

Landslide Diameter

The Solution

Landslide Diameter is a comprehensive end-to-end test system that enables you to ensure efficient and optimized Diameter signaling operation. It is the leading solution for testing Authentication, Authorization, and Accounting (AAA) functions, mobility management, policy, and charging controls in today's advanced all-IP communications networks.

Simulate real-world traffic scenarios and call models at scale to review and adjust network element functionality and performance on a node-by-node basis. Landslide Diameter provides real-world emulation of millions of authentication, authorization, policy, and charging transactions, as well as determining equipment performance characteristics in multi-vendor environments.

Optimize network design by emulating current and planned usage models to help right-size the network and eliminate contention and the guesswork of predicting signaling traffic loads.

Landslide Diameter Solution Delivers High-Scale UE Emulation:

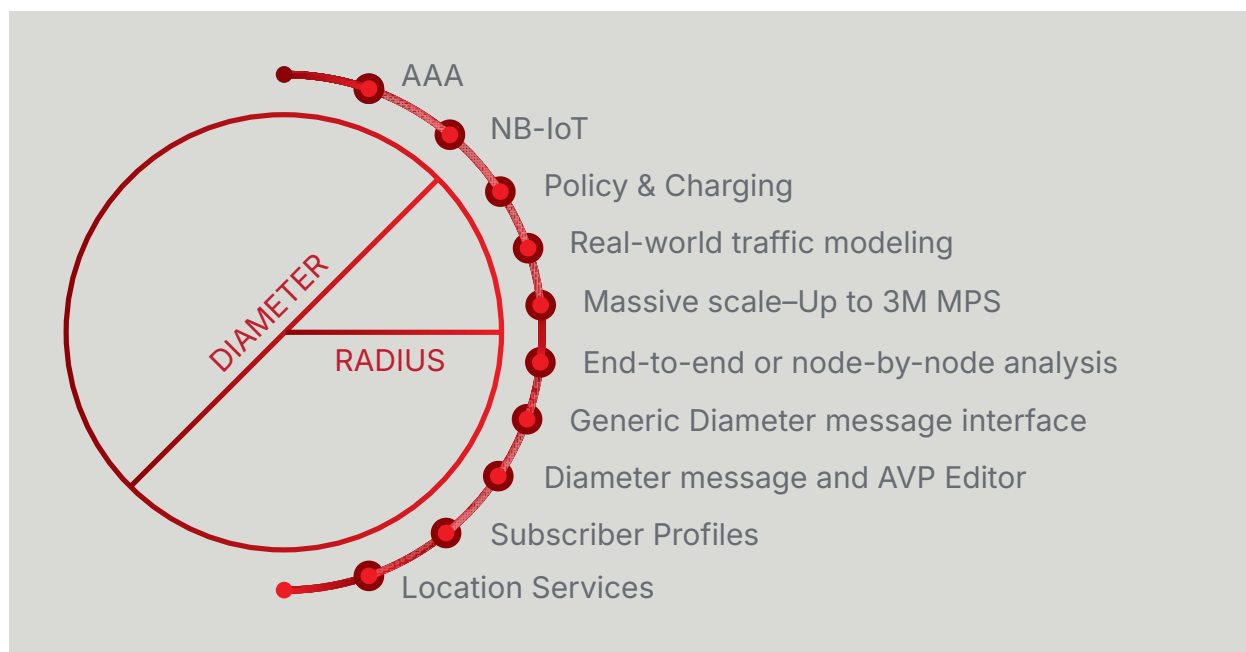


Figure 1. Ensure Diameter devices and networks can weather the signaling storm

Landslide Diameter is used by mobile network operators and mobile equipment manufacturers worldwide for testing during development, verification, network design, solution marketing, deployment, and maintenance.

Solution Overview

High-Scale UE Emulation

- State machine-driven UE signaling traffic emulation
- Enables advanced busy hour call modeling of real-world services
- Highly scalable up to 10 million sessions per server/320 million sessions per system
- Performance up to 1.6m TPS per server

Node Emulation

- Emulate peer nodes
- Simplify complex topologies
- Isolate specific functions or test end-to-end
- Test more than 40 Diameter applications
- Subscriber data management
- Network signaling
- Support for both RADIUS and Diameter interfaces, which enables testing of fixed/mobile/Wi-Fi convergence

Application

- Simple configuration for scaling of users or nodes
- Topology driven — simplifies visualization of complex tests
- Integrated sequencer for codeless automation
- Message flow and AVP editor for easy customization
- Create any standardized, vendor-specific, or proprietary Diameter application
- Support for Keysight's virtual and high-performance platforms

