

Simplify. Innovate. Grow.

Calix Speed and Performance Insights

On-BSP Premises Multi-Gig/TR-143 Server Option

With increasing fiber network buildouts and launches of new service offerings, broadband service providers (BSPs) need a future-proof platform that can validate the subscriber and network experience with flexible speed testing options. Calix makes it easy.

Calix Speed and Performance Insights, a capability of the Calix Broadband Platform, offers BSPs an integrated solution that enables flexible speed and latency testing options. BSPs can easily deploy speed testing for up to 10Gbps-capable systems, which includes TR-143 as a standard to cover any market size and location as well as open access networks. Furthermore, with platform integration, BSPs have access to subscriber insights and network intelligence in a consolidated view to efficiently manage not only speed testing, but the entire subscriber connected experience for a seamless service delivery that increases operational efficiency and subscriber satisfaction.

Speed and Performance Insights Provides Options for:

- **Multi-Gig:** Up to 10Gbps-capable customer premise equipment (CPEs)
- **TR-143:** Standard speed testing for service providers of any size and any market

These speed testing options can be easily performed using Calix Service Cloud as well as CommandIQ® and CommandWorx, mobile apps from Calix. For instance, using Service Cloud, the BSP support team can quickly conduct on-demand or background speed testing to ensure optimal subscriber experience or help with troubleshooting at any level of complexity—all in one system to simplify operations and drive operational efficiency. Speed testing results are displayed with user datagram protocol (UDP) and transmission control protocol (TCP) protocols.

With CommandIQ®, subscribers have easy and fast access to run their own speed testing—which in turn reduces inbound support calls and frees up customer service representatives to focus on more proactive care. CommandIQ® gives subscribers the power to manage and control every aspect of their connected home experience—including speed testing, resetting Wi-Fi passwords/SSIDs, and setting parental controls.

CommandWorx, which is the self-service mobile app for Calix SmartBiz, enables small business owners to monitor and manage their network from anywhere. Business owners can quickly run speed testing, setup and share Wi-Fi networks, create a brandable customer Wi-Fi portal, enable Network Resilience, and more.

Expanded Capabilities

- **On-demand optical network terminal broadband service testing (support Multi-Gig)**

Expanded capabilities include on-demand speed and latency testing for the latest generation of Calix Optical Network Terminals (ONTs), allowing support and network operations teams to validate network performance, including use cases for open access networks. It also enables faster, more accurate problem isolation during real-time trouble-shooting by providing historical testing over the past 90 days, which improves first call resolution. Critically, speed and latency tests can be performed directly at the ONT without requiring access to additional dedicated test equipment.

Note: Requires Calix Operations Cloud entitlement

- **Ability to add up to 10 servers for geo diversity to mitigate latency when testing (supports Multi-Gig/TR-143)**

BSPs can easily expand Multi-Gig (up to 10 Gbps) speed and latency testing coverage to geographically diverse markets with multiple servers. This helps mitigate latency during testing, increases accuracy, and validates service performance.

- **Web-based graphical user interface branding for Multi-Gig**

BSPs can personalize their web-based graphical user interface (Web GUI) for the Multi-Gig speed testing service to promote their brand to subscribers who use the webpage for speed and latency testing.

