

Pulse Secure Virtual Traffic Manager

OVERVIEW

Pulse Secure Virtual Traffic Manager makes it easier for organizations to plan for disaster recovery and business continuity, and it reduces risk and costs across multiple data centers and cloud platforms:

- Integrates with automated provisioning in virtual and cloud environments
- Automated creation and control of application delivery infrastructure
- Dynamically scaling applications to support traffic load capacity
- Optimizing application server resources
- Routing and shaping traffic around failures
- Providing detailed visualization and reporting to analyze application performance and reliability across multiple locations
- Global load balancing and setting local traffic policies to prioritize and secure traffic

Application Delivery for Disaster Recovery and Business Continuity

How do Enterprises Plan for Contingency?

Application availability is always a big issue when considering disaster recovery (DR) initiatives. Enterprises and service providers of all sizes face many hurdles with web applications, as it is not uncommon for the network and/or servers to have performance problems irrespective of disaster incidents.

Overloaded network and servers can potentially breakdown completely due to events like network and hardware failure, human error, and natural disasters, such as earthquakes and hurricanes.

Traditional contingency planning looks at disasters and emergencies in two ways: either as discrete external events, such as floods or fire, often resulting in complete outage; or as internal events, such as loss of power, loss of network, or data.

This means that enterprises tend to design redundant data center architectures to mirror production applications and complex control systems to manage full or partial recovery to backup systems or alternate sites.

Complex systems and unexpected failure modes

The complexity of most DR strategies can make systems behave unpredictably when under stress, and a service outage is just as likely to result from a combination or chain of incidents. For example, a recent Amazon outage started as a power fault, but complete failure was actually caused by a software fault, which was triggered as the data center tried to respond to the original incident.

Or consider a website that is too successful and attracts more traffic that it can handle. The application can

overload completely, and shopping carts go abandoned. It takes too long to bring in new equipment to deal with demand, and the window for business opportunity is lost.

Data center virtualization and DR/BCP

Enterprises are increasingly using virtualization technologies to assist with contingency planning. Virtualization provides significant reductions in the cost of acquiring and operating infrastructure for disaster recovery, and it has given rise to software-defined networks (SDNs), a new approach that offers a new way

to plan for recovery or service failover following emergencies or incidents.

Pulse Secure Virtual Traffic Manager software from Pulse Secure makes it easy to implement disaster recovery strategies in virtual and cloud environments: it becomes a common platform between to bridge between your data center and the cloud, and helps within the cloud to enhance availability between different regions or availability zones.

Pulse Secure software includes a range of capabilities to simplify or even reduce need for failover and recovery, and fits the model for dynamic virtualized infrastructure by helping applications respond to external events and demand surges.

Virtualized data centers offer the potential to repurpose IT resources quickly to respond to the loss of key business applications when utilized for disaster recovery. By having a reusable pool of resources, companies could potentially avoid building a complete static DR/BCP copy of all key applications. Sure, some mission-critical applications may be pre-assigned, or even run active/active across multiple sites, but the virtual or private cloud provides great opportunities for cost savings.

Automation is the key to restoring services quickly and reliably; without it recovery time can be longer than with a traditional failover to a pre-allocated standby system. Automatic configuration of a resource pool can dramatically reduce the time to return to normal operations, aka RTO (recovery time objective).

Pulse Secure Virtual Traffic Manager for disaster recovery and contingency planning

Deploying and reliably maintaining backup data centers as part of a comprehensive application delivery initiative can be made easier with Pulse Secure Virtual Traffic Manager software. By delivering one of the most important technologies in solving the problem of reliability for application delivery for managing disaster recovery, site failover, and business continuity, it directs traffic to the best performing servers and sites.

In a disaster recovery situation, should one data center become inaccessible due to an application bottleneck or outage, Pulse Secure Virtual Traffic Manager software automatically routes traffic to the best performing site(s) available. This process is virtually seamless to end users. And it supports n-way clustering to avoid a single point of failure within a data center.

There are two important ways in which Pulse Secure Virtual Traffic Manager software can help with contingency planning:

Reactive: Pulse Secure simplifies failover and recovery, and advertises alternate routes for service availability, giving a real-time response to application or service outages.

Proactive: Pulse Secure includes powerful tools to optimize the application and prioritize transactions, to reduce the potential for failure as applications attract high-volumes of traffic at peak times.

