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Micro Focus
Enterprise Server

Micro Focus Enterprise Server provides a scalable, managed and high-performance transactional environment for the deployment of COBOL services.

Overview

Micro Focus Enterprise Server provides a scalable, managed and high-performance transactional environment for the deployment of COBOL applications and services, COBOL/J2EE applications and direct COBOL Web services to Windows, Linux and UNIX. Enterprise Server is designed to maximize reliability, performance and scalability by providing a fully managed environment for the execution of COBOL services across the enterprise. Enterprise Server is the deployment component for COBOL services created with Micro Focus Net Express® or Server Express™ development products.

Enterprise Server both includes and builds on the strengths of Micro Focus Application Server which provides a high performance, robust, proven and portable platform for the deployment of COBOL applications to Windows, Linux and UNIX. Micro Focus Application Server is the deployment component for Net Express and Server Express COBOL development products.

Delivering COBOL Services Across the Enterprise

With today's heterogeneous IT systems, few business systems can now exist in isolation. Enterprise Server supports the large scale integration of COBOL services across the enterprise. By supporting Web services, Enterprise Server provides an open approach to the deployment of COBOL business processes within a Service Orientated Architecture. Since direct COBOL Web services deployed with Enterprise Server are standards-based, this means they can be consumed from any language on any platform that acts as a Web service client including Java, Microsoft .NET languages and COBOL. No third-party application servers or web servers are required for the deployment of direct COBOL Web services, minimizing costs while increasing the agility of existing COBOL business logic.

For organizations that have adopted the J2EE infrastructure, Enterprise Server also provides tight integration with Java application servers. Applications deployed under IBM WebSphere or BEA WebLogic can access and reuse COBOL assets in a J2EE-compliant way. Using this capability, proven COBOL business logic is maintained or enhanced and can be rendered to a J2EE-based system in a timely and cost-effective way.

Improved Reliability, Availability and Serviceability

The evolution of Micro Focus deployment software over the last twenty-six years is the key ensuring an application performs its intended function reliably, day in and day out. However, systems can fail for many reasons, which is why Enterprise Server also provides advanced production recovery capabilities to ensure service is restored in the shortest possible time.

Enterprise Server is a transactional deployment environment enabling the effective recovery of aborted or failed services. Service recovery is hastened by the provision of full journal facilities and options for the backup, restoration and importing of server data.

Optimized Application Performance

The demand for increased application processing is constant. This is partially satisfied by the continued increase in processor power, but customers demand greater reliability and faster recovery when things do go wrong. Enterprise Server is designed with performance and scalability in mind, maintaining a server pool of pre-initialized

processes for optimum service execution. When coupled with the ability to run native machine code instructions generated from a single source base, Enterprise Server provides the ability to utilize the full performance capabilities of the deployment platform.

Reduce Risk and Optimize Time-to-Market Through Re-use

With Enterprise Server, existing COBOL business logic performing critical business tasks on proprietary or dated platforms can be redeployed rather than rewritten. This enables organizations to leverage their substantial investments in COBOL and minimize risk by delivering more stable systems faster on their strategic Windows, UNIX or Linux platform.

Enterprise Server Highlights

Direct COBOL Web Services

Enterprise Server is the deployment engine for direct COBOL Web services created with Net Express or Server Express. By acting as a SOAP Server, Enterprise Server enables the deployment of COBOL Web services without requiring any third-party software. This minimizes the technology stack and ensures a scalable transactional environment for the reliable execution of COBOL Web services. Such COBOL Web services can then be consumed not only by COBOL clients, but also by other appropriate standards-confirming Web service client software, regardless of language and platform.

