

# Evolved Packet Core Validation



## Verifying Subscriber Experience at Scale

The most important thing we build is trust

### Next-Generation Packet Core

Long-Term Evolution (LTE) calls for a transition to a flat, all IP core network with open interfaces, called the Evolved Packet Core (EPC). The goal of the EPC is higher throughput, lower latency, simplified mobility between networks, enhanced service control and provisioning, and efficient use of network resources.

Mobile operators need to deploy the best solutions to deliver an optimum user experience and migrate to an efficient, intelligent EPC. These operators must validate to ensure the devices and network can support increasing subscriber loads with availability.

### Validating Performance

Billions of mobile devices are becoming the primary connection for business-critical apps and services. Yet few operators test their networks and devices for connection quality and security.

Testing is critical to deliver the highest quality of service and experience. Test solutions must be able to emulate real-world traffic, provide accurate analysis and scalability as networks evolve.

TeraVM is a proven Evolved Packet Core test solution for network equipment vendors and operators worldwide.

Uncovering performance limitations and failures early require subjecting the EPC network to realistic, high-load scenarios to validate the quality of experience and service.

### Scale with Realism

TeraVM uses standard hardware, which delivers significant cost savings when it comes to scaling to the realism of user traffic at terabits per second on the user plane. TeraVM's advantage of standard hardware and scale enables users to scale load scenarios on both the signalling and data planes in a cost effective manner.

### Emulating Real Subscribers

Assessing mobile networks requires the behavior of real subscribers. TeraVM mobile performance validation solution is the wide range of radio access network interfaces that can be emulated in a single standard hardware instance.

TeraVM's stateful representation of interfaces such as S1, X2, IuCS, IuPS enables TeraVM to accurately simulate the user equipment mobility behavior for Intra-LTE and Inter-RAT scenarios.

### Mobile Core Virtualization

The TeraVM virtualized platform makes it an ideal solution for validating physical mobile cores, but more importantly virtualized mobile core components. TeraVM is datacenter ready, ideal for virtual Evolved Packet Core (vEPC) testing.

These complex procedures are simplified with TeraVM's templated profiles, enabling the user to spend more time on testing versus configuring test tools.

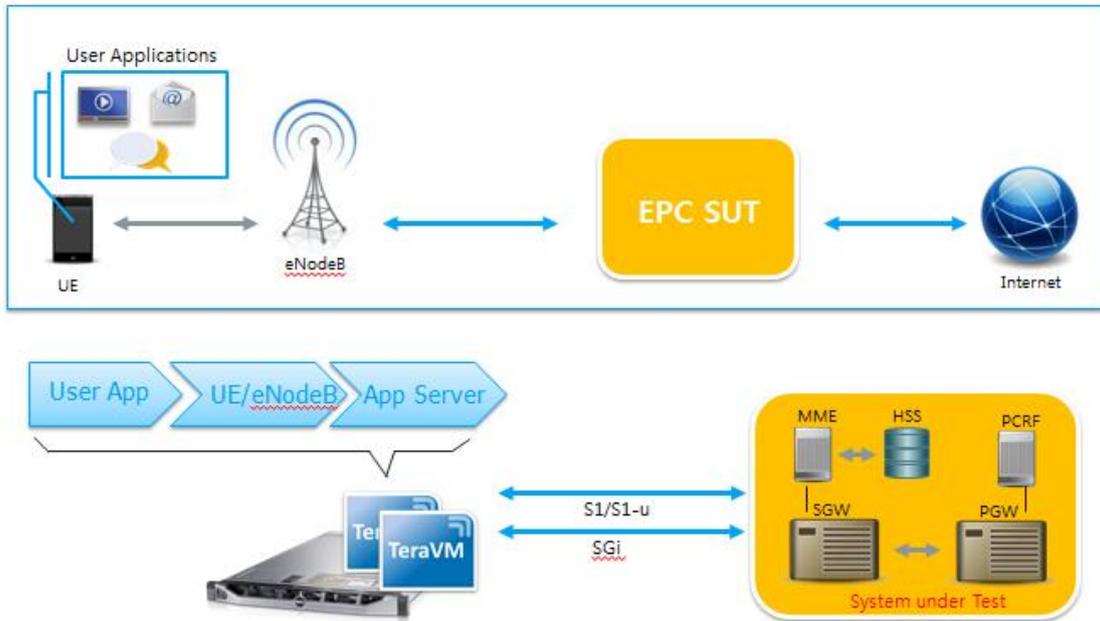
### LTE EPC Use Cases

Scaling new services require validating at every level. The TeraVM solution qualifies the functionality and performance of the EPC. TeraVM offers a complete test solution to address the broadest use cases:

