

Oracle® Service Bus

Upgrade Guide

10g Release 3 Maintenance Pack 1 (10.3.1)

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Oracle Service Bus Upgrade Guide

This *Oracle Service Bus Upgrade Guide* includes the following sections:

- [Before You Begin](#)
- [Upgrade Overview](#)
- [Upgrading from Oracle Service Bus 10g Release 3 to Oracle Service Bus 10g Release 3 Maintenance Pack 1](#)
- [Migration Upgrade](#)
- [Upgrade Considerations](#)

For a description of what's new in the latest version of Oracle Service Bus, see the [Oracle Service Bus Release Notes](#).

Before You Begin

- Before you attempt to upgrade to the latest version of Oracle Service Bus, be sure to back up your BEA_HOME and your domains (if they reside outside of BEA_HOME).
- Caution:** Uninstall of Oracle Service Bus 10g Release 3 Maintenance Pack 1 is not supported. If after upgrading to Maintenance Pack 1 you want to revert to your previously installed version of Oracle Service Bus, you must restore your Oracle Service Bus environment from backup.

- If you want to save customizations you made to the Oracle Service Bus samples, export and save your samples configuration. You must import the configuration after upgrade to restore your customizations.

Upgrade Overview

You can upgrade AquaLogic Service Bus (ALSB) configurations from versions 2.5, 2.6, 2.6RP1, or 3.0 directly to Oracle Service Bus version 10g Release 3 Maintenance Pack 1 (10.3.1).

You cannot upgrade ALSB versions 2.0 and 2.1 to Oracle Service Bus version 10g Release 3 (10.3.1), directly. You must first upgrade ALSB versions 2.0 and 2.1 to one of ALSB versions 2.5, 2.6, 2.6RP1, or 3.0 and then upgrade to Oracle Service Bus version 10g Release 3 Maintenance Pack 1 (10.3.1) according to the instructions in this guide.

Upgrade involves two fundamental processes:

- [Product Upgrade](#)
- [Domain Upgrade](#)

Product Upgrade

Product upgrade involves installing the latest version of Oracle Service Bus, which includes the latest development and run-time tooling. After installation, new resources are available for updating your existing Oracle Service Bus domains.

Domain Upgrade

After you install the latest version of Oracle Service Bus, you can upgrade your domains with the latest Oracle Service Bus functionality.

Automated in-place upgrade of pre-Oracle Service Bus 10gR3 domains is not supported; only a [Migration Upgrade](#) method is supported. That is, you must create a new domain with the latest version of Oracle Service Bus, then import a configuration that was exported from an ALSB 2.5, 2.6, 2.6RP1, or 3.0 domain into the newly created Oracle Service Bus domain. In effect, you move the configuration from the old ALSB domain to the new Oracle Service Bus domain.

The upgrade to new Oracle Service Bus domains is supported for both clustered and non-clustered domains.

Before starting the upgrade process, please read [“Upgrade Considerations” on page 10](#).

[Table 1](#) identifies the version of WebLogic Server on which each version of ALSB or Oracle Service Bus runs.

Table 1 Service Bus and WebLogic Server versions

Service Bus Version	WebLogic Server Version
Oracle Service Bus 10g Release 3 Maintenance Pack 1 (10.3.1)	10.3
Oracle Service Bus 10g Release 3 (10.3)	10.3
ALSB 3.0	10.0
ALSB 2.6	9.2
ALSB 2.5	9.2

This guide contains the following upgrade paths:

- [Upgrading from Oracle Service Bus 10g Release 3 to Oracle Service Bus 10g Release 3 Maintenance Pack 1](#)
- [Migration Upgrade](#) and [Upgrade Considerations](#) – Provides instructions for upgrading earlier versions of AquaLogic Service Bus to Oracle Service Bus 10g Release 3 Maintenance Pack 1.

Upgrading from Oracle Service Bus 10g Release 3 to Oracle Service Bus 10g Release 3 Maintenance Pack 1

If you are already using Oracle Service Bus 10g Release 3, this section describes the steps for upgrading your product and domains to Oracle Service Bus 10g Release 3 Maintenance Pack 1.

Upgrade the Product

Perform the following steps to upgrade the Oracle Service Bus product.

1. Back up your existing BEA_HOME and your domains (if they reside outside of BEA_HOME) on each relevant machine.

2. Shut down all servers to be upgraded, including managed servers in a cluster, and shut down any load balancers or Web servers routing traffic to those servers. For information on graceful server shutdown, see the following:
 - [shutdown](#) command in the *WebLogic Scripting Tool* guide
 - [Shutdown Servers in a Cluster](#) in the *WebLogic Server Administration Console Online Help*
3. Run the Oracle Service Bus 10g Release 3 Maintenance Pack 1 installer, and install the maintenance pack into your existing Oracle Service Bus 10g Release 3 BEA_HOME on all machines to be upgraded.
4. If you exported a customized configuration of the Oracle Service Bus samples, import that configuration back into the Oracle Service Bus sample domain.

