



**GWAVACon**



**Messaging Security • Unified Archiving • Business Continuity**

**[www.GWAVACon.com](http://www.GWAVACon.com)**

January 22, 2012

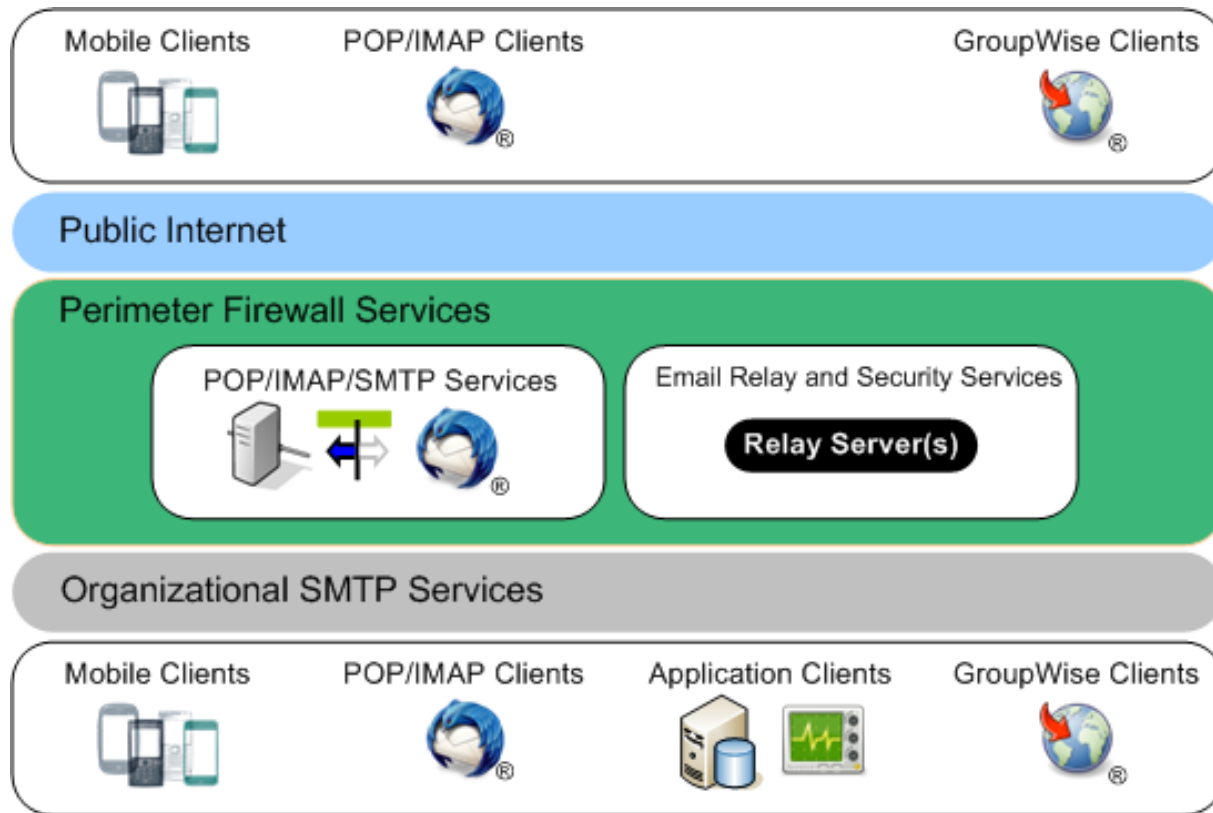
Lawrence Kearney  
Enterprise Service Analyst  
lawrence.kearney@earthlink.net

**GroupWise SMTP Infrastructure Design**

- Discussion will focus on the technical aspects of design and deployment, but some service analysis will be unavoidable
- Most information is geared for large and enterprise size environments
- Designing and maintaining systems to compete with similar commercial service offerings
- Viable third party security , traffic fencing, and traffic shaping options are referenced for discussion purposes

