**Microsoft System Center**

Guide to System Center Management Pack for Windows Print Server 2016

Microsoft Corporation

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If you have an idea or suggestion about this management pack, the Operations Manager team encourages you to share it at the [SCOM Feedback site](http://systemcenterom.uservoice.com/forums/293064-general-operations-manager-feedback/filters/top).

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# System Center Management Pack for Windows Print Server 2016

The Windows Server Print Server 2016 Management Pack monitors the performance and health of print servers running the Windows Server 2016 operating system. This management pack highlights performance, health, and availability conditions of Windows Server 2016 that might indicate problems with print servers and shared printers.

Note:

The Windows Server Print Server Management Pack download includes management packs for the Print Server role on Windows Server 2016. The content in this guide applies to Windows Server 2016 management pack unless otherwise stated.

## Document Version

This guide was written based on the 10.0.4.0 version of the Print Server Management Pack.

## Revision History

| **Release Date** | **Changes** |
| --- | --- |
| December, 2016 | * Updated “Known Issues and Troubleshooting” Appendix
* Added topics in this release:
* Changes in version 10.0.4.0
* Appendix: Display Strings Changes History
 |
| December, 2015 | * Various versioning and naming changes correlated with “Windows Server Technical Preview” to “Windows Server 2016” Management Pack rebranding.
* Added topics in this release:
* Revision History.
* Getting the Latest Management Pack and Documentation.
* Changes in version 10.0.0.0.
 |
| August, 2015 | Original release of this guide for Windows Server Technical Preview Print Server Management Pack (version 6.0.7294.0). |

## Getting the Latest Management Pack and Documentation

You can find the Management Pack for Windows Print Server 2016 on the [Download Center](http://go.microsoft.com/fwlink/?LinkId=717055).

## Changes in Version 10.0.4.0

* Fixed compatibility issue: some event-based workflows were not changing states on Windows Server 2016 Full.
* Fixed issue: “Windows Server 2016 Print Services Role Discovery” was throwing warning 10000 to event log if server had Print Server role disabled.

## Changes in Version 10.0.0.0

* “Windows Server Technical Preview” to “Windows Server 2016” versioning and naming rebranding changes

## Supported Configurations

This management pack requires System Center 2012 R2 Operations Manager or later.

The Print Server Management Pack supports monitoring the Print Server role on the following operating systems:

* Windows Server 2016

Note:

* Support for the operating systems in the preceding list is also subject to the [Microsoft Support Lifecycle policy](http://go.microsoft.com/fwlink/?Linkid=26134) (http://go.microsoft.com/fwlink/?Linkid=26134).

## Getting Started

This section describes the actions you should take before you import the management pack, any steps you should take after you import the management pack, and information about customizations.

### Before You Import the Management Pack

Before you import the Print Server Management Pack, note the following limitations of the management pack:

* The Print Server Management Pack includes support for agentless monitoring of the Print Server role however; the tasks provided in this management pack will not work on agentless managed systems and are therefore not supported.

Before you import the Print Server Management Pack, take the following into consideration:

* If you do not install the 10.0.8.0 version of Windows Server 2016 Base Operating System Management Pack before you import the Print Server Management Pack, the import will fail, indicating that it cannot locate management packs upon which it is dependent.

#### Files in this Management Pack

The Print Server 2016 Management Pack includes the following files:

| **Management Pack Name** | **File** | **Description** |
| --- | --- | --- |
| Windows Server Print Server Library Management Pack | Microsoft.Windows.Server.PrintServer.Library.mp | This management pack contains the generic class definitions for the various version-specific Print Server Management Packs. This management pack is a prerequisite for the version-specific management packs and must be imported before or at the same time as the version-specific management packs. |
| Windows Server Print Server 2016 Management Pack | Microsoft.Windows.Server.PrintServer.2016.mp | This management pack defines the classes, discoveries, rules, and monitors required for monitoring the Print Server role on Windows Server 2016 systems. In addition, this management pack defines tasks and views. |

### How to Import the Print Services Management Pack

For instructions about importing a management pack, see [How to Import an Operations Manager Management Package](https://technet.microsoft.com/en-us/library/hh212691.aspx) (http://go.microsoft.com/fwlink/?LinkID=98348).

