Deploying Citrix NetScaler with Microsoft SharePoint 2013 for GSLB

Enabling multi-site GSLB capability for Microsoft SharePoint 2013
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Citrix NetScaler is the industry’s leading application delivery controller (ADC) and the best solution for providing global server load balancing (GSLB) for various cloud and enterprise applications, including Microsoft applications such as SharePoint 2013. SharePoint 2013 is a critical enterprise application which integrates intranet, content management and document management and is extensively used in midsize and large enterprises. This guide will walk you through step-by-step process of deploying NetScaler with SharePoint 2013 for GSLB.

Introduction

GSLB is configured for site level load balancing wherein sites are geographically dispersed. This document walks through the configuration steps needed to set up GSLB between two sites wherein SharePoint 2013 servers are load balanced by NetScaler.

Overview of Microsoft SharePoint 2013
Microsoft SharePoint is a critical enterprise application which helps in increasing productivity by better aligning end user activities with the need of the business. SharePoint helps in organizing individual or team tasks, store and track electronic documents and reducing the total cost of ownership for a corporate organization. It provides an intranet portal for central access to enterprise information and an extranet portal to integrate third parties into business processes.

SharePoint 2013 version provides many new and advanced features for user experience, security, usability and business intelligence. This version makes claim based authentication easier to use and brings cool user interface features. Social computing functions introduction and mobile device compatibility are some other enhancements to the business application.

Why NetScaler GSLB for SharePoint 2013?
When an organization grows, the number of users grows and spreads to multiple locations. Business critical applications like SharePoint which is used by every employee of an organization, needs to be deployed at multiple sites to reduce latency and load on servers. NetScaler GSLB solution enables applications to be highly available with geographic proximity along with disaster recovery.
recovery for enterprise applications. SharePoint 2013, which has multiple advanced features, can be best utilized when used with NetScaler for GSLB, wherein end user gets faster response without compromising user experience and security of application. In case of an outage at one of the sites, the users of that location can be directed to other location and thus the business is never affected.

**Topology**
The GSLB deployment for SharePoint 2013 logically looks like as shown in Figure 1. The deployment is same for both internal and external clients. DNS view helps in managing internal and external IP address mapping with DNS name.

![SharePoint deployment with NetScaler GSLB](image)

1. A user using browser to access SharePoint, accesses the login page at gslbsp.ctxns.net. A DNS request for it is issued.
2. This domain name is bound to GSLB virtual server. So, resolution request comes to GSLB virtual server which resolves the domain name to an IP address based on the GSLB method configured.
3. The IP address of load balancing virtual server is sent to the client depending on whether the user is in intranet or connecting via Internet.
4. Client connects to load balancing virtual server which connects to one of the backend SharePoint web servers depending on the local load balancing method configured on it. A web server is a front end server of SharePoint which hosts web pages, web services and the web parts required to process requests from users.
5. SharePoint web server connects to the appropriate SharePoint app server. An app server takes the request from web server, does central administration and connects to backend database for request fulfilment.
6. App server sends the result to the front-end webserver which send it back to client via NetScaler load balancer.
Following are the 2 failure scenarios where GSLB helps in application availability.

**WAN Connectivity Failure**

In case of WAN connectivity failure in one of the datacenters (shown in Figure 2), connection from outside network becomes impossible. In such cases, users who are outside the intranet can connect to the other site via NetScaler GSLB and access SharePoint from that site. Contents and configurations are same at both the sites for an end user. As seen in the diagram, a user belonging to site 2 can access his documents and contents by connecting to site 1 in case of a WAN failure.

![Figure 2: GSLB in case of WAN failure](image)

**Disaster Situation**

NetScaler GSLB also enables to maintain availability in case of site level disaster in which one of the sites is completely unavailable. This is shown in Figure 3. When there is database mirroring between the sites, then the user information is available on all the database servers across sites. NetScaler GSLB intelligence directs the users of site 1 to site 2 and all requests of such users can be completely served from site 2.
Figure 3: NetScaler GSLB handling a disaster situation

Configuring NetScaler GSLB

Products and version tested

<table>
<thead>
<tr>
<th>Product</th>
<th>Versions</th>
</tr>
</thead>
<tbody>
<tr>
<td>NetScaler system</td>
<td>NetScaler 9.3 and above</td>
</tr>
<tr>
<td>Microsoft SharePoint</td>
<td>SharePoint 2013</td>
</tr>
</tbody>
</table>

Prerequisites and configuration notes

The following are general prerequisites and configuration notes for this guide:

- SharePoint servers are installed on all the sites and the topology is properly configured.
- The NetScaler load balancer, SSL and other configurations are made on all the sites.
- All the services are up and running.

Configuring NetScaler GSLB

Step 1: Create sites – local and remote
Step 2: Create services for the local virtual servers
Step 3: Create virtual servers for the GSLB services
Step 4: Bind GSLB services to the GSLB virtual server
Step 5: Bind domain name(s) to the GSLB virtual server
Add GSLB Sites
Add local and remote sites between which GSLB will be configured. Add a site as shown below.

