



Reimagine Service Delivery with Zero-Touch Testing

JUNIPER
NETWORKS

Engineering
Simplicity

Reimagine Service Delivery with Zero-Touch Testing

March 29, 2021

by [Cyril Doussau](#)

The year 2020 upended business connectivity, changing everything from access methods to basic conceptions of what “work” even looks like. But one thing remains as true as ever: Customers expect to get what they pay for. When enterprises buy or upgrade a network service from a Communication Service Provider (CSP), they expect it to work, with the quality outlined in their service-level agreement (SLA).

Sounds simple enough, right? Yet, a surprisingly high number of service deployments aren’t even tested to make sure they work before they’re handed off to customers. According to [one 2019 study](#), 60% of network problems are discovered by end-users or not reported at all. Often, the very first experience customers have with a new service is a call to support. And 95% of those customers who’ve had a bad service experience don’t even complain. They just take their business somewhere else.

Now, CSPs can automatically test end-to-end services *before* handing them off to customers—without onsite visits or complex manual processes. The solution? Zero-Touch Testing. And it’s available now with Juniper Paragon Active Assurance.

A Need for a New Approach

CSPs have long struggled to onboard their customers as quickly as they’d like to and the task isn’t getting easier. As businesses use more complex multi-layered networks, verifying that a new [SD-WAN](#) or wholesale transport service is configured correctly has become immensely challenging. So challenging, in fact, that many CSPs skip the turn-up testing phase entirely or rely on methods they know can’t measure the full end-to-end service.

It’s not hard to understand how we got here. Historically, activation testing was a difficult, expensive, time-consuming proposition. Expert field technicians were dispatched to perform complex onsite testing using specialized equipment and at significant costs. Even then, it was challenging to get the full picture since many services

rely on third-party regional networks for last-mile connectivity—networks outside the CSP's visibility or control. So, even if a problem were identified, it could take days to isolate the source of the issue and fix it.

Today, there's a better way to validate a new service—without onsite testing or complex manual processes. With Paragon Active Assurance (formerly Netrounds) CSPs can automate activation testing to proactively ensure that new services are performing as they should and that configuration changes in the network won't affect the customer experience. Using Zero-Touch Testing, service delivery teams can automatically discover, troubleshoot and resolve network misconfigurations across the end-to-end service path. This ensures customers get the experience they expect—the first time and every time.

Inside Zero-Touch Testing

Paragon Active Assurance uses multiple virtual test agents (TAs) deployed across the end-to-end service path. Unlike conventional activation testing, these agents are 100 percent software, running either as virtualized network functions (VNFs) in telco cloud locations or containers in network equipment. Using reflector technology to communicate with the TAs, service delivery teams can perform the complete end-to-end testing process remotely, regardless of customer location. Service delivery teams can also create custom test sequences that combine multiple active tests spanning Layer 2 through Layer 7 of the network. And they can fully automate these sequences so that they're triggered by network or service orchestrators or provisioning or service assurance solutions for every new service or change.

