Vnomic Automated Delivery and Governance for SAP with Cisco ACI and F5 BIG-IP

Key Features

- Active Directory user authentication
- Traffic optimization for SAP applications
- Secure Full Proxy for all traffic
- Preserve valuable public IP Addresses

Key Benefits

- Quickly and efficiently provision infrastructure correctly automatically
- Validated TDI Architecture with combined best practices of all vendors
- Automatically deploy and remove complete application workload stacks
- Reduced complexity through turnkey automation
- Realize business benefits from SAP HANA applications

State of the union. Companies digitizing their business

In today's world of rapid deployments and connected users, businesses need to gain efficiency faster. The ever-expanding sources of data are creating mountains of information that are missed opportunities if not properly analyzed. Through better analysis and understanding, the associated trends can be discovered. These insights lead to both business efficiencies and improved processes that result in optimized inventory cycles, reduced fulfillment to billing timeframes, and higher customer satisfaction ratings; to achieve this, is a solution to better comprehend the data while also being fast, scalable, and cost effective is necessary.

Sophisticated programmable infrastructures such as F5 BIG-IP, are allowing companies to significantly reduce project deployment time to value, while improving accuracy and auditability of the overall solution configuration. This capability is especially important for agility and cloud deployment

The Vnomic MetaDirector declarative and policy driven orchestration solution, automates the end to end delivery, governance and auditability of programmable infrastructures allowing companies to digitize their businesses faster, while ensuring security, governance and auditability.

Vnomic, working closely with industry leaders such as F5, SAP, Cisco and Netapp is leveraging powerful APIs to provide an end to end automated and validated solution for delivering SAP HANA based solutions such as: SAP HANA, S4/HANA, and BW/HANA & BW on HANA onto a modern and programmable infrastructure.

This enables deployments into private clouds as well as hybrid clouds based on the governance requirements of a business.

Problem Statement

Enterprises need to leverage the latest technologies to deliver the most competitive solutions to their customers in real time. Many of the largest enterprises are utilizing SAP solutions to automate their key business processes and using IoT and Big Data technologies powered by SAP HANA to further digitize their businesses. This allows businesses the ability to inspect valuable data across multiple axes to gain insight and a competitive edge.

SAP HANA and its various applications like Business Warehouse (BW), Employee Resource Planning (ERP), Customer Relationship Management (CRM), Business Intelligence (BI) and others enable the business at faster speeds. When deploying SAP HANA, ensuring the use of a certified Tailored Datacenter Integration (TDI) environment is critical for stability and performance at the application is running the business.

SAP HANA and associated business applications allow for insight into the business and how it truly operates. The effort required to bring new business applications online has been challenging, as it is typically a multistep process requiring extensive planning, design, resources, and budget. Through the use of a TDI design; the ability to obtain a validated environment is possible. The networking, storage, compute, virtualization, services and the application all can be setup properly and quickly.

The Real Solution

To reduce time to value, the infrastructure must be provisioned faster and without mistakes. This needs to be done while simultaneously driving costs down and ensuring complete auditability for customers. The goal is to have the following attributes:
- Accepted and validated TDI application architecture by SAP
- Obtain both consistency and increase speed of infrastructure deployments
- Optimize integrated architecture using industry leading components
- Satisfy both governance and auditability requirements

The industry leaders SAP, Cisco, F5, and NetApp have joined forces to solve this dilemma. Combining their market leading products with Vnomic policy driven automation, SAP applications can be deployed with a simple push of a button. The entire SAP HANA software stack is dynamically modeled and then the underlying infrastructure is provisioned and configured using the combined best practices for all of the infrastructure components. This results in a TDI with reduced time and cost needed to deploy new business applications.

Vnomic Metadirector automates the SAP application, deliver, governance and auditability on programmable infrastructures and hybrid clouds. Based on application models of how SAP applications should be connected and structured, the Vnomic MetaDirector finds the necessary infrastructure resources and then provisions and configures the necessary attributes.

F5 and Vnomic Automation

Vnomic is able to automatically configure L4-L7 services for the solution and deliver the F5 BIG-IP ADC functionality to SAP customers as part of the automation solution. The Vnomic automated provisioned infrastructure includes the security and protection of full reverse proxy for accessing applications, forward proxy for traffic out of the datacenter, and secure VPN access into the backend system for management of the infrastructure. Since public facing IP addresses are a rare and expensive resource, an added service routing layer enables the ability to put all of the SAP business applications behind a single outward facing address. This enables both better use and a single secure entry point into the business applications.

