

Use Cases Implemented by the AP150-AP156 Call Stack

The call stack, consisting of `AP150.oc136.txt`, `AP151.rpg36.txt`, `AP155.rpg36.txt`, and `AP156.oc136.txt` with `AP156.rpg36.txt`, implements a single primary use case in the Accounts Payable (A/P) system:

1. Generate and Process Accounts Payable Payments:

- This use case encompasses selecting vouchers for payment based on criteria (e.g., due date, payment method), creating payment records, generating a cash requirements report, and producing a NACHA file for ACH payments. The process handles multiple payment methods (checks, ACH, wire transfers, employee expenses, utility auto-pay) and tracks discounts, ensuring accurate payment processing and reporting.

Function Requirement Document: Generate and Process Accounts Payable Payments

Function Overview

The `GenerateAndProcessAPPayments` function automates the selection, processing, reporting, and transmission of Accounts Payable payments. It takes input parameters defining payment criteria and produces payment records, a cash requirements report, and a NACHA file for ACH payments. The function supports checks, ACH, wire transfers, employee expenses, and utility auto-pay, while handling discounts and validations.

Inputs

- **Company Number (PTCONO)**: Identifies the company for payment processing (7 digits).
- **Bank G/L Number (PTBKGL)**: Bank general ledger number for payment (8 digits).
- **Next Check Number (PTNXCK)**: Starting check number for non-prepaid payments (6 digits).
- **Check Date (PTCKDT)**: Date of payment issuance (6 digits, YYMMDD).
- **Pay-By Date (PTDATE)**: Cutoff date for selecting vouchers (6 digits, YYMMDD).
- **Force Discount Flag (PTFDIS)**: 'D' to force discounts, otherwise blank.
- **Payment Method (PTHOLD)**: ' ' (check), A (ACH), W (wire transfer), E (employee expense), U (utility auto-pay).
- **Vendor Number (PTVEND)**: Optional vendor number for specific vendor payments (5 digits).
- **Voucher Number (PTVO)**: Optional voucher number for specific voucher payments (5 digits).
- **Partial Payment Amount (PTAMT)**: Amount for partial payments (7.2 digits, packed).
- **Discount Amount (PTDISC)**: Specific discount to apply (5.2 digits, packed).
- **Pay or Hold (PTPORH)**: 'P' to pay held vouchers, 'H' to hold, otherwise blank.
- **Single Check Flag (PTSNGL)**: 'S' for single check per voucher, otherwise blank.
- **Make Prepaid Flag (PTMKPP)**: 'P' to mark as prepaid, otherwise blank.
- **Prepaid Check Number (PTPPCK)**: Check number for prepaid vouchers (6 digits).
- **Prepaid Date (PTPPDT)**: Date for prepaid vouchers (6 digits, YYMMDD).
- **Period (PTPD)**: Accounting period (2 digits).
- **Year (PTPDYY)**: Accounting year (2 digits).

Outputs

- **Payment Records (APPAY):** Records with payment details (company, vendor, voucher, amount, discount, check number, etc.).
- **Missed Discount Records (APPYDS):** Records for vouchers with missed discounts.
- **Check Records (APPYCK):** Check details (check number, amount, status, etc.).
- **Invoice Detail Records (APDETINV):** Aggregated invoice details for reporting.
- **Cash Requirements Report (APCSHRQ):** Report detailing payments, discounts, and totals.
- **NACHA File (ACHFILE):** NACHA-formatted file for ACH payments (if applicable).

Process Steps

1. Validate Inputs:

- Ensure company number, bank G/L, and payment method are valid.
- Validate dates (PTCKDT, PTDATE, PTPPDT) for Y2K compliance (convert to 8-digit format, e.g., CCYYMMDD).

