Anwendungsmodernisierung mit IBM ADDI (EZSource)

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Matthias Welz
WW Technical Sales Specialist for IBM Application Discovery (AD) - DACH
matthias.welz@de.ibm.com
+49-173-2653117
Agenda

**Warum Modernisieren?**

ADDI Überblick
ADDI Features
ADDI, Hybrid Cloud & API
Economy
Demo
Fragen / Diskussion
COBOL – a language of the last millenium?

75% 90%

54% 48%

200,000,000,000
COBOL – a language of the last millenium?

75% of all computer transactions and 90% of all financial involve COBOL¹

54% of companies say that COBOL represents the majority of their code, 48% „frequently“ use COBOL (compared to Java: 39%)²

Over 200,000,000,000 LOC in COBOL³

→ COBOL is still widely used, but mostly „invisible“ to the end user in the cloud / mobile age

¹ OVUM (2005)
² ComputerWorld (2012)
³ IBM (2013)
Legacy Code – what is it anyway?

- … COBOL-Code?
- … code that has been written x years ago?
- … „bad“ code?
- … code someone else wrote?
- … code without tests?
- … code with a high level of „technical debt“?
- … code that is difficult / costly to change?

→ Not the fact that they are COBOL makes many mainframe applications „legacy applications“, but the fact that they have been written a long time ago and not always received the best maintenance
Why is legacy code „bad“?

Requirements change over time, so software needs to change, too!

- Adding features
- Fixing a bug
- Improving Design
- Optimizing Resource Usage

- Changes involve **risk** and **cost**
- Most of the times, code needs to be changed (exception e.g. Automatic Binary Optimizer for optimizing performance)
- The more „legacy“ code is, the higher cost and risk of changes → Technical Debt
What is modernization?

Goal of modernization: „Turning systems that gradually degrade into systems that gradually improve“

- Replacement with off-the-shelf product
- Complete Rewrite
- Automatic Language Conversion
- Wrapping Legacy System
- Code Renovation
- Migration to commodity hardware / software

→ Reducing risk and cost of future changes
→ Modernization requires constant effort; it’s almost impossible to completely prevent „code rot“
→ Refactoring as a key tool
Remember: Your existing code is an asset!

- Complete replacements / rewrites are very costly and often fail!
- There are „two sides“ of legacy code:

Reuse and gradual modernization of existing „legacy applications“ allows reuse of existing assets and addresses cost and risk of changes!
The Challenge of the Digital Transformation

Evolve business critical assets for the hybrid cloud era with minimal time, risk and cost

- Many clients are risk averse and avoid modifying their aging business-critical applications
- Changes are often manual, error prone relying on few employees with domain expertise
- Applications are often poorly documented, resulting in increased risk and effort
- Sizing change effort is difficult if the understanding of business-critical applications is limited
- Ramping up new hires to work effectively with business critical applications is often tedious

Clients that have invested in modernization have unlocked the value of existing assets accelerating their digital transformation.
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Fragen / Diskussion
EZSource Profile

- Founded in 2003
- Headquartered in Israel with offices in UK, Switzerland, Romania and Japan
- More than forty customers worldwide

Select customers

Strategic partners include

- Aflac
- Maybank
- next
- Transnet
- Thomson Reuters
- Lloyds Banking Group
- ING
- 7-ELEVEN
- RBS
- Electric Insurance Company
- Always On
- voestalpine
- Accenture
- CSC
- CA Technologies
- RRMac Associates, LLC
- Serena
- Coverity
- Fujitsu
Why the EZSource Acquisition?

- IBM has acquired EZ Legacy Ltd. (AD), an application discovery company, to help enterprises understand and safely modify business-critical applications as they undergo digital transformation leveraging hybrid cloud.
- Clients aim to increase competitiveness and business innovation through digital forms of engagement, fueled by mobile, social and cognitive computing in a hybrid cloud environment.
- Leveraging accumulated client insights and enhancing business critical applications already resident on z Systems, is the fastest and most cost effective means of driving new value and agility.
- EZSource brings proven capabilities to strengthen IBM solutions for hybrid cloud, API management and DevOps, helping to accelerate clients’ digital transformation.
IBM Application Discovery

Unlock the value in your business-critical applications

Unlock
Rapidly analyze and visualize your applications to make changes quickly, safely and efficiently

Empower
Improve productivity of new and existing resources through knowledge transfer and automated documentation

Appraise
Continuously assess and improve quality against consistent metrics and enforcement of coding standards
Client surveys show concrete and measurable benefits across the lifecycle

