ITMS 8.1 Upgrade Best Practices

Tomas Chinchilla and Ian Atkin

Agenda

1. Options for moving to 8.1
2. Off-Box Migration Options
3. Best Practices
4. Notes from the EAP: Ian Atkin
5. Open Q&A

Upgrade to 8.1 options

Upgrade or Migrate??

Easiest/Quickest method

All settings retained

Minimal Operational downtime

+

Ensure Backups are recent.

−

New hardware/OS or SQL

Clean fresh Database

No Downtime & Lower risk

+

Longer process

Increased Complexity

Manual Configuration Steps

−

ITMS 8.1 Operating Systems Support

- **Additional CMDB Database Support:**
  - Microsoft SQL Server® 2012 SP3
  - Microsoft SQL Server® 2014 SP2
  - Microsoft SQL Server® 2016
- **Additional Site Server Support:**
  - Windows Server 2016
  - Windows 10 Anniversary Update
- **Additional Symantec Management Agent Support:**
  - Windows 10 Anniversary Update 1 (Windows 10, version 1607)
  - Windows Server 2016
  - CentOS 6.0 - 6.8 and CentOS 7.0 - 7.2
  - AIX 7.1 TL4
  - OS X 10.12 Sierra
  - RHEL 6.7, 6.8, RHEL 7.2
  - Solaris 11.3
  - SUSE Linux Enterprise 12 SP1

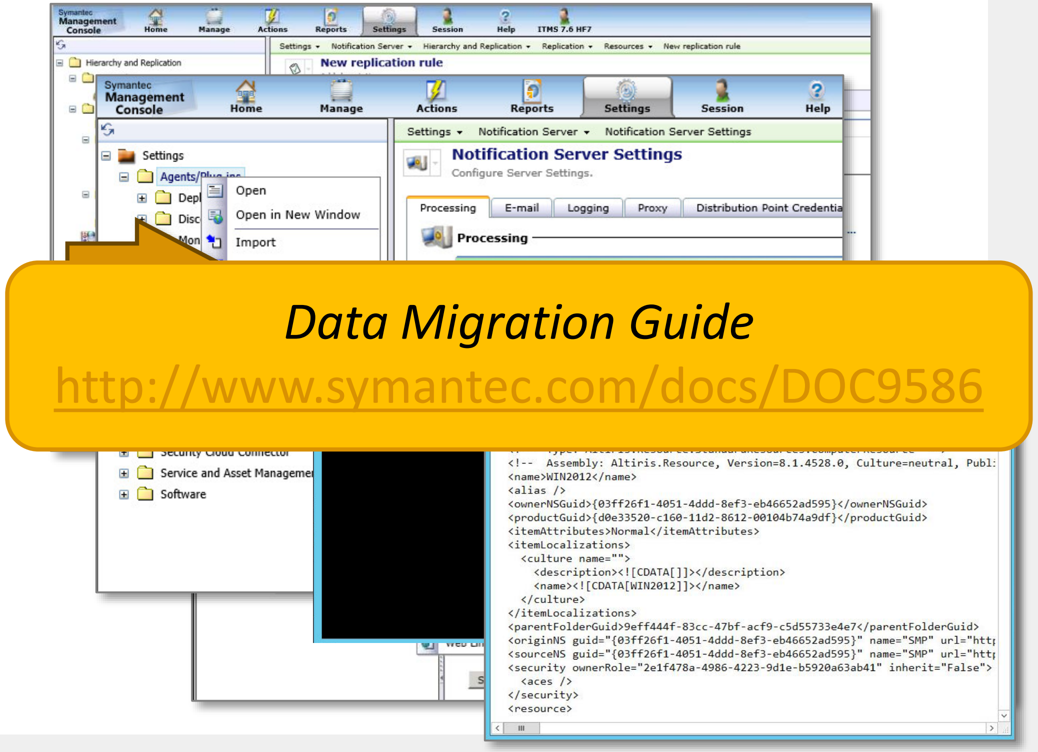
**** SMP on Server 2016 support is coming.***

Platform Support Matrix

http://www.symantec.com/docs/HOWTO9965

Data Migration Capabilities

- Replicate data between the servers that have different versions of ITMS installed.
- Migrating data to ITMS 8.1 is supported from the following versions:
  - IT Management Suite 7.6 HF7
  - IT Management Suite 8.0 HF6
- Export and import data between servers with different versions of ITMS
- Allows Re-use of data objects from previous ITMS implementations.
  - Start with a clean database, then move the data that you require to the new database.
  - Keep the old Notification Server fully functional while setting up the new server.
- **Implementation TIPS:**
  - Performing an off-box upgrade to introduce a new hardware?
    - Symantec recommends that you keep using the existing database.
  - Migrating large amounts of data?
    - Symantec recommends using the standalone replication rules.
    - Migrates data that cannot be exported and imported between Notification Servers.
  - Moving individual data objects from one server to another
    - Use the manual export and import or the ***ImportExportUtil.exe*** tool.
    - Allows you to modify the data in the exported XML file before importing


Symantec Management Console
Home
Manage
Actions
Reports
Settings
Session
Help
ITMS 7.6 HF7
Settings ▾ Notification Server ▾ Hierarchy and Replication ▾ Replication ▾ Resources ▾ New replication rule
Hierarchy and Replication
New replication rule
Settings ▾ Notification Server ▾ Notification Server Settings
Notification Server Settings
Configure Server Settings.
Settings
Agents/Plug-ins
Depl
Disc
Mon
Open
Open in New Window
Import
Processing
E-mail
Logging
Proxy
Distribution Point Credentia
Processing
Security Cloud Connector
Service and Asset Managem
Software

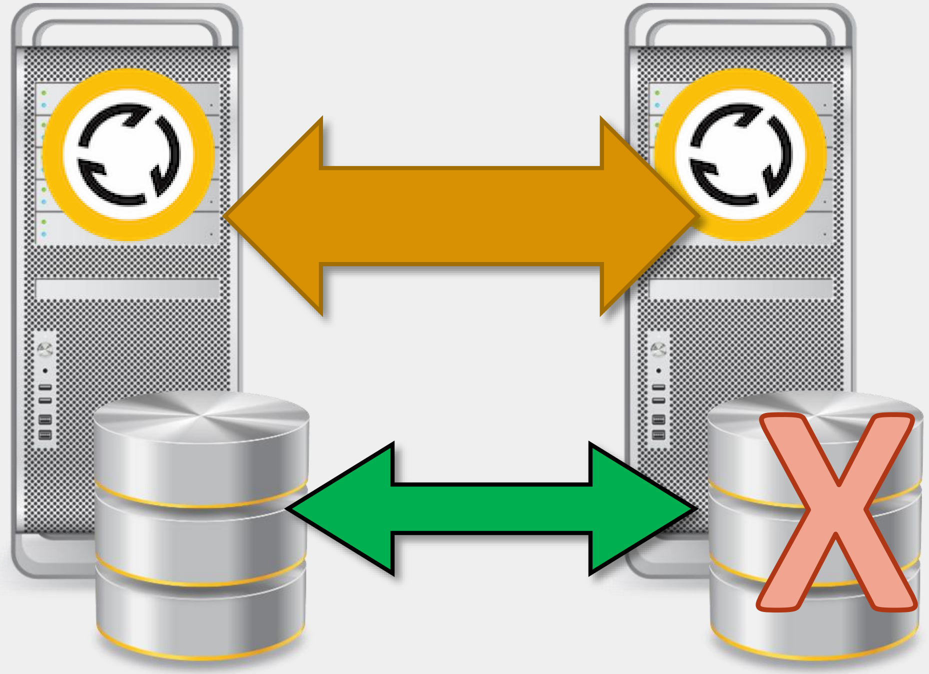
Data Migration Guide

http://www.symantec.com/docs/DOC9586

```
<!--  Assembly: Altiris.Resource, Version=8.1.4528.0, Culture=neutral, Publ:
<name>WIN2012</name>
<alias />
<ownerNSGuid>{03ff26f1-4051-4ddd-8ef3-eb46652ad595}</ownerNSGuid>
<productGuid>{d0e33520-c160-11d2-8612-00104b74a9df}</productGuid>
<itemAttributes>Normal</itemAttributes>
<itemLocalizations>
  <culture name="">
    <description><![CDATA[]]></description>
    <name><![CDATA[WIN2012]]></name>
  </culture>
</itemLocalizations>
<parentFolderGuid>9eff444f-83cc-47bf-acf9-c5d55733e4e7</parentFolderGuid>
<originNS guid="{03ff26f1-4051-4ddd-8ef3-eb46652ad595}" name="SMP" url="htt
<sourceNS guid="{03ff26f1-4051-4ddd-8ef3-eb46652ad595}" name="SMP" url="htt
<security ownerRole="2e1f478a-4986-4223-9d1e-b5920a63ab41" inherit="False">
  <aces />
</security>
<resource>
```

