Western Reserve Group Portal Project using CICS/TS Web Services

Western Reserve Group is a Mutual Insurance company that sells homeowner, auto and commercial property insurance. We do not sell direct to the public. Our Insurance is sold by select independent agencies.

Our previous business processes were performed by phone, faxes, and mail. The decision was made to automate these business process by web enabling our mainframe applications and implementing a document management system thus allowing our Agents to perform day to day operations via the web to speed processing and to reduce paperwork

We realized that in order to induce Agents to sell our insurance, an easy, user friendly front end interface would have to be written for the Agents.

Phase 1 - 3270 Bridge

- Project Pilot to Web Enable Internal Notice of Loss Application using 3270 Bridge

1. Reassembled maps for new phases (maps had not been re-assembled under CICS/TS)

2. Reassembled maps to create html templates

3. Modified the Templates to fit in with our standard web pages.

Found several Limitations: One user screen for every mainframe screen. (Could not combine screens). Could not use the "back key". Did not work like a true web application

Phase 2. The Blop Architecture

The Blop is a Webshpere java application that:

- Gathers information from the Agents or internal users from a web
page

- Drives many mainframe transactions in the background which
creates large xml streams using web document
commands (instead of sending and receiving maps)

- Send an acknowledgement web page to the user, creates
PDF's that are deposited into a Linux file share, and sends
emails to the Agents via Domino

Our eventual goal is to portalize all of our applications / Web /
Domino / Etc. and have them communicate with each other in order
to eliminate duplicate input to applications. These applications can
be used by both outside Agents and internal staff

