

 Content archived on 2024-05-18



# Component based open source architecture for distributed telecom applications

## Results in Brief

### Test framework to help network administrators and developers

Like complex software programmes, modern distributed hardware platforms consist of components that interact using specific protocols. As part of a EU-funded project, Lucent, a subsidiary of Bell Labs, has developed a solution for testing component behaviour to help the stable functioning of the whole network.



DIGITAL ECONOMY



© PhotoDisc

Unlike software programmes, complex network services are typically implemented in different programming languages; they run on different platforms and may be supplied by different vendors. For administrators, this raises the question of how different components will interact, and how newly programmed components can be integrated into an existing network.

The COACH test framework is an Open Source application based on CORBA (Common Object Request Broker Architecture), a commonly used software-based interface that allows software modules to communicate with each other, no matter where they are located on a network or even the Internet. It makes use of CORBA's Component Model (CCM) technology and of its Interface Definition Language (IDL). It requires no modification

at all of the applications themselves.

The COACH framework is based on actor, reactor and tracing modules. These components can be used to test and debug systems even before all system components have been implemented.

The actor component is configurable by the user to invoke operations on the software modules under test, while a two-part tracer framework traces and displays these invocations. The TraceServer collects the time and identity data of each event and interaction in the system. The TraceViewer then allows the user to interrogate this database through a web-based tool that returns results in XML.

The reactor modules, meanwhile, can be used to replace, and mimic the behaviour of, components that have not yet been implemented in the network. They can be programmed, in any language, to exhibit the same events and reactions as the missing components for test purposes.

With COACH, components that do not work properly can be tracked down. The fault can even be located within the component and debugged language-independently. In addition, the framework can be used as a testing facility while developing an application. As such, it will speed up the development process and allow a quicker market release.

Project Information

COACH

Grant agreement ID: IST-2001-34445

Project website

Project closed

Start date

1 April 2002

End date

31 May 2004

Funded under

Programme for research, technological development and demonstration on a "User-friendly information society, 1998-2002"

Total cost

€ 6 286 513,00

EU contribution

€ 3 292 079,00

Coordinated by

T-SYSTEMS NOVA GMBH

Germany

Last update: 28 November 2005

2 of 3

**Permalink:** <https://cordis.europa.eu/article/id/82235-test-framework-to-help-network-administrators-and-developers>

European Union, 2025

