

Micro Focus Mainframe Solutions

There's a future in the present



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Micro Focus

(August 6th 2012)

> Micro Focus Mainframe Solution

Modernization – A key strategic direction

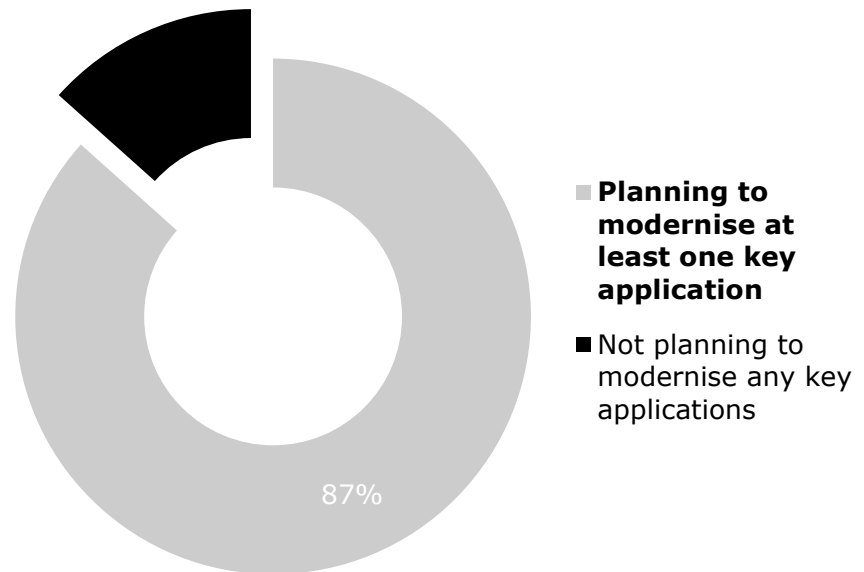


> Micro Focus Mainframe Solution

Planning to modernize key mainframe applications

VansonBourne – Research

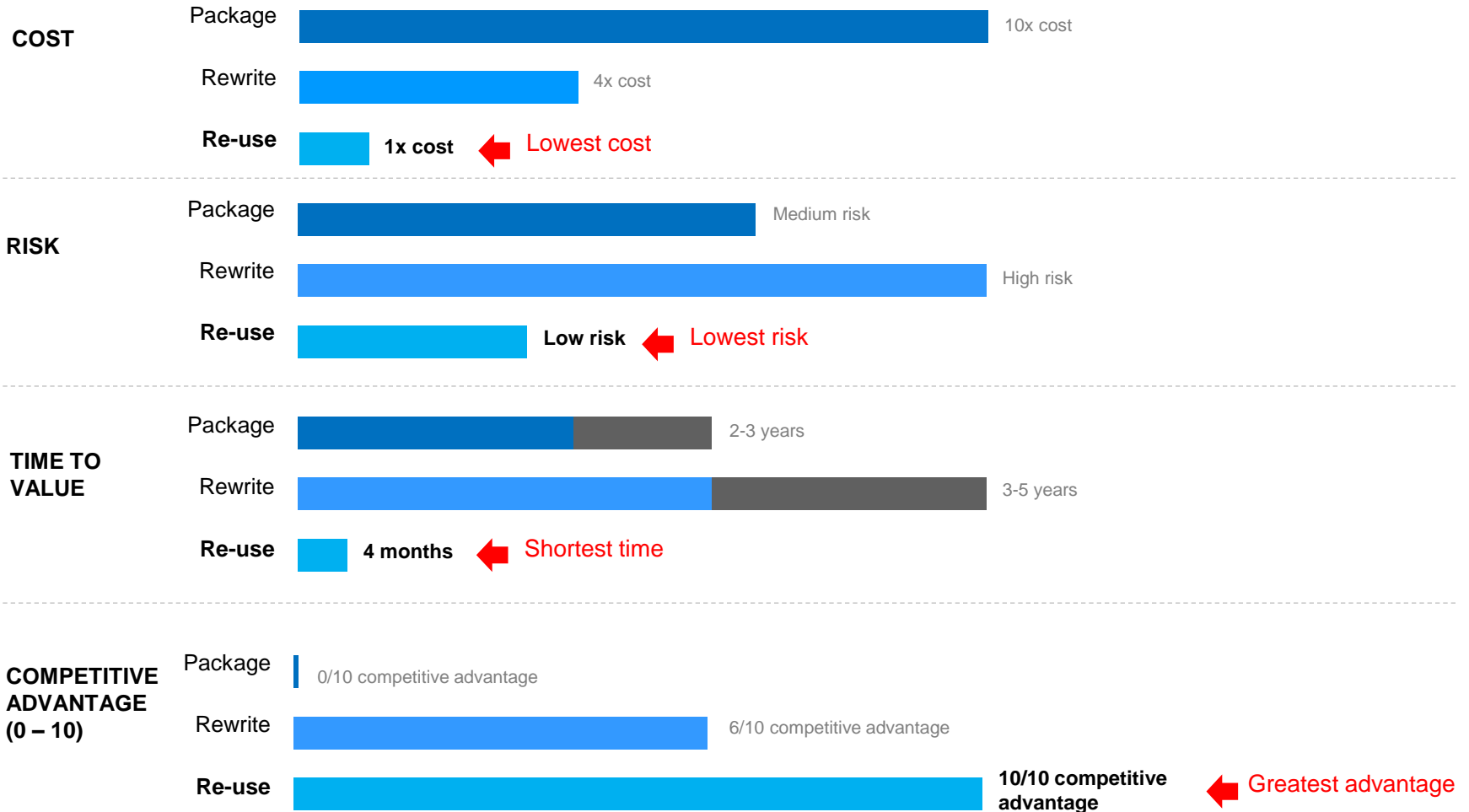
- Almost nine in ten plan to upgrade at least one of their key applications as a result of a recent portfolio review
 - 43% - HR application
 - 42% - BPM application
 - 42% - PPM application
 - 41% - CRM application
 - 39% - finance/account application
 - 34% - ERP application
- Reasons why modernisation is likely to take place are:
 - **Reducing licensing costs (48%)**
 - **Increasing reliability/speed (44%)**
 - **Future growth (44%)**



