New General-purpose Tools for Getting CU Data Into CU*BASE:

► CU-directed data floods
► General-purpose upload files

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Systems Affected:
☑ CU*BASE

Excerpt from the 2016 Data Investment Symposium

Overview

This project makes it easier than ever for CUs to pull data from an external source into CU*BASE, both for analysis as well as for manipulating common CU*BASE data elements (commonly referred to as "floods").
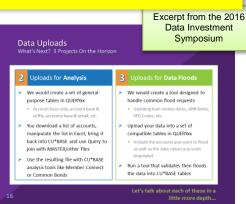
There are two main components to this spec:

1. Creating a new tool that allows a CU to direct their own data routines for common data elements

2. Facilitating uploads of common data elements, such as account numbers or email addresses, into generic CU*BASE files

The second component is a requirement for accomplishing the first part (that is, allowing CUs to pull in the list of accounts they want to use in their flood), because of the way the IBM i requires data to be uploaded into a file that already exists and is formatted to receive the data.

But it will also facilitate CUs pulling in lists for other purposes, such as Common Bonds or Member Connect functionality, or for use with CU*BASE analysis dashboards. For example, the new Analyze Member Behavior Patterns (a.k.a. "Losing the Love") dashboard allows a CU to enter a file name in place of using the standard filters to select which accounts will be analyzed.

(Doc writer see Page 7 for suggested content for the release summary.)

See also related project #42855 "Automated Processing of Member Contact Flags," which (hopefully) will already be completed by the time we are ready to deploy this one.

Flood Types to be Included in Phase 1

Flood Type	Data Element to be Flooded	Required in the CU's File	Flood Field Options and (Format Validation)	Validation to Perform	Other Options on the Flood Screen?
A	Additional Signers Delinquency Level	Loan ACCTBS Loan ACTTYP Add'l signer SSN	*New Delq Level # (0-4)*	Screen edits only	
A	AFT Loan Payment Controls	Loan ACCTBS Loan ACTTYP	*Delq Ctrl (Y/N)* *Pmt Ctrl (Y/N)*	Screen edits only	
A	ANR Limits and Lock Flag (standard)	ACCTBS ACTTYP	*Neg Bal Limit ($9.2)* *Neg Bal Lock (Y/N)*	Screen edits only Allow for "leave as is" option for both	also see separate entry for CU-defined limits
C	ANR Limits and Lock Flag (from list)	ACCTBS ACTTYP Limit (9.2) Lock (Y/N)	*Neg Bal Limit ($9.2)* *Neg Bal Lock (Y/N)*	Allow for "leave as is" option for both so they could have a file with just one or the other value Check for valid data in the file; put on exception report any $ amounts that are too large, or if anything other than Y/N in the lock field	also see separate entry for standard limits – **will combine these on the same screen, I think – see Page 19**
A	CD Penalty Code	Cert ACCTBS Cert ACTTYP	*New CD penalty code (L, G, or blank)*	Screen edits only	
A	Due Diligence Flag	ACCTBS	*New DD flag (0-9)*	Screen edits only (can't really validate against the config MNCNFC #19 since it's just a list of descriptions for the hard-coded numeric codes 0-9, and everyone has at least a default desc)	
A	ECOA Code	ACCTBS ACTTYP	*New ECOA code (0-9)*	Screen edits only	
B	Electronic Hold Group	ACCTBS	*New Hold group code (01-99)*	Validate against Hold Group config (MNCNFD #20)	
A	Freeze Code	ACCTBS ACTTYP	*New freeze code (0-3)*	Screen edits only	
B	Loan Assigned Employee ID(s)	ACCTBS ACTTYP	*New approval ID (##)* *New Interviewer ID (##)* *New Collections ID (##)* *New Opened by ID (##)*	Validate for valid Employee ID in SECMAST	(can choose one or all of the flood items; make sure to include a "leave as is" option so it's clear the IDs to leave alone)
B	Loan Delinquency Fine Codes	ACCTBS ACTTYP	*New delq fine code (00-99)*	Validate against Fine code config (MNCNFF #2)	

