



PROJECT RESULTS

Advanced platforms and technologies

for communication services

With deregulation and liberalisation transforming the network commercial environment, advanced IP and Internet services are needed by service providers (ISPs) and network operators alike. Convergence of telecom and IP technologies creates an exciting opportunity for both, extending the services they can offer. However, rapid introduction of such services and a high degree of customisation are crucial.

- ease of prototyping services (for quality assurance and validation of user requirements)
- seamless development of value-added services based on IP technology and the Web
- an ability to cater for different Quality of Service (QoS) requirements
- re-use of existing software/ components
- rapid integration of new services that work with existing infrastructures, operational support systems and services.

Support for integrated communication and Internet services

ATHOS has built an environment in which appropriate communication services can be implemented across Europe by developing the underlying technologies, including an advanced architecture based on middleware (mobile agents, Java, and CORBA). Using existing application programming interfaces (APIs) and platforms, the project has identified a system architecture that's capable of supporting integrated communication and Internet services in a flexible way. New APIs have been created to ease the development of services and applications, and to design, develop, integrate and evaluate systems that will use the new reference architecture in the future.

This architecture contains:

- an **Advanced Call Server (ACS)**: the software platform that supports the execution of both communication and Internet value-added services
- an **Internet Service Node (ISN)**: the software platform that enabled deployment of communication services

The need for middleware platforms

In a competitive communications market, success will be determined both by the quality of services and by how efficiently they are developed and deployed. Middleware platforms play a key role, allowing for:

- rapid deployment of services
- faster time to market
- open solutions applicable in many software environments



ATHOS (ITEA 99001)

Partners

Bull/Dyade
Evidian, a Groupe Bull company
France Télécom R&D
ILOG
INPG/SIRAC
Italtel

Countries involved

France
Italy

Start of the project

March 2000

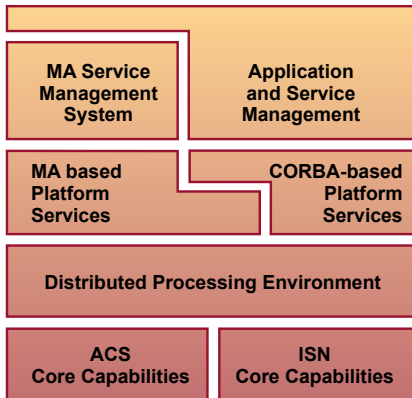
End of the project

September 2002



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- a **Service Management System (SMS)**, which manages the deployment of MA-based services.
- **Application and Service Management (ASM)**, which provides management functions for IP-related services such as alarm management, Service Level Agreement (SLA) monitoring, and QoS management. These functions are based on existing and emerging standards (IETF, ITU, etc.).



The broad structure of the middleware platform is the main focus of ATHOS

Perspectives for exploitation

ATHOS has developed an advanced distributed computational environment that enables easy deployment of communication services. It provides switched-based and Internet-based services on a common platform so that ISPs can utilise network resources efficiently and maximise profit margins, while increasing market share. Convergence makes sense for both providers and subscribers. For consumers, it means convenience and ease-of-use. For service providers, it presents an opportunity to maximise their investments in existing network by breaking into new markets and attracting new subscribers.

The project partners are exploiting ATHOS results in the following ways:

- EVIDIAN is incorporating ATHOS results related to QoS management in future releases of their OpenMaster software suite.

- ILOG will use the new value-adding tools and builders to leverage its J/Rules product sales as well as its partnerships in the service management segment; ATHOS will strengthen ILOG's position in the SLA management market.
- ITALTEL is using the telecom-oriented middleware developed within ATHOS to gain flexibility in software development, and to offer customer systems that accelerate time-to-market when introducing new services (ATHOS middleware-enabled ACSs will be introduced in the upcoming release of the ITALTEL UT switch product line).
- FRANCE TELECOM R&D will incorporate mobile agent middleware solutions developed within ATHOS in their research on open, flexible information networks, and will be able to provide expertise and advice on the use of such technology in distributed software infrastructures as well as in telecom and information services.
- BULL/DYADE and INPG/SIRAC have set up a new company (ScalAgent Distributed Technology) to exploit ATHOS results.



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ITEA - Information Technology for European Advancement - is an eight-year strategic pan-European programme for pre-competitive research and development in embedded and distributed software. Our work has major impact on government, academia and business.

ITEA was established in 1999 as a EUREKA strategic cluster programme. We support coordinated national funding submissions, providing the link between those who provide finance, technology and software engineering. We issue annual Calls for Projects, evaluate projects, and help bring research partners together. We are a prominent player in European software development with more than 5,000 person-years of R&D invested in the programme so far, and another 10,000 anticipated over the next five years.

ITEA-labelled projects build crucial middleware and prepare standards, laying the foundations for the next generation of products, systems, appliances and services. Our projects are industry-driven initiatives, involving complementary R&D from at least two companies in two countries. Our programme is open to partners from large industrial companies, small and medium-sized enterprises (SMEs) as well as public research institutes and universities.



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