

IBM Cloud Pak for Network Automation

Zero-touch network operations
with AI-powered automation

Communications service providers (CSPs) provide a vital lifeline for citizens and enterprises globally, and even more so today, as unpredictable events can drive massive changes in network needs and traffic patterns overnight. Modern challenges require modern networks, and CSPs must embrace cloud and virtualization as they look to deliver the 5G and edge computing services that will drive growth and improve customer experiences. Increasingly, CSPs consider automation and AI as essential to their businesses.

“Intelligent automation is a pre-requisite for CSPs in their journey to remain profitable and relevant. Without it 5G will simply be more of the same.”¹

AI and automation are two drivers of this transformation. In fact, according to Appledore Research, the network automation software market will grow 5 times in the next 5 years—reaching up to USD 25 billion by 2025.²

In fact, 76% of leading CSPs surveyed are using or plan to use AI to automate self-diagnostics and problem detection.³ Yet limited automation and the lack of real-time visibility across the total network, and dynamic converged environments, have hindered their ability to deliver services fast enough and substantially reduce costs.

IBM Cloud Pak® for Network Automation is an AI-powered, telco cloud platform that enables the automation of network operations so CSPs can transform their networks, evolve to zero-touch operations, reduce operating expenses (OpEx) and deliver services faster. CSPs can now rapidly design, deploy and scale new services in minutes instead of days so customer service response times can be improved by up to 6x.⁴

Highlights

- Improve business process and service assurance while lowering operations costs.
- Design, test and deploy services in minutes instead of days or weeks and evolve to zero-touch operations.
- Run on any cloud, anywhere and manage any network vendor infrastructure.
- Can be combined with IBM Cloud Pak for Watson AIOps to provide proactive network operations.
- Open IBM and Red Hat® ecosystem to rapidly onboard certified VNFs/CNFs.

Capabilities

IBM Cloud Pak for Network Automation provides a full suite of automation and AI features to orchestrate, operate and optimize multivendor network functions and services while evolving to autonomous operations. By combining IBM Watson® AIOps technology from the IBM Cloud Pak® for Watson AIOps, you can gain insight to both improve client experiences and drive network efficiencies. In addition, IBM and Red Hat® open-source industry leadership, coupled with a joint multivendor ecosystem, allows CSPs to rapidly onboard certified virtualized network functions (VNFs) and containerized network functions (CNFs).

Normalized lifecycle modeling

Standardized operations for all network functions (xNFs) to enable model-driven automation with continuous integration continuous delivery (CI/CD) toolchains

Intent driven orchestration

Models the desired service operational state rather than preprogramming workflows

Service design and testing

Automation for the service itself and underlying resources for test, preproduction, and production environments

Dynamic service assurance

Real-time view of network and cloud infrastructures using AI to drive decision-making and process automation

Closed-loop operations

Automated feedback loop between assurance and orchestration to enable zero-touch operations

IBM Cloud Pak for Network Automation allows CSPs to virtualize and modernize operations support systems (OSS) and business support systems (BSS). This enables the support of dynamic operations management for fast-changing virtual or container network services in production.

The utilization of advanced analytics, machine learning (ML) and AIOps further helps to discover hidden patterns and trends so CSPs can continuously optimize network operations and performance with minimal human intervention.

By combining with IBM Cloud Pak for Watson AIOps, CSPs can realize AI-infused preventive intelligence for proactive operations and drive faster problem resolution from start to finish. Benefits realized include:

- Anomaly detection
- Patented AI entity linking
- Fault localization and blast radius
- Change risk management
- Runbook automation

