Solution Brief

Automated DR Traffic Management with VMware SRM and the F5 BIG-IP

Organizations using F5 and VMware can take advantage of a complete solution for automated disaster recovery between two data centers. This document summarizes a solution for enabling VMware vCenter Server to automate the failover of the network portion of the application infrastructure, in the event that a vCenter Site Recovery Manager (SRM) event is triggered.

BENEFITS:

- Improves the automated failover of SRM
- Automates failover of the global and local application networks
- Reduces manual steps during a failover event
- Accelerates failover workflow

Solution Overview

VMware® SRM enables organizations to easily test and produce automated application failover between two different sites. In the event failover occurs, it is also important to reconfigure the application delivery networking infrastructure to respond to this change. Using F5 iControl™ APIs, F5 BIG-IP® Global Traffic Manager™ (GTM) and BIG-IP® Local Traffic Manager™ (LTM) can be automatically instructed by vCenter Server to redirect client application traffic from the original site to the disaster recovery (DR) site, to begin load balancing traffic among the newly active virtual machines, and to apply all necessary traffic management policies to these new virtual machines. This solution is intended to complement VMware vCenter SRM deployments by ensuring all application traffic is rerouted appropriately and automatically between the two sites. It also ensures the applications in the DR site receive the same security, availability and performance benefits of the BIG-IP LTM as the original site applications did.

The Benefits

The API integration between SRM, GTM and LTM enables the necessary local and global application networking profiles to be applied and turned on automatically. The applications in the disaster recovery site not only begin to receive traffic that would have otherwise been destined for the original site, but they can receive the same availability and performance benefits from the BIG-IP as the applications in the original site did. This ensures the best possible performance is immediately available, dramatically reduces the manual configuration steps previously required, and reduces the risk of errors.

Global Traffic Management Integration

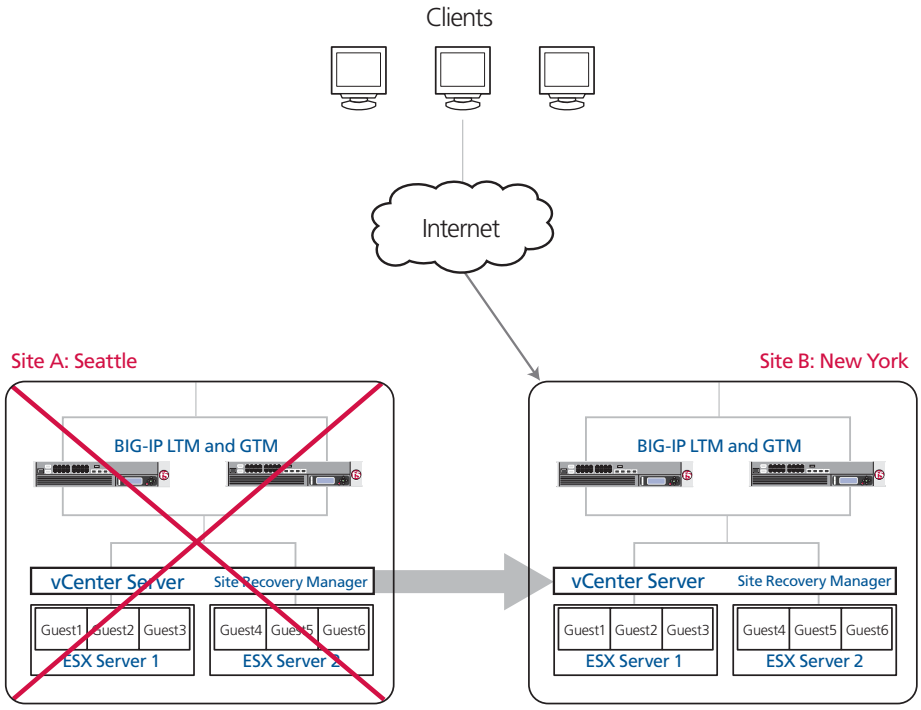
F5 GTM is typically preconfigured to manage client traffic between two or more sites, holistically monitoring the health of applications at each site at all times. In a common scenario where the DR site is inactive until needed, GTM recognizes that the application in the original site is no longer responding and stops directing traffic to it. In addition, during the failover event when neither site is active, GTM can respond to client requests gracefully by sending custom HTML pages, such as “This site or application is temporarily unavailable”.

Once SRM completes the failover to the DR site, vCenter Server informs the BIG-IP GTM via iControl, and the GTM begins redirecting client traffic to the DR site. Alternatively, GTM can be set up to automatically and continuously check the availability of the DR site. Once the SRM failover is complete, GTM recognizes the application availability in the DR site and begins directing client traffic there automatically.

Local Traffic Management Integration

For an even more advanced integration, it is possible to leverage the F5 BIG-IP LTM. The LTM manages application traffic within each data center, and has a wide variety of health monitors which it can use to check application availability and performance.

In the event of a failover, as vCenter Server in the DR site starts up each virtual machine, it can instruct the LTM to add the new virtual machines to a load balancing pool, apply all the relevant traffic management policies, and then begin sending traffic to



them. LTM can also work in tandem with GTM, monitoring the health and availability of applications locally and sharing this information with GTM. Working together, GTM and LTM function to properly route traffic to applications and guarantee the highest levels of availability.

More Information

F5 has published a deployment guide that illustrates how vCenter Server can leverage F5 iControl scripts to configure and provision both LTM and GTM. The concepts discussed in this deployment guide can be easily extended for use with vCenter SRM: http://www.f5.com/pdf/deployment-guides/vmware-infrastructure-dg.pdf.

About VMware SRM

VMware® vCenter Site Recovery Manager makes disaster recovery rapid, reliable and manageable, so organizations can meet their recovery objectives. Site Recovery Manager delivers centralized management of recovery plans and automates the recovery process. It turns complex paper runbooks associated with traditional disaster recovery into an integrated element of virtual infrastructure management and allows organizations to improve recovery plan testing dramatically.

About BIG-IP GTM

When users try to access a data center that is overloaded or unreachable, BIG-IP GTM automatically and seamlessly directs them to a secondary data center. The user isn't even aware of the switch: they could be accessing a data center at corporate headquarters or on another continent. For more information, see: http://www.f5.com/big-ip/product-modules/global-traffic-manager.html.

About BIG-IP LTM

The BIG-IP Local Traffic Manager (LTM) is an application delivery networking system. It is the only system that features a set of unified application infrastructure services that deliver total control, vision, and flexibility into application security, performance, and delivery. The result? Greater business agility and successful outcomes for the lifeblood of today's organization -- the application itself. For more information, see http://www.f5.com/big-ip/product-modules/local-traffic-manager.html