Vnomic automates the F5 BIG-IP using various programmable interfaces (iControl REST and SOAP) ingrained in the product and ensures that a programmatic and systematic method of controlling the BIG-IP devices is used. This directly translates into a more available, predictable, stable, and secure product.

F5 Local Traffic Manager (LTM) allows for full proxy support of application traffic into and out of the data center. The separate full stacks isolate traffic and connections enabling improved security for the backend application against attacks.

F5 Advance Policy Manager (APM) provide the secure VPN connectivity into the management backend. Active Directory integration creates a system with secure auditable user authentication; ensuring only authorized users are allowed access while providing uniform user identity management.

Use Cases

Enterprises using SAP HANA and associated applications can now easily and quickly provision their infrastructures including F5 BIG-IP. Since customers typically require three instances: development, staging, and production, all of these can now be easily, quickly and identically created. This ensures that when the SAP applications are customized and deployed, the underlying infrastructure is exactly the same and thus will behave the same. The benefit here is that deployments from the development environment to staging, and into production occur much more smoothly. For businesses that operate with many different lines of businesses, subsidiaries, or affiliates each entity could need its own instances. The solution satisfies quickly the need to create new SAP business application deployments by being simple and cost effective.

During quarterly and annual audit cycles, the process is also simplified. The system is known to be setup correctly and follows all of the defined business governance rules. This is an ingrain benefit of automation. The alternative is an extensive manual audit and checks to be done on the system to ensure that it was setup properly and correctly.

For SAP Cloud providers, the solution is built with multi-tenancy from the ground up. Complete isolation is done at all layers. Features like F5 BIG-IP vCMP allocate dedicated isolated resources to each SAP application. This ensures that "no trust" isolation is possible. Resources are dedicated, performance SLAs are ensured, and parallel running instances have no impact.

The use of the service routing layer also enable all applications for a tenant to reside behind a single public facing address. This cost savings allow providers to service more customers while keeping costs lower. By using fewer costly external addresses, this cost savings can be directly translated into a lower cost solution with a competitive advantage.

Conclusion

By utilizing the Vnomic automation solution with F5, Cisco, and NetApp, SAP business applications can be easily deployed with complete confidence that it is done correctly from the start. Deployments are auditable, following governance, and are compliant with both best practices was well as business practices. The ability to reap the benefits is quickly achievable. Cost and deployment errors associated with manual operations are also quickly minimized.
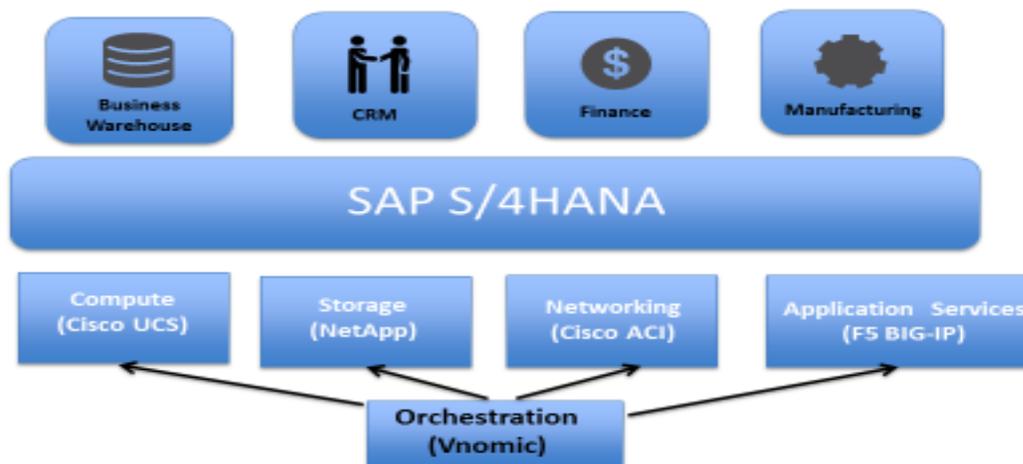
Vnomic automated delivery and governance for SAP solution

Learn More

To learn how the F5, Cisco, Netapp and SAP solution can help your business, visit cisco/f5.com and vnomic.com