Office 365 Skype for Business/Teams: Prerequisites and Configuration

This document explains the required steps to configure the Office 365 Skype for Business/Teams Assessment included with your Microsoft Azure Log Analytics Workspace and Microsoft Unified Support Solution Pack.

There are **two scenarios** available to configure the assessment. Determine which scenario fits best for your organization.

1. OMS Gateway and data collection machine
2. Data collection machine only

OMS Gateway and data collection machine

This scenario is the most secure and recommended option to help protect privileged account credentials which are used on the scheduled task configured on the data collection machine. This scenario requires two computers. One will be designated as the data collection machine, and the second machine will be the OMS Gateway. In this scenario, the data collection machine has no Internet connection and connects to the OMS Gateway to upload the data to log analytics. The OMS Gateway and the data collection machine must have Internet access. For information about the OMS Gateway, go to https://go.microsoft.com/fwlink/?linkid=830157.

The following path shows the relationship between your Windows computers and log analytics after you have installed and configured the OMS Gateway and data collection machine.

Data collection machine → Collects data from the Office 365 Tenant → Forwards collected data to the OMS Gateway → Submits data to the log analytics workspace

Data collection machine only

This scenario can be used when the data collection machine can contact log analytics directly. It requires one computer that will be designated as the data collection machine which requires internet access to upload data to log analytics.

The following path shows the relationship between your Windows computers and log analytics after you have installed and configured the data collection machine:

Data collection machine → Collects data from the Office 365 Tenant → Submits data to the log analytics workspace.

Detailed information on these configurations and requirements are found later in this document.

This document was last updated on Oct 6, 2020. To ensure you have the latest version of this document, check here:

Table of Contents

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
- Office 365 tenant (AzureCloud, AzureChinaCloud, AzureGermanCloud, AzureUSGovernment) supported

Common to Both Scenarios
- You will need a log analytics workspace.
- **User account rights:**
  - Global Admin (Non-federated) to create Azure AD Application Manager.
  - Global Reader (Non-federated) and SharePoint Online Admin (Non-federated) without MFA.
    Note: If you already have MFA enabled, we do not recommend disabling MFA for security reasons. This assessment requires the use of an account that is not enabled for MFA for the duration of the subscription. This document will be updated once MFA is supported.
  - Local Administrator account to create scheduled tasks.

Data Collection Machine
- **Microsoft Monitoring Agent** requires computers running any of the below OS:
  - **Client:** Windows 10 (64 Bit)
  - **Server:** Windows Server 2016 (64 Bit)
- The **data collection machine** can be a standalone or a domain joined machine.
- **Data collection machine hardware:** Minimum 8 gigabytes (GB) of RAM, 2 gigahertz (GHz dual-core processor, minimum 10 GB of free disk space.
- Install **Microsoft .NET Framework 4.8** or newer.
  - Download from: https://dotnet.microsoft.com/download/dotnet-framework/net48
- The **CLR** version on the data collection machine should be using .NET 4.0 or greater. This can be verified by running **$PSVersionTable.CLRVersion** in the PowerShell prompt
- Enable **Basic Authentication** on Windows Remote Management client
  - Open a Command Prompt session with Administrator privileges
  - On Start Menu type: cmd
  - Right Click on the Icon and choose Run as Administrator
  - Run the following command to enable Basic Authentication:
    winrm set winrm/config/client/auth @{Basic="true"}
  - To validate Windows Remote PowerShell settings, run the following command:
    winrm get winrm/config/client
- Install **MSOnline PowerShell** module
  - Open a PowerShell session with Administrator privileges
  - On Start Menu type: PowerShell
  - Right Click on the Icon and choose Run as Administrator
  - On the shell type the following command: Install-Module MSOnline -Verbose -AllowClobber -Force once downloaded you can than import modules with the Import-Module MSOnline
- Install **PnP (Patterns and Practices) PowerShell** module
  - Open a PowerShell session with Administrator privileges
  - On Start Menu type: PowerShell
  - Right Click on the Icon and choose Run as Administrator

