Exchange 2013 Multi-Tenant MBX Agent

Installation and Configuration Guide

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Table of Contents

Introduction

In conjunction with the product release, Microsoft released "Multi-Tenancy and Hosting Guidance for Exchange Server 2013" which highlights issues that must be addressed in hosted environments.

Ricketts Corporation has developed the Exchange 2013 Multi-Tenant MBX Agent (Transport Agent) to address many of these issues. Our solution enables you to:

- Use either recipient\sender domain name matching or Active Directory lookups to correctly deliver external OOF messages between tenants hosted on the same platform.

Additionally, by inspecting X-Header information generated by an external SMTP gateway, our solution enables you to:

- Route all mail through an external SMTP gateway to enable integration with external AV/AS systems. Allows end users to have a consistent experience for AV/AS.
- Recognize when messages have been processed by multiple external SMTP gateways by supporting multiple X-Header names.
- Handle reply issues associated with tenant off platform mailbox moves.

A new feature has been added to allow Subject Based Routing. If enabled and the message subject starts with the phrase specified in the XML configuration file, the agent will override the next hop and route the message to an external gateway. This gateway can perform some action on the message e.g. encryption service, stamp an X-Header to indicate the message has been processed and then send it back to the Exchange platform.

Sender Based Routing

The Premium version of the agent now supports sender based routing. It is common in multi-tenant deployments to offer advanced routing services i.e. a customer can sign up for an upsell service to have all their outgoing e-mail sent to a specific external gateway for archiving, compliance, etc. Previously a Service Provider would have to install a second Transport Agent solution to provide this feature. Based on customer feedback we decided to incorporate this feature into our solution and it can be enabled if you purchase the Premium version of our agent.

Address Book Policy Routing Agent

With Exchange 2013 Customer Update 1 Microsoft also introduced a Transport Agent which can strip internal message information if users are in different Address Book Policies. The AddressBookPolicyRoutingEnabled parameter controls how recipients are resolved in an organization that uses address book policies to create separate virtual organizations within the same Exchange organization. Specifically, the global address list (GAL) that's specified in the user's address book policy controls how recipients are resolved. When the value of this parameter is $true, users that are assigned different GALs appear as external recipients. When the value of this parameter is $false, users that are assigned different GALs appear as internal recipients.

The default value is $false and on a multi-tenant Exchange 2013 platform the recommendation is to set this to $true. Note that this parameter has no effect if your organization doesn't use address book policies, or if the address book policy routing agent isn't installed and enabled. Also note that changing the value of this parameter may take up to 30 minutes to take effect.

Enabling this feature removes the requirement to send messages outside to an external SMTP Gateway to strip internal Exchange message information which could previously expose certain GAL content to users in different hosted companies on the same Exchange Platform. However, you can still use our Agent if you want a common AV/AS experience for your end users and require external routing to an external SMTP Gateway.

To enable the ABP Routing Agent use the following instructions on all Exchange 2013 Mailbox Servers:-

1. Install the Agent:

```
Install-TransportAgent -Name "ABP Routing Agent" -TransportAgentFactory
"Microsoft.Exchange.Transport.Agent.AddressBook
PolicyRoutingAgent.AddressBookPolicyRoutingAgentFactory" -AssemblyPath "C:\Program Files\Microsoft\Exchange
Server\V15\TransportRoles\agents\AddressBookPolicyRoutingAgent\
Microsoft.Exchange.Transport.Agent.AddressBookPolicyRoutingAgent.dll"
```

2. Enable the ABP routing agent:

```
Enable-TransportAgent "ABP Routing Agent"
```

3. Restart the Transport Service.
4. Run the following cmdlet to enable ABP routing:

```
Set-TransportConfig –AddressBookPolicyRoutingEnabled $True
```

Note: We assume that you have installed Exchange 2013 to all MBX servers. Please contact info@rickettscorp.com if you require a version of the Transport Agent that will run on Exchange 2010 SP1, SP2 or SP3 hub transport servers.

