Welcome!

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Landesbank Baden-Württemberg

IMS Connection using Mainframe-based Web Services at LBBW

Agenda

- **History**

- **Web services on the mainframe**

- **Lessons from the proof-of-concept**

- **The decision to go with Web services and Ivory at LBBW**

- **Our experience at LBBW**

- **The results**

Landesbank Baden-Württemberg (LBBW)

Top 5 bank in Germany; Top 50 globally

428 bill EUR revenue (FY2006)

12,250 employees

Offices

- HQ: Stuttgart, Karlsruhe and Mannheim
- 216 branch offices
- LBBW also operates branches in New York, London and Singapore

Current Environment (Project-Focus)

Staff

- Tenure / Skills

Hardware

- Mainframe   2x Z9 (Mod. 705)

Software

- z/OS V1.8
- IMS V9
- DB2 V8

Banks

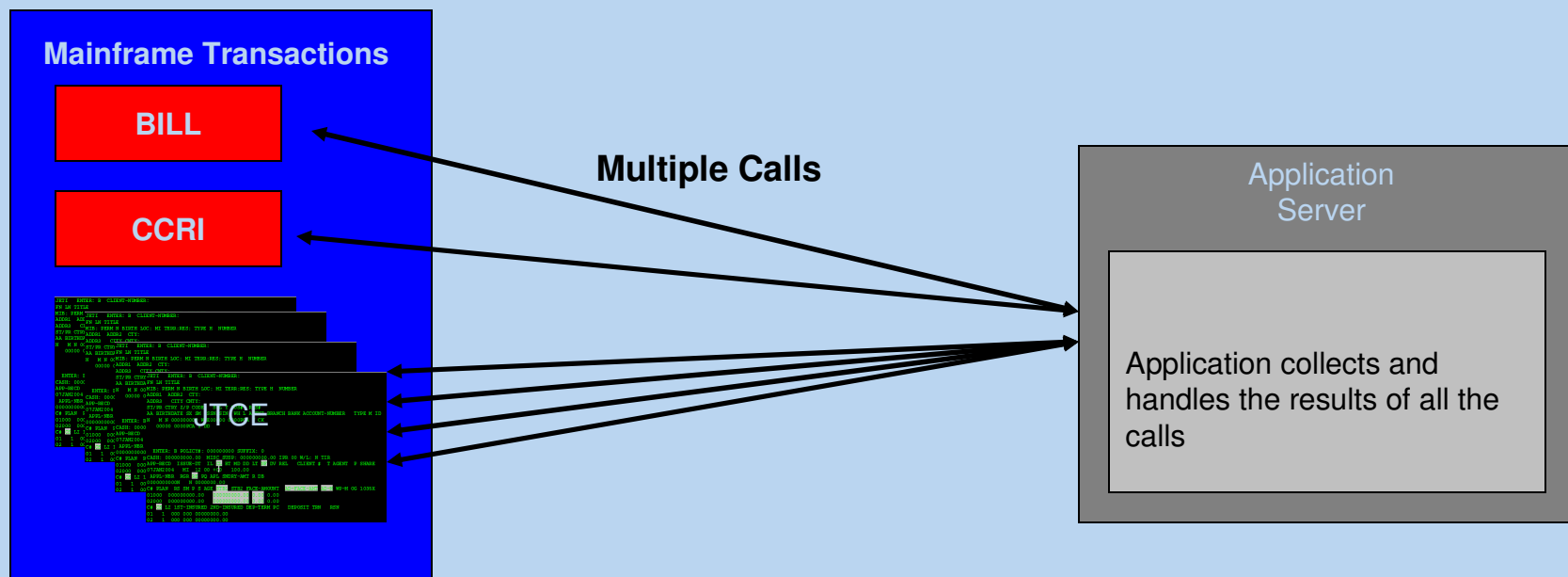- Securities Services for 80 other Banks (Savings Banks)

