Why use Web Services with CICS?

• Consumerization
• Cloud Applications
• Cloud Services
• Virtualization
• Integrating Mainframe Data
• Integrating CICS Applications
What is Consumerization?

- Personal Devices in the workplace (BYOD)
- Applications (BYOA)
- Servers (BYOS)
- Cloud Computing
Internal Devices and Apps

- Smartphones
- Tablets
- Laptops
- Email
- CRM
- Etc.
External Applications

- Portals
- Web Applications
- Wireless
- Mobile Computing
Benefits of Consumerization

- Familiarity
- Personalization
- Interface Flexibility
Cloud Applications

- BYOA
- CRM – Salesforce.com
- Google – Google Docs
- Public, Private, Private Hosted
- Etc.

There’s an App for that!
Cloud Services

• Servers on Demand
• Amazon
• Rackspace
• Etc.
Virtualization

- Mainframe
  - z/VM
- Servers
  - Windows, Linux, Unix
- Etc.
Why Use Web Services with CICS?

• Mainframe Data Used in Cloud and Mobile Applications
• CICS Applications To/From the Cloud
• CICS Integration With Presentation Layers
• CICS Applications Using Industry Standards
• CICS Applications Deployed at the Speed of Business
• CICS Applications Integrated with Off Platform Applications
• Backbone System for many fortune 100 companies
• 40+ years of dependable, reliable, scalable systems
• How many 9’s reliability?
• Online and Batch Processing
• Enterprise integrating with mainframe systems without the expense of re-writing them!
Mainframe is Still Relevant!

- 95 of top 100 banks run System z
- 60% of all online data is on a mainframe
- 60 of top 100 System z customers also run Linux on the platform
- Majority of Fortune 1000 run a mainframe as part of their IT infrastructure
- System z holds the highest security classification
  - Only platform with EAL5 security classification
- In 2011 more than 1500 apps were added or upgraded on System z from over 100 ISVs
When to Use Web Services with CICS
When to Use Web Services with CICS

- Mobile device app integration with existing CICS workflows
- Cloud Applications running CICS in the cloud
- Integrating Mainframe Data to distributed applications
- Integrating CICS Applications to distributed applications
- Reuse existing logic and stability of current CICS applications
- Business drivers
- NOW!
Success Factors

- Mainframe Data Used in Cloud and Mobile Applications
- CICS Applications to/from the cloud
- CICS New Application usage with no new coding
- CICS New Applications leveraging standards
- CICS New Applications developed at the speed of business
Success Factor 1

• Mainframe Data Used in Cloud and Mobile Applications

• Critical mainframe data available directly from cloud or mobile applications
  • Available via ODBC/JDBC
  • Available via Web Services (SOAP/REST)
  • Available via JSON
  • Available via JCA Exploitation
Success Factor 2

• Mainframe Data Used in Cloud and Mobile Applications

• CICS Applications to/from the cloud
Success Factor 2

- Mainframe Data Used in Cloud and Mobile Applications
- CICS Applications to/from the cloud

- CICS Applications can be called by Mobile or Cloud
- CICS Applications calling Mobile or Cloud applications
- CICS Applications calling in native language (COBOL, PL/1)
- CICS Applications do not worry about XML/SOAP
- CICS Applications can be orchestrated
Success Factor 3

• Mainframe Data Used in Cloud and Mobile Applications

• CICS Applications to/from the cloud

• CICS New Application usage with no new coding
Success Factor 3

- CICS Applications can be included in new applications
- CICS Applications are left unchanged, but are reused
- CICS Applications can be combined in new business function
- CICS Applications are not re-coded
- No New CICS Application code is required

- Mainframe Data Used in Cloud and Mobile Applications
- CICS Applications to/from the cloud
- CICS New Application usage with no new coding
Success Factor 4

- Mainframe Data Used in Cloud and Mobile Applications
- CICS Applications to/from the cloud
- CICS New Application usage with no new coding
- CICS New Applications leveraging standards
Success Factor 4

- New Services can leverage industry standards (IFX, SWIFT, ACORD, etc.)
- CICS Applications can use company specified standards and mappings (XSD’s, WSDL)
- Services can easily be mapped in an IDE that will handle difficult data types.

- Mainframe Data Used in Cloud and Mobile Applications
- CICS Applications to/from the cloud
- CICS New Application usage with no new coding
- CICS New Applications leveraging standards
Success Factor 5

- Mainframe Data Used in Cloud and Mobile Applications
- CICS Applications to/from the cloud
- CICS New Application usage with no new coding
- CICS New Applications leveraging standards
- CICS New Applications developed at the speed of business
Success Factor 5

- CICS based services developed in minutes
- CICS based services developed as new business needs
- CICS based services in easy drag and drop studio
- CICS based services immediately available
- No New CICS Application code is generated

- Mainframe Data Used in Cloud and Mobile Applications
- CICS Applications to/from the cloud
- CICS New Application usage with no new coding
- CICS New Applications leveraging standards
- CICS New Applications developed at the speed of business
The Real World

