HP e3000 - Staying? Going? Gone?: A Risk-Free Migration Master Class

Jeanette Nutsford

Software Consultant

Computometric Systems Ltd.

jeanette@netcomuk.co.uk

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Staying, Going, Gone - Strategy

- HP COBOL, VPLUS, IMAGE, KSAM, MPE
  - Homesteading - Enhance Application on the HP3000
  - Migration - to any of over 600 platforms
- Low Risk Strategy
  - Retain Functionality through Evolution
  - Gentle Transition not Big Bang
- No Upfront Target Platform/OS Decision Required
- Tools Based (Do It Yourself)
- Add a Modern Look and Feel and open the future for COBOL Applications

Agenda – Staying

- Compile and Run HP COBOL/II application on HP3000

- HP COBOL/II conversion to ACUCOBOL-GT ®

- Compile and Run on HP3000

- Running AcuConnect ® on the HP3000

- Move Source files to AcuBench™

- Convert VPLUS forms into GUI and Enhance

- Compile to and Run on HP3000 via Thin Client

- Review VPLUS Migration Options
  - (Alan Yeo)

Agenda - Going

- Install Eloquence on Target Server
- Transfer IMAGE Schema, Create Eloquence database
- Transfer IMAGE data to Eloquence database
- HP3000 access to Eloquence data?
- Review IMAGE to Eloquence Options
  - (Michael Marxmeier)

Agenda – Gone

- Compile application to Target Server
- Move KSAM data to Target Server as VISION data
- Run application on Target Server with Eloquence
- Review MPE/iX Environment Migration Options
  - (Sven Akkermans)
- Set up MPE Environment on Target Server (MPUX)
- Run application on Target Server with MPUX
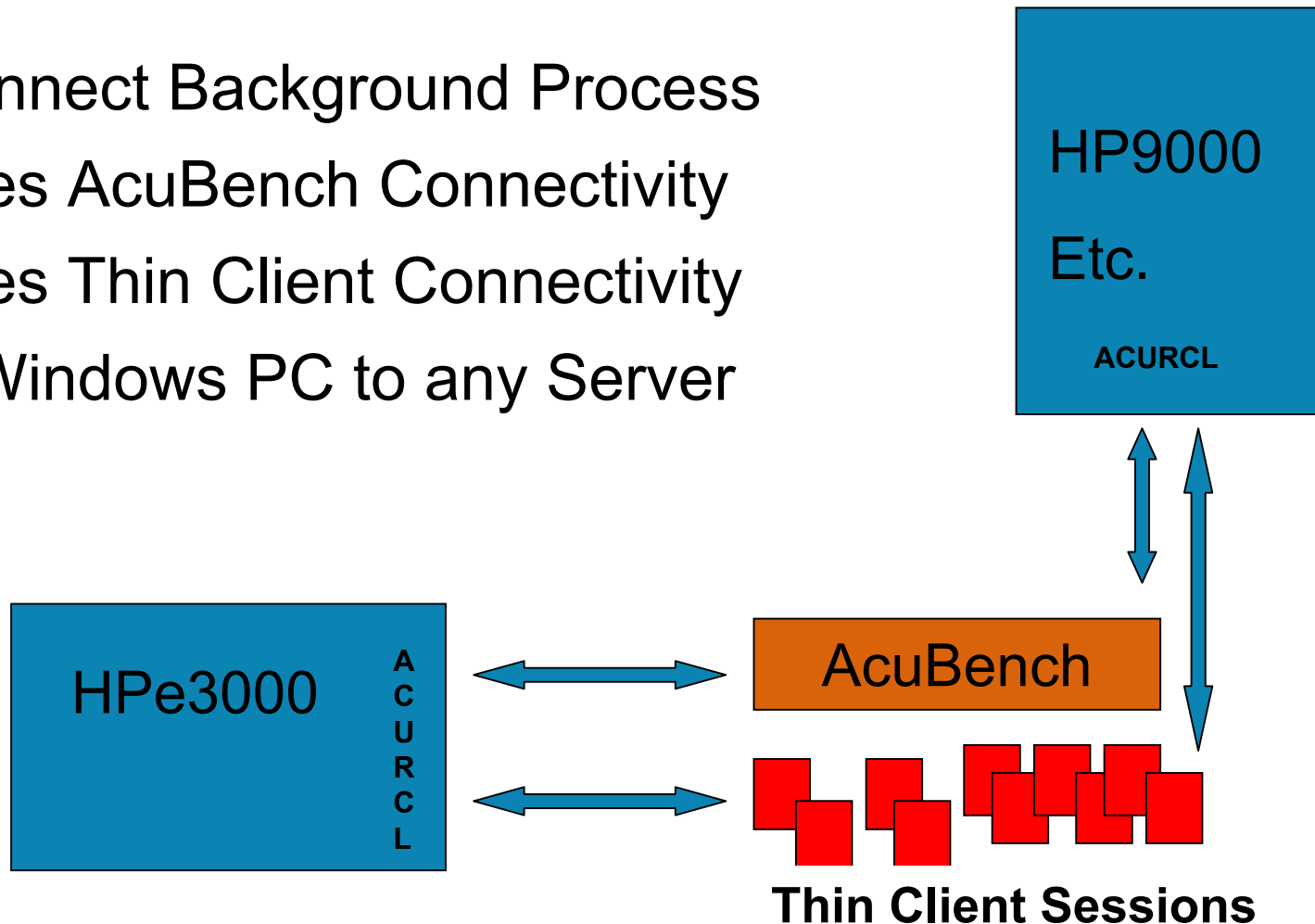- Review COBOL and the Future
  - (Stephen Hjerpe)

