
TCPWave IPAM

IP Network Automation

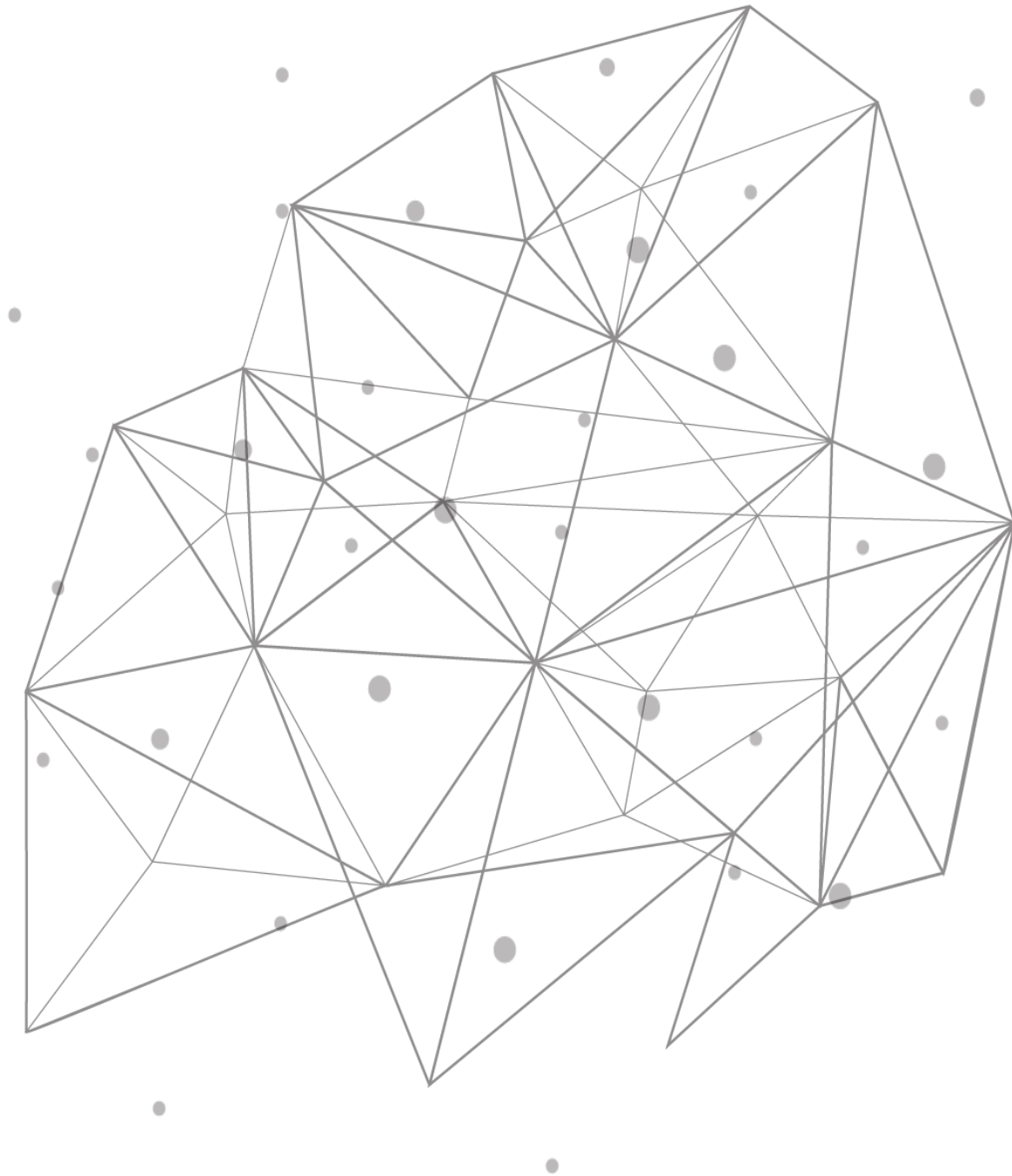


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Introduction

In today's enterprise, IT organizations face a challenging landscape in managing multiple layers of network complexity due to a rise in the number, type of devices, and users are getting connected to the network. Over the past few years, network administrators and engineers have had an ardent desire to automate IP networks. Still, they have struggled to get hold of results and make considerable progress. Though the administrators want to break the traditional tribes to address all the network infrastructure elements, which is the underlying automation principle, it never gets off the ground. Hence, they require to spend time and capital to figure out the necessity to automate and ways to automate.

This whitepaper provides insights on how to fetch results from IP network automation, benefits of network automation.

