

TATA ELXSI

QoETIENT FOR CONNECTED TVs

QoEtient for Connected TVs is a Video DevOps tool for operators to automate testing of Connected TV applications & players to deliver optimal QoE & QoS to the end-users.

Custom-built hardware setup to host Connected TV devices for test automation, consisting of

- Off-the-shelf plug-n-play high speed HD/ 4K camera for video capture
- Hardware components to support IR, RF4CE, IP & Bluetooth remotes
- Integrated power distribution unit for multiple TVs
- QoEtient server components



HIGHLIGHTS

- Portable aluminum structure with intelligent use of data center grade materials
- Controlled illuminance for optimal lighting conditions
- Advanced post processing to address camera lens optics (barrel effect, lens profiles, ...)
- Controllable focal lengths with adjustable camera positioning to accommodate different TV sizes
- Support for wide range of TV screen sizes (32" to 55")
- Support for multiple screen types (LCD, LED, OLED, HDR, ...)
- Support for wired & wireless TVs
- Sliding door design for easy to loading and unloading of TV units
- Stacked rig design to save real estate by up to 50-66%*
- Stress tested for 150 Kgs

* Depending on 2 TV or 3 TV variants

SOLUTION HIGHLIGHTS

CONNECTED TV USE CASES

- Framework led test automation for
 - Functional/ Regression/ Smoke/ Sanity/...
 - Multiscreen including Chromecast/ Airplay/ Miracast**
 - Performance
 - Stability
- Proactive player testing
- Additional support for proactive content, encoder & last yard QoE testing
- Compare and contrast multiple apps on Connected TVs
- Remote manual testing (Enable Work-From-Home)

** All product and company names are trademarks™ or registered® trademarks of their respective holders



FEATURES

Run automation scripts from anywhere, anytime & at any scale, in parallel

BASIC

APIs

- Image Comparison
- Optical Character Recognition & Comparison
- Navigate with one line code (SPS)
- Video quality analysis
- Audio quality analysis
- IR/IP/ Bluetooth RCU
- Device power control (power off/on)
- Device info registry
- ADB based APIs (for Android TVs)
- Logger for debugs

For easy script development

- Auto code generation
- Option to insert code snippets
- IDE: VS Code Plugin

For third-party tool integration, like Jenkins(CICD), ALM & custom dashboard

- API access to the database
- API access to test execution

For easy manual testing

- Grid view with multi-device access
- Record action and replay

Scheduler

- Daily, Weekly, monthly & ad hoc test runs
- Multi device & Multi test job

User management

- User groups
- Roles

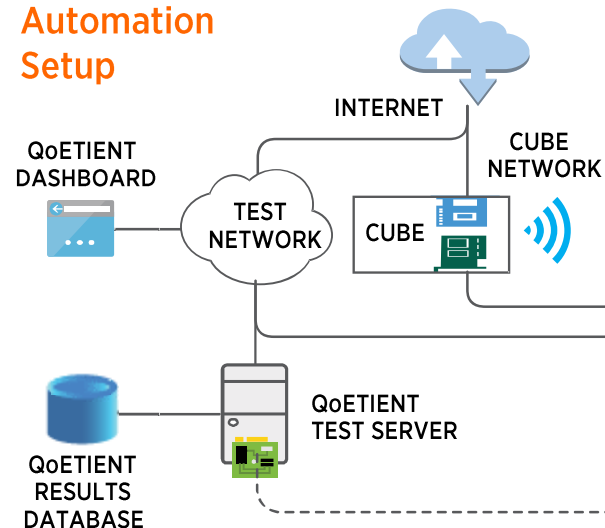
Advanced

- High Precision Performance APIs (**up to 25 FPS**)
- Simulate real-world network profiles/ patterns
- Test dev streams without touching the application code
- HTTP and HTTPS traffic analysis
- Calculate download and upload rates
- Monitor bitrates and manifests

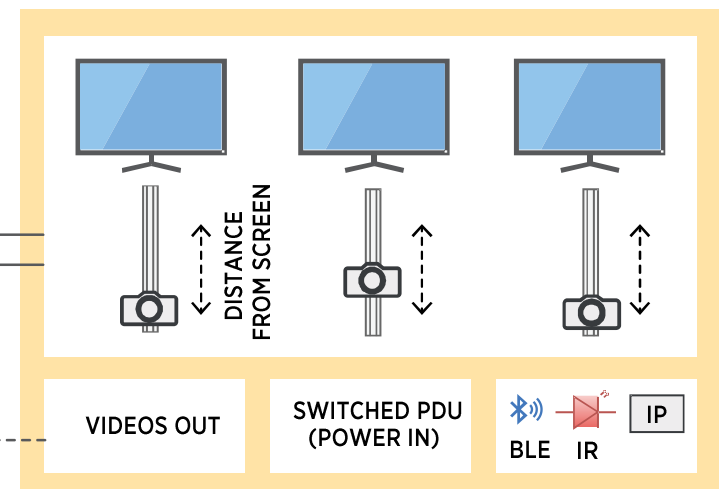
ADVANTAGES

- Easy triage with Test Vs. Network Log Vs. Video Log Correlation
- Proactively identify bottlenecks in the target app player performance
- Higher productivity for script development & maintenance
- Enable feedback loop for the dev team to work on transient issues
- Unlimited OCR license
- Unlimited Image comparisons
- Pre-defined QoE KPIs
- Pre-defined QoE test vectors

Automation Setup



QoETIENT SMARTTV TEST RIG



ABOUT US

Tata Elxsi, headquartered in Bengaluru, is amongst the world's leading providers of design and technology services across industries including Automotive, Broadcast, Communications and Healthcare. This is supported by a talent pool of over 6000 employees and a network of design studios, development centres and offices around the globe including NA, Europe & APAC.

Tata Elxsi helps customers reimagine their products and services through design thinking and application of digital technologies such as IoT (Internet of Things), Cloud, Mobility, Virtual Reality, and Artificial Intelligence.

TATA ELXSI

Tata Elxsi Limited

ITPB Road Whitefield Bangalore 560 048 India
Tel +91 80 2297 9123 | e-mail info@tataelxsi.com

www.tataelxsi.com