



ESG-NetCOP

Network Configuration, Optimisation and Planning Tool

Overview

NETWORK PLANNING – CHALLENGES AHEAD

In the light of the increasing market pressure that all operators are facing today, offering a high-quality network under substantial cost restrictions is an essential step to stay ahead of the competition.

To achieve that goal, a highly integrated network planning process, covering all areas of a network from the access through the core up to the signaling network, is required. Starting with the essential traffic flow between subscribers that must be handled by the network, a uniform planning environment is required that allows the planning and optimisation of the complete network. Among other things, it must be possible to study what-if scenarios efficiently, even under substantial changes to the network structure. Such changes might become necessary to migrate

from the expansion-driven network architecture of the past to the cost efficiency-driven architecture of the future.

Besides covering all areas of a network, the advent of 3G networks also emphasises the need to provide an integrated planning process across all the different technologies. This is a particularly demanding task, as the 3G technology introduces many new degrees of freedom, a huge number of parameters available to tune the network and an unprecedented amount of configuration work that needs to be performed to ensure the network operates reliably. Only if all the different parts of the network are well harmonised can it be possible to operate the overall network reliably and efficiently.

Network Planning with ESG-NetCOP

ESG-NetCOP is the first fully integrated fixed network planning tool for mobile networks. It covers all areas of a network, from the access network through the core network to the signaling network. It offers individual modules that can be used independently to cover each of these areas. All modules operate on a single inventory database. This avoids the kind of errors frequently caused by multiple data sources (e.g. outdated or conflicting information) when working with a set of non-integrated tools.

In addition, the tool suite covers all the different technologies, from traditional GSM (2G) through GPRS (2.5G) to UMTS (3G), all in a single planning environment.

The objective of the tool is to streamline the planning process, relieving

the planner of routine tasks so that he can focus on more sophisticated activities. This allows him to concentrate on optimising the fixed network structure and cost, instead of wasting time with routine calculations.

HIGHLIGHTS	
▶	Uniform planning environment for 2G, 2.5G and 3G networks
▶	Used by several of the largest and most innovative operators in the world
▶	Integrated planning of all areas of a mobile operator's fixed network, from access through the core to the signaling network
▶	One single database that holds all planning results



NetCOP for 3G and 2/2.5G networks

General Performance Features

ESG-NetCOP provides a framework for fixed network planning with a state-of-the-art graphical user interface. Network planning is performed on a geographic map, supplemented by an extensive set of features that support the various planning tasks and a multitude of options to present the planning results either graphically, as diagrams, tables or reports. The ESG-NetCOP workflow concept guides the user through the network planning process and ensures the overall integrity and consistency of the planned network at all times.

ESG-NetCOP is structured as a workbench. It contains a common core basis on which all components used for planning the various parts of a fixed network operate. Specifically, this workbench consists of the following elements:

- ▶ The object model of the network
- ▶ Optimisation algorithms operating on this object model
- ▶ A geographical information system component to geographically display the network and to handle other tasks of geographical significance
- ▶ A database connection to provide persistent storage of the network model

The workbench is implemented in a state-of-the-art, three-tier architecture, applying the object-oriented paradigm.

Individual modules are available to cover all the different areas and technologies present in a mobile network today. Further information is available for each of these modules.

ESG-NetCOP Software

- ▶ State-of-the-art three-tier system architecture
- ▶ Java-based client, running on a variety of operating systems (such as Windows 2000, Windows XP, SUN Solaris)
- ▶ Server written in C++, running on a SUN Solaris or Linux based workstation
- ▶ Relational database (Oracle) to reliably store all network related information (plain file system also available upon request)

Benefits

- ▶ Strengthen your position on the market
- ▶ Increase customer satisfaction
- ▶ Cut your operating costs
- ▶ Accelerate the planning cycle
- ▶ Enhance the quality and reliability of planning results