2015 DATA INVESTMENT SYMPOSIUM

UNDERSTANDING CU*BASE DATA STRUCTURES & TOOLS

EXPLORING NEW IDEAS AROUND EXTERNAL DATA WAREHOUSES

FEBRUARY 25, 2015

CU*ANSWERS
A Credit Union Service Organization

DATA INVESTMENT SYMPOSIUM
WHY?

- Data is getting a lot of attention in today's market as one of the building blocks of any good business...buzzwords abound
- Buzzwords are open to interpretation and usually just make people say, "I need to get active about this"
- When they get active, the first thing they need to do is review what they already have, and see what can be maximized as ready for the next step
- Here at CU*Answers we're wondering what the next step is, and what investments our client-owners want to make, directly or indirectly through the CUSO

Investment: Time, time, and more time...
subject mastered, now spend some money

FOCUS GROUP INPUT

ROUND 1: INTRODUCE YOURSELF

- Tell us your name, credit union name, and your position
- Which of these best describes your role:
  - Writing the plan to maximize data?
  - Encouraging others to maximize data?
  - On the front lines, responsible for finding, presenting, and creatively leveraging the data towards action for success?

TODAY'S TOPICS

- Understanding Our Database
- Getting Data Out of CU*BASE
- Pulling External Data Into CU*BASE
- External Data Warehouses

When you think data, what else is there?

UNDERSTANDING OUR DATABASE

UNDERSTANDING OUR INTENTIONS AND THE RESULTS OF YOUR TEAM MEMBERS' WORK USING CU*BASE

CU*BASE: RELATING THE NAME TO THE INTENT

- The name CU*BASE came from the idea that our software would always specialize in being the most comprehensive credit union database we could create
  - Clients have 100% access to the data used to serve members
- It is designed to be the dominant database in a credit union's arsenal of tools and information
  - Using CU*BASE as content management system for related solutions (online and mobile banking, etc.)
  - Using CU*BASE platforms like OTB for foreign data
  - Using CU*BASE to capture metadata about transactions from other networks

UNDERSTANDING YOUR CU*BASE DATA

- We call our database CU*BASE
  - It's also the name of our product and represents our business logic layer
- Our presentation layer is called GOLD
  - There will eventually be an Operator Edition (OE) and Servicer Edition (SE) presentation layer as well
- For each client, we have to create naming routines for where the database lives ("data warehouses")
  - FILExx and FILExxE (where *xx* is your credit union ID)
  - QUERYxx

Later today we'll talk about other data warehouses and how you might see them

TIMING IS EVERYTHING

FILEXX VS. FILEXXE

- One wrinkle in our data management is the way we time-slice data

FILExx

Represents current data and the answers are based on what's happening right now, this month

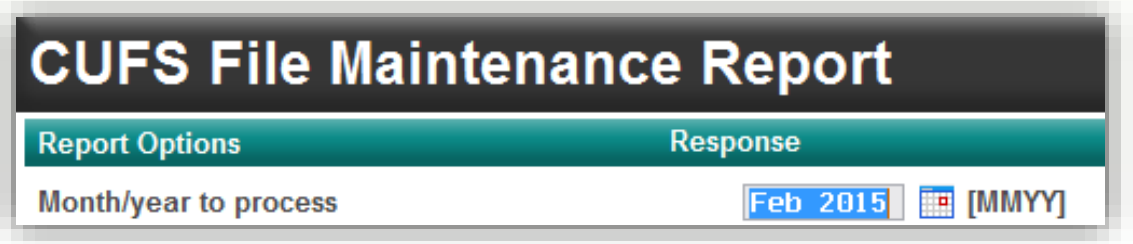
FILExxE

Represents a "snapshot" of data, taken at the end of a month

- It can be difficult if you are trying to trend or compare data with any other time-slice in mind
  - Generally CU*Answers has handled those kinds of data analyses via dashboards and new products like My CU Today
  - You can create time slices by querying the data and storing your own snapshots in your QUERYxx library

POP QUIZ: CAN YOU IDENTIFY WHERE THE DATA LIVES AND THE TIMING FOR THESE OPTIONS?

- If you wanted to see maintenance done on March 3, would the following settings work? No



Hint:

Current Month File Name	*End-of-Month File Name*
CUFMNT	ECU*mmyy*

Tip: Find this file name via online help (search "commonly") or MNQURY #2

- During March, you run the report as of Feb 2015
  - Where is the file located that holds the data? FILExxE
  - Which file name are we using from that location? ECU0215
  - What time-slice are we looking at? As of EOM 2/28/2015
- Can you change the ECU0215 file after February 28, 2015? No

POP QUIZ: CAN YOU IDENTIFY WHERE THE DATA LIVES AND THE TIMING FOR THESE OPTIONS?

- On March 3, if you want information from 1/31/2015, could you see it with these settings? Yes

General Ledger Trial Balance By Date

Report Options	Response
Period beginning	Jan 15, 2015 [MMDDYYYY]
Period ending	Mar 03, 2015 [MMDDYYYY]

Hint:

Current Month File Name	*End-of-Month File Name*
GLHIST	EGS*mmyy*

- Could you see information for 2/28/2015 with these settings? Yes
- If you back-dated a journal entry on March 2nd, effective for 2/25/2015, could you see it? Yes
- Same question, but what if you Queried the EGS0215 file? No

THERE'S AN EXCEPTION FOR EVERY RULE...BUT FOCUS ON THE RULES

- To be effective data analysts, you have to learn the nuances of the database and how the day-to-day processes use the data
  - Where do they pull data from?
  - Where do they put data after it's changed?
  - What is the result of maintenance on archived or time-sliced presentations of the data?
  - Who controls the data, and where is it?
- You need to be able to match up the tools or screens your team members use with the data that is being input, maintained, or generated

Learning takes time...it takes experiencing how the software is used and what your team members intend to do

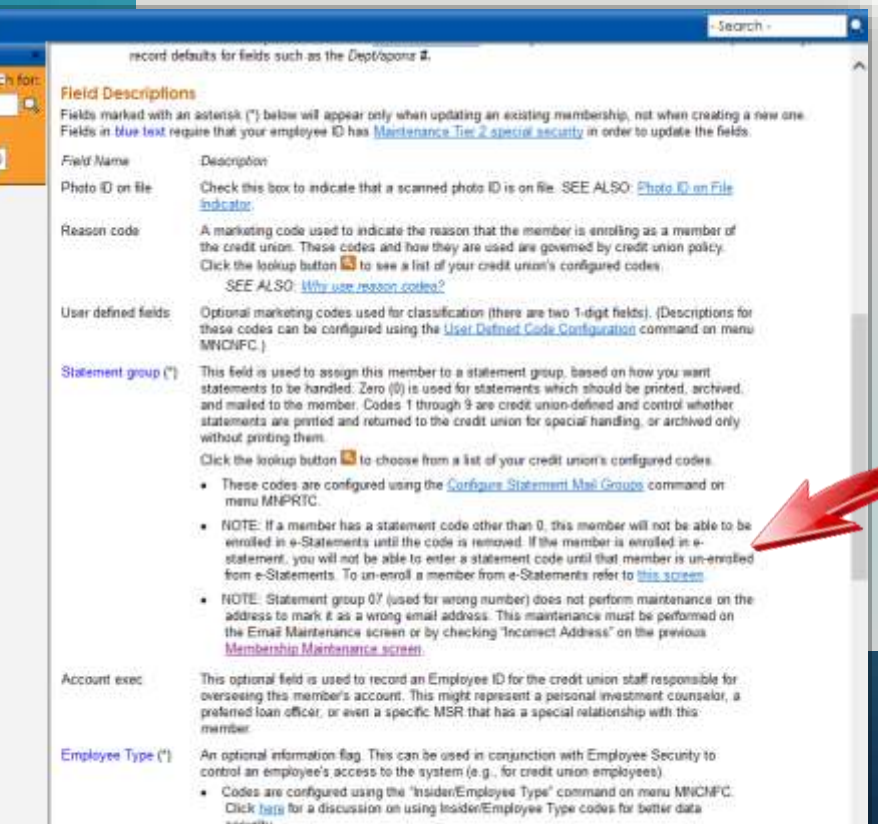
UNDERSTANDING OUR DATABASE

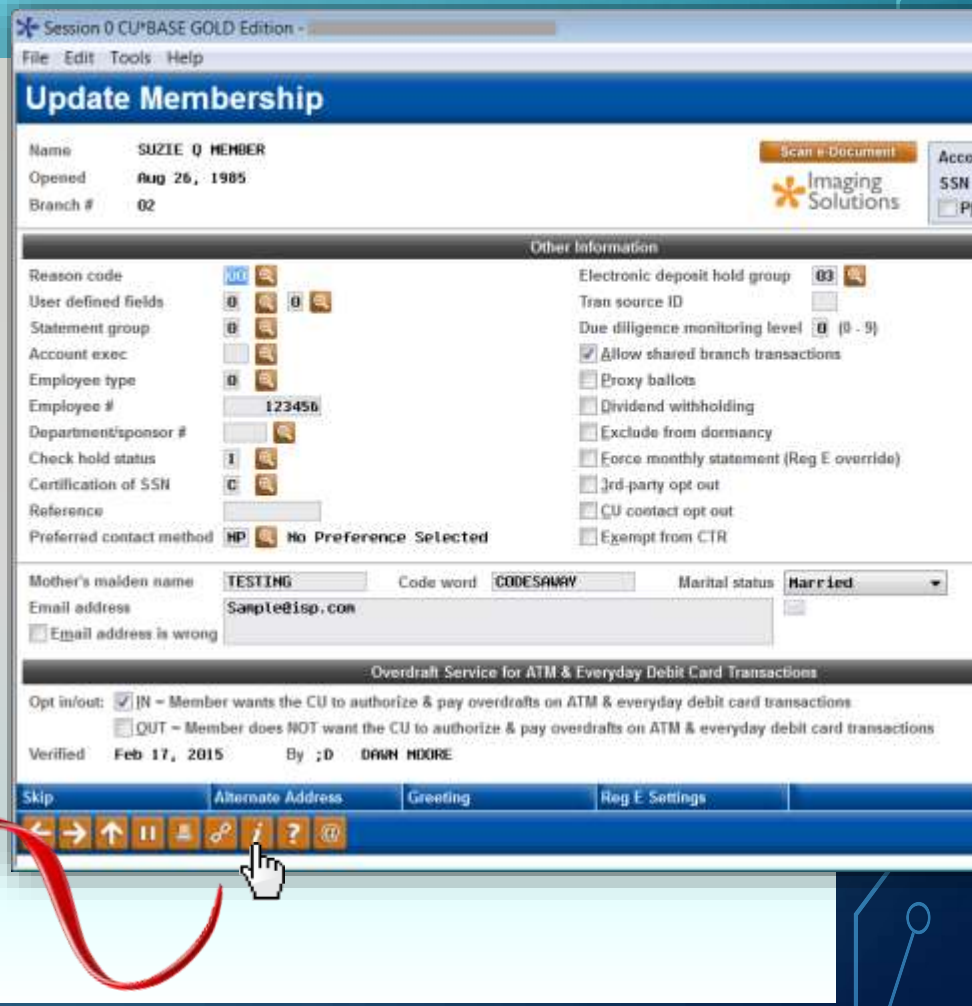
TOOLS YOU ALREADY HAVE

CU*BASE HAS BEEN AGGRESSIVELY DOCUMENTED

HAVE YOU AGGRESSIVELY WORKED TO UNDERSTAND IT?