Using COBOL with Java and J2EE

Existing Micro Focus COBOL/Java interoperability has now been extended to add J2EE compliant connectivity. With Net Express and Server Express support for COBOL/Java interoperability, mixed COBOL and Java applications can be easily created without the programmer having to code complex low-level interfaces. Micro Focus COBOL/Java interoperability extends the business rules represented in COBOL assets to Java and J2EE applications. By deploying an Enterprise JavaBean (EJB), created from a COBOL interface by Net Express or Server Express, in conjunction with Enterprise Server and the J2EE Connecter, COBOL assets can be accessed in a J2EE-compliant manner from Java application servers such as IBM WebSphere and BEA WebLogic.

Scalable Transactional COBOL Deployment

In addition to the deployment of direct COBOL Web services and COBOL/J2EE applications, Enterprise Server acts as an overall COBOL deployment environment for applications executing within a Service Orientated Architecture. With Enterprise Server, transactional COBOL applications can be deployed in a managed environment without requiring the purchase of third-party software. Enterprise Server includes Container Managed Transaction support, providing transactional support for COBOL applications and their updates to popular databases or COBOL files without the requirement to manually add transactional syntax or commands.
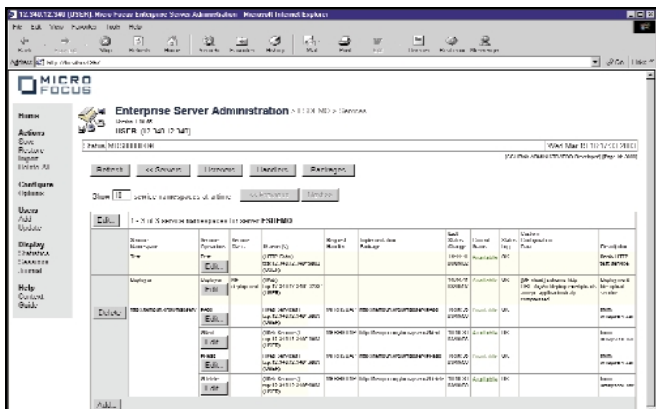
Comprehensive Server Administration and Logging

The browser-based Enterprise Server administration facility provides a comprehensive set of options to control and manage the operation of Enterprise Server and services deployed within it. Using the administration facility, production recovery can be eased with the ability for server configuration to be saved, restored, imported or deleted. Individual services can be deployed, started, stopped, edited and deleted providing full user control of service deployment. Problem tracking and diagnosis is aided by the journal and statistics maintained by Enterprise Server during execution.

Micro Focus Application Server Highlights

Micro Focus Application Server is included within Enterprise Server, extending the range of deployment options and facilities available.

Intermediate Code Support for Applications that are Operating System Independent

The Micro Focus Run-Time System (RTS) engine provides the programmer with full intermediate code portability from a single set of COBOL source code. This is the COBOL equivalent of the Java byte code with the RTS performing similar functions of the Java Virtual Machine or the .NET Common Language Run-time (CLR). In this way, we achieve the 'write once, run anywhere' characteristic that has been an intrinsic part of Micro Focus COBOL since its inception over a quarter of a century ago.

An example of the Deployed Services Page of Enterprise Server.

Native Code Support that Fully Exploits Individual Platform Performance

The Micro Focus RTS can also execute fully optimized, hardware specific 'Native Code' instructions created during the development process to extract the maximum performance from a given operating system/chipset combination. All this is achieved without the need of any changes to the original source code, in fact 'Native Code' is produced from intermediate code, so you don't even need access to the source code to create these high-performance objects.

MULTIPLE DEBUGGING OPTIONS

FaultFinder

When applications fail in production you often cannot use your regular debugging techniques to locate the problem. You don't have the source code available or you cannot easily reproduce the problem. FaultFinder is designed to provide you with the help you need in these critical situations. It provides you with a snapshot of your application, just at the point where the application failed, and provides fully configurable and comprehensive fault diagnostic information including:

- Detailed analysis of your execution environment including environment variables, configuration options, switch settings, etc.
- Comprehensive memory allocation and usage details.
- A snapshot of the data files being processed and their file descriptors.
- Threading information, active programs (call stack) and their parameters.
- Loaded programs and associated data.
- The actual machine code operation at which the application aborted and a history of other operations performed prior to failure.