SoftwareArchitecture

Java 1.4

Websphere Portal Server 5.1

Domino 6

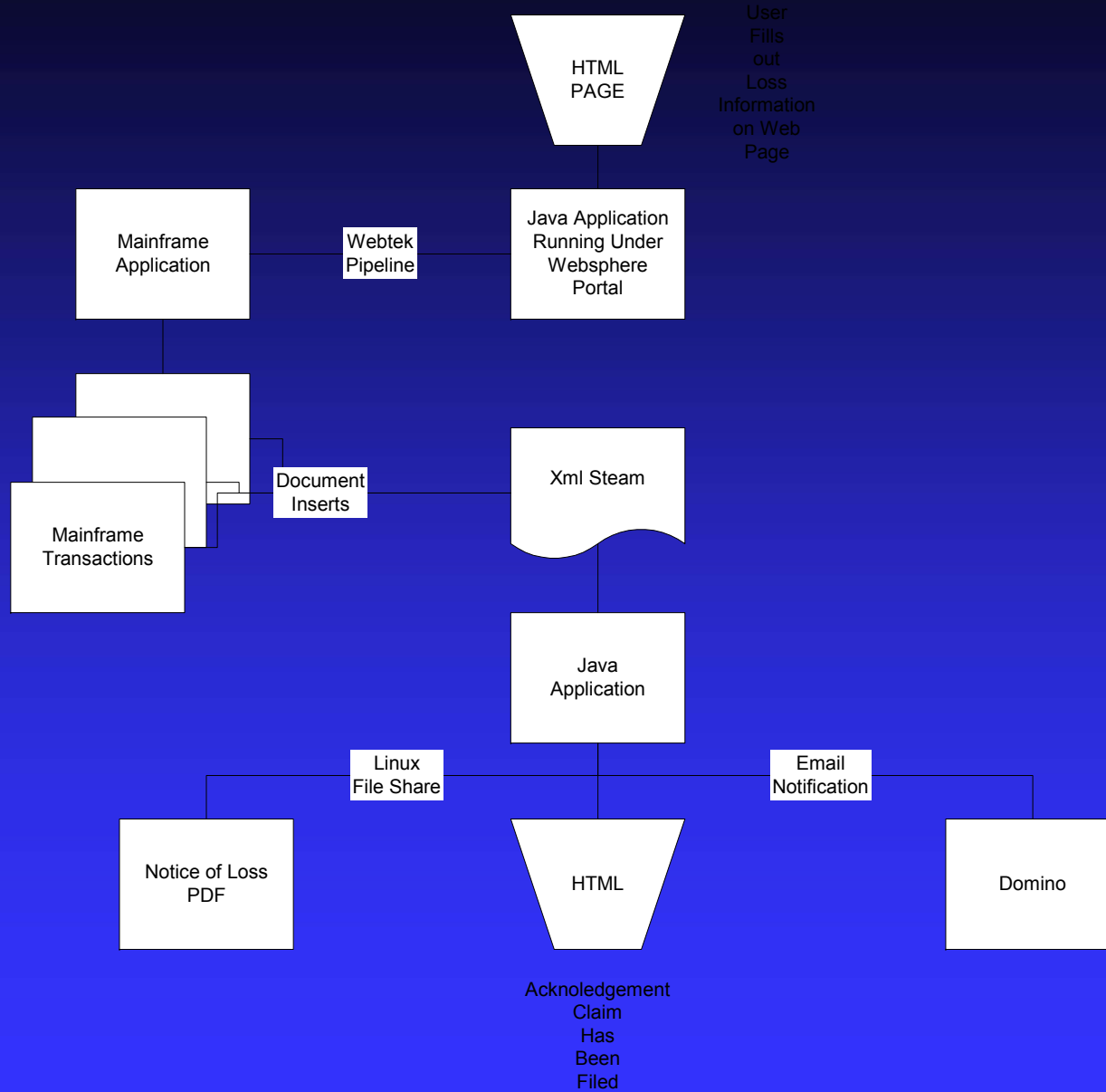TFG Legacy Insurance Application

VSE 2.7   CICS/TS 1.1.1

Webtek 2.3

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Project Time Line

April 1 2001	Requirements Defined
August 1 2001	Build vs. Buy Decision
January 2002	Gather Requirements and Analysis
September 2002	Domino and Mainframe Tools Assessment
March 3 2003	Websphere Portal Infrastructure Installed
July 3 2003	3270 Bridge Notice of Loss in QA
December 3 2003	3270 Bridge Notice of Loss in Production
May 4 2004	Web Notice of Loss (Phase 2) in QA
October 4 2004	Web Notice of Loss in Production (Internal)
February 2005	Web Notice of Loss in Prod (Limited Agents)
March 2005	Web Notice of Loss (All Agents)
April 5 2005	Portal Prototype Delivered

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Western Reserve Group

HTML PAGE

User Fills out Loss Information on Web Page

Mainframe Application

Webtek Pipeline

Java Application Running Under Websphere Portal

Mainframe Transactions

Document Inserts

Xml Steam

Java Application

Linux File Share

Email Notification

Notice of Loss PDF

HTML

Domino

Acknoledgement Claim Has Been Filed

Mainframe Web Enabling Process

Reference
Material:
Redbook – CICS Transaction Server for VSE/ESA
CICS Web Support   SG24-5997-00

CICS Transaction Server for VSE/ESA Enhancements Guide
GC34-5763-04

CICS Transaction Server for VSE/ESA Internet Guide
SC34-5765-02

Requirements: CICS Transaction Server for VSE/ESA

Make sure that the latest CICS Web Maintenance Installed

Make sure that TCP/IP 1.5.D with all of the latest fixes is installed

Web External Interface Programs

Current Claims Programs

Call Standard Beginning Interface Program 1.

If web
  Call Document Receive
   Interface Program 2
  Else
   Receive Map

Program Processing

If web
  Call Document Send
   Interface Program 3
  Else
   Send Map

If Web
 Call Standard Interface
 Program 4

Interface Program 1

Determine if Web or 3270 Transaction

Retrieve Opid from Alert

Retrieve Taskid (used for temp storage Q's in instead of terminal id)

Retrieve Commarea from temp storage Q

Interface Program 2

Perform Web Receive

Propagate program map area with data receive in xml document using name value pairs

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Interface Program 3

Propagate xml stream from map data

Perform Web Send

Interface Program 4

Place program commarea into a temp storage Q

Notes: Standard abend processing gathers information and calls a standard abend module. This module was modified to create xml stream and pass to DFHWBEP (standard ibm web abend handling module) if this is a web transaction.

