Evolver
Functional, performance & active testing

Evolver is a flexible platform that enables service validation and service quality assurance, in pre- and production networks. It offers centralised control of comprehensive test and active monitoring programmes, supporting continuous service integration and rapid service delivery.

Assuring the complete lifecycle with one flexible platform

Evolver is optimised for the challenges of 5G, 4G and legacy networks, solving the problem of providing full lifecycle assurance, in automated environments, with CI/CD and CT practices.

Evolver enables three key solutions for:

- Functional tests
- Performance tests
- Active monitoring

It provides a central point of control for the smooth delivery of test and active monitoring programmes, backed by distributed software agents that can be independently directed.

Evolver is compatible with orchestration platforms, providing alignment with cloud-native deployments and automation, and DevOps delivery models, and ensuring integration with other systems and processes.

Evolver supports a wide range of proven use cases, across different domains and services, for all generations of mobile technology.

It offers connectivity to user and control plane mobile interfaces, as well as via REST APIs to external systems. It is provided with a comprehensive, powerful script editor for the configuration of different traffic scenarios, as well as a library of proven scenario templates.

Tests can be fully automated for efficient optimisation.

Key features

- Centralised control, with access for multiple users
- Comprehensive script editor for configuring different traffic scenarios
- Preconfigured library of scenarios
- Extensive and flexible KPI reporting and alarms
- Full export of reports and statistics with REST API
- Scalability to hundreds of active agents
- Orchestration, automation, and cloud-native deployment
- Full-stack L7 applications and high-throughput stateless and stateful data
- Encrypted traffic capabilities

Key benefits

- Increase efficiency, automate hundreds of test cases
- Reporting to suit technical and business needs
- Support SLA-backed 5G propositions with variable QoS
- Provide KPIs to business partners for assurance validation
- Complete control over scenarios, with low-level access
- Seamless integration with 3rd party systems
- Proactively protect customer experience and reduce churn with dynamic testing

Test and validation for:

- 5G UPF node
- 5G Interworking function
- 5G SEPP roaming
- 5G SBA node(s)
- 5G slicing

- VoLTE / VoWi-Fi, with MOS scoring
- 5G SBA node
- SMS / RCS / RBS
- 5G / 4G end2end application traffic
- 5G / 4G high-volume traffic

Specifications

- **Control plane with pre-defined 3G – 5G nodes and management of 3G – 5G user sessions**
    - IuPS, S1, S5, S11, N1/N2, N4
    - HTTP2/JSON Nx between SBA nodes
    - Diameter for any interface
- **Full application-layer state machines for control and data plane traffic protocols**
    - Diameter, HTTP2, SIP, MSRP, RTP, FTP, SMPP, HTTTP Streaming
- **GTP tunneling for VoLTE, S1-U and N3**
- **POLQA (ITU P.863) for voice quality measurements**
- **IPsec with IKA and AKA authentication**
- **IKE and IPsec for VoWiFi**

- **Stateful and full stack UE applications of different protocols**
- **High-throughput stateless UDP data with low latency measurements using XDP**
    - 20M packets per second per CPU core
    - Measures latency <1ms
- **Stateful and stateless traffic on any data plane interfaces**
    - Direct IP on Gm, GTP tunneled on S1-u, N3, IPsec tunneled on SWU
- **Support for different QFI flows within the N3 tunnels**
    - Insert QFI in GTP headers aligned with SDF filtering rules from the control plane function

Active monitoring - real traffic sessions

As well as functional and performance testing, Evolver also supports Active monitoring through the deployment of software agents, controlled from a central control platform.

The agents can be installed – dynamically, on-demand – in any network domain to generate real traffic sessions and measure QoS for differentiated services and applications.

They enable efficient, cost-effective assurance of live services, providing a scalable means of validating active traffic flows, for specific services and with close control over highly granular scenarios.

With Evolver, MNOs can support SLA-backed propositions with variable QoS and provide KPIs to partners for assurance validation. It provides the flexibility MNOs need to perform service testing and modelling, from a single platform. Covering user agent conformance, advanced call flow scenarios, QoS verification, and more, it's a complete platform for boosting service assurance and customer experience.

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