



ASIS + RPM: ASISwsmmp

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Agenda

- ◆ Definition of ASIS
- ◆ ASISwsm vs. RPM
- ◆ ASISwsmp
- ◆ Issues
- ◆ The future



Definition of ASIS

- ◆ **ASIS is an application environment management system**
 - ◆ **A multi-platform and multi-version SW repository with ready-to-use applications**
 - ◆ **A toolsuite for**
 - ◆ **assisted application compilation and configuration**
 - ◆ **accessing, manipulating and replicating the repository**
 - ◆ **ASISwsm is the workstation client access tool**
 - ◆ **Configurable installation (default or specific packages)**
 - ◆ **Local or network access to repository**



ASISwsm and RPM

- ◆ Most Linux distributions use RPM as default package manager.

Comparison:

	ASISwsm	RPM
Access Granularity	Files	Compressed packages
Dependencies	No (experimental)	Yes
Package Configuration	Yes	None

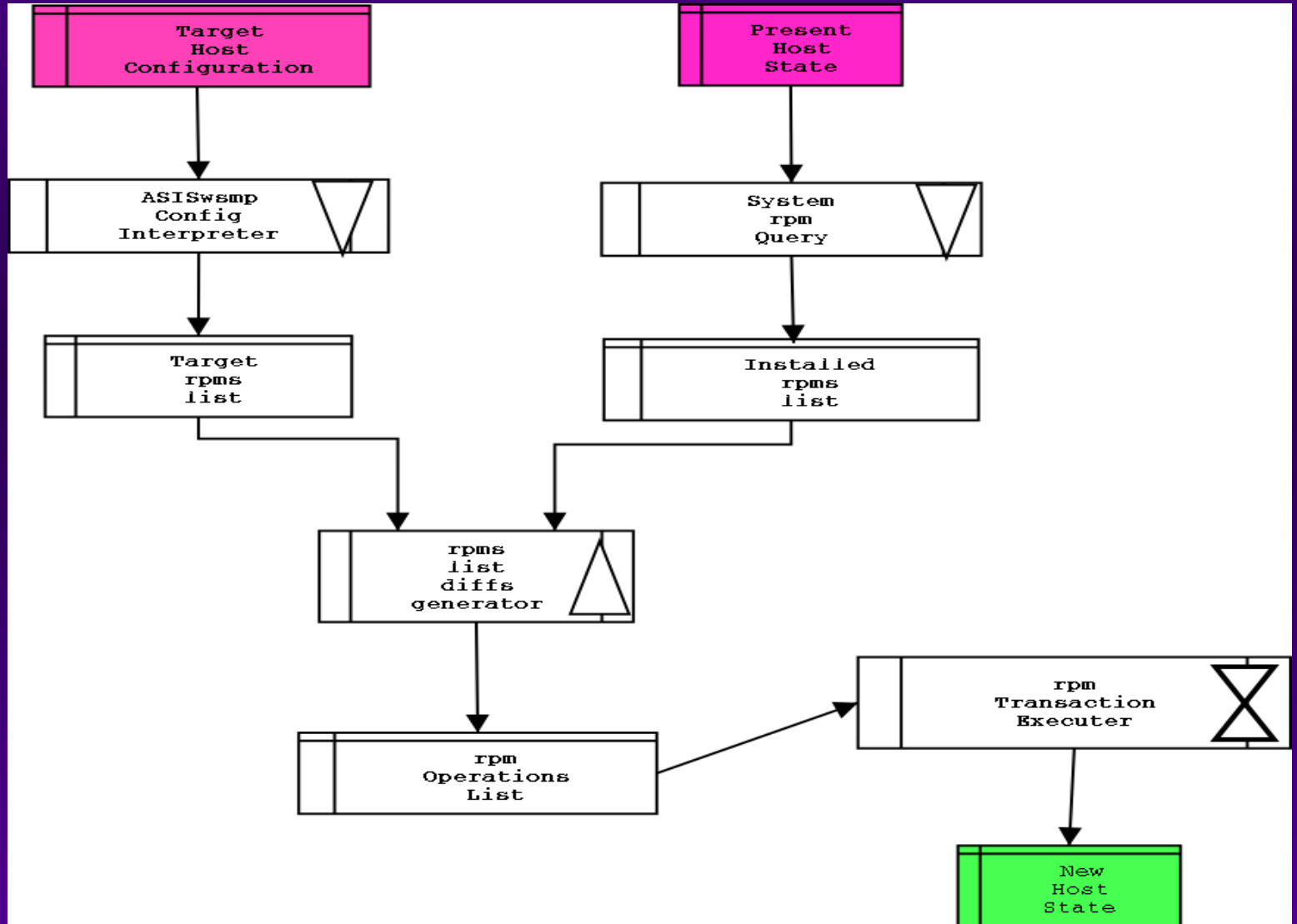


ASISwsmp

- ◆ ASISwsmp (ASISwsm ‘package based’) is the ASIS client version using software packaged with *rpm*
 - ◆ For Linux and Solaris.
 - ◆ 1 package <-> 1 rpm file
- ◆ Environment installation not single package operation
- ◆ *rpmt* command: a small ASIS development
 - ◆ *rpm* too limited: no install and erase in the same command
 - ◆ *rpmt* (t for transactions) sits on top of *librpm* and allows to run multiple package operations in a single transaction.



Principles





Execution profile

ASISwsm:

- Read configuration
- Build optimized file name space (~ total no. of files)
- Check (and copy) files (~ total no. of files + ~ total size to copy)

ASISwsmp:

- Read configuration
- Read current state
- Generation of necessary package operations (~ no of packages)
- Install/remove/upgrade packages (~ MB of compressed differences)
- Much less perl code.



Statistics

- ◆ 600 MHZ PIII, 2.5 GB total size to install in local copy