2. Select Vouchers (AP151):

- **Pay by Date:**
 - Select **AOPEN** vouchers where:
 - Company (**OPCONO**) matches **PTCONO**.
 - Bank G/L (**OPBKGL**) matches **PTBKGL**.
 - Payment method (**OPHALT**) matches **PTHOLD** (' ', A, W, E, U).
 - Not deleted (**OPDEL** ≠ 'D') or on hold (**OPHALT** ≠ 'H' unless **PTPORH** = 'P').
 - Due date (**OPDUED**) is on or before **PTDATE** (unless **PTFDIS** = 'D').
 - For prepaid vouchers (**OPPAID** = 'P', 'A', 'W', 'E', 'U'), ensure payment method matches **PTHOLD**.
- **Pay by Vendor/Voucher:**
 - Select **AOPEN** vouchers matching **PTVEND** and optionally **PTVO**.
 - Apply same company, bank G/L, and payment method checks.
 - Handle partial payments (**PTAMT**) and specific discounts (**PTDISC**).

3. Calculate Payments and Discounts:

- **Payment Amount:** $OPLPAM = OPGRAM - OPDISC - OPPPTD$.
 - **OPGRAM:** Gross voucher amount.
 - **OPDISC:** Discount (if applicable).
 - **OPPPTD:** Partial paid to date.
- **Discount Logic:**
 - If **PTFDIS** = 'D', apply **OPDISC** regardless of discount due date.
 - Otherwise, apply **OPDISC** only if discount due date (**OPDSDT**) is on or after **PTCKDT** and before or on **PTDATE**.
 - If discount is missed and **PTFDIS** ≠ 'D', set **OPDISC** = 0 and write to **APPYDS**.
- For partial payments, set $OPLPAM = PTAMT$ and adjust **OPDISC** to zero if $PTAMT = OPLPAM$.

4. Create Payment Records:

- Write to **APPAY** with fields: **OPDEL** (delete flag), **OPLPAM**, **OPDISC**, **OPCKNO** (check number, **PTNXCK** for non-prepaid, **PTPPCK** for prepaid), **OPPAID** (payment method), **OPSNGL** ('S' for single check

or one-time vendor), **OPCKDT** (check date), **PTSEQ#** (sequence).

- For held vouchers (**PTPORH** = 'H'), mark **APPAY** record for deletion (**PYDEL** = 'D').
- Write missed discount records to **APPYDS**.

5. Generate Cash Requirements Report (AP155):

- Aggregate payment totals by company and check:
 - Computer checks (**C6CNT**, **C6GRAM**, **C6DISC**, **C6LPAM**).
 - Prepaid payments (**P6CNT**, **P6GRAM**, **P6DISC**, **P6LPAM**).
 - Total checks (**L6CNT**, **L6GRAM**, **L6DISC**, **L6LPAM**).
- Update **APDETINV** with aggregated invoice amounts (**APGRAM**, **APDISC**) for same invoice numbers.
- Validate checks against **APCHKR**:
 - Non-void checks must not exist or be open.
 - Void checks must exist, be open, and fully voided.
- Write check records to **APPYCK** with status ('F' for full stub, 'V' for void, 'C' for credit/no pay).
- Output report to **APCSHRQ** with invoice details, check totals, and error messages (e.g., "CHECK IS ALREADY OPEN").

6. Create NACHA File for ACH Payments (AP156):

- If **PTHOLD** = 'A' (indicated by LDA position 400 = 'A'):
 - Clear **ACHFILE**.
 - Write NACHA records for **APPYCK** records with **PYSTAT** = 'A':
 - **File Header (Type 1)**: ABA numbers, transmission date/time, company names.
 - **Batch Header (Type 5)**: Company details, effective date (**CKYMD**).
 - **Entry Detail (Type 6)**: Vendor bank routing (**VNARTE**), account number (**VNABK#**), amount (**PYCKAM**), transaction code (**22** for checking, **32** for savings).
 - **Batch Control (Type 8)**: Batch entry count, hash, and credit totals.
 - **File Control (Type 9)**: File-level counts and totals.
 - Filler records to pad blocks to multiples of 10.
 - Output report to **REPORT** for logging.

