



# Network Performance Enforcement

## Saisei FlowCommand™, powered by the HP VAN SDN Controller

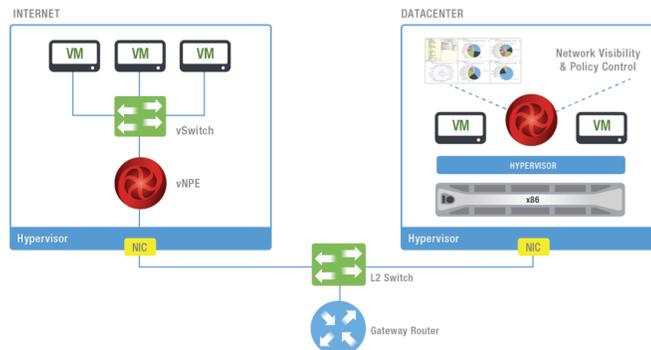
Unified real-time flow policy control, analytics and security suite guarantees no SDN link or user session can crash, doubles usable bandwidth, and provides sub-second analytics, policy enforcement and security across 40 metrics, including users, apps, and geographies



### Benefits

- Guarantees delivery of all SDN flows regardless of link load
- Instant in-depth visibility and control of millions of flows speeds cloud deployments
- Stops data exfiltration, DDoS attacks and more cold

### Saisei NPE Data Center Deployment Options



## Changing how routed IP networks actually run so customers can succeed

Since the dawn of DARPA the rules about how IP networks actually function have placed users in a no-win situation. These rules have forced them to deploy dozens of expensive tools and technologies over the years to try and track the chaotic nature of IP packet delivery in their networks and also made them deploy twice the bandwidth they actually need because of peak traffic load "demand." Saisei's flow engine patents have, quite literally, changed all that, and in ways that

perfectly complement today's SDN deployments. Saisei's NPE solutions eliminate the TCP/IP requirement for data queuing and in doing so allow enterprises to run their networks not at 30%-40% utilization but at over 95%. Starting with this doubled available bandwidth, Saisei then examines every SDN flow on a link and applies bandwidth, business and security policies to each flow multiple times per second. These policies are extremely granular and can be based on any combination of metrics. The success of enterprise VDI deployments and expansion to public or hybrid clouds now become virtually assured.

*Saisei is excited to be working with SDN thought-leader HP, a company that clearly understands that only revolutionary networking technology will solve the challenges customers face moving to cloud computing.*

**Jeff Paine**  
VP, Marketing, Saisei

## Why Saisei and HP?

### No Flow Left Behind™ for HP-Powered SDN Networks

Saisei can now offer its industry-first No Flow Left Behind guarantee to all current and future customers of HP's VAN SDN Controller as a natural adjunct to a modern, flow-based network.

FlowCommand, FlowEnforcer™ and FlowVision™ are the first of a new class of networking solution called Network Performance Enforcement. NPE subsumes or replaces some to all of the functionality of numerous older stand-alone appliances, such as WAN Optimizers, PacketShapers, Application Delivery Controllers, Next-Gen Firewalls and more, only using a unified, scalable architecture based on modern software design that has been architected for the demands of cloud, mobile and IoT.

### HP Open SDN Architecture

The HP SDN architecture spans the infrastructure, control and application software layers, making the network easier to manage with maximum agility.

The HP Virtual Application Network (VAN) SDN Controller platform, paired with network infrastructure supporting the industry standard OpenFlow protocol, provides centralized control of a programmable, end-to-end network designed to dynamically adjust to your evolving business needs. The platform's reliability, consistent APIs and rich features, empower applications, such as **Hyperglance**, to deliver greater network efficiency, plus more advanced security, Quality of Service management, and rapid application or service delivery.

## Real-Time Control + Visibility + Scale = the End of User Complaints

Running on standard x86 processors either as a bump-in-the-wire on a server or as a VM under Hypervisor control, FlowCommand can monitor up to 5M concurrent data flows on a 10G link 20 times per second, applying any combination of up to 40 bandwidth, business and security policies to each flow and executing those policy options on all flows in less than one second. And in its initial release, FlowCommand can do this for 1 billion external hosts.

"Standard" SDN flow control and visibility simply does not "see" the thousands of micro-flows present in a network. But FlowCommand sees every packet that touches a network and can publish this flow information to the VAN SDN controller, making HP SDN networks the first to be able to universally control all network traffic, not just some of it.

Even on a small 100Mbps link under Saisei control there is no amount of traffic that can hit that link and cause any user session to crash, let alone take the link down. Saisei can also completely stop -- or throttle -- rogue user and/or p2p traffic, including BitTorrent and Encrypted BitTorrent. FlowCommand does this through its Net Neutrality functionality that allows the solution to take the total number of flows -- either by class or overall -- and divide the total available bandwidth among them. In this scenario, business critical flows can also be assigned a higher percentage of the bandwidth and then have the Net Neutrality rules applied to the

remaining flows.

A policy in FlowCommand can be defined by any combination of attributes. For example, there may be a global data exfiltration policy that forbids data traffic to/from Russia, but a separate policy can be in place that allows Skype sessions from a hotel in Moscow, where a CEO is on a business trip, to be "allowed" to reach a company's HQ in New York.

The unique combination of doubling useable bandwidth, making sure that all user flows are guided through the network links, and insulating them from any security and overload conditions means that HP/Saisei-powered networks have the lowest level of user complaints -- period.

## Don't Network Like its 1999

The future is about flows, not packets. When servers were always located on a single switch port, standard network-centric packet-focused architectures made sense. But in a virtualized world? Not so much. Now, networking by packets no longer matches the use case for enterprises concerned with the rise of BYOD YouTube viewers.

With HP setting up the flows and Saisei providing intense, real-time visibility and control of the data in the flows -- along with new orders of visibility analytics like Average Flow Length -- enterprise users can finally be comfortable that moving to the next age of networking is not only technically feasible, but is also economically desirable.

By opening up all the bandwidth currently reserved for "peak loads"

that no longer need be a concern, the cost-per-bit of enterprise network bandwidth plummets and the OpEx overhead of tracking down and remediating service tickets caused by congestion and performance issues literally disappears.

## Be the envy of your peers

Saisei's FlowCommand software lets HP VAN SDN Controller customers deploy networks that simply outperform any existing IP network deployment. HP/Saisei flow-based networks are higher performing, more secure, more scalable, more ordered and more predictable than the random chaos brought about by traditional packet-based IP data nets.

**Learn more at**

[hp.com/networking/sdnapps](http://hp.com/networking/sdnapps)

[www.saisei.com](http://www.saisei.com)

**Contact us**

[sdnalliancesteam@hp.com](mailto:sdnalliancesteam@hp.com)

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