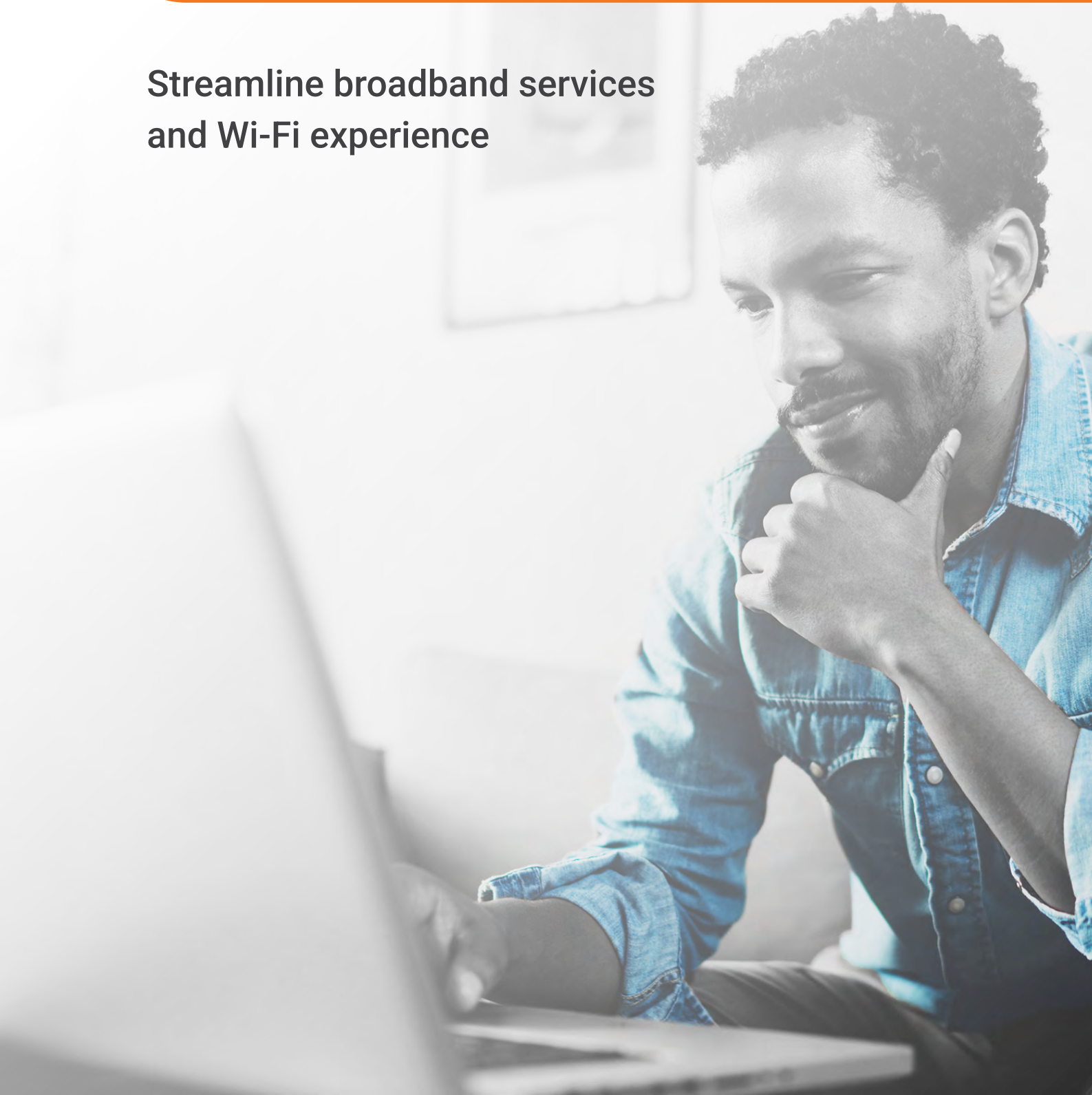# friendly technologies | The IoT & Device Management Company