- On the shell type the following command: Install-Module SharePointPnPPowerShellOnline -Verbose -AllowClobber -Force once downloaded you can than import modules with the Import-Module SharePointPnPPowerShellOnline
- Install **VC++ Redistributable 2017**
  - The following updates are the latest supported Visual C++ redistributable packages for Visual Studio 2017:
  - x86: vc_redist.x86.exe
  - x64: vc_redist.x64.exe
- Install Skype for Business Network Assessment Tool
  - Download: https://www.microsoft.com/en-us/download/details.aspx?id=53885
  - **Note:** Please use the default location during installation.
  - PC must meet the requirements for Skype for Business Online systems described here: https://products.office.com/en-US/office-system-requirements#subscription-plans-section
  - For Windows Server edition, ensure the Desktop Experience feature is enabled.
  - For Windows N or KN versions, ensure the Media Feature pack is installed: https://www.microsoft.com/en-us/download/details.aspx?id=49919
- Create **Firewall rule** to allow Skype for Business Network Assessment Tool
  - Open Command Prompt with Administrator privileges
  - On Start Menu type: CMD
  - Right lick on the Icon and choose Run as Administrator
  - On the command prompt type, the following command:
    - netsh advfirewall firewall add rule name="Skype for Business Network Assessment Tool" dir=in action=allow protocol=UDP program="C:\Program Files (x86)\Microsoft Skype for Business Network Assessment Tool\NetworkAssessmentTool.exe" enable=yes
    - netsh advfirewall firewall add rule name="Skype for Business Network Assessment Tool" dir=in action=allow protocol=TCP program="C:\Program Files (x86)\Microsoft Skype for Business Network Assessment Tool\NetworkAssessmentTool.exe" enable=yes
- Install **Skype for Business Online, Windows PowerShell module**
  - Download from: https://www.microsoft.com/en-us/download/details.aspx?id=39366
  - Note: Remote management of Skype for Business Online by using Microsoft PowerShell is supported only on 64-bit computers.
- Install **Microsoft Teams, Windows PowerShell Module**
  - On Start Menu type: PowerShell
  - Right Click on the Icon and choose Run as Administrator
  - On the shell type the following command: Install-Module MicrosoftTeams -Verbose -AllowClobber -Force once downloaded you can than import modules with the Import-Module MicrosoftTeams
  - **Note:** Please ensure that you are using the latest Microsoft Teams Windows PowerShell Module if you have previously installed the module by running Update-Module MicrosoftTeams
- The **data collection machine** must be able to connect to the Internet using HTTPS to submit the collected data to your log analytics workspace. This connection can be direct, via a proxy.
- For the **Microsoft Monitoring Agent** to connect to and register with the log analytics service, it must have access to the Internet. If you use a proxy server for communication between the agent and the log analytics service, you will need to ensure that the appropriate resources are accessible. If you use a firewall to restrict access to the Internet, you need to configure your firewall to permit access to log analytics. To ensure data can be submitted follow the steps in *Configure Proxy and Firewall Settings in Log Analytics* at https://azure.microsoft.com/en-in/documentation/articles/log-analytics-proxy-firewall/.
- After installing all the pre-requisites, please restart the data collection machine once. 3

OMS Gateway (required in the **OMS Gateway and data collection machine** scenario)

- The **OMS Gateway** can be a standalone or a member server. It requires Windows Server 2012 R2 or later.
- The **OMS Gateway** must be able to connect to the Internet using HTTPS to submit the collected data to your log analytics workspace. This connection can be direct, via a proxy.
- **OMS Gateway hardware:** Minimum 4 GB of RAM and 2 GHz processor.
- **OMS Gateway user account rights:** None required.

Click the link to download the "Setup Assessment" documentation to install the OMS Gateway and Microsoft Monitoring Agent.

https://go.microsoft.com/fwlink/?linkid=860142

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 Office 365 Skype for Business/Teams Assessment

Follow the steps below to setup the Office 365 Skype for Business/Teams Assessment.

