Migrating Data to Cisco Prime LAN Management Solution 4.2

This chapter describes how to migrate data to LMS 4.2, and contains the following sections:

- Overview of Migration to LMS 4.2
- Scope of Data Migration
- Migrating Data From LMS 3.2 SP1, LMS 4.0.1 or LMS 4.1
- Guidelines to Post-Upgrade Activities

Overview of Migration to LMS 4.2

Migration is the process of carrying over data from an older version of LMS to a newer version of LMS. Migration involves:

1. Backing up the older version of LMS data.
2. Installing the newer version of LMS.
3. Restoring the backed up data.

You have to freshly install LMS 4.2 and then perform remote data migration from LMS 3.2 SP1, LMS 4.0.1 and LMS 4.1. LMS 4.2 does not support direct upgrade from previous versions other than LMS 4.0.1/4.1.

Data Migration to LMS 4.2 can be done using the following methods:

- Normal Backup - Process by which all the configuration files and collected data can be backed up from application database.
- Selective Backup - Process by which only required system configurations and data can be backed up.

Note

On Solaris machine, the backed up folder must be compressed and transferred. If not, the restore may fail due to the changes in the file name and checksum, as the file name changes from the upper case to the lowercase.

Note

While copying the backup data from remote Solaris servers, transfer the data in Binary mode. If any FTP client software is used, ensure that the default transfer mode is set to Binary. The data migration will not be successful if you transfer the backup data in ASCII or Auto mode.
Notes for Remote Migration

When you back up the data from LMS 3.2 SP1 and restore the data on LMS 4.2, a warning message appears stating that there is a mismatch in the applications data. You can ignore this message and continue the data restore.

Scope of Data Migration

This section lists the data that is migrated for Common Services, Network Topology, Layer 2 Services and User Tracking, Inventory, Config and Image Management, Fault Management, IPSLA Performance Management, CiscoView, Device Performance Management, and Portal when you upgrade to LMS 4.2.

- On all platforms, migration is supported across different NMSROOT directories, where NMSROOT is the LMS installation directory. By default, it is:
  - /opt/CSCOpx for Solaris and Soft Appliance
  - C:\Program Files\CSCOpx for Windows, where C: is the System Drive

- Cross platform data migration from Solaris to Soft Appliance is supported for the following LMS versions:
  - LMS 3.2 SP1
  - LMS 4.0.1
  - LMS 4.1
  - LMS 4.2

Normal backup or selective backup can be chosen to restore the data from these versions to the LMS Soft Appliance server. Ensure that all the prerequisites are addressed. Refer Prerequisites for more details.

This section contains the following topics:

- Common Services Data Migration Scope
- Network Topology, Layer 2 Services and User Tracking Data Migration Scope
- Inventory, Config and Image Management Data Migration Scope
- Fault Management Data Migration Scope
- IPSLA Performance Management Data Migration Scope
- CiscoWorks Assistant Data Migration Scope
- CiscoView Data Migration Scope
- Device Performance Management Data Migration Scope
- Portal Data Migration Scope

Data Migration to LMS 4.2 can be done using the following methods:

- Normal Backup - Process by which all the configuration files and collected data can be backed up from application database.
- Selective Backup - Process by which only required system configurations and data can be backed up.
Common Services Data Migration Scope

The Common Services (CS) data can be backed up using either using the Normal or the Selective mode.

Normal Backup
The following data gets migrated:

- LMS User information
- Single Sign-on configuration
- Device and Credential Repository (DCR) configuration
- Peer Certificates and Self Signed Certificates
- Peer Server Account information
- Login Module settings
- Software Center map files
- License data
- Core Client Registry
- System Identity Account configuration
- Cisco.com User configuration
- Proxy User configuration
- Jobs and Resources data, DCR data, Groups data, and other data stored in the database
- Discovery settings and Scheduled jobs
- Local User Policy Setup
- System Preferences
- Multiple Default Credentials— Multiple Default Credentials are migrated only when you restore data from LMS 3.2 SP1 and LMS 4.0.1/4.1/4.2 for Windows, Solaris and Soft Appliance.
- Policy Configuration— Policy Configuration are migrated only when you restore data from LMS 3.2 SP1 and LMS 4.0.1/4.1/4.2 for Windows, Solaris and Soft Appliance.
- Logrot Configuration— Logrot Configuration are migrated only when you restore data from LMS 3.2 SP1 and LMS 4.0.1/4.1/4.2 for Windows, Solaris and Soft Appliance.
- DCR Exclude list— DCR Exclude list are migrated only when you restore data from LMS 3.2 SP1 and LMS 4.0.1/4.1/4.2 for Windows, Solaris and Soft Appliance.
- Unreachable Device Polling Settings— Unreachable Device Polling Settings are migrated only when you restore data from LMS 3.2 SP1 and LMS 4.0.1/4.1/4.2 for Windows, Solaris and Soft Appliance.
- LDAP Configuration— LDAP Configuration are migrated only when you restore data from LMS 3.2 SP1 and LMS 4.0.1/4.1/4.2 for Windows, Solaris and Soft Appliance.
**Selective Backup**

When you run a selective data backup from CLI, all the data mentioned above gets backed up except:

- Software Center map files
- Once, Immediate, and Completed jobs data for all applications

**UDM Device State Change After Migration Based on License Limit**

UDM will get the count of managed devices from PIDM table of the backup data (only distinct device IDs). Based on the LMS 4.2 license count, the respective number of devices will be moved to Managed state and the remaining devices will be moved to Suspended state. So all the collections will be running only for the Managed devices in UDM. But for the Suspended devices, the history of the data will be maintained. If you want to run the collections for Suspended devices, you can either:

- Upgrade the LMS 4.2 license
- Move some of the unnecessary devices from the Managed state to Unmanaged state and move necessary devices from the Suspended state to the Managed state.