Flood Type	Data Element to be Flooded	Required in the CU's File	Flood Field Options and (Format Validation)	Validation to Perform	Other Options on the Flood Screen?
A	Loan Maturity and Review Dates	ACCTBS ACTTYP	*New maturity date (CCYYMMDD) New review date (CCYYMMDD)*	Must be valid date	*For both dates, can specify CCYYMMDD, or current date + xx months, or no change*
B	Loan Payment Matrix	ACCTBS ACTTYP	*New fine amt setting (0-4) New interest due setting (0-4) New principal setting (0-4) New principle amt (11.2) New escrow setting (0-4) New misc G/L proc (0-4) New GL acct (5.2) New GL amt (9.2) or % (5.2) New overpmt indicator? (XXX)*	Screen edits to make sure sequence #s aren't repeated and no sequence # is missed Mirror screen ULNPMU-01	
B	Loan Purpose/ Security Codes	ACCTBS ACTTYP	*New purpose code (00-99) New security code (00-99)*	Validate against purpose and/or security code config (MNCNFB #3 or 4)	(can choose one or all of the flood items, make sure to include a "leave as is" option so it's clear the IDs to leave alone)
B	Loan Variable Rate Code	ACCTBS ACTTYP	*New variable rate code (0-9)*	Validate against variable rate code config; account type must be a loan	
A	Marketing Opt In/Out Flags	ACCTBS	*New 3rd-party marketing opt out setting (Y/N) New CU marketing opt-out setting (Y/N)*	Screen edits only	
B	Member Branch	ACCTBS	*New member branch (##)*	Validate against location config in chart of accounts (MNGELE #2)	
B	New Account Reason Codes	ACCTBS ACCTYP	*New reason code (##)*	Validate against config (MNCNFC #1)	
B	New Member Reason Codes	ACCTBS	*New reason code (##)*	Validate against config (MNCNFC #1)	
A	Photo ID on File Flag	ACCTBS	*New Photo ID flag (Y/N)*	Screen edits only	
A	Reg E Opt Out	ACCTBS	*New Reg E flag (Y/N)*	Screen edits only To flood master-level flag (MASTRL) *NOTE: For the master-level flag only; can revisit if we need to also allow for sub-accts*	

Flood Type	Data Element to be Flooded	Required in the CU's File	Flood Field Options and (Format Validation)	Validation to Perform	Other Options on the Flood Screen?
B	SEG Code	ACCTBS	*New SEG Code (####)*	Validate against CU SEG/ Sponsor config (MNCNFD #2)	
B	Statement Mail Group Code	ACCTBS	*New Stmt Group code (0-9)*	Validate against Statement Mail Groups config (MNPRTC #12)	
B	Statement Style	ACCTBS	*New Stmt print style code (00-99)*	Validate against styles marked as "available" in the CU config (MNCNFE #21)	
B	User-defined Code 1, 2	ACCTBS	*New MLCOD1 (0-9)* *New MLCOD2 (0-9)*	Validate there's a description for this code in the CU config (MNCNFC #3)	
A	Wrong Email Address flag	ACCTBS	*Wrong email (Y/N)*	Screen edits only	Also write out a Tracker, same as PUPDINVEM

To Discuss
- What about updates to other misc. fields associated with a particular data element, like the "real" maintenance program does? *(i.e., enrolling in e-statements also needs to record the enrollment date and emp ID)*
- What about an "All memberships/accounts" option so they don't have to create an ACCTBS file if they want the flood done on every account they have?
- Anything to do in the non-member database? Closed members/accounts?
- Should we rank the above list based on how many times we have done this flood in the past, to prioritize which are most important?
- What about going through MNUPDT #1 and listing other fields a CU might want to flood? Worth the effort or wait for a request?

New Database Flood Engine

Screen 1 - Choose Flood Type

Access: TBD, see Page 23
Program: new
GOLD panel: new

Screen 1

```
*...+....1....+....2....+....3....+....4....+....5....+....6....+....7....+....8....+....9....+....0....+....1....+....2....+....3..
```

```
 1  10/01/09    Flood Data to List of Member Accounts                14:40:14    Step 1: Choose Flood Type        UXXXXX-01
 2  Search for description containing ....................................
 3  X=Select                               Data Required in Account List
 4  Sel  Data Element to Be Updated        Acct Base  Acct Type  Other
 5   .   12345678901234567890123456789012345678890     X         X         X
 6   .   Additional Signers Delinquency Level     X         X         X
 7   .   AFT Loan Payment Controls          X         X
 8   .   ANR Limits and Lock Flag (standard)     X
 9   .   CD Penalty Code                    X         X
10   .   Due Diligence Flag                 X
11   .   ECOA Code                          X         X
12   .   Electronic Hold Group              X
13   .   Freeze Code                        X         X
14   .   Loan Assigned Employee ID(s)       X         X
15   .   Loan Delinquency Fine Codes        X         X
16   .   Loan Maturity and Review Dates     X         X
17   .   Loan Payment Matrix                X         X
18   .   Loan Purpose/Security Codes        X         X
19   .   Loan Variable Rate Code            X         X
20   .   Marketing Opt In/Out Flags         X
21   .   Member Branch                      X
22   .   Photo ID on File Flag              X
23   .   Reg E Opt Out                      X
24   .   SEG Code                           X
25                                                                     More...
26  F7=CANCEL
27
```

