MERANT™

Net Express® 3.1

OVERVIEW

MERANT Net Express is a ground-breaking development environment that takes core business processes written in COBOL and extends them to the Web and other distributed platforms. You can quickly construct enterprise components from your existing business logic and use these to develop new Web or client/server applications across your distributed enterprise. Net Express leverages legacy applications and programming resources, reducing the development cycle and accelerating deployment of new state-of-the-art applications. Net Express provides:

Legacy Extension

Extend existing legacy applications to the Web fast using COBOL code and programming skills you already have.

Legacy Integration

Integrating your legacy data and COBOL assets with existing and evolving e-business applications, enables you to present an integrated e-business to your customer. Net Express allows you to construct distributed applications across a Windows or UNIX environment that can interface with systems written in Java, integrate with IBM WebSphere 3.0 Enterprise Edition (TXSeries) and access legacy data on the mainframe.

Re-hosting

Net Express delivers Legacy Extension and Integration through re-hosting of existing applications — deploying them on Windows and UNIX platforms. Net Express migrates your COBOL applications, protecting your investments while reducing risk.

Componentization

Net Express can be combined with application mining technology to release invaluable business locked up in legacy systems. Net Express wizards can then be used to build mined components as Enterprise Java Beans (EJBs) or COM objects. The resulting COBOL-based, large-grain objects are language and platform independent.

Traditional and Distributed Application Development

Create and maintain Windows or multi-tier distributed applications. Net Express supports the rapid development and extension of Windows GUI applications and client/server applications for deployment to UNIX.

HIGHLIGHTS

Powerful Development Environment

Net Express provides a sophisticated IDE that incorporates a complete suite of application development tools and wizards. Powerful project handling capabilities simplify the edit, compile and debug cycle, and an editor tailored to the needs of COBOL programmers makes it easy to modify code. PVCS® source code control facilities enable teams of programmers to work together without overwriting each other's changes.

Net Express provides a complete environment for quickly building COBOL enterprise components and business applications for client/server platforms and the Web.

State-of-the-art COBOL Compiler

The compiler in Net Express provides:
- High-performance native code that can be optimized for peak performance on specific hardware platforms
- Extensive COBOL dialect support, which makes it easy for you to re-host existing applications
- Scalability, ranging from standalone PCs to multi-processor UNIX systems
- Full support for Object COBOL and COBOL development and debugging
- Base class library support with comprehensive collection classes, including a full Win32 GUI class library

Advanced Debugging Support Using Animator®

- Full control over the debugging process. You can single step, run to a particular location and reset the execution point to any statement in your code
- The ability to examine and change any data item in the program during execution
- Just-In-Time (JIT) animation – if your application fails while it is running, Net Express can be automatically started at the point in the source code where error occurred
- Multi-threaded application debugging – freeze, thaw, or activate specific threads. Set breakpoints within threads

Production Debugging and Diagnostics Enhancements

- FaultFinder Utility – designed to help quickly diagnose the problem if applications fail in production by providing a snapshot at the time of the abnormal termination
- Profiler Utility – creates a report analyzing the performance of a COBOL application

Web Application Development Tools

Internet Application Wizard

The Internet Application Wizard improves developer productivity by reducing the time it takes to create server-side applications and associated HTML forms from existing COBOL programs or relational databases. Once the application has been created, you can use it as is or modify it using Form Designer. The Wizard streamlines access to legacy applications via the Internet by:
- Analyzing the linkage section of the COBOL program
- Automatically generating an HTML form, which contains an entry field for each selected data item in the linkage-section
- Automatically taking a group item and map to an HTML table and selecting element support
- Generating a Web server program to capture the HTML input/output and call the existing COBOL program to process the data
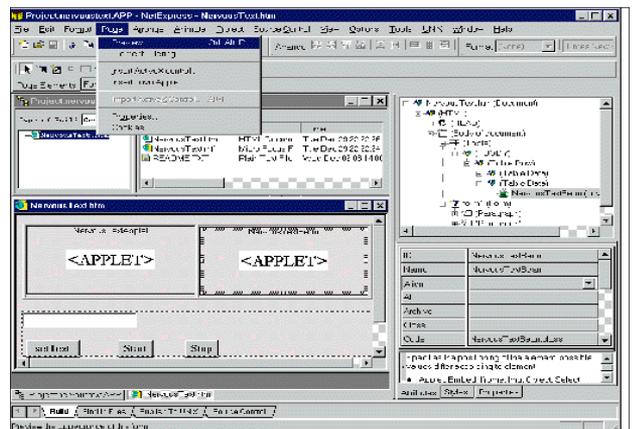
Form Designer

