WebSphere. Lombardi Edition 7.2

Lombardi Upgrade Readiness Check User Guide

IBM.

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Lombardi Upgrade Readiness Check Overview

Lombardi Upgrade Readiness Check is a tool that identifies business process assets that could cause issues when you upgrade from Lombardi Teamworks version 6.1.0, 6.2.0, 6.2.1, or 6.2.2 to IBM® WebSphere® Lombardi Edition version 7.2.0. Lombardi Upgrade Readiness Check is included in WebSphere Lombardi Edition version 7.2.0. and is also available by downloading APAR IC72903 from the IBM Support Web site.

The Lombardi Upgrade Readiness Check Guide provides a high-level overview of the Analysis and Planning phases of a typical upgrade project, explains how to use the Lombardi Upgrade Readiness Check tool, and discusses possible remedies for identified issues.

> Throughout this guide, Teamworks 6.x is referred to as Teamworks and WebSphere Lombardi Edition 7.2.0 is referred to as WebSphere Lombardi Edition.

Who should read this guide

The following types of users should read this guide:

- **Teamworks/WebSphere Lombardi Edition administrator:** Responsible for running Lombardi Upgrade Readiness Check to generate reports of potential upgrade issues.

- **Project manager:** Responsible for planning and managing efforts to address the issues identified.

- **Business programmer:** Responsible for understanding and estimating mitigation efforts.

- **Process tester:** Responsible for understanding and estimating any testing activities related to addressing issues.

Upgrade phases

A Teamworks upgrade project consists of the following major phases:

1. **Analysis** (days/weeks): Run Lombardi Upgrade Readiness Check to identify potential issues with your Teamworks process assets relative to WebSphere Lombardi Edition. Fix and test the issues that can be addressed in Teamworks. Repeat these steps until you find no more issues or until all remaining issues are to be resolved in the Development Upgrade phase.

   > The term, *process assets*, refers to all items created in Teamworks to define, implement, and analyze your processes, such as Business Process Definitions (BPDs), Coaches, services, participant groups, and reports.

2. **Planning** (days/weeks): Concurrently with the Analysis phase, plan the rest of the upgrade project including the following steps:

   - Implementing changes to Teamworks process assets

   - Installing WebSphere Lombardi Edition

- Migrating data to WebSphere Lombardi Edition.

3. **Development Upgrade** (weeks): Install WebSphere Lombardi Edition Process Center and import your process assets. Fix any issues you encounter and test the fixes. You must upgrade *all* your process assets at the same time. You cannot upgrade process assets incrementally.

4. **Runtime Upgrade** (days): For each runtime environment, follow these steps:

    a. Install WebSphere Lombardi Edition.

    b. Migrate in-flight process instances.

    c. Test and fix processes in the new environment.

    d. Decommission the Teamworks installation.

The following diagram illustrates the relative timing of each upgrade phase.
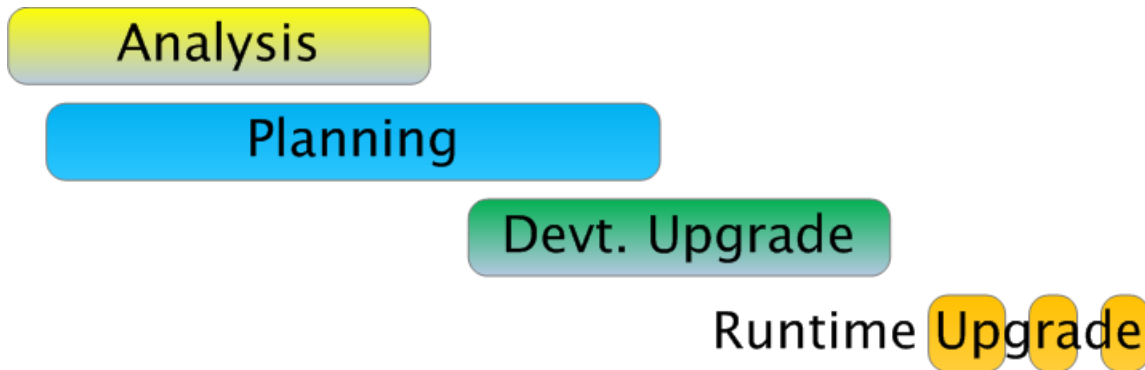
Even if you are not ready to upgrade to WebSphere Lombardi Edition right now, you can prepare for a future upgrade by running Lombardi Upgrade Readiness Check periodically and addressing any reported issues.

