group page
  - Adds setting of ulimit to the Sentry Linux startup scripts, systems with Sentry already installed will need to reload systemd or reboot the machine to get the configuration updated

- **Task List Processing**
  - Adds new Password source type for Mapping tasks, which supports Global Variables, to securely map sensitive data
  - Enhances Query Database task to simplify variable substitution
  - Adds searching option to Replace Document task
  - General improvements to the Task List copy functionality
  - Resolves XSD import issues in the Validate Document Structure task

Summary of Enhancements in Release 9.1.47 [06/01/2021]

Enhancements and Bug Fixes

- **Access Policies**
  - Resolves issue with LDAP connections over SSL with specific certificate extensions

- **Cache Policies**
  - Adds caching to service mode policies (no remote policy required)
  - Adds caching to Content Policies utilizing MQ remote policies
  - General usability improvements to the Cache Meter page

- **ClamAV**
  - Removes the 'Block Encrypted Archives' option
  - Resolves issue with ClamAV HTTP Updates

- **Content Policies**
    - General usability improvements to OpenAPI policies
    - Resolves unhandled exception creating certain policies

- **Data Source Policies**
    - Adds support for PostgreSQL Database
    - General usability improvements to the Data Sources page

- **Logging**
    - Adds Content Policy name to the Access Log
    - Adds Data Source latency to AI log for service mode policies
    - Resolves issue with policy link in System log

- **Network Policies**
    - Resolves issue with renaming SSL policies associated to MQ network policies

- **System / WebAdmin**
    - Adds new Global Variables feature to simplify policy promotion across environments

- **Task List Processing**
    - Adds support for Cobol Copybook payload processing
    - General improvements to the Query Database task
    - General usability improvements to Mapping tasks
    - Resolves issue with stored procedures in the Query Database task with Oracle data bases
    - Resolves issue modifying User-Agent request headers with task list processing
    - Resolves issue with JSON to XML conversion with special characters
    - A change to the Convert JSON to XML task could break existing task lists when using the value "XML" as the root element name

Summary of Enhancements in Release 9.1.22 [04/02/2021]

Enhancements and Bug Fixes

- **Data Source Policies**
    - Enhances DB2 Data Source policies to support Z/OS
    - Updates DB2 Driver to v4.28

- **Error Handling**
    - Enhances error handling to maintain the actual error message
    - Resolves issue with default error templates resetting after reboot
    - Updates content of the default SOAP Fault error template

- **ClamAV**
    - Resolves issues with MaxRecursion and MaxScanSize settings
    - Updates ClamAV Engine to 0.102.4
    - Resolves issue with HTTP Update Mode when pointing directly at the Clam site

- **Network Policies**
    - Resolves issue with % character in MQ channels
    - Resolves issue with MQ policies connecting to MQ v9 using default channel auth rules
    - Resolves issue with Authorization header not being suppressed with HTTP Remote policies

- **System / WebAdmin**
    - Increases the max CPU and Memory support to 12 CPUs and 64GB RAM respectively
    - A new OVA file for the ForumOS Virtual Appliance has been posted

- **Task List Processing**
  - Adds ability to reference User Attributes within XSLT with the Transform Document task
  - Resolves issue with Log task causing document to be deleted from the logs
  - Enhancements to the Convert JSON to XML processing related to spaces and blanks
    Resolves issues with the Transform Document task when disabled tasks exist in the task list

Summary of Enhancements in Release 9.1.9 [12/1/2020]

Enhancements and Bug Fixes

- **Access Control Policies**
  - Resolves issue with non-privileged users accessing certain screens

- **Data Source Policies**
  - A change to the Oracle Data Source policies may impact those who have different service and database names

- **System / WebAdmin**
  - Resolves an issue with the Online Help

- **Task List Processing**
  - Resolves issue with SOAP to MTOM conversion task with SOAP 1.2

Summary of Enhancements in Release 9.1.5 [09/25/2020]

Enhancements and Bug Fixes

- **WSDL and Content Policies**
  - NEW FEATURE – New OpenAPI Content Policies support importing of both JSON and YAML OAS 3.0 definitions (OpenAPI Specification) to quickly virtualize and secure the APIs in Forum Sentry

Summary of Enhancements in Release 9.1.2 [07/23/2020]

Enhancements and Bug Fixes

- **Access Control Policies**
  - NEW FEATURE – Adds OAuth token revocation per RFC7009
  - NEW FEATURE – Adds support for SAML 2.0 Metadata files to simplify SAML SSO use cases

  - ENHANCEMENT – Adds support for transient SAML NameID in the User Identity and Access Control task