<table>
<thead>
<tr>
<th>GSLB Sites</th>
<th>Name</th>
<th>Give a unique name to the site</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Traffic Management -&gt; GSLB -&gt; Sites)</td>
<td>Type</td>
<td>Select whether the site will be local or remote</td>
</tr>
<tr>
<td>Site IP Address</td>
<td>Add the site IP address</td>
<td></td>
</tr>
<tr>
<td>Public IP Address</td>
<td>Add the public IP address of this site</td>
<td></td>
</tr>
<tr>
<td>Parent Site Name</td>
<td>Add parent site in case of parent-child topology</td>
<td></td>
</tr>
<tr>
<td>Trigger Monitors</td>
<td>Specify the conditions under which the GSLB service must be monitored. Default: Always</td>
<td></td>
</tr>
<tr>
<td>Metric Exchange</td>
<td>Select if you want this site to exchange metrics with other site. Default: selected</td>
<td></td>
</tr>
<tr>
<td>Network Metric Exchange</td>
<td>Select if you want this site to exchange network metrics with other sites. Default: selected</td>
<td></td>
</tr>
<tr>
<td>Persistence Session Entry Exchange</td>
<td>Select if you want this site to exchange persistent session entries with other GSLB sites every five seconds</td>
<td></td>
</tr>
</tbody>
</table>

Create GSLB Site

![Create GSLB Site](image)

<table>
<thead>
<tr>
<th>Name</th>
<th>Metric Exchange (MEE)</th>
<th>Site Metric MEP Status</th>
<th>Site IP Address</th>
<th>Type</th>
<th>Public IP Address</th>
<th>Parent Site Name</th>
<th>Trigger Monitors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Site1</td>
<td>Enabled</td>
<td>Active</td>
<td>10.105.157.71</td>
<td>LOCAL</td>
<td>10.105.157.71</td>
<td></td>
<td>ALWAYS</td>
</tr>
<tr>
<td>Site2</td>
<td>Enabled</td>
<td>Active</td>
<td>10.105.157.248</td>
<td>REMOTE</td>
<td>10.105.157.248</td>
<td></td>
<td>ALWAYS</td>
</tr>
</tbody>
</table>
Add GSLB Services
Add GSLB services for the local and remote virtual servers which load balances mailbox servers.

GSLB Sites | Service Name | Give a unique name to the service
---|---|---
(Traffic Management -> GSLB -> Services) | Site Name | Give a unique name to the service
Type | Select the site to which this service belong
Service Type | Select the applicable protocol
Port | Select the applicable port
Server Name | Select the corresponding NetScaler LB virtual server name
Server IP | Add the LB virtual server’s IP address
Public IP | Add the public IP of the LB virtual server
Public Port | Add the public port number of the LB virtual server
Enable after Creating | Select to enable the service after creating
Enable Health Monitoring | Select to enable health monitoring of the service
AppFlow Logging | Select to enable logging of AppFlow information
Add GSLB Virtual Server
Add GSLB virtual server through which SharePoint web servers will be accessible. Bind domain name and GSLB services to it.

<table>
<thead>
<tr>
<th>GSLB Virtual Servers</th>
<th>Name</th>
<th>Give a unique name to the virtual server</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Traffic Management -&gt; GSLB -&gt; Virtual Servers)</td>
<td>DNS Record Type</td>
<td>Select the applicable record type</td>
</tr>
<tr>
<td></td>
<td>Service Type</td>
<td>Select the applicable protocol</td>
</tr>
<tr>
<td></td>
<td>Enable after Creating</td>
<td>Select to enable the virtual server after creating</td>
</tr>
<tr>
<td></td>
<td>AppFlow Logging</td>
<td>Select to enable logging of AppFlow information</td>
</tr>
<tr>
<td></td>
<td>Method</td>
<td>Select the site-level load balancing method</td>
</tr>
<tr>
<td></td>
<td>Backup Method</td>
<td>Add the applicable backup site-level load balancing method</td>
</tr>
</tbody>
</table>

After creating the GSLB virtual server and selecting the appropriate load balancing method, bind services and domain(s) to complete the step.

Go to the advanced tab inside the virtual server and add Domains tab to bind a domain.
Go to Advanced -> Services and click on the arrow to bind a GSLB service.

Check if GSLB virtual server if up and 100% healthy. This will mean that sites are in sync and backend services are available.

**Conclusion**

Citrix NetScaler, the leading application delivery solution, is best suited to provide load balancing and GSLB capabilities for Microsoft SharePoint 2013. NetScaler and SharePoint 2013, both are de facto industry standards in their domains, and their collaboration guarantees high benefits for businesses. GSLB enhances the capabilities of SharePoint 2013 by ensuring high availability of web and app servers and thus enable better collaboration between teams and individuals. To learn more about how NetScaler can bring these benefits to SharePoint 2013 installations or address other application delivery requirements, please visit [http://www.citrix.com](http://www.citrix.com).