## Version History

<table>
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<th>Version #</th>
<th>Date</th>
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<th>Reason for Change</th>
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<td>1.0</td>
<td>05/12/2015</td>
<td>Mary Meyer</td>
<td>Initial Version</td>
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<tr>
<td>1.2</td>
<td>6/5/2015</td>
<td>Mary Meyer</td>
<td>Remove RITM0047174 and RITM0048039</td>
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<td>1.3</td>
<td>8/7/2015</td>
<td>Mary Meyer</td>
<td>Corrected display message for PPP430</td>
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1 Introduction

Service Now Ticket - INC0042979
INC0042979 reports that when PPP435 abends, it give RC=0. This should be changed so that Return-Code = 9.

Service Now Ticket - RITM0061610
RITM0061610 requests that the columns in the SQL INSERT in section 10200-UPDATE-PCM DB2 in program PPKEYCHD be put in the correct order. This should be done using the generation tool provided by the DBA group as described in Service Now ticket RITM0047174.

Service Now Ticket - RITM0064508
RITM0064508 requests that the local modification to increase the bank table and bank limit from 200 to 600 in PPP420 be applied as a Base change. Turns out this code is obsolete so should be commented out.

Service Now Ticket - RITM0064510
RITM0064510 requests that the following local modifications be released as Base changes:

- PPCB02: Change the WS-BRT-INTERNAL-TABLE occurs and all array overflow checks from 500 to 1000. Increase WS-BRT-TABLE-SIZE from S9(03) to S9(04).
- PPHMEHST: Increase size of the internal table used to store rows of PPPHMEH data and the table size Maximum value.
- PPP290: Increase size of WT3-TITLE-CODE-TABLE and WT1-AFT-TABLE SIZE.
- PPP430: Increase GSR-GTN-EMP-NET and GSR-GTN-EMP-NET to 50. Increase GSR-GTN-EMP-NET array size to 50 and add array check.
- PPP440: Increase value of CK-NO-MAX and table size for CK-NO-TBL.
- PPWHWHO: Add ‘FETCH FIRST 1500 ROWS ONLY’ to each of the six cursor definitions to improve performance.

Background
The programs to be changed in this release have caused abends at various campuses. Local modifications were made for the affected campuses. The changes will now be released for all campuses.

Overview of System Modifications
For INC0042979, move 9 to Return-Code in 999999-SQL-ERROR in PPP435.
For RITM0061610, correct the order of the columns in the SQL INSERT in section 10200-UPDATE-PCM in program PPKEYCHD.
For RITM0064508, comment out code related to bank table and bank limit in PPP420.
For RITM0064510, local modifications to several programs should be applied as Base changes.
2 Design Considerations

2.1 Assumptions and Dependencies

- Code walk-thru is required.
- No QA or UAT

3 Mainframe Design

3.1.1 Cobol Programs

PPCB02 performs stand-alone consistency edits on several control tables. Change the WS-BRT-INTERNAL-TABLE occurs and all array overflow checks from 500 to 1000. Increase WS-BRT-TABLE-SIZE from S9(03) to S9(04).

******03 WS-BRT-TABLE-SIZE PIC S9(03) VALUE +0.
03 WS-BRT-TABLE-SIZE PIC S9(04) VALUE +0.
03 WS-BRT-INTERNAL-GROUP.
******05 WS-BRT-INTERNAL-TABLE OCCURS 500 TIMES.
05 WS-BRT-INTERNAL-TABLE OCCURS 1000 TIMES.

**** IF IX1 NOT > 500
IF IX1 NOT > 1000
ADD +1 TO WS-BRT-TABLE-SIZE
MOVE BRG-CBUC TO WS-BRT-BUC (IX1)
MOVE BRG-REP TO WS-BRT-REP (IX1)
MOVE BRG-SHC TO WS-BRT-SHC (IX1)
MOVE BRG-DUC TO WS-BRT-DUC (IX1)
MOVE BRG-GTN-NUMBER TO WS-BRT-GTN-NUMBER (IX1)
ELSE
MOVE M01946 TO WS-ERROR-MESSAGE
PERFORM D020-STORE-MESSAGES