In addition to this, FaultFinder can now be used to analyze applications that have not failed. It can be invoked from the command line and the report used to identify system resource bottlenecks or conflicts.

'Just-In-Time' Debugging with Animator®

This facility allows application failures to be 'caught' at the point of failure and rather than having an error message issued, Animator, the source code debugging system provided with the development environment, is automatically invoked. You can then use Animator to determine the cause of the failure. This requires the development system and application sources to be present, but eliminates any 'guesswork' in determining the cause of a problem. The full power of Animator can be utilized the moment a problem is detected to help determine the cause of the failure.

Web Service Client Support

Micro Focus Application Server now includes Web service COBOL client support for the consumption of Web services from COBOL. Using this support, a standards-based Web service (for example – a Web service created by .NET or IBM WebSphere, or a Micro Focus direct COBOL Web service deployed with Enterprise Server) can be invoked directly from COBOL without going through any other language or technology.

COBOL/XML Support

The new Micro Focus Application Server COBOL/XML support allows you to seamlessly integrate the power of XML with COBOL applications. With this extended syntax and run-time capability you can consume, create or update XML documents from COBOL facilitating Business to Business (B2B) and Business to Commerce (B2C) transactions and providing the ability to share data with other applications and systems that have no direct interface with your COBOL system.

User Interface Management

Micro Focus Application Server is able to manage the user interface using generic application syntax unrelated to specific terminal types or operating system functions. There is support for both syntax driven functions as well as those created using Micro Focus tools like Dialog System. Applications remain portable across a wide variety of hardware while gaining the highest degree of optimization possible. This results in faster screen updates, as only the changes are redisplayed rather than the whole screen being refreshed.

Simplified Client/Server Communications

Client/Server Bindings provide a lightweight Remote Procedure Call (RPC) mechanism that enables communications between client/server applications running on different machines. Using this simple interface, programmers can develop complex distributed applications in a fraction of the time taken if programming to the low-level transport layer.

Comprehensive Data Access Options

With Micro Focus Application Server, you can utilize the power of OpenESQL to access all data sources for which an ODBC driver exists or alternatively harness all the power of COBOL's flexible, high-performance file handling system. By combining Micro Focus Application Server with industry standard ODBC drivers, COBOL applications can realize high-performance and reliable connectivity to all major databases.

Micro Focus Application Server supports COBOL data file sizes in the terabytes, providing you with the scalability you need for today's data intensive, large server applications. Micro Focus Fileshare™ extends COBOL data file processing to provide networked file access, transaction logging and recovery, as well as two-phase commit capabilities without having to modify your application to use a relational database. Fileshare can link several network files into a logical database spread across several servers. Fileshare provides high-speed network file sharing by compressing I/O requests into packets and sending them across the network using available protocols.

Data Recovery Utilities

Developers constantly manipulate data for various test scenarios or to repair data records. Micro Focus Application Server includes useful data tools for examining and changing data files:
- Data File Editor[1] lets you examine data files to see how an application has updated them, or create and edit a file to provide test data for an application.
- Rebuild enables you to quickly repair corrupt index files, as well as providing you with the ability to quickly and easily change data file formats.

Technical Specifications

Enterprise Server for Windows: Hardware/Software Requirements
- Intel Pentium processor or higher recommended
- Windows Server 2003, Windows XP/2000 or Windows NT v4.0 with Service Pack 5 or later
- 128MB or higher recommended
- 36MB hard disk space (for full installation)

Enterprise Server for UNIX: Hardware/Software Requirements
Please contact Micro Focus for latest information.

For Training and Consulting information, visit www.microfocus.com.

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[1] Data File Editor is only available with Micro Focus Application Server for Server Express.

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