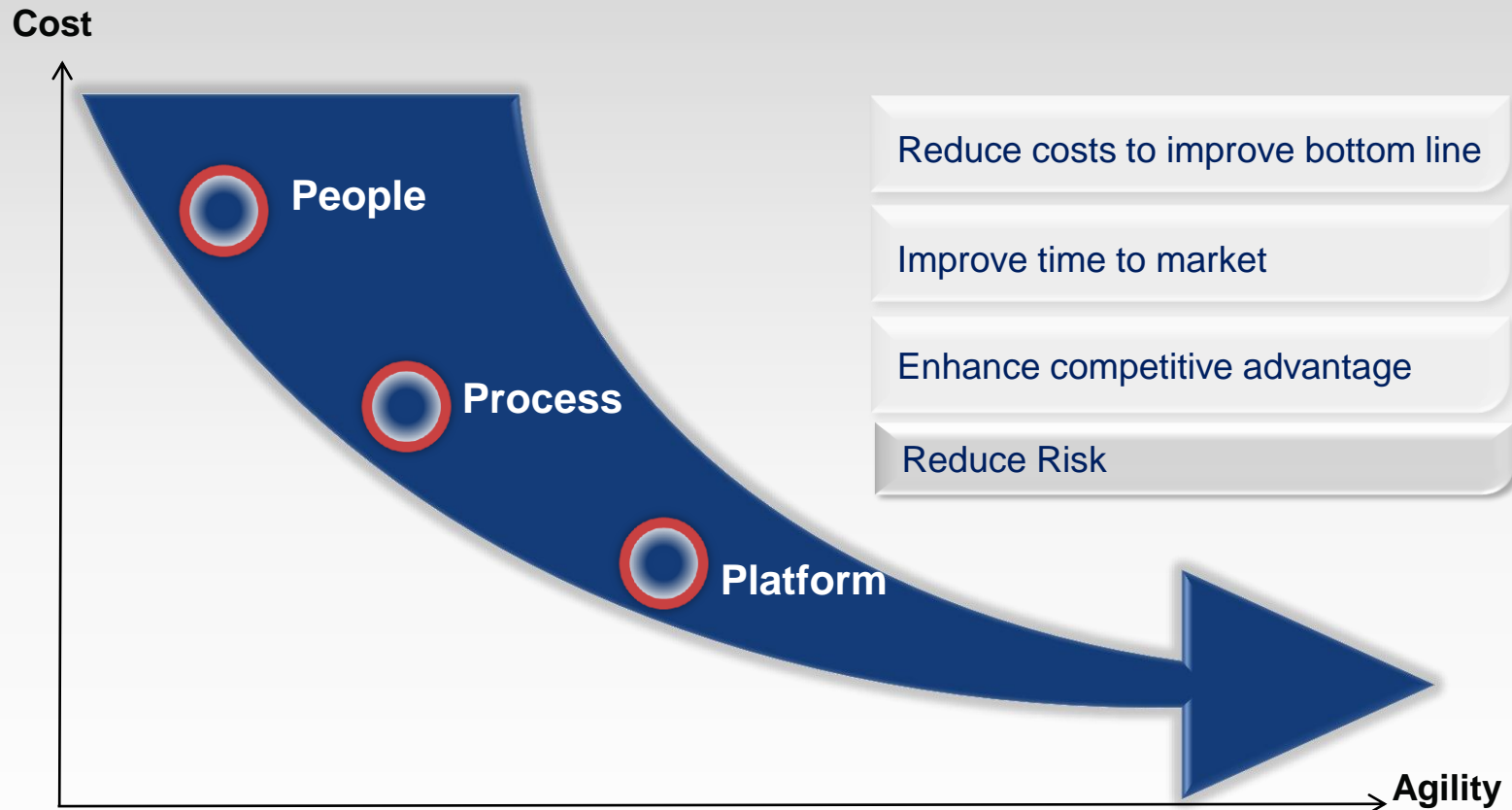
Summary of those intending to modernise at least one of their key applications which run on the mainframe

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Modernization: Reality check



The End to End Modernization Roadmap



Accelerate with Resource Efficiency and Workload Management

Client Objectives

Key Requirements

Integrated Technology

Prioritization and cost containment of Modernization projects

Understand the application landscape.
Simplify complexity

Enterprise Analyzer

Reduce cost of maintenance improving development group efficiency and quality.

