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# NET INTERCONNECT

*A product for analysis, optimisation and simulation of network interconnections between telecommunications operators.*

## INTRODUCTION

Within the current context of liberalised telecommunications markets, telephone operators require tools which allow them to manage and plan interconnections with other operators. Net-Interconnect is an AIA Group tool geared towards simulation and optimisation of telephone interconnections which allows operators to cover their needs in terms of management and planning.

## FUNCTIONS

Optimisation of the capacity of the interconnections by means of information directly provided by each of the calls made.

- It decides the invoicing methods which are most favourable to the interests of the operator.
- It predicts the traffic at each of the operator's interconnections, and takes into account the various services provided by the operator.
- Display and monitoring of the capacity of each interconnection, for early warnings of alerts and criticality points.
- Simulation of the strategies of competing operators, and own strategy.

## System modules

The modules which make up the NET-INTERCONNECT system are as follows:

- Date-Gathering Module. This secures daily information relating to interconnections, based on the calls made through them.

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- **Simulation Module.** Using information concerning the topology of the interconnections network and the traffic moving through the network, the system can calculate new scenarios where changes have been made to the topological structure (new points of interconnection, new routings etc.).
- **Traffic Forecast Module.** The system predicts future traffic, taking account of topological changes within the network. The results of these forecasts show activity within the network, and this may later be added to the optimisation and forecast systems.
- **Optimisation Module.** The system provides a number of optimisation options for maximum economic output of the network in the short, medium and long term.
- **Card Modelling Module.** The Net-Interconnect system allows us to define a number of different types of rates, using a highly flexible language based on XML. The various types of tariffs may be assessed with historical and forecast traffic for an idea of the costs and revenues over any period of time.
- **Display Module.** Information gathered on a daily basis or as the result of the forecasts or optimisations performed is set out from a number of viewpoints, together with graphs, maps and tables for easier understanding.

## HIGHLIGHTS

- Designed for both fixed and mobile networks. Includes modelling of telephone calls to Internet.
- Fast return on investment (ROI).
- Ability to structure the required data from extremely low-level information such as daily calls.
- Information disintegrated by the various telephone services available.
- Display of points of interconnection at the level of routes and services.
- Integrated forecasting system to perform simulations and optimisations of traffic and future infrastructure.

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- A highly flexible XML-based language for definition of tariffs, allowing the user to generate new kinds of tariffs for simulations and optimisations.
- A set of optimisations to maximise the output of interconnections with the other operators.
- An integrated system within a web environment, with integrated user management.

## DESTINATIONS

Any operator in the liberalised telecommunications markets.

## ARCHITECTURE / REQUIREMENTS

Net-Interconnect is based on WEB technology which reduces the requirements for system users to the minimum, i.e. they need only a standard browser system, and an Adobe plug-in for display of SVG graphs. The system is fundamentally based on the use of servlets in Java, except in the case of the data-gathering system (developed in C++ in order to optimise the data-collection times).

Modular architecture has been adopted for the Net-Interconnect platform design. In this way, the various modules may easily be added at any time to the basic structure.

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