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ADTRAN

Configuration Guide

Configuring Microsoft Exchange 2007, 2010, and 2013 Permissions for Integration with NetVanta UC Server

The NetVanta Unified Communications (UC) Server is a real time communications system that integrates with Microsoft® Exchange® Server to provide unified messaging functionality.

This configuration guide describes the steps necessary to set the proper permissions in Microsoft Exchange for integration with the NetVanta UC Server. This guide covers Microsoft's messaging application programming interface (MAPI) client requirements for Microsoft Exchange Server versions 2007, 2010, and 2013, how to set the permissions for Exchange versions 2007, 2010, and 2013 using the Microsoft Exchange management shell, and how to verify the Exchange version 2010 permissions using Active Directory for Microsoft Server 2008. Additionally, this guide includes a troubleshooting section for Exchange Web Services (EWS) throttling policies.

This guide consists of the following sections:

Hardware and Software Requirements and Limitations

NetVanta UC Server version 5.4 (or earlier) can be integrated with Microsoft Exchange Server 2007 or 2010 using either Microsoft Exchange Server MAPI CDO 1.2.1 or using Microsoft Outlook 2007 or 2010 client via a standalone installation or via Microsoft Office 2007 Standard, Office 2007 Professional, or Office 2010.

Microsoft Outlook 2003 Service Pack 2 and Outlook 2007 Service Pack 2 are not supported. Microsoft Outlook 2003 is not recommended for use with new installations of NetVanta UC Server.

NetVanta UC Server version 5.5.0 (or later) can be integrated with Microsoft Exchange Server 2007, 2010, or 2013 SP1 (or later) using Microsoft Exchange Server MAPI CDO 1.2.1. The Microsoft Outlook client is no longer supported for Exchange Server integration.

Integration with Exchange using MAPI/CDO clients requires MAPI/CDO 1.2.1 version 08.03.0.8353.0 (published 2014-03-04) or later. Older versions are not compatible with all NetVanta UC Server platforms. The latest MAPI/CDO 1.2.1 version can be obtained from the Microsoft Download Center: http://www.microsoft.com/en-ca/download/details.aspx?id=42040.

Installing both Microsoft Outlook and MAPI/CDO 1.2.1 on the NetVanta UC Server computer is neither recommend nor supported.

NetVanta UC Server versions 5.2 and later can be integrated with Microsoft Exchange Server 2010 SP1 (or later) or Exchange Server 2013 SP1 (or later) using EWS.

EWS integrations require MAPI/CDO be installed on the NetVanta UC Server computer in order for NetVanta UC Server to detect all existing Exchange servers during system configuration.

In NetVanta UC Server versions prior to 5.1.0, a known software limitation prevents NetVanta UC Server from connecting to Microsoft Exchange Server 2007 or 2010 when the Exchange Mailbox, Client Access, and Hub Transport do not reside on the same server. This limitation is rectified in NetVanta UC Server software versions 4.6.3 and 4.6.4 by hotfixes available from ADTRAN Support (1-888-4ADTRAN). This fix is included in NetVanta UC Server versions 5.1.0 and later.

An account with domain administration permissions could be required to set the mailbox permissions during the configuration of the NetVanta UC Server application. Once set, the login account can be returned to the service account in use with the application.

NetVanta UC Server Integration Requirements

Before configuring Microsoft Exchange Server for integration you must install a compatible MAPI connector on the service account profile where the NetVanta UC Server application is installed. Refer to the *Hardware and Software Requirements and Limitations* section above to view a complete list of compatible Microsoft Outlook and MAPI client versions.

> NOTE
>
> *This guide only outlines the Microsoft Exchange permissions necessary for integration with the NetVanta UC Server. It does not include actual Microsoft Exchange configuration information, nor does ADTRAN provide customer support for Microsoft Exchange configuration. You will need to ensure that all other Microsoft Exchange parameters are configured properly for your system and network.*

MAPI/CDO 1.2.1 Integration

To integrate NetVanta UC Server with Microsoft Exchange using a MAPI/CDO client, the MAPI/CDO client must be installed on the NetVanta UC Server computer using the NetVanta UC Server service account. The service account must be used to prevent permission issues. Additionally, the service account permissions must be set to those permissions supported by the UC server (covered in *Integrating NetVanta UC Server with Exchange Server 2007 on page 4* and *Configuring Service Account Permissions on page 5*). Once the permissions are set, the applications server service must be restarted using the account with the new permission settings.