Staying

DEMO

"Staying" Connectivity

- AcuConnect Background Process
- Provides AcuBench Connectivity
- Provides Thin Client Connectivity
- From Windows PC to any Server

HP9000

Etc.

ACURCL

HPe3000

A C U R C L

AcuBench

Thin Client Sessions

"Staying"
Moving Program Source Files

- **Source file**
  - Must be a Bytestream File for other Platforms
  - POSIX Shell Commands
    - TOBYTE, FROMBYTE
  - Add File Type Extensions (if required)
  - HFS (Hierarchical File Space)
  - Watch for Upper/Lower case differences
- **COPYLIB to Copy Books**
  - LIBUTIL, Acucorp supplied Utility
  - Extracts from KSAM Copylib or Flat Files
  - Generates Individual Bytestream Copy Books

"Staying" Transferring, Managing Files

- HP3000 as file server

  Use SAMBA to connect to IDE

  Compile on HP3000

- FTP files to Windows IDE

  Compile back to HP3000 with

  Thin Client access

- Hold files on another server

  Use SAMBA to connect to IDE

  Compile back to HP3000

  with Thin Client access
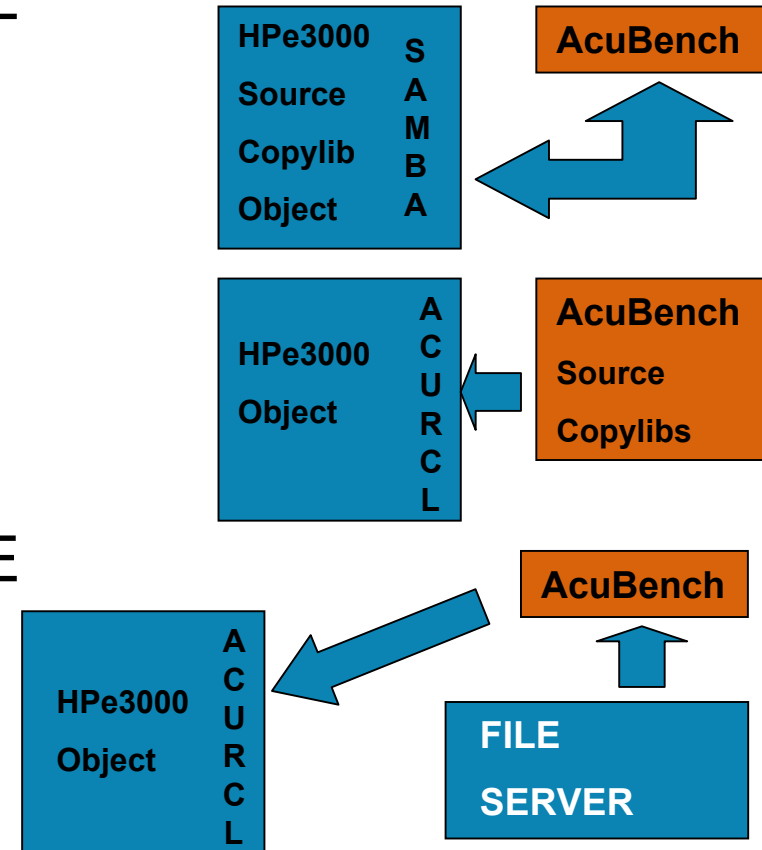
"Staying" Converting the VPLUS Forms

