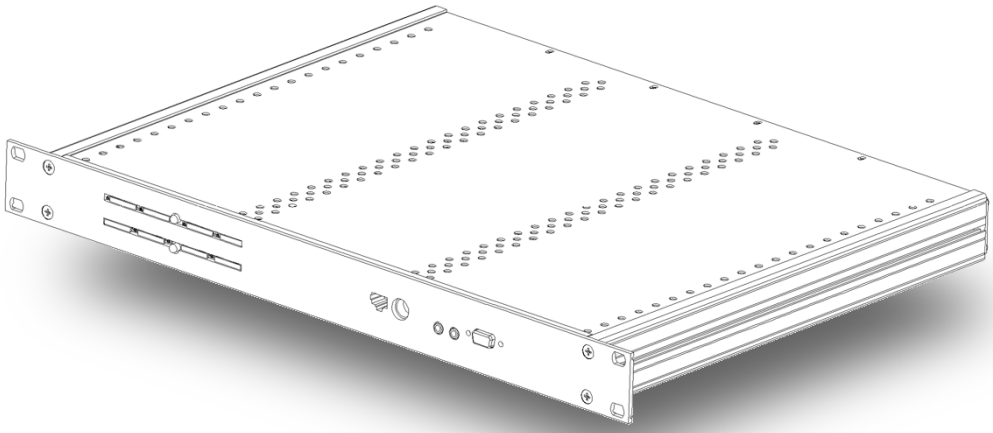
CSM4202/4208 SMS Monitoring and Test



Overview

As text messaging grows in popularity it is becoming an increasingly important revenue stream to cellular network operators. Even a short downtime can lead to significant revenue loss.

As 'texting' becomes an accepted method of communication, reliability of the service is becoming as important to users as the reliability of voice services. Worse, with a voice call a customer knows when it has failed, with a text message they don't. Ensuring reliability of the service should therefore be paramount in a network's drive for customer retention.

To help in this quest Smith Myers Communications has developed a system for the reliable testing of SMS networks. It provides the service engineer with prompt reporting of equipment failure as well as accurate and timely information about a range of system performance parameters. Armed with this information an engineer can maximise service levels and respond rapidly to system faults.

Key features of the equipment are:

- Detects equipment failure
- Monitors point-to-point transmission time
- Monitors transmissions from time critical applications
- Works with multiple SMSCs
- Can be used for cross-network analysis
- Can be used for analysis of rival network performance

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Product Description

The Smith Myers SMS Network Monitoring and Test System provides engineers with a comprehensive and flexible set of tools for the maintenance of SMS infrastructure. Once configured it provides engineers with the means of running dedicated tests to verify the correct operation of the system, to monitor system operation and to check for compliance with key performance targets.

The equipment can be configured so that engineers located at remote locations can carry out tests across geographical boundaries. This, together with the availability of a portable version of the equipment ensures maximum flexibility in the tests that can be run. Multiple users can be given access to the system with different access rights and can run multiple tests simultaneously.

The equipment operates with standard SIM cards to enable it to be configured for operation on any network. By appropriate selection of SIM cards it is possible to configure the equipment to emulate devices on multiple networks or devices of different types, e.g. prepay and contract. It will operate on any GSM network using the 900MHz, 1800MHz or 1900MHz bands.

Test message transmission can be configured with adjustable message length and sent via different SMS Centres. Test results are easily accessible for subsequent analysis. Failures can be defined and alerts issued via text message, email or, if the appropriate module is installed via SNMP alerts to a network control centre.

There are two variations on the basic theme with different capabilities and applications. The 4208 is a static unit installed in network locations and supports 8 SIM cards. The 4202 is a portable unit that supports two SIM cards and interfaces to a PC using the industry standard USB interface. When connected to a PC that is connected to the network it becomes available as an extension to the main system. The 4208 can also be used as a stand alone and portable device for data collection on the road.

The system can be expanded by installing additional units that integrate seamlessly and increase the resources available to users.

4208

The 4208 supports up to eight SIM cards and is contained within a single 1U high 19” rack making it easy to install in a standard equipment cabinet. An Ethernet connection is provided so that the unit can be accessed remotely. Each unit can be configured as either a master or a slave device. A system should consist of a single 4208 configured as a master device and can include any number of slave devices consisting of 4208s installed in fixed location and 4202s used as portable devices.

The master device provides control of the whole system and a single connection point for access to the system. Slave devices provide additional capacity and communicate directly with the master.

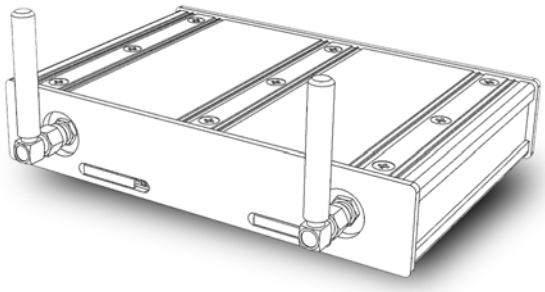
The unit features a front panel display and keypad enabling it to be configured without having to connect external screen and keyboard.

The system provides two levels of access to prevent unauthorised changes to system configuration by users. Unless specifically permitted by a user when configuring a test all tests and associated results are protected from interference by other users.

4202

The 4202 is a portable unit that supports two SIM cards. It can be used as a stand alone device in a mobile environment or can integrate seamlessly with a 4208 based network to provide additional devices or greater geographical diversity.

When used as a standalone device connected to a PC or laptop computer it provides a subset of the functionality found on the main system and with a familiar user interface.



Applications

The Smith Myers SMS Monitoring and Test System has been designed to offer the flexibility required to enable its use in a range of applications. Because it can be accessed from any web-enabled this leads to a saving in capital costs because it is not necessary to equip individual engineering teams. A test and its results can be accessed from any PC on the network using a web browser which gives the engineer the flexibility to configure a set of tests and then access the results from another location.

A test may schedule the transmission of text messages between any two modules on the system and using any specified SMSC. By distributing a number of units over a geographical area it is possible to ensure that different cellsites and MSCs can be covered by the tests so maximising the range of tests that can be achieved. Typical applications might include:

Performance Monitoring

The ability to send repeat messages and to accurately log the transmission and reception times of text messages makes it easy to configure tests to monitor adherence to network performance targets. Results are configurable to reflect the targets in place and can be analysed to give early warnings of deviation from those targets.

Fault Detection

By sending repeated messages between units within the system and with the ability to specify additional parameters such as which SMS centre to use a continuous background check on equipment availability can be made. Engineers can be alerted of failures as soon as they are detected and before they become a concern for subscribers. Alerts can be by either email or text message to an engineers phone or by SNMP trap to a network control centre.

The early detection of problems with SMS transmission assists in early rectification and the minimization of downtime of critical revenue generating resources.

Competitor Performance Analysis

In today's competitive climate it is not enough to know that your network is meeting key performance targets. A careful eye must be kept on the performance of competitor networks as well. Because the equipment can use any modern SIM card it is possible to configure it to run simultaneous tests on several networks. Comparisons of performance with competing networks can lead to an indication of areas that need improvement or issues that need to be addressed.

Regression Testing

After network maintenance or upgrades it is useful to be able to establish that any changes made have not had any deleterious effects on system performance. The ability to transmit a large number of test messages with varying parameters enables an engineer to ensure that the changes made have not had any unexpected side-effects.

The Smith Myers SMS network analysis system is an essential tool for network engineers and customer service engineers keen on delivering the best from their infrastructure.

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