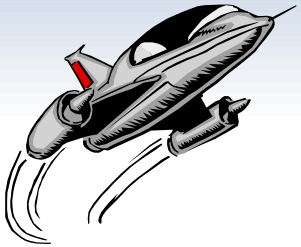
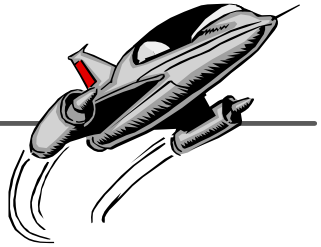


Amway's Implementation of DI/MVS/CICS With Client

DI is feature-rich … and we use them!

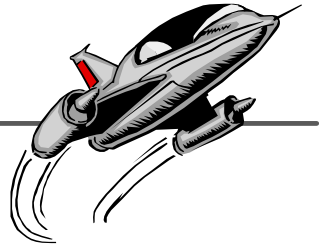


- Batch translation
- Continuous receive
- Event driven
- DI Client in Client Server mode
- Transaction Store
- MQ processing

No plain vanilla for us

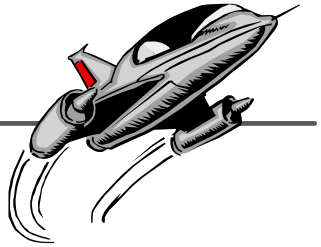
- *There are few features we aren't using or have at least tried*

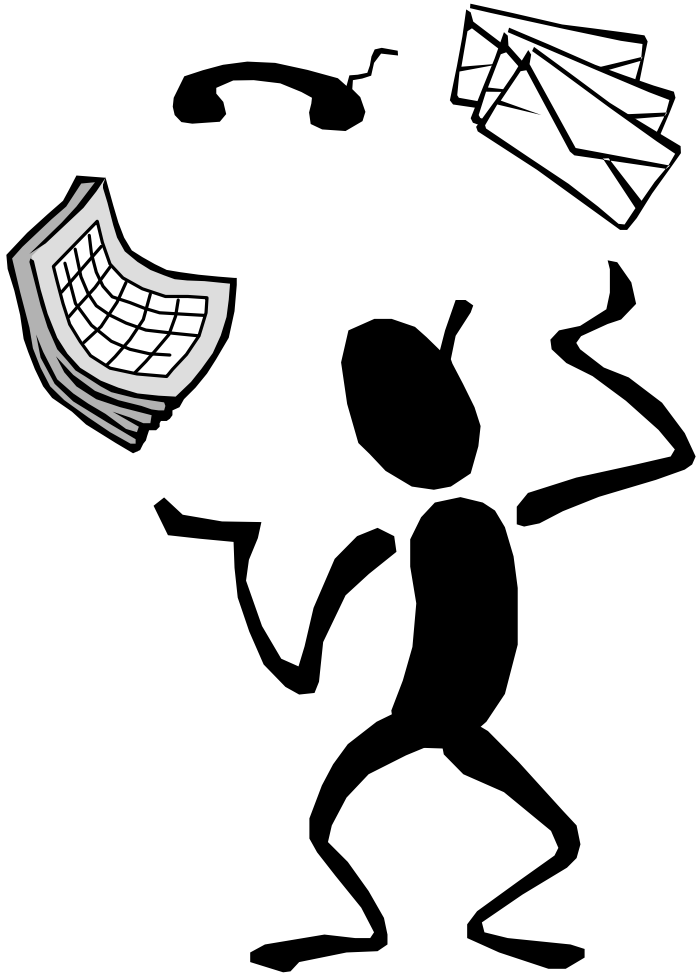
Wide Variety of Amway Uses
35,000 transactions per month



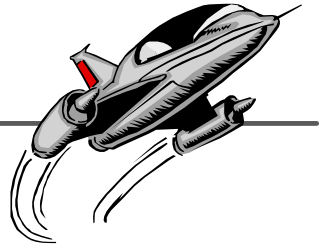
- Purchasing - Orders, Change Orders, Confirmations
- Shipping - Ocean Bookings, Shipment Status
- Warehousing - Warehouse Shipping and Receipt Advice
- Financial - Multiple types of invoices, Remittance advice
- Multiple industries, Multiple versions of X12 and EDIFACT

