



# Microsoft Endpoint Manager Assessment: Prerequisites and Configuration

This document explains the required steps to configure the Microsoft Endpoint Manager (MEM) Assessment included with your Azure Log Analytics Workspace and entitled Microsoft On-Demand assessment.

There are configuration and setup tasks to be completed prior to executing the assessment setup tasks in this document. For all pre-work, follow the [Getting Started with On-Demand Assessments](#) in the Services Hub Resource Center.

## Table of Contents

<b>System Requirements and Configuration at Glance</b> .....	<b>2</b>
Supported Versions.....	2
Common to Both Scenarios.....	2
Data Collection Machine.....	2
<b>Setting up the MEM Assessment</b> .....	<b>3</b>
<b>Appendix</b> .....	<b>6</b>
Data Collection Methods.....	6

# System Requirements and Configuration at Glance

According to the scenario you want to use, review the following details to ensure that you meet the necessary requirements.

## Supported Versions

- [Supported versions of Configuration Manager](#) with site systems running Windows Server 2016 or later.
- Configuration Manager hierarchy must be spanning across a single forest
- Management Point (MP) list must be configured on a single port to avoid MP Checks to misfire. To check this please run the below WMI:  

```
(get-wmiobject -Namespace root\sms\site_<sitecode> -Query "select * from SMS_SCI_Component where ComponentName= 'SMS_MP_CONTROL_MANAGER') .Props | Where-Object {$_.PropertyName -eq 'IISPortsList'}
```

## Common to Both Scenarios

- You will need a log analytics workspace
- **User account rights:**
  - A domain account with the following rights:
    - Admin access to every server (Site System) in the Configuration Manager hierarchy. Single user account if Site Systems are in Multi-Domain Environment
    - Unrestricted network access to every server (Site System) in the Configuration Manager hierarchy
    - Administrator permissions to all SQL servers used by the Configuration Manager Sites or Software Update Points
    - Full access rights to all the Configuration Manager Site objects in all Primary Sites
    - SysAdmin permission to all SQL Instances used by Configuration Manager Sites or Software Update Points.

## Data Collection Machine

- The **data collection machine** must be a member server of the Active Directory domain in which the MEM Hierarchy resides that you wish to be assessed and needs to have the **MEM console installed on the data collection machine**.
- **Data collection machine hardware:** Minimum 8 gigabytes (GB) of RAM, 2 gigahertz (GHz) dual-core processor, minimum 10 GB of free disk space.
- The **data collection machine** is used to connect to your MEM Hierarchy and retrieve information from it, communicating over Remote Procedure Call (RPC), Server Message Block (SMB), WMI, remote registry, SQL Database, Lightweight Directory Access Protocol (LDAP) and Distributed Component Object Model (DCOM).
- Microsoft .NET Framework 4.8 or newer installed and running Windows Server 2016 or newer.
- The data collection machine must have the Microsoft Monitoring Agent installed and configured for one of the deployment scenarios at the beginning of this document.

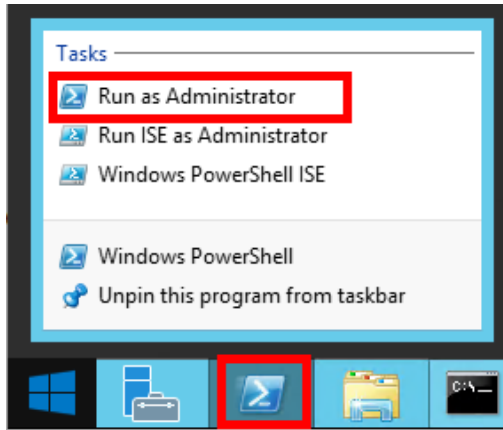
After you have finished the installation of the Microsoft Monitoring Agent/OMS Gateway, continue with the next section to set up the assessment.