Installing Lombardi Upgrade Readiness Check

You can install Lombardi Upgrade Readiness Check on a Teamworks Process Server without stopping or restarting it.

Before you begin, ensure that the `JAVA_HOME` variable points to a valid Java installation. If your Process Server is running on BEA WebLogic version 9.x, Java version 1.5 is required. To perform the installation, follow these steps:

1. Extract `UpgradeReadinessCheck.zip` to a local directory.

2. If your Process Server is running on WebSphere Application Server, edit `was.properties` and specify the following information before you run the installer:

   - The name of the WebSphere Process Server profile on which Teamworks 6 is installed

   - The SOAP port of the WAS server that is designated as the Teamworks 6 Process Server.

3. Run the installer:

   - On Windows, type `install.bat [Teamworks_home]`

   - On UNIX, type `install.sh [Teamworks_home]`

   where `[Teamworks_home]` is the directory where the Teamworks product components are installed.

Running Lombardi Upgrade Readiness Check

Lombardi Upgrade Readiness Check analyzes assets stored in the Teamworks library on the Process Server. It looks for processes, BPDs, rules, interfaces, and data that could potentially cause problems when you upgrade to WebSphere Lombardi Edition.

To run Lombardi Upgrade Readiness Check, follow these steps:

1. Using a Web browser, go to `http://[host_name]:[port]/UpgradeReadinessCheck`, where `[host_name]` identifies the host on which the Process Server is installed and `[port]` is the Process Server's designated port.

2. Login as a Teamworks user who belongs either to the tw_authors or the tw_admins group.

When you log in, the tool automatically runs and displays a report.

To run the tool again, click **Re-Run Analysis** (⟳) on the top right toolbar of the Web page.

Viewing a report

Here is a sample report page:
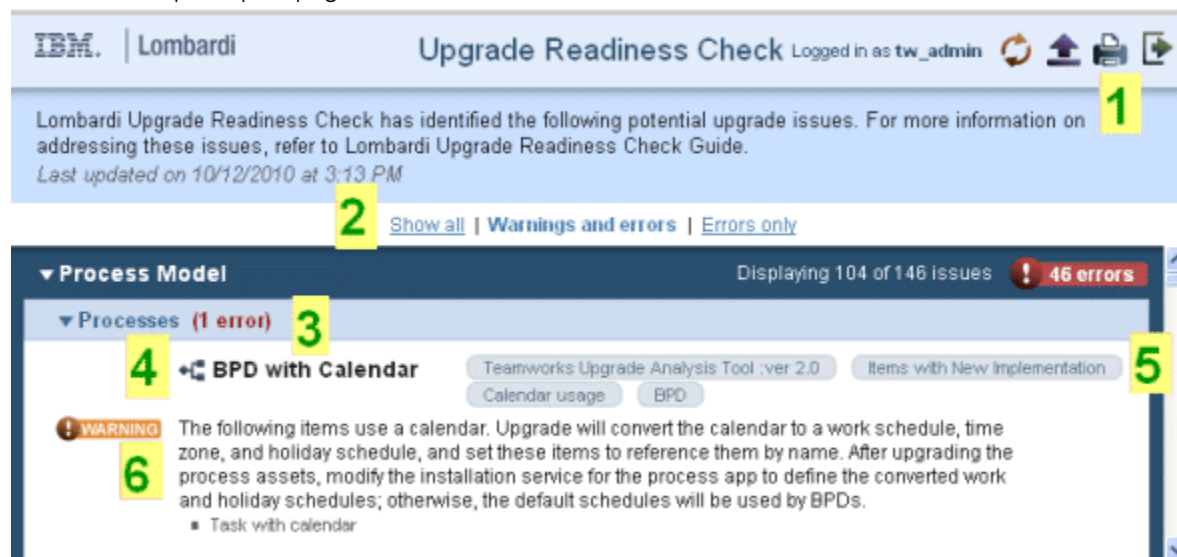
The report contains the following elements:

1. Toolbar: Click the icons to re-run the report, export a report, print a report, or logout.

2. View options: Click to choose the message types to display.

3. Category heading: All categories are expanded by default. To collapse a category, click its heading. Lombardi Upgrade Readiness Check uses the same categories as the Teamworks Authoring Environment library:

Category	Types of assets
Processes	Calendars, organizational charts, and InfoPath usage
User interfaces	Browser scripts, Coach forms, Coach v1s, and InfoPath items
Implementations	Send Alert v1s, Send Tasks, browser script steps, and API usage
Data	Alert types, alert severities, custom statuses, global variables, and custom priorities
Performance	Scoreboards and reports

4. Item name and icon.

5. Folder path to the item. In the preceding sample report, the path to the item is `Teamworks Upgrade Analysis Tool:ver2.0/Items with New Implementation/Calendar usage/BPD`.