Control is THE issue





Control Strategy

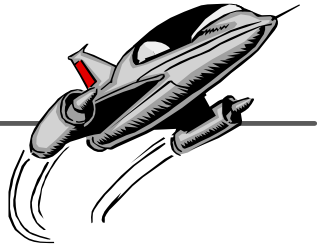


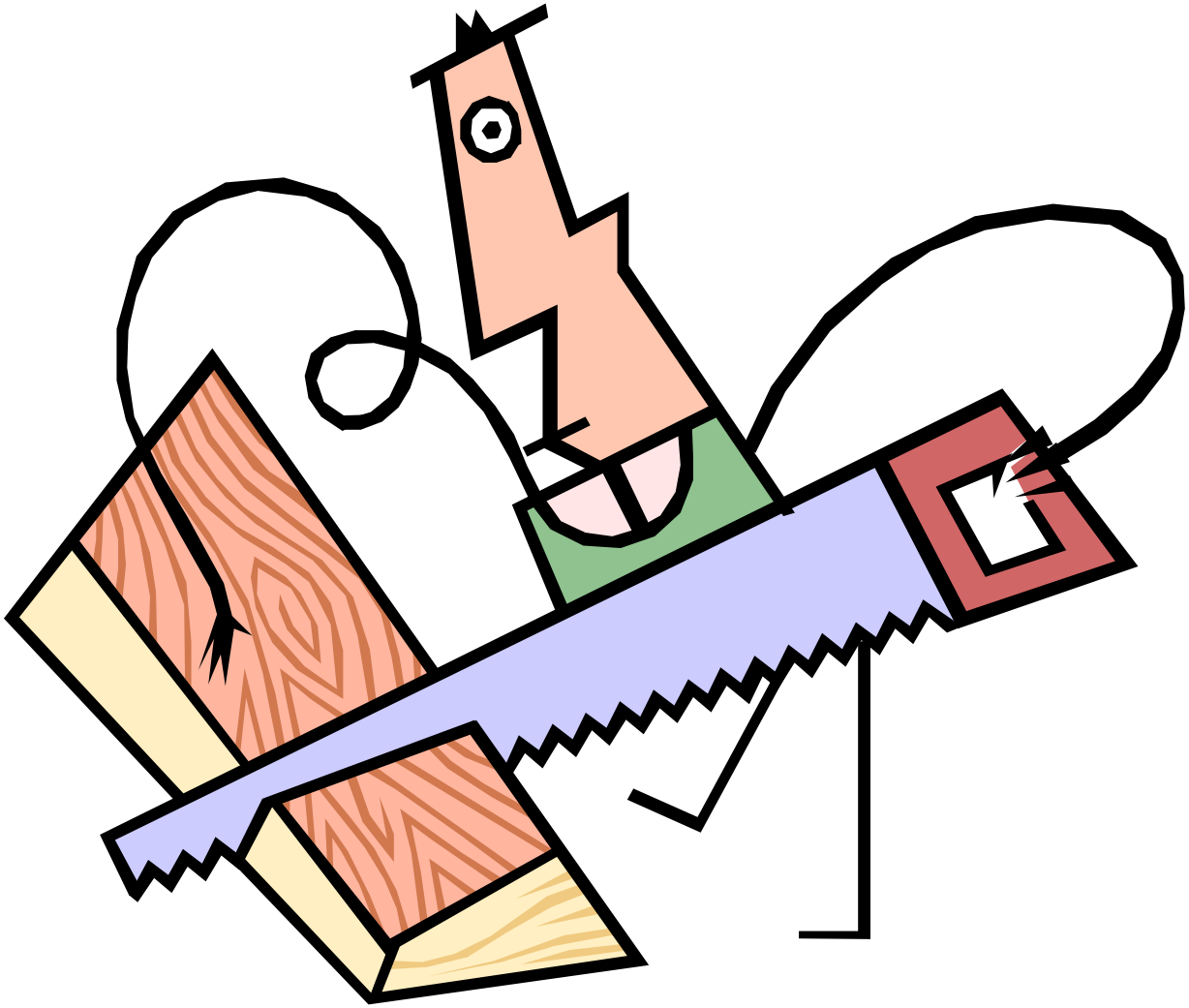
1. Build monitoring and control functions around DI using built in DI features. Keep points of impact for DI revisions to a minimum

2. Define naming conventions, procedures and mapping guidelines to maximize clarity

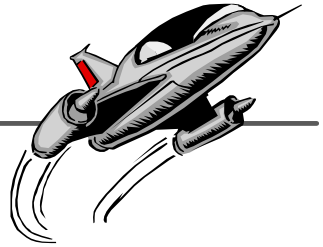
3. Create documentation and how to guidelines for mappers, application designers and business coordinators

Amway Built Audit and Controls

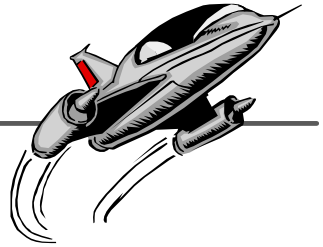




Three Key Pieces



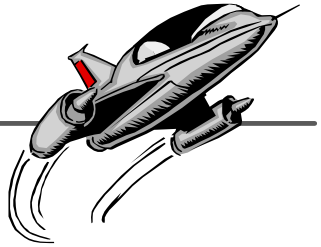
- Application Cross Reference Tables -
  - Gives applications control points and cross reference to DI partners
- CICS Control Tables -
  - Control CICS translations and log activity
- E*DI*Spy -
  - Reporting mechanism to isolate and email problems to responsible person



