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HCL TECHNOLOGIES

NETWORK AUTOMATION

EXECUTIVE SUMMARY

Digital Darwinism is unkind to those who procrastinate. 52% of the names which were on the Fortune 500 list in 2002 are now gone. Technology is evolving faster than enterprises can comprehend, and these rapid developments have created a new economic landscape which continues to exert pressure across every aspect of a business. The result is a shorter innovation cycle, and mandatory changes on almost every level.

Therefore, the network is no longer what it used to be. Over the past two decades, enterprise networks have undergone a series of transformations, evolving from large mainframe computers to the client-server PC, and finally to a world of virtual and easily accessible applications. Compared to earlier static environments, network services today operate in a dynamic environment by utilizing virtualized architectures. Efficiently utilizing all available network resources, workflows need to span multiple platforms, and business applications. This has made IT teams innovate more than ever. Old-school, tedious, and manual configurations from the Command Line interface (CLI) were vulnerable to human error, needed longer periods for provisioning new devices and provide inadequate visibility into the network. This posed significant challenges for today's workforce.

WHAT IS NETWORK AUTOMATION

The journey towards fast, flexible and agile has begun for every enterprise, whether large or small. With IT budgets remaining low, enterprises want to optimize their network infrastructure for 'out of the box' performance. This is where network automation comes in. Using IT controls to supervise and execute everyday network management functions, network automation solves some of the most pressing challenges that enterprises face today. It promises an improved ROI along with assured risk mitigation, and compliance management. Through advanced features—such as interactive dashboards, in-built expertise for predictive performance, fault monitoring, and root cause analysis—enterprises can gain actionable insights into network intricacies

NEED FOR NETWORK AUTOMATION

A surge in network management cost, lack of effective change management, and adapting to new technologies (like cloud and virtual environments) are some of the hurdles common to every enterprise.

Network automation is fast becoming a requirement for the increasingly complex enterprise networks. They are still struggling with network complexity and labor intensive operations. This has reduced the possibility of scalability. What automation offers is a solution that simplifies the complete operational lifecycle of network devices, from provisioning to policy-based change management, compliance, and security administration.



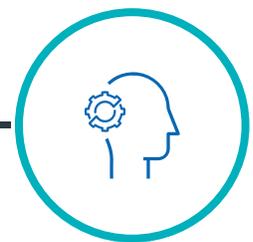
AI enabled
Systems
and Proactive
Threat Mitigation



Pragmatic
& Pro Human
Enablement



Machine Learning
and Cognitive
Computing



Autonomics and
Orchestration

Realizing unprecedented possibilities and designing a futuristic roadmap for scaling, the solution allows enterprises to automatically process configuration changes in a consistent manner. Besides reducing the possibility of human errors, it takes the load off the network administrator by reducing downtime, and identifies latent problems in the network.

NETWORK AUTOMATION OFFERS SEVERAL BUSINESS BENEFITS:



IMPROVED STAFF EFFICIENCY AND INCREASED ROI

Quickly detect changes, enforce security policies, backup configurations, and execute changes without tedious command line interface (CLI) processes (Resources can be redirected to other tasks to significantly improve the ROI)



REDUCE RISK AND BUSINESS LOSS

Continuous adherence to internal best practices and ensuring consistency in network performance, through continuous monitoring and vigilance



NETWORK CONFIGURATION MANAGEMENT

Pushing bulk configurations on devices and ensuring consistency



NETWORK AGILITY

Enable new services by supporting both traditional network environments and virtualized constructs; instant bare metal provisioning of virtual devices and hardware devices, leading to cost savings



BLIND SPOT ELIMINATION

Eliminate blind spots and reduce trouble shooting time through network discovery and topology mapping



JOB SCHEDULING

Eliminate repetitive tasks through job scheduling, and utilize workforce for high-priority tasks



COMPLIANCE MANAGEMENT

In-built industry best-practice standards, for compliance and regulatory purposes