□

Specifications

Field Name	*Specifications, Comments, etc.*
Data Element to be Updated	This is the list of whatever floods we have coded – see the table on Page 12
Data Required in Account List	Show an X in the column for the account base (all of them), account type (if applicable), and Other (if one or more additional fields will be used)

Screen 2 – Choose Flood Settings

```
*...+....1....+....2....+....3....+....4....+....5....+....6....+....7....+....8....+....9....+....0....+....1....+....2....+....3..
```

```
 1  10/01/09    Flood Data to List of Member Accounts              14:40:14    Step 2: Choose Flood Settings       UXXXXX-01
 2  Flood type  Electronic Deposit Hold Group
 3  Table name (in QUERYxx) for list of member accounts ........10
 4  New Value for All Accounts in the Account List
 5  Electronic deposit hold group    .. ?
 6
 7
 8
 9
10
11
12
13
14
15
16  Your table must include these columns in this order
17  1 ACCTBS (Account Base)        9 digits
18
19
20
21
22
23
24
25
26  F3=Backup  F7=CANCEL  Enter=Validate/Continue
27
```

☐ Remember that all type "B" floods should offer a lookup to the configured values

Examples of how other types of floods should be handled on this screen:

```
Flood type  Additional Signers Delinquency Level
Table name (in QUERYxx) for list of member accounts ........10
New Value for All Accounts in the Account List
Additional signer delq level     . (0-4)
```

```
Your table must include these columns in this order
1 Account base              9 digits
2 Account type              3 digits
3 Additional signer SSN     9 digits
```

NOTE: The (2) after the amount is just an indicator to GOLD of the decimal digit format so we don't have to use a ∧ on the next line.

```
Flood type  ANR Limits and Lock Flag
Table name (in QUERYxx) for list of member accounts ........10
New Value for All Accounts in the Account List
Negative balance limit          1 1=No change  2=Specify .........  (2)  3=Pull from my list
Negative balance lock           1 1=No change  2=Y/Locked 3=N/Unlocked  4=Pull from my list
```

```
Your table must include these columns in this order
1 Account base              9 digits
2 Account type              3 digits
3 Negative balance limit    #,###,###.## (Opt)
4 Negative balance lock     Y or N (Opt)
```

```
Flood type  Loan Maturity and Review Dates
Table name (in QUERYxx) for list of member accounts ........10
New Value for All Accounts in the Account List
Loan maturity date              1 1=No change  2=Specify ...........  3=Add .. months to date on file  4=Pull from my list
Loan review date                1 1=No change  2=Specify ...........  3=Pull from my list
```

```
Your table must include these columns in this order
1 Account base              9 digits
2 Account type              3 digits
```

Specifications

Field Name	Specifications, Comments, etc.
Flood type	Title of flood selected on screen 1
Table name (in QUERYxx) for list of member accounts	Entry required; upon Enter check for the presence of this file in QUERYxx

Field Name	Specifications, Comments, etc.
New Value for All Accounts in the Account List	List the field name(s) that will be flooded, with either lookups to the appropriate configuration or a format notation such as (Y/N) or (CCYYMMDD) etc. Entry required In cases where there is more than one data element to be flooded, allow for a "No change" option, but just don't allow to proceed if all fields are set to no change (at least one selection must be made) It was tricky to define a layout that would fit all of the options even for just the sample ones above, so I'm open to ideas of better ways to present this, as long as they are clear to the user.
Table must include these columns in this order	Would like to show which fields this particular flood expects; can use the official descriptions from the file being populated, or include that in the master config structure if that would be better (albeit redundant) Would also like to include the field length, as in "9 digits" or "3 characters" or "#,###,###.##" or whatever is appropriate Programmer please advise if there is another way to handle this, but my idea is that we should provide on-screen documentation as to what the program expects

Screen 3 – Validate & Process

```
*...+....1....+....2....+....3....+....4....+....5....+....6....+....7....+....8....+....9....+....0....+....1....+....2....+....3..
```

```
 1   10/01/09    Flood Data to List of Member Accounts              14:40:14    Step 4: Validate Data and Process      UXXXXX-01
 2
 3   # of records in your list   12,345,789
 4   # of matches found           12,345,700  Compared to current open memberships (MASTER)
 5   # that will be ignored              89
 6
 7   Run in A (A=Audit mode, P=Posting mode)
 8
 9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26   F3=Backup  F5=Process  F7=CANCEL  F10=Re-validate List
27
```

☐ GOLD: should make this a pop-up window

☐ If P=Posting mode, **F5=Process** should present a warning message (call program CUTCCWDW) when using Posting mode:

```
12345678901234567890123456789012345678901234567890123456
THIS WILL UPDATE LIVE MEMBERSHIP/ACCOUNT FILES
WARNING: THIS CANNOT BE UNDONE!
```