Upgrade Your Domains

Your domain JMS configurations determine which of the following set of instructions you will use to upgrade your domains:

- [Upgrade Domains with No JMS Subdeployments](#)
- [Upgrade Domains with JMS Subdeployments](#)

Upgrade Domains with No JMS Subdeployments

Follow these domain upgrade instructions for each domain that *does not* employ JMS resources with connection factories targeted to subdeployments.

Perform the following steps for each domain to be upgraded.

1. Make sure you have backed up and shut down all domains to be upgraded.
2. Under each Oracle Service Bus 10g Release 3 domain to be upgraded, delete each server's /stage directory, including the AdminServer /stage directory.
3. Use the Oracle WebLogic Configuration Wizard to upgrade each domain with an extension template.
 - a. Start the Configuration Wizard and select **Extend an existing WebLogic domain**.
 - b. Select the domain directory to upgrade.
 - c. Select **Extend my domain using an existing extension template**, and browse to select ALSB_HOME/common/templates/applications/osb1031.jar.

4. After you upgrade all domains, restart your servers.

Upgrade Domains with JMS Subdeployments

Follow these domain upgrade instructions for each domain that employs JMS resources with connection factories targeted to subdeployments.

Using Oracle Smart Update tool, apply the following public patch to your Oracle Service Bus installation: **3YG8**.

Perform the following steps for each domain to be upgraded:

1. Make sure you have backed up and shut down all domains to be upgraded.
2. Under each Oracle Service Bus 10g Release 3 domain to be upgraded, delete each server's /stage directory, including the AdminServer /stage directory.
3. Open a command window and run the `DOMAIN/bin/setDomainEnv.cmd/sh` command.
4. In the command window, switch to the directory to which the patch extracted the upgrade scripts: `ALSB_HOME/common/upgrade`.
5. On the command line, run the appropriate script for your operating system:

Linux/Solaris: `java weblogic.WLST ./upgradeDomain.py`

Windows: `java weblogic.WLST upgradeDomain.py`

6. After you upgrade all domains, restart your servers.

Migration Upgrade

All migration steps are manual; no wizard is provided to facilitate the migration of an ALSB 2.5, 2.6, 2.6RP1, or 3.0 domain to an Oracle Service Bus 10g Release 3 Maintenance Pack 1 (10.3.1) domain. To upgrade an ALSB domain, complete the steps described in this section.

After performing the following steps, review the relevant information in [Upgrade Considerations](#). Use [Table 3](#) for guidance on upgrade considerations for your current version of AquaLogic Service Bus.

Step 1. Export ALSB Configuration

Use the ALSB Administration Console to export the ALSB 2.5, 2.6, 2.6RP1, or 3.0 configuration that you want to upgrade. To do so, log on as Administrator, and select **Export Resources** from

the System Administration panel in the Console. For information about exporting ALSB configurations, see the appropriate *Using the ALSB Console* document:

- “Exporting Resources” in [Import/Export](#) (3.0)
- “Exporting Configuration Data” in [System Administration](#) (2.6)
- “Exporting Configuration Data” in [System Administration](#) (2.5)

You can also export configurations using the `ALSBConfigurationMBean` for [3.0](#), [2.6](#), and [2.5](#). For information, see the appropriate ALSB Deployment Guide: “Using the Deployment APIs” for [3.0](#), [2.6](#), and [2.5](#).

Note: In most cases, you cannot export WebLogic Server resources, such as the JMS resources, SNMP trap settings, or the Work Manager definitions. You must re-create these objects in the new Oracle Service Bus domain, as described in [Step 6. Recreate Other Oracle WebLogic Server Objects](#).

Step 2. Export the Security Configurations

Use the WebLogic Server Administration Console to export security data from the domain. In the WebLogic Server Administration Console, select **Domain Structure** > **Security Realms**, then choose the security realm. Select **Migration** > **Export** to export the data. [Table 2](#) summarizes the security data and the types of security providers in which it is stored.