Cut through traditional development processes and log jams

Enterprise Developer

Aligned and Effective Application Service Delivery

Improved Service Delivery Cycles

Enterprise Test Server

Exploit contemporary Architectures

Cost-Effective Enterprise Deployment

Enterprise Server

Application Service Delivery
Modernization

Common Issues seen across the industry

Common Issue

What we are seeing

Modernization prioritization

Enormous Inventory with little understanding of value

IT Debt

**Mountain of business requirements
Need productivity increase**

Improving application quality

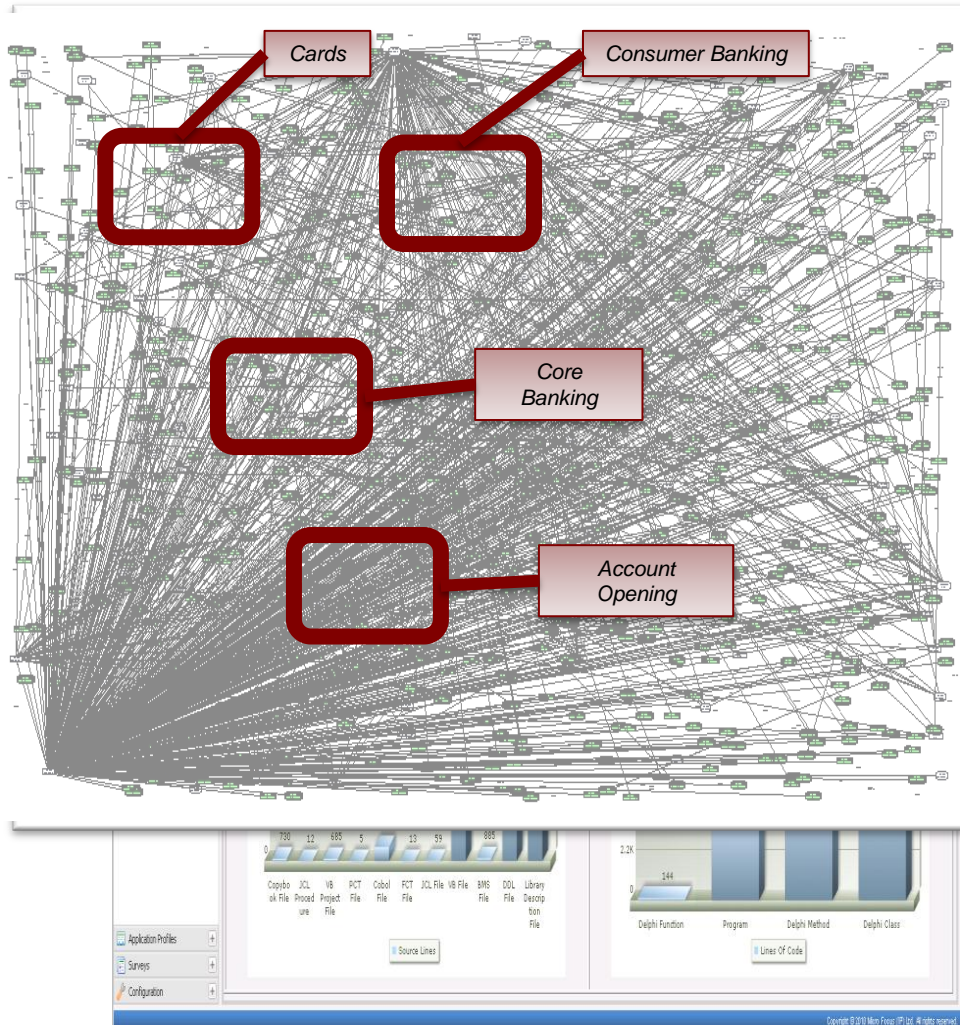
**Diminishing application knowledge,
increase in complexity, reduction in
code confidence**

Manual processes

**Reliance on manual information
capture . No consistency**

ENTERPRISE ANALYZER

Enterprise application-wide **Knowledge** to support business decisions

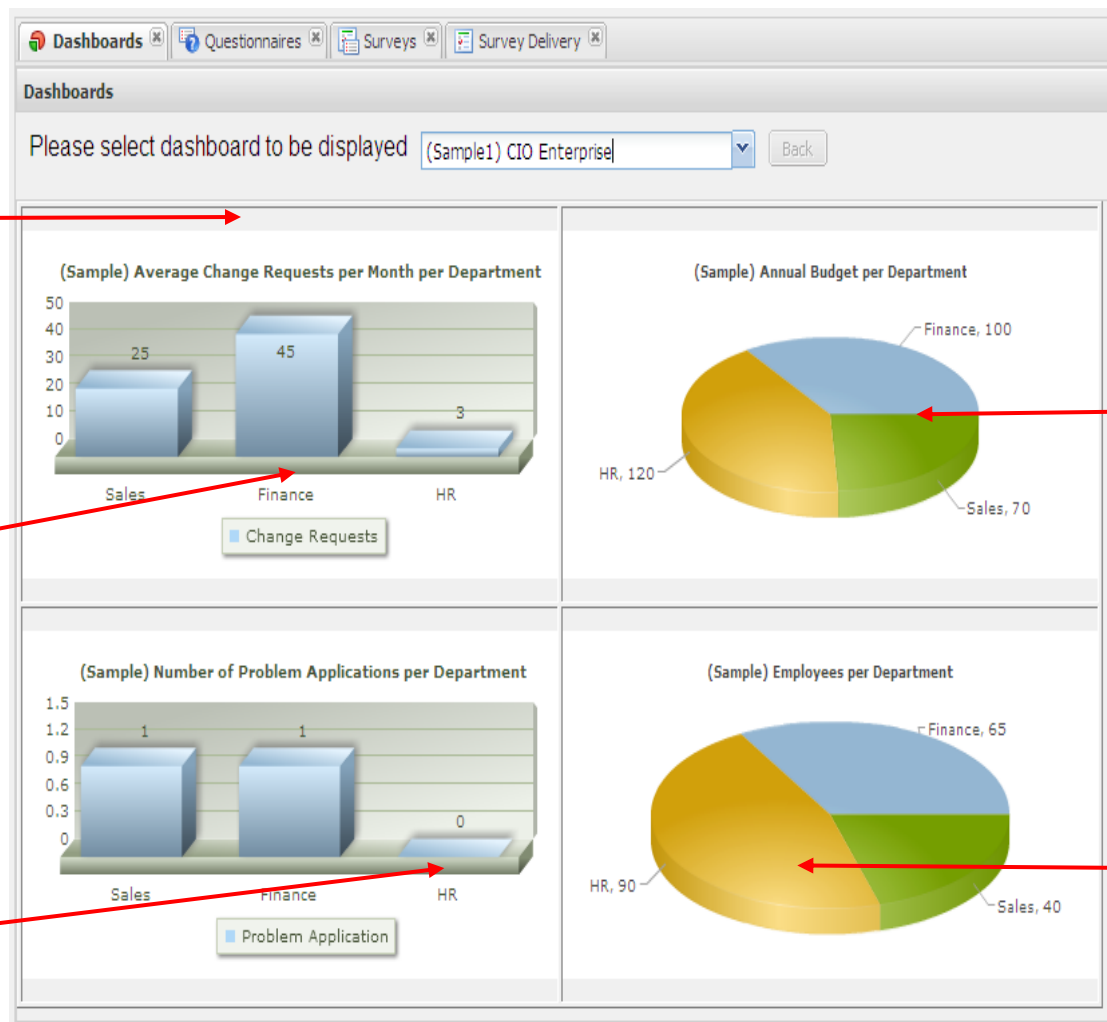


Benefits

- Identify genuine priorities to improve application portfolio
- Accelerate modernization projects by 40% and more
- Cut 15% and more from maintenance budgets

Capability

- A variety of technical, operational data is presented as business insight
- Dashboard views allow focus on key KPIs to enable informed decision making
- Detailed technical metrics are derived from the only source of truth – the applications themselves



Executive dashboards summarize portfolio trends

Metrics sorted by business groupings like "department"