- Radio Access Network
- Evolved Packet Core Validation
- IMS Performance Validation
- User Plane Performance
- Packet Gateway Validation
- MME/HSS Subscriber Validation
- 4G/3G Handover

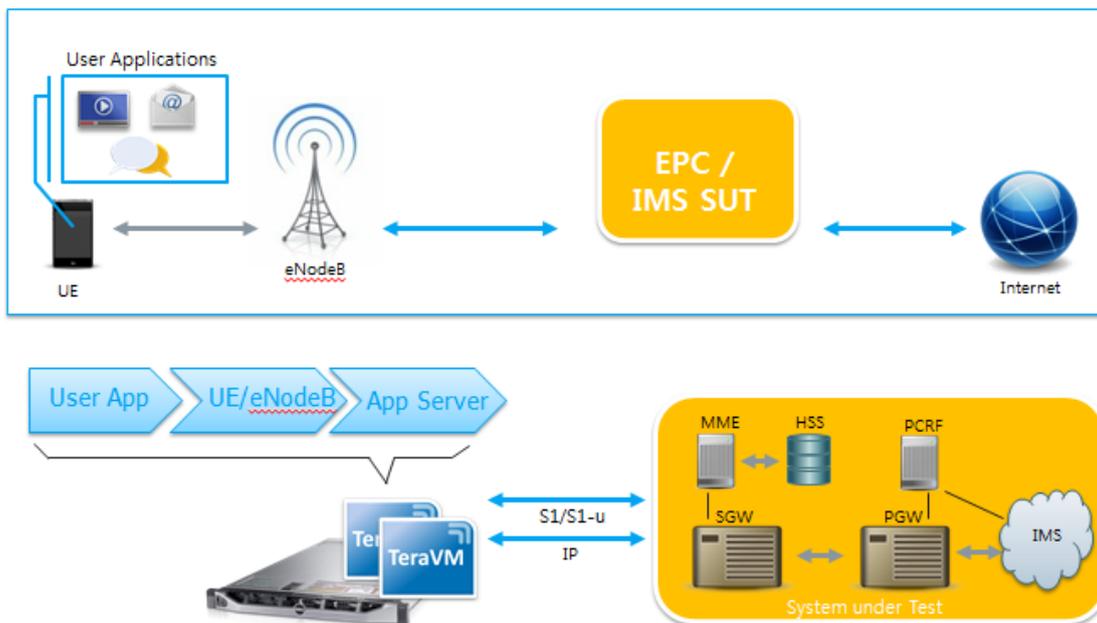
### Use Case: Evolved Packet Core Validation

3G/4G Radio Access Network Emulation



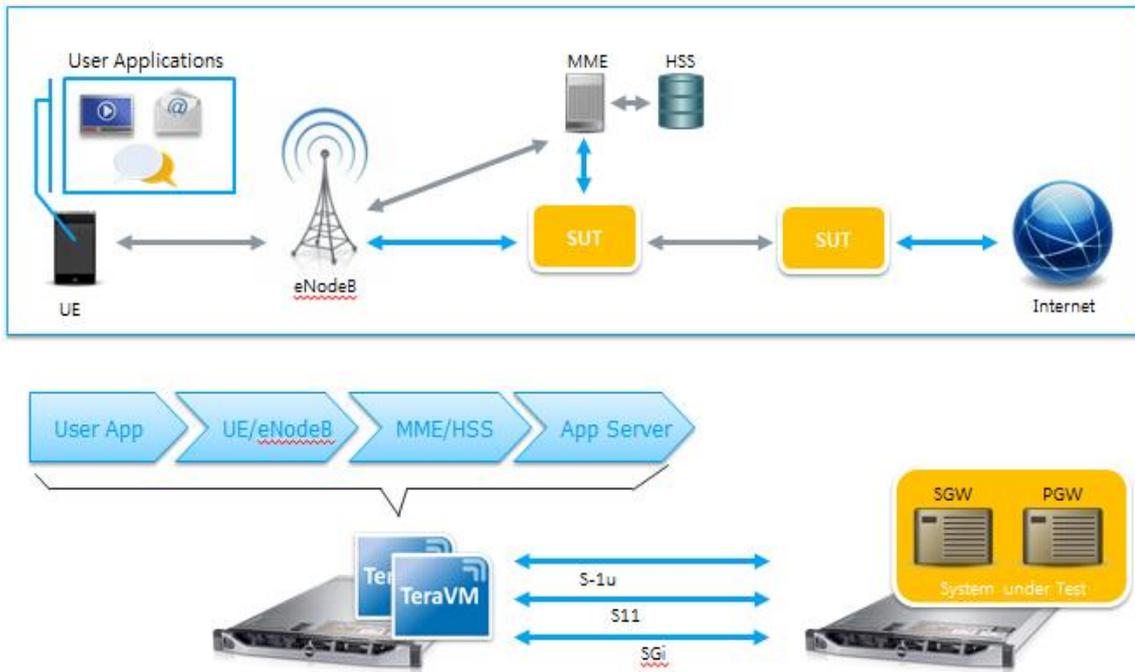
### Use Case: IMS Performance Validation