Table 2 Security data and providers

Security Data	Security Provider Type
User accounts	Authentication Provider
Group definitions	Authentication Provider
Role definitions	Role Mapping Provider
User names and passwords in service accounts	Username/Password Credential Mapping Provider
PKI credential map entries	PKI Credential Mapping Provider
SAML Relying Parties	SAML Credential Mapping Provider V2
SAML Asserting Parties	SAML Identity Assertion Provider V2
Trusted Certificates (for SSL and WSS)	Certification Path Provider (Certificate Registry)

Note: The set of providers to export is different depending on what version you are upgrading from as described in the following sections:

- [Exporting 2.5, 2.6, and 3.0 Security Configurations](#)

Exporting 2.5, 2.6, and 3.0 Security Configurations

Starting with the ALSB 2.5 release, both PKI and username/password credentials are stored in both the WebLogic Server realm and in the ALSB configuration repository. Consequently, these credentials are exported as part of the configuration JAR that was generated and exported in [Step 1. Export ALSB Configuration](#). When the JAR is imported into the new domain, the realm data is populated based on the contents of the JAR file. This means that you do not need to export PKI Credentials or username/password credentials when you upgrade from ALSB 2.5 and later.

For more information, see [Migrating Security Data](#) in *Securing Oracle WebLogic Server*.

Step 3. Install Oracle Service Bus 10g Release 3 Maintenance Pack 1 (10.3.1)

Install the Oracle Service Bus 10g Release 3 Maintenance Pack 1 (10.3.1) software as described in the [Oracle Service Bus Installation Guide](#).

Step 4. Create a New Oracle Service Bus Domain

Create a new Oracle Service Bus domain using the Domain Configuration Wizard or using the offline configuration tools, as described in:

- [Creating Oracle WebLogic Domains Using the Configuration Wizard](#)

or

- “Creating and Extending Domains” in [Domain and Domain Template Configuration Tools](#).

Step 5. Configure Oracle WebLogic Server Security

In the new domain, configure the Oracle WebLogic security framework with SSL and the security providers needed to support your proxy and business services. See [Configuring the WebLogic Security Framework: Main Steps](#) in the *Oracle Service Bus Security Guide*.

Note the following security-related information about importing an ALSB 2.5, 2.6, 2.6RP1, or 3.0 configuration:

- In ALSB 2.5, the WebLogic Default Authorization provider and Default Role Mapping provider were deprecated. Instead of configuring these providers in your new domain, Oracle recommends that you use the Oracle WebLogic XACML Authorization provider and XACML Role Mapping provider. Later in the upgrade process, [Step 7. Import Security Data](#), you can import policies and role maps into the XACML providers. See [Deprecated Security Features in the ALSB 2.5 Release Notes](#).
- If your new domain uses a PKI credential mapping provider, copy the keystores to the new domain and configure the PKI credential mapping provider to use the keystore.
- If your ALSB domain has modified the Web Service security configurations named `_SERVICE_BUS_INBOUND_WEB_SERVICE_SECURITY_MBEAN_` or `_SERVICE_BUS_OUTBOUND_WEB_SERVICE_SECURITY_MBEAN_`, make the same modifications in the new domain. For example, if in your 2.5 domain, you added the `UseX509ForIdentity` property to the `_SERVICE_BUS_INBOUND_WEB_SERVICE_SECURITY_MBEAN_` configuration (which is required to support inbound authentication with an X.509 token), add the property in the new domain. See [Use X.509 certificates to establish identity](#) in *The Oracle WebLogic Server Administration Console Online Help*.
- Session-Aware Access Control Management of Proxy Services. Using a pre-import process, Oracle Service Bus will perform in-place upgrade of an ALSB 2.5, 2.6, 2.6RP1, or 3.0 JAR to Oracle Service Bus 10g Release 3 Maintenance Pack 1 (10.3.1). See “Session-Aware Access Control Management of Proxy Services” on page 13.

Step 6. Recreate Other Oracle WebLogic Server Objects

In the new Oracle Service Bus domain, recreate the Oracle WebLogic Server objects that could not be exported in [Step 1. Export ALSB Configuration](#), including:

- JMS resources, such as connection factories, queues, topics, and so on
- Work Manager definitions
- SNMP agent and trap destination settings

For more information about configuring Oracle WebLogic Server domain resources, see [Overview of Oracle WebLogic Server System Administration](#) in *Introduction to Oracle WebLogic Server and Oracle WebLogic Express*.

Note: You should configure the domain-scoped SNMP agent in the Oracle WebLogic Server Console. Oracle WebLogic Server 10.x has enhanced SNMP features. For more information about SNMP, see the [Oracle WebLogic SNMP Management Guide](#).

Add the Tuxedo domain ID as an Oracle WebLogic Server user (this is a requirement to invoke a successful request to a Tuxedo service)

Configure WTC Local Access Point and Remote Access Point resources when your configuration includes Tuxedo transport-based services

For information, see [Configuring Oracle WebLogic Tuxedo Connector for Tuxedo Transport](#) in *Interoperability Solution for Tuxedo*.

