

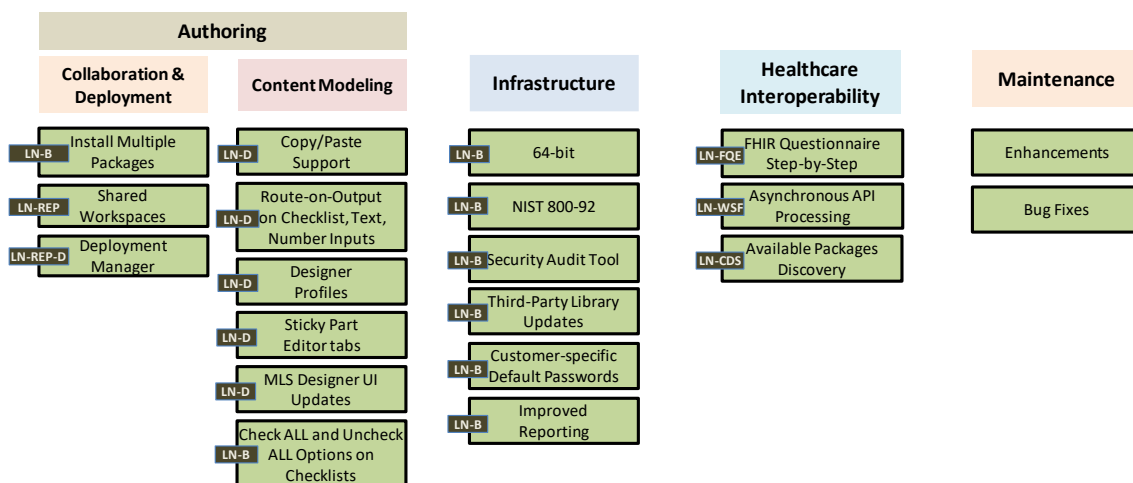
Release Notes: LogicNets Release 8.1

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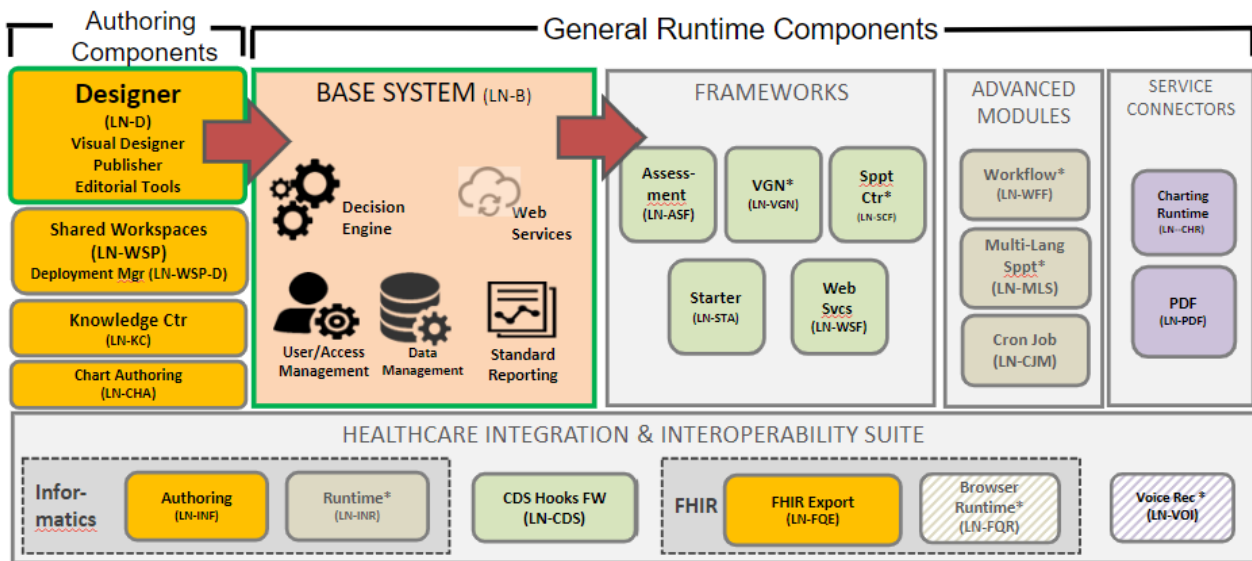
1.0 Introduction

LogicNets is pleased to announce Release 8.1, which introduces new features for enterprise authoring and deployment as well as digital healthcare content integration and interoperability. It also includes a major internal infrastructure upgrade for the LogicNets platform, significantly enhancing performance and security. We have made changes across many areas, as highlighted in the image below.



