‘Lift and Shift’
Mainframe Migration to Windows

A conversation with

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and

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Micro Focus a Member of the Mainframe Migration Alliance (MMA)

- **Product:** Enterprise Server - Mainframe Transaction Option
- **Engine for Mainframe Migration**
  - Provides run-time environment for CICS COBOL applications
  - CICS functionality, Windows® performance, mainframe security
  - Deployable on Windows
The IBM Mainframe - Asset or Albatross?

- **The good...**
  - Reliable, available, secure
  - High-volume data access
  - Transaction processing

- **the bad...**
  - Complex
  - Resource intensive
  - Expensive to support and maintain

- **...and the ugly**
  - Lack of responsiveness to the business
  - Locked-in and closed
  - High cost of hardware and software
Unlocking the Value of Legacy

- **Choice of platform**
  - Contemporary platforms such as Windows and .NET

- **Reduced Cost**
  - Newer hardware and software offers a reduction of one to two orders of magnitude in comparison to the mainframe

- **Increased Agility**
  - Unlock the value of legacy by opening and extending applications to Windows and .NET, XML and Web services
Cost Comparison

Mainframe
- 8–10 Processor IBM z900, 2,000 MIP complex is $10 million including:
  - $4 Million CPUs and Memory
  - $1 Million z/OS
  - $1 Million other IBM Software
  - $4 Million ISV Infrastructure Software (CA, Compuware, BMC, Candle, Serena, etc.)

Windows and Intel
- Data Center Environment with the equivalent number of processors and software
- Cost in the order of $1m
Migration Drivers

Cost reduction

- Engaged or planning a consolidation
- Dissatisfied with outsourcer (cost/reliability)
- Contract lease/renewal up in next 12-18 months
- Planning a mainframe upgrade or an addition
- Experiencing capacity problem

Increased agility

- Initiative to move to Windows and .NET
- E-business initiative
- Desire to implement SOA
- Desire to move to Web services
Micro Focus is a Technology Company

- **Product**
  - Enterprise Server w/Mainframe Transaction Option (MTO)
  - Engine for Mainframe Migration
- **Provides run-time environment for CICS COBOL applications**
  - CICS functionality, Windows performance, mainframe security
  - Deployable on Windows
- **Performance Measurement Methodology**
  - Measure same CICS COBOL transaction (OLTP) workload on mainframe and Enterprise Server w/MTO
  - Compute MIPS rating equivalent for Windows platforms
  - Generate price/performance ratios
Micro Focus Partners

- Microsoft and System Integrators
  - Deliver complete migrated solutions

- Migration Transformation Consortium (MTC)
  - Provide specialized mainframe skills

- All working together with Micro Focus...

- ...to deliver a complete solution
Target Applications for Migration

- 38,000 mainframes
- 500 MIPS
- Workload migration
- Mainframe replacement

- Lines of code are not critical to successful migration
- However .... Code complexity is crucial
- Good migration candidate
  - Application executes almost independently of...
    - Third party offerings, e.g. Assembler, Natural, Adabas
    - Application is a silo
Migration Time Scales to Windows

- Time scale depends on complexity
  - Not one size fits all
- Alnova (10,000,000 lines of code migrated in less than 12 months)
- Smaller, simpler batch applications take order of weeks
- Most applications can be migrated in 6-12 months
Java Rewrite is High Risk

- Rip and Replace
  - Rewriting application in Java
- Very high risk that rewritten application will never completely be put into production
  - 74% of these projects fail (Standish Group)
- Once rewritten, application value remains locked and application continues as it was before
- Application still needs additional investment to unlock its value and extend its use to:
  - E-business, XML, Web services, Windows and .NET
Micro Focus ‘Lift and Shift’

- Dramatically lower hardware and software costs
  ...of IBM mainframe COBOL/CICS applications
- ....to a modern, open and extensible platform
  ...with ‘Lift and Shift’ migration
- ...with minimal effort and very low risk
- ...delivered through System Integrators

“We have seen outstanding results by migrating our IT operation to the Windows environment through Micro Focus solutions. Moving to Windows is a critical business decision for us because it provides a low cost, strategic platform to leverage critical value from our existing IT assets.”

Léo Théberge, CIO, Québec Loisirs
Performance Results

 Given Enterprise-class hardware ...
   Unisys ES7000 8 x Intel 3.0 GHz Xeon 32-bit processor, 8GB RAM
   EMC$^2$ 1 terabyte Storage Area Network (SAN)
   CISCO network

 ... and Enterprise-class Software ...
   Micro Focus Net Express® COBOL
   Micro Focus Enterprise Server w/ MTO
   Microsoft Windows Server 2003
   IBM UDB 8.1 database management system

 ... we can estimate ...
   1350 MIPS equivalent for each 8-way processor group
   Price/Performance advantage of 20x over zSeries hardware and software upgrade pricing in the 5000-10000 MIPS range
TP Monitor Performance

- TP runs real time and performance is critical
- Batch runs offline overnight
- Our studies show: TP monitor on Windows and Intel Platform, is 10-50 times better price performance on Windows-Intel environment than a mainframe
Scalability of Processor Price Performance

- Based on benchmarks for low end and medium size processors (multi-CPU 8-16 way processors)

- Windows-Intel price performance range is 10-50 times better than on a comparable mainframe
Lift & Shift - Overview