- **ScreenJet Extract to database**
  - All or Individual Forms
  - Screen Layouts, Field Types, Processing Specs
  - Save Fields etc

- **ScreenJet Generate**
  - Creates AcuBench Program Structure Files
    - One for Global Form File Information
    - One for each Screen
  - Creates Screen Copy Books
    - One for Global Form File Information
    - One for each Screen

"Staying"
Compiling Thin Client GUI

- Transfer and Add .PSF files into Project

- Generate COBOL source from .PSF files

- Use GUI Screen Design Tool to change Forms

- Include Pointer to ScreenJet VPLUS API

- Compile back to the HP3000

- Create Thin Client Alias on HP3000

- Run program on HP3000 via Thin Client

HPe3000 Object IMAGE VPLUS API — ACURCL ← Acucorp Thin Client — Acucorp Thin Client

"Staying" DEMO

HP e3000 – Staying? Going? Gone?: VPLUS Migration Options

Alan Yeo

ScreenJet Ltd.

alanyeo@screenjet.com

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Migrating VPLUS?

- Why was VPLUS a good User Interface

- What was wrong with VPLUS

- Where do you want to take your Apps

- Don't confuse Migration with Webifying

- Who is going to use the new interface

Conversion To Windows GUI

- What works, What won't work

- How to make the conversion decision

- How are VPLUS calls supported

- How are Processing Specs supported

- How is future development supported

- What types of OS are supported

Key Decision Criteria

- Big Bang or Gentle Transition (testing!)

- Where do you want to end up?

- Will you be doing the conversion?

- Maintaining the converted solution

- Future Development

- Why we chose ACUCOBOL-GT as the solution

There is No One Right Answer!
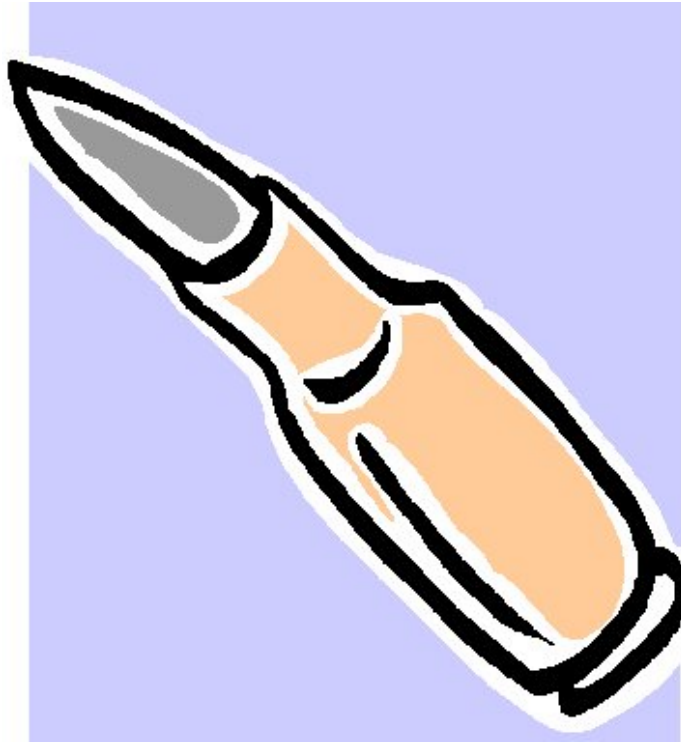
- No Silver Bullets
- But to ACUCOBOL-GT!