For information about LogicNets changes related to v8.0 of our system, see the release notes for that version, which are available here: [v8.0 Release Notes](#).

2.0 LogicNets Software Components Overview



3.0 New Functionality

This section highlights the new features included in Release 8.1. Note that some of the new or updated features may require you to acquire additional licenses or to make changes to existing applications. We have identified these possible required actions in orange boxes in this document.

Warning: You can import projects modeled with Release 8+ into older releases. However, LogicNets does not guarantee backward compatibility when these projects use new functionality.

3.1 Shared Workspaces (LN-WSP, LN-WSP-D)

Support Articles | [Shared Workspaces Projects](#)

Shared Workspaces (LN-WSP) is a new LogicNets Release 8.1 platform component for customers with collaborating authoring staff or teams. It enables secure collaboration between multiple Designer users or groups of modelers each working with their own content and gives them the ability to efficiently share and jointly develop, manage, and deploy applications between their workspaces. It is a valuable new option for applications with:

- Frequent updating and versioning needs
- Numerous underlying projects/packages on independent maintenance and release cycles
- Sophisticated deployment and lifecycle management needs
- Enterprise-level, mission-critical production processing

The Shared Workspaces function works with LogicNets' sophisticated updated version control capabilities at the project level (see [3.2.1.7 Version Control](#) for more details). Shared Workspaces allows Designer users to set up one or more virtual content workspaces from which they can securely share projects with other internal or external users they invite for collaboration or joint access. Sharing provides read-only or read/write access to content and includes version control for multi-user collaboration. Shared Workspaces enables flexibility for content management even with multiple owners, editors, or reviewers.

You can acquire Shared Workspaces with the additional new Deployment Manager component option (LN-WSP-D). The Deployment Manager is a dashboard that allows Dev Op staff to manage the complete collection of LogicNets executable packages generated from Shared Workspaces. Users can see all

available packages, publish new versions, and control and track the status of the distribution of different versions for runtime execution.

3.2 Base System (LN-B)

3.2.1 Designer Features

3.2.1.1 Check-All and Uncheck-All Options on Checklists

Support Articles	Checklist
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Release 8.1 now incorporates the ability for you to add check-all and uncheck-all controls to your checklist inputs.

3.2.1.2 Copy/Paste Support

Support Articles	Copy/Paste To and From Generic Table Copy/Paste Functionality with Informatics
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With LogicNets v8.1+ you can copy and paste elements of the LogicNets generic table and informatics editors, which help model logic. You can copy and paste elements within the same table to another generic table or to a table in Excel, and you can also copy elements from tables across different workspaces and browsers and paste them into LogicNets-based tables. This feature greatly reduces the time and complexity of setting up lists within a radio list, checklist, or dropdown, because you can drop an entire block of multiple options into the table editor in one action.

3.2.1.3 Designer Profiles

Support Articles	Designer Profiles
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Designer Profiles allows administrators to configure the LogicNets Designer to simplify what some users see when they model content. Administrators can create profiles and assign them to content modelers, so users only see the editor functions they need. You can use Designer Profiles for newer users, filtering out advanced options, and simplifying screens. Or you can create profiles that remove editing functions your users do not need, speeding their work.

3.2.1.4 Multi-Language Designer UI Updates

Support Articles	Multi-Language Support
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With this release, LogicNets moved the Designer Multi-Language management pane from the project page to the bottom panel of the Designer.

