

Keysight VisionWorks

Optimize User Experience with Automated, End-to-End Network, Service, and Experience Assurance

Deliver outstanding service quality and network performance by harnessing the power of active testing to gain end-to-end visibility, proactive analytics, and automation for complex troubleshooting processes.

Digital transformation drives an increase in services, business agility, and the generation of revenue by offering innovative solutions. In order to deliver on this promise, communications providers must reduce operational costs while continuing to support traffic growth and ensure a superior customer experience.

Automate Your Network Awareness

The move to cloud-native architectures, the rapid build-out of the edge, and the surge of next-gen fifth-generation (5G) services — private 5G, fixed wireless access (FWA), network slicing, and artificial intelligence (AI)-powered applications — are creating a perfect storm of network complexity and a tsunami of data, challenging operations teams who must maintain superior user experience. Operators must orchestrate dynamic slices, assure ultra-low-latency performance under heavier edge loads, and do it all with tightening budgets and a shrinking pool of specialized engineers. These disaggregated and dynamic new approaches require new ways of testing and managing performance.

Keysight VisionWorks is an automated, end-to-end service assurance solution that focuses on active testing across network domains. It provides end-to-end network visibility, proactive analytics, and automated troubleshooting that enables service providers to accelerate time-to-market, optimize user experience, and reduce operational costs by ensuring reliable performance and meeting service level agreements (SLAs).

By integrating VisionWorks into the call-through test team's processes, we are able to remotely test and validate performance pre- and post- any network change. There was definite cost savings as we avoided multiple truck rolls and dispatching field-testing resources in each region. Using VisionWorks to automate testing kept us ahead of schedule.

Communication Service Provider (CSP) Test Team Manager, Tier 1 North American Operator

Driving Tangible Improvements Across the Network Lifecycle

Activation and Certification

- Tested 7-10xs faster; millions saved in avoided truck rolls
- Automated birth certificate cut activation time and ensured compliance

Performance Monitoring

- 80% of tickets diagnosed by automated testing
- Scaled monitoring with one virtual test agent (VTA) equaling work of 20 resources

Troubleshooting and RCA

- Avoided outages with eight hours advanced notice
- Decreased false positives using VisionWorks to confirm and resolve issues

Migrations and Upgrades

- Automated migration procedure enabled 35% Capex reduction via cloud consolidation
- Eliminated costs of field-testing nationwide enterprise management software (EMS) migration

With VisionWorks You Can:

- **Gain end-to-end visibility.** Expand performance views across the entire network ecosystem by combining active testing with passive data to quickly identify network and service problems.
- **Leverage synthetic traffic.** Stop waiting for actual traffic to identify issues by injecting emulated user traffic from active test agents supporting activation testing, automated assurance, and troubleshooting.
- **Proactively detect issues.** Verify critical services and link performance before customer usage starts, when traffic levels are low, and proactively identify minor issues before they become major issues anywhere in the network.
- **Automate troubleshooting.** Leverage actionable data and signature-based analysis to detect irregularities and automatically initiate troubleshooting test procedures to rapidly isolate problems.
- **Streamline activation testing.** Integrate automated turn-up testing into orchestration processes to activate new network functions and services while monitoring performance and user experience with active testing.

- **Deliver reliable performance.** Ensure SLAs and performance objectives are met by monitoring critical key performance indicators (KPIs) that allow proactive identification and remediation of potential issues before services are disrupted.