- Bank (Mobile Banking Application)
- Insurance (Mobile Insurance Application for agents)
- Manufacturing (Automobile Engineering)
- Finance (Stock trading, Financial tools)
- International Bank (Credit card processing, ATM)
How to Use Web Services with CICS
How to Use Web Services with CICS

• Integration Challenges
  • Mainframe Roadblocks
  • Mainframe Is Not Agile

• ‘Type’ of Service
  • Top Down/Bottom Up
  • Discrete or Composite
  • CICS a Consumer or a Provider
The Mainframe

HALDB
TS Queue
Stage 1
Copybook
MSC
Natural
Message Queue
TD Queue
PL/I
OTMA
Transaction
COBOL
EXCI
Assembler
VSAM
ACB
DBD
MFS
IMS Connect
MSC
CTG
BMS
3270
3270
DB2
DB2
CICS/IMS
Complete your sessions evaluation online at SHARE.org/SFEval
Consumerization World

BPMN
Web 2.0
DaaS
Smart Phones

Tablets
SAP
JMS
SharePoint

AJAX
Virtualization
POJO
REST

PHP

SaaS

Cloud Apps

Oracle Apps

Complete your sessions evaluation online at SHARE.org/SFEval

2013
Two Worlds Collide!

Integration?  HELP!  HOW??  Do Not Enter

Smart Phones
Web 2.0
DaaS
BPMN
Oracle Apps

SAP
JSON
SharePoint

HALDB
TS Queue
Stage 1
Copybook
PSB
Transactions
COBOL
Assembler
ACB
MSC
TD Queue
EXCI
OTMA
DBD
Assembler
ACB
TD Queue
EXCI
OTMA
DBD
Assembler
ACB
MSC
Message Queue
PL/I
Virtualization
Java
Virtualization
Java
Virtualization
Java

Two Worlds Collide!

Complete your sessions evaluation online at SHARE.org/SFEval
NO
TRESPASSING
VIOLATORS
WILL BE SHOT
SURVIVORS
WILL BE SHOT
AGAIN
Integration Challenges

• Development Challenges
• New Skill Sets
• Legacy Integration
Mainframe Road Blocks

- The Mainframe is not Agile
- Multiple Systems and Interfaces
- Integration will be a challenge
- Legacy Data
- “Old”
The Mainframe is not Agile

- The mainframe is not agile
- 27% feel constrained by legacy applications
- Bright Spots
  - 75% feel “Agile IT” could save 30%
  - 45% feel need to modernize
  - But….. 80% don’t have a roadmap for modernization
‘Type’ of Services

• Top Down – WSDL import
• Bottom Up – Commarea/3270 WSDL create
• Discrete services
• Composite services
• CICS Provider
• CICS Consumer
Coding Options to Create Services

• Coding requirements
  • Write native CICS code
  • Use generated code created by products
  • Integrate to existing CICS applications without any new code, written or generated
Mainframe as a Client

- Mainframe Applications to/from the cloud...
  - Mainframe Applications can be called by Mobile or Cloud
  - Mainframe Applications calling Mobile or Cloud applications
  - Mainframe Applications calling in native language (COBOL, PL/1)
  - Mainframe Applications do not worry about XML/SOAP
  - Mainframe Applications can be orchestrated
Use Standards

• New Mainframe Applications leveraging standards

• New Services can leverage industry standards (IFX, SWIFT, ACORD, etc.)
• Applications can use company specified standards and mappings (XSD’s, WSDL)
• Services can easily be mapped in Ivory Studio that will handle difficult data types.
Do It Quickly

• New Applications developed at the speed of business

- Mainframe based services developed in minutes
- Mainframe based services developed as new business needs
- Mainframe based services in easy drag and drop development studio
- Mainframe based services immediately available
- No New Mainframe Application code is generated
Case Study

- Scenario
  - Large bank and financial institution required a modern/mobile solution for stock purchases.
Case Study

• Current State
  • Client called into call center/services rep to inquire about stock costs and purchase request
  • Call center rep would lookup account info (commarea), get current stock price (web service call) and inquire account balance (3270)
  • Calculate if number of shares requested are possible with current account balance.
  • Return message to indicate whether or not client has the funds to purchase the requested stock
Case Study

• Future State:
  • Client can use mobile device or call call-center/services rep to inquire about stock costs and purchase request
  • Input data would be minimal, name, stock symbol and amount of shares requested
  • Front end app will call a composite web service to complete the necessary steps
  • Return message to indicate whether or not client has the funds to purchase the requested stock
Demo
Conclusion

• The mainframe continues to integral to businesses
• CICS Applications need to be agile and integrated
• Services is the way to complete the mission
Timothy Sipples, Resident Architect, IBM Corporation, states in a February 11, 2006 blog entry;

“Quite simply, if your mainframe is not the key ingredient in your SOA then you really don't have an SOA strategy.”