# A typical enterprise environment

... is really a collection of services



- Service performance
- Service efficiency
- Service stability
- Service feature sets
- Service cost of ownership (include support)
- Service scaling
- Service standards
- Service security

All influence leadership , staff, and customer satisfaction

## What can we do to improve services?

- Clever architecture and design choices
- Service I/O fencing
- Service demarcations (QoS really)
- Service load balancing/management
- Service redirection/redundancy
- Service high availability
- Service virtualization
- Service hardening

Using blended solutions can both harden and improve the reliability of your systems

## Separate different SMTP workloads

- Current messaging service needs are more complex
- Understanding complexities helps resolve them
- Resolving issues may help keep on-premises systems viable



Perimeter relay servers

Relay Servers

Provide I/O isolation and extend the features of your GWIAs

- Unsolicited bulk email filtering
- Anti-virus services
- Enhanced logging
- Policy based message handling/management
- Message retention
- Auditing and analysis tools

Ideally provide fail over, clustering and load balancing for large environments

## Access Control Lists (ACLs)

Demarcations

Prevent unauthorized access to services

- Can be used to dedicate and optimize resources
- Can be used to manage thin client access to services
- Can be implemented at many layers

Local firewalls can be used as ACL components



## GroupWise

Demarcations



### Service domains

- Gateways
- Identity Manager



### Service post offices

- Service, system and application accounts

GWIA Access Control

Connection ACL

SMTP connection ACL's

Use to limit inbound SMTP connections

Required exceptions:

- Network addresses
- \*@\*.\*
- Blank-Sender-User-ID

## GWIA Access Control

Relay ACL

### SMTP relay ACL truth table

#### Relay Exception: None

From	To	GWIA Relays	Relay Server Delivers
<Any known iDomain>	<Foreign Domain>	NO	N/A
<Foreign Domain>	<Any known iDomain>	YES	N/A
<Any known iDomain>	<Any known iDomain>	YES	N/A
<Foreign Domain>	<Foreign Domain>	NO	N/A

#### Relay Exception: "yourdomain.edu"

From	To	GWIA Relays	Relay Server Delivers
<Any known iDomain>	<Foreign Domain>	NO	N/A
<Foreign Domain>	<Any known iDomain>	YES	N/A
<Any known iDomain>	<Any known iDomain>	YES	N/A
<Foreign Domain>	<Foreign Domain>	NO	N/A

#### Relay Exception: "\*"

From	To	GWIA Relays	Relay Server Delivers
<Any known iDomain>	<Foreign Domain>	YES	YES
<Foreign Domain>	<Any known iDomain>	YES	N/A
<Any known iDomain>	<Any known iDomain>	YES	N/A
<Foreign Domain>	<Foreign Domain>	YES	NO

## Load balancing

### Software load balancing

- DNS round robin
- Perimeter servers
- GroupWise MTA routing
- Manual configurations

### Hardware load balancing

- Can use service aware intelligence
- Can be used to implement ACLs
- Can be used to implement SSL offloading

### Reverse proxies

- Can provide a blend of load balancing features

Hardware Load Balancing

Software Load Balancing

# Redirection and Failover

## GroupWise Internet Agents

- Alternate GWIAs
- Multiple outbound relay servers

Redirection and Failover

## High Availability

Clustering and virtualization:  
Service instances versus server and OS instances

Clustering

Virtualization

**Novell**



**vmware**



## Some issues with unmanaged clients

### Unmanaged service consumers

Security

- Fat POP/IMAP clients
- Thin clients (applications, SQL and PowerShell scripts)
- Device POP/IMAP clients (Email “Scourge”)