Application Cross Reference Tables

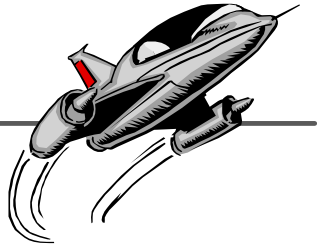
PURPOSE: Customize Application Processing and Isolate DI from Applications

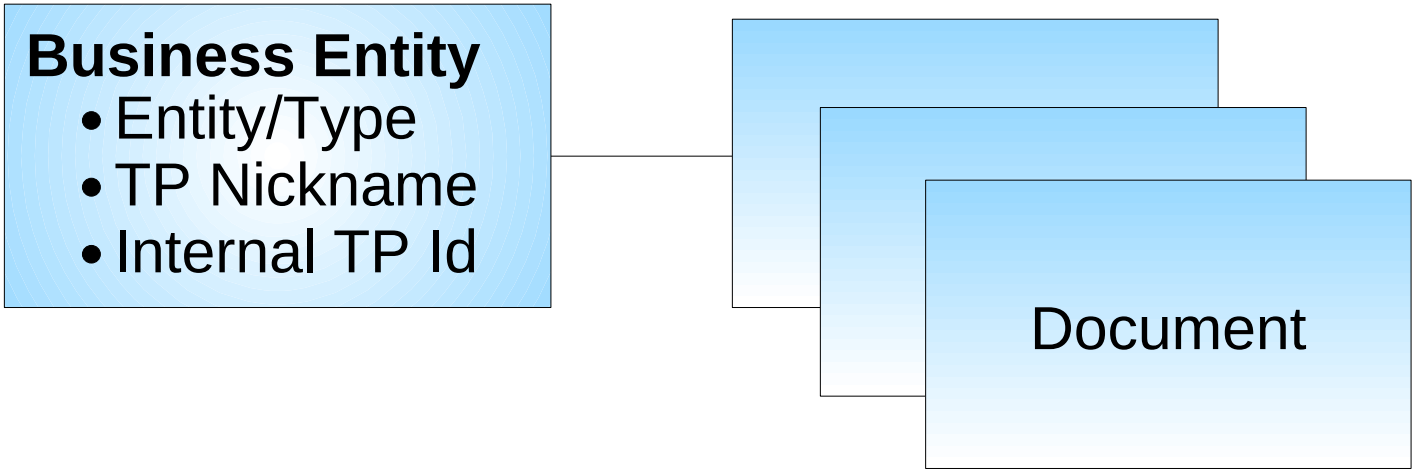
The Missing Link



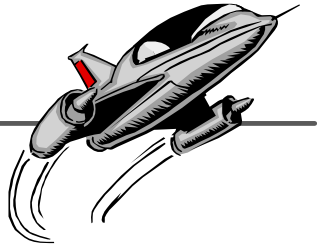
- Nicknames were intended to allow us to use our application id's to link to internal trading partner id's. We could not use them because multiple nicknames cannot point to the same interchange id. So ...

Amway XREF Tables

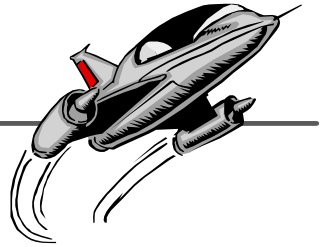




Control information specific to a partner/document is defined on the document. Some of the standard entries are: Response Expected, Response Hours Allowed, Coordinator ID



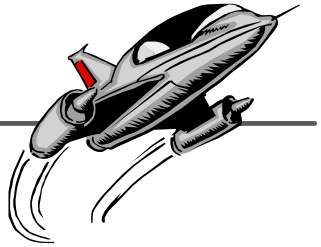
```
ED47                              EDI REALTIME                          2000-08-22
EDP470                 EDI/APPLICATION CROSS REFERENCE                  12.11.14

 ENTITY NO:  0110099999_____________________________   TYPE:  VEND
 INTERNAL TP ID:  004174819_____   COORDINATOR:  RG__
       NICKNAME:  004174819_____   LAST UPDATE:  ASP2644   2000-08-22-12.11
-------------------------------------------------------------------------------
 DOCUMENT TYPE:  850____   TEST/PROD:  P   REG/ALT:  REG   CUSTOM?:  _
 RESPONSE: EXPECTED:  Y   HOURS ALLOWED:  _____72   UPDATE APP?:  U
       FORCE TO FAX:  _     FAX NO:
 EMAIL:  ____________________________________________________

 ALTERNATE ID:  _____________   ADDITIONAL ID:  _____________
 INTERNATIONAL TP:
 LAST UPDATE:  ASP2644_   2000-08-22-12.12
-------------------------------------------------------------------------------
810____ 850____ 855____ 860____ 865____ ■_____ _______ _______

_______ _______ _______ _______ _______ _______ _______ _______
-------------------------------------------------------------------------------
 ENTER=DISPLAY ENTITY,  F2=RESET,     F3=EXIT,      F4=COPY FROM,
 F5=DELETE ENTITY,      F6=DELETE TRANSACTION,      F7/F8 SCROLL TRANSACTIONS
 F11=ENTITY ADD/CHANGE, F12=TRANSACTION ADD/CHANGE
```