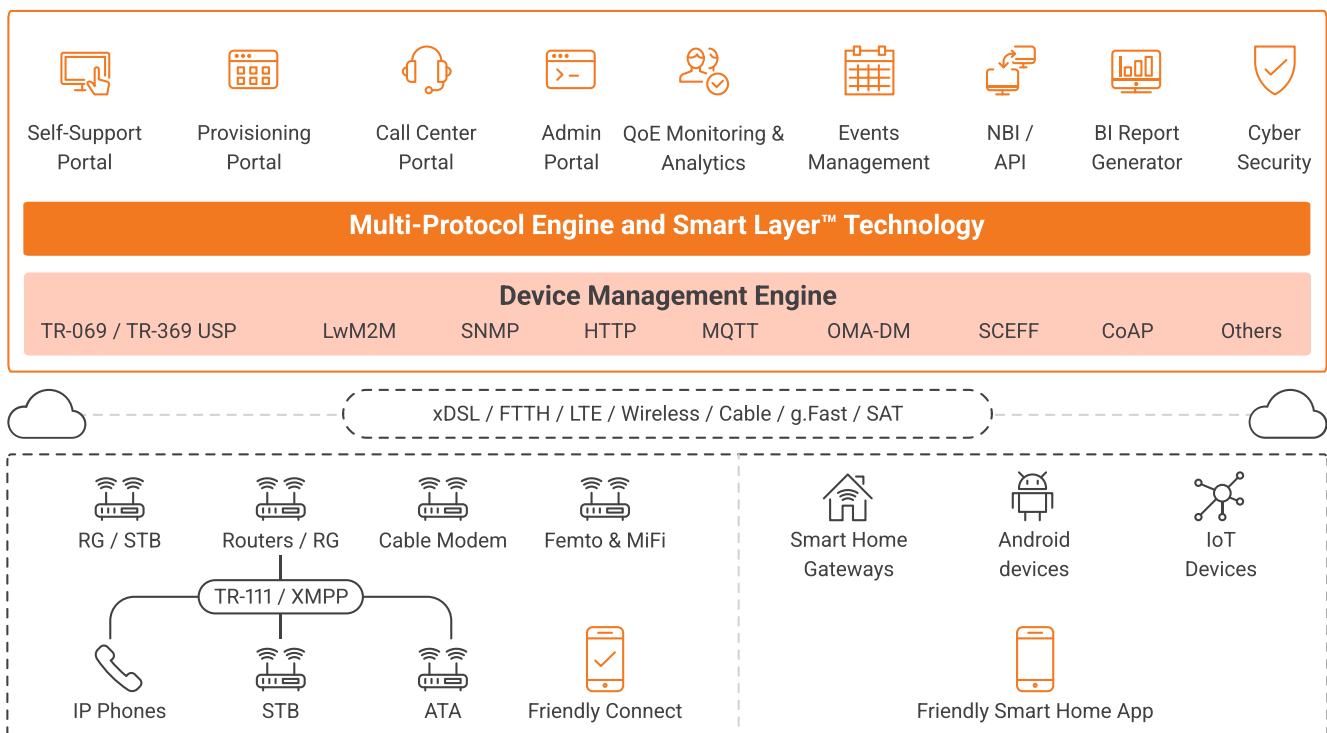
Friendly TR-069 Device Management

