SOLUTION OVERVIEW

Deliver complete network assurance with Continuous Network Verification

The global economy has become increasingly dependent on staying connected. This reliance on always-on connectivity has resulted in massive and expansive growth of the network. Today’s network architects and operations teams are integrating and managing networks with hundreds if not thousands of devices sprawled around the globe, resulting in a level of network complexity that humans can’t keep up with. Within this new reality there are three major trends that are making delivery of complete network assurance next to impossible:

- **Complexity**
  Enterprise, service provider and government agency networks are struggling with scale and complexity. New technologies — virtualization, software-defined data centers to hybrid cloud, and highly multi-vendor environments — compound complexity and obstruct visibility.

- **Rate of Change**
  These networks are continually modified, with hundreds or thousands of changes per month. Currently, managing this process and validating that errors have not been introduced is largely manual. With a rapidly changing and complex environment, human factors do often come into play.

- **Adoption of Cloud**
  Increasing adoption of public clouds to augment existing data center resources also poses new risks to data, IT security, compliance and control.

These trends are leading to the risk of causing unintended outages and introducing security vulnerabilities. In addition, organizations face significant risks to their core business when their network infrastructure is not meeting business objectives.

**Solution**

In order to assure that the network is agile, resilient and protected, a new method of providing verification that the entire network will operate as intended is required. Through its continuous network verification platform, Veriflow proactively and comprehensively assures that network reality matches the business intent. Veriflowing (the process of proactively verifying every network change) within any network operations workflow increases agility while reducing provisioning times. Veriflow instills confidence before, during and after any change, update or rollout within the networking environment. The result is a dramatic improvement in network agility, design, implementation, and operation, allowing for rigorous assurance of network resilience and protection.

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**Key Takeaways**

- Veriflow’s automated verification technology provides immediate value by reducing operational costs and time associated with identifying and remediating networking issues, enabling rapid incident response.

- By intelligently inferring topology, device roles, and business intents with zero input from the user, and automating thousands of network-wide checks Veriflow ensures network availability, resiliency and protection.

- Veriflow provides 100 percent confidence through mathematical verification that the network will behave as intended, before, during and after the change, across the entirety of your network infrastructure beyond physical domains and into cloud environment.

- Veriflow provides strict verification that all security policies are adhered to, ensuring compliance for on-premise network and cloud networks at the same time.

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How it Works

1. **Veriflow Collector**
The Veriflow virtual machine captures all relevant information from the data plane using secure (SSH) read-only access via CLI or API. The data is normalized across different device vendors and sent to the Veriflow Verification Engine.

2. **Veriflow Verification Engine**
Using the normalized state information across all network infrastructure devices, the Veriflow Verification Engine builds the mathematical model of the entire network. Veriflow’s patented algorithms perform exhaustive checks of all possible data flow behavior, where every possible packet and every possible path is checked and verified against the intent of the network.

3. **Visualization Dashboards**
The predictive mathematical model delivers immediate value with an intuitive visual representation of the network on the web interface. Network operations teams can gain actionable intelligence into network health, resilience, and protection. The dynamic map of the network allows teams to pin-point and remediate any potential root cause of a network outage or vulnerability — before they happen — to ensure complete network resiliency and protection.

Use Cases
Once deployed, Veriflow provides continuous network verification, rigorously verifying intent even as the network changes. Key use cases include:

- **Network Segmentation and Micro-segmentation Assurance**
Recent high profile security breaches and data leaks have shown that perimeter security is no longer sufficient. Organizations require layers of defense to protect against lateral movement after a device is compromised. But in a complex network, vulnerabilities in segmentation can easily go unnoticed until after they are exploited in a costly and embarrassing breach. Veriflow ensures proper network segmentation, and automates vulnerability detection based upon broadly-defined intent.

- **Network Availability and Resilience**
Application availability is the most important function of any network. Veriflow verifies continuous end-to-end application availability and resilience, and disaster recovery plans in multi-vendor environments.

- **Continuous Compliance and Dynamic Mapping**
Periodic, sample-based audits do not sufficiently eliminate security risks, yet they consume significant resources. Veriflow enables always-on compliance verification, and automated audit documentation and mapping of the network to save time and improve accuracy.

- **Rapid Incident Response**
Veriflow enables powerful interactive search and analysis of complex network behavior. It helps pinpoint the root cause in a few clicks, reducing downtime and enabling quick forensic analysis.
Veriflow’s Continuous Network Verification platform assures network correctness, based on mathematical verification of the entire network state using advanced algorithms and a predictive model of network behavior. With continuous network verification, Veriflow predicts network outages and vulnerabilities before they occur. The result is a dramatic improvement in network agility, design, implementation and operation, allowing for rigorous assurance of network resilience and protection. To learn more about how Veriflowing can help you, request a demo today and get a free 60-day trial.

How To Contact Us

To learn more about the Veriflow platform and how it can address enterprise network assurance needs, please contact us at info@veriflow.net.

Can’t Wait?

Book a demo. See how Continuous Network Verification enables complete network assurance in any environment, and learn how you can step into intent-based networking without any network disruption in less than a day.

REQUEST A DEMO

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