

One Identity **[[[Undefined variable General.product]]]** 7.5.3

Release Notes

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These release notes provide information about the changes, enhancements, and known or resolved issues of **[[[Undefined variable General.product]]]** 7.5.3. For the most recent documents and product information, and for the release notes and documentation of earlier product releases, see the [online Active Roles technical documentation](#) on the One Identity Support Portal.

About this release

[[[Undefined variable General.product]]] 7.5.3 is a full maintenance release with enhancements and resolved issues. This release also introduces support for Microsoft Graph API, superseding the Azure AD Graph API that is planned to retire in the future.

- For more information on the enhancements, see [Enhancements](#).
- For more information on the list of resolved issues, see [Resolved issues](#).

Supported platforms

[[[Undefined variable General.product]]] 7.5.3 has the following changes to system requirements compared to **[[[Undefined variable General.product]]]** 6.9.0:

- Windows Server 2016 or a later version of the Windows Server operating system is required to run the Administration Service or Web Interface.

- The following SQL Server versions are supported: Microsoft SQL Server 2019, 2017, 2016, 2014 and 2012.
- You can use `[[[Undefined variable General.product]]]` to manage Exchange recipients on Exchange Server 2019, 2016, or 2013.

NOTE: Microsoft Exchange 2013 CU11 is no longer supported. For more information, refer to [Knowledge Base Article 202695](#).

- Internet Explorer 7, 8, 9, and 10 are no longer supported for the Web Interface access. You can use the following Web browsers to access the Web Interface:
 - Internet Explorer 11
 - Google Chrome 61 (or newer)
 - Microsoft Edge 79 (or newer), based on Chromium
 - Mozilla Firefox 36 (or newer)
- The Active Roles Web Interface is optimized for screen resolutions of 1280x800 or higher.

The minimum supported screen resolution is 1024x768.

For more information, see [System requirements](#).

Enhancements

The following is a list of enhancements implemented in `[[[Undefined variable General.product]]]` 7.5.3.

Table 1: General `[[[Undefined variable General.product]]]` enhancements

Enhancement	Issue ID
<p>Previously, Group Family Key comparison operations (such as group reevaluations) in scheduled tasks or manually performed operations had suboptimal performance when being performed on a large number of users and on different user properties.</p> <p>This has been enhanced, so that such comparisons are now faster when a large number of Group Families are affected.</p>	300104
<p>Previously, group reevaluation operations affecting a large number of Dynamic Groups had suboptimal performance. This has been enhanced to increase performance.</p>	300512
<p><code>[[[Undefined variable General.product]]]</code> 7.5.3 introduces support for cryptography libraries and algorithms compliant with Federal Information Processing Standards (FIPS) 140-2. For more information on FIPS-compliant libraries and algorithms, see the official Approved Security Functions for FIPS</p>	298978

document.

NOTE: Consider the following when planning to use FIPS-compliant cryptography libraries or algorithms:

- Although `General.product` continues to support non-FIPS compliant cryptography libraries and algorithms, it will not work properly if it is configured to use non-FIPS compliant solutions in a FIPS-compliant environment.
- If you already use FIPS-compliant security algorithms in your environment (such as the TripleDES security algorithm, or the SHA256 hash algorithm), you must export your existing configuration, and import it in a new `General.product` installation.

Table 2: `General.product` Synchronization Service enhancements

Enhancement	Issue ID
The Azure AD Connector has been reworked to support Microsoft Graph API.	302258

Deprecated features

`General.product` 7.5.3 no longer supports the following feature.

Redistributable STS

Redistributable STS (rSTS) was a third party authentication component that you could use as an alternative to the default IIS Windows authentication when logging in to the `General.product` Web Interface. You could configure the rSTS authentication method in the rSTS API Admin Tool and the `General.product` Configuration Center. You also needed the rSTS API Admin Tool to configure `General.product` integration with Duo or Okta.

Starting from `General.product` 7.5.3:

- For new `General.product` installations, the rSTS authentication method and the rSTS Admin Tool are no longer supported and available.
- For `General.product` installations upgraded to 7.5.3 from an earlier version, existing rSTS installations and configurations are preserved. However, rSTS will not be available for fresh `General.product` 7.5.3 (or newer) installations.

The `General.product` documentation has been updated to reflect this change.

- To use `General.product` with Duo, contact One Identity Professional Services. For more information, see <https://support.oneidentity.com/active-roles/professional-services>.
- To use `General.product` integration with Okta, see *Appendix H: Active Roles Integration with Okta* in the *Active Roles Administration Guide*.

Resolved issues

The following is a list of issues addressed in this release.

Table 3: Resolved Issues – `General.product` Administration Service

Resolved issue	Issue ID
<p>Previously, when upgrading to Active Roles 7.5.2 from an earlier version, performing a Management History import could delete configured <code>General.product</code> Web Interface sites. In such cases, you had to redeploy deleted sites from an existing configuration in the <code>General.product</code> database.</p> <p>This critical issue has been fixed in <code>General.product</code> 7.5.3.</p>	306753
<p>Previously, when importing a specific configuration, the <code>General.product</code> Administration Service was stuck at the getting ready phase because the <code>IsOnInitCommentedOut</code> function had an infinite loop when the script had more than one comment.</p> <p>The issue has been fixed.</p>	287577

Table 4: Resolved Issues – `General.product` Configuration Center

Resolved issue	Issue ID
<p>Previously, in the <code>General.product</code> Configuration Center during an upgrade, when navigating to <code>General.product</code> databases > Import Configuration to import the configuration database of an earlier <code>General.product</code> 7.x version to a newer <code>General.product</code> 7.x version, the following error could occur:</p>	240451

Resolved issue**Issue ID**

```
[Error] [ArsBaseCommand.ProcessRecord]: Violation of UNIQUE KEY constraint 'UQ_APOs_distinguishedName'. Cannot insert duplicate key in object 'dbo.APOs'. The duplicate key value is (CN=Built-in Policy - Azure - Default Rules to Generate Proper-ties,CN=Builtin,CN=Administration,CN=Policies,CN=Configuration). The statement has been terminated.
```

This error occurred if you changed the name of any built-in object, such as a policy, and then created a new built-in object with the same name, which caused the import configuration operation to fail.