Migration – In-Place DB Upgrade

- Backup and Restore the “existing database” between SQL servers (existing & new).
- Use case (migrate to ITMS 8.1) is supported from the following versions:
  - IT Management Suite 7.6 HF7
  - IT Management Suite 8.0 HF6
- Export and import (backup & restore) database between servers with different versions of ITMS
- Allows re-use of database.
  - Start with a clean backup of your existing SQL CMDB, then move the backup over to the new SQL server and restore.
  - **** It’s important to keep the same Service Accounts as well as domain (AD) ****
  - Keeps the old Notification Server fully functional while setting up the new server.
- **Implementation TIPS:**
  - Performing an off-box upgrade to introduce a new hardware?
    - Symantec recommends that you keep using the existing database.
  - No need for moving individual data objects from one server to another



General Best Practices / Checklist

Backup

- DB, SMP, Images
- Snapshot

Health

- Altiris (SMP) logs
- Disk Space
- Logs (IIS, Windows)

Health (Microsoft)

- OS System logs, defrag, disk cleanup
- SQL logs, DB size, Maintenance plans / defrag

Preparation

- ❑ Plan your upgrade - *Infrastructure Design, SQL non virtualized and if it is then 90% reservation on that host, IOPS (4 logical drives, Data and Logs separate drives with highest IOPS), etc.*

- ❑ Backup existing DB and restore on new SQL.

- ❑ Backup your KMS keys.

- ❑ Cancel active tasks – truncate the following tables. (SQL)
  - ❑ ServerTaskInstanceRequests
  - ❑ ServerTaskInstanceStates
  - ❑ ClientTaskInstanceRequests
  - ❑ AgentBlacklist
  - ❑ ***Also run the command: “***UPDATE TaskInstanceStatus SET InstanceStatus =3 WHERE InstanceStatus <= 1”

- ❑ Mind the SQL settings – parallelism, legacy, ad-hoc workloads, memory, etc. (*Performance, Performance, Performance*)

- ❑ Install 8.1 on top of restored DB (*if third migration use case*)

Preparation – Contd.

- ❑ Mind the Certificate Conversation if we are using HTTPS whether internal or CEM…. PKI is the silver bullet internally (Never for gateway), Commercial Cert ONLY if AD Domain is routable (.Com, .Net, .Org, ETC)
- ❑ DO NOT Reboot immediately post install, give server a few hours to settle.
- ❑ Install Licenses (*can now combine them in the portal*)
- ❑ Turn all Agent and plugin upgrade’s "ON"
- ❑ Software Library Redirect (if needed)
- ❑ Patch Management Redirect
- ❑ PM Import (*supersede switch – clean up*)
- ❑ Validate SQL Maintenance tasks (reference article with script)
- ❑ Recommend the use of a separate ACC account. (*Agent Connectivity Credential*)

Preparation – Contd.

- ❑ Redirect first site server and validate “Task Server” - (if not working then implement work-around to edit the XML file / recreate with new server name) - ***TECH240742***

- ❑ Site Server IIS missing components? .Net and others that need to be present.

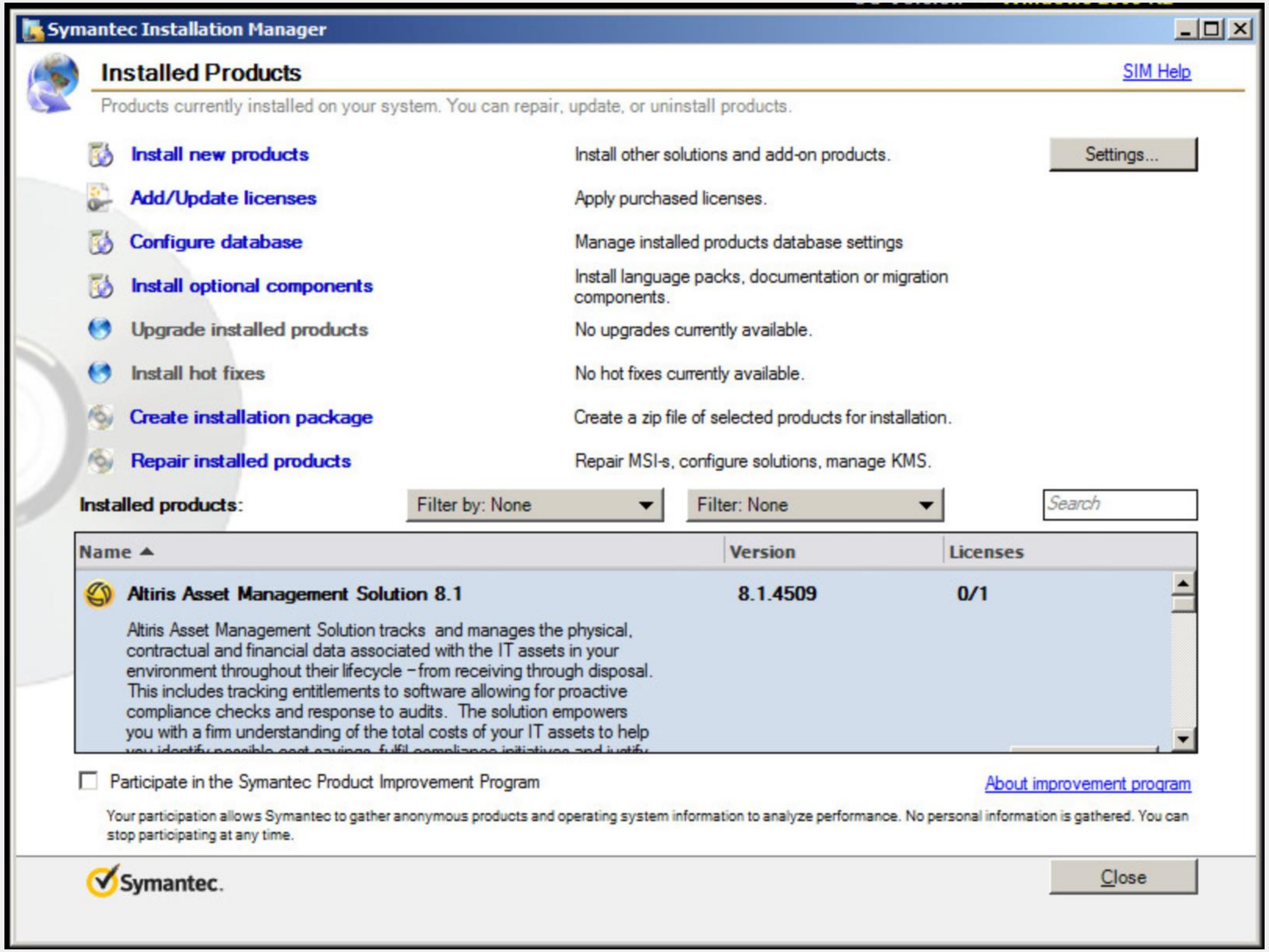
- ❑ Mind the Site Server Certificate’s Setting on the SMP (Specially if you’re using Deployment Solution)

- ❑ Migrate/Redirect endpoints "THE PROPER WAY” - Export existing server’s connection profile and import on new box, Empty Filter, add to proper Targeted Agent Settings as include/excludes, then place devices/filters on that filter. There is a method to this madness and that was the most flawless approach. Anytime we did it any other way we ran into issues.