Enrich "technical" metrics with data from business stakeholders

Users can "drill down" within a dashboard for more detail

Collect data from other sources to locate productivity & quality issues

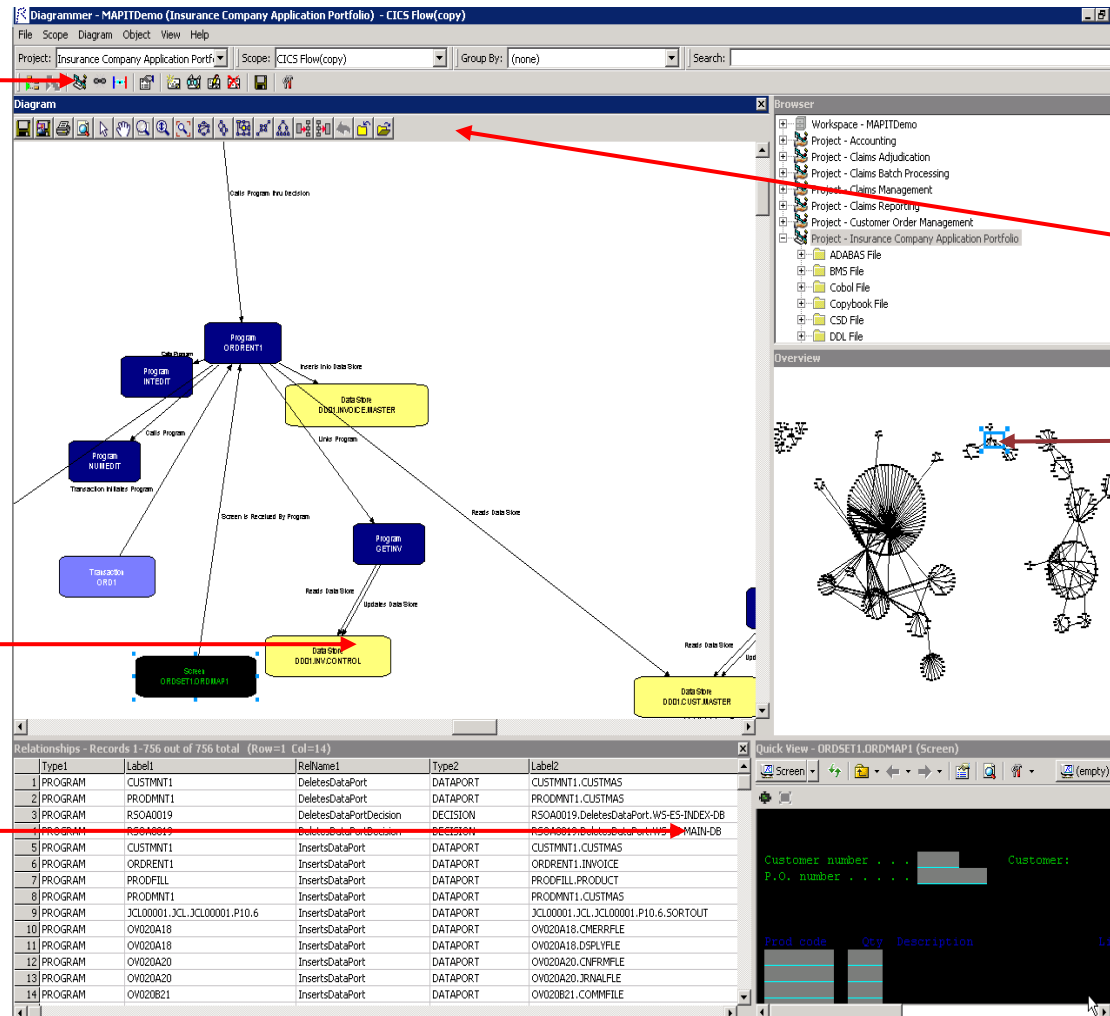
Share insights in standard formats

Users can customize their views

Select code of Interest quickly

Intelligent diagrams let users make smarter changes

Multiple perspectives boost insight



Common Issues seen across the industry

Common Issue

What we are seeing

Mainframe Infra-structure limitations

Aging Infra-structure, capacity constraints, reliance on limited resources. Complex processes

Lack of programmer productivity

Non integrated green screen environments, developer downtime, limited work, cannot move to Agile

Improving application quality

Lack of application knowledge, limited test capacity and test tools, no prototyping / individual control

Addressing the skills gap

Aging programmer population, lack of mainframe skills, difficult to cross skill and attract new talent