Providing Real-World Scale and Performance Testing of IMS Networks and Services



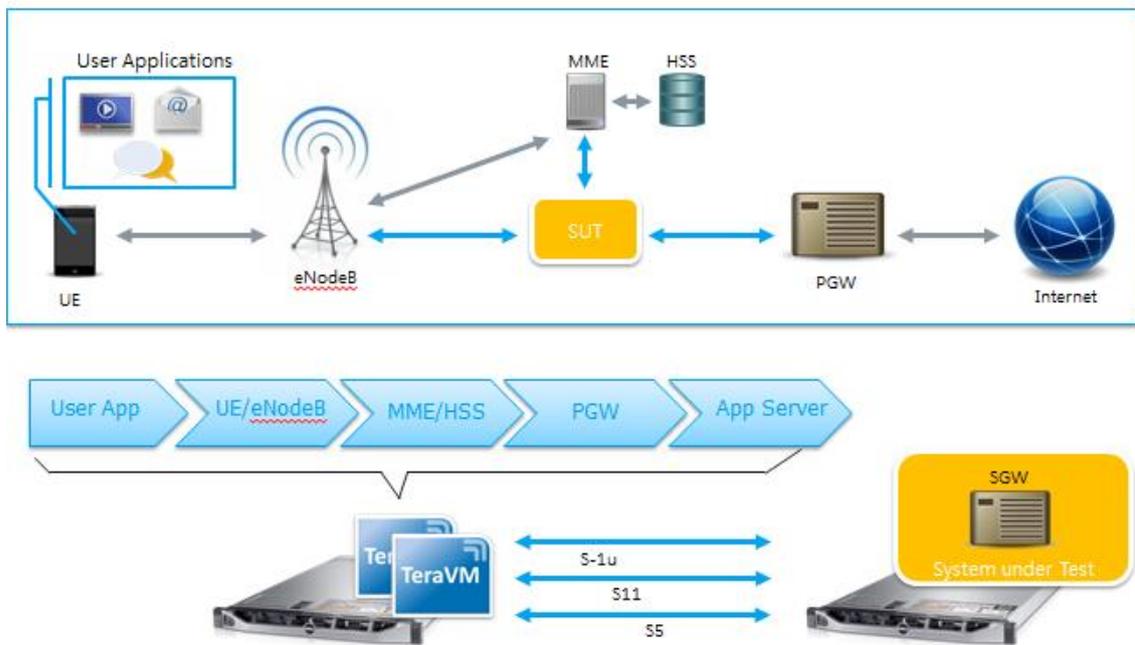
### Use Case: Packet Core Validation

User and control plane loading



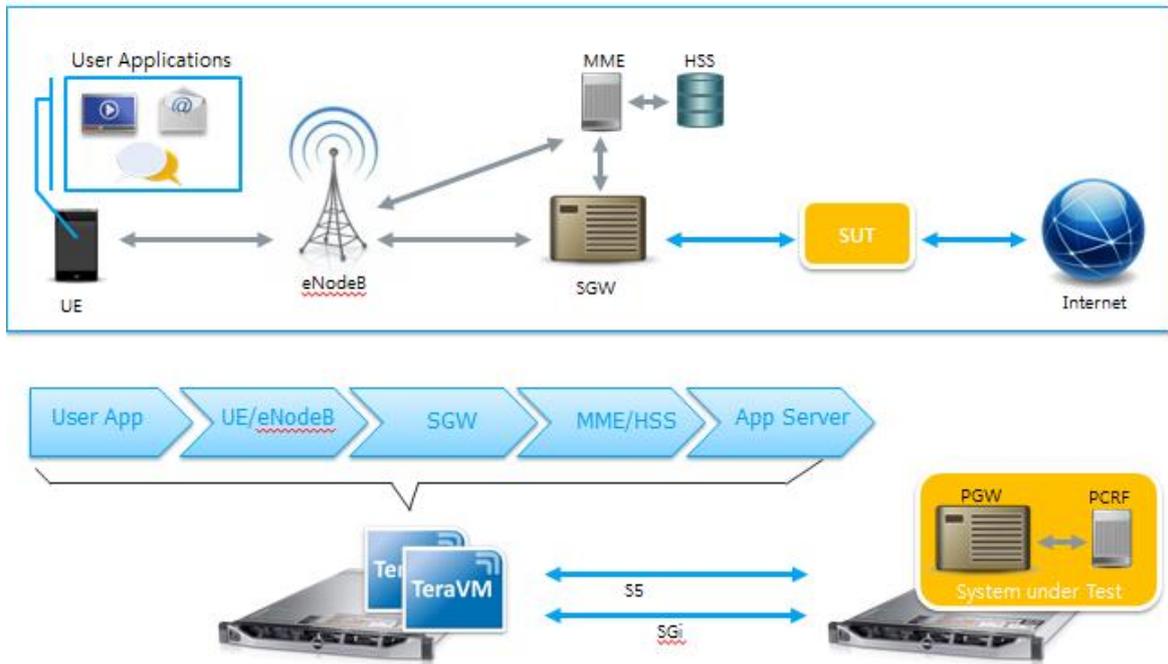
### Use Case: User Plane Performance Validation