After the Print Server Management Pack is imported, perform the following step to finish your initial configuration:

* Create a new management pack in which you store overrides and other customizations.

### Create a New Management Pack for Customizations

Most vendor management packs are sealed so that you cannot change any of the original settings in the management pack file. However, you can create customizations, such as overrides or new monitoring objects, and save them to a different management pack.

Creating a new management pack for storing overrides has the following advantages:

* It simplifies the process of exporting customizations that were created in your test and pre-production environments to your production environment. For example, instead of exporting a default management pack that contains customizations from multiple management packs, you can export just the management pack that contains customizations of a single management pack.
* It allows you to delete the original management pack without first needing to delete the default management pack. A management pack that contains customizations is dependent on the original management pack. This dependency requires you to delete the management pack with customizations before you can delete the original management pack. If all of your customizations are saved to the default management pack, you must delete the default management pack before you can delete an original management pack.
* It is easier to track and update customizations to individual management packs.

For more information about sealed and unsealed management packs, see [Management Pack Formats](http://go.microsoft.com/fwlink/?LinkId=717056)

## Security Considerations for the Print Server Management Pack

You might need to customize your management pack. This section provides information about using a low-privilege account with the Print Server Management Pack for the Operations Manager.

Certain monitors, rules, discoveries, tasks, and recoveries cannot be run in a low-privilege environment or must have minimum permissions.

### Low-Privilege Environments

The Print Server Management Pack uses the **agent action account** to perform discovery and run monitors, rules, and tasks. The agent action account can run as Local System or as a named account. When running as Local System, the agent action account has the privileges needed to perform discovery and run monitors, rules, and tasks.

If the action account for the agent is using a low-privilege account, you need to configure **the Print Server Action Account Run As profile** with an account that has the appropriate rights to access the system(s). If you do not perform this configuration, discovery, monitoring, tasks, and recoveries will not function.

To use the Print Server Management Pack in low-privilege configuration, the agent Action Account must have the following minimum privileges:

* Member of the Local Users Group
* Member of the Local Performance Monitor Users group
* Manage auditing and security log permission (SeSecurityPrivilege)
* Allow log on locally permission (SeInteractiveLogonRight)
* Access rights to the Windows Event Log

The Print Server Management Pack is supported on computers running Windows Server 2016 using low-privileged accounts. However, you must configure the agent Action Account as described in the preceding section.

Notes:

* Tasks are not supported in low-privilege configuration.
* Service-based monitors will fail in a low-privilege environment. Please, disable it in this configuration.

### Computer Groups

You can delegate authority to a precise level with user roles. For more information about user roles, see [“Operations Associated with User Role Profiles"](http://go.microsoft.com/fwlink/?LinkId=717057). The following computer groups can be used for scoping and roles authorization:

| **Computer group** | **Description** |
| --- | --- |
| Windows Print Servers | This computer group contains all servers running the Print Service and that contain shared printers. |
| Windows Servers with Print Service | This computer group contains all servers running the Print Service, whether or not they contain shared printers. |
| Windows Server 2016 Print Services Role Group | This computer group contains all Microsoft Windows 2016–based servers running the Print Service and that contain shared printers. |

## How Health Rolls Up

The following diagrams explains how health rolls up within Windows Server Print Server Management Pack.

Please, pay attention that **Printer Queue** is hosted on the **Print Service role**, but doesn’t rollup health.