The issue has been fixed: the import configuration operation finishes successfully even if there are built-in objects with the same name, and the error will be logged and displayed at the end instead of causing the operation to fail.

Previously, attempting to configure a new `[[[Undefined variable General.product]]]` Web Interface in the `[[[Undefined variable General.product]]]` Configuration Center from an existing 7.4.x configuration was not possible, as the previous Web Interface configuration did not appear in the list of configuration files. 297632

This issue was caused by a version information update error, resulting in the existing Web Interface configuration accidentally filtered out by the `[[[Undefined variable General.product]]]` Configuration Center. This issue has been fixed in this release.

Table 5: Resolved Issues – `[[[Undefined variable General.product]]]` Console (MMC Interface)

Resolved issue	Issue ID
<p>Previously, in the <code>[[[Undefined variable General.product]]]</code> Console, using the <code>\$context.0365ImportModule("<moduleName>")</code> command in a workflow with the <code>azuread</code> or the <code>exchangeonlinemanagement</code> module resulted in a null reference exception instead of importing and connecting the modules using the stored credentials.</p> <p>The issue has been fixed and now the <code>\$context.0365ImportModule("<moduleName>")</code> command imports and connects the module successfully using the stored credentials.</p>	280567
<p>Previously, in customer environments where database replication was configured, when a workflow approval was created in the <code>[[[Undefined variable General.product]]]</code> Console (MMC Interface), and the approval request was approved (via the <code>[[[Undefined variable General.product]]]</code> Self Service Web Interface) on a different Administration Service, the secondary approval activity in the workflow approval was bypassed and the request was completed.</p>	251629

Resolved issue**Issue ID**

The issue has been fixed and now the second level workflow approval is not bypassed anymore when the first approval is performed:

- On the publisher `[[[Undefined variable General.product]]]` instance when the modification which needs to be approved is done on the subscriber.
- On the subscriber `[[[Undefined variable General.product]]]` instance when the modification which needs to be approved is done on the publisher.

Previously, in the `[[[Undefined variable General.product]]]` Console (MMC Interface), using the `$context.O365ImportModules` function in a script module inside a workflow did not work. Instead, you could import multiple modules at once by specifying a string array with the `$context.O365ImportModule` function.

283192

The issue has been fixed by changing the behavior of these functions as follows:

- Use the `$context.O365ImportModule` function to import a single Microsoft Azure or O365 PowerShell module. If you have multiple versions of the specified module installed, you can optionally specify the major version to import.
- Use the `$context.O365ImportModules` function to import multiple Microsoft Azure or O365 PowerShell modules at once by specifying them in an array.

Both functions support importing the following Azure and O365 Windows PowerShell modules:

- Azure Az
- AzureAD
- ExchangeOnlineManagement
- MicrosoftTeams PowerShell Module

Previously, the `[[[Undefined variable General.product]]]` Console did not list any Access Templates for Security Groups and Resource Mailboxes. This issue has been fixed, and the new Security Group and Resource Mailbox Access Templates are available under the **Configuration > Access Templates > Azure** node.

297763

Table 6: Resolved Issues – `[[[Undefined variable General.product]]]` Installer

Resolved issue**Issue ID**

Previously, the `[[[Undefined variable General.product]]]` installer could not detect the required Microsoft OLE DB Driver for SQL Server component if you had version 19.0 or newer of the component installed on the machine.

306900

This issue was caused by a change in how Microsoft stores the OLE DB Driver version number in the Windows Registry, introduced in Microsoft OLE DB Driver for SQL version 19.0.

Resolved issue	Issue ID
The issue has been fixed by updating the <code>General.product</code> installer to make sure it always properly detects the component version.	
Previously, the <code>General.product</code> Installer stopped with an error if users launched it without the required elevated permissions. This issue is now fixed, and the installer prompts users to restart it with elevated permissions to perform the installation.	298958

Table 7: Resolved Issues – `General.product` SPML Provider

Resolved issue	Issue ID
Previously, when the <code>General.product</code> SPML Provider was installed on a separate host from the <code>General.product</code> Administration Service, submitting a modification request using Constrained Delegation resulted in an <code>unsupportedOperation</code> error due to a <code>com_object</code> that the <code>General.product</code> SPML Provider could not cast properly.	289838
The issue has been fixed.	

Table 8: Resolved Issues – `General.product` Synchronization Service

Resolved issue	Issue ID
Previously, after upgrading <code>General.product</code> to a new version, the Azure Backsync wizard could appear for reconfiguration when launching the <code>General.product</code> Synchronization Service console, even if Azure BackSync has not been configured and used before in your deployment.	306257
This issue has been fixed by implementing additional checks to ensure that the Azure BackSync wizard appears automatically after an in-place upgrade only if it has been configured and used before.	
Also, starting from <code>General.product</code> 7.5.3, clicking Cancel in the Azure BackSync update wizard dialog will result in the wizard dialog not appearing anymore automatically.	
Previously, in the <code>General.product</code> Synchronization Service, when you created or updated a connector with incorrect configuration (that is, you entered an incorrect username, password, and so on), you could not modify your settings later due to connection failure.	302092
The issue has been fixed and now if you create or update a connector with	

Resolved issue**Issue ID**

incorrect configuration, an error message appears with a **Open and fix** button, allowing you to fix the configuration.