Step 7. Import Security Data

Use the Oracle WebLogic Server Administration Console to import the security data that you exported in [Step 2. Export the Security Configurations](#) into the new Oracle Service Bus domain. See [Import data into a security provider](#) in the *Oracle WebLogic Server Administration Console Online Help*.

Note the following:

- Import the security information for each security provider separately.
- Oracle recommends that you import access control policies into the Oracle WebLogic XACML Authorization Provider. If you exported data from the WebLogic Default Authorization Provider in your 2.5 domain, when you import into the XACML Authorization Provider, make sure that you select **DefaultAtz** from the Import Format list.
- Oracle recommends that you import security role maps into the Oracle WebLogic XACML Role Mapping Provider. If you exported data from the WebLogic Default Role Mapper Provider in your 2.5 domain, when you import into the XACML provider, make sure you select **Default Roles** in the Import Format list.

Step 8. Import the ALSB Configuration Data

Import the ALSB configuration data that you exported in [Step 1. Export ALSB Configuration](#) into the new domain.

Note: You can either import the configuration data into a newly created domain, or you can import a configuration JAR that contains only projects, folders, or services unrelated to the artifacts you are importing into an existing domain. Importing artifacts from an ALSB 2.5, 2.6, 2.6RP1, or 3.0 domain into an Oracle Service Bus 10g Release 3 Maintenance Pack 1 (10.3.1) domain of the same type and name as in the Oracle Service Bus 10g Release 3 Maintenance Pack 1 (10.3.1) domain is undefined.

To import configuration data, log on to the Oracle Service Bus Console as Administrator, and select **Import Resources** from the System Administration panel. For information about

importing Oracle Service Bus configurations, see [Importing Resources](#) in *Using the Oracle Service Bus Plug-in for Workshop for WebLogic*.

Step 9. Complete Any Remaining Manual Upgrade Procedures

Some Oracle Service Bus domain configuration changes are not automated and must be implemented manually. See [Upgrade Considerations](#) next.

Upgrade Considerations

This section describes considerations for upgrading various Oracle Service Bus configuration artifacts. It describes how ALSB 2.5, 2.6, and 3.0 differ in behavior from Oracle Service Bus 10g Release 3 Maintenance Pack 1 (10.3.1) in areas that may impact the configurations you are upgrading.

For each valid upgrade path, [Table 3](#) lists the upgrade information you must consider.

Table 3 Upgrade Considerations by Upgrade Path

From	To 3.0	To 10.3.1
2.5	<ul style="list-style-type: none">2.5 or 2.6 to 3.0 Upgrade Considerations2.5 to 3.0 Upgrade Considerations	<p>To ensure a successful direct upgrade from ALSB 2.5 to the latest version of Oracle Service Bus, review the information in the following sections.</p> <ul style="list-style-type: none">2.5 or 2.6 to 3.0 Upgrade Considerations2.5 to 3.0 Upgrade Considerations3.0 to 10g Release 3 Maintenance Pack 1 (10.3.1) Upgrade Considerations

Table 3 Upgrade Considerations by Upgrade Path

From	To 3.0	To 10.3.1
2.6	<ul style="list-style-type: none"> 2.5 or 2.6 to 3.0 Upgrade Considerations 	<p>To ensure a successful direct upgrade from ALSB 2.6 to the latest version of Oracle Service Bus, review the information in the following sections.</p> <ul style="list-style-type: none"> 2.5 or 2.6 to 3.0 Upgrade Considerations 3.0 to 10g Release 3 Maintenance Pack 1 (10.3.1) Upgrade Considerations
3.0	n/a	<p>To ensure a successful direct upgrade from ALSB 3.0 to the latest version of Oracle Service Bus, review the information in the following sections.</p> <ul style="list-style-type: none"> 3.0 to 10g Release 3 Maintenance Pack 1 (10.3.1) Upgrade Considerations

2.5 or 2.6 to 3.0 Upgrade Considerations

Please read the following upgrade considerations when you are upgrading ALSB 2.5 or 2.6 configurations to ALSB 3.0:

- [ALSB Development Environment](#)
- [Alert Rules](#)
- [Displaying References from Alerts to Alert Destinations](#)
- [Details Sent to Alert Destinations](#)
- [Import -Export Alert Rule Changes](#)
- [Session-Aware Access Control Management of Proxy Services](#)
- [Transport SDK and Transport Provider Changes](#)

ALSB Development Environment

Many of the design time features available in the ALSB Console are available in Workshop for WebLogic, the ALSB development environment.

If you want to use the IDE instead of the Console, you can import a 2.6 configuration JAR directly into the 3.0 IDE. For information about importing a JAR file into the 3.0 IDE, see [Importing Resources](#) in *Using the Oracle Service Bus Plug-in for Workshop for WebLogic*.