Extract   Generate   Compile

ScreenJet

More Information

- Detailed information and demonstration downloads available at **www.screenjet.com**

- Get in contact: **sales@screenjet.com**

Alan Yeo
alanyeo@screenjet.com
www.screenjet.com

Going

DEMO

"Going" IMAGE to Eloquence

- Eloquence, Multi-Platform support
- Conversion Considerations
  - Big Endian, Little Endian, Host Character Sets
- Installing Eloquence on a Server
- Extracting the IMAGE Data
- Transferring the IMAGE Data and IMAGE Schema
- Creating the Eloquence Database
- Loading the Data
- HP3000 as Client to Eloquence Server

"Going"
DEMO

HP e3000 - Staying? Going? Gone?: IMAGE to Eloquence Options

Michael Marxmeier

Marxmeier Software.

mike@marxmeier.com

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Eloquence at a glance

- Excellent compatibility and performance for IMAGE based applications

- Cost effective

- Supports multiple platforms

- Proven solution

Complete package

- The Eloquence database comes with
  - Comprehensive set of database utilities
  - Structural maintenance
  - Integrated indexing (TPI subset)
  - On-line backup
  - MPE migration tools

Eloquence environment

- Eloquence is supported by a wide range of HP3000 tools, eg.

  – SUPRTOOL

  – Speedware (to be released)

  – Cognos Powerhouse (to be released)

- Different options available for access with ODBC and JDBC

Migration Overview

- The Eloquence database is almost 100% compatible to TurboIMAGE at the application level

- The underlying architecture is different

Eloquence architecture

- Based on IMAGE

- Client/Server architecture

- Additional locking options available

- Dynamic, nested transactions, transaction isolation

- Integrated Indexing, hashing is not used

- Dynamic dataset expansion

Eloquence architecture

- Deadlock detection and recovery

- New security subsystem

- Online backup and forward recovery

- Databases do not reside in the file system

- Structural information is maintained in the database (no ROOT file)

Client/Server architecture

- Database access is performed by a server process
- The application is linked with the database API
- The server is connected through the network (or shared memory)

Network transparent

- Applications running on different machines and operating systems can access a common database

- Requests and results are translated transparently
  - Character set encoding
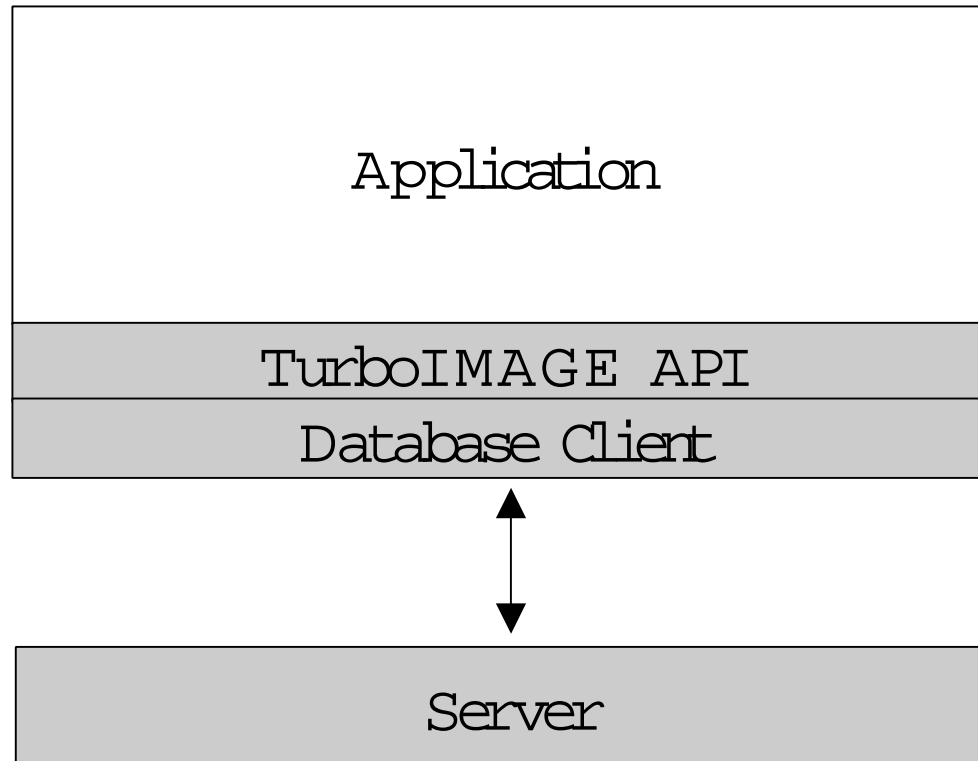 - Byte order conversion

