IMail Clustering and Load Balancing

For **IPSWITCH** IMail Servers

This document provides instructions on setting up a high-availability environment to facilitate a clustering (failover) or load balancing network architecture. Feel free to respond with any updates / improvements to the approach described below so that we can share with other customers.

Note: While many customers are successfully running IMail in a clustered environment, clustering / load balancing is not currently a supported configuration.

Configuration:

All computers must be a part of a network domain. IMail Machine 1 and IMail Machine 2 need to log on with an administrator account of the network domain and not a local account.

Hardware:

- 2 IMail Servers (On Private IPs behind a router or layer-4 switch)
- 1 Data Server
- 1 SQL server
- I Router/Switch



Diagram 1

Step 1 - Installing and Configuring IMail

When IMail is initially set up on each server; make sure the "Official Host Name" and "Host Alias" on each server are exactly the same. Only the internal IP address will be different, everything else will be the same.



Diagram 2

Note: The **Top Directory** path will change once you map your drives. Since this path is yet unknown, leave the default path as is for now.

Step 2 - Configuring SQL

To configure SQL, please follow the KB steps. http://support.ipswitch.com/kb/IM-20001219-DM02.htm

The only exception in the KB is the reference to the IMail configuration.

Both IMail Servers must have the same table name in the IMail external configuration as shown in **Diagram 3**.

IPSWITCH	100					🚨 Logged in	as: localhos	st Logout		
LLI IMail Ser	/er	Home	System	Domain	Anti-Spam	Collaboration	Services	Logging		
Return to All Domains 😵	External Database implementation DLL ODBC System Data Source Name Table Name:				C:\Program Files\Ipswitch\IMail\odbcuser.c					
- Domain Properties				IMAJL	IMAILSECDB;uid=imail;pwd=imail					
DomainKeys / DKIM				doma	inname					
Signing Options										
Add Selector Wizard User Administration	NOTE: Defau host (dots cl USERDIR, an	Default implementation of ODBCUSER.DLL will use a table name of the requested iots change to '_') and expects data elements of , PASSWORD, FULLNAME, DIR, and FLAGS.								

Diagram 3

The "Table Name" must be the same on both machines. Also, make sure that the SQL database is not exclusive.

Important: DO NOT configure any users at this time as the directory path has not yet been set

Step 3 - Sharing Folders (Both IMail Servers)

Create a shared directory on the data server. Name it as you wish.

Both IMail Server Machines and the Data Server machines should be on the same network. When setting up your shared folder, make sure "Administrators" or the userids you will be using has full control over the directory. This setup was tested with "**Everyone**" having Full Control as shown in **Diagram 4.**

	Add	Remove
Permissions for Everyone	Allow	Deny
Full Control		
Modify		
Read & Execute		
List Folder Contents		
Read		
Write		
Coosial Permissions		
For openial permissions or for a	advanced settings, 🦳	Advanced

Diagram 4

You then want to go to each IMail Machine and Map the network drive.

Map Network Drive	Windows and assi access th Specify t that you	s can help you connect to a shared network folder gn a drive letter to the connection so that you can he folder using My Computer. the drive letter for the connection and the folder u want to connect to:
	Drive: Folder:	Y: Browse Example: \\server\share Reconnect at logon Connect using a <u>different user name</u> . Sign up for online storage or connect to a <u>network server</u> .
		< Back Finish Cancel

Diagram 5

Once the network drive is mapped. Click on the new mapped folder and create a subfolder with your domain name such as mydomain. You only need to create this folder once since it should be present when you map the folder on the second server.

🗅 myDomain			
File Edit View Favorites Tools	Help		
🌀 Back 🔹 🕥 - 🧊 🔎 S	earch 🌔 Folders	·	
Address Y:\myDomain			
File and Folder Tasks Image: Constraint of the second se	Name 🔺	File Folder Size Type	Date Modified
Other Places			
Local Disk (C:) My Documents My Computer My Network Places			

Diagram 6

In the Address bar as shown in **Diagram 6**, cut and paste the directory path to the TOP Directory of yourdomain in IMail Administrator. Do this for both IMail machines.

IPSWITCH						🚨 Logged in	as: localho	st Logout
L IMail Sen	ver	Home	System	Domain	Anti-Spam	Collaboration	Services	Logging
Return to All Domains 😏	General Don	nain Setting	s			dina.august	a.ipswitch	.com
Domain Properties	Domain Name (OHN):			dina augusta ipswitch.com				
Signing Options Venification Settings	Contions tion Settings Top Director			M'm Bro	ydomain wse			
Add Selector Wizard User Administration	Domain Alias	(es):						
Default Settings	You must n	estart the IM	ail service	s for chang	ges to the abo	ove settings to ta	ike effect.	