  - FIXED – Resolves issue with IP ACL deny option

- **Logging / Reporting**
  - NEW FEATURE – Adds new AI Log which provides important runtime logging events and latency metrics condensed into a single line more suitable to feed SIEM and AI engines

  - ENHANCEMENT – Improves certain Task List failure error messages
  - ENHANCEMENT – Adds new AI Log option to Remote Syslog policies
  - ENHANCEMENT – Adds detailed logging for each operation performed in a Convert Value task

  - FIXED – Resolves issue with option to disable monitoring stats for certain types of network policies
  - FIXED – Resolves issue disabling Remote Syslog policies
  - FIXED – Resolves issue with NPE shown in logs when verifying a SiteMinder cookie

- **PKI / Security / SSL Policies**
  - o NEW FEATURE – Expiring keys now show as highlighted on the Key page

  - o ENHANCEMENT – Updates SSH Enabled Macs, Enabled Ciphers, and Enabled Key Exchanges used with both the ForumOS CLI and runtime SFTP policies
  - o ENHANCEMENT – Upgraded the MQ Libraries which allows for use of GCM ciphers with MQ network policies

  - o FIXED – Resolves issue with PGP encryption using RFC 1991 of files over 100MB
  - o FIXED – Resolves issue with public key details when generating a CSR
  - o FIXED – Resolves issue with PGP signature verification
  - o FIXED – Resolves issue with Certificate and Signer Group searching
  - o FIXED – Resolves issue with SFTP policies not using the updated SSH MAC/Cipher/Enabled Key Exchange options

- **Network Policies**
  - o NEW FEATURE – Adds ability to forward proxy SSL/TLS traffic with man-in-the-middle inspection

  - o ENHANCEMENT – Upgrades the ActiveMQ libraries to version 5.15.9
  - o ENHANCEMENT – Upgrades the MQ libraries to version 8.0.0.13 which include updated cipher suites
  - o ENHANCEMENT – Upgrades the WebLogic libraries to version 12.2.1.2.0
  - o ENHANCEMENT – Updates the AWSv4 Signature feature used for authentication to AWS APIs
  - o ENHANCEMENT – Adds ability to use HTTP compression with HTTP/MQ protocol mixing
  - o ENHANCEMENT – S3 Network Policies now utilize the latest AWS authorization mechanism

  - o FIXED – Resolves issue with response caching
  - o FIXED – Resolves issue with error message when attempting to PUT to a read-only directory using an SFTP policy
  - o FIXED – Resolves issue with SFTP policies not using the updated SSH MAC/Cipher/Enabled Key Exchange options
  - o FIXED – Resolves issue with Solace remote policies allowing a more graceful recovery from a hung state

- **REST API**
  - o NEW FEATURE – Adds new PortalAPI for communication with Forum API Developer Portal

- **System / WebAdmin**
  - o NEW FEATURE – Adds new PortalAPI for communication with Forum API Developer Portal

  - o ENHANCEMENT – All database schemas for the Data Source policies have been updated
  - o ENHANCEMENT – Updates SSH Enabled Macs, Enabled Ciphers, and Enabled Key Exchanges used with both the ForumOS CLI and runtime SFTP policies
  - o ENHANCEMENT – Adds ability to exclude SSL Termination Policies with configuration import/export/transfer
  - o ENHANCEMENT – Adds ability to specify multiple primary License Servers with Elastic Licensing model
  - o ENHANCEMENT – Adds Swagger library version to the Library Versions Details on the General Info page
  - o ENHANCEMENT – Adds TibcoEMS library version to the Library Versions Details on the General Info page
  - o ENHANCEMENT – Adds the "Date Created" value to the first screen of the Network Policy wizard
  - o ENHANCEMENT – The runDiagnostics troubleshooting tool now collects hardserver logs from HSM enabled systems

- o ENHANCEMENT – Sentry can now try multiple primary License Servers to obtain a license during startup
- o ENHANCEMENT – Backup Policies of type S3 now utilize the latest AWS authorization mechanism
- o ENHANCEMENT – Adds ForumOS version information to the General Info page

- o CHANGED – Updates ClamAV Engine to version 0.102.2
- o CHANGED - Forum Sentry Virtual Appliances and AWS EC2 instances running the legacy ForumOS version 3.2/3.3 (instances launched with older OVA files and older AMIs) are not upgradeable to v9.1. New VMs and EC2 instances will be needed. The ForumOS version can be found with the "show general" command in the ForumOS CLI. Please contact Forum Systems Support for assistance migrating policies and licenses.