ENTERPRISE DEVELOPER

Revolutionizing the way Traditional Mainframe Development is done

Highlights

Eclipse or Visual Studio 2010
based IDE

Unified enterprise COBOL and
PLI development support

Windows based debug and unit
test productivity tools

Seamless mainframe and
workstation development
process

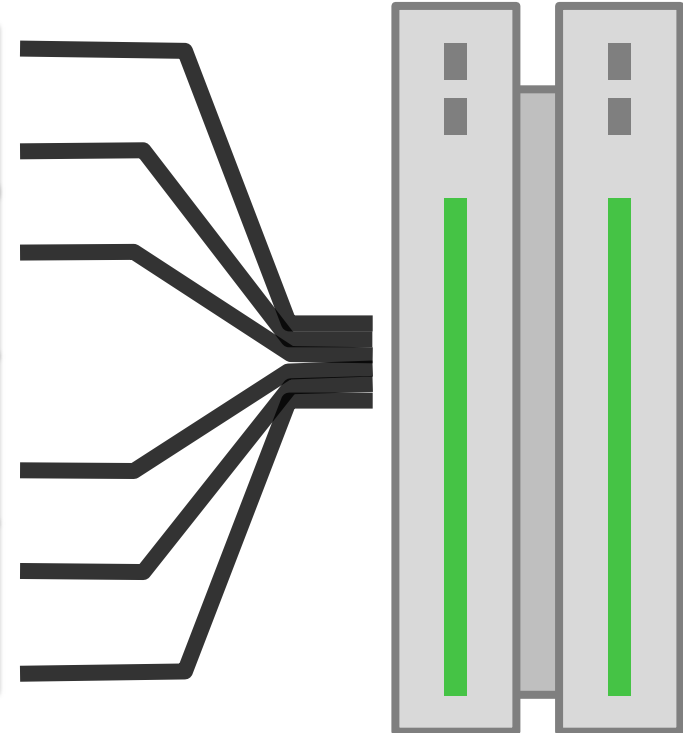
Benefits

Industry standard IDE supports
rejuvenation of skills pool

Reduce development costs and
reliance on aging infra-structure

Improve developer productivity by
40%

Unified Eclipse based development
environment with fast time to delivery



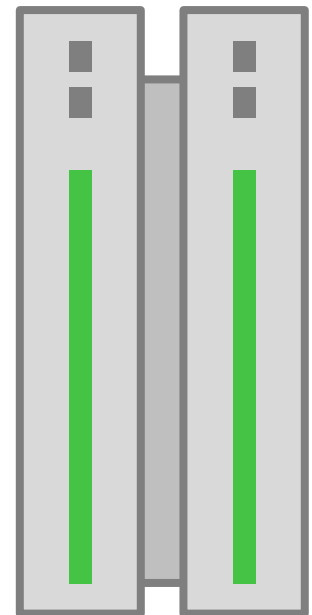
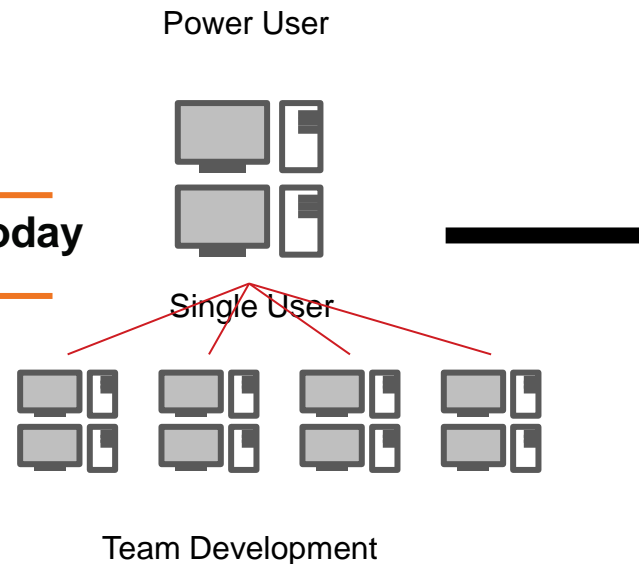
Two solutions to fit all development strategy needs

Enterprise Developer Personal Edition - Sept 2012

- Single user entry level, free product
- Analysis, smart edit and compile
- Light touch development environment for
 - Code verification
 - Emergency change

Enterprise Developer Team Edition - Today

- Eclipse and VS 2010 based mainframe integration and workflow
- Full local analysis edit, compile, debug and unit test capabilities
- Team working for sharing source, data and load libraries
- Central administration to support development teams
 - Focus developers on coding
 - Easy to standardize configuration



Complying with the highest levels of compatibility and coverage

Mainframe Subsystems Support

- **JCL** and **JES** support for testing of batch applications, including support for commonly used mainframe utility programs
- **VSAM** and **QSAM** support allows testing against EBCDIC data files on Windows
- **DB2** support with 'SQL Option for DB2' – a DB2 compatible database, or connect to IBM DB2
- **CICS** transaction system support including an integrated EXEC CICS pre-compiler to support command level CICS and a macro generator for BMS screen maps
- **IMS** transaction manager (**IMS/TM**) and database manager (**IMS/DB**) support, with integrated EXEC DLI pre-compiler for IMS DB API support and support for MFS screen maps

Micro Focus has over 30 years leadership in providing IBM mainframe compatibility and development process improvements

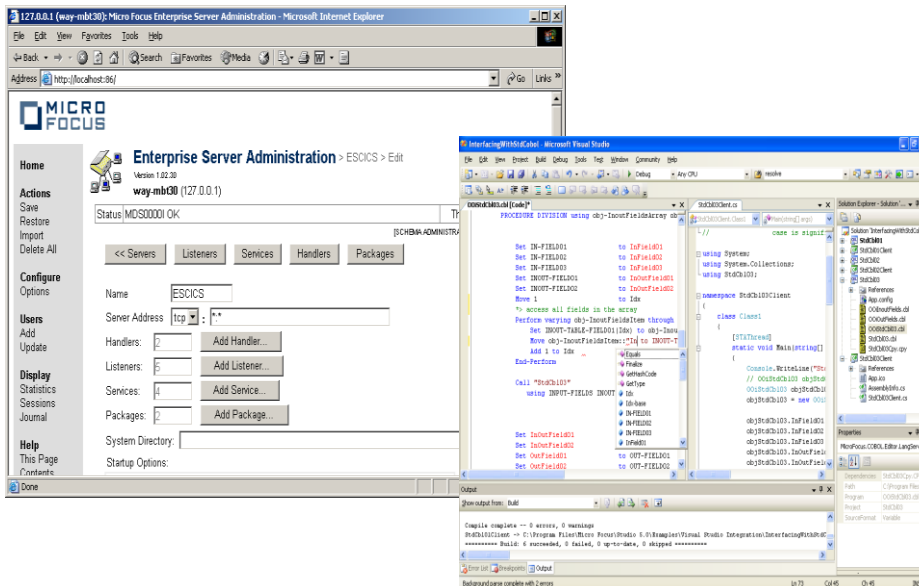
Application Language Support

- **COBOL** compiler compatible with all major IBM language versions, including Enterprise COBOL for z/OS
- **Open PL/I** compiler supporting mainframe PL/I applications migrated off the mainframe
- **Assembler** programs or sub-routines can be built and linked for use in pre-production testing

Building flexibility and strong basis for the future

Application modernization

- Develop .NET/JVM extensions as part of application modernization – Visual COBOL
- Open up new deployment options – Web, Mobility, Cloud, and more.



Developer Tools

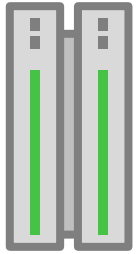
- **Configurable compilation** to control program behaviour and application output
- **Mainframe source access** directly from the IDE
- **Data Editing** comprehensive data editing and creation
- **Developer Test Tools** built in to ensure that all code paths have been executed during testing.