**After Migration UDM Policy is Set as Managed By All devices by Default**

If you have configured UDM policy (Managed By Group) in freshly installed LMS 4.2 server and have been managing some set of the devices, and if you migrate LMS data from the older version to LMS4.2, the backed up data will be the backed up data will be restored in LMS 4.2 server and the UDM policy will be set as Managed By All devices, after the migration. For details on the behavior of device states see **UDM Device State Change After Migration Based on License Limit**.

**ACS Backup / Restore Behavior in LMS 4.2**

While restoring ACS backup from LMS 3.2 SP1, the Authentication mode will be changed to Local Authentication Mode. No user or groups will be imported from ACS. The authentication and authorization will be done locally.

**Same Name User Defined Groups in Different Applications (backup data) Behavior After Restore in LMS 4.2**

- Case1: If you have "Group1" in CS, CM and RME (part of LMS versions earlier to LMS 4.0) while backing up data from LMS 3.2 SP1 then after restoring the backed up data in LMS 4.2, "Group1" of CS alone will be retained. "Group1" of CM and RME will be deleted.

- Case2: If you have "Group1" in CM and RME (part of earlier LMS versions) while backing up data from LMS 3.2 SP1 then after restoring the backed up data in LMS 4.2, "Group1" of both CM and RME will be deleted.
Network Topology, Layer 2 Services and User Tracking Data Migration Scope

Network Topology, Layer 2 Services and User Tracking data in LMS 4.2 (known as CM in earlier LMS versions) can be backed up using either the Normal or the Selective mode.

TrustSec related settings available in IDMMonitor.properties will be applicable only for same version backup and restore.

Following are the conditions for the group settings:

- If the groups exist with same name in CS and CM (part of earlier LMS versions), then the CS group will only exist after restore.
- If the groups exist with same name in CM and RME (part of earlier LMS versions), then both the groups will be dropped.

Normal Backup

The following data gets migrated when you upgrade to LMS 4.2:

- SNMP Settings
- Settings related to Layer 2 services (User Tracking, VRF-lite)
- Data Collection Scheduled Details
- User Defined Groups
- Config Credentials
- Data Purge Settings
- Trap Configuration Settings
- Custom Reports and Layouts
- Topo Map Preferences—This is applicable only for upgrade
- Topology layouts—Manually updated topology layouts will not be migrated for upgrade and backup/restore.
- MAC Detection Settings
- Device Details
- Port and VLAN Details
- Campus Jobs and Archives
- User Tracking Jobs and Archives
- VNM Settings, Jobs and Archives—VNM Settings Jobs and Archives are migrated only when you restore data from LMS 3.2 SP1 and LMS 4.0.1/4.1/4.2 for Windows, Solaris and Soft Appliance.

Selective Backup

When you run a selective data backup from CLI, all the data mentioned above gets backed up except:

- Device Details
- Port and VLAN Details
- Campus Archives, UT Archives and VNM Archives
Scope of Data Migration

Inventory, Config and Image Management Data Migration Scope

Inventory, Config and Image Management data in LMS 4.2 (known as RME in earlier LMS versions) can be backed up using either the Normal or the Selective mode.

Normal Backup
The following data gets migrated to LMS 4.2:

- Change Audit
  - Set Purge Policy
  - Force Purge
  - Config Change Filter
- Config Management
  - Transport Settings
  - Archive Settings
  - Collection Settings
  - Purge Settings
  - Exclude Commands
  - Fetch Settings
  - Config Editor
  - Config Job Policies
  - Device Management
  - Device Management Settings
  - Device Credential Verification Settings
- Reports
  - Archive Settings
  - PSIRT/EOS/EOL Reports
  - EnergyWise reports
- Config Archive
  - Shadow directory
  - ChangeAudit records. This includes Configuration change details
  - Archived configuration versions
- NetConfig
  - User-defined Templates (UDT)
  - Default Template Usage

By default, all templates are assigned to Admin on migration. The device-to-task mapping is not migrated.
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Scope of Data Migration

- Configuration groups
  - Archive Management
  - All jobs
  - Label Configs
  - Custom queries
  - Baseline templates
  - Shadow directory
  - ChangeAudit records. This includes Configuration change details.
  - Archived configuration versions

- Admin—Purge policies

- Config Editor:
  - Private Configs
  - Public Configs
  - Config Editor jobs
  - Editing mode in which the files are opened. It is either Raw or Processed.