- ❑ CEM: We can include/exclude CEM ….. We can have as a separate category as all they need to be is change entries on the gateways (cert’s conversation might be necessary but it will export with the new connection profile anyways)

- ❑ **IMPORTANT NOTE:** *Always remember to page “DR, MU” after important policy/site server changes…. :-)*

KMS Backup.



Installed Products

Products currently installed on your system. You can repair, update, or uninstall products.

Install new products	Install other solutions and add-on products.
Add/Update licenses	Apply purchased licenses.
Configure database	Manage installed products database settings
Install optional components	Install language packs, documentation or migration components.
Upgrade installed products	No upgrades currently available.
Install hot fixes	No hot fixes currently available.
Create installation package	Create a zip file of selected products for installation.
Repair installed products	Repair MSI-s, configure solutions, manage KMS.

Installed products: Filter by: None · Filter: None · Search

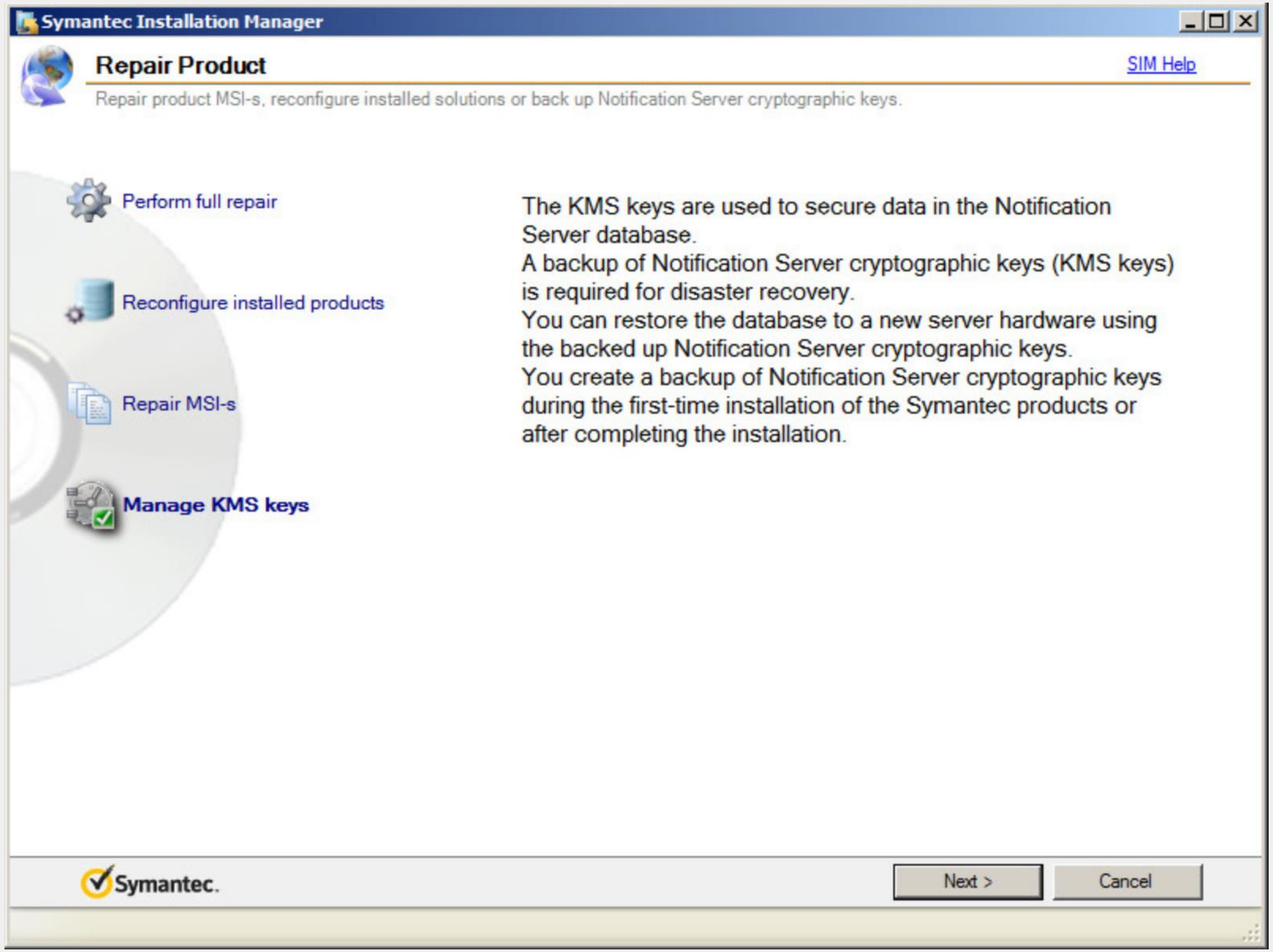
Name	Version	Licenses
Altiris Asset Management Solution 8.1	8.1.4509	0/1

Altiris Asset Management Solution tracks and manages the physical, contractual and financial data associated with the IT assets in your environment throughout their lifecycle – from receiving through disposal. This includes tracking entitlements to software allowing for proactive compliance checks and response to audits. The solution empowers you with a firm understanding of the total costs of your IT assets to help

☐ Participate in the Symantec Product Improvement Program

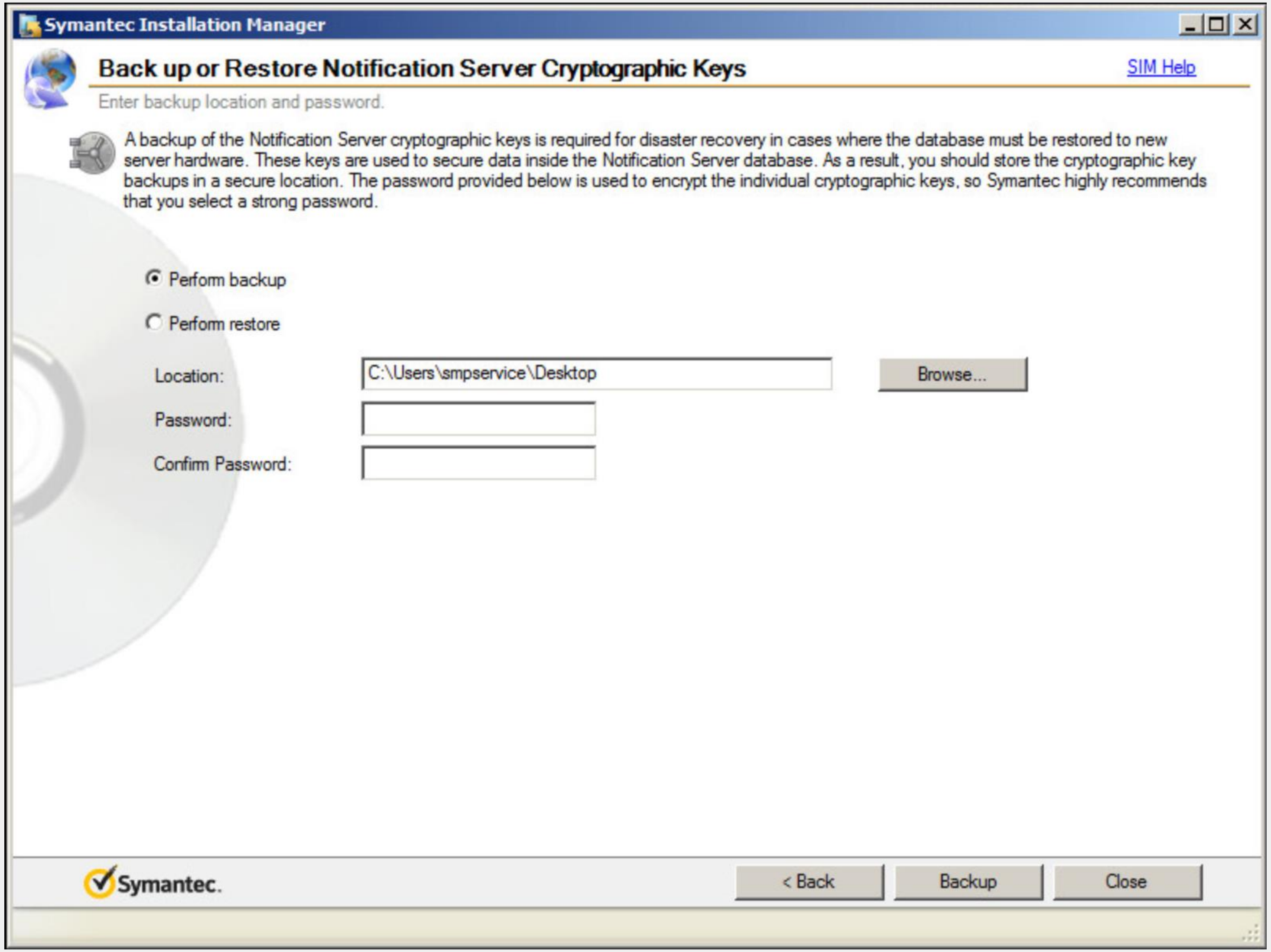
Your participation allows Symantec to gather anonymous products and operating system information to analyze performance. No personal information is gathered. You can stop participating at any time.