Previously, in the [General.product] Synchronization Service, if you configured a new mapping pair between [General.product] and a SCIM connector created in the [General.product] Synchronization Service Console that used the configuration of an Azure AD connector created in Starling Connect, running a full map caused the SCIM Connector to loop infinitely.

296338

The issue has been fixed and now mapping a SCIM connector which was created in Starling Connect with [General.product] does not cause the SCIM connector to loop infinitely.

Previously, in the [General.product] Synchronization Service, you could save a connection with an incorrect username or password without any warning.

90712

The issue has been fixed and now if you try to save a connection with an incorrect username or password, [General.product] Synchronization Service will warn you to fix your settings.

Previously, in the [General.product] Synchronization Service, when creating a new connection with the Oracle Database Connector, then creating another connection to Active Directory (AD) and configuring password synchronization, the Oracle Database Connector connection was listed as available for password synchronization.

301940

The issue has been fixed and now the Oracle Database Connector connection is not listed as available for password synchronization.

Previously, in the [General.product] Synchronization Service, creating a new connection using the Oracle Database User Accounts Connector with any connection information or even blank values resulted in the following error: Value cannot be null. Parameter name: type.

301941

This error was caused by a case sensitivity issue when loading the assembly, and is now fixed.

Previously, in the [General.product] Synchronization Service and Quick Connect, when synchronizing groups, both in case of Azure-to-Active Directory or Active Directory-to-Active Directory merge attempts, the merge rule on the members attribute ignored mapping and did not resolve object references.

270758

The issue has been fixed and now when synchronizing groups, the merge rule on the members attribute handles members as references and not as string attributes (either DN in case of an on-prem Active Directory object, or Object ID in case of an Azure Active Directory object), so the merge rule does not overwrite DNs or Object IDs.

Resolved issue	Issue ID
<p>An earlier fix in the [General.product] Synchronization Service included a different null result handling for scripts, causing issues.</p> <p>The issue has been fixed.</p>	286380
<p>Previously, in the [General.product] Synchronization Service, defining a mapping rule on the Microsoft Office 365 (O365) Connector failed due to the incorrect handling of invalid, corrupted or unrecognizable license files located in the connected O365 platform. Such license files can be the result of a broken Azure operation originating from an earlier version.</p> <p>The issue has been fixed and now invalid, corrupted or unrecognizable license files are ignored during the O365 Connector mapping operations.</p>	294905
<p>Attempting to define a mapping rule for the Microsoft Office 365 Connector results in an error if the Azure BackSync application does not have the minimum set of roles assigned.</p> <p>To solve this issue, the [General.product] <i>Synchronization Service Administration Guide</i> has been updated to clarify that the O365 Connector works only if the Azure BackSync application receives the minimum set of roles (namely, the Exchange Administrator and the Directory Writers roles) required for implementing automatic permission and role assignment in [General.product] Synchronization Service.</p>	296252
<p>Previously, configuring a Microsoft Office 365 Connector workflow returned a True value for all license attributes instead of individual values, even if just one license has been applied.</p> <p>This issue was caused by a license synchronization problem due to the incorrect processing of certain cmdlet calls, and has been fixed by ensuring that the O365 Connector returns the proper True or False values depending on whether the related service plan is enabled or disabled for a user within a specific license.</p>	297183

Table 9: Resolved Issues – [General.product] Web Interface

Resolved issue	Issue ID
<p>Previously, in the [General.product] Web Interface, after registering an Azure Tenant in the [General.product] Configuration Center, searching for a room mailbox in the global search bar did not return any room mailbox objects.</p> <p>The issue has been fixed and now you can search for room mailbox objects in the global search bar of the [General.product] Web Interface.</p>	301535
<p>Previously, in the [General.product] Web Interface, after</p>	303259

Resolved issue

Issue ID

registering an Azure Tenant in the `[[[Undefined variable General.product]]]` Configuration Center, opening the **User properties** of any user took 4-5 seconds.

The issue has been fixed and now opening the **User properties** takes the same amount of time both when the Azure Tenant is not registered and when it is registered.

Previously, in the `[[[Undefined variable General.product]]]` Web Interface, you could only select users for email forwarding, while all other email-enabled objects, such as groups or contacts, were not available for email forwarding because searches only returned user objects.

The issue has been fixed and now you can select any email-enabled object for email forwarding.

Previously, in the `[[[Undefined variable General.product]]]` Web Interface, examining an approval task or approving group memberships without configuring Azure resulted in the following exception error:

```
Can't execute custom entry method Get_Azure0365GroupMembers due following error: "Exception of type 'ActiveRoles.Web.ScriptServices.ScriptServiceException' was thrown."
```

This UI-related issue has been fixed.

Previously, importing an Active Roles configuration with the **Administration Service > Active Roles databases > Import configuration** wizard of the `[[[Undefined variable General.product]]]` Configuration Center could result in an inconsistent `[[[Undefined variable General.product]]]` Web Interface configuration state if the `[[[Undefined variable General.product]]]` Web Interface had been previously configured with the **Dashboard > Web Interface > Configure** setting. This issue was caused by a discrepancy between the previously configured `[[[Undefined variable General.product]]]` Web Interface configuration and the imported `[[[Undefined variable General.product]]]` Web Interface configuration.