- NetConfig:
  - Netconfig jobs. This includes Device based jobs, Port based jobs and Module based jobs. Port and Module based jobs are migrated only when you restore data from LMS 3.2 SP1 and LMS 4.0.1/4.1/4.2 for Windows, Solaris and Soft Appliance.
  - User-defined tasks

- NetShow:
  - NetShow jobs
  - Output archives
  - Commandsets

- Software Management
  - View/Edit Preferences
  - Update Upgrade Information
  - Software Management repository images
  - All jobs in a Job Browser

- System Preferences
  - Application Log Level Settings
  - Job Purge
  - RME Device Attributes
  - RME Secondary Credentials
  - Collection Failure Notification
Scope of Data Migration

- **Inventory**
  - Inventory Change Filter
  - System Job Schedule
  - Cisco.com Fetch Interval
  - Inventory jobs
  - Device details
  - Inventory Collection status
  - DCA jobs
  - Device Management state
  - User-defined groups

- **Syslog details**
  - Set Backup Policy
  - Set Purge Policy
  - Force Purge
  - Automated actions
  - Message filters
  - Custom reports
  - Syslog messages for the past 14 days
  - Report jobs and archives

- **Port and Module group administration** — Port and Module group administration are migrated only when you restore data from LMS 3.2 SP1 and LMS 4.0.1/4.1/4.2 for Windows, Solaris and Soft Appliance.
  - Port groups
  - Module groups

- **Template Center**
  - Template Center jobs

- **WorkCenters**
  - EnergyWise jobs
  - Identity jobs
  - ASP jobs
  - SI jobs
  - SI profiles
  - SI configs
Selective Backup
When you run a selective data backup from CLI, all the data mentioned above gets backed up except:

- SWIM Images
- Common Reporting Infrastructure archives
- Config editor data
- Syslog data
- Energywise Reports Archives
- SmartInstall Archives
- Identity Report Archives

Fault Management Data Migration Scope

Fault Management in LMS 4.2 (known as DFM in earlier LMS versions), can be backed up using either the Normal or the Selective mode.

Normal Backup
The following data gets migrated when you upgrade to LMS 4.2:

- Device list:
  - The migration procedure adds devices to LMS Device and Credentials Repository (DCR).
  - To automatically manage devices from DCR in LMS 4.2, you can configure the Device Management Policy in Unified Device Manager (UDM) (select Inventory > Device Administration > Device Allocation Policy), or add them manually (Inventory > Device Administration > Add as Managed Devices)

- The following notification information:
  - Mail notification information
  - Mail recipient information
  - Mail sender ID
  - Syslog notification
  - SMTP addresses
  - Trap forwarding addresses
  - Trap notification addresses and ports

- Fault groups
- Some polling and threshold settings
- Device details
- Trap forward settings
- Notification settings (group, email, trap and syslog settings)
- Notification customization changes
- Event sets
- User defined and customizable groups
- JRM Jobs
Scope of Data Migration

- Events details
- Fault History details
- SNMP Settings—SNMP Settings are migrated only when you restore data from LMS 3.2 SP1 and LMS 4.0.1/4.1/4.2 for Windows, Solaris and Soft Appliance.
- Email Subject customization settings—Email Subject customization settings are migrated only when you restore data from LMS 3.2 SP1 and LMS 4.0.1/4.1/4.2 for Windows, Solaris and Soft Appliance.

Selective Backup
When you run a selective data backup from CLI, all the data mentioned above gets backed up except:
- Events details
- Fault History details

IPSLA Performance Management Data Migration Scope

IPSLA Performance Management in LMS 4.2 (known as IPM in earlier LMS versions), can be backed up using either the Normal or the Selective mode.

Normal Backup
The following data gets migrated when you upgrade to LMS 4.2:
- IPSLA database—Contains information about source devices, target devices, operations, collectors, and the statistics of data collected.
- The settings in ipm.env, ipm.properties, and base.properties files
- Historical and Custom Reports

During the same version backup/restore, do not run /NMSROOT/bin/restorebackup.pl script from the following directories:
- Solaris/Soft Appliance
  NMSROOT/MDC/tomcat/webapps/ipm/system_reports
  /var/adm/CSCOpx/files/ipm/ and
  /opt/CSCOpx/MDC/tomcat/webapps/ipm/archive_charts
- Windows
  NMSROOT\MDC\tomcat\webapps\ipm\system_reports
  NMSROOT\CSCOpx\files\ipm\ and
  NMSROOT\CSCOpx\MDC\tomcat\webapps\ipm\archive_charts
When you migrate from LMS 3.0 or LMS 3.0 December 2007 Update or LMS 3.1 to LMS 4.0.1 and then install LMS 4.2, the following data gets migrated:

- IPSLA database—contains information about source devices, target devices, operations, collectors, admin settings and the statistics of data collected.
- Settings in IPSLA properties.
- Log Settings.
- System Reports
- Report Jobs and archives.
- Exported data (Statistics and Collectors).

**Selective Backup**

- When you run a selective data backup from CLI, all the data mentioned above gets backed up except the statistical table available in database.

**CiscoView Data Migration Scope**

The CiscoView (CV) data can be backed up using the Normal mode. When you upgrade to LMS 4.2, the user’s device preferences are migrated. In LMS 4.2, CiscoView is available at **Inventory > Tools > CiscoView**.

**Device Performance Management Data Migration Scope**

Device Performance Management in LMS 4.2 (known as HUM in earlier LMS versions) can be backed up using either the Normal or the Selective mode. The following data gets migrated when you restore LMS 3.2 SP1 (HUM) backup in LMS 4.2.

