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ATM API Interface Processing Options

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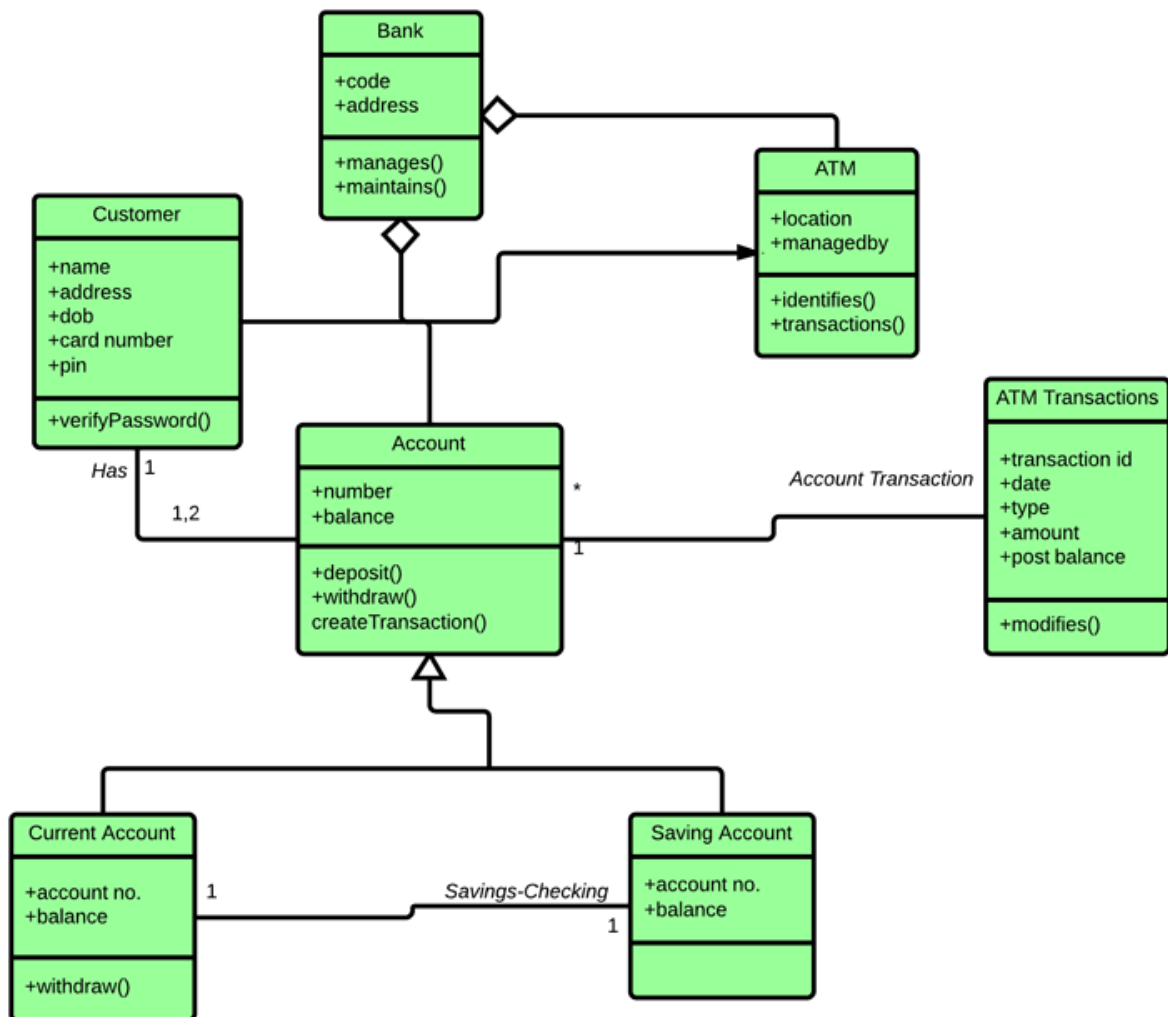
Scope

This publication discusses the ATM processing options currently available to commercial bank users. It is addressed specifically to data center managers, operations personnel, and software engineers.