*******IF IX1 NOT > 500
IF IX1 NOT > 1000
ADD +1 TO WS-BRT-TABLE-SIZE
MOVE BRH-BUC TO WS-BRT-BUC (IX1)
MOVE BRH-REP TO WS-BRT-REP (IX1)
MOVE BRH-SHC TO WS-BRT-SHC (IX1)
MOVE BRH-DUC TO WS-BRT-DUC (IX1)
MOVE 'H' TO WS-BRT-TYPE (IX1)
MOVE BRH-PLAN-CODE TO WS-BRT-PLAN (IX1)
ELSE
MOVE M01946 TO WS-ERROR-MESSAGE
*****IF IX1 NOT > 500
    IF IX1 NOT > 1000
        ADD +1 TO WS-BRT-TABLE-SIZE
        MOVE BRJ-BUC TO WS-BRT-BUC (IX1)
        MOVE BRJ-REP TO WS-BRT-REP (IX1)
        MOVE BRJ-SHC TO WS-BRT-SHC (IX1)
        MOVE BRJ-DUC TO WS-BRT-DUC (IX1)
        MOVE 'J' TO WS-BRT-TYPE (IX1)
        MOVE BRJ-PLAN-CODE TO WS-BRT-PLAN (IX1)
    ELSE
        MOVE M01946 TO WS-ERROR-MESSAGE
    END-IF
  END-IF
END-IF

*****IF IX1 NOT > 500
    IF IX1 NOT > 1000
        ADD +1 TO WS-BRT-TABLE-SIZE
        MOVE BRD-BUC TO WS-BRT-BUC (IX1)
        MOVE BRD-REP TO WS-BRT-REP (IX1)
        MOVE BRD-SHC TO WS-BRT-SHC (IX1)
        MOVE BRD-DUC TO WS-BRT-DUC (IX1)
        MOVE 'D' TO WS-BRT-TYPE (IX1)
        MOVE BRD-PLAN-CODE TO WS-BRT-PLAN (IX1)
    ELSE
        MOVE M01946 TO WS-ERROR-MESSAGE
    END-IF
END-IF

*****IF IX1 NOT > 500
    IF IX1 NOT > 1000
        ADD +1 TO WS-BRT-TABLE-SIZE
        MOVE BRO-BUC TO WS-BRT-BUC (IX1)
        MOVE BRO-REP TO WS-BRT-REP (IX1)
        MOVE BRO-SHC TO WS-BRT-SHC (IX1)
        MOVE BRO-DUC TO WS-BRT-DUC (IX1)
        MOVE 'V' TO WS-BRT-TYPE (IX1)
        MOVE BRO-PLAN-CODE TO WS-BRT-PLAN (IX1)
    ELSE
        MOVE M01946 TO WS-ERROR-MESSAGE
    END-IF
END-IF

PPMEHST prepares rows for the History PPPMEH table. Increase size of the internal table used to store rows of PPPMEH data and the table size maximum value.

*****05 PPPCDB-ROW OCCURS 1000 INDEXED BY ICDB.
05 PPPCDB-ROW OCCURS 2000 INDEXED BY ICDB.

PPKEYCHD handles EDB key changes and deletions. The columns in the SQL INSERT in section 10200-UPDATE-PCM DB2 should be put in the correct order. Use the code generation tool provided by the DBA group as described in Service Now ticket RITM0047174.
PPP290 creates batch EDB update transactions for various mass changes. Increase size of WT3-TITLE-CODE-TABLE and WT1-AFT-TABLE SIZE.

****05 WT3-TITLE-TABLE OCCURS 0 TO 1500 TIMES
05 WT3-TITLE-TABLE OCCURS 0 TO 2000 TIMES
DEPENDING ON WT3-TITLE-CTR
INDEXED BY WT3-TITLE-INDX.

*** 05 WT1-AFT-CTR             PIC S9(4)       VALUE ZERO
05 WT1-AFT-CTR              PIC S9(5)       VALUE ZERO
COMP SYNC.

***05 WT1-AFT-TABLE   OCCURS 0 TO 999 TIMES
05 WT1-AFT-TABLE   OCCURS 0 TO 9999 TIMES
DEPENDING ON WT1-AFT-CTR
INDEXED BY WT1-AFT-INDX.