**Normal Backup**

The following data gets migrated when you upgrade to LMS 4.2:

- Configuration Data
- Threshold Violation Scripts
- Reports
- Template Configuration
- Database
  - Poller Configuration
  - Threshold Configuration
  - Admin Settings
  - Polled data
  - Threshold Violation data
  - Summarization data
  - Job information.
  - Trendwatch Configurations—Trendwatch Configurations are migrated only when you restore data from HUM 1.2.
Scope of Data Migration

- TrendWatch Violation data— TrendWatch Violation data are migrated only when you restore data from HUM 1.2 and LMS 4.2.
- Trap Receiver Groups— Trap Receiver Groups are migrated only when you restore data from HUM 1.2 and LMS 4.2.
- Syslog Receiver Groups— Syslog Receiver Groups are migrated only when you restore data from HUM 1.2 and LMS 4.2.

Selective Backup
When you run a selective data backup from CLI, all the data mentioned above gets backed up except the Polled data and completed reports.
LMS will not backup old device performance management reports and will backup periodic reports.

Normal Backup
- Poller Configurations along with the Polled data (Summarization data).
- Template Configurations along with the newly loaded MIBs.
- Threshold Configurations along with the Threshold Violation data.
- TrendWatch Configurations along with the TrendWatch Violation data - this is applicable only if you restore LMS 3.2 SP1 and LMS 4.0.1/4.1/4.2 for Windows, Solaris and Soft Appliance.
- Job Information / Reports (system defined and user defined)
  - Suspended job instances will be moved to scheduled state.
- Admin Settings
  - Data Purge, Job Purge and Poll Settings (SNMP retry / timeout, Failure frequency / notification details)
  - Trap Receiver Groups and Syslog Receiver Groups (this is applicable only if you restore LMS 3.2 SP1 and LMS 4.0.1/4.1/4.2 for Windows, Solaris and Soft Appliance.)
Scope of Data Migration

**Selective Backup**

- Poller Configurations alone. Polled data (Summarization data) will not be migrated.
- Template Configurations along with the newly loaded MIBs.
- Threshold Configurations alone. Threshold Violation data will not be migrated.
- TrendWatch Configurations alone. TrendWatch Violation data will not be migrated - this is applicable only if you restore LMS 3.2 SP1/4.0.1/4.1 backup.
- Job Information / Reports (system defined and user defined)
  - Periodic report jobs will be migrated. Suspended job instances will be moved to scheduled state.
  - Completed and Immediate report jobs will not be migrated.
- Admin Settings
  - Data Purge, Job Purge and Poll Settings (SNMP retry / timeout, Failure frequency / notification details)
  - Trap Receiver Groups and Syslog Receiver Groups (this is applicable only if you restore LMS 3.2 SP1 and LMS 4.0.1/4.1/4.2 for Windows, Solaris and Soft Appliance.

**Portal Data Migration Scope**

The LMS Portal data can be backed up using the Normal mode. The LMS Portal configuration or settings get migrated when you remote upgrade to LMS 4.1. All the private page customization in the earlier LMS version (3.2 SP1) will be migrated after remote upgrade.
CiscoWorks Assistant Data Migration Scope

CiscoWorks Assistant is not part of LMS 4.2.

Figure 7-1 shows the migration of data from LMS 2.6 to LMS 3.2.

Figure 7-1  Migrating Data from LMS 2.6 to LMS 3.2

<table>
<thead>
<tr>
<th>LMS 2.6</th>
<th>LMS 3.2</th>
</tr>
</thead>
<tbody>
<tr>
<td>CiscoWorks Common Services 3.0.5</td>
<td></td>
</tr>
<tr>
<td>Resource Manager Essentials 4.0.5</td>
<td></td>
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<tr>
<td>Campus Manager 4.0.6</td>
<td></td>
</tr>
<tr>
<td>Device Fault Manager 2.0.6</td>
<td></td>
</tr>
<tr>
<td>Internetwork Performance Monitor 2.6</td>
<td></td>
</tr>
<tr>
<td>CiscoView 6.1.5</td>
<td></td>
</tr>
<tr>
<td>Integration Utility 1.6</td>
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</tr>
</tbody>
</table>

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<table>
<thead>
<tr>
<th>LMS 3.2</th>
</tr>
</thead>
<tbody>
<tr>
<td>CiscoWorks Common Services 3.3</td>
</tr>
<tr>
<td>Resource Manager Essentials 4.3</td>
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<tr>
<td>Campus Manager 5.2</td>
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<tr>
<td>Device Fault Manager 3.2</td>
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<tr>
<td>Internetwork Performance Monitor 4.2</td>
</tr>
<tr>
<td>CiscoView 6.1.9</td>
</tr>
<tr>
<td>Integration Utility 1.9</td>
</tr>
<tr>
<td>CiscoWorks LMS Portal 1.2</td>
</tr>
<tr>
<td>CiscoWorks Assistant 1.2</td>
</tr>
<tr>
<td>Health and Utilization Monitor 1.2</td>
</tr>
</tbody>
</table>

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Figure 7-2 shows the migration of data from LMS 2.6 SP1 to LMS 3.2

