



AppExpert Template Deployment Guide

Microsoft Sharepoint





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Table of Contents

Introduction	4
Solution Requirements.....	5
Prerequisites.....	5
Network Diagram	6
AppExpert Templates	7
Introduction	7
Sharepoint Template.....	8
Sharepoint AppExpert Template Configuration	8
Characterization of the Sharepoint Application	9
Sharepoint Application Units	12
Ordering of Application Units	18
Sharepoint Public Endpoint Configuration - HTTP	19
Sharepoint Load Balancing Configuration - HTTP	20
Recommended Sharepoint Deployment.....	20
Sharepoint Public Endpoint Configuration - HTTPS.....	22
Sharepoint HTTP-to-HTTPS Redirect.....	23
Application Visualizer	25
Exporting AppExpert Templates.....	26
Importing AppExpert Templates.....	27
Appendix A - NetScaler Configuration.....	29
Appendix B - Content Types.....	35

Introduction

Citrix® NetScaler® optimizes the delivery of web applications — increasing security and improving performance and Web server capacity. This approach ensures the best total cost of ownership (TCO), security, availability, and performance for Web applications. The Citrix NetScaler solution is a comprehensive network system that combines high-speed load balancing and content switching with state-of-the-art application acceleration, layer 4-7 traffic management, data compression, dynamic content caching, SSL acceleration, network optimization, and robust application security into a single, tightly integrated solution. Deployed in front of application servers, the system significantly reduces processing overhead on application and database servers, reducing hardware and bandwidth costs.

NetScaler Applications Templates - introduced in NetScaler 9.0 - provide an application-centric view of the NetScaler system's policy configurations. From a single place within the GUI (AppExpert ➔ Applications) NetScaler administrators can: 1) Configure the various application features the NetScaler is fronting, 2) View which NetScaler functional modules (e.g., compression, caching, application firewall) are optimized and active for a given application unit.

Additionally, AppExpert Templates allow you to drill down and see which individual NetScaler policies are active, and what policies are inactive but available, by application component and NetScaler module. From this same view, individual policies can be created, activated and deactivated.

AppExpert Templates can be downloaded, imported, modified and exported. Administrators can download AppExpert Templates built by Citrix, Citrix Partners and members of the NetScaler community from the Citrix Community Website. These templates are easily imported into any NetScaler running NetScaler 9.0 or higher, jump starting the configuration and deployment process. Templates developed in-house can be easily exported and shared within your organization, or posted back to the Citrix Community Website for others to view and improve.

Solution Requirements

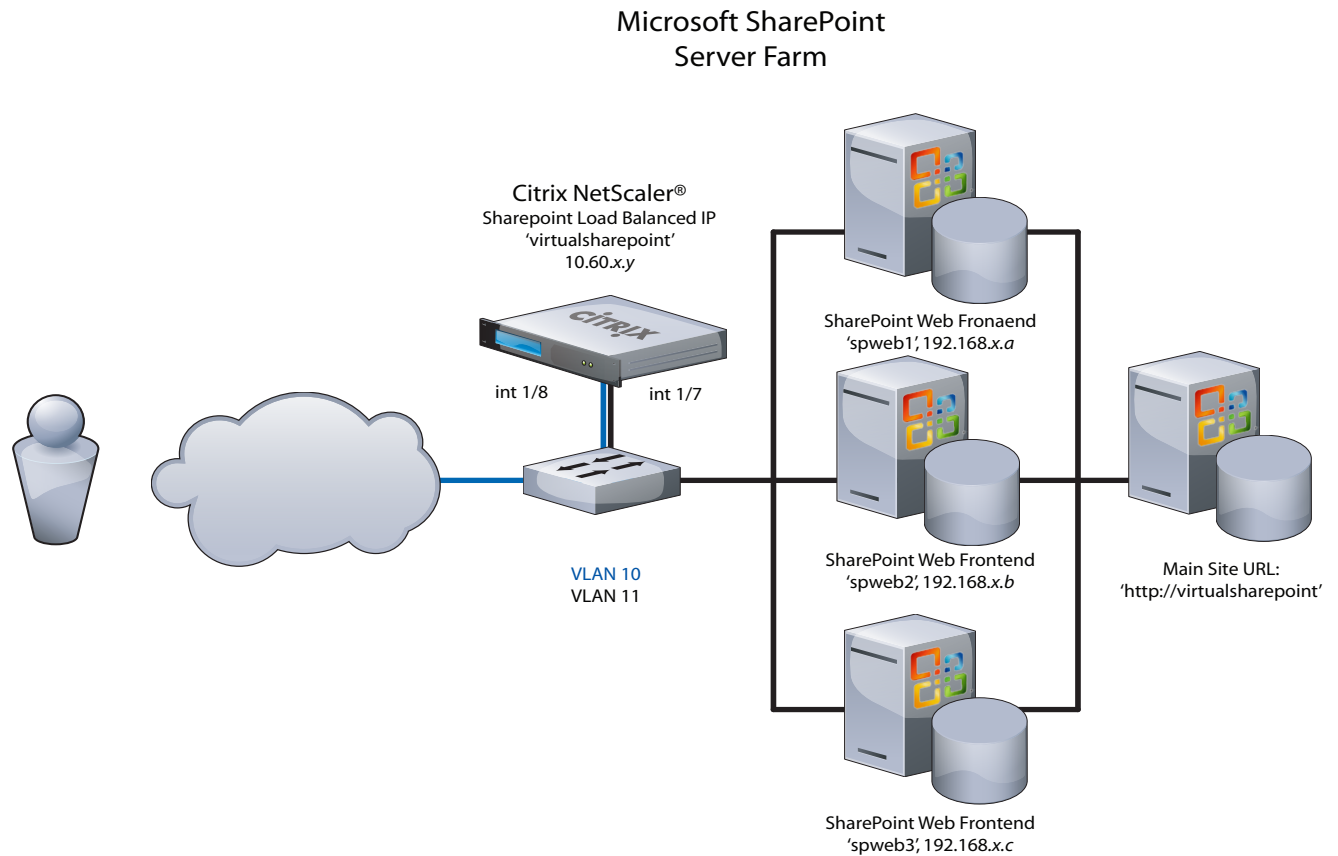
- Application Switch NetScaler
- Microsoft Sharepoint

Prerequisites

- Citrix NetScaler L4/7 Application Switch, running version 9.0 build 66 (Quantity x 2 for HA)
- Windows Sharepoint Services (WSS)
- Microsoft Office Sharepoint Server (MOSS)
- Client laptop/workstation running Internet Explorer 6.0+, Ethernet port
- 9-pin serial cable -or- USB-to-serial cable

Network Diagram

The following is the Network that was used to develop this deployment guide.



VLAN Legend	NetScaler
VLAN 11 VLAN 10 VLAN 1	VLAN 1: (Mgmt) Interface 1/2, Untagged NSIP: a.b.c.d / 24 SNIP: a.b.c.e / 24 VLAN 10: Interface 1/8, Untagged VIP: 10.60.x.y / 24 VLAN 11: Interface 1/7, Untagged SNIP: 192.168.x.y / 24

AppExpert Templates

Introduction

AppExpert Templates are a new and simple approach to configuration management for complex enterprise applications. Applications are listed in the left-most column of the NetScaler GUI under AppExpert. In one simple view, you can view what is most important to you in terms of application delivery. You simply configure what constitutes interesting traffic for each application delivery unit, and turn on the rules for compression, caching, rewrite, filtering, responder and application firewall. This is largely different from having to go into each feature and define complex rules and expressions individually, reducing the time to deploy, easing management and improving the bottom line.

Identification of workflows refers to the areas of the application that are important to Application Delivery, such as “Reports”, “Documents”, “Images”, “Stylesheets”, “Web Services” and “Portal Pages”. Each of these workflows can be specifically identified by the type of content they generate from Server to Client and vice-verse.

Methodology for Building an AppExpert Template

1. Identify Application Workflows
2. Model Workflows into Application Units.

The process for entering AppExpert Templates into the NetScaler Application Switch is simple. From the GUI, navigate to NetScaler ➤ AppExpert ➤ Applications. Select ‘Add’ to add the Application by name. Select ‘Add’ again to enter an Application Unit, which refers to the workflow, for example “Report Management”. Enter the Expression to identify the reports, for example `URL == '/*.pdf'`. From this basis, the important operations can be configured upon all reports that appertain to this application, such as compression, caching, rewrite, filtering, responder and application firewall.

One final step involves adding the front-end Virtual IP Address (VIP) and back-end servers. Then, by virtue of this configuration, load balancing is in effect for this application. Load Balancing algorithms and persistence can be modified from the default values.

Sharepoint Template

Sharepoint AppExpert Template Configuration

Sharepoint is an enterprise information portal from Microsoft that can be configured to run Intranet, Extranet and Internet sites. There are two underlying software technologies, Microsoft Windows Sharepoint Services (WSS) and Microsoft Office Sharepoint Server (MOSS). Sharepoint services (WSS) is typically used by small teams, projects and companies, while Sharepoint Server (MOSS) is designed for individuals, teams and projects within a medium to large enterprise. MOSS is a collaborative portal that is built on top of WSS. MOSS requires a license.

The Sharepoint application server is characterized by shared folders and files, collaboration, document workspace, meetings, discussion boards, integrated workflows, RSS Feeds, blogs, wikis, FrontPage integration and ASP web pages. The goal of Sharepoint is to provide a simple, familiar and consistent user experience tightly integrated with applications that run through a web browser.

What this means to an Application Expert is you will see a myriad of content being passed through the Citrix NetScaler Application Switch.

After installation the first page that comes up on the Sharepoint server is /localhost/default.aspx. If you view some examples of Sharepoint sites for collaboration, you can see that just about every document type and content type will be uploaded and downloaded from the site. If you view some example of Sharepoint Internet Web sites, you will see them full of images, scripts and .aspx pages.

What is important to the Application Expert is how the application is characterized by its content. In other words, what is the content that comprises the back-end application, and what are you most concerned with regarding its delivery. It is this content that we are most interested in, as we will build AppExpert Templates surrounding this content.

Characterization of the Sharepoint Application

We know from experience that Sharepoint workflows are characterized by collaboration, portals, enterprise content management, and business intelligence, to name a few. We can peel back the layers of these workflows to identify the actual data that is transferred between Client and Server when this Application is in use. Under the hood, the workflows are characterized accordingly to the following table.

Workflow	Characterized By	Components
FrontPage Services	FrontPage RPC responses	FrontPage header
SOAP Services	SOAP responses	Method is a POST, and the Header contains soapaction
Portal Management	Dynamic content - .jsp, .jspx, .asp, .aspx Static content - .html, .mht, .mhtml, .xhtml, .xml	.asp, .aspx, .htm, .html, .mht, .mhtml, .xhtml, .xml, .jsp, .jspx
Document Management	Document Sharing & Storage, MS Office Documents, Reports, Spreadsheet, Forms	.doc, .docx, .ppt, .pptx, .dot, .dotx, .docm, .dotm, .rtf, .txt, .wps, .ppt, .pptx, .pot, .potx, .pptm, .potm, .thmx, .ppsx, .ppsm, .pps, .ppam, .pdf, .csv, .txt, .prn, .xsn, .xls, .xlsx, .xlt, .xltx, .xlsb, .xlsm, .xltm, .dif, .slk, .xlam, .xla
Image Management	Responses containing images	.gif, .jpg, .jpeg, .tif, .tiff, .bmp, .wmf, .emf, .png, .wbmp, .ico
Styles and Scripts	Stylesheets, Scripts	.css, .js, .htc, .axd, .wmls
Image Management	Responses containing images	.gif, .jpg, .jpeg, .tif, .tiff, .bmp, .wmf, .emf, .png, .wbmp, .ico
Web Services Definitions	WSDLs and WSILs	?wsdl, .wsdl, ?wsil, .wsil, .xml
Web Services Schemas	XSDs	.xsd

If we examine the workflows in Sharepoint, we know that some of this content is compressible, while some is not. Some of this content is cacheable, while some is not. And so we form the basis of our AppExpert Template. In summary, we want to configure the AppExpert Template for the following features. A check indicates we want to enable the feature. The Default appears last and is a catch all for traffic that has not been characterized by our Application units. We have added an Https Redirect, because we want to redirect all HTTP traffic to HTTPS.

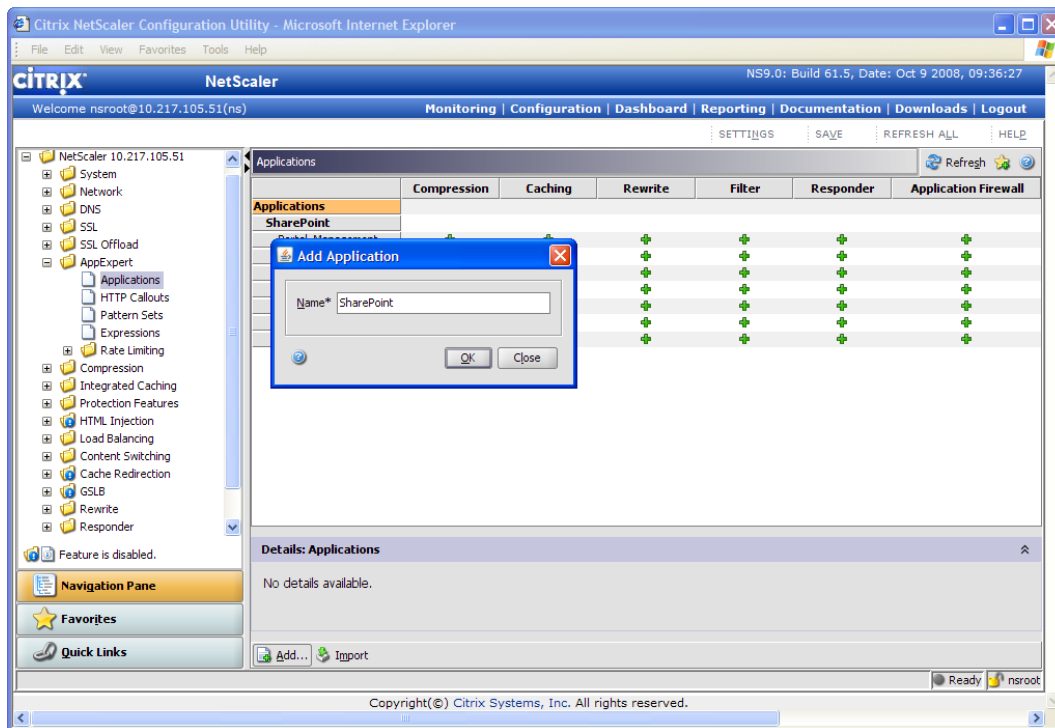
Content flow	Compression	Caching	Rewrite	Filter	Responder	AppFw
FrontPage Services	✓					
SOAP Services	✓		✓			
Portal Management	✓		✓		✓	
Document Management	✓				✓	
Image Management		✓			✓	
Styles and Scripts	✓	✓			✓	
Web Services Definitions	✓				✓	
Web Services Schemas	✓	✓			✓	
Default	✓	✓			✓	

From the Workflow table, we build the following expression table, for the each Application Unit. This is the interesting traffic to which we will apply policy.