- o FIXED – Resolves issue with ClamAV scanning of potential zip bombs
- o FIXED – Resolves issue with non-privileged users on the Import/Export screens
- o FIXED – Resolves issue with WWW-Authenticate response headers added by Sentry being removed
- o FIXED – Resolves issue on Documents page related to name of the new document
- o FIXED – Resolves issue with page reloads after changing the active Domain
- o FIXED – Resolves issue with page refresh on the Cache Meter page
- o FIXED – Resolves issue displaying the remote settings of a Virtual Directory with a Chrome browser
- o FIXED – Resolves issue with the ClamAV "daily file version" information not refreshing on the ClamAV page with software instances of Sentry
- o FIXED – Resolves issue with database migration scripts
- o FIXED – Resolves issue with viewing cookies stored in a database on the Cache page
- o FIXED – Resolves issue with Getting Started page when using multiple Domains
- o FIXED – Resolves issue on the Import screen browsing Sentry config files stored in an Oracle database
- o FIXED – Resolves issue with field sizes on License page

- **Task List Processing**
  - o ENHANCEMENT – Improves certain Task List failure error messages
  - o ENHANCEMENT – Global Task Lists now displayed on Task Lists tab of WSDL Policies
  - o ENHANCEMENT – Adds support for SAML NameID type "transient" in the User Identity and Access Control task
  - o ENHANCEMENT – Adds detailed logging for each operation performed in a Convert Value task

  - o FIXED – Resolves issue disassociating Task Lists from WSDL Policies on the Task List tab
  - o FIXED – Resolves issue (NPE) when creating a Validate Document Structure task

- **WSDL and Content Policies**
  - o NEW FEATURE – Adds support for SAML 2.0 Metadata files to simplify SAML SSO use cases
  - o NEW FEATURE – REST Policies can now optionally be displayed in the Forum API Developer Portal
  - o NEW FEATURE – YAML files can now be attached to REST Policies for purpose of displaying a Swagger UI in the Forum API Developer Portal

  - o ENHANCEMENT – Adds ability to set the published protocol/host/port values with REST policies that will be displayed in the API Developer Portal
  - o ENHANCEMENT – Web Form Request Filters now supports content-types other than XML
  - o ENHANCEMENT – Global Task Lists now displayed on Task Lists tab of WSDL Policies

  - o FIXED – Resolves issue disassociating Task Lists from WSDL Policies on the Task List tab
  - o FIXED – Resolves issue with trailing whitespace in virtual directory causing problems at start-up

Summary of Enhancements in Release 8.11.61 [04/01/2020]

Enhancements and Bug Fixes

- **Logging**
    - Removes extraneous audit log messages related to mapping tasks
    - Resolves issue with retention of log data after midnight rollover when log backup is enabled

- **Task Lists**
    - Resolves performance degradation issue related to the Pattern Match task
    - Resolves issue with the Query LDAP task creating new connections to the LDAP server for each query
    - Resolves issue with the Validate Document Structure task related to importing of XSD files
    - Resolves issue with the Mapping Table task not displaying / allowing certain characters

Summary of Enhancements in Release 8.11.55 [02/03/2020]

Enhancements and Bug Fixes

- **Network Policies**
    - Resolves issue with MQ Listener policies sending root user ID to MQ

- **PKI**
    - Resolves issue with using certain ciphers with HSM hardware appliances

- **System**
    - Resolves issue with CLI enable mode password in command history
    - Resolves issue with IP address syntax validation in CLI commands

- **Task Lists**
    - Resolves issue setting path via mappings within Enrich Message task

Summary of Enhancements in Release 8.11.52 [12/06/2019]

Enhancements and Bug Fixes

- **System**
    - Resolves issue with adding certain network routes (invalid IP address format error)

- **Task Lists**
    - Updates the "Validate Bankline" task for processing of ISO8583 and MT198 messages

Summary of Enhancements in Release 8.11.50 [10/21/2019]

Enhancements and Bug Fixes

- **Access Control Policies**
    - Resolves issue with renamed WS-Trust policies being removed from associated User ACLs

- **Network Policies**
    - Adds support for processing empty body Solace messages
    - Resolves issues disabling multiple (many) WebLogic network policies simultaneously
    - Resolves issue with proxy policies not being used

- **PKI**
    - Resolves issue with Signer Group key searching

- o Removes 33-character limit with key names

- **System**
  - o Resolves issue with memory settings with AMI and Virtual Appliance instances
  - o Resolves issue with software instances using elastic licensing

- **Task Lists**
  - o Updates the "Validate Bankline" task for processing of ISO8583 and MT198 messages over MQ
  - o Resolves issue with the Query LDAP task not returning multiple values

