

Plexxi HCN™ for SimpliVity™

HyperConverged Network Fabric for SimpliVity Environments

Featuring

- Event-driven VMware integration keeps Plexxi network in tight synch with SimpliVity hyperconverged infrastructure
- Dynamic, SimpliVity Storage and Federation network optimization, segmentation, and security
- Seamless network visibility via vSphere plug-in interface for both Plexxi and SimpliVity
- Single network for all SimpliVity and user workloads – 50% OPEX/CAPEX savings
- Simple, non-disruptive network scaling as SimpliVity environment expands

HyperConverged Network Fabric for SimpliVity HyperConverged Infrastructure (HCI) Environments

Fully exploit the functional and economic benefits of SimpliVity™ hyperconvergence with Plexxi HCN™ for SimpliVity. Plexxi HCN delivers a unified, hyperconverged data center network that efficiently supports diverse hyperconverged infrastructure applications and workloads, while ensuring high performance, reliability and service quality. With Plexxi, virtualized compute, storage, and networking resources are provisioned collectively — in real-time — to enable elastic services, on-demand applications, and self-service IT.

Hyperconverged Infrastructure Eliminates IT Cost and Complexity

Hyperconverged infrastructure (HCI) is all the rage these days. According to a Gartner survey, 74% of businesses are using, piloting or actively researching hyperconverged infrastructure solutions. HCI platforms deliver compute and storage resources as compact x86 building blocks that are fully virtualized and uniformly administered. They reduce CAPEX by collapsing data center compute and storage silos and eliminating SANs. And they reduce OPEX by simplifying administration and reducing power, cooling and rack space requirements. But many organizations fail to consider the networking implications of hyperconvergence. Legacy data center networking solutions can impede system performance, hinder IT service agility and hamper HCI initiatives.

Conventional Data Center Networks Impede HCI Initiatives

HCI systems consolidate a variety of applications and workloads onto a single, common infrastructure, creating network engineering challenges

for IT planners. Traditional data center networks, designed to support siloed IT architectures, aren't well suited for carrying diverse HCI traffic. Most legacy data center networks are simply overprovisioned to support peak traffic demands—an inefficient approach that squanders bandwidth and capital. And because all workloads are treated equally, a data-intensive or bursty application can monopolize network capacity, degrading the performance of other applications. As Gartner¹ points out “Mixing user access, node-to-node application traffic, VM mobility, storage access and back-end storage traffic on a single network can lead to unpredictable performance, availability and data integrity.”

As a result, most HCI vendors recommend customers segregate data center networks to ensure adequate performance and service quality for all applications and traffic types. Common segmentation strategies include implementing distinct networks based on:

- Traffic type: i.e. storage or management traffic.
- Application: i.e. VDI, Dev/Test, Tier-1 production apps, Big Data.
- Workload characteristics: i.e. bursty, delay-sensitive, low priority.

Deploying and administering parallel networks is inherently expensive and inefficient.

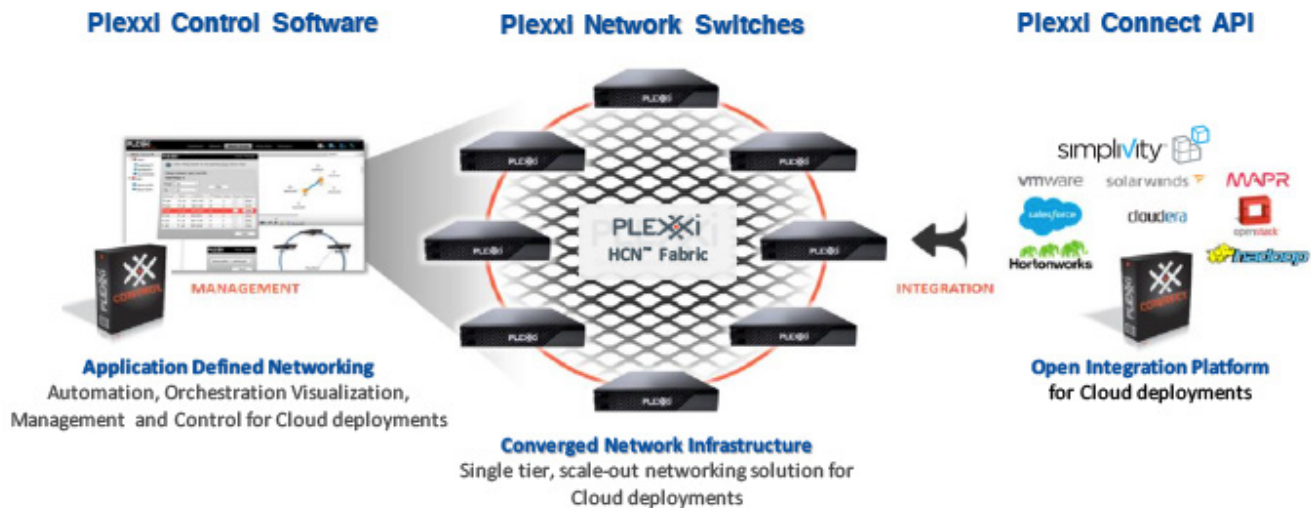
Plexxi: Simply a Better Network for Hyperconverged Infrastructure

Plexxi enables an agile, integrated hyperconverged network that efficiently supports diverse applications and workloads. The fully converged Plexxi network fabric can adapt in real-time to ensure high service quality, reliability, and performance for conventional applications, as well as next-generation application workloads.

