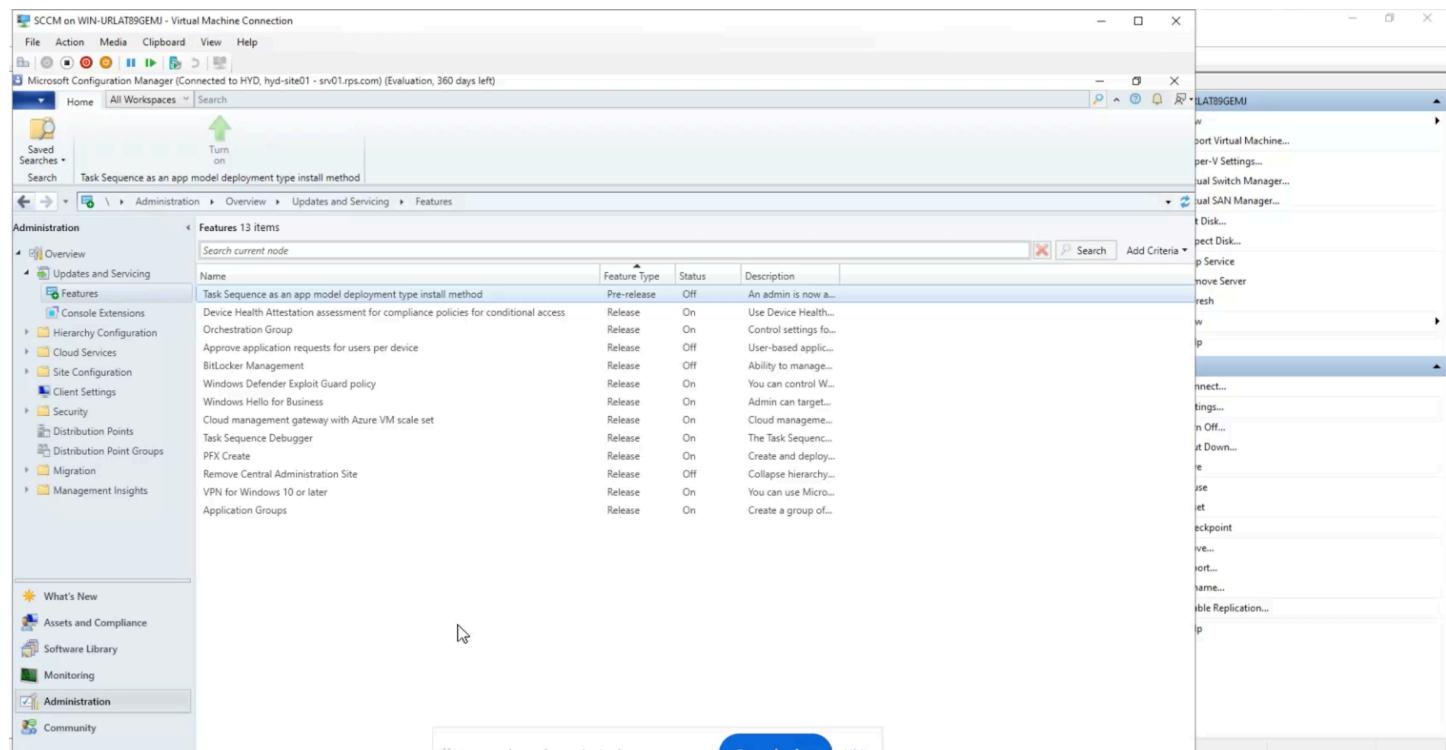


# Managing the Configuration Manager Client

Managing a Configuration Manager (ConfigMgr/SCCM) client involves a range of critical functions that ensure devices are properly configured, updated, secure, and compliant within your organization's IT environment.

## Client Deployment & Assignment:

- Deploying the client agent to devices (Windows, servers, etc.) using methods like push installation, Group Policy, software updates, or manual/OS image inclusion
- Assigning the client to a Configuration Manager site, either automatically or manually, ensuring it can receive site-specific policies



