BUSINESS CHALLENGE

Organizations running critical applications on IBM mainframes are constantly challenged to control, contain or reduce operational costs while exploring how other contemporary technologies can be exploited to deliver more innovation to the business. Many have started exploiting commodity processors to run traditional mainframe workload in more cost effective, flexible environments. This strategy frees processing power on z/OS for applications that must remain on z/OS, helps contain or drive down operational costs and releases budget and resource to invest in new capabilities to improve customer satisfaction and generate new business.

Continuing the journey to efficiency through innovation, some organizations are now moving traditional mainframe applications onto Microsoft’s Windows Azure cloud platform.

Azure provides the architecture for organizations to attain great elasticity in processing power for a fraction of the cost of expanding processing power on z/OS partitions.

For some organizations combining the traditional strengths of the IBM mainframe with the price elasticity of Windows Azure to run traditional and additional mainframe workloads offers the best of both worlds.

PRODUCT OVERVIEW

Micro Focus Enterprise Server for Azure is a powerful solution that enables selected IBM mainframe application workload to be redistributed to Windows Azure. The product features a COBOL runtime, a Job Execution Subsystem (JES), and an IBM CICS compatible transaction processing system to enable batch COBOL or online CICS/COBOL applications to be ported with few, if any changes, to Windows Azure. Once the applications are ported and Enterprise Server is configured, the selected mainframe applications immediately take advantage of the architecture for high availability and scalability offered by Windows Azure.

Enterprise Server also provides the infrastructure to support the integration of migrated applications with .NET and SOA technologies supported within Azure to better satisfy evolving business requirements.

While Enterprise Server provides the execution environment for mainframe COBOL workload on Azure, its companion product, Micro Focus Enterprise Developer provides the development tooling to move the workload across the divide. Existing mainframe batch COBOL or online CICS/COBOL applications and BMS screens are recompiled within Enterprise Developer on Windows workstations. Any Job Control Language (JCL) that forms part of the overall batch business process can also be retained and submitted to the JES engine for syntax checking and execution.

Enterprise Server then takes advantage of the capabilities of Windows Azure to execute the rehosted applications. They deliver the same business functionality within a very cost effective cloud environment that scales out to support increased ‘seasonal’ workload when required.

Data stored in mainframe DB2 and VSAM/Sequential files is unloaded, converted into ASCII and loaded into SQL Server for testing before being deployed to Microsoft SQL Azure. Support within Enterprise Server ensures no changes are required to the program code required to access VSAM or sequential data and any changes to SQL code are kept to a minimum.

BUSINESS BENEFIT

- Reduce operating costs for selected workloads by up to 90%
- Mainframe compatibility features minimize costs in moving workload
- Reduced risk as proven existing business applications are reused
- Maximized operational efficiencies and cost efficient pricing elasticity of Azure
- Quality of Service (QOS) levels delivered for lower cost
Mainframe level Reliability, Availability and Serviceability (RAS)

Improved agility by exploiting distributed cloud application capabilities

FEATURE OVERVIEW

Unsurpassed IBM mainframe COBOL compatibility
Support for command level CICS
Support for tn3270 clients with native 3270 commands or BMS maps
Real-time monitoring and control of active tasks
JES engine to support the submission and execution of batch initiators
Emulation of key utility transactions
Microsoft SQL Azure database support
Multiple concurrent task support with reliable resource management
Microsoft Management Console (MMC) administration, monitoring and control
Integration with Microsoft SCOM management tools
Host Compatibility Option for SQL Azure to minimize changes to SQL code
VSAM and sequential data stored within SQL Azure
Integration with .NET and SOA technologies

DETAILED FEATURE OVERVIEW

Enterprise Server for Azure provides a production-level OLTP environment compatible with IBM CICS while exploiting .NET and Azure. This capability supports the execution of CICS transactions, utilizing BMS screens, so online systems can be rehosted to Azure with minimum changes to application code or user interfaces.

Batch JCL support is provided by a JES engine that supports the submission, prioritization and execution of batch initiators and key IBM utilities such as DFSORT, ICEGENER, IDCAMS, IEBGENER and IKJEFT01. Support is also provided for the z/OS internal reader in batch and CICS environments (JES2 and JES3 job delimiters).

The batch and CICS environments have been designed specifically to run in the scale-out model that the Windows Azure platform provides. They are deployed as a Windows Azure hosted services comprising worker role instances. Running as worker roles allows the Windows image to be entirely managed by Azure, unlike VM roles where the user has to provide a pre-configured Windows OS image and manage any updates to the image himself.

Enterprise Server for Azure takes advantage of the managed code framework as COBOL is compiled to .NET Intermediate Language (IL) and executed within the .NET Common Language Runtime (CLR).

Command line and PowerShell access to administration facilities enables common tasks to be automated and a more comprehensive set of capabilities is available through the Microsoft Management Console (MMC) which controls the production batch and online COBOL/CICS environment. Through the console, users can monitor and control all instances of the Enterprise Server environment including region control, resource configuration and deployment of programs, and VSAM files, etc.

Capacity planning is supported as the MMC provides real-time monitoring and transaction performance measurements (for example, tasks per minute, average task duration, request latency) to predict required hardware capabilities.

Production recovery aids are also available from the MMC. Enterprise Server configurations can be saved, restored, imported or deleted. Individual transactions and jobs can be deployed, started, stopped, edited and deleted. This gives the user full control of service deployment.

The MMC enables interaction with a running instance of Enterprise Server in a similar way to a mainframe console. Real-time reporting on the current status of the active elements of the system enables users to manage the performance characteristics of the system and adjust the environment dynamically.

PLATFORMS

Production

Under Azure, Enterprise Server runs as a set of worker roles each hosted as a VM running Windows Server 2008 R2 (x64)]
Development and Test

- Windows Vista (x86 & x64) with Service Pack 1 (All editions except Starter Edition)
- Windows 7 (x86 and x64)
- Windows Server 2008 (x86 and x64) with Service Pack 2
- Windows Server 2008 R2 (x64) (x86 and x64) with Service Pack 2

1 Enterprise Server for Azure is available via an Early Adopter Program (EAP) designed to provide special support for pioneer customers moving mainframe workload to Azure. If you are interested in rehosting batch COBOL or online COBOL/CICS applications to the Azure Cloud please send an email to EAPesazure@microfocus.com.