Streamline broadband services and Wi-Fi experience

Seamless Management of Broadband Devices

Friendly Technologies offers a unified, scalable and robust device management solution enabling carriers and CSPs to automate the deployment and support of Data, VoIP and IPTV services. Friendly TR-069 Device Management provisions and manages devices such as RG/iAD, routers, IPTV STBs, ATA, IP Phones, femtocells, small cells, dongles, storage devices, mobile hotspots, smart phones and more. The Friendly solution services DSL, FTTH, cable, satellite and LTE networks, including wireless broadband.

Self-Support Portal	Provisioning Portal	Call Center Portal	Admin Portal	QoE Monitoring & Analytics	Events Management	NBI / API	BI Report Generator	Cyber Security

Multi-Protocol Engine and Smart Layer™ Technology

Device Management Engine

TR-069 / TR-369 USP	LwM2M	SNMP	HTTP	MQTT	OMA-DM	SCEFF	CoAP	Others

xDSL / FTTH / LTE / Wireless / Cable / g.Fast / SAT

RG / STB	Routers / RG	Cable Modem	Femto & MiFi	Smart Home Gateways	Android devices	IoT Devices

TR-111 / XMPP

IP Phones	STB	ATA	Friendly Connect	Friendly Smart Home App

Key Features

> Carrier-grade, robust and feature-rich management platform, trusted by hundreds of carriers and CSPs

> Multi-protocol support – TR-069/TR-369 USP, OMA-DM, CoAP, SCEF, SNMP, LwM2M, MQTT and others

> Zero-touch provisioning

> Firmware management

> IP-Phone management and management of devices behind NAT (via STUN or XMPP)

> Remote diagnostics and automatic problem resolution

> Back-up and restore – including "replace device" and "last good known"

> Group campaigns including customizable "step-by-step" remote update

Key Features (continued)

> Inventory management by tenant's and Event Management

> Special features for LTE, FTTH, xDSL, Wi-Fi and Cable networks

> QoE monitoring and events triggering

> Wi-Fi optimization, troubleshooting and repair

> Tools for self-customization of UI screens

> Reports: standard reports, integrated BI, integration to external BI and export to CSV

> APIs – various types of APIs (low and high level)

> Network speed and latency diagnostics and reporting - fully FCC compliant

> User management and permissions with LDAP/ADSI integration

Friendly Call Center Portal

Friendly's TR-069 Call Center Portal reduces the service provider's operational costs and helps streamline customer support workflow. The Portal's remote diagnostics and CPE configuration capabilities shorten an average length of a support call and enable remote and fast detection and resolution of the subscriber's broadband problems.

The Friendly Call Center Portal streamlines the support throughout the subscriber's life cycle – from initial CPE and services configuration to the daily broadband use. In addition to reducing support costs and streamlining customer support, the solution enables increased customer satisfaction and reduced churn.
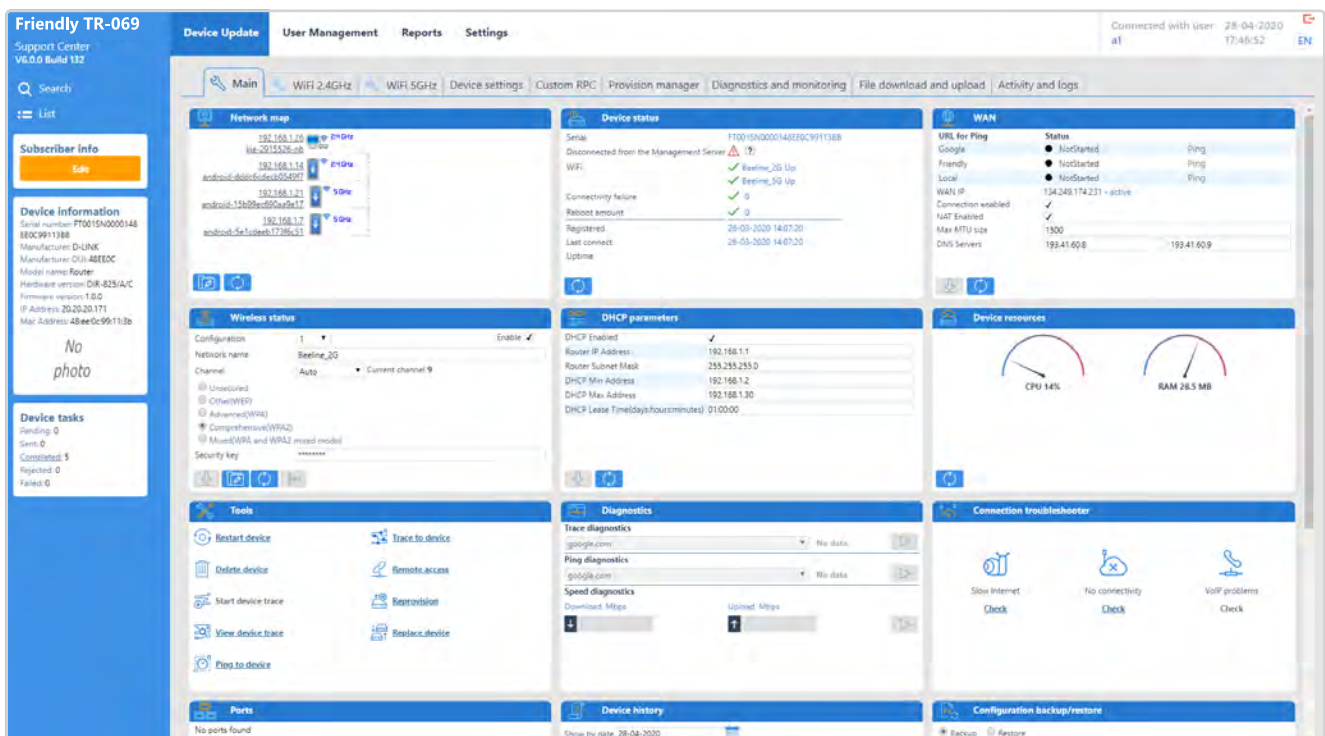
Friendly QoE Monitoring & Analytics