- If you can see it, it's in the database and you can access it



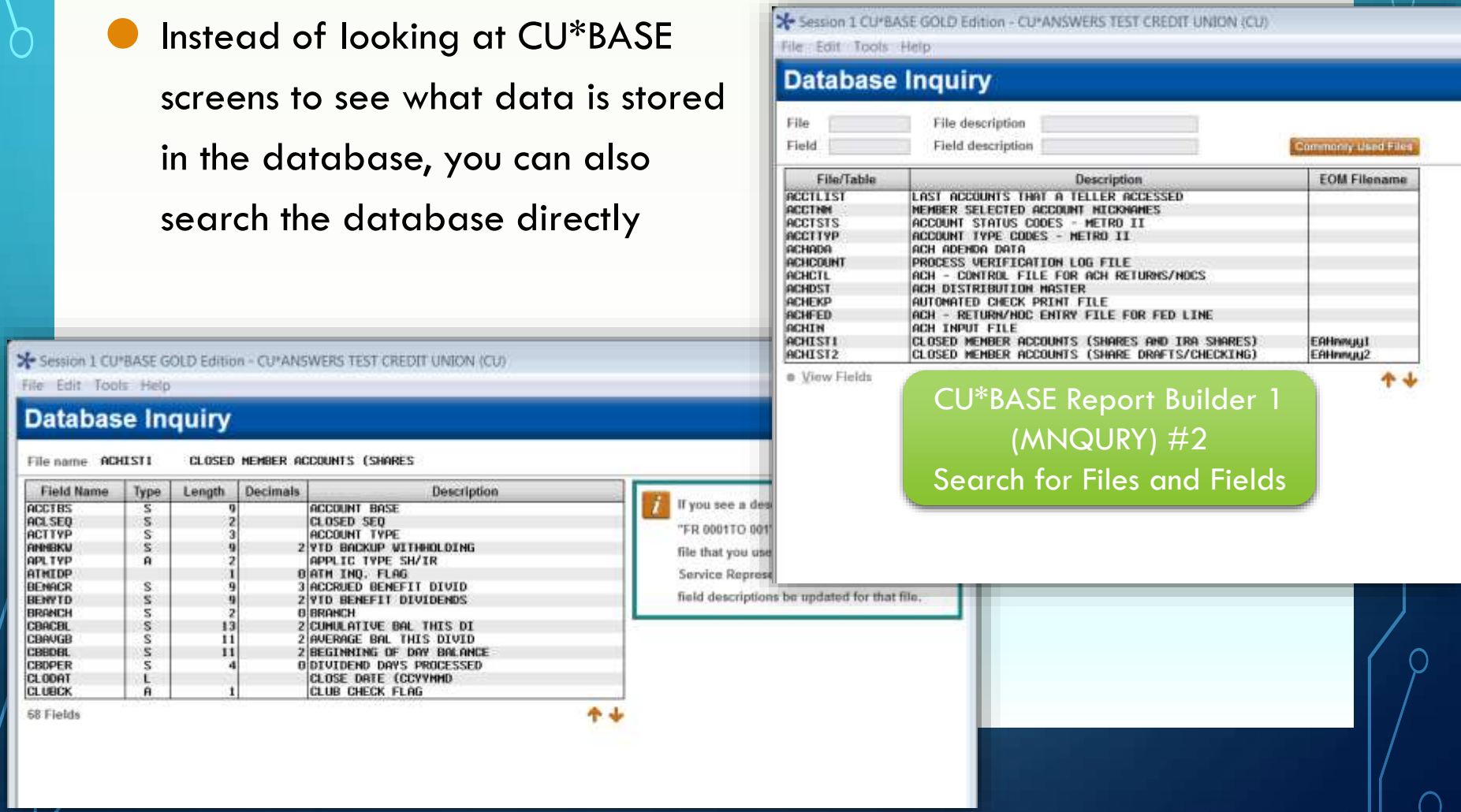


When you use the software, you are surrounded by database tips all day long

A TOOL FOR THE DATA ANALYST

SEARCHING THE DATABASE IN ITS RAW FORM

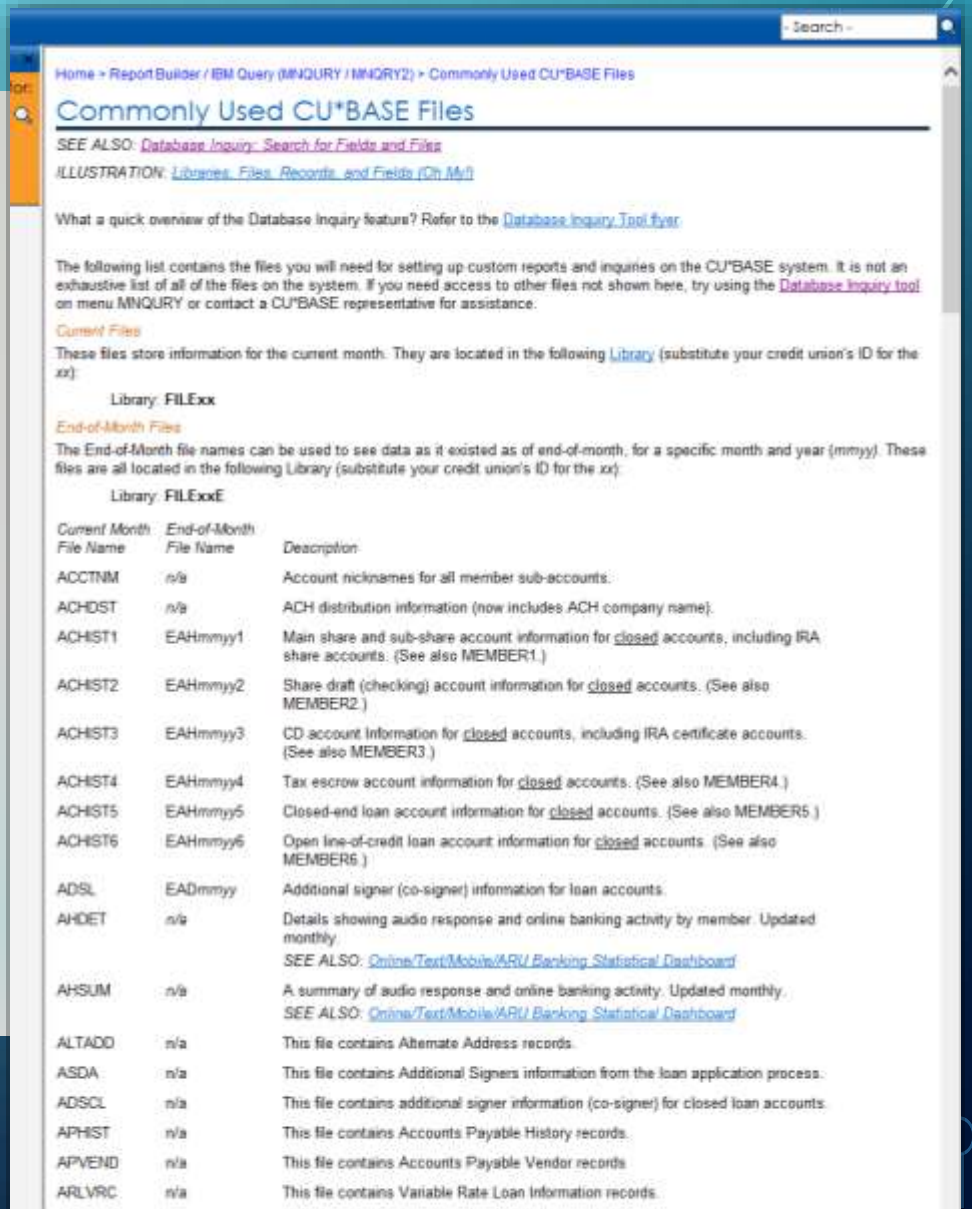
- Instead of looking at CU*BASE screens to see what data is stored in the database, you can also search the database directly



REMEMBER THE 80/20 RULE

- Most of the time you're looking for files that fit the 80/20 rule
  - 20% of the files contain data relevant to working with members ... representing 80% of the inquiries you'll ever need to do

Commonly Used Files



Home > Report Builder / IBM Query (MNQURY / MNQRY2) > Commonly Used CU*BASE Files

Commonly Used CU*BASE Files

SEE ALSO: Database Inquiry: Search for Fields and Files

ILLUSTRATION: Libraries, Files, Records, and Fields (Oh My!)

What a quick overview of the Database Inquiry feature? Refer to the Database Inquiry Tool flyer.

The following list contains the files you will need for setting up custom reports and inquiries on the CU*BASE system. It is not an exhaustive list of all of the files on the system. If you need access to other files not shown here, try using the Database Inquiry tool on menu MNQURY or contact a CU*BASE representative for assistance.

Current Files

These files store information for the current month. They are located in the following Library (substitute your credit union's ID for the xx):

Library: **FILExx**

End-of-Month Files

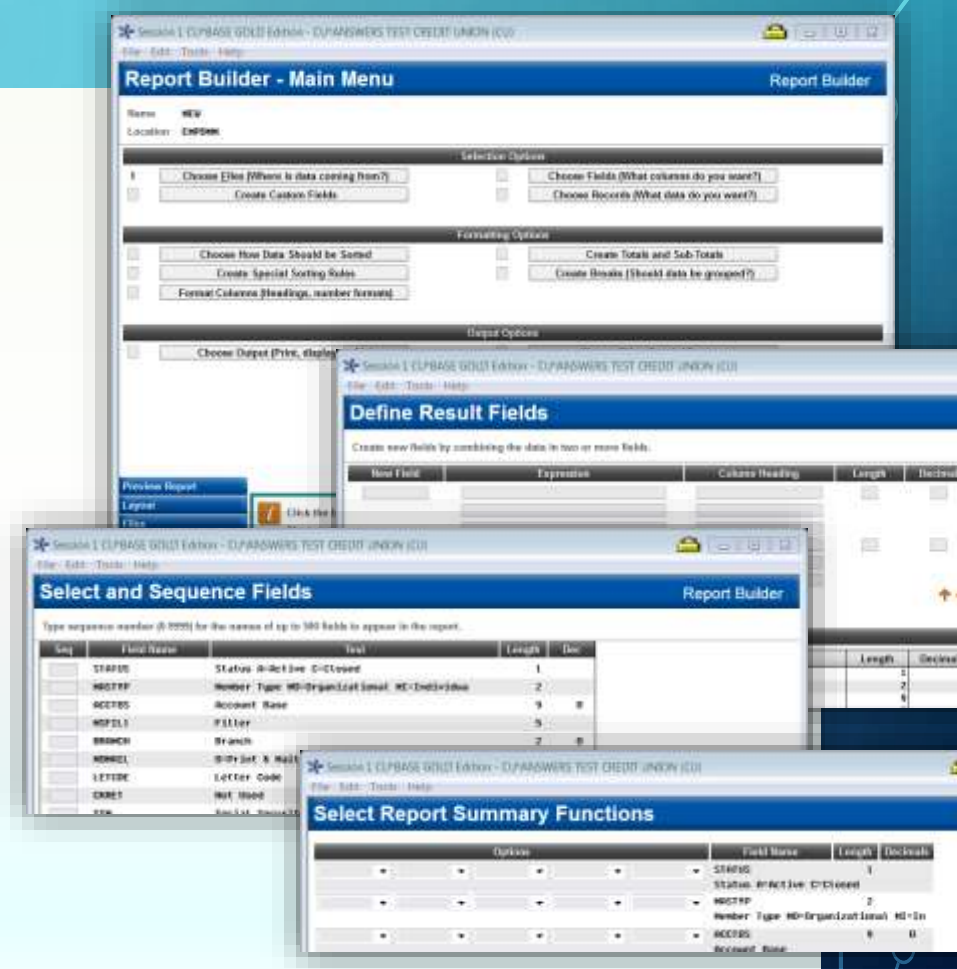
The End-of-Month file names can be used to see data as it existed as of end-of-month, for a specific month and year (mmyy). These files are all located in the following Library (substitute your credit union's ID for the xx):

Library: **FILExxE**

Current Month File Name	*End-of-Month File Name*	*Description*
ACCTNM	n/a	Account nicknames for all member sub-accounts.
ACHDST	n/a	ACH distribution information (now includes ACH company name).
ACHIST1	EAHmmyy1	Main share and sub-share account information for closed accounts, including IRA share accounts. (See also MEMBER1.)
ACHIST2	EAHmmyy2	Share draft (checking) account information for closed accounts. (See also MEMBER2.)
ACHIST3	EAHmmyy3	CD account information for closed accounts, including IRA certificate accounts. (See also MEMBER3.)
ACHIST4	EAHmmyy4	Tax escrow account information for closed accounts. (See also MEMBER4.)
ACHIST5	EAHmmyy5	Closed-end loan account information for closed accounts. (See also MEMBER5.)
ACHIST6	EAHmmyy6	Open line-of-credit loan account information for closed accounts. (See also MEMBER6.)
ADSL	EADmmyy	Additional signer (co-signer) information for loan accounts.
AHDET	n/a	Details showing audio response and online banking activity by member. Updated monthly. *SEE ALSO:* Online/Text/Mobile/ARU Banking Statistical Dashboard
AHSUM	n/a	A summary of audio response and online banking activity. Updated monthly. *SEE ALSO:* Online/Text/Mobile/ARU Banking Statistical Dashboard
ALTADD	n/a	This file contains Alternate Address records.
ASDA	n/a	This file contains Additional Signers information from the loan application process.
ADSCL	n/a	This file contains additional signer information (co-signer) for closed loan accounts.
APHIST	n/a	This file contains Accounts Payable History records.
APVEND	n/a	This file contains Accounts Payable Vendor records.
ARLVRC	n/a	This file contains Variable Rate Loan Information records.

CURIOSITY MAKES THE CAT

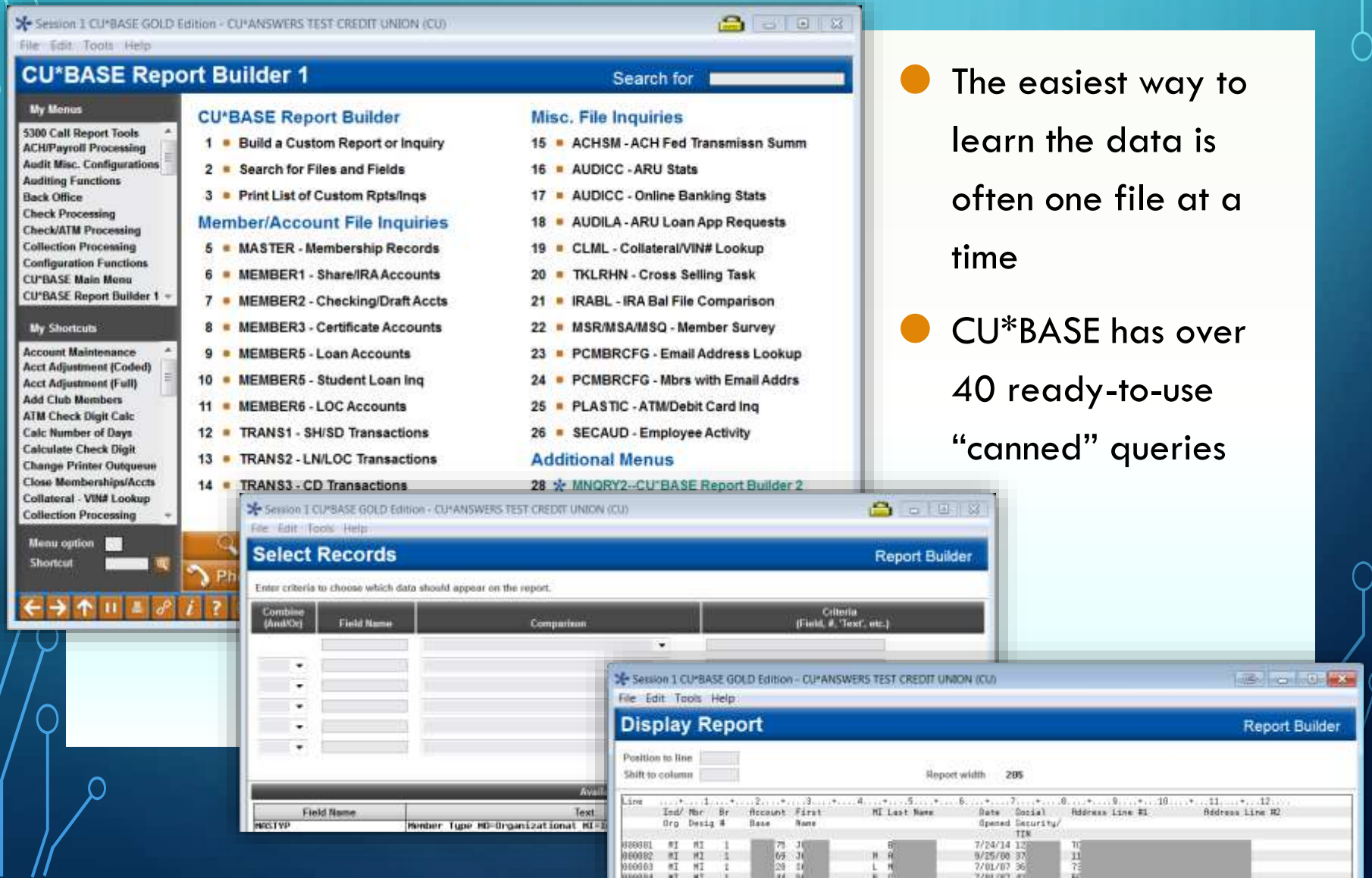
- If you're not curious about what data means to your organization, none of these tools will help you
- The best way to understand a database is to ask questions of that database
  - The search for answers is the work that teaches you the practical applications for the key data about your credit union