VisionWorks Overview

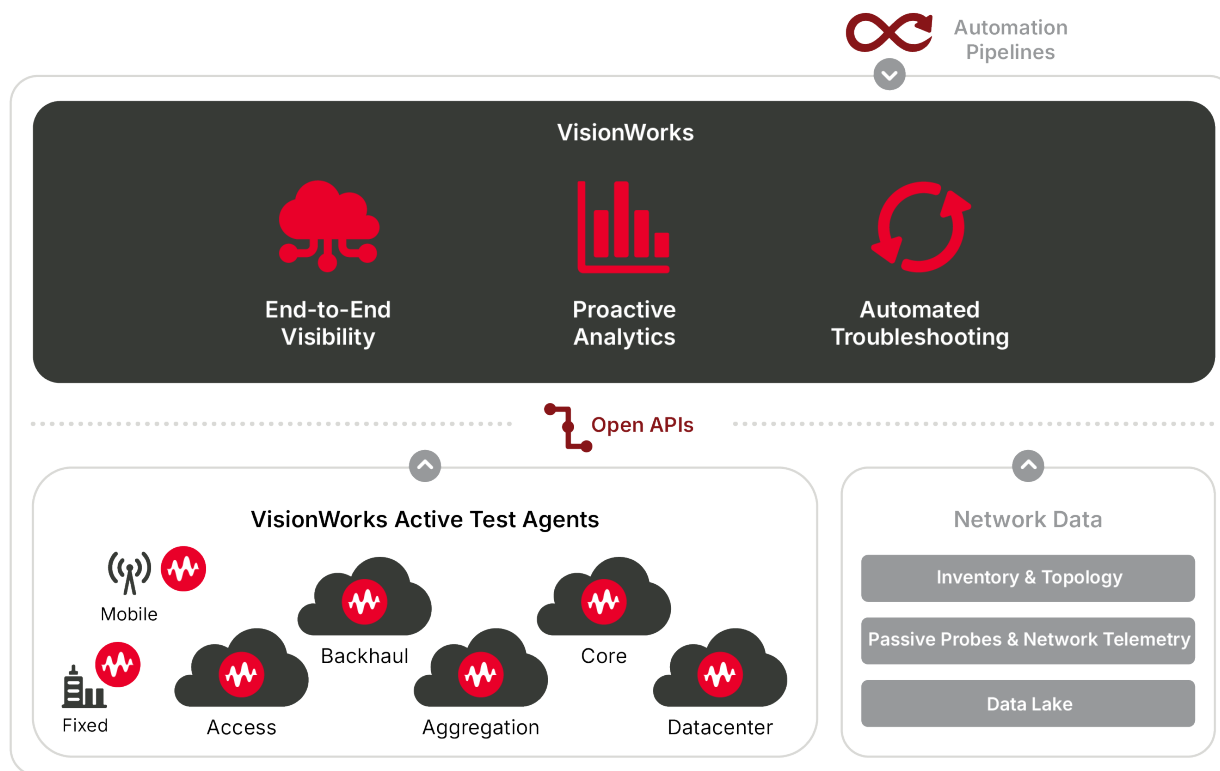


Figure 1. VisionWorks Comprehensive Service Assurance

The VisionWorks platform:

- Aggregates results into KPIs, SLAs, alerts, and notifications.
- Presents data and insights in multiple formats to support different service group needs.
- Manages and schedules VisionWorks Test Agents available in physical, virtual, and cloud instances.
- Supports key use cases of activation and certification, service monitoring, troubleshooting, and root-cause analysis, and managing migrations and upgrades.
- Uses topology awareness to enable a network-first workflow and impact awareness.
- Leverages existing network devices as on-net test points using VisionWorks connectors — enabling active testing at scale with no truck rolls.

Rather than just giving engineers data and errors, VisionWorks gives them actionable alerts... It allows the CSP to assign a few people to quickly resolve an issue, rather than 60 engineers to put out a network fire.