The information herein assumes all users are thoroughly familiar with ATM network processing and with the following applications involved with ATM communications:

- CIF – Commercial Bank System
- FCS – Online CIF System
- CDT – Application Switching Subsystem
- MCS – Communications driver coupled with CDT
- F/ROCD – Financial/Retail Online Communications Driver

ATM API Interface Processing Options for Commercial Bank Customers

Contents

Introduction

In the past several years, there have been a lot of questions and confusion over the best methods for NCR data center to use to accomplish ATM processing for their customers. While no two centers work exactly alike, it's safe to say that they all want to run ATMs in the most efficient, cost-effective manner. But what suits the needs of one customer may not suit the needs of another. For example, batch ATM processing might be more desirable to small banks that have a limited number of accounts, or to banks that are located in an area where there is very low risk of ATM fraud. On the other hand, online processing might be much more effective for large banks that service thousands of accounts each day, or for banks that have a high fraud rate. Because these needs can vary significantly from one data center to the next, processing alternatives must be available and easy to implement.

Up to this point, NCR has published very little documentation on alternate ATM processing methods for CIF users. As a result, data centers have had to do the best they could with the limited instructional resources they have. Regardless of your own center's current situation, it is to your advantage to know what all the possible options are. And that is the purpose of this documentation. This way, you can decide what will work best for you and your customers.

Interface Options

The CIF Commercial Bank system provides four ATM processing options:

- MPS Switch/Cash Station Online Interface
- DELUXE Switch/279z Online Memo Post Interface
- Batch Back-End ATM Tape/Transmission Processing
- Proprietary Processing 1770/1780 Online Interface

Depending on your center's current situation, there may not be a need for improvement in your ATM processing method. However, to help you determine the processing that suits your needs, a discussion of each option follows.
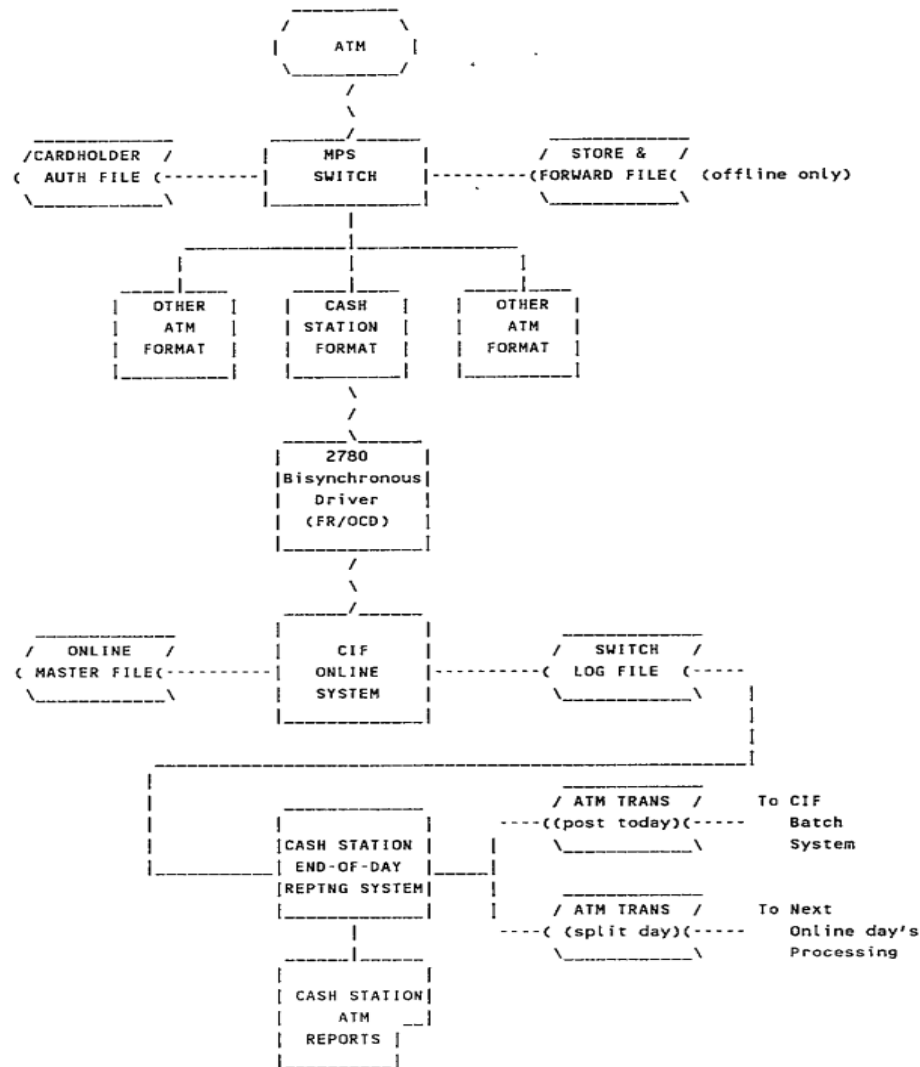
Each writeup includes the following:

- Option description
- Processing overview
- List of advantages
- List of considerations

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MPS Switch/Cash Station Online Interface

Several years ago, NCR announced that Midwest payment systems (MPS) will serve as NCR's primary ATM switch, replacing NCR's own Electronic Transfer switch (ETS). MPS, a wholly owned subsidiary of Fifth Third Bank, is currently one of the industry's largest third-party ATM processors that services a variety of ATM formats. Among those formats is Cash station which accommodates Commercial Banks running under CIF.

How it Works

```
                              _____
                             /           \
                            |    ATM      |
                             _____/
                                 /
                                 \
  _____       _____/_____       _____
 /CARDHOLDER   /       !    MPS     !       /  STORE &    /
(  AUTH FILE  (--------|  SWITCH    |--------(FORWARD FILE(  (offline only)
 _____\         !_____!         _____\
                              !
              _____!_____
              !               !               !
           ___!___         ___!___         ___!___
          !       !       !       !       !       !
          ! OTHER !       ! CASH  !       ! OTHER !
          !  ATM  !       !STATION[       !  ATM  !
          !FORMAT !       !FORMAT !       !FORMAT !
          !_____!       !_____!       !_____!
                             \
                             /
                        _____
                       !    2780      !
                       !Bisynchronous!
                       !  Driver      !
                       !  (FR/OCD)    !
                       !_____!
                            /
                            \
  _____       _____/_____       _____
 /   ONLINE   /       !    CIF    !      /   SWITCH   /
( MASTER FILE(--------|  ONLINE   |--------(  LOG FILE  (-----
 _____\        !  SYSTEM   |       _____\   !
                      !_____!                       !
                                                          !
          _____!
          !
          !           _____       / ATM TRANS /    To CIF
          !          !             !  ----((post today)(-----  Batch
          !          !CASH STATION !  !     _____\       System
          !_____| END-OF-DAY  |_____!
                     [REPTNG SYSTEM]   !   _____
                     !_____!   !  / ATM TRANS /    To Next
                           !       ----( (split day)(-----  Online day's
                      _____!_____      _____\       Processing
                     !            !
                     ! CASH STATION|
                     !   ATM    __!
                     ! REPORTS  !
                     !_____!
```

Under this configuration, the MPS Switch:

- Receives ATM transmissions from the ATMs it drives, or from other switch networks.
- Prescreens the transmissions for proper cardholder information, including PIN validations and hot cards.
- Routes valid transactions to the CIF online system (FCS) for authorization.
- Verifies balance availability and either denies the transactions or memo posts them online.
- Outputs the transactions to the Switch Log Transaction file.

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During end-of-day processing, the Cash Station Interface:

- Passes to CIF those ACH-formatted transactions that are effective for today's processing.
- Recycles, to the next online day's processing, those transactions that occurred after settlement.
- Provides the necessary reporting.

Advantages

- Natural CIF interface that is already in place. Processing is online.
- The Switch/Bank maintains the ATM Cardholder file and prescreens all transactions.
- MPS is responsible for almost all ATM balancing, Switch Balancing, and ATM/Switch reporting activities.
- If the data center goes offline, MPS authorizes transactions based on pre-established cardholder limits and outputs them to a Store And Forward file. When the data center is back online, MPS sends the transactions to the Online CIF systems. For online purposes, Online CIF force posts the transactions to the appropriate accounts and identifies the transaction on the necessary End Of Day reports.
- The system keeps customer balances current with other online monetary transactions.
- Reduces ATM fraud and kiting.
- The system passes ATM location descriptions with every transaction, for descriptive statement purposes.
- At the end of the online day, the data center has everything it needs to perform its nightly batch processing.
- Throughout the current online day, the system can store same-day ATM transaction history at the host.

Considerations

- Currently, you cannot use the CDT system with MCS. Instead, you must use the Financial Retail Online Communications Drive (FR/OCD). If the bank in question is already running in a CDT/MCS environment, this approach requires a second online system that shares files with the CDT/MCS online.
- Might affect system performance because of increased activity.
- Requires additional end-of-day processing.
- Can be used only with the MPS Switch.
- Does not require the daily transmission of a positive or negative balance.
- Does not necessarily require daily 24-hour online processing; however, when the host is offline, MPS defaults to pre-established ATM card limits.