Edge Transport Server Test Configuration

In order to fully test the agent's functionality, you must have an external SMTP gateway (such as an Edge Server) configured. We recommend the following configuration for the Edge Transport Server:

1. Install Exchange 2010 EDGE as a Standalone Edge Transport Server with no subscriptions. If required subscribed Edge servers can be used but in step 4 below the FromScope should be changed to InOrganization
2. Create a New Anonymous Relay Receive Connector by running the following cmdlet, where XXX.XXX.XXX.XXX is the IP address of your Edge Server and YYY.YYY.YYY.YYY is the IP address of your MBX Server.

   New-ReceiveConnector -Name "Anonymous Relay" -Usage Custom -AuthMechanism ExternalAuthoritative -PermissionGroups ExchangeServers -Bindings XXX.XXX.XXX.XXX:25 -RemoteIpRanges YYY.YYY.YYY.YYY

3. Create a New Send Connector back to Hub by running the following cmdlet, where YYY.YYY.YYY.YYY is the IP address of your MBX Server

   New-SendConnector -Name "Internal Hub Connector" -Usage Internet -AddressSpace "*" -SmartHosts YYY.YYY.YYY.YYY

4. Create a Transport Rule to insert X-Header

   New-TransportRule -Name "Set AV XHeader Rule" -FromScope NotInOrganization -SetHeaderName "X-Virus-Scanned" -SetHeaderValue "AV"

In addition, you may also want to make optional changes to optimize the Edge Server for load testing. These include:

1. Bypass Content Filtering by running the following cmdlet, where YYY.YYY.YYY.YYY is the IP address of your MBX Server

   Add-IPAllowListEntry -IPAddress YYY.YYY.YYY.YYY

2. Disable Tarpitting by running the following cmdlet

   Get-ReceiveConnector | Set-ReceiveConnector -TarpitInterval 00:00:00

Installation

To install the Multi-Tenant Transport agent, perform the following steps on each Exchange 2013 MBX Server in your organization:

1. Save and unzip the Exchange2013TransportAgent.zip file to the local directory **C:\AgentSourceFiles**. The agent consists of the following files which must exist on each Exchange 2013 MBX server in your organization.
   - MultiTenantHubTransportAgent.dll
   - MultiTenantHubTransportAgentConfig.xml
   - Configure-TransportAgent.ps1
2. From the hub transport server, update the **MultiTenantHubTransportAgentConfig.xml** configuration file per the Configuration section of this document. To enable the external routing feature, you must change the value of ExternalRoutingAgentEnabled to TRUE and then correctly configure the XHeaderName and ExternalAVGateway parameters.
3. From the Exchange Management Shell, navigate to **C:\AgentSourceFiles** and run the following two commands:
   a. **Set-ExecutionPolicy unrestricted** and then type **Y**
   b. **Configure-TransportAgent.ps1 Install**

   The script will then perform the following tasks:
   - Require that you accept the end user licensing agreement.
   - Load XML configuration from associated MultiTenantHubTransportAgentConfig.xml file and read:
     - LogDirectory
     - EventLogSource
     - EventLogID
   - Write an entry into the Application Event Log
   - Retrieve Exchange 2013 installation path from the registry
   - Create the Agent directory – by default, this is C:\Program Files\Microsoft\Exchange Server\V15\agents\RoutingAgents\MultiTenantHubTransportAgent
   - Create the Log directory – by default this is C:\Logs
   - Add “Network Service” permissions to Agent and Log directory

- Copy the configuration file and the agent files to the Agent directory
- Create Performance Monitor category and counters
- Install and enable Transport Agent using Exchange 2013 cmdlet
- Restart the MsExchangeTransport service

Note that the agent will not function correctly unless you install it by using the above procedure and script.

4. Fully test the agent to ensure correct configuration of the xml configuration file. If you need to update the configuration file, you must edit the version that has been installed to the Agent directory. By default, this is C:\Program Files\Microsoft\Exchange Server\V15\agents\RoutingAgents\MultiTenantHubTransportAgent.

Uninstallation

To uninstall the Multi-Tenant Transport agent from an Exchange 2013 MBX Server, navigate to the script file in the Exchange Management Shell and execute:
Configure-TransportAgent.ps1 Uninstall

Note that this script unregisters the agent from the MBX server. This script does not remove the agent files, logs/log directory or remove the event log source and perfmon counters. You can at this point remove the related objects manually.