Exchange Web Services Integration

To integrate NetVanta UC Server with Microsoft Exchange EWS, the MAPI/CDO client must be installed on the NetVanta UC Server computer using the NetVanta UC Server service account. The service account must be used to prevent permission issues. Additionally, the service account permissions must be set to those permissions supported by the UC server (covered in *Integrating NetVanta UC Server with Exchange Server 2010 SP1 (or Later) or 2013 SP1 (or Later) Using EWS on page 8*). Once the permissions are set, the applications server service must be restarted using the account with the new permission settings.

Microsoft Outlook Client Integration

To integrate NetVanta UC Server with Microsoft Exchange using Microsoft Outlook as a MAPI connector, the Outlook client must be installed on the NetVanta UC Server computer using the NetVanta UC Server service account. The service account must be used to prevent permission issues. Additionally, the service account permissions must be set to those permissions supported by the UC server (covered in *Integrating NetVanta UC Server with Exchange Server 2007 on page 4* and *Configuring Service Account Permissions on page 5*). Once the permissions are set, the applications server service must be restarted using the account with the new permission settings.

Integrating NetVanta UC Server with Exchange Server 2007

For NetVanta UC Server to function properly in a Microsoft Exchange Server 2007 environment, the NetVanta UC Server service account must be given the View-Only Administrator role and Send As, Receive As, and Administer Information Store permissions. To specify these settings, follow the steps below:

> NOTE
>
> *Commands from this section cannot be pasted directly into Microsoft Exchange Management Shell. You must first paste the command into a text editor (e.g., Notepad) and replace all line breaks so that each command appears as one consecutive string. Otherwise, Microsoft Exchange Management Shell will recognize each line of command individually, and the commands will fail.*

1. Access the Microsoft Exchange Management Shell by navigating to **Start** > **Programs** > **Microsoft Exchange Server 2007** > **Exchange Management Shell**.
2. To set the administrator role to View-Only Administrator, enter the following command at the prompt:

   add-exchangeadministrator <*service account name*> **-role ViewOnlyAdmin**

   The <*service account name*> parameter is the name of the Windows account (for example, **UCService**).
3. To view the configured administrator role, enter the following command at the prompt:

   get-exchangeadministrator | Format-List
4. Next, you will need to set the Send As, Receive As, and Administrator Information Store permissions for the account. Set these permissions by entering the following command at the prompt:

   get-mailboxserver <*exchange server name*> **| add-adpermission -user** <*service account name*> **-accessrights GenericRead, GenericWrite -extendedrights Send-As, Receive-As, ms-Exch-Store-Admin**

   The <*exchange server name*> parameter is the name of the Microsoft Exchange Server 2007 or the Microsoft Exchange cluster. The <*service account name*> parameter is the name of the Windows account. Neither the <*exchange server name*> nor the <*service account name*> can contain spaces when configuring Microsoft Exchange Server 2007 using Exchange Management Shell.
5. To view the configured account permissions, enter the following command at the prompt:

   get-mailboxserver <*exchange server name*> **| get-ADpermission -user** <*service account name*> **| Format-List**

   Neither the <*exchange server name*> nor the <*service account name*> can contain spaces when configuring Microsoft Exchange Server 2007 using Exchange Management Shell.

   After setting the permissions, the Windows account should be displayed with a View-Only Administrator role and contain the Send As, Receive As, and Administrator Information Store permissions.

Integrating NetVanta UC Server with Exchange Server 2010, 2010 SP1 though SP3, or 2013 SP1 (or Later)

This section provides instructions for integrating Microsoft Exchange Server with either MAPI/CDO or EWS. Both integration methods require that the service account be given specific permissions and the client throttling be disabled on the service account. Additionally, if Exchange is being upgraded from Exchange 2007 to Exchange 2010 or 2013, the NetVanta UC Server services must be stopped and the service account reset.

