

WHITE PAPER

Intelligent Automation

Driving digital transformation for service providers

Executive summary

Service providers are under pressure to launch more dynamic, on-demand services to keep pace with the competition from both traditional providers and Web-scale content players. At the same time, end-customers have increasingly high expectations for their Quality of Experience (QoE)—they demand the services they want, when they want them, with flawless performance. As a result, service providers are now under pressure to provide a range of service offerings with fast time to market and exceptional quality and performance, all at the lowest possible price and cost. But this is no small feat. Service providers are becoming distanced from their customers, who are devaluing the connectivity itself and rather attributing value to wireless handsets, applications, content providers, media-rich solutions, and cloud providers. This is driving the need to create value in a new digitally transformed manner more so than ever before.

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Blue Planet Intelligent Automation Platform

To succeed, service providers recognize the need to undergo a digital transformation and evolve into Digital Service Providers (DSPs)—they need to apply new technologies and processes to change the way their businesses operate. Historically, however, digital transformation has been limited to IT infrastructure, or solely to network infrastructure. As a result, the majority of service providers have yet to fully realize the business benefits of digital transformation. Since the objective of such transformation is to drive sustainable growth while reducing cost

of operations, this can only be done through a holistic approach that intelligently automates key functions and streamlines the providers' mission-critical business processes that span IT and network, versus looking at these functions in silos.

Ciena's Blue Planet[®] Intelligent Automation Platform uniquely enables closed-loop automation of network and IT operations. Generally speaking, closed-loop automation works by using software elements including analytics, policy, orchestration, and APIs to link the discrete steps within a process workflow, so each step triggers the execution of the next one automatically, and the process can continue indefinitely. Blue Planet takes a unique approach to closed-loop automation by leveraging the wealth of network data generated by instrumented physical and virtual infrastructure to derive business insights that shape network control policies and inform IT systems with real-time information. The analysis of network state and performance data triggers policy-guided actions back into the programmable network, optimizing network planning, service fulfillment, and assurance. This open, data-driven approach optimally aligns and accelerates mission-critical business processes that span the network and IT to deliver faster time to revenue, reduced costs, and ultimately a better customer experience.

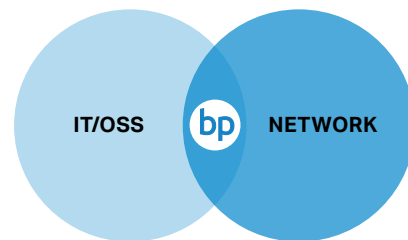


Figure 1. Bridging IT operations and the network to improve critical business processes

While data center operators, global content providers, and large enterprises also pursue the same objective of delivering superior customer service across Web-scale networks, through the use of digital technologies, they are not necessarily impeded by the same challenges as service providers. Due to their relatively shorter operating histories, these organizations have been able to architect network and operational processes using modern automation technologies from the onset. As such, their need to leverage the Blue Planet software suite may not be as acute as that of service providers; however, the benefits of Blue Planet are still relevant.

Businesses constantly must assess market demands and respond to competitive pressures. They need to adapt at a moment's notice with network and IT operations that can rapidly scale, self-configure, and self-optimize. Blue Planet intelligent automation provides the foundation to enable service providers to realize the benefits of digital transformation while achieving greater levels of agility both in their network and IT operations.

Digital transformation: Understanding the roadblocks

The term 'digital transformation' has emerged as a buzzword in the communications industry over the last several years. Tradeshows, industry forums, and providers' business strategies have been heavily centered on this topic. But what does it really mean? What is the end goal? And what progress are service providers really making in realizing the benefits of digital transformation?

In general, digital transformation describes the use of the latest digital technologies by organizations to radically improve their businesses. In the context of service providers, digital transformation means adopting new technologies like automation and virtualization to evolve beyond providing basic connectivity services, and achieve business growth by rapidly offering innovative, high-value services that meet changing customer expectations. Ultimately, becoming a DSP will be rewarded with higher profitability and greater market capitalization. The industry certainly has been making progress along the path to digital transformation, but there is still a long road ahead.

There are a number of challenges that have impeded service providers from realizing the business benefits of digital transformation.

Legacy Operational Support Systems architectures

Service providers' business processes are supported by a complex Operational Support System (OSS) environment of multi-vendor software and systems. As a result of

long operating histories, divestitures, acquisitions, and consolidations, OSS have become numerous and fragmented. Providers' existing OSS, such as fulfillment and inventory, typically consist of multiple, siloed systems intended to support a specific service offering or function. Further complicating the situation is the fact that these systems may be homegrown, others are off-the-shelf, and many have been custom built by third parties. As a result, key operational processes that span these systems, such as introducing a new service, require complex integration supported by slow, error-prone manual processes that are costly to execute and maintain.