KMS Backup.


Symantec Installation Manager
Repair Product
SIM Help
Repair product MSI-s, reconfigure installed solutions or back up Notification Server cryptographic keys.
Perform full repair
Reconfigure installed products
Repair MSI-s
Manage KMS keys
Symantec.
Next >
Cancel

The KMS keys are used to secure data in the Notification Server database.
A backup of Notification Server cryptographic keys (KMS keys) is required for disaster recovery.
You can restore the database to a new server hardware using the backed up Notification Server cryptographic keys.
You create a backup of Notification Server cryptographic keys during the first-time installation of the Symantec products or after completing the installation.

KMS Backup.



Symantec Installation Manager

Back up or Restore Notification Server Cryptographic Keys

SIM Help

Enter backup location and password.

A backup of the Notification Server cryptographic keys is required for disaster recovery in cases where the database must be restored to new server hardware. These keys are used to secure data inside the Notification Server database. As a result, you should store the cryptographic key backups in a secure location. The password provided below is used to encrypt the individual cryptographic keys, so Symantec highly recommends that you select a strong password.

● Perform backup

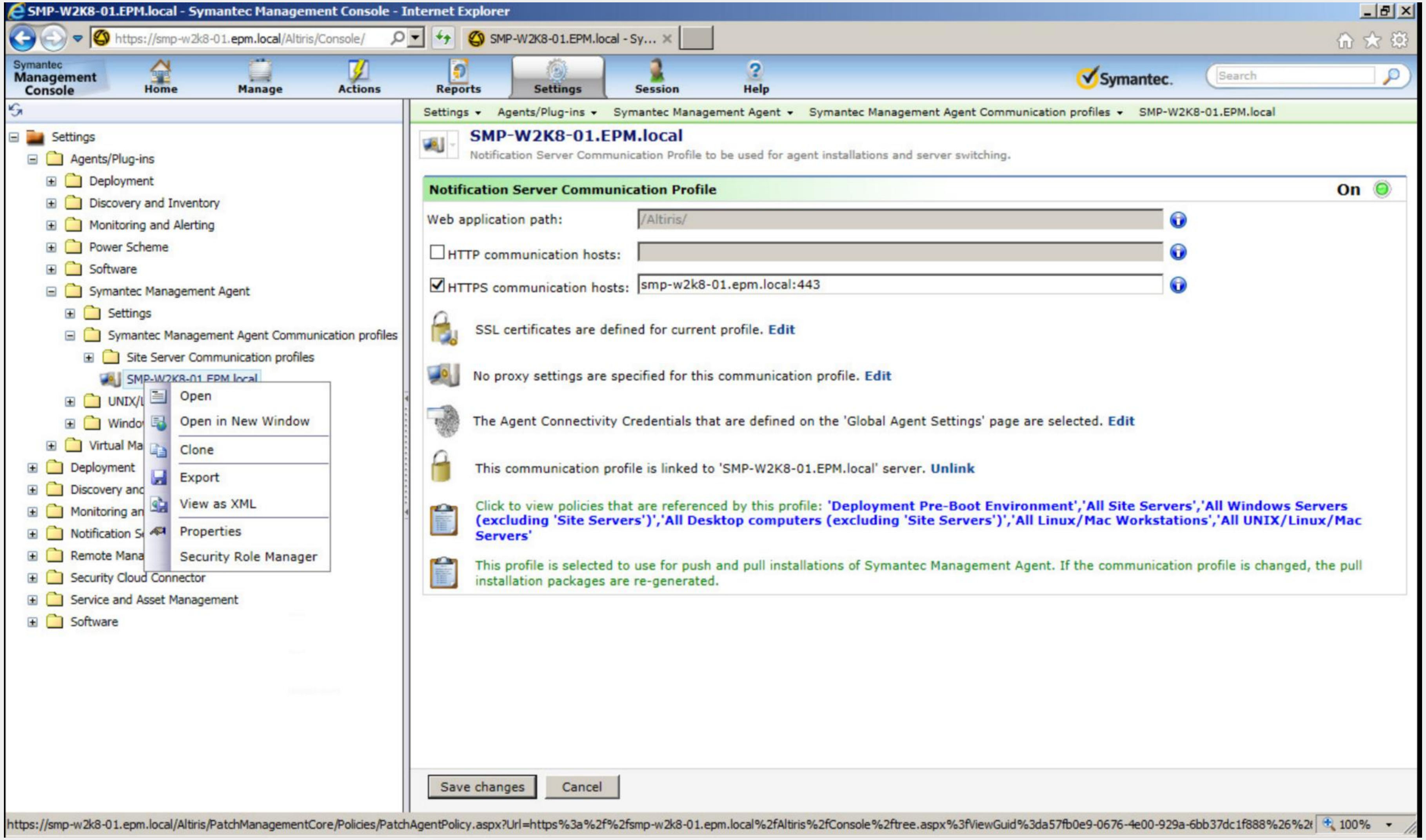
○ Perform restore

Location: C:\Users\smpservice\Desktop

Password:

Confirm Password:

Communication Profiles (Agent Redirect).


SMP-W2K8-01.EPM.local - Symantec Management Console - Internet Explorer
https://smp-w2k8-01.epm.local/Altiris/Console/
SMP-W2K8-01.EPM.local - Sy...
Symantec Management Console
Home
Manage
Actions
Reports
Settings
Session
Help
Symantec.
Search
Settings
Agents/Plug-ins
Deployment
Discovery and Inventory
Monitoring and Alerting
Power Scheme
Software
Symantec Management Agent
Settings
Symantec Management Agent Communication profiles
Site Server Communication profiles
SMP-W2K8-01.EPM.local
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Monitoring an
Notification S
Remote Mana
Security Cloud Connector
Service and Asset Management
Software
Open
Open in New Window
Clone
Export
View as XML
Properties
Security Role Manager
Settings ▾ Agents/Plug-ins ▾ Symantec Management Agent ▾ Symantec Management Agent Communication profiles ▾ SMP-W2K8-01.EPM.local
Save changes
Cancel
100%

SMP-W2K8-01.EPM.local

Notification Server Communication Profile to be used for agent installations and server switching.

