Patching Strategies and Best Practices + Parallel Patching

Foroohar Rafiei/Strategic Customer Engagements (SCE)
Dec 05, 2013
## BI 4 New Naming Convention
### Delivery Vehicles

<table>
<thead>
<tr>
<th>Delivery Vehicle</th>
<th>Content</th>
<th>XI 3.x Comparison</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minor Release</td>
<td>• Innovations</td>
<td>Service Pack</td>
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<tr>
<td>(BI 4.0, BI 4.1, etc.)</td>
<td>• Roll up of SP</td>
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<tr>
<td></td>
<td>• Complex Corrections</td>
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<tr>
<td></td>
<td>• New Languages</td>
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<tr>
<td>Support Pack</td>
<td>• Small Innovations</td>
<td>Fix Pack</td>
</tr>
<tr>
<td>(BI 4.0 SP7, BI 4.1 SP2, etc.)</td>
<td>• Roll up of Patches</td>
<td></td>
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<td></td>
<td>• Corrections</td>
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<td></td>
<td>• New Platform Support</td>
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<tr>
<td>Critical Patch</td>
<td>• Urgent Corrections Only</td>
<td>Limited Availability (LA) Fix</td>
</tr>
<tr>
<td>(BI 4.0 SP02 Patch 21, BI 4.1 SP1 Patch 3, etc.)</td>
<td>• Priority “Very High” or Show Stopper issues</td>
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</tbody>
</table>
BI Maintenance Strategy

Goals

**Quality & Governance**
- Consistent with SAP standards and best practices for quality assurance and release timelines

**Aligned Terminology**
- A “ONE SAP” approach with common and recognizable naming conventions across products

**Critical Corrections**
- The ability to deliver critical corrections for mainstream releases quickly and in a sustainable manner

The strategy is to reduce the number of fixes in critical patches and increasing them in support packs, Aligning the naming convention with Netweaver family and increasing the quality.
BI Maintenance Strategy

Critical Patch Criteria

**Guidelines for Critical Patches:**
- Must be defined as Priority 1/production down as outlined in SAP Note 67739 and/or a blocking issue for a critical business process as detailed in Quick Guide - Support Services For Customers Of Enterprise Support ( SAP Support Portal > About The SAP Support Applications ).
- No reasonable workaround or correction generally available in current Support Pack or Minor Release
- If no workaround or correction available then there must be clear evidence that conventional Maintenance Delivery timelines are not able to deliver correction based on business impact.
- Customer acknowledgement of SAP KB: 1661557 Guidelines for BI4 Critical Patches

**Limitations:**
- All Requests for fixes to be included in a Critical Patch are subject to approval by SAP based on the above Guidelines as well as technical, functional & project viability of the request.
- Critical Patches are unit tested for contained corrections in conjunction with base level of regression and integration testing.
- Customers who apply Critical Patches are recommended to upgrade to the next available Support Pack or Minor release where the corrections are included so that full regression, integration, and performance testing can be accomplished.
- Critical Patches are intended for the BI4 Product Suite & do not apply to BusinessObjects Enterprise XI3, Edge, Crystal Reports, Xcelsius, or Explorer

(https://service.sap.com/sap/support/notes/1661557 [requires login credentials to the SAP Service Marketplace])

**Key Points**
- Know whether your issue merits a patch based on the defined criteria
- Provide business impact details proactively to support your request
- Understand the Support Pack milestone to plan your upgrade strategy
Maintenance Schedule and Forward Fit Rules Location

Patches, Support Packs, and Minor Releases

- To access the Maintenance Schedule page you can navigate in SMP:

  https://service.sap.com/bosap-maintenance-schedule (requires login credentials to the SAP Service Marketplace)
### Release Timelines

**Dates and Milestones**

- Plan for maintenance release dates using this resource on the SAP Service Marketplace
- Dates regularly provided 6 months in advance to allow for resource planning

#### SAP BUSINESSOBJECTS MAINTENANCE SCHEDULE

**Disclaimer:**
Be aware that the information contained in this schedule is **subject to change**. SAP BusinessObjects does not guarantee the availability of a delivery on the specified date. The delivery frequency of a product version may change during its lifecycle.