7. Return Outputs:

- Return updated files (**APPAY**, **APPYDS**, **APPYCK**, **APDETINV**), report (**APCSHRQ**), and NACHA file (**ACHFILE**).

Business Rules

1. Payment Selection:

- Vouchers must match company, bank G/L, and payment method.
- Held vouchers (**OPHALT** = 'H') require **PTPORH** = 'P' to be paid.
- Prepaid vouchers (**OPPAID** = 'P', 'A', 'W', 'E', 'U') must match **PTHOLD**.

2. Discount Handling:

- Discounts applied if **PTFDIS** = 'D' or discount due date is valid.
- Missed discounts (past due, no force discount) are recorded in **APPYDS**.

3. Check Number Assignment:

- Non-prepaid payments use **PTNXCK**, incremented per check.
- Prepaid payments use **PTPPCK** and **PTPPDT**.

4. Single Check and One-Time Vendors:

- One-time vendors (**OPVEND** = 0) or **PTSINGL** = 'S' require single checks (**OPSINGL** = 'S').

5. Check Validation:

- Non-void checks must not exist or be open in **APCHKR**.
- Void checks must exist, be open, and fully voided.
- Zero/negative amounts are marked "CREDIT / NO PAY".

6. Stub Limits:

- Maximum 36 invoices per check to prevent stub overflow.

7. ACH Processing:

- Only executed if **PTHOLD** = 'A'.
- Requires valid vendor ACH details (**VNARTE**, **VNABK#**, **VNACOS**).
- NACHA file adheres to standard format with proper record types and block padding.

8. Invoice Aggregation:

- Multiple invoices with the same number for a vendor are aggregated in **APDETINV**.

Calculations

- **Payment Amount:** $OPLPAM = OPGRAM - OPDISC - OPPPTD$.
 - For partial payments: $OPLPAM = PTAMT$, $OPDISC = 0$ if $PTAMT = OPLPAM$.
- **Discount:** $OPDISC = OPDISC$ if valid (force discount or within date range), else 0.
- **Check Totals:** Sum **OPGRAM**, **OPDISC**, **OPLPAM** per check and company.
- **NACHA Hash:** Sum of vendor routing numbers (**VNARTE**) for batch (**L2HASH**) and file (**LRHASH**).
- **NACHA Block Count:** $LRBLOK = CEIL(RECCNT / 10)$.

Assumptions

- Input data is pre-validated and sorted (e.g., **APPYTR** sorted by **#GSORT** in **AP150**).
- Files (**APOPEN**, **APVEND**, **APCONT**, **APCHKR**) are populated with valid data.
- ACH payments require vendor ACH details in **APVEND**.

Error Handling

- Skips invalid records (deleted, mismatched company/bank G/L, or payment method).
- Reports errors in **APCSHRQ** (e.g., check already open, invalid void).
- Logs missed discounts in **APPYDS**.

GenerateAndProcessAPPayments Function Requirements

Function Overview

Automates Accounts Payable payment processing, creating payment records, a cash requirements report, and a NACHA file for ACH payments. Supports checks, ACH, wire transfers, employee expenses, and utility auto-pay.

Inputs

- **Company Number (PTCONO)**: 7 digits.
- **Bank G/L Number (PTBKGL)**: 8 digits.
- **Next Check Number (PTNXCK)**: 6 digits.
- **Check Date (PTCKDT)**: 6 digits (YYMMDD).
- **Pay-By Date (PTDATE)**: 6 digits (YYMMDD).
- **Force Discount Flag (PTFDIS)**: 'D' or blank.
- **Payment Method (PTHOLD)**: ' ', A, W, E, U.
- **Vendor Number (PTVEND)**: 5 digits (optional).
- **Voucher Number (PTVO)**: 5 digits (optional).
- **Partial Payment Amount (PTAMT)**: 7.2 digits (packed).
- **Discount Amount (PTDISC)**: 5.2 digits (packed).
- **Pay or Hold (PTPORH)**: 'P', 'H', or blank.
- **Single Check Flag (PTSNGL)**: 'S' or blank.
- **Make Prepaid Flag (PTMKPP)**: 'P' or blank.
- **Prepaid Check Number (PTPPCK)**: 6 digits.
- **Prepaid Date (PTPPDT)**: 6 digits (YYMMDD).
- **Period (PTPD)**: 2 digits.
- **Year (PTPDYY)**: 2 digits.