<table>
<thead>
<tr>
<th>ALM Process</th>
<th>Activities</th>
<th>Typical Saving</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Demand Management</td>
<td>Assessment</td>
<td>70 - 80%</td>
<td>Improved accuracy, better change impact analysis, improved footprint understanding based on current systems</td>
</tr>
<tr>
<td></td>
<td>Requirements</td>
<td>15 - 20%</td>
<td>Automated documentation</td>
</tr>
<tr>
<td>Project Management</td>
<td>Project Management</td>
<td>30 - 50%</td>
<td>Both detailed execution planning and task-based resource / cost estimations</td>
</tr>
<tr>
<td>Build &amp; Software Configuration Management</td>
<td>Development</td>
<td>20 - 30%</td>
<td>Reduced rework, higher resource productivity</td>
</tr>
<tr>
<td></td>
<td>Documentation</td>
<td>60 - 90%</td>
<td>Both on-demand and automated</td>
</tr>
<tr>
<td>Testing &amp; QA</td>
<td>Testing</td>
<td>40 - 50%</td>
<td>Improved error reduction and better quality test definition (risk based, regression)</td>
</tr>
<tr>
<td>Service Management</td>
<td>Support, Problem Resolution, Root Cause, Impact Analysis</td>
<td>30 - 40%</td>
<td>Improved asset efficiency, higher resource productivity</td>
</tr>
<tr>
<td></td>
<td>Overall ROI</td>
<td>30 - 40%</td>
<td>Conservative Business Case</td>
</tr>
</tbody>
</table>
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Fragen / Diskussion
IBM ADDI High Level Architecture

ADDI:IDz / Eclipse
IDE Integration

ADDI:Analyze
Graphical Analysis
Reports
‘Where Used’ Analysis

ADDI:Build

ADDI:Connect

ADDI Application Repository

3rd Party
PDF
Excel
JPEG
XML
Visio
JSON
CSV
EMF

z/OS
DB2
CICS
IMS
SMF
TWS
CA7
CA Endevor
CA Librarian
ChangeMan
PDS
Natural

ADDI is based upon open, federated architecture, with all application information delivered and stored in a single, open repository

- **ADDI:Analyze** takes advantage of Eclipse functionality for cross-application analysis; analyzes online applications plus batch schedules/jobs/applications

- **ADDI:Build** and **Connect** provide certified integration to 3rd party tools for complete application data using an open repository platform as a “single version of the truth” for custom analysis, reporting and correlation
Rapidly analyze and visualize the secrets of complex applications

Analyze and visualize relationships between application components, data and jobs

• Understand the structure of your business critical application across languages and environments

• Reduce risk and time and increase quality of changes through visual impact analysis integrated with your IDE

• Synchronize AD with latest changes in your source code management systems for a single source of truth

Reduce development change effort by up to 30%*
Reduce project management by up to 50%*
Improve productivity of your development resources

Automate documentation, enable on-demand understanding, and aid sizing of change efforts

- Accelerate knowledge transfer through accurate, automated and on-demand documentation
- Rapidly size change effort through insightful root cause analysis
- Aid new team members through comprehensive, accurate and consumable application analysis within the IDE

Reduce time to size change effort by up to 80%*
Reduce time to document your system by up to 90%*
Key Capabilities (1)

**Graphical Analysis**
- Component dependencies and where-used – impact analysis
- Flexible hierarchy views, Filtering, search capabilities
- Cross Application and Modular inter-dependencies
- Flowcharts, Screen Flow, Data Flow, Control Flow
- Drill down – Cross Application, Paragraph, Statement

**Usage**
- Dataset Usage in Jobs
- Job Usage Inventory
- Program Usage in Jobs
- Procedure Usage in Jobs
- Program Structure (all supported languages)
- Variable Usage in Programs (all supported languages)
- Database Usage in Programs (all supported databases)
- Include Usage in Programs
- MQueue Usage in Programs
- SQL Table Field Usage
Key Capabilities (2) and Supported Environments

Reporting
- Industry standard analysis – Halstead, McCabe, FP, Heuristic
- Configurable metrics and reports
- Coding and quality standards, dead code, impact analysis
- External reporting access
- Custom queries and outputs

Mainframe – z/OS, iSeries, VSE, Fujitsu AIM, Fujitsu VME
- Languages – COBOL, CL, PL/I, CA ADS/Online, Assembler, Java
- Databases - VSAM, DB2, DB400, Datacom, IMS/DB, Fujitsu AIM/DB, IDMS
- Batch – JCLs, Procs, Ctrl, SCL
- TP monitors – IMS/DC, CICS, IDMS/DC, TPMS
- Schedulers – IBM Workload Scheduler, Control-M, A-Auto, CA7
- Messaging – MQ Series
- SMF analysis – Jobs, CICS, Transactions etc.
- AD tools – IDz
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Fragen / Diskussion
Digital transformation requires Hybrid Cloud + API Management + DevOps

- Maximize enterprise value by balancing the use of internal assets and external services at scale
  - Expose business critical services through APIs as your platform agnostic language within the context of a hybrid cloud
- Modernize business critical applications to gain business agility
  - Componentize them leveraging java, system APIs and Micro services
- Evolve applications and services at the speed of business
  - Leverage a cross-platform DevOps solutions to gain necessary speed and agility
IBM Application Discovery and zOS Connect EE - Accelerate Your API Enablement

**IBM AD**
- Discover And Understand Your z/OS Assets

**ADF / ADI / AD**
- Refactor And Test If Needed

**IBM zOS Connect EE**
- Create Business APIs For What You Discovered

**IBM API Connect**
- Manage And Control The APIs

**An end to end solution to speed digital transformation**
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Vielen Dank!

Matthias Welz
matthias.welz@de.ibm.com
+49-173-2653117