



ARTIA Intelligent Real-time Routing

Artium's intelligent real-time routing delivers high quality services at minimal cost and optimizes them in real time to further increase business visibility.

Today telecom providers have several stand-alone carrier-grade switches, each with their own static routing. In today's highly competitive environment, it is essential to have tools which enable rapid progress to market and maximum flexibility. Artium's real-time routing delivers high quality services at minimal cost and optimizes them in real time to further increase business visibility.

The use of the automated real-time routing engine improves the quality of termination. It helps to deliver reliable and high quality services to subscribers. The Artium solution's multiproduct awareness enables the creation of different tariffs which leads to better, more personalized service offerings to end-users.

Lowering operational costs depends upon discovering where time and money are being wasted in the business process. Reducing overheads caused by provisioning routing in various service node interfaces is a key area where operators can increase efficiency.

Today, many of these provisioning tasks are semi-automated or still performed manually. The Artium solution can automate these tasks based on predefined parameters.

Managers often have little or no idea where there is potential to increase revenue and margin per user. Equally importantly, they can have virtually no grip on misuse or revenue leaks. Real-time reporting allows an operator to improve routing parameters for the total environment in a dynamic way.

The Artium real-time routing solution is offered today with the ARTIA platform technology sited in the common telecom layer to provide connectivity to different SSPs and softswitches.

An overview of the Artium solution

This future-proof solution is a perfect fit for convergence of wireline, VoIP, VoDSL and MVNE/MVNO applications.

The concept consists of two layers:

- The Service Gateway (Telecom Layer)
- The Service Delivery Platform (Application Layer).

This solution has already been successfully integrated on Nortel DMS and GSP, Ericsson AXE, Siemens EWSD, Alcatel E-series, Thomson/Cirpack and Cisco PGW.

Real-time Routing Engine

Artium's embedded advanced real-time routing engine allows system administrators to implement a variety of routing methods. Routing schemes can be based on one or a combination of several routing methods.

The ARTIA platform is fully product-aware. This means that a specific product can be assigned to each customer. Each of these products has its own set of routing parameters. The routing parameters are based on different routing methods that can include basic standards such as:

- Destination-based
- Time-based
- DID-based Routing

And can include advanced mechanisms such as:

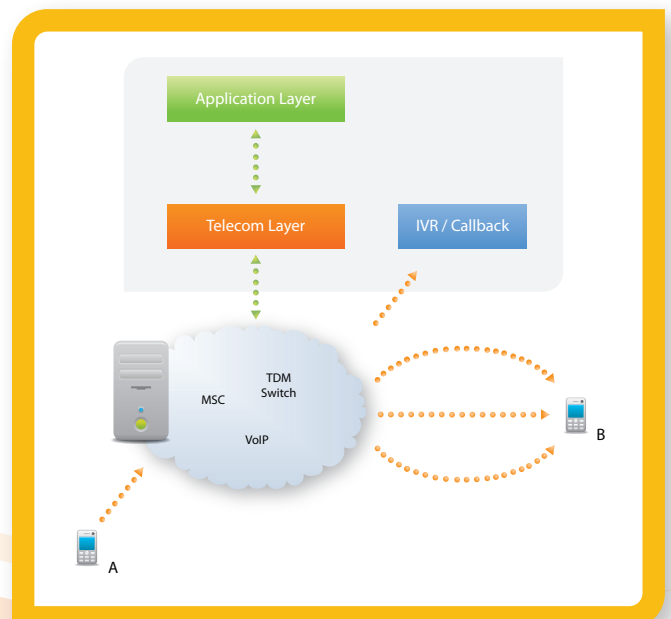
- Automatic Least Cost Routing
- Quality-based Routing
- Margin-based Routing
- ASR/NER-based Routing
- Average Call Duration Routing
- Load-balanced Percentage Routing
- Bearer Capability Routing
- Subscriber-dependent Routing

The available portfolio of special routings includes:

- Usage-related Routing
- Re-routing on cause values
- Number Portability Routing

Automatic Least Cost Routing

Artium's Automatic Least Cost Routing (ALCR) sends communication requests over the most cost-effective lines and carriers available on your infrastructure. It ensures that call traffic is routed efficiently and economically. The ALCR process is fully automatic. The administration is limited to parameter updating.



Quality-based Routing

The primary business control mechanism is Quality-based Routing since this determines how traffic leaves the network, which in turn determines the cost base. It supports differential routing for different customer and traffic types, based on the call quality requested by the customer.

Margin-based Routing

The increasingly competitive telecom industry is creating a demand for optimized call-route management solutions, offering sophisticated routing capabilities that allow an operator to maximize its margins. Once minimum gross margin thresholds are provisioned, the required service is delivered to the customers. Low or negative margin routes and re-routes are eliminated automatically, maximizing operating margins.

ASR/NER-based Routing

Data obtained from different sources in the system, when compared, determine how well a business is performing. These data are inputted into the routing decision process in real time.