Upgrade

To install a new release of the Multi-Tenant Transport agent from an Exchange 2013 Mailbox Server, navigate to the script file in the Exchange Management Shell and execute:
Configure-TransportAgent.ps1 Update

Note that this script unregisters the agent from the Hub Transport server, installs and registers the new version of the agent. This script does not remove the agent configuration files, logs/log directory or remove the event log source and perfmon counters.

Configuration

All the configurable options for the Transport Agent are contained in the XML config file **MultiTenantHubTransportAgentConfig.xml**. You must configure some of these options in order for the agent to function properly. Options that require your input are highlighted in yellow.

If this configuration file is missing or corrupt, the Transport Agent will by default disable all configuration options and log an event to the Event Viewer. This file must exist in the Agent directory, which is by default C:\Program Files\Microsoft\Exchange Server\V15\agents\RoutingAgents\MultiTenantHubTransportAgent.

Starting at build number 61020 we have implemented a new structure to the XML file format using the following high level tags:-

1. General
2. ActiveDirectory
3. OutOfOffice
4. ExternalRouting
5. SubjectBasedRouting

6. SenderBasedRouting
7. Logging

General	Type	Description	Default Value
AgentVersion	String	String supplied by Ricketts Corporation which will unlock the Premium Version. If you would like to upgrade to the Premium version and unlock the Sender Based Routing feature please contact Ricketts Corporation – janice@rickettscorp.com	
MultiTenantMode	Boolean	Controls whether agent checks for multiple tenants in the same Exchange Organization. If you are using Sender Based Routing in an Enterprise only deployment of Exchange this value should be set to FALSE.	TRUE
ExchangeHealthMessageXHeaderName	String	XHeader to check for Exchange Monitoring Health Probe messages which are then not processed by the agent	X-MS-Exchange-ActiveMonitoringProbeName
AgentConfigRefreshInterval	Integer	Controls how often the Agent will refresh Configuration options and SenderBasedRouting settings by reading the XML and CSV files. Parameter value is in minutes. Each time the agent processes a message it will check the refresh interval and if exceeded will reload the XML and CSV files.	5
ActiveDirectory	**Type**	**Description**	**Default Value**
ADLookupEnabled	Boolean	When either OOFAgentEnabled or ExternalRoutingAgentEnabled is set to TRUE, controls whether AD lookups are utilized to determine if internal senders and recipients are in the same hosted tenant. Set this value to “false” only when simple domain matching is to be used to determine hosted tenants.	TRUE
ADLookupTimeoutSeconds	Integer	When OOFAgentEnabled is set to TRUE, sets the upper limit that the agent will wait for a response from an external Active Directory before logging an error in the Event Viewer and continuing processing.	1
ADLookupSearchLevel	Integer	Specifies the AD Lookup Searh Level value to control tenant location relative to users. For example if the users are below the unique tenant OU name the value is 1. However, if the users are in an OU named Accounts which is under the unique tenant OU name the value would be 2.	1
GlobalCatalogServer	String	Global Catalog Server to use. Leave blank to connect to GC the hub server is already connected	
OutOfOffice	**Type**	**Description**	**Default Value**
OOFAgentEnabled	Boolean	Determines whether OOF messages are analyzed for cross-tenant recipients	TRUE