NETWORK INSIGHT

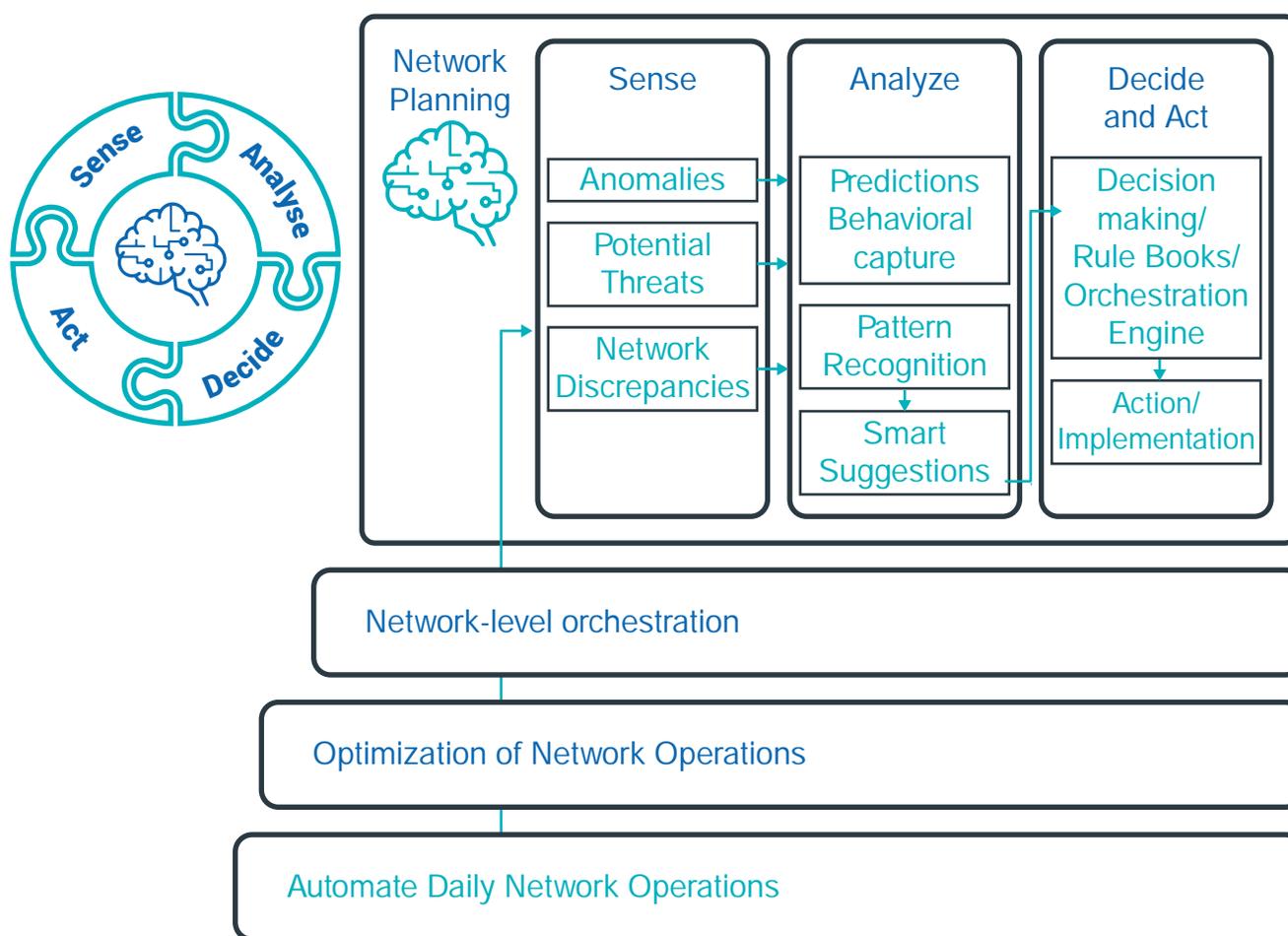
Executive level dashboards with insights into overall network score, along with health and compliance

THE PATH TOWARDS NETWORK AUTOMATION

An efficient network automation solution starts with a script, then progress to intelligent control through integration with best available tools, and then take a stride towards policy driven automation through a software defined platform.

A vital question for IT managers is how virtualized servers, storage and network elements can be managed together in order to create a flexible and agile environment. Since different vendors offer niche solutions for specific pain areas, automation technology must remain vendor agnostic so that the enterprise can reap the benefits through seamlessly integrating tools from a gamut of providers.