Challenge

- Business opportunities demanded that LBBW update its' securities application

    - Required an easy to use Web-based interface

    - Serves LBBW counsellors and councellors of the savings banks

- Current system is based on COBOL (1000+ COBOL programs), IMS and DB2
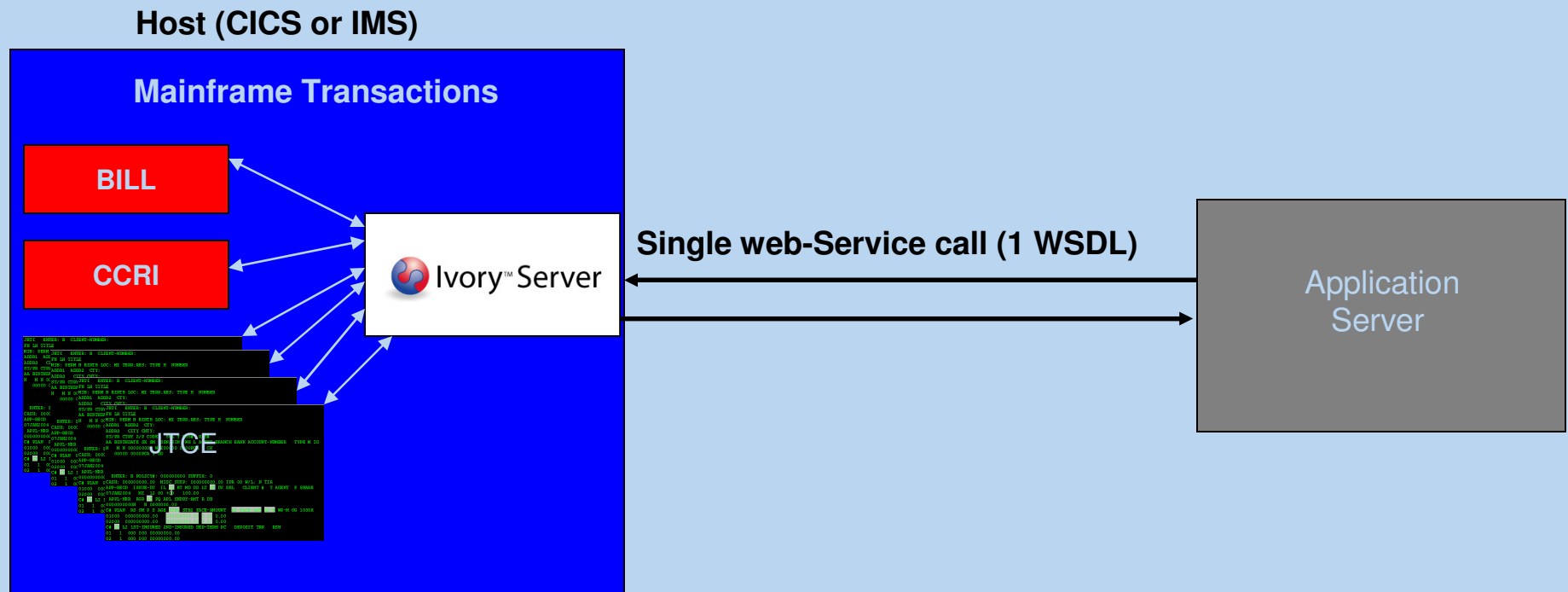
- Very tight timeframe