On the designated data collection machine, complete the following:

1. Note the following information
   - o Credentials for Office 365 Tenant
   - o Environment (AzureCloud, AzureChinaCloud, AzureGermanCloud, or AzureUSGovernment)
   - o Assessment working directory
   - o Ensure that when setting up the assessment, the account that will be used to run the scheduled task is the account that is used to log into Windows to setup the assessment. this ensures the account has correct access to the credentials in Windows Credential Manager.

2. Open the Windows PowerShell command prompt as an Administrator
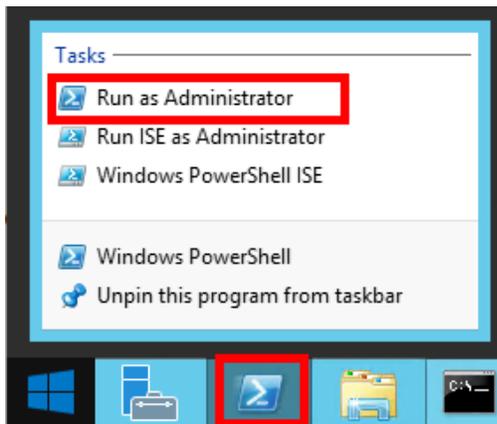
3. Import MicrosoftAssessmentsApplication module using **Import-Module Microsoft.Assessments.AADApplicationManager –**

```
PS C:\WINDOWS\system32> Import-Module Microsoft.Assessments.AADApplicationManager
PS C:\WINDOWS\system32> gcm -Module Microsoft.Assessments.AADApplicationManager

CommandType     Name                                              Version   Source
-----------     ----                                              -------   ------
Function        Clear-MicrosoftAssessmentsApplication             1.5       Microsoft.Assessments.AADApplicationManager
Function        Connect-MicrosoftAssessmentsApplication           1.5       Microsoft.Assessments.AADApplicationManager
Function        Export-MicrosoftAssessmentsApplicationSettings    1.5       Microsoft.Assessments.AADApplicationManager
Function        Import-MicrosoftAssessmentsApplicationSettings    1.5       Microsoft.Assessments.AADApplicationManager
Function        Initialize-MicrosoftAssessmentsPrerequisites      1.5       Microsoft.Assessments.AADApplicationManager
Function        New-MicrosoftAssessmentsApplication               1.5       Microsoft.Assessments.AADApplicationManager
Function        Test-MicrosoftAssessmentsGraphAPI                 1.5       Microsoft.Assessments.AADApplicationManager
```