**Scourge:** a person or thing that administers or applies punishment or invites severe criticism

### Services providers “consuming” GroupWise services

- Blackberry Internet Service (BIS)
- Gmail
- mMode (mymmode)
- Notify Link

## Some issues with unmanaged clients

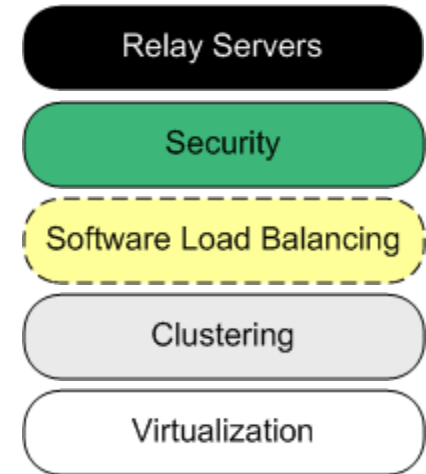
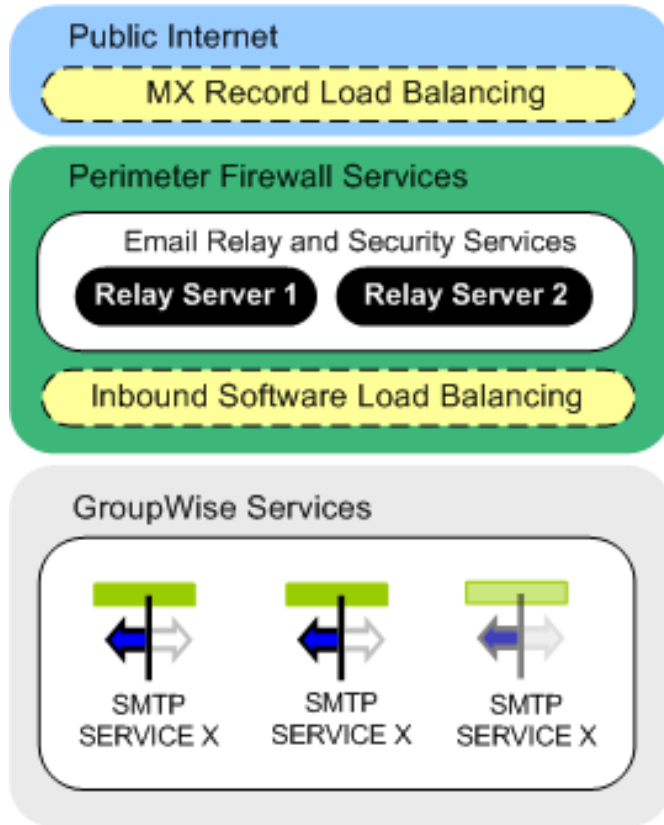
Security

### Additional security concerns

- Data leakage and loss
- Anti-virus and malware infections
- Bandwidth overconsumption
- Cannot secure or audit third party “local” message stores
- Cannot remotely manage or wipe unauthorized devices

