What Is the Value of Traffic Visualization and Control?

The next-generation Internet will be the Internet of Everything, with the network connecting people to people, machine to machine, and machine to people. Cisco® Open Network Environment (ONE) is making networks faster, simpler, and more agile with programmability, real-time intelligence, automation, and orchestration to create instantaneous responsiveness.

Cisco ONE is a framework of technologies that provide applications with real-time insight into what’s happening across the data center and WAN infrastructure. The automated ability to visualize and control traffic allows service providers to deliver services more efficiently, deploy services faster, optimize network resources, reduce operational costs, and support service-level agreements (SLAs) more effectively.

The traffic visualization and control capability is based on the use of path computation software in the Cisco ONE Controller. Path computation enables the collection of network and infrastructure information, performs various computations to determine optimal path routing, and forwards state programming information to control traffic and network resources (Figure 1).

What Problems Does It Help Solve?

Traffic visualization and control applies this vision to effectively manage traffic and session growth while economically managing unpredictable network capacity requirements.

The Cisco ONE solution for traffic visualization and control overcomes these current challenges:

- Existing operations and administration tools provide partial network traffic views.
- Changing network configurations and business policies is a complex, time-consuming process.
- Responding in real time to traffic demands that affect SLAs is problematic.

Cisco ONE Traffic Visualization and Control

For traffic visualization and control, Cisco ONE controllers and agents work with policy and analytics engines to create a bidirectional feedback loop. The solution provides real-time multilayer monitoring of transport, IP Multiprotocol Label Switching (MPLS), and services between a user and the user’s service provider and content providers. The traffic visualization and control solution allows a provider to adapt to any network condition, identify congestion and packet loss, and create new paths to meet the customer’s SLAs.

The path computation acquires information through various protocols from southbound APIs to various platforms. This information is then collected in a network database where modeling and analytics tools can examine what’s going on and determine optimal responses for rerouting network traffic for greater efficiency in the WAN.

Cisco ONE technologies used for traffic visualization and control include the Cisco ONE Controller, the OnePK Toolkit, policy and analytics engines, and enhanced policy-based forwarding (Figure 2).
What Are the Benefits of Traffic Visualization and Control?

With the ability to visualize traffic end to end across the network and adjust traffic and resources to meet demand while allowing for optimal utilization, service providers benefit from:

- More efficient service delivery
- Faster time to service
- Optimal use of network resources
- Reduced operational costs through automation
- Better support for SLAs
- Satisfied, loyal customers

Why Cisco?

The Cisco Open Network Environment is a customizable software framework of use-case-based, modular technologies that service providers can use to harness the untapped value of their intelligent networks. Find out more about how Cisco ONE is creating a suite of capabilities to power the Internet of Everything and make your networks more agile.

Cisco Open Network Environment

http://www.cisco.com/go/one