Enterprise Developer + Aug 2012

- **JES/MVS Explore view** direct access to z/OS resources from Eclipse workstation
- **SCLM Integration and modelling** integrate to mainframe source control and customize workflow
- **Remote development** on the mainframe. Transparent access to resources and process
- **Enhance RDz** with more flexible mainframe experience and offload choice

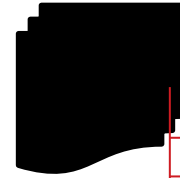
Implement to suit – Deploy to everyone

z/OS



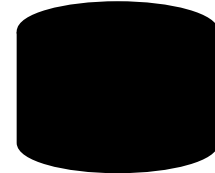
Remote System Access

- JES/MVS explorer
- SCLM
- Edit/Compile/Debug

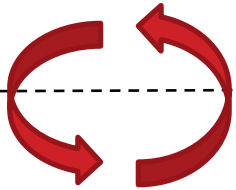


Mainframe Source Control

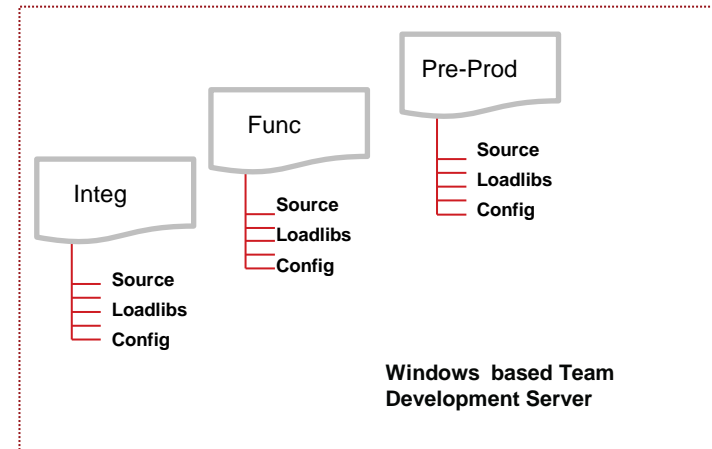
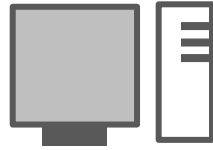
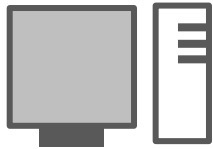
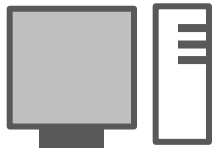
Prod
Test
Dev



- Mainframe Data
VSAM, DB2
- Applications



Local Edit, Compile, Debug, Unit Test



Remote Access

Eclipse based Windows Environment

Understanding what impacts Application Quality

Common Issue

What we are seeing

Time to market pressures are greater than ever

Lack of mainframe test capacity impacts significantly on application time to market

Increasing test capacity conflicts with cost control agenda

Mainframe test capacity is expensive. Organisations are looking to more with less.

High profile production failures damage the business

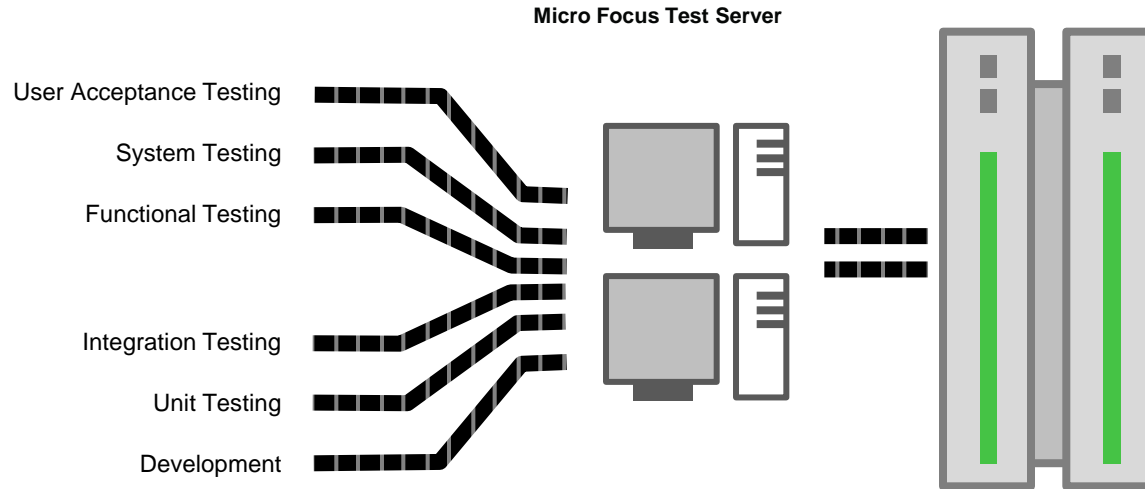
Insufficient testing leads to production failures. Application quality is a key metric

Business agility in a rapidly changing landscape is key

New legislation, M&A activity and the need to stay competitive means test demand is greater than ever

ENTERPRISE TEST SERVER

Agile Testing – Continuous integration capability



Benefits

- Reduce costs of testing resources and contain costs of expanding test resources
- Remove capacity bottlenecks and improve time-to-delivery
- Improve delivery quality and unify the development process

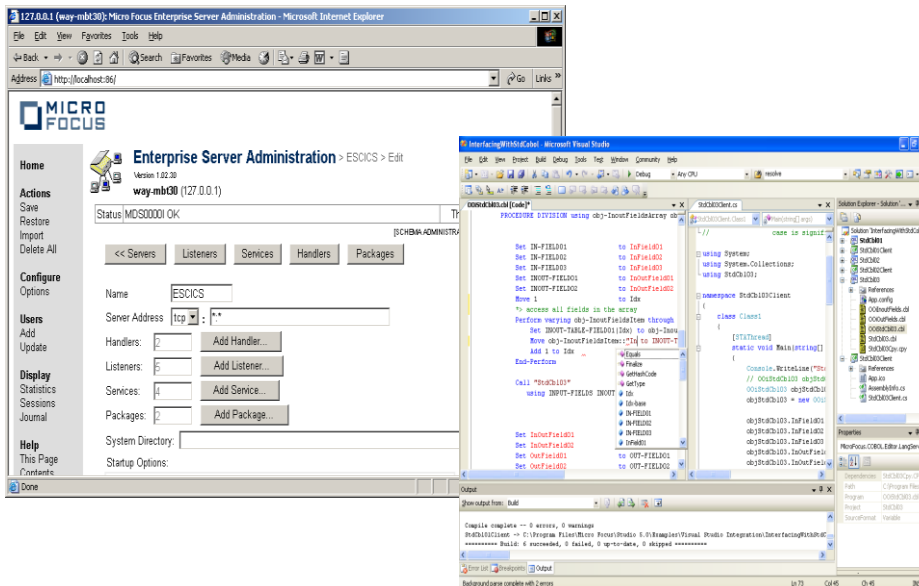
Capability

- Undertake scaled enterprise testing without consuming mainframe cost or resource
- Server-based solutions flex and scale to support intensive testing periods
- Test more in less time
- Provides an end-to-end Java and .NET test framework