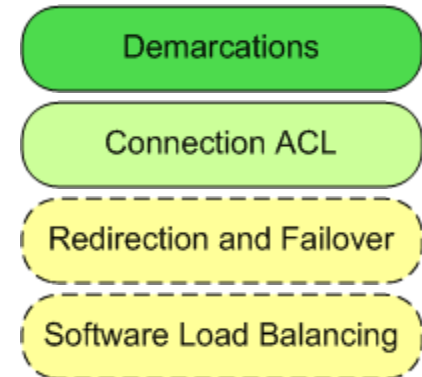
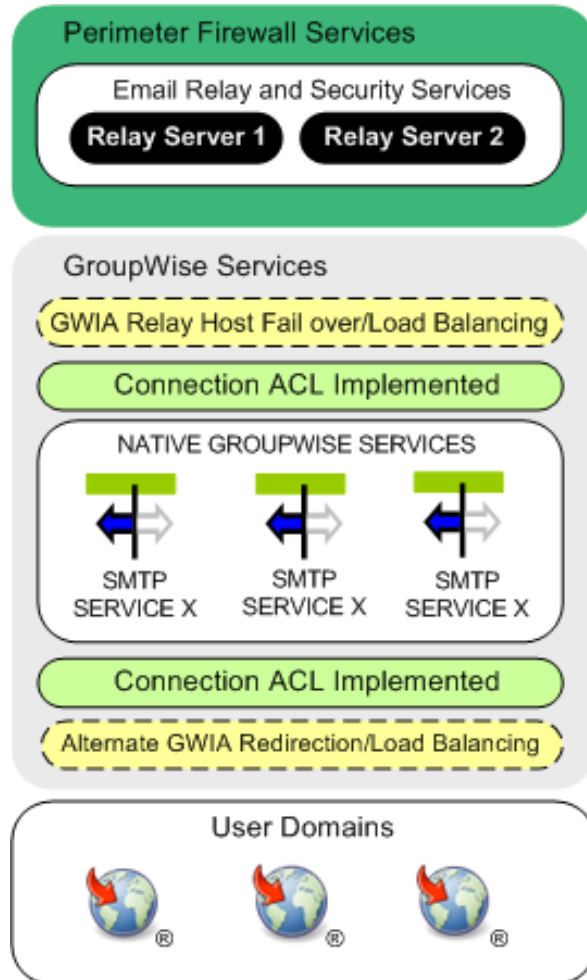


# Starting at the perimeter



Load balancing inbound email

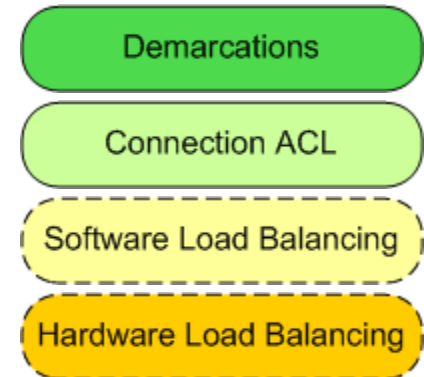
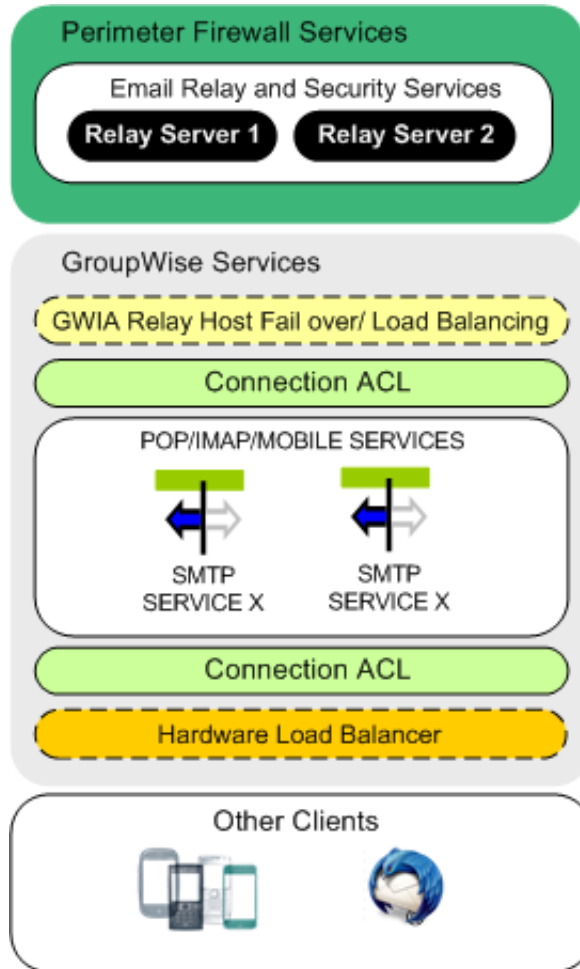
# Services for GroupWise clients