4. Install AADApplicationManager by running the command **New-MicrosoftAssessmentsApplication** and prrovide your Global Admin credentials when prompted. (Global Admin with MFA)

```
PS D:\temp> New-MicrosoftAssessmentsApplication
This script is run as an Administrator
PowerShell Version 5.1.17134.407
Latest .Net version installed 4.7.3056
PowerShellGet is installed - Version 1.6.6
Nuget provider installed - Version 2.8.5.210
No AzureAD PowerShell module installed
PowerShell module AzureADPreview installed - Version 2.0.2.5
Successfully connected to M365x935185.onmicrosoft.com
TenantID 5fe87463-2175-403c-841b-a7240df3885c
Creating Microsoft Assessments AAD Application in tenant M365x935185.onmicrosoft.com with TenantId 5fe87463-2175-403c-841b-a7240df3885c ...
AAD Application created - ApplicationId 676eebb3-3a4d-44d1-bfdd-94e5b4dc16a8
Creating AAD Service Principal ...
AAD Service Principal created - ObjectId 1fa201d7-86d6-4660-9534-34e3041b8178
Creating Certificate...
Certificate created - Thumbprint 46F517FFC2862E9311F0EFD45D00003EF78C2BF2 Expiration 2019-11-28 10:09:15Z
Creating AAD Application Key Credential...
Created Key Credential KeyIdentifier 001 EndDate 2019-11-28 10:09:15Z
Setting MS logo for AAD application
Granting AAD application read-only access to AD
Getting Graph application
Assigning Graph roles to AAD application
AAD Application isn't ready yet, trying again in a couple of seconds... (retry #1)
Granting admin consent...
We are opening a browser page for you to provide the admin consent for this application.
If you would be receiving an error AADSTS700016, wait a few seconds and refresh the page

Azure AD Application successfully created

Once the admin consent will have been provided, you will be redirected to the Azure AD portal
You can view this new application under 'Azure Active Directory', 'App Registrations', 'View All Application' and select 'Microsoft Assessments'
```
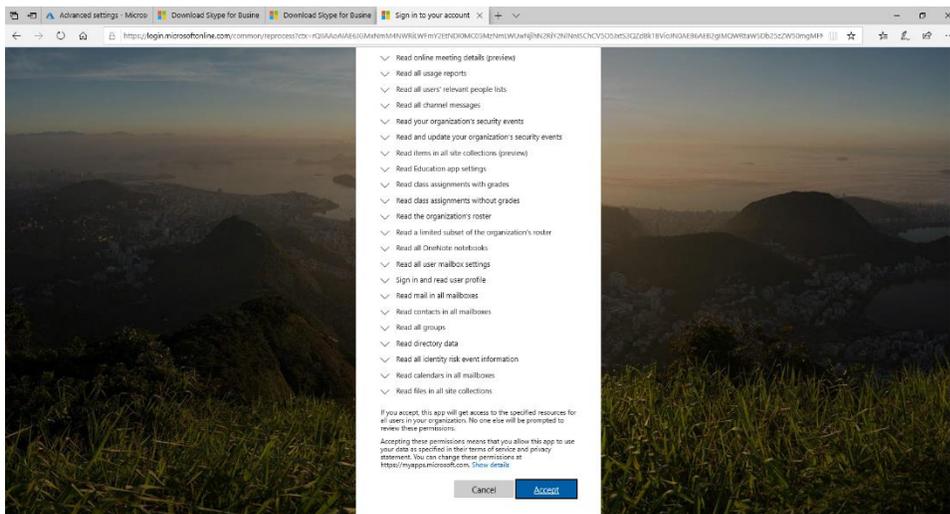
Note: While executing New-MicrosoftAssessmentsApplication command, you may need to enable the following settings in order to enable the Authentication popup prompt.

- Go to Internet options and Enable JavaScript:
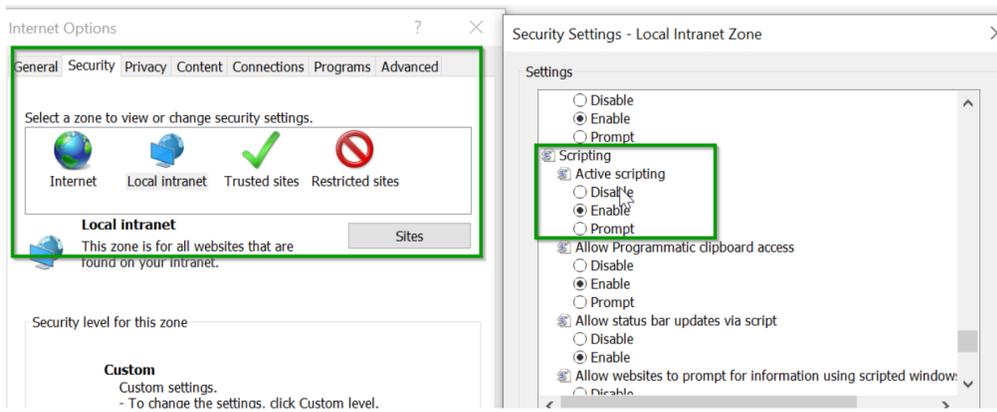
- It will prompt to add additional Microsoft links to trusted sites to allow authentication screen which we should add by clicking Add button shown on the popup.