It's only hard because it's different...but every data analyst had to learn a new tool along the way

LEARN THROUGH SMALL WINS

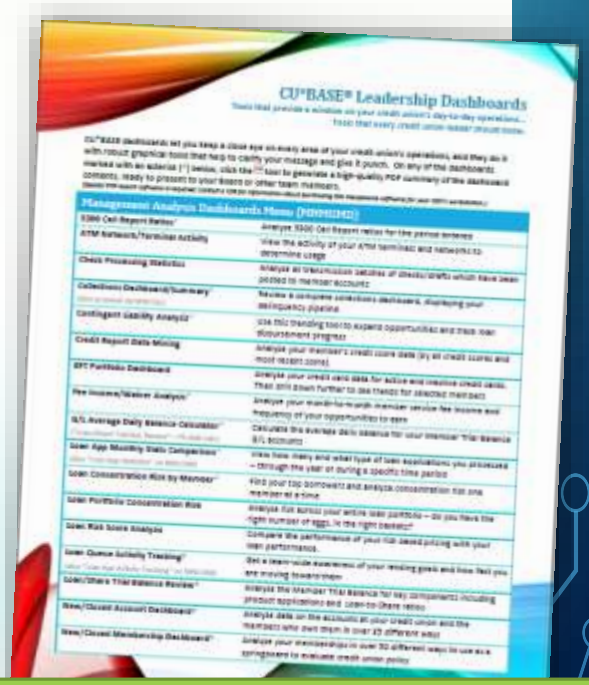
HOW MANY COOL REPORTS CAN YOU GENERATE FROM ONE FILE?



- The easiest way to learn the data is often one file at a time
- CU*BASE has over 40 ready-to-use "canned" queries

IT GETS TRICKIER FROM THERE

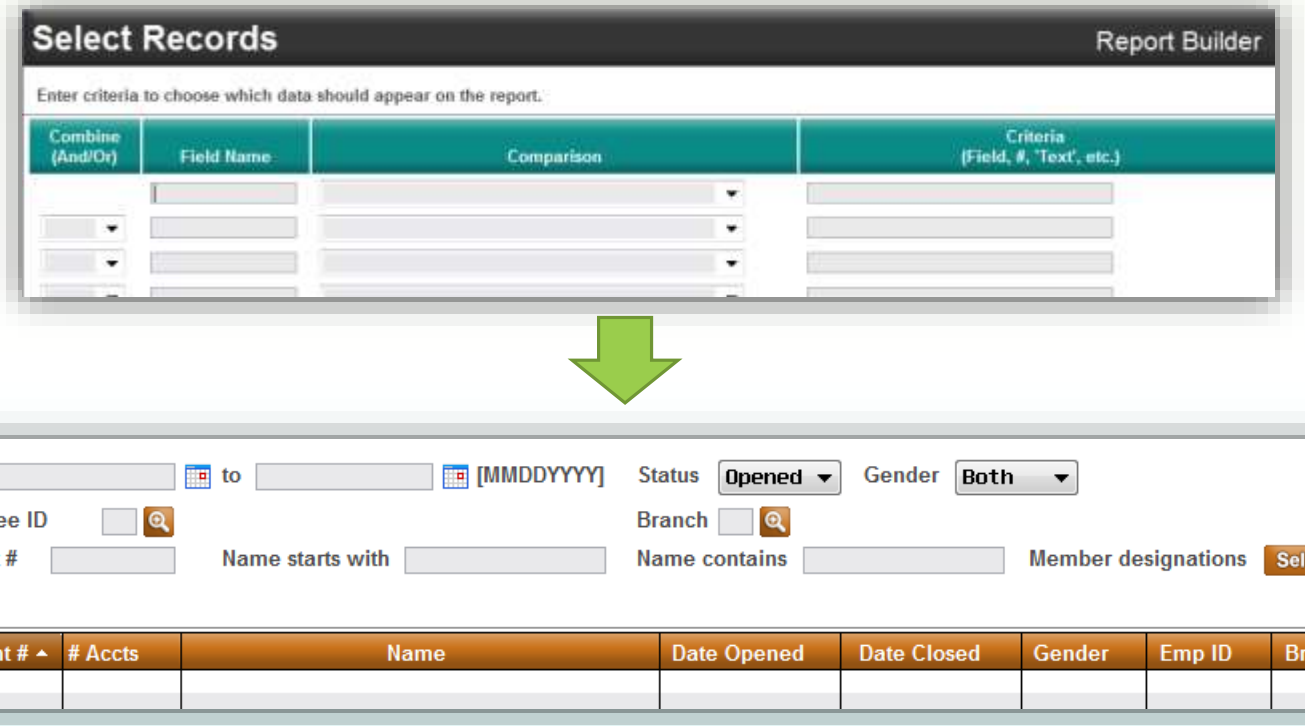
- Joining files takes experience, and when you have to generate new files to use as the basis for extended queries, it can get even more complex
- Dashboards were designed so CU*BASE users can easily see the results of complicated queries of the CU*BASE database
- Dashboards and even reports bring the relevant data together and allow it to be filtered to find information quickly and precisely



http://www.cuanswers.com/pdf/cb_ref/Leadership_Dashboards.pdf

USE A DASHBOARD TO KICK-START YOUR ANALYSIS

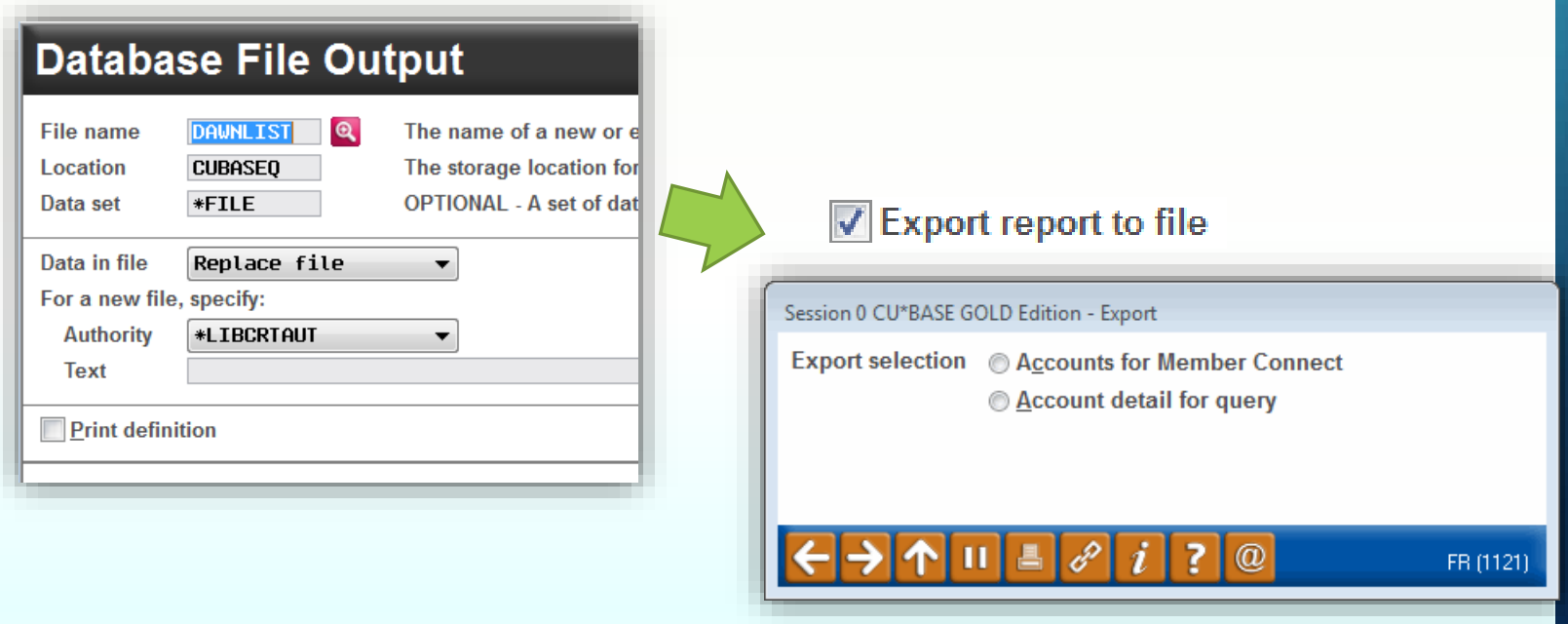
- Dashboards are ready-made tools with extensive filtering built in



By filtering, we mean selecting the records to gather the data you are looking for

USE A DASHBOARD TO KICK-START YOUR ANALYSIS

- When you identify the data you wish to work with, dashboards can help you with another tricky Query feature



Can you teach everyday CU*BASE users to generate the data they want to analyze and give you a file to start with?

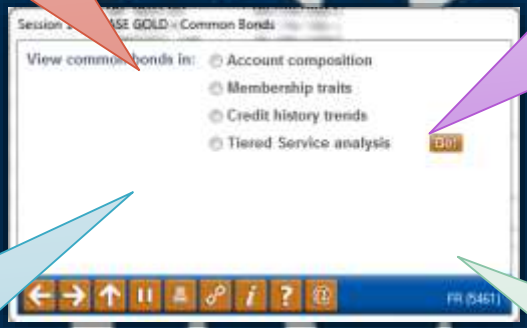
WHAT IS THE DIFFERENCE BETWEEN HUNTING AND PECKING FOR DATA AND ANALYZING IT?

Account Composition

- An analytical tool to understand what accounts this crowd has with you
- Prepares the analyst to talk to the crowd

Membership Traits

- An analytical tool to understand what membership traits has in common
- Prepares the analyst to talk to the crowd



Credit History Trends

- An analytical tool to better understand the creditworthiness of this crowd
- Prepares the analyst to talk to the crowd

Tiered Service Analysis

- An analytical tool to show the relationships and penetration you have with this crowd
- Prepares the analyst to talk to the crowd

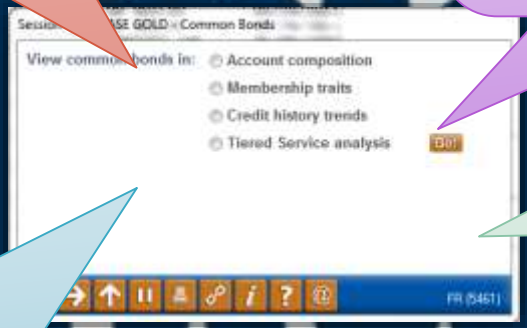
WHAT IS THE DIFFERENCE BETWEEN HUNTING AND PECKING FOR DATA AND ANALYZING IT?

Account Composition

- **10** analysis screens
- **23** tables with answers about membership traits, and **14** graphs
- PDF, Excel and comma-delimited downloads

Membership Traits

- **5** analysis screens
- **17** tables with answers about membership traits, and **17** graphs
- PDF, Excel and comma-delimited downloads



Tiered Service Analysis

- **6** analysis screens
- **44** analyzed products and services
- PDF, Excel and comma-delimited downloads

Credit History Trends

- Delivers a list of members with credit scores
- **1** analysis screen with **5** tables and additional drill-downs
- PDF, Excel and comma-delimited downloads

Coming in 15.0: You won't even need to use a dashboard – create a file with account bases and look at their common bonds

POP QUIZ: HOW MUCH ATTENTION HAVE YOU PAID TO THE CURRENT TOOLS TO UNDERSTAND YOUR DATA?

- How much time do data specialists spend with their CU team members to understand where data comes from and how it's used?
- How much time have you spent using the database inquiry to understand what's available from another point of view?
- Off the top of your head, how many of the most commonly-used files can you list and link to 80% of the inquiries you'll ever get?
- Can you do simple single-file queries? Have you mastered the canned queries?
- Do you know why dashboards were created and how they can help you as an analyst?

UNDERSTANDING OUR DATABASE

NEW TOOLS WE'RE WORKING ON

IMPROVING THE DATABASE INQUIRY

- A renewed interest in data awareness by credit unions has inspired us to take the database inquiry to a new level
  - New Database Search tool slated for the 15.2 release (October)
  - Comes from the "metadata" (data about data)
- More than just a fancy new screen, the project also includes a significant review of all database files and fields and the information we present *about* the data (along with what's already in online help)
  - Moving from DDS to DDL

Let's take a look...