InterTenantOOFsSentExternal	Boolean	Controls whether an external OOF generated between two internal tenants will be routed to the external SMTP gateway specified by the ExternalAVGateway tag. Set to TRUE to enable this behavior.	FALSE
ExternalRouting	**Type**	**Description**	**Default Value**
ExternalRoutingAgentEnabled	Boolean	Determines whether messages between internal users are sent to an external SMTP gateway for security/AV purposes. Disabled by default, you must change this to TRUE to enable the routing agent.	FALSE
IntraTenantMessagesSentExternal	Boolean	When ExternalRoutingAgentEnabled is set to TRUE, controls whether messages sent between mailboxes within the same tenant are sent external. If all messages are to be sent external, you must change this to TRUE.	FALSE
InternalMessagesOnlySentExternal	Boolean	Controls whether only internal messages are sent external	FALSE
MeetingResponsesSentExternal	Boolean	Controls whether meeting responses will be routed to the external SMTP gateway. Set to TRUE to cause meeting responses to be processed.	FALSE
RoutingAgentSendersBypass	String	Senders list to bypass external routing. Separate multiple entries with a semicolon (;) e.g. user2@contoso.com;user3@contoso.com;rickettscorp.com;*.contoso3.com	
RoutingAgentRecipientsBypass	String	Recipients list to bypass external routing. Separate multiple entries with a semicolon (;) e.g. user2@contoso.com;user3@contoso.com;rickettscorp.com;*.contoso3.com	
XHeaderName	String	When ExternalRoutingAgentEnabled is set to TRUE, defines the name of the X-Header to search for. The agent searches only for the existence of the X-Header that your gateway adds to the message header. It does not search for the specific details that your virus scan solution adds after the colon. If you have multiple gateways which add different X-Header names you can specify multiple values separated with a semicolon (;). For example, if your SMTP gateway stamps “X-Virus-Scanned: by VirusScanner at email.network”, then this setting in the configuration file should be <XHeaderName>X-Virus-Scanned</XHeaderName>.	X-Scanned-By

		You must configure this exactly as generated by your external SMTP gateway or the agent will fail to recognize that a message has been processed by your virus scanner and the message will loop between your hub transport server and your SMTP gateway.	
ExternalAVGateway	String	When ExternalRoutingAgentEnabled is set to TRUE, defines the IP Address or DNS name of the external SMTP gateway to which messages will be routed. You must configure this correctly or the server will queue messages as though the gateway doesn't exist. Depending on your default mail routing topology a dedicated Exchange Send Connector with an address space to match the next hop specified in the ExternalAVGateway.	externalgateway.local
SubjectBasedRouting	**Type**	**Description**	**Default Value**
SubjectRoutingAgentEnabled	Boolean	Determines whether Message Subject Routing is enabled. If enabled and the message subject starts with the text specified in the configuration parameter SubjectRoutingSubject the next hop will be changed to the IP address/DNS name specified in the configuration option SubjectRoutingExternalGateway. Disabled by default, you must change this to TRUE to enable the Subject Based Routing.	FALSE
SubjectRoutingSubject	String	If Subject Based Routing is enabled this is the text string which the agent will use to determine if a message should be routed to an external SMTP gateway. The message subject should start with this string. The check performed is case insensitive.	SECURE MESSAGE
SubjectRoutingXHeaderName	String	When SubjectRoutingAgentEnabled is set to TRUE, defines the name of the X-Header to search for. The agent searches only for the existence of the X-Header that your gateway adds to the message header. It does not search for the specific details that your virus scan solution adds after the colon. For example, if your SMTP gateway stamps "X-SecureMessage: by EncryptionService at email.network", then this setting in the configuration file should be <XHeaderName>X-SecureMessage </XHeaderName>. You must configure this exactly as generated by your external SMTP gateway or the agent will fail to	X-SecureMessage

		recognize that a message has been processed by your virus scanner and the message will loop between your mailbox server and your SMTP gateway.	
SubjectRoutingExternalGateway	String	When SubjectRoutingAgentEnabled is set to TRUE, defines the name used to override the next hop in the message. You must configure this correctly or the server will queue messages as though the gateway doesn't exist. Depending on your default mail routing topology a dedicated Exchange Send Connector with an address space matching the next hop may be required to route messages correctly to the SubjectRoutingExternalGateway.	Encryptiongateway.local
SenderBasedRouting	**Type**	**Description**	**Default Value**
SenderBasedRoutingAgentEnabled	Boolean	Controls whether agent Sender Based Routing is enabled.	FALSE
SenderBasedRoutingCsvFile		Sender Based Routing CSV File Name. The format of the CSV file is Sender, Recipient, Gateway, Scope. The Sender can contain individual user e-mail addresses, domains or wildcards. The Recipient can be a domain or wildcard domain. Gateway will be used to override the default next hop for the message. Scope is either All (both messages to recipients in the same Active Directory OU as the sender and any other recipient) or External (only messages to recipients not in the same Active Directory OU as the sender) e.g.:- #Sender, recipient, gateway, scope testorg3.com,,avgateway1.test.local,all testorg33.com,,avgateway1.test.localr,external testuser1@testorg4.com,testorg3.com,avgateway2.test.local,, You must configure the next hops correctly or the hub server will queue messages as though the gateway doesn't exist. Depending on your default mail routing topology a dedicated Exchange Send Connector may be required to route messages correctly to each name used for the next hop gateway in the SenderBasedRouting CSV file. Note: All 4 columns need to be specified and if necessary empty columns must be indicated using ",,". The SenderBasedRouting CSV file should be located in the Agent Directory which is by default C:\Program Files\Microsoft\Exchange	

