Calculating the number of NSPI connections required by Modular Messaging

In Microsoft Windows Server 2008, the number of NSPI connections from an individual user was limited to 50. In Microsoft Windows 2003 and prior there was no limit.

An NSPI connection is required for each MAPI logon, and if a user's limit is reached then that logon attempt will fail. In Modular Messaging—Exchange, the "user" will always be the Modular Messaging Service Account which is shared between all Modular Messaging related services and hence the total required will be a sum of MAPI logons performed by each of the services.

Since each Exchange server will possibly create referrals to different Global Catalog servers and that nomination could possibly change each time a referral is requested, it is not possible to Customer environment 320 Modular Messaging Concepts and Planning Guide November 2009 specify the number of NSPI connections that will be made to each GC. However, maximums can be calculated for the whole Modular Messaging system.

The maximum number of connections will therefore be calculated based upon the following and should be set on each Global Catalog server that could be used by Exchange:

Note:
The calculation described in the section is specific to Modular Messaging Release 5.2. Previous releases of Modular Messaging have additional requirements.

- One NSPI connection per Subscriber logon via the TUI. Therefore the number will not exceed the number of telephony ports across all MAS servers. This will also include NSPI sessions for Call-Answer Greeting Retrieval since an individual port can be used only for either Subscriber logon or Call-Answer at any one time.

- One additional NSPI connection may be required when access the Subscribers profile data. Since this could theoretically occur during any use of the TUI, the maximum number equals the number of ports in the VMD.

- One NSPI connection for the VMD Synchronization per MAS.

- One NSPI connection for Call-Answer Message Delivery per MAS.

- One NSPI connection per Exchange server for Active Monitoring by each MAS Service.

- One NSPI connection per Monitored Exchange server for Mailbox Monitor.

- Each MAS can handle requests for Subscriber profile data from external sources such as Subscriber Options. The MAS can pool up to 12 NSPI connections for this.

- Additional NSPI connections for unspecified mailbox access per MAS

Therefore the calculation is:

NSPI = ({MM Services} x {Exchange servers}) + (2 x {VMD Ports}) + (25 x {MAS Services})

where, {MM Services} is the number of instances of a running MAS service plus an instance of a running Mailbox Monitor Server service.

Note:
The number '25' includes the single connections, the profile pool and additional connections required for other MAS activities that are not specifically identified.

Note:
Although this calculation could allow for a smaller number, Avaya suggests a value of no less than 280 connections per Modular Messaging Server (MAS or supplementary server). For more details regarding NSPI connections and how to set the connection limit see the Microsoft Knowledge Base article, http://support.microsoft.com/kb/949469.

Older Information:

NSPI Connections

The Name Service Provider Interface (NSPI) Protocol provides messaging clients a way to access and manipulate addressing data stored by a server. The NSPI server implemented on Windows Server 2008 limits the number of simultaneous NSPI connections from a single client.

Problem Description

When the NSPI connection from Outlook fails, the server returns the following error:

MAPI_E_LOGON_FAILED. In some cases, a credential dialog box may appear when the error is encountered. This behavior occurs because Windows Server 2008 only allows for a default maximum of 50 concurrent NSPI connections per user to any domain controller. Additional NSPI connections are rejected with a MAPI_E_LOGON_FAILED error.

Microsoft has issued a Knowledge Base Article, KB949469, regarding NSPI connection failures from Outlook clients to a Windows Server 2008 based domain controller.

Resolution

To resolve this issue, the number of allowed NSPI connections must be increased. You can change this by modifying the registry on Domain Controller.

! CAUTION:

You will have to reinstall your Windows operating system if you modify the registry incorrectly by using Registry Editor or by using another method.

To change the concurrent NSPI connections per user, you can change the default limit. To do this, perform the following steps:

1. Log on to the domain controller.

2. Click **Start > Run.** Type **regedit** and click **OK**.

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3. In the **Registry Editor**, locate and click the following registry key:

HKEY_LOCAL_MACHINE\System\CurrentControlSet\Services\NTDS

4. From the **Edit** menu, select **New > Key**.

5. Type **Parameters**, and press ENTER.

6. Select the **Parameters** key.

7. From the **Edit** menu, select **New** > **DWORD Value**.

8. Type **NSPI max sessions per user**, and press ENTER.

9. Double-click **NSPI max sessions per user**, type the value as **0xffffffff**, and then click **OK**.

10. Exit the Registry Editor.

11. Perform the steps 1 to 10 on each 2008 Domain Controller in the domain.

For complete details on how to increase the number of NSPI connections, refer to:

http://support.microsoft.com/default.aspx/kb/949469?wa=wsignin1.0