## Policy & Settings Management

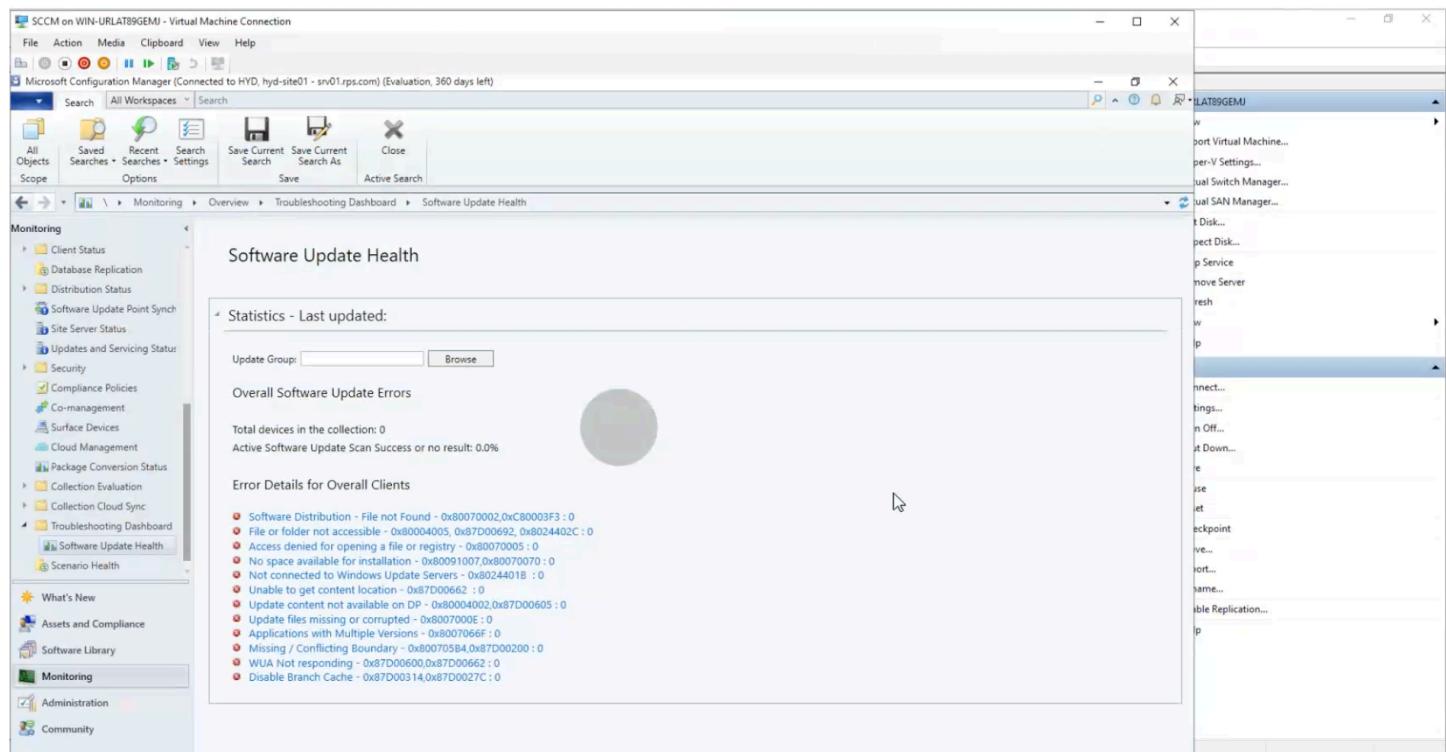
- Download and apply client policies and settings from the site server. These determine actions like update schedules, hardware/software inventory frequency, power settings, and remote control permissions
- Administrators can trigger policy retrieval or remediations manually via the client application.

The screenshot shows the Microsoft Configuration Manager (SCCM) interface on a Windows machine. The title bar reads "SCCM on WIN-URLAT89GEMJ - Virtual Machine Connection". The main window is titled "Monitoring" and displays the "All Alerts" section. On the left, there is a navigation pane with categories like Overview, Alerts, Active Alerts, Subscriptions, External Service Notifications, Reporting, Site Hierarchy, System Status, Deployments, Phased Deployments, Client Operations, Script Status, Scheduled Scripts, Client Status, and Database Replication. A "Monitoring" icon is highlighted in the navigation pane. The central area shows a table titled "All Alerts 5 items" with columns: Icon, Alert State, Name, Type, Severity, Postpone Alert, Subscriptions, and Hidden. The table lists five alerts:

Icon	Alert State	Name	Type	Severity	Postpone Alert	Subscriptions	Hidden
⚠️	Never Triggered	Critical low free space alert for da...	Database free space critical	Critical	6/6/2025 6:11 AM	0	No
⚠️	Never Triggered	Antimalware clients out of date	Antimalware Client Version	Critical	6/6/2025 6:11 AM	0	No
⚠️	Never Triggered	Warning low free space alert for d...	Database free space warning	Warning	6/6/2025 6:11 AM	0	No
⚠️	Never Triggered	Database Replication component...	Database Replication component...	Critical	6/6/2025 6:11 AM	0	No
⚠️	Never Triggered	Low Sideload Activations	Low Sideload Activations	Warning	6/6/2025 6:11 AM	0	No