Plexxi's application-driven, data center networking product portfolio includes:

- **Plexxi Switch** – a family of compact, high performance scale-out switches. A unique product design combines Ethernet switching with programmable optical multiplexing to create a highly resilient, agile and scalable data center network fabric. Plexxi software supports Plexxi switches with embedded optics, or built-to-spec, 3rd-party switches from OEMs. Deployed as a single-tier, Plexxi Switches eliminate cost and complexity, while enabling high bandwidth, low-latency machine-to-machine connectivity within and across data centers.
- **Plexxi Control** – a software-based, distributed control plane that reconfigures the network fabric in real-time to satisfy fluctuating workload demands. Plexxi Control models workloads and automatically reprograms the network topology to optimize application performance and service quality.
- **Plexxi Connect** – an open framework for tightly integrating Plexxi Control software with external service orchestration solutions, DevOps tools, and policy stores. Plexxi Connect software eliminates manually intensive, error-prone configuration and scripting processes. A standards-based, publish-subscribe, message bus makes it easy for external applications to exchange policy, configuration and state data with Plexxi Control.

¹ Gartner Report G00312901 “Leverage Networking to Ensure Your Hyperconverged Integrated Systems Can Support Demanding Workloads,” August 19, 2016.



Plexxi's HCN Fabric Solution

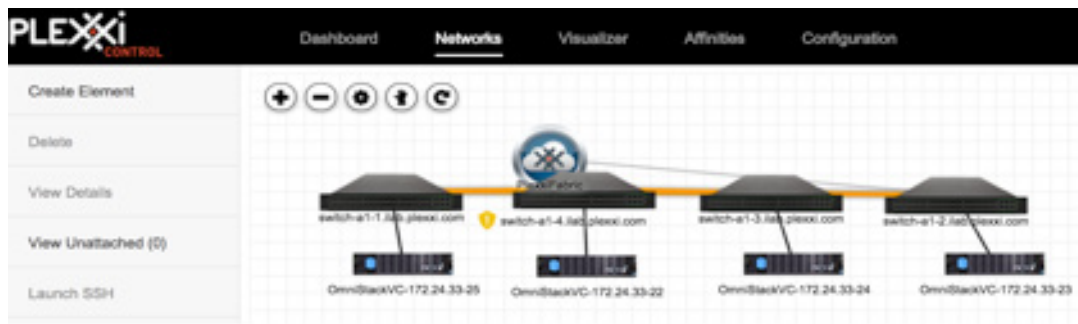
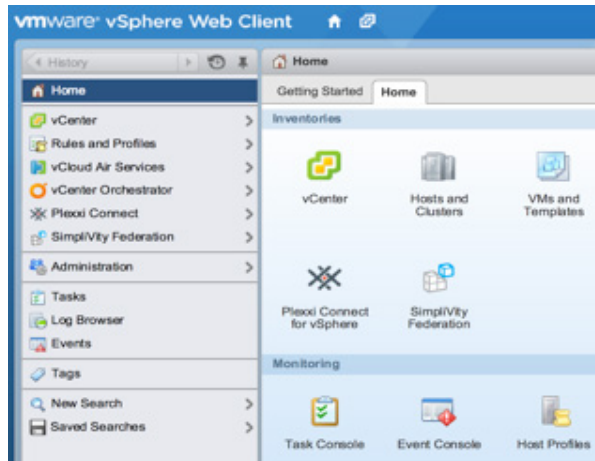
Plexxi Integration Pack for VMware – Streamlines SimpliVity Deployment

This pre-built software connector streamlines SimpliVity HCI deployments and accelerates IT service agility. The integration pack for VMware enables Plexxi Control to automatically discover SimpliVity nodes and dynamically re-provision the Plexxi network fabric in response to SimpliVity compute and storage events, ensuring high performance and service quality for diverse applications and workloads, while making optimal use of network capacity. Capabilities include:

- **Storage and Federation Network Optimization and Segmentation** – Plexxi Control can be used to build an optimized network fabric geared towards the SimpliVity Storage and Federation networks. Administrators can either isolate Storage and Federation workloads from all other traffic, from each other, or just segment a portion of the fabric for these workloads. This reduces the affect that network-heavy workloads may have on the Storage and Federation function within SimpliVity.
- **User Workloads Optimization and Segmentation** – In the same way it can optimize the SimpliVity network, Plexxi Control enables administrators to build optimized networks for any user workload traffic. Plexxi allows for unprecedented traffic engineering to optimize the Plexxi network to the maximum.
- **Per Workload Security** – Plexxi Control physically and logically isolates traffic across the fabric protecting IT assets and services, while enabling integration and service chaining with existing security tools such as firewalls, IDS/IPS solutions and SIEM
- **Automatic Configuration** – Network side attributes such as VLANs are automatically configured based on information derived from vSphere, which allows Plexxi to deterministically know the VLAN intended for a workload and configure the associated switch port.
- **Simple, Event-Driven Federation Expansion** – Plexxi Connect uses an event-driven model to determine when changes are made to the environment. This makes tasks, such as expansion of the Federation, much easier for the administrator. The network-side VLANs and optimized or isolated network is automatically adjusted for the new node in the federation.

- **Fully-Integrated Visualization** – Plexxi workload visualization tools display where and how traffic is being distributed across the network fabric, on a per-workload basis, helping IT administrators monitor system performance and resource utilization in real-time.

Many companies refer to their products as ‘single pane of glass’, but then force customers to use yet another GUI. Plexxi, like SimpliVity, have built their products directly into vSphere, so the administrator does not have to switch between GUIs for many day-to-day tasks.



All of this information provides the SimpliVity administrator seamless visibility into the network from the Plexxi Visualization Tool. The tight integration of SimpliVity and Plexxi solutions truly delivers on the promise of the software defined data center.

Learn More

To learn more about Plexxi networking solutions and Plexxi Connect Integration Pack for VMware vSphere, send an email to info@plexxi.com.

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