6. Message regarding the item and, if applicable, the list of assets that use the potentially problematic item.

Messages about library items can be any of the following types:

Message Type	Description
Error ⚠ **ERROR**	Upgrading this item will result in a process that does not work as intended because the item is modified, deprecated, or not available in WebSphere Lombardi Edition. Error messages appear for *definitions* of problematic items.
Warning ⚠ **WARNING**	Upgrading this item might result in a process that does not work as intended because it uses another item that is modified, deprecated, or not available in WebSphere Lombardi Edition. Warning messages appear for *uses* of problematic items.
Info (No identifying icon)	Upgrading this item is not expected to affect the behavior of the process, but testing is recommended to ensure that the process works as intended. Info messages appear for problematic items that are defined but unused.

See Categories of upgrade issues for further information about the types of issues in each category.

Exporting a report

To export a Lombardi Upgrade Readiness Check report in a standard XML format, follow these steps:

1. Click **Export** (⬆) on the top right toolbar of the Web page.

2. In the dialog box for opening or saving the report, click **Save File**. The default name of the file is based on the current date and time: `[YYYYMMDDHHMMSS]analysis.xml`.

3. Click **OK**. The file is saved in the browser's default download location.

Printing a report

To print a Lombardi Upgrade Readiness Check report, follow these steps:

1. Select the report view that you want to print:

   • Show all

   • Warnings and errors

- Errors only.

2.
Click **Print**(🖨️) on the top right toolbar of the Web page. A printer-friendly version of the Web page is displayed and the browser's print dialog box opens.

If the print dialog box does not open, use the browser's print function to print the page, for example, select **File > Print**.

3. Click **Exit Print View** to return to the report Web page.

Categories of upgrade issues

The following tables list the categories of Lombardi Upgrade Readiness Check messages by severity (error, warning, or info).

Error conditions

The following conditions cause Lombardi Upgrade Readiness Check to issue an error message in the report. These items will not work properly if you perform an upgrade because they are modified, deprecated, or not available in WebSphere Lombardi Edition. The table below identifies the possible error messages and provides links to more information.

Condition	Where to find more information
A *browser script step* is defined in a service.	Browser script
A *Calendar* is used in the definition of a role.	Calendar
A *check business rule* is defined.	Check business rule
A *Coach Form* is defined.	Coach Form and Coach v1
A *Coach v1* is defined.	Coach Form and Coach v1
An item uses a *custom priority*.	Custom priority
An item uses a *custom status*.	Custom status
A *global variable* is linked in a BPD or service or used in JavaScript.	Non-BPD task management
An item uses an *InfoPath* item.	InfoPath
An item uses a *log variable*.	Log variable
LSW_TASK_CUSTOM is used in a service for querying.	Non-BPD task management
An *organization chart* is used in participant groups or routing.	Organization chart
A *Send Alert v1* is defined.	Non-BPD task management
An Undercover Agent (UCA) has a *specific date and time trigger*.	Specific date/time UCA

Warning conditions

The following conditions cause Lombardi Upgrade Readiness Check to issue a warning message in the report. These items use problematic constructs that are modified, deprecated, or not available in WebSphere Lombardi Edition. The table below identifies the possible warning messages and provides links to more information.

Condition	Where to find more information
An *alert severity* is used by another item.	Non-BPD task management
An *alert type* is used by another item.	Non-BPD task management
A *browser script* is used in a UI item.	Browser script
A *calendar* is defined.	Calendar
An item uses a *calendar*.	Calendar
A *custom priority* is defined and is used by other items.	Custom priority
A *custom status* is defined and is used by other items.	Custom status
A *global variable* is used in data.	Non-BPD task management
An *InfoPath* item is defined and is used by other items.	InfoPath

Condition	Where to find more information
An *internal API* is referenced in a service implementation.	APIs
An *organization chart* is defined.	Organization chart
A *Java API* is referenced in a service implementation.	APIs
A *Send Task* is defined.	Non-BPD task management
SQL queries are made against Teamworks tables.	APIs
A *shared symbol table* is used in service implementations.	Non-BPD task management
A *Web API* is referenced in a service implementation.	APIs
Visible in search is used on variables in BPDs.	Visible in search

Info conditions

The following conditions cause Lombardi Upgrade Readiness Check to issue an info message in the report. If you upgrade your process assets with these conditions present, be sure to test all BPDs and services thoroughly to ensure that all implementations work as you expect. The table below identifies the possible info messages and provides links to more information.