> NOTE
>
> *Commands from this section cannot be pasted directly into Microsoft Exchange Management Shell. You must first paste the command into a text editor (for example, Notepad) and remove all line breaks so that each command appears as one consecutive string. Otherwise, Microsoft Exchange Management Shell will recognize each line of command individually, and the commands will fail.*

Configuring the Service Account Permissions

In order to integrate NetVanta UC Server with Microsoft Exchange Server 2010, the service account must be added to the View-Only Organization Management role group and given Send As, Receive As, and Administer Information Store permissions. To specify these settings, follow the steps below:

1. For Microsoft Exchange Server 2010, access the Microsoft Exchange Management Shell by navigating to **Start > Programs > Microsoft Exchange Server 2010 > Exchange Management Shell**.

   For Microsoft Exchange Server 2013, access the Microsoft Exchange Management Shell by navigating to **Start > Programs > Microsoft Exchange Server 2013 > Exchange Management Shell**.

2. To set the administrator role to View-Only Organization Management role group using the following command:

   Add-RoleGroupMember "View-Only Organization Management" -Member "<*service account name*>**"**

   The <*service account name*> parameter is the name of the Windows account (for example, **UCServer**). The <*service account name*> parameter can contain spaces when configuring Microsoft Exchange Server using Exchange Management Shell.

3. Next, you will need to set the Send As, Receive As, and Administer Information Store permissions at the common name level. Set these permissions by entering the following commands at the prompt:

   Get-MailboxDatabase | Add-ADPermission -User "<*service account name*>**" -AccessRights ExtendedRight -ExtendedRights Receive-As, ms-Exch-Store-Admin**

   Add-ADPermission -InheritedObjectType User -InheritanceType Descendents -ExtendedRights Send-As -User "<*service account name*>**" -Identity "CN=Users,DC=**<*domain x*>**,DC=**<*domain y*>**,DC=**<*domain z*>**"**

   The <*service account name*> parameter is the name of the Windows account (for example, **UCServer**). The <*service account name*> parameter can contain spaces when configuring Microsoft Exchange Server using Exchange Management Shell.

   The domain variables must be altered to match your implementation. The variables <*domain x*>,

<*domain y*>, and <*domain z*> form the name of the domain. For example, if the domain name is example.organization.net, enter **example** for <*domain x*>, **organization** for <*domain y*>, and **net** for <*domain z*>. If you have problems with this command please check with your administrator to ensure you have the proper variables for your environment.

The following is an example of these two commands using a UC Service account named **UCServer** for the domain **division.department.company.com**:

Get-MailboxDatabase | Add-ADPermission -User "UCServer" -AccessRights ExtendedRight -ExtendedRights Receive-As, ms-Exch-Store-Admin

Add-ADPermission -InheritedObjectType User -InheritanceType Descendents -ExtendedRights Send-As -User "UCServer" -Identity "CN=Users,DC=division,DC=department,DC=company, DC=com"

In some installations, permissions cannot be set using the commands above due to external permissions issues between Active Directory and Microsoft Exchange. Refer to Setting Send-As Permission on Windows Server 2008 R2 on page 17 to set Send-As permissions for the NetVanta UC Server service account using Active Directory.

Disabling Client Throttling for the Service Account

NetVanta UC Server requires continuous access to multiple Exchange mailboxes in a typical installation. Microsoft Exchange Server 2010 and later implement a default throttling policy that limits the number of simultaneous connections to Exchange. It is recommended to increase the throttling value to allow NetVanta UC Server to make as many connections as possible to Exchange Server. To remove client throttling on the NetVanta UC Server service account, follow these steps:

1. For Microsoft Exchange Server 2010, access the Microsoft Exchange Management Shell by navigating to **Start > Programs > Microsoft Exchange Server 2010 > Exchange Management Shell**.

   For Microsoft Exchange Server 2013, access the Microsoft Exchange Management Shell by navigating to **Start > Programs > Microsoft Exchange Server 2013 > Exchange Management Shell**.