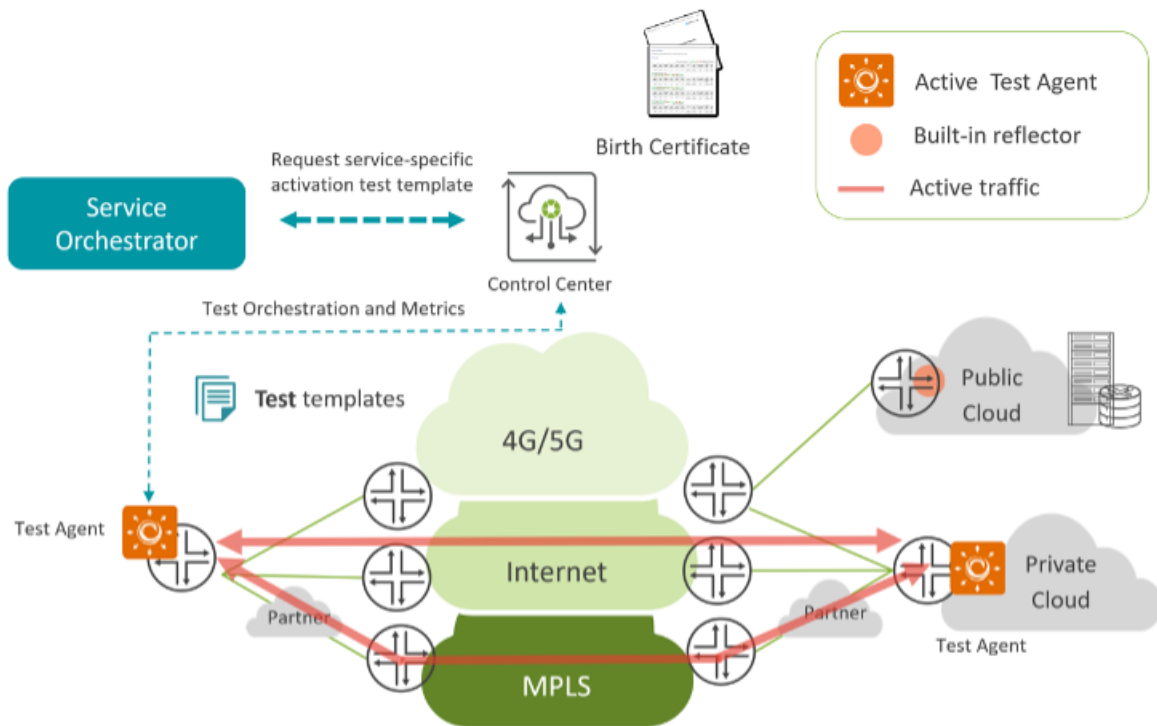


Figure 1- Zero-Touch Testing Architecture

As soon as a new business service is established (and any time an existing service is reconfigured), Paragon Active Assurance creates a “birth certificate” for the service. These birth certificates confirm that the service is performing as expected and within SLA parameters. If there’s a problem, the birth certificate pinpoints potential issues so that engineers can resolve them quickly. Even when the source of a problem is within a partner’s last-mile network, the team has the insight they need to show the partner what’s happening and where so they can quickly address it. Best of all, this all happens in the background before the customer is ever onboarded.

Active Assurance in Action

With Zero-Touch Testing, service delivery teams can troubleshoot service issues across their entire footprint remotely, without truck rolls or onsite equipment installations. Engineering teams can identify problems with third-party partner networks in minutes or hours instead days. Operations teams can spend more of their time on higher-value activities, instead of repetitive assurance and troubleshooting tasks. And customers get the service experience they paid for quickly with the quality they expect. Ultimately, service delivery teams can:

- **Reduce or even eliminate service delivery failures**, since services only get delivered after their health and performance have been verified
- **Accelerate time to revenue** by identifying and fixing problems more quickly

- **Gain deeper insight into the customer experience**, since teams now have visibility into the end-to-end service chain for every service, even over complex multi-layered networks

Leading CSPs around the world are already using Paragon Active Assurance technology to automate and accelerate activation testing. Within a few weeks of implementing Zero-Touch Testing, for example, one CSP had fully automated the service activation testing and troubleshooting process. They can now discover, troubleshoot and resolve misconfigurations along the end-to-end service path prior to delivery. The results? Reduced failed delivery rates, reduced SLA violations and happier, more loyal customers.

Learn More

Want to see Paragon Active Assurance in action and learn more about what it can do for your business and your customers? Check out our latest Paragon Active Assurance webinar, [Zero-Touch Testing for an Assured Service Experience](#). You can also visit the [Juniper Paragon Active Assurance](#) page for more details, including our [solution brief](#), case studies and more.

For another example of what Paragon Active Assurance can do, see this [recent blog](#) highlighting Juniper's demonstration in the MEF 3.0 Proof of Concept (PoC) Program. In the PoC, we showed how Spectrum Enterprise is using automated active testing to confirm underlay networks deliver the service quality characteristics required to provide an immersive and personalized live video experience from events across an enterprise network and inside the venue.