5. Define the credentials for the assessment to use:
    o Ex. **$CredO365 = Get-Credential** (Global Reader and Share Point Admin)
    o Ex. **$CredLocal = Get-Credential** (Local Admin to create Scheduled Task)
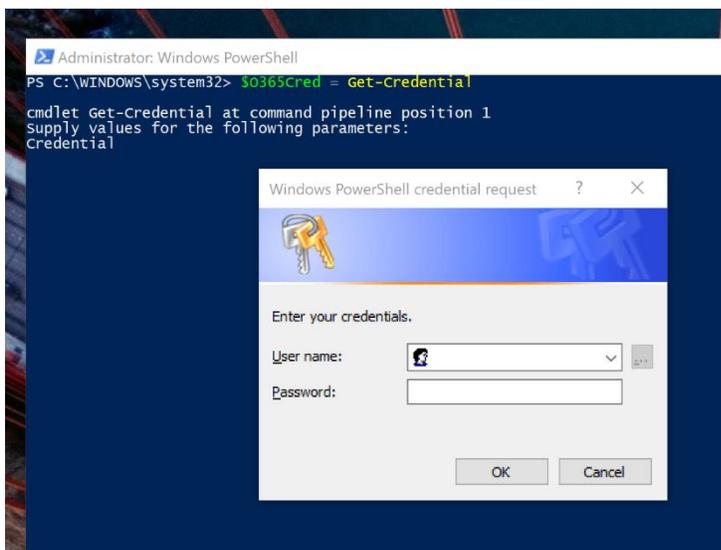
6. Created a Working Directory folder on the data collection machine
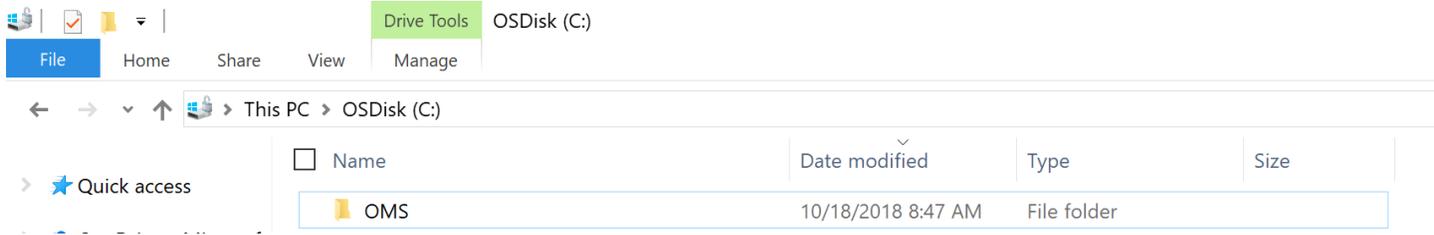
Note: If **Add-SfBOnlineAssessmentTask** is not found. Please restart the Microsoft Monitoring Agent service.

7. Run the **Add-SfBOnlineAssessmentTask** -AADUserName $CredO365.Username -AADPassword $CredO365.Password -O365SfBUserName $CredO365.Username -O365SfBPassword $CredO365.Password -O365ExchangeUsername $CredO365.Username -O365ExchangePassword $CredO365.Password -O365TeamsUsername $CredO365.Username -O365TeamsPassword $CredO365.Password -WorkingDirectory "C:\OMS" -ScheduledTaskUsername $CredLocal.UserName -ScheduledTaskPassword $CredLocal.Password