Session 3 CU*BASE GOLD - CU*ANSWERS TEST CREDIT UNION (CU)

File Edit Tools Help

Coming in the 15.2 release

Search for Database Tables (Files) and Columns (Fields)

Search for (•) Column ( ) Table containing [ ] in the (•) Name ( ) Description

[ ] Show exact matches only Jump to table name starting with [ ] Number of tables 706

Action		Table (File)	Table (File) Description	EOM Table (File) Name
View	Learn More	ACCNNFLT	BLOCKED NICKNAMES FILE	
View	Learn More	ACCTLIST	Last Accounts that a teller accessed	
View		ACCTNM	Member Selected Account Nicknames	
View		ACHADA	ACH Adenda Data	
View		ACHCTL	ACH - Control File for ACH Returns/Nocs	
View		ACHDST	ACH Distribution Master	
View		ACHEKP	Automated Check Print File	
View		ACHFED	ACH - Return/NOC Entry File for Fed Line	
View		ACHIN	ACH Manual Input File	
View	Learn More	ACHIST1	Closed Member Accounts (Shares and IRA Shares)	EAHmmyy1
View		ACHIST2	Closed Member Accounts (Share Drafts/Checking)	EAHmmyy2
View		ACHIST3	Closed Member Accounts (Certificates)	EAHmmyy3
View		ACHIST4	Closed Member Accounts (Tax Escrow)	EAHmmyy4
View		ACHIST5	Closed Member Accounts (Loans - Closed End)	EAHmmyy5
View		ACHIST6	Closed Member Accounts (Loans - Line of Credit)	EAHmmyy6
View		ACHPC	ACH PC File for Magic Writer	
View		ACHPST	ACH Post File	

BT (5649) 2/17/15

Session 3 CU*BASE GOLD - CU*ANSWERS TEST CREDIT UNION (CU)

File Edit Tools Help

Coming in the 15.2 release

Columns (Fields) in this Database Table (File)

Table (File) name ACHIST1 Closed Member Accounts (Shares and IRA Shares) Number of columns 68

Action	Column (Field) Name	Description	Type	Total Length	Decimal Places
	STATUS	Status C=Closed S=Suspended	CHAR	1	
Learn More	APLTYP	Applic Type SH/IR	CHAR	2	
	ACCTBS	Account Base	NUMERIC	9	0
	ACTTYP	Account Type	NUMERIC	3	0
	ACLSEQ	Closed Seq	NUMERIC	2	0
	CORPID	Corp ID	NUMERIC	2	0
	SAVLN	S=Share L=Loan	CHAR	1	
	BRANCH	Branch	NUMERIC	2	0
	CURBAL	Current Account Balance	NUMERIC	11	2
	GLACTP	G/L Account	NUMERIC	5	2
	LSTTRNDAT	Last Tran Date (CCYYMMDD)	DATE	10	
	OPENDAT	Open Date (CCYYMMDD)	DATE	10	
	LSTMNTDAT	Last Maint Date (CCYYMMDD)	DATE	10	
	CLODAT	Close Date (CCYYMMDD)	DATE	10	
	LETCDE	Letter Code	CHAR	3	
	COLLID	Coll ID	CHAR	2	
Learn More	RSNCDEOPN	Open Reason Code	CHAR	2	
Learn More	RSNCDECLO	Close Reason Code	CHAR	2	
	ANNBKW	YTD Backup Withholding'Total	NUMERIC	9	2

BT (5650) 2/17/15

SIDEBAR...COMING IN 2016

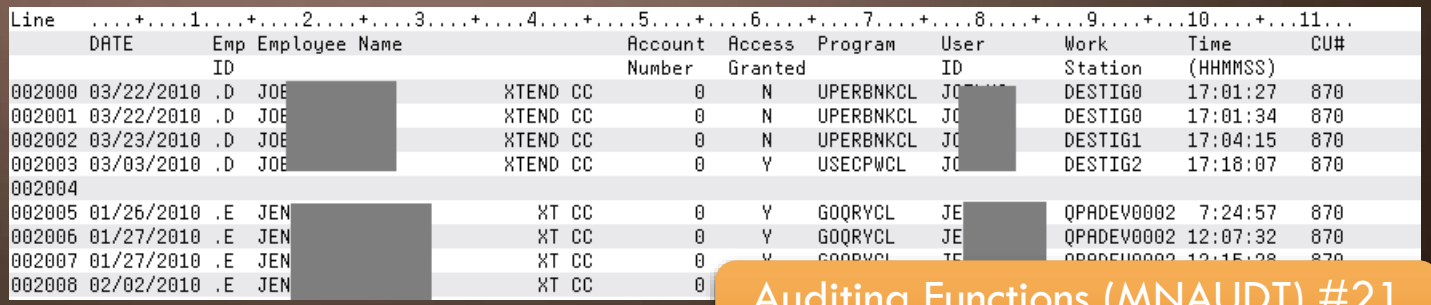
Say goodbye to "menus" and say hello to a new way to search for CU*BASE tools

Serving the Google generation: Searching is the new norm

http://www.cuanswers.com/resources/kitchen/revamping-the-cubase-menu-system/

INSPIRED BY BIG DATA: UNDERSTANDING WHAT EMPLOYEES DO

- What kind of operational data analysis might you do if you could tell exactly what features employees are using, the frequency of use, and what features they try to use but can't?
- Now take that up a notch and imagine seeing how peer credit unions use the software, and then think about how we will use the data for creating and retiring tools?



Line	DATE	Emp ID	Employee Name		Account Number	Access Granted	Program	User ID	Work Station	Time (HHMMSS)	CU#
002000	03/22/2010	.D	JOE	XTEND CC	0	N	UPERBNKCL	JO	DESTIG0	17:01:27	870
002001	03/22/2010	.D	JOE	XTEND CC	0	N	UPERBNKCL	JO	DESTIG0	17:01:34	870
002002	03/23/2010	.D	JOE	XTEND CC	0	N	UPERBNKCL	JO	DESTIG1	17:04:15	870
002003	03/03/2010	.D	JOE	XTEND CC	0	Y	USECPWCL	JO	DESTIG2	17:18:07	870
002004											
002005	01/26/2010	.E	JEN	XT CC	0	Y	GOQRYCL	JE	QPADEV0002	7:24:57	870
002006	01/27/2010	.E	JEN	XT CC	0	Y	GOQRYCL	JE	QPADEV0002	12:07:32	870
002007	01/27/2010	.E	JEN	XT CC	0						
002008	02/02/2010	.E	JEN	XT CC	0						

Auditing Functions (MNAUDT) #21
Audit Insider/Employee Activity

M-UP IS THE NEXT BIG DATABASE UPGRADE

- The follow-up to FEP, this is a project with our clients to rethink data about members as people
- It's not just about what to store or how big the fields should be, it's also about incorporating new concepts about data management from our programming teams

LEARNING THE NEW LINGO

TO-MAY-TO, TO-MAH-TO

MUP
REFRESHING: MEMBERSHIP DATA UPDATE

Flashcards!

File ↓ **Table**

Record ↓ **Row**

Field ↓ **Column**

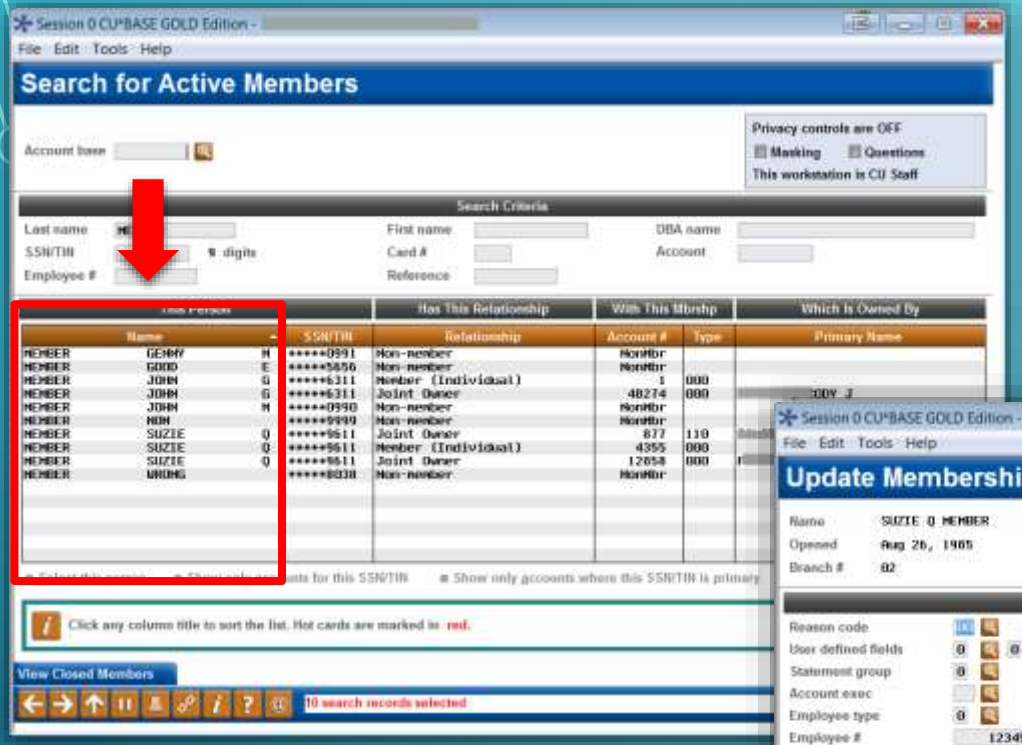
Library ↓ **Collec-tion**

First	Last	City	Opened
John	Doe	Grand Rapids	01/25/2003
Mary	Member	Kalamazoo	10/04/1978
Suzie	Quzie	Timbuctu	05/30/1995

Type	DivApl	Opened	Balance
012	CK	02/15/2013	1,397.07
012	CK	09/04/2001	473.72
013	VP	11/22/1999	14,332.34

	Description	Last Used
001	VEHICLE REFINANCE	05/12/2004
012	ONE-TIME LOAN	11/22/1999
013	STOCK SECURED LOC	09/04/2001

WHEN IS A "COLUMN" NOT A COLUMN?



The grammar can be a bit of a challenge

But when in the context of mining the CU*BASE database, don't be surprised to see the new terms begin popping up!

POP QUIZ: NAME 5 CHANGES YOUR CU NEEDS TO BECOME DATA-ENGAGED

- How could you test the level of data engagement you have among your team members?
- Does your credit union have some form of cost-reward analysis for hunting for data insight?
- What would happen if you pushed back on data request projects and distributed more of the work in getting data out of the system?
- Have you checked out the new **Building the Factory** toolkits from CMS? Do you know what the phrase "jobs to be done" means?
- If CU*Answers would do anything you wanted related to data, what would it be?

FOCUS GROUP INPUT

ROUND 2: RANK YOUR CREDIT UNION

- Rank your credit union from 1 to 5 (5 being highest) as to your credit union's effectiveness in managing data for success
- Tell the group 2 things you think you could do to raise this ranking

GETTING DATA OUT OF CU*BASE

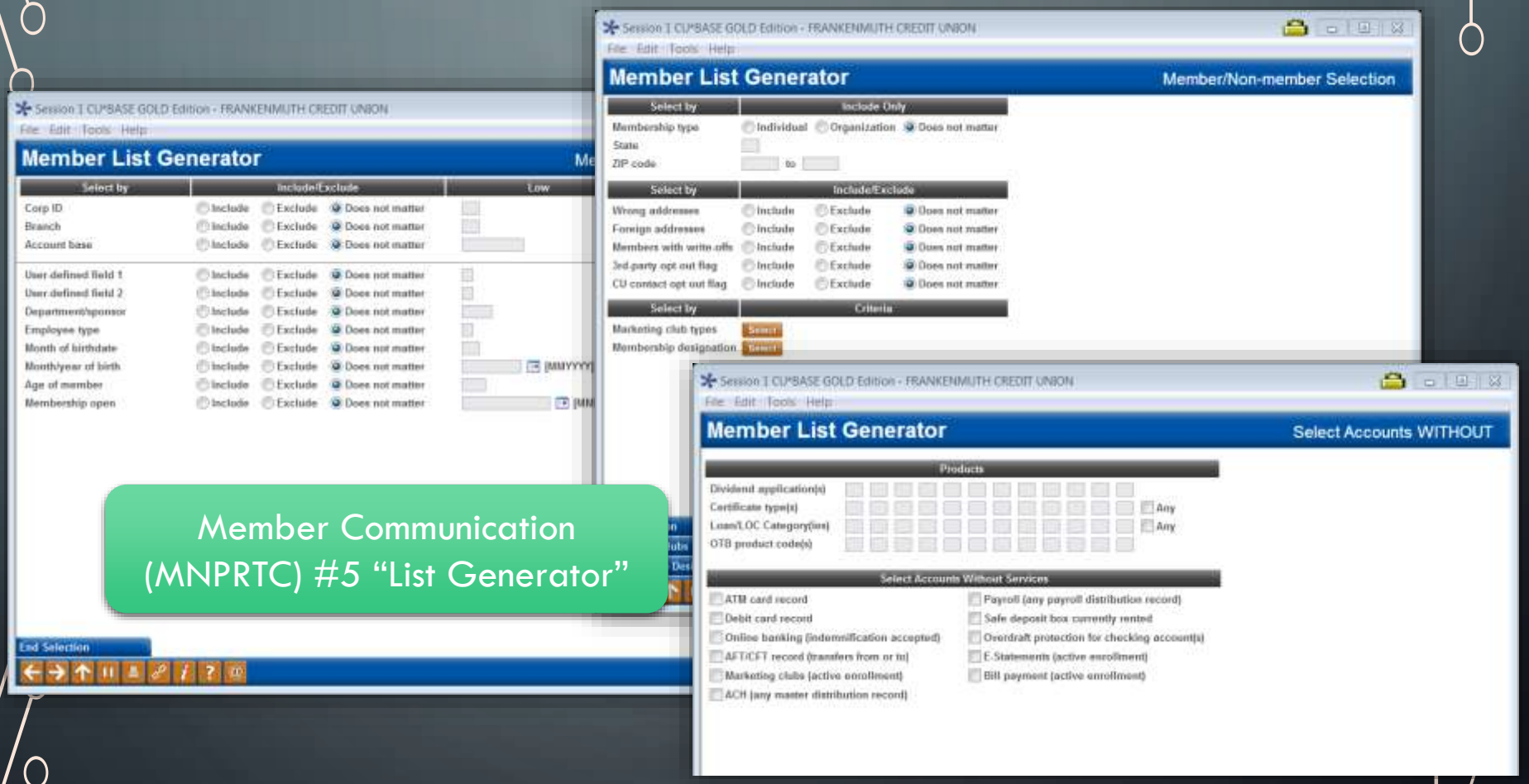
TOOLS YOU ALREADY HAVE

GETTING DATA OUT OF CU*BASE

- When it comes to get data out of a database, people seem to want everything to happen via today's hottest method
  - Reports, query, or direct downloads, click-and-drag FTP exchanges, etc.
- Teams have a tendency to throw the baby out with the wash and re-train everyone to the latest thing
- Have you taken the time to analyze which method fits a specific team? A specific request?
  - How have you mapped your need to move data from inside a database to the myriad places and reasons that need data?