****IF WT1-AFT-CTR NOT < 999
IF WT1-AFT-CTR NOT < 9999
MOVE    WE-SWITCH-ON    TO  WE-FATAL-ERROR-FLAG
MOVE    WE-SWITCH-ON    TO  WE-TWO-ERROR-LINES-FLAG

****IF WT3-TITLE-CTR NOT < 1500
IF WT3-TITLE-CTR NOT < 2000
MOVE    WE-SWITCH-ON    TO  WE-FATAL-ERROR-FLAG
MOVE    WE-SWITCH-ON    TO  WE-TWO-ERROR-LINES-FLAG

PPP420 produces checks, direct deposit advice forms, the reconciliation interface file and reports from the compute process. Comment out obsolete code related to bank limit and bank table.

In Working Storage:

*****05 BANK-CTR             PIC S9(4) COMP SYNC VALUE +0.

*******05 BANK-LIMIT          PIC S9(4) COMP SYNC VALUE ZERO.

******* 05 BANK-TABLE              OCCURS 2.

********** *10 BANK-TRANSIT-NO   PIC X(5).
**********10 BANK-NAME            PIC X(25).
**********10 BANK-STREET          PIC X(25).
**********10 BANK-CITY            PIC X(14).
**********10 BANK-STATE           PIC XX.
**********10 BANK-ZIP             PIC X(5).
**********10 BANK-MEDIUM          PIC X.

In Procedure Division:

***** MOVE 0 TO BANK-CTR.

PPP430 creates the direct deposit ACH interface file and reports. Increase value of GSR-4303-LINE-TANK-LIMIT and GSR-4303-LINE. Increase GSR-GTN-EMP-NET array size to 50 and add array size check.

*****05 GSR-4303-LINE-TANK-LIMIT PIC 9(04) COMP VALUE 19. .
PPP435 is the compute DB2 THF purge program. When program abends, it still give RC=0. Move 9 to Return-Code in 999999-SQL-ERROR.
PPP440 produces the Print Payroll Audit Register for selected employees. Increase value of CK-NO-MAX and table size for CK-NO-TBL.

```assembly
01 CHECK-NUM-TABLE.
  05 CK-NO-SUB                  PIC S9(4) COMP SYNC VALUE ZERO.
***05 CK-NO-MAX               PIC S9(4) COMP SYNC VALUE +60.
  05 CK-NO-MAX                PIC S9(4) COMP SYNC VALUE +200.
***05 CK-NO-TBL            OCCURS 60 TIMES.
  05 CK-NO-TBL            OCCURS 200 TIMES.
```

PPWHWHO is the screen processor for the HWHO function (History Browse). Add 'FETCH FIRST 1500 ROWS ONLY' to each of the six cursor definitions to improve performance.

In the installations doc, mention that SD should remove the ‘optimize for one row’ on each of these cursors and use ‘fetch first 1500 rows only’ instead. Refer to RITM0064731.

```sql
EXEC SQL DECLARE
  IDX-EMP-CURS CURSOR FOR
  SELECT
    EMPLID
  ,ITERATION_NUMBER
  ,SYSTEM_ENTRY_DATE
  ,EMPLOYEE_NAME
  ,SOC_SEC_NUM
  ,DELETE_FLAG
FROM PPPVZIDX_IDX
WHERE EMPLID >= :WS-HWHO-TOP-ID
ORDER BY EMPLID
  ,ITERATION_NUMBER
  ,SYSTEM_ENTRY_DATE DESC
  FETCH FIRST 1500 ROWS ONLY
END-EXEC.

EXEC SQL DECLARE
  IDX-EMP-CURS-PF7 CURSOR FOR
  SELECT
    EMPLID
  ,ITERATION_NUMBER
  ,SYSTEM_ENTRY_DATE
  ,EMPLOYEE_NAME
  ,SOC_SEC_NUM
  ,DELETE_FLAG
FROM PPPVZIDX_IDX
WHERE EMPLID <= :WS-HWHO-TOP-ID
ORDER BY EMPLID
  ,ITERATION_NUMBER
  ,SYSTEM_ENTRY_DATE DESC
  FETCH FIRST 1500 ROWS ONLY
END-EXEC.
```
EXEC SQL DECLARE
IDX-EMP-CURS-PF8 CURSOR FOR
SELECT
  EMPLID,
  ,ITERATION_NUMBER,
  ,SYSTEM_ENTRY_DATE,
  ,EMPLOYEE_NAME,
  ,SOC_SEC_NUM,
  ,DELETE_FLAG
FROM PPPVZIDX_IDX
WHERE EMPLID >= :WS-HWHO-BOT-ID
ORDER BY EMPLID,
  ,ITERATION_NUMBER,
  ,SYSTEM_ENTRY_DATE DESC
FETCH FIRST 1500 ROWS ONLY
END-EXEC.