Load balancing outbound mail

Dedicating resources to GroupWise clients

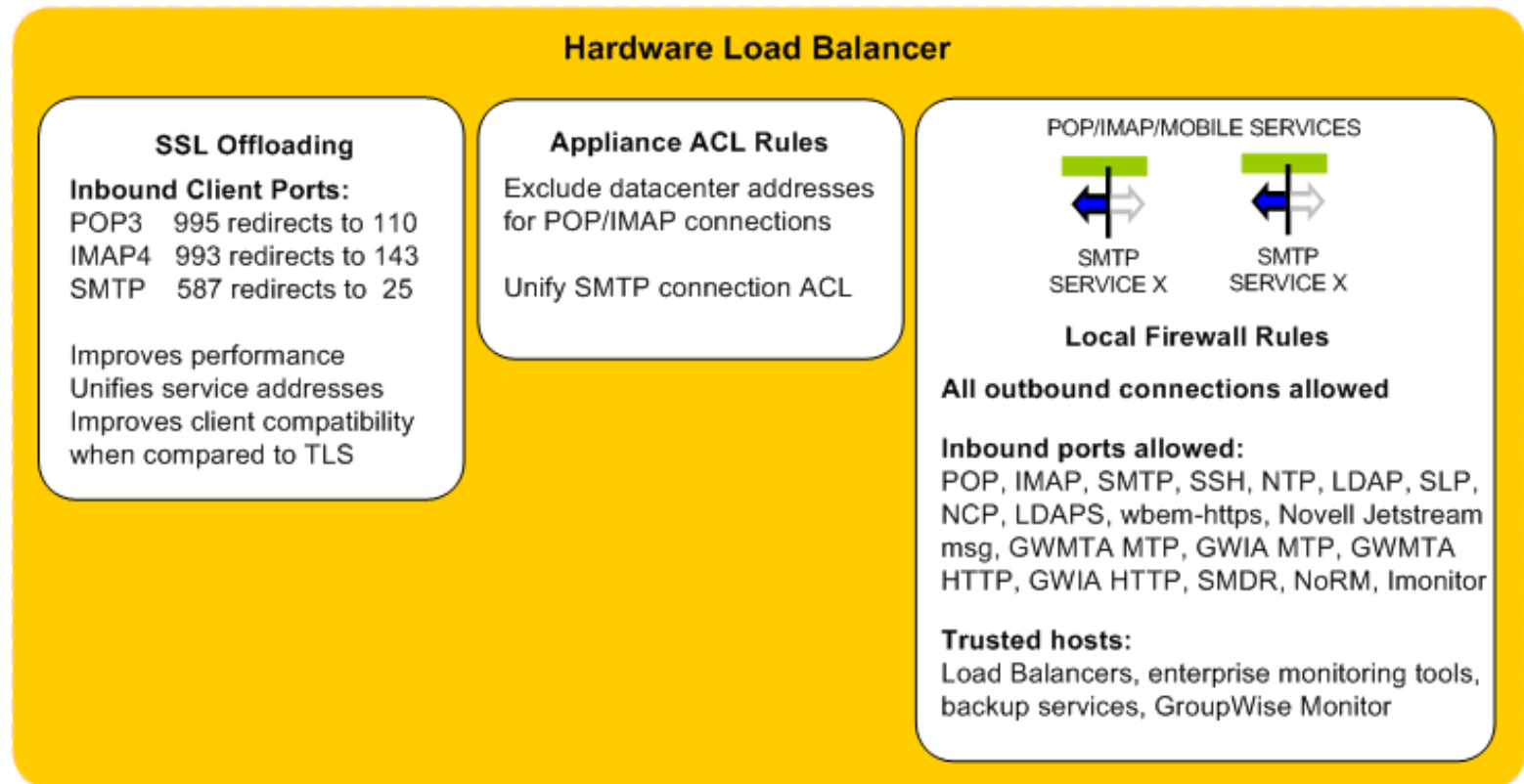
# Services for POP/IMAP clients



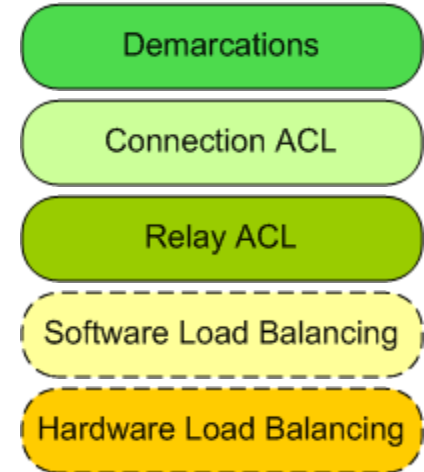