Objective

- Re-write of business logic not acceptable

  - Business logic required to remain on the mainframe in IMS

- Separate layers for business logic and user interface

- Use of standards

- Reuse the newly-built services

- Effective support of partner/software vendor
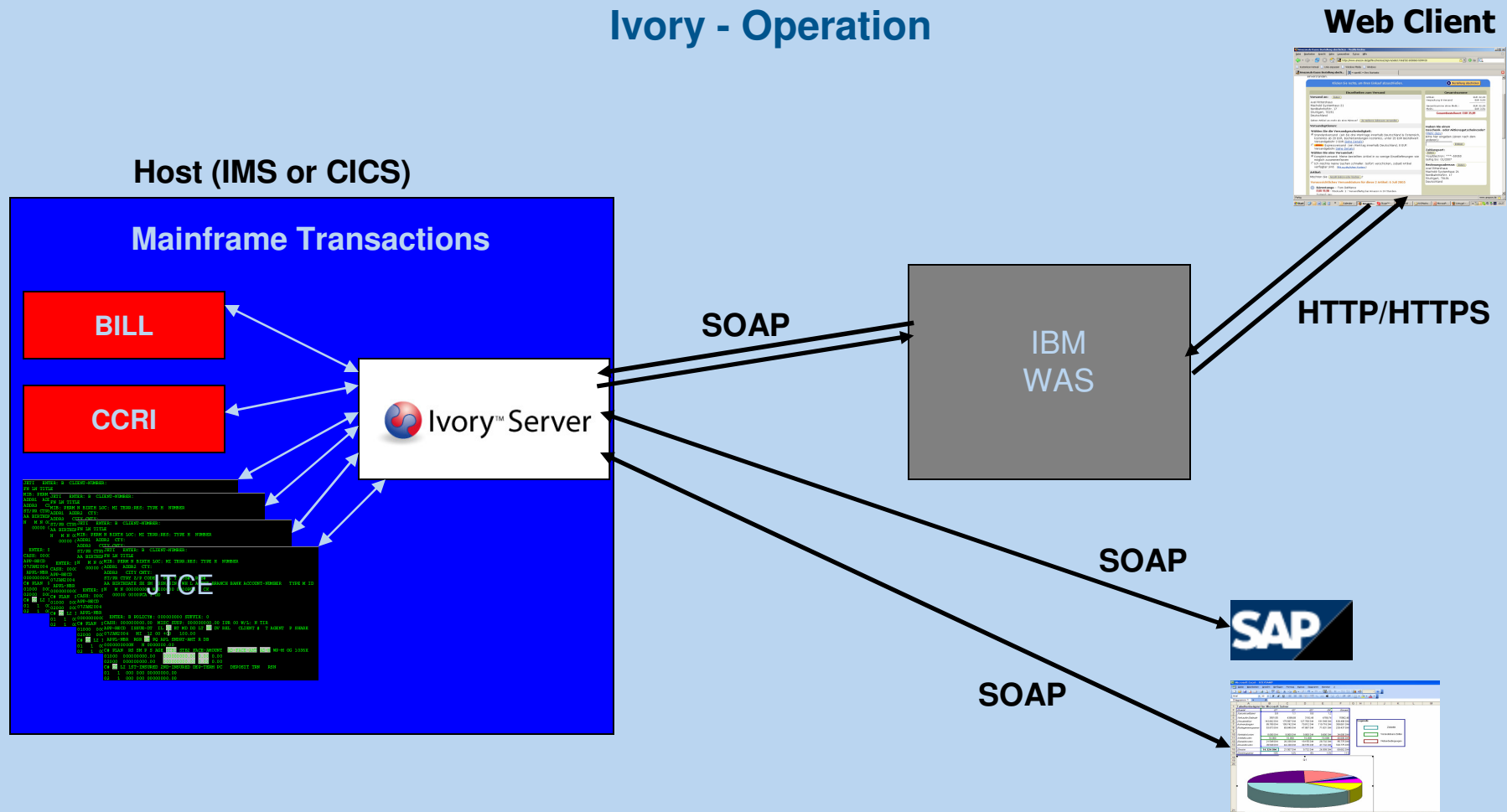
Common approach for using Web services

Mainframe Transactions

BILL

CCRI

JTCE

Multiple Calls

Application Server

Application collects and handles the results of all the calls

The Ivory approach for using Web services

Host (CICS or IMS)

Mainframe Transactions

BILL

CCRI

JTCE

Ivory™ Server

Single web-Service call (1 WSDL)

Application
Server

Web Services and IMS with Ivory

Ivory - Operation

Web Client

Host (IMS or CICS)

Mainframe Transactions

BILL

CCRI

JTCE

Ivory™ Server

SOAP

IBM
WAS

HTTP/HTTPS

SOAP

SAP

SOAP

Ivory – Development Tool

Ivory Studio

BILL

CCRI

Ivory™ Server

JTCE

deploy
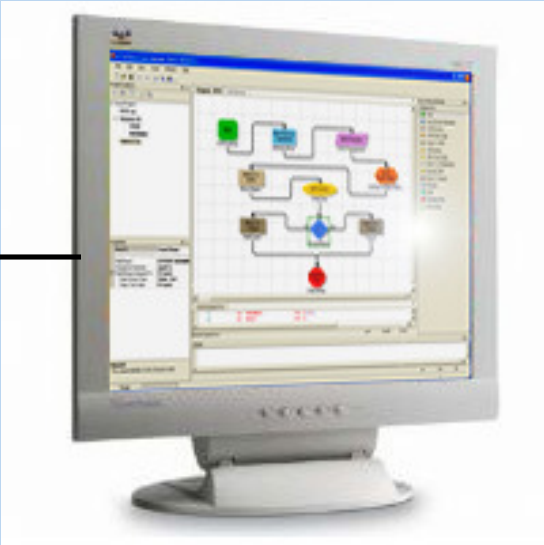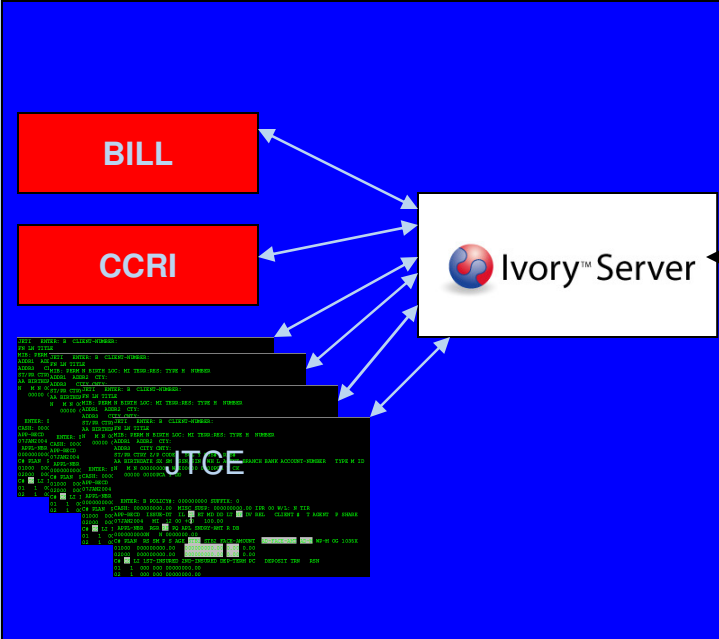
IMS conventionally (3270/MFS):