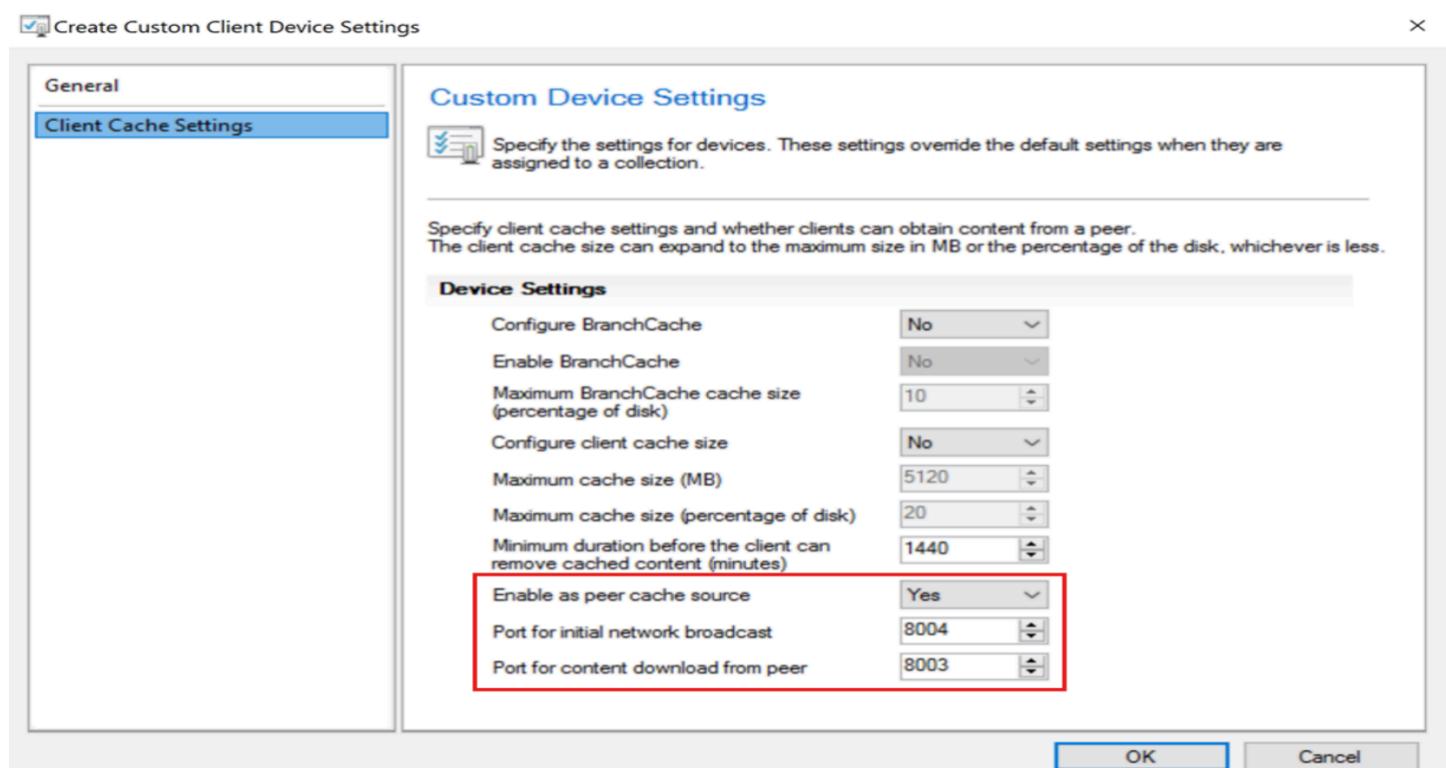
## Monitoring & Health Reporting:

- The ConfigMgr console provides near real-time status updates on client operations, health, and activity
- Use reporting (SSRS) and built-in dashboards to identify unhealthy, non-responsive, or non-compliant clients



## Managing Client Cache:

Managing the Configuration Manager (SCCM/MEMCM) client cache involves controlling how the client stores and manages content downloaded for deployments, updates, and OS installs.