The issue has been fixed and now importing an `[[[Undefined variable General.product]]]` Web Interface configuration will not result in a conflicted `[[[Undefined variable General.product]]]` Web Interface configuration state if the `[[[Undefined variable General.product]]]` Web Interface has already been configured in the `[[[Undefined variable General.product]]]` Configuration Center.

Previously, there was a reflected cross-site scripting (XSS) vulnerability in the `[[[Undefined variable General.product]]]` Web Interface's internal redirect URL handling.

The issue has been fixed, the XSS vulnerability is now removed, and all querystring inputs are sanitized correctly.

Known issues

The following is a list of issues known to exist at the time of release.

Table 10: General known issues

Known Issue	Issue ID
Activating the EnableAntiForgery key (<add key="EnableAntiForgery" value="true"/> in web.config) may cause the following error message:	91977

Session timeout due to inactivity. Please reload the page to continue.

Workaround

Update the **IgnoreValidation** key in the <appSettings> section by adding a property value in lowercase:

1. Open the IIS Manager.
2. In the left pane, under **Connections**, expand the tree view to **Sites > Default Web Site**.
3. Under **Default Web Site**, click on the [[[Undefined variable General.product]]] application (ARWebAdmin by default).
4. Double-click **Configuration Editor**.
5. From the **Section** drop-down, select **appSettings**.
6. Find the **IgnoreForValidation** key.
7. Append the comma-separated value to **IgnoreForValidation**, for example: **lowercasecontrolname**.
8. In the right pane, under **Actions**, click **Apply**.
9. Recycle the App pool.

Table 11: Known Issues – [[[Undefined variable General.product]]] Configuration Center

Known Issue	Issue ID
When configured for Group and Contacts, the Office 365 and Azure Tenant Selection policy displays additional tabs.	229031
Tenant selection supports selecting only a single tenant.	229030
In the Starling Connect Connection Settings link, clicking Next displays progress, but the functionality is not affected, so the button is not required.	126892

Table 12: Known Issues – [General.product] Console (MMC Interface)

Known Issue	Issue ID
Automation workflow with Office 365 script fails, if multiple workflows share the same script and the script is scheduled to execute at the same time.	200328
Workaround	
One Identity recommends scheduling the workflows with different scripts or at a different time.	
When a workflow is copied from built-in workflows, it may not be executed as expected.	153539
Azure Group Properties are not available if they are added to the Office 365 Portal or Hybrid Exchange Properties from the forwarding address attribute of Exchange online users.	98186
In [General.product] with the Office 365 Licenses Retention policy applied, after deprovisioning the Azure AD user, the Deprovisioning Results for the Office 365 Licenses Retention policy are not displayed in the same window.	91901
Workaround	
To view the Deprovisioning Results after deprovisioning the Azure AD user:	
<ul style="list-style-type: none"> In [General.product] MMC Console, right-click and select Deprovisioning Results. In the right pane of the [General.product] Web Interface, click Deprovisioning Results. To refresh the form, press F5. 	

Table 13: Known Issues – [General.product] Installer

Known Issue	Issue ID
After upgrading [General.product], the pending approval tasks are not displayed in the Active Roles Web Interface.	91933

Table 14: Known Issues – [General.product] Synchronization Service

Known Issue	Issue ID
In the [General.product] Synchronization Service, the following new attributes of the AzureAD Connector are currently not supported and cannot be queried via the Microsoft Graph API:	304074

Known Issue	Issue ID
user	group
aboutMe	allowExternalSenders
birthday	autoSubscribeNewMembers
hireDate	hideFromAddressLists
interests	hideFromOutlookClients
mySite	isSubscribedByMail
officeLocation	unseenCount
pastProjects	acceptedSenders
preferredName	membersWithLicenseErrors
responsibilities	rejectedSenders
schools	hasMembersWithLicenseErrors
skills	
contacts	

This means that although these attributes are visible, they cannot be set in a mapping rule.

After running the `get-qcworkflowstatus` cmdlet in the Synchronization Service, the workflow status is not accurate. 125768

Table 15: Known Issues – [General Product] Web Interface

Known Issue	Issue ID
In the [General Product] Web Interface, Azure roles are not restored automatically after performing an Undo Deprovision action on a user.	172655
Workaround After the Undo Deprovision action is completed, assign the Azure roles to the user manually.	
[General Product] does not support creating Azure groups for existing groups.	117015
[General Product] Web Interface does not support setting the Exchange Online Property of the ProhibitSendQuota value in Storage Quotas .	91905

Known Issue

Issue ID

In the [\[\[\[Undefined variable General.product\]\]\]](#) Web Interface, when you click **Azure > Resource Mailboxes** to query room mailboxes after being idle for approximately 15-20 minutes, the [\[\[\[Undefined variable General.product\]\]\]](#) Web Interface will not list any room mailboxes.

293380

Workaround

Restart the Administration Service.

Trying to reset the password of an Azure user in the [\[\[\[Undefined variable General.product\]\]\]](#) Web Interface returns the following error message:

293601

```
One or more errors occurred. Http Exception - Status Code Forbidden. Reason phrase Forbidden {"error":{"code":Authorization_RequestDenied,"message":"Insufficient privileges to complete the operation"}}
```

This error occurs because of a Microsoft Graph API-related issue, described in the [Authorization_RequestDenied error when you try to change a password using Graph API](#) article of the *Microsoft Azure Troubleshooting* documentation.