2. For Microsoft Exchange Server 2010, enter the following command to create a new throttling policy called **UCPolicy** with all client throttling disabled:

   New-ThrottlingPolicy UCPolicy -RCAMaxConcurrency $null -RCAPercentTimeInAD $null -RCAPercentTimeInCAS $null -RCAPercentTimeInMailboxRPC $null -EWSMaxConcurrency $null -EWSPercentTimeInAD $null -EWSPercentTimeInCAS $null -EWSPercentTimeInMailboxRPC $null -EWSMaxSubscriptions $null -EWSFastSearchTimeoutInSeconds $null -EWSFindCountLimit $null

   For Microsoft Exchange Server 2010 SP1 through SP3, enter the following command to create a new throttling policy called **UCPolicy** with all client throttling disabled:

   New-ThrottlingPolicy UCPolicy -RCAMaxConcurrency $null -RCAPercentTimeInAD $null -RCAPercentTimeInCAS $null -RCAPercentTimeInMailboxRPC $null -EWSMaxConcurrency $null -EWSPercentTimeInAD $null -EWSPercentTimeInCAS $null -EWSPercentTimeInMailboxRPC $null -EWSMaxSubscriptions $null -EWSFastSearchTimeoutInSeconds $null -EWSFindCountLimit $null -CPAMaxConcurrency $null -CPAPercentTimeInCAS $null -CPAPercentTimeInMailboxRPC $null

For Microsoft Exchange Server 2013 SP1, enter the following command to create a new throttling policy called **UCPolicy** with all client throttling disabled:

New-ThrottlingPolicy UCPolicy -OwaMaxConcurrency Unlimited -EWSMaxConcurrency Unlimited -EWSMaxBurst Unlimited -EWSRechargeRate Unlimited -EWSCutoffBalance Unlimited -EWSMaxSubscriptions Unlimited -RcaMaxConcurrency Unlimited -RcaMaxBurst Unlimited -RcaRechargeRate Unlimited -RcaCutoffBalance Unlimited -CpaMaxConcurrency Unlimited -CpaMaxBurst Unlimited -CpaRechargeRate Unlimited -CpaCutoffBalance Unlimited

3. Enter the following command to apply the **UCPolicy** throttling policy to the NetVanta UC Server service account. The <*service account*> variable should be replaced with the name of the NetVanta UC Server service account.

   Set-Mailbox -Identity <*service account*> **-ThrottlingPolicy UCPolicy**

   In the following example, the service account is **UC.Server@adtran.com**:

   Set-Mailbox -Identity UC.Server@adtran.com -ThrottlingPolicy UCPolicy

4. If you are upgrading from Exchange Server 2007 to Exchange Server 2010, follow the steps in *Upgrading from Exchange 2007 to Exchange 2010 or Exchange 2013 on page 15* to stop all NetVanta UC Server services and reset the NetVanta UC Server service account.

Modifying Session Limits for Exchange 2013 SP1

For Exchange Server 2013 integrations, additional registry modifications may be required for large user deployments and call volume scenarios. To exceed the session limits imposed by Exchange Server by default, the following steps are required using the registry editor:

Ensure your registry is backed-up prior to making any modifications.

1. On the Exchange Server, open the Registry Editor (**regedit.exe**).
2. Navigate to the following location in the registry:

   HKEY_LOCAL_MACHINE > **SYSTEM** > **CurrentControlSet** > **Services** > **MSExchangeIS** > **ParametersSystem**

3. Create or edit the following **dword** values in the **ParametersSystem** registry key:

   "DatabaseType"=dword:00000000
   "Maximum Allowed Sessions Per User"=dword:000007d0
   "Disable Session Limit"=dword:00000001
   "Maximum Allowed Service Sessions Per User"=dword:000007d0