Multiple Platforms

- Eloquence is available for multiple operating systems and architectures
  - HP-UX on PA-RISC and Itanium
  - Linux on Intel IA-32 (Itanium)
  - Windows NT/2000/XP/2003 on Intel IA-32

TurboIMAGE compatibility

- All TurboIMAGE intrinsics and almost all modes are supported and behave identically

- HP e3000 applications can usually be ported with no or only minor changes

TurboIMAGE compatibility

```
+---------------------------------------+
|                                       |
|                                       |
|             Application               |
|                                       |
|                                       |
+---------------------------------------+
|          TurboIMAGE API               |
+---------------------------------------+
|          Database Client              |
+---------------------------------------+
                    ↕
+---------------------------------------+
|                                       |
|               Server                  |
|                                       |
+---------------------------------------+
```

Using Eloquence
with ACUCOBOL-GT

- Link the Eloquence image3k library to the ACUCOBOL-GT runtime (runcbl)

- Load the Eloquence image3k library dynamically (using CALL)

- Eloquence currently uses native byte order

  - On little endian platforms (Intel IA-32) COMP-5 type must be used instead of COMP for Binary items

  - The –D5 compiler option maps all COMP to COMP-5 (Although Jeanette & Alan don't like it)

Using Eloquence
with MicroFocus Cobol

- Link the Eloquence image3k library to the application

- Eloquence currently uses native byte order
  - On little endian platforms (Intel IA-32) COMP-5 type must be used instead of COMP
  - A compiler directive may be used to map the COMP to the COMP-5 type
    `MAKESYN "COMP-5" = "COMP"`

Character set encoding

- On MPE the HP-ROMAN8 character set encoding is often used

  - HP-Roman8 encoding is typically not available on other platforms

  - Eloquence defaults to HP-ROMAN8 character set on HP-UX and ISO-8859-1 on other platforms

  - Eloquence performs conversion "on the fly"

Byte order

- PA-RISC and Itanium (with HP-UX) use big endian byte order

- Intel IA-32 and Itanium (Linux and Windows) use little endian byte order

- Eloquence performs conversion "on the fly" if necessary

Data Migration Overview

- Schema files are compatible and no change is required

- Eloquence includes MPE tools to export the database content to flat files

- Transfer the schema file and the export files to the target system

- On the target system run the schema processor, the dbcreate utility and the dbimport utility

More Information

- Detailed information is available on the Eloquence web site
  http://www.hp-eloquence.com

- Get in contact:
  info@hp-eloquence.com

Michael Marxmeier
mike@marxmeier.com
www.hp-eloquence.com

Gone

DEMO

"Gone"
Migrating the Application

- Move ACUCOBOL-GT application from HP3000 to Target Server (or Compile to Target Server)

- Move KSAM File Data to VISION File on HP3000
  - K2VISION Utility from ScreenJet
  - Creates 2 Bytestream files (Data and Index files)
  - Use the VISION file on the HP3000 (or transfer to Target Server)

- Run application on Target Server accessing Eloquence

"Gone"
DEMO

HP e3000 – Staying? Going? Gone?: MPE/iX Environment Migration Options

Sven Akkermans

Ordina Denkart

sa@ordina-denkart.com

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ACUCOBOL-GT + MPUX
A Single-step HP-COBOL transition

Transitions for HP e3000 users should be:

- ## Simple

  Please, no mainframe-like migrations for my machine

- ## Efficient

  Time? Yes! Resources? Um, Oh. Well, let's say…

- ## Straightforward

  Please tell me upfront what it'll take…

HP COBOL Users now have that choice!

