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2 Purpose of this Working Paper

We want to help our customers understand how to use SAP Security Patch Days, and to highlight the various options SAP provides to its customers.

We welcome any feedback – positive or negative – that helps us to improve this working paper. Please send any feedback to the following e-mail addresses:

Jorma.Straub@sap.com or Klaus.Bartmann@sap.com

Disclaimer:
This working paper consolidates the most important aspects regarding the “SAP Patch Day” as of February 2012. The outdated information about tool RSECNOTE is removed.

Owing to the continuous changes in SAP Security matters, the authors cannot guarantee the information provided here is up-to-date or complete.

You can find the latest information on the topic at any time at SAP Service Marketplace:
https://service.sap.com/securitynotes
3 General Information

3.1 Introduction to “SAP Security Patch Day”

Like other software manufacturers, SAP has a process for improving product security known as a ‘Product Security Response Process’ for delivered software components. Once a vulnerability has been identified, SAP attempts to provide a suitable patch as soon as possible in the form of a security note. These notes are published on the “SAP Security Patch Day”.

In some cases, SAP also publishes security notes outside the Patch Day cycle. This may be the case, for example, if a security loophole is announced in other media shortly before the general release of the patch.

Security patches are normally only written for product versions that are valid for maintenance.

Following the feedback of our customers and the various SAP User Groups, SAP has decided to introduce a regular “SAP Security Patch Day”. This will help ensure that security patches are available for download at SAP Service Marketplace.

SAP Security Patch Day
Regular Patch Day every second Tuesday of a month
Based on feedback from customers and SAP User Groups

<table>
<thead>
<tr>
<th>Benefit 1:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Better planning for SAP Security Notes with dedicated, regular schedule</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Benefit 2:</th>
</tr>
</thead>
<tbody>
<tr>
<td>More efficient review and selection of SAP Security Notes</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Benefit 3:</th>
</tr>
</thead>
<tbody>
<tr>
<td>More efficient patching of SAP systems as it is on the same day</td>
</tr>
</tbody>
</table>

We recommend setting recurring reminders (for example, in MS Outlook), to remind you about the SAP Security Patch Day and to initiate the necessary steps.

For more information, see SAP Service Marketplace: [https://service.sap.com/securitynotes](https://service.sap.com/securitynotes)
3.2 When Are the SAP Patch Days?

SAP Patch Days occur on every second Tuesday of the month. The reason for this particular cycle is to synchronize with other software providers, and because this interval was preferred by customers in the SAP user groups.

SAP Security Patch Days in 2012

2012:
- January 10, 2012
- February 14, 2012
- March 13, 2012
- April 10, 2012
- May 8, 2012

On May 8, 2012 SAP delivered important security fixes for the SAP NetWeaver technology platform and SAP Business Suite software. The majority of the security notes provide a fix relating to a single technical issue. Because adjustments must be made in various components of the affected software, the number of fixes is higher than on usual patch days.

The main purpose of this comprehensive security fix release is to improve protection against cross-site scripting (XSS) attacks. To this end, SAP introduced a new XSS encoding library. A large number of related notes are designed to tell different SAP applications and software components to use this new XSS library. Up to 80% of the fixes can be implemented automatically. A checklist (Adobe PDF), which includes information concerning the technical aspect of the issue, helps customers make the necessary decisions as it guides them step-by-step through the procedure. SAP strongly recommends that customers implement the fixes.

- June 12, 2012
- July 10, 2012
- August 14, 2012
- September 11, 2012
- October 9, 2012
- November 13, 2012
- December 11, 2012

3.3 Priorities of SAP Security Notes

SAP publishes notes with different priority levels. So-called “HotNews” notes have very high priority, and are classified as priority 1 (very high). The impacts on a customer system caused by the incidents reported in a HotNews note are so serious that they demand urgent attention.

The difference between priority 2 and priority 3 notes is often a subtle difference or degree of classification. Classification 6 (= recommendation) does not in fact have any priority in the classic sense; it normally only applies to notes that contain information, but not software patches.

NOTE: SAP recommends implementing all security notes as soon as they have been published.
Since March 2011, the CVSS value (Common Vulnerability Scoring System) has been used for some SAP security notes. CVSS is an industry standard for classifying security loopholes. For more information, see the following link: www.first.org

SAP uses this CVSS base score to estimate the risk level of the vulnerability identified in the note. However, this estimate does not take into account your own system configuration or operating environment. It does not replace the risk assessments that you should conduct when deciding the priority of this SAP security note and how it applies to you.

The prioritization of the SAP security notes is based on the CVSS value, but SAP reserves the right to change the priority in individual cases if it deems the classification to be insufficient.

Example of how the CVSS value is indicated in an SAP note:

<table>
<thead>
<tr>
<th>Priority from customer viewpoint</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 HotNews</td>
<td></td>
</tr>
<tr>
<td>2 Correction with high priority</td>
<td></td>
</tr>
<tr>
<td>3 Correction with medium priority</td>
<td></td>
</tr>
<tr>
<td>4 Correction with low priority</td>
<td></td>
</tr>
<tr>
<td>6 Recommendations/additional info</td>
<td></td>
</tr>
</tbody>
</table>

**CVSS Information**

CVSS Base Score: 6.8

CVSS Base Vector: AV:N/AC:L/AU:S/C:C/I:N/A:N

SAP provides this CVSS base score as an estimate of the risk posed by the issue reported in this note. This estimate does not take into account your own system configuration or operational environment. It is not intended to replace any risk assessments you are advised to conduct when deciding on the applicability or priority of this SAP security note.
3.4 Information about SAP Spotlight News

SAP regularly publishes “ad-hoc” information about particularly important security topics linked to the SAP security notes. Customers can find this information at SAP Service Marketplace. This information should not be confused with HotNews or priority 1 notes. The difference is that Spotlight News primarily summarizes key changes or announcements with regard to the security maintenance of SAP systems.