Sharepoint	Classic Syntax	Advanced Syntax	Expression
FrontPage Services		✓	HTTP.REQ.HEADER("X-Vermeer-Content-Type").EXISTS
SOAP Services		✓	HTTP.REQ.METHOD.EQ(POST) && HTTP.REQ.HEADER("soapaction").EXISTS
Portal Management	✓		URL == '/*.jsp' URL == '/*.jspx' URL == '/*.asp' URL == '/*.aspx' URL == '/*.htm' URL == '/*.html' URL == '/*.mht' URL == '/*.mhtml' URL == '/*.xhtml' URL == '/*.xml'
Document Management	✓		URL == '/*.pdf' URL == '/*.csv' URL == '/*.prn' URL == '/*.xsn' URL == '/*.xls' URL == '/*.xlsx' URL == '/*.xlt' URL == '/*.xltx' URL == '/*.xlsb' URL == '/*.xlsx' URL == '/*.xlsm' URL == '/*.xltn' URL == '/*.dif' URL == '/*.slk' URL == '/*.xlam' URL == '/*.xla' URL == '/*.doc' URL == '/*.docx' URL == '/*.ppt' URL == '/*.pptx' URL == '/*.dot' URL == '/*.dotx' URL == '/*.docm' URL == '/*.dotm' URL == '/*.rtf' URL == '/*.txt' URL == '/*.wps' URL == '/*.pot' URL == '/*.potx' URL == '/*.pptm' URL == '/*.potm' URL == '/*.thmx' URL == '/*.ppsx' URL == '/*.ppsm' URL == '/*.pps' URL == '/*.ppam'
Image Management		✓	HTTP.REQ.METHOD.EQ(GET) && (HTTP.REQ.URL.PATH.STARTSWITH("/_layouts/images") && (HTTP.REQ.URL.PATH.ENDSWITH(".gif") HTTP.REQ.URL.PATH.ENDSWITH(".jpg") HTTP.REQ.URL.PATH.ENDSWITH(".jpeg") HTTP.REQ.URL.PATH.ENDSWITH(".tiff") HTTP.REQ.URL.PATH.ENDSWITH(".tif") HTTP.REQ.URL.PATH.ENDSWITH(".png") HTTP.REQ.URL.PATH.ENDSWITH(".bmp") HTTP.REQ.URL.PATH.ENDSWITH(".emf") HTTP.REQ.URL.PATH.ENDSWITH(".wmf") HTTP.REQ.URL.PATH.ENDSWITH(".wbmp") HTTP.REQ.URL.PATH.ENDSWITH(".ico"))
Styles and Scripts		✓	HTTP.REQ.METHOD.EQ(GET) && (HTTP.REQ.URL.PATH.STARTSWITH("/WebResource.axd") HTTP.REQ.URL.PATH.ENDSWITH(".htc") HTTP.REQ.URL.PATH.ENDSWITH(".wmls") (HTTP.REQ.URL.STARTSWITH("/_layouts/1033") && (HTTP.REQ.URL.PATH.ENDSWITH(".css") HTTP.REQ.URL.PATH.ENDSWITH(".js"))))
Web Services Definitions	✓		URL CONTAINS ?wsdl URL CONTAINS .wsdl URL CONTAINS ?wsil URL CONTAINS .wsil URL == '/*.xml'
Web Services Schemas	✓		URL CONTAINS .xsd

Sharepoint Application Units

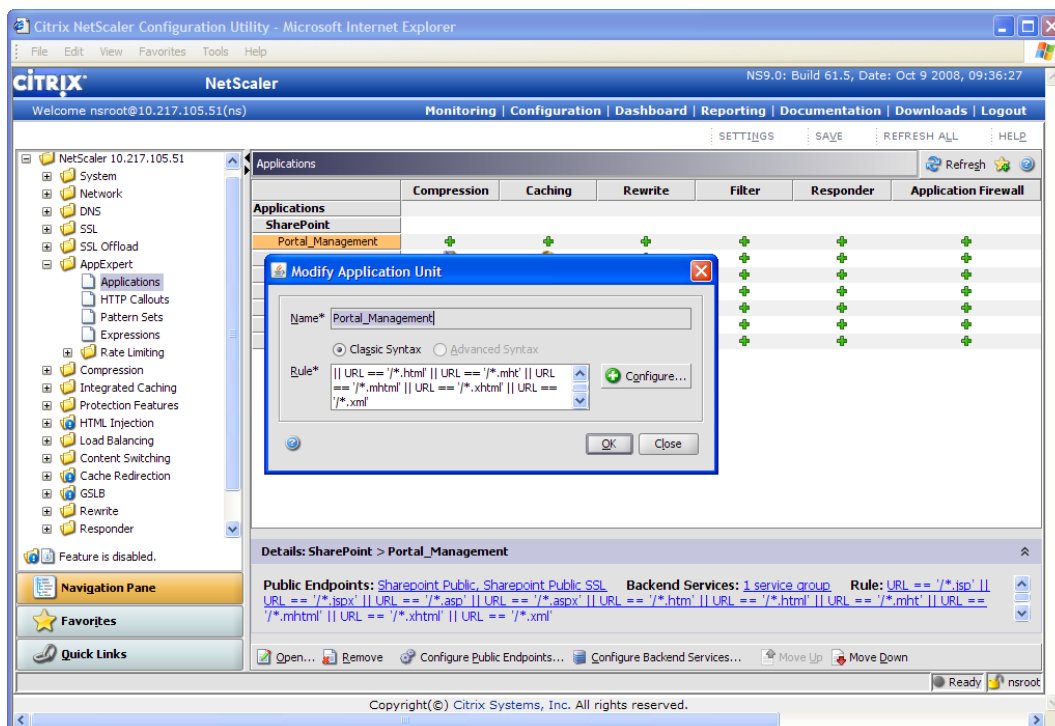
Configuration of the Sharepoint AppExpert Template involves defining Application Units for Sharepoint Traffic. An Application Unit defines a subset of traffic that you are interested in applying template policies to. For example Images or Reports, or specific portions of content. Definition of Application units are Request based, in that the expressions are built upon Request based rules.



From the NetScaler GUI, select NetScaler ➔ AppExpert ➔ Applications.

Select Add.

Enter the AppExpert Template Name. In this example, Sharepoint.

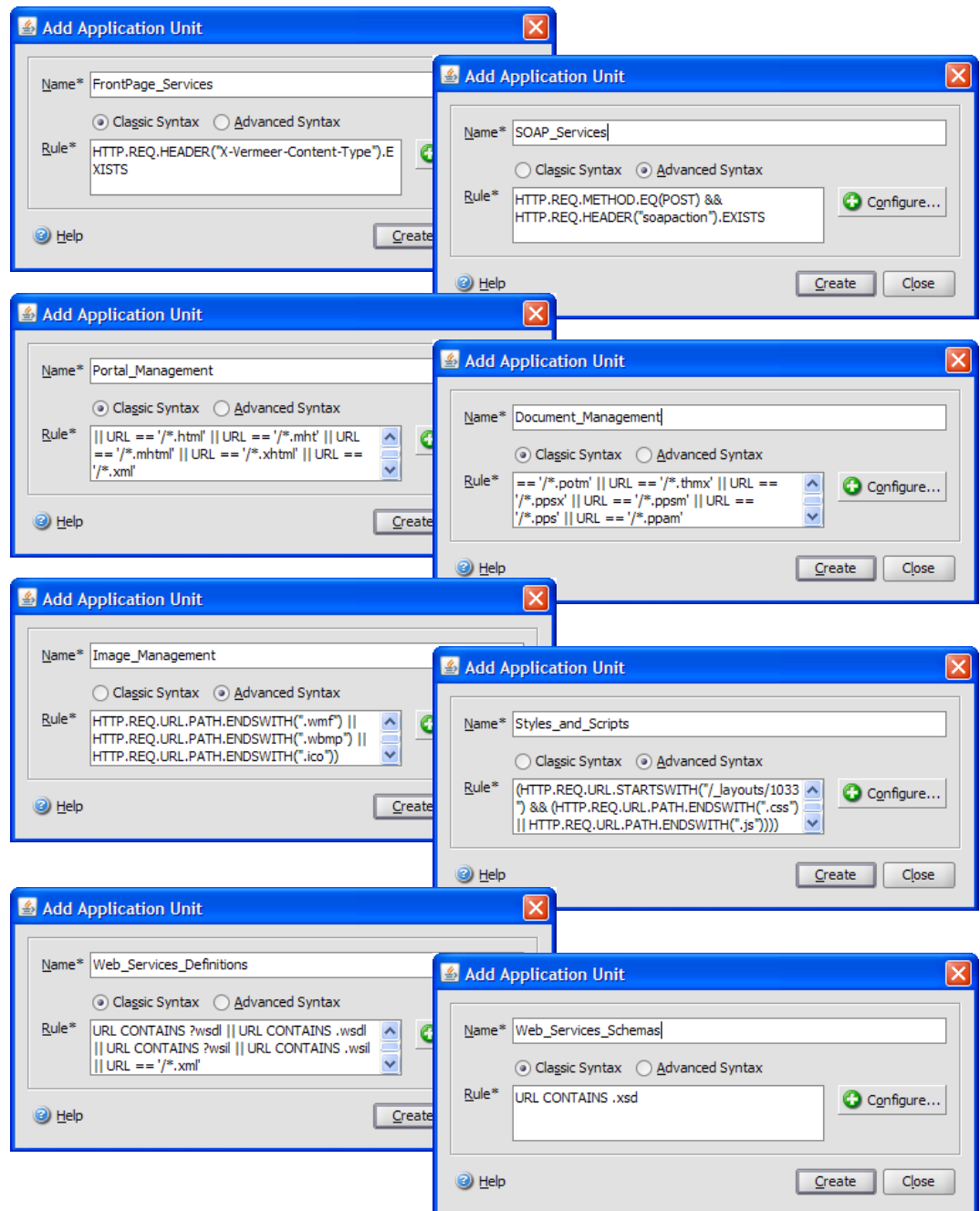


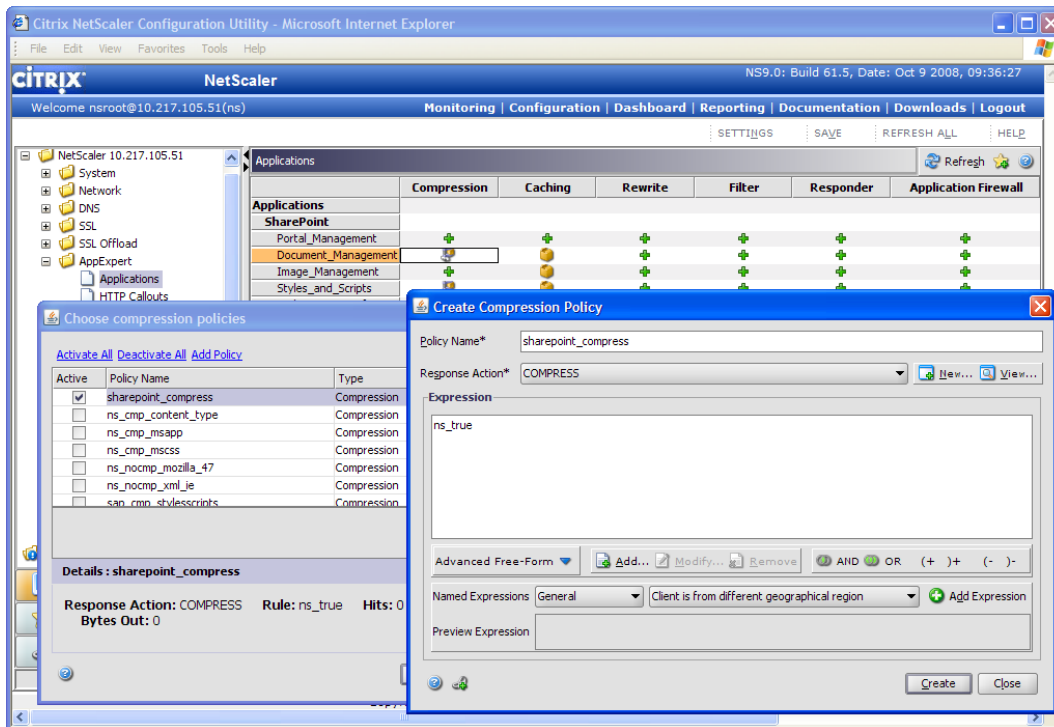
Select Add again, and enter the Application Unit. An Application Unit describes the Interesting Traffic or a type of context.

In this example, Application Unit is Portal_Management, identified by the rule expression:

```
URL == '/*.asp' ||  
URL == '/*.aspx' ||  
URL == '/*.htm' ||  
URL == '/*.html' ||  
URL == '/*.mht' ||  
URL == '/*.mhtml' ||  
URL == '/*.xhtml' ||  
URL == '/*.xml' ||  
URL == '/*.jsp' ||  
URL == '/*.jspx'.
```

Add the remaining Application Unit categories.





After all of the Application units have been added, we configure the policies, starting with Compression. Click on the icon under Compression.

Select 'Add Policy':

- Name: <policy name>
- Action: COMPRESS
- Expression: ns_true
(Advanced Free Form)

Select 'Create'.

Make sure the compression policy is selected.

Click 'Ok'.

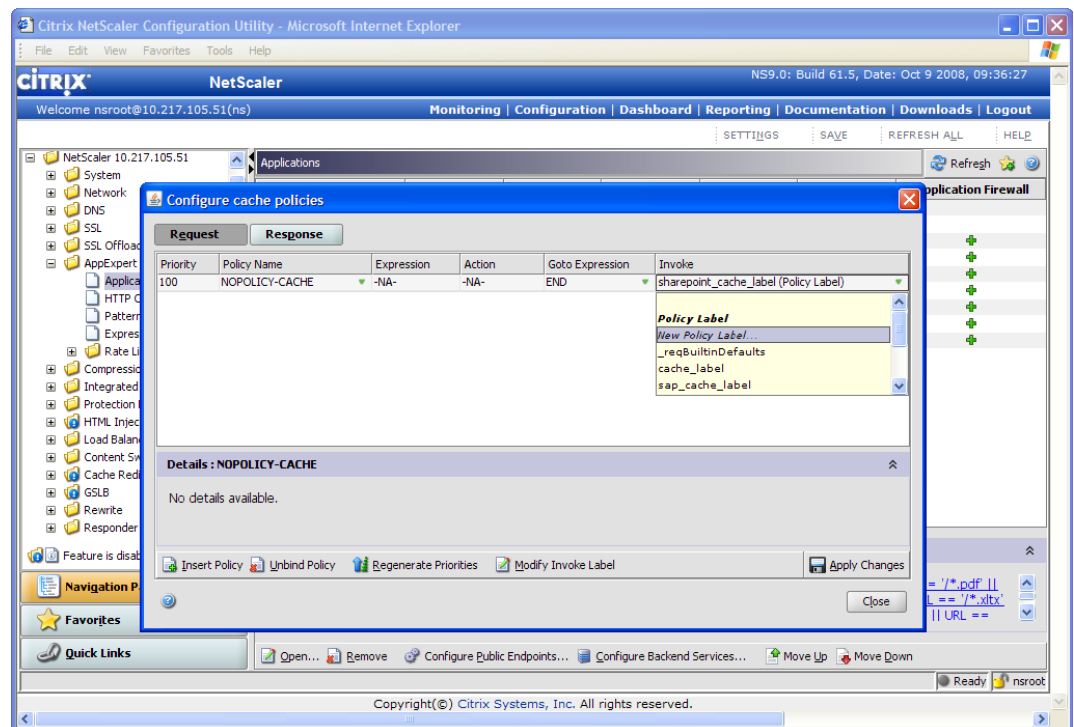
(In this example, our policy name is 'sharepoint_compress')

Enable Caching.

Select 'Insert Policy'.

Policy Name: NOPOLICY-CACHE.

Select Invoke: *New Policy Label*.



Cache Policy Label:
'sharepoint_cache_label'.