Outputs

- **APPAY**: Payment records.
- **APPYDS**: Missed discount records.
- **APPYCK**: Check records.
- **APDETINV**: Aggregated invoice details.
- **APCSHRQ**: Cash requirements report.
- **ACHFILE**: NACHA file for ACH payments.

Process Steps

1. **Validate Inputs**: Confirm valid company, bank G/L, payment method, and dates (Y2K-compliant).
2. **Select Vouchers**:
 - **Pay by Date**: Match **OPCONO**, **PTBKGL**, **PTHOLD**; ensure **OPDEL** ≠ 'D', **OPHALT** ≠ 'H' (unless **PTPORH** = 'P'), **OPDUE** ≤ **PTDATE**.
 - **Pay by Vendor/Voucher**: Match **PTVEND**, **PTVO** (if provided).

3. Calculate Payments:

- Payment: $OPLPAM = OPGRAM - OPDISC - OPPPTD$.
- Partial Payment: $OPLPAM = PTAMT$, $OPDISC = 0$ if equal.

4. Apply Discounts:

- If $PTFDIS = 'D'$, use $OPDISC$.
- Else, use $OPDISC$ if $OPDSDT \geq PTCKDT$ and $\leq PTDATE$, else $OPDISC = 0$, write to $APPYDS$.

5. Create Payment Records: Write to $APPAY$ with $OPLPAM$, $OPDISC$, $OPCKNO$, $OPPAID$, $OPSNGL$, $OPCKDT$, $PTSEQ\#$.

6. Generate Report: Write to $APCSHRQ$ with invoice details, check totals, and company totals; validate checks in $APCHKR$; update $APDETINV$.

7. Create NACHA File: If $PTHOLD = 'A'$, generate $ACHFILE$ with record types 1, 5, 6, 8, 9; pad blocks with fillers.

8. Return Outputs: Updated files, report, and NACHA file.

Business Rules

1. Match $OPCONO$, $PTBKGL$, $PTHOLD$; skip held vouchers unless $PTPORH = 'P'$.
2. Apply discounts if forced or within valid date range; record missed discounts.
3. Use $PTNXCK$ for non-prepaid, $PTPPCK$ for prepaid.
4. Set $OPSNGL = 'S'$ for one-time vendors or $PTSNGL = 'S'$.
5. Validate checks: non-void must not exist/be open; void must exist, be open, fully voided.
6. Limit stubs to 36 invoices.
7. Generate NACHA file only for ACH payments with valid vendor ACH details.
8. Aggregate invoices in $APDETINV$ by invoice number.

Calculations

- **Payment Amount:** $OPLPAM = OPGRAM - OPDISC - OPPPTD$.
- **Discount:** $OPDISC$ if valid, else 0.
- **Check Totals:** Sum $OPGRAM$, $OPDISC$, $OPLPAM$.
- **NACHA Hash:** Sum $VNARTE$ for batch/file.
- **NACHA Blocks:** $LRBLOK = CEIL(RECCNT / 10)$.

Assumptions

- Sorted $APPYTR$ input.
- Valid data in $APOPEN$, $APVEND$, $APCONT$, $APCHKR$.

Error Handling

- Skip invalid records.
- Report check errors in $APCSHRQ$.
- Log missed discounts in $APPYDS$.