Gateway capacity verification



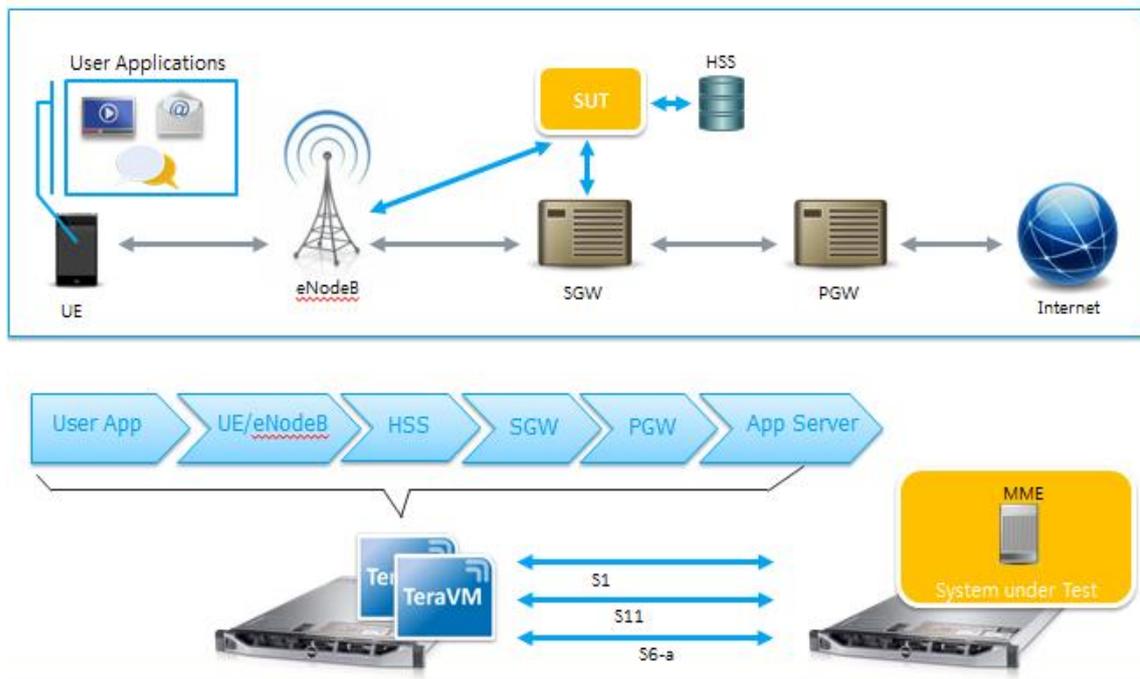
### Use Case: Packet Gateway Performance Validation