Patrick Leihy, Principal Systems Engineer at Keysight

Key Benefits

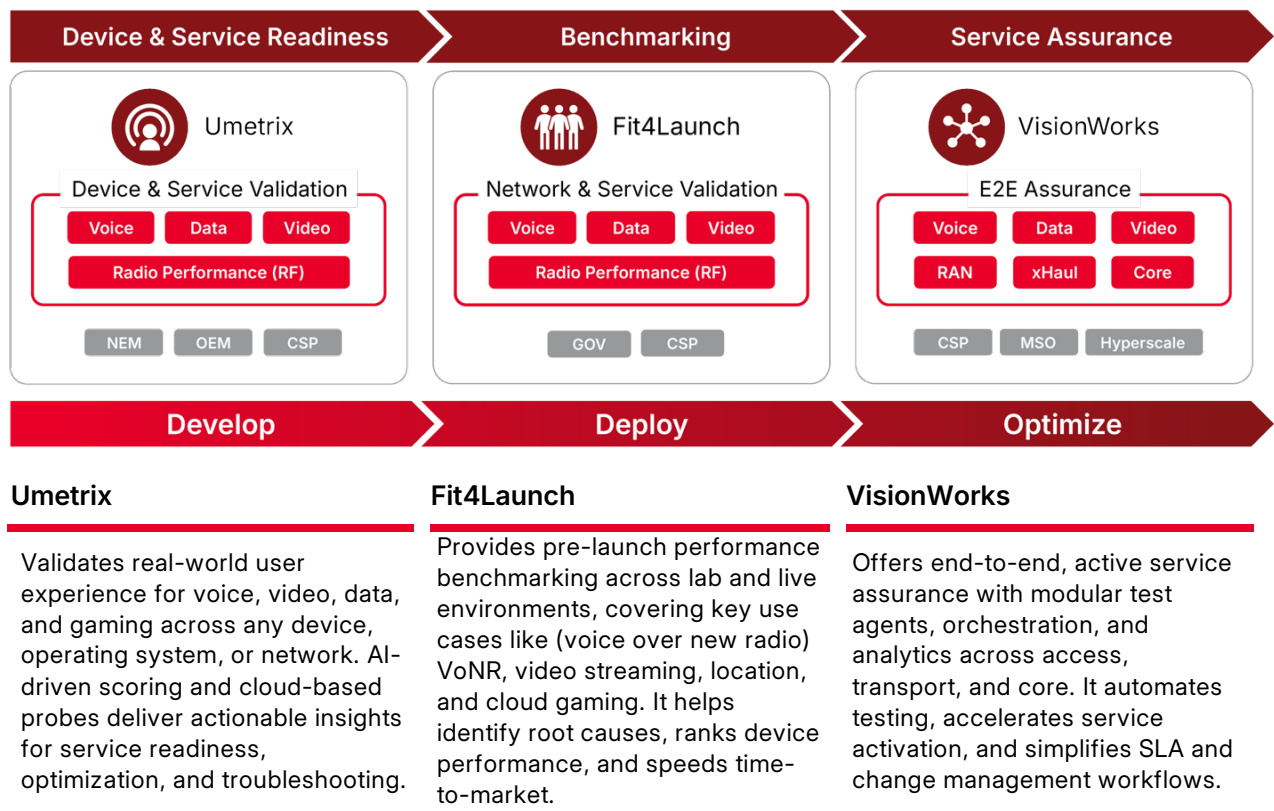
With network complexity at an all-time high, VisionWorks empowers service providers to confidently navigate digital transformation. It helps you:

- **Increase subscriber satisfaction:** Fewer outages and faster problem resolution ensures greater network reliability and customer satisfaction.
- **Accelerate precise troubleshooting:** Holistic network monitoring with advanced correlation and insight enables teams to shift to proactive and highly accurate issue resolution using fewer engineers.
- **Optimize engineering resources:** Automated testing and troubleshooting allows teams to concentrate on newly emerging and complex network challenges.
- **Reduce mean time to repair (MTTR):** Optimize engineering resources by resolving routing, performance, and user experience issues remotely.
- **Faster time to market:** Reduce installation times by automating service activation and executing tests 7-10 times faster.
- **Reclaim lost visibility:** Establish complete network visibility without increasing operational expenses by eliminating manual processes from network management, event correlation, and root cause analysis.

By combining active testing, proactive analytics, and intelligent automation, VisionWorks delivers the operational efficiency and performance visibility required to meet evolving customer expectations. It ensures consistent service quality, reduces the burden on engineering teams, and positions providers to scale 5G, cloud-native, and edge services with confidence. VisionWorks deployments often deliver return on investment (ROI) within the first year through a combination of churn reduction, fewer escalations, and faster service launches.

Keysight Service Assurance Portfolio

Our Service Assurance Portfolio delivers comprehensive visibility and control across the full network lifecycle — from pre-deployment validation to live network optimization. It combines user-centric testing, performance benchmarking, and automated, active service assurance to help service providers, hyperscalers, multi-system operators (MSOs), and network equipment manufacturers (NEMs). By doing so, it supports innovation, ensures quality, and reduces operational risk across devices and radio access networks (RAN), cross-haul (xHaul), and core networks.



Keysight enables innovators to push the boundaries of engineering by quickly solving design, emulation, and test challenges to create the best product experiences. Start your innovation journey at www.keysight.com.



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