Discover Pulse Secure with a free trial

It's easy to test all of the capabilities available in the Pulse Secure product family. Just download the Pulse Secure Developer Edition today to find out how:

- Pulse Secure Virtual Traffic Manager can help you realize greater ROI from data center consolidation and transformation programs
- Pulse Secure Web App Firewall employs business rules to protect your applications, mask data, and help achieve compliance (including PCI-DSS) and manage cookie privacy and authentication
- Pulse Secure Web Accelerator can accelerate enterprise portals and online applications

The Pulse Secure Developer Edition, available either as pure software, or as a virtual appliance, makes the complete ADC technology platform available to every application developer in an organization, enabling them to develop applications faster, test them in a production-identical environment, and bring them to market more quickly.

Pulse Secure Virtual Traffic Manager software simplifies failover and recovery, proactively optimizes the application to reduce the potential for failure:

Global load balancing	Redirect traffic to the best data center based on workload and service availability. Pulse Secure GLB works at the DNS level and acts as a DNS proxy for a set of domain names that have been configured. GLB manipulates the DNS resolution of domain names to control how each user is directed to a specific location. Pulse Secure GLB is ideally suited as a high-level tool for directing traffic in response to service problems: whether the service is affected by overload or outage, Pulse Secure Virtual Traffic Manager monitors the performance and availability of each location where the application is deployed and direct traffic accordingly.
Built-In DNS	Pulse Secure can use either a built-in DNS, or an external DNS service to resolve IP hosts and determine optimum routing. Using the built-in DNS service, Pulse Secure Virtual Traffic Manager includes a DNS server to provide local IP resolution: when Pulse Secure receives a DNS request, it will respond with a list of IP addresses. Pulse Secure monitors the performance and availability of each location to inform decisions for global traffic routing.
Service-level management	Real-time measurement of transactions to monitor and respond to changes in demand or varying server response time. Used in conjunction with cloud bursting, Pulse Secure SLM can be used to determine how and when to draw down additional resources to support the application.
Geolocation	Direct traffic to nearest service location to reduce response times. Pulse Secure Virtual Traffic Manager software can inspect each request and determine the source location and determine the most appropriate (often the nearest) destination to respond to the request.
Cross-site service visibility	Pulse Secure Virtual Traffic Manager software is a fully distributed management platform that gives complete visibility into the health and the activity of the applications, bringing together data from multiple locations (multi-site aware). Which lets you fine-tune global and local traffic management configurations on a per-location basis to precisely control which services are delivered from each location, and perform workload migration from one location to another.
Route Health Injection	Route Health Injection (RHI) helps maintain service availability and low-latency networking, by providing rapid service redirection to alternate service hosts. Pulse Secure advertises Traffic IP service addresses into the routing network, and can withdraw the service routing information if the TIP fails.
Active Health monitoring	A common reason for failover is a local system failure that triggers a wide-area failover procedure. Built-in health monitors help to direct traffic around failing servers, identifying sick or congested systems before they cause a problem. You can also write custom health monitors to extend this capability.
Bandwidth limiting	An overloaded network can look like a failed service. Some types of transactions such as document downloads can swamp the bandwidth, so Pulse Secure Virtual Traffic Manager software can be used to ensure that the bandwidth devoted to these transactions is limited to ensure other transactions continue during peak periods.
Request limiting	An application can be overloaded with repeated requests, which may be perceived as an application failure. Some applications may also encourage repeated requests (such as screen refresh to update sports scores), which can have an unexpected heavy impact on response times. Pulse Secure Virtual Traffic Manager software can limit the frequency of requests, and even return cached responses to reduce the impact on the application response times.
Protect against Denial of service	On the other hand, a denial-of-service (DoS) attack can also force a service failover, for example, by driving too many repeated or malformed requests. Pulse Secure Virtual Traffic Manager software can be used to identify and respond to these attacks in the same way using request limits.
Auto-scaling	Pulse Secure Virtual Traffic Manager software can respond to an increase in demand by requesting additional resources from a local virtual or cloud pool. As the service response time is impacted by a surge in demand, more resources are applied to the service, interfacing directly with VMware or Amazon AWS. As the service response time improves, the resources are released to align with demand.
Cloud bursting	Rapid provisioning of cloud computing to boost resources following a service failure or an increase in demand. This works especially well by pre-provisioning a stub application in an external cloud. Pulse Secure Virtual Traffic Manager software can trigger the rapid transfer of application traffic to the external cloud resources, and use auto-scaling to meet the transaction demand on the second site.

Find out more

To find out more about Pulse Secure Virtual Traffic Manager and Global Load Balancer solutions, or to arrange a demonstration or product evaluation, please visit www.pulsesecure.net.

Maximizing Investments

To help optimize technology investments, Pulse Secure and its partners offer complete solutions that include professional services, technical support, and education. For more information, contact a Pulse Secure sales partner or visit www.pulsesecure.net.

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