Necessity - To Automate

Network administrators have countless opportunities to automate. Many processes that involve few manual and repetitive tasks, workflows can be automated. Though it is not practical to automate every significant process simultaneously, administrators need to start somewhere. To achieve what needs to be automated, the network administrators need to identify a few of the listed end goals to improve network service agility.

- Increase operational efficiency
- Increase network resiliency
- To have more extensive network availability
- Reduce manual workloads
- Capitalize on new revenue opportunities

Automation can cover it all as it is a wide-ranging approach that unifies and standardizes the work of the network operations. Addressing all the above set goals at once might dislocate the present functions; hence, automation needs to be done step-by-step to deliver the best results with lesser investment.

Implementation

Once a network administrator determines what to automate, they need to think about the implementation. Selecting the right automation platform that includes open APIs, integrates network resource control, service enablement, analytics, and assurance is crucial.

Approach

Selecting the right automation tool is not enough as several automated projects, workflows, tasks get delayed due to a few of the reasons listed below:

Inappropriate Automation Culture

One of the issues the network administrators and engineers encounter is a lack of skills among the team in charge. The skills required to use innovative tools, techniques, technologies, and programming languages are often rare and high-priced to acquire through hiring or training.

Recommendations

- Automation expertise and skills are crucial, which helps in designing the automated solution to an existing manual process and sophisticated workflows.

- Looking at a complex situation and breaking it down into a series of well-structured steps is a distinct skill that would help the project team competently and efficiently modify and develop a solution.
- Sharing of automation experience within and cross-functional teams are essential.
- Expertise in network domain and process.

Challenges – Selection of Tools

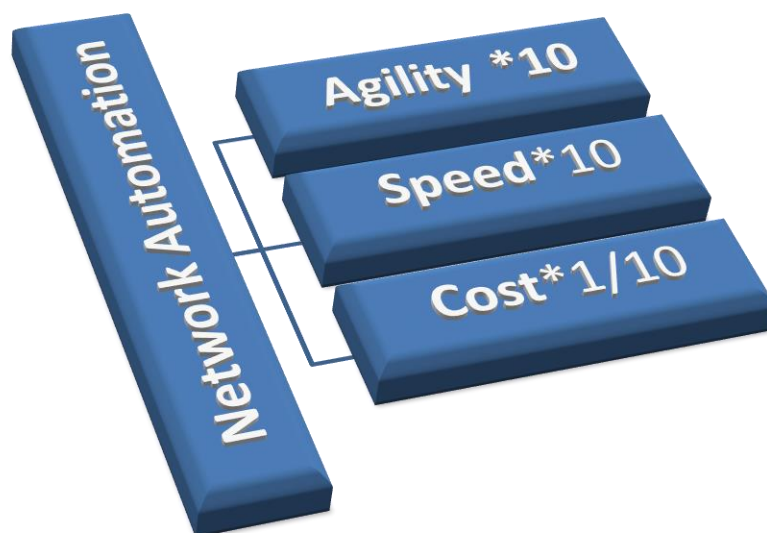
Though the right tools and platforms are essential, few of the tools require tremendous coding efforts on top to address the administrator's needs.

Recommendations

- Administrators must select tools that allow for a certain level of flexibility.
- Any tool that cannot adapt can lead to additional time and cost to adjust the solution, leading to challenges.

Business Benefits – Network Automation

The following figure illustrates the three significant business benefits of network automation:



- **Improves Operational Efficiency:** Moving from a manual intervention to automated process execution increases efficiency.
- **Network Visibility:** The key for businesses is to have end-to-end network visibility to fetch the complete details while the network analysis is done. Automation can provide co-related events, thereby allowing operational teams to focus on the detailed root cause analysis.
- **Reduces Probability of Errors:** As the human factor is removed from the complex network infrastructure, automation builds resiliency across the business.
- **Reduces Operational Expenses:** The consequences of improved efficiency and reduced errors make the network fast, agile and aids the application development. Hence, businesses can achieve faster results at reduced costs.

- **Service Levels:** Removes the chance of human error that ensures the enterprises deliver high-standard service levels.

Use Cases

Use cases can help administrators quickly introduce a broad set of automation functions into their networks that help to reduce risk and speed up implementation.

Conclusion

TCPWave's use cases primarily aim at opening new revenue streams and improving operational efficiency. TCPWave seamlessly integrates with ServiceNow, VMware VRA, Terraform, Ansible, and various private and public cloud orchestrators using secure, cohesive [REST API](#) calls. The modern technologies at TCPWave help the customers to self-configure, optimize the performance in real-time and recover from failures.

For a quick demo, contact the [TCPWave Sales Team](#).