To import a 2.5 configuration JAR into the 3.0 IDE, you must first import the JAR into the 3.0 ALSB Console. From the console, export the configuration JAR file and then import it into the 3.0 IDE.

Note: When you import any configuration JAR into the 3.0 IDE, the operational and administrative settings are removed. To retain these settings first import the configuration JAR file into the console, export and import into the 3.0 IDE, as described above. When you later move configuration from IDE to Console, enable **Preserve operational settings**, so that operational settings that were imported in the first step are preserved.

For information about exporting JAR files, see [Step 1. Export ALSB Configuration](#).

Alert Rules

The SLA alert rules functionality in ALSB 3.0 differ slightly from previous releases. These changes do not affect the run-time evaluation or how alerts are issued. However, you may notice the following changes:

- In ALSB 2.5 and 2.6, Alert Rule resources were created as separate resources and individually maintained. In ALSB 3.0 alert rules are part of the service definition. Because Alert Rules are part of the service definition and are no longer resources themselves, this affects their display in the **References** and **Referenced By** pages in the ALSB Console. For information about viewing references, see [View References](#) page in *Using the Oracle Service Bus Console*.
- You may notice minor changes in the content of the alerts as issued to various destinations. For information about alert destinations, see [Alert Destinations](#) in *Using the Oracle Service Bus Console*.
- Starting in ALSB 3.0, if an alert rule is renamed, then for the alerts issued in the past and under the old name, the console will no longer provide access to the rule definition on the **Alert Summary** and **Extended SLA Alert History** pages.

Displaying References from Alerts to Alert Destinations

Unlike previous releases where you could see distinct entries of alert rules in the ALSB Console, references to alert destinations through alert rules from proxy and business services are maintained and displayed as a single reference. For example, in a proxy service, if multiple alert rules and multiple pipeline alert actions use the same alert destination, only one entry for the alert destination is displayed in the Referenced By page for that alert destination. For more information, see [Alert Destinations](#) in *Using the Oracle Service Bus Console*.

Since Alerts are no longer separate resources in ALSB 3.0, the way references from alerts to alert destinations are displayed is different from previous releases. Two pages in the Console are affected. First, the **Referenced By** field in the Alert Destination page no longer displays the Alert Rule that is referencing the destination. Instead, the **Reference By** field displays the service that contains the alert. A side effect of this is that if a service has multiple alerts (SLA alerts or pipeline alerts) that reference the same Alert destination, the associated service is listed only once in the **Referenced By** field. Second, the Alert Rule page no longer contains the Reference information. Instead, the Service Summary page for the associated service contains the Alert Destinations referenced in the **References** field. For more information, see [Alert Destinations](#) in *Using the Oracle Service Bus Console*.

Details Sent to Alert Destinations

When an SLA alert is issued to configured destinations, the alert details include a Rule ID as in previous releases. However, in ALSB 3.0, the value of the Rule ID is set to a combination of the parent service's global name and the alert rule name. For the SNMP trap, the Rule ID is truncated to 64 characters, as in previous releases.

Import -Export Alert Rule Changes

Unlike ALSB 2.6, which during import merged alerts with any existing alerts, ALSB 3.0 provides users with preserve-overwrite semantics. This allows you to either keep all existing alerts or overwrite them, regardless of whether the alerts have the same name or not.

Session-Aware Access Control Management of Proxy Services

The exported JARs from ALSB 2.5 or 2.6 do not contain any access control policies. Before importing a configuration JAR from an earlier release, ALSB 3.0 uses a *pre-import* access control policy to do an in-place upgrade of the JAR to 3.0. To perform the in-place upgrade, the pre-processor queries all manageable authorization providers for each proxy service and retrieves a list of applicable access control policies. It then inserts those policies into the service definition of the proxy service. This is done on best-effort basis.

A manageable authorization provider is an authorization provider that implements the `PolicyEditorMBean` interface. Such providers expose read-write APIs that allow the WebLogic Server and the ALSB console to add, modify, and delete policies stored in them.

For transport level and default message-level policies, the system queries only those providers that expose the `PolicyEditorMBean` and retrieves any applicable policies and inserts these policies into the service definition.

For operational message-level policies, the system can only query providers that have implemented the `PolicyListerMBean`. For providers that have not implemented the `PolicyListerMBean` interface, the operation-level policies are not retrieved.

After the in-place upgrade finishes, the import process proceeds as if the configuration JAR is of type 3.0, including the access control policies retrieved from the authorization providers. [Table 4](#) explains various combinations of the applicable parameters and the outcome of the import process. Note the outcome is the result of the import process and does not represent anything done after the configuration is imported.