In addition, IT-centric cloud and virtualization technologies are taking on an ever-increasing role in overall operations in order to scale cost efficiently. This necessitates fundamental changes to the underlying infrastructure of the systems themselves, yet OSSs are monolithic and dependent on static configurations, with proprietary, fragile interfaces to adjacent systems.

Furthermore, these legacy OSSs are not informed by real-time network information. Historically, offline or batch processing was acceptable, as the network technologies were far more static in nature. Today, as virtualization technologies are introduced alongside traditional hardware-based network infrastructure, OSSs must change to become more in sync with the live operations of the networks they manage. Plus, the majority of OSSs are disconnected from the real-time state of the network and can only provide a static view of existing resources. This leads to a breakdown of mission-critical processes that span IT and network, such as new service creation, order management, and service fulfillment. Without an accurate view of the network, these processes become riddled with errors, ultimately driving higher OPEX and a poor QoE for the end-customer.

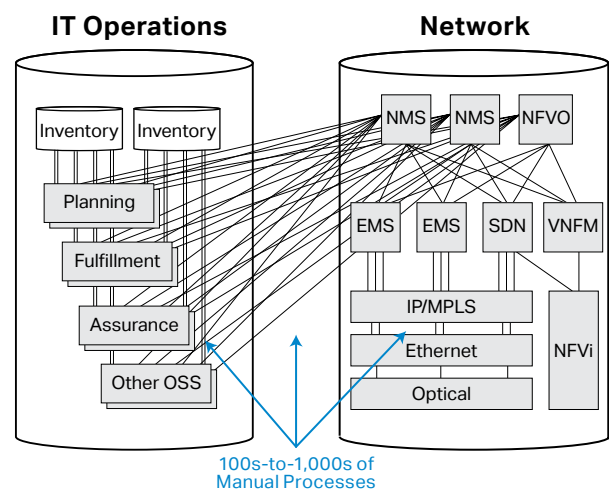


Figure 2. Network and IT are heavily siloed in legacy OSS architectures

Data inaccuracy

Accurate inventory data is a key challenge associated with realizing the full benefits of automation and achieving smarter, more agile network transformation. Within service providers and enterprises, inventory data is spread across multiple stand-alone inventory systems, creating silos. For example, there is optical network inventory data (device, port, capacity, channels, etc.), geolocation inventory data (for example, a router is located on the third floor of a building at this address), and passive network equipment data (patch panels, cross-connects, etc.), as well as data on service states. This data exists for multiple domains (such as access, metro, core) and network layers (such as optical, Ethernet, IP). It is not uncommon for large Tier 1 carriers to have more than 15 different inventory systems, both vendor-supplied and internally developed. Service providers have steadily built overlay network infrastructure and OSS systems to meet each new service demand. The number of inventory systems also has grown for historical, business, and organizational reasons. This proliferation of OSS silos, with different software stacks and different data structures, leads service providers to over-engineer, and increase capacity of network resources to minimize order failure and loss of revenue. What is needed is a unified view of all elements in a service provider's network, passive and active, across all domains and layers.

Inability to orchestrate and assure service performance across multiple network layers and domains

The challenges of digital transformation are not just contained to IT/OSS; they go deeper into the network. Network infrastructure has been built up over many years and, as such, comprises many technologies and layers that are not necessarily optimized to meet dynamic market demands or cost and profitability pressures. As services become more complex and providers want to move to more virtualized environments, many providers lack the ability to rapidly create, deploy, and automate the end-to-end delivery of services across both physical and virtual networks, not to mention multiple network layers and vendor domains. Even when a service is up and running, providers are challenged to then assure the operation and performance of that service. Many providers do not have the ability to optimize the performance of services across multiple domains (access, metro, core) and multiple network layers (optical, Ethernet, IP). Nor do they have the ability to dynamically re-route traffic as needed if there is a problem on the network. Not only does this impede their ability to deliver on SLAs, it also limits their ability to optimize the allocation of network resources.

Lack of skilled resources

The service provider workforce is aging, and specialized skills are leaving the industry due to retirement and attrition. New entrants are far less interested in managing legacy technologies and platforms and, therefore, there is time urgency to retire legacy OSSs while introducing a new breed of disruptive automation, analytics, and policy-driven solutions. Transformation serves to address this loss of skilled labor, as well as the need for improved operational cost efficiency. On the other hand, there may also be a shortage of labor skilled in the latest DevOps methodologies, cloud-native architectures, and open-source technologies. This knowledge often has to be developed in house through extensive training and leveraging of expert consultants and professional services.

Stop-gap approach to managing hybrid networks

Software-Defined Networking (SDN) and Network Functions Virtualization (NFV) have yet to deliver truly transformative cost curves for both equipment and operations. In many cases, in fact, operations costs have risen due to the introduction of virtualized network technologies, while existing networks have remained very much alive and integral to the core business. The mix of new and legacy systems is not a temporary state; rather, hybrid networks and operations are a reality for the foreseeable future that must be strategically addressed as part of any digital transformation initiative. In the past, interfaces between new and legacy systems were implemented as short-term measures, often involving manual steps. As a result, they were unable to scale as the business grew. However, given long-term hybrid operations, software interfaces must now enable end-to-end automation across a diverse mix of physical and virtual functions.