Table Summary

Tables Used in the AP150-AP156 Call Stack and Data Flow

Below is a detailed explanation of the tables (files) used in the Accounts Payable (A/P) payment processing call stack ([AP150.oc136.txt](#), [AP151.rpg36.txt](#), [AP155.rpg36.txt](#), [AP156.oc136.txt](#), [AP156.rpg36.txt](#)), their purposes, and a summary of the data flow.

Tables (Files) Used and Their Purpose

Tables Used in the AP150-AP156 Call Stack

The following tables are used across the AP150-AP156 call stack to process Accounts Payable payments, generate reports, and create NACHA files for ACH payments. Each table's purpose, key fields, and usage in the programs are described below.

1. APPYTR (Payment Transaction File)

- **Purpose:** Stores sorted payment transaction data used as input for payment selection criteria. It contains header records (pay by date) and detail records (pay by vendor/voucher).
- **File Usage:**
 - **AP151:** Primary input file, read to determine which vouchers to select from [APOPEN](#) based on company, vendor, voucher, payment method, and dates.
 - **AP155:** Chained to retrieve next check number, check date, pay-by date, and payment method for the cash requirements report.
- **Key Fields:**
 - [PTCONO](#) (Company Number, 7 digits)
 - [PTVEND](#) (Vendor Number, 5 digits)
 - [PTVO](#) (Voucher Number, 5 digits)
 - [PTAMT](#) (Partial Payment Amount, 7.2 digits, packed)
 - [PTDISC](#) (Discount Amount, 5.2 digits, packed)
 - [PTBKGL](#) (Bank G/L Number, 8 digits)
 - [PTNXCK](#) (Next Check Number, 6 digits)
 - [PTCKDT](#) (Check Date, 6 digits, YYMMDD)
 - [PTDATE](#) (Pay-By Date, 6 digits, YYMMDD)
 - [PTFDIS](#) (Force Discount, 'D' or blank)
 - [PTHOLD](#) (Payment Method, ' ', A, W, E, U)
 - [PTPORH](#) (Pay or Hold, 'P', 'H', or blank)
 - [PTMKPP](#) (Make Prepaid, 'P' or blank)
 - [PTSEQ#](#) (Sequence Number)
- **Record Length:** 128 bytes
- **Access:** Input Primary (AP151), Input with Chain (AP155)

2. APOPEN (Open A/P File)

- **Purpose:** Contains open voucher details used to identify eligible vouchers for payment based on selection criteria.
- **File Usage:**
 - **AP151:** Chained to select vouchers matching company, bank G/L, payment method, and due date criteria.

- **AP155:** Chained to retrieve vendor name and sort abbreviation for reporting if not found in APVEND.
- **Key Fields:**
 - **OPCONO** (Company Number, 7 digits)
 - **OPVEND** (Vendor Number, 5 digits)
 - **OPVONO** (Voucher Number, 5 digits)
 - **OPGRAM** (Gross Amount, 7.2 digits, packed)
 - **OPDISC** (Discount Amount, 5.2 digits, packed)
 - **OPPPTD** (Partial Paid to Date, 5.2 digits, packed)
 - **OPINVN** (Invoice Number, 20 bytes)
 - **OPINDS** (Invoice Description, 25 bytes)
 - **OPDSDT** (Discount Due Date, 6 digits, YYMMDD)
 - **OPDUED** (Due Date, 6 digits, YYMMDD)
 - **OPHALT** (Hold Code, 'H' or payment method)
 - **OPPAID** (Prepaid Code, 'P', 'A', 'W', 'E', 'U')
 - **OPCKNO** (Prepaid Check Number, 6 digits)
 - **OPSNGL** (Single Check, 'S' or blank)
 - **OPBKGL** (Bank G/L Number, 8 digits)
- **Record Length:** 384 bytes
- **Access:** Input with Disk (AP151), Input with Chain (AP155)