Service Provider & Subscriber Benefits

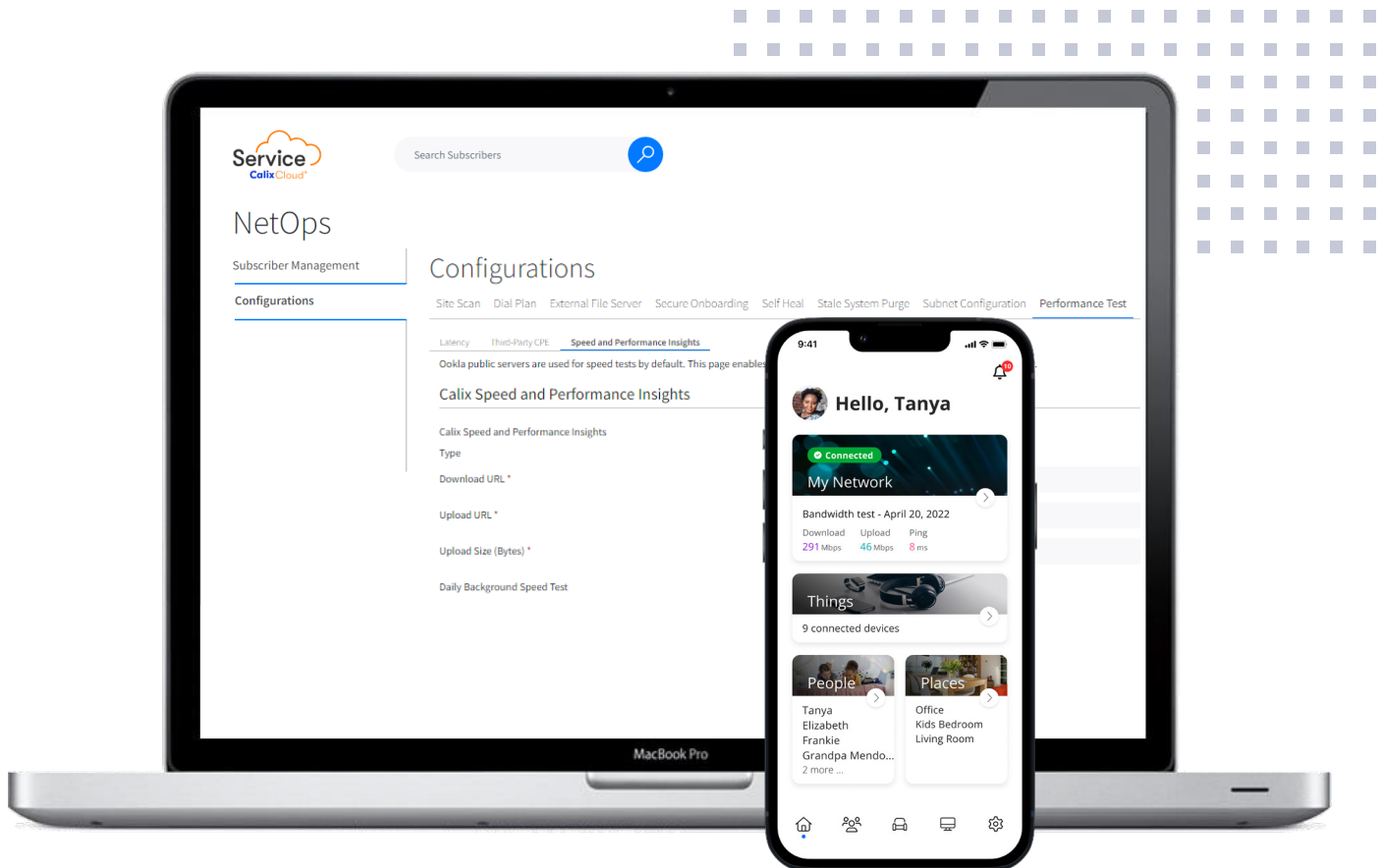
For Service Providers

- Flexible options giving you more control over your speed testing and data
- You provide the server/s (you control your data!) and Calix provides software and configurations/specifications
- Precise measurements of your internet's upload and download speed based on a dedicated server or servers
- Testing performed by Calix Service Cloud (on-demand, background) for residential gateways as well as CommandIQ® and CommandWorx, mobile apps from Calix; (8G+ Down and 5G+ Up) with 10Gbp-capable CPEs
- Testing performed by Calix Operations Cloud for ONT speed, latency, and jitter for select EXOS ONTs; i.e., ideal for open access networks*
- Speed testing results displayed with user datagram protocol (UDP) and transmission control protocol (TCP) protocols; i.e., UDP and TCP for speed testing of up to ~10Gbps-capable systems, and TCP for TR-143
- TR-143 standard as an option for any market size or location
- Support for multiple servers to test geographically dispersed markets and reduce latency