3.2.1.5 Route on Output for Checklist, Text, and Number Inputs

Support Articles	Checklist
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This release introduces the route-on-output feature for checklists, text input fields, and number input fields. As with the route-on-output feature for radio lists, if you check this box in the part editor the node has two outputs you can connect to different downstream nodes:

- `_unanswered`: The system traverses this output when no checklist items are selected. This can be considered the default leg.
- `_answered`: The system traverses this output after any checklist item is selected, regardless of any validation rules.

An example of the benefits of this new feature is that you can use it in Assessment Framework applications to prevent the system from displaying subsequent questions after a checklist, text, or number

input until the user provides at least one answer. Prior to the introduction of this feature, you had to model a rule after each checklist or input field part to regulate downstream display.

This is the same functionality as radio lists with *route on output* configured. Unchecking the route-on-output checkbox updates the node, so it has one output, which the system traverses regardless of any user input.

3.2.1.6 Sticky Part-Editor Tabs

Starting with this release the system "remembers" a selected part editor tab as you navigate between different Designer displays. When you open the part editor of another node the system opens the same tab as the one from the first node. Previously, the system always opened the first tab, but now the system opens the first tab only if the previously opened tab is not available.

3.2.1.7 Version Control

Support Articles	Version Control
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With this release, LogicNets has added to our pre-existing logicnet-level versioning by adding full version control at the project level. Users working in the same Designer workspace can now do the following:

- Collaborate on a project with an easy-to-use check-in/check-out capability that protects content integrity.
- View the full version history, including revision number, user and date time stamps, as well as any accompanying version notes and version status (e.g. draft, beta, release).
- Revert the project to an earlier revision or update it to any later revision.
- Turn off version control for the project. Note: This feature is reserved for users with admin rights.

Shared Workspaces leverages the updates to version control to ensure content accessible by disparate workgroups is version controlled.

3.2.2 User Management

3.2.2.1 Customer-Specific Admin Account

Support Articles	New LogicNets Installation
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From this release forward the installation script asks you to provide the email address of the admin user when you install LogicNets on a server. The system uses this email address to create the initial admin user account.

3.2.3 Package Management

3.2.3.1 Available Package Discovery

Support Articles	Package Discovery
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The Package Discovery CDS Hook is a Web API that implements the CDS Hooks interface standard (<https://cds-hooks.org/>) and returns all available package endpoints (start URLs) to which the authenticated user has access.

3.2.3.2 Support Installing Package Zips with Multiple Packages

Support Articles	Publishing Multiple Projects Package Installer
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Designer users can publish multiple applications at one time and download the published packages as a single zip file. Starting in v8.1, users can install this single zip file using the Package Installer without extracting the zip first.

3.2.3.3 Security Audit Tool

Support Articles	Security Audit Dashboard
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With LogicNets, Designer users can publish projects into packages and make them available through public start codes. Based on the configured authentication and roles settings and the configured user groups, users can access these packages with or without authentication and with specific roles. Designer users can also place these packages on the logon portal dashboard.

Deployment packages with start codes but without authentication or defined user roles could risk your system's security. Therefore, LogicNets recommends periodically validating which packages are deployed and who can access these packages. LogicNets added two dashboards to the Access Management functionality to support this audit/security check.

3.2.4 Runtime/System

3.2.4.1 64-bit Operation

Support Articles	LogicNets Installation: System Requirements and Prerequisites Set Up an ODBC Driver (Windows Systems)
-------------------------	--

Prior to this release, the LogicNets runtime was 32-bit on Windows and 64-bit on Linux. With this release, LogicNets upgraded our runtime to 64-bit for Windows. To use v8.1, you will need to install the Microsoft Visual C++ Redistributable package *vc_redist* (a Visual Studio redistributable) 64-bit version as part of the LogicNets upgrade process. You will also need to install the 64-bit ODBC drivers and DSNs for enterprise databases such as MySQL, MS-SQL, and/or Oracle.

3.2.4.2 Change of Precedence of AND/OR Operators Between Lua 4 and Lua 5

Support Articles	Missing parentheses which may alter Boolean precedence Cannot parse expression to check for Boolean precedence [reason='%s']
-------------------------	---

LogicNets Release 8.0+ is based on Lua 5, in which the precedence of the AND and OR operators inside rules changed. With Release 8.0+ both operators have the same precedence. For example: (Object1 equals "A") OR (Object1 equals "B") AND ((Object2 equals "C") OR (Object2 equals "D"))

- Up to Release 7: Only TRUE if Object1 and Object2 meet the conditions.
- Release 8+: Already TRUE when only Object1 meets the conditions.