Let's consider one of the most aggressive filters in CU*BASE today for finding specific opportunity...

TALK ABOUT YOUR FILTERS...



Member Communication (MNPRTC) #5 “List Generator”

One of the next big projects for the Analytics programming team

EXPORTING DATA FROM CU*BASE

- There are currently **75** places in CU*BASE where you can export data, graphs, and analyses directly to your PC – and more are added with every release
  - PDF *(more on this in a moment...)*
  - Excel
  - Comma-delimited text file

www.cuanswers.com
search for "PDF"

Session 0 CU*BASE GOLD Edition - FRANKENMUTH CREDIT UNION

File Edit Tools Help

NSF Analysis (Summary) Occurrences

Year 2014 Highlight values more than 20 % Above or Below the monthly avg. for the year.

Highlighted results: 30 out of 108 (27 %)

Export data from this panel to a PDF file.

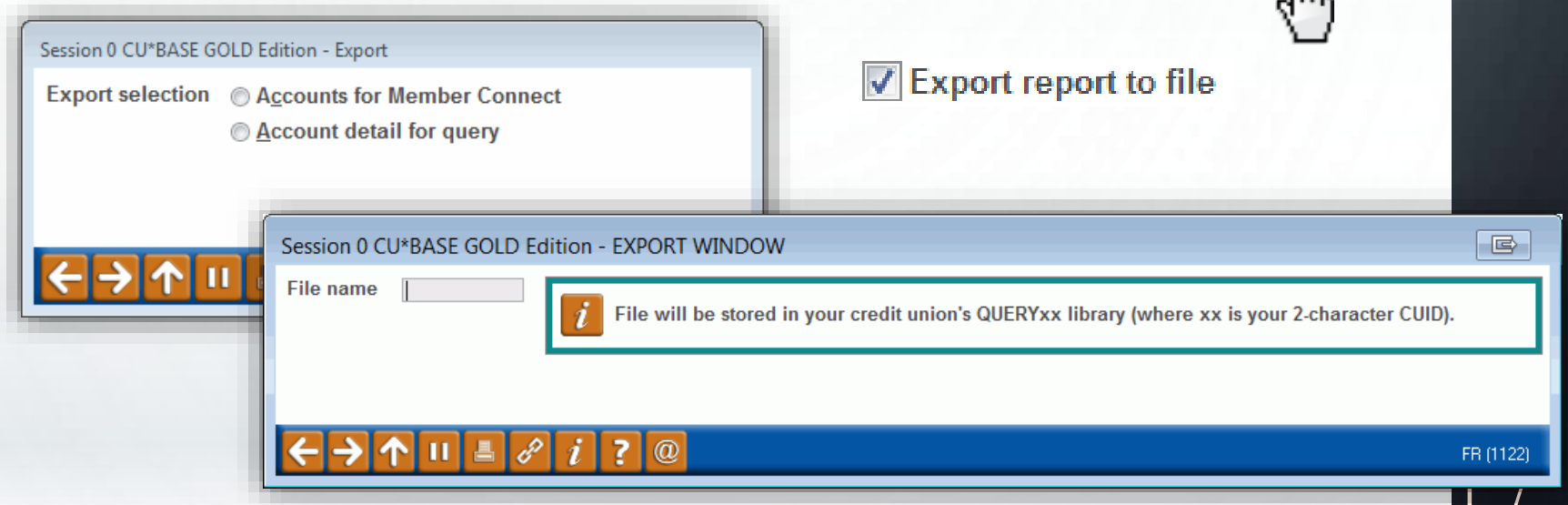
BELOW BAL

Process	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
CHECKS	1,120	982	920	883	1,004	1,036	1,051	957	1,033	1,091	942	1,115
DEBIT	1,807	1,468	1,549	1,615	1,901	2,005	1,865	1,878	2,210	2,248	2,181	2,718
ATM	2	4	8	13	4	11	9	11	9	13	11	7

What percentage of your team members can get data out of the system directly?

EXPORTING DATA FROM CU*BASE

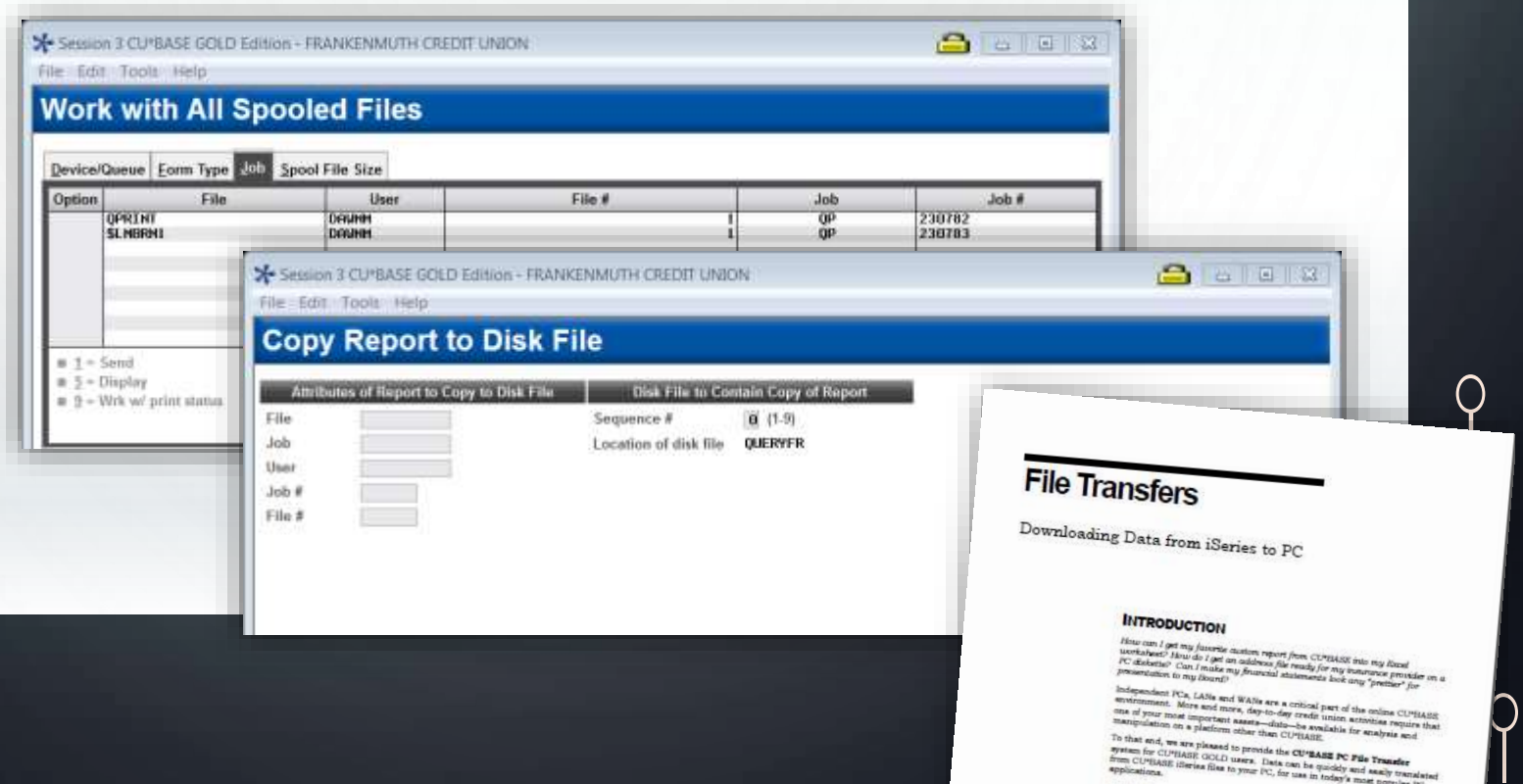
- There are currently **100** CU*BASE reports, dashboards, and inquiries where you can export data for Member Connect or with customized Queries



Learn more in online help (search "export")

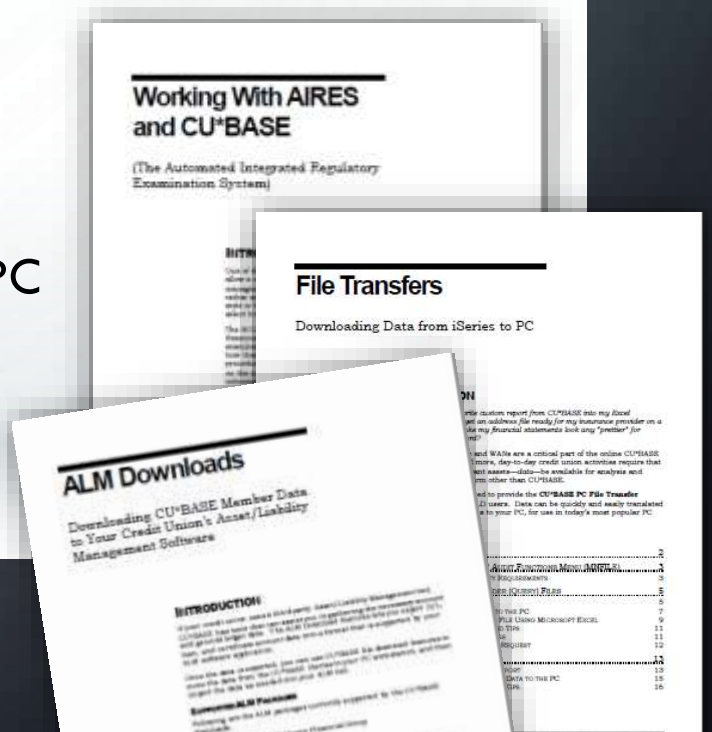
DOWNLOADING A SPOOLED REPORT

- Any report you can print can also be downloaded to a text format that can be pulled into Excel or Word and dressed up for presentation or used for additional analysis



OTHER TOOLS THAT MOVE DATA OUT OF CU*BASE

- ALM Downloads
  - McQueen by McQueen Financial Group
  - CUPRO by CUNA Mutual Group
  - PROFITStar® (through a partnership with CUNA Mutual Group)
  - CU/ALM-Ware® by Brick & Associates
  - Databridge by Compass
- AIRES Files
- Direct file transfers from QUERYxx to your PC
- 5300 file transfers direct to the NCUA site
- CTR forms to FinCEN



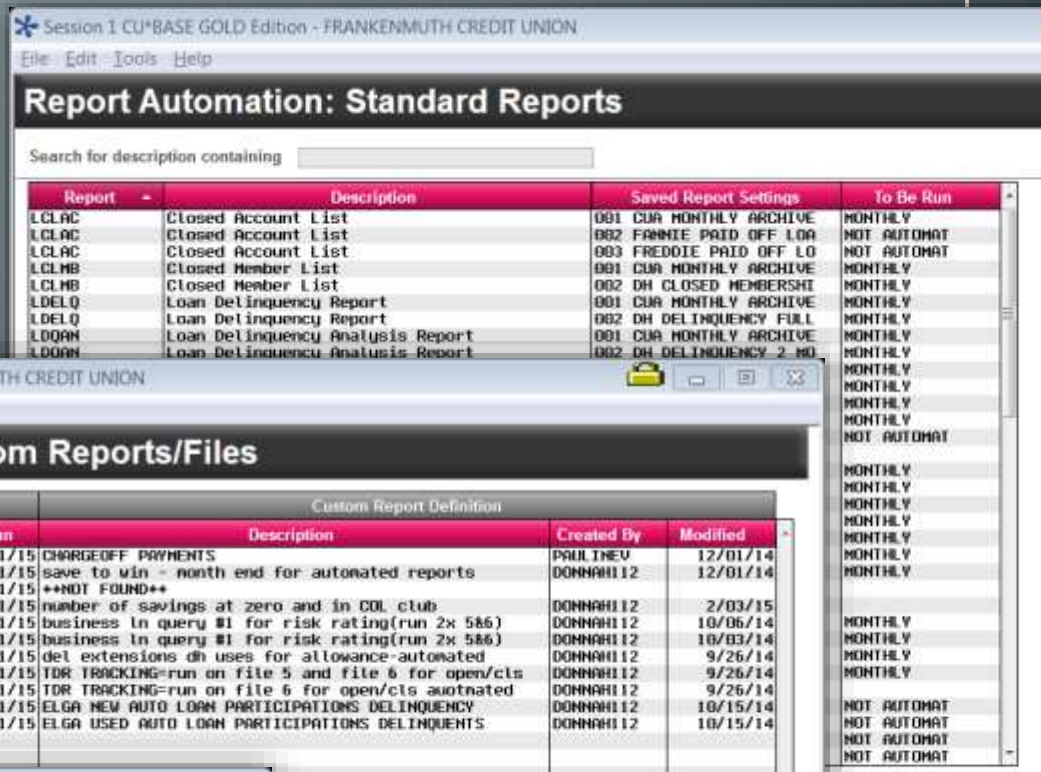
EXPORTING DATA TO THIRD PARTIES

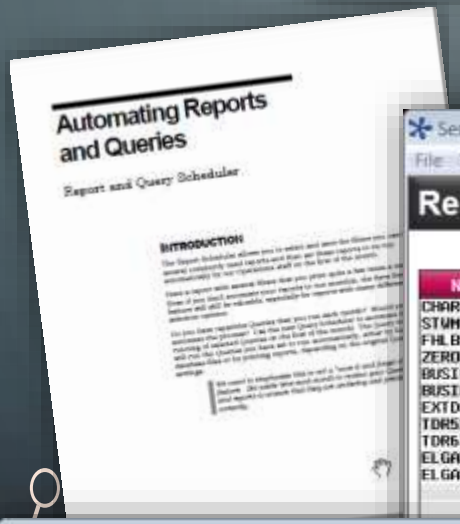
- Daily member notice data to print vendors
- Reports to archival servers
- Statement data to print vendors and archival servers (member, credit card, mortgage)
- OTB payment sweeps (mortgage loans, credit cards, etc.)
- Rewards checking daily vendor extracts (account info, transactions)
- Membership, account and transaction extracts (Marquis)
- ACH returns (Feds and third-party vendors)
- Member Reach messages
- Bill payment enrollments and maintenance
- ATM/debit/credit card orders and maintenance
- ATM/debit/credit card positive balance files (PBFs)
- Member Connect (CUNA and SerTech)
- CUNA Loan Tracker
- Member check/draft returns
- Corporate check reconciliations
- Loan lien information (Dealer Track)
- Loan CPI (insurance) information
- Escrow and real estate data (InfoPro)
- CASS certification (send addresses for certification)
- Credit bureau reporting

