

**Ascom**

Mobile Network Testing & Verification of Services



**ascom**



The real-time verification of function and quality on Mobile Voice and Data Services helps insure subscriber satisfaction and secure the revenue stream

### Securing QoS – 24 Hours a Day

Ascom's Service Testing System (STS) is a SIM card based platform architecture that gives operators the versatility to perform roaming function analysis but also has the flexibility to verify availability and quality of service performance. Both testing applications are managed in real-time and from the subscribers' perspective.

Mobile data applications contribute to the revenue stream but are more complex to manage than traditional voice services. In order to capture this incremental income operators must be able to deliver high-quality and uninterrupted facility for all services.

With Ascom STS, effective and continuous 24 hours-a-day network monitoring is the solution. With its fully automated features, it is the proven approach to ensure continuous performance of voice and value-added mobile data applications.

The Service Testing System assists in securing roaming and service income by accurately monitoring quality performance through proactive testing – and alerting operators of network problems that can quickly translate into revenue loss and subscriber dissatisfaction.

### Improving Customer Satisfaction

When any service is in risk, by applying operator set limits, the Ascom system generates customizable actions such as alarms, pager alerts or e-mail notifications so appropriate and timely corrective steps can be initiated even before subscribers have time to lodge a complaint.

### Evaluating Speech Quality with PESQ

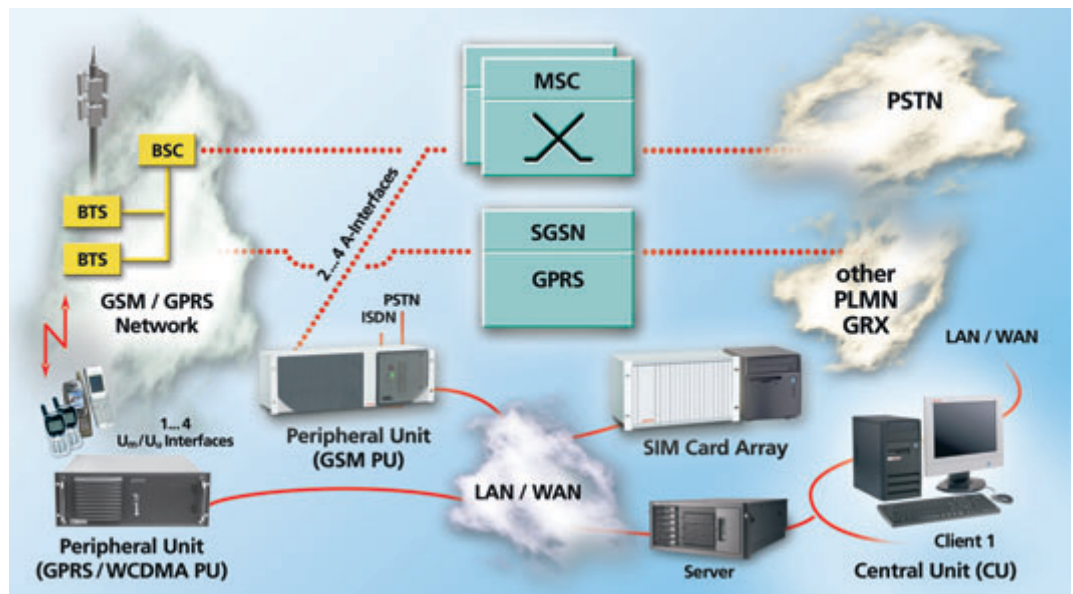
Degradation in speech quality often results from IP routing, satellite linking and compression. With the Ascom system operators have the advantage of being able to evaluate the effect on end-to-end speech quality connections with either P.862 or P.862.1 standard algorithms that are part of the system's software.

### Controlling IP Services

The Service Testing System can be used to measure, monitor and report on GSM/GPRS/WCDMA carried data services such as SMS, e-mail, news, file transfer protocol (FTP) and MMS.

### Managing Network Modifications

A mobile network undergoes numerous changes just to keep up with the growth in subscribers. But regular verification of services helps avoid problems. Ascom STS can also be used to locate network anomalies following network extensions or modifications or new software downloads.