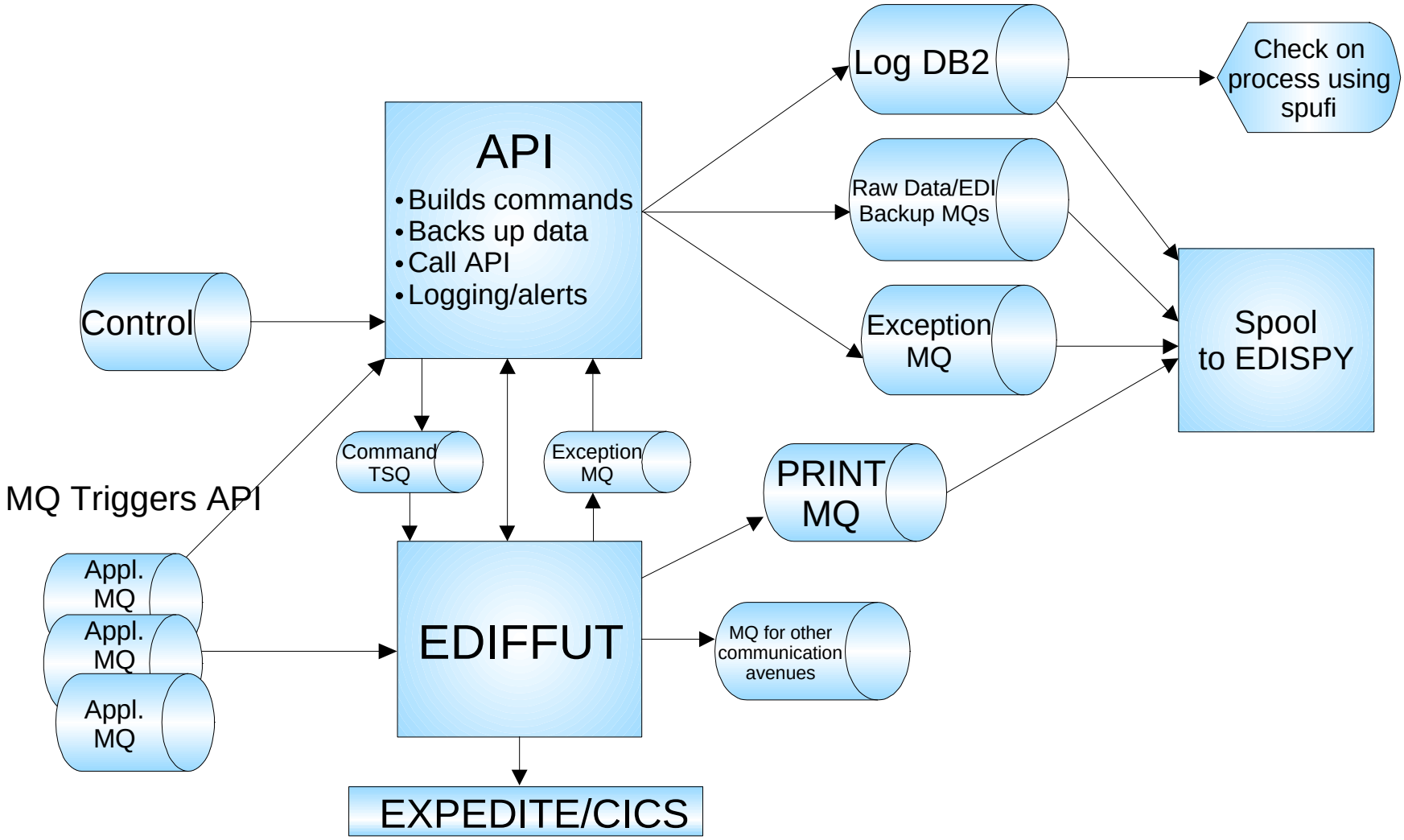


CICS Control Subsystem

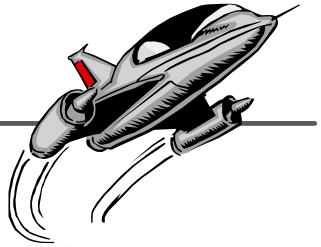
PURPOSE: Make CICS background task processing visible and allow us to add new applications without system changes