Notification Server Communication Profile On

Web application path: /Altiris/

□ HTTP communication hosts:

☑ HTTPS communication hosts: smp-w2k8-01.epm.local:443

SSL certificates are defined for current profile. Edit

No proxy settings are specified for this communication profile. Edit

The Agent Connectivity Credentials that are defined on the 'Global Agent Settings' page are selected. Edit

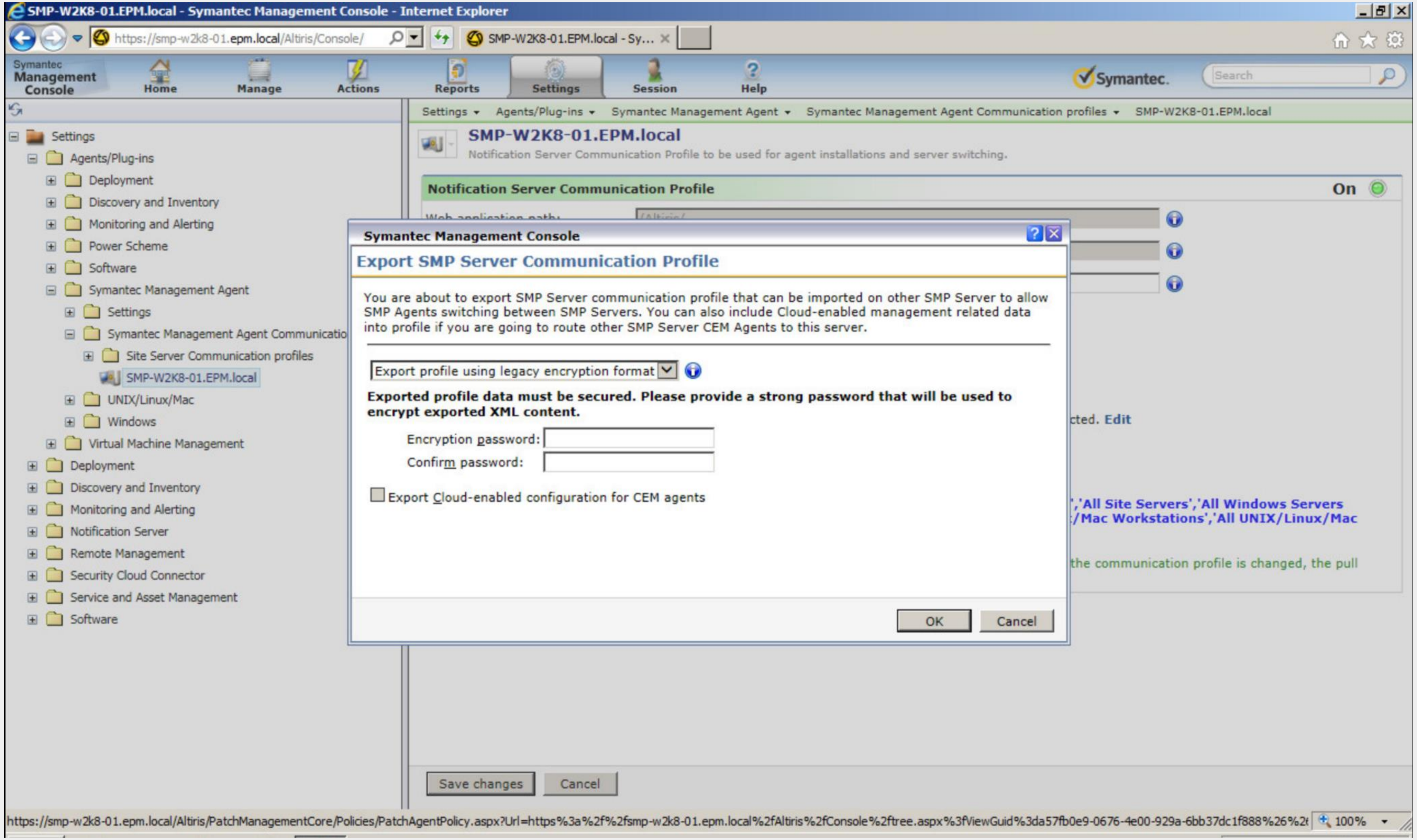
This communication profile is linked to 'SMP-W2K8-01.EPM.local' server. Unlink

Click to view policies that are referenced by this profile: **'Deployment Pre-Boot Environment','All Site Servers','All Windows Servers (excluding 'Site Servers')','All Desktop computers (excluding 'Site Servers')','All Linux/Mac Workstations','All UNIX/Linux/Mac Servers'**

This profile is selected to use for push and pull installations of Symantec Management Agent. If the communication profile is changed, the pull installation packages are re-generated.

https://smp-w2k8-01.epm.local/Altiris/PatchManagementCore/Policies/PatchAgentPolicy.aspx?Url=https%3a%2f%2fsmp-w2k8-01.epm.local%2fAltiris%2fConsole%2ftree.aspx%3fViewGuid%3da57fb0e9-0676-4e00-929a-6bb37dc1f888%26%2(

Communication Profiles (Agent Redirect).



SMP-W2K8-01.EPM.local - Symantec Management Console - Internet Explorer
https://smp-w2k8-01.epm.local/Altiris/Console/
SMP-W2K8-01.EPM.local - Sy...
Symantec Management Console
Home
Manage
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Reports
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Power Scheme
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Symantec Management Agent
Settings
Symantec Management Agent Communicatio
Site Server Communication profiles
SMP-W2K8-01.EPM.local
UNIX/Linux/Mac
Windows
Virtual Machine Management
Deployment
Discovery and Inventory
Monitoring and Alerting
Notification Server
Remote Management
Security Cloud Connector
Service and Asset Management
Software
Settings ▾ Agents/Plug-ins ▾ Symantec Management Agent ▾ Symantec Management Agent Communication profiles ▾ SMP-W2K8-01.EPM.local
SMP-W2K8-01.EPM.local
Notification Server Communication Profile to be used for agent installations and server switching.
Notification Server Communication Profile
On
Web application path:
/Altiris/
cted. Edit
','All Site Servers','All Windows Servers
/Mac Workstations','All UNIX/Linux/Mac
the communication profile is changed, the pull
Save changes
Cancel
https://smp-w2k8-01.epm.local/Altiris/PatchManagementCore/Policies/PatchAgentPolicy.aspx?Url=https%3a%2f%2fsmp-w2k8-01.epm.local%2fAltiris%2fConsole%2ftree.aspx%3fViewGuid%3da57fb0e9-0676-4e00-929a-6bb37dc1f888%26%2
100%

Symantec Management Console

Export SMP Server Communication Profile

You are about to export SMP Server communication profile that can be imported on other SMP Server to allow SMP Agents switching between SMP Servers. You can also include Cloud-enabled management related data into profile if you are going to route other SMP Server CEM Agents to this server.