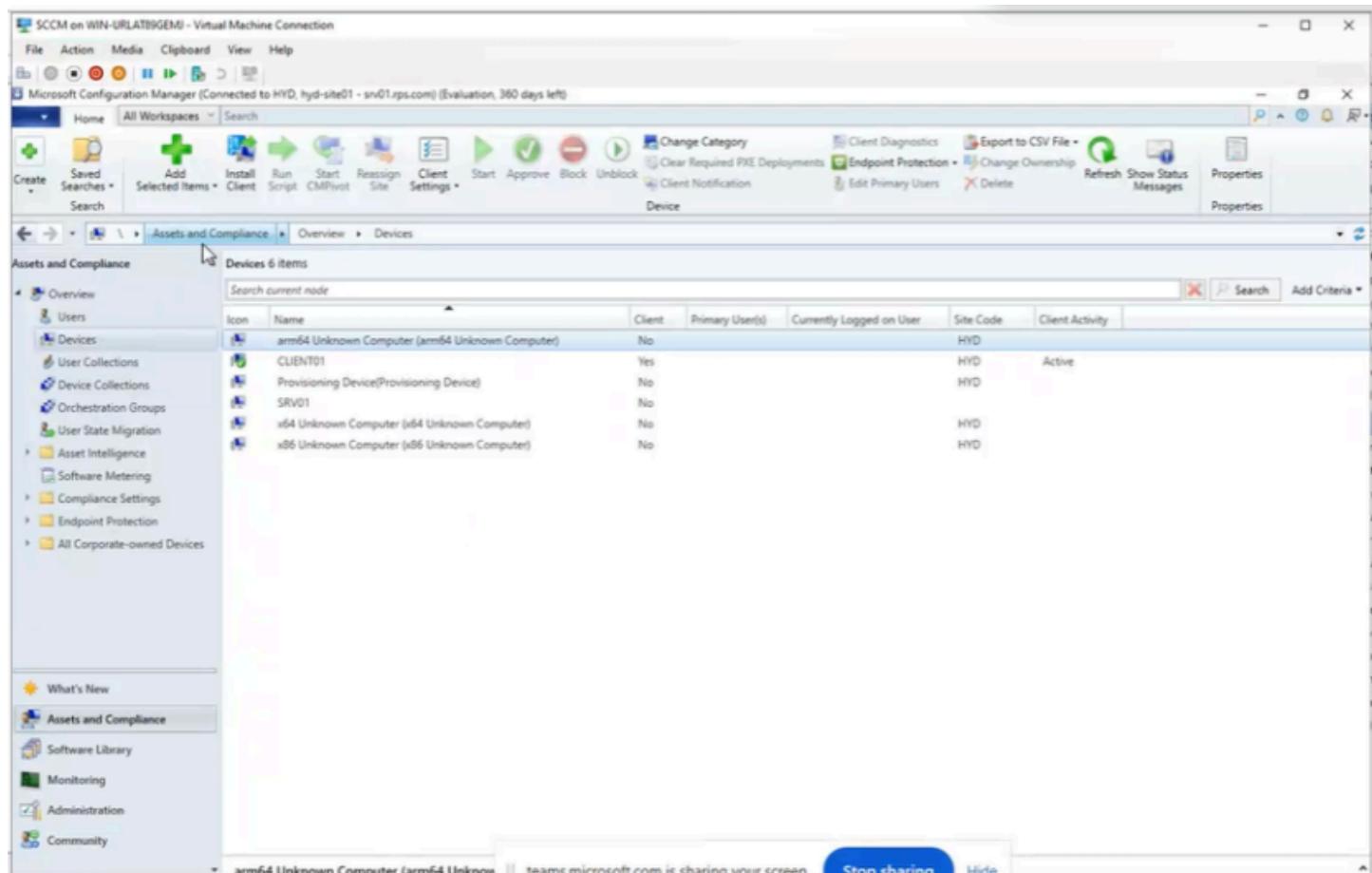
## Trouble Shooting :

The Troubleshooting features in Microsoft Endpoint Configuration Manager (previously SCCM) provide a comprehensive suite of tools and workflows for diagnosing and resolving issues across clients, site systems, and deployments.

The screenshot shows the Configuration Manager Support Center interface. The top navigation bar includes Home, Client, Policy, Content, Inventory, Troubleshooting (which is highlighted with a red box), and Logs. Below the navigation bar is a toolbar with a Start button (green play icon), a View selected log button (yellow folder icon with an 'i'), and a Keep previous results checkbox. The main area is a table listing troubleshooting tasks:

Name	Description	Status
Active Directory	Active Directory queries for Configuration Manager sche	✓
MPCERTIFICATE	Gets management point certificates	✓
MPKEYINFORMATION	Gets management point cryptographic key information	✓
MPLIST	Gets a list of management points	✓
Networking	Network troubleshooter	✓
Policy assignments	Verifies policy assignment retrieval	✗
Registration	Verifies client registration with management point	✓

## Connected devices



## Asset Intelligence in Configuration Manager Console

This screenshot shows the **Microsoft Configuration Manager Console** with a focus on the **Asset Intelligence** workspace under **Assets and Compliance**.

### Key Elements Highlighted:

**Asset Intelligence Panel Catalog Synchronization** section is displayed.

A warning indicates that:

- **Asset Intelligence synchronization point status: Not installed**
- **Asset Intelligence component: Enabled**

The screenshot shows the Microsoft Configuration Manager interface for Asset Intelligence. The left navigation pane is titled 'Assets and Compliance' and includes sections for Overview, Users, Devices, User Collections, Device Collections, Orchestration Groups, User State Migration, Asset Intelligence (which is selected), Catalog, Inventoried Software, Hardware Requirements, Product Lifecycle, Software Metering, Compliance Settings, Configuration Items, Configuration Baselines, and User Data and Profiles. Below this is a 'What's New' section and a 'Community' link.

The main content area is titled 'Asset Intelligence' and contains two sections: 'Catalog Synchronization' and 'Inventoried Software Status'.

- Catalog Synchronization:**
  - Asset Intelligence component: Enabled
  - Asset Intelligence synchronization point status: Not installed
  - Synchronization schedule: Not Applicable
  - Software licenses imported: Not Imported
  - Last Successful Update: [empty]
  - Next Scheduled Update: [empty]
  - Changes to categories or families: 0
  - Changes to software titles: 0
- Inventoried Software Status:**

The following data enumerates assets detected in your environment. The table describes the assets in absolute numbers and the chart represents that information in percentage.