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DELUXE Switch/279z Online Memo-Post Interface

Besides the Cash Station ATM network, the CIF online system (FCS) supports an ATM transaction format called-279z. This format enables FCS to accept transmissions from an ATM Switch called DELUXE, previously known as SATM and GTE. The 279z format enables FCS to treat ATM transactions similar to the way it treats teller transactions.

How It Works
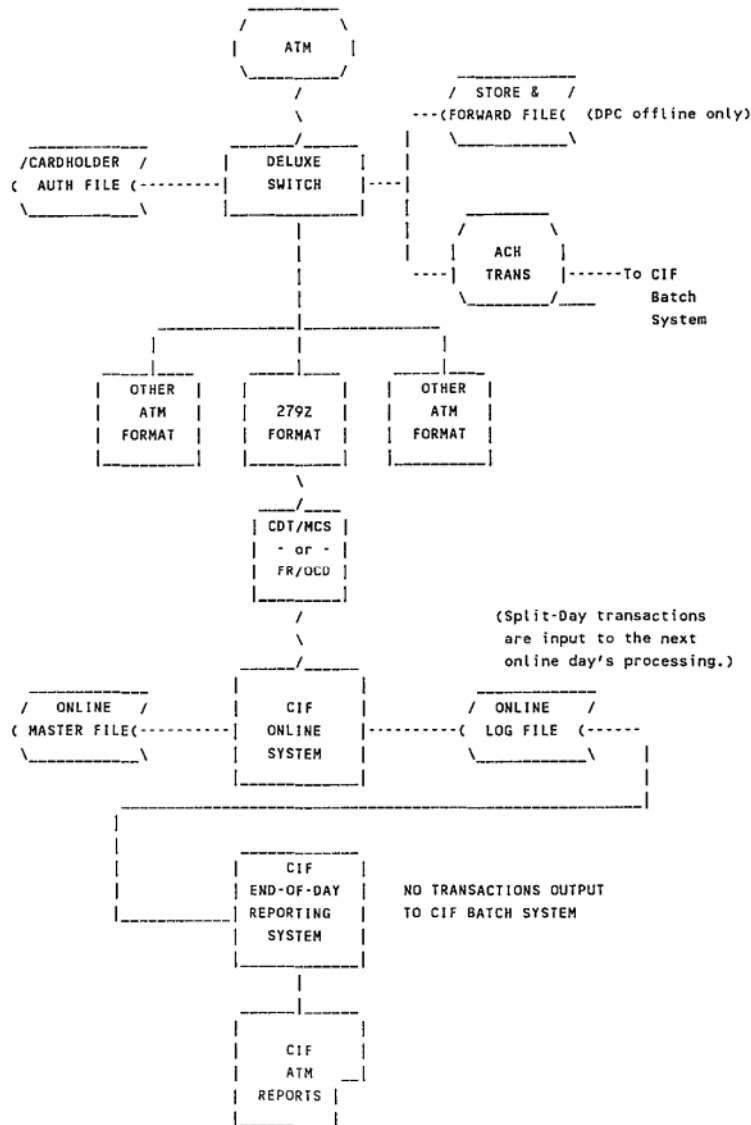
Under this configuration, the DELUXE Switch:

- Receives ATM transmissions.
- Prescreens transmissions for proper cardholder information, including PIN validations and hot cards.
- Converts them to 279z format.
- Routes them to FCS for account-number and account-balance authorization.

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Next, the FCS interface:

- Verifies balance availability and either denies the transactions or memo posts them online to the online Log file.
- Generates reports that reflect today's 279z activity.
- Flags, as split day, those transactions that it received after ATM settlement.
- Recycles transactions to the next online day's processing.
- Generates an ACH tape/transmission in NACHA format to accommodate CIF's nightly batch processing.

Advantages

- Natural CIF interface that is already in place.
- Processing is online.
- The switch/Bank maintains the ATM Cardholder file.
- DELUXE handles all ATM balancing.
- DELUXE handles all Switch balancing.
- DELUXE handles all ATM and Switch reporting.
- The system keeps customer balances current with other monetary transactions.
- If the system goes offline, it outputs transactions to a Store-And-Forward file. When the system is back online, it sends the transactions to CIF in an override format, causing CIF to force post them for online purposes.
- Reduces ATM fraud/kiting.
- Throughout the current online day, the system can store same-day ATM-transaction history at the host and maintain it in a 279-teller format.