Form Designer enables you to create a working Web application in minutes, ready for you to add COBOL logic to perform the business processing of the application. You can create user interfaces for Web applications using HTML page and form editing and then generate the appropriate Web server program using the Internet Application Wizard. Form Designer includes support for the HTML 4.0 standard and Dynamic HTML. Form Designer's HTML page and form editing provide an open work environment through features such as: support for multiple Web browsers, WYSIWIG in-place HTML editing, flowing text, text formatting, tables, drag-and-drop positioning, multiple Undo/Redo support and tree views. Form Designer provides support for adding ActiveX Controls, Java Bean components and Java applets to your HTML pages.

Script Assistant

Script Assistant enables you to add behavior to an HTML page without invoking a server-side program or learning a complex script language. A number of client side validation scripts are provided for common validation functions. Script Assistant supports both Netscape's JavaScript and Microsoft's JScript.™

Server-Side Scripting with HTML

Net Express brings the power of COBOL to the Internet by enabling COBOL programs to dynamically process HTML forms using familiar ACCEPT/DISPLAY syntax or with embedded HTML. This allows you to develop and debug portable CGI server applications that can be targeted at many different production platforms.

Form Designer provides broad HTML page and form editing capabilities including the ability to embed Java applets and Java Beans for sophisticated Web front-ends.

High-Performance Web Applications

Net Express provides simple compile and link directives, so, from a single source stream, an application can be built for deployment as a CGI, ISAPI or NSAPI application.

Solo Developer's Web Server

This standalone Web server is installed along with Net Express and allows programmers to develop, debug and test Web server applications in a standalone environment.

Building E-business and Enterprise Components

Using COBOL with Java

With the new Net Express support for COBOL/Java inter-operability, mixed COBOL and Java applications can be easily created without the programmer having to learn and code complex Java Native Interface (JNI) APIs. Net Express COBOL/Java interoperability extends the business rules and legacy assets represented in COBOL applications to the power of the Internet and e-business with Java. The Net Express Class and Method wizards make it easy to write classes in COBOL, which can be called from Java programs as though they were Java classes. COBOL data types will automatically be converted to and from Java data types.

Net Express provides a full range of Java interoperability scenarios. Legacy COBOL programs running under Net Express can be accessed from Java, messages can be sent to COBOL classes from Java, messages can be sent to Java objects from COBOL programs, and you can declare Java classes inside a COBOL program and then send messages to the Java classes.

Support for Enterprise Java Beans

With Net Express Enterprise Java Bean (EJB) wrapping, COBOL assets can be extended to applications running under industry-standard application server environments such as IBM WebSphere and BEA WebLogic. Class and Method Wizard enhancements generate methods in COBOL conforming to the Session Bean interface.

Support for COM+ Objects

Net Express provides complete support for accessing OLE Automation Server from COBOL, allowing you to use desktop applications (Microsoft Word and Excel) to automate business functions such as report generation. You can also turn existing COBOL business logic into a COM object that can be accessed by other applications.

A wizard automatically generates the interface needed for a COM object and all you need to do is drop in your existing code. By combining the COM and Java support within Net Express you can create Object COBOL classes that can be used either by Java as Java classes or through OLE automation as ActiveX classes.