Lack of modern analytical tools and automation to continually improve operational effectiveness

Many providers have access to a wealth of data about what is happening on their networks and the performance of the services and applications running on top of them, but lack the ability to mine meaningful business insight from this data, such as visualizing and identifying trends to create more profitable services, better predicting capacity requirements, and anticipating potential network and service disruptions before they happen. To truly optimize the performance of mission-critical business processes that span IT and network operations, providers need to implement an analytical approach using systems that turn data into insights and greater operational and situational intelligence.

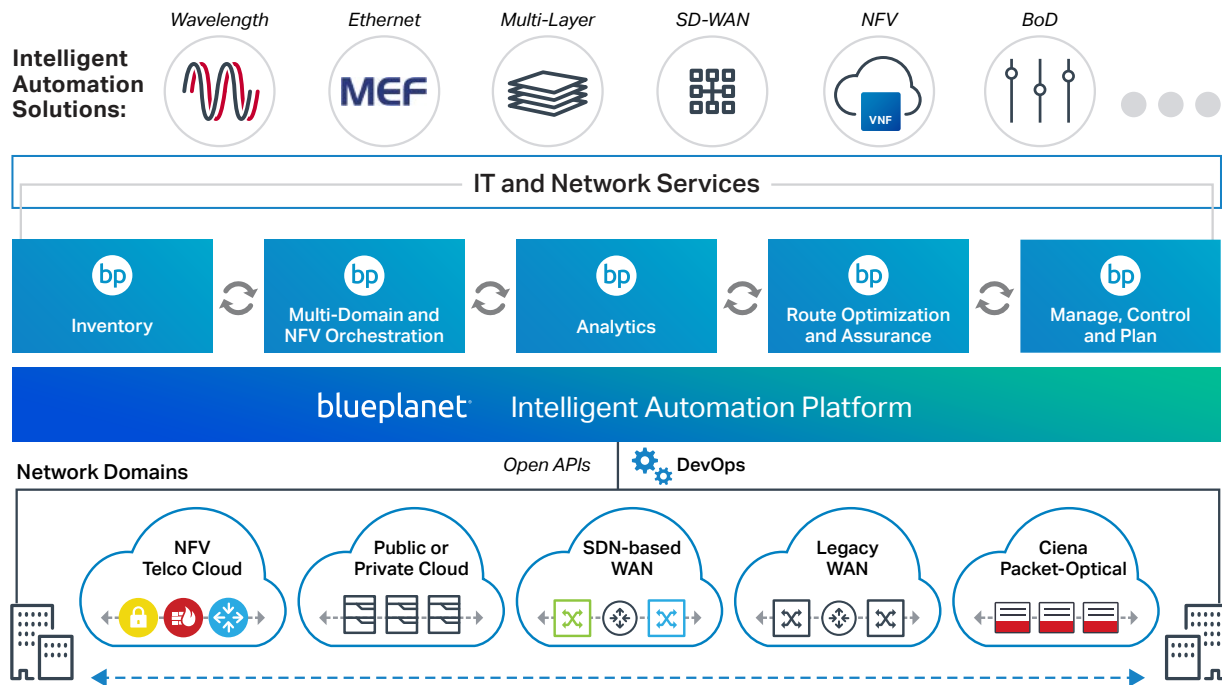


Figure 3. Blue Planet intelligent automation software

Most service providers today are selecting vendors with best-in-suite capabilities for strategic operational transformation roles. The providers know that their customers have different requirements that require more flexible products and services to be delivered more dynamically. At the same time, they are struggling to fund such operational transformation projects.

Ciena believes the solution to address these many challenges is based on a closed-loop automation approach that leverages multi-domain, multi-layer orchestration coupled with inventory federation, analytics, and route optimization and assurance capabilities, enabling the DSPs to align their internal operations and processes across IT and the network. Ciena refers to this as intelligent automation.

Blue Planet intelligent automation

Blue Planet offers closed-loop, intelligent automation through its comprehensive software suite (Figure 3). Although based on a common platform, Blue Planet products can be deployed individually or in any combination to support the lifecycle of a wide variety of business processes and service offerings including WAN automation, SD-WAN, cloud connect, edge computing and virtualization, virtualized managed services, virtualized Customer Premises Equipment (vCPE), Bandwidth on Demand (BoD), and many more.