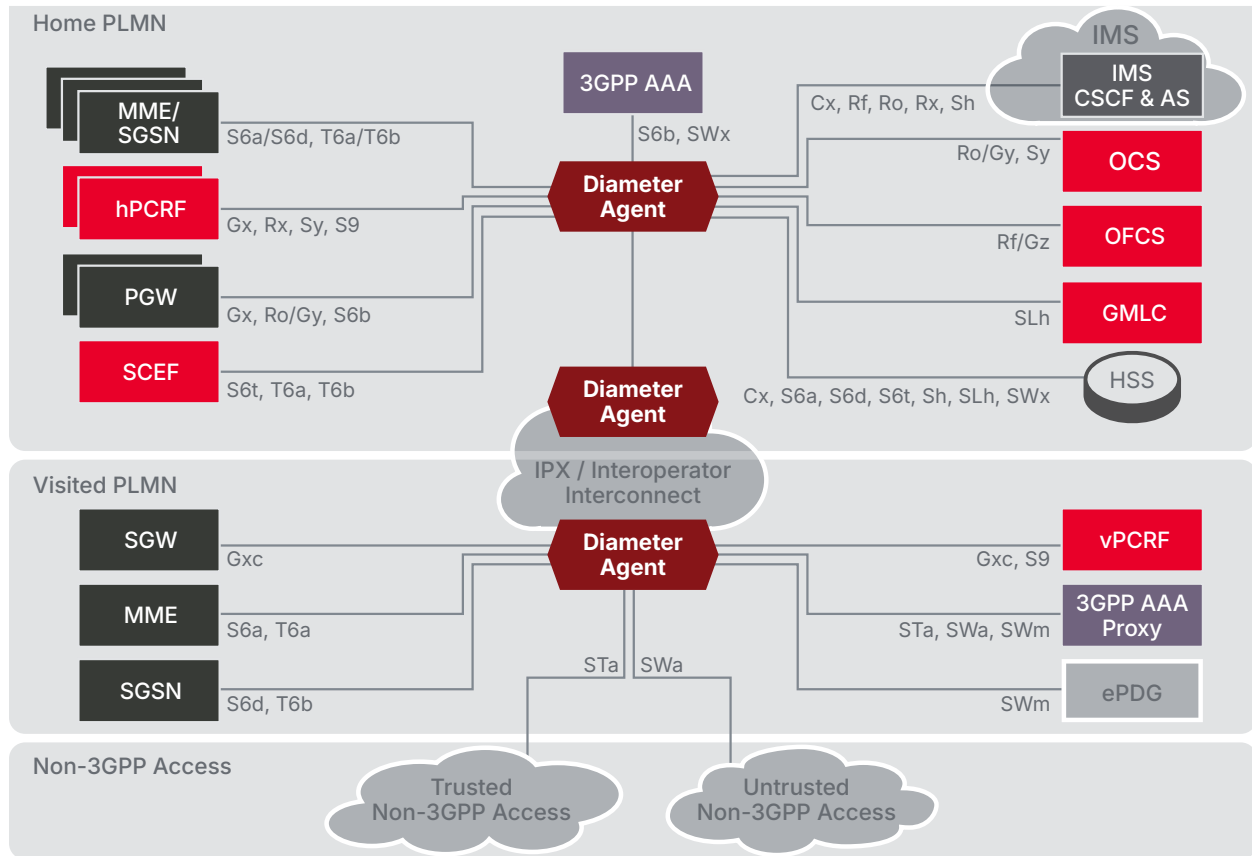


Figure 2. Landslide Diameter diagram: Solution overview

Test Objectives

- Test network control and charging functions
- Combined RADIUS and Diameter testing
- Fixed and mobile network coverage
- Key tests include:
 - Performance and scaling
 - Load balancing
 - Resiliency (failover/failback)
 - Session binding
 - Topology hiding

Test Coverage

- Diameter agents and edge agents
- Diameter signaling controller
- Policy control

- Subscriber data management
- Charging
- Session management
- AAA (RADIUS and Diameter)

PCRF Testing

- Dynamic policy control
- VoLTE bearer scenarios
- QoS control
- Mobility scenarios

DRA Testing

- Performance and scaling
- Failover/failback
- Intra-operator centralized implementations
- Inter-operator edge implementations

AAA Testing

- Access
- Authentication and authorization methods
- Resiliency
- Trusted and untrusted scenarios
- Multiple AAA server interfaces at scale

HSS Testing

- UE authentication and authorization
- Location updates
- ePC and IMS subscription profiles
- Block/provisional/allow list (EIR)
- Session and capacity loading
- User-friendly and highly configurable AVP editor

LCS Testing

- Report device location

- Emergency handling
- Access location services
- Managed location QoS
- High-scale full GMLC emulator
- Simultaneous MME, HSS connections

NB-IoT Testing

- Handle device access to IoT service
- Relay communication between device and IoT server
- Configure NIDD communication control
- Relay non-IP data between device and IoT server
- High-scale full SCEF emulator

Generic Diameter Message Interface

- Create new Diameter-based interfaces
- Customize existing interfaces
- Define messages and AVPs
- Performance and scaling
- Negative testing
- User friendly

Benchmarking Test Methodologies

- Isolated capacity and performance
- "Bucket" stress test
- "Burst" control test
- Network modeling
- Inter-technology mobility at scale
- Session loading and capacity testing