Close integration to mainframe and testing automation tools is key

Mainframe Connectivity

- Remote invocation of mainframe processes if required during testing
- Access to mainframe source and data with automatic synchronisation



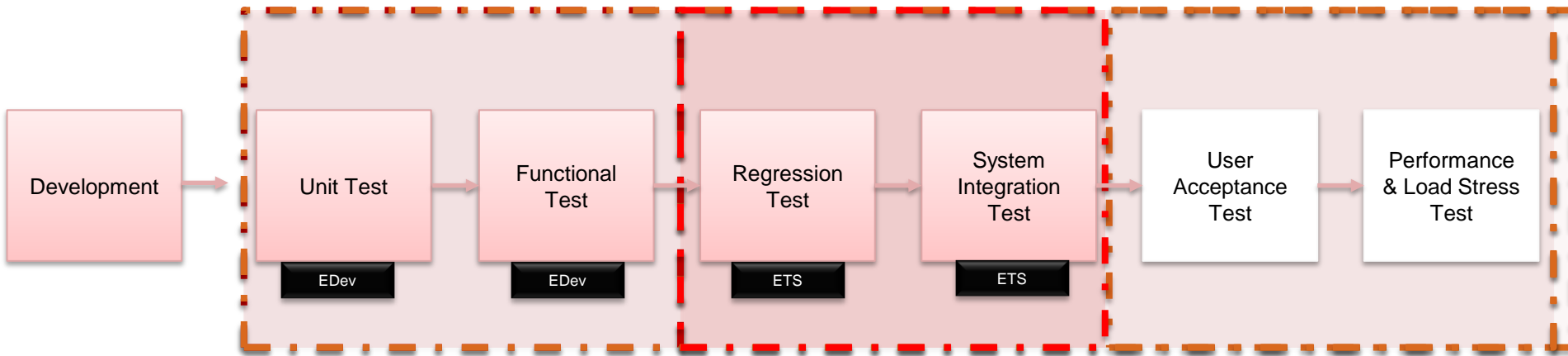
Windows based configuration

- **Web browser** based control and management of IMS, CICS and batch test regions for simple configuration
- **Scalable** multi-user, multi-region architecture provides robust test harness

Testing Tools

- **Test Coverage Reporting** - built in to ensure that all code paths have been executed during testing.
- **Test automation** of GUI or 3270 based applications – additional option to use SilkTest and Rumba to provide test case automation and reuse of test artefacts
- **Data Management** -Q3 Regulatory compliance. Big Data Management

Implemented with Enterprise Developer at Banco Espirito Santos



Enterprise Developer

Phase 1

- Implementation of a local development and unit test environment
- Immediately available to the developers
- First benefit in the development and unit test phases

Enterprise Test Server

Phase 2

- Implementation of an Integration Test Environment
- Full integration with 3rd parties application
- Full automation for the batch chain execution

zOS

Understanding what is involved when deploying mainframe applications

Common Issue

What we are seeing

Fast cost reduction

Pressure to reduce on-going infrastructure spend. Self finance modernization projects

Deployment flexibility

Flexibility to run on alternative platforms, reduce barrier to enter new markets

Exploiting new technologies

Modernization applications to take advantage of new paradigms – cloud computing, Mobile

Business Agility

Increase BI through accessible data
Move processing to better suited platforms

ENTERPRISE SERVER

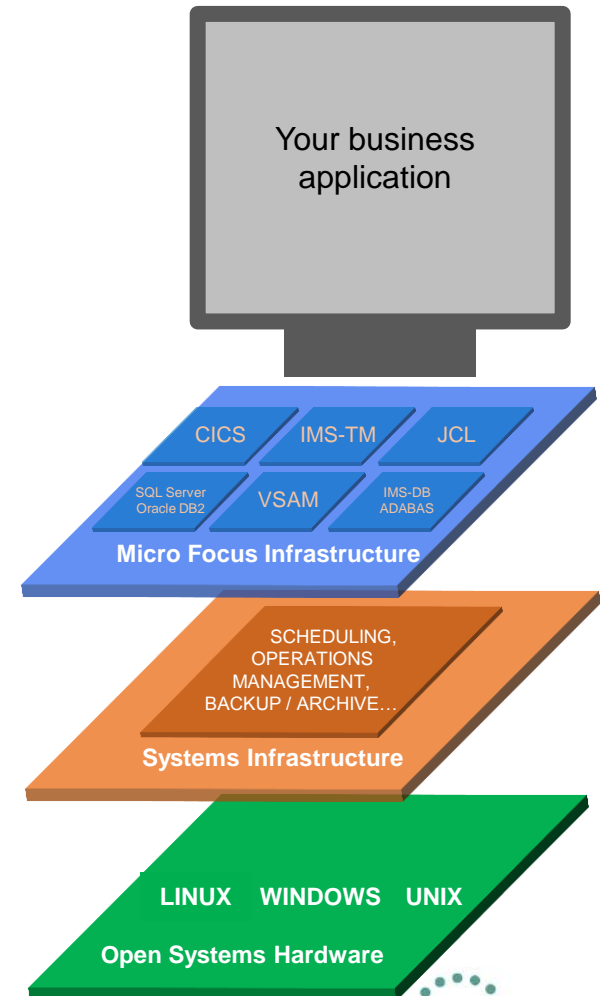
The low-risk, self funding route to agile enterprise application deployment

Benefits

- 70-90% reduction in operating cost; the low-risk alternative to rewrite and replace
- Shorten delivery cycles by 40%
- Improve application performance
- Supports Improved BI and Agile IT