Inventory

Blue Planet Inventory (BPI) provides a unified, or federated, view of all network and service resources across a provider's infrastructure, synchronizing and leveraging information from existing legacy systems where available. When integrated with Blue Planet Multi-Domain Service Orchestration (MDSO), this federated inventory becomes informed with real-time information from across multiple domains and layers of the network to support intelligent automation of network services and critical operational processes (such as service creation and fulfillment). Having a single source of truth of the live state of the network significantly lowers order error rates, accelerating time to revenue, improving network resource planning and utilization, and lowering OPEX and CAPEX.

Multi-domain and NFV orchestration

Blue Planet MDSO and NFV Orchestration (NFVO) allow service providers to dynamically create, deploy, and automate the end-to-end delivery of services across both physical and virtual networks. They provide a scalable and open software abstraction layer that enables seamless service automation across any mix of vendors and network layers, helping providers eliminate management silos and drastically simplify network operations. Leveraging an agile, DevOps-style approach toward resource onboarding and service development, orchestration allows customers to easily and rapidly incorporate new networking resources and bring innovative new services to market.

Route Optimization and Assurance

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

Analytics

Blue Planet Analytics (BPA) provides a robust and flexible framework for acquiring and storing data from multiple sources across the network and leveraging machine learning and AI innovations to provide insights that help customers make smarter, data-driven business decisions. These insights are used to shape policies that in turn trigger software-controlled actions to be taken by MDSO and implemented in the network. BPA gives service providers the ability to visualize and identify trends to create more profitable services, better predict capacity requirements, and anticipate potential network and service disruptions before they happen.


Manage, Control and Plan

Blue Planet Manage, Control and Plan (MCP) provides an SDN-based domain controller for automating Ciena packet-optical network and service operations. By unifying online planning, network management, and service provisioning and assurance, MCP marks a strategic shift from legacy network management software. Just like other third-party controllers, the software interfaces seamlessly with MDSO through the use of open REST APIs, enabling MDSO to orchestrate services end to end across any vendor's infrastructure.

Architected to evolve with business needs

All Blue Planet products are built upon the principles of extensibility, ease of use, and scalability. It is a cohesive suite built upon a common platform using the most advanced software technologies and methodologies available in the industry today. These include:

- **Microservices-based architecture**—Provides the extensibility to customize and rapidly deploy new technologies with no service interruption, achieve Web scale, reduce resource utilization, and ensure smooth migration to cloud-native networking
- **Open and technology-agnostic**—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**—Self-service programmability tools and an open community facilitate collaboration between the provider's network and IT teams for integrating new resources, expanding network capabilities, deploying new services, and modernizing operations. The DevOps approach means designing, developing, and deploying the service that best suits the needs of the service provider can be done quickly, with all teams on board
- **Open source**—Architecture integrates 30+ open source software components and is designed to rapidly adopt best-of-breed technologies as they mature



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Advanced analytics and intelligent automation

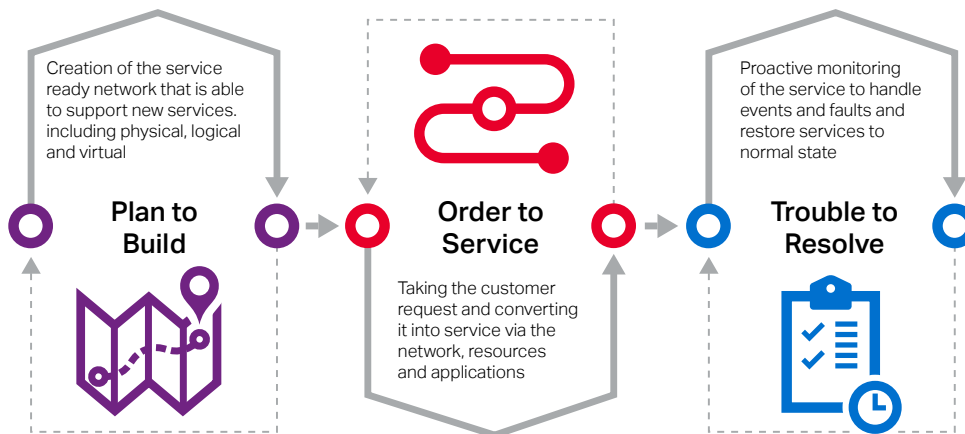


Figure 4. Mission-critical processes for a service provider's business

- **Graph-based data federation**—Powerful visualization of inventory and assurance data, that has been federated across multiple systems, provides a unified, accurate view of the network and supported services
- **Business process modeling**—Simplifies workflow automation and integration with legacy OSS/BSS, making it easier to create, integrate, and operate new services. Also improves the ability to offer programmable self-service tools to end-customers

Blue Planet augments its intelligent automation software capabilities and leading architecture with highly skilled IT and network operations experts, including software developers, solution architects, and delivery experts. This proven services know-how allows Blue Planet to support its customers in their digital transformation strategies, reducing risk and ensuring their success.