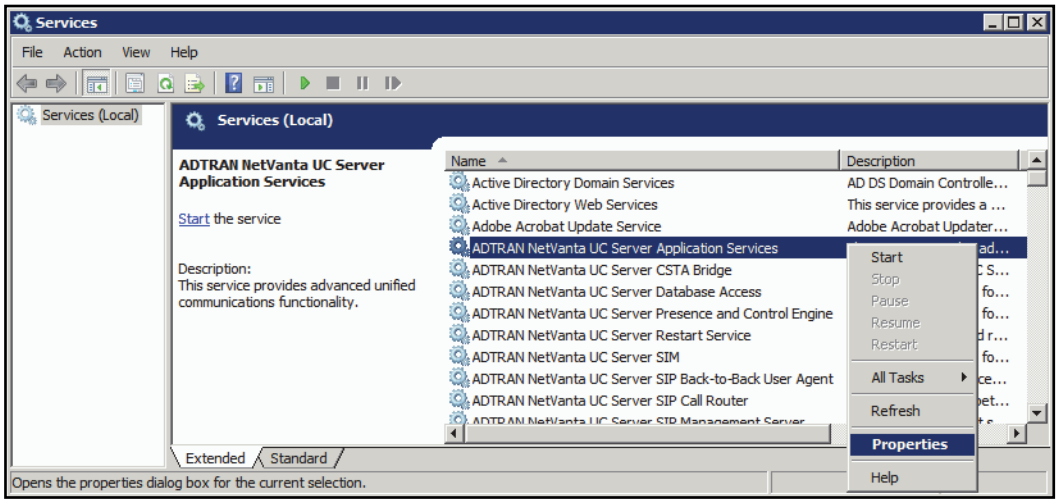
Please note that registry setting changes will only apply if the Exchange Server system is restarted or the Exchange Information Store service is manually restarted via ***services.msc****.*

Upgrading from Exchange 2007 to Exchange 2010 or Exchange 2013

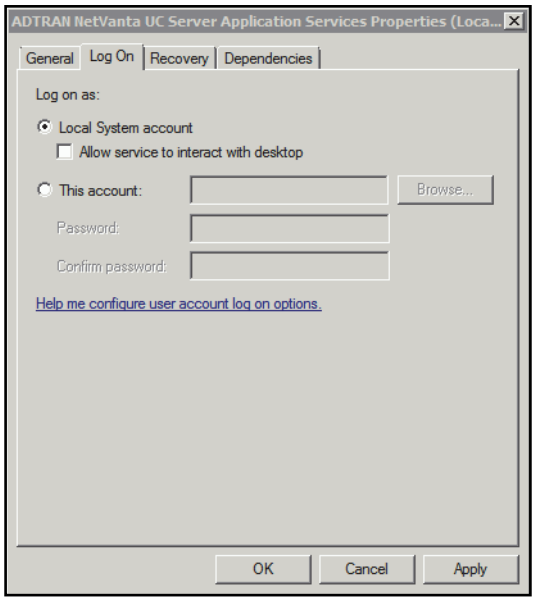
If you are upgrading from Exchange 2007 to Exchange 2010 or Exchange 2013, after configuring the permissions and throttling policy for the NetVanta UC Server service account, you must stop all NetVanta UC Server services and reset the service account. To do this, follow these steps:

> *If the name of the Exchange server changes during the upgrade process, additional steps may be required to change the name of the Exchange server in NetVanta UC Server. For more information, refer to Changing the Exchange Server Name within UC Server available from the ADTRAN Support Community (https://supportforums.adtran.com).*

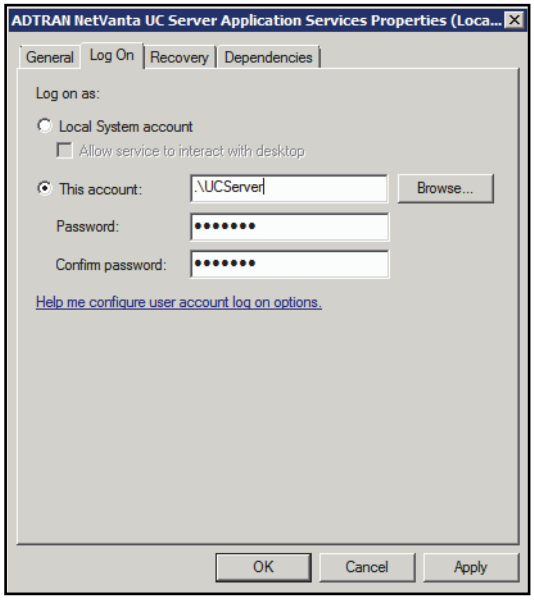
1. Open **Windows Explorer,** and navigate to **C:\Program Files (x86)\ADTRAN\NetVanta UC Server**. Run the **StopAllUCServerServices.bat** file located in the folder.
2. Next, navigate to **Start > Administrative Tools > Services**. The **Services** window will appear.
3. Right-click **ADTRAN NetVanta UC Server Application Services**, and select **Properties**. The **ADTRAN NetVanta UC Server Application Services Properties** menu will appear.