☐ If P=Posting mode, **write all changes to CUFMNT** along with the posting/exception reports

☐ **F10=Re-validate List** should refresh the screen, re-reading the incoming list (that way if the # isn't right when they first access the screen, they can use a second session to refresh the file and then run the validation again, without having to start all over again)

Field Name	Specifications, Comments, etc.
# of records in your list	Show the total # of records in the file
# of matches found	Compare to either MASTER (if flood type uses ACCTBS only) or MEMBERx (if flood type uses ACCTYP, and according to flood type parameters, i.e., loans only vs. savings etc.) and show the # of hits
	Make the notation to the right of this number dynamic, so it might read:
	Compared to current open memberships (MASTER)
	OR
	Compared to current open accounts (MEMBERx)
	I don't know if we need to get any more granular than this, since there will be situations where we'll be checking against, say, both MEMBER5 and MEMBER6, or perhaps even all MEMBERx files. Please advise if this will be a problem.
# that will be ignored	The # of records that didn't get a hit

Field Name	Specifications, Comments, etc.
Run in	A=Audit mode (generate reports but don't update data) P=Posting mode (update data and generate reports) should default to A and require an entry

Reports

Posting/Auditing

To show old and new values for every record updated by the flood.
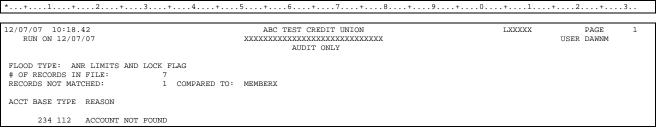- ☐ Sort by account base then type
- ☐ For the 'SET TO:' field you might also show "NO CHANGE" or "FROM ACCOUNT LIST" depending on what they selected on the screen
- ☐ Since some of these update multiple fields within the same flood routine, my thought was to break the group into sections for each value being updated. The sample below is for the ANR Limits and Lock Flag flood which has two values to potentially update.

```
*...+....1....+....2....+....3....+....4....+....5....+....6....+....7....+....8....+....9....+....0....+....1....+....2....+....3..
```

```
12/07/07  10:18.42                          ABC TEST CREDIT UNION                         LXXXXX           PAGE     1
   RUN ON 12/07/07                     XXXXXXXXXXXXXXXXXXXXXXXXXXXXX                                    USER DAWNM
                                                AUDIT ONLY

 FLOOD TYPE:  ANR LIMITS AND LOCK FLAG

 VALUE UPDATED:  NEGATIVE BALANCE LIMIT          SET TO: 03

 ACCT BASE TYPE  OLD VALUE            NEW VALUE

     3443 000   01                    03
          110   01                    03
          112   01                    03
     4997 110   01                    03
     4998 110   03                    03
     7888 110   00                    03

 VALUE UPDATED:  NEGATIVE BALANCE LOCK           SET TO: Y/LOCKED

 ACCT BASE TYPE  OLD VALUE            NEW VALUE

     3443 000   Y                     Y
          110   Y                     Y
          112   N                     Y
     4997 110   N                     Y
     4998 110   N                     Y
     7888 110   Y                     Y

 # OF RECORDS IN FILE:        7
 # OF MATCHES:                6  COMPARED TO:  MEMBERX
```

Exceptions

To show any records in the CU's file that couldn't be updated (account # not found, suffix not found, or based on type "C" where the incoming data to be flooded didn't adhere to validation standards used by the flood program).

```
*...+....1....+....2....+....3....+....4....+....5....+....6....+....7....+....8....+....9....+....0....+....1....+....2....+....3..
```

```
12/07/07  10:18.42                          ABC TEST CREDIT UNION                         LXXXXX           PAGE     1
   RUN ON 12/07/07                     XXXXXXXXXXXXXXXXXXXXXXXXXXXXX                                    USER DAWNM
                                                AUDIT ONLY

 FLOOD TYPE:  ANR LIMITS AND LOCK FLAG
 # OF RECORDS IN FILE:        7
 RECORDS NOT MATCHED:         1  COMPARED TO:  MEMBERX

 ACCT BASE TYPE  REASON

     234 112   ACCOUNT NOT FOUND
```

- ☐ The only other reasons I can think of here besides not finding a match to an account in MASTER is for flood type "C" where the data in the incoming file did not pass the validation tests to allow it to be entered into the database. You could create messages specific to the error (like "AMOUNT TOO LARGE" or "MATCHING VALUE NOT FOUND IN CONFIGURATION") but I'm okay if you want to just use a generic message no matter what the validation problem was, such as: **INVALID DATA IN FILE**