## Understand Management Pack Operations

### Classes the Management Pack Discovers

The Print Server Management Pack discovers the classes described in the following table. Not all of the classes are automatically discovered. Use overrides to discover those that are not discovered automatically. For information about discovering objects and classes, see [Understanding Classes and Objects](http://go.microsoft.com/fwlink/?LinkId=717058).

| **Name** | **Description** | **Management Pack** |
| --- | --- | --- |
| Windows Server Print Services 2016 Printer Queue | All instances of Windows Server 2016 Printer Queue | Windows Server Print Server 2016 Management Pack |
| Windows Server Print Services 2016 Role | All instances of the Windows Server Print Services 2016 Role |

### Classes

The following tables describe the classes defined in this management pack.

#### Print Server 2016 Classes

|  |  |  |  |
| --- | --- | --- | --- |
| Name | Base Class | Description | ID |
| Windows Server 2016 Print Services Role Group | Microsoft.SystemCenter.InstanceGroup | A group containing all Windows Server Print Services 2016 Computers | Microsoft.Windows.Server.10.0.PrintServer.ComputerGroup |
| Windows Server Print Services 2016 Printer Queue | Print Services Logical Printer | All instances of Windows Server 2016 Printer Queue | Microsoft.Windows.Server.10.0.PrintServer.Printer |
| Windows Server Print Services 2016 Role | Print Services Role | All instances of the Windows Server Print Services 2016 Role | Microsoft.Windows.Server.10.0.PrintServerRole |

#### Print Server Library Classes

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Base Class** | **Description** | **ID** |
| Print Services Role | Microsoft.Windows.ComputerRole | All instances of Print Services regardless of version. | Microsoft.Windows.Server.PrintServer.Library.PrintServicesRole |
| Print Services Role Computer Group | Microsoft.SystemCenter.ComputerGroup | A group containing the Print Services Role regardless of version. | Microsoft.Windows.Server.PrintServer.Library.PrintServices.ComputerGroup |
| Print Services Instance Group | Microsoft.SystemCenter.InstanceGroup | A group containing all instances related to Print Services regardless of version. | Microsoft.Windows.Server.PrintServer.Library.InstancesGroup |
| Print Services Logical Printer | Microsoft.Windows.ApplicationComponent | All Printers regardless of version. | Microsoft.Windows.Server.PrintServer.Library.Printer |

### Tasks

The following table shows the tasks performed by the Print Server Management Pack:

| **Task** | **Description** | **Applies to** |
| --- | --- | --- |
| Stop Print Spooler | Stops the Print Spooler Service | Print Server 2016 |
| Start Print Spooler | Starts the Print Spooler Service |

### Configuring Monitoring Scenarios

The following table lists any configurable monitoring scenarios and indicates which elements of the monitoring scenario can be modified. The table also indicates whether additional configuration is necessary to use the monitoring scenario.

| **Scenario** | **Configurable Elements** | **Additional Configuration Required?** |
| --- | --- | --- |
| Monitoring of Print Service restarts | Enable the Print Server: Document failed to print because of corruption rule.The Print Spooler Service usually automatically restarts when this problem occurs, and there is no need for further intervention. If you need to monitor those occurrences, you should enable this rule. | No |
| State monitoring | Configure the Print Server — State Monitoring script parameters in the Run State Monitoring event rule. | No |

### Monitoring for Line Printer Daemon (LPD) Service

Monitoring for the LPD Service has been disabled by default. To monitor LPD Service, you need to enable the following monitors:

| **Name** | **Configuration** |
| --- | --- |
| LPD Service: Use an account with the Manage Documents permissionsLPD Service: Restart the LPD ServiceLPD Service: The Line Printer Daemon (LPD) Service failed to startLPD Service: Use a different Line Printer Remote (LPR) clientLPD Service: Specify the correct printer name |

| **Property** | **Default** | **Override** |
| --- | --- | --- |
| Enabled | False | Create an override to set this value to true if LPD Service has been installed on the monitored server. |

 |
| Service State Monitor |

| **Property** | **Default** | **Override** |
| --- | --- | --- |
| Enabled | False | Create an override to set this value to true if LPD Service has been installed on the monitored server. |
| Alert only if the service type is automatic. | False | Create an override to set this value to true if you do not want to receive alerts when the TCP/IP service is set to manual. |