Message	Where to find more information
An *alert severity* is defined but not used.	Non-BPD task management
An *alert type* is defined but not used.	Non-BPD task management
A *browser script* is defined but not used.	Browser script
A *calendar* is defined but not used.	Calendar
A *custom priority* is defined but not used.	Custom priority
A *custom status* is defined but not used.	Custom status
A *global variable* is defined but not used.	Non-BPD task management
An *Infopath* item is defined but not used.	InfoPath
A *report* is defined but is not used in any scoreboards or coaches.	Reports and scoreboards
A *scoreboard* is defined.	Reports and scoreboards
Versioning is used in the library.	Versioning

Handling upgrade issues

The following sections describe various types of items whose definition or use can cause Lombardi Upgrade Readiness Check to issue an error, warning, or info message. In addition, suggestions are provided for addressing these potential issues.

APIs

Implementations that use certain APIs may be affected by upgrading to WebSphere Lombardi Edition.

- The Teamworks Java APIs were deprecated in Teamworks and they are not supported in WebSphere Lombardi Edition. They have been used primarily for modifying Process Portal or for implementing alternative client applications. Custom client code that uses Teamworks Java APIs should be updated to use WebSphere Lombardi Edition Web APIs instead. If Teamworks Java APIs are called from JavaScript in service implementations, that code should be updated to use WebSphere Lombardi Edition JavaScript APIs.

- WebSphere Lombardi Edition Web APIs should not be used in service implementations. Use of these APIs in services should be replaced with calls to WebSphere Lombardi Edition JavaScript APIs. If you have custom client code that uses Web APIs, review the current documentation carefully, as some interfaces have changed.

- Use of internal Teamworks APIs is not supported and may not work after upgrading. Much of the functionality for which some customers have used the internal Teamworks APIs is now provided by the WebSphere Lombardi Edition JavaScript APIs. Update code that uses internal Teamworks APIs to use WebSphere Lombardi Edition JavaScript APIs.

- SQL queries against Teamworks tables (whose names start with "LSW") may or may not work in WebSphere Lombardi Edition, depending on the context. Queries against the process server database for run time data are unlikely to be affected, but should be tested after upgrading. For queries that access design-time data, for example the name of a BPD, code created for earlier Teamworks releases will not work; new queries of this nature will be extremely difficult to write due to the built-in asset versioning supported by WebSphere Lombardi Edition. Use WebSphere Lombardi Edition JavaScript APIs rather than a SQL query to access design-time data.

> Make changes to API calls during the Development Upgrade phase, after you import process assets into WebSphere Lombardi Edition.

Java code you use in service implementations should be contained in a JAR file that is managed as an external file in a process application or toolkit, and accessed through a Java Integration Component. The use of LiveConnect to access Java code from JavaScript code is not recommended.

For reference information, see Teamworks 7 JavaScript APIs on the Lombardi Support site at http://wiki.lombardi.com/display/tw7/Teamworks+7+JavaScript+APIs. Teamworks JavaScript API information is also correct for WebSphere Lombardi Edition JavaScript APIs.

Browser script

Browser scripts are components that contain JavaScript or VBScript programs. For example, you might use a browser script to perform a mail-merge operation on a user's machine. Browser scripts are independent

services, not associated with a Coach. If they use ActiveX controls, they work only in Microsoft Internet Explorer.

When you upgrade process assets, each browser script step in a BPD is replaced with a placeholder activity that does nothing. The placeholder identifies the location in the BPD where a browser script was replaced. However, it is preferable to replace browser script steps yourself before upgrading process assets.

You should replace free-standing browser scripts with Coaches containing client-side JavaScript. This requires that you translate any VBScript to JavaScript; the syntaxes of these two scripting languages are different, but their capabilities are very similar, and JavaScript can also call ActiveX controls. You can create a managed file containing the JavaScript, and then use that script from a Coach where previously you used a browser script.