Table 4 Applicable parameters and import outcomes

Version of config JAR being imported	Proxy	ACLs in core repository	Preserve policies	ACLs in session service definition	Explanation
2.6	New	NA (No)	N/A (No)	From manageable authorization providers	Upgrades the JAR to 3.0, which involves pulling all applicable ACLs from all manageable authorization providers. The service definition in session will have ACLs from the configuration JAR directly from the Authorization Providers.
2.6	Exists	No	No	From manageable authorization providers	Upgrades the JAR to 3.0. The service definition in session has ACLs from the configuration JAR directly from the Authorization Providers.
2.6	Exists	No	Yes	None	Upgrades the JAR to 3.0. The service definition in session has no ACLs.
2.6	Exists	Yes	No	From manageable authorization providers	Upgrades the JAR to 3.0. The service definition in session has ACLs from the configuration JAR directly from the Authorization Providers.
2.6	Exists	Yes	Yes	From the core repository in the config framework	Upgrades the JAR to 3.0. The service definition in session retains ACLs from the core repository.

If an authorization provider does not exist in the target ALSB 3.0 system, the import ignores the imported ACLs for the authorization provider and displays a warning. In this case, you can discard the session, or undo the import task, and then add the authorization providers to the server and re-import. Alternately, you can do a dummy update operation of security parameters in the ALSB Console and the system will auto-correct any conflicts that it can on best-effort basis. These changes are atomic and reversible if you discard the session.

For more information about the updating security parameters, see [Message Level Security Configuration](#) in *Using the Oracle Service Bus Console*.

Transport SDK and Transport Provider Changes

The following changes may impact the ALSB configuration:

- [Message Retry Count for Business Service Configuration](#)
- [Duplicate URIs for a Business Service are Removed](#)
- [Application Errors Retries](#)
- [HTTPS transport changes](#)
- [Transport Configuration in the Design Environment](#)

Message Retry Count for Business Service Configuration

In ALSB 2.6, the message retry count applies to the list of URIs for a business service. In 3.0, the retry count applies to the individual URL endpoints. The upgrade process maintains the 2.6 behavior as follows:

$$\text{new_retries} = N - 1 + \text{old_retries} * N$$

where N is the total number of URIs and old_retries is the 2.6 retry count.

For example, suppose that in ALSB 2.6 you have three URLs configured for the business service and a retry count of one. With the 2.6 retry mechanism all three URLs are tried. Then after the retry delay, all three URLs are retried again. To obtain the same behavior in 3.0, the retry count is changed to five, which is obtained by applying the formula: $(3 - 1) + (1 * 3) = 5$. The net effect is exactly the same: all three URLs are tried once (using two of the five retries), then after the retry delay, the three URLs are tried once more (using the last three of the five retries).

If only a single URL is configured, the old behavior and the new behavior are the same; the retry count does not change during the upgrade.

For more information, see [Business Services: Creating and Managing](#) in *Using the Oracle Service Bus Console*.

Duplicate URIs for a Business Service are Removed

When importing business services into ALSB 3.0, the import process removes the duplicate URIs in the 2.6 configurations. If the URIs use randomly-weighted load balancing algorithms and the weights are set, the weights are adjusted accordingly. For example, if the business service is configured with the following URIs and weights:

- URI_A 1
- URI_B 3
- URI_A 1
- When the business service is imported into 3.0, the URI set is modified as follows:
URI_A 2
- URI_B 3

For Business services configured with other algorithms, the upgrade removes the duplicate URIs and no other changes are made.

For more information about setting the parameters for the load balancing algorithm, see [Business Services: Creating and Managing](#) in *Using the Oracle Service Bus Console*.

Application Errors Retries

In case of delivery failure when sending outbound requests, ALSB allows you to specify whether to retry endpoint URIs for application errors, such as a SOAP fault. This does not affect retries for communication errors. This new option is available on the Transport Configuration page for business services. For more information, see [Transport Configuration Page](#) in *Using the Oracle Service Bus Console*. After the number of retries is exceeded, an error is issued.

To maintain the 2.6 behavior, the default value for upgrading is set to **Yes** on the Transport Configuration page.

To use this option, you must configure the transport provider to convey to the Transport SDK whether the exception is communication error or application error. In ALSB 3.0, the Transport SDK is enhanced for this purpose. For more information, see [Developing a Transport Provider](#) in the *Transport SDK User Guide*.

HTTPS transport changes

Note: This functionality is only applicable to HTTP proxy services.

To simplify switching between HTTP and HTTPS, in the ALSB 3.0 Console, the HTTPS transport configuration has been removed and its functionality has been added to the 3.0 inbound HTTP transport provider. The 3.0 HTTP Transport Configuration page contains a check box to enable to HTTPS.