 |
| Print Spooler: Service State Monitor |

| **Property** | **Default** | **Override** |
| --- | --- | --- |
| Alert only if the service type is automatic. | False | Create an override to set this value to true if you do not want to receive alerts when the Print Spooler service is set to manual. |

 |

### Monitoring for TCP/IP Port and LPR Service

Monitoring for TCP/IP Port and LPR Service has been disabled by default. To monitor these components, you need to enable the following monitors:

| **Name** | **Configuration** |
| --- | --- |
| LPR Service: Cannot read or write registry settingsLPR Service: Get the spool folderLPR Service: Retry printingPerformance Monitoring: Print Queue\Total Jobs printedPerformance Monitoring: Print Queue\Total Pages printed |

| **Property** | **Default** | **Override** |
| --- | --- | --- |
| Enabled | False | Create an override to set this value to true if the LPR Port Monitor feature has been installed on the monitored server. |

 |
| Printer Connections: Retry printing or restart print spooler |

| **Property** | **Default** | **Override** |
| --- | --- | --- |
| Enabled | False | Create an override to set this value to true if the customer wants to monitor printer connections. |

 |
| TCP/IP Printer Port: Close programs or restart the print serverTCP/IP Printer Port: Correct network issuesTCP/IP Printer Port: Delete unnecessary files or add disk space |

| **Property** | **Default** | **Override** |
| --- | --- | --- |
| Enabled | False | Create an override to set this value to true if TCP/IP Service has been installed and needs to be monitored. |

 |

### Placing Monitored Objects in Maintenance Mode

When a monitored object, such as a computer or distributed application, goes offline for maintenance, Operations Manager detects that no agent heartbeat is being received and, as a result, might generate numerous alerts and notifications. To prevent alerts and notifications, place the monitored object into maintenance mode. In maintenance mode, alerts, notifications, rules, monitors, automatic responses, state changes, and new alerts are suppressed at the agent.

For general instructions on placing a monitored object in maintenance mode, see [Operations Manager Maintenance Mode](http://go.microsoft.com/fwlink/?LinkId=717059).

## Appendix: Known Issues and Troubleshooting

Known Issue: Some workflows may not switch back to healthy state

Issue: The following workflows may not switch back to healthy state upon recovery:
Monitors:

* Print Job: Check the printer and driver and then retry printing
* Print Job: Restart the Print Spooler service or reinstall the printer driver By Print Queue
* Print Queue: Recreate the printer port
* Print Job: Restart the Print Spooler service or reinstall the printer driver By Print Job Status
* Print Spooler: Check printer security settings
* Print Spooler: Check Windows resources
* Print Spooler: Install or reinstall the printer driver
* Print Spooler: The print spooler failed to complete a task
* Print Spooler: Recreate the port and monitor
* Print Spooler: Reinstall the printer driver check registry permissions and restart the print spooler
* Print Spooler: Restart the Print Spooler service
* Print Spooler: Restart the server or troubleshoot hardware problems
* Print Spooler: Retry printing or restart the print spooler

Alert Rule:

* Print Filter Pipeline Manager: Retry printing or restart the print server

Workaround: Enable the Windows Event Log manually and restart it.

Display Strings Known Issue: “Populate the Print Services Computer Group” discovery name and description are incorrect

Issue: The discovery name is displayed as “Populate the Print Services Computer Group”, while it should be displayed as “Populate the Print Services Role Computer Group”. The same issue is observed with the description.

Workaround: No workaround available.

Display Strings Known Issue: “Populate the Printing Instances Group with Managed Entity instances” discovery name and description are incorrect

Issue: The discovery name is displayed as “Populate the Printing Instances Group with Managed Entity instances ”, while it should be displayed as “Populate the Print Services Instance Group with Managed Entity instances”. The same issue is observed with the description.

Workaround: No workaround available.

Known Issue: Some Printer 2016 Queue attributes of the discovered printer may be empty

Issue: The following Printer 2016 Queue attributes of the discovered printer may be empty:

* Spool enabled
* Path
* Version

Workaround: No workaround available.