Enabling a pragmatic approach to digital transformation

Within a service provider, three interconnected network and IT processes are integral to business operations: Plan to Build, Order to Service, and Trouble to Resolve (Figure 4). Blue Planet enables providers to successfully transform into digital businesses by re-evaluating and optimizing these critical processes, leveraging the key elements of intelligent automation—analytics, policy management, multi-domain orchestration, federated inventory

management, network and service topology and visualization, and route optimization and assurance.

To understand how this intelligent automation approach accelerates key business processes, consider the diagram in Figure 5. Each service provider line of business has a product catalog of services that span any mix of network infrastructure domains. For example, an enterprise service may span IP as well as optical network layers. To fulfill their business functions, operations personnel have historically relied on IT systems that use myriad static inventory systems on a per-domain basis. These inventory systems are not synchronized and lack data integrity, since they do not reflect the real-time view of the network. Multiple assurance systems also exist on a per-domain basis. These contain real-time performance metrics, yet are not correlated, making it impossible to determine how issues in one domain impact end-to-end services that cross multiple domains.

Blue Planet intelligent automation federates per-domain information and correlates real-time network data to present a single, accurate view of the network resources to the lines of business, providing the ability to create customer services that combine any domain resource and manage the lifecycle of operations for that service across multiple vendors or hybrid physical and virtual network infrastructure. The single

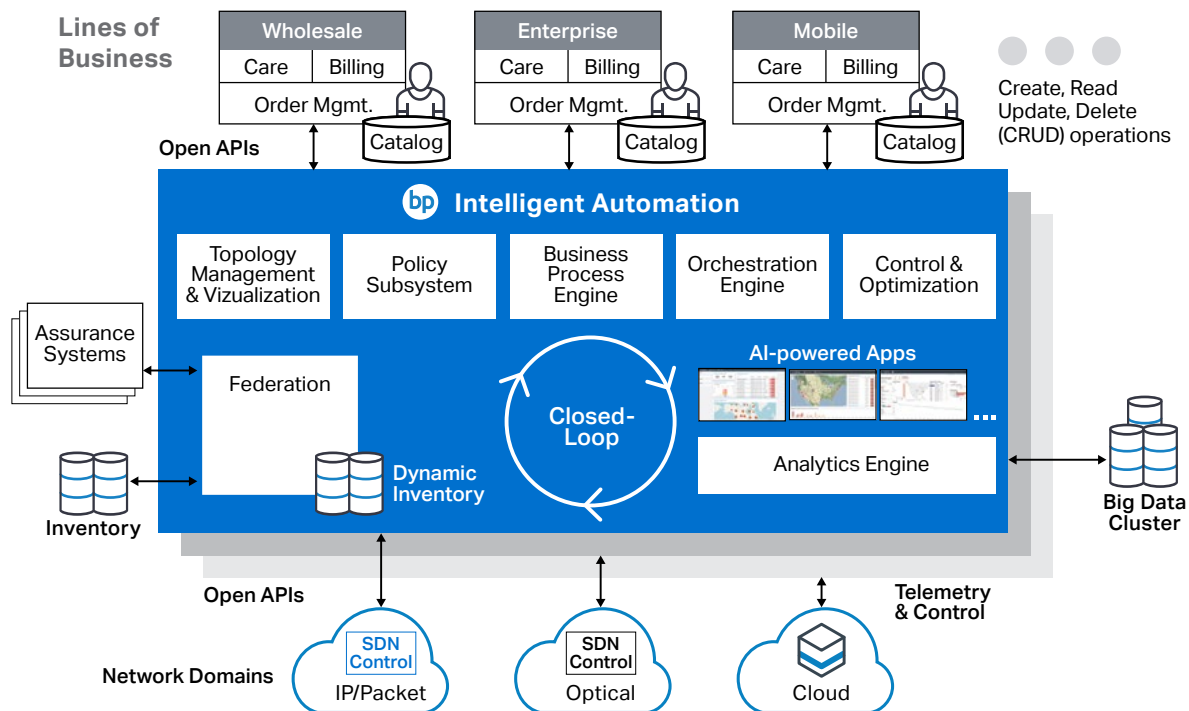


Figure 5. The Blue Planet closed-loop intelligent automation approach spans network and IT operations

Blue Planet interface northbound to the business systems abstracts the complexity of the underlying multi-domain infrastructure; Blue Planet interfaces southbound to the multiple SDN controllers and management systems, typically on a per-vendor basis, which are each responsible for software control of their specific network domain. This abstraction of multiple domains greatly accelerates and simplifies holistic business operations connecting IT and the network. This operations architecture has become broadly accepted in principle throughout the service provider industry. While the architecture is mostly agreed, significant challenges remain on the appropriate implementation technologies needed to create this operational model in production. The Blue Planet Intelligent Automation Platform is built specifically to provide all or a subset of the solution components required to realize this digitally transformed view of operations.