A new element, use-https, is added to the schema of the HTTP Transport inbound properties.

```
<xs:element name="use-https" type="xs:boolean" minOccurs="0"/>
```

Any existing HTTPS Transport configurations are upgraded to HTTP transport with this flag set to true.

Transport Configuration in the Design Environment

In prior releases, ALSB transports were configured only through the ALSB Console. However, starting in ALSB 3.0, the transports can be designed on Eclipse. For more information, see [Developing Oracle Service Bus Transports for Workshop for WebLogic](#) in the *Transport SDK User Guide*.

2.5 to 3.0 Upgrade Considerations

Please read the following considerations when you upgrade ALSB 2.5 configurations to ALSB 3.0:

- [“Use SSL” Attribute Controls Whether SSL is Used to Access JMS Queues](#)
- [SOAP Services Imported from ALSB 2.5 JARs use SOAP 1.1 by Default](#)
- [UDDI Configuration](#)
- [Operational Customization](#)

“Use SSL” Attribute Controls Whether SSL is Used to Access JMS Queues

ALSB JMS services (proxy and business) have a “Use SSL” attribute that controls whether SSL should be used to access the JMS queues. However, in ALSB 2.5, JMS business services did not use SSL when reading the outbound responses even if “Use SSL” was specified. This was corrected in ALSB 2.6. This means that when such a business service (JMS request/response business service with “Use SSL” selected) from ALSB 2.5 is imported into a newer domain, there

may be a problem if the outbound response URL corresponds to a non-SSL port. Attempts to use SSL to talk to this non-SSL port results in an error.

Workaround: When you import an ALSB 2.5 configuration JAR that contains a request/response outbound JMS business service with “Use SSL” specified, a warning is issued in the ALSB Console. To fix change the outbound response queue URL to use the SSL port.

SOAP Services Imported from ALSB 2.5 JARs use SOAP 1.1 by Default

All of the SOAP services imported from ALSB 2.5 JARs use SOAP 1.1 by default. ALSB 2.6 and 3.0 releases support SOAP 1.2.

UDDI Configuration

The UDDI auto import feature is enhanced in ALSB 2.6 and later releases to allow the auto synchronization with UDDI registries. When a change occurs in the registry for a service to which ALSB is subscribed, notifications are sent from the UDDI registry to ALSB.

For a single node, the notification is sent to the managed server HTTP address. In clustered configurations, the notification is sent to the Admin server HTTP address.

An **Auto Import** flag is added to the registry configuration to indicate whether auto synchronization is enabled for the registry. While importing an ALSB 2.5 JAR file, ALSB disables this flag to retain the original behavior.

Operational Customization

Operational parameters were enhanced in ALSB starting with 2.6 and subsequent releases. Consequently, values that were set for some parameters in ALSB 2.5 configurations are set differently in the later versions. The following table describes the values that ALSB uses for Service Operational Parameters in 3.0.

Table 5 Service operational parameters

Parameter	Version	Value set in 3.0 configuration
Service State	Existing	As specified in imported JAR
‘Monitoring’ enable/disable	Existing	As specified in imported JAR
‘Monitoring Aggregation Interval’	Existing	As specified in imported JAR If none specified, then default is set to 10 min.

Table 5 Service operational parameters

Parameter	Version	Value set in 3.0 configuration
'Reporting' enable/disable	Introduced in 2.6 a	Enable
'Tracing' enable/disable	Existing	As specified in imported JAR
'Logging' enable/disable	Introduced in 2.6 a	Enable
'Logging' severity level		Debug
'SLA Alerting' enable/disable	Introduced in 2.6 a	Enable
'SLA Alerting' severity level		Normal
'Pipeline Alerting' enable/disable	Introduced in 2.6 a	If Monitoring is Enabled: Enable and Normal
'Pipeline Alerting' severity level		If Monitoring is Disabled: Disabled and Normal
'Offline Endpoint URIs' enable/disable	Introduced in 3.0	Disabled 0 hours 0 mins 0 secs
Associated 'Retry Interval' field		
'Throttling State' enable/disable	Introduced in 3.0	Disabled
Associated 'Maximum Concurrency' field		0
Associated 'Throttling Queue' field		0 messages
Associated 'Message Expiration' field		0 msecs

Parameters set in an ALSB 2.6 configuration will retain the value specified in the imported JAR when imported into an ALSB 3.0 domain.