Performance measurements from call detail records and switch statistics are collected 24/7 and provide identification of quality issues on a variety of real-world usage patterns, such as call completion and error call ratios (ASR, NER etc).

It provides measurements that enable the ability to benchmark performance improvements to help strive continually for increased productivity and profitability.

Average Call Duration Routing

The duration of a call is often an important key indicator for carrier quality problems. When average call duration drops suddenly, there is a great chance that this is due to carrier line quality problems.

Load-balanced Percentage Routing

Load balancing the destinations over multiple providers has become a common way of

handling traffic and is also used as a point of price negotiation and real-time testing to minimize the possible disadvantage at the customer level. Depending on the needs, the percentage-calls will be handled by the corresponding carriers.

Bearer Capability Routing

Depending on the bearer capability of the call, a network selection can be made. So a voice, fax or video call can be routed to the best network determined by quality or margin.

Subscriber-dependent Routing

Depending on the incoming subscriber, the routing can be configured so that the top customer gets the best quality service.

Usage-related Routing

The usage-related rating mechanism depends on the amount of minutes that have already been handled by a specific carrier or even for a specific destination with this carrier. Once the thresholds have been reached, the carrier will be eliminated automatically and the required service is handled by the next provisioned/available carrier.

Re-routing on Cause Values

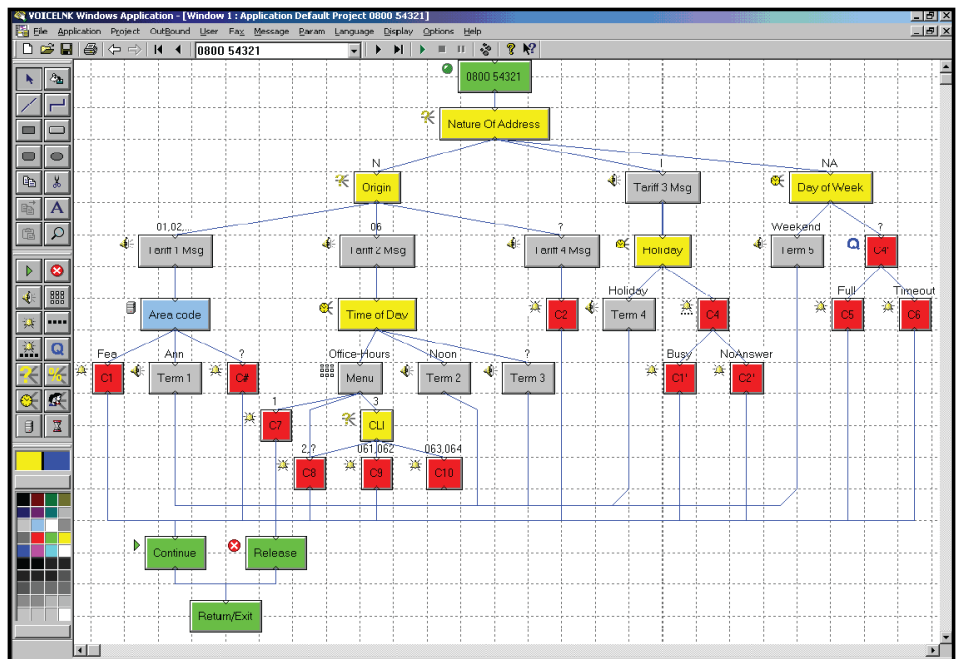
Re-routing can be performed on a scale of value causes (i.e. no circuit channel available – circuit out of order – temporary failure etc) so a maximum of available services is offered to end-users.

Number Portability Routing

The system will investigate where the destination number is owned and will route to the network that is most convenient.

OSS/BSS Environment

Artium has more than a decade's experience of delivering Operation Support Systems (OSS) and Business Support Systems (BSS) for telecom operators, vendors and service providers internationally. Artium undertakes the design, development, implementation and maintenance of these systems that form the backbone of every telecom operation. The Service Creation Environment is based on the powerful Artium graphical application generator (as shown below) and provides the capability to define scenarios for IVR from the simple to the very complex.



Artium is the leading developer of Microsoft-based carrier-grade software for mobile networks.

Artium's ARTA Mobile Services Platform is an open, modular, highly extensible Next Generation Service Delivery Platform built on Service Oriented Architecture principles and designed to enable rapid creation of new mobile applications, packaged as services, throughout their lifecycle.

ARTA activates the coming wave of third-party application development and innovation. By providing open and secure access to mobile network functionality and autonomous software processes, ARTA enables infinite possibilities for intelligent mashups which combine network capabilities of presence, mobility, location and telephony; with Web services including advertising, social networking and search.



Based in Belgium with offices in the United Kingdom, Artium is a publicly listed company on the London Stock Exchange (LSE/AIM: ARTA). The company was founded in 1995 and has completed more than 40 installations serving tens of millions of end-users in 11 countries.