Examples of Spotlight News from the first quarter, 2012 (source: [www.service.sap.com/securitynotes](http://www.service.sap.com/securitynotes))

**Spotlight News**

**New security fix for SAP exchange infrastructure, SAP Netweaver Exchange Infrastructure and SAP NetWeaver Process Integration — Call for action** June 12, 2012

As part of the June patch day, we have released an important security note, classified with high priority. This note, Security Note 1707494, fixes a vulnerability discovered in SAP Exchange Infrastructure, SAP NetWeaver Exchange Infrastructure and SAP NetWeaver Process Integration, lower than version number 7.1. We expect this vulnerability to be disclosed shortly, therefore we strongly recommend that all affected customers apply the fix.

**New security fixes for SAP NetWeaver and SAP Business Suite — Call for action** May 8, 2012

On May 8, 2012 SAP delivered important security fixes for the SAP NetWeaver technology platform and SAP Business Suite software. The majority of the security notes provide a fix relating to a single technical issue. Because adjustments must be made in various components of the affected software, the number of fixes is higher than on usual patch days.
4 Implementation of a Security Patch Day Process

4.1 Overview of the Support

The following overview presents the support services for the SAP Patch Day offered within the SAP Enterprise Support portfolio. The central access point for information is SAP Service Marketplace. For the latest information on everything to do with SAP security notes, see www.service.sap.com/securitynotes.

The link contains a wealth of information including the SAP Security Whitepaper (Secure Configuration (Part 1) and Secure Programming of SAP Systems (Part 2)), and the link to the SAP Developer Network.

The support services highlighted in this structure are outlined in this document. This document includes references to the original documentation for various functions and tools (Standards and How-to Guides).

4.2 Preparations

The following, sample procedure for establishing an SAP Patch Day process describes the necessary steps.

SAP recommends that you always import the latest published SAP security notes as soon as possible. Any delay may increase the security risk to the SAP landscape.

PREPARING FOR THE PATCH DAY PROCESS:

1. Enter the name of your security contact in SAP Service Marketplace https://www.service.sap.com/securitycontacts
2. Nominate a person to be responsible for the security maintenance of your SAP systems.
3. Review the status of your SAP Solution Manager. (Version and possible upgrade plans)
4. Which tools and methods are used in your company for testing?
5. Who is responsible for deciding whether or not all SAP security notes are imported in a given month? Does the customer use an authorization process?
6. Create a “Patch Day Roadmap”. How should the process be structured in your company? (Possible templates are provided in the next section)

DECISIONS

1. Define responsibilities
2. Identify previous times, resources, and methods required for testing, and use existing SAP tools to reduce time and costs (for example, the Business Process Change Analyzer, and so on)
3. Is there a defined workflow for exception processes? (Emergency transports of ad-hoc notes)
4.3 Sample SAP Security Patch Day Process

A possible SAP Patch Day process is outlined below:

1. Monthly on 2nd Tuesday:
   - Security Patch Day of SAP
   - Check Service Marketplace/securitynotes
   - Check System Recommendations in Solution Manager
   - Check EarlyWatch Alert RSECONOTE

2. The week after the Patch Day:
   - Update Configuration Validation checks in Solution Manager
   - Apply Security Notes
   - Risk assessment
   - Scheduled implementation!

3. Within one month:
   - Perform individual regression test
   - Apply Kernel Patches, Java Patches and ABAP Support Packages
   - Apply additional manual configuration of Security Notes if necessary
   - Complete Test

4. During next maintenance cycle:
   - After completing the process, do not forget to test your business processes.

SAP Patch Days are run on every second Tuesday of the month.

- At the end of this second Tuesday in the month, you can review the latest list of SAP security notes on the SAP Service Marketplace page [www.service.sap.com/securitynotes](http://www.service.sap.com/securitynotes).
- Use the “System Recommendations” function in your SAP Solution Manager (Release 7.0, Support Package 26 and higher) to determine which SAP security notes are relevant for your system landscape. You can also run this check as a background job. If you schedule the operation for Tuesday night, the results will be available the next morning. You can also generate change requests from this tool.
- Regardless of the channel that the customer uses to find information about the latest SAP security notes (SAP recommends checking all channels: System Recommendations, SAP Service Marketplace), customers should always run their own risk assessment after reviewing the information.
  - The risk assessment should consider whether implementing the notes poses any risks to live operations or production systems. Following the results of the risk assessment, the customer can then decide which security notes should be implemented immediately, and which should be implemented during the next maintenance cycle.
- Using “Configuration Validation”, automated reports can check which SAP systems meet the security requirements of the customer, and what is “missing” in the remaining systems. The reports use the target system from your SAP landscape specified by you, apply the latest SAP security notes, and with the Configuration Validation, can coordinate with other systems.
- The SAP security notes are then implemented in the course of that month, and regression tests are performed (where necessary) in order to ensure that the productive business processes are functioning correctly.
- In the next maintenance window, update your kernel, and implement the latest JAVA and ABAP support packages. During this update, you will also receive the patches from the SAP security notes. Some of the SAP security notes describe configuration changes that are also required in this context. During the update process, you may find that the process overlaps with another (live) Patch Day. These new SAP security notes should be implemented during this maintenance window if possible.
4.4 Optimization Points for the Process

1. Ensure an efficient analysis with automated batch jobs and e-mail notifications. This way, you will receive automatic results by e-mail, and can skip straight to the risk assessment.