Outbound CICS Flow

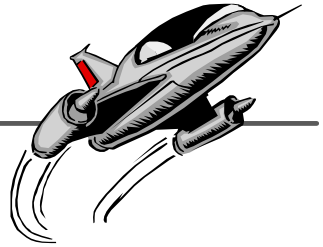




Set Up A New Application



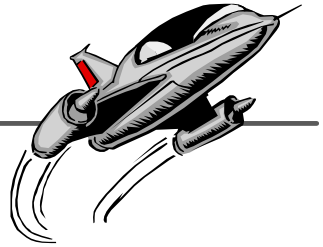
```
ED47                              EDI REALTIME                        2000-08-22
EDP470                 EDI/APPLICATION CROSS REFERENCE                12.11.14

 ENTITY NO:  0110099999_____________________________   TYPE:  VEND
 INTERNAL TP ID:  004174819_____   COORDINATOR:  RG__
      NICKNAME:  004174819_____   LAST UPDATE:  ASP2644   2000-08-22-12.11
-------------------------------------------------------------------------------
 DOCUMENT TYPE:  850____   TEST/PROD:  P   REG/ALT:  REG   CUSTOM7:  _
 RESPONSE: EXPECTED:  Y   HOURS ALLOWED:  _____72   UPDATE APP?:  U
      FORCE TO FAX:  _     FAX NO:
 EMAIL:  ____________________________________________________

 ALTERNATE ID:  _____________   ADDITIONAL ID:  _____________
 INTERNATIONAL TP:
 LAST UPDATE:  ASP2644_   2000-08-22-12.12
-------------------------------------------------------------------------------
810____ 850____ 855____ 860____ 865____ ■_____ _____ _____

_____ _____ _____ _____ _____ _____ _____ _____
-------------------------------------------------------------------------------
 ENTER=DISPLAY ENTITY,  F2=RESET,     F3=EXIT,      F4=COPY FROM,
 F5=DELETE ENTITY,      F6=DELETE TRANSACTION,      F7/F8 SCROLL TRANSACTIONS
 F11=ENTITY ADD/CHANGE, F12=TRANSACTION ADD/CHANGE
```



E*DI*Spy

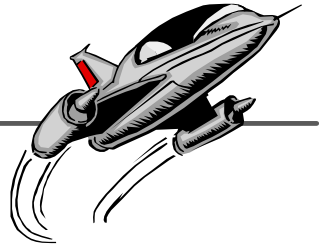
Purpose: Automate monitoring of both CICS and batch translation. Report problems directly to responsible person

Components



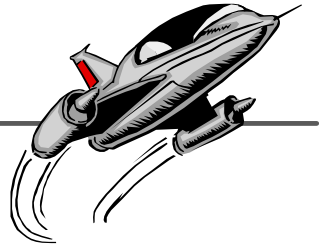
- DI data from data extracts
- Application cross reference file
- Online log table entries
- Exception data files
- Email batch interface

DI Data

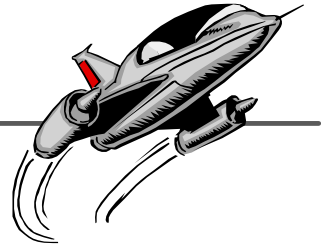


PERFORM TRADING PARTNER PROFILE DATA EXTRACT
PERFORM UNLOAD LOG ENTRIES WHERE APPLID(EDIFFS)
LOGDATE(*-005) TO(*-000)
ARCHIVEFILE(ARCFILE) HOLDFILE(HLDFILE)
NUMDELS(100)
PERFORM TRANSACTION DATA EXTRACT SELECTING
INTERCHANGE(Y)
GROUP(Y) TRANSACTION(Y)
WHERE FUNACKP(Y) DIR(S) STSTAT(0)
IFCC(0192, 0471, 0784) SETCC(0, 0, 0)
PERFORM TRANSACTION DATA EXTRACT SELECTING
INTERCHANGE(Y) GROUP(Y) TRANSACTION(Y)
WHERE NETSTAT(52) DIR(S)
IFCC(0192, 0471, 0784) SETCC(0, 0, 0)

Problems Reported

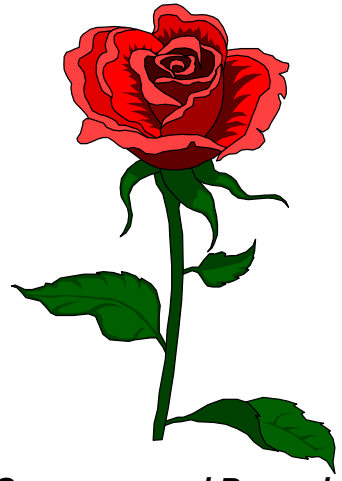


- Overdue Acknowledgements
- Purged, Undeliverable Network Status
- Translation Errors
- Suspended Data
- E*DI*SPY Formatted Application/EDI interface errors
- CICS Abends/Problems

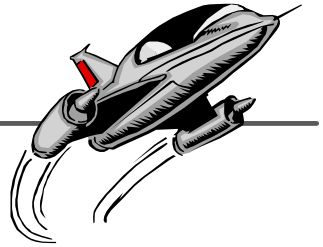


A Rose By Any Other Name May Smell As Sweet But You Will Have A Heck Of A Time Finding It In An Index!