3. APPAY (Payment File)

- **Purpose:** Stores generated payment records, including payment amounts, discounts, and check details for processed vouchers.
- **File Usage:**
 - **AP151:** Output file where payment records are written or updated with calculated payment amounts and check details.
 - **AP155:** Primary input file, read to generate the cash requirements report; updated with sequence numbers.
- **Key Fields:**
 - **OPDEL** (Delete Flag, 'D' or blank)
 - **OPCONO** (Company Number, 7 digits)
 - **OPVEND** (Vendor Number, 5 digits)
 - **OPVONO** (Voucher Number, 5 digits)
 - **OPGRAM** (Gross Amount, 7.2 digits, packed)
 - **OPDISC** (Discount Amount, 5.2 digits, packed)
 - **OPPPTD** (Partial Paid to Date, 5.2 digits, packed)
 - **OPLPAM** (Payment Amount, 6.2 digits, packed)
 - **OPPAID** (Payment Method, 'P', 'A', 'W', 'E', 'U')
 - **OPSNGL** (Single Check, 'S' or blank)
 - **OPCKNO** (Check Number, 6 digits)
 - **OPCKDT** (Check Date, 6 digits, YYMMDD)
 - **OPSEQ#** (Sequence Number, 5 digits)
 - **OPINVN** (Invoice Number, 20 bytes)
 - **OPINDS** (Invoice Description, 25 bytes)
 - **OPDUED** (Due Date, 6 digits, YYMMDD)

- **Record Length:** 384 bytes
- **Access:** Update/Create (AP151), Update Primary (AP155)

4. APPYDS (Missed Discount File)

- **Purpose:** Tracks vouchers where discounts were available but not taken due to missed discount due dates.
- **File Usage:**
 - **AP151:** Output file where missed discount records are written.
 - **AP155:** Chained to check for missed discounts and annotate the cash requirements report ("DISCOUNT NOT TAKEN").
- **Key Fields:**
 - **DSDEL** (Delete Flag, 'D' or blank)
 - **DSCONO** (Company Number, 7 digits)
 - **DSVEND** (Vendor Number, 5 digits)
 - **DSVONO** (Voucher Number, 5 digits)
 - **DSGRAM** (Gross Amount, 7.2 digits, packed)
 - **DSDISC** (Discount Amount, 5.2 digits, packed)
 - **DSPPTD** (Partial Paid to Date, 5.2 digits, packed)
 - **DSLPA** (Last Payment Amount, 6.2 digits, packed)
 - **DSDSDT** (Discount Due Date, 6 digits, YYMMDD)
 - **DSDUED** (Due Date, 6 digits, YYMMDD)
 - **DSCKN0** (Check Number, 6 digits)
 - **DSPAID** (Payment Method, 'P', 'A', 'W', 'E', 'U')
 - **DSSNGL** (Single Check, 'S' or blank)
 - **DSBKGL** (Bank G/L Number, 8 digits)
- **Record Length:** 384 bytes
- **Access:** Output (AP151), Input with File (AP155)

5. APPYCK (Check File)

- **Purpose:** Stores check details, including check number, amount, and status (e.g., full stub, void, credit/no pay).
- **File Usage:**
 - **AP155:** Output file where check records are written or updated with status and totals.
 - **AP156:** Primary input file, read to generate NACHA file for ACH payments.
- **Key Fields:**
 - **AXRECD** (Record Code, ' ', 'F', 'V', 'C', 'P', 'A', 'W', 'E', 'U')
 - **PYCON0** (Company Number, 7 digits)
 - **PYVEND** (Vendor Number, 5 digits)
 - **PYBKGL** (Bank G/L Number, 8 digits)
 - **PYCHK#** (Check Number, 6 digits)
 - **PYCKAM** (Check Amount, 11.2 digits, packed)
 - **PYCKDT** (Check Date, 6 digits, YYMMDD)
 - **PYNAME** (Vendor Name, 22 bytes)
 - **PYSEQ#** (Sequence Number, 9 digits)
 - **PYCNTN** (Invoice Count, 9 digits)