		Server\V15\agents\RoutingAgents\MultiTenantHubTransportAgent	
SenderBasedRoutingXHeaderName		When SenderBasedRoutingAgentEnabled is set to TRUE, defines the name of the X-Header to search for. The agent searches only for the existence of the X-Header that your gateway adds to the message header. It does not search for the specific details that your virus scan solution adds after the colon. For example, if your SMTP gateway stamps "X-SBR-Scanned: by GatewayXYZ at email.network", then this setting in the configuration file should be <XHeaderName>X-SBR-Scanned</XHeaderName>. You must configure this exactly as generated by your external SMTP gateway or the agent will fail to recognize that a message has been processed by your virus scanner and the message will loop between your hub transport server and your SMTP gateway.	
AllMessagesSentExternal	Boolean	Global Override for SenderBasedRouting Scope if the column is left empty in the SenderBasedRouting CSV file. True means All messages for a sender matching the filter will go external and false means only external recipients i.e. not in the same Active Directory OU as the sender will have the next hop changed to the gateway listed in the CSV file.	FALSE
Logging	**Type**	**Description**	**Default Value**
FileLoggingEnabled	Boolean	Set to TRUE to enable diagnostic logging.	FALSE
LogDirectory	String	If FileLoggingEnabled is set to TRUE, defines the directory location for diagnostic file logs.	C:\Logs
LogFile	String	If FileLoggingEnabled is set to TRUE, defines the name of the diagnostic log file.	MultiTenantHubTransportAgent-${shortdate}.log
EventLogId	Integer	Defines the Event Log ID to be used by the agent when logging events and errors to the Application Event Log.	9999
EventLogSource	String	Defines the name of the Event Log Source the agent will use when logging events and errors to the Application Event Log.	Multi-Tenant Hub Transport Agent

It is extremely important to ensure that any configuration options modified in the XML file are entered correctly and the Transport Agent is fully tested before being used on production Mailbox Servers.

Note: The configuration file is loaded every time the agent starts up and then subsequently at the refresh interval. The Eventvwr and Agent Log File (if logging is enabled) can be checked after the Transport Service is restarted or the refresh interval to ensure that all features are enabled as expected and there were no problems reading the configuration files.

Sender Based Routing Configuration

We have recently extended this feature to allow matching of both sending and recipient domains. Also we have now included a Scope so that we override the next hop for "All" messages or just those with "External" recipients. The following table gives some examples of the functionality now available:-