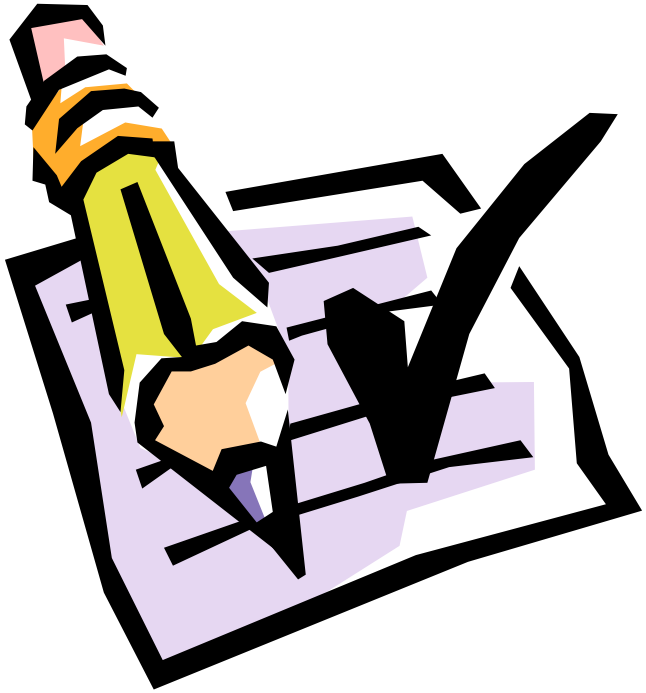
Naming conventions, procedures and mapping guidelines to maximize clarity



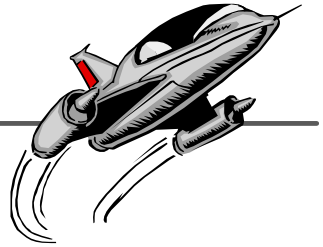
Naming Conventions



- Goals
  - Eliminate Redundancy
  - Logical Groupings
  - Consistency

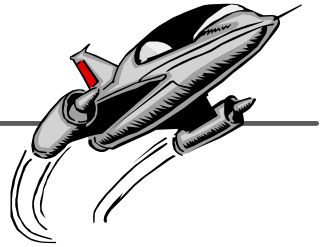


Map Names



- First character- R or S
- Next three - Version
- Next three to eight - Document
- Final portion - Qualifier
- Examples
  - R302810RG
  - R401852Q
  - S98AINVOICSC

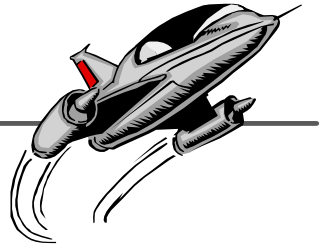
Procedures



Created Documented Step By Step Procedures For Maintenance Activities

- Change Control for Map Maintenance
  - Prevent multiple mappers from working on same map
  - Provide a backup

Changing a Production Map or ADF

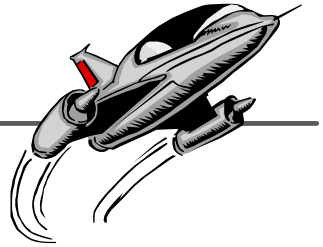


- Logon Production All DB2
  - Select Map or ADF
  - Export to File - (use the S:\OPPSUP\DataInterchange\DI MAPS - BY ADF\ directory)
    - Select Tagged Format
    - Select all; deselect Standard Transaction
    - For version control, suffix the file name with the current date, if you have more than one version on the same date add a version number (i.e. R302810CU-19990816_2.eif)
  - Copy production map or ADF for change control add a suffix of your initials (i.e. R302810CU-SMN)
    - **DO NOT!!!** Copy Associated Usages
    - If you must copy the usages:
      - Generate a control string for the new map.

      - or -

      - Import the file created in step 1-b forcing imported usages to be active.
    - "Receiver Qualifier field is required and must be at least 1 character long"

Changing a Production Map or ADF (cont.)



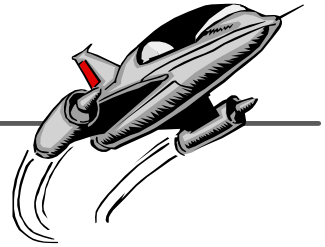
- Export original map or ADF to other system TEST Development (i.e. R302810CU)
  - Deselect all to export map only
  - If you must copy other components:
    - Select specific items that will be changed (such as ADF or Translation Table)
    - Or if you must, Select all; but deselect Standard Transaction (be aware Code Lists take a long time to export)
  - Import Usage Options: None, or Do not replace the existing active usages

★ Logon TEST Development
- Select map or ADF
- Modify and test changes
  - If standard is not available, you will abend (see "Import the Standard From File")