Workaround

To solve this problem, assign the **Company Administrator** Office 365 administrative role to [\[\[\[Undefined variable General.product\]\]\]](#) with the following PowerShell cmdlets:

```
Connect-MsolService
$displayName = "ActiveRoles"
$objectId = (Get-MsolServicePrincipal -SearchString $displayName).ObjectId
$roleName = "Company Administrator"
Add-MsolRoleMember -RoleName $roleName -RoleMemberType ServicePrincipal -RoleMemberObjectId $objectId
```

System requirements

Before installing [\[\[\[Undefined variable General.product\]\]\]](#) 7.5.3, ensure that your system meets the following minimum hardware and software requirements.

NOTE: When setting up a virtual environment, carefully consider the configuration aspects such as CPU, memory availability, I/O subsystem, and network infrastructure to ensure the virtual layer has the necessary resources available. Please consult [One Identity's Product Support Policies](#) for more information on environment virtualization.

Before installing [General.product] 7.5.3, ensure that your system meets the following minimum hardware and software requirements, and install the following required software:

NOTE: To run these PowerShell commands, use the 64-bit version of Windows PowerShell.

Requirement	Details
Exchange Online PowerShell V2 module 2.0.3	The Exchange Online PowerShell V2 module version 2.0.3 (or newer) must be installed on the computer(s) running the Administration Service. For installation instructions, see Install and maintain the EXO V2 module in the <i>Microsoft Azure Exchange PowerShell documentation</i> .
Azure AD PowerShell module	The latest version of the Azure Active Directory (AD) PowerShell module must be installed on the computer(s) running the Administration Service. For installation instructions, see Installing the Azure AD Module in the <i>Microsoft Azure PowerShell documentation</i> .
Azure Az PowerShell module 2.5.3	The Azure Az PowerShell module version 2.5.3 (or older) must be installed on the computer(s) running the Administration Service and the Synchronization Service. For installation instructions, see Install the Azure Az PowerShell module in the <i>Microsoft Azure PowerShell documentation</i> .
Microsoft Teams PowerShell module 2.3.1	The Microsoft Teams PowerShell version 2.3.1 must be installed on the computer running the Administration Service. For installation instructions, see Install Microsoft Teams PowerShell in the <i>Microsoft Teams documentation</i> .
SharePoint Online Management Shell - x64	The SharePoint Online Management Shell must be installed on the computer running the Administration Service. For installation instructions, see Get started with SharePoint Online Management Shell in the <i>Microsoft SharePoint PowerShell documentation</i> .

For the system requirements of each [General.product] component, see the following sections:

- [Administration Service requirements](#)
- [Web Interface requirements](#)
- [Console requirements](#)
- [Management Tools requirements](#)
- [Synchronization Service requirements](#)
 - [Synchronization Service Capture Agent](#)

This section lists the hardware and software requirements for installing and running each of these components.

Hardware requirements

Table 16: Hardware requirements

Requirement	Details
<p>Processor</p> <p>NOTE: The amount of processors required depends on the total number of managed objects. Depending on the size of the environment, the number of processors required may vary.</p>	<p>For Administration Service, Web Interface, and Synchronization Service, any of the following:</p> <ul style="list-style-type: none"> • Intel 64 (EM64T) • AMD64 • Minimum 2 processors • Processor speed: 2.0 GHz or faster. <p>NOTE: For Synchronization Service, One Identity recommends using a multi-core processor for the best performance.</p>
<p>Memory</p> <p>NOTE: The amount of memory required depends on the total number of managed objects. Depending on the size of the environment, the amount of memory required may vary.</p>	<p>For Console and Management Tools, any of the following:</p> <ul style="list-style-type: none"> • Intel x86 • Intel 64 (EM64T) • AMD64 • Processor speed: 1.0 GHz or faster. <p>Administration Service: A minimum of 4 GB of RAM.</p> <p>Web Interface, Synchronization Service: A minimum of 2 GB of RAM.</p> <p>Console, Management Tools: A minimum of 1 GB of RAM.</p>
<p>Hard disk space</p>	<p>Administration Service, Web Interface, Console, Management Tools: A minimum of 100 MB of free disk space.</p> <p>Synchronization Service: A minimum of 250 MB of free disk space.</p> <p>NOTE: If SQL Server and Synchronization Service are installed on the same computer, the amount required depends on the size of the Synchronization Service database.</p>

Requirement	Details
Operating system	<p>You can install any of the <code>[[[Undefined variable General.product]]]</code> components on a computer running:</p> <ul style="list-style-type: none"> • Microsoft Windows Server 2022, Standard or Datacenter edition. • Microsoft Windows Server 2019, Standard or Datacenter edition. • Microsoft Windows Server 2016, Standard or Datacenter edition. <p>In addition, you can install Console and Management Tools on a computer running:</p> <ul style="list-style-type: none"> • Microsoft Windows 10, Professional or Enterprise edition, 32-bit (x86) or 64-bit (x64). • Microsoft Windows 8.1, Professional or Enterprise edition, 32-bit (x86) or 64-bit (x64).

NOTE: `[[[Undefined variable General.product]]]` is not supported on Windows Server Core mode setup.

Administration Service requirements

This section lists the system requirements of the `[[[Undefined variable General.product]]]` Administration Service.

All `[[[Undefined variable General.product]]]` components require:

- Microsoft .NET Framework 4.7.2. For more information, see [Installing .NET Framework for developers](#) in the *Microsoft .NET documentation*.
- Visual C++ 2017 Redistributable.