*Requires Operations Cloud entitlement

For Subscribers

- Subscribers can use CommandIQ® to verify that they are experiencing the speed for their service tier
- Faster issue identification and resolution by the BSP support team that may affect the subscriber's online activities
- Optimization of the subscriber's network settings and devices for the best performance



Key Attributes

Software Configurations

- Multi-Gig Software is posted on the Calix Portal
- Operating System Support:
 - Red Hat Enterprise Linux 9
 - Rocky Linux 9
 - Oracle Linux 9
 - Ubuntu LTS 20.04
- Configure firewall rules to allow the following server ports:
 - 7076, 7077, 7078
- For installation instruction of the Multi-Gig server and configuration in Service Cloud, please reference the [Calix Speed and Performance Insights Server: Installation Guide](#)

Service Specifications

- For specifications and requirements, please reference the [Configuring Calix Speed and Performance Insights Testing in Calix Service Cloud](#)

SERVER CONSIDERATIONS

Component	Minimum Requirement
CPU Threads	16
Memory (GB)	16
NIC	10G

RECOMMENDED SERVER CONFIG: HIGH PERFORMANCE (90G UDP/80G TR-143 TCP)

Component	Recommended Specification 1	Recommended Specification 2
CPU	2 x Intel® Xeon® Gold 5318Y @ 2.10GHz	2 x Intel Xeon Gold 5218R @ 2.10GHz
CPU Cores	24 (48 total)	20 (40 total)
CPU Threads	48 (96 total)	40 (80 total)
Memory	64GB DDR4	64GB DDR4
Storage	1024GB SSD	512GB SSD
NIC	EB-Link Intel E810 PCIE X16 100G single-port optical	EB-Link Intel E810 PCI-E X16 100G single-port optical

RECOMMENDED SERVER CONFIG: MEDIUM PERFORMANCE (50G UDP/40G TR-143 TCP)

Component	Recommended Specifications
CPU	1 x Intel Core® i7-10700 @ 2.90GHz
CPU Cores	8
CPU Threads	16
Memory	16GB DDR4
Storage	256GB SSD
NIC	EB-Link Intel E810 PCI-E X16 100G single-port optical

For additional server information, please reference [Prerequisites and Server Requirements](#).





Calix Success Delivery

Speed and Performance Insights—Speed Test Server Implementation

A Calix Success Delivery Project Engineer can help you with implementation and testing of your Speed & Performance Insights speed test server for Multi-Gig cloud-based performance testing.

Scope of Work

Calix will:

- Perform a discovery session of Customer's performance testing requirements
 - Provide guidance on optimal server physical placement location
 - Provide guidance on hardware options as requested
 - Validate Calix Cloud Role Based Access Control (RBAC) configuration
- Perform remote Turn-up and Test session of the Multi-Gig service on a single server
 - Gain access to server
 - Install Required Operating System
 - Install Calix Performance Testing Management Software
 - Perform linkage between new Multi-Gig Server and Calix Cloud
 - Review testing requirements and Calix Cloud set-up with Customer
 - Perform trial tests inside Calix Cloud to new Multi-Gig Server on up to five (5) GigaSpires previously checking into Calix Cloud

Requirements

- Service does not include any API call assistance
- Customer to provide Server, Operating System, and all required hardware to specification for Calix Speed and Performance Insights
- All physical work (installation and power of physical hardware) required to be completed prior to performing remote turn-up portion of this Scope of Work
- Customer's technician will be on-site to assist with all physical tasks
- Remote support only; uninterrupted remote network access required
- Customer's server specifications must meet or exceed the Performance Testing Software Requirements
- Service is for a single instance of the Speed & Performance Insights testing software in the Customer's network

Ordering Information

- **Calix Package Description:** Speed & Performance Insights—Speed Test Server Implementation
- **Calix Package Part Number:** 110-01673

Help & Resources

- [Getting Started with Calix Speed and Performance Insights in Calix Cloud](#)
- For additional questions or help: [Calix Community](#)