

October 24, 2014 6:00 AM Eastern Time

Isocore Conducts First-ever Multi-vendor Testing of WAN SDN Controller Based on IETF-defined BGP-LS and Stateful PCE

Testing empowers Service Providers with SDN traffic optimization capabilities for their infrastructure networks

WASHINGTON DC -- Isocore announced the successful completion of its Leading Edge Code (LEC) testing which included the recent extensions to Path Computation Element Communication Protocol (PCEP) for Stateful Path Computation Element (PCE) and the recent extensions to the BGP protocol to distribute link state information (BGP-LS). The testing was important as these extensions are key enablers of Service Provider software-defined networking (SDN) solutions that abstract and simplify wide area networks (WANs), providing added openness and programmability.

SDN WANs require reliable topology information and granular path control to enable increased network optimization and flexibility. BGP-LS provides a reliable and simple mechanism to distribute and aggregate topology information even in the presence of multiple routing domains (IGP areas or autonomous systems). In addition, it provides an operational model familiar to operators. Stateful PCE provides a flexible mechanism for centralized path control (delegation, initiation, update and deletion), path state discovery and synchronization with an SDN controller. Together, stateful PCE and BGP-LS allow an SDN controller to interact with the network and, in combination with northbound APIs plus additional protocols, enable numerous SDN use cases to be applied to the current WAN infrastructure.

The testing verified a set of extensions to PCEP to enable stateful control of label switched paths (LSPs). The set of extensions includes mechanisms to affect LSP state synchronization between PCCs (Path Computation Client) and PCEs, delegation of LSP control to PCEs, and PCE control of timing and sequence of path computations. The different testing scenarios included a number of cases involving single and multi-area in OSPF configurations.

The test setup for the event consisted of equipment from Cisco Systems including Cisco ASR 9000s, Cisco WAN Automation Engine as well as equipment from Juniper Networks, including MX Series 3D Universal Edge Routers, PTX Packet Transport Routers and the NorthStar Controller, and testing equipment from Spirent Communications included the Spirent Test Center.

Contacts

Isocore
Vincent Dean, 703-860-1777
vdean_at_isocore.com