The schedule shows dates for one quarter. Please move to the next pages for following quarters.

<table>
<thead>
<tr>
<th>Calendar Week</th>
<th>Oct</th>
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<th>Dec</th>
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<td>SAP Intercompany 7.5</td>
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**Hints:**
- **SBOP Forward Fit Plan** - Lists all forward fitted sources from each maintenance stream
- **Quick access** to this page in SAP Service Marketplace is available at Quick Link /sp-stacks or Quick Link /bosap-maintenance-schedule
- Information about availability of latest products can be found at [Product Availability Matrix](#)
Forward Fit Rules
Patches, Support Packs, and Minor Releases

• Forward Fit Rules tell you which fixes from prior releases are contained in a given Support Pack or Minor Release
• This is an invaluable resource for planning an upgrade from a Critical Patch
• Ensure you don’t miss a critical fix when upgrading

<table>
<thead>
<tr>
<th>BI 4.1 Releases</th>
<th>Contains Fixes From</th>
<th>Fixes Forward Fitted To</th>
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<tbody>
<tr>
<td>BI 4.1 Support Pack 2</td>
<td>BI 4.1 Patch 1.1, BI 4.0 Patch 4.16, BI 4.0 Patch 5.11-5.14, BI 4.0 Patch 6.3 - 6.6, BI 4.0 SP7, BI 4.0 Patch 7.1 - 7.2, BI 4.0 SP8, XI 3.1 FP 5.6, XI 3.1 FP 6.2</td>
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<td>BI 4.1 SP02</td>
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<td>BI 4.1 Patch0.1 - 0.3, XI 3.1 FP 4.5, XI 3.1 FP 5.5, XI 3.1 FP 6.1</td>
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Highlights of Patch to Patch Forward Fitting

- Begins with BI4 Support Pack 6
- Focus on Forward Fit to Highest release on Support Packs & Critical Patches
- Newest lines become the ‘Great’ line to ensure quality & feature completeness

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Excerpt from “SAP's Proactive Measures to Deliver Quality BI Software”

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<td>6.1</td>
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<tr>
<td>SP7</td>
<td>5.5</td>
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</table>
How to build a BI 4 Patch Strategy

Customer Example:
Environment
- **BI 4.0 Support Pack 5**

Find answers to the following questions before updating:
- Are our fixes X, Y, and Z (forward-fit) to Patch 7.4?
- What else has changed with BI 4.0?
- What else has changed with Platform/Supporting tools (UMT, LCM)?
Release Notes

Release Notes for Patches and Support Packs contain a cumulative list of all the ADAPTs fixed in a given release. That means that the Release Notes for Patch 6.9 will contain a list of all the fixes in Patches 6.1-6.9.

**Release Notes are challenging to locate, but can be found a few different ways:**


The info link provides SAP Note references for the Release Notes and Patch update guide

2. [https://service.sap.com/notes](https://service.sap.com/notes) * ➔ Search for SP04 Patch Release Notes, Application Area BI


* Requires login credentials to the SAP Service Marketplace
# Building a Maintenance Strategy

## Dos and Don’ts

<table>
<thead>
<tr>
<th><strong>DO</strong></th>
<th><strong>DO NOT</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Track a list of ADAPT Problem Reports (PR) that affect your deployment</td>
<td>Install every Critical Patch, or take a Patch without business needs to support it</td>
</tr>
<tr>
<td>Identify issues that require you to install a critical patch and plan for the next available Support Pack that contains the forward fit</td>
<td>Go more than 6 months without evaluating a maintenance release in a test environment</td>
</tr>
<tr>
<td>Have a test environment and allow ample time to test critical business processes before rolling out to production</td>
<td>Wait until the end of mainstream maintenance to begin planning your next upgrade</td>
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</table>
Patching Best Practices

Back up

**Windows:** Full server backup. This is because the registry gets altered and the file system is extensively touched.

**Unix:** Because there is no registry the user’s home folder and the product install location are all that are needed.

**Common to all OS:** FRS (whole data folder, not just input and output. This is due to explorer indexes) and CMS/Audit databases need to be backed up. Any custom configurations must also be backed up in case they are overwritten by the update.
Patching Best Practices

• When upgrading from SPx to SPx+n, run the UPDATE INSTALLER.
  i. SPx Full build is for fresh installs, and should not be used to update an existing installation.