Optimizing and accelerating network and IT operations

To see how Blue Planet intelligent automation software works to deliver business value for the service provider, consider the Order to Service process. The service provider has a complex multi-layer and multi-domain optical, Ethernet, and IP network, with multi-vendor infrastructure supporting end-customer services such as mobile backhaul, enterprise services, and cloud connectivity. In legacy operations approaches, each network layer is treated as its own separate domain, with separate inventory, management, and assurance systems that are not correlated with one another. To complete service fulfillment tasks across multiple layers, operations personnel expend tedious manual effort, leading to high service order error rates and slow service delivery. Not only does this result in high OPEX, but network resources are inefficiently utilized and the service provider is unable to provide on-demand services without additional CAPEX outlay—not a good business model for the service provider.

With Blue Planet intelligent automation, the service provider can ensure optimal use of network assets, accelerating service delivery in an automated manner to grow revenues and reduce OPEX (Figure 6).

1. First, Blue Planet federates existing multiple static inventory systems to unify the view of network resources.

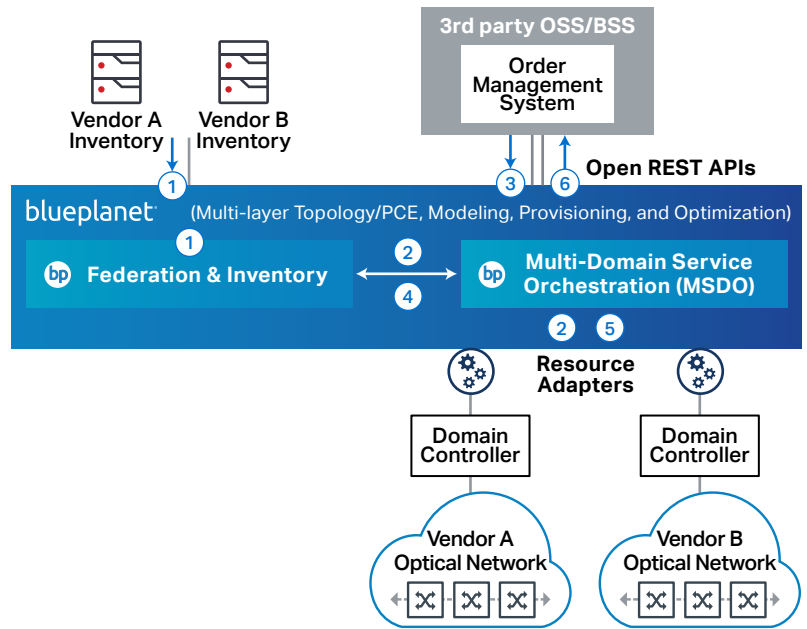


Figure 6. Order to Service intelligent automation with Blue Planet

2. That view is synchronized via Blue Planet MDSO with real-time network data and resolves discrepancies, ensuring data integrity.
3. As customers request on-demand services, the Order Management System triggers Blue Planet MDSO with an intent-based order to turn up service from one endpoint to the next.
4. Armed with a real-time, federated view of network assets from Blue Planet Inventory, and with the knowledge of inter-domain topology, Blue Planet MDSO can determine whether service requirements can be fulfilled end to end.
5. It then triggers an automated workflow in Blue Planet MDSO to provision the end-to-end service across multiple vendor domains, interfacing with individual domain controllers.
6. Upon receipt of acknowledgement from all controllers, Blue Planet MDSO notifies the Order Management system, which notifies the customer of the deliver status. All this is done in a matter of minutes, not weeks.

The tangible benefits of intelligent automation are evident in the comparison of elapsed time and effort required to complete the Order to Service process using legacy manual methods versus the Blue Planet intelligent automation approach. Figure 7 provides an example of the positive business impact based on an actual service provider deployment of Blue Planet intelligent automation software

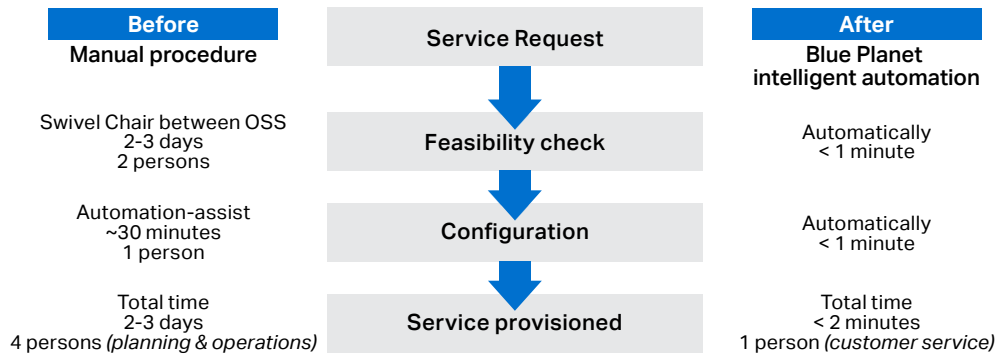


Figure 7. Blue Planet intelligent automation accelerates the Service to Order process from weeks to minutes

Alignment with industry best practices

How does Blue Planet intelligent automation fit in the context of industry best practices? TM Forum is the key industry association that has documented standardized service provider business processes. The Forum defined a holistic Enhanced Telecom Operations Map (eTOM) business process framework, to which service providers around the world adhere. Blue Planet intelligent automation provides the platform on which transformational changes in all areas of the eTOM framework can be implemented.