2. Use the “System Recommendations” function in the SAP Solution Manager. This provides you with a quick and consolidated analysis of open notes for each system. For more information, see: www.service.sap.com/sysrec

3. You should run a check for any open SAP security notes regularly (we recommend monthly). Normally, a monthly list contains around 40–50 notes (exceptions are possible at any time). First check the small number of notes classified as priority 1. Also assess the possible risk posed by other open notes (priority 2 to 4). If possible, these should also be imported immediately. There may be reasons on the customer side to delay the implementation until the next planned support package (marked as “Scheduled Implementation” in the graphic).

Rules for a worklist may include:

1. **Implementation as part of the monthly “patch process”**
   For example, for ABAP patches. This group could include any notes that can be fully imported using the Note Assistant (transaction SNOTE) without significant testing requirements. This would also include the majority of HotNews and priority 2 notes.

2. **Implementation as Part of a Project:**
   For example, for notes relating to the “other components” section or manual instructions. This includes notes that require extensive preparations, for example notes regarding gateway security (because specific access control lists need to be maintained) or regarding directory traversal (because logical file names need to be “customized” and an application test is vital).

3. **Implementation as Part of Regular Maintenance:**
   For example, as part of a support package upgrade, kernel upgrade, or Java upgrade. Essentially, this is the same as “do nothing” because support package upgrades are always planned anyway. This would tend to be priority 3 and 4 notes.

4. **Implementation after Maintenance Activities:**
   For example, where the instructions require a support package or kernel upgrade.
4. Reduce testing times by using SAP Solution Manager. After the implementation, this allows you to see which core business processes were affected by these notes. By testing five core business processes, you will be able to determine, for example, that the test scope is 80% complete, and that you can cover the remaining scope with XY additional test scenarios. This ensures a shorter test cycle and means you can better estimate the required resources, scope and time. Otherwise, you would have to test all business processes each time.

5. For larger SAP system landscapes, you should consider using the “Configuration Validation” function in SAP Solution Manager. The benefit of this is its central monitoring mechanism. This shows the current status of all systems, and can send automatic e-mails and notifications to the responsible people if certain criteria are exceeded based on user-defined thresholds.
5 Tools, Tips, and Tricks

5.1 Find the Latest SAP Security Notes

There are four different sources of information where you can find SAP security notes. SAP recommends that you use all variants. SAP publishes security notes at SAP Service Marketplace under the alias “/securitynotes” (www.service.sap.com/securitynotes)

There are two options to choose from (general and customer specific):

1. Option: Full Selection via “SECURITY NOTES SEARCH”

You can make a general selection (“Security Notes Search” tab page), and use the filter criteria available there.

![SAP Security Notes Search](image)

The results can be downloaded as an MS Excel file.
If you are not yet familiar with the “System Recommendations” tool in SAP Solution Manager, this document also describes how to download notes manually as an Excel file, followed by a mass upload to transaction SNOTE. (See section 2.13, Implementing SAP Security Notes with Transaction SNOTE)

2. Option: Customized Selection via “MY SECURITY NOTES SEARCH”

The second option for selecting SAP notes is by the “My Security Notes” tab page. You can enter your customer systems or SAP products, and select the components for which you want to select security notes.

Alternative a) Automatic selection by system (recommended)

Prerequisite: The systems are registered in the SAP Marketplace

1. Step: Create filter by system
2. Step: select registered system

3. Step: Confirm and save (do not restrict the selection by application components if you are looking for security notes)
Alternative b) Manual selection by product and software components

Step 1: Filter by SAP product version:

my important SAP Notes Filter Personalization

Add filter

Filter Name: TEST FILTER
Product version assigned: SAP ERP 6.0

Select your product and product version

Product: SAP ERP
Product Version: SAP ERP 6.0

Usage Type
- Business Intelligence
- EP Core
- Enterprise Portal
- Mobile Infrastructure
- Portal Content for SAP ERP

Step 2: Select the support package level, and save your defined filter (that is, the selection of the product version with the corresponding support package information)

my important SAP Notes Filter Personalization

Add filter

Filter Name: TEST FILTER
Product version assigned: SAP ERP 6.0

Select highest imported Support Package per Software Component for SAP ERP 6.0

Only software components with selectable support packages are displayed.

Existing Software Components
- ERECRUIT 600
- PI_BASIS 2005_1_700
- PI_BASIS 2006_1_700
- SAP ABA 7.00
- SAP BASIS 7.00
- SAP BW 7.00

Valid to Support Package
- SAP-60007INERECRUIT
- SAP-60008INERECRUIT
- SAP-600009INERECRUIT
- SAP-60010INERECRUIT
- SAP-60011INERECRUIT
- SAP-60013INERECRUIT
- SAP-60014INERECRUIT

Step 3: Select the application area and your preferred time window
Step 4 (optional):

You can select or de-select all application areas. This is possible in the first column from the left. To do so, right click the icon in the header line of the first column.

Note:
Make sure you also implement the SAP security notes for components that you do not use otherwise you could run the risk of “back door” attacks leading to malware on your system.

5.2 SAP Solution Manager “System Recommendations” Function

“System Recommendations” is an SAP Solution Manager function in Work Center Change Management (SAP Solution Manager 7.0, SP 26 and higher). With System Recommendations, you can find SAP notes relevant for your technical system (termed ‘notes’ below), display information about these notes, and execute any associated actions.