Select *Insert Policy*:

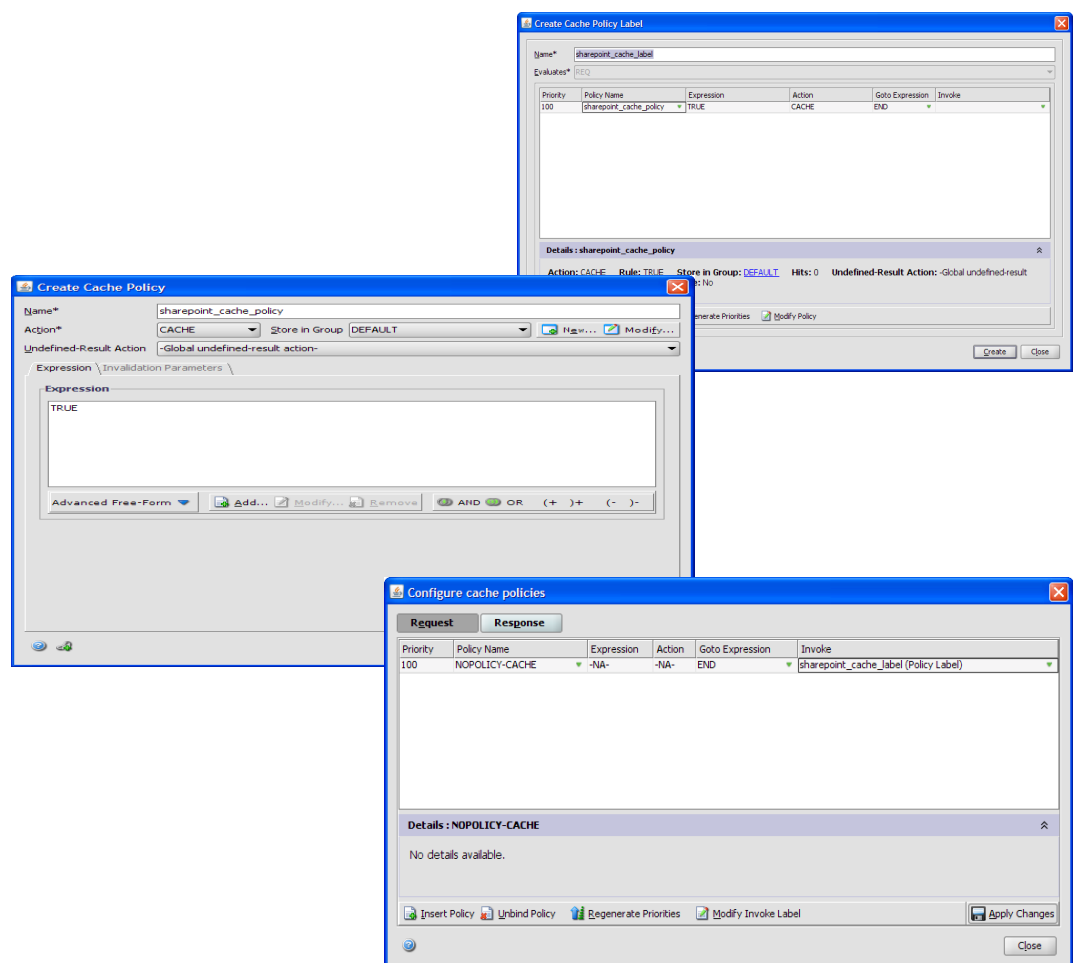
Select 'New Policy':

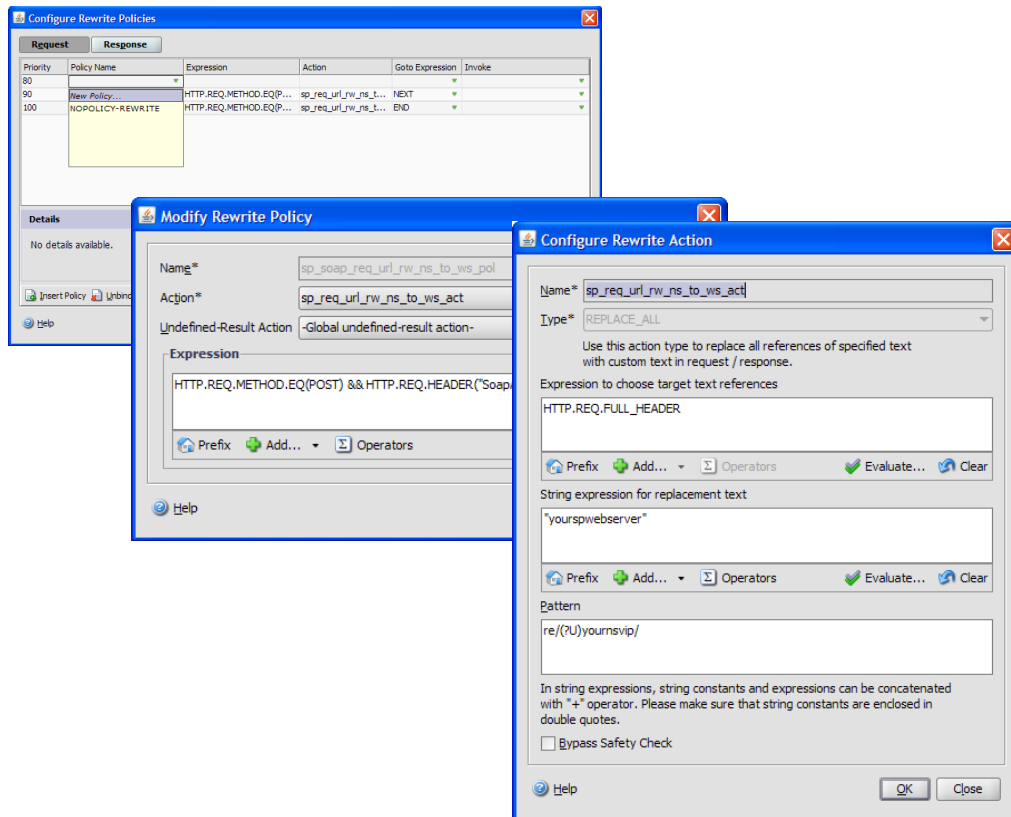
- Name: <policy name>
- Action: CACHE
- Expression: TRUE
(*Advanced Free Form*)

In this example, the
cache policy name will be
'sharepoint_cache_policy'.

Select 'Create', 'Apply
Changes', 'Close'.

Note: Now, the sharepoint_
cache_label can be re-used
for the other Application
Units.





Enable Rewrite.

Select 'Insert Policy'.

Add Policies and Actions according to the table below.

Select 'Create', 'Apply Changes', 'Close'.

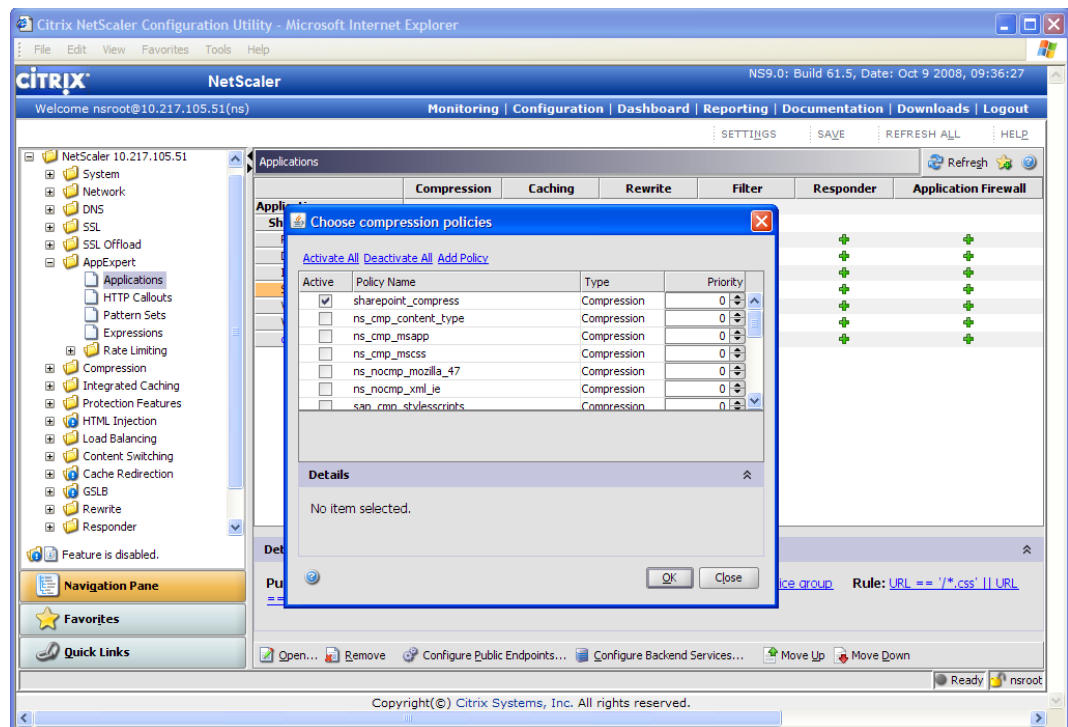
Note: replace 'yourspwebserver' with the hostname or ip address of your SharePoint webserver. Replace 'yournsvip' with your NetScaler Vserver ip address or hostname.

Rewrite for:	Policy Name	Expression	Action Name	Expression
SOAP Services	sp_soap_req_url_rw_ns_to_ws_pol	HTTP.REQ.METHOD.EQ(POST) && HTTP.REQ.HEADER("SoapAction").EXISTS	sp_req_url_rw_ns_to_ws_act	Type: REPLACE_ALL Expr: HTTP.REQ.FULL_HEADER Replacement: "yourspwebserver" Pattern: re/(?U)yournsvip/
	sp_soap_req_url_rw_ns_to_ws_pl2	HTTP.REQ.METHOD.EQ(POST) && HTTP.REQ.HEADER("SoapAction").EXISTS	sp_req_url_rw_ns_to_ws_act2	Type: REPLACE_ALL Expr: HTTP.REQ.BODY(4096) Replacement: "yourspwebserver" Pattern: re/(?U)yournsvip/
Portal Management	sp_res_url_rw_ws_to_ns_pol	HTTP.RES.HEADER("Content-Type").CONTAINS("text/html")	sp_res_url_rw_ws_to_ns_act	Type: REPLACE_ALL Expr: HTTP.RES.BODY(10000) Replacement: "yournsvip" Pattern: re/(?U)yourspwebserver YOURSPWEBSE RVER/

To enable compression for other Application units, re-use the policy created in the previous step.

Compression:

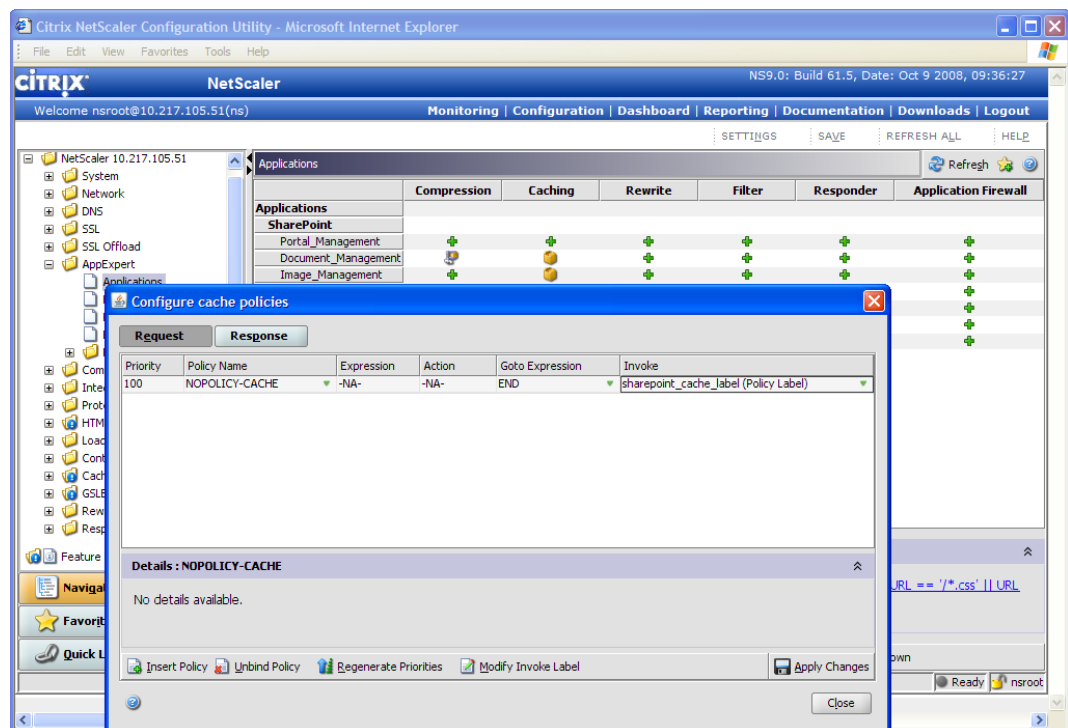
- select sharepoint_compress

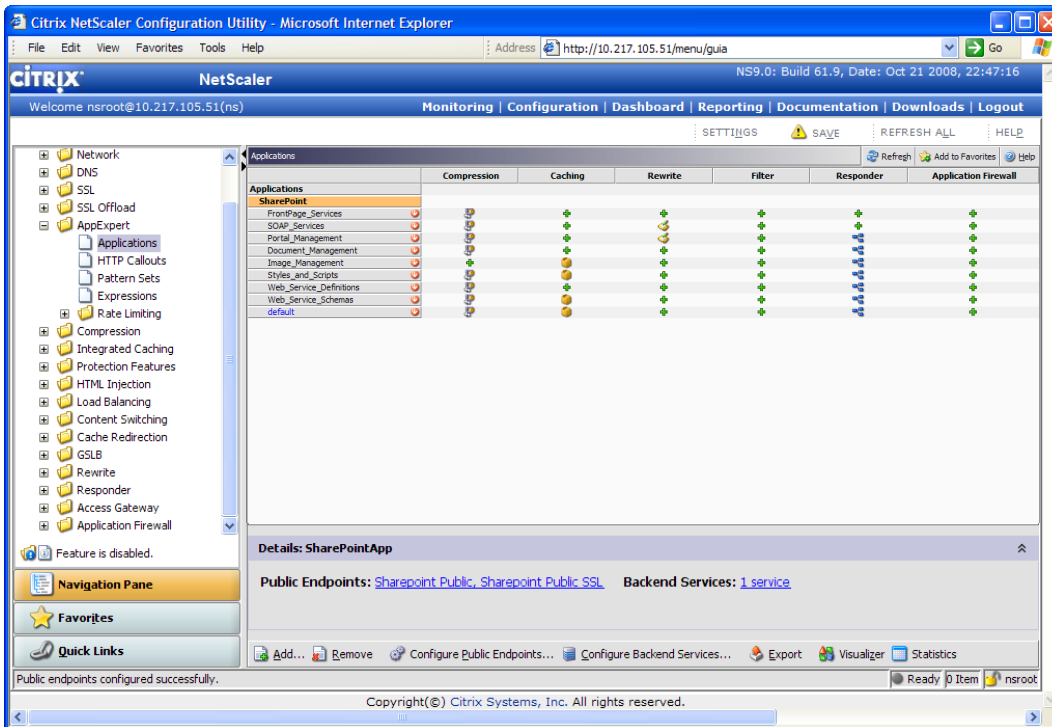


To enable caching for other Application Units, re-use the policy created in the previous step.

Caching:

- Insert Policy.
- Policy Name: NOPOLICY-CACHE
- Invoke: sharepoint_cache_label





The Default Application Unit is a “Catch-All” for content that was not previously expressed in an Application Unit.

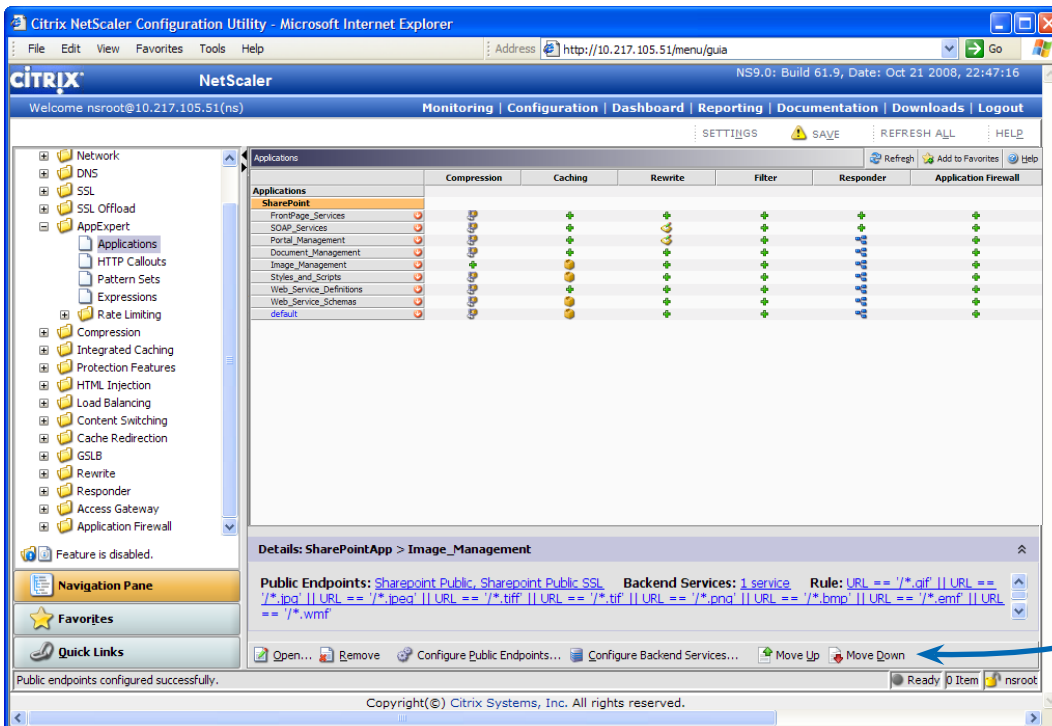
Compression and Caching should be turned on as a default.

After all of the Application units have been entered and the features configured, the AppExpert Template will look like the following:

Make sure you take this opportunity to “Save” the configuration.

Ordering of Application Units

Order of Application Units matters from a top-down methodology. The first Application Unit at the top of the list takes precedence. The next Application Unit in the list takes next precedence, and so forth. The Default Application Unit appears last for all traffic that was not expressed in an Application unit. The Application units can be reordered by moving them up and down in the GUI interface.



Use the Move Up & Move Down buttons to re-order Application Units.

Move them to the top of the list for higher precedence, or to the bottom of the list for lower precedence.