Considerations

- On the End-Of-Day reports, transactions appear as if they came from 279-model teller terminals.
- FCS does not recycle, to the CIF Batch System, the actual transactions that occur online. Instead, DELUXE sends an ACH tape for CIF's nightly batch processing.
- Cannot begin end-of-day processing until the Switch transmits the ACH tape electronically or delivers it by way of a courier service.
- Might affect system performance because of increased activity.
- Can use CDT with MCS or use the FR/OCD.

Batch Back-End ATM Tape/Transmission

If it is not necessary for your ATMs to run online to your host, batch processing might be the best option.

How It Works
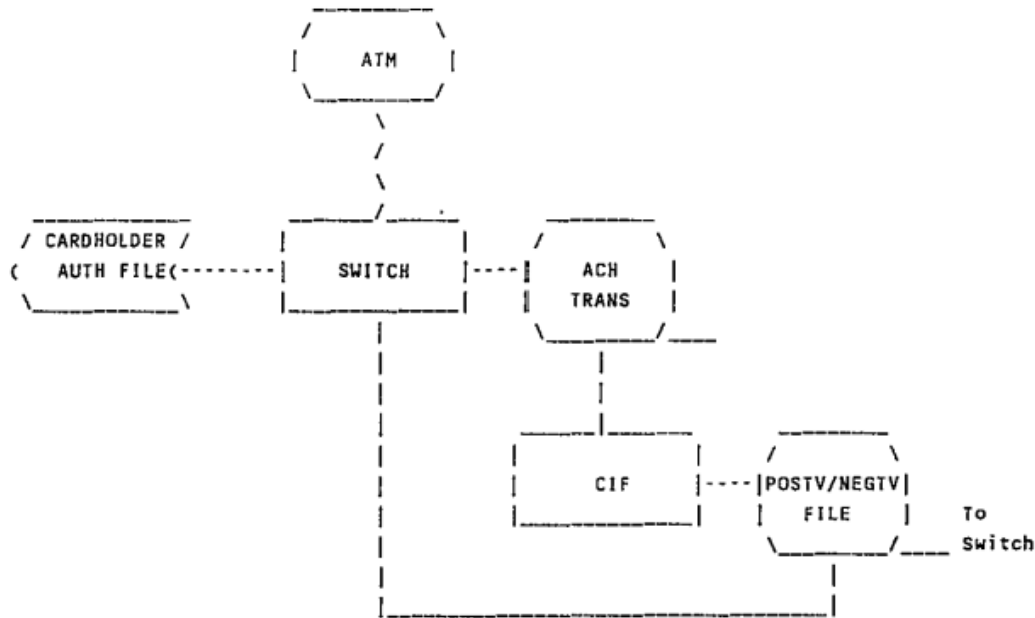
Under this configuration, the following occurs:

- ATM transmissions go to a switch for authorization and screening.
- The switch performs the necessary processing and provides the data center with transactions that the CIF Batch System can accept. Usually, the transactions are in NACHA-formatted tape or transmission.
- Depending on Switch requirements, CIF may need to generate a daily positive- or negative-balance file.

After the data center receives the transactions, typical processing involves:

- Reading the transactions.
- Processing them against the CIF Master file.
- Creating a tape of information to return to the Switch.

The output tape provides the Switch with a positive file or a negative file. A positive file contains balance information for all customers. A negative file contains balance information for only those customers who are overdrawn. Together, switch personnel, data-Center personnel, and bank personnel determine whether to process with a positive or with a negative file.