In the SAP Support Portal, System Recommendations retrieves the notes relevant for the selected system, and transfers the information to SAP Solution Manager. System Recommendations is also incorporated into the change management process. For example, you can create a change request immediately after selecting the relevant notes. Non-ABAP notes can be integrated into the Maintenance Optimizer to confirm loadable Java patches.

For more information, see: www.service.sap.com/sysrec

Functions

Below is a brief overview of the functions in System Recommendations:

1. Combine different filter parameters to select the relevant notes (by product system and technical system, application component, period), and save the filter settings for quick launch.

2. Display the results by application component or software component.
3. Assign a status to an entry, and display note information for a specific status
4. Define a background task to automatically update note information
5. Trigger a change request, or select a Java patch and start a maintenance process

Using the “System Recommendations” Function in Combination with SAP Patch Day

By displaying the missing SAP notes for all systems at the push of a button, the “System Recommendations” function can help reduce the time and organizational resources required in the SAP Patch Day process.
New Functions in the Latest and Future Releases:

Extended Functions in System Recommendations as of SolMan 7.10 SP 5
Enhanced System Recommendations functions in SAP Solution Manager 7.10 SP 5 and higher:

- A new list view with extra filter and sorting options can be configured with the “Settings” button.
- New Columns with additional functions:
  - Note contains automatic correction instruction (SNOTE)
  - These notes can be (at least partly) implemented using the ABAP Note Assistant (transaction SNOTE)
  - Note contains manual correction instruction
  - Note references to a Kernel Patch
  - ABAP Support Package which contains the solution

- Download the selected notes to the Note Assistant (transaction SNOTE) for the selected system.
- Display the list for selected ABAP notes
- You can use this list to define the programs, function groups, and so on that are changed by the patch. You can also use this function to define the test areas.
- Run the Business Process Change Analyzer (BPCA) to determine which tests need to be performed.

Limitations:

- System Recommendations cannot determine whether manual corrections have been implemented. Use the status display to filter such notes out of the list, and to receive confirmation that the note has been installed.
- You can download many of the notes to the Note Assistant of the selected system automatically. As before, however, these notes must be imported to the system individually.
How to set up System Recommendations / Prerequisites:

- All systems to be monitored must be connected to SAP Solution Manager, and documented in transaction SMSY.

- The SAP Support Portal RFC connection SAP-OSS must be established correctly.

- The functionality is only available within the Change Management Work Center (transaction code SOLMAN_WORKCENTER or SM_WORKCENTER), therefore access to the Work Centers is a prerequisite.

- To control access to System Recommendations, the authorization object SM_TABS (in SAP Solution Manager 7.0) or SM_FUNCS (in SAP Solution Manager 7.1) can be used to grant or deny access to the different tabs of System Recommendations.

- The background job SM:SYSTEM RECOMMENDATIONS in SAP Solution Manager collects the required information of all managed systems, and should therefore be scheduled using the “settings” functions within System Recommendations.

- Before using System Recommendations, it is strongly recommended to implement relevant SAP Notes of applications component SV-SMG-SR, e.g. 1554475 and 1577059 (in SAP Solution Manager 7.0) or 1739266, 1734182, 1727924, 1709291 (in SAP Solution Manager 7.1). You can use System Recommendations itself to search for Correction Notes for application component SV-SMG-SR to find these notes:

- For troubleshooting, please check the application log AGS_SR in transaction SLG1 to see the configuration and check logs.

- In case of any problem, please create a customer message under component SV-SMG-SR (System Recommendations for Managed Systems).

For more information on “System Recommendations”:


Important Notes (list generated on 6.8.2012):

1739266  SysRec: Short dump when show object list
1734182  SysRec: Incorrect Java patches for selected SAP Notes
1727924  SysRec: Download Notes in SolMan7.1 SP05
1709291  SysRec: Collective Correction for ST 710 SP001 - SP005
1664866  SysRec: Short dump in System Recommendations of SolMan 7.1
1663047  SysRec: Collective Correction for ST 400 SP026 - SP028
1663044  SysRec: Collective Correction for ST 710 SP001 - SP004
5.3 SAP Solution Manager “Configuration Validation” Function

The Configuration Validation function in SAP Solution Manager checks whether the systems in your SAP landscape are consistent and correctly configured to meet your requirements. You can therefore use this function, for example, to check compliance with security guidelines and standards in your connected systems.

The “Configuration Validation” function is an element of the SAP Solution Manager “Change Management” work center. Using this function, you can specify a “target system” that meets the latest standards while complying with your company’s guidelines. Your connected SAP systems are then checked against this target system. You can also customize the analysis, and specify your own thresholds.

Link to additional information:
Information about Configuration Validation on the SAP Developer Network:
http://wiki.sdn.sap.com/wiki/display/TechOps/ConfVal_Home

Prerequisites: see “System Recommendations”

Example of a “Configuration Validation” analysis:

![Configuration Compliance - Selected Items of one ConfigStore](image-url)
If you are an SAP Enterprise Support customer, the SAP Enterprise Support Academy at SAP Service Marketplace has an extensive range of video resources. Visit [www.service.sap.com/esacademy](http://www.service.sap.com/esacademy), and click “Meet the Experts”. These events are held on specific dates, when you will be able to engage directly with SAP experts. The events are recorded, and are accessible customers in the Media Library.