Sender	Recipient	Csv Entry	Expected Behavior
colin@colincorp.com	Test1@testuser1.org	colin@colincorp.com,,gw1.hmc.local,All	MATCH - Message routed via gateway gw1.hmc.local
colin@colincorp.com	Test1@testuser1.org	colin@colincorp.com,testorg1.com,gw1.hmc.local,All	MATCH - Message routed via gateway gw1.hmc.local
colin@colincorp.com	Test1@testuser1.org	colin@colincorp.com,testorg2.com,gw1.hmc.local,All	NO MATCH - Message routed normally
colin@colincorp.com	Test1@testuser1.org	colincorp.com,,gw1.hmc.local,All	MATCH - Message routed via gateway gw1.hmc.local
colin@colincorp.com	Test1@testuser1.org	colincorp.com,testorg1.com,gw1.hmc.local,All	MATCH - Message routed via gateway gw1.hmc.local
colin@colincorp.com	Test1@testuser1.org	colincorp.com,testorg2.com,gw1.hmc.local,All	NO MATCH - Message routed normally
colin@colincorp.com	Test1@testuser1.org	*.colincorp.com,,gw1.hmc.local,All	NO MATCH - Message routed normally
colin@org1.colincorp.com	Test1@testuser1.org	colincorp.com,,gw1.hmc.local,All	NO MATCH - Message routed normally
colin@org1.colincorp.com	Test1@testuser1.org	*.colincorp.com,,gw1.hmc.local,All	MATCH - Message routed via gateway gw1.hmc.local
colin@org1.colincorp.com	Test1@testuser1.org	*.colincorp.com,testorg1.com,gw1.hmc.local,All	MATCH - Message routed via gateway gw1.hmc.local
colin@org1.colincorp.com	Test1@testuser1.org	*.colincorp.com,testorg2.com,gw1.hmc.local,All	NO MATCH - Message routed normally
colin@org1.colincorp.com	Test1@testuser1.org	*org1.colincorp.com,gw1.hmc.local,testorg1.com	MATCH - Message routed via gateway gw1.hmc.local
colin@org1.colincorp.com	Test1@testuser1.org	*org2.colincorp.com,testorg2.comgw1.hmc.local,All	NO MATCH - Message routed normally

Assuming all Routing options are enabled the order of processing is:-

1. Sender Based Routing
2. Subject Based Routing
3. External Routing

Send Connectors

When architecting your routing topology it is important to understand the relationship between Send Connectors and the next hop override settings in the XML Configuration file or Sender Based CSV file. For example if my SubjectRoutingExternalGateway is configured to hoster.encryption.local and you want to smarthost everything to an IP address of 192.168.1.100 you should configure a new Send Connector using the following cmdlet:-

New-SendConnector –Name "Encrypted Email" –AddressSpaces hoster.encryption.local –Smarthosts 192.168.1.100 –Custom

If you do not want everything going out via the default Send Connector with address space * you should configure specific Send Connectors for each next hop and make sure the next hop value appears as the Send Connector Address Space.

Logging

Event Log

The Transport Agent will write to the Application event log upon starting up as well as when an error is generated during run time.

For example, by default the start-up event appears as follows:

Log Name: Application
Source: Multi-Tenant Hub Transport Agent
Date: 10/25/2016 9:31:23 AM
Event ID: 9999
Task Category: None
Level: Information
Keywords: Classic
User: N/A
Computer: E2013CU6MBX.E2013CU6.local
Description:
Starting Agent (Version 2.10.61020.1) CONFIG START:Agent Edition: Demo, Multi Tenant Mode Enabled: True, Configuration Refresh Interval: 1, File Logging Enabled: True, AV Agent Enabled: True, OOF Agent Enabled: True, Subject Routing Agent Enabled: True, Intra-Tenant Messages Sent External: False, Internal Messages Only Sent External: False, Sender Based Routing Enabled: True (2 entries loaded from Csv file), Intra OOFs Sent External: False, Meeting Responses Sent External: False, Sender Based Routing All Messages External: False, AD Lookups Enabled: True (ADTimeout = 1 seconds), AD Search Level: 1, GC Server: , Sender Bypass List: , Recipient Bypass List:

File Logging

If diagnostics file logging is enabled, entries will be written into the configured log file as the agent analyzes messages. Because of the load that could be generated on your server, you should only utilize file logging for testing and diagnostic purposes. If the log file is locked by another thread processing a message the agent will attempt to write diagnostic information up to 10 times. If after 10 attempts the agent still cannot write to the log file the Agent will drop the diagnostic logging information for the message currently being processed but continue trying to write logs for future messages rather than just stop logging all together which is what the previous version did.