## Appendix: Rules and Monitors for the Print Server Management Pack

This section provides details around the rules and monitors in the Print Server Management Pack

### Rules

**Print Server 2016**

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Target** | **Category** | **Enabled** |
| TCP/IP Printer Port: Delete unnecessary files or add disk space | Windows Server Print Services 2016 Role | Alert | False |
| Print Migration Registry Access: Ensure the server is accessible | Windows Server Print Services 2016 Role | Alert | True |
| Print Color Profile Configuration: Manually install the color profile | Windows Server Print Services 2016 Printer Queue | Alert | True |
| Print Filter Pipeline Manager: Retry printing or restart the print server | Windows Server Print Services 2016 Role | Alert | True |
| Print Processor: Install the Printer Driver | Windows Server Print Services 2016 Printer Queue | Alert | True |
| Shared Printer: Restart the print spooler fix sharing problems and check Group Policy | Windows Server Print Services 2016 Printer Queue | Alert | True |
| Shared Printer: Restart the print spooler and unshare the printer | Windows Server Print Services 2016 Printer Queue | Alert | True |
| Failover Cluster Printer Driver Upgrade: Update the printer driver | Windows Server Print Services 2016 Role | Alert | True |
| Printer Connections: Check Group Policy and network connectivity | Windows Server Print Services 2016 Role | Alert | True |
| Printer Connections: Try again or install an updated printer driver | Windows Server Print Services 2016 Role | Alert | True |
| Printer Connections: Check network connectivity and Group Policy | Windows Server Print Services 2016 Role | Alert | True |
| Printer Connections: Retry printing or restart the print spooler | Windows Server Print Services 2016 Role | Alert | False |
| Print Router: Check resource availability | Windows Server Print Services 2016 Role | Alert | True |
| Performance Measuring: Print Queue\Jobs | Windows Server Print Services 2016 Role | PerformanceCollection | True |
| Performance Measuring: Print Queue\Jobs Spooling | Windows Server Print Services 2016 Role | PerformanceCollection | True |
| Performance Measuring: Print Queue\Total Jobs Printed | Windows Server Print Services 2016 Role | PerformanceCollection | True |
| Performance Measuring: Print Queue\Total Pages Printed | Windows Server Print Services 2016 Role | PerformanceCollection | True |