Table 17: Administration Service requirements

Requirement	Details
SQL Server	<p>You can host the <code>[[[Undefined variable General.product]]]</code> database on:</p> <ul style="list-style-type: none"> • Microsoft SQL Server 2019, any edition. • Microsoft SQL Server 2017, any edition. • Microsoft SQL Server 2016, any edition. • Microsoft SQL Server 2014, any edition, 32-bit (x86) or 64-bit (x64), with or without any Service Pack.

Requirement Details

- Microsoft SQL Server 2012, any edition, 32-bit (x86) or 64-bit (x64), with or without any Service Pack.
- Microsoft OLE DB Driver for SQL Server (MSOLEDBSQL).

[[[Undefined variable General.product]]] also supports Azure SQL hosted database.

Windows Management Framework

On all supported operating systems, the [[[Undefined variable General.product]]] Administration Service requires Windows Management Framework 5.1 (available for download [here](#)).

Operating system on domain controllers

[[[Undefined variable General.product]]] retains all features and functions when managing Active Directory on domain controllers running any of these operating systems, any edition, with or without any Service Pack:

- Microsoft Windows Server 2022
- Microsoft Windows Server 2019
- Microsoft Windows Server 2016

[[[Undefined variable General.product]]] deprecates managed domains with the domain functional level lower than Windows Server 2008 R2. One Identity recommends that you raise the functional level of the domains managed by [[[Undefined variable General.product]]] to Windows Server 2008 R2 or higher.

Exchange Server

[[[Undefined variable General.product]]] is capable of managing Exchange recipients on:

- Microsoft Exchange Server 2019
- Microsoft Exchange Server 2016
- Microsoft Exchange Server 2013

NOTE: Microsoft Exchange 2013 CU11 is no longer supported. For more information, see [Knowledge Base Article 202695](#).

Web Interface requirements

This section lists the system requirements of the [[[Undefined variable General.product]]] Web Interface.

All [[[Undefined variable General.product]]] components require:

- Microsoft .NET Framework 4.7.2. For more information, see [Installing .NET Framework for developers](#) in the *Microsoft .NET documentation*.
- Visual C++ 2017 Redistributable.

Table 18: Web Interface requirements

Requirement	Details
Internet Services	<p>On Windows Server 2016, Windows Server 2019, and Windows Server 2022, the [General.product] Web Interface requires the Web Server (IIS) server role with the following role services:</p> <ul style="list-style-type: none">• Web Server/Common HTTP Features/• Default Document• HTTP Errors• Static Content• HTTP Redirection• Web Server/Security/• Request Filtering• Basic Authentication• Windows Authentication• Web Server/Application Development/• .NET Extensibility• ASP• ASP.NET• ISAPI Extensions• ISAPI Filters• Management Tools/IIS 6 Management Compatibility/• IIS 6 Metabase Compatibility <p>Internet Information Services (IIS) must be configured to provide Read/Write delegation for the following features:</p> <ul style="list-style-type: none">• Handler Mappings• Modules• Use Feature Delegation in Internet Information Services (IIS) Manager to confirm that these features have their delegation set to Read/Write.
Web browser	<p>You can access [General.product] Web Interface using:</p> <ul style="list-style-type: none">• Mozilla Firefox 36 (or newer) on Windows.• Google Chrome 61 (or newer) on Windows.• Microsoft Edge 79 (or newer), based on Chromium on Windows 10.

Requirement	Details
-------------	---------

	You can use a later version of Firefox and Google Chrome to access the [[[Undefined variable General.product]]] Web Interface . However, the [[[Undefined variable General.product]]] Web Interface was tested only with the browser versions listed above.
--	---

Minimum screen resolution	The Active Roles Web Interface is optimized for screen resolutions of 1280x800 or higher. The minimum supported screen resolution is 1024x768.
---------------------------	---

Console requirements

This section lists the system requirements of the [\[\[\[Undefined variable General.product\]\]\] Console \(MMC Interface\)](#).

All [\[\[\[Undefined variable General.product\]\]\]](#) components require:

- Microsoft .NET Framework 4.7.2. For more information, see [Installing .NET Framework for developers](#) in the *Microsoft .NET documentation*.
- Visual C++ 2017 Redistributable.

Table 19: Console (MMC Interface) requirements

Requirement	Details
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Web browser	The [[[Undefined variable General.product]]] Console requires Microsoft Edge 79 (or newer), based on Chromium.
-------------	--

Management Tools requirements

The [\[\[\[Undefined variable General.product\]\]\] Management Tools](#) is a composite component that includes the [\[\[\[Undefined variable General.product\]\]\] Management Shell](#), ADSI Provider, and SDK. On a 64-bit (x64) system, the [\[\[\[Undefined variable General.product\]\]\] Management Tools](#) also include the [\[\[\[Undefined variable General.product\]\]\] Configuration Center](#).

This section lists the system requirements of the [\[\[\[Undefined variable General.product\]\]\] Management Tools](#).

All [\[\[\[Undefined variable General.product\]\]\]](#) components require:

- Microsoft .NET Framework 4.7.2. For more information, see [Installing .NET Framework for developers](#) in the *Microsoft .NET documentation*.
- Visual C++ 2017 Redistributable.

Table 20: Management Tools requirements

Requirement	Details
Windows Management Framework	On all supported operating systems, the <code>[[[Undefined variable General.product]]]</code> Management Tools require Windows Management Framework 5.1 (available for download here).
Remote Server Administration Tools (RSAT)	To manage Terminal Services user properties by using the <code>[[[Undefined variable General.product]]]</code> Management Shell, Management Tools require Remote Server Administration Tools (RSAT) for Active Directory. For more information on installing the RSAT version applicable to your operating system, see Remote Server Administration Tools (RSAT) for Windows in the <i>Microsoft Documentation</i> .