Considerations with Web Enabling Existing Applications

CICS Web Services

No Terminal / Operator ID's

Web Documents use the Commarea

Lots of flexibility to manipulate web documents

Use CEDX vs. CEDF to debug

Pick a small sample program to practice and get familiar with web commands

Should code an abend exit (DFHWBEP)

Web Page does not get sent until the end of the transaction vs. when the web send command is issued

Bridge

Reassemble Map Type = Template

If map has not be assembled since implementing CICS Transaction Server – Re assemble Phase

You can customize the HTML generated from the Map assembly or replace it with XML

Installing Web Services

1. Update Sit – Webdelay / Doccodepage=37 Tcpip=yes
2. Update CICS Deck - // OPTION SYSPARM='04' TCP ID
3. Install RDO group dfh$sot
    (I actually used it as an example and installed my own group)
4. Assemble DFHCNV (used standard sample)
5. TCP/IP – Define Name server
6. Set the dns server ip address
7. Execute Sample (CEMT is set up to handle web access)
    *(That is to say, once you are web-enabled, anyone on the network
     can shut down your cics region)*

Third Party Software to Assist in Web Enablement

H&W Computer Systems Webtek Product   WWW.hwcs.com

Provides for: •Java / Windows Pipeline

•URL Management

•Web Page Theme Manager

•Doctemplate Utilities

Their sample Webtek applications were invaluable in getting us past the CWS learning curve

```
002200 01  CWS-DOCTOKEN          PIC X(16)     VALUE LOW-VALUES.
002300 01  CWS-DOCTEMP-NAME      PIC X(48)     VALUE SPACES.
```

Document Creation – Assigns 16 byte token value to the document

```
019800    IF INITIAL-CALL
019900       EXEC CICS DOCUMENT CREATE
020000            DOCTOKEN(CWS-DOCTOKEN) END-EXEC
```

Document Set – Set values for name value pairs in an XML document
```
02  AB470-BASE-TIME     PIC X(07) VALUE SPACES.
02  FILLER              PIC X(13) VALUE '&AB470FLD004='.
        Sets value  &AB470FLD004=05113
```

```
 MOVE 'ABKI100T'     TO CWS-DOCTEMP-NAME.

 EXEC CICS DOCUMENT SET
      DOCTOKEN (CWS-DOCTOKEN)
      DELIMITER(MS-DELIMITER)
      UNESCAPED
      SYMBOLLIST(ABKI100-SYMBOL)
      LENGTH(LENGTH OF ABKI100-SYMBOL)
 END-EXEC.
```

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Once the values have been set for a map. The map can be inserted into the web document using an XML Template (Doctemplate) This is where the data dictionary comes in handy to identifty all fields in an application and build doctemplates.

Sample Doctemplate (must be properly formated html or xml)
<xml mapName='ABKI470T'>   <cntyCode dsid='AB470FLD023'>&AB470FLD023;</cntyCode>

```
078000    EXEC CICS HANDLE CONDITION
078100         INVREQ(LOAD-ERRORIV)
078200         NOTFND(LOAD-ERRORNF)
078300    END-EXEC.
078400
078500    EXEC CICS DOCUMENT INSERT
078600         DOCTOKEN (CWS-DOCTOKEN)
078700         TEMPLATE(CWS-DOCTEMP-NAME)
078800    END-EXEC.
```

Web Documents can be retrieved anytime prior to the Web Send to be modified

```
*   ACQUIRE STORAGE (GETMAIN)
    MOVE '006D'  TO DUMP-PARA
    EXEC CICS GETMAIN
         SET   (ADDRESS OF LS-BUFFER)
         FLENGTH (WS-BUFLTH)
         END-EXEC.


*   GET RECORDS
    MOVE '006E'  TO DUMP-PARA
    EXEC CICS DOCUMENT RETRIEVE
         DOCTOKEN (CWS-CPY-TOKEN-NAME)
         INTO(LS-BUFFER)
         LENGTH(WS-BUFLTH)
         MAXLENGTH(WS-BUFLTH)
         DATAONLY
         NOHANDLE
    END-EXEC.
```

Once the web document is complete, it can be sent. Please keep in mind that the actual Web send does not occur until the transaction is complete

```
EXEC CICS HANDLE CONDITION
      INVREQ(D101-WEB-ERROR-ROUTINE)
      NOTFND(D101-WEB-ERROR-ROUTINE)
      ERROR(D101-WEB-ERROR-ROUTINE)
END-EXEC.

EXEC CICS WEB SEND
      DOCTOKEN (CWS-CPY-TOKEN-NAME)
      CLNTCODEPAGE ('819')
END-EXEC.
```

Cultural Differences

Differences in Terminology &
Disciplines

It is critical to get both groups
Working closely together and to work
Out any communications difficulties

Mainframe Programmer

Java Programmer