



Cisco Announces Open Network Environment

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On June 13, 2012, Cisco announced [Cisco Open Network Environment \(Cisco ONE\)](#). Cisco ONE is Cisco's vision for delivering network programmability. Cisco ONE is a significant announcement in that it provides the avenue for customers to follow to enable the network as a platform.

Cisco is targeting Cisco ONE at a broad set of enterprise and service provider customers and has the following objectives for Cisco ONE:

- Increase service velocity
- Enable resource optimization
- Provide quicker monetization of services
- Reduce operational expenses via improved management and provisioning

The Open Network Environment offers multiple avenues for customers to meet the demands of network generation IT delivery including platform application programming interfaces (APIs), agents, and controllers, as well as overlay network technologies.

Representing a sea change, as part of the Open Network Environment, Cisco announced One Platform Kit (onePK), which provides APIs for developers across the following operating systems: Cisco IOS, IOS XR, and NX-OS. onePK will enable developers to program to the network at the appropriate layer for the customers' goals. onePK is a single platform across all of Cisco's operating systems. Cisco will introduce onePK on ASR 1000 and ISR G2 and in later releases across its portfolio of switching and routing. The release on ASR 1000 and ISR G2 signals that Cisco believes service providers and Web 2.0 providers have the most immediate need as well as the internal skill sets to take advantage of the capability.

Cisco will offer a proof-of-concept OpenFlow controller to academic and research institutions, as well as provide OpenFlow 1.0 agents on Cisco Catalyst 3750-X and 3560-X series switches.

The expansion in virtual overlay network offerings includes:

- Expand Nexus 1000V portfolio with support for open-source hypervisors (Nexus 1000V currently supports VMware and Microsoft hypervisors.)
- Provide a VXLAN gateway to bridge traditional VLAN with VXLAN-based virtual overlay networks
- Extend vPath technology to support VXLAN overlay networks
- Offer OpenStack Quantum Plugin and REST APIs for the Cisco Nexus 1000V to orchestrate multitenant cloud infrastructures.

Demonstrating the magnitude of resources Cisco can employ to address customer requirements, Cisco has broadened the discussion around network programmability to encompass every layer of network intelligence. In IDC's recent Webinar, [Future Direction of OpenFlow: Ushering in the Era of Software Defined Networking](#), we provide the layers of the software-defined network and the benefits customers can achieve from programming to each layer. Cisco is addressing all of these layers with Cisco ONE taking

an all-encompassing strategy of network programmability across the infrastructure while recognizing that the business case dictates the appropriate insertion point for programmability.

Announcing (and allowing) deep programmatic access to Cisco's networking devices via well-documented APIs is a major step for Cisco and one that will require significant investments and realignment of resources to build out a partner community that fosters and encourages development on onePK. The depth and breadth of ISV, systems integrator, and service provider support will ultimately determine the success of onePK.

Cisco's strategy and use cases for OpenFlow include LAN and WAN; clearly, it sees customer benefits with separation of the control and data plane. Cisco will deliver OpenFlow capabilities in its campus switching products first, indicating its support for OpenFlow in use cases where network partitioning is desired. With this year likely to be proof of concept at education and research institutions, they are likely to lag the early adopters and vendors who are currently shipping OpenFlow controllers and switches.

As Cisco rolls out its network-as-a-platform (inclusive of OpenFlow) strategy, it will need to strike a delicate balance between showing leadership in innovation around OpenFlow while protecting its core networking business. With this announcement, it has shown that it is willing to steer the Cisco ship to capture the customer transitions to cloud and mobility. Executing on the network as a platform via network programmability will determine Cisco's future stature in IT in the coming decade.

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