### Monitors

**Print Server 2016**

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Target** | **Category** | **Enabled** |
| LPD Service: Service Status Monitor | Windows Server Print Services 2016 Role | StateCollection | False |
| LPD Service: Choose a supported data type | Windows Server Print Services 2016 Role | StateCollection | False |
| LPD Service: The Line Printer Daemon (LPD) service failed to start | Windows Server Print Services 2016 Role | StateCollection | False |
| LPD Service: Restart the LPD service | Windows Server Print Services 2016 Role | StateCollection | False |
| LPD Service: Specify the correct printer name | Windows Server Print Services 2016 Role | StateCollection | False |
| LPD Service: Use a different LPR client | Windows Server Print Services 2016 Role | StateCollection | False |
| LPD Service: Use an account with the Manage Documents permissions | Windows Server Print Services 2016 Role | StateCollection | False |
| Printer Driver Installation: Install an approved driver | Windows Server Print Services 2016 Role | StateCollection | True |
| Printer Driver Installation: Install an updated driver | Windows Server Print Services 2016 Role | StateCollection | True |
| Printer Driver Installation: Set printing defaults | Windows Server Print Services 2016 Role | StateCollection | True |
| Printer Driver Installation: Start the offline operating system and reinstall the printer | Windows Server Print Services 2016 Role | StateCollection | True |
| Printer Forms Migration: Check permissions and reimport or recreate missing forms | Windows Server Print Services 2016 Role | StateCollection | True |
| Print Migration Export: Confirm the separator file path and retry exporting printers | Windows Server Print Services 2016 Role | StateCollection | True |
| Print Migration Export: Install a compatible printer driver | Windows Server Print Services 2016 Role | StateCollection | True |
| Print Migration Export: Specify a location with sufficient disk space and permissions | Windows Server Print Services 2016 Role | StateCollection | True |
| Print Migration Import or Export: Install the Print Services role or share a printer | Windows Server Print Services 2016 Role | StateCollection | True |
| Print Migration Import or Export: Manually delete temporary files | Windows Server Print Services 2016 Role | StateCollection | True |
| Print Migration Import or Export: Test printing and then reinstall drivers or retry migration | Windows Server Print Services 2016 Role | StateCollection | True |
| Print Migration Import: Check the permissions and retry the print queue export | Windows Server Print Services 2016 Role | StateCollection | True |
| Print Migration Import: Check the printer driver settings | Windows Server Print Services 2016 Role | StateCollection | True |
| Print Migration Import: Confirm the separator file path and retry exporting printers | Windows Server Print Services 2016 Role | StateCollection | True |
| Print Migration Import: Install a compatible printer driver | Windows Server Print Services 2016 Role | StateCollection | True |
| Print Migration Import: Install a printer driver that matches the servers processor architecture | Windows Server Print Services 2016 Role | StateCollection | True |
| Print Migration Import: Install a printer port and restore the print queue settings | Windows Server Print Services 2016 Role | StateCollection | True |
| Print Migration Import: Recreate custom spooler settings | Windows Server Print Services 2016 Role | StateCollection | True |
| Print Migration Import: Retry publishing the printer | Windows Server Print Services 2016 Role | StateCollection | True |
| Print Migration Import: Start the print spooler and reinstall the printer driver | Windows Server Print Services 2016 Role | StateCollection | True |
| Print Migration Port Import: Recreate the printer port | Windows Server Print Services 2016 Role | StateCollection | True |
| AD DS Printer Publishing: Allow the spooler to republish the print queue | Windows Server Print Services 2016 Role | StateCollection | True |
| AD DS Printer Publishing: Allow the spooler to retry pruning the printer | Windows Server Print Services 2016 Role | StateCollection | True |
| AD DS Printer Publishing: Failed to write to AD DS while listing, removing, or updating a printer | Windows Server Print Services 2016 Role | StateCollection | True |
| AD DS Printer Publishing: Troubleshoot connectivity with a domain controller | Windows Server Print Services 2016 Role | StateCollection | True |
| Print Job: Check the printer and driver and then retry printing | Windows 2016 Server Print Services Printer Queue | StateCollection | True |
| Print Job: Restart the Print Spooler service or reinstall the printer driver | Windows 2016 Server Print Services Printer Queue | StateCollection | True |
| Print Job: Restart the Print Spooler service or reinstall the printer driver | Windows Server Print Services 2016 Role | StateCollection | True |
| Print Queue: Recreate the printer port | Windows Server Print Services 2016 Printer Queue | StateCollection | True |
| Print Spooler: Check printer security settings | Windows Server Print Services 2016 Printer Queue | StateCollection | True |
| Print Spooler: Check Windows resources | Windows Server Print Services 2016 Role | StateCollection | True |
| Print Spooler: Install or reinstall the printer driver | Windows Server Print Services 2016 Role | StateCollection | True |
| Print Spooler: The print spooler failed to complete a task | Windows Server Print Services 2016 Role | StateCollection | True |
| Print Spooler: Recreate the port and monitor | Windows Server Print Services 2016 Role | StateCollection | True |
| Print Spooler: Reinstall the printer driver check registry permissions and restart the print spooler | Windows Server Print Services 2016 Role | StateCollection | True |
| Print Spooler: Restart the Print Spooler service | Windows Server Print Services 2016 Role | StateCollection | True |
| Print Spooler: Restart the server or troubleshoot hardware problems | Windows Server Print Services 2016 Role | StateCollection | True |
| Print Spooler: Retry printing or restart the print spooler | Windows Server Print Services 2016 Role | StateCollection | True |
| Print Spooler: Service Status Monitor | Windows Server Print Services 2016 Role | StateCollection | True |
| Print Server 2016 Queue Job Errors | Windows Server Print Services 2016 Printer Queue | PerformanceHealth | True |
| Print Server 2016 Queue Not Ready Errors | Windows Server Print Services 2016 Printer Queue | PerformanceHealth | True |
| Print Server 2016 Queue Out Of Paper Errors | Windows Server Print Services 2016 Printer Queue | PerformanceHealth | True |

