



IBM Software Group

Modernize Easytrieve Applications with IBM Migration Utility for z/OS®

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Agenda

- Technical Session on EZT and Migration Utility
- Polling Questions (2)
- Question and Answer Session



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Modernize CA-Easytrieve Plus® Applications with IBM Migration Utility for z/OS®

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z/OS is a registered trademark of the IBM Corporation.



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IBM Migration Utility for z/OS

Why Use CA-Easytrieve Plus?

- Powerful 4GL Language
 - More than a Report Generator
- Easy to Learn and Easy to Use
 - Professional Programmer Tool
 - Ad Hoc End-User Tool
- Availability of CA-Easytrieve Plus Skills
- Reliance on Existing Programs Written in CA-Easytrieve Plus

IBM Migration Utility for z/OS

What's the Problem?

- Cost of ownership
 - Maintenance charges
- Additional ROI possibilities
 - Modernize existing applications
 - Cost of writing HTML reports in other language
 - Cost of users populating spreadsheets by hand
 - Benefit in adding DB2 and IMS access
- Reliance on 'stabilized' product
- Making information available on other platforms



IBM Migration Utility

- ◆ **With IBM Migration Utility you can:**
 - ◆ Develop / Maintain programs using Easytrieve Plus language - or -
 - ◆ Migrate existing Easytrieve Plus programs to COBOL, then maintain COBOL -or-
 - ◆ Combine both options as desired!
- ◆ **Important to distinguish between:**
 - ◆ **CA Easytrieve Plus:**
 1. the syntax, or language – which you can continue to use
 2. the product (think of it as a compiler) which can be removed after migration
- ◆ **Programs are Converted to COBOL for Execution**
 - ◆ Can run in convert-compile-link-and-go mode or
 - ◆ Can create and deploy COBOL Load Modules and run them
 - ◆ COBOL is easily ported to non-z platforms