Per bearer and load emulation



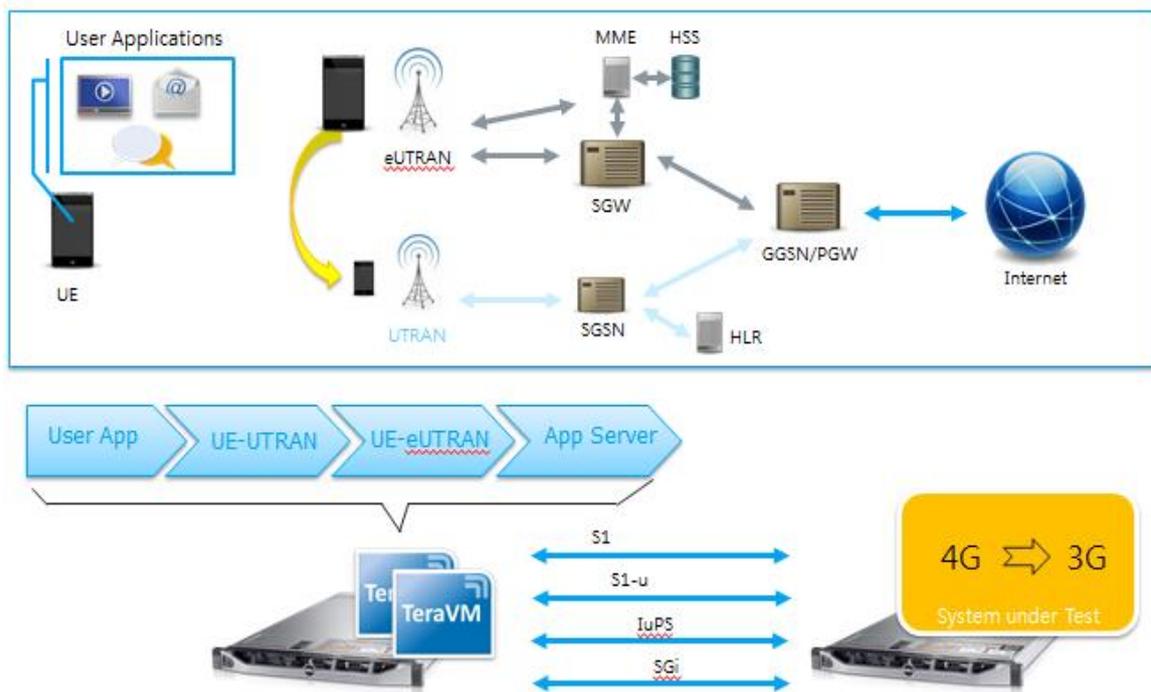
### Use Case: MME/HSS Subscriber Validation

Per UE unique requests at scale



## Use Case: 4G/3G Handover

I-RAT Verification



### TeraVM Solution Benefits

#### Usability

- Template based HTML5 user interface
- Expert and SSS mode
- OpenStack deployable

#### Price Performance

- Gigabits of application traffic over millions of bearers
- Packaged for device, functional and load testing
- Subscription pricing

#### Portability

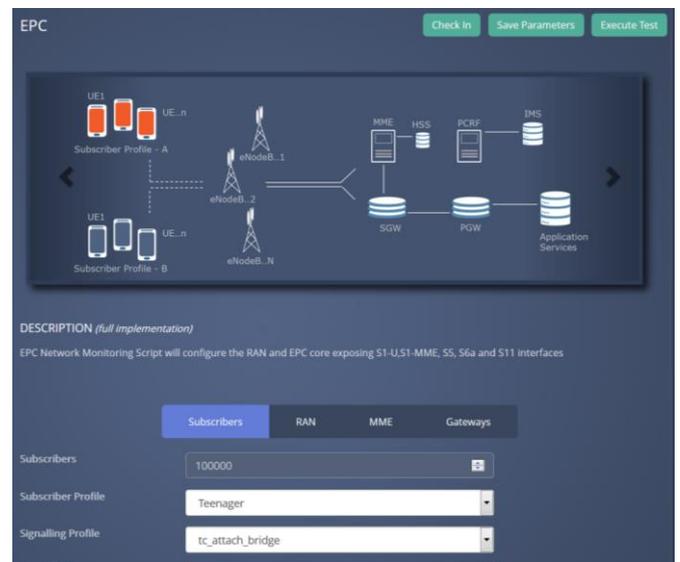
- License sharing across geo-locations
- Fully virtual for EPC and vEPC testing
- Run anywhere: lab, datacentre, cloud

#### Broadest Coverage

- Superior coverage of RAN interfaces
- 5G ready with UE enabled secure tunnel endpoints
- Most stable CORE simulation

#### Expert Support

- Interface customization
- Remote access for configuration
- Global technical expertise



TeraVM is an application emulation and security performance solution, delivering comprehensive test coverage for application services, wired and wireless networks. TeraVM is offered as a virtualized solution enabling the flexibility to run anywhere - lab, datacenter and the cloud, with consistent performance coverage, ensuring that highly optimized networks and services can be delivered with minimal risk. Visit [www.cobhamwireless.com](http://www.cobhamwireless.com) for more details on TeraVM Mobile Core validation.