An HP e3000 To Transition?

Many installations look like this:

- Programs

  Ex. HP-COBOL

- Screens

  Ex. Line I/O, VPlus! or own Forms package

- Data

  Ex. TurboImage, Allbase, KSAM, MPE data files etc.
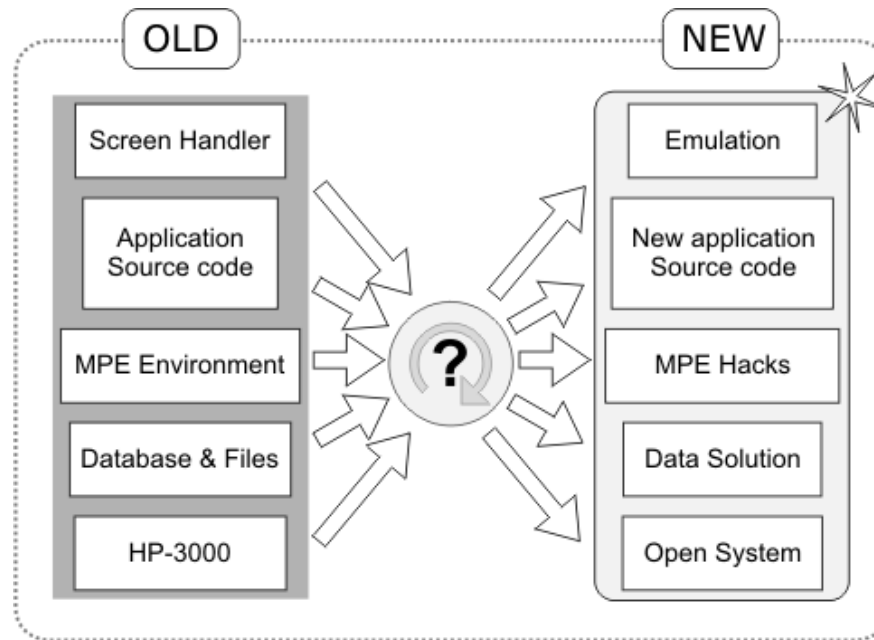
- JCL & sub-systems

  Glue logic, MPE tools etc

Where to transition to?