Sharepoint Public Endpoint Configuration - HTTP

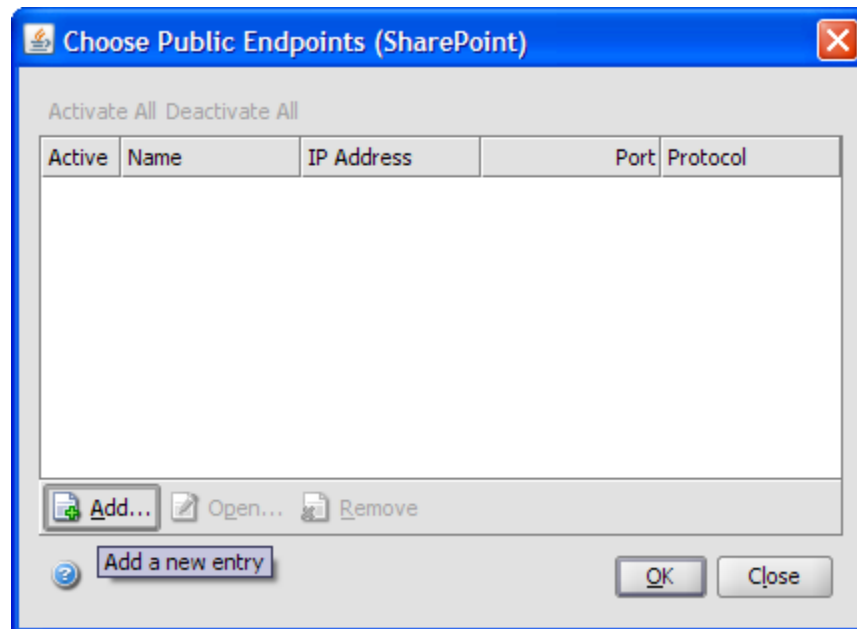
The Front-End configuration, or public endpoints configuration, is the public facing IP Address(es) that users will use to access the Application.

Select Configure Public Endpoints.

Select Add. Add the IP Address and Port that the public users will access the Application with.

- Name: <endpoint name>
- Public IP Address: x.x.x.x
- Protocol: HTTP
- Port: 80

Select Ok.

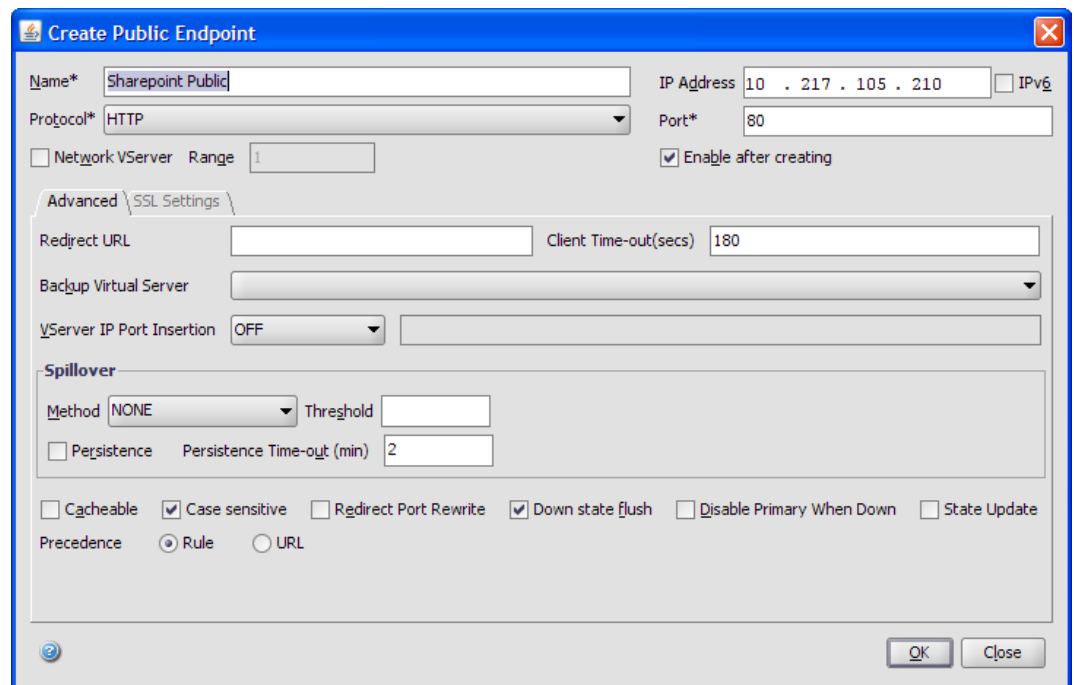


A couple final steps to complete the picture.

We need to add the Front-end VIP and Back-end servers.

Select Configure Public Endpoints.

Select Add.



Sharepoint Load Balancing Configuration - HTTP

Configuring backend services is the place where we add the backend servers to send traffic to. When the AppExpert Template was created, a Load Balancing virtual server (vserver) was created internally within the NetScaler. It is during the configuration of the backend services that we can change the default load balancing settings.

Service Group Name: Protocol:

☒ Enable Service Group

Members \ Monitors \ Advanced \ SSL Settings \

Specify Member(s)

☒ IP Based ☐ Server Based

IP Address: Range: IPv6:

Port:

Weight:

Server ID:

☒ Enable Member

Add > < Remove

Configured Members

Server Name	IP Address	Port	Weight	Server ID	Member State
10.217.104.10	10.217.104.10	80	1	1080	To be Enabled
10.217.104.11	10.217.104.11	80	1	1180	To be Enabled

Monitors Details...

Create Close

Select Configure Backend Services.

Select the Service Group tab.

Select Add.

Add the Servers by IP Address or Name, and Port Numbers the Servers use.

- Name: <server name>
- Server IP Address: x.x.x.x
- Port: 80
- Protocol: HTTP

These are the servers that we will load balance.

Select the http-ecv monitor, in the monitor tab.

Select 'Ok'.

Recommended Sharepoint Deployment

To be able to use Netscaler as a load balancer for the SharePoint Web Servers, the SharePoint servers need to be configured to support load balancing either using the Alternate Access Mapping feature or configuring each site to use a 'load balanced URL' that doesn't use the server name. Follow the links to learn more about either feature. The DNS name for the netscaler's sharepoint public endpoint should be set to the server name in the load balanced public URL of the site's configuration ('virtualsharepoint' in the diagram at the beginning of this document). The use of 'virtualsharepoint' as the dns name should be the same for the public and private access. The idea is to use "virtualsharepoint" as the URL name to access the SharePoint externally or internally.

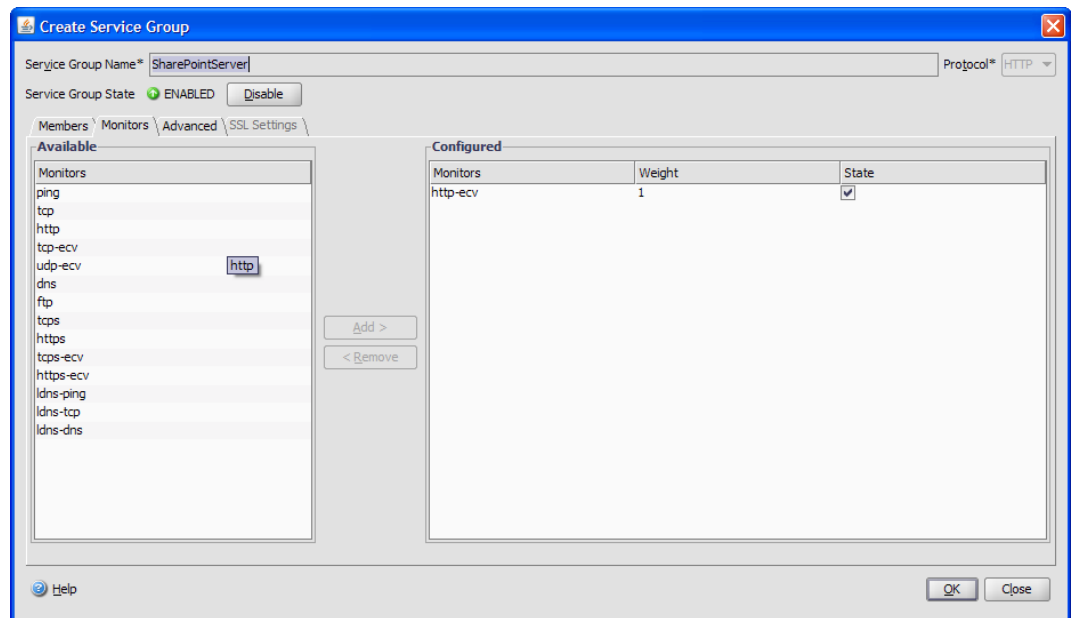
Alternate Access Mapping: <http://technet.microsoft.com/en-us/library/cc288173.aspx>

Load Balanced URL: <http://technet.microsoft.com/en-us/library/cc287954.aspx>

Select the Monitors tab to set the health check monitor to be used.

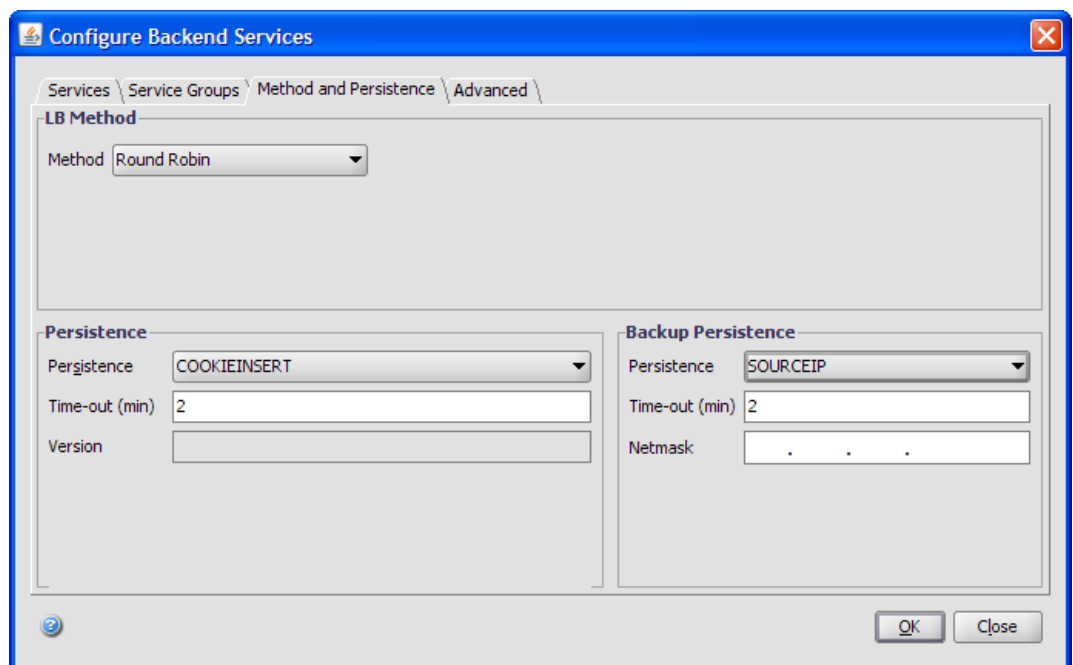
Select 'http-ecv', 'Add'.

Select 'OK'.



Select the Methods and Persistence tab to set the Load Balancing method and Persistence method to be used.

Select 'OK'.



Sharepoint Public Endpoint Configuration - HTTPS

The NetScaler Application Switch can be used as a secure SSL or HTTPS gateway to the Sharepoint Applications. A NetScaler server certificate can be created using the SSL Certificate Wizard by navigating in the GUI to NetScaler → SSL, Certificate Wizard.

To enable SSL or HTTPS for the Sharepoint Public Endpoints, select Add.

Add the IP Address and Port that the public users will access the SHarePoint Application with.

- Name: <endpoint name>
- Public IP Address: x.x.x.x
- Protocol: SSL
- Port: 443

Select the SSL Tab and Configure the NetScaler certificate to be used on the front-end public connections.

Select Ok.

Create Public Endpoint

Name* Sharepoint Public SSL IP Address 10 . 217 . 105 . 210 ☐ IPV6

Protocol* SSL Port* 443

☐ Network VServer Range 1 ☒ Enable after creating

**Advanced \ SSL Settings **

Redirect URL Client Time-out(secs) 180

Backup Virtual Server

VServer IP Port Insertion OFF

Spillover

Method NONE Threshold

☐ Persistence Persistence Time-out (min) 2

☐ Cacheable ☒ Case sensitive ☐ Redirect Port Rewrite ☒ Down state flush ☐ Disable Primary When Down ☐ State Update

Precedence ☒ Rule ☐ URL

OK Close

Create Public Endpoint

Name* Sharepoint Public SSL IP Address 10 . 217 . 105 . 210 ☐ IPV6

Protocol* SSL Port* 443

☐ Network VServer Range 1 ☒ Enable after creating

**Advanced \ SSL Settings **

SSL Parameters... Ciphers... SSL Policies...

Available

Certificates
ns-server-certificate
NSPortal.key.pair

Configured

Certificates	Type	CRL Mandatory
NSPortal.key.pair	Server Certificate	
NSPortal.key.pair	CA Certificate	☐

Add > Add as CA > < Remove Install...

OK Close

Sharepoint HTTP-to-HTTPS Redirect

To turn the Sharepoint HTTP Portal into a secure HTTPS portal, a simple redirect needs to be added to the AppExpert Template, which can be enabled and disabled at any time.

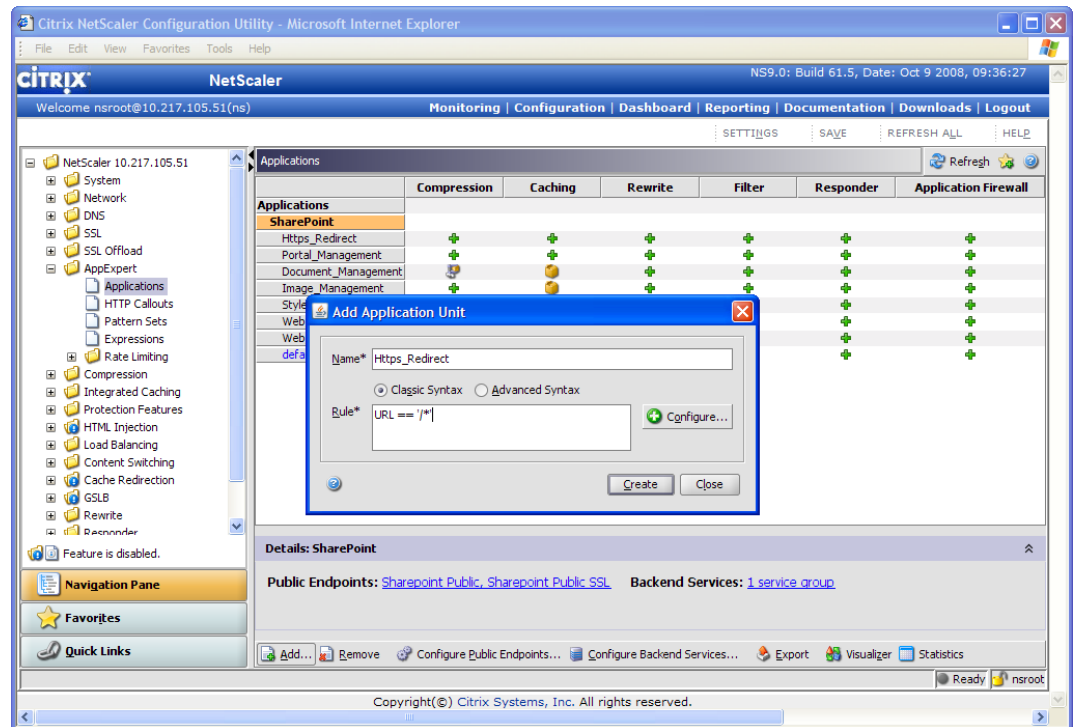
Select the AppExpert Template Name, Click on Add.

Add a new Application Unit for the redirect.

- Name: Https_Redirect
- Rule: URL == '/'*

Select Create.

Move it to the top of all Application Units.