Calendar

In WebSphere Lombardi Edition, the functions previously provided by Teamworks calendars are now provided by work schedules, which include options for time schedule, time zone, and holiday schedule. Unlike calendars, work schedules are not associated with users or participant groups. Instead, they are defined for specific processes (BPDs) and for activities within a process.

When you import process assets into WebSphere Lombardi Edition, each calendar is split into a corresponding time schedule, time zone, and holiday schedule. However, this may result in more items than are actually needed. For example, if your Teamworks process contains different calendars for four time zones in the United States and six time zones in Canada, the upgraded assets will include ten time schedules and ten holiday schedules. In this situation, you might need only one time schedule (Monday through Friday from 9 AM to 5 PM) and two holiday schedules (US and Canadian). If that is the case, you need to refactor to remove the redundant items after you finish the import.

For activities that previously used a calendar, the time zones are replaced in the upgraded version with one of the standard time zones, based on the time zone of the original calendar. You do not need to define time zones.

After you refactor schedules in WebSphere Lombardi Edition, test the process assets to ensure that the time-related items work as you expect. For more information, see *Setting the Work Schedule for a BPD* in *WebSphere Lombardi Edition Authoring Environment User Guide*

If you currently use Calendars in role definitions, you need to provide additional logic to handle this scenario without using a Calendar.

Time schedules and holiday schedules are run time objects. Therefore, you might need to use installation services to define time schedules and holiday schedules on runtime servers. This should be done as you deploy process apps from the Process Center to the runtime servers. For more information, see *Building installation services* in *WebSphere Lombardi Edition Authoring Environment User Guide*.

Check business rule

Check business rules originate in processes that were modeled with much earlier releases of Teamworks. Before upgrading process assets, you should replace them with an integration service that provides equivalent functionality.
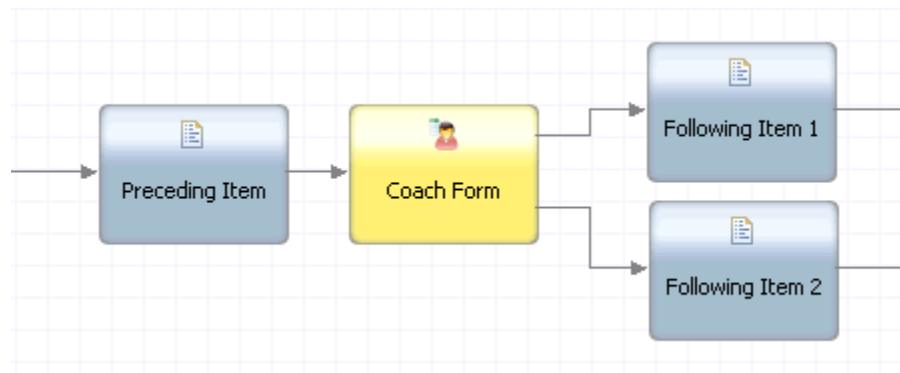
Coach Form and Coach v1

Both Coach Forms and Coach v1s originate in BPDs that were modeled with earlier versions of Teamworks. They must be replaced with Coaches created in the Coach Designer in theWebSphere Lombardi Edition Authoring Environment. You can either do this in Teamworks before you upgrade process assets or in WebSphere Lombardi Edition after you upgrade process assets.

Replacing Coaches in WebSphere Lombardi Edition is simpler than doing so in Teamworks, but it works well only for BPDs with a small number of Coaches. When you upgrade process assets, each Coach form and Coach v1 is replaced with an empty Coach. After you upgrade process assets, the Coaches that you see in the BPD in WebSphere Lombardi Edition lack the content that they had in Teamworks. You must replace the Coach contents manually, based on screen shots and other record-keeping information that you saved from Teamworks. If you have a large numbers of Coaches, this process can be unwieldy and time-consuming because it is difficult to keep track of which (new, empty) Coach corresponds to each Coach in the older version and because you must manually recreate all the Coaches.

To replace Coaches in WebSphere Lombardi Edition, follow these steps:

1. Insert new Coaches into the Human service alongside the Coach Forms or the Coach v1s that they are replacing.

2. Reroute the process flow so that new instances use the new Coaches, but old instances (using the old Coaches) complete without disruption.