Ascom Service Testing System is there to help with all your IREG and specialized testing requirements from initial roaming to periodic control

**Initial Roaming Testing-Time to Market**

An important system benefit is helping operators get new Roaming Partners on line fast. By simplifying the obligatory GSM Association IREG specifications for Functional Capability in bilateral roaming, new agreements can be approved quicker, more economically and offered to the market with immediate increase in roaming income.

**Periodic Roaming Testing**

Roaming testing is necessary for maintaining full availability of quality international mobile services. Assessing roaming performance is an on-going chore and testing the full range of services for each Roaming Partner is a time-consuming task that is cost-intensive in terms of staff and administration.

Ascom's approach to use real subscriber SIM cards to execute automated test calls reduces much of these costs.

The Ascom Service Testing System platform offers the flexibility, speed and accuracy that operators demand in network testing – for roaming function performance and verification of value-added data services

**Performance with Scalability**

Using high card density capabilities, the system can be configured to support an ever-growing network. That's because it is built on PUs that are strategically located in defined "regions" of the mobile network. Regardless of whether the test interface is PSTN, ISDN, mobile radio or A-interface, the PUs execute test orders and gather meaningful results for subsequent statistics and analysis. An Ascom system's SIM Card Array can hold up to 4,800 of Roaming Partners and own network SIM cards.

**Centralised Management**

Configuration, test monitoring and reporting is through a Central Unit where is possible to manage numerous tests with a small staff. Centralised control also shortens the time required to diagnose and fix problems.

**Flexibility to Standards**

The system supports GSM Association IREG Roaming Testing specifications. Campaigns can be scheduled to take place at any time and as often as desired. Users can use pre-programmed scenarios or create their own test cases.

**Fast Set-up and Proactive Monitoring**

The Service Testing System generates calls and tests services using easy-to-set-up test routines. And its fast test results make it easy to head off potential problems before they adversely affect performance and important GSM/GPRS/WCDMA services. By continuous monitoring, the system can exactly and in realtime determine where and when a problem occurs.

**Reports**

There are also a number of built-in reporting functions that provide in-depth information on the operation and performance levels of the network. These reports are created in standard formats allowing simple handling and data exchange.

<b>Subscriber Satisfaction and Revenue Protection</b>	
	
<p><b>Roaming Conformance</b></p> <ul style="list-style-type: none"> <li>- Initial IREG</li> <li>- On-going IREG</li> <li>- System specific</li> </ul>	<p><b>Service Verification</b></p> <ul style="list-style-type: none"> <li>- Speech</li> <li>- Fax</li> <li>- Data</li> <li>- E-Mail</li> <li>- FTP</li> <li>- HTTP</li> <li>- SMS</li> <li>- MMS</li> <li>- PING</li> </ul>
<b>Availability &amp; Performance Monitoring Testing Value Added Services</b>	
<b>GSM / GPRS / WCDMA Networks</b>	



Ascom Service Testing System broadens perspectives-showing possibilities in mobile network testing and performance measurements that will help you reach QoS levels never thought possible

#### **Ensuring Roaming Compliance**

The system provides quick and reliable tests of roaming functionality and SIM card validity between GSM operators.

#### **Advanced Design**

Up to four A interfaces per Peripheral Unit (PU) provides the best performance solution with an actual location update rate of thousands per hour and the possibility to run lots of tests simultaneously. The system also has the capacity to handle hundreds of MOC/MTC tests per hour.

#### **Verification of Services**

Ascom's system monitors voice and services for GPRS/WCDMA and other mobile data infrastructures ensuring quality performance.

#### **Simplified Administration**

True plug-n-play performance as well as easy set-up of test campaigns, all managed from a single location by a single operator separates the Ascom solution from its rivals.

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#### **Supported Tests**

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##### **IREG 24**

- Basic Services
- Supplementary Services

##### **IREG 26**

- Supplementary Services

##### **IREG 27**

- Data/Fax Services

##### **IREG 28/29**

- Test with Automatic Answer Circuits

##### **IREG 32**

- CAMEL Phase 1+2

##### **GPRS/WCDMA**

- IR35 incl. FTP, HTTP
- SMS, MMS, E-mail, PING

##### **Additional Test Cases**

- SMS Test
- Connectionless MOC/MTC
- Prepaid Tests

##### **Speech Quality (PESQ)**

- P.862
  - P.862.1
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