Blue Planet provides customer-proven, vendor-agnostic WAN automation across multiple network layers

Traditional WANs consist of multiple technology layers (optical, Ethernet, IP, MPLS) built using several generations of network elements from different vendors. Historically, provisioning services across these networks required interacting with multiple vendor-specific management systems, as well as the manual ‘stitching’ of connectivity between separate technology domains. The resulting complexity leads to slow service delivery times, configuration errors, and, ultimately, higher costs.

Blue Planet WAN automation reduces the complexity and cost associated with end-to-end service delivery across multi-vendor and multi-layer networks. By leveraging the programmability and abstraction provided by Software-Defined Networking (SDN) orchestration, Blue Planet enables network operators to deliver traditional network services faster, more efficiently, and with greater scale.

Blue Planet leverages a technology-independent orchestration engine, model-based architecture, and DevOps-style programmability to automate end-to-end service delivery and eliminate manual ‘step-by-step’ provisioning. Beyond reducing OPEX and shortening time-to-revenue for traditional WAN services, this open approach to multi-vendor WAN automation also improves end-to-end network visibility and paves the way to innovative new on-demand services.

Multi-vendor control and orchestration

Blue Planet achieves multi-vendor WAN automation in a way that is easily maintained, enhanced, and extended. The platform orchestrates underlying network resources using Blue Planet components referred to as Resource Adapters (RAs). RAs interface directly with multi-vendor network elements or with vendor-specific domain controllers such as element/network management systems and SDN controllers using an array of native protocols including CLI, TL1, SNMP, NETCONF/YANG, REST API, and OpenFlow. A wide variety of RAs are available today, and Blue Planet also offers a DevOps Toolkit and a developer forum (Blue Planet DevOps Exchange) that allow

Highlights

- Vendor-agnostic solution automates service and network provisioning across multiple physical network layers (L1, L2, L3)
- Abstracted ‘single-pane-of-glass’ breaks down management and technology silos, allowing network operators to orchestrate services from end to end
- Significantly reduces manual ‘step-by-step’ provisioning errors and increases service velocity
- Resource Adapters streamline integration with underlying third-party SDN controllers, EMS/NMS, and network elements using a wide array of native protocols
- Open REST APIs simplify integration with back-office OSS/BSS
- DevOps-style programmability gives network operators greater control, agility, and self-sufficiency
- Extensible, multi-domain platform paves the way to innovative services such as bandwidth-on-demand, Network Functions Virtualization (NFV), and Network-as-a-Service
network operators, third-party equipment suppliers, independent software vendors, and systems integrators to develop RAs on their own, or in collaboration, to meet specific use cases. Ciena also offers RA development as an additional service.

Open interfaces
Blue Planet supports open REST APIs that provide programmatic control for managing services and streamlining network operations. These APIs are used for robust OSS/BSS integration, building customer-facing Web portals, and interacting with other applications that utilize the network as a programmable resource. Blue Planet’s open APIs are key enablers for dynamic, self-service, and on-demand services.

Figure 1. Architecture of a WAN Automation Solution

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