Summary of Enhancements in Release 8.11.42 [08/29/2019]

Enhancements and Bug Fixes

- **Task Lists**
  - o Adds new "Validate Bankline" task for processing of ISO8583 and MT198 messages over MQ

Summary of Enhancements in Release 8.11.39 [08/06/2019]

Enhancements and Bug Fixes

- **Network Policies**
  - o Resolves issue with AWSv4 Signature option on remote policies
  - o Resolves issue with AMQP 1.0 listener policies reverting to default port

- **System**
  - o Updates the virtual ForumOS upgrade packages to the 556X platform

- **PKI**
  - o NEW FEATURE – Adds support for specifying multiple Subject Alternative Names (SANs) when generating keys

- **WebAdmin**
  - o Resolves issue with System Name no longer showing in the browser tab

- **Task Lists**
  - o Resolves issue with Replace Document task

Summary of Enhancements in Release 8.11.34 [06/03/2019]

Enhancements and Bug Fixes

- **Network Policies**
  - o NEW FEATURE – Adds support for AWSv4 Signatures to HTTP remote policies

- **System**
  - o Resolves rare issue with failed SSL handshakes after system reboot
  - o Resolves NPE shown instead of an Access Denied error message

- **ClamAV**
  - o Updates ClamAV engine to v0.100.3

- **WebAdmin**
  - o Resolves issue with System Name being truncated in the WebAdmin Banner

- The Dependency Viewer was erroneously removed from the keys page in the initial 8.11 release, it has been added back

- **Task Lists**
  - Resolves issue with Replace Document task

Summary of Enhancements in Release 8.11.23 [04/01/2019]

Enhancements and Bug Fixes

- **Task List Processing**
  - Adds Dynamic Metadata Schema Package Handling for ZIP Processing
  - Resolves Decryption failures when using the RSA-OAEP Key Wrap Algorithm

- **Virtual Directories**
  - Resolves issue with cleared paths reverting to previous values

Summary of Enhancements in Release 8.11.19 [02/28/2019]

Enhancements and Bug Fixes

- **Access Control Policies**
  - NEW FEATURE – Adds support for Host ACL policies for Listener Policies and Virtual Directories

  - ENHANCEMENT – Adds the ability to store user information Identity Attributes to existing session cookies, previously all user attribute information had to be stored when the cookie was generated

  - CHANGED – Removes support for TAM Policies
  - CHANGED – Resolves issues with renamed Access Control policies as show in User ACLs

- **Logging**
  - ENHANCEMENT – Adds logging for the configuration backups performed by Backup Policies

- **PKI / SSL Policies**
  - ENHANCEMENT – Adds support for GCM ciphers with SSL Policies

  - ENHANCEMENT – Adds the ability to sort the Keys page by key/cert name
  - ENHANCEMENT – Adds the ability to search and filter the Keys page by Label

- **Network Policies**
  - NEW FEATURE – Adds ability to create and modify Solace Network Policies
  - NEW FEATURE – Adds ability to pass Message Persistence as a property to RabbitMQ
  - NEW FEATURE – Adds ability to bind to existing RabbitMQ exchanges marked as Durable

  - CHANGED – Removes IP and Host ACLs from JMS network policies
  - CHANGED – The embedded Solace Libraries have been updated to v8.2 (Solace v8.2 server)

  - FIXED – Resolves issue with WebLogic Policies not reconnecting properly after reboot

- **REST API**
  - NEW FEATURE – Adds ability to create and modify Solace Network Policies
  - NEW FEATURE – Adds ability to set Labels on policies, note that any existing labels on updated policy objects are replaced with new label set via REST API call

  - ENHANCEMENT – Adds ability to enable the option "Use virtual host as a regular expression" on virtual directories

- **System / WebAdmin**
  - NEW FEATURE – Adds support for upcoming Elastic Licensing Model, includes a new License Page of the WebAdmin under Settings
  - NEW FEATURE – Adds support for upcoming API Developer Portal product which will call into a new Sentry Portal API to catalog and document Sentry REST Policies
  - NEW FEATURE – The Login Color feature set on the User Preferences is now available as a Color Bar shown at the bottom of all pages of the WebAdmin
  - NEW FEATURE – Adds Network Utilities (Ping, Traceroute, Checkport, and DNSLookup) to the WebAdmin