Export profile using legacy encryption format ▾

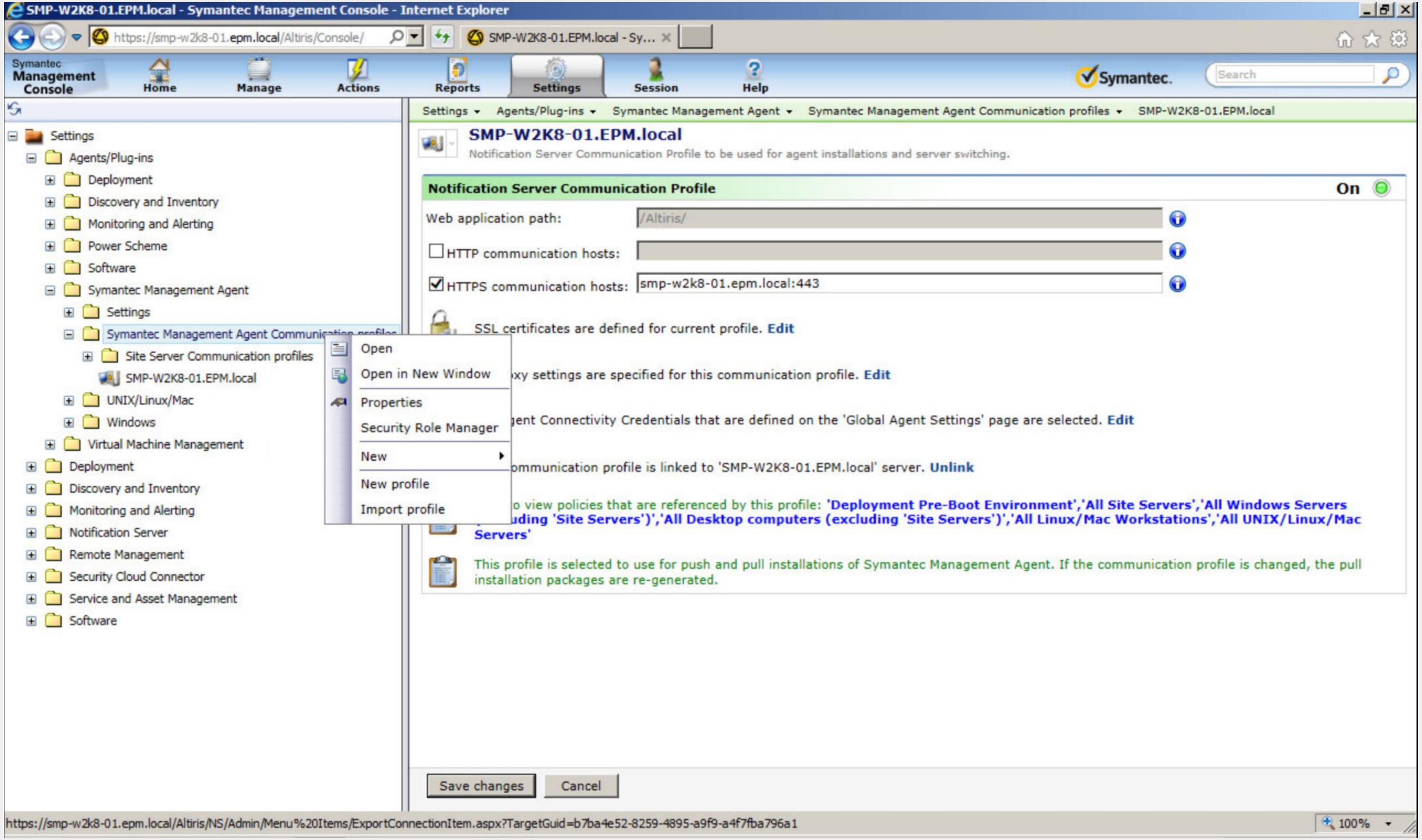
Exported profile data must be secured. Please provide a strong password that will be used to encrypt exported XML content.

Encryption password:

Confirm password:

☐ Export Cloud-enabled configuration for CEM agents

Communication Profiles (Agent Redirect).


SMP-W2K8-01.EPM.local - Symantec Management Console - Internet Explorer
https://smp-w2k8-01.epm.local/Altiris/Console/
SMP-W2K8-01.EPM.local - Sy...
Symantec Management Console
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Power Scheme
Software
Symantec Management Agent
Settings
Symantec Management Agent Communication profiles
Site Server Communication profiles
SMP-W2K8-01.EPM.local
UNIX/Linux/Mac
Windows
Virtual Machine Management
Deployment
Discovery and Inventory
Monitoring and Alerting
Notification Server
Remote Management
Security Cloud Connector
Service and Asset Management
Software
Open
Open in New Window
Properties
Security Role Manager
New
New profile
Import profile
Settings ▾ Agents/Plug-ins ▾ Symantec Management Agent ▾ Symantec Management Agent Communication profiles ▾ SMP-W2K8-01.EPM.local
Save changes
Cancel
100%

SMP-W2K8-01.EPM.local

Notification Server Communication Profile to be used for agent installations and server switching.

Notification Server Communication Profile On

Web application path: /Altiris/

□ HTTP communication hosts:

☑ HTTPS communication hosts: smp-w2k8-01.epm.local:443

SSL certificates are defined for current profile. **Edit**

…xy settings are specified for this communication profile. **Edit**

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…ommunication profile is linked to 'SMP-W2K8-01.EPM.local' server. **Unlink**

…o view policies that are referenced by this profile: **'Deployment Pre-Boot Environment','All Site Servers','All Windows Servers …uding 'Site Servers')','All Desktop computers (excluding 'Site Servers')','All Linux/Mac Workstations','All UNIX/Linux/Mac Servers'**

This profile is selected to use for push and pull installations of Symantec Management Agent. If the communication profile is changed, the pull installation packages are re-generated.

https://smp-w2k8-01.epm.local/Altiris/NS/Admin/Menu%20Items/ExportConnectionItem.aspx?TargetGuid=b7ba4e52-8259-4895-a9f9-a4f7fba796a1

Notes from the EAP: Oxford university

Ian Atkin TRUSTED ADVISOR

About Oxford University

- Oldest University in the English Speaking World
  - It’s reassuringly old
- Considered to be a “Pretty Good “University
- Collegiate Research University
  - 38 colleges, 70 departments, 20,000 students, 5,000 staff
  - Pretty darn complex
- Working at Oxford is pretty amazing

The ITMS Environment

July
2006

- Main environment
  - ~3500 Windows 7 nodes distributed across 60 subnets

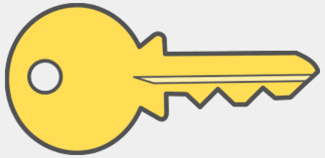
- Solutions Used
  - Inventory, Software Mgmt, Real-Time, PCANYWHERE, Deployment (through GSS), WORKSPACE VIRTUALISATION

    1 SMP, 1 Cloud Gateway, 1 Site Server, 1 Backend SQL Server

- Team Profile
  - Manger, Server Admin, Altiris Guru, Windows Expert, 3 software packagers

Run Book Documentation

- My full Run Book provided on the Connect Community
  - https://www.symantec.com/connect/articles/symantec-itms-81-upgrade-methodology

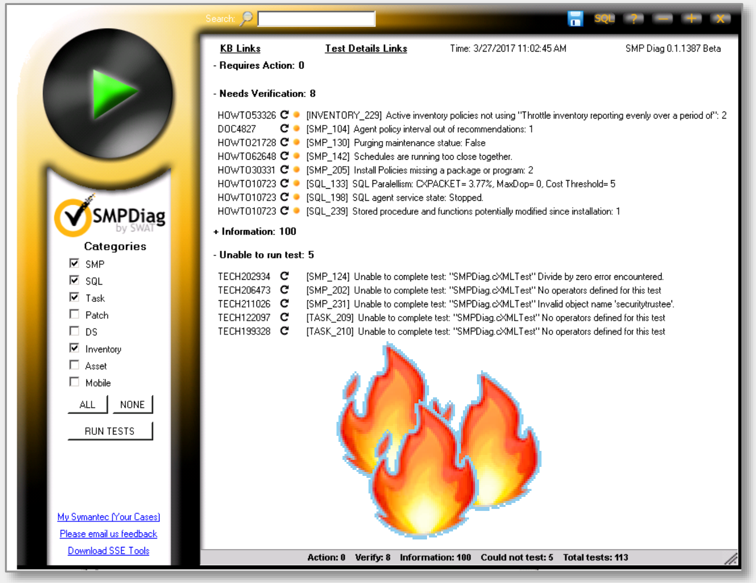
- PREPARATION IS KEY 

Advance Preparation

- Attend your live infrastructure!!!
  - Run SMP Diag
  - Logviewer
  - Consider server resource and potential ram/cpu/disk upgrades