Capability

- Enterprise application deployment without the mainframe cost
- Re-host applications with little source code change enabling much of project to be done in house if it is a priority for the business
- Deploy to any enterprise-standard environments
- Many SIs to support system integration aspects around ES environment



Providing a complete scale-up and Azure scale out alternatives

Application Language Support

- **COBOL** compiler compatible with all major IBM language versions,
- **PL/I** compiler already supports 90% of commonly used IBM PL/I propriety extensions

Mainframe Subsystems Support

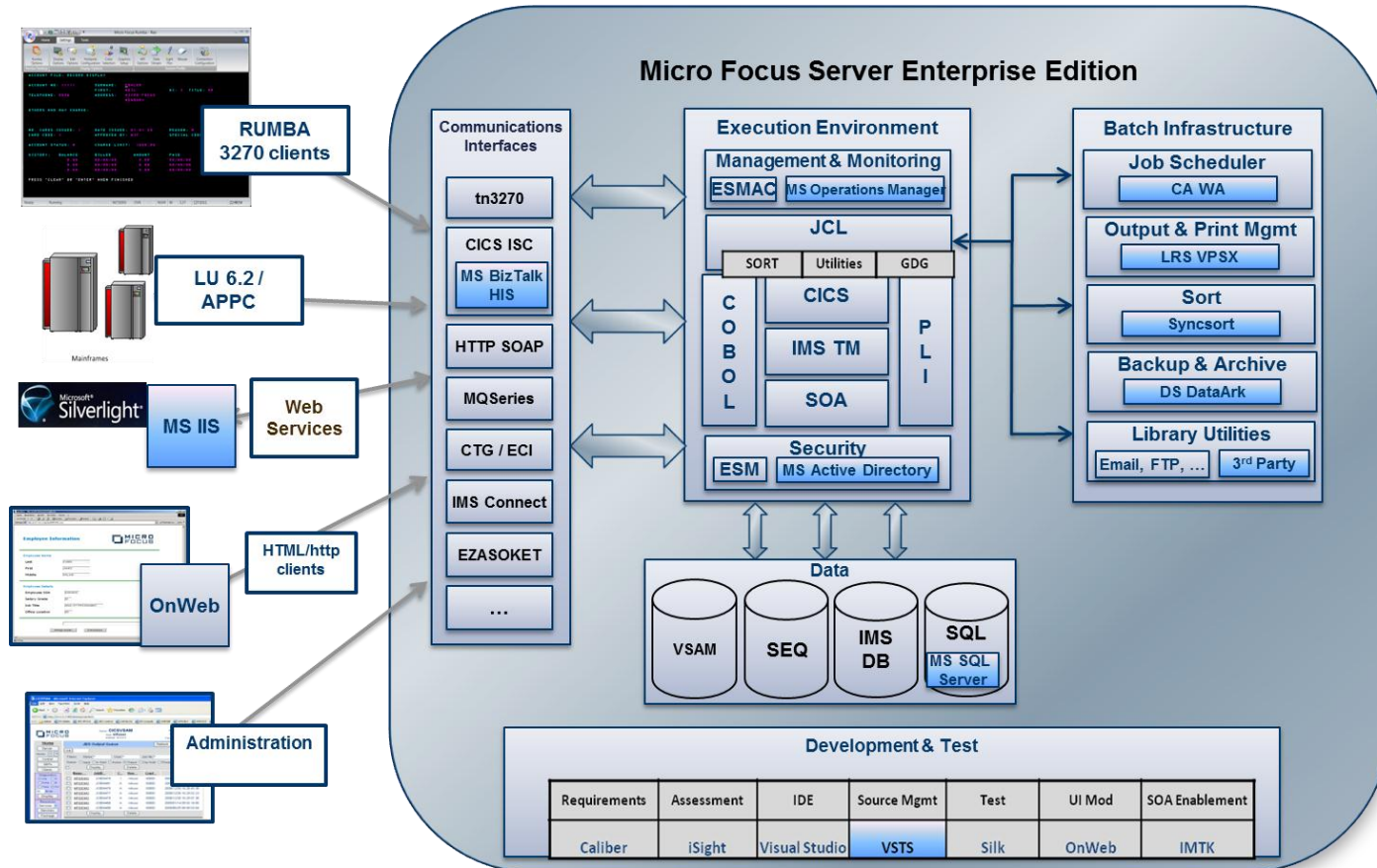
- **CICS and IMS-TM** transaction system support including integrated pre-compilers and BMS/MFS support
- **JCL** and **JES** support for re-hosting batch applications, including support for common mainframe utility programs
- **VSAM** and **QSAM** support allows data to stay in EBCDIC or move to ASCII
- **DB2** support with 'HCO" to minimize SQL changes when targeting DB2 or SQL Server
- **IMS** database manager (**IMS/DB**) support to keep application access code intact and IMS-DB database model intact and field extensions to map to RDBMS

Micro Focus software has been used in over 95% of all successful IBM mainframe migrations

Key to success of deployment options

- **Breadth and depth in technology and support**
- **Increasing Capability** e.g **PL/I** and **IBM-DB** new opportunities
- **Remote DB2 and VSAM** access to move code but leave data on z/OS while reducing CPU utilization
- **Scale up** on AIX, HP-UX, Linux, Solaris and Windows
- **Scale out** on .NET and Windows Azure
- **Independent** from all h/w and OS vendors so provides portability across all servers and so complete flexibility
- **Focus on Partial deployment.** Prime time MIPS for prime time apps

Providing a complete and scalable mainframe architecture



Communications
Interfaces

Execution
Environment

Batch
Infrastructure

Data

Development &
Test

The Mainframe Modernization Journey

A Pragmatic Approach

Portfolio Management
Prioritisation
Cost management

Change, impact &
business rule analysis

Knowledge

**Enterprise
Analyzer**

Plug the skills gap
Increase productivity
Reduce MIPS usage

Increase productivity
Modernize

Development

**Enterprise
Developer**

Increase thru-put
Accelerate delivery
Increase quality
Reduce MIPS usage
Continuous integration

Quality

**Enterprise Test
Server**

Reduce MIPS usage
Lower application costs
Lower OpEx
Enhance BI capability
Virtualize

Deployment

**Enterprise
Server**

Micro Focus Enterprise product set