



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.



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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



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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



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SoftwareArchitecture

Java 1.4

Websphere Portal Server 5.1

Domino 6

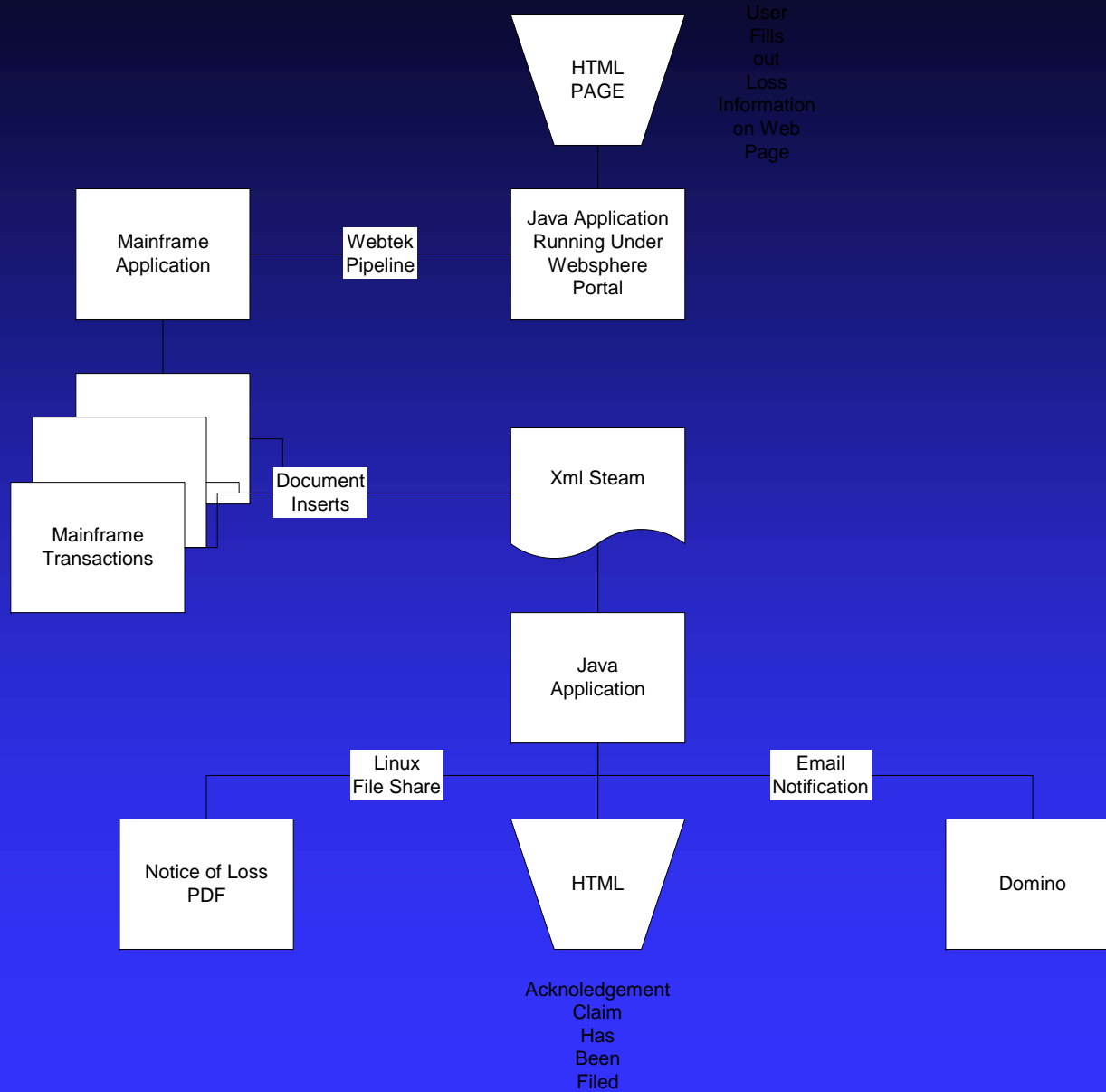
TFG Legacy Insurance Application

VSE 2.7 CICS/TS 1.1.1

Webtek 2.3



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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 3

Propagate xml stream from map data

Perform Web Send

Interface Program 2

Perform Web Receive

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

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.



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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



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Installing Web Services

1. Update Sit – Webdelay / Doccodepage=37 Tcpi=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)



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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



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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 identify all fields in an application and build doctemplates.

Sample Doctemplate (must be properly formatted 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.
```



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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.



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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.
```



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Cultural Differences

Differences in Terminology & Disciplines



Mainframe Programmer

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



Java Programmer