Synchronization Service requirements

This section lists the system requirements of the `[[[Undefined variable General.product]]]` Synchronization Service.

All `[[[Undefined variable General.product]]]` components require:

- Microsoft .NET Framework 4.7.2. For more information, see [Installing .NET Framework for developers](#) in the *Microsoft .NET documentation*.
- Visual C++ 2017 Redistributable.

Table 21: Synchronization Service requirements

Requirement	Details
SQL Server	<p>You can host the <code>[[[Undefined variable General.product]]]</code> Synchronization Service database on:</p> <ul style="list-style-type: none"> • Microsoft SQL Server 2019, any edition. • Microsoft SQL Server 2017, any edition. • Microsoft SQL Server 2016, any edition. • Microsoft SQL Server 2014, any edition, 32-bit (x86) or 64-bit (x64), with or without any Service Pack. • Microsoft SQL Server 2012, any edition, 32-bit (x86) or 64-bit (x64), with or without any Service Pack. <p>NOTE: The <code>[[[Undefined variable General.product]]]</code> Synchronization Service does not support Azure SQL hosted database.</p>
Windows Management Framework	On all supported operating systems, the <code>[[[Undefined variable General.product]]]</code> Synchronization Service requires Windows Management Framework 5.1 (available for download here).
Supported	The <code>[[[Undefined variable General.product]]]</code> Synchronization

Requirement	Details
connections	<p data-bbox="477 264 786 293">Service can connect to:</p> <ul data-bbox="528 320 1396 1630" style="list-style-type: none"> <li data-bbox="528 320 1396 383">• Microsoft Active Directory Domain Services with the domain or forest functional level of Windows Server 2016 or higher. <li data-bbox="528 400 1396 499">• Microsoft Active Directory Lightweight Directory Services running on any Windows Server operating system supported by Microsoft. <li data-bbox="528 517 1396 546">• Microsoft Exchange Server version 2019, 2016, or 2013. <p data-bbox="571 564 1299 663">NOTE: Microsoft Exchange 2013 CU11 is no longer supported. For more information, see Knowledge Base Article 202695.</p> <ul data-bbox="528 680 1396 1630" style="list-style-type: none"> <li data-bbox="528 680 1396 710">• Microsoft Lync Server version 2013 with limited support. <li data-bbox="528 728 1396 757">• Microsoft Skype for Business 2019, 2016 or 2015. <li data-bbox="528 775 1396 837">• Microsoft Windows Azure Active Directory using Microsoft Graph API version 1.0. <li data-bbox="528 855 1396 884">• Microsoft Office 365 directory. <li data-bbox="528 902 1396 931">• Microsoft Exchange Online service. <li data-bbox="528 949 1396 978">• Microsoft Skype for Business Online service. <li data-bbox="528 996 1396 1025">• Microsoft SharePoint Online service. <li data-bbox="528 1043 1396 1072">• Microsoft SQL Server, any version supported by Microsoft. <li data-bbox="528 1090 1396 1120">• Microsoft SharePoint 2019, 2016, or 2013. <li data-bbox="528 1137 1396 1200">• <code>[[[Undefined variable General.product]]]</code> version 7.4.3, 7.4.1, 7.3, 7.2, 7.1, 7.0, and 6.9 <li data-bbox="528 1218 1396 1247">• One Identity Manager version 7.0 (D1IM 7.0) <li data-bbox="528 1265 1396 1294">• One Identity Manager version 8.0 <li data-bbox="528 1312 1396 1411">• Support for Generic LDAP Connector, MySQL Connector, Open LDAP Connector, IBM Db2 Connector, Salesforce Connector, Service now Connector, and IBM RACF Connector. <li data-bbox="528 1429 1396 1527">• Support for Oracle Database, Oracle Database User Accounts, Oracle Unified Directory, Micro Focus NetIQ Directory, and IBM AS/400 connectors. <li data-bbox="528 1545 1396 1574">• Data sources accessible through an OLE DB provider <li data-bbox="528 1592 1396 1621">• Delimited text files
Legacy [[[Undefined variable General.product]]] ADSI Provider	To connect to <code>[[[Undefined variable General.product]]]</code> version 6.9, see the <code>[[[Undefined variable General.product]]]</code> ADSI Provider of <i>Quick Start Guide</i> for the appropriate <code>[[[Undefined variable General.product]]]</code> version.

Requirement	Details
One Identity Manager API	To connect to One Identity Manager 7.0, One Identity Manager Connector must be installed on the computer running the <code>[[[Undefined variable General.product]]]</code> Synchronization Service. This connector works with RESTful web service and SDK installation is not required.
Internet Connection	To connect to cloud directories or online services, the computer running the <code>[[[Undefined variable General.product]]]</code> Synchronization Service must have a reliable connection to the Internet.

Synchronization Service Capture Agent

This section lists the system requirements of the `[[[Undefined variable General.product]]]` Synchronization Service Capture Agent.

All `[[[Undefined variable General.product]]]` components require:

- Microsoft .NET Framework 4.7.2. For more information, see [Installing .NET Framework for developers](#) in the *Microsoft .NET documentation*.
- Visual C++ 2017 Redistributable.

