**Fact sheet**

**HP Virtual Cloud Networking SDN application**

**The need for network agility**

Cloud computing is increasingly attractive to businesses because of the agility, cost savings, and efficiency it provides. However, these same businesses are finding themselves limited by the complexity and disjointed architecture of legacy networks: not only are legacy networks complex, they are also slow to provision new services and are labor intensive. They do not have the agility to meet the challenges of “The New Style of IT”, characterized by the interrelated trends of cloud, security, mobility and Big Data.

In order to meet the constantly evolving needs of your customers, you need a network infrastructure that works with you, not against you—one that not only is agile enough to deliver robust and scalable services, but also simple enough to lower costs and limit complexity.

**Orchestrating a robust network**

The HP Virtual Cloud Networking (VCN) SDN application can help you do just that. The HP VCN SDN application is the enhanced networking module of HP Helion OpenStack, delivering network virtualization enabled by Software-defined Networking (SDN) and orchestrating the entire datacenter infrastructure.

The VCN SDN application helps cloud providers and enterprises build a robust multitenant networking infrastructure that is able to deliver ready-to-use compute, storage, and networking. It provides:

- Scalable, secure, and hardened enterprise cloud networking
- Automated delivery of secure isolated networks in minutes
- Unified physical and virtual control and visibility
- Complete access to an open SDN ecosystem that includes HP and third-party SDN applications

**HP VCN SDN application**

The HP VCN SDN application integrates with the HP Virtual Application Networks (VAN) SDN controller and leverages OpenFlow to create a unified control for the deployment of dynamic policy on both the virtual (Open vSwitch) and physical (HP and third-party) networks.

VCN provides a multitenant network virtualization service for KVM and VMware ESX multi-hypervisor data center applications, offering organizations both open source as well as proprietary solutions. Multitenant isolation is provided by centrally orchestrated VLAN or VXLAN-based virtual networks, operating over standard L2 or L3 data center fabrics.

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*Figure 1. HP Virtual Cloud Networking SDN application*
Bare-metal (non-virtualized) servers and appliances can be supported in a VXLAN environment, with the addition of HP 5930 switches, to provide the hardware tunnel end-point function. In a fully virtualized deployment, the existing data center switching infrastructure can be retained without the need for costly upgrades. OpenFlow 1.3-enabled devices are recommended to realize the full benefit of SDN-based data center applications.

HP VCN provides several enhancements to Neutron which are listed in the table.

### HP Intelligent Management Center—supporting networking virtualization

The HP Intelligent Management Center (IMC) manages the traditional networking fabric in HP and heterogeneous environments, and has added support for networking virtualization. IMC offers single-pane-of-glass management, allowing you to provision and monitor both physical and virtual networks, essential for non-cloud (OpenStack) deployments. For cloud deployments, IMC serves as the assurance monitoring solution for the network and applications in a VCN deployment.

### Use the network to innovate

Open APIs enable HP and third-party developers to create innovative solutions for the management, provisioning, and orchestration of an OpenStack cloud. VCN maintains full API compatibility with the current OpenStack Icehouse release while implementing changes that dramatically enhance the performance, scalability, and stability of cloud network deployments.

### Table 1. HP VCN enhancement to OpenStack Neutron networking module

<table>
<thead>
<tr>
<th>Capability</th>
<th>Neutron</th>
<th>Virtual Cloud Networking enhancements</th>
</tr>
</thead>
<tbody>
<tr>
<td>OVS vSwitch</td>
<td>✓</td>
<td>✓ + Adds enhanced control of standard OVS¹</td>
</tr>
<tr>
<td>KVM Hypervisor</td>
<td>✓</td>
<td>✓ + Supports both KVM and VMware ESX</td>
</tr>
<tr>
<td>Network Node routing</td>
<td>✓</td>
<td>✓ + Adds support for Distributed Virtual Router (DVR)²</td>
</tr>
<tr>
<td>VXLAN virtual overlay</td>
<td>✓</td>
<td>✓ + Adds hardware VTEP (5930 L2 VxLAN gateway)</td>
</tr>
<tr>
<td>Single controller</td>
<td>✓</td>
<td>✓ + Adds support for High Availability (HA)</td>
</tr>
<tr>
<td>Single network node</td>
<td>✓</td>
<td>✓ + Adds scale-out network node capability</td>
</tr>
<tr>
<td>VPNaaS (inter-DC IPsec)</td>
<td>✓</td>
<td>✓ + Adds support for client SSL VPNaaS²</td>
</tr>
<tr>
<td>Security groups</td>
<td>✓</td>
<td>✓ + Enhanced OVS access control²</td>
</tr>
<tr>
<td>Scalability</td>
<td>50 nodes</td>
<td>✓ + Adds scale-out for up to 1,000 nodes¹</td>
</tr>
<tr>
<td>SDN support/ecosystem</td>
<td>—</td>
<td>✓ + Adds support for SDN and open ecosystem</td>
</tr>
</tbody>
</table>

### Availability

The HP VCN SDN application will be available worldwide in 2H 2014 as part of the HP Helion OpenStack commercial edition.

Learn more at [hp.com/sdn](http://hp.com/sdn)  [hp.com/helion](http://hp.com/helion)

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1. HP OpenStack open source contributions
2. HP-led OpenStack projects

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