Screenshot of the video:

SAP Enterprise Support Academy also offers a wide range of information events that may be of interest to you. SAP Enterprise Support and MaxAttention customers can register using their S-User numbers.
Meet the Expert Session Schedule

Meet the Expert Session

<table>
<thead>
<tr>
<th>Topic</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAP Solution Manager 7.1: Test Automation with SAP Solution Manager</td>
<td>Jan.24, 2012</td>
</tr>
<tr>
<td>SAP Solution Manager 7.1: SAP Solution Manager Test Option 3 -</td>
<td>Feb.01, 2012</td>
</tr>
<tr>
<td>Integration with IBM Rational Tools</td>
<td></td>
</tr>
<tr>
<td>SAP Solution Manager 7.1: Introduction to SAP Solution Manager</td>
<td>Jan.24, 2013</td>
</tr>
<tr>
<td>Manager</td>
<td></td>
</tr>
<tr>
<td>SAP Solution Manager 7.1: What’s new in SAP Solution Manager 7.1</td>
<td>Feb.07, 2013</td>
</tr>
<tr>
<td>SAP Solution Manager 7.1: SAP Solution Manager 7.1 Demo</td>
<td>Jan.30, 2013</td>
</tr>
<tr>
<td>SAP Solution Manager 7.1: Application Lifecycle Management with</td>
<td>Feb.15, 2013</td>
</tr>
<tr>
<td>SAP Solution Manager</td>
<td>Feb.21, 2013</td>
</tr>
<tr>
<td>SAP Solution Manager 7.1: Test Management with SAP Solution</td>
<td>Feb.28, 2013</td>
</tr>
<tr>
<td>Manager, SAP Quality Control Center and SAP TAO</td>
<td>Feb.29, 2013</td>
</tr>
<tr>
<td>Intelligence Monitoring</td>
<td>Feb.24, 2013</td>
</tr>
<tr>
<td>SAP Solution Manager 7.1: Change Control Management</td>
<td>Feb.28, 2013</td>
</tr>
<tr>
<td>Infosession</td>
<td></td>
</tr>
<tr>
<td>SAP Solution Manager 7.1: Data Volume Management Work Center</td>
<td>Mar.22, 2013</td>
</tr>
</tbody>
</table>

Note:
MaxAttention and SAP Enterprise Support customers can attend the Expert Guided Implementation Session for a range of configuration settings and functions in SAP Solution Manager. This training is a virtual session, and you always have access to our SAP experts, who are on hand to help. In the morning, you receive a 1–2 hour presentation with background information and key configuration settings. In the afternoon, you can apply the functions in a live environment with the help of the documentation and our SAP experts.

Register with your S-User at SAP Service Marketplace: www.service.sap.com/esacademy

The Advisory Center for SAP Enterprise Support customers is also available to answer any questions you may have. For the contact telephone numbers, see SAP Note 560499
### Expert-Guided Implementation

#### Schedule: Configuration Validation

<table>
<thead>
<tr>
<th>Day 1</th>
<th>Day 2</th>
<th>Day 3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Empowering lesson</strong>&lt;br&gt;SAP expert explains the concept, the planned configuration validation scenarios and shows fulfillment of prerequisites (Change Reporting). (Web session, 1-2 h. in the morning)</td>
<td><strong>Empowering lesson</strong>&lt;br&gt;Configuration Validation Ad hoc reporting (Web session, 1-2 h. in the morning)</td>
<td><strong>Empowering lesson</strong>&lt;br&gt;Configuration Validation Working with Target Systems (Web session, 1-2 h. in the morning)</td>
</tr>
<tr>
<td><strong>Execution by customer</strong>&lt;br&gt;Check and fulfill prerequisites by customer in own system backed by on-demand expertise and support (Remote support in the afternoon)</td>
<td><strong>Execution by customer</strong>&lt;br&gt;Implementation by customer in own system backed by on-demand expertise and support (Remote support in the afternoon)</td>
<td><strong>Execution by customer</strong>&lt;br&gt;Execution by customer in own system backed by on-demand expertise and support (Remote support in the afternoon)</td>
</tr>
<tr>
<td><strong>Goal of the day</strong>&lt;br&gt;  ■ Basic Components of Change Diagnostics (Change Analysis, Change Reporting)&lt;br&gt;  ■ Prerequisites for Configuration Validation&lt;br&gt;  ■ Concept of Configuration Validation</td>
<td><strong>Goal of the day</strong>&lt;br&gt;  ■ Run ad hoc reports validating&lt;br&gt;    * Database level&lt;br&gt;    * SAP kernel level&lt;br&gt;    * Software component level&lt;br&gt;    * Java VM Version&lt;br&gt;    * Formatting reports</td>
<td><strong>Goal of the day</strong>&lt;br&gt;  ■ Using the security template to create a target system containing security relevant configuration items&lt;br&gt;  ■ Create a target system containing ABAP transports</td>
</tr>
<tr>
<td></td>
<td><strong>Final goal</strong>&lt;br&gt;Configuration Validation is ready to use</td>
<td></td>
</tr>
</tbody>
</table>
5.4 Cross-System Check

Source: SDN ➔ Code Exchange ➔
https://cw.sdn.sap.com/cw/groups/cross-system-check-for-security-notes

Cross-System Check for System Recommendations

Information about the Cross-System Check Report ZSYSREC_NOTELIST:

The report is part of the Code Exchange Program on the SAP Developer Network and is intended as a support option for customers who are currently unable to upgrade their SAP Solution Manager to release 7.1 support package 3 or higher. With support package 3, you can benefit from the new Configuration Validation report which shows the cross-system results of the application “System Recommendations”.

The application System Recommendations calculates results for all connected systems, however, the standard user interface shows the results per system only (the user must always select a system in the System Recommendations user interface).