3.0 to 10g Release 3 Maintenance Pack 1 (10.3.1) Upgrade Considerations

Please read the following upgrade considerations when you are upgrading ALSB 3.0 configurations to Oracle Service Bus 10g Release 3 Maintenance Pack 1 (10.3.1):

- [Upgrading an ALSB 3.0 Workspace in Workshop for WebLogic 10g Release 3 Maintenance Pack 1 \(10.3.1\)](#)
- [JNDI Service Account Deprecated for JMS Business Service](#)

- [Pipeline Action ID Upgrade](#)
- [Pipeline Monitoring Level](#)
- [Enhanced Validation](#)

Upgrading an ALSB 3.0 Workspace in Workshop for WebLogic 10g Release 3 Maintenance Pack 1 (10.3.1)

To upgrade an ALSB 3.0 workspace in Workshop for WebLogic 10g Release 3 Maintenance Pack 1 (10.3.1), perform the following steps.

Note: After you upgrade the workspace, you can no longer open it in WorkSpace Studio 1.1 for ALSB 3.0.

1. Start WorkSpace Studio 1.1 in ALSB 3.0 and open the workspace you are upgrading.
2. Close the ALSB perspective and all editors.
3. Close all projects.
4. Close WorkSpace Studio 1.1.
5. Back up your workspace.
6. Start Workshop for Weblogic 10gR3 and open the workspace you are upgrading.
7. Wait for upgrader to start. When you open an ALSB 3.0 workspace in Workshop for WebLogic 10g Release 3 Maintenance Pack 1 (10.3.1), it will take a few moments for the Workshop for WebLogic 10g Release 3 Maintenance Pack 1 (10.3.1) upgrade process to start. Do not edit the workspace until the upgrade completes and the confirmation dialog appears.
8. After upgrading projects, open the Oracle Service Bus perspective and continue working with the newly upgraded projects and artifacts.

JNDI Service Account Deprecated for JMS Business Service

In 10g Release 3 (10.3), the jndi-service-account is deprecated.

After upgrading to 10g Release 3 Maintenance Pack 1 (10.3.1), the Oracle Service Bus JMS business service uses the jms-service-account for both JMS and JNDI purposes.

The following table shows how the Oracle Service Bus JMS business service migrates JNDI and JMS accounts.

Table 6 JMS Business Service JMS and JNDI Account Migration

jms-service-account Before Upgrade	jndi-service-account Before Upgrade	jms-service-account After Upgrade
sa-1	sa-1	sa-1
sa-1	sa-2	sa-1
sa-1	—	sa-1
—	sa-2	sa-2

Pipeline Action ID Upgrade

After upgrading to 10g Release 3 Maintenance Pack 1 (10.3.1), all the actions in a pipeline are assigned a unique ID.

Pipeline Monitoring Level

In 10g Release 3 (10.3), proxy services use a new monitoring flag to control the level of statistics collected. The three levels are:

- **Service** - coarse grained statistics.
- **Pipeline** - the same level at which statistics were gathered in 3.0
- **Action** - fine grained statistics.

The upgrade sets the monitoring flag to a value of **Pipeline**.

Enhanced Validation

As of Oracle Service Bus 10g Release 3 (10.3), validation rules in the following areas have been made more strict and may result in design time or run time errors:

- **Enhanced WSDL and service validation (CR380349):** after upgrading from previous releases to Oracle Service Bus 10g Release 3 (10.3), one may get conflict messages, such as:
 - [OSB Kernel:398022]No corresponding mapping was found in the service definition for the WSDL operation: OPERATION-NAME

- [OSB Kernel:398034]Two operations expect the same incoming message, you must use a selector different than message body

In this case, update your WSDL or service as the error message indicates.

- Enhanced Split-Join validation (CR380361): ALSB 3.0 allowed an insert in a Split-Join to insert into an uninitialized variable. From Oracle Service Bus 10g Release 3 (10.3) onwards, such an insert will fail with the following error:

```
Variable 'VARIABLE-NAME' is being referenced before it has been  
initialized with a value.: Fault  
[{http://docs.oasis-open.org/wsbpel/2.0/process/executable}uninitialize  
dVariable]
```

If your Split-Join works in ALSB 3.0 and fails in Oracle Service Bus 10g Release 3 Maintenance Pack 1 (10.3.1) with the above error, then modify the Split-Join to initialize the variable before insert.

- Enhanced JMS proxy and business service URI validation: prior to Oracle Service Bus 10g Release 3 (10.3), you could enter a JMS proxy and business service URI without a host and port. From Oracle Service Bus 10g Release 3 (10.3) onwards, Oracle Service Bus applies the following validation:
 - For a JMS proxy service URI, you may omit the host and port. Doing so will display a confirmation dialog prior to commit.
 - For a JMS business service URI, you must always specify the host and port.

For more information, see the [Oracle Service Bus Release Notes](#).