- Prepare Test environment and Upgrade
  - Build the Upgrade Checklist

- Gather Testing Documentation

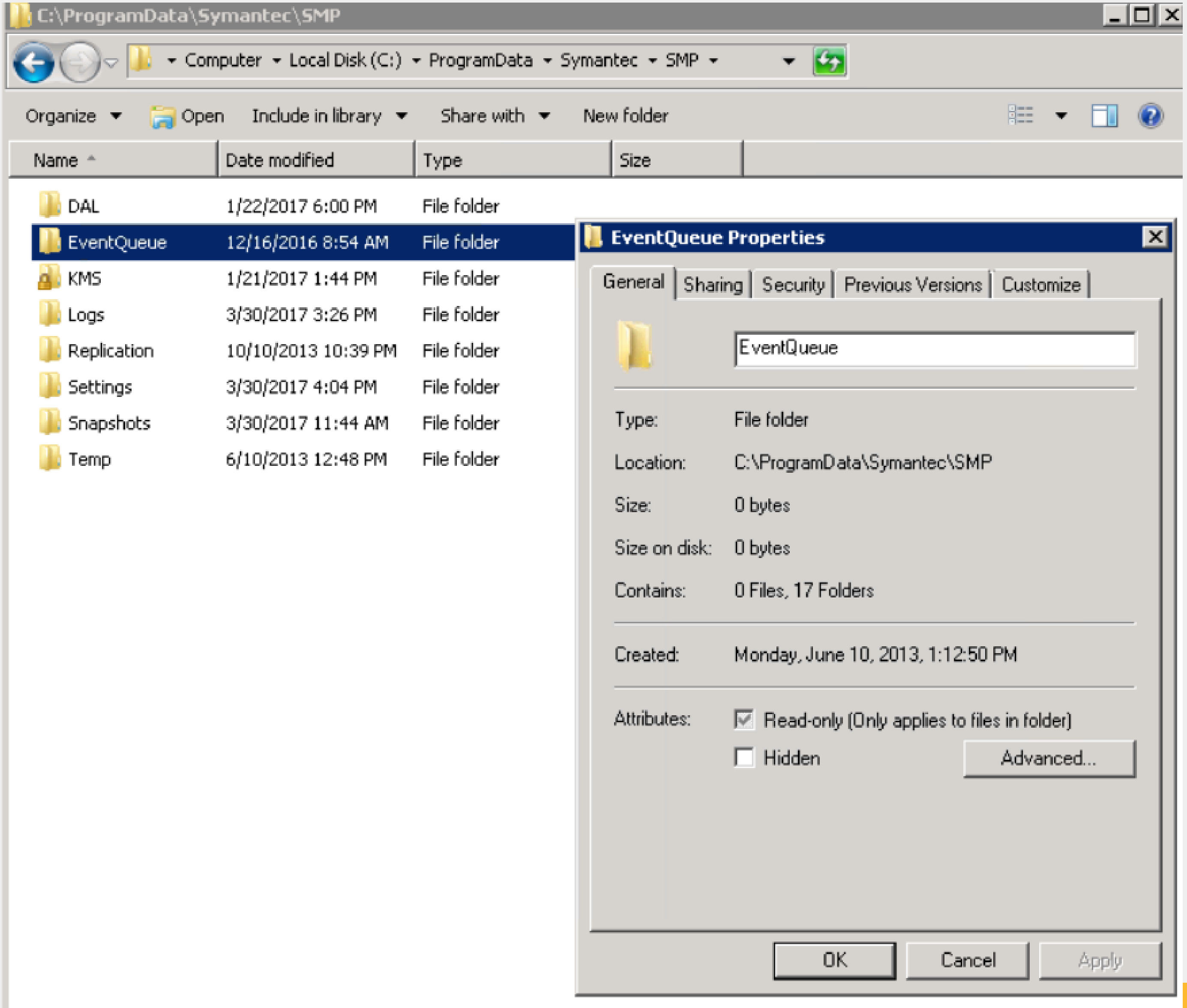


Categories
☑ SMP
☑ SQL
☑ Task
☐ Patch
☐ DS
☑ Inventory
☐ Asset
☐ Mobile

```
KB Links          Test Details Links          Time: 3/27/2017 11:02:45 AM          SMP Diag 0.1.1387 Beta
- Requires Action: 0

- Needs Verification: 8

HOWTO53326   [INVENTORY_229] Active inventory policies not using "Throttle inventory reporting evenly over a period of": 2
DOC4827      [SMP_104] Agent policy interval out of recommendations: 1
HOWTO21728   [SMP_130] Purging maintenance statue: False
HOWTO62648   [SMP_142] Schedules are running too close together.
HOWTO30331   [SMP_205] Install Policies missing a package or program: 2
HOWTO10723   [SQL_133] SQL Paralellism: CXPACKET= 3.77%, MaxDop= 0, Cost Threshold= 5
HOWTO10723   [SQL_198] SQL agent service state: Stopped.
HOWTO10723   [SQL_239] Stored procedure and functions potentially modified since installation: 1

+ Information: 100

- Unable to run test: 5

TECH202934   [SMP_124] Unable to complete test: "SMPDiag.cXMLTest" Divide by zero error encountered.
TECH206473   [SMP_202] Unable to complete test: "SMPDiag.cXMLTest" No operators defined for this test
TECH211026   [SMP_231] Unable to complete test: "SMPDiag.cXMLTest" Invalid object name 'securitytrustee'.
TECH122097   [TASK_209] Unable to complete test: "SMPDiag.cXMLTest" No operators defined for this test
TECH199328   [TASK_210] Unable to complete test: "SMPDiag.cXMLTest" No operators defined for this test

Action: 0   Verify: 8   Information: 100   Could not test: 5   Total tests: 113
```

Pre-Upgrade

- Check backups
- Reboot SMP Server
- Check Logs
- Isolate Infrastructure (Firewall) and snapshot environment
- Check Event Queues empty
- Snapshot infrastructure



Name	Date modified	Type	Size
DAL	1/22/2017 6:00 PM	File folder	
EventQueue	12/16/2016 8:54 AM	File folder	
KMS	1/21/2017 1:44 PM	File folder	
Logs	3/30/2017 3:26 PM	File folder	
Replication	10/10/2013 10:39 PM	File folder	
Settings	3/30/2017 4:04 PM	File folder	
Snapshots	3/30/2017 11:44 AM	File folder	
Temp	6/10/2013 12:48 PM	File folder	

