



System Integration and Verification - for a core packet switched network upgrade

Ensure a risk free introduction of a new or upgraded network (elements).

You will have a clean system integration and verification of your network upgrade with the objective of ensuring:

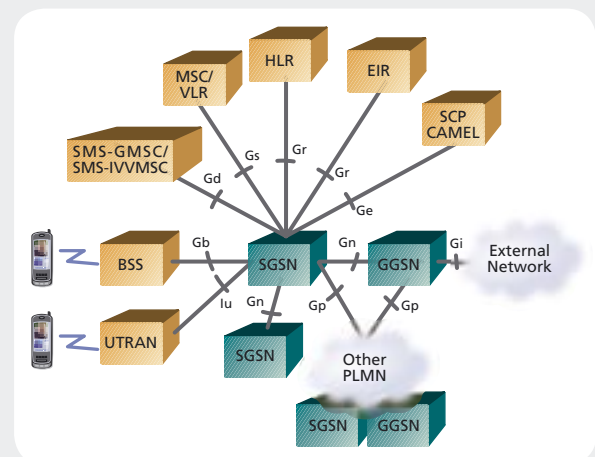
- Zero degradation of existing services
- Quick integration of the upgraded network element(s) within the existing network and with related support systems.
- Known impacts on your other systems, including plans in place to overcome any inter-working issues.
- Key features working in your environment.
- Any negative system impact will be described, logged, reproducible and customer support requests made.
- Statement of compliance of actual behaviour versus feature descriptions.
- Verification of Key Performance Indicators (KPI) such as capacity, stability, in-service performance and response times.

Our world-leading and independent system experts in this area ensure you a high quality integration and a 100% independent verification of the network upgrade versus actual feature descriptions.

Customers

- Network operators offering packet switched services.
- Network equipment providers supplying core packet switched network.

Current customers include network equipment providers and global mobile network operators. Teleca has provided this service for multi-vendor networks and we have experience with the three major network equipment providers' equipment within packet based core networks.



Teleca is an international telecom and IT services company focused on R&D that develops and integrates advanced software and information technology solutions. With in-depth expertise in the latest technology and profound industrial knowledge, Teleca helps technology- and software-intensive customers worldwide to strengthen their market positions and shorten their times to market. The company has more than 3,000 employees and operations in 15 countries in Asia, Europe and North America. Teleca is quoted on the Attract40 list of the Stockholm Stock Exchange.

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Service Offering

This service offering is focused on system integration and verification of an upgraded or new packet switched core network. The packet switched core network can be supporting both a GSM/EDGE radio access network and/or UTRAN (WCDMA).

Teleca can take on full responsibility for the system integration and verification of the packet core network upgrade from the actual:

- **Integration and verification strategy;** There is a need to set overall strategies like how one anticipate the progress to follow a "S-curve", the best way to perform a quick integration for inter working with existing network elements, the actual test process to use, overall test strategies like the use of a test anatomy, number of prioritisation levels for test cases and the use of a pyramid test approach. Having set the integration and verification strategies, the project will continue with:
- **Planning** An overall integration analysis, (inter working with existing network and support systems), a verification analysis and a detailed planning will be performed. This will focus on the larger inter working aspects and what needs to be tested. This will include an integration and verification object list.
- **Design** When the requirements are identified and clearly understood one can start determining how to integrate and verify these requirements.
- **Implementation** of the test cases identified in the appropriate test language and procedures.
- **Execution** following the initial integration in the network, the actual verification needs to be conducted on the correct software release for the upgrade. If there are new software releases during the project regression tests are performed accordingly.
- **Evaluation** The verification will be evaluated per test object in a test report. In addition a final integration, test and project report will be made upon completion of the project.

The integration and verification object list will typically include:

Different O&M related test objects;

- Software handling
- Configuration of specific interfaces
- Fault Management
- Performance Management
- Element Management, etc.

Traffic related tests objects;

- Charging, CAMEL services
- Mobility Management
- Session Management
- Key Performance Indicators
- Payload handling, etc.

Load and Stability tests

Critical call tests

Interoperability tests

Regression tests

Negative tests

Ad-hoc tests

In order to perform a high quality system integration and verification as close to real network conditions as possible, it is necessary to have background load on the network elements in question when performing the above listed tests. Teleca's scalable intensive test tool offers an easy-to-use, high capacity traffic load generator that can be used in Integration and Verification projects.

Why choose Teleca

Teleca has a vast and unique expertise and competence within packet based networks for GPRS and UMTS, working with both major network equipment providers (since mid 1990s) and global mobile operators.

Teleca has performed a number of successful network upgrade projects for global mobile operators with multi-vendor equipment. That is, we have experience with equipment from three of the major network equipment providers in the packet switched core network domain.