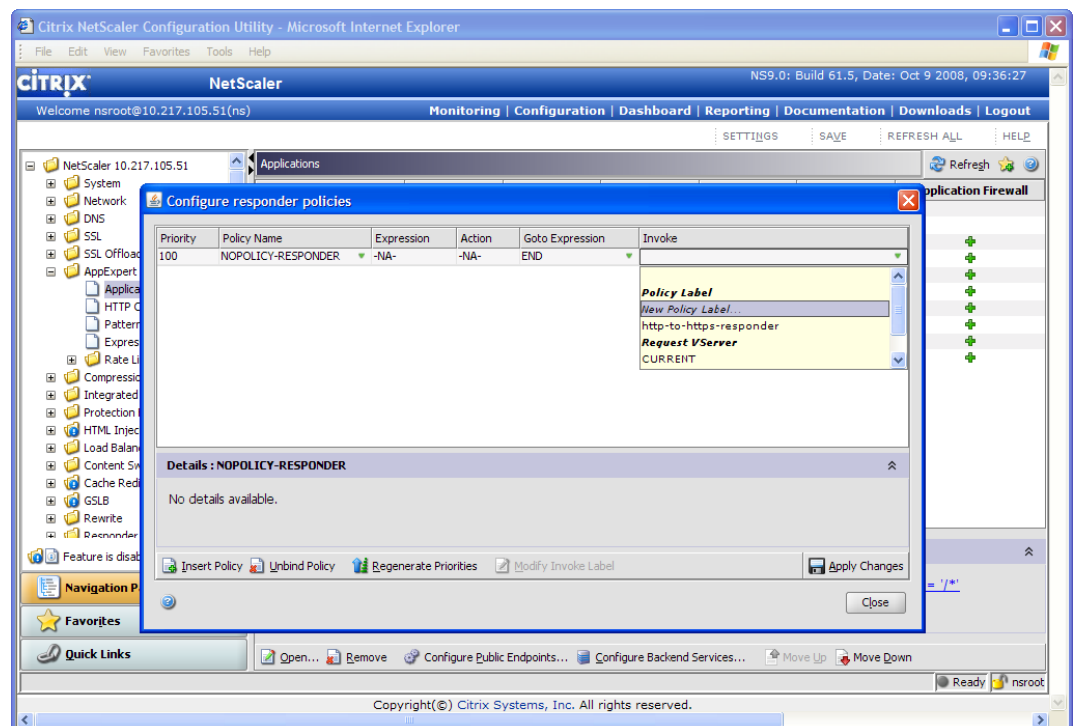


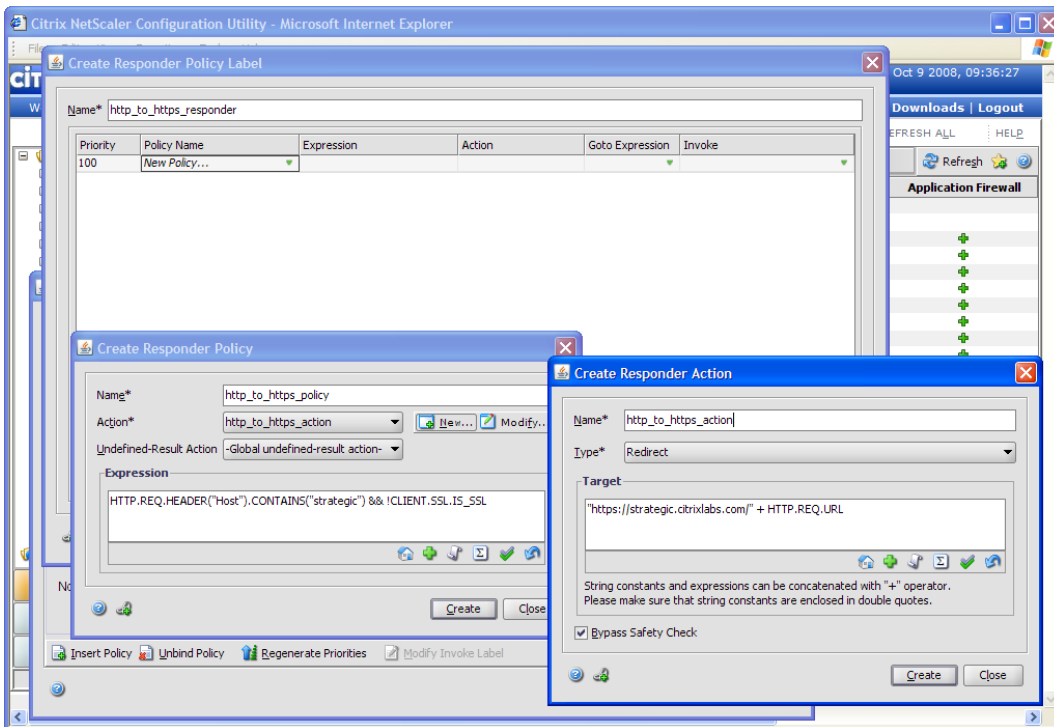
Enable Responder.

Select 'Insert Policy'.

Policy Name: NOPOLICY-RESPONDER.

Select Invoke: *New Policy Label*.





Create Responder Policy Label: 'http-to-https-responder'.

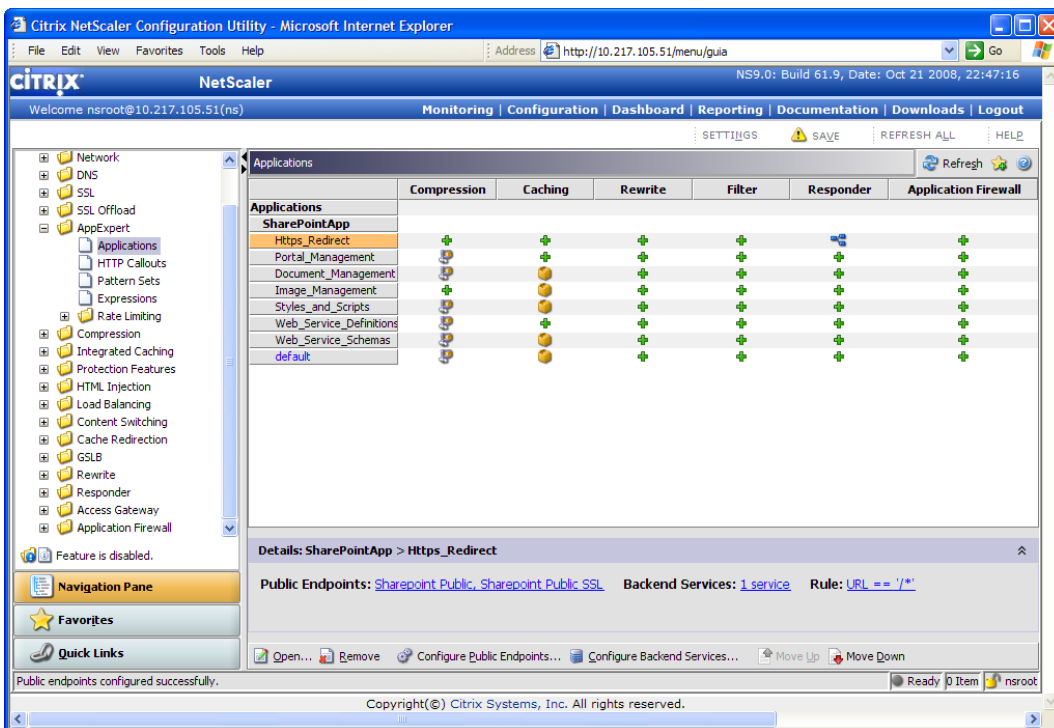
Select *Insert Policy*:

Select 'New Policy':

- Name: http_to_https_policy
- Action: http_to_https_action
- Expression: HTTP.REQ.HEADER("Host").CONTAINS("strategic") && !CLIENT.SSL.IS_SSL

Select 'New' Action:

- Name: http_to_https_action
- Type: Redirect
- Expression: "https://strategic.citrixlabs.com/" + HTTP.REQ.URL
- Bypass Safety Check

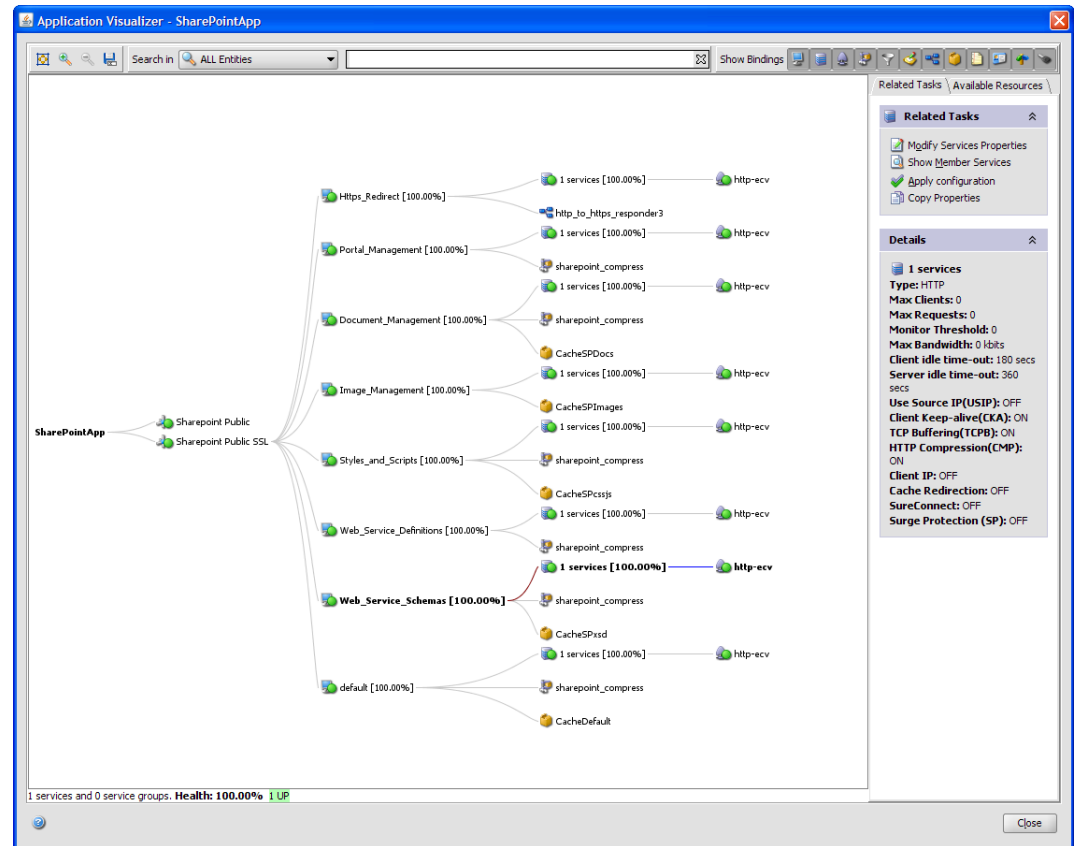


Select 'Create', 'Create', 'Create', 'Apply Changes' to the Application Unit, then 'Close'.

Application Visualizer

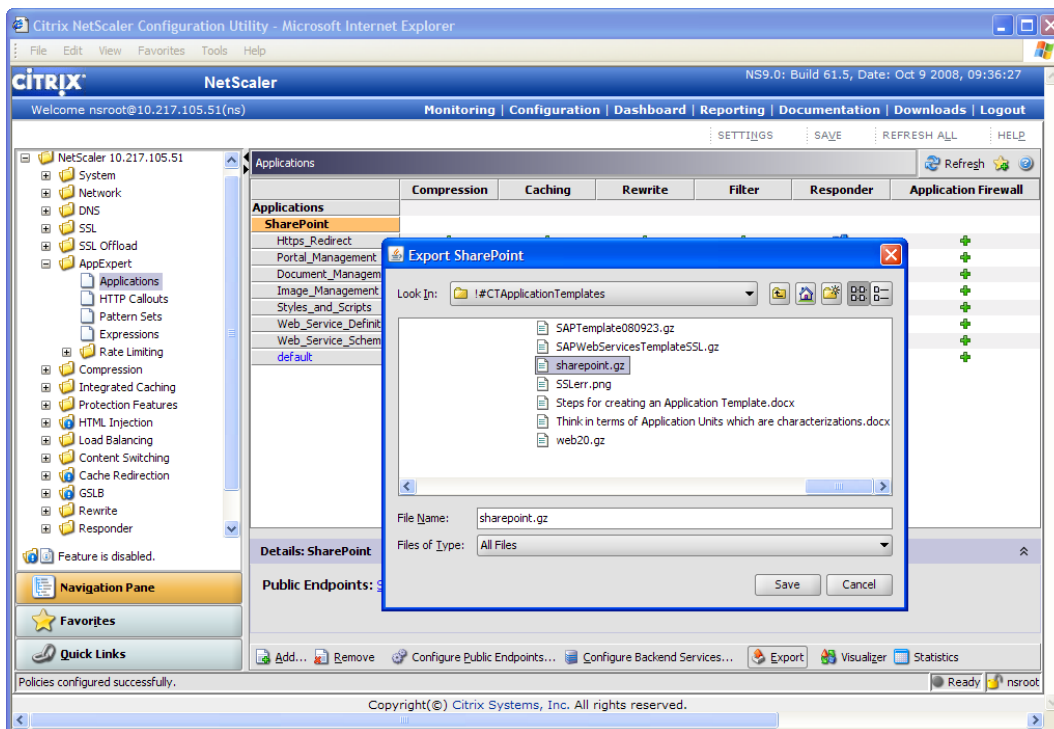
When an AppExpert Template is complete, all of the policies that are configured can be viewed in the Application Visualizer. The Visualizer provides an end-to-end view of the Application Flow from the Client to the Server.

When complete, the AppExpert Template can be viewed in the AppExpert Template Visualizer.



Exporting AppExpert Templates

AppExpert Templates can be exported so that they can be shared, uploaded to the **Citrix Community Website**, modified by others, and imported into other NetScaler switches to simplify and ease deployment.



To Export the AppExpert Template, highlight the AppExpert Template name, select Export.

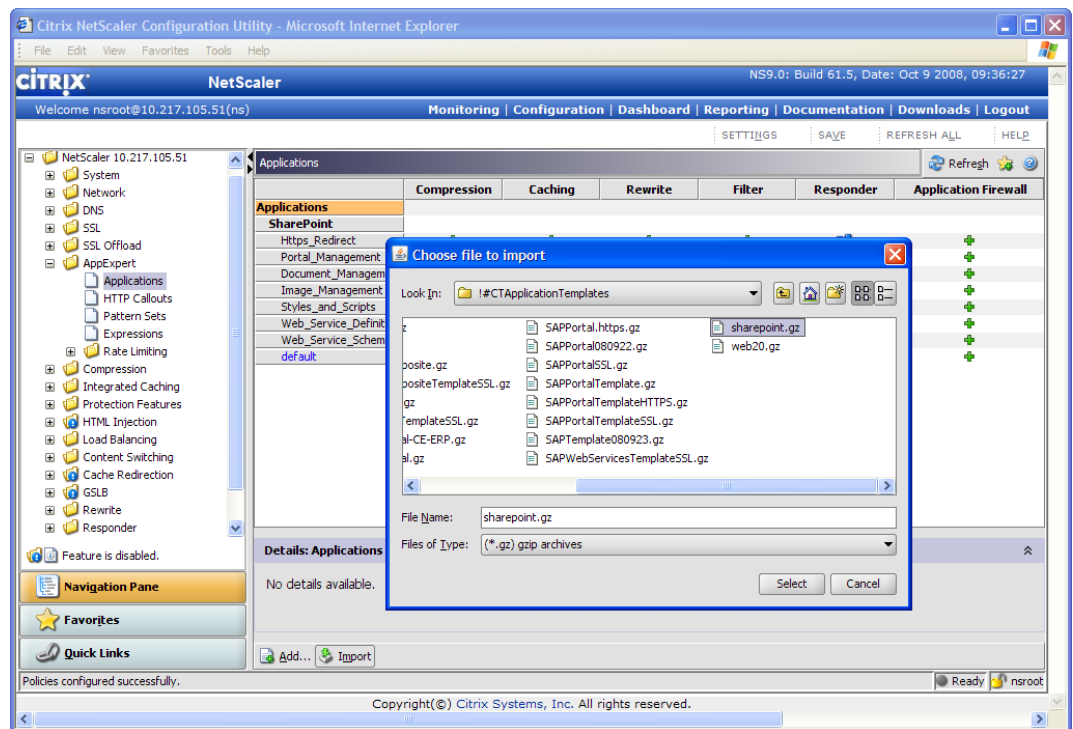
Importing AppExpert Templates

AppExpert Templates can be imported into the Citrix NetScaler Application Switch. Templates can be downloaded from the Citrix Community Website or from local or network storage.

Select the template to import. Templates are stored in <name>.gz file format.

To Import the AppExpert Template, click on Application, select Import.

When importing a template, you will need to Add or Select the Public Endpoints and Backend Service Groups.