For example, the following image shows a diagram of a coach service that uses a Coach Form:

To make the modeling changes required for replacing a Coach Form or a Coach v1 in Teamworks, follow these steps:

1. Using Coach Designer, add a new Coach to the coach service with the layout and functionality of the old Coach.

    When you create new Coaches in Teamworks, ensure that the replacement Coaches are *not* Coach Forms or Coach v1s by disabling backward compatibility with Teamworks 4 Coach Components in Teamworks Authoring Environment. See *Enabling Backward Compatibility* in *Teamworks 6 Authoring Environment User Guide* for details on changing compatibility preferences. If backward compatibility is disabled, old Coach components can exist in Teamworks, but cannot be created.

2. Create sequence lines for each button in the new Coach to each subsequent item of the old Coach.

3. Reroute the sequence lines going into the old Coach so that they lead into the new Coach.

4. Replace the contents of the old Coach with a single OK button and a text message similar to the following:

> This Coach has been replaced. Click OK to view the current Coach.

5. Create an outgoing sequence line from the old Coach into the new Coach.

   The following image shows the same coach service diagram after these changes have been made:
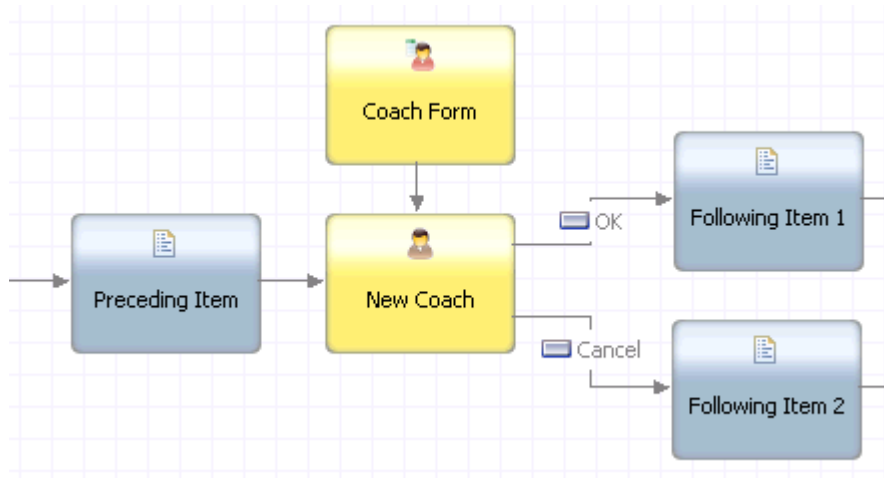
6. After all in-flight instances have moved their tokens beyond the old Coach, you can delete the old Coach.

Custom priority

Unlike previous versions, WebSphere Lombardi Edition supports only standard priorities. When you import Teamworks process assets into WebSphere Lombardi Edition, any custom priority codes (both definitions and usages) are automatically replaced with the numerically-closest standard priority code. If this mapping will not meet your needs, you should replace custom priorities with equivalent functionality before you upgrade process assets. For example, you could use a business data search.

Custom status

Custom statuses originate in processes that were modeled with earlier versions of Teamworks that did not include the Process Portal. Custom statuses were used to direct tasks into folders in the user's Task Manager interface. In more recent versions of Teamworks, searches are used to accomplish the same goal. However, in process assets that have been upgraded through multiple versions of Teamworks, the database column for custom statuses may contain data, and may be used in queries.

If your processes make active use of custom statuses, you should replace them with equivalent functionality before you upgrade assets. In more recent versions of Teamworks, the recommended modeling strategy is to attach metadata to processes rather than to individual tasks. For example, combining business data search for the process with a subject for the task may provide the same capabilities as a custom status. You might be able to achieve similar results with custom tables and custom searches.

InfoPath

WebSphere Lombardi Edition and WebSphere Lombardi Edition for Microsoft® Office Add-on do not support InfoPath forms. To implement forms that can be completed offline, you can create an external activity that provides the form interface and synchronizes the data with WebSphere Lombardi Edition.

Log variable

Log variables originate in processes that were modeled with much earlier releases of Teamworks. Before upgrading, you should substitute equivalent functionality.

Non-BPD task management

Some items of concern originate in processes modeled with much earlier versions of Teamworks that did not have business process diagrams. These items were used to send notifications and tasks to users, and to communicate data between tasks. They are unlikely to be in active use in libraries being upgraded to WebSphere Lombardi Edition, but may exist as historical artifacts in a database that has been previously upgraded through multiple Teamworks versions.