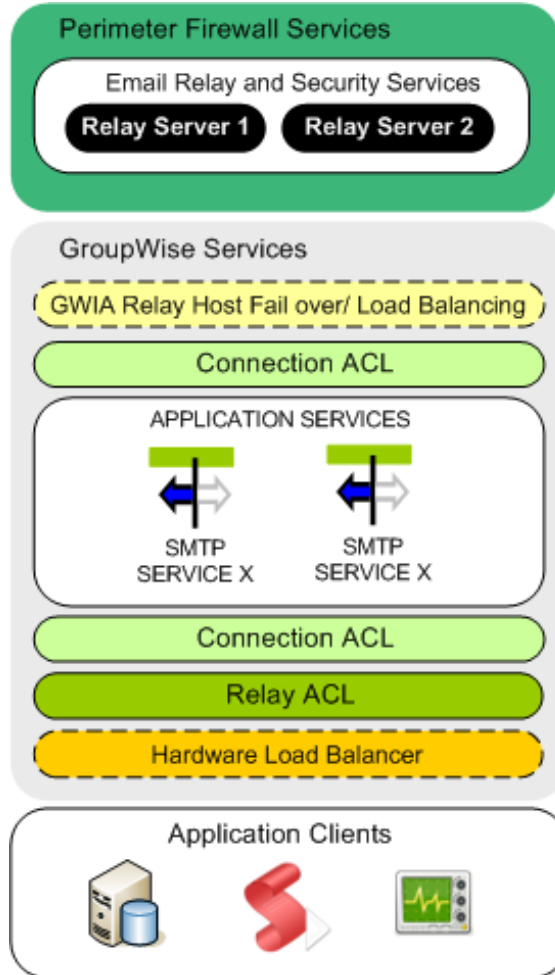
Dedicating resources to POP, IMAP and mobile services

# Services for POP/IMAP clients

What should happen inside your load balancer ...