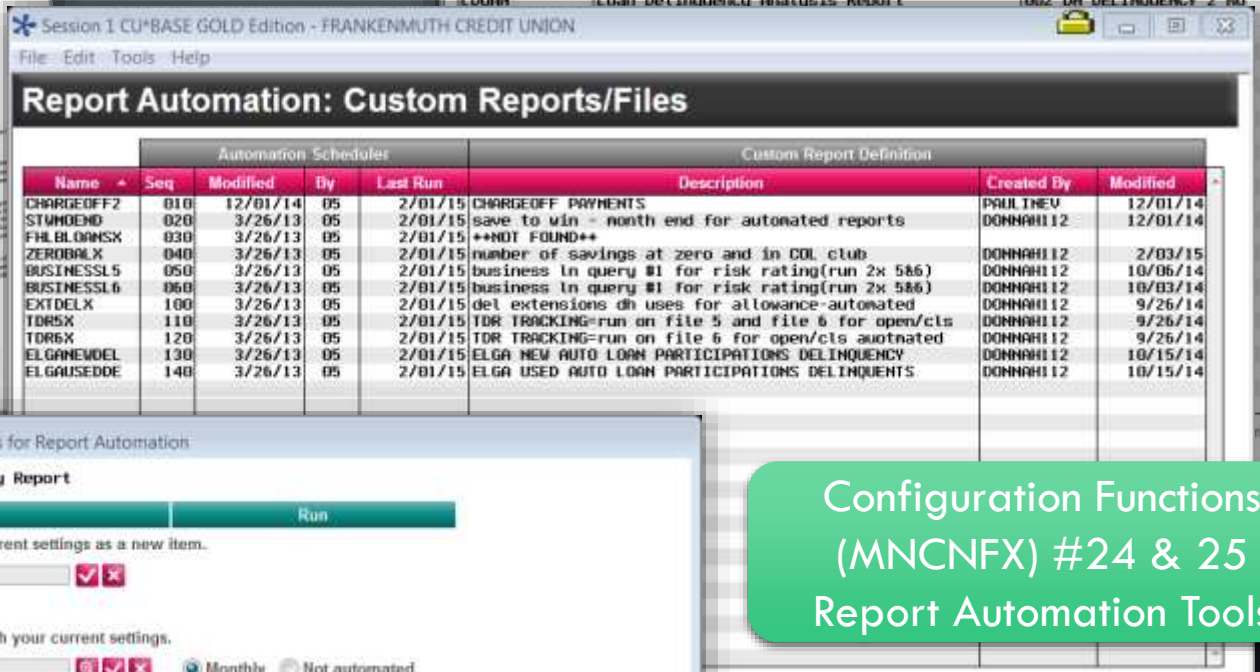
- Today these are generally custom, but we've done a poor job of sharing what is possible in a network…and that's going to change

Look for more information at the June Leadership Conference

REPORT AND QUERY SCHEDULER







Configuration Functions (MNCNFX) #24 & 25 Report Automation Tools

POP QUIZ: HAVE YOU MATCHED THE METHOD TO YOUR MADNESS?

- What do you think your mix is?
  - Reports _____ %
  - Query (to the screen, to paper, to file) _____ %
  - Dashboard exports to PDF _____ %
  - Dashboard exports to Excel _____ %
  - Dashboard exports to CSV _____ %
  - Exports for Member Connect _____ %
  - Exports for Query _____ %
  - Copy spooled report to file _____ %
  - Direct downloads to a PC _____ %
  - Other?? _____ %

POP QUIZ: HAVE YOU MATCHED THE METHOD TO YOUR MADNESS?

- What data extracts do you wish happened while you were not at work?
  - What things would you like to be able to put into the Report and Query Scheduler?
  - What things would you like the CU*BASE Operations team to handle for you, and where should the data go (third-party vendors)?

Meet "DEX"

Database Exchange services from CU*Answers

Look for more information at the June Leadership Conference

GETTING DATA OUT OF CU*BASE

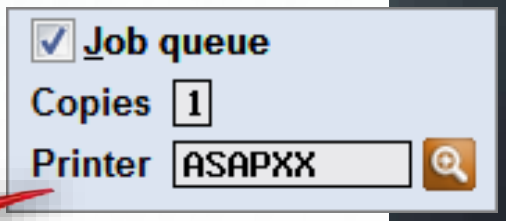
NEW TOOLS WE'RE WORKING ON

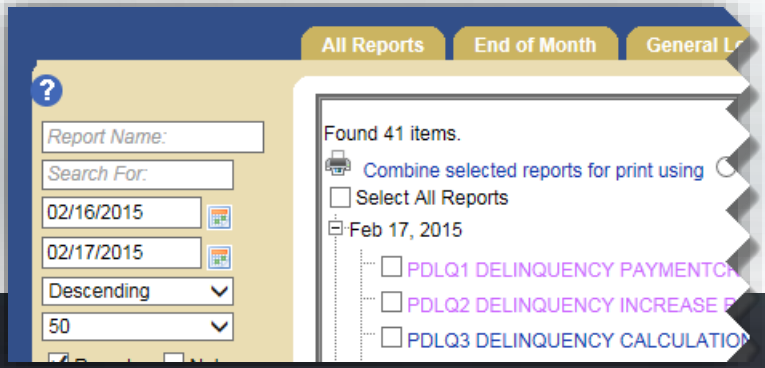
THE NEXT BIG THING IN PDFS

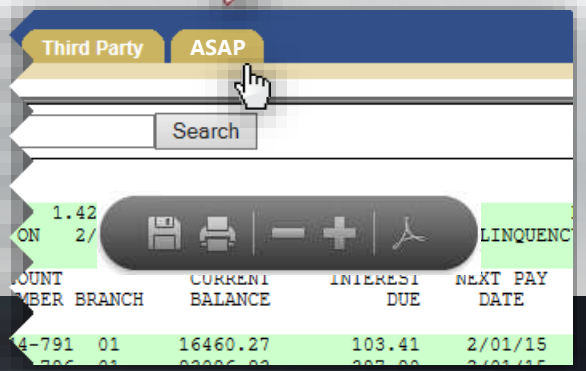
EXPEDITING ON-DEMAND REPORTS TO CU*SPY FOR PDF OUTPUT

Coming later this year!

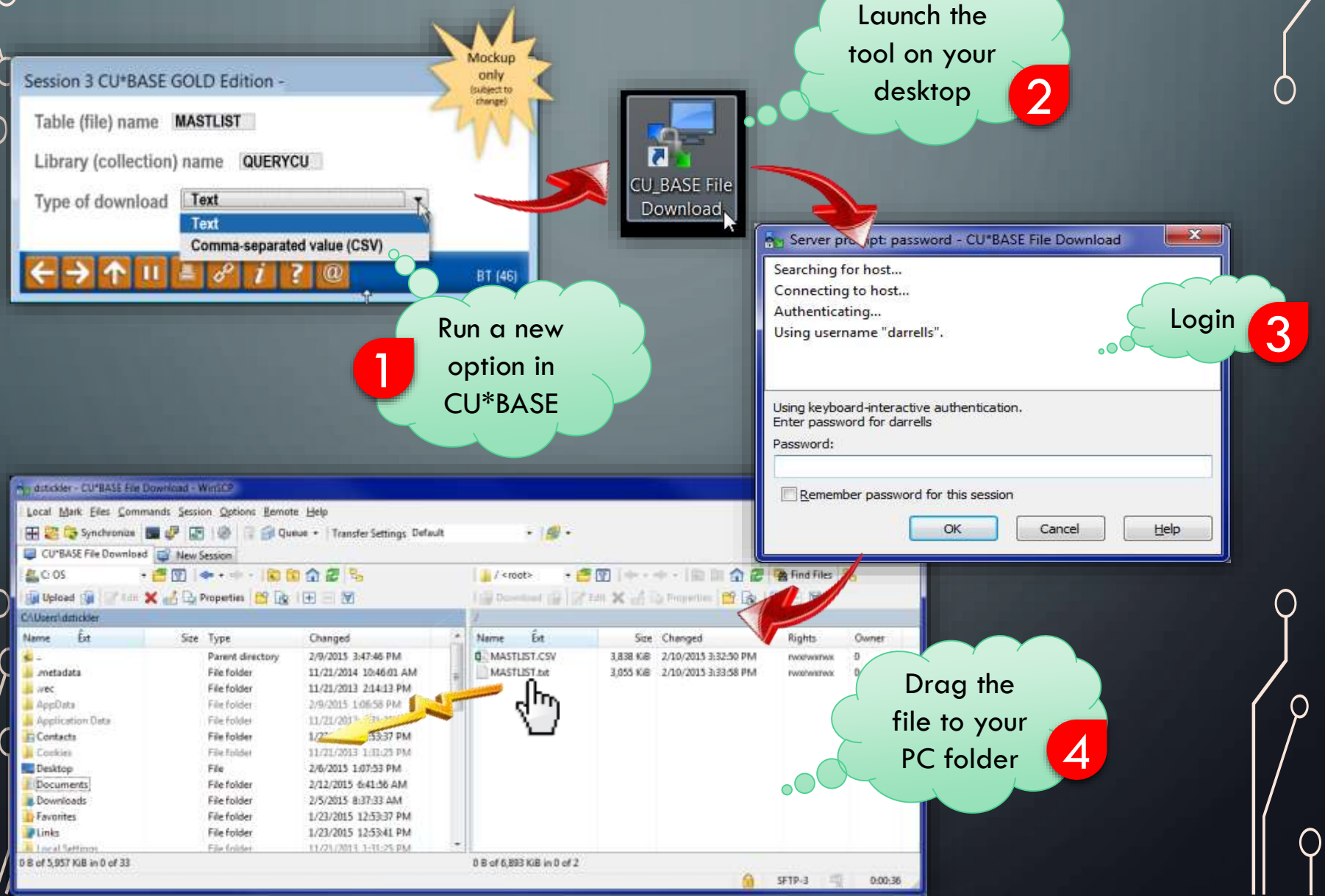
- Any report you can print* can be sent to the new **ASAPxx** printer queue (like HOLDxx) **Except for forms with overlay, checks, receipts*
- A new program monitors these queues for incoming files and moves them quickly to CU*Spy, ready to view or print
  - Still TBD: How long retained? Archived to CD?
  - Next up: In-house eDOC vaults – will require some new configs already in development







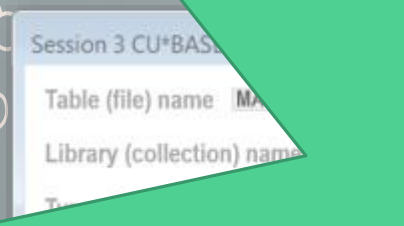
HASSLE-FREE DOWNLOADS

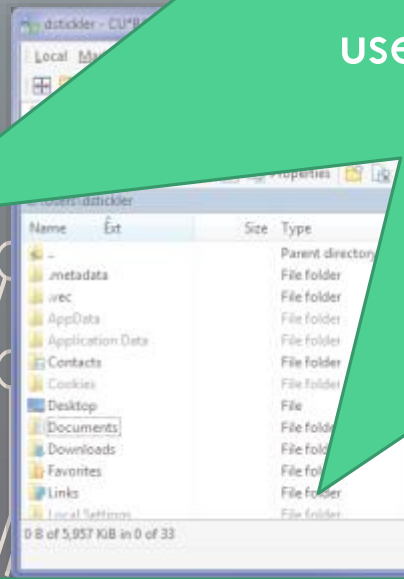


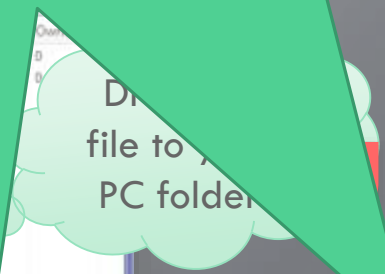
E-FREE DO ADS

This tool relies on the ability of your credit union's network administrators to configure an environment that easily allows CU*BASE to transfer documents in this manner

It'll take a bit of patience as you start to use this feature, where your network and ours have to be ready to partner