Table 22: Synchronization Service Capture Agent requirements

Requirement	Details
Additional Requirements	<p>To synchronize passwords from an Active Directory domain to some other connected data system, you must install the <code>[[[Undefined variable General.product]]]</code> Synchronization Service Capture Agent on all domain controllers in the source Active Directory domain.</p> <p>The domain controllers on which you install the <code>[[[Undefined variable General.product]]]</code> Synchronization Service Capture Agent must run one of the following operating systems with or without any Service Pack (both x86 and x64 platforms are supported):</p> <ul style="list-style-type: none"> • Microsoft Windows Server 2022 • Microsoft Windows Server 2019 • Microsoft Windows Server 2016 <p>For more information, see the <code>[[[Undefined variable General.product]]]</code> <i>Synchronization Service Administration Guide</i>.</p>

Product licensing

Use of this software is governed by the Software Transaction Agreement found at www.oneidentity.com/legal/sta.aspx. This software does not require an activation or license key to operate.

The product usage statistics can be used as a guide to show the scope and number of managed objects in `[[[Undefined variable General.product]]]`.

Upgrade and compatibility

CAUTION: You must run the `[[[Undefined variable General.product]]]` Setup in Administrator Mode. Failing to do so will result in `[[[Undefined variable General.product]]]` not starting up at all.

You can upgrade any 7.x version of `[[[Undefined variable General.product]]]` to `[[[Undefined variable General.product]]]` 7.5.3.

For instructions on how to upgrade from an earlier version of `[[[Undefined variable General.product]]]`, see the *[[[Undefined variable General.product]]]* Quick Start Guide.

NOTE: Consider the following before upgrading to a new version of `[[[Undefined variable General.product]]]`:

- Components of an earlier `[[[Undefined variable General.product]]]` version may not work with the components of the new version you are upgrading to.
- Custom solutions (scripts or other modifications) that rely on `[[[Undefined variable General.product]]]` features may fail to work after an upgrade due to compatibility issues. Therefore, before starting the upgrade, test your existing solutions with the new version of `[[[Undefined variable General.product]]]` in a lab environment to verify that your custom solutions will continue to work.

TIP: When upgrading to a new `[[[Undefined variable General.product]]]` version, One Identity recommends to upgrade the `[[[Undefined variable General.product]]]` Administration Service first, and the client components (`[[[Undefined variable General.product]]]` Console and `[[[Undefined variable General.product]]]` Web Interface) afterwards.

Upgrade and installation instructions

For instructions on how to upgrade from an earlier version of `[[[Undefined variable General.product]]]` or how to install and initially configure `[[[Undefined variable General.product]]]`, see the *[[[Undefined variable General.product]]]* Quick Start Guide.

For special considerations regarding the installation of `[[[Undefined variable General.product]]]` 7.5.3, see the following information.

Changes related to Azure tenants

NOTE: If your organization has any Azure tenants that are managed with `[[[Undefined variable General.product]]]`, you need to reauthenticate and reauthorize them after installing `[[[Undefined variable General.product]]]` 7.5.3. Otherwise, `[[[Undefined variable General.product]]]` will not receive the required permissions for managing existing Azure tenants, and tenant administration in `[[[Undefined variable General.product]]]` 7.5.3 will not work correctly. For more information, see *Reconfiguring Azure tenants during upgrade configuration* in the `[[[Undefined variable General.product]]]` *Quick Start Guide*.

Changes related to `[[[Undefined variable General.product]]]` Synchronization Service

NOTE: `[[[Undefined variable General.product]]]` 7.5 introduced support for Modern Authentication in Azure BackSync workflows of the `[[[Undefined variable General.product]]]` Synchronization Service. After upgrading to `[[[Undefined variable General.product]]]` 7.5 or 7.5.3 from an earlier version, if you previously had an Azure BackSync workflow configured, you will be prompted to reconfigure it in the `[[[Undefined variable General.product]]]` Synchronization Service Console.

⚠ CAUTION: If you previously had an Azure BackSync workflow configured in `[[[Undefined variable General.product]]]` Synchronization Service, and you use more than one Azure Active Directory (Azure AD) service in your deployment, you must specify the Azure AD for which you want to configure Azure BackSync. Failure to do so may either result in directory objects not synchronized at all, or synchronized to unintended locations.

For more information on how to specify the Azure AD used for back-synchronization, see *Configuring automatic Azure BackSync* in the `[[[Undefined variable General.product]]]` *Synchronization Service Administration Guide*.

More resources

Additional information is available from the following resources:

- Online product documentation (<https://support.oneidentity.com/active-roles/>)
- `[[[Undefined variable General.product]]]` community (<https://www.oneidentity.com/community/active-roles>)

Globalization

This section contains information about installing and operating this product in non-English configurations, such as those needed by customers outside of North America. This section does not replace the materials about supported platforms and configurations found elsewhere in the product documentation.

This release is Unicode-enabled and supports any character set. It supports simultaneous operation with multilingual data. This release is targeted to support operations in the following regions: North America, Western Europe and Latin America, Central and Eastern Europe, Far-East Asia, Japan.

About us

One Identity solutions eliminate the complexities and time-consuming processes often required to govern identities, manage privileged accounts and control access. Our solutions enhance business agility while addressing your IAM challenges with on-premises, cloud and hybrid environments.

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- Download software and technical documentation
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Table 23: List of Third-Party Contributions

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ASP.NET Ajax 4.0	Microsoft Permissive License (Ms-PL) N/A
Bootstrap 3.2	MIT N/A
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JQuery UI 1.12.1	Copyright 2007, 2014 jQuery Foundation and other contributors, https://jquery.org/ MIT N/A
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Microsoft.IdentityModel.Clients.ActiveDirectory 3.19.8	Copyright (c) Microsoft Corporation MIT N/A
Microsoft.IdentityModel.Logging 5.2.2	Copyright (c) Microsoft Corporation. All rights reserved. MIT N/A
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Microsoft .Net Framework 4.5

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