The ZSYSREC_NOTELIST report displays cross-system results of the System Recommendations function. This is useful for SAP Solution Manager Release 7.10 SP 2 and lower because there is no other way to run cross-system analyses. As of SAP Solution Manager 7.10 SP 3, the results from System Recommendations can then be analyzed with the Configuration Validation function. (See section 5.3)

Example:

![Image of System Recommendation Report]
<table>
<thead>
<tr>
<th>Note</th>
<th>Vers.</th>
<th>System</th>
<th>Application area</th>
<th>Prior</th>
<th>Category text</th>
<th>Note short text</th>
</tr>
</thead>
<tbody>
<tr>
<td>1687910</td>
<td>2</td>
<td>TTS ABAP</td>
<td>BC-ABA-SC</td>
<td>2</td>
<td>A - Program error</td>
<td>Potential denial of service in DIAG Processor</td>
</tr>
<tr>
<td>1686917</td>
<td>1</td>
<td>TTS</td>
<td>LO-ECH</td>
<td>2</td>
<td>A - Program error</td>
<td>Missing authorization check in engineering change management</td>
</tr>
<tr>
<td>1686842</td>
<td>2</td>
<td>TTS</td>
<td>BC-ABA-LA</td>
<td>2</td>
<td>A - Program error</td>
<td>Missing authorization check in ABAP Dump Collector</td>
</tr>
<tr>
<td>1685251</td>
<td>1</td>
<td>XX-PROJ-FI-CA</td>
<td>XX-PROJ-FI-CA</td>
<td>2</td>
<td>A - Program error</td>
<td>Unauthorized function in FICO</td>
</tr>
<tr>
<td>1685084</td>
<td>1</td>
<td>TTS</td>
<td>BC-MID-RFC</td>
<td>1</td>
<td>A - Program error</td>
<td>Update #1 to Security Note 1386410</td>
</tr>
<tr>
<td>1684713</td>
<td>2</td>
<td>TTS</td>
<td>IS-M</td>
<td>2</td>
<td>A - Program error</td>
<td>Unauthorized modification in JTS-Services in IS-M</td>
</tr>
<tr>
<td>1684640</td>
<td>1</td>
<td>IS-M</td>
<td>IS-M</td>
<td>2</td>
<td>A - Program error</td>
<td>Unauthorized modification in JTS-Services in IS-M</td>
</tr>
<tr>
<td>1683397</td>
<td>4</td>
<td>PPM-PRO</td>
<td>PPM-PRO</td>
<td>2</td>
<td>A - Program error</td>
<td>Unauthorized modification of displayed content in PPM-PRO</td>
</tr>
<tr>
<td>1683345</td>
<td>1</td>
<td>BC-SRV-ASF-CHD</td>
<td>BC-SRV-ASF-CHD</td>
<td>3</td>
<td>A - Program error</td>
<td>Missing authorization check in BC-SRV-ASF-CHD</td>
</tr>
</tbody>
</table>

Program version: 30.05.2012
5.5 Transporting SAP Security Notes

SAP recommends that you combine all of the SAP security notes into one transport request during the implementation but don’t mix it with anything else which is not related to these security notes. In event of an error, this means you can quickly identify the relevant note.

5.6 Implementing SAP Security Notes with Transaction SNOTE

Transaction SNOTE is used to install the corrections contained in an SAP security note. If the note does not contain any other information regarding implementation, you can use the Note Assistant (transaction SNOTE).

Please ensure that you read all notes and the descriptions they contain, and do not ignore any information regarding regression tests.

You can also use transaction SNOTE to download several SAP notes at once.

Step 1: Transfer the SAP security notes in the list to an Excel file.
Note: Clear any empty spaces before and after the note numbers (Excel formula: Split), and then sort. (See the example below.)

Step 2: Call transaction “SNOTE”
Step 3: Activate the “Note Download” function
Multiple selections for download are possible:

Step 4: Transfer the selection of security notes to SNOTE

First, generate the relevant SAP security notes for your system from SAP Service Marketplace. Follow the link [www.service.sap.com/securitynotes](http://www.service.sap.com/securitynotes), select the relevant notes for your system, and extract them to an Excel file. The option for exporting the data to an Excel table is provided at the end of the notes list. (See step 1.)

Using the copy & paste function in Excel, you can now transfer the selection of notes you want to implement to transaction SNOTE. Then save the selection.

Import the SAP note numbers from Excel to transaction SNOTE.
Notes are now downloaded from SAP Service Marketplace. (This may take a long time depending on your broadband speed.)

Transaction SNOTE checks whether the notes can be implemented.

Copy the notes, which can be implemented using SNOTE (marked in yellow) to your Excel list.

In this example, the situation is as follows:

1. Note 1531512 (see the top yellow square)
   From a technical point of view, the note can be implemented.
2. Note 1536491 (see the bottom yellow square)
From a technical perspective, this note can also be implemented.

5.7 Selecting Notes by Topic
SAP Service Marketplace (www.service.sap.com/securitynotes) also allows you to select SAP notes by topic. This type of selection may be useful if you are processing risks according to topic. The above link also provides access to SAP Security Whitepapers, which contain valuable help on many of the points listed below.

