Modernize your applications using Cloud technologies

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Global Legacy Modernization
Introducing automated tools and methods with reference cases for bringing ageing applications to this day

- Why Modernize
- Fujitsu’s Approach
- Reference cases
Legacy application chaos

OpenVMS
IBM iSeries
IBM Mainframe
Unisys
AS/400
CICS
RPG
PL/1
Supra
Focus

Adabas
Access
Natural
Ideal
COBOL
COOL:Gen
Telon
Fortran
Model204

DMS
IDMS
IMS/DB
VB6
DCL
COOL:Gen

Oracle Forms
z/OS
HP3000
CICS
RPG
HP3000
z/VSE

Easytrieve
Notes
Mantis
Supra
Universe

Universe
Common business issues and drivers

Challenges facing clients with legacy applications

- High operations costs
- Rare & expensive legacy skills
- Dead, dying or high risk technology
- Agility/ scalability/ compliance
- Lack of functionality
- Mergers/ acquisitions
- Reduction in portfolio complexity
- User Interface
  - Web Interaction
  - Generation Y
- Cloud utilization and mobility
- Mergers/ acquisitions
Legacy applications – the options?

- Significant investments done in core applications
- A high proportion of these are legacy
  - Continue to provide high value to the business
- Cloud is coming – legacy application require special notice
- Options:
  - Move to a standard application – lose the differentiator
  - Rewrite – Expensive, time consuming and risky
  - Modernize – move the application or parts of it to a modern environment
Modernize: 1) The presentation layer

- A new front end is the right solution sometimes

- Advantages
  - Keeps the original application as is – no change, so little risk
  - Rapid deployment, low cost
  - One user interface can integrate several legacy applications
  - Can replace green screens entirely or provide mixture of both
  - Can offer easy way to cloud
  - Gives time for major decisions

- Main disadvantage
  - Does not necessarily reduce cost, legacy application still needs to be maintained
Modernize: 2) Migration

Move the application from legacy to a modern environment

Advantages

- Moves the original application as is – no change to the functionality, so low risk
- Automated proven migration tools means deployment is fast compared to rewrite
- Enables major savings
- Reduces the number of environments needed to be supported
- Modern environment provides improved agility – new functionality can be added rapidly
- Cloud, mobility etc. can be added

Disadvantages

- Needs to be planned and executed with efficiency – recommend working with a provider who has a proven track record
- Beware - Could lead to a fall out with your proprietary supplier
Fujitsu global methodology, project structure

**INCEPTION**
- NDA
- Qualification Meeting

**ELABORATION**
- Feasibility Workshop
- Proof of Concept

**CONSTRUCTION**
- Source code modernization / Unit Testing / Integration Testing
- Systems Testing
- Test Case Plan
- Proof of Concept

**TRANSITION**
- Testing support
- Performance Testing
- Acceptance Testing
- Dress Rehearsal
- Cut-over to Live
- Data Transfer
- Implementation planning

Customer activity  |  Fujitsu activity  |  Joint activity

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Questionnaire & Qualification Meeting

- Introduction to the Legacy Modernization offer
- What are the applications?
- Size / structure / programming languages?
- Operational criticality?
- What is the technology stack?
Feasibility Workshop

- Partial code analysis
- In depth – technical, planning, approach responsibilities discussion, risk area identification
- Possible options available
- Migration strategy for each application
- A outline proposal for the POC & Full Migration Project
**Proof of Concept (POC)**

- Migration of a selected code slice
- Analysis of full code base
- Outline design of target system
- Tailored approach & methodology for full project
- Planning (Detailed cost, plan & risk analysis, Agree responsibilities)
- The outcome is: Full approval to migrate
Target architecture

Fujitsu Methodology and Modernization Tools

MF COBOL, PL/1
MF CICS, IMS
MF DB2, VSAM
Visual Basic
Delphi
Lotus Notes
Oracle Forms
AS/400 RPG

3rd party cloud
Windows Azure
Fujitsu Cloud
Customer Private Cloud
On-premises servers
Some Legacy Modernization clients
SDC – Migration case study

SDC (SKANDINVISK DATA CENTRE), DENMARK

THE CHALLENGE

SDC’s Core Banking system runs the day to day business for over 150 banks in Norway, Sweden and Denmark. The COBOL based application currently ran on an IBM Mainframe. The challenge was to:

- Reduce back office operational costs
- Reduce commitment to the IBM Mainframe system
- Need to offer alternative platforms to attract new customers

THE SOLUTION

- Migrate the application from the Mainframe to a contemporary lower cost Microsoft platform
- Fujitsu designed and implemented a innovative solution to allow the migrated application to reference existing data on the Mainframe
- Fujitsu provide a data centre hosted managed service to deploy the migrated application.
- The success relied upon Fujitsu working collaboratively with the in-house development team and Microsoft

BUSINESS BENEFITS

- Relieved pressure of organic growth on the Mainframe
- Offer downstream customers a choice of delivery platform
- Reduced the incremental cost per banking transaction
- Improved competitiveness and customer retention
- Identified estimated savings of DKK 100 million (15 million Euros) per year (75M Euros over the 5 year contract)
Credit Agricole – Migration case study

CASE STUDY

THE CHALLENGE

Faced with a constant growth of information, storing high volumes of data is a luxury that few can afford. The anti-fraud system already cost 1 million Euros per year. Forecasts predicted data to grow to 21 Terabytes by 2008. The challenges were to:

- To increase application performance and reduce equipment costs by switching from Mainframe to Wintel platform.
- Recover migration project costs in 24 months.