	Identified by Microsoft	Identified by administrator	Pending online identification	Unidentified and not pending
Inventoried Software	0	0	0	0
Software Categories	99	0	Not Applicable	Not Applicable
Software Families	21	0	Not Applicable	Not Applicable

Identification by percent(%)

Legend: Identified by Microsoft (dark blue), Pending online identification (light blue), Identified by administrator (medium blue), Unidentified and not pending (lightest blue).

## NOIDMIF (No Instance Data Management Information Format):

- Extends hardware inventory on existing configuration manager clients.
- Automatically associated with client device where its collected.
- Collection data unique to a specific client, like a serial number or asset tag.
- Directory for NOIDMIF in ConfigMgr:

%Windir%\System32\CCM\Inventory\Noidmifs

## **IDMIF (Instance Data Management Information Format).**

- Collects data not associated with a configuration manager client
- Not automatically associated with a client device.
- Useful for collecting data about devices like printers or projectors.
- Directory for IDMIF in ConfigMgr:

**%Windir%\System32\CCM\Inventory\ldmifs**

## **WMI (Windows Management Instrumentation):**

A framework that provides a standardized way to manage and access system resources on windows-based systems.

It is used to collect inventory data allowing it to interact with the client operating system and retrieve information.

### **WMI Commands:**

**Get-WmiObject -Class Win32\_Keyboard**

**Get-WmiObject**

**Get-WmiObject -Class Win32\_LogicalDisk**

**Get-WmiObject -Query "SELECT \* FROM Win32\_LogicalDisk WHERE DriveType = 3"**

Windows PowerShell ISE

File Edit View Tools Debug Add-ons Help

2Lec.ps1 Invoke-AppDeployToolkit.ps1 AppDeployToolkitMain.ps1 Show\_commands.ps1 WmiObject commands.ps1 X

```
1 Get-WmiObject
2 Get-WmiObject -Class Win32_Keyboard
3 Get-WmiObject -Class Win32_LogicalDisk
4 Get-WmiObject -Query "SELECT * FROM Win32_LogicalDisk WHERE DriveType=3"
5 Get-WmiObject -Class Win32_LogicalDisk -Filter "DriveType=3"
6 Get-WmiObject -ClassName CIM_InstalledOS
7 Get-WmiObject -ClassName CIM_InstalledOS
```

```
PS C:\Users\admin> Get-WmiObject -Class Win32_Keyboard
```

__GENUS	:	2
__CLASS	:	Win32_Keyboard
__SUPERCLASS	:	CIM_Keyboard
__DYNASTY	:	CIM_ManagedSystemElement
__RELPATH	:	Win32_Keyboard.DeviceID="ACPI\\PNP0303\\4&1BD7F811&0"
__PROPERTY_COUNT	:	23
__DERIVATION	:	{CIM_Keyboard, CIM_UserDevice, CIM_LogicalDevice, CIM_LogicalElement...}
__SERVER	:	DESKTOP-0G6LAAS
__NAMESPACE	:	root\cimv2
_PATH	:	\\\DESKTOP-0G6LAAS\root\cimv2:Win32_Keyboard.DeviceID="ACPI\\PNP0303\\4&1BD7F811&0"
Availability	:	
Caption	:	Enhanced (101- or 102-key)
ConfigManagerErrorCode	:	0
ConfigManagerUserConfig	:	False
CreationClassName	:	Win32_Keyboard
Description	:	Standard PS/2 Keyboard
DeviceID	:	ACPI\PNP0303\4&1BD7F811&0
ErrorCleared	:	
ErrorDescription	:	
InstallDate	:	
IsLocked	:	
LastErrorCode	:	
Layout	:	00004009
Name	:	Enhanced (101- or 102-key)
NumberOfFunctionKeys	:	12
Password	:	
PNPDeviceID	:	ACPI\PNP0303\4&1BD7F811&0

```
PS C:\Users\admin> Get-WmiObject -Class Win32_LogicalDisk
```

DeviceID	:	C:
DriveType	:	3
ProviderName	:	
FreeSpace	:	141811871744
Size	:	213566615552
VolumeName	:	
DeviceID	:	D:
DriveType	:	5
ProviderName	:	
FreeSpace	:	
Size	:	
VolumeName	:	
DeviceID	:	E:
DriveType	:	3
ProviderName	:	
FreeSpace	:	179452665856
Size	:	214729486336
VolumeName	:	New Volume

## Configure Software Metering

### Purpose of Software Metering Configuration:

- **Objective:** To configure how software metering data is collected from client devices.
- **Scope:** Applies to all computers in the hierarchy by default.
- For targeting only **specific computers**, a **custom client setting** should be created and deployed to a specific collection.

### Steps to Configure Software Metering:

#### 1. Open Configuration Manager Console

    Navigate to: **Administration > Client Settings > Default Client Settings**

#### 2. Go to the Properties

    In the **Home tab**, click on Properties.

#### 3. Open Software Metering Settings

    In the **Default Settings** dialog, click Software Metering.