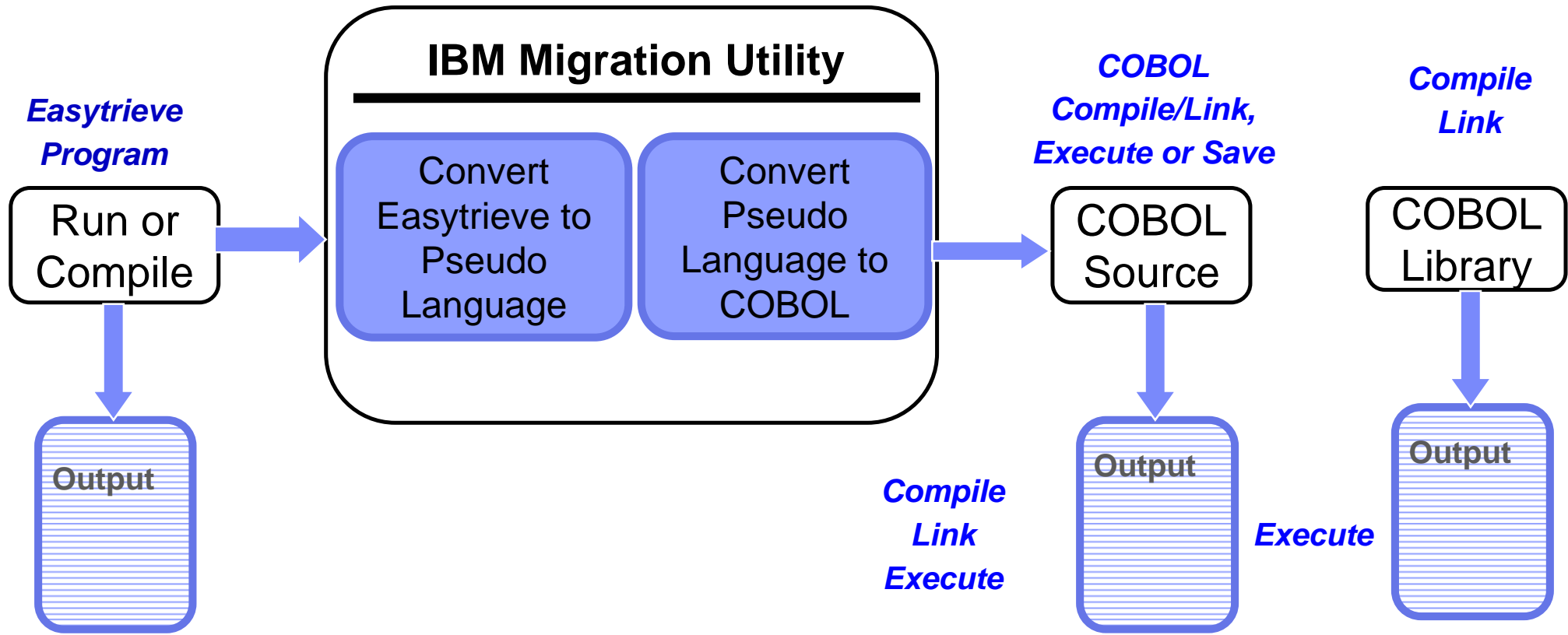


IBM Migration Utility for z/OS

WHAT IS SUPPORTED?

- Easytrieve Plus Syntax
- Easytrieve Plus Instructions
- Easytrieve Plus Macro Language
- REPORT Statement & Exits
- Commonly used Easytrieve Plus Toolkit features
- **Additional Functions**
 - Extensions to CA-Easytrieve Language for COBOL Statements
 - Enhanced Move Support
 - Move with mask
 - Move by start position and length
 - Enforced File Sequencing with Synchronized File Processing

Migration Utility Translation Diagram



IBM Migration Utility

Modes of Operation – Static vs Dynamic I/O

■ **Static Mode**

- Generally used when EZT+ Language is to be abandoned
- COBOL Programs Generated w/ Standard COBOL Statements, I/O Statements & File Definitions
 - Easytrieve file definitions must contain:
 - Defined full record lengths all files
 - Identified keys for VSAM Index Files
 - Generates Pure COBOL
 - Can Port to Other Platforms, or run on systems without IMU runtimes
 - More conversion effort
 - Can be used in either Compile-Link-and-Go Mode or Compiled Mode

■ **Dynamic Mode**

- Generally used when EZT+ Language is to be continued
- Generates COBOL with Custom Interface to IMU I/O Modules
 - Record Length, VSAM File Keys resolved in flight (read from JCL or the Catalog)
- Requires IMU Runtime to execute
- Requires Much Less Conversion Effort
- Can be used in either Compile-Link-and-Go Mode or Compiled Mode



Migration Utility

Compile-Link-and-Go Mode vs Compiled Mode

Compile-Link-and-Go Example (easy):

- One Step Processing – Just Change:
 //EZPLUS EXEC PGM=EZTPA00
 TO
 //EZPLUS EXEC PGM=FSYTPA00
 //STEPLIB DD DSN=IBM.SFSYLOAD,DISP=SHR
- Remove any CA EZT Loadlibs or Toolkit Macro Library (if any)
- Run the Job

Compiled Mode:

- Translate and Link Load Module then change
- Add to application run JCL:
 //STEPLIB DD DSN=IBM.SFSYLOAD,DISP=SHR
- Remove any CA EZT Loadlibs
- Run the Job

IMU Provides Utility to Make Changes Automatically for Either Mode



Adding Value to Existing Programs - .CSV Output

```

.....
JOB INPUT FILEIN1
WCO-NAME = 'UNKNOWN COMPANY'
SEARCH COMPTAB WITH COMPANY GIVING WCO-NAME
WBR-NAME = 'UNKNOWN BRANCH'
SEARCH DEPTTAB WITH COMP-DEP GIVING WBR-NAME
WBONUS = ((FEE - WBONBAS) * WPBONUS)
          IF WHFLAG = 'Y'
            DISPLAY CSVFIL1 +
              SEP=(', ') +
              'COMPANY' +
              'BRANCH' +
              'NAME' +
              'ACCOUNT' +
              'FEE' +
              'BON-BASE' +
              '%BONUS' +
              'BONUS'
.....