- **Record Length:** 96 bytes
- **Access:** Update/Create (AP155), Input Primary (AP156)

6. APDETINV (Invoice Detail File)

- **Purpose:** Tracks aggregated invoice details for vendors, combining amounts for invoices with the same number.
- **File Usage:**
 - **AP155:** Updated with aggregated gross and discount amounts for reporting.
- **Key Fields:**
 - **APDEL** (Delete Flag, 'D' or blank)
 - **APCONO** (Company Number, 7 digits)
 - **APVEND** (Vendor Number, 5 digits)
 - **APINVN** (Invoice Number, 20 bytes)
 - **APGRAM** (Gross Amount, 6.2 digits, packed)
 - **APDISC** (Discount Amount, 5.2 digits, packed)
 - **OPPPTD** (Partial Paid to Date, 5.2 digits, packed)
 - **OPINDS** (Invoice Description, 25 bytes)
 - **OPDUED** (Due Date, 6 digits, YYMMDD)
 - **OPVONO** (Voucher Number, 5 digits)
- **Record Length:** 256 bytes
- **Access:** Update with File (AP155)

7. APCONT (A/P Control File)

- **Purpose:** Stores company-level control data, including company name, bank G/L, and check numbering details.
- **File Usage:**
 - **AP155:** Chained to retrieve company name and pre-numbered check flag for the report.
 - **AP156:** Chained to retrieve company name and bank G/L for NACHA file headers.
- **Key Fields:**
 - **ACDEL** (Delete Flag, 'D' or blank)
 - **ACCONO** (Company Number, 7 digits)
 - **ACNAME** (Company Name, 30 bytes)
 - **ACBKGL** (Bank G/L Number, 8 digits)
 - **ACPRE#** (Pre-Numbered Checks, 'Y' or blank)
- **Record Length:** 256 bytes
- **Access:** Input with Chain (AP155, AP156)

8. APVEND (Vendor File)

- **Purpose:** Contains vendor details, including name, address, and ACH payment information.
- **File Usage:**
 - **AP155:** Chained to retrieve vendor name and sort abbreviation for the report.
 - **AP156:** Chained to retrieve ACH-specific fields (routing code, account number, account type) for NACHA file.
- **Key Fields:**
 - **VNDEL** (Delete Flag, 'D' or blank)

- **VNCO** (Company Number, 7 digits)
- **VNVEND** (Vendor Number, 5 digits)
- **VNNAME** (Vendor Name, 30 bytes)
- **VNSORT** (Alpha Sort Abbreviation, 10 bytes)
- **VNARTE** (ACH Bank Routing Code, 9 digits)
- **VNABK#** (ACH Bank Account Number, 17 bytes)
- **VNACOS** (ACH Account Type, 'C' for checking, else savings)
- **Record Length:** 579 bytes
- **Access:** Input with Chain (AP155, AP156)

9. APCHKR (Check Register File)

- **Purpose:** Validates check status to ensure checks are not already open or incorrectly voided.
- **File Usage:**
 - **AP155:** Chained to validate check numbers and statuses for the report.
- **Key Fields:**
 - **AMCODE** (Status Code, 'D', 'O', 'R', 'V')
 - **AMCKAM** (Check Amount, 11.2 digits, packed)
- **Record Length:** 128 bytes
- **Access:** Input with Chain (AP155)

10. APCSHRQ (Cash Requirements Report File)

- **Purpose:** Printer file for outputting the cash requirements report with payment details, check totals, and company summaries.
- **File Usage:**
 - **AP155:** Output file for writing report headers, invoice details, check totals, and error messages.
- **Key Fields:**
 - Report fields include company name, vendor name, invoice number, gross amount, discount, payment amount, check number, and totals.
- **Record Length:** 142 bytes
- **Access:** Output (AP155)