Advantages

- The Switch is responsible for all online ATM activity, balancing, and reporting.
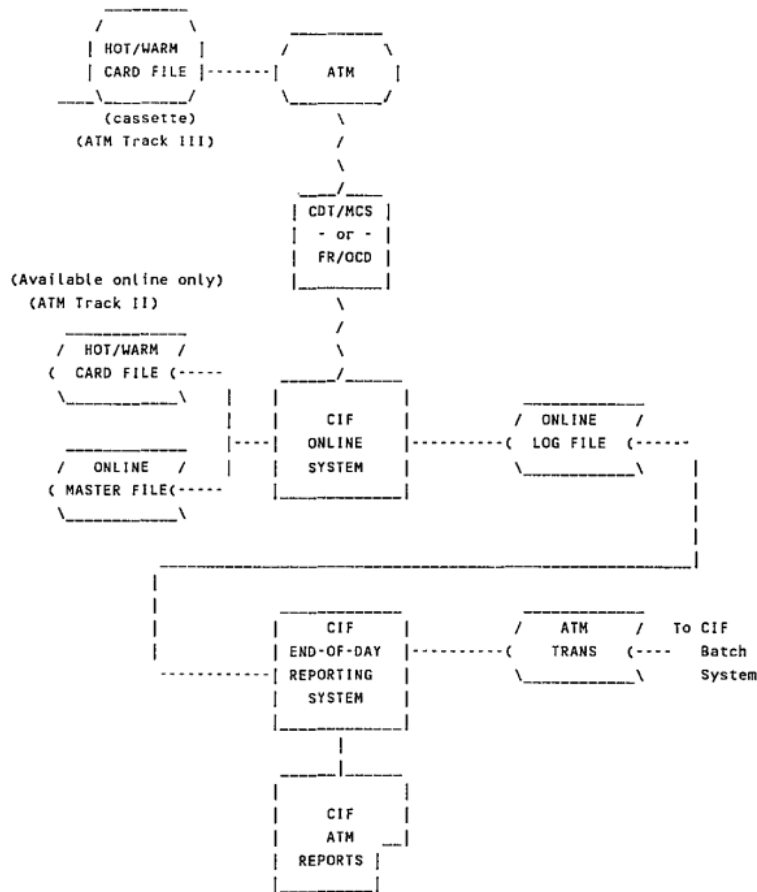
Considerations

- Each day, the data center must generate positive or negative tape files for the ATM processor.

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- Depending on the Switch, all input and output tapes may require special reformatting because some switches do not use standard ACH format.
- During the online day, customer balances are not in sync with the host processor.
- Customers cannot perform balance inquiries or obtain complete or up-to-date balance information.

Proprietary Processing/1770-1780 Online Interface

Proprietary ATM processing (commonly called Direct Connect processing) provides your customers' ATMs with a direct line to the CIF Online (FCS) system.

How It Works

```
         _____                        
        /         \        _____      
        | HOT/WARM |      /          \     
        | CARD FILE|-------|    ATM    |   
        _____/       _____/    
          (cassette)             \         
        (ATM Track III)          /         
                                 \         
                             ___/____      
                            | CDT/MCS |    
                            | - or -  |    
                            | FR/OCD  |    
  (Available online only)   |_____|     
     (ATM Track II)             \          
   _____              /          
  /  HOT/WARM   /              \           
 (  CARD FILE  (-----      ____/____       
  _____\    |  |   |         |      _____
                   |  |   |   CIF   |     /  ONLINE  / 
  _____    |--|   | ONLINE  |----(  LOG FILE (------
 /   ONLINE   /    |  |   | SYSTEM  |     _____\   |
(  MASTER FILE(----    |  |_____|                   |
 _____\                                          |
                                                        |
          _____|
          |                                             
          |   _____           _____             
          |  |   CIF  |         /  ATM    /  To CIF      
          |  |END-OF-DAY|-------(  TRANS  (----  Batch   
          ---|REPORTING |       _____\   System     
             | SYSTEM  |                                
             |_____|                                
                  |                                     
             ___|____                                  
             |        |                                 
             |  CIF   |                                 
             |  ATM __|                                 
             | REPORTS |                                
             |_____|                                
```

Under this configuration, the following occurs:

- The ATM validates transactions for proper cardholder information and sends them directly to FCS for approval.
- FCS verifies balances, processes the transactions against the online Master file, and logs them on the online Transaction Log file.
- At the end of the online day, the FCS End-Of-Day Reporting System generates the standard ATM activity reports and generates a file of ATM transactions for input to the CIF Batch System.

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Advantages

- Natural ClF interface that is already in place.
- Processing is online.
- All ATM/Teller balances are in sync.
- Reduces ATM fraud/kiting.
- At the end of the online day, the data center has everything it needs to perform its nightly batch processing.
- Provides a full re-entry capability with force-posting in case of insufficient funds.
- Provides re-entry reporting and audit trails.

Considerations

- Each ATM requires a Hot/Warm Card file.
- No efficient method of updating or maintaining the ATM Hot/Warm Card files.
- The online Hot/Warm Card file cannot be downloaded to the ATMs and can be accessed only when the system is online.
- Customers can access only banks that are online with FCS.
- Can use CDT with MCS (only preliminary testing has been performed thus far) or use the FR/OCD.
- Might affect system performance because of increased activity.
- No ATM Switch intervention.