Figure 7-2  Migrating Data from 2.6 SP1 to 3.2

<table>
<thead>
<tr>
<th>LMS 2.6 SP1</th>
<th>LMS 3.2</th>
</tr>
</thead>
<tbody>
<tr>
<td>CiscoWorks Common Services 3.0.6</td>
<td></td>
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<tr>
<td>Resource Manager Essentials 4.0.6</td>
<td></td>
</tr>
<tr>
<td>Campus Manager 4.0.7</td>
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<tr>
<td>Device Fault Manager 2.0.10</td>
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<tr>
<td>Internetwork Performance Monitor 2.6</td>
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<tr>
<td>CiscoView 6.1.6</td>
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<tr>
<td>Integration Utility 1.6.1</td>
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</table>

Operating System
Solaris 8, Solaris 9

<table>
<thead>
<tr>
<th>LMS 3.2</th>
</tr>
</thead>
<tbody>
<tr>
<td>CiscoWorks Common Services 3.3</td>
</tr>
<tr>
<td>Resource Manager Essentials 4.3</td>
</tr>
<tr>
<td>Campus Manager 5.2</td>
</tr>
<tr>
<td>Device Fault Manager 3.2</td>
</tr>
<tr>
<td>Internetwork Performance Monitor 4.2</td>
</tr>
<tr>
<td>CiscoView 6.1.9</td>
</tr>
<tr>
<td>Integration Utility 1.9</td>
</tr>
<tr>
<td>CiscoWorks LMS Portal 1.2</td>
</tr>
<tr>
<td>CiscoWorks Assistant 1.2</td>
</tr>
<tr>
<td>Health and Utilization Monitor 1.2</td>
</tr>
</tbody>
</table>

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Remote Migration From LMS 2.6 or 2.6 SP1

Note
You must install LMS 3.2 without HUM 1.2. HUM 1.2 installation should be initiated only after LMS 3.2 installation and data restoration are completed. This note is applicable only if HUM 1.2 is a part of LMS 3.2 installation.

Note
The application list in the backed up data should exactly match the application list in the machine where it is restored except for CiscoWorks Assistant and Portal. If there is a difference then the behavior of the applications after upgrade will be unpredictable.

Remote Migration From LMS 3.0 or LMS 3.0 December 2007 Update or LMS 3.1

Figure 7-3 shows the migration of data from LMS 3.0 to LMS 3.2.

Figure 7-3  Migrating Data from LMS 3.0 to LMS 3.2

<table>
<thead>
<tr>
<th>LMS 3.0</th>
<th>LMS 3.2</th>
</tr>
</thead>
<tbody>
<tr>
<td>• CiscoWorks Common Services 3.1</td>
<td>• CiscoWorks Common Services 3.3</td>
</tr>
<tr>
<td>• Resource Manager Essentials 4.1</td>
<td>• Resource Manager Essentials 4.3</td>
</tr>
<tr>
<td>• Campus Manager 5.0</td>
<td>• Campus Manager 5.2</td>
</tr>
<tr>
<td>• Device Fault Manager 3.0</td>
<td>• Device Fault Manager 3.2</td>
</tr>
<tr>
<td>• Internetwork Performance Monitor 4.0</td>
<td>• Internetwork Performance Monitor 4.2</td>
</tr>
<tr>
<td>• CiscoView 6.1.6</td>
<td>• CiscoView 6.1.9</td>
</tr>
<tr>
<td>• CiscoWorks LMS Portal 1.0</td>
<td>• Integration Utility 1.9</td>
</tr>
<tr>
<td>• CiscoWorks Assistant 1.0</td>
<td>• CiscoWorks LMS Portal 1.2</td>
</tr>
<tr>
<td>• Integration Utility 1.7</td>
<td>• CiscoWorks Assistant 1.2</td>
</tr>
<tr>
<td>• Health and Utilization Monitor 1.0 (Add-on and separately licensed)</td>
<td>• Health and Utilization Monitor 1.2</td>
</tr>
</tbody>
</table>

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Figure 7-4 shows the migration of data from LMS 3.0 December 2007 Update to LMS 3.2.
### Scope of Data Migration

Figure 7-4  *Migrating Data from LMS 3.0 December 2007 Update to LMS 3.2*

<table>
<thead>
<tr>
<th>LMS 3.0 December 2007 Update</th>
<th>LMS 3.2</th>
</tr>
</thead>
<tbody>
<tr>
<td>• CiscoWorks Common Services 3.1.1</td>
<td>• CiscoWorks Common Services 3.3</td>
</tr>
<tr>
<td>• Resource Manager Essentials 4.1</td>
<td>• Resource Manager Essentials 4.3</td>
</tr>
<tr>
<td>• Campus Manager 5.0</td>
<td>• Campus Manager 5.2</td>
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<tr>
<td>• Device Fault Manager 3.0.2</td>
<td>• Device Fault Manager 3.2</td>
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<tr>
<td>• Internetwork Performance Monitor 4.0.1</td>
<td>• Internetwork Performance Monitor 4.2</td>
</tr>
<tr>
<td>• CiscoView 6.1.7</td>
<td>• CiscoView 6.1.9</td>
</tr>
<tr>
<td>• CiscoWorks LMS Portal 1.0.1</td>
<td>• Integration Utility 1.9</td>
</tr>
<tr>
<td>• CiscoWorks Assistant 1.0.1</td>
<td>• CiscoWorks LMS Portal 1.2</td>
</tr>
<tr>
<td>• Integration Utility 1.7.1</td>
<td>• CiscoWorks Assistant 1.2</td>
</tr>
<tr>
<td>• Health and Utilization Monitor 1.0/1.0.2 (Add-on and separately licensed)</td>
<td>• Health and Utilization Monitor 1.2</td>
</tr>
</tbody>
</table>

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Figure 7-5 shows the migration of data from LMS 3.1 to LMS 3.2.