Diagram 7

Important: Make sure this drive path matches exactly on both IMail servers, including the drive letter. Do not use UNC names.

Also, make sure all IMail Services are running under the same account name that mapped the drive. This userid/password should exist on the data machine otherwise you may encounter permission errors when IMail tries to write to the directory.

Tip: We recommend mapping the drives to the Admin Shares on the data machine.

Step 4 - Disabling PID in IMail

To disable PID in IMail run "regedit" for both IMail machines.

Go to: HKLM\Software\Ipswitch\IMail\Global\

Create a DWORD Value name "SkipMBXPIDCheck" and set the value to 1.

Step 5 - Creating Users

Users can now be created

Make sure the directory path matches on both IMail Machines

- · Go into IMail Administrator / yourdomain / users and click on a user
- then click on the directory tab
- This path should match on both machines

Note: When you create a user on one machine, it should automatically appear on the second machine as they are both using the same database and tables. If they do not, then recheck your SQL and IMAIL database configurations.

"Aliases" and "Lists"

This redundancy setup does not replicate "Aliases" and "Lists". These need to be created separately to both machines, or export the Alias and lists portion of the registry from one machine and import to the other machine.

For Lists

HKLM\Software\Ipswitch\Imail\domains\yourdomain_lists

For Aliases

HKLM\Software\Ipswitch\Imail\domains\yourdomain\users_aliases

Do not replicate the registries exactly, as the IP address on each machine will be different and this information is embedded in the **IMail Registry Hive**. If you are going to export/import registry entries, please make sure that only the selected branches are exported/imported and not the entire IMail hive.

Step 6 - DNS and Your Router

Make sure your DNS records ("MX" and "A" Records) point to the router's external IP address. Your router will be responsible for forwarding all outside requests to the appropriate machine. If your primary machine goes down, then you can simply change the forwarding address from your primary server to server #2. This way all your users will not have to reconfigure their Outlook clients since the router will determine which server they connect to.

C) LINKSYS*	Filters	Forwarding	Dynamic Routing	Static Routing	DMZ Host	MAC Addr. Clone	Setup	
PORT RANGE FORWARDING	Port forwarding can be used to set up public services on your network. When users from the Internet make certain requests on your router, they will be redirected to the specified IP.							
ustomized Applications	Ext.Port		Protocol TCP	Protocol UDP	IP Address		Enable	
	20	To 21	N	ঘ	192.	168.1. 16	ঘ	
	1024	To 1024	ম 🗌	N	192.	168.1. 16	ঘ	
	5177	To 5177	<u> </u>	2	192.	168.1. 16	ম	
	8100	To 8109	<u>N</u>	N	192.	168.1. 16	ম	
	8383	То 8383	N N	2	192.	168.1. 16	N	
	3389	то 3389	ম	ঘ	192.	168.1. 16	ন	
	25	To 25	N	ঘ	192.	168.1. 16	ম	
	110	To 110	ঘ	N	192.	168.1. 16	ঘ	

Diagram 8

Example

In the diagram above, if 192.168.1.16 went down, and your secondary server was 192.168.1.17, then all you would need to do is configure your router to forward the ports to the new machine. This way, your users would not have to reconfigure their smtp & pop3 settings within Outlook.

Alternate Method

There are devices out there called "Layer-4 Switches" that will automatically make this routing change for you. Although, this type of device was not tested in our setup, it would probably be the most practical because it does not require the Administrator to make a change at the router level to re-route the inbound connections.

Example Switch

http://www.radware.com/content/products/as3/

Note: Aliases and Lists are specific to the machine they are running on, so to keep them "clustering" aware, you have to keep the registry hives synchronized across each of the boxes in the clustering architecture.

Setting Up DNS for Multiple Mail Hosts

If you want to set up a virtual host with an IP address, make the following entries in your DNS:

- Add an "MX" record for the mail domain (for example, mail.domain2.com). The "MX" record identifies the host name of the virtual host.
- Add an "A" record for the host name of the virtual host. The "A" record maps a host name to an IP address.
- Add a "PTR" record for the IP address of the virtual host. The "PTR" record maps an IP address to the host name and is used for reverse lookups.

Example

The DNS entries for a virtual host with a host name of "mail.domain2.com" would look like:

```
SOA

$ORIGIN

...

domain2.com

10.50.21.156.in-addr.arpa.,type = PTR
```