



Show Time

Pace is a leading technology developer for payTV and broadband service providers. When Pace needed to quickly design, build, test and validate a brand new series of Internet Gateway devices for AT&T, Bridge360 was there just in time to save the show.

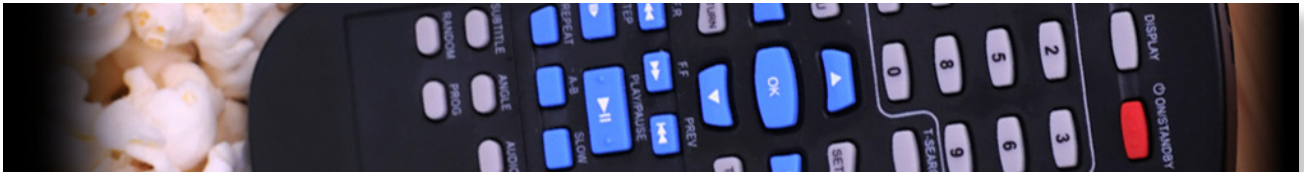
As the global market leader in set-top boxes and the U.S. number one in residential gateways, Pace's commitment to automated, repeatable validation is what makes their devices among the highest quality of those used for home internet access through AT&T and other providers, and we were proud to help them uphold that reputation in a project with challenging requirements.

Client

PACE

Category

TEST AUTOMATION

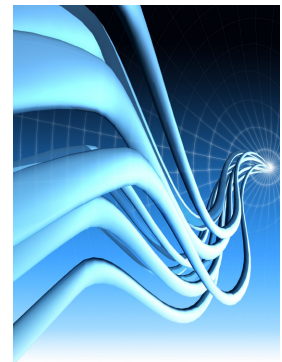


THE GOAL:

AUTOMATED IPv6 TESTING FOR INTERNET GATEWAYS

The scope of our engagement with Pace included the validation of the IPv6 network stack on home Internet Gateway devices used for AT&T U-Verse triple play services. This involved the development of system-level automated tests to verify both local area network traffic as well as wide-area communication back to the Internet Service Provider.

The Bridge360 team would design, build, and execute automated tests to validate multiple facets of the IPv6 network specifications in a new series of Internet Gateway Devices for Pace and AT&T.



THE CHALLENGE:

QUICK LEARNING, TIGHT TURNAROUNDS

The IPv6 network specifications are still not widely known, and many ISP's do not yet fully support them. The team had to come up to speed quickly not only on the intricacies of the RFC specifications, but the specific use cases required by AT&T.

The validation of network devices requires testing in a distributed environment as well as knowledge of low-level networking technologies. Common scenarios of automated application testing can be challenging on their own, but building the same kind of stable, repeatable tests in a distributed environment with multiple interacting devices is all the more difficult. Setting up and configuring test network environments was a significant amount of the work involved.

Having a quality partner in Bridge360 who can **take on a highly advanced and complex technology** such as IPv6 and quickly become experts in how to exercise the solution through test automation is priceless.

- Steve Allen, VP of Engineering, Telco Products

Controlling the Internet Gateway Devices at the level required for automated testing meant we needed to learn the proprietary interfaces of the Pace devices as well as utilize other third party automated infrastructure and testing tools.

Many of the automated tests were built on an existing proprietary automation infrastructure for distributed network testing written in Python on a Linux platform. The team had to learn the capabilities and limitations of the system and expand on them where necessary.

Timelines for the completion of different feature tests were aggressive and often shifted to support client needs in balancing multiple critical objectives.

OUR STEPS TO SUCCESS:

LEARN, TEACH, DO

The aggressive schedule for the project meant that Bridge360 would need to meet three objectives almost simultaneously—learn the technology, train the team, and build the testing infrastructure.

As soon as we learned the test automation platforms and the applicable IPv6 specifications, we were able to provide initial training and support for the development team.

Bridge360 contributed to a build verification system to ensure stability and predictability by building a set of repeatable automated tests for verifying IPv6 functionality end-to-end. We then executed highly complex testing and discovered significant system problems in the process. By working closely with the Pace development teams, we were able to quickly debug issues and verify solutions.



THE RESULT:

Through our nimble and coordinated partnership with Pace, we have continued to achieve testing milestones on the new IPv6 device that give Pace a best-in-class Internet gateway solution for their clients. The Bridge360 team continues to collaborate and engineer innovative solutions that keep Pace at the leading edge of the industry.

Through the excellent work of the Bridge360 team, **Pace now has a well-documented, automated test framework and test scripts** that can be easily extended to ensure the highest quality deliverables of our firmware and device platforms to our customers.

- Steve Allen, VP of Engineering, Telco Products