Web Service:

IBM
WAS

SOAP

Ivory™ Server

Data-Input often distibuted over many Screens
Carried out in Conversational-Mode (using SPA)
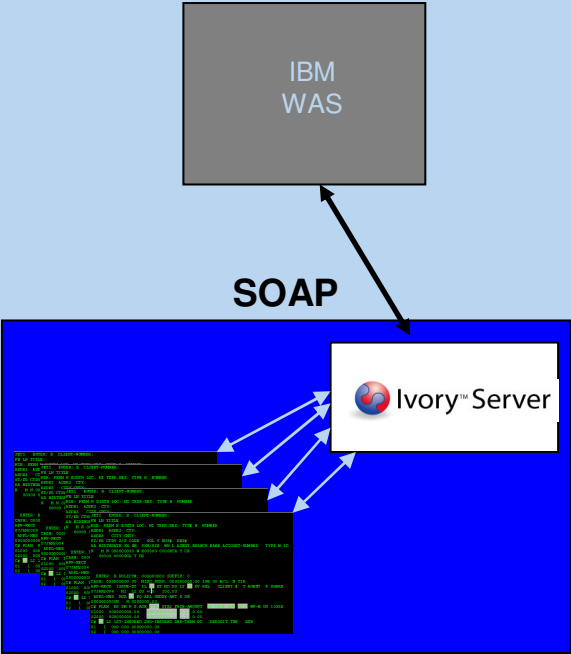
One request from the front-end
with one reply (including all Data)

➢ **Conversational-Mode is not recommended**

- ▪ Changing the existing application is to be done
- ▪ Increased expenditure – new (non-conversational) components may be the better investment
- ▪ Increased risk

➢ **Resource-consumption of the Ivory Server is partially compensated by using the „One-Step"practice**

- **Maintaining the Business Logic of the securities application on the IBM Mainframe
  (in IMS Transactions)**

- **Using standards (XML/SOAP/etc.)**

- **Separating the Business-Logic from the Frontend (Chance for verification of the own
  core competence)**

- **Reusability**

- **Tool (Ivory) is exchangeable**

- **Very good and very qualified assistance by the vendor (GT Software)**

- **High motivation in the whole project-team because of the new technology**

- **Change of thinking from conventional practice to methods and objects is needed and takes place as a matter of routine**

- **Resistance of the front-end developers changed after a few weeks to excitement**

- **Short realization time (8 months)**

- **Automatic start of renewing activities (phase out from the old application, reducing the number of front-ends of the securities application)**

- **Big interest in the web service technology by other projects**

The Result

new

old

Met the aggressive timeline (8 months)

Mainframe developers learned SOA concepts and implemented Web services with
Ivory in a "learn by doing" manner

- Fast and effective service development done by LBBW's mainframe developers

High acceptance of mainframe access through Web services by Java developers

- Web Services is the new internal standard

Web services reuse ~ 80% for next brokerage project

- Time and money savings

IMS and the mainframe are the cornerstones of LBBW's SOA

Next Steps

Enable the Host developers to make graphical Frontends.

Build new Frontends for the Securities Systems only as graphical Frontends – based
on Web services.

Exhange the 3270 Linemode Frontends of the Securities Systems by graphical
Frontends (basis: Web services) and redesign the functionality of the Frontends.

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