## Setting up the MEM Assessment

When you have finished the installation of the Microsoft Monitoring Agent/OMS Gateway, you are ready to setup the MEM Assessment. There are two approaches to setting up the assessment scheduled task depending on whether the scheduled task account will be a managed service account or a user account (outlined in steps 2 and 3 below).

On the designated data collection machine, complete the following:

1. Open the Windows PowerShell command prompt as an Administrator



### 2. Using a User Account:

Run the **Add-SCCMAssessmentTask -ServerName <YourServerName> -WorkingDirectory <DirectoryPath>** command where <YourServerName> is the FQDN or NetBIOS name of one of the Management Servers that's topmost in the hierarchy (Central or Primary Site) and <DirectoryPath> is the path to an existing directory used to store the files created while collecting and analyzing the data from the environment.

**NOTE:** If the directory does not exist, it must be created before you continue with the execution

```
Administrator: Windows PowerShell
PS C:\users\romin> Add-SCCMAssessmentTask -ServerName "asttest.redmond.corp.microsoft.com" -WorkingDirectory "C:\OMS\SCCM"
```

### 3. Using a Managed Service Account:

Managed service accounts are the preferred option for running the assessment due to their credential management and security related benefits over standard user accounts. Managed service accounts must be provisioned in Active Directory Domain Services and authorized in the environment.

1. Follow the instructions in the provisioning [KB article](#)
2. Authorize the account with the necessary environmental access per the User Account Rights section in this document. On the designated data collection machine, complete the following in an admin powershell prompt:

**Add-SCCMAssessmentTask -ServerName <YourServerName> -WorkingDirectory <DirectoryPath> -ScheduledTaskUsername <MSAname> -RunWithManagedServiceAccount \$True**

command where <YourServerName> is the FQDN or NetBIOS name of one of the Management Servers that's topmost in the hierarchy (Central or Primary Site), <DirectoryPath> is the path to an existing directory used to store the files created while collecting and analyzing the data from the environment and <MSAname> is the SAM account name (ending with a \$ sign) of the provisioned and authorized managed service account.

4. Provide the required user account credentials. These credentials are used to run the MEM Assessment.

```
[SCCMAssessment]Detected agent configuration for Management Group AOI-49900795-7a88-4eee-a2de-ca8a46fc0c9e
[SCCMAssessment]Enter the credential to be used to run this assessment. Credentials will be used to connect to remote server(s) for a
ssessment.
[SCCMAssessment]User(DomainName\UserName):
redmond\romin
[SCCMAssessment]Enter the password for redmond\romin:
*****
```

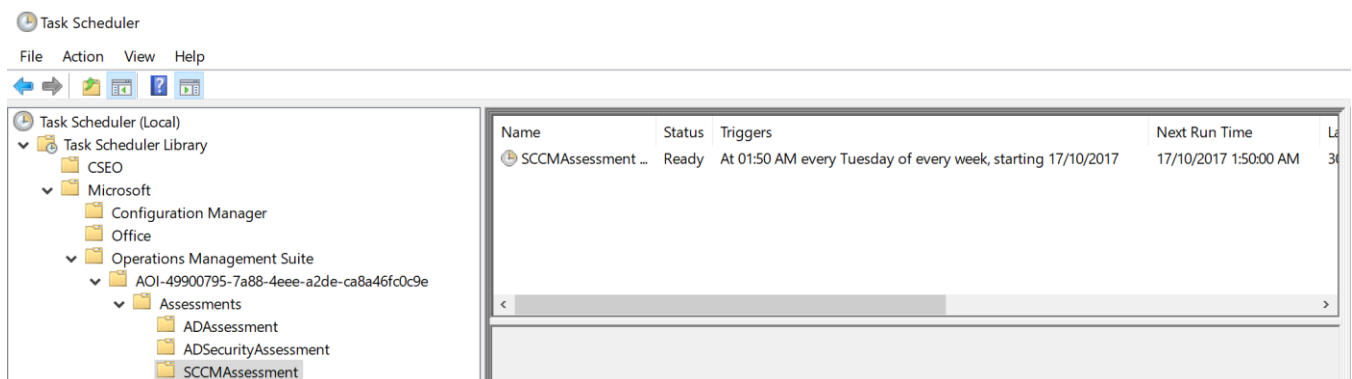
**NOTE:** This domain account must have all the following rights:

- Admin access to every server (Site System) in the Configuration Manager hierarchy. Single user account if Site Systems are in Multi-Domain Environment
- Unrestricted network access to every server (Site System) in the Configuration Manager hierarchy
- Administrator permissions to all SQL servers used by the Configuration Manager Sites or Software Update Points
- Full access rights to all the Configuration Manager Site objects in all Primary Sites
- SysAdmin permission to all SQL Instances used by Configuration Manager Sites or Software Update Points.

5. The script will continue with the necessary configuration. It will create a scheduled task that will trigger the data collection.

```
[SCCMAssessment]Detected agent configuration for Management Group AOI-49900795-7a88-4eee-a2de-ca8a46fc0c9e
[SCCMAssessment]Enter the credential to be used to run this assessment. Credentials will be used to connect to remote server(s) for a
ssessment.
[SCCMAssessment]User(DomainName\UserName):
redmond\romin
[SCCMAssessment]Enter the password for redmond\romin:
*****
[SCCMAssessment]Creating Windows Schedule task to run assessment..
[SCCMAssessment]SCCMAssessment setup successful.
[SCCMAssessment]Detailed log is at: C:\Users\romin\AppData\Local\Temp\Assessments_Configuration_20171017_075011.log
PS C:\users\romin>
```

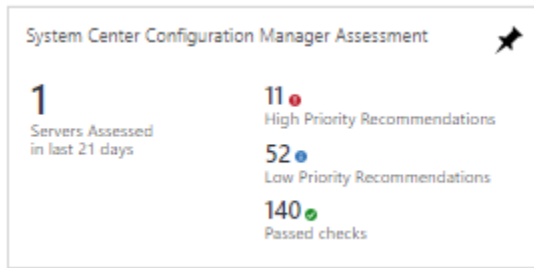
6. Data collection is triggered by the **scheduled task** named "**SCCMAssessment -ServerName <YourServerName>**" within an hour of running the previous script and then every 7 days. The task can be modified to run on a different date/time or even forced to run immediately.



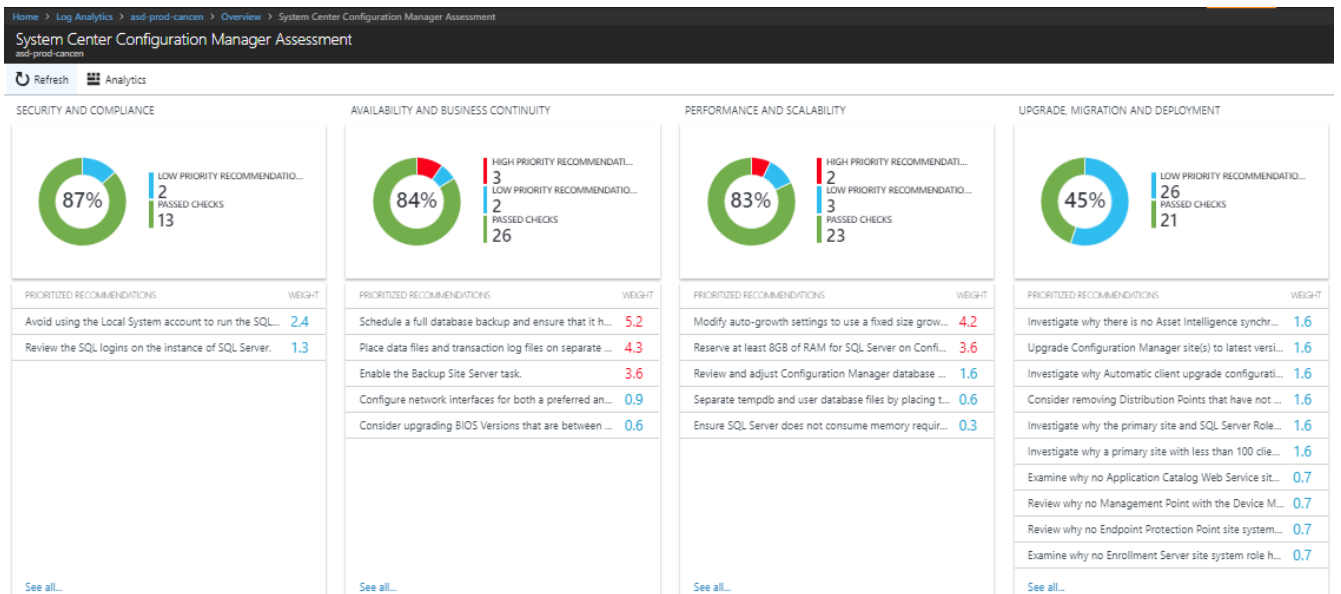
7. During collection and analysis, data is temporarily stored under the **WorkingDirectory** folder that was configured during setup, using the following structure:

Name	Date modified	Type	Size
2900753	17/10/2017 12:55 AM	File folder	
OmsAssessment	17/10/2017 12:55 AM	File folder	
run.cmd	17/10/2017 12:50 AM	Windows Command ...	1 KB

- After data collection and analysis is completed on the tools machine, it will be submitted to your log analytics workspace depending on the scenario you have chosen:
  - Directly** if the Data Collection Machine is connected to the Internet and configured to submit directly.
  - Through to the OMS Gateway Server** if this option is configured, which will then submit the data to your log analytics workspace.
- After a few hours, your assessment results will be available on your log analytics Dashboard. Click the **Microsoft Endpoint Manager Assessment** tile to review:



- You will then be presented with findings grouped by the focus area.



# Appendix

## Data Collection Methods

The **MEM Assessment in the log analytics workspace** uses multiple data collection methods to collect information from your environment. This section describes the methods used to collect data from your environment. No Microsoft Visual Basic (VB) scripts are used to collect data.

1. Registry Collectors
2. LDAP Collectors
3. Windows PowerShell
4. File Data Collectors
5. Windows Management Instrumentation (WMI)
6. SQL

### 1. Registry Collectors

Registry keys and values are read from the data collection machine and all domain controllers. They include items such as:

- Service information from HKLM\SYSTEM\CurrentControlSet\Services.  
This allows you to determine where the Active Directory database and log files are located on each domain controller and get detailed information on each service relevant to the proper function of Active Directory. Microsoft does not collect information for all services, only the ones relevant to Active Directory.
- Operating System information from HKLM\SOFTWARE\Microsoft\Windows NT\CurrentVersion  
This allows you to determine operation system information such as Windows Server 2016 or later.

### 2. LDAP Collectors

LDAP queries are used to collect data for the domain, domain controllers, nTDSiteSettings objects, partitions, and other components from AD itself. For a complete list of ports required by AD, see: <http://support.microsoft.com/kb/179442>.

### 3. Windows PowerShell

Used to collect WMI information for installed updates and hotfixes on domain controllers.

### 4. FileDataCollector

Enumerates files in a folder on a remote machine, and optionally retrieves those files.

### 5. Windows Management Instrumentation (WMI) Collectors

[WMI](#) is used to collect various information such as:

- WIN32\_Volume  
Collects information on volume settings for each domain controller in the forest. For example, the information is used to determine the system volume and drive letter, which allows the assessment to collect information on files located on the system drive.
- Win32\_Process  
Collect information on the processes running on each DC in the forest. The information provides insight on processes that consume a large amount of threads, memory, or have a large page file usage.
- Win32\_LogicalDisk  
Used to collect information on the logical disks. We use the information to determine the amount of free space on the disk where the database or log files are located.

### 6. SQL Data Collectors

SQL queries are used to collect information from Site Servers.