The target environment looks familiar…

edWin VPLUS-compatible

ACUCOBOL-GT
HP-COBOL compatible

Eloquence

TurboImage compatible

MPUX MPE-compatible
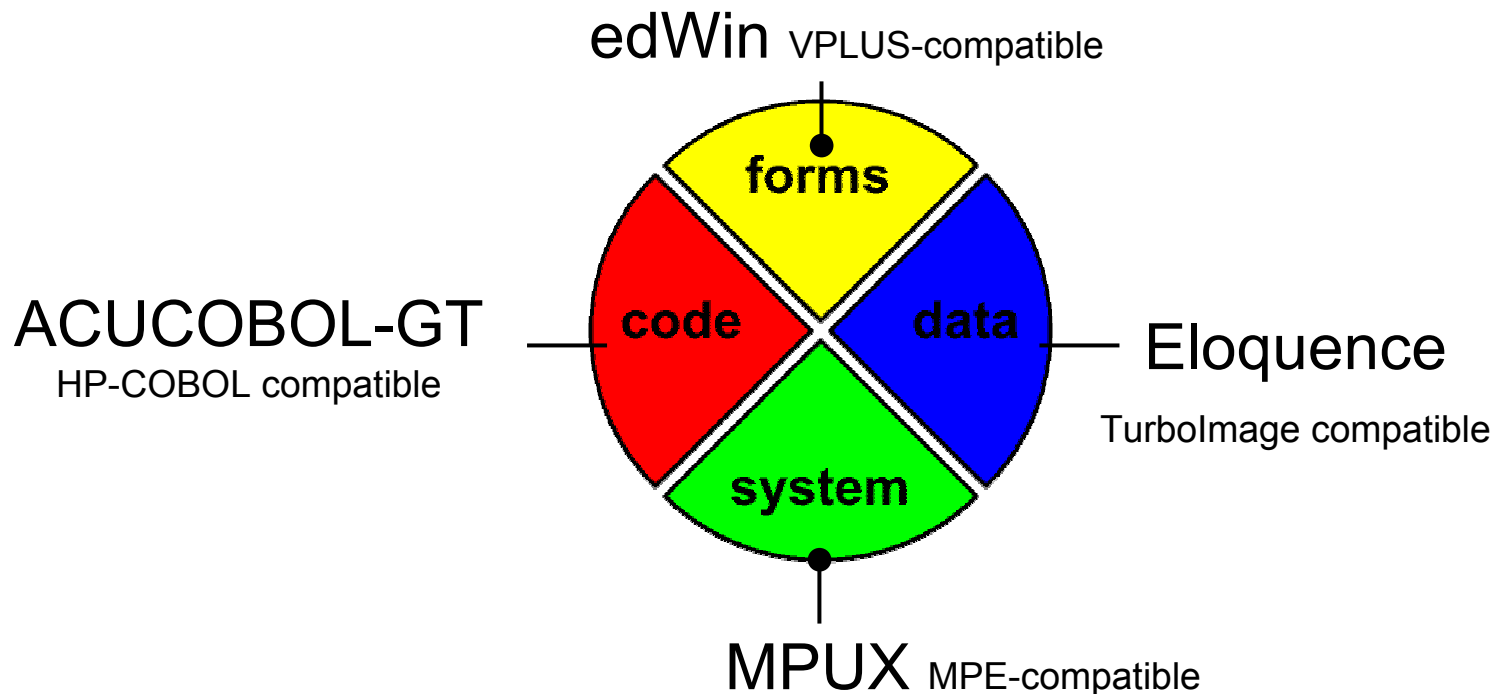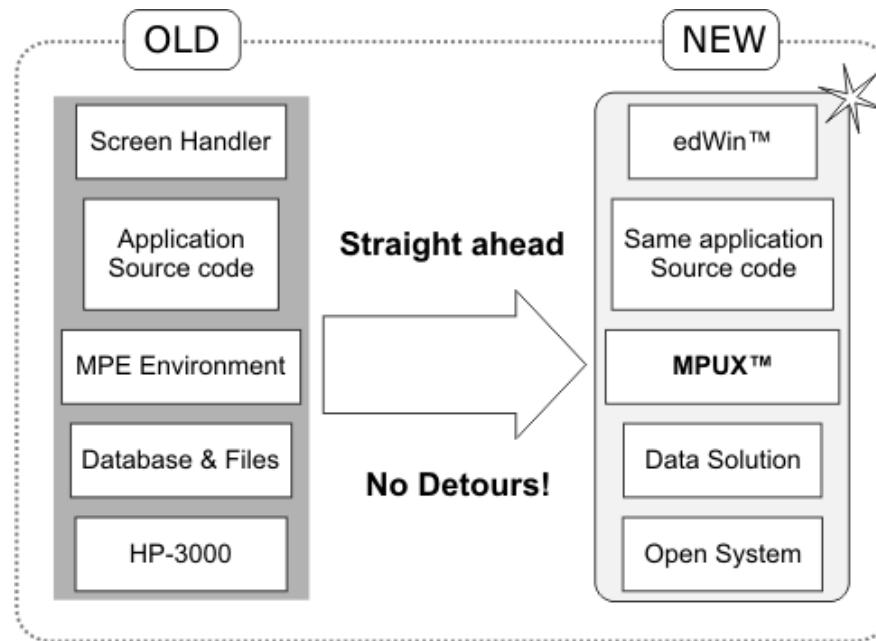
How (NOT) to transition

Typically, a migration looks like this:

FORGET IT! NOT NECESSARY!!!

