

# UCCX Email Integration with Microsoft Exchange 2010 Throttling Policies Checklist

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## Introduction

This document describes the process used when Unified Contact Center Express (UCCX) integrates with Microsoft Exchange in order to provide email functionality. The two protocols used by UCCX are:

- Internet Message Access Protocol (IMAP)
- Simple Mail Transfer Protocol (SMTP)

The IMAP connection is opened from both UCCX and Cisco Agent Desktop (CAD) clients, but SMTP is used by the UCCX server only. Apart from the configurations on the UCCX and Microsoft Exchange, the throttling policies on Microsoft Exchange have to be considered with caution. These policies can cause many issues, such as:

- Agent Email READY/NOT-READY buttons are grayed out
- Emails do not route to agents
- Agents are unable to retrieve emails

There might be multiple issues, and this document covers some of the most common ones.

## UCCX Email Integration with Microsoft Exchange 2010 Throttling Policies Checklist

The CAD clients and UCCX both open IMAP connections to the Microsoft Exchange server. Every client login requires two IMAP connections to be open. The connection limit on Microsoft Exchange is an issue because of the user account used in order to open the account.

For example, the UCCX Email READY/NOT-READY buttons are grayed out.

When this occurs, notice that the **Agent Email** tab displays **Loading** and is locked with that message. In order for the buttons to highlight, the CAD client must open an IMAP connection to the Microsoft Exchange server. Open a command prompt on the PC and enter:

```
telnet <ip address of exchange> 143
```

If this is unsuccessful, the problem is a network issue or a configuration issue. If successful, then the connection from CAD should be successful as well. However, this does not always occur,

since the CAD client opens the connection with the use of the UCCX Email Account configured on the Cisco Desktop Administrator page. A packet capture on the Cisco Agent Desktop PC shows that Microsoft Exchange rejects the connection with an authentication error. However, other agents might be working with same account, and you have verified that the credentials are correct.

Time	Source IP	Destination IP	Protocol	Length	Info
10569	117.908423	10.4.3.90	10.4.4.95	IMAP	82 Response: A1 NO AUTHENTICATE failed.
10586	117.927165	10.4.3.90	10.4.4.95	IMAP	107 Response: * OK The Microsoft Exchange IMAP4 service is ready.
10603	117.947876	10.4.3.90	10.4.4.95	IMAP	107 Response: * OK The Microsoft Exchange IMAP4 service is ready.
10605	117.948521	10.4.3.90	10.4.4.95	IMAP	196 Response: * CAPABILITY IMAP4 IMAP4rev1 AUTH=NTLM AUTH=GSSAPI
10607	117.949203	10.4.3.90	10.4.4.95	IMAP	60 Response: +
10627	118.024133	10.4.3.90	10.4.4.95	IMAP	82 Response: A1 NO AUTHENTICATE failed.
10635	118.026584	10.4.3.90	10.4.4.95	IMAP	107 Response: * OK The Microsoft Exchange IMAP4 service is ready.
10637	118.027825	10.4.3.90	10.4.4.95	IMAP	196 Response: * CAPABILITY IMAP4 IMAP4rev1 AUTH=NTLM AUTH=GSSAPI
10639	118.028707	10.4.3.90	10.4.4.95	IMAP	60 Response: +
10647	118.109594	10.4.3.90	10.4.4.95	IMAP	82 Response: A1 NO AUTHENTICATE failed.

At this stage, the throttling policies on Microsoft Exchange are involved since all clients and the UCCX open the connection with the use of the SAME user account. Therefore, you must configure the appropriate values on the Microsoft Exchange server for the **Max Connections from a user**.

After you consider the previous example, review the throttling policies for Microsoft Exchange 2010.

## IMAP

1. Open the Microsoft Exchange Management Shell and enter:

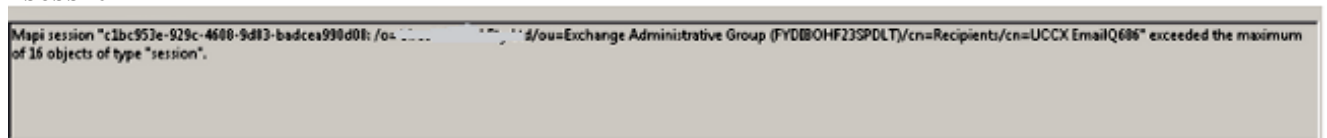
```
Set-ImapSettings
-MaxCommandSize 10240
-MaxConnectionFromSingleIP 2000
-MaxConnections 2400
-MaxConnectionsPerUser 2400
```