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

9. Data collection is triggered by the **scheduled task** named **SfBOnlineAssessment** 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.
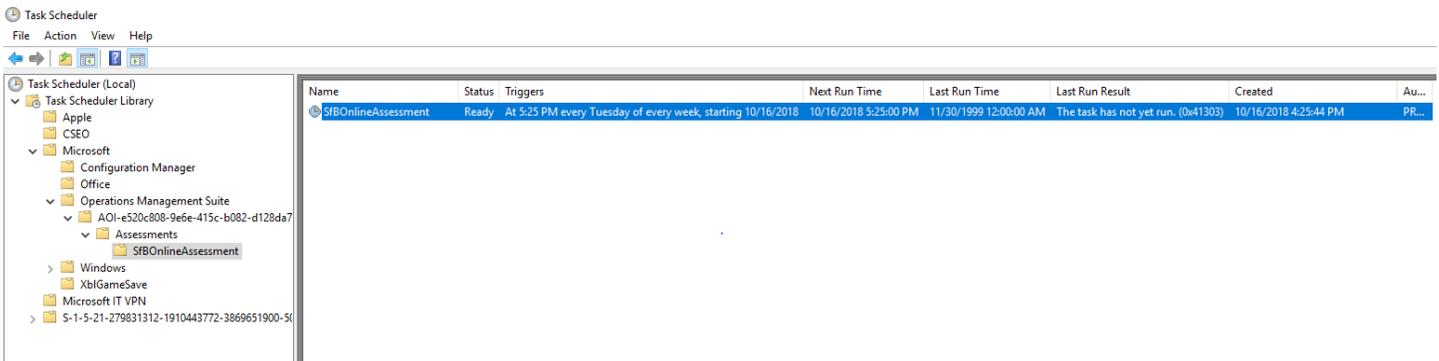
10. During collection and analysis, data is temporarily stored under the **WorkingDirectory** folder that was configured during setup, using the following structure:
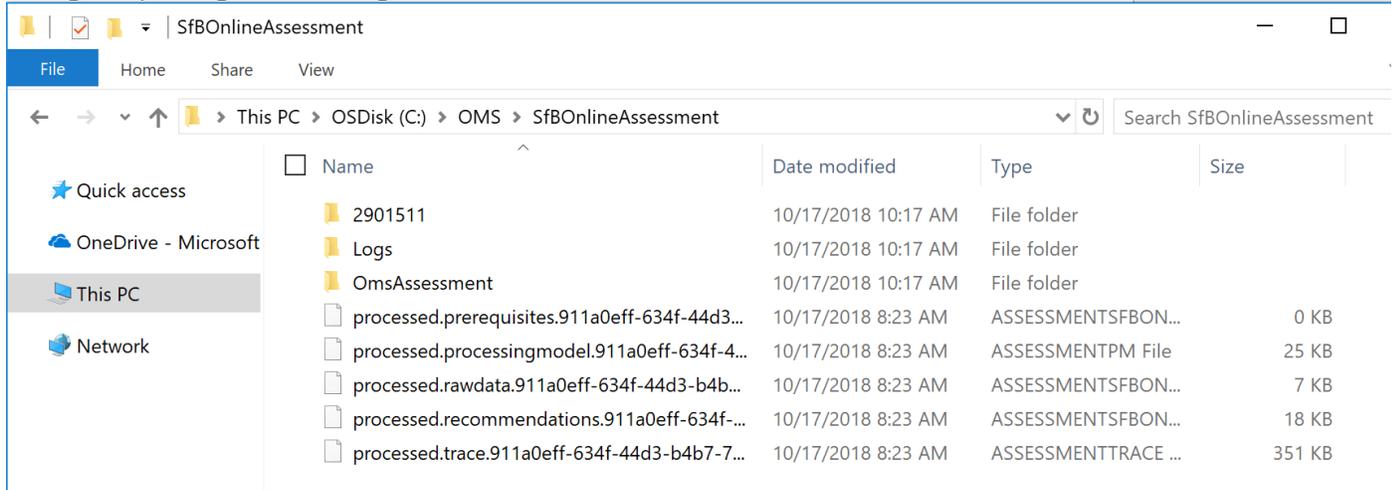
11. After data collection and analysis is completed on the tools machine, it will be submitted to your Log Analytics workspace depending on the scenario you have chosen:
    o **Directly** if the Data Collection Machine is connected to the Internet and configured to submit directly.
    o **Through to the OMS Gateway Server** if this option is configured, which will then submit the data to your log analytics workspace.