If they are actively used in your processes, you should substitute equivalent functionality before you upgrade assets, preferably using a business process diagram. The following table lists the items and their suggested replacements:

Item type	Suggested replacement
Alert severity	Send Alert service component, available in the palette in Lombardi Authoring Environment.
Alert type	Send Alert service component, available in the palette in Lombardi Authoring Environment.
Global variable	Environment variable, Exposed Process Value (EPV), or custom database table, depending on usage.
Reference to LSW_CUSTOM_TASK table	Business data search.
Send Alert v1	• A Send Alert service component to notify users via Process Portal. • An integration service to notify users via e-mail. • Tracking points in a tracking group used in a report.
Send Task	BPD with a participant group.
Shared symbol table	Refactor using only local variables.

Organization chart

Organization charts are not supported in WebSphere Lombardi Edition. If they are included in your Teamworks process assets, you should refactor the assets to substitute equivalent functionality before you upgrade assets. For example, you can create nested participant groups that mimic the hierarchical structure of an organization. If you used organization charts to define task routing, you might need to create a service that implements that routing logic.

Process help

In WebSphere Lombardi Edition, the process help wiki feature is no longer supported. However, you can achieve a similar result by linking from Coaches to an enterprise wiki of your choice.

Reports and scoreboards

In Teamworks, access to reports and scoreboards is controlled by folder permissions defined in Teamworks Authoring Environment. In WebSphere Lombardi Edition, access to these items is controlled using the **Exposed to** field in the scoreboard definition. After upgrading process assets, be sure to verify that each report you want to expose is included in a scoreboard, and that this field is set appropriately. You can then specify the participant groups authorized to see each scoreboard. For more information, see *Creating and configuring reports* in *WebSphere Lombardi Edition Authoring Environment User Guide*.

Specific date/time UCA

In earlier versions of Teamworks, you could create an Undercover Agent (UCA) that would trigger at a specific date and time. This type of UCA is not supported in WebSphere Lombardi Edition. However, you can implement equivalent functionality using a BPD that contains a timer event configured to trigger at a specific date and time. Use JavaScript to obtain the date and time information you need to trigger the timer event. If you need to make this change, do so before upgrading process assets.

Versioning

If you created multiple versions of process assets in Teamworks, these items were stored internally with autogenerated unique names, which were displayed as version identifiers in Teamworks Authoring Environment. When you upgrade these process assets, they are displayed using their previously-internal names.

Use either of the following strategies to handle versioned items that have been imported from Teamworks to WebSphere Lombardi Edition:

• Continue working with the versioned items as they appear when imported.

• Create a workspace for each version of the process.

The first strategy requires the least effort during the development upgrade phase, while the second strategy maybe helpful for ongoing development after the upgrade project is complete.

Do not rename versioned items before upgrading process assets because names are significant in Teamworks. However, you can rename items in WebSphere Lombardi Edition after you upgrade process assets and move them into different workspaces. Names need only be unique for items of the same type within the workspace for the process app.

Some types of items were not versioned in Teamworks, specifically variable types and tracking groups. Versioned process assets can share these unversioned items in WebSphere Lombardi Edition only if the versioned assets are located in the same process app workspace.

Therefore, different versions of other process assets can share these items in WebSphere Lombardi Edition only if the different versions remain in the same process app (even if they are in separate workspaces).

To create workspaces for versioned process assets in WebSphere Lombardi Edition, follow these steps:

1. Import process assets into WebSphere Lombardi Edition.

2. Move items that are shared by multiple processes or versions into one or more toolkits.

3. Create a workspace for each process version that was defined in Teamworks.

4. In each workspace, delete process assets that do not correspond to the version that the workspace represents, leaving only the items appropriate for that version.

5. Take a snapshot of each workspace before deploying it.

Visible in search

In WebSphere Lombardi Edition, the BPD property, **Visible in search**, is replaced with an equivalent property, **Available in search**. To retain the same functionality after you upgrade, you must manually enable any **Available in search** properties for BPD variables that had **Visible in search** enabled. The new property works like the old one. However, you should perform appropriate testing after you upgrade process assets to ensure that portal searches still work as you expect.

Removing Lombardi Upgrade Readiness Check

To remove Lombardi Upgrade Readiness Check, see the instructions for removing applications in the product documentation for your application server.

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