Friendly QoE Monitoring & Analytics improves the subscriber experience by managing subscriber QoE across Data, VoIP and IPTV services, over fixed and LTE networks. The solution detects services' KPI degradation and generates alerts. By allowing CSPs to take proactive measures and maintain higher QoE, Friendly helps CSPs decrease churn and increase subscriber satisfaction.

Friendly QoE monitoring enables ongoing network speed and latency testing and reporting, in full compliance with FCC requirements.
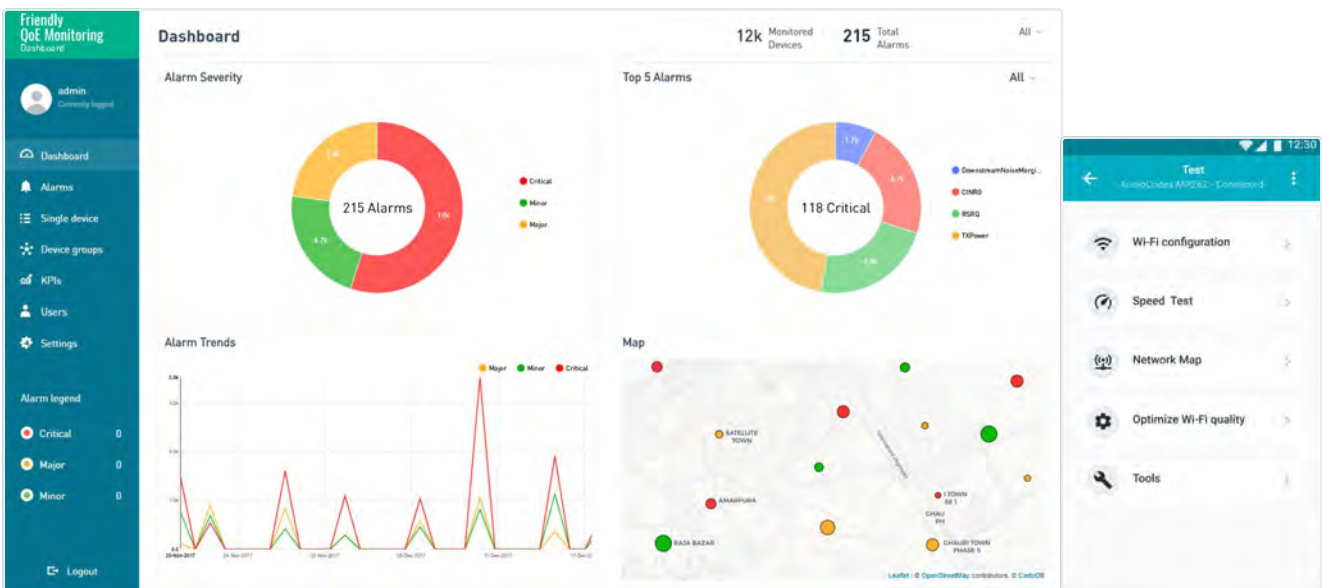
Wi-Fi Optimization

Friendly's Wi-Fi optimization and problem resolution enables carriers and CSPs to offer strong and reliable wireless connectivity for all connected devices in the end users' environment.
The tool set includes Friendly Connect App and Wi-Fi Mesh Management.