This sets:

```
MaxConnectionFromSingleIP : 2000
MaxConnections: 2400
MaxConnectionsPerUser 2400
```

2. Also, if you have issues with the email, open the Event viewer logs on Microsoft Exchange and you see messages similar to:

```
Mapi session "/o=First Organization/ou=Exchange Administrative Group
(FYDIBOHF23SPDLT)/cn=Recipients/cn=E-mailUser" exceeded the maximum of 16 objects of type
"session"
```



This points to a new configuration that must be created on Microsoft Exchange:

On the server that runs the Microsoft Exchange Server 2010 Mailbox role, click **Start > Run**. Enter **regedit**, and click **OK**. Locate and then click these keys in the registry:

```
HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\MSEExchangeIS\ParametersSystem
```

On the **Edit** menu, select **New**, and select **DWORD Value**. Enter the Maximum Allowed Service Sessions Per User, and select **ENTER**. On the **Edit** menu, select **Modify**. Enter the decimal value that specifies the number of sessions that you want to use, and select **OK**. **Exit** the Registry Editor. Restart the Microsoft Exchange Information Store Service service or the Microsoft Exchange server.

This process is documented in the [You cannot connect to an Exchange Server 2010 mailbox from Outlook Web Access](#) knowledge base article.

Notice that the value has to be selected based on the customer system and usage. The value can be **64** or any number in that range.

3. Microsoft Exchange opens a Messaging Application Programming Interface (MAPI) session when an IMAP session is opened. Since both UCCX and the CAD clients open the IMAP connection, MAPI throttling sessions also come into effect. Configure the values as described in [Exchange Store Limits](#) .
4. Grant the UCCX Email account the **View Information Store status** permissions. Open the Microsoft Exchange Management Shell:

```
Get-OrganizationConfig |  
Add-ADPermission -user "<Mailbox Name>" -extendedrights "View Information Store status"
```

## SMTP

SMTP must be applied to the connector that UCCX email uses. Open the Microsoft Exchange Management Shell.

1. Find the connector:

```
Get-ReceiveConnector
```

2. In order to apply the policy for the connector, add the name retrieved in Step 1:

```
Set-ReceiveConnector -identity "<Receive Connector Name>"  
-MaxInboundConnection 5000  
-MessageRateLimit 250  
-MaxInboundConnectionPercentagePerSource 5  
-MaxInboundConnectionPerSource 250
```

You must repeat this for of ALL of the connectors that have been used.

## Client Throttling

Client throttling policies are used only in Microsoft Exchange 2010, and the default configuration is known to cause adverse performance with agent email.

Open the Microsoft Exchange Management Shell tool.

### 1. Create a new throttling policy:

```
New-ThrottlingPolicy -name "<Policy Name>"
```

Where **Policy Name** = the name for the new policy.

### For Exchange 2010:

```
Set-ThrottlingPolicy -identity "<Policy Name>"  
-IMAPMaxConcurrency $null -IMAPPercentTimeInAD $null  
-IMAPPercentTimeInCAS $null -IMAPPercentTimeInMailboxRPC $null  
-RCAMaxConcurrency $null -RCAPercentTimeInAD $null  
-RCAPercentTimeInCAS $null -RCAPercentTimeInMailboxRPC $null  
-MessageRateLimit $null -RecipientRateLimit $null -CPUStartPercent $null
```

### For Exchange 2010 SP1 and SP2:

```
Set-ThrottlingPolicy -identity "<Policy Name>"  
-IMAPMaxConcurrency $null -IMAPPercentTimeInAD $null  
-IMAPPercentTimeInCAS $null -IMAPPercentTimeInMailboxRPC $null  
-RCAMaxConcurrency $null -RCAPercentTimeInAD $null  
-RCAPercentTimeInCAS $null -RCAPercentTimeInMailboxRPC $null  
-CPAMaxConcurrency $null -CPAPercentTimeInCAS $null  
-CPAPercentTimeInMailboxRPC $null -MessageRateLimit $null  
-RecipientRateLimit $null -CPUStartPercent $null
```

### 2. Now that the policy has been created, apply it to the mailbox (UCCX Email):

```
Set-Mailbox -Identity "<Mailbox Name>" -ThrottlingPolicy "<Policy Name>"
```