A sample log entry for a message sent from an internal sender, to a recipient in another tenant configured with OOF appears as:

8/11/2014 4:42:12 PM, <6A418A9AC86A8D488CAC02BC4D1C142093C77389@E2010MBX01.E2010.local>, AVRouting: AV Xheader not found in message headers - processing message
8/11/2014 4:42:12 PM, <6A418A9AC86A8D488CAC02BC4D1C142093C77389@E2010MBX01.E2010.local>, SubjectRouting: Subject Routing Xheader not found in message headers - processing message
8/11/2014 4:42:12 PM, <6A418A9AC86A8D488CAC02BC4D1C142093C77389@E2010MBX01.E2010.local>, SenderRouting: Sender testuser1@testorg1.com is not in Sender-Based Routing file
8/11/2014 4:42:12 PM, <6A418A9AC86A8D488CAC02BC4D1C142093C77389@E2010MBX01.E2010.local>, Checking Hub Accepted Domains collection for domain testorg1.com
8/11/2014 4:42:12 PM, <6A418A9AC86A8D488CAC02BC4D1C142093C77389@E2010MBX01.E2010.local>, SubjectRouting: Sender testuser1@testorg1.com is local

8/11/2014 4:42:12 PM, <6A418A9AC86A8D488CAC02BC4D1C142093C77389@E2010MBX01.E2010.local>, SubjectRouting: Message Subject doesn't match
8/11/2014 4:42:12 PM, <6A418A9AC86A8D488CAC02BC4D1C142093C77389@E2010MBX01.E2010.local>, AVRouting: Recipient (testuser1@testorg2.com) is internal
8/11/2014 4:42:12 PM, <6A418A9AC86A8D488CAC02BC4D1C142093C77389@E2010MBX01.E2010.local>, AD: Recipient (testuser1@testorg2.com) has different domain address to Sender (testuser1@testorg1.com)
8/11/2014 4:42:12 PM, <6A418A9AC86A8D488CAC02BC4D1C142093C77389@E2010MBX01.E2010.local>, AD: Searching AD for testuser1@testorg1.com
8/11/2014 4:42:13 PM, <6A418A9AC86A8D488CAC02BC4D1C142093C77389@E2010MBX01.E2010.local>, AD: User testuser1@testorg1.com found in AD
8/11/2014 4:42:13 PM, <6A418A9AC86A8D488CAC02BC4D1C142093C77389@E2010MBX01.E2010.local>, AD: Searching AD for testuser1@testorg2.com
8/11/2014 4:42:13 PM, <6A418A9AC86A8D488CAC02BC4D1C142093C77389@E2010MBX01.E2010.local>, AD: User testuser1@testorg2.com found in AD
8/11/2014 4:42:13 PM, <6A418A9AC86A8D488CAC02BC4D1C142093C77389@E2010MBX01.E2010.local>, AVRouting: testuser1@testorg1.com and testuser1@testorg2.com external or in different tenants
8/11/2014 4:42:13 PM, <6A418A9AC86A8D488CAC02BC4D1C142093C77389@E2010MBX01.E2010.local>, Overriding message route for testuser1@testorg2.com, sending external to 192.168.1.164
8/11/2014 4:42:13 PM, <6A418A9AC86A8D488CAC02BC4D1C142093C77389@E2010MBX01.E2010.local>, AVRouting: AV Xheader found - skipping message processing
8/11/2014 4:42:14 PM, <eeee268f12a345fdb1466da7c8479c7e@E2010HT01.E2010.local>, Analyzing Internal OOF
8/11/2014 4:42:14 PM, <eeee268f12a345fdb1466da7c8479c7e@E2010HT01.E2010.local>, Checking Hub Accepted Domains collection for domain testorg1.com
8/11/2014 4:42:14 PM, <eeee268f12a345fdb1466da7c8479c7e@E2010HT01.E2010.local>, Internal OOF recipient (testuser1@testorg1.com) is local
8/11/2014 4:42:14 PM, <eeee268f12a345fdb1466da7c8479c7e@E2010HT01.E2010.local>, AD: Recipient (testuser1@testorg1.com) has different domain address to Sender (testuser1@testorg2.com)
8/11/2014 4:42:14 PM, <eeee268f12a345fdb1466da7c8479c7e@E2010HT01.E2010.local>, AD: Searching AD for testuser1@testorg2.com
8/11/2014 4:42:14 PM, <eeee268f12a345fdb1466da7c8479c7e@E2010HT01.E2010.local>, AD: User testuser1@testorg2.com found in AD
8/11/2014 4:42:14 PM, <eeee268f12a345fdb1466da7c8479c7e@E2010HT01.E2010.local>, AD: Searching AD for testuser1@testorg1.com
8/11/2014 4:42:14 PM, <eeee268f12a345fdb1466da7c8479c7e@E2010HT01.E2010.local>, AD: User testuser1@testorg1.com found in AD
8/11/2014 4:42:14 PM, <eeee268f12a345fdb1466da7c8479c7e@E2010HT01.E2010.local>, Sender and Recipient in different tenants
8/11/2014 4:42:14 PM, <eeee268f12a345fdb1466da7c8479c7e@E2010HT01.E2010.local>, Internal OOF for testuser1@testorg1.com deleted
8/11/2014 4:42:14 PM, <1df87ee7a33e43c6890a886faf01b6d4@E2010HT01.E2010.local>, Analyzing External OOF
8/11/2014 4:42:14 PM, <1df87ee7a33e43c6890a886faf01b6d4@E2010HT01.E2010.local>, Checking Hub Accepted Domains collection for domain testorg1.com
8/11/2014 4:42:14 PM, <1df87ee7a33e43c6890a886faf01b6d4@E2010HT01.E2010.local>, External OOF recipient (testuser1@testorg1.com) is internal to Exchange Organization
8/11/2014 4:42:14 PM, <1df87ee7a33e43c6890a886faf01b6d4@E2010HT01.E2010.local>, AD: Recipient (testuser1@testorg1.com) has different domain address to Sender (testuser1@testorg2.com)
8/11/2014 4:42:14 PM, <1df87ee7a33e43c6890a886faf01b6d4@E2010HT01.E2010.local>, AD: Searching AD for testuser1@testorg2.com
8/11/2014 4:42:14 PM, <1df87ee7a33e43c6890a886faf01b6d4@E2010HT01.E2010.local>, AD: User testuser1@testorg2.com found in AD
8/11/2014 4:42:14 PM, <1df87ee7a33e43c6890a886faf01b6d4@E2010HT01.E2010.local>, AD: Searching AD for testuser1@testorg1.com
8/11/2014 4:42:14 PM, <1df87ee7a33e43c6890a886faf01b6d4@E2010HT01.E2010.local>, AD: User testuser1@testorg1.com found in AD
8/11/2014 4:42:14 PM, <1df87ee7a33e43c6890a886faf01b6d4@E2010HT01.E2010.local>, Sender and Recipient in different tenants
8/11/2014 4:42:15 PM, <1df87ee7a33e43c6890a886faf01b6d4@E2010HT01.E2010.local>, External OOF Created for recipient testuser1@testorg1.com