#### 4. Configure in Device Settings tab

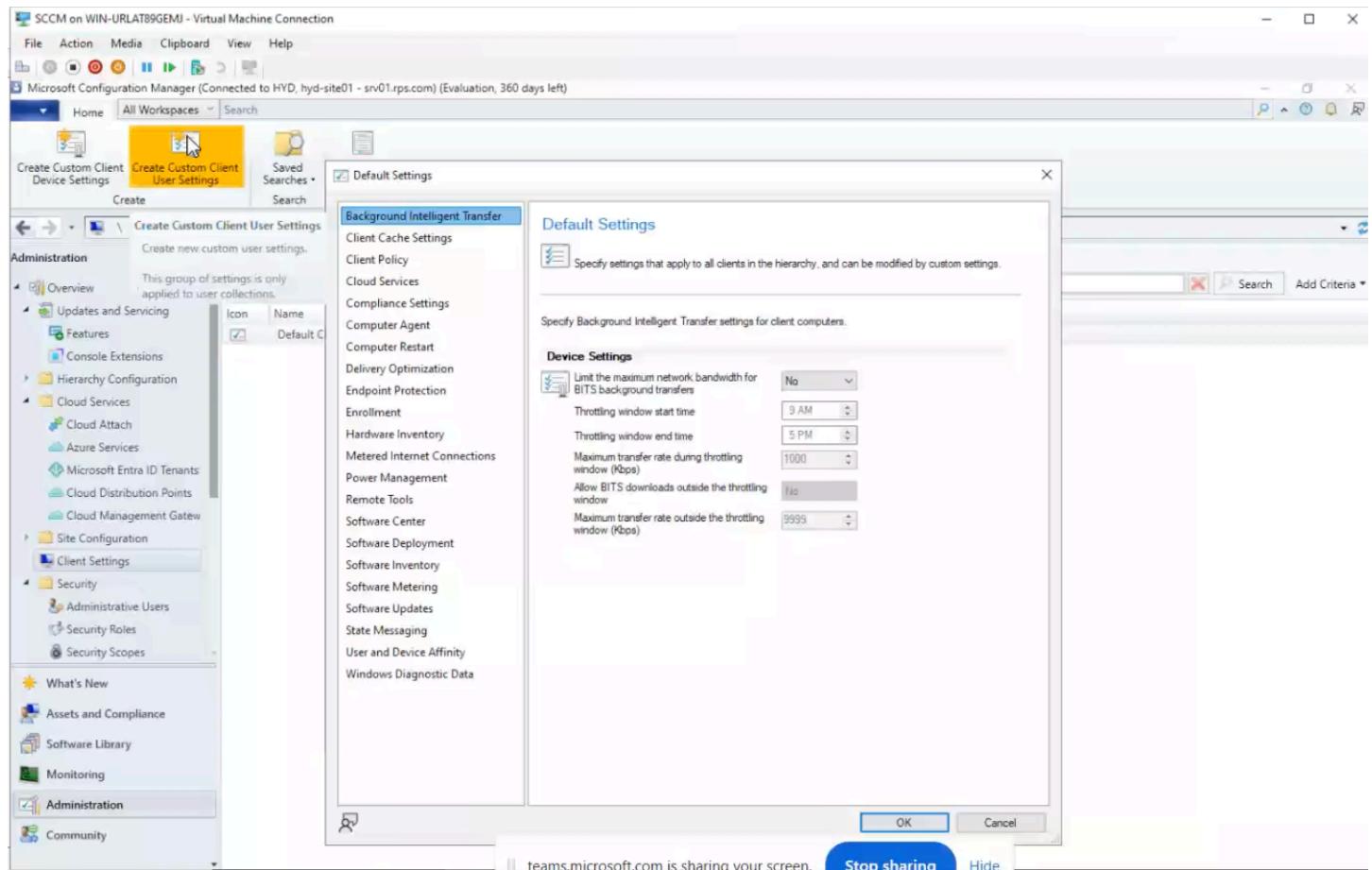
    ○ **Enable software metering on clients:** Set this to **True**.

    ○ **Schedule data collection:**

        Define how often data is collected (default is every 7 days), or customize the schedule.

#### 5. Apply Changes

    Click OK to save and close the settings dialog.