CONTINUING TO EXPAND THE REPORT & QUERY SCHEDULER

- Report automation Phase 2
  - 12 more reports coming in the 15.0 release in April
  - Learn more in the Automated Reports and Queries booklet
- In process and coming this fall: Run monthly on your chosen day
  - Check out the Kitchen for a prototype:

http://www.cuanswers.com/resources/kitchen/report-scheduler-expansion/

PULLING EXTERNAL DATA INTO CU*BASE

TOOLS YOU ALREADY HAVE

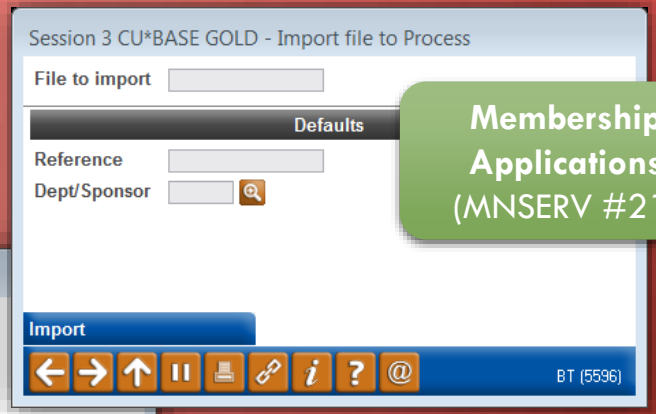
PULLING EXTERNAL DATA INTO CU*BASE

A CHANGING WORLD

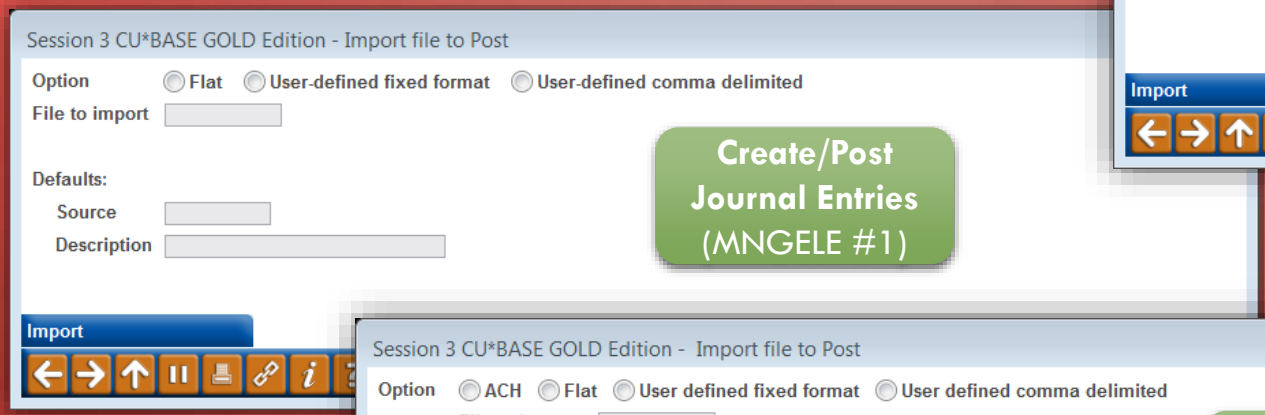
- Most data that comes from the outside world into CU*BASE is through some kind of fixed CU vendor relationship that CU*BASE facilitates
  - EFT, check processing, indirect lending networks, credit bureaus, etc.
- Occasionally we pull in data that helps you audit a vendor alliance related to some CU*BASE processes
  - Audit stats about statement processing from Sage, etc.
- But the more we develop analysis programs designed to give a CU insight into member relationships, the more requests we get to include external data with our CU*BASE data for a bigger picture

Hopefully OTB comes to mind...if not, in a moment we'll discuss a whole new wrinkle called TotalLook

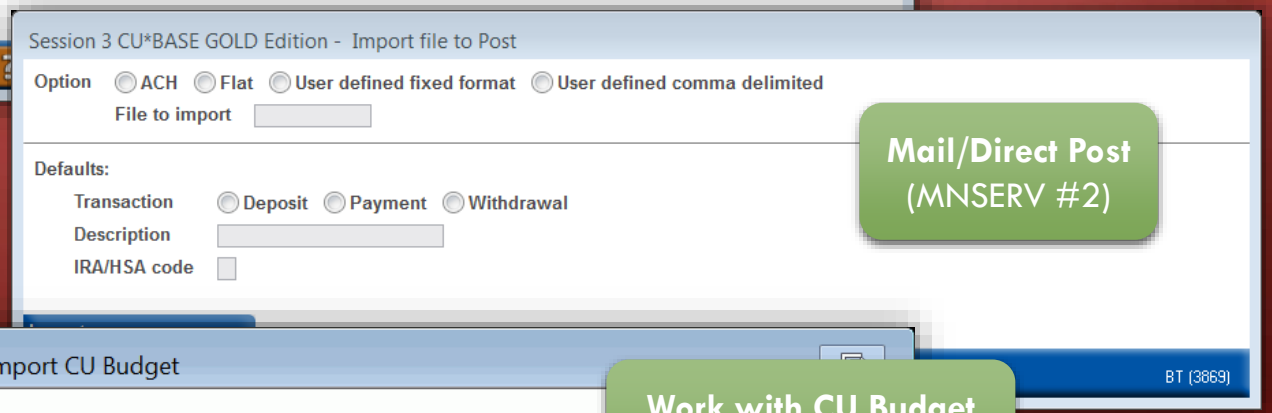
IMPORTING DATA TO POST TO MEMBER AND G/L ACCOUNTS



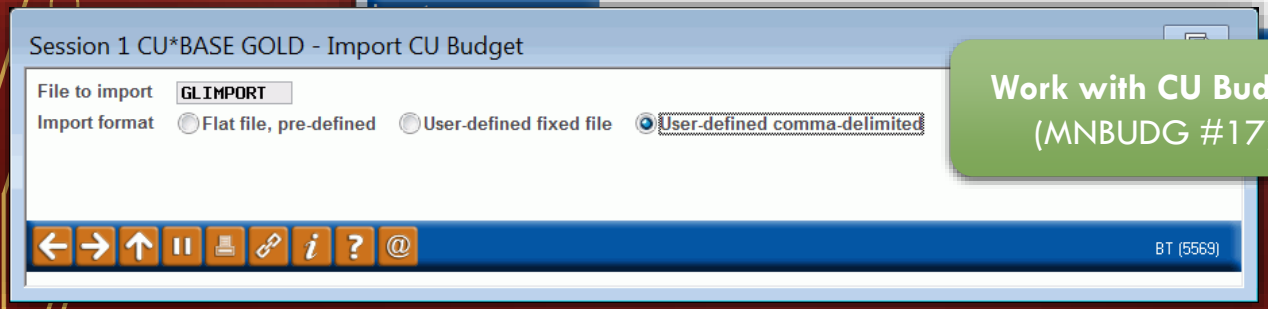
Membership Applications (MNSERV #21)



Create/Post Journal Entries (MNGELE #1)



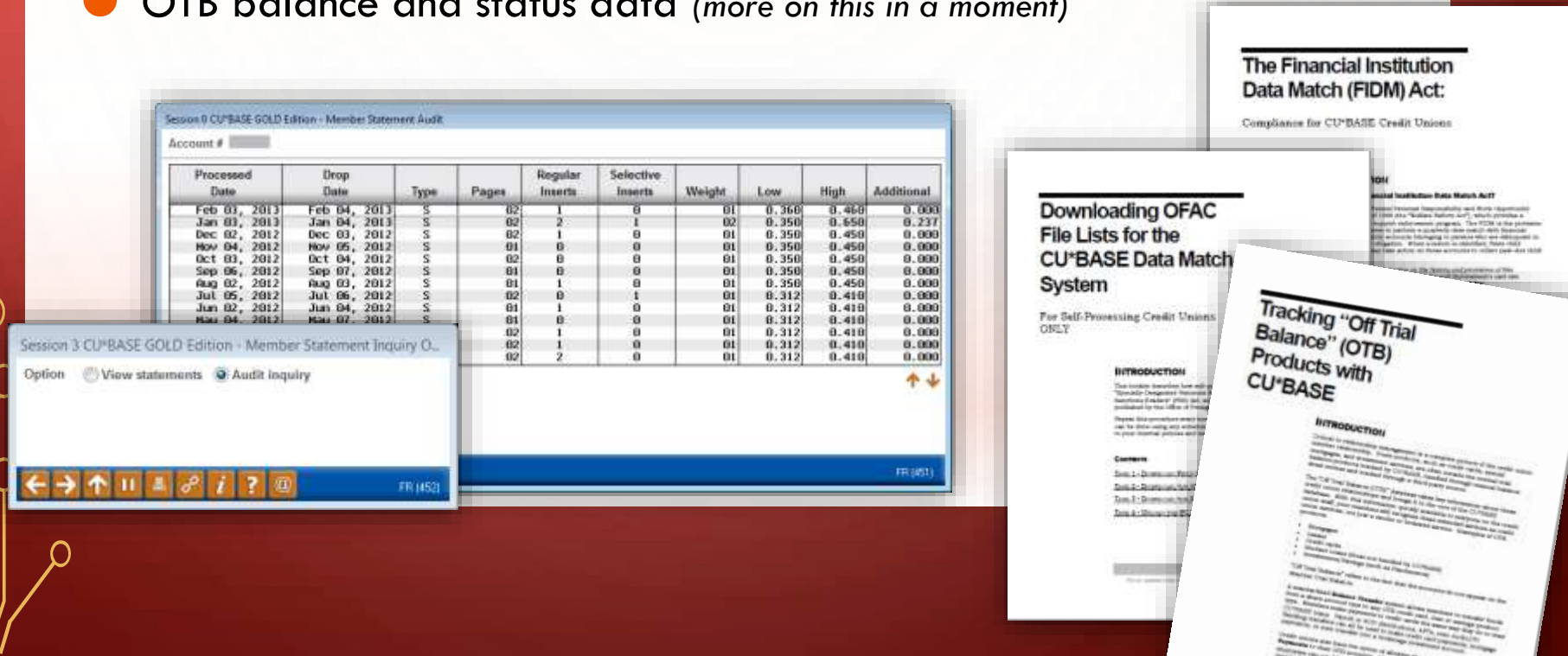
Mail/Direct Post (MNSERV #2)



Work with CU Budget (MNBUDG #17)

OTHER TOOLS THAT MOVE DATA INTO CU*BASE

- Direct file transfers from your PC to QUERYxx or a CU*BASE file
- Receiving files from FinCEN/OFAC, FIDM, and the like
- Statement audit/mailing information (from Sage or other vendors)
- OTB balance and status data *(more on this in a moment)*



IMPORTING DATA FROM THIRD PARTIES

- Rewards checking vendor pass/fail and ATM surcharge rebate files
- ACH incoming items (Feds and third-party vendors)
- Payroll files
- ATM/debit/credit card reconciliation report information
- Credit card rewards information (for presentation on statements)
- Remote deposit check (RDC) items
- Bill payment billing information
- Insurance premium posting files
- Member check/draft clearings
- Corporate check clearings
- CASS certification (apply address changes)
- Credit bureau pulls (interactive, soft, batch)

NACHA The Electronic Payments Association

EQUIFAX

Experian A world of insight

TransUnion

Zoot ENTERPRISES, INC.

- As with the exports, these are generally custom, but we need to do a better job of sharing what is possible in a network

Look for more information at the June Leadership Conference

PULLING EXTERNAL DATA INTO CU*BASE

NEW TOOLS WE'RE WORKING ON

TotalLook is the goal, OTB is the engine to get the work done

- How do we all keep the costs for third-party data integrations reasonable? You build a platform that does 85% of the work before you even know the name of the vendor – *that's OTB*
- How do you share a member's total relationship with the CU through online banking and mobile banking in the future? – *that's OTB*
- How do you allow management to get the big picture through CU*BASE dashboards and include third-party relationships in those tools? – *that's OTB*
- OTB is an import platform that credit unions can customize to any third party that will share data – for a reasonable investment

TotalLook is a way to make the CU*BASE data warehouse the credit union warehouse

OTB = OFF TRIAL BALANCE

VS. MEMBER DATA THAT IS ON TRIAL BALANCE INSIDE THE CU*BASE DATABASE

- The accounts you service through CU*BASE create the data you count on when looking at your members
  - Historically, this was always presented via some variation of a Trial Balance format
- The accounts you service via third party servicing platforms have similar tactics for reporting member data
- Our OTB platform is designed to allow you to merge third-party data with CU*BASE processing tools to get a bigger picture of the member – a TotalLook

Maybe it's time to change the acronym to ODB:
Outside our Database

INTRODUCING TOTALLOOK

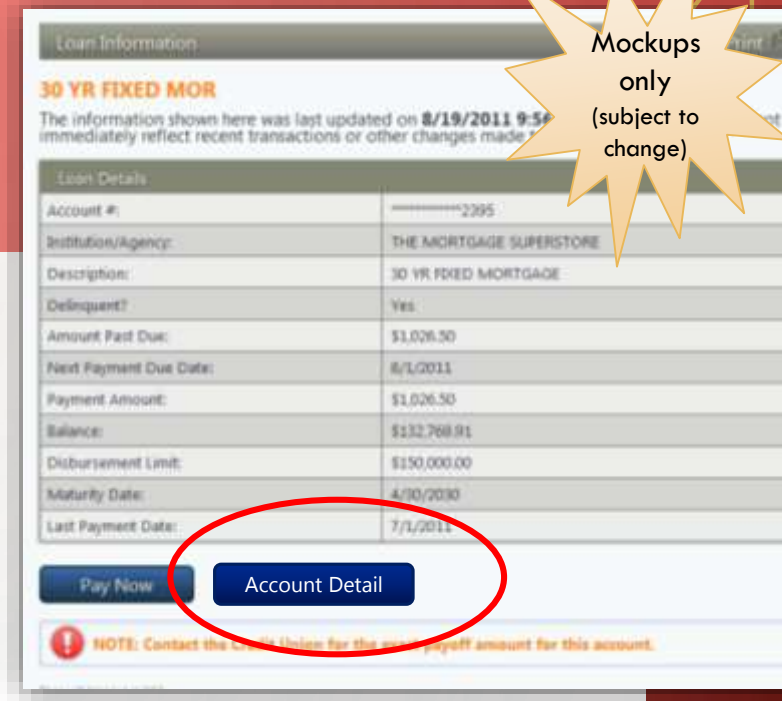
KEEPING THE TOTAL MEMBER PICTURE IN MIND AND CENTRALIZED THROUGH A CU*BASE PRESENTATION

- A tactic to meet the challenges of servicing members via multiple vendors and merging the data for better execution
- TotalLook leverages the CU*BASE OTB solutions suite:
  - **OTB Master Data** – adding account data from a third party into CU*BASE so members and employees can access it
  - **OTB Transaction Data** – adding transaction data from a third party into CU*BASE so members and employees can access it
  - **OTB SSO** – linking from online/mobile channels to third-party tools
  - **OTB Payments** – creating a portal to accept payments from members
  - **OTB Analytics** – merging third-party data into delinquency, relationship management tools, etc.