4. In the **ADTRAN NetVanta UC Server Application Services Properties** menu, record the account that appears in the **This account** field. This is the service account used by the ADTRAN NetVanta UC Server Application Services service and will be reused in a later step. Select the **Log On** tab and select **Local System account**. Select **Apply**.



5. Run the **StopAllUCServerServices.bat** file again.
6. Access the **Log On** tab of the **ADTRAN NetVanta UC Server Application Servies Properties** menu using the procedure in Steps 2 and 3.
7. On the **Log On** tab, select **This Account** and enter the appropriate account and password information for the NetVanta UC Server service account in the **This Account**, **Password**, and **Confirm password** fields. The service account used should be the account you recorded earlier in Step 4. Select **Apply**.



Setting Send-As Permission on Windows Server 2008 R2

The NetVanta UC Server service account must have the Send-As permission set on each Active Directory User object that is configured for NetVanta UC Server unified messaging. The Send-As permission can be granted to the containers holding these User objects, or to individual User objects. If you cannot set the permissions for the NetVanta UC Server service account using Exchange Management Shell, follow these steps to set the Send-As permission for service account using Active Directory.

1. Navigate to **Start > All Programs > Microsoft Exchange >Active Directory Users and Computers**. This will open Active Directory Users and Computers.
2. From the **View** menu, select the **Advanced Features** option.
3. Right-click on the appropriate domain, container, or user, and then select **Properties**. This is typically the Users folder in the root of a domain, but steps 3 through 8 can be repeated for multiple containers or OUs.
4. Navigate to the **Security** tab and select **Advanced.**

> NOTE *If the **Security** tab is not visible, make sure you selected **Advanced Features** in the **View** menu.*

5. Select the service account that requires the **Send As** permission from the list. If the service account is not listed, select **Add**. Then select the service account name and select **OK** to add the account to the list.
6. When you have selected the proper account from the list, select **User object** in the **Apply to** list.

> NOTE *If you are using Windows Server 2008 R2 as the domain controller, select **Descendant user objects** in the **Apply to** list.*

7. In the **Permissions** screen, select the **Allow** check box next to **Send As**.
8. Select **Apply** and then select **OK**.
9. Close the **Properties** window and then close **Active Directory Users and Computers**.

Troubleshooting Throttling Errors

If the NetVanta UC Server service account is being throttled by Exchange, the throttling budget should be increased or throttling should be removed from the corresponding policy element in the NetVanta UC Server service account throttling policy. When an Exchange user (such as the NetVanta UC Server service account) is throttled, an error message is returned to the client (NetVanta UC Server) and the event is logged by Exchange. Consequently, information about service account throttling can be found in several places:

- On the NetVanta UC Server computer, error information is logged in the **swlog** files located in the **C:\ADTRANLogs** directory. These files are automatically rotated. The file's name describes the time of the last log in the file. For example, the last log in **swlog_AutoRotate_2012-09-24_09-43-53-00.txt** occured at approximately 9:43:53 (hours, minutes, and seconds) on September 24th, 2012.

- In the Administrator tab in NetVanta UC Client, several types of system level logs can be accessed in the **Logs** topic in the **Navigation** pane. For more information on using these logs, refer to *Using Logs in the NetVanta UC Server* available from the ADTRAN Support Community (https://supportforums.adtran.com).
- On the CAS server, program-level errors are logged in the **Application Log** in Event Viewer.
- On the CAS server, Internet Information Services (IIS) logs are stored in the **C:\inetpub\logs\LogFiles\W3SVC1** directory. For more information on IIS 7.0, refer to the *IIS 7 Operation Guide* available from http://technet.microsoft.com.