LogicNets recommends that you use parentheses to get the same results on both versions: (Object1 equals "A") OR (Object1 equals "B")) AND ((Object2 equals "C") OR (Object2 equals "D"))).

With this release, LogicNets enhanced the Designer validation tool to detect missing parentheses in rules nodes and rules inside parts such as show/hide radio list options. The tool now produces warnings 50002 and 50003.

3.2.4.3 NIST 800-92 Logging

Support Articles	NIST 800-92 Logging https://csrc.nist.gov/pubs/sp/800/92/final
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With this release, LogicNets aligned our security event logging with the NIST 800-92 guideline (<https://csrc.nist.gov/pubs/sp/800/92/final>), which provides a high-level overview and guidance for

planning, developing, and implementing an effective security log management strategy. The NIST 800-92 guideline covers infrastructure, organization, and applications, and the LogicNets runtime aligns with the NIST guidelines for applications, events correlation, and offloading event logs to protect the system against tampering.

The NIST guideline recommends logging all security related events, including the following:

- Client Requests and Server Responses
- Account Information
- Usage Information
- Significant Operational Actions

Client requests and server responses and usage-information events shall be logged by the Cloud or on-premises infrastructure. The LogicNets runtime and system applications log account information and significant operation actions, including the following types of events:

- User authentication, authorization actions and failures
- User details modifications (password, name, email)
- User groups and role modifications
- Session creation and deletion

The system stores security event logs in the changelog together with application events, and you can review it using the LogicNets standard reporting application. For a detailed list of security logging events, see [Security Event Logging](#).

3.2.4.4 Third-Party Library Updates

The LogicNets runtime uses licensed third-party components, and security compliance requires that we keep embedded software up to date. This release includes updates to the following third-party components:

Component	Previous Version	Current Version
Microsoft Visual C++ 2013 Redistributable (x64)	-	12.0.40664.0
OpenSSL	3.0.8	3.0.13
UnixODBC	2.3.11	2.3.12
XMLSEC	1.3.0	1.3.3
ZLib	1.2.13	1.3.1
SQLite	3.42.0	3.45.1
Moment.js	2.29.1	2.30.1
Highcharts	7.2.1	11.4.1

3.2.5 Reporting

3.2.5.1 Standard Reporting

Support Articles	Standard Reporting Package
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LogicNets makes the Standard Reporting package available for all installations. This package contains reports on basic system usage, sessions, and users, and you get reports by installed package and some installation-specific meta data such as organization or user role, with minimum configuration.

In this release we have updated reporting to manage large datasets better. The system fetches data only after you make selections, speeding the time of report display. The system also allows you to make configurations to perform automated data removal, either to an external archive or deletion. This ensures the online datasets stay manageable and focus on current data, as defined by you. In addition, if you

have the Chart Authoring module, charts and their downloaded copies now show key meta data such as timeframe, package, and data source in the subtitle and footnotes.

3.3 Healthcare Integration and Interoperability: Browser Runtime (LN-FQR)

3.3.1 FHIR Questionnaire Step-by-Step Support

Support Articles	FHIR Support
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In a previous release, LogicNets introduced the FHIR Questionnaire export functionality, representing a complete LogicNets model in the FHIR Questionnaire format and enabling users to build a complete offline application. The client processes the FHIR expressions and rules inside the Questionnaire to enable, disable, show, and/or hide elements.

In this release, LogicNets introduces a hybrid solution. The API still exports a FHIR Questionnaire, but the Questionnaire only contains the questions/elements that should be presented to the user. The client sends back the given answers to the API, which returns a new FHIR Questionnaire with an updated set of questions to be presented.

This hybrid solution offers the following advantages:

- The client implementation is much simpler because it does not need to process expressions.
- The intellectual proprietary of the logic of the modeled content is not shared with (untrusted) clients.
- Models can contain more process nodes/parts, which allows more advanced calculations or accessing internal sources (databases, web services).