```

	COMPANY	BRANCH	NAME	ACCOUNT	FEE	BON-BASE	%BONUS	BONUS
3								
4								
5	10	1	JOHN DOE 1	10000011	520	500	0.1	2
6	10	1	JOHN DOE 1	10000011	400	500	0.1	-10
7	10	1	JOHN DOE 2	10000012	510.1	500	0.1	1.01
8	10	1	JOHN DOE 3	10000013	520.15	500	0.1	2.01
9	10	1	JOHN DOE 4	10000014	150.15	500	0.1	-34.98
10								

Adding Value – DrillDown Reports

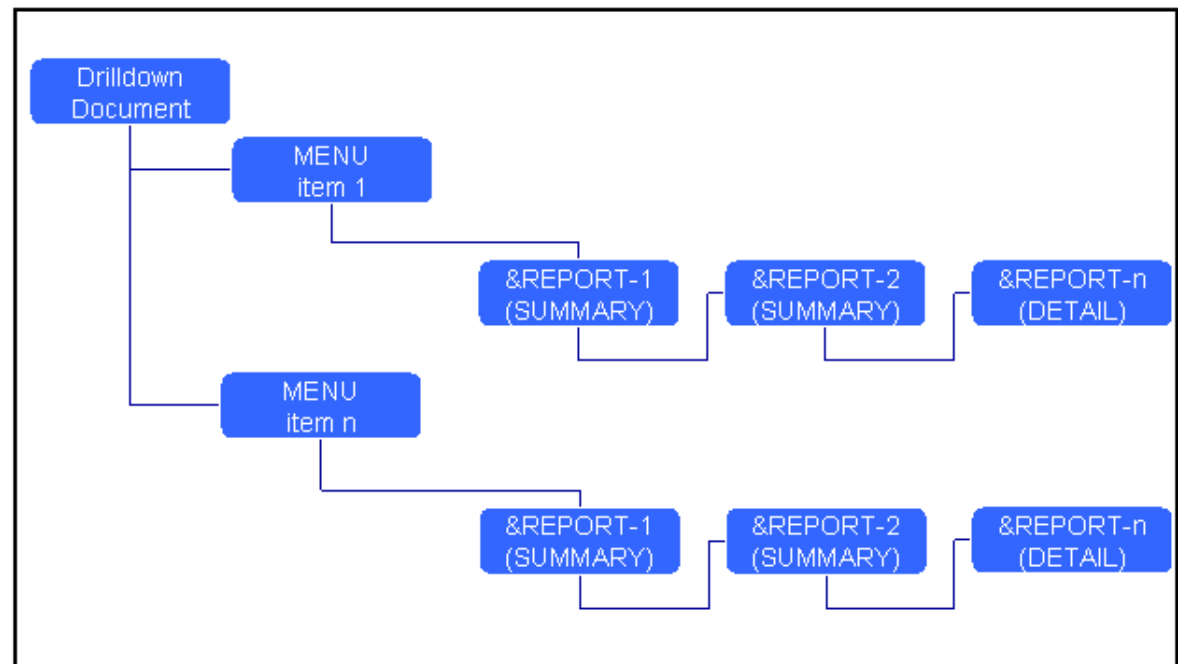
Drilldown reports are automatically linked, hierarchical reports...