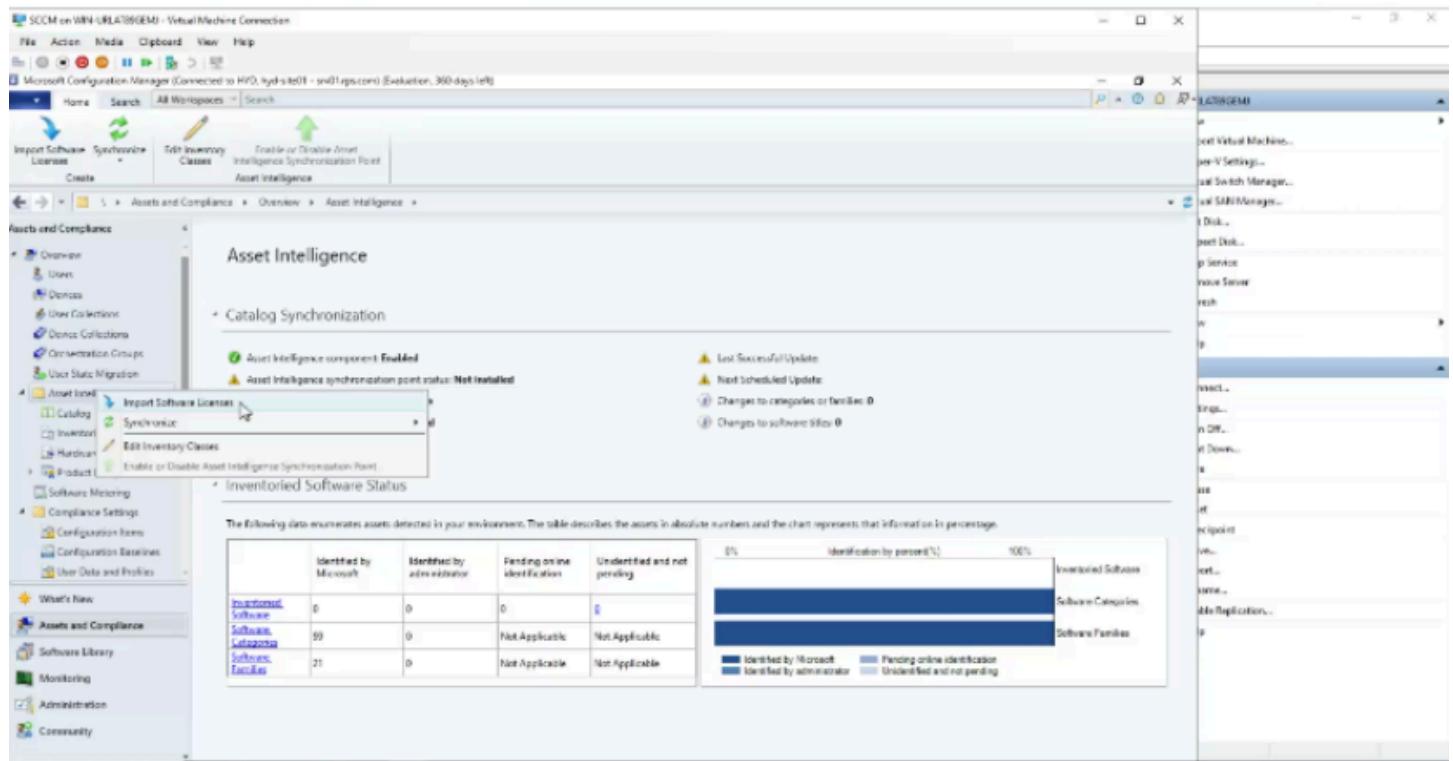


The screenshot shows the 'Monitoring' section of the Configuration Manager. The 'Software Metering' item is selected and highlighted with a red box. A list of 13 items under 'Software Metering' is displayed in a table format, also highlighted with a red box. The table columns are 'Icon', 'Name', 'Category', and 'Date Modified'. All items listed are categorized as 'Software Metering' and were modified on 2/1/2020 at 3:45 PM.

Icon	Name	Category	Date Modified
Software Metering icon	All software metering rules applied to this site	Software Metering	2/1/2020 3:45 PM
Software Metering icon	Computers that have a metered program installed but have not run the...	Software Metering	2/1/2020 3:45 PM
Software Metering icon	Computers that have run a specific metered software program	Software Metering	2/1/2020 3:45 PM
Software Metering icon	Concurrent usage for all metered software programs	Software Metering	2/1/2020 3:45 PM
Software Metering icon	Concurrent usage trend analysis of a specific metered software program	Software Metering	2/1/2020 3:45 PM
Software Metering icon	Install base for all metered software programs	Software Metering	2/1/2020 3:45 PM
Software Metering icon	Software metering summarization progress	Software Metering	2/1/2020 3:45 PM
Software Metering icon	Time of day usage summary for a specific metered software program	Software Metering	2/1/2020 3:45 PM
Software Metering icon	Total usage for all metered software programs	Software Metering	2/1/2020 3:45 PM
Software Metering icon	Total usage for all metered software programs on Windows Terminal Se...	Software Metering	2/1/2020 3:45 PM
Software Metering icon	Total usage trend analysis for a specific metered software program	Software Metering	2/1/2020 3:45 PM
Software Metering icon	Total usage trend analysis for a specific metered software program on...	Software Metering	2/1/2020 3:45 PM
Software Metering icon	Users that have run a specific metered software program	Software Metering	2/1/2020 3:45 PM

## Steps to import licenses into Assets Intelligence in SCCM:

1. Navigate to Asset Intelligence: In ConfigMgr console go to assets and Compliance> Asset Intelligence
2. Initiate the Import: Right-click on “Asset Intelligence” and select “Import Software License”



- 3.. Specify the License file type: Whether it is MVLS (.xml or .csv) or a General License Statement file (.csv)
- 4.. Provide the license file path: You can either enter the UNC path to license file or browse the select if from a network share.
- 5.. Complete the Wizard: Follow the prompts of Import software License Wizard to complete the process.
- 6.. Verify Permissions: Ensure the shared folder where the license file is located is properly secured and that computer account running the wizard has “Full control” permissions to share.