Source: SAP Note 1535142 - How to search for security notes fixing a particular topic

<table>
<thead>
<tr>
<th>TOPIC</th>
<th>KEYWORD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cross Site Scripting</td>
<td>&quot;XSS&quot;</td>
</tr>
<tr>
<td>Cross Domain Redirection</td>
<td>&quot;Cross-domain redirection&quot;</td>
</tr>
<tr>
<td>Cross-site request forgery</td>
<td>&quot;XSRF&quot;</td>
</tr>
<tr>
<td>Information Disclosure</td>
<td>&quot;Information Disclosure&quot;</td>
</tr>
<tr>
<td>Buffer Overflows</td>
<td>&quot;RCE&quot;, &quot;Buffer overflow&quot;</td>
</tr>
<tr>
<td>SQL Injection</td>
<td>&quot;SQL Injection&quot;</td>
</tr>
<tr>
<td>Remote termination</td>
<td>&quot;Memory corruption&quot;</td>
</tr>
<tr>
<td>Denial of Service</td>
<td>&quot;DoS&quot;</td>
</tr>
<tr>
<td>Hard-coded credentials</td>
<td>&quot;credentials&quot;, &quot;hard-coded&quot;</td>
</tr>
<tr>
<td>Directory Traversal</td>
<td>&quot;Directory Traversal&quot;</td>
</tr>
<tr>
<td>Code injection</td>
<td>&quot;code injection&quot;</td>
</tr>
<tr>
<td>Missing Authorisation</td>
<td>&quot;authorization&quot;, &quot;check&quot;</td>
</tr>
</tbody>
</table>

5.8 Downloading Notes with Low Broadband Speed
If you have a low broadband speed that causes long download times (for example, due to an ISDN connection), SAP recommends the following procedure to reduce processing times.

When displaying the SAP notes in your browser, select the notes for the download basket. The notes are then downloaded in one go, and the files are uploaded to multiple systems via transaction SNOTE.

With multiple similar systems, this allows you to cut download times, and in a heterogeneous system landscape, you can restrict the number of notes in the download area.

5.9 SAP Service Marketplace (Security): E-Mail Notification
SAP Service Marketplace allows you to set up automatic e-mail notifications. You can limit the frequency and topics covered (for example, only Fridays, and only SAP security notes). You can also define a further selection based on the SAP products your company uses.

This means you receive e-mail notifications tailored to your SAP landscape notifying you of any changes to the security situation immediately after publication. These changes are triggered following the publication of SAP security notes.

Link: www.service.sap.com/securitynotes ➔ Tab page: My Security Notes
The graphic below shows the Notification Center in SAP Service Marketplace for automatic e-mail notifications about SAP security information.
My Important SAP Notes
SAP HotNews, SAP Security Notes, SAP Legal Change Notes and SAP TopNotes that are relevant for your systems or products

Add or edit filters to see only the SAP Notes that are relevant for your systems or product versions. The filters will apply to each SAP Note type and, by default, will display results for all applications. Once you’ve created and customized your filters, sign up to receive notifications in your SAP Support Portal Newsletter when relevant SAP Notes are released.

List of important SAP Notes for filter: BLB BLB

Product Filter "BLB BLB" found 3 SAP Notes

<table>
<thead>
<tr>
<th>Application Area</th>
<th>Note Number</th>
<th>Note Title</th>
<th>Category</th>
<th>Priority</th>
<th>Change Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>BC-MID-RFC</td>
<td>1491645</td>
<td>Unauthenticated system access via RFC or HTTP</td>
<td>Program error</td>
<td>Very High</td>
<td>09.05.2011</td>
</tr>
<tr>
<td>BW-SYS-DE-DE55</td>
<td>1200076</td>
<td>DB15: Ref, point missing when condensing non-cumulative cubes</td>
<td>Program error</td>
<td>Very High</td>
<td>27.05.2011</td>
</tr>
<tr>
<td>SCM:APO-INT</td>
<td>1550538</td>
<td>Missing authorization check in SCM-APO-INT</td>
<td>Program error</td>
<td>Very High</td>
<td>25.05.2011</td>
</tr>
</tbody>
</table>
5.10 SAP Security Notes for Unused Components

SAP recommends that you implement all SAP security notes for all components contained within your system. Failing to do so could leave your SAP system and data open to manipulation and unauthorized access.
6 Sources of Information

6.1 The SAP Patch Day in the Context of the SAP Secure Operation Map

The Secure Operation Map is a roadmap for “SAP Security for Operations”. The action areas outlined below are described in more detail by various SAP services, tools, and the “Security Standards” and “Run SAP Documents”. These offer recommendations on how to reduce your security risk and how to perform risk assessments.

The SAP Patch Day process belongs to the area “Software Lifecycle Security” and its subsection “Secure Application Lifecycle”. Regular Patch Days for your SAP systems ensure your security in this area is always up-to-date. Note, that the area “Secure Application Lifecycle” is only one subarea of Secure Lifecycle Management.

For a more detailed description of the individual action areas, visit the SAP Developer Network: Link: http://www.sdn.sap.com/irj/sdn/security

<table>
<thead>
<tr>
<th>Compliance</th>
<th>Audit</th>
<th>Outsourcing</th>
<th>Emergency Concept</th>
</tr>
</thead>
<tbody>
<tr>
<td>Secure Collaboration</td>
<td>Secure Process and People Collaboration</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Identity and Access Management</td>
<td>User and Authorization Management</td>
<td>Administration Concept</td>
<td></td>
</tr>
<tr>
<td>Infrastructure Security</td>
<td>Network, System, Database and Workstation Security</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Software Lifecycle Security</td>
<td>Secure Application Lifecycle</td>
<td>Secure Configuration</td>
<td>Secure Support</td>
</tr>
</tbody>
</table>

6.2 “SAP Standard for Security”

Section 4.3.5 “Software Lifecycle Security” of the “SAP Security Standard” document describes the necessary measures for reducing the risks posed by attacks on SAP systems.