Created in HTML and deployed automatically to your Web Server

Control Fonts, Colors, Background Colors, Images, conditional text formatting

Detail report pages can be HTML text, HTML tables, or even .CSV formatted files

Drilldown Reports



Adding Value – Drill Down Reports

2/07/05 Report: RPT1 INCOME FROM SERVICES BY COMPANY PAGE 1

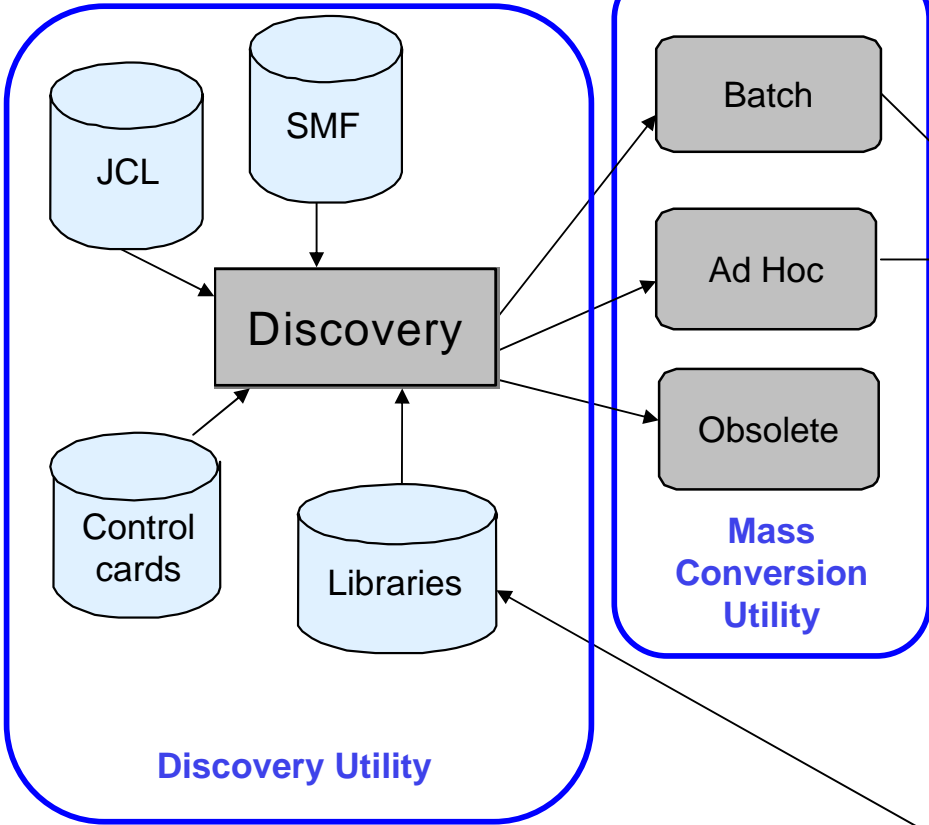
2/07/05 Report: RPT3 SERVICE FEE TRANSACTIONS - DETAIL

COMPANY: GENERAL HOSPITAL 1 BRANCH: CONNECTICUT OFFICE

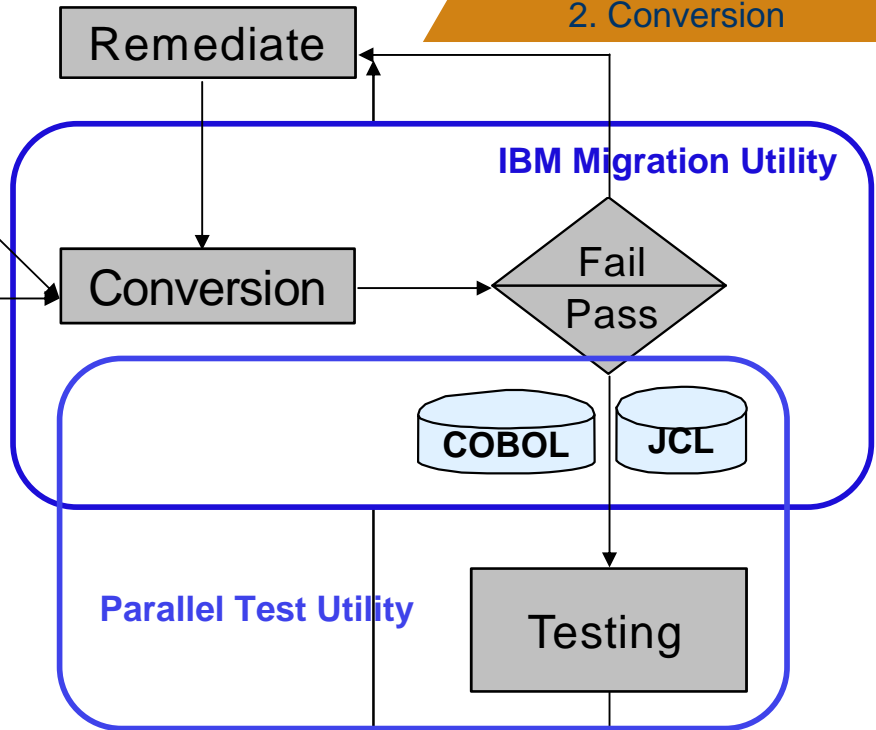
BRANCH NUMBER	DOCTOR	ACCOUNT NUMBER	SERVICE DATE	SERVICE CHARGE	AVERAGE CHARGE	CHARGE DIFFEREN
0003	JOHN3 DOE 1	20000011	2004/11/15	500.00	450.00	
0003	JOHN3 DOE 2	30000012	2004/11/16	510.10	450.00	
0003	JOHN3 DOE 3	30000013	2004/11/17	520.15	450.00	
0003	JOHN3 DOE 4	30000014	2004/11/19	150.15	450.00	25
0003	JOHN3 DOE 4	30000014	2004/11/20	150.15	450.00	25
0003	JOHN3 DOE 4	30000014	2004/11/21	150.15	450.00	25
0003	JOHN3 DOE 4	30000014	2004/11/22	150.15	450.00	25