Figure 8 shows the mapping of the Blue Planet software suite to the eTOM framework. For example, the Blue Planet inventory federation capabilities assist in service configuration and resource provisioning, complementing Blue Planet MDSO and NFVO for end-to-end service and resource management. On the assurance side, Blue Planet ROA capabilities address multi-layer service problems and service quality, and Blue Planet Analytics insights enable superior resource trouble management and resource performance management. The Blue Planet integration of real-time network data can also inform billing and revenue management to drive better customer experiences.

While eTOM is the de facto industry model for reference and comparison of operations functions and systems, it fails to express the complexity and nuance of interaction between functions and the related infrastructure. This is no criticism of the model per se. It is an attribute of the manner in which operations have been historically constructed and managed. While the Blue Planet intelligent automation software does provide valuable functions represented within eTOM, its greater purpose is to break down the traditional silos and separation between networks, IT, and the many systems and functions within operations.

Ciena believes the most important role eTOM plays in the industry is as a reference architecture for defining the functional software components service providers require to support end-to-end lifecycle service orchestration and network automation. In that respect, Blue Planet is focused on aligning with the eTOM architecture wherever possible to ensure the respective architectural modules in both platforms are functionally compatible. As a silver member of the Open Networking Automation Platform (ONAP) project, Ciena is also participating in the discussions around the ONAP architecture, and the standardization of interfaces between the modular components. ONAP reference architecture may be supported and implemented in part based on the Blue Planet Intelligent Automation Platform.

Lastly, Blue Planet is actively interacting with ONAP implementations using open standard APIs. Ciena's Blue Planet team contributes to the development of open standard APIs with industry organizations such as the TM Forum and MEF, which focus on interoperability between OSS/BSS and orchestration platforms. The use of these APIs for Blue Planet and ONAP interoperability has been demonstrated in multiple public Proof of Concepts, conducted jointly with Tier 1 service providers such as AT&T, Orange, Vodafone, and Telstra, using the MEF Sonata and Cantata APIs as well as the TM Forum TMF622, TMF633, and TMF640 APIs.

Collectively, by aligning, integrating, and interoperating with open standards, Blue Planet complements the open source platform as a hardened and ready-to-deploy solution that allows service providers to accelerate their network automation and digital transformation initiatives.

Operations	Operations Support & Readiness	Fulfillment	Assurance	Billing & Revenue Management
Customer Relationship Management	CRM Support & Readiness	Selling Marketing Fulfillment Response Order Handling	Customer Interface Management Problem Handling Customer QoS/SLA Handling	Billing Mgmt. Charging
Service Management & Operations	bp SM&O Support & Readiness	bp Service Configuration	Retention & Loyalty Service Problem Mgmt. bp Service Quality Mgmt.	Services Mediation
Resource Management & Operations	RM&O Support & Readiness bp Manage Workforce	bp Resource Provisioning	Resource Data Collection & Distribution Resource Trouble Mgmt. bp Resource Performance Mgmt.	bp Resource Mediation & Reporting
Supplier/Partner Relationship Management	S/PRM Support & Readiness	S/P Requisition Management	S/P Problem Report Mgmt. bp S/P Performance Mgmt.	S/P Payment Management
			Supplier/Partner Interface Management	

Figure 8. Blue Planet mapping within the TM Forum's eTOM framework

Intelligent automation and the Adaptive Network™

Although intelligent automation is crucial to achieving digital transformation, Ciena believes there is a bigger end game when intelligent automation combines with a network infrastructure (physical and virtual) that is able to accept software-control commands, implement them dynamically, and generate real-time data and telemetry about the modified network state and performance. Ciena has synthesized this vision of a new target end-state for providers in the Adaptive Network. The Adaptive Network utilizes automation, guided by analytics and intent-based policies, to rapidly scale, self-configure, and self-optimize by constantly assessing network pressures and demands. It is built on three key foundational elements:

- 1. Programmable Infrastructure:** A programmable packet and optical infrastructure is one that can be accessed and configured via common open interfaces; is highly instrumented, with the ability to export real-time network performance data; and can adjust its resources as needed to meet the demands of the applications running on top of it.
- 2. Analytics and Intelligence:** Collecting network performance data and analyzing this data using machine learning and Artificial Intelligence (AI) provides the ability to more

accurately predict potential network problems and anticipate trends by turning mountains of data into actionable insights. Leveraging these insights can help network providers develop smarter data-driven business policies that enable them to adapt to customer needs securely, in real time.