Appendix A - NetScaler Configuration

Primary NetScaler

```
set ns config -IPAddress 10.60.108.100 -netmask 255.255.0.0

set ns config -timezone GMT-08:00-PST-Pacific/Pitcairn

set ns config -ftpPortRange 5000-6000

enable ns feature WL SP LB CS CR CMP GSLB CF IC REWRITE AppFw RESPONDER

enable ns mode FR L3 Edge USNIP PMTUD

set lacp -sysPriority 32768

set system user nsroot 1e9021f5f0036df0541b58111a24c2a5671c0d5bf7aa2dea2 -encrypted

set interface 1/1 -flowControl RX -lacpMode DISABLED -throughput 0 -bandwidthHigh 0 -bandwidthNormal 0
set interface 1/2 -flowControl RX -lacpMode DISABLED -throughput 0 -bandwidthHigh 0 -bandwidthNormal 0
set interface 1/3 -flowControl RX -lacpMode DISABLED -throughput 0 -bandwidthHigh 0 -bandwidthNormal 0
set interface 1/4 -flowControl RX -lacpMode DISABLED -throughput 0 -bandwidthHigh 0 -bandwidthNormal 0
set interface 1/5 -flowControl RX -lacpMode DISABLED -throughput 0 -bandwidthHigh 0 -bandwidthNormal 0
set interface 1/6 -flowControl RX -lacpMode DISABLED -throughput 0 -bandwidthHigh 0 -bandwidthNormal 0
set interface 1/7 -flowControl RX -lacpMode DISABLED -throughput 0 -bandwidthHigh 0 -bandwidthNormal 0
set interface 1/8 -flowControl RX -lacpMode DISABLED -throughput 0 -bandwidthHigh 0 -bandwidthNormal 0

add ns ip 10.60.108.101 255.255.0.0 -vServer DISABLED

add policy expression ns_html "RES.HTTP.HEADER Content-Type CONTAINS text/html" -description "Http response has html content type"

add policy expression ns_all_image_types "(URL == \'/*.gif\' || URL == \'/*.jpg\' || URL == \'/*.jpeg\' || URL == \'/*.tiff\' || URL == \'/*.tif\' || URL == \'/*.png\' || URL == \'/*.bmp\' || URL == \'/*.emf\' || URL == \'/*.wmf\' || URL == \'/*.wbmp\' || URL == \'/*.ico\')'"

add policy expression app_0_ApplicationsSharePoint ns_true

add policy expression app_u_SharePointFrontPage_Services ns_true

add policy expression app_u_SharePointSOAP_Services ns_true

add policy expression app_u_SharePointPortal_Management ns_true

add policy expression app_u_SharePointDocument_Management ns_true

add policy expression app_u_SharePointImage_Management ns_true

add policy expression app_u_SharePointStyles_and_Scripts ns_true

add policy expression app_u_SharePointWeb_Service_Definitions ns_true

add policy expression app_u_SharePointWeb_Service_Schemas ns_true

add policy expression app_o_SharePointdefault ns_true

set locationParameter -context geographic -q1label Continent -q2label Country -q3label Region -q4label City -q5label ISP -q6label Organization

add server 10.60.2.41 10.60.2.41

add server 10.60.2.25 10.60.2.25
```

```

add server 10.60.2.110 10.60.2.110

add server 10.60.2.40 10.60.2.40

add server 10.9.154.149 10.9.154.149

add cs policy "pol-true" -rule true

add cs policy app_cs0 -rule "HTTP.REQ.HEADER(\\"X-Vermeer-Content-Type\\").EXISTS"

add cs policy app_cs1 -rule "HTTP.REQ.METHOD.EQ(POST) && HTTP.REQ.HEADER(\\"soapaction\\").EXISTS"

add cs policy app_cs2 -rule "SYS.EVAL_CLASSIC_EXPR(\\"URL == \\'/*.jsp\\' || URL == \\'/*.jspx\\' || URL == \\'/*.asp\\' || URL == \\'/*.aspx\\'\\")"

add cs policy app_cs3 -rule "SYS.EVAL_CLASSIC_EXPR(\\"URL == \\'/*.pdf\\' || URL == \\'/*.csv\\' || URL == \\'/*.prn\\' || URL == \\'/*.xsn\\' || URL == \\'/*.xls\\' || URL == \\'/*.xlsx\\' || URL == \\'/*.xlt\\' || URL == \\'/*.xltx\\' || URL == \\'/*.xlsb\\' || URL == \\'/*.xslm\\' || URL == \\'/*.xltm\\' || URL == \\'/*.dif\\' || URL == \\'/*.slk\\' || URL == \\'/*.xlam\\' || URL == \\'/*.xla\\' || URL == \\'/*.doc\\' || URL == \\'/*.docx\\' || URL == \\'/*.ppt\\' || URL == \\'/*.pptx\\' || URL == \\'/*.dot\\' || URL == \\'/*.dotx\\' || URL == \\'/*.docm\\' || URL == \\'/*.dotm\\' || URL == \\'/*.rtf\\' || URL == \\'/*.txt\\' || URL == \\'/*.wps\\' || URL == \\'/*.pot\\' || URL == \\'/*.potx\\' || URL == \\'/*.pptm\\' || URL == \\'/*.potm\\' || URL == \\'/*.thmx\\' || URL == \\'/*.pps\\' || URL == \\'/*.ppsm\\' || URL == \\'/*.pps\\' || URL == \\'/*.ppam\\'\\")"

add cs policy app_cs4 -rule "HTTP.REQ.METHOD.EQ(GET) && HTTP.REQ.URL.PATH.STARTSWITH(\\"/_layouts/images\\") && (HTTP.REQ.URL.PATH.ENDSWITH(\\".gif\\") || HTTP.REQ.URL.PATH.ENDSWITH(\\".jpg\\") || HTTP.REQ.URL.PATH.ENDSWITH(\\".jpeg\\") || HTTP.REQ.URL.PATH.ENDSWITH(\\".tiff\\") || HTTP.REQ.URL.PATH.ENDSWITH(\\".tif\\") || HTTP.REQ.URL.PATH.ENDSWITH(\\".png\\") || HTTP.REQ.URL.PATH.ENDSWITH(\\".bmp\\") || HTTP.REQ.URL.PATH.ENDSWITH(\\".emf\\") || HTTP.REQ.URL.PATH.ENDSWITH(\\".wmf\\") || HTTP.REQ.URL.PATH.ENDSWITH(\\".wbmp\\") || HTTP.REQ.URL.PATH.ENDSWITH(\\".ico\\"))"

add cs policy app_cs5 -rule "HTTP.REQ.METHOD.EQ(GET) && (HTTP.REQ.URL.PATH.STARTSWITH(\\"/WebResource.axd\\") || HTTP.REQ.URL.PATH.ENDSWITH(\\".htc\\") || HTTP.REQ.URL.PATH.ENDSWITH(\\".wmls\\") || (HTTP.REQ.URL.STARTSWITH(\\"/_layouts\\") && (HTTP.REQ.URL.PATH.ENDSWITH(\\".css\\") || HTTP.REQ.URL.PATH.ENDSWITH(\\".js\\"))))"

add cs policy app_cs6 -rule "SYS.EVAL_CLASSIC_EXPR(\\"URL CONTAINS ?wsdl || URL CONTAINS .wsdl || URL CONTAINS ?wsil || URL CONTAINS .wsil || URL == \\'/*.xml\\'\\")"

add cs policy app_cs7 -rule "SYS.EVAL_CLASSIC_EXPR(\\"URL CONTAINS .xsd\\")"

add service MercurySP1 10.60.2.41 HTTP 80 -gslb NONE -maxClient 0 -maxReq 0 -cip DISABLED -usip NO -sp OFF -cltTimeout 180 -svrTimeout 360 -CKA NO -TCPB NO -CMP YES

add service MercurySPx 10.60.2.25 HTTP 80 -gslb NONE -maxClient 0 -maxReq 0 -cip DISABLED -usip NO -sp OFF -cltTimeout 180 -svrTimeout 360 -CKA NO -TCPB NO -CMP YES

add service my_citrite 10.9.154.149 HTTP 80 -gslb NONE -maxClient 0 -maxReq 0 -cip DISABLED -usip NO -sp OFF -cltTimeout 180 -svrTimeout 360 -CKA NO -TCPB NO -CMP YES

set rewrite param -undefAction NOREWRITE

add filter action act_prebody add prebody

add filter action act_postbody add postbody

add vpn intranetApplication route_migrate_1 ANY 192.168.0.0 -netmask 255.255.0.0 -destPort 1-65535 -interception TRANSPARENT

add cmp policy sharepoint_compress -rule ns_true -resAction COMPRESS

add filter policy html_prebody -rule "REQ.HTTP.METHOD == GET || REQ.HTTP.HEADER Content-Type == text/html" -reqAction act_prebody

add filter policy html_postbody -rule "REQ.HTTP.METHOD == GET || REQ.HTTP.HEADER Content-Type == text/html" -reqAction act_postbody

add lb vserver app_0_ApplicationsSharePoint HTTP 0.0.0.0 0 -persistenceType COOKIEINSERT -persistenceBackup SOURCEIP -lbMethod ROUNDROBIN -cltTimeout 180 -downStateFlush DISABLED

add lb vserver app_u_SharePointFrontPage_Services HTTP 0.0.0.0 0 -persistenceType NONE -cltTimeout 180 -downStateFlush DISABLED

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add lb vserver app_u_SharePointSOAP_Services HTTP 0.0.0.0 0 -persistenceType NONE -cltTimeout 180 -downStateFlush DISABLED
add lb vserver app_u_SharePointPortal_Management HTTP 0.0.0.0 0 -persistenceType NONE -lbMethod ROUNDROBIN -cltTimeout 180
-downStateFlush DISABLED
add lb vserver app_u_SharePointDocument_Management HTTP 0.0.0.0 0 -persistenceType NONE -lbMethod ROUNDROBIN -cltTimeout
180 -downStateFlush DISABLED
add lb vserver app_u_SharePointImage_Management HTTP 0.0.0.0 0 -persistenceType NONE -cltTimeout 180 -downStateFlush
DISABLED
add lb vserver app_u_SharePointStyles_and_Scripts HTTP 0.0.0.0 0 -persistenceType NONE -cltTimeout 180 -downStateFlush DISABLED
add lb vserver app_u_SharePointWeb_Service_Definitions HTTP 0.0.0.0 0 -persistenceType NONE -lbMethod ROUNDROBIN -cltTimeout
180 -downStateFlush DISABLED
add lb vserver app_u_SharePointWeb_Service_Schemas HTTP 0.0.0.0 0 -persistenceType NONE -lbMethod ROUNDROBIN -cltTimeout 180
-downStateFlush DISABLED
add lb vserver app_o_SharePointdefault HTTP 0.0.0.0 0 -persistenceType NONE -cltTimeout 180 -downStateFlush DISABLED
add cs vserver mercury1b HTTP 10.60.108.40 80 -cltTimeout 180
set ns rpcNode 10.60.108.100 -password 8a7b474124957776a0cd31b862cbe4d72b5cbd59868a136d4bdeb56cf03b28 -encrypted -srcIP
10.60.108.100
add responder action http_to_https_action12 redirect "\https://\ " + HTTP.REQ.HOSTNAME+ HTTP.REQ.URL" -bypassSafetyCheck YES
add responder action http_to_https_action121 redirect "\https://\ " + HTTP.REQ.HOSTNAME+ HTTP.REQ.URL" -bypassSafetyCheck YES
add responder action http_to_https_action1211 redirect "\https://\ " + HTTP.REQ.HOSTNAME+ HTTP.REQ.URL" -bypassSafetyCheck YES
add responder policy https_redirect_for_sharepointA2 "HTTP.REQ.HEADER(\Host\").CONTAINS(\strategic\") && ICLIENT.SSL.IS_SSL"
http_to_https_action12
add responder policy https_redirect_for_sharepointA1 "HTTP.REQ.HEADER(\Host\").CONTAINS(\strategic\") && ICLIENT.SSL.IS_SSL"
http_to_https_action121
add responder policy https_redirect_for_sharepointA3 "HTTP.REQ.HEADER(\Host\").CONTAINS(\strategic\") && ICLIENT.SSL.IS_SSL"
http_to_https_action1211
add responder policylabel label_redirect_forSharepointAp2
add responder policylabel label_redirect_forSharepointAp1
add responder policylabel label_redirect_forSharepointAp3
bind responder policylabel label_redirect_forSharepointAp2 https_redirect_for_sharepointA2 100 END
bind responder policylabel label_redirect_forSharepointAp1 https_redirect_for_sharepointA1 100 END
bind responder policylabel label_redirect_forSharepointAp3 https_redirect_for_sharepointA3 100 END
set responder param -undefAction NOOP
set cache parameter -memLimit 512 -via "NS-CACHE-8.0: 1" -verifyUsing HOSTNAME_AND_IP -maxPostLen 1024 -enableBypass YES
-undefAction NOCACHE
add cache contentGroup BASEFILE -relExpiry 86000 -weakNegRelExpiry 600 -quickAbortSize 4194303 -maxResSize 256 -memLimit 2
-minHits 0
add cache contentGroup DELTAJS -relExpiry 86000 -weakNegRelExpiry 600 -insertAge NO -quickAbortSize 4194303 -maxResSize 256
-memLimit 1 -minHits 0 -pinned YES
add cache contentGroup DEFAULT -quickAbortSize 4194303 -maxResSize 4000 -minHits 0
add cache contentGroup SHAREPOINT_DEFAULT -quickAbortSize 4194303 -maxResSize 4000 -minHits 0

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add cache contentGroup SHAREPOINT_IMAGES -quickAbortSize 4194303 -maxResSize 4000 -minHits 0
add cache contentGroup SHAREPOINT_SCRIPTS -quickAbortSize 4194303 -maxResSize 4000 -minHits 0
add cache policy _nonGetReq -rule "!HTTP.REQ.METHOD.eq(GET)" -action NOCACHE
add cache policy _advancedConditionalReq -rule "HTTP.REQ.HEADER(\"If-Match\").EXISTS || HTTP.REQ.HEADER(\"If-Unmodified-Since\").EXISTS" -action NOCACHE
add cache policy _personalizedReq -rule "HTTP.REQ.HEADER(\"Cookie\").EXISTS || HTTP.REQ.HEADER(\"Authorization\").EXISTS || HTTP.REQ.HEADER(\"Proxy-Authorization\").EXISTS" -action NOCACHE
add cache policy _uncacheableStatusRes -rule "! ((HTTP.RES.STATUS.EQ(200)) || (HTTP.RES.STATUS.EQ(304)) || (HTTP.RES.STATUS.BETWEEN(400,499)) || (HTTP.RES.STATUS.BETWEEN(300, 302)) || (HTTP.RES.STATUS.EQ(307))) || (HTTP.RES.STATUS.EQ(203)))" -action NOCACHE
add cache policy _uncacheableCacheControlRes -rule "(((HTTP.RES.CACHE_CONTROL.IS_PRIVATE) || (HTTP.RES.CACHE_CONTROL.IS_NO_CACHE) || (HTTP.RES.CACHE_CONTROL.IS_NO_STORE) || (HTTP.RES.CACHE_CONTROL.IS_INVALID)))" -action NOCACHE
add cache policy _cacheableCacheControlRes -rule "(((HTTP.RES.CACHE_CONTROL.IS_PUBLIC) || (HTTP.RES.CACHE_CONTROL.IS_MAX_AGE) || (HTTP.RES.CACHE_CONTROL.IS_MUST_REVALIDATE) || (HTTP.RES.CACHE_CONTROL.IS_PROXY_REVALIDATE) || (HTTP.RES.CACHE_CONTROL.IS_S_MAXAGE)))" -action CACHE -storeInGroup DEFAULT
add cache policy _uncacheableVaryRes -rule "((HTTP.RES.HEADER(\"Vary\").EXISTS) && ((HTTP.RES.HEADER(\"Vary\").INSTANCE(1).LENGTH > 0) || (HTTP.RES.HEADER(\"Vary\").STRIP_END_WS.SET_TEXT_MODE(IGNORECASE).eq(\"Accept-Encoding\"))))" -action NOCACHE
add cache policy _uncacheablePragmaRes -rule "HTTP.RES.HEADER(\"Pragma\").EXISTS" -action NOCACHE
add cache policy _cacheableExpiryRes -rule "HTTP.RES.HEADER(\"Expires\").EXISTS" -action CACHE -storeInGroup DEFAULT
add cache policy _imageRes -rule "HTTP.RES.HEADER(\"Content-Type\").SET_TEXT_MODE(IGNORECASE).STARTSWITH(\"image/\")" -action CACHE -storeInGroup DEFAULT
add cache policy _personalizedRes -rule "HTTP.RES.HEADER(\"Set-Cookie\").EXISTS || HTTP.RES.HEADER(\"Set-Cookie2\").EXISTS" -action NOCACHE
add cache policy cache_everything_sharepoint -rule true -action CACHE -storeInGroup SHAREPOINT_DEFAULT
add cache policy cache_sharepoint_scripts -rule true -action CACHE -storeInGroup SHAREPOINT_SCRIPTS
add cache policy cache_sharepoint_images -rule true -action CACHE -storeInGroup SHAREPOINT_IMAGES
add cache policylabel _reqBuiltinDefaults -evaluates REQ
add cache policylabel cache_sharepoint_scripts -evaluates REQ
add cache policylabel cache_all_sharepoint -evaluates REQ
add cache policylabel cache_sharepoint_images -evaluates REQ
add cache policylabel _resBuiltinDefaults -evaluates RES
bind cache policylabel _reqBuiltinDefaults -policyName cache_sharepoint_images -priority 100 -gotoPriorityExpression END
bind cache policylabel cache_all_sharepoint -policyName cache_everything_sharepoint -priority 100 -gotoPriorityExpression END
bind cache policylabel _resBuiltinDefaults -policyName _uncacheableStatusRes -priority 100 -gotoPriorityExpression END
bind cache policylabel _resBuiltinDefaults -policyName _uncacheableVaryRes -priority 200 -gotoPriorityExpression END
bind cache policylabel _resBuiltinDefaults -policyName _uncacheableCacheControlRes -priority 300 -gotoPriorityExpression END
bind cache policylabel _resBuiltinDefaults -policyName _cacheableCacheControlRes -priority 400 -gotoPriorityExpression END
bind cache policylabel _resBuiltinDefaults -policyName _uncacheablePragmaRes -priority 500 -gotoPriorityExpression END
bind cache policylabel _resBuiltinDefaults -policyName _cacheableExpiryRes -priority 600 -gotoPriorityExpression END