3.4 Web Services (LN-WSF)

3.4.1 Asynchronous API Processing

Support Articles	Asynchronous Web API Calls
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The LogicNets WebService Framework now supports asynchronous request handling using *RFC 7240: Prefer Header for HTTP*. This supports downloading API responses in small chunks.

3.4.2 Outbound Web Service Call Security

Support Articles	Outbound API Security
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Updated security is important and Release 8.1+ updates require that you whitelist all outbound cross-domain calls to protect the system against Server Side Request Forgery (https://owasp.org/www-community/attacks/Server_Side_Request_Forgery).

IMPORTANT: ACTION REQUIRED

You must whitelist external URLs through the system configuration application if your application uses outbound API calls (e.g. by using the call webservice part).

4.0 All Changes

In addition to the functionality mentioned in other sections, Release 8.1 includes the enhancements and bug fixes detailed below.

4.1.1 Base System (LN-B)

Functional Area	Update	Issue #
Access Management	Added option to download users.	LN-16234
API	Implemented service to allow discovery of packages/algorithms through an API.	LN-17590
Authentication	Added support for JSON Web Token (JWT)-bearer as client_assertion_type for client authentication and added OAuth 2.0 Client Credentials flow.	LN-16850
Authentication	Fixed: Email Template - User information not populating for Blocked Access email.	LN-16824
Custom Part	Fixed: Custom part action does not work.	LN-18592
Database	Update MySQL 8.0.	LN-14567
Logging	Added NIST 800-92 Logging.	LN-18254
Logging	Added changelog prune job.	LN-18284
Part	Added route-on-output to checklist input.	LN-16350
Part	Added route-on-output to text/number input.	LN-18107
Part	Added Text Import to Table.	LN-17434
Part	Added dbgrid Text Filtering Enhancement.	LN-16435
Part	Added multi-caption support.	LN-17024
Part	Added min/max validation rule options to numeric input.	LN-18106
Part	Fixed: DateTime Input - The caption cannot be HTML enabled - mismatch vs other form parts.	LN-9995
Part	Fixed: File Upload - Filter to allow only specific extensions does not work.	LN-17053
Part	Fixed: Pattern Match - Result not updated when no match found on second run+.	LN-17065
Part	Removed: Removed Selection Path parameter from hoverable styled dropdown.	LN-18105
Part	Updated: Date Input needs a DEFAULT value to mirror radio, dropdown, text input.	LN-18534
Part	Added part to collect calling node details.	LN-18676
Part	Promoted get_token_info part to beta/public.	LN-18712
Part	Promoted tab_progress part to beta/public.	LN-18713
Part	Fixed: ODBC records give back an integer instead of a float.	LN-18772
Part	Fixed: Autosubmit when autocomplete and value is not selected from the autocomplete dropdown/suggestions.	LN-18852
Part	Updated dbgrid: Make TextSearch placeholder text customizable (currently blank).	LN-18907
Part	Fixed: Checkbox as Boolean in ASF does not save value, although it works with number/text.	LN-19118
Part	Checklists: Check All and Uncheck All options.	LN-4723
Part	Fixed: Empty answer option breaks runtime.	LN-17533
Part	Updated dbgrid: ReadOnly column - Expand to allow a collection of columns.	LN-13759
Part	Fixed: Rounded results have type string, but they should have type number.	LN-18725
Part	Fixed: Highcharts does not generate PDF, PNG, JPG file as expected.	LN-19288
Part	Added tooltips to dbgrid filter/download buttons.	LN-19343
Package Installer	Added support for installing package zips with multiple packages.	LN-18186
Runtime	Fixed: Between Lua 4 and Lua 5 the precedence of the AND and OR operator is changed	LN-17298