CU*BASE ALLOWS YOU TO DESIGN NEW WAYS TO AGGREGATE DATA IN OUR WAREHOUSE

Standing Tactics	Our Goals
OTB Master Data	Use more of the vendor-provided data and make our CU*BASE displays smarter
OTB Transaction Data	Go beyond the account data and display what's happening
OTB SSO	Increase the number of links between CU*BASE and the vendor so employees and members can drill down even further
OTB Payments	Expand the number of ways members can make payments to OTB accounts
OTB Analytics	Prioritize the dashboards that need third-party data to give a total picture of member relationships and what they mean to the CU

OTB TRANSACTION DATA



- Giving members a TotalLook
  - Adding transaction history to the OTB account info in online and mobile banking channels
- Giving employees a TotalLook
  - Pulling a member's OTB accounts and transaction history into CU*BASE Inquiry and Phone Operator tools

Typ	Description	Loan Payoff/ Current Balance	Loan Payment Net Available	Next Pmt/ Last Trans/ CD Maturity	IRA	P/R	ATM Go!	A
000	REGULAR SAVINGS	3,605.22	0.00	3/25/13	.	.	Y	
110	CHECKING	350.16	0.00	6/11/14	.	.	Y	
610	USED VEHICLES	6,079.31						
411	MORTGAGE LOAN	1,206.20						

OR??

Typ	Description	Loan Payoff/ Current Balance	Loan Payment Net Available	Next Pmt/ Last Trans/ CD Maturity	IRA	P/R	ATM Go!	A
000	REGULAR SAVINGS	3,605.22	0.00	3/25/13	.	.	Y	
110	CHECKING	350.16	0.00	6/11/14	.	.	Y	
610	USED VEHICLES	6,079.31	128.11	7/02/14	.	.	.	
*15	MORTGAGE LOAN	1,206.20	107.54	6/15/14	.	.	.	

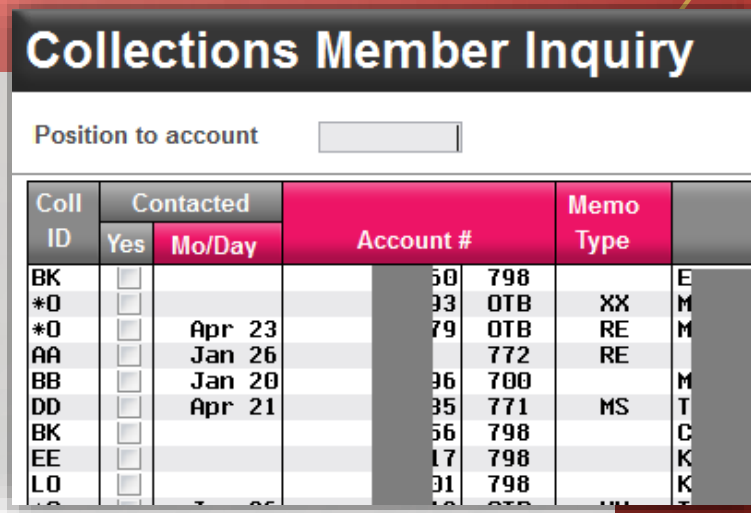
EXPANDING OTB PAYMENT OPTIONS

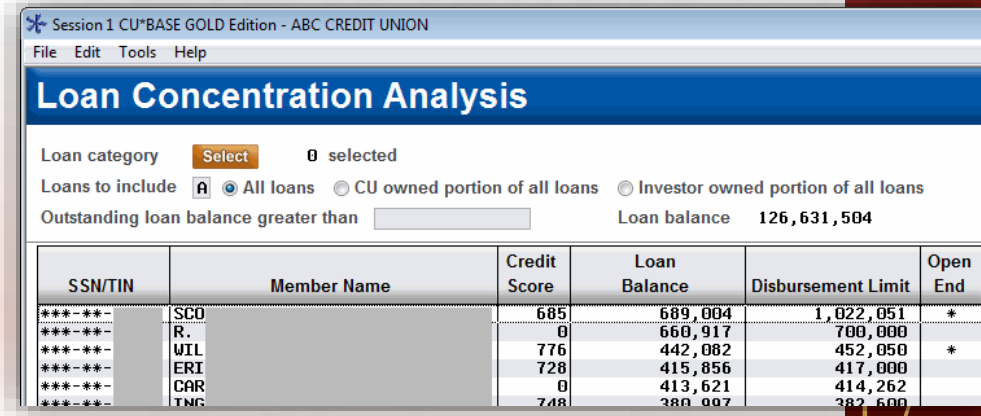
Balance Transfer Sweeps	Deposit $ into savings account, system sweeps to OTB in batch
Transfers to OTB accts via **Teller Misc. Receipts**	Using cash or checks or withdrawal from member accounts
Transfers to OTB accts via **Phone Misc. Receipts**	Withdrawal from member account
Transfers to OTB accts via **It's Me 247 transfers**	Withdrawal from member account
NEW **"OTBFT" Auto Transfers** Targeted for 15.2	New type of AFT/CFT record to transfer from any account to an OTB
NEW **ACH Distributions** Someday?	Direct to a G/L, designated for a specific member OTB account

Put your employees to work and make it easy for your members

ADDING OTB DATA TO EXISTING AND NEW CU*BASE ANALYTICS TOOLS

- A long time ago, we added OTB data to the Collections dashboard – this is just a new process to continue on that same track
- Next up: Adding OTB loans and credit cards to the **Loan Concentration Risk Analysis**
- Then what? It's up to you: prioritize your dashboards and prioritize your vendors





FOCUS GROUP INPUT

ROUND 3: WHAT ARE YOUR GOALS?

- In less than 3 sentences, what is your goal for how better data management could change your credit union?
- Give a quick idea about what
  - Management could do to improve
  - Supervisors could do to improve
  - Staff could do to improve
  - CU*Answers could do to improve

Time for lunch!

EXTERNAL DATA WAREHOUSES

UNDERSTANDING WHERE DATA IS STORED AND HOW IT MIGHT BE LEVERAGED FOR YOUR GOALS

GETTING MORE SPECIFIC ABOUT THE TERM "DATA WAREHOUSE"

- From Wikipedia.org:

> In computing, a **data warehouse** (**DW** or **DWH**), also known as an **enterprise data warehouse** (**EDW**), is a system used for reporting and data analysis. DWs are central repositories of integrated data from one or more disparate sources. They store current and historical data and are used for creating trending reports for senior management reporting such as annual and quarterly comparisons.
>
> The data stored in the warehouse is uploaded from the operational systems (such as marketing, sales, etc., shown in the figure to the right). The data may pass through an operational data store for additional operations before it is used in the DW for reporting.

- Based on this definition, everything we talked about this morning is based on leveraging an **operational data store**
- Is it time for your CU to think about a classic enterprise data warehouse?

Most CUs simply focus on gaining a better understanding of operational databases and what they mean to their success

WHEN PROCESSING WITH CU*BASE

OUR DATABASE IS A HYBRID: WE DO IT ALL

Production IBM i	High Availability IBM i (Live Replicated Data)
FILExx and QUERYxx	FILExx and QUERYxx
In Grand Rapids, Michigan, for online CU*Answers clients	In Muskegon, Michigan, for online CU*Answers clients
In Yankton, South Dakota, for cuasterisk.com network partners	In Grand Rapids, Michigan for cuasterisk.com network partners
In each credit union location for in-house (self processor) clients	In various locations depending on each in-house client's DR/BR plan

We started our analytics focus to help CUs reduce their need for an enterprise data warehouse

EXTERNAL DATA WAREHOUSE: MY CU TODAY

- My CU Today still contains only CU*BASE data, but in the future we may see data from other systems and even other cores
- My CU Today is based on using daily snapshots to trend forward based on any period the user wants to see (weekly, monthly, quarterly, etc.)
- My CU Today removes personal information and is based on trending "safe" data
- My CU Today is based on an open environment to allow a broad and diverse audience (boards, third-party commentators, etc.) for analyzing trends

My CU Today is an external data warehouse, and one where CU*BASE clients can master ideas related to EDWs

WHAT DO CREDIT UNIONS NEED?
WHAT CAN CREDIT UNIONS EARN ON?

- As we prepare for the future, what kinds of EDWs will credit unions see as required for their operations and their success?
  - CU*BASE data replicated into alternative methods of storing data that might provide more independent analytical tools and approaches – *"I prefer using different tools"*
  - CU*BASE data replicated into data warehouses so that the CU can archive data based on their preferences for timing, investment, and purge schedules – *"I need a different retention schedule"*
  - CU*BASE data replicated into data warehouses that have other sources of data to create broader analysis over disparate sources of credit union related data – *"I need to mix and match different data"*

The success of our CUSO as a collective is knowing to share in these investments and when to go after them independently

INTRODUCING ONAPPROACH

LET'S HEAR WHAT PAUL ABLACK HAS TO SAY ABOUT ENTERPRISE DATA WAREHOUSES

- Did you catch this interview? What did you think?
- We're lucky today to have Paul here with us...let's have a conversation

OnApproach

BIG DATA & ANALYTICS

FOR IMMEDIATE RELEASE

OnApproach CEO, Paul Ablack, Featured on CUBroadcast

Plymouth, MN (February 16, 2015) - OnApproach (www.onapproach.com), a leading provider of Big Data and Analytics for credit unions, is pleased to announce that its CEO, Paul Ablack, appeared on CUBroadcast to discuss how credit unions can leverage their data to better serve their members.

To get the inside scoop on how today's Big Data has evolved, CUBroadcast invited OnApproach's Founder and CEO, Paul Ablack, to appear on the program and divulge his expertise in the Big Data arena. Paul not only provides great insight on this information evolution, but he also gives a couple eye-popping examples of how credit unions are benefiting from this information revolution.

View the video here: http://blog.onapproach.com/video-how-credit-unions-can-leverage-big-data

http://blog.onapproach.com/video-how-credit-unions-can-leverage-big-data

POP QUIZ: ENTERPRISE DATA WAREHOUSES… WHERE DO WE GO FROM HERE?

- How many of you feel your org wants to pursue an independent EDW?
- Where would you house your EDW?
- What process do you think you would use to replicate the data to your EDW?
- What budget do you have for maintaining your EDW?
- Have you picked a set of tools you think would be most effective for you in using your EDW for analytics?
- Have you identified any other disparate databases that you would like to include in your EDW along with CU*BASE?

2015 is the year to talk about the future of EDWs and what our CUSO should be thinking about

POP QUIZ: ENTERPRISE DATA WAREHOUSES… DO YOU ALREADY (KIND OF?) HAVE ONE?

- Do you have a homegrown data warehouse where you collect any data?
- Did it start out with a goal to be an EDW?
- Have you added any other kinds of data to it?
- What do you use your data warehouse for?
- Do you think DEX will help you in populating your data warehouse?
- What is next for your data warehouse?
- What kind of customer service do you have for your managers and team members when they request things from your data warehouse?

2015 is the year to talk about the future of EDWs and what our CUSO should be thinking about

AFTERNOON WRAP-UP

THE CU*BASE 15.0 RELEASE IS COMING SOON!

- Beta begins March 8 with:
  - Heartland CU (Madison)
  - Ohio Catholic FCU
  - Pathways Financial CU
  - Sarasota Municipal Employees CU
- Release goes to all online CUs & Site-4 on

  April 19

  (to self processing CUs May 11&12)

- 15.0 is chock full of cool stuff:
  - For members in online banking: Credit scores, password change reminders, Qualified Dividends status
  - New history and dashboard for written-off/charged-off loans
  - Email notifications to staff when underwriting status changes
  - New Fee Waivers by Employee, Fee Refunds, and Cross Sales analysis dashboards
  - ...and lots more!

Watch for the release announcements coming soon!

APPENDIX

A FEW EXTRAS TIDBITS

DB2 AND CU*BASE

- The DB2 product remains a major focus in the IBM development portfolio

HOW WE'RE LEVERAGING DB2

- DDL (Data Definition Language) – used to build tables
- DML (Data Manipulation Language) – used to create/read/update/delete data in tables (yes, that's CRUD)
- Embedded SQL
  - New online banking API system will be pure SQL data CRUD
  - The near-time alerts system
  - Parts of the **It's My Biz 247** system
  - Parts of the dashboard system
  - Parts of the ISO system
  - Some reports

HOW WE'RE LEVERAGING DB2

- DCL (Data Control Language) – implements security functions as well as constraints
  - Constraints make sure our data is clean and meets vendor expectations
  - Any new DDL tables we create use constraints, such as the new vendor notices flat file project
- Procedural Language
  - Includes triggers, stored procedures, user-defined functions
  - Currently we only use user-defined functions, which are limited
  - While online banking does implement some stored procedures they are not SQL stored procedures, they are "external" stored procedures

HOW WE'RE LEVERAGING DB2

Will be implemented soon:

- TCL (Transaction Control Language) – aids in updates/inserts on table groups with hierarchies
  - The new API system will take advantage of transaction control, so that when a user logs in, all audit and tracking tables will update at the same time – any point of failure will institute a roll-back, keeping all tables in synch

DDL VS. DDS
THE SAME BUT DIFFERENT

- Both are used to define a database table, but…
- DDL is the industry standard
  - All IBM investment dollars now go to the SQL languages, which includes DDL
  - DDS (IBM proprietary) has matured and IBM is no longer investing research dollars into improving DDS files
- DDL has more data types
  - Pictures
  - Documents
  - Database maintained columns *(last update timestamp, sequence numbers)*
  - Column encryption
  - RCAC *(row and column access control)*
  - Implicitly hidden columns *(such as passwords, or data meaningless to end-users)*

DDL VS. DDS
THE SAME BUT DIFFERENT

- DDL tables let us be more reactive to changing needs
  - A DDL table can be altered, vs. changing DDS file where we have to destroy the DDS described table (file) and all its dependents, then rebuild
  - A DDL table's components can also be altered (keys, constraints, partitioning)
- DDL provides better performance
  - Data is typically read more than it is updated/deleted/created
  - Since a DDL table's data is verified on the way in to the database table, it is not verified on the read (DDS is the other way around: verified on the read)
  - Access path size is 64K vs. 8K *(it's like the HOV lane on the expressway—you can push a lot more data through that lane)*