These include measures to be considered during the SAP Patch Day. The section includes the points: “Standard software component maintenance”, “Custom code maintenance”, “Periodic review, test and training activities”, and so on.

You can download the SAP Security Standard via the following link: www.service.sap.com/supportstandards in the section “List of Available SAP Standards for Solution Operations”

6.3 SAP Developer Network – SAP Security Forum

The Security forum section of the SAP Developer Network gives you the opportunity to engage with SAP experts.

To access the SAP security forum, use the following link: http://forums.sdn.sap.com/forum.jspa?forumID=208&start=0
As a registered member of the forum, you will be able to access informative contributions, videos, and presentations that add to the other sources of information on this topic.

You can also visit the e-Learning modules on the topic of security: http://www.sdn.sap.com/irj/scn/security-elearning
6.4 Important Sources of Information
Which links at SAP Service Marketplace (http://service.sap.com) are relevant for “Security”?

1. www.service.sap.com/security
   Information and literature about everything to do with security

2. www.service.sap.com/securitynotes
   Information about the SAP Patch Day and security notes

3. www.service.sap.com/tcs
   Information about the SAP Trust Center Service

4. www.service.sap.com/ais
   Information about the SAP Audit Information System

5. www.service.sap.com/securityguide
   Download all the SAP Security Guides

6. www.service.sap.com/systemmanagement
   Computer Center Management System (CCMS); a tool for system monitoring and alert management

7. www.service.sap.com/securityconsulting
   Consultancy services for SAP security issues and services

8. www.service.sap.com/sysrec
   Information about the System Recommendations function

6.5 Sources of Information and Demonstrations of Test Tools
SAP provides customers with a range of test tools and functions in SAP Solution Manager.

In particular, we would like to draw your attention to the Business Process Change Analyzer. This allows customers to identify which business processes will be affected following the implementation of notes, support packages, or enhancement packages.

Since the Analyzer tests five core business processes, the fact that this covers 80% of the testing requirements is of huge benefit to the customer.

Visit www.service.sap.com/testing for extensive demonstrations, PDF documents, and presentations.
### Test Option 1

<table>
<thead>
<tr>
<th>Capabilities</th>
<th>Presentation</th>
<th>Demo</th>
<th>How to configure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overview Test Option 1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Business Process Change Analyzer</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Test Planning</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Manual Testing</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Automated Testing</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HP QTP for SAP Enterprise Support</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Test Option 2

<table>
<thead>
<tr>
<th>Capabilities</th>
<th>Presentation</th>
<th>Demo</th>
<th>How to configure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overview Test Option 2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SAP TAO</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Business Process Change Analyzer</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adapter for SAP Quality Center</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Test Option 3

<table>
<thead>
<tr>
<th>Capabilities</th>
<th>Presentation</th>
<th>Demo</th>
<th>How to configure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Integration of SAP Solution Manager with IBM Rational</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Business Process Change Analyzer</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Customer feedback on the SAP Solution Manager test tools and functions:

“During our ERP & XPI upgrade project, we had the challenge of extensive testing to be done by our Internal teams and our partner. We needed to perform exhaustive tests, and keep the test phase costs low. We have successfully leveraged the Run SAP test-management scenario of SAP Solution Manager at Ferrero. By using the test-management practices and e-Catt automation, we were able to run tests reliably and we have achieved a test phase cost reduction of 40%.”
Giovanni Croci, Senior Application Manager, GSC, Ferrero, Ferrero S.p.A. Direzione Sistemi Informativi, EMEA

“By making use of the test management capabilities of SAP Solution Manager, we expect to cut the time spent on integration testing by 40%.”
Source: SAP Quote Program 752105 / 2010

“While merging two large Supplier Relationship Management systems together with T-Systems we introduced the Run SAP E2E standard test management based on SAP Solution Manager. Here, in particular a custom-developed defect management process has been implemented. With this approach it’s possible to include onsite as well as offshore resources efficiently on a case-to-case basis, reducing the error correction time by about 20%.”
Source: SAP Quote Program 1032739 / 2010

Anonymous Quote

“Key focus areas of our Run SAP initiative were the implementation of business-project documentation, and business-process modelling by Hewlett Packard as a minimum support standard requirement. We achieved a timely decrease in our regression testing time of about 10% by the identification and reduction of unused custom transactions and custom reports. Future steps, as a follow up to this initiative, will be implementing the SAP Solution Manager service desk functionality and Run SAP, to enable a communication standard between both our service provider and our customers. This strategy will lead to identification of further measurable KPIs.”
Source: SAP Quote Program 98123 / 2011

“After Itellium Services GmbH implemented the service desk in SAP Solution Manager, incident management for SAP solutions was facilitated, and the quality of incident information has been raised, through the provided system data on SAP solutions. In addition, by adopting SAP Solution Manager, we save EUR 50,000 per year by replacing our old third-party test tool with SAP’s test management.”
Source: SAP Quote Program 423562 / 2010

“With challenging timelines to activate additional financial supply-chain management functionality in our SAP ECC system. With multiple projects running in parallel, our concern was around activating business content, and also the required testing. We used the accelerated innovation enablement service through SAP Enterprise Support to engage with experts in the area of enhancement package application, to help us assess the risks, and use tools such as the impact analyzer to focus the test scope. We also utilized the business-function prediction service to analyze our current system usage,
and highlight functions that could be deployed and used by Newell Rubbermaid in the future, based on our currently deployed scenarios. By taking this proactive approach to risk mitigation, we have been able to reduce the associated testing effort from 400 hours down to 8 hours."

Source: SAP Quote Program: 353425 / 2010
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