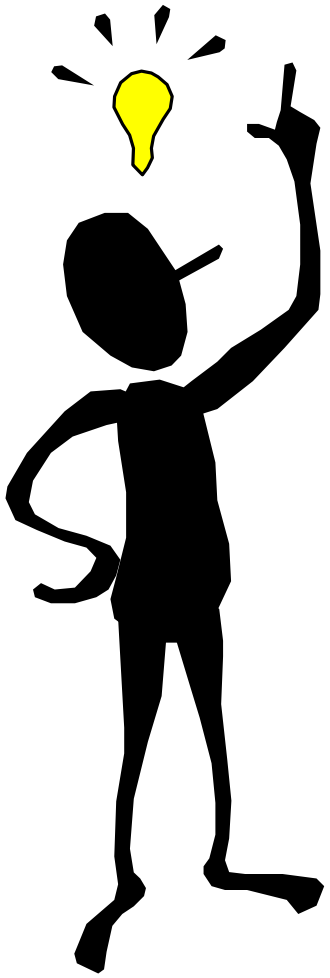
★ STOP: Logout and request an EDI Support Production Walkthrough review

★ NOTE: Coordinate production rollout timing with EDI Support, application developer and/or EDI Coordinator as required by the changes being implemented

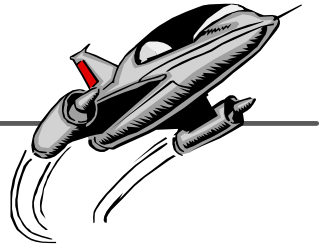
Mapping Guidelines



- Clean Maps
- Reduce DI errors that have to be sifted through in production
- Ideas for dealing with reoccurring problems

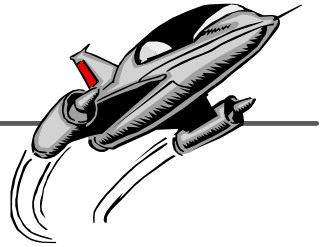


Guidelines For Inbound

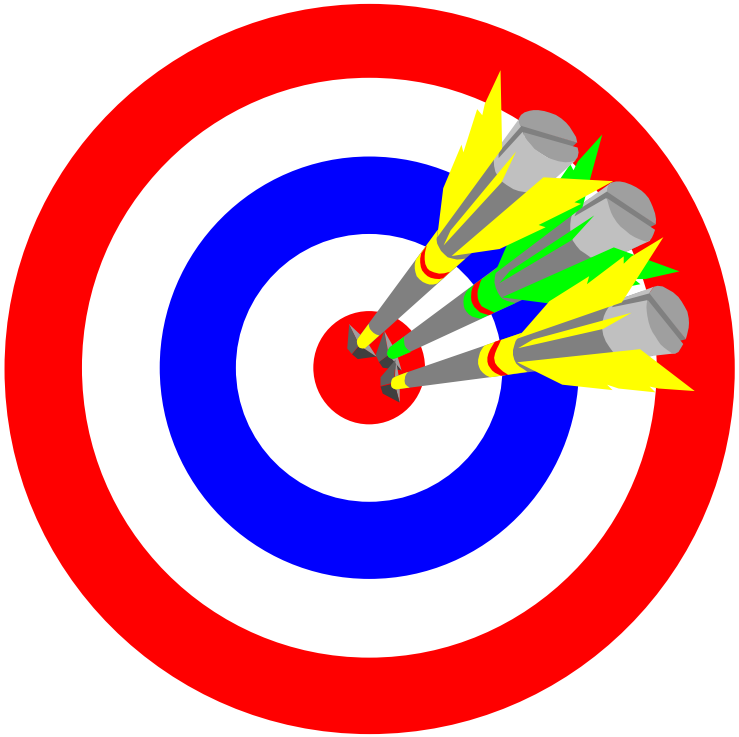


- Substring larger standard fields when moving to a smaller application field
- Embed version validation to catch unexpected version changes that may cause bad data to be passed
  - &SET VERSION &GS08
  - &IF (VERSION GT 4000) &ERR (3,999,'INVALID VERSION FOR THIS MAP')
- &Force 0 in all numeric application fields
- Use our company name subroutine to provide human readable partner identification in the ADF for ease of dealing with problems

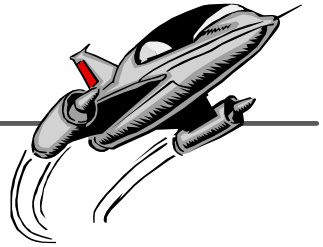
Targeted Documentation



- EDI team members
- Application designers
- Business coordinators

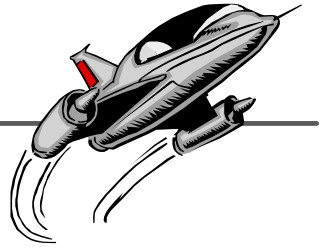


Saves Time and Errors



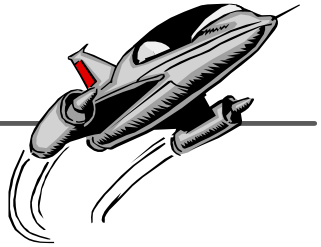
- When you have a contractor in for a short term project
- When an application programmer wants to know how to EDI enable their system
- When someone has to fill in for a coordinator or a new coordinator needs training