```

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bind cache policylabel _resBuiltinDefaults -policyName _imageRes -priority 700 -gotoPriorityExpression END
bind cache policylabel _resBuiltinDefaults -policyName _personalizedRes -priority 800 -gotoPriorityExpression END
bind cache global NOPOLICY -priority 100 -gotoPriorityExpression END -type REQ_DEFAULT -invoke policylabel _reqBuiltinDefaults
bind cache global NOPOLICY -priority 185883 -gotoPriorityExpression NEXT -type REQ_DEFAULT -invoke policylabel _reqBuiltinDefaults
bind cache global NOPOLICY -priority 185883 -gotoPriorityExpression NEXT -type RES_DEFAULT -invoke policylabel _resBuiltinDefaults
add appfw profile sp_web2_firewall_profile
add appfw profile sp_xml_firewall_profile

set appfw profile sp_web2_firewall_profile -startURLAction block learn log stats -startURLClosure ON -cookieConsistencyAction block learn log stats -fieldConsistencyAction block learn log stats -crossSiteScriptingAction block learn log stats -SQLInjectionAction block learn log stats -fieldFormatAction block learn log stats -XMLSQLInjectionAction none -XMLXSSAction none -type HTML XML

set appfw profile sp_xml_firewall_profile -startURLAction block learn log stats -startURLClosure ON -cookieConsistencyAction block learn log stats -fieldConsistencyAction block learn log stats -crossSiteScriptingAction block learn log stats -SQLInjectionAction block learn log stats -fieldFormatAction block learn log stats -XMLSQLInjectionAction none -XMLXSSAction none -type XML

bind appfw profile sp_web2_firewall_profile -XMLDoSURL "." -XMLMaxElementDepthCheck ON -XMLMaxElementNameLengthCheck ON -XMLMaxElementsCheck ON -XMLMaxElementChildrenCheck ON -XMLMaxAttributesCheck ON -XMLMaxAttributeNameLengthCheck ON -XMLMaxAttributeValueLengthCheck ON -XMLMaxCharDATALengthCheck ON -XMLMaxFileSizeCheck ON -XMLMinFileSizeCheck ON -XMLBlockPI ON -XMLBlockDTD ON -XMLBlockExternalEntities ON

bind appfw profile sp_web2_firewall_profile -XMLWSIURL "." -XMLWSIChecks "BP1201, R1000, R1001, R1003, R1004, R1005, R1006, R1007, R1011, R1013, R1014, R1015, R1031, R1032, R1033, R1109, R1111, R1126, R1132, R1140, R1141, R2113, R2211, R2714, R2729, R2735, R2738, R2740, R2744, R4003"

bind appfw profile sp_web2_firewall_profile -XMLValidationURL "." -XMLValidateSOAPEnvelope ON

bind appfw profile sp_web2_firewall_profile -denyURL "/core(/.*)?$" -comment "Unix core file attacks" -state DISABLED

bind appfw profile sp_web2_firewall_profile -denyURL "[\\V]etc[\\V](passwd|group|hosts)" -comment "Unix file attacks" -state DISABLED

bind appfw profile sp_web2_firewall_profile -denyURL "q{[ /|=]|\\t|\\n|\\s|rm|cat)([ ;\\\"&].)*?$" -comment "Command injection attack" -state DISABLED

bind appfw profile sp_web2_firewall_profile -denyURL "^([?]*[+].)htr" -comment "HTR source disclosure" -state DISABLED

bind appfw profile sp_web2_firewall_profile -denyURL "^([?]*[/][?][SM]=[AD])" -comment "Apache possible directory index disclosure vulnerability" -state DISABLED

bind appfw profile sp_web2_firewall_profile -denyURL "^([?]*[/]?wp-)" -comment "Netscape enterprise server directory indexing vulnerability" -state DISABLED

bind appfw profile sp_web2_firewall_profile -denyURL "^([?]*[/]NULL[.]printer)" -comment "Printer buffer overflow" -state DISABLED

bind appfw profile sp_web2_firewall_profile -denyURL "^([?]*[/]default[.]ida[?]N+)" -comment "CodeRed" -state DISABLED

bind appfw profile sp_web2_firewall_profile -denyURL "^([?]*[/]publisher)" -comment "Netscape enterprise server web publishing vulnerability" -state DISABLED

bind appfw profile sp_web2_firewall_profile -denyURL "^([?]*[/]Admin[.]dll)" -comment "Nimda-3" -state DISABLED

bind appfw profile sp_web2_firewall_profile -denyURL "^([?]*[/]winnt/)" -comment "Nimda-4" -state DISABLED

bind appfw profile sp_web2_firewall_profile -denyURL "^([?]*[/]+)dir" -comment "IIS executable file parsing vulnerability-1" -state DISABLED

bind appfw profile sp_web2_firewall_profile -denyURL "^([?]*[/]georgi[.]asp)" -comment "IIS executable file parsing vulnerability-2" -state DISABLED

```

bind appfw profile sp_web2_firewall_profile -denyURL "^([?]*[.](bat|ini|exe)([/?].*)?\$" -comment "IIS executable file parsing vulnerability-3" -state DISABLED

bind appfw profile sp_web2_firewall_profile -denyURL "^([?]*[.](cgi|pl|php|bat)([/?].*)?[]" -comment "Script exploit" -state DISABLED

bind appfw profile sp_web2_firewall_profile -denyURL "^([?]*[.].asp\\.*" -comment "Microsoft IIS UNC mapped virtual host vulnerability" -state DISABLED

bind appfw profile sp_web2_firewall_profile -denyURL "^([?]*[.].htx" -comment "Microsoft IIS UNC path disclosure vulnerability" -state DISABLED

bind appfw profile sp_web2_firewall_profile -denyURL "^([?]*[.]id[aq]" -comment "Index server buffer overflow" -state DISABLED

bind appfw profile sp_web2_firewall_profile -denyURL "^([?]*(htaccess|access_log)([.][^/]?)*([~])?([?].*)?\$" -comment "Access attacks" -state DISABLED

bind appfw profile sp_web2_firewall_profile -denyURL "^([?]*(passwd|passwords?)([.][^/]?)*([?].*)?\$" -comment "Password file attacks" -state DISABLED

bind appfw profile sp_web2_firewall_profile -denyURL "^([?]*dwwssr[.]dll" -comment "Front Page server extensions buffer overflow-1" -state DISABLED

bind appfw profile sp_web2_firewall_profile -denyURL "^([?]*fp30reg[.]dll" -comment "Front Page server extensions buffer overflow-2" -state DISABLED

bind appfw profile sp_web2_firewall_profile -denyURL "^([?]*null[.]htw" -comment "Webhits source disclosure" -state DISABLED

bind appfw profile sp_web2_firewall_profile -denyURL "debug[.][^/]*([?].*)\$" -comment "Debug attacks" -state DISABLED

bind appfw profile sp_web2_firewall_profile -denyURL q/system(|t|n)*[/] -comment "System command attacks" -state DISABLED

bind appfw profile sp_web2_firewall_profile -denyURL "^([?]*_vti_bin/shtml[.]" -comment "Front Page server extensions path disclosure vulnerability" -state DISABLED

bind appfw profile sp_xml_firewall_profile -XMLDoSURL "." -XMLMaxElementDepthCheck ON -XMLMaxElementNameLengthCheck ON -XMLMaxElementsCheck ON -XMLMaxElementChildrenCheck ON -XMLMaxAttributesCheck ON -XMLMaxAttributeNameLengthCheck ON -XMLMaxAttributeValueLengthCheck ON -XMLMaxCharDATALengthCheck ON -XMLMaxFileSizeCheck ON -XMLMinFileSizeCheck ON -XMLBlockPI ON -XMLBlockDTD ON -XMLBlockExternalEntities ON

bind appfw profile sp_xml_firewall_profile -XMLWSIURL "." -XMLWSIChecks "BP1201, R1000, R1001, R1003, R1004, R1005, R1006, R1007, R1011, R1013, R1014, R1015, R1031, R1032, R1033, R1109, R1111, R1126, R1132, R1140, R1141, R2113, R2211, R2714, R2729, R2735, R2738, R2740, R2744, R4003"

bind appfw profile sp_xml_firewall_profile -XMLValidationURL "." -XMLValidateSOAPEnvelope ON

bind appfw profile sp_xml_firewall_profile -denyURL "/core(/.)*\$" -comment "Unix core file attacks" -state DISABLED

bind appfw profile sp_xml_firewall_profile -denyURL "[\\V]etc[\\V](passwd|group|hosts)" -comment "Unix file attacks" -state DISABLED

bind appfw profile sp_xml_firewall_profile -denyURL q{([/]=]|t|n)(|s|rm|cat)([;'\"&].*)?\$" -comment "Command injection attack" -state DISABLED

bind appfw profile sp_xml_firewall_profile -denyURL "^([?]*[+][.]htr" -comment "HTR source disclosure" -state DISABLED

bind appfw profile sp_xml_firewall_profile -denyURL "^([?]*/[?][SM]=[AD]" -comment "Apache possible directory index disclosure vulnerability" -state DISABLED

bind appfw profile sp_xml_firewall_profile -denyURL "^([?]*/[?][wp-" -comment "Netscape enterprise server directory indexing vulnerability" -state DISABLED

bind appfw profile sp_xml_firewall_profile -denyURL "^([?]*[.]NULL[.]printer" -comment "Printer buffer overflow" -state DISABLED

```

bind appfw profile sp_xml_firewall_profile -denyURL "^([?]*default[.]ida[?])N+" -comment CodeRed -state DISABLED
bind appfw profile sp_xml_firewall_profile -denyURL "^([?]*publisher" -comment "Netscape enterprise server web publishing vulnerability"
-state DISABLED
bind appfw profile sp_xml_firewall_profile -denyURL "^([?]*Admin[.]dll" -comment "Nimbda-3" -state DISABLED
bind appfw profile sp_xml_firewall_profile -denyURL "^([?]*winnt/" -comment "Nimbda-4" -state DISABLED
bind appfw profile sp_xml_firewall_profile -denyURL "^([?]*[+]dir" -comment "IIS executable file parsing vulnerability-1" -state DISABLED
bind appfw profile sp_xml_firewall_profile -denyURL "^([?]*georgi[.]asp" -comment "IIS executable file parsing vulnerability-2" -state
DISABLED
bind appfw profile sp_xml_firewall_profile -denyURL "^([?]*[.](bat|ini|exe)([/?.]*)$" -comment "IIS executable file parsing vulnerability-3" -state
DISABLED
bind appfw profile sp_xml_firewall_profile -denyURL "^([?]*[.](cgi|pl|php|bat)([/?.]*)?[]]" -comment "Script exploit" -state DISABLED
bind appfw profile sp_xml_firewall_profile -denyURL "^([?]*[.]asp\\.*)" -comment "Microsoft IIS UNC mapped virtual host vulnerability" -state
DISABLED
bind appfw profile sp_xml_firewall_profile -denyURL "^([?]*[.]htx" -comment "Microsoft IIS UNC path disclosure vulnerability" -state
DISABLED
bind appfw profile sp_xml_firewall_profile -denyURL "^([?]*[.]id[aq]" -comment "Index server buffer overflow" -state DISABLED
bind appfw profile sp_xml_firewall_profile -denyURL "^([?]*htaccess|access_log)([.][^/?.]*)?([~])?([?].*)?$" -comment "Access attacks" -state
DISABLED
bind appfw profile sp_xml_firewall_profile -denyURL "^([?]*(passwd|passwords?)([.][^/?.]*)?([?].*)?$" -comment "Password file attacks" -state
DISABLED
bind appfw profile sp_xml_firewall_profile -denyURL "^([?]*dwwssr[.]dll" -comment "Front Page server extensions buffer overflow-1" -state
DISABLED
bind appfw profile sp_xml_firewall_profile -denyURL "^([?]*fp30reg[.]dll" -comment "Front Page server extensions buffer overflow-2" -state
DISABLED
bind appfw profile sp_xml_firewall_profile -denyURL "^([?]*null[.]htw" -comment "Webhits source disclosure" -state DISABLED
bind appfw profile sp_xml_firewall_profile -denyURL "debug[.][^/?.]*([?].*)$" -comment "Debug attacks" -state DISABLED
bind appfw profile sp_xml_firewall_profile -denyURL q/system( |t|n)*[[]/ -comment "System command attacks" -state DISABLED
bind appfw profile sp_xml_firewall_profile -denyURL "^([?]*_vti_bin/shtml[.]" -comment "Front Page server extensions path disclosure
vulnerability" -state DISABLED
add appfw policy sp_xml_firewall_pol ns_true sp_xml_firewall_profile
add appfw policy sp_web2_firewall_pol ns_true sp_web2_firewall_profile
bind lb vserver app_0_ApplicationsSharePoint MercurySP1
bind lb vserver app_0_ApplicationsSharePoint MercurySPx
bind lb vserver app_u_SharePointFrontPage_Services MercurySP1
bind lb vserver app_u_SharePointFrontPage_Services MercurySPx
bind lb vserver app_u_SharePointSOAP_Services MercurySP1
bind lb vserver app_u_SharePointSOAP_Services MercurySPx

```

```

bind lb vserver app_u_SharePointPortal_Management MercurySP1
bind lb vserver app_u_SharePointDocument_Management MercurySP1
bind lb vserver app_u_SharePointDocument_Management MercurySPx
bind lb vserver app_u_SharePointImage_Management MercurySP1
bind lb vserver app_u_SharePointStyles_and_Scripts MercurySP1
bind lb vserver app_u_SharePointWeb_Service_Definitions MercurySP1
bind lb vserver app_u_SharePointWeb_Service_Definitions MercurySPx
bind lb vserver app_u_SharePointWeb_Service_Schemas MercurySP1
bind lb vserver app_o_SharePointdefault MercurySP1
bind lb vserver app_o_SharePointdefault MercurySPx
bind lb vserver app_u_SharePointFrontPage_Services -policyName sharepoint_compress
bind lb vserver app_u_SharePointFrontPage_Services -policyName sp_xml_firewall_pol
bind lb vserver app_u_SharePointSOAP_Services -policyName sharepoint_compress
bind lb vserver app_u_SharePointSOAP_Services -policyName sp_xml_firewall_pol
bind lb vserver app_u_SharePointPortal_Management -policyName sharepoint_compress
bind lb vserver app_u_SharePointPortal_Management -policyName sp_web2_firewall_pol
bind lb vserver app_u_SharePointDocument_Management -policyName sharepoint_compress
bind lb vserver app_u_SharePointStyles_and_Scripts -policyName sharepoint_compress
bind lb vserver app_u_SharePointStyles_and_Scripts -policyName sp_web2_firewall_pol
bind lb vserver app_u_SharePointWeb_Service_Definitions -policyName sharepoint_compress
bind lb vserver app_u_SharePointWeb_Service_Definitions -policyName sp_xml_firewall_pol
bind lb vserver app_u_SharePointWeb_Service_Schemas -policyName sharepoint_compress
bind lb vserver app_u_SharePointWeb_Service_Schemas -policyName sp_xml_firewall_pol
bind lb vserver app_o_SharePointdefault -policyName sharepoint_compress
bind lb vserver app_u_SharePointImage_Management -policyName "NOPOLICY-CACHE" -priority 100 -gotoPriorityExpression END -type
REQUEST -invoke policylabel cache_sharepoint_images
bind lb vserver app_u_SharePointStyles_and_Scripts -policyName "NOPOLICY-CACHE" -priority 100 -gotoPriorityExpression END -type
REQUEST -invoke policylabel cache_sharepoint_scripts
bind lb vserver app_u_SharePointWeb_Service_Schemas -policyName "NOPOLICY-CACHE" -priority 100 -gotoPriorityExpression END -type
REQUEST -invoke policylabel cache_all_sharepoint
bind lb vserver app_o_SharePointdefault -policyName "NOPOLICY-CACHE" -priority 100 -gotoPriorityExpression END -type REQUEST -
invoke policylabel cache_all_sharepoint
bind lb vserver app_u_SharePointPortal_Management -policyName "NOPOLICY-RESPONDER" -priority 100 -gotoPriorityExpression END
-invoke policylabel label_redirect_forSharepointAp3
bind lb vserver app_u_SharePointDocument_Management -policyName "NOPOLICY-RESPONDER" -priority 100 -gotoPriorityExpression
END -invoke policylabel label_redirect_forSharepointAp3

```