Figure 7-5  *Migrating Data from LMS 3.1 to LMS 3.2*

<table>
<thead>
<tr>
<th>LMS 3.1</th>
<th>LMS 3.2</th>
</tr>
</thead>
<tbody>
<tr>
<td>• CiscoWorks Common Services 3.2</td>
<td>• CiscoWorks Common Services 3.3</td>
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Operating System
Solaris 9, Solaris 10
Migrating Data From LMS 3.2 SP1, LMS 4.0.1 or LMS 4.1

This section explains how to migrate data from LMS 3.2 SP1, LMS 4.0.1 or LMS 4.1.

This section contains:
- Migrating Data on Solaris
- Migrating Data on Windows
- Migrating Data on Soft Appliance

Migrating Data on Solaris

This section explains the procedure of Migrating Data on Solaris to a remote machine.

In this section, the machine that has LMS 3.2 SP1, LMS 4.0.1 or LMS 4.1 is referred to as Machine A and the remote machine where you need to install LMS 4.2 and restore the data, is referred to as Machine B.

**Note**

You cannot perform backup on network drives. We recommend you to stop the daemon manager, before you take the backup of LMS data.

To migrate LMS 3.2 SP1, LMS 4.0.1 or LMS 4.1 data to a remote machine:

**Step 1** Log in as root into Machine A.

**Step 2** Back up LMS 3.2 SP1, LMS 4.0.1 or LMS 4.1 data.

To do normal backup using CLI, enter the following command:

```
NMSROOT/bin/perl NMSROOT/bin/backup.pl BKP
```

where **BKP** is the backup directory.

You must enter the absolute path for **BKP**. For example, if **BKP** is under /opt, give the path as

```
NMSROOT/bin/perl NMSROOT/bin/backup.pl /opt/BKP
```

To do selective backup using CLI, see Syntax and Usage for Backup Script.

**Step 3** Log in as root into Machine B.

**Step 4** Install LMS 4.2.

**Step 5** Transfer the backup directory **BKP** that contains the LMS 3.2 SP1 data as a compressed file (example .tar) from Machine A to any temporary location.

**Step 6** Stop the daemon manager by entering:

```
/etc/init.d/dmgtd stop
```

**Step 7** Restore the backed up data by entering:

```
NMSROOT/bin/perl NMSROOT/bin/restorebackup.pl -d BKP [-t temporary_directory]
```

where **BKP** is the backup directory.

You must enter the absolute path for **BKP**. For example, if **BKP** is under /opt, give the path as

```
NMSROOT/bin/perl NMSROOT/bin/restorebackup.pl -d /opt/BKP
```

For more details, see Syntax and Usage for Restore Script.

See Notes for Remote Migration.
You can also restore data from LMS 3.2 SP1, LMS 4.0.1 or LMS 4.1 to the LMS 4.2 server with Symantec Veritas or VMware HA implementation.

- For details on High Availability (HA) implementation using Symantec Veritas, see Setting Up Cisco Prime LMS in High Availability and Disaster Recovery Environment.
- For details on High Availability (HA) implementation using VMware, see Setting Up Cisco Prime LMS for High Availability, Live Migration, and Storage VMotion Using VMware.

**Step 8**
Examine the log files in the following location to verify that the data was restored. The files are:

- /var/adm/CSCOpx/log/restorebackup.log
- /var/adm/CSCOpx/log/migration.log
- /var/adm/CSCOpx/log/rme_base.log

**Note**
The migration.log and the rme_base.log will be created only when RME (part of earlier LMS versions) is migrated.

**Step 9**
Start the daemon manager by entering:

```
/etc/init.d/dmgtd start
```

You can follow the above procedure to perform same version data migration from Windows to Windows.

### Migrating Data on Windows

To migrate LMS 3.2 SP1, LMS 4.0.1 and LMS 4.1 data to a remote machine:

**Step 1**
Log in as administrator into Machine A.

**Step 2**
Back up LMS 3.2 SP1, LMS 4.0.1 or LMS 4.1 data.

To do this using CLI, enter the following command:

```
NMSROOT\bin\perl NMSROOT\bin\backup.pl BKP
```

where `BKP` is the backup directory.

You must enter the absolute path for `BKP`. For example, if `BKP` is under C:\, enter the path as `NMSROOT\bin\perl NMSROOT\bin\backup.pl C:\BKP`.

To do selective backup using CLI, see Syntax and Usage for Backup Script.

**Step 3**
Log in as administrator into Machine B.

**Step 4**
Install LMS 4.2.

**Step 5**
Copy the backup directory `BKP` that contains the LMS 3.2 SP1 data from Machine A to any temporary location.

**Step 6**
Stop the daemon manager by entering:

```
net stop crmdmgtd
```

**Step 7**
Restore the backed up data by entering:

```
NMSROOT\bin\perl NMSROOT\bin\restorebackup.pl -d BKP [-t temporary_directory]
```

where `BKP` is the backup directory.
You must enter the absolute path for BKP. For example, if BKP is under C:\, enter the path as 
NMSROOT\bin\perl NMSROOT\bin\restorebackup.pl -d C:\BKP.