- ◆ ASISwsm:
 - ◆ First installation 50 mins - at [re-]installation
 - ◆ Upgrade (200 MB) 10 mins - twice a week
 - ◆ Check without changes 5 mins
- ◆ ASISwsmp:
 - ◆ First installation 30 mins
 - ◆ Upgrade (200 MB) 3 mins
 - ◆ Check without changes 20 secs



Properties

- ◆ The principle underlying ASISwsmp can be used for managing all kind of environments based on rpms
 - ◆ Applications
 - ◆ System
 - ◆ specific
- ◆ All ASISwsmp modules can be used separately:
 - ◆ *rpmt*: to execute RPM operations as a transaction
 - ◆ Generation of rpms list from a configuration
 - ◆ Generation of operations to go from a set of installed rpms to another
- ◆ All ASISwsmp modules can be replaced by another component provided that it uses the same specifications for in/output.



Issues

- ◆ **RPM related**
 - ◆ **Bugs and bugs in *librpm* code.**
 - ◆ **Decoding of error messages.**
 - ◆ **Stability between versions (i.e. 3 and 4)**
- ◆ **System vs. a specific application database**
 - ◆ **What if corrupted**
 - ◆ **How to include the system in the application database**
- ◆ **Dependencies:**
 - ◆ **Not checked when installing in the repository (how?)**
 - ◆ **Checked at each *rpmt* run**
 - ◆ **Packages with external dependencies (in AFS, for instance)**
 - ◆ **External package rpms.**



Future developments

Short term:

- ◆ **Test and deploy ASIS_{swsmp} on Solaris platform**

Within DataGrid / LHC Computing Grid projects:

- ◆ **Extend scope also to system package management**
- ◆ **Interface to central configuration database**
- ◆ **Transport protocol independent access to SW repository (FTP, HTTP/Web Services)**
- ◆ **Reuse non-ASIS specific modules (`rpmt`, operations generator)**



Contacts

ASIS web page:

- ◆ <http://cern.ch/asis>

Contacts (ASIS team at CERN):

- ◆ asis.support@cern.ch