• Go over the latest support & feature pack release notes available at SAP Help Portal.

• Turn OFF ALL servers Except the most essential servers such as CMS, and File repository servers (FRS).
System administrator should ensure that ALL non-essential processes are DOWN by running process explorer (or task manager with the command line showing by selecting it in view | select columns) after stopping them. The path is needed as many of the processes are named java.exe so one can look at the command line and kill those processes which are running in the Business Objects directories.

Note: The selected process shown in the image below (an example) would need to be killed if it was still in memory after stopping the non-essential services:
Patching Best Practices (continued)

- If you still see any BI40 platform related process or subprocesses besides CMS, Input FRS and Output FRS, Terminate them (Eg. Crystalras.exe, Java.exe etc). This doesn’t include Tomcat and the CMS database processes bundled with BI Platform.

- If you are updating on SP04 level, ensure that all JAVA processes (java.exe) associated with the BI Platform are down. If not, Terminate them using the process explorer
  i. This will ensure that there won’t be any issues with missing libraries which is primarily caused by the java processes locking up files causing them to be updated or deleted. This issue is due to JVM locking which is fixed in SP05.
Updating a Clustered Environment (Prior to BI 4.0 SP5)

Prior to BI 4.0 SP5 updating your system was only allowed one server at a time.
Updating a Clustered Environment (Prior to BI 4.0 SP5)

The rules for updating the system (Prior to BI 4.0 SP5):

• Always run the update installer one server at a time and check the servers and stop unnecessary ones before patching the rest.

• First update the CMS servers one server at a time, and then move on to other Tiers.

• Install BI Server Patch before installing other server patches like Explorer.

• Install BI Servers first then the Clients.

• Do Not run simultaneous update installs. During an install, various metadata gets uploaded to the CMS database.
  i. If you run simultaneous installs, you will risk running into a race condition resulting in missing metadata
Symptoms of Failure

• Some of the symptoms of issues where such a simultaneous install fail are:
  i. several files left in the .../setup/packagestemp folder [Eg. "C:\Program Files(x86)\SAP BusinessObjects\setup\packagestemp" on a default windows platform installation.]
  ii. In Install logs (setupengine.log), you find CMS trying to logon but fail consistently
What’s New (Parallel Patching)?

- Up to BI 4.0 SP5, patching has always been one of the most time consuming efforts in maintaining and upgrading a BI Enterprise system.
- Servers must have been updated one by one, therefore the downtime was lengthy and expensive.
- At BI 4.0 SP5 release deployment order has changed for distributed systems.
  - It is now possible to start deployments in some areas in parallel to avoid long runtime because of sequential update of CMS, Central Services, etc.
  - Official documentation will be available as of BI 4.0 SP8 and BI 4.1 SP2
Parallel Updating a Clustered deployment

To perform Parallel Patching the following order applies:

- Update, in parallel, all CMS host machines.
- Update, in parallel, all non-CMS host machines.
Rules for Parallel Updating a Clustered deployment

• You must wait for all machines updating in parallel to finish before proceeding to the next step.

• Do not restart a host machine until all machines updating in parallel have finished updating, even if the update installation program requests a restart.

• There must be at least one CMS machine available to the non-CMS host machines that are updating.

• All CMS hosts that are running when you begin updating, and any additional CMS hosts that start during the update, must be available for the entire duration of the update.
Rules for Parallel Updating a Clustered deployment (continued)

- You should not be running any additional installation, maintenance, or server administration workflows that could cause the CMS machines to restart while the update is taking place.
- Once all the updates have finished running, restart all CMS servers in your cluster.
- The process needs to be repeated for every product that is installed on the machines in the cluster (e.g. BI platform, Explorer, BI platform Client Tools).
Use the following tool to plan your patching process effectively:

http://scn.sap.com/docs/DOC-38905
References

- Patch Installation: http://service.sap.com/patches
- sap.com/LearnBI
Thank you

Contact information:

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