Support for IBM WebSphere 3.0 Enterprise Edition

Net Express allows you to develop, build and debug COBOL CICS applications that run with IBM WebSphere 3.0 Enterprise Edition (TXSeries). Net Express ensures consistent and predictable dynamic loading of COBOL subroutines, management of COBOL Working-Storage through multiple levels of called and linked programs and provides enhanced handling of messages between WebSphere and COBOL.

Using COBOL with C or C++

Mixed language applications can easily be created using Net Express and appropriate third-party development environments for other languages such as C and C++.

Integration with Server Express on UNIX

Net Express is tightly integrated with MERANT Server Express™ and Object COBOL Developer Suite for UNIX.™ Programmers can develop applications on the PC, utilizing the advanced development tools in Net Express while enjoying the benefits of a UNIX production environment.

- The UNIX Application Import Wizard allows UNIX developers to quickly and easily import a UNIX application into a Net Express project
- UNIX Publish allows you to transfer the application project to a UNIX server, create the make file and rebuild it with a single step
- Remote Debugging allows you to use the Net Express Animator® to remotely debug a UNIX application published to Server Express
- Access to UNIX is simplified with the Powerterm terminal emulator included with Net Express, plus seamless file and printer access is enabled through the SAMBA remote file access software
- Dialog System (character-based version) is provided to support development and maintenance of application screensets for deployment under UNIX

Data Access

OpenESQL™

OpenESQL transparently translates embedded SQL statements into ODBC API calls, allowing you to easily develop applications that access different database systems. This means that you can use any data source for which an

Net Express

ODBC driver is available. Net Express also supports native access to DB2, as well as integrated support for pre-compilers from Oracle and Sybase.

OpenESQL Assistant

OpenESQL Assistant enables the programmer to build SQL statements through a point-and-click interface. These are then automatically inserted into the COBOL source code at the appropriate point. The programmer can even test the SQL statement in the OpenESQL Assistant, allowing them to see the results of the statement and modify it if appropriate without having to build and run the application.

SQL Option for DB2

The new SQL Option for DB2 complements existing data access provisions in Net Express, giving users topology choices for development flexibility and production performance. Working with MERANT OS/390 software you can access DB2 for OS/390 from Net Express enabling the re-host of a DB2 main-frame application while maintaining the DB2 Database on the mainframe.

MERANT's XDB relational database is integrated into Net Express providing a highly compatible local or LAN based emulation environment for DB2, including a set of tools for viewing XDB schemas, creating copybooks, testing queries, and migrating data between databases.

Integrated Data Tools

- Data File Editor – examine data files to see how an application has updated them, or create and edit a file to provide test data for an application
- Data File Converter – change formats/character sets
- Record Layout Editor – specify the layout of a data file for display and editing by Data File Editor
- Fix File Index Facility repairs/rebuilds indexed files
- Codecomp Utility for EBCDIC/ANSI character set translation enables you to customize character-mapping tables

Windows Graphical User Interfaces

Dialog System™

Dialog System makes it easy for COBOL developers to create sophisticated Windows graphical user interfaces featuring Windows and ActiveX controls.

Windows GUI Application Wizard

Using this wizard, you can quickly create a native 32-bit Windows interface graphical application with capabilities such as MDI windows, embedded ActiveX controls, spin button, tree view and more. You can also use a point-and-click interface to build a GUI application with ODBC data access.

Technical Specifications

Hardware/Software Requirements

- Intel Pentium processor or higher recommended
- Windows 2000, Windows 95/98, or Windows NT v4.0 with Service Pack 3 or later
- 32MB memory
- CD-ROM drive, either locally or via a network
- 65MB hard disk space for the base installation, 200MB recommended for full installation

Supported Web Browsers

- Microsoft Internet Explorer 4.0 and later versions
- Netscape Navigator 3.01 and later versions

UNIX Platforms Supported (for UNIX Option)

- All leading UNIX platforms

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