## Creating Custom WMI Class

In WMI, provider methods are generally distinct actions related to the object that the class represents. Rather than change the value of a property to execute an action, a method should be created. For example, you can enable or disable a network information center (NIC) that is represented by Win32\_NetworkAdapter by using the Enable and Disable methods.

The following procedure describes how to declare a method in a class that does not inherit from a base class.

1). Define the name of your method between the curly braces of a class declaration, followed by any qualifiers.

The following code example describes the syntax for a method.

```
[Dynamic, Provider ("ProviderName")]

class ClassName

{
    [Implemented] <ReturnType> <MethodName>
        ([ParameterDirection, IDQualifier]
        <ParameterType> <ParameterName>);

};
```

2) . When finished, insert your Managed Object Format (MOF) code into the WMI repository with a call to the MOF compiler.

The screenshot shows a Windows PowerShell window with the following command and its output:

```
PS C:\Users\ed.IAMMRED> gwmi win32_operatingsystem | fl *
```

The output lists various properties of the operating system, such as Status, Name, FreePhysicalMemory, FreeSpaceInPagingFiles, FreeVirtualMemory, and more. A red arrow points from the text "Gwmi is alias for Get-WmiObject" to the "gwmi" command in the PowerShell prompt. Another red arrow points from the text "fl is alias for format-list" to the "fl" command in the PowerShell prompt. A third red arrow points from the text "system properties" to the "Name" property in the list of output.

Property	Value
Status	: OK
Name	: Microsoft Windows 7 Ultimate  C:\Windows \Device\Harddisk0\Partition2
FreePhysicalMemory	: 14503360
FreeSpaceInPagingFiles	: 16754120
FreeVirtualMemory	: 30824908
__GENUS	: 2
__CLASS	: Win32_OperatingSystem
__SUPERCLASS	: CIM_OperatingSystem
__DYNASTY	: CIM_ManagedSystemElement
__RELPATH	: \Win32_OperatingSystem=@
__PROPERTIES	: 33
__DERIVATION	: {CIM_OperatingSystem, CIM_LogicalElement, CIM_ManagedSystemElement}
SERIALIZED	: NEWMRED
_SERVER	: root\cimv2
_NAMESPACE	: \\\NEWMRED\root\cimv2:Win32_OperatingSystem=@
_PATH	: \Device\HarddiskVolume1
BootDevice	: 7601
BuildNumber	: Multiprocessor Free
BuildType	: Microsoft Windows 7 Ultimate
Caption	: 1252
CodeSet	: 1
CountryCode	: Win32_OperatingSystem
CreationClassName	: Win32_ComputerSystem
CSCreationClassName	: Service Pack 1
CSDDVersion	: NEWMRED
CSName	: -240
CurrentTimeZone	: True
DataExecutionPrevention_32BitApplications	: True
DataExecutionPrevention_Available	: True
DataExecutionPrevention_Drivers	: True
DataExecutionPrevention_SupportPolicy	: 2
Debug	: False
Description	: New Workstation
Distributed	: False
EncryptionLevel	: 256
ForegroundApplicationBoost	: 2
InstallDate	: 20110604220039.000000-240

## About Collecting Software Inventory :

When it's enabled, the Configuration Manager software inventory client agent can collect software inventory data directly from files (such as .exe files) by inventorying the file header information. Configuration Manager can also inventory unknown files—files that don't have detailed information in their file headers. This provides a flexible, easy-to-maintain software inventory method. You can also have Configuration Manager collect copies of files that you specify. You can view software inventory and collected file information for a client by using Resource Explorer.

## About NOIDMIF and IDMIF Files:

Management Information Format (MIF) files can be used to extend hardware inventory information that is collected from clients by the Configuration Manager hardware inventory client agent. During hardware inventory, the information that is stored in MIF files is added to the client inventory report and stored in the site database, where you can use the data in the same ways that you use default client inventory data. Two MIF files can be used when performing client hardware inventories: NOIDMIF and IDMIF.

### NOIDMIF Files

Standard MIF files that are used in Configuration Manager hardware inventory are called NOIDMIF files. NOIDMIF files don't contain a unique identifier for the data. Configuration Manager automatically associates NOIDMIF file data with the client that the NOIDMIF file is collected from when reporting inventory information.

### IDMIF Files

Custom MIF files, called IDMIF files, can also be used in Configuration Manager hardware inventory. IDMIF files contain a unique ID and aren't associated with the computer they're collected from. IDMIF files can be used to collect inventory data about devices that aren't Configuration Manager clients; for example, a shared network printer, DVD player, photocopier, or similar equipment that isn't associated with a client-specific computer.