- 3. Software Control and Automation:** Multi-domain orchestration, federated inventory, and centralized, software-defined control of individual domains form the basis of adaptive networking. Through the implementation of SDN, NFV, and open APIs, providers can simplify the end-to-end management and automation of network services across multi-vendor, hybrid networks.

Ciena delivers on this vision through its Blue Planet Intelligent Automation Platform, in combination with its leading-edge optical and packet infrastructure. As part of the Adaptive Network vision, Blue Planet provides the analytics, intelligence, and software control and automation capabilities required to drive closed-loop automation across both network and IT operational processes. In the larger context of the Adaptive Network, intelligent automation enables service providers to adapt their businesses holistically, effectively closing the network/IT operations gap that exists today.

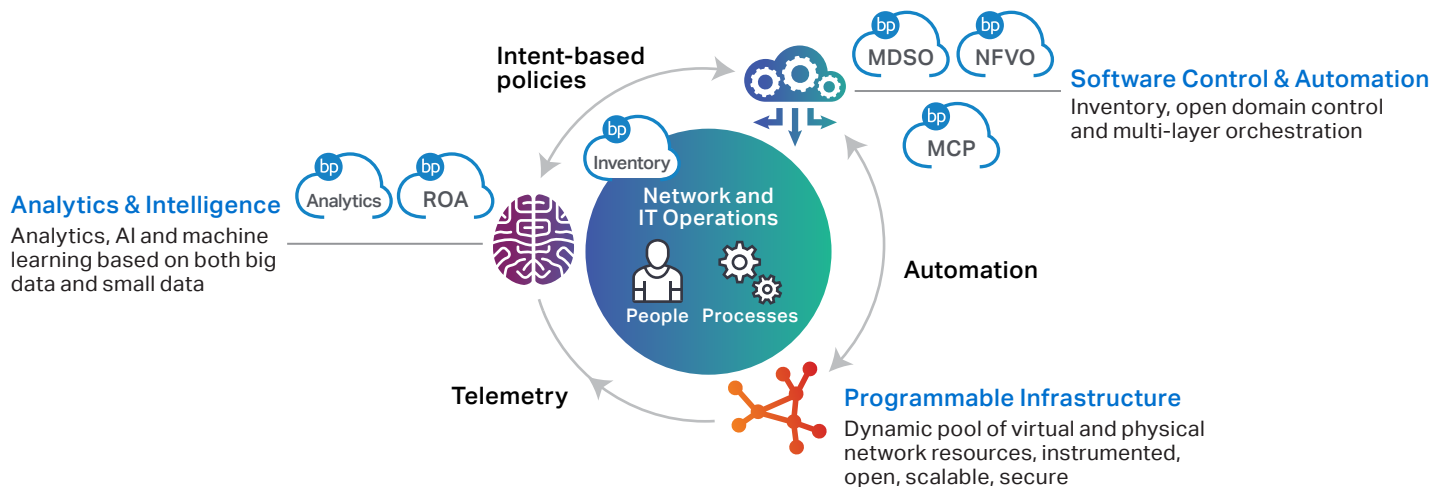


Figure 9. Blue Planet intelligent automation plays a critical role in the Adaptive Network vision

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The Adaptive Network vision

Blue Planet: The first choice in digital transformation

Service providers are striving to outpace their competition to meet the ever-increasing expectations from end-customers for differentiated and on-demand services, high bandwidth, and high QoE. To succeed, providers know they need to undergo a digital transformation—making their IT and network operations smarter and more agile so they can adapt to changing market dynamics more quickly and remain relevant to their markets.

Blue Planet intelligent automation enables service providers to succeed in their digital transformations. It brings together best-in-class multi-domain, multi-layer orchestration, inventory federation, analytics, and route optimization and assurance capabilities. Built upon an open, micro-services-based infrastructure, these capabilities work together to achieve a closed-loop approach to intelligently automating mission-critical business processes that span IT and the network. Complemented by highly specialized professional services experts in both IT and network operations, Blue Planet minimizes customers' risk and ensures digital transformation success.

This approach is unique in the industry. Where other vendors primarily have automation expertise in IT domains (BSS/OSS) but little experience in networking, others have expertise in network automation, but little experience in IT. Blue Planet provides both. Furthermore, unlike most competitors who offer either highly proprietary closed or customized solutions, Blue Planet provides an open, programmable platform that can be leveraged for continued enhancements using DevOps methodologies.

Blue Planet software and services enable service providers to evolve from the constraints of their legacy environments into DSPs focused on business growth. Blue Planet equips DSPs with a more agile operational approach that supports the live synchronization and automation of both IT systems and network infrastructures, increasing their ability to operate across multiple network layers and domains with greater insight and intelligence. The end result is closed-loop automation that increases operational flexibility to deliver a better customer experience, while driving top-line revenue growth.

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