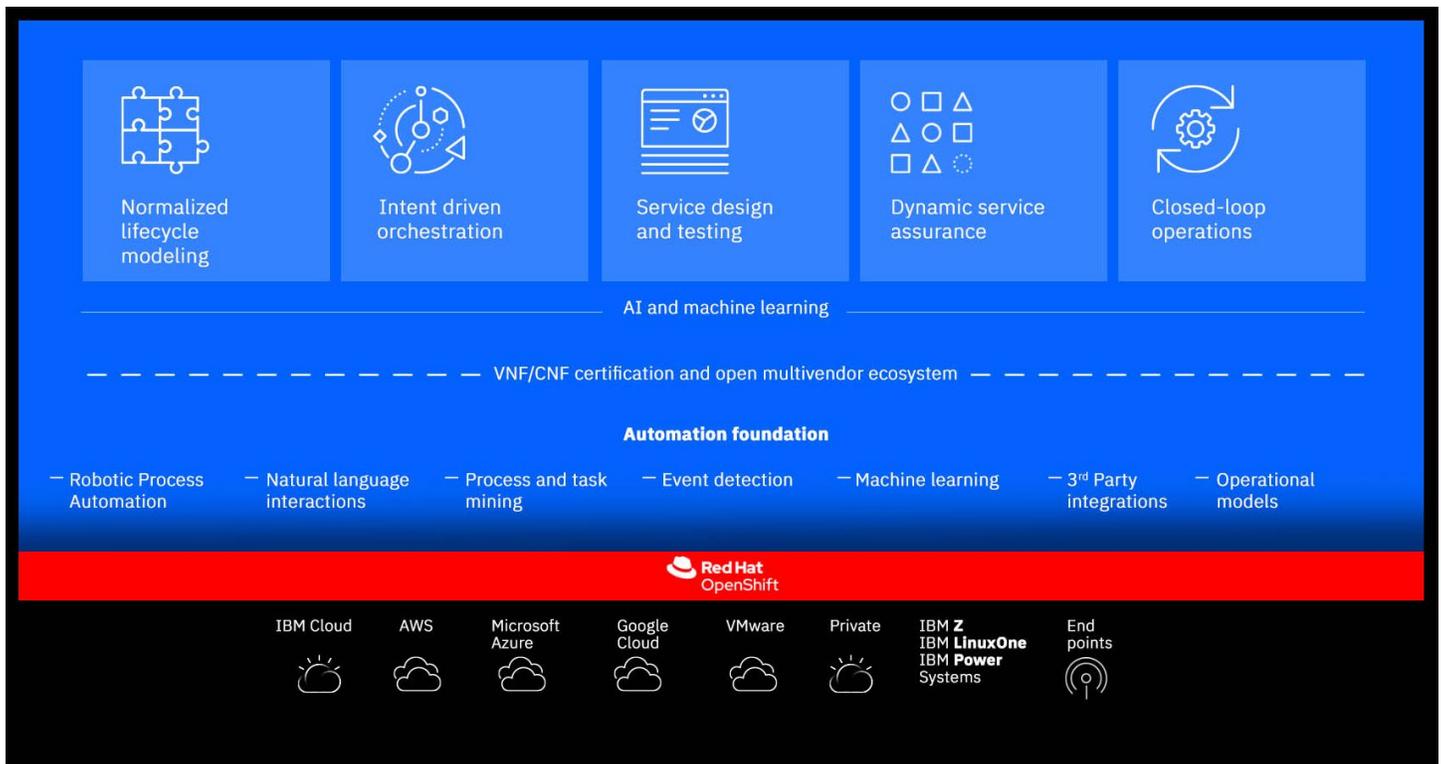


Figure 1: IBM Cloud Pak for Network Automation marketecture

Summary

IBM Cloud Pak for Network Automation helps CSPs reduce operational costs, deliver services faster, onboard network functions with greater ease from any vendor and evolve to zero-touch operations.

Improve business process and service assurance while lowering operations costs.

Allows users to continuously optimize both business processes and network operations. Combined with IBM Cloud Pak for Watson AIOps, CSPs can gain insights across complex data sets to proactively detect and resolve anomalies with closed-loop operations before they impact end users. Customer service response times can now be improved by up to 6x.⁴

Accelerate the delivery of networks and services through AI-powered automation.

Provides a single point of control with intent-driven orchestration so users can now model the desired service operational state, rather than manually preprogramming workflows. CSPs can rapidly design, deploy and scale new services in minutes instead of days with up to 80% less operations effort.

Run on any cloud, anywhere, and manage virtually any network vendor infrastructure.

It's open and optimized for hybrid multicloud, multivendor core, access and edge networks. IBM Cloud Pak for Network Automation is built on Red Hat OpenShift® software, a leading container platform, and offers an ecosystem to rapidly onboard certified VNFs and CNFs. Almost 30% of the top Fortune Global 500 companies use OpenShift, including two of the top three telecommunications companies.

IBM brings the depth and breadth of our industry expertise, with an open ecosystem of value-added partners, to modernize and monetize networks. With IBM's AI-powered automation, CSPs can execute data driven decisions to improve profitability, accelerate growth, deliver services faster and provide better customer experiences.

IBM Cloud Pak for Network Automation is part of the IBM Automation platform, a set of shared automation services that help you get insight into how your processes run, visualize hotspots and bottlenecks, and use financial impact information to prioritize which issues to address first.

For more information

Learn how to rapidly design, deploy and scale new communication services in minutes while reducing costs with IBM Cloud Pak for Network Automation. Contact your IBM representative or IBM Business Partner, or visit ibm.com/cloud/cloud-pak-for-network-automation for more information.

Why IBM?

IBM Cloud offers the most open and secure public cloud for business with a next-generation hybrid cloud platform, advanced data and AI capabilities, and deep enterprise expertise across 20 industries.

IBM offers a full stack cloud platform with over 170 products and services covering data, containers, AI, the Internet of Things (IoT) and blockchain. To learn more, visit ibm.com/cloud.

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- 1 "IBM Telco Network Cloud Manager: Take a revolutionary path to 5G cloud native," *Appledore Research*, June 2020, ibm.com/downloads/cas/WOKLW0GD
- 2 "Network Automation Software Forecast 2020 to 2025," *Appledore Research*, 30 October 2019, appledoreresearch.com/report/network-automation-software-forecast-2020-to-2025
- 3 "Re-envisioning the CSP network: How adaptable, thinking networks pave the way for 5G," *IBM Institute for Business Value*, June 2019, ibm.com/downloads/cas/73NVRNRY
- 4 "Nextel: Bringing AIOps to network operations," *IBM case study*, October 2018, ibm.com/case-studies/nextel-networkops-video