For more details, see Syntax and Usage for Restore Script.

See Notes for Remote Migration.

You can also restore data from LMS 3.2 SP1, LMS 4.0.1 or LMS 4.1 to the LMS 4.2 server with Symantec Veritas or VMware HA implementation.

- For details on High Availability (HA) implementation using Symantec Veritas, see Setting Up Cisco Prime LMS in High Availability and Disaster Recovery Environment
- For details on High Availability (HA) implementation using VMware, see Setting Up Cisco Prime LMS for High Availability, Live Migration, and Storage VMotion Using VMware.

Note

Ensure that the passwords, HTTPS port and SMTP server details are same in both LMS 3.2 SP1, LMS 4.0.1 or LMS 4.1 server and LMS 4.2 server with Symantec Veritas implementation, while migrating data from non-HA to HA environment.

Step 8

Examine the log files in the following location to verify that the data was restored. The files are:

- NMSROOT\log\restorebackup.log
- NMSROOT\log\migration.log
- NMSROOT\log\rme_base.log

Note

The migration.log and rme_base.log will be created only when RME (part of earlier LMS versions) is migrated.

Step 9

Start the daemon manager by entering:

```
net start crmdmgtd
```

You can follow the above procedure to perform same version data migration from Solaris to Solaris.

Migrating Data on Soft Appliance

You can perform cross-platform data migration only from Windows/Solaris to Soft Appliance.

**Migrating Data from Solaris/Soft Appliance to Soft Appliance**

To migrate the data from Solaris (LMS 3.2 SP1, LMS 4.01 or LMS 4.1)/ Soft Appliance (LMS 4.1) to Soft Appliance (LMS 4.2) in a remote machine:

**Step 1**

Log in as root into Machine A, which is a Solaris/Soft Appliance server.

**Step 2**

Back up the data.

To do normal backup using CLI, enter the following command:

```
NMSROOT/bin/perl NMSROOT/bin/backup.pl BKP
```

where BKP is the backup directory.
Chapter 7      Migrating Data to Cisco Prime LAN Management Solution 4.2

Migrating Data From LMS 3.2 SP1, LMS 4.0.1 or LMS 4.1

You must enter the absolute path for \textit{BKP}. For example, if \textit{BKP} is under /opt, give the path as \texttt{NMSROOT/bin/perl NMSROOT/bin/backup.pl /opt/BKP}.

To do selective backup using CLI, see \texttt{Syntax and Usage for Backup Script}.

**Step 3**  
Log in as root into Machine B, which is a Soft Appliance server.

**Step 4**  
Install LMS 4.2.

**Step 5**  
Transfer the backup directory \textit{BKP} that contains the LMS 3.2 SP1, LMS 4.0.1 or LMS 4.1 data as a compressed file (example .tar) from Machine A to any temporary location. For more information on transferring to Soft Appliance, refer \texttt{Transferring Files to Soft Appliance Server}.

**Step 6**  
Stop the daemon manager by entering:
\texttt{/etc/init.d/dmgtd stop}

**Step 7**  
Restore the backed up data by entering:
\texttt{NMSROOT/bin/perl NMSROOT/bin/restorebackup.pl -d BKP [-t temporary_directory]}

You must enter the absolute path for \textit{BKP}. For example, if \textit{BKP} is under /opt, give the path as \texttt{NMSROOT/bin/perl NMSROOT/bin/restorebackup.pl -d /opt/BKP}.

For more details, see \texttt{Notes for Remote Migration}.

**Step 8**  
Examine the log files in the following location to verify that the data was restored. The files are:

- /var/adm/CSCOpx/log/restorebackup.log
- /var/adm/CSCOpx/log/migration.log
- /var/adm/CSCOpx/log/rme_base.log

\textbf{Note}  
The migration.log and the rme_base.log will be created only when RME (part of earlier LMS versions) is migrated.

**Step 9**  
Start the daemon manager by entering:
\texttt{/etc/init.d/dmgtd start}

You can follow the above procedure to perform same version data migration from Solaris/Soft Appliance to Soft Appliance.

\textbf{Migrating Data from Windows to Soft Appliance}  
To migrate data from Windows (LMS 3.2 SP1, LMS 4.0.1 or LMS 4.1) to Soft Appliance (LMS 4.2) in a remote machine:

**Step 1**  
Log in as administrator into Machine A which is a windows server.

**Step 2**  
Back up LMS 3.2 SP1, LMS 4.0.1 or LMS 4.1 data.

To do this using CLI, enter the following command:
\texttt{NMSROOT/bin/perl NMSROOT/bin/backup.pl BKP}

where \textit{BKP} is the backup directory.
You must enter the absolute path for BKP. For example, if BKP is under C:\, enter the path as \NMSROOT\bin\perl \NMSROOT\bin\backup.pl C:\BKP.

To do selective backup using CLI, see Syntax and Usage for Backup Script.

**Step 3**  
Log in as root into Machine B, which is a Soft Appliance server.

**Step 4**  
Install LMS 4.2.

**Step 5**  
Transfer the backup directory BKP that contains the LMS 3.2 SP1, LMS 4.0.1 or LMS 4.1 data as a compressed file (example .tar) from Machine A to any temporary location. For more information on transferring to Soft Appliance, refer Transferring Files to Soft Appliance Server.