Functional Area	Update	Issue #
Runtime	Upgraded runtime to 64-bit for Windows.	LN-16832
Security	Created Security Audit Tool.	LN-18038
Security	Added security fixes.	LN-19133
Security	Fixed: Script code can be stored in the application through the creation or modification of an organization or a user's name.	LN-16853
Security	Fixed: Sending emails on behalf of LogicNets.	LN-16854
Security	Fixed: Enumeration of usernames.	LN-16855
Setup	Added: Installation creates customer-specific admin account.	LN-13581
System Configuration	Updated: Allow configuring the data view filters.	LN-16351
Third-Party Libraries	Updated third-party libraries.	LN-18453

4.1.2 Assessment (LN-ASF)

Functional Area	Update	Issue #
AssessmentFW	Made PDF Download link text customizable through project framework setting.	LN-18329
AssessmentFW	Made PDF Download file name customizable through project framework setting.	LN-18376
AssessmentFW	Fixed: Some keyboard shortcuts are not working.	LN-18471
AssessmentFW	Fixed: Browser Tab title becomes table: 000xxx for AFW-based projects with MLS.	LN-18899

4.1.3 Designer (LN-D)

Functional Area	Update	Issue #
Access	Added role-based authorization support to workspaces.	LN-18112
Designer	Fixed: The text of the copy, paste, delete, undo and redo buttons and some navigator buttons disappear when a rule element is selected.	LN-18472
Designer	Fixed: Special characters in set data object and outputs break the logicnet graph.	LN-18282 / LN-18028
Designer	Fixed: Library Projects Settings - Packages are not listed alphabetically so hard to find choice.	LN-12457
Designer	Made header row float as a user scrolls down to rows not shown on screen.	LN-17520
Document Editor	Fixed: 404 Error when viewing api.yaml.	LN-18280
Editors	Added Designer Profiles.	LN-17436
Multi-Language Support	Fixed: Deleted content should not show up on the translation report.	LN-18200
Multi-Language Support	Added support for MLS for custom part/framework parameters.	LN-16849
Multi-Language Support	Fixed: Multilanguage breaks when switching between HTML and plain text editors.	LN-17239
Multi-Language Support	Fixed: Multilanguage fails to update translation tables when using libraries.	LN-17241
Multi-Language Support	Fixed: System does not always show duplicate translation keys.	LN-18331
Multi-Language Support	Fixed: Multilanguage autocomplete breaks when there is a "(" in the text.	LN-17255
Multi-Language Support	Fixed: Multilanguage detection when saving checklist/radio options/choices	LN-18204

Functional Area	Update	Issue #
Multi-Language Support	Added: Multilanguage Designer UI updates.	LN-18323
Node Editor	Fixed: In a process node, pasting without copying anything inserts a blank process step.	LN-17544
Part Editor	Fixed: Rule editor shows duplicate options.	LN-17622
Part Editor	Added an option to not escape HTML from the checklist and radio when adding it from a data table.	LN-17297
Part Editor	Added copy/paste support.	LN-17123
Part Editor	Added sticky part-editor tab.	LN-17534
Part Editor	Fixed: Issue saving when using the HTML editor.	LN-19031
Part Editor	Expanded dbgrid part editor for custom SQL and custom WHERE clause.	LN-17438
Project	Fixed: Problem with ">" character in project name.	LN-19109
Publishing	Fixed: Edit published package details popup does not work.	LN-17615
Search	Indexed search strings that are defined by framework part parameters.	LN-16872
Validation	Between Lua 4 and Lua 5 the precedence of the AND and OR operator changed.	LN-17298
Validation	Fixed: Send-mail generates a false positive validation error.	LN-9562
Validation	Fixed: Validation error on 'scope'.	LN-9561
Versioning	Added shared workspaces and revision management.	LN-16826

4.1.4 Healthcare Integration and Interoperability: Browser Runtime (LN-FQE)

Functional Area	Update	Issue #
FHIRQuestionnaire	Added FHIR Questionnaire Step-by-Step Support.	LN-16891

4.1.5 Web Service (LN-WSF)

Functional Area	Update	Issue #
Web Service	Added asynchronous API processing.	LN-18416
Web Service	Fixed: Stateful web services.	LN-16852
Web Service	Added outbound web service call security.	LN-19186
Web Service	Fixed: Webservice only returns cookies when the request was redirected.	LN-18826