## Appendix: Monitors and Overrides for Management Packs

This section provides detailed procedures and scripts that you can use to display rules and other information about the management packs you import.

### How to View Management Pack Details

For more information about a monitor and the associated override values, see the knowledge for the monitor.

To view knowledge for a monitor

|  |
| --- |
| 1. In the Operations Console, click the Authoring button.2. Expand Management Pack Objects, and then click Monitors.3. In the Monitors pane, expand the targets until you reach the monitor level. Alternatively, you can use the Search box to find a particular monitor.4. Click the monitor, and in the Monitors pane, click View knowledge.5. Click the Product Knowledge tab. |

### How to Display Monitors for a Management Pack

To display a list of outputs for a management pack's monitors and overrides using the Command Shell, use the following procedure.

To display monitors for a management pack

|  |
| --- |
| 1. In the Command Shell, type the following command:*get-monitor -managementPack Microsoft.Windows.Server.PrintServer.20xx.mp | export-csv “C:\PrintServicesMonitors.csv”* 2. A .csv file is created. The .csv file can be opened in Microsoft Office Excel. |

### How to Display Overrides for a Management Pack

To display overrides for a management pack, use the following procedure.

To display overrides for a management pack

|  |
| --- |
| 1. In the Command Shell, type the following command:*get-override -managementPack name.mp | export-csv filename*2. A .csv file is created. The .csv file can be opened in Microsoft Office Excel.Note:In Excel, you might be required to specify that the .csv file is a text file. |

For example, this command displays the overrides for one of the core management packs:

*get-override -managementPack Microsoft.SystemCenter.OperationsManager.Internal.mp | export-csv "c:\overrides.csv"*

## Appendix: Display Strings Changes History

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Version** | **ElementID** | **SubElementID** | **Name** | **Description** |
| 10.0.4.0 | Microsoft.Windows.PrintServerRole.Discovery.DS |  | Printer Server 2016 Role discovery Data Source | Discover Print Server 2016 Role |
| Frequency | Frequency Seconds |  |
| TimeoutSeconds | Timeout Seconds |  |
| Microsoft.Windows.Server.10.0.PrintServerRole | EventLog | Event Log Name | Windows Event Log Name used for monitoring purpose of Print Server on Windows Server 2016 |

### Links

The following links connect you to information about common tasks that are associated with System Center management packs:

#### System Center 2012 Operations Manager

* [Management Pack Life Cycle](http://go.microsoft.com/fwlink/p/?LinkID=232986)
* [How to Import a Management Pack](http://go.microsoft.com/fwlink/p/?LinkID=219431)
* [Tuning Monitoring by Using Targeting and Overrides](http://go.microsoft.com/fwlink/p/?LinkID=217065)
* [How to Create a Run As Account](http://go.microsoft.com/fwlink/p/?LinkId=232988)
* [How to Export a Management Pack](http://go.microsoft.com/fwlink/p/?LinkId=232990)
* [How to Remove a Management Pack](http://go.microsoft.com/fwlink/p/?LinkId=232991)

For questions about Operations Manager and management packs, see the [System Center Operations Manager community forum](http://go.microsoft.com/fwlink/?LinkID=179635).

A useful resource is the [System Center Operations Manager Unleashed blog](http://go.microsoft.com/fwlink/?LinkId=246391), which contains “By Example” posts for specific management packs.

For additional information about Operations Manager, see the [System Center 2012 - Operations Manager Survival Guide](http://go.microsoft.com/fwlink/?LinkId=246383)

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