**Step 6**  
Stop the daemon manager by entering:

```bash
/etc/init.d/dmgtd stop
```

**Step 7**  
Restore the backed up data by entering:

```bash
NMSROOT/bin/perl NMSROOT/bin/restorebackup.pl -d BKP [-t temporary_directory]
```

where BKP is the backup directory.

You must enter the absolute path for BKP. For example, if BKP is under /opt, give the path as \NMSROOT\bin\perl \NMSROOT\bin\restorebackup.pl -d /opt/BKP.

For more details, see Syntax and Usage for Restore Script.

See Notes for Remote Migration.

**Step 8**  
Examine the log files in the following location to verify that the data was restored. The files are:

- /var/adm/CSCOpx/log/restorebackup.log
- /var/adm/CSCOpx/log/migration.log
- /var/adm/CSCOpx/log/rme_base.log

**Note**  
The migration.log and the rme_base.log will be created only when RME (part of earlier LMS versions) is migrated.

**Step 9**  
Start the daemon manager by entering:

```bash
/etc/init.d/dmgtd start
```

You can follow the above procedure to perform same version data migration from Windows to Soft Appliance.

---

**Guidelines to Post-Upgrade Activities**

This section contains:

- Guidelines for Fault Management Post-Upgrade Activities in LMS 4.2
- Guidelines for Restoring Inventory, Config Timeout and Retry Settings
- Guidelines for Common Services Post-Upgrade Activities
- LMS 4.2 AAA Methods
- Resetting the Login Module
Guidelines for Fault Management Post-Upgrade Activities in LMS 4.2

This section contains the complete basic configuration steps for Configuring SNMP Trap Receiving and Forwarding.

Configuring SNMP Trap Receiving and Forwarding

To upgrade all remote adapters, see *Installing and Data Migration With CiscoWorks LAN Management Solution 4.0*. It is available at:


By default, LMS receives SNMP traps on port 162 (or, if port 162 is occupied, port 9000). If you need to change the port:

---

**Step 1**  
Select Admin > Network > Notification and Action Settings > Fault - SNMP trap receiving settings.  
The configuration page for SNMP trap receiving is launched.

**Step 2**  
Enter the port number in the Receiving Port entry box.

**Step 3**  
Click **Apply**.
If you want LMS to forward traps to a remote NMS:

**Step 1** Select **Admin > Network > Notification and Action Settings > Fault - SNMP trap forwarding**.
The configuration page for SNMP trap forwarding is launched.

**Step 2** Enter these for each host:
- An IP address or DNS name for the hostname.
- A port number on which the host can receive traps.

**Step 3** Click **Apply**.

**Step 4** Make sure NMS is configured to receive traps at the port you specified in Step 2.

---

**Note**
HPOV or NetView adapters are not supported for the Fault Management functionality in LMS 4.2

### Guidelines for Restoring Inventory, Config Timeout and Retry Settings

To upgrade all remote adapters, see *Installing and Data Migration With CiscoWorks LAN Management Solution 4.0*. It is available at:


When you do a back up restore from LMS 3.x/ LMS 4.x to LMS 4.2, the inventory, config timeout, and retry values will not be restored by default. If you have to restore the values in LMS 4.2:

**Step 1** Select **Admin > Network > Timeout and Retry Settings**.
The Inventory, Config timeout and retry settings page appears.

**Step 2** Enter the required values for:
- Read Delay
- Transport Timeout
- Login Timeout
- Tune Sleep
- Delay After Connect

**Step 3** Click **Apply**.

**Note**
Modifying the default timeout values will apply to all the devices and impact the work flows of all devices. To edit per device level attributes, go to **Admin > Collection Settings > Inventory > Edit the Inventory, Config Timeout, and Retry settings**.

---

To configure remote versions of HP OpenView and NetView to forward SNMP traps to LMS, you must install the HPOV-NetView adapters on the remote systems.
Guidelines for Common Services Post-Upgrade Activities

This section contains the LMS Authorization, Authentication, and Accounting (AAA) methods.

LMS 4.2 AAA Methods

LMS 4.2 supports only one AAA mode: Local Authentication Mode.

Local Authentication Mode

LMS 4.2 server supports the following Login Modules in Local Authentication Mode mode:

- Local Authentication
- KerberosLogin
- Local NT System (Windows only)
- Local Unix System (Solaris only)
- MS Active Directory
- RADIUS
- TACACS+

LMS 4.2 uses server authentication (Local Authentication Mode) to authenticate users and authorize them to access LMS.

However, if you select a Login module other than Local Authentication, you can only perform authentication and not authorization. You can perform authorization only through Local Authentication.
### Resetting the Login Module

You can run the following commands to reset the Login Module to Local authentication mode:

**On Solaris and Soft Appliance:**

1. Stop the LMS system by entering:
   ```
   /etc/init.d/dmgtd stop
   ```
2. Run the following script:
   ```
   NMSROOT/bin/perl NMSROOT/bin/ResetLoginModule.pl
   ```
3. Start the LMS system by entering:
   ```
   /etc/init.d/dmgtd start
   ```

**On Windows:**

1. Stop the LMS system by entering:
   ```
   net stop crmdmgtd
   ```
2. Run the following script:
   ```
   NMSROOT\bin\perl NMSROOT\bin\ResetLoginModule.pl
   ```
3. Start the LMS system by entering:
   ```
   net start crmdmgtd
   ```