Easytrieve Plus Migration Project Flow

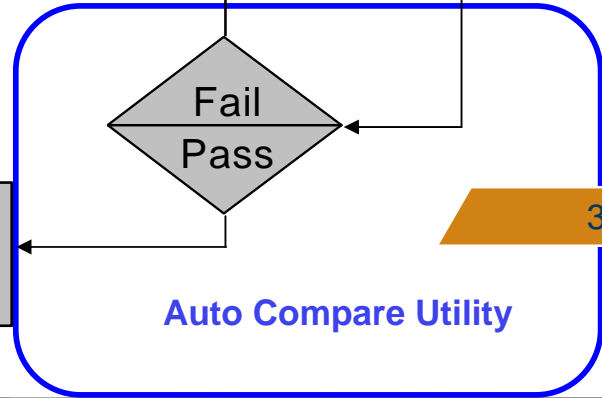
1. Discovery/Preparation



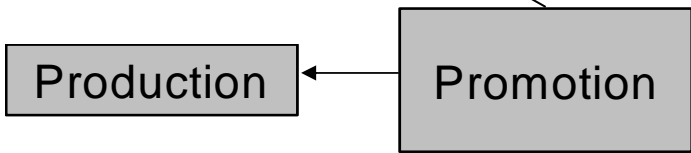
2. Conversion



3. Verification



4. QA / Promotion



IBM Migration Utility

◆ **Benefit Summary:**

- ◆ Reduce total cost of ownership
- ◆ Add capability to modernize legacy applications
 - ◆ Create HTML
 - ◆ Populate Spreadsheet
- ◆ Develop & Maintain in familiar, powerful language
- ◆ Protect investment in existing applications
- ◆ Leverage existing skills
- ◆ Maintain or improve performance
- ◆ Creates option to switch to COBOL if desired
- ◆ Receive Value for your software maintenance dollars

IBM Migration Utility for z/OS

Available Services

- Assessment
- 2-day Assisted Pilot
- Available Training (fees charged)
 - 5 days: 3 Days Class plus 2 days “open line” support
 - Up to 20 students per session
 - Migration Utility as a conversion / development tool
 - Parallel Testing / Autocompare Utilities
 - Lecture plus hands-on
 - Webcast or in-person
- Remote consultation services
- Conversion Services



IBM Migration Utility for z/OS

What you should walk away with:

- **IBM Migration Utility provides several benefits:**
 - Powerful, Flexible, Familiar Language
 - Option to Switch to COBOL
 - Cost of Ownership
 - Easy to modernize legacy EZT+ applications without:
 - Rewriting
 - Learning new skills
 - Relative transparency to end users

<http://www.ibm.com/software/awdtools/migration>



Polling Questions

What type of Easytrieve programs do you have?

- 1 – EZT Plus**
- 2 – EZT Classic**
- 3 – Both**
- 4 – No programs**

Would you like further information on Migration Utility?

- 1 – Yes**
- 2 – No**

Q & A Session