For more information on throttling policies, refer to the websites below:

- *Throttling Policy Associations in Exchange 2010 SP1* available from http://blogs.technet.com/b/exchange/archive/2010/08/02/3410563.aspx
- *Understanding Client Throttling Policies* available from http://technet.microsoft.com/en-us/library/dd297964.aspx
- *EWS throttling in Exchange Online* available from http://msdn.microsoft.com/en-us/library/exchange/hh881884(v=exchg.140).aspx
- *Effects of Throttling on Your Deployment in Exchange 2010 SP1* available from http://blogs.technet.com/b/exchange/archive/2010/08/27/3410837.aspx

For more information on using IIS to determine whether the service account is exceeding it's throttling budget, refer to *Budget Snapshots in the IIS Logs* available from http://blogs.msdn.com/b/exchangedev/archive/2010/03/10/budget-snapshots-in-the-iis-logs.aspx

In some cases, additional throttling policy elements may need to be removed from the service account's throttling policy for the system to operate correctly. To remove throttling from one or more policy elements from the NetVanta UC Server service account throttling policy, follow these steps:

1. For Microsoft Exchange Server 2010, access the Microsoft Exchange Management Shell by navigating to **Start > Programs > Microsoft Exchange Server 2010 > Exchange Management Shell**.

   For Microsoft Exchange Server 2013, access the Microsoft Exchange Management Shell by navigating to **Start > Programs > Microsoft Exchange Server 2013 > Exchange Management Shell**.

2. Determine the throttling policy for the NetVanta UC Server service account using the following command:

   Get-Mailbox <*uc server service account*> **| fl throttlingpolicy**

   The <*uc server service account*> variable is the name of the NetVanta UC Server service account.

3. For Microsoft Exchange Server 2010, use the following command to remove throttling from the policy element in the NetVanta UC Server service account throttling policy (created in *Step on page 6*):

   Set-ThrottlingPolicy <*throttling policy*> <*policy element*> **$null**

   For Microsoft Exchange Server 2013, use the following command to remove throttling from the policy element in the NetVanta UC Server service account throttling policy (created in *Step on page 6*):

   Set-ThrottlingPolicy <*throttling policy*> <*policy element*> **unlimited**

   The <*throttling policy*> variable is the name of the NetVanta UC Server service account throttling policy (for example, **UCThrottling**). This throttling policy is the policy returned from the command in *Step 2 on page 18*.

The <*policy element*> variable is the name of the policy element preceded by a dash (for example, **-EWSFindCountLimit**).

The following example removes throttling from the **RCAPercentTimeInCAS** policy element on the **UCThrottling** throttling policy in Microsoft Exchange Server 2010:

Set-ThrottlingPolicy UCThrottling -RCAPercentTimeInCAS $null

The following example removes throttling from the **EWSMaxConcurrency** policy element on the **UCThrottling** throttling policy in Microsoft Exchange Server 2013:

Set-ThrottlingPolicy UCThrottling -EWSMaxConcurrency unlimited

4. If necessary, throttling can be removed from multiple (or all) policy elements simultaneously.

   The following example disables all client throttling for the **UCThrottling** throttling policy in Microsoft Exchange Server 2010:

   Set-ThrottlingPolicy UCPolicy -RCAMaxConcurrency $null -RCAPercentTimeInAD $null -RCAPercentTimeInCAS $null -RCAPercentTimeInMailboxRPC $null -EWSMaxConcurrency $null -EWSPercentTimeInAD $null -EWSPercentTimeInCAS $null -EWSPercentTimeInMailboxRPC $null -EWSMaxSubscriptions $null -EWSFastSearchTimeoutInSeconds $null -EWSFindCountLimit $null

   The following example disables all client throttling for the **UCThrottling** throttling policy in Microsoft Exchange Server 2013:

   Set-ThrottlingPolicy UCPolicy -RCAMaxConcurrency unlimited -EWSMaxConcurrency unlimited -EWSMaxSubscriptions unlimited