EXEC SQL DECLARE
IDX-NAME-CURS CURSOR FOR
SELECT
  EMPLOYEE_NAME,
  ,ITERATION_NUMBER,
  ,SYSTEM_ENTRY_DATE,
  ,EMPLID,
  ,SOC_SEC_NUM,
  ,DELETE_FLAG
FROM PPPVZIDX_IDX
WHERE EMPLOYEE_NAME >= :WS-HWHO-TOP-NAME
ORDER BY EMPLOYEE_NAME,
  ,EMPLID,
  ,ITERATION_NUMBER,
  ,SYSTEM_ENTRY_DATE DESC
FETCH FIRST 1500 ROWS ONLY
END-EXEC.

EXEC SQL DECLARE
IDX-NAME-CURS-PF7 CURSOR FOR
SELECT
  EMPLOYEE_NAME,
  ,ITERATION_NUMBER,
  ,SYSTEM_ENTRY_DATE,
  ,EMPLID,
  ,SOC_SEC_NUM,
  ,DELETE_FLAG
FROM PPPVZIDX_IDX
WHERE EMPLOYEE_NAME <= :WS-HWHO-TOP-NAME
ORDER BY EMPLOYEE_NAME DESC,
  ,EMPLID DESC,
  ,ITERATION_NUMBER,
  ,SYSTEM_ENTRY_DATE DESC
FETCH FIRST 1500 ROWS ONLY
END-EXEC.
EXEC SQL DECLARE
IDX-NAME-CURS-PF8 CURSOR FOR
SELECT
  EMPLOYEE_NAME
,ITERATION_NUMBER
,SYSTEM_ENTRY_DATE
,EMPLID
,SOC_SEC_NUM
,DELETE_FLAG
FROM PPPVZIDX_IDX
WHERE EMPLOYEE_NAME >= :WS-HWHO-BOT-NAME
ORDER BY EMPLOYEE_NAME
,EMPLID
,ITERATION_NUMBER
,SYSTEM_ENTRY_DATE DESC
FETCH FIRST 1500 ROWS ONLY
END-EXEC.

4 Unit Testing Requirements

INC0042979
Exec PPP435 to purge PPPTHF. If you plan to force the abend in the PCR cursor processing, you will need to put the PCR data in the PPI input file, not in the spec card. Otherwise, the PCR cursor processing will be by passed. Sample JCL member RUN435.

RITM0061610
Use CICS Function EKEY to test PPKEYCHD. You will need to find an employee that is in PPPPER but not in UC0IDB. You can use this SQL:

SELECT  I.IDB_INDIVIDUAL_ID
FROM PB7DA.UC0IDB I
WHERE NOT EXISTS
  (SELECT P.EMPLOYEE_ID FROM PB7DA.PPPPER P
   WHERE P.EMPLOYEE_ID = I.IDB_INDIVIDUAL_ID);

Then change the employee id using EKEY.

RITM0064510

- Execute PPCB02 to perform stand-alone consistency edits on several control tables. JCL member RUNBC02.
- PPHMEHST is executed by PPP741 to process history. Use JCL member RUN741.
- Execute PPP290 to create batch EDB update transactions for various mass changes. JCL RUN290. You will need an MT and MA transaction as input. Find an acct/fund in PPPAAF and use that as the old data and make up some new data.
- Execute PPP430 to process ACH interface.
- Execute PPP440 to produce the Print Payroll Audit Register. JCL member RUN440.
- Use CICS function HWHO to test PPWHWHO.
RITM0064508 – Execute **PPP420** as part of the compute process.