12. After a few hours, your assessment results will be available on your log analytics Dashboard. Click the **Skype for Business Online/Teams Assessment** tile to review:

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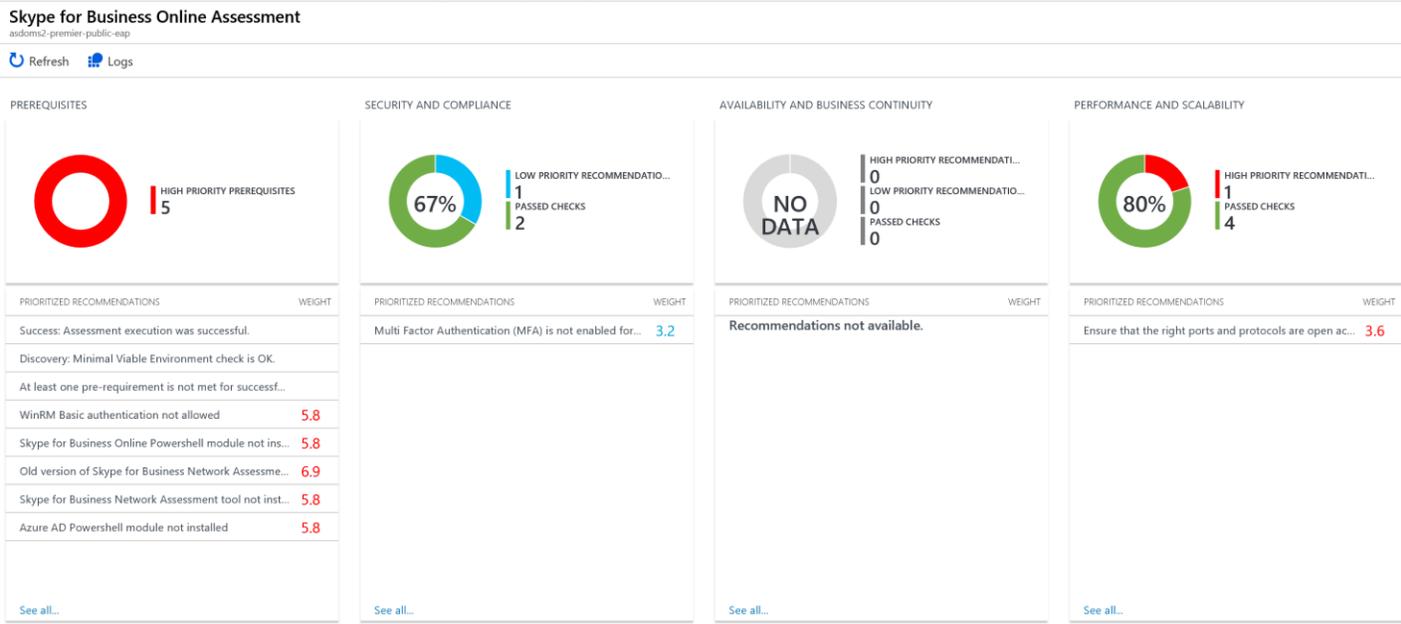
Appendix

Data Collection Methods

The **Skype for Business Online/Teams Assessment in the log analytics workspace and Microsoft Unified Support Solution Pack** uses multiple data collection methods to collect information from your environment. This section describes the methods used to collect data from your environment.

Windows PowerShell
PowerShell is used to collect data from both Azure AD and Office 365. PowerShell uses the cmdlets from Azure PowerShell, Skype for Business Online Windows PowerShell Module, Microsoft Teams Windows PowerShell Module and Patterns and Practices (PnP) cmdlets to connect to and pull the required configuration settings pertaining to the tenant. All requests to the tenant are Read-Only no changes are made to Azure AD or Office 365.

Graph API
Graph data collector is a replacement of this previous approach as it retrieves data from Azure or Office 365 subscriptions using Graph API (https://developer.microsoft.com/en-us/graph) under the context of an AAD application which can be restricted to read-only operations.

Skype for Business Network Assessment Tool
The Skype for Business Network Assessment Tool provides the ability to perform a simple test of network performance and network connectivity to determine how well the network would perform for a Microsoft Teams and Skype for Business Online calls.

Resources:

https://docs.microsoft.com/en-us/services-hub/health/

https://docs.microsoft.com/en-us/services-hub/health/assessments_faq

 How to setup Microsoft Graph Data Collection when using Windows 2012 R2 Data Collection Machine for Office 365 Assessments

View Prerequisite Errors – You can check the event viewer to view errors pertaining to prerequisites