Enterprises foresee a framework where both public and private clouds coexist, forming a hybrid architecture. Network automation will be responsible for integrating on and off premises workloads to ensure consistency.



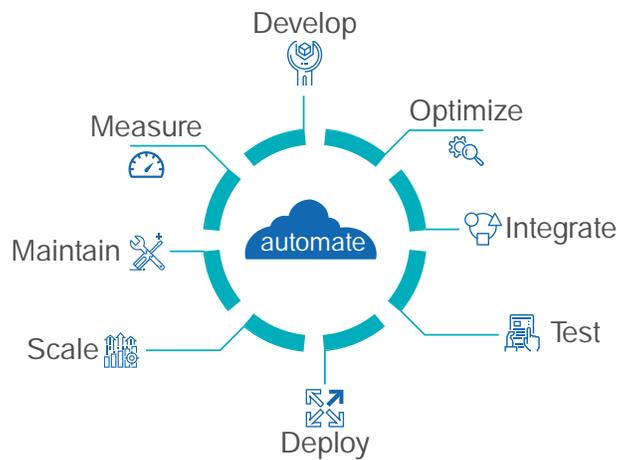
Incorporating the best features from all available network automation tools, enterprises can transform their network by implementing customized solutions that best fit their business needs. The final goal is to accomplish the automation of change control and compliance across a complete network lifecycle. This will play a crucial role in shaping the 'Next Generation Enterprise' — a fully automated and interconnected enterprise which augments its foundation by delivering an unmatched experience to its employees across the globe.

HCL'S NETWORK AUTOMATION OFFERING – “NetBOT”

NetBOT is a network automation framework covering professional automation solutions based on scripts, tools and platforms. It envisages real-time, proactive, and self-healing networks. NetBOT provides an enhanced end-user experience, faster troubleshooting, and allows cognitive and predictive network automation for the enterprise— while maintaining business continuity, and minimizing operational costs. This enhances agility by integrating the compute infrastructure with external automation tools and management systems. Through this, NetBOT offers a holistic and automated approach across the complete network management domain.

Network automation combined with software driven networking (SDN) provides necessary support to any organization that envisions transforming itself. As the domain becomes increasingly dynamic, automation is no longer an option, but a mandate for every 21st Century Enterprise. NetBOT provides efficiency, productivity, agility, adaptability, and optimization for the enterprise by ensuring a highly responsive network infrastructure.

NETBOT



SCRIPTS

- Python based platform
- CLI scripts developed and implemented
- GUI being developed
- Low level of complexity tasks targeted
- Partial automation and no time-based triggers

TOOLS

- Base platform tools and custom use cases
- Higher automation and time based triggers
- Larger scale of Network changes gets better ROI

PLATFORMS

- Solutions based on SDN platform and multi-vendor orchestration
- Partnership with Niche players
- Development such as Contact Center probe for leading Tools vendor



Shorter Troubleshooting Time



Common Platform of Visibility



Reduction in Time per Task



Faster deployment and higher change success rate



Faster deployment & reduction in incidents



Reduce no. of Tasks



Multiplier effect, Applying machine learning/ cognitive analysis



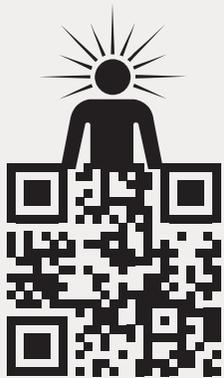
Dynamic predictive



Self healing cross network platform

ABOUT US

We have been delivering network services for almost 25 years. We empower technology-led organizations with innovative network products and solutions. We have 3500+ highly skilled, certified networking professionals with experience of working across multiple engagements of varying scale and complexity. We provide complete lifecycle of network services– from strategy (technology platform or vendor), design, implementation, and managed services across all facets of data and collaboration networks in the enterprise. Our managed networks services are governed by stringent service levels, including end-to-end network management, network connectivity, proactive monitoring and 24/7 support. We manage network operations for service providers and OEMs apart from large Fortune 500 companies. We have been recognized as a leader by Gartner Magic Quadrant for COPS since 2012. Per Gartner, “HCL should be considered as a managed service provider for all areas of network and communications systems.”
For more details, contact us at contact.infra@hcl.com



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