  - ENHANCEMENT – Updates to the default Pattern Match Policies (regex patterns)
  - ENHANCEMENT – Adds the ability to control validation of existing WebAdmin credentials when importing an FSX config file (default is enabled)
  - ENHANCEMENT – Adds support SSL and SMTP user credentials with the Email Setting on the System Settings page
  - ENHANCEMENT – Adds support for dragging and dropping Tasks within Task Lists
  - ENHANCEMENT – Adds S3 backup option to Backup Policies

  - CHANGED – Renamed STS Policies to SAML STS/IdP and moved them to the new Identity Providers category
  - CHANGED – Renamed OAuth Policies to OAuth IDP and moved them to the new Identity Providers category
  - CHANGED – Removes benign SSH log messages seen during reboots and config imports
  - CHANGED – Removes support for the deprecated AmberPoint integration
  - CHANGED – Removes support for the deprecated HP Select Access integration
  - CHANGED – Improves WebAdmin pages that show table information

  - FIXED – Resolves UI issues on Cache Policies page
  - FIXED –Resolves issue with ICAP AV page where incorrect error was displayed host value is invalid
  - FIXED – Resolves issue with invalid characters allowed in policy Labels
  - FIXED – Resolves issue with display of WSDL Policies utilizing SMTP network policies
  - FIXED – Resolves issue with SSL connections to DB2 Data Source Policies
  - FIXED – Resolves issue with Sentry Auth access control policies missing on the Overview page
  - FIXED – Resolves NPE seen with configuration Compare feature
  - FIXED – Resolves issues with Bootstrap Import/Export during HSM appliance initialization

- **Task List Processing**
  - ENHANCEMENT – Adds support for dragging and dropping Tasks within Task Lists
  - ENHANCEMENT – Improvements to the Zip Contents Processing task

  - FIXED – Resolves issue with User Identity & Access Control task becoming inaccessible
  - FIXED – Resolves issue validating wsu:Created Time Stamps
  - FIXED – Resolves issue with Convert SOAP task (SOAP to XML) related to namespaces in SOAP payloads
  - FIXED – Resolves issues with Sentry generated Signatures being non-compliant with Basic Security Profile Spec R5215

- **WSDL and Content Policies**
  - FIXED – Resolves issue with display of WSDL Policies utilizing SMTP network policies

Summary of Enhancements in Release 8.9.89 [01/28/2019]

Enhancements and Bug Fixes

- **Network Policies**
  - Resolves issue with WebLogic JMS policies not reconnecting properly after reboot

Summary of Enhancements in Release 8.9.86 [01/14/2019]

Enhancements and Bug Fixes

- **System**
  - Resolves issue with the SNMP Monitoring

- **IDP Processing**
  - Resolves issue with parsing XML attachments after upgrading from older releases to v8.9

- **Task List Processing**
  - Resolves issue with the "proxy client user agent" option when using the Enrich Message task

Summary of Enhancements in Release 8.9.80 [11/01/2018]

Enhancements and Bug Fixes

- **System**
  - Resolves issue with the Sentry config Backup "only changes" option after upgrade

Summary of Enhancements in Release 8.9.9.39 [10/03/2018]

Enhancements and Bug Fixes

- **ClamAV**
  - Adds option to Enable/Disable blocking of encrypted archives with ClamAV scanning

- **System**
  - Resolves issue with static routes being deleted upon restart

Summary of Enhancements in Release 8.9.9.37 [08/31/2018]

Enhancements and Bug Fixes

- **Network Policies**
  - Resolves issues with WebLogic JMS throughput performance
  - Resolves issue with SMTP policies related to null MAIL FROM header

- **Task Processing**
  - Resolves issue with Pattern Matching task configured for Attachment XML Element Content

- **Redirect Policies**
  - Adds the ability to overwrite the Redirect URL using a task list on the Redirect Policy

- **Content Policies**
  - Resolves issue with mapped redirect_uri with OAuth policies

- **PKI**
  - Resolves issue with importing certs on top of existing key pairs

- **System**
  - Resolves issue where NPEs are shown in the system log after reboots

- **REST API**
  - Resolves issue with invalid Boolean inputs not being handled correctly

Summary of Enhancements in Release 8.9.9.33 [07/03/2018]

Enhancements and Bug Fixes

- **System / WebAdmin**
    - Resolves GDM Transfer issue creating listener policy exceptions in the logs
    - Resolves issue with SSH log messages during reboot

- **Task Processing**
    - Resolves unhandled exception seen when modifying certain task lists

- **Network Policies**
    - Improves WebLogic recovery mechanisms for certain conditions
    - Resolves WebLogic listener timeouts upon reboot

- **Content Policies**
    - Resolves exception when filter expression is blank

For release notes for previous branches, please see:

[Forum Sentry Release Notes](#)