

Natural Single Point of Development

With Natural Version 5, programmers can develop Natural applications for any platform without leaving Microsoft Windows, the de facto standard for software development. Natural's single point of development enables remote editing, compilation and debugging all from Natural Studio, the common work area introduced with Natural 4.

BENEFITS

Remote development and maintenance of Natural applications under Windows provides a number of significant benefits:

- Better control over Natural development tasks.
- Increased productivity through a powerful graphical work area.
- Lower costs for software development, maintenance and administration.
- Greater job satisfaction for software engineers.

SINGLE POINT OF DEVELOPMENT - CORE FEATURES

• Remote file manipulation

In the Natural Studio views, developers can manipulate (move, copy) program objects, wherever those objects are located.

• Remote editing

Natural source files are transparently retrieved from and saved to the target environment, and edited in Natural Studio in Windows.

• Remote compiling

Compiles are initiated from Natural Studio by submitting commands to the target environment.

• Remote debugging

The application executes on the target environment, with debugging controlled from Natural Studio.

Natural 5 for Windows - Highlights

■ Natural Studio with new features:

- Single point of development
- GUI client for displaying cross-reference information.
- Platform-neutral code generation for open systems.

■ Improved Windows GUI support for Natural applications:

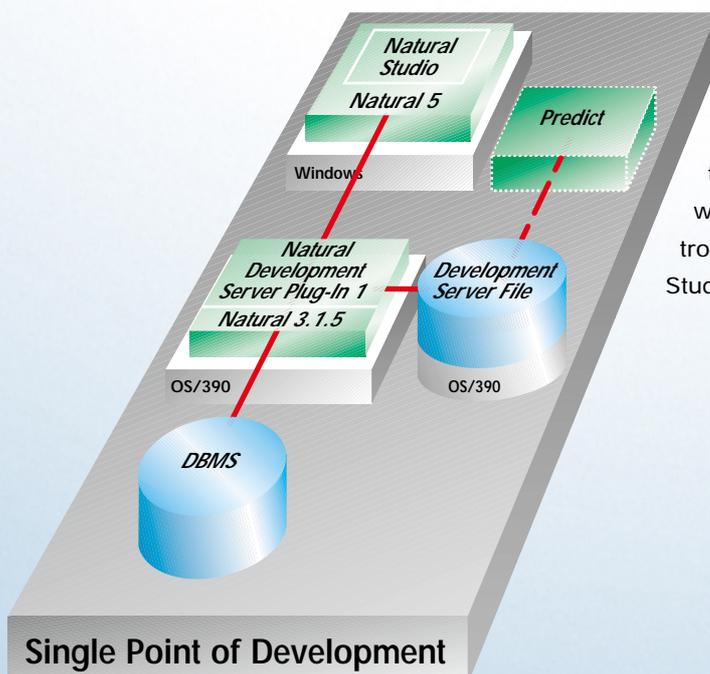
- Natural dialogs with enhanced tool and status bars.
- Rapid generation of Natural dialogs with the new Dialog Wizard.

■ Enhanced remote debugger:

- Remote procedures and DB2-stored procedures on OS/390 can now be debugged.

■ Advanced Web and XML capabilities:

- HTTP client for submitting HTTP requests.
- XML toolkit for manipulating/processing XML documents.
- Natural applications serving as Tamino X-Tensions.
- SOAP access to Natural applications through EntireX.



ARCHITECTURE

The single-point-of-development scenario requires Natural Studio on Microsoft Windows as a development client, Natural Development Server and Natural on the target (server) platform, and TCP/IP as the transport protocol. Cross-reference information created during CAT or STOW commands will be stored in a development server file on the target platform. The first Natural Development Server – available from October 2001 – will be for OS/390 mainframes. It will be delivered as an easy-to-install add-on that simply plugs into the existing Natural product.

THE APPLICATION CONCEPT

The application is a new concept which provides a logical view of Natural and non-Natural objects (such as job control files). A base application consists of objects pertaining to a specific Natural Development Server. A compound application consists of multiple base applications. Application descriptions are managed by the Natural Development Server and stored in the development server file.

An application view has been added to Natural Studio to complement the existing logical, flat and file views. This displays a tree structure showing all program objects belonging to an application.

OTHER FEATURES

Object locking

A locking mechanism prevents concurrent updating of Natural objects accessed on a remote development server. Locking information is stored in the development server file.

Cross-reference GUI client

A facility for evaluating relationships (cross-references) between and within program objects is essential for all development and maintenance activities. With Natural 5, a utility will be provided for retrieving cross-reference information from the development server file and displaying it in Natural Studio. The cross-reference GUI client gives developers a convenient way of listing and navigating through hierarchies of referenced and referencing objects.

Pop-up terminal emulation window

Maintenance of mainframe applications often involves testing output to terminals. During remote debugging from Natural Studio, a terminal emulation window pops up automatically for this purpose.

OUTLOOK

The first Natural Development Server will be made available for Natural OS/390 mainframes, and other platforms, particularly mainframe, will follow. Software AG will enhance Natural Studio by integrating further utilities and development services, some of which are elements of separate Software AG products – such as Predict, Predict Application Control, Natural Construct/Spectrum, Natural Engineer. The most important functional enhancements will include:

- Schema definition and database generation.
- Versioning.
- Program generation.
- Application re-engineering and maintenance.

PLATFORMS

The first Natural Development Server will be provided as a plug-in to Natural for OS/390 mainframe computers. It will be released in October 2001 and requires Natural 3.1.5 for mainframes and Natural 5.1 on Windows NT, 2000 Professional, 2000 Server or 2000 Advanced Server.

Software AG
Corporate Headquarters
Uhlandstraße 12
64297 Darmstadt/Germany
Tel: +49-61 51-92-0
Fax: +49-61 51-92-11 91
www.softwareag.com