Technical Documentation



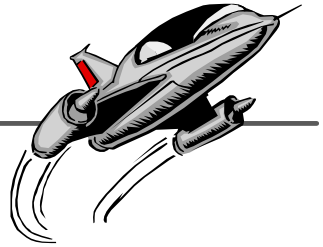
- HOW TO…
  - Step by step
    - Import a standard to development system
    - Export a standard to production system
    - Add a trading partner to an existing map
    - Test a new Quixtar partner
    - Test a new vendorship program partner
    - Clean up and restart Continuous Receive

Recover Continuous Receive



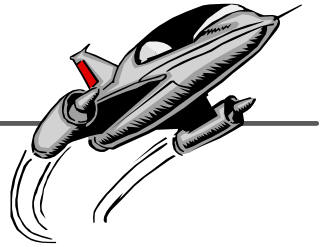
- Purge EDIB (Tech Support will have to do this)
- Check to see what is running in CICS (let ED38 flush out if running)
- Use file-aid to look at RRD records which contain unique keys of messages in DSN=PRDVSAM.CICS.EXPEDITE.EXPRDAT
- Then look at RC (receive) and SC (send) records which contain the actual data in PRDVSAM.CICS.EXPEDITE.EXPDSRC
- Reset a users session in IE
  - Sign on to IIN under your own sign on, options 1 (profiles), AMWY, AMYCRCV, option 7
  - You will be asked “Do you want to reset user’s session? (Y/N)”, key in ‘Y’, <enter>

Recover Continuous Receive (cont.)



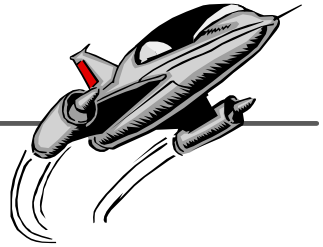
- Go to CICS –
- Enter the following: IDLTAMWY AMYCRCV (there are four spaces between the two parameter
  - The following will appear:
    - ENTER OR VERIFY ACCOUNT/USERID TO BE RESET <enter>, HI005 SESSION RESET COMPLETE message will appear
    - Enter LG01 to delete RC & SC (Receive & Send control records from PRDVSAM.CICS.XPEDITE.EXPDSRC)
      - HI457 ALL SEND RECEIVE RECORDS WERE DELETED. PROFILE RECORDS KEPT message will appear
    - Purge IMR1 (Tech Support will have to do this)
    - Enter EDIZ
    - Enter EDIR

Cookbook For Enabling an Application



- Guide to Interface Your Application to EDI Translation Process
- APPLICATION DEFINITION CONSIDERATIONS
- THE APPLICATION FILE REQUIREMENTS
- EDI CONTROL AND MONITORING

Business Coordinator Manual



- Amway-ized and simplified the DI Client Manual
- Referenced only the functions that the DB2 security profile for coordinators allows them to do
- Gave additional instructions on building queries especially on date formatting

Coordinators Manual
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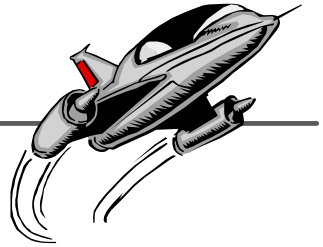
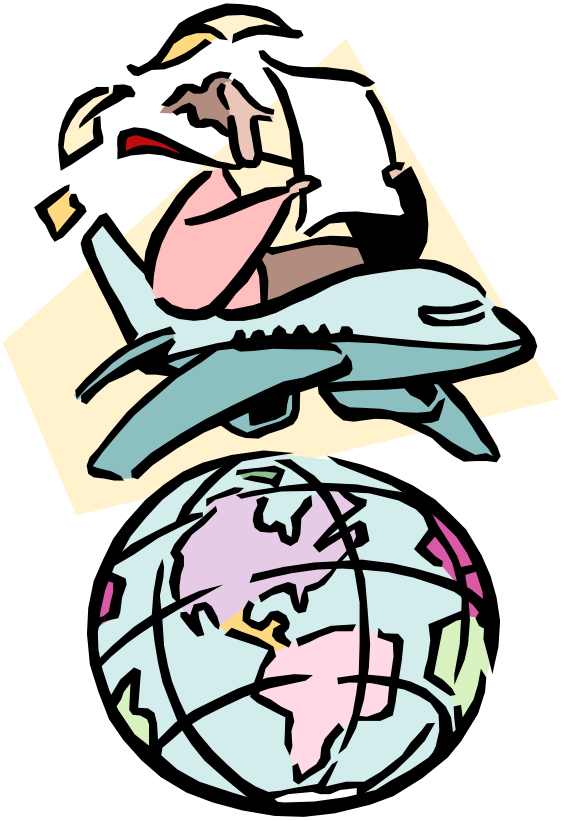
- Before You Begin
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- Working With Queries
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- Getting Help