IBM Mainframe

Capture Legacy Application

Migration Environment

Production Environment

Deploy to Windows or .NET

Development & Test Environment

Extend
Integrity of the Migrated System

- Each SI has their own methodology for migration
- Goal is minimizing risk for the migration process
- Upon completion the SI insures the application is:
  - Up, running and deployed
  - Achieving same functionality and performance
  - Meeting IT service levels of performance that the business expects
Reliability and Availability of Application on the Windows Platform

- Customers’ natural concern
  - IBM: 18 months mean time between failure
- Quebec Loisirs
- Tulane University
- Bertelsmann
- US Army
- All achieved expected reliability, in addition, realized huge cost savings and increased agility
Benchmark Results

- CDRs processed nightly
  - Mainframe: 50 million
  - Wintel Server: 50 million*

- Computing platform
  - Mainframe: IBM Z/900 650 MIPS dedicated
  - Wintel Server: HP ProLiant 3x4way, 1x8way

- Time required for batch run
  - Mainframe: 5-6 hours
  - Wintel Server: 4 hours

- Annual cost
  - Mainframe: $4 million
  - Wintel Server: $1.5 million

(*) Projected based on 5 million record test dataset
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A Major Telecommunications Company

- Current environment, 50 million transactions require 5-6 hours for a batch run on the mainframe environment with a dedicated 650 MIPS (millions of instructions per second).

- The performance test results: Intel hardware running Windows and SQL Server can process this same amount of records in under 4 hours at a fraction of the cost.
## Solution
Microsoft Consulting Services was engaged to assist with the conversion of a custom COBOL application running on an IBM mainframe to Windows-based solution. In addition to a platform & hardware change, the database management system was converted from DB2 to SQL Server.

## Results
Tests on the Rating Engine Application with the production database successfully met functionality & exceeded performance goals. The Wintel platform performs 400% better than the mainframe across a bundle of 161 test.

## Additional Benefits
Allows insurance company to replace current mainframe processing with a less costly Wintel alternative. This re-platforming effort offers insurance company cost of ownership benefits ranging between $270K to $870K.
A Major Telephone Company

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Additional Successful Migrations

- Central States Health and Life Company (USA)
- Financial Network Services (Aus)
- PMA Reinsurance Management Company (USA)
- PPG (USA)
- Quebec Loisirs (Canada)
- Solcorp (Canada)
- Sompo Insurance (Japan)
- St. Louis PSRS (USA)
- Tulane University (USA)
- Western Australia DoIR (Aus)
- Alnova (Spain)
- Alcan (Germany)
- Axfood (Sweden)
- Bern Swiss Bertelsmann (Switzerland)
- Bertelsmann Media (Poland)
- Donauland Bertelsmann (Austria)
- Eurocopter an EADS company (Germany)
- France Loisirs Suisse (Switzerland)
- Hannover Re (UK)
- ICS Competence Centre (Austria)
- LR-Medienverlag Cottbus (Germany)
- Royal Borough of Windsor and Maidenhead (UK)
- Southern Life (RSA)
- St. Helens Borough (UK)
- UNILOG (Germany)
- Winterthur (Austria)
Expected vs. Achieved ROI Savings

- ROI depends on organization, project and application
  
  - Bertelsmann (700,000 Euros per year)
  
  - Quebec Loisirs ($200,000 per year)
  
  - Next year or two there will be migrations with savings in the millions of dollars per year
Customer Satisfaction Level with Windows Migration

- Extremely satisfied

- Businesses could not achieve successful migration alone

- Success attributed to partnerships
  - SIs, Micro Focus and Microsoft

- Migrations have resulted in unlocking the value of legacy with minimized risk, resulting in reduced cost and increased agility
Micro Focus – at a glance

- A world leader in unlocking the value of legacy
  - Founded in 1976 and independent in August 2001
  - Global company with 500+ employees world-wide
  - Principal offices in the US, UK & Japan

- Blue chip customer base
  - 15K customers
  - 80% of the Global 2000
  - Global ISV partners (Oracle, Lawson Assoc, FNS, etc.)
  - Strong partner community (e.g. Microsoft, EDS, Accenture, CSC, HP, UNISYS, etc.)

- Successful independence
  - Revenue growth of 10% per annum
  - Highly profitable
  - Significant investment in engineering (18% of revenue)
Industry Value of the Mainframe Migration Alliance

- Technology showcase and catalyst

- Mainframe migration is very specialized
  - No significant information sharing
  - No significant marketing around migration capabilities

- There is no established ‘mainframe migration’ industry
  - No best practices
  - No widely recognized ISV or SI community
  - No specialized events

- Customers have a difficult time getting the information they need...
  - ...and are at the mercy of the mainframe vendor’s opinion about the wisdom of migrating off that platform
Explaining Micro Focus ‘Lift and Shift’ to a CEO

- Have the CEO ask the CFO and CIO:
  
  “Consider the alternative of migrating legacy applications off the mainframe”

- Use our ROI calculator to estimate year to year savings
ROI Calculator

- ROI Calculator on Micro Focus MMA Portlet Site
  - Input transaction size, frequency for a single migrated application
  - Calculates 5-year ROI based on mainframe MIPS upgrade charges
  - www.microfocus.com/mma

- ROI Analysis with MF visit
  - Input your current and expected IT costs
  - Shows phased mainframe migration of multiple applications over 5 yrs
  - Receive ROI Report Format

Enterprise Server w/ MTG: Performance and Price/Performance Leader
How can you get more information?

- Visit the Micro Focus MMA website
  - www.microfocus.com/mma
- Visit the MMA website
  - www.mainframemigration.org
- Try the ROI Calculator
  - www.microfocus.com/mma
- Schedule a Visit – Full ROI Analysis
  - 1-877-772-4450