Note that the message ID's in the log file (second column) are the actual ID's assigned to messages by Exchange 2013. In the event of problems or queries this allows normal Message Tracking to be utilized to determine the transport activity of a particular message.

A new log file will be generated each day using the file name format MultiTenantHubTransportAgent-YYYY-MM-DD.log e.g. MultiTenantHubTransportAgent-2016-10-24.log

Performance Counters

The Transport Agent includes several performance counters that you can use to analyze agent performance and message throughput. To use these counters, open Performance Monitor or another Windows monitoring solutions (e.g.

SCOM) and browse to the category named “Hub Transport Multi-Tenant Transport Agent”. The available counters include:

- Total Number of Internal OOFs Analyzed
- Total Number of Internal OOFs Deleted
- Total Number of External OOFs Analyzed
- Total Number of External OOFs Created
- Total Number of AD Lookups Performed
- Total Number of Messages Detected with X-Header
- Total Number of Messages Detected with Subject Routing X-Header
- Total Number of Messages Detected with Sender Routing X-Header
- Total Number of Internal Messages Routed Externally
- Total Number of Subject Matched Messages Routed Externally
- Total Number of Sender Matched Messages Routed Externally

Note that the counters are reset to zero when the MSExchangeTransport service is started.

Links

If the Transport Agent encounters a problem processing a message, the message may be placed into the Hub Transport server’s “poison message queue”. Poisoned messages will be suspended until manually resumed and resubmitted.

To resubmit messages from the poison queue see http://technet.microsoft.com/en-us/library/aa995987.aspx.