

Elevate Ciena's Network Operations with Cloud Agility and Efficiency

Manage, Control and Plan (MCP) domain controller

Network and service providers are continually looking for new and improved ways to increase automation and efficiency in delivering highly reliable services across ever-evolving infrastructure. The benefits and ease of elastic cloud computing open new opportunities for providers to converge network and IT operations and move them to the cloud. To leverage elastically scalable cloud resources most efficiently, the operations software must be cloud-native—packaged as a collection of lightweight containers, architected as modular micro-services—and support open interfaces.

Ciena's Manage, Control and Plan (MCP) domain controller provides the software control needed to automate workflows for service planning, fulfillment, and assurance across Ciena's routing and packet-optical network infrastructure, as well as third party routers and optical systems. With MCP, operators gain a unified view of their entire multi-layer network, helping expedite day-to-day operational tasks. In addition, MCP Advanced Apps provide real-time analytics for proactive management and optimization of multi-layer network performance.

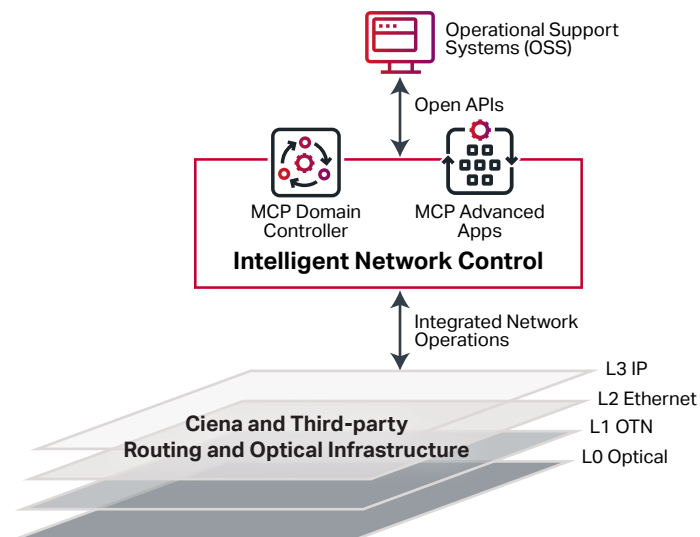


Figure 1. MCP provides unified lifecycle management, over multiple technology layers

Benefits of MCP public cloud deployment:

- Reduces CAPEX and OPEX overhead of physical hardware
- Leverages the scale and flexibility of chosen cloud provider
- Retains control of software assets with service provider
- Enables consistent IT management practices across the operations software suite

MCP is built on a cloud-native, micro-services architecture, delivering the simplicity and flexibility of deployment network operators want. The MCP application can be installed on a dedicated platform, in a private cloud, or on a publicly hosted cloud infrastructure. The public cloud infrastructure installation negates any CAPEX and OPEX overhead related to maintaining physical hardware, instead leveraging the scale and flexibility of the selected cloud provider while retaining management of the software assets. Alternatively, if a turn-key, hosted solution is desired, Ciena's MCP Services can provide that option for networks of any size. This solution further reduces operations overhead, as the responsibility of installing and managing both the MCP software and the associated underlying hardware equipment rests with Ciena Services.

How does it work?

MCP's cloud-native, micro-services-based software operates in contrast to legacy management systems, which use monolithic code, depend on a static amount of CPU, memory, and connectivity resources, and are cumbersome to scale and upgrade. The cloud-native platform facilitates MCP installation, maintenance, and scalability, and provides flexibility in deployment options.

MCP can be deployed in a cloud infrastructure for networks of any size. However, larger networks that require more compute and memory do not realize as much cost benefit from the public cloud. In these scenarios, a private cloud or bare metal server installation is often more cost-effective.

With this in mind, Ciena has tailored public cloud engineering guidelines for service providers, with networks of up to

approximately 250 single rack unit (RU) packet platforms or 50 shelf-based network elements. The deployment is simple: the service provider can lease Virtual Machines (VMs) and VPN connectivity from the cloud provider of choice, and then install, manage, and maintain the operating system and MCP software, just as on a dedicated in-house platform. The service provider retains control, including responsibility for VM setup, maintenance, and administration, and associated VPN tunnel setup and firewall settings. In this way, service providers can best utilize the skillset of their in-house operational teams and apply consistent IT management practices across their set of software tools.

[Learn more about MCP](#)



Basic installation requirements

The service provider leases the cloud compute, storage, and security components necessary to build the VMs to support MCP and the License Server, and leases a VPN access service. Ciena provides specific CPU, RAM, bandwidth, and delay requirements to help providers decide whether the leased cloud VM option is the best option for their specific customer scenario.

With MCP, the service provider has already taken the important step in transforming network and service operations. By leveraging the cloud, they can boost operations efficiencies even further.



Was this content useful?

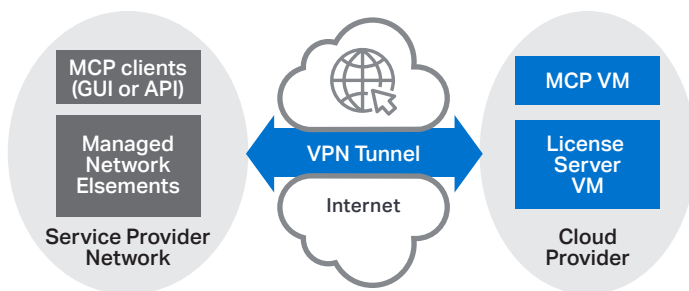


Figure 2. MCP cloud configuration

* For more information on the MCP Hosted Services offering, refer to MCP Services datasheet or consult with your Account Manager.