EventQueue

Type: File folder

Location: C:\ProgramData\Symantec\SMP

Size: 0 bytes

Size on disk: 0 bytes

Contains: 0 Files, 17 Folders

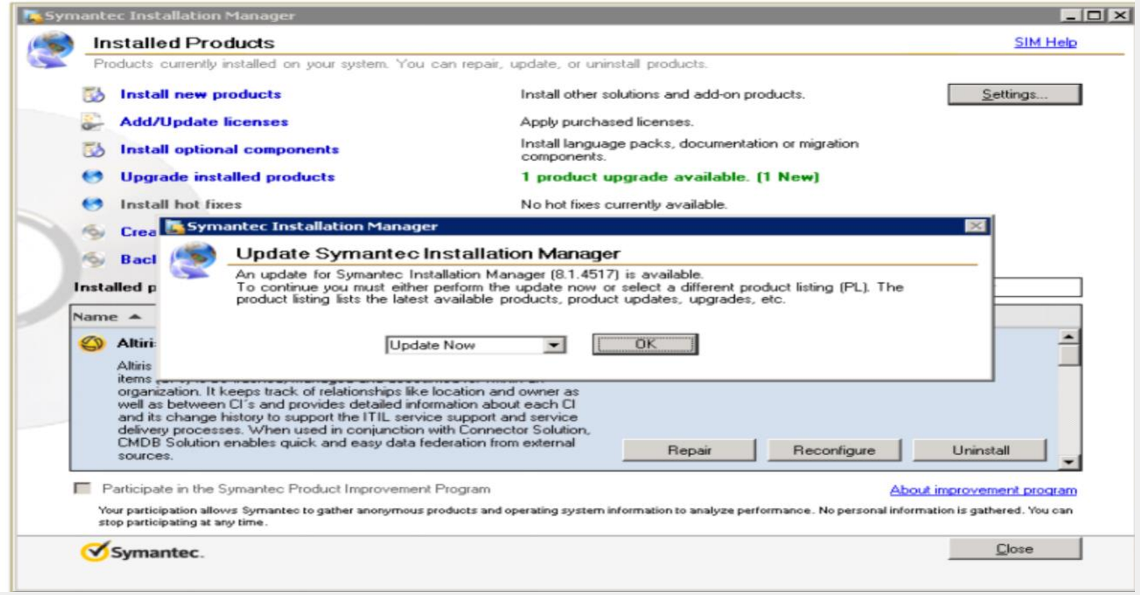
Created: Monday, June 10, 2013, 1:12:50 PM

Attributes: ☑ Read-only (Only applies to files in folder)

☐ Hidden

Upgrade

1. Install Upgrade prerequisites on SMP
2. Begin preparing the download of new SMP files in Symantec Installation Manager (SIM)



Products currently installed on your system. You can repair, update, or uninstall products.

Install new products — Install other solutions and add-on products.

Add/Update licenses — Apply purchased licenses.

Install optional components — Install language packs, documentation or migration components.

Upgrade installed products — 1 product upgrade available. (1 New)

Install hot fixes — No hot fixes currently available.

Altiris items organization. It keeps track of relationships like location and owner as well as between CI's and provides detailed information about each CI and its change history to support the ITIL service support and service delivery processes. When used in conjunction with Connector Solution, CMDB Solution enables quick and easy data federation from external sources.

□ Participate in the Symantec Product Improvement Program

Your participation allows Symantec to gather anonymous products and operating system information to analyze performance. No personal information is gathered. You can stop participating at any time.

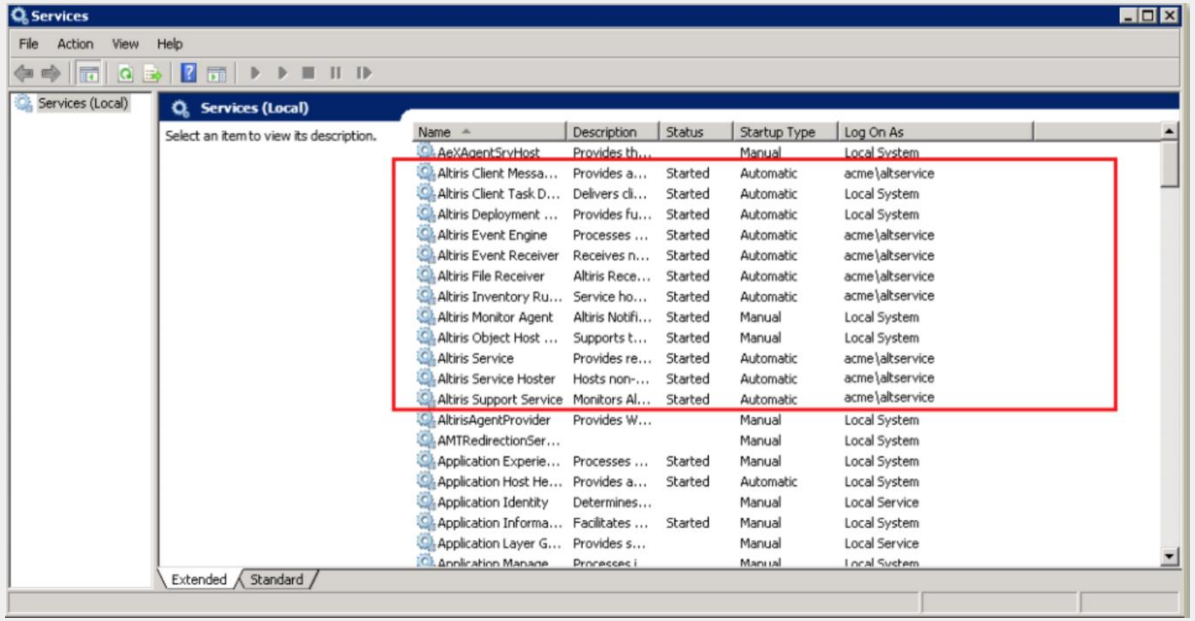
Update Symantec Installation Manager

An update for Symantec Installation Manager (8.1.4517) is available.
To continue you must either perform the update now or select a different product listing (PL). The product listing lists the latest available products, product updates, upgrades, etc.

Update Now

Upgrade cont…

1. Reboot the SMP
2. Check that there are no partial installs in SIM (CTRL+SHIFT+P)
3. Check that the SMP related services have started correctly.



Select an item to view its description.

Name	Description	Status	Startup Type	Log On As
AeXAgentSrvHost	Provides th…		Manual	Local System
Altiris Client Messa…	Provides a…	Started	Automatic	acme\altservice
Altiris Client Task D…	Delivers cli…	Started	Automatic	Local System
Altiris Deployment …	Provides fu…	Started	Automatic	Local System
Altiris Event Engine	Processes …	Started	Automatic	acme\altservice
Altiris Event Receiver	Receives n…	Started	Automatic	acme\altservice
Altiris File Receiver	Altiris Rece…	Started	Automatic	acme\altservice
Altiris Inventory Ru…	Service ho…	Started	Automatic	acme\altservice
Altiris Monitor Agent	Altiris Notifi…	Started	Manual	Local System
Altiris Object Host …	Supports t…	Started	Manual	Local System
Altiris Service	Provides re…	Started	Automatic	acme\altservice
Altiris Service Hoster	Hosts non-…	Started	Automatic	acme\altservice
Altiris Support Service	Monitors Al…	Started	Automatic	acme\altservice
AltirisAgentProvider	Provides W…		Manual	Local System
AMTRedirectionSer…			Manual	Local System
Application Experie…	Processes …	Started	Manual	Local System
Application Host He…	Provides a…	Started	Automatic	Local System
Application Identity	Determines…		Manual	Local Service
Application Informa…	Facilitates …	Started	Manual	Local System
Application Layer G…	Provides s…		Manual	Local Service
Application Manage…	Processes i…		Manual	Local System

Upgrade cont…

1. Check the Targeted Agent Settings
2. Note: We rename our policy settings by prefixing them with “ON:” to indicate that they are enabled. This helps us locate the active policies faster for verifying those critical settings.
3. Validate Agent Upgrade Policies
4. Refresh IT Analytics Credentials
5. Windows Event logs and SMP Logs (Altiris Log Viewer)
6. Execute Testing Plans

Upgrade cont…

1. Expose upgrade to client estate gradually (we use Windows firewalls to increase exposure)
    1. Upgrade Site servers
    2. Upgrade Internet gateway
    3. Upgrade a single client
    4. Upgrade multiple clients and test

Final Words

- Testing plans important at every stage
  - Testing plan for client behaviour
  - Testing plans for standard console roles

- Plan and document your upgrade as much as you can in advance
  - Spreadsheet and tick off your tasks
- Get to know your server infrastructure!

8.1 Early Adopters

Completed customers

WENDY'S

QUALITY IS OUR RECIPE

Pelephone

MERCY MEDICAL CENTER

Travelport

Redefining travel commerce

NATURE'S BOUNTY

sonepar

COACH

Q&A

Thank you!

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