11. ACHFILE (NACHA File)

- **Purpose:** Stores NACHA-formatted records for ACH payments to PNC Bank.
- **File Usage:**
 - **AP156:** Output file for writing file header, batch header, entry detail, batch control, and file control records.
- **Key Fields:**
 - Record Type Codes ('1', '5', '6', '8', '9', filler)
 - File Header: ABA numbers, transmission date/time
 - Batch Header: Company name, tax ID, effective date
 - Entry Detail: Vendor routing code, account number, amount
 - Batch Control: Entry count, hash, credit total
 - File Control: Batch count, block count, entry count
- **Record Length:** 94 bytes
- **Access:** Output (AP156)

12. REPORT (Printer File)

- **Purpose:** Logs or verifies NACHA file creation details.
- **File Usage:**
 - **AP156:** Output file for logging (specific content not defined in code).
- **Record Length:** 132 bytes
- **Access:** Output (AP156)

13. AP155S (Report Sequencing File)

- **Purpose:** Control or sort file used for sequencing the cash requirements report.
 - **File Usage:**
 - **AP155:** Input file for report sequencing.
 - **Key Fields:** Not detailed in code (likely control flags or sort keys).
 - **Record Length:** 3 bytes
 - **Access:** Input Random (AP155)
-

Data Flow Summary

The data flow through the AP150-AP156 call stack is a sequential process that transforms input transaction data into payment records, a report, and an ACH payment file. Below is a summary:

1. Input Preparation (AP150.ocl36.txt):

- **Input:** User-provided parameters (company, bank G/L, check date, etc.) and **APPYTR** (payment transactions).
- **Process:** Sorts **APPYTR** by company, vendor, voucher, and sequence using **#GSORT**. Clears **APPAY**, **APPYDS**, and **APPYCK** files to prepare for new data.
- **Output:** Sorted **APPYTR** file.

2. Payment Record Creation (AP151.rpg36.txt):

- **Input:** Sorted **APPYTR**, **AOPEN** (open vouchers).
- **Process:** Reads **APPYTR** to select vouchers from **AOPEN** based on criteria (company, bank G/L, payment method, due date). Calculates payment amounts ($OPLPAM = OPGRAM - OPDISC - OPPPTD$) and applies discounts. Writes payment records to **APPAY** and missed discount records to **APPYDS**.
- **Output:** Populated **APPAY** and **APPYDS** files.

3. Cash Requirements Report Generation (AP155.rpg36.txt):

- **Input:** **APPAY**, **APPYTR**, **APCONT**, **APVEND**, **APCHKR**, **APPYDS**, **AP155S**.
- **Process:** Reads **APPAY** to aggregate payment totals (gross, discount, payment amount) by check and company. Updates **APDETINV** with aggregated invoice details. Validates checks against **APCHKR** and writes check records to **APPYCK**. Outputs report to **APCSHRQ** with invoice details, check totals, and error messages.
- **Output:** Updated **APPAY**, **APDETINV**, **APPYCK**, and **APCSHRQ** report. Sets LDA position 400 to 'A' if ACH payments are detected.

4. NACHA File Creation (AP156.ocl36.txt, AP156.rpg36.txt):

- **Input:** APPYCK, APCONT, APVEND, LDA (position 400 = 'A').
- **Process:** If ACH payments are present, clears ACHFILE and reads APPYCK to generate NACHA records (file header, batch header, entry detail, batch control, file control). Uses APVEND for ACH details and APCONT for company data. Outputs to ACHFILE and logs to REPORT.
- **Output:** Populated ACHFILE and REPORT.

Overall Flow:

- **Input:** APPYTR (transaction criteria), APOPEN (vouchers), APCONT (company data), APVEND (vendor data), APCHKR (check validation).
- **Transformation:** Sort transactions (AP150), select and process payments (AP151), generate report and validate checks (AP155), create NACHA file for ACH (AP156).
- **Output:** APPAY (payments), APPYDS (missed discounts), APPYCK (checks), APDETINV (invoices), APCSHRQ (report), ACHFILE (NACHA file), REPORT (log).