```

bind lb vserver app_u_SharePointImage_Management -policyName "NOPOLICY-RESPONDER" -priority 100 -gotoPriorityExpression END
-invoke policylabel label_redirect_forSharepointAp3

bind lb vserver app_u_SharePointStyles_and_Scripts -policyName "NOPOLICY-RESPONDER" -priority 100 -gotoPriorityExpression END -
invoke policylabel label_redirect_forSharepointAp3

bind lb vserver app_u_SharePointWeb_Service_Definitions -policyName "NOPOLICY-RESPONDER" -priority 100 -gotoPriorityExpression
END -invoke policylabel label_redirect_forSharepointAp3

bind lb vserver app_u_SharePointWeb_Service_Schemas -policyName "NOPOLICY-RESPONDER" -priority 100 -gotoPriorityExpression END
-invoke policylabel label_redirect_forSharepointAp3

bind lb vserver app_o_SharePointdefault -policyName "NOPOLICY-RESPONDER" -priority 100 -gotoPriorityExpression END -invoke
policylabel label_redirect_forSharepointAp3

bind cs vserver mercury lb app_u_SharePointFrontPage_Services -policyName app_cs0 -priority 25

bind cs vserver mercury lb app_u_SharePointSOAP_Services -policyName app_cs1 -priority 50

bind cs vserver mercury lb app_u_SharePointPortal_Management -policyName app_cs2 -priority 100

bind cs vserver mercury lb app_u_SharePointDocument_Management -policyName app_cs3 -priority 200

bind cs vserver mercury lb app_u_SharePointImage_Management -policyName app_cs4 -priority 300

bind cs vserver mercury lb app_u_SharePointStyles_and_Scripts -policyName app_cs5 -priority 400

bind cs vserver mercury lb app_u_SharePointWeb_Service_Definitions -policyName app_cs6 -priority 500

bind cs vserver mercury lb app_u_SharePointWeb_Service_Schemas -policyName app_cs7 -priority 600

bind cs vserver mercury lb app_o_SharePointdefault

set snmp alarm HA-VERSION-MISMATCH -time 86400

set snmp alarm HA-SYNC-FAILURE -time 86400

set snmp alarm HA-NO-HEARTBEATS -time 86400

set snmp alarm HA-BAD-SECONDARY-STATE -time 86400

add lb monitor sp_http HTTP -respCode 200 401 -httpRequest "HEAD /" -LRTM ENABLED -interval 20

add lb monitor sp_http2 USER -scriptName nssp.pl -scriptArgs q[url=/default.aspx;user=ENG\reduser1;password=Citrix$1} -dispatcherIP
127.0.0.1 -dispatcherPort 3013 -LRTM ENABLED -interval 30

add route 0.0.0.0 0.0.0.0 10.60.1.2

set ssl parameter -encryptTriggerPktCount 45

add ssl certKey "ns-server-certificate" -cert "ns-server.cert" -key "ns-server.key"

set ssl service "nskrpcs-127.0.0.1-3009" -sessReuse ENABLED -sessTimeout 120 -cipherRedirect DISABLED -ssl2Redirect DISABLED

set ssl service "nshttps-127.0.0.1-443" -sessReuse ENABLED -sessTimeout 120 -cipherRedirect DISABLED -ssl2Redirect DISABLED

set ssl service "nsrpcs-127.0.0.1-3008" -sessReuse ENABLED -sessTimeout 120 -cipherRedirect DISABLED -ssl2Redirect DISABLED

set aaa parameter -maxAAAUUsers 5

set aaa preauthenticationparameter -preauthenticationaction ALLOW -rule ns_true

set vpn parameter -splitDns BOTH -killConnections OFF -defaultAuthorizationAction ALLOW -proxyLocalBypass DISABLED -forceCleanup
none -clientOptions all -clientConfiguration all -SSO OFF -clientDebug OFF -icaProxy OFF

```

```

set audit syslogParams -serverIP 127.0.0.1
set audit nslogParams -serverIP 127.0.0.1
bind cmp global ns_nocmp_xml_ie -priority 8700 -state DISABLED
bind cmp global ns_nocmp_mozilla_47 -priority 8800 -state DISABLED
bind cmp global ns_cmp_mscscs -priority 8900 -state DISABLED
bind cmp global ns_cmp_msapp -priority 9000 -state DISABLED
bind cmp global ns_cmp_content_type -priority 10000 -state DISABLED
bind filter global html_prebody
bind filter global html_postbody
bind vpn global -intranetApplication route_migrate_1
set lb sipParameters -addRportVip ENABLED
bind ssl service "nskrpcs-127.0.0.1-3009" -certkeyName "ns-server-certificate"
bind ssl service "nshttps-127.0.0.1-443" -certkeyName "ns-server-certificate"
bind ssl service "nsrpcs-127.0.0.1-3008" -certkeyName "ns-server-certificate"
set ns hostName ns
set uiinternal CSVSERVER mercuryIb -rule "used as an application endpoint"
set uiinternal EXPRESSION app_0_ApplicationsSharePoint -uiinfo "P%Applications^ET%PE^CS%mercuryIb^"
set uiinternal EXPRESSION app_u_SharePointFrontPage_Services -uiinfo "ET%PI^PR%25^P%app_0_ApplicationsSharePoint^CS%mercuryIb^" -rule "HTTP.REQ.HEADER(\"X-Vermeer-Content-Type\").EXISTS"
set uiinternal EXPRESSION app_u_SharePointSOAP_Services -uiinfo "ET%PI^PR%50^P%app_0_ApplicationsSharePoint^CS%mercuryIb^" -rule "HTTP.REQ.METHOD.EQ(POST) && HTTP.REQ.HEADER(\"soapaction\").EXISTS"
set uiinternal EXPRESSION app_u_SharePointPortal_Management -uiinfo "PR%100^P%app_0_ApplicationsSharePoint^ET%PE^CS%mercuryIb^" -rule "URL == \'/*.jsp\' || URL == \'/*.jspx\' || URL == \'/*.asp\' || URL == \'/*.aspx\'"
set uiinternal EXPRESSION app_u_SharePointDocument_Management -uiinfo "PR%200^ET%PE^P%app_0_ApplicationsSharePoint^CS%mercuryIb^" -rule "URL == \'/*.pdf\' || URL == \'/*.csv\' || URL == \'/*.prn\' || URL == \'/*.xsn\' || URL == \'/*.xls\' || URL == \'/*.xlsx\' || URL == \'/*.xlt\' || URL == \'/*.xltx\' || URL == \'/*.xlsb\' || URL == \'/*.xlsm\' || URL == \'/*.xltm\' || URL == \'/*.dif\' || URL == \'/*.slk\' || URL == \'/*.xlam\' || URL == \'/*.xla\' || URL == \'/*.doc\' || URL == \'/*.docx\' || URL == \'/*.ppt\' || URL == \'/*.pptx\' || URL == \'/*.dot\' || URL == \'/*.dotx\' || URL == \'/*.docm\' || URL == \'/*.dotm\' || URL == \'/*.rtf\' || URL == \'/*.txt\' || URL == \'/*.wps\' || URL == \'/*.pot\' || URL == \'/*.potx\' || URL == \'/*.pptm\' || URL == \'/*.potm\' || URL == \'/*.thmx\' || URL == \'/*.ppsx\' || URL == \'/*.ppsm\' || URL == \'/*.pps\' || URL == \'/*.ppam\'"
set uiinternal EXPRESSION app_u_SharePointImage_Management -uiinfo "ET%PI^PR%300^P%app_0_ApplicationsSharePoint^CS%mercuryIb^" -rule "HTTP.REQ.METHOD.EQ(GET) && HTTP.REQ.URL.PATH.STARTSWITH(\"/_layouts/images\") && (HTTP.REQ.URL.PATH.ENDSWITH(\".gif\") || HTTP.REQ.URL.PATH.ENDSWITH(\".jpg\") || HTTP.REQ.URL.PATH.ENDSWITH(\".jpeg\") || HTTP.REQ.URL.PATH.ENDSWITH(\".tiff\") || HTTP.REQ.URL.PATH.ENDSWITH(\".tif\") || HTTP.REQ.URL.PATH.ENDSWITH(\".png\") || HTTP.REQ.URL.PATH.ENDSWITH(\".bmp\") || HTTP.REQ.URL.PATH.ENDSWITH(\".emf\") || HTTP.REQ.URL.PATH.ENDSWITH(\".wmf\") || HTTP.REQ.URL.PATH.ENDSWITH(\".wbmp\") || HTTP.REQ.URL.PATH.ENDSWITH(\".ico\"))"
set uiinternal EXPRESSION app_u_SharePointStyles_and_Scripts -uiinfo "PR%400^ET%PI^P%app_0_ApplicationsSharePoint^CS%mercuryIb^" -rule "HTTP.REQ.METHOD.EQ(GET) && (HTTP.REQ.URL.PATH.STARTSWITH(\"/WebResource.axd\") || HTTP.REQ.URL.PATH.ENDSWITH(\".htc\") || HTTP.REQ.URL.PATH.ENDSWITH(\".wmls\") || (HTTP.REQ.URL.STARTSWITH(\"/_layouts\") && (HTTP.REQ.URL.PATH.ENDSWITH(\".css\") || HTTP.REQ.URL.PATH.ENDSWITH(\".js\"))))"

```

```
set uiinternal EXPRESSION app_u_SharePointWeb_Service_Definitions -uiinfo "ET%PE^PR%500^P%app_0_ApplicationsSharePoint^CS%mercuryIb^" -rule "URL CONTAINS ?wsdl || URL CONTAINS .wsdl || URL CONTAINS ?wsil || URL CONTAINS .wsil || URL == \'/*.*xml\''"
```

```
set uiinternal EXPRESSION app_u_SharePointWeb_Service_Schemas -uiinfo "ET%PE^PR%600^P%app_0_ApplicationsSharePoint^CS%mercuryIb^" -rule "URL CONTAINS .xsd"
```

```
set uiinternal EXPRESSION app_o_SharePointdefault -uiinfo "ET%PE^P%app_0_ApplicationsSharePoint^CS%mercuryIb^"
```

```
set filter htmlinjectionvariable EDGESIGHT_SERVER_IP -value 10.60.2.64
```


Appendix B - Content Types

Content Type	Extension	mimeType	Compress
msword	doc,dot,docx,docm,dotx,dotm	application/word, application/doc, application/msword, application/winword, application/ms-word, application/x-word, application/x-msword, application/vnd.word, application/vnd.msword, application/vnd.ms-word	Yes
x-vermeer-rpc		application/x-vermeer-rpc	Yes
msexcel	xls,xla,xlc,xlm,xlt,xlw,xlsx,xlsm,xltx, xlsb,xlam	application/xls, application/excel, application/msexcel, application/ms-excel, application/x-excel, application/x-xls, application/x-msexcel, application/x-ms-excel, application/vnd.excel, application/vnd.msexcel, application/vnd.ms-excel	Yes
mspowerpoint	ppt,pot,pps,pptx,pptm,potx,potm,ppa m, ppsx,ppsm	application/powerpoint, application/mspowerpoint, application/ms-powerpoint, application/x-powerpoint, application/x-mspowerpoint, application/vnd.powerpoint, application/vnd.mspowerpoint, application/vnd.ms-pps	Yes
postscript	ai,eps,ps	application/ps, application/x-ps, application/x-postscript, application/postscript, text/postscript	Yes
photoshop	psd,pdd	image/photoshop, image/psd, image/x-photoshop, application/photoshop, application/psd, application/x-photoshop	Yes
quarkexpress	qxd	application/x-quark-express, application/quarkexpress	Yes

Content Type	Extension	mimeType	Compress
msproject	mpp	application/mpp, application/msproject, application/x-msproject, application/x-ms-project, application/vnd.ms-project	Yes
msworks	wcm,wdb,wks,wps	application/wks, application/x-wks, application/lotus123, application/x-lotus123, application/x-msworks-db, application/x-msworks-wps, application/vnd.ms-works-db, application/vnd.ms-works	Yes
rtf	rtf,rtx	text/rtf, text/richtext, application/rtf, application/x-rtf	Yes
msaccess	mdb,clp	application/x-mscardfile, application/x-msclip, application/mdb, application/x-mdb, application/msaccess, application/msaccess, application/vnd.msaccess, application/vnd.ms-access	Yes
pdf	pdf	text/pdf, text/x-pdf, application/pdf, application/x-pdf, application/acrobat, application/vnd.pdf	Yes
plaintext	txt,log,sql,ppd	application/txt, text/plain	Yes
vcf	vcf	text/x-vcalendar, text/x-vcard	Yes

Content Type	Extension	mimeType	Compress
images	jpg,jpeg,jpe,gif,png,tif,tiff,ico,wbmp	image/jpeg, image/jpg, image/gif, image/tiff, image/ico, image/x-icon, application/ico, application/x-ico, application/x-win-bitmap, image/x-win/bitmap, image/vnd.wap.wbmp, application/png, application/x-png, image/png	No
bmp	bmp	application/x-bmp, application/bmp, image/x-bmp, image/bmp, image/bmp, image/x-ms-bmp, image/x-windows-bmp	No
html	htm,html,jsp,asp,aspx,wml,xhtml	text/html, text/vnd.wap.wml, text/wml, text/wap, application/vnd.wap.wmlc, application/vnd.wap.xhtml+xml, application/ xhtml+xml	Yes
xml	xml	application/xml, application/x-xml, text/xml	Yes
styles, scripts	js,css,htc,wmls	text/vnd.wap.wmlscript, application/vnd.wap.cmlscriptc, text/css, application/css-stYLESHEET, application/css, text/javascript, application/javascript, text/x-component, application/x-javascript	Yes

Content Type	Extension	mimeType	Compress
compressed	z,gz,zip,rar,arj,lzh,cab,jar,gтар,sit	application/x-compress, application/x-compressed, application/x-zip-compressed, application/x-tar, application/x-gtar, application/x-stuffit, application/arj, application/x-arj, application/zip, application/x-zip, multipart/x-zip, gzip/document, application/gzip, application/gzipped, application/x-gzip, application/x-gunzip, application/cab, application/z, application/x-z, application/lzh, application/x-lzh, application/x-lha	No
octet-stream		application/octet-stream	No
media	mid,rmi,mp3,aif,aifc,aiff,m3u,ra, ram,mp2,mpa,mpe, mpeg,mpg,mpv2, mpv,mov,qt,avi, lsx,asf,asx, au, snd,wav,vrml, swf,fla,as,swd,asc, flv,swc, jsfl,swt,flp, spl,aso,sol	application/x-shockwave-flash, application/futuresplash, audio/m, audio/mid, audio/midi, audio/x-midi, application/x-midi, audio/mp3, audio/x-mp3, audio/mpg, audio/x-mpg, audio/mpeg3, audio/x-mpeg3, audio/mpeg, audio/x-mpeg, audio/x-mpeg audio, audio/rmf, audio/x-rmf, audio/aiff, audio/x-aiff, audio/x-aifc, audio/x-gsm, audio/x-pn-aiff, sound/aiff, audio/x-mpegurl, audio/mpeg-url, audio/vnd.rn-realaudio, audio/x-realaudio, audio/x-pn-realaudio-plugin, audio/x-pn-realaudio, audio/x-pn-realvideo, video/x-pn-realvideo, audio/avi, video/avi, image/avi, image/mov, video/mpeg, video/quicktime, video/x-quicktime, video/msvideo, video/x-msvideo, audio/asf, video/x-ms-asf, video/x-ms-wm, video/x-ms-wmx, video/x-ms-asf, video/vnd.ms-asf, application/asx, video/asx,application/asf, video/x-la-asf,audio/basic, audio/wav, audio/x-pn-wav, audio/wave, audio/x-wav, x-world/x-vrml, model/vrml, video/x-vrml	Yes

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