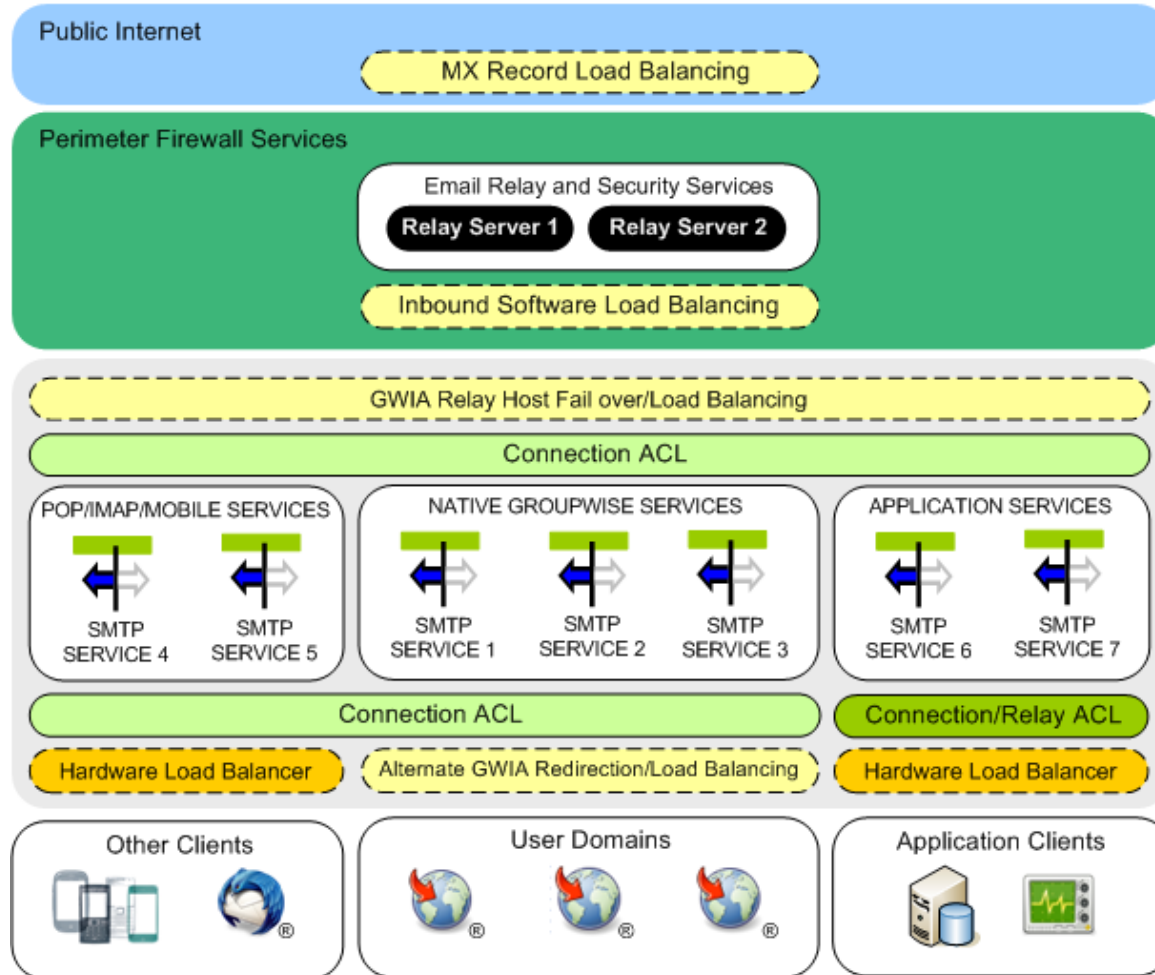


# Services for application clients



Dedicating resources to applications and services

# Bringing it all together



## Designing a solution

Separate different SMTP workloads

Better yet ...









GWAVACon

Messaging Security • Unified Archiving • Business Continuity

[www.GWAVACon.com](http://www.GWAVACon.com)

Thank You!



**Unpublished Work of GWAVA, Inc. All Rights Reserved.**

This work is an unpublished work and contains confidential, proprietary, and trade secret information of GWAVA, Inc. Access to this work is restricted to GWAVA employees who have a need to know to perform tasks within the scope of their assignments. No part of this work may be practiced, performed, copied, distributed, revised, modified, translated, abridged, condensed, expanded, collected, or adapted without the prior written consent of GWAVA, Inc. Any use or exploitation of this work without authorization could subject the perpetrator to criminal and civil liability.

**General Disclaimer**

This document is not to be construed as a promise by any participating company to develop, deliver, or market a product. GWAVA, Inc., makes no representations or warranties with respect to the contents of this document, and specifically disclaims any express or implied warranties of merchantability or fitness for any particular purpose. Further, GWAVA, Inc., reserves the right to revise this document and to make changes to its content, at any time, without obligation to notify any person or entity of such revisions or changes. All GWAVA marks referenced in this presentation are trademarks or registered trademarks of GWAVA, Inc. in the United States and other countries. All third-party trademarks are the property of their respective owners.