THE SOLUTION

- Migrate the application from the Mainframe to a contemporary lower cost Microsoft platform using Fujitsu NetCOBOL for .NET.
- Fujitsu designed and implemented some application feature extensions to aid overall performance.
- Tune the behaviour of Microsoft SQL Server for data warehouse based operations.
- Introduce new ETL (extract-transform-load) processes.

BUSINESS BENEFITS

- Migration project costs recovered within 26 months.
- A query on 3 months of data used to take 5 minutes. The same query on 12 months of data now takes 30 seconds.
- Operation repeated for 17 other data warehouses.
- Avoidance of EUR 350k / mainframe MIP / year; the incremental forecast requirement for additional mainframe processing capacity.
Samlink – Migration case study

**CASE STUDY**

**THE CHALLENGE**

| How to make the life cycle of teller application longer. |
| The systems technology support end in sight (Visual Basic 6). |
| To avoid technology risks customer decided to modernize the system. |

**THE SOLUTION**

| Legacy Environment |
| Teller applications, 1 million lines of program code |
| 141 Visual Basic 6 projects, About 1800 Controls |

| New Environment |
| VB.NET |
| .NET framework |

**BUSINESS BENEFITS**

| Faster time to market comparing to re-writing |
| Modern, supported platform |

**SAMLINK, FINLAND**

| Industry: Banking |
| Operations: Samlink is a leading multi-talented player within their field professionals in challenging IT solutions, electronic transactions and financial administration. Samlink is under the ownership of Aktia, savings banks, local cooperative banks, Handelsbanken and Itella. |

| Founded: 1994 |
| Employees: approx. 500 |

“The main goal for Samlink was to make teller application life cycle longer. Fujitsu was chosen as project vendor, because of Fujitsu’s modernization methodology and automated tools.”

Pertti Simola, Samlink
Valio – Migration case study

*CASE STUDY*

**THE CHALLENGE**

The route management system’s technology support ends (Visual Basic 6). To avoid technology risks customer decided to modernize the system.

**THE SOLUTION**

Legacy Environment
- 90 Visual Basic forms
- 170 000 lines of code

New Environment
- VB.NET, .NET framework
- Visual Studio development tools

**BUSINESS BENEFITS**

- Route management system was successfully modernized into the new environment, which has long life cycle
- Technical modernization phase and the deployment of the modernized system to production was delivered rapidly
- Immediately after modernized system was accepted to production, new application development was started

**VALIO, FINLAND**

<table>
<thead>
<tr>
<th>Industry:</th>
<th>Food</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operations:</td>
<td>Valio Ltd is the biggest milk processor in Finland by net turnover at 1.9 billion euros. Valio is the market leader in all key dairy product groups in Finland and a world class pioneer as the developer of functional foods.</td>
</tr>
<tr>
<td>Founded:</td>
<td>1905</td>
</tr>
<tr>
<td>Employees:</td>
<td>approx. 4 000</td>
</tr>
</tbody>
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“First we had a plan to replace our route management system with new one. We already had proposals of rewriting the whole system, SAP configuration, and COTS (Commercial off-the-shelf) package. Then we also got proposal of automated modernization opportunity, which we decided to evaluate. Modernization has been proven to be successful choice for Valio.”

Raimo Jokinen, Valio
Legacy Modernization global coverage

- 20 National Teams
  - Japan, UK & Ireland, CEMEA & India, North America, South America, ASEAN, China, Korea, Australasia, Nordics.
  - 2 Off-Shore Centres (India and Russia)
Yes, we can

Fujitsu toolsets and ‘Best of Breed’ Partners

Unrivalled coverage of modernization.

Truly Agnostic Approach
We use the right tool for every modernization.

Full End-to-End Capability

From Consultancy through to migration, testing, Infrastructure, delivery and ongoing services – hosting, support etc.

AVA
Application Value Assessment

Consultancy service looking at the business value first. Produces a road map for each application.
Take-aways

- Understand options
  - Build a roadmap for each application with AVA (Application Value Assessment)

- If you need to move fast
  - Modernize, then migrate

- Fujitsu
  - Global track record for delivery
  - Agnostic approach
  - End-to-end delivery capability
shaping tomorrow with you