Blue Planet Intelligent Automation Platform
Accelerate digital transformation

Software-centric agility to unlock network potential

The Blue Planet Intelligent Automation Platform lets network providers use deep knowledge about the network to power adaptive service and network optimization. Blue Planet facilitates the evolution to more efficient, modernized network operations and software-defined programmability by bringing together Network and IT teams to effectively fulfill, manage, and assure today's dynamic, on-demand services.

Intelligent automation is the path to the Adaptive Network™

The world is becoming increasingly connected, with more subscribers, devices, and applications. Businesses of all kinds are embracing the rise of the Internet of Things (IoT) and machine-to-machine communications. To profit from these long-term trends, network providers need greater agility, efficiency, and automation across their network infrastructure. The Blue Planet Intelligent Automation Platform meets these needs by facilitating the adoption of technologies like Network Functions Virtualization (NFV) and Software-Defined Networking (SDN) for modernizing operations and enabling digital transformation and a pragmatic path toward the Adaptive Network.

Blue Planet is a comprehensive software suite combining orchestration, advanced analytics, inventory, and network service assurance in a common architecture. It provides the extensibility and openness needed to power the digital age.

Blue Planet products, which can be deployed individually or in any combination, include:
- Multi-Domain Service Orchestration (MDSO)
- NFV Orchestration
- Analytics
- Network Health Predictor (NHP)
- Inventory
- Route Optimization and Assurance (ROA)
- Manage, Control and Plan (MCP)
The Blue Planet products can be deployed to optimize and accelerate a wide variety of network services, including wavelength, carrier Ethernet, SD-WAN, and NFV-based virtualized services, and more.

**MDSO**
**Seamless end-to-end service automation across multiple physical or virtual technology domains**
Blue Planet MDSO leverages open APIs and intent-based, model-driven templates to enable seamless service automation across any mix of vendors and network layers. MDSO accelerates service delivery and eliminates operational silos by aligning IT and Network operations processes and abstracting the complexity of underlying network and technology domains.

**NFV Orchestration**
**Scalable lifecycle management and orchestration of Virtual Network Functions (VNFs) and virtual services**
Blue Planet NFV orchestration delivers carrier-grade capabilities for instantiating, managing, and chaining VNFs in centralized, hybrid, and distributed environments. Unlike closed NFV solutions from many incumbent vendors, Blue Planet leverages an open and vendor-agnostic approach that allows network operators to use the VNFs and NFV Infrastructure (NFVI) of their choice to streamline the definition and creation of innovative NFV-based services.

**Analytics**
**Advanced network analytics products based on AI innovations**
Blue Planet Analytics (BPA) comprises two components: a robust and flexible big data platform for collecting, processing, and storing data from multiple sources across the multi-vendor network and external systems, and analytics applications that leverage machine learning algorithms. With this two-tier approach, operators can shift their focus from managing data to solving business problems — such as ensuring network reliability, optimizing capacity management, and providing consistent services and applications performance.

**NHP**
**An AI-powered application that identifies and preemptively resolves network anomalies that cause outages**
NHP accurately predicts and preemptively prescribes fixes for service-disrupting network anomalies across the multi-vendor network. Its highly interactive interface communicates the most relevant information for operators, providing them with the control and oversight they need to take the most optimal remedial actions.
ROA
Real-time IP/MPLS network visibility to assure and optimize performance of critical services

Blue Planet Route Optimization and Assurance (ROA) products uniquely combine routing, traffic, and performance analytics for real-time, path-aware operational monitoring, and back-in-time forensics to troubleshoot problems that can cause service disruptions. Interactive modeling helps engineers predict the impact of topology changes, simulate new workloads for capacity planning, and test failure scenarios.

Inventory
Federate multiple inventory systems in a real-time, end-to-end view

Blue Planet Inventory (BPI) is a flexible software platform that federates data from multiple existing inventory systems and presents it in a single dynamic view that accurately reflects the current state of network and service resources. The real-time visibility provided by BPI helps providers bridge the gap between IT and network operations, and simplify and optimize critical activities such as service fulfillment, network planning, and service assurance.

MCP
Unified network and service lifecycle management software for Ciena’s optical and packet networks

Blue Planet MCP is Ciena’s domain controller, automating the lifecycle operations of Ciena’s packet and optical networks. It unifies online planning and network and service management through SDN control, increasing service agility and operations efficiency. MCP enables a strategic shift from legacy network management to open, scalable software control that facilitates the simple creation, delivery, and operation of new services across complex network infrastructures.

A programmable architecture

Blue Planet takes a giant leap forward with new, disruptive software advancements to enable operational scale, efficiency, and self-service programmability.

These technology elements include:

- **Microservices-based architecture** – Provides the extensibility to customize and rapidly deploy new technologies without service interruption, integrate with third-party solutions, achieve web scale, and reduce resource utilization

- **Open and technology-agnostic approach** – Leverages open RESTful APIs for integration with OSS/BSS and business applications that drive network operations. Embraces related open standards and reference architectures to help network operators focus on delivering services instead of managing equipment

- **DevOps agility** – Self-service programmability tools and an open community facilitate close collaboration between the operators’ network and IT teams for integrating new resources, expanding network capabilities, deploying new services, and modernizing operations

- **Built on open source** – Architecture integrates 30+ open-source components and is designed to rapidly adopt best-of-breed technologies as they mature

- **Business process modeling** – Simplifies workflow automation and integration with legacy OSS/BSS, making it easy to create, integrate, and operate new services. It also improves the ability to offer programmable self-service tools to end-customers.
The Adaptive Network

The Adaptive Network is Ciena's vision of a new target end-state for service providers. Utilizing automation guided by analytics and intent-based policies, the Adaptive Network rapidly scales, self-configures, and self-optimizes by constantly assessing network pressures and demands. The Adaptive Network is built on three foundational elements: Programmable Infrastructure, Analytics & Intelligence, and, Software Control & Automation. Blue Planet fulfills key roles within the Analytics & Intelligence and Software & Control elements.

Backed by an Open Community

Blue Planet’s DevOps Exchange helps network providers transition to an agile operations approach for supporting today’s increasingly virtualized, on-demand services. This open community includes development tools and learning resources for ecosystem partners and customers that facilitate collaboration, accelerate service creation, and simplify the on-boarding of new resources.