Release 1986

Service Request 83288
Pay Transaction Web Services

Detail Design

July 29, 2011
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Introduction

Service Request 83288

Service Request 83288 asks that one or more new web services be developed to add pay transactions to the THF for AP, LX, RX and FT transaction types. In addition a service will be needed to delete and/or block an existing THF transaction.

The web services will be invoked by local campus web applications. There is no requirement to build a base PPS application at this time.

The web services will be built on top of existing CICS functionality.

This release will only address the requirement to add pay transactions to the THF for LX and RX transaction types.

Overview of PPS Modifications

Online Payroll Time Reporting System (OPTRS)

Existing functionality of OPTRS will not be affected, but some of the programs which are invoked by these processes will be modified to support the web services.

Programs

New and Modified Programs

PPAPTFUP

PPAPTFUP is the update application processor for the THF Entry/Update (TF) CICS subsystem. This program will be modified to put the “THF user id” field from the service input into the THF “changed by” field. It will also be modified to pass back the THF sequence number to the web service when adding new THF entries.

PPGETHFO

PPGETHFO retrieves data from the PPPPCR and PPPTHF tables for online use. This program will be modified to make it appear like there are no existing records when it is called from PS029.

PPNTTRG

PPNTTRG identifies all activity that has occurred which should trigger the generation a PAN. This program will be modified to bypass PAN generation when called from web services that should not trigger PAN generation (like PS029).

PPWETLR

PPWETLR is the screen processor for the ETLR function (LX/RX - Late/Reduce Payment). This program will be modified as follows:

- Add external CPWSWEBS to allow program to detect when the context is a web service.
- Add code to exit with message P0108 when called from a web service and the compute has completed.
- Add code to exit from the program with an error message if the user does not have update authority and the context is a web service.
Currently, this program has code to exit the program if the edits are done (WS-EDIT-DONE) and an edit request is in process (UCCOMMON-EDIT-REQUEST). Modify the program to do this logic only if the context is not a web service.

- Add code to force the program to process only a single transaction from the screen.
- Add code to move value range error messages to the on-line THF message interface area (THMS-MESSAGES).

**PS029 (new)**

This program will be the driver for the PS029 web service which will add LX and RX transactions to the THF. It will make multiple calls to UCROUTER, simulating a user’s entry of data on the ETLR screen. The shell for this program will be initially generated by RADz from the PS029 WSDL. Then, the shell program will be modified for the pay transactions web service.

Processing will be as follows:

- Obtain the CICS containers which contain the parsed XML which was sent from the web application. For the recurring data structure a GETMAIN will be done to obtain storage for the array.
- Check the Pay Cycle and Pay Period End Date in the input. If both fields were not passed, issue a SOAP fault.
- If no token was passed, generate a temporary token using the user ID which was passed so that it can be used as the terminal ID for temporary storage queue names.
- Set the "terminal" ID from the token.
- Initialize the messages area in the output array.
- For each transaction in the XML array, the following will be performed:
  - Determine if the input transaction code is valid (LX or RX). If not valid, set the transaction message in the output area and go to the next transaction. If valid, go to the routine to process the LX/RX transactions.
  - Make an initial call to UCROUTER to simulate the main menu process.
  - Call UCROUTER with a request for the ETLR function and pass the key information (employee ID, pay cycle and pay period end date) in the footer area. This is analogous to entering key information in ETHF but for web services, this is accomplished in one call to UCROUTER.
  - The transaction data will be moved to the external map area for the ETLR screen. UCROUTER will be called to simulate the edit and update of the pay transaction data.
  - Error message data will be moved to the output XML interface area.
  - If update was successful, the THF sequence number will be passed to the output area and UCROUTER will be called again to simulate backing out to the main menu screen. Otherwise, UCROUTER will be called twice to cancel the transaction.
  - Call UCROUTER to simulate exiting the application.
- After all transactions have been processed and if a new token was generated for this session, destroy it.
- Set the overall return code and return message for the transaction set.
- All message data will be stored in the return request area which will be translated to XML.
- The return data is written to the appropriate CICS containers.

**UCROUTER**

UCROUTER is the main driver for the CICS Application Independent Online Operating Environment. This program will be modified to use logical function, WNTERP-HD-FT, when called from PS029 (in addition to PS002).
Copy Members

CPPDETLR
CPPDETLR performs FAU processing for function ETLR.
The procedure copy member will be modified to use FAU provided by the requestor rather than field from the CICS map.

CPWSFKEY
CPWSFKEY is the working storage area used by CPPDFKEY.
Add ‘PREVMENU’ to the list of 88 level items for WS-LOGICAL-KEY.

CPWSWEBS
CPWSWEBS is the web service work area.
A new field will be defined for the THF sequence number that will be passed back to the web service PS029. New 88 level items will be added for CPWSWEBS-SERVICE-NAME.

PS029 (new)
PS029 is the data structure for the web service of the same name. It is used to generate the WSDL for the web service and is not copied into any program.

PS029I01 (new)
PS029I01 is the input data structure for the associated web service. It is automatically generated in RADZ from the WSDL. This copylib should never be modified.

PS029O01 (new)
PS029O01 is the output data structure for the associated web service. It is automatically generated in RADZ from the WSDL. This copylib should never be modified.

Web Artifacts

WSBind Files

PS029 (new)
The wsbind file defines the web service to CICS. The wsbind file is generated from the wsd1. It can be generated either by web service tools in RADz or by running batch utility DFHWS2LS. Once generated, PS029.wsbnd will be moved to the web service "pickup directory" defined for the PPSPROV pipeline.
WSDL Files

PS029 (new)
The wsdl is the true interface for the web service, although it is not actually used by the service itself. The wsdl describes the service so that web application developers can successfully call the web service. PS029.wsdl will be generated in RADz with a "bottom-up" approach, using the PS029 copylib member as input. The wsdl is then used to generate the wsbind file.