NEW:
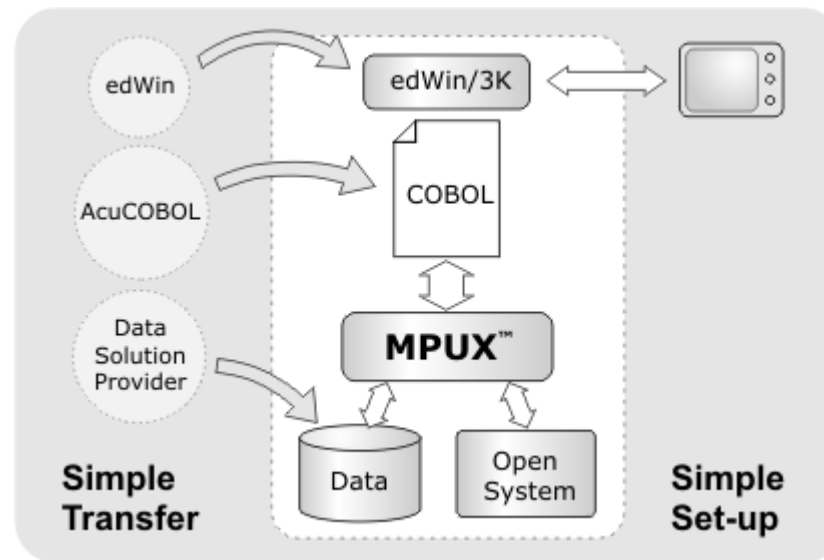# the Single-step Transition

Easy transfer to powerful products:

IT'S THAT SIMPLE!

End-result?
What you expect!

A manageable environment:

Single-step Transition Benefits

- NO MIGRATION, no manual work
  No cross-compilers, no hacking, no mangling

- Fully compatible with the original

- NO EMULATOR: Open Systems native

- Compatible with ViaNova extensions:
  And solutions for Pascal, SPL, FORTRAN…

- Supported by products with a real future!
  Acucorp, Denkart, Marxmeier etc.

Introducing Simple Transitions

ACUCOBOL-GT + MPUX

Single-step Transitions
For HP e3000 COBOL users

Sven Akkermans
sa@ordina-denkart.com

ORDINA DENKART www.hp3000.denkart.com

"Gone"
Migrating MPE Environment

- Set up MPUX - MPE Environment - on Target Server

- Run application on Target Server

- Demo

"Gone"
DEMO

HP e3000 – Staying? Going? Gone?: COBOL and the Future

Steve Hjerpe
Senior Systems Engineer
Acucorp, Inc.
shjerpe@acucorp.com

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Life after migration

- The new COBOL development system

- Moving off the HP e3000

- Using the integrated development environment

- Incorporating XML technology

- Interoperability

- Life-after-migration demonstration

- Questions & answers

The new COBOL development system

- ACUCOBOL-GT is a portable, ANSI standard, COBOL development system with compiler, runtime, file system, debugger and support utilities

- Fast compilation and execution - scalable high performance

- HP COBOL II syntax support

- Fully portable object code
  - Runs on over 600 platforms including MPE, MPE/iX, HP/UX (RISC, Itanium), Tru64, OpenVMS, Linux (IA32, Itanium) and Windows without recompilation

- Full-featured debugging tools

- Native COBOL GUI syntax

Moving off the HP e3000: Core ports

DG/UX 5.4 RISC
DG/UX SVR4 R4.11 Intel

HP MPE/iX 6.0
HP Tru64 UNIX 3.2
HP Tru64 UNIX 4.0
HP Tru64 UNIX 5.0
HP Tru64 UNIX 5.1
HP-UX 10.20
HP-UX 11.0 RISC (32-bit)
HP-UX 11.0 RISC (64-bit)
HP-UX 11.22i 1.6 (64-bit)
HP-UX 11i RISC (32-bit)
HP-UX 11i RISC (64-bit)

IBM AIX 4.1
IBM AIX 4.3.2 (32-bit)
IBM AIX 4.3.3 (32-bit)
IBM AIX 5L v5.1 (32-bit)
IBM AIX 5L v5.1 (64-bit)
IBM AIX 5L v5.2 (32-bit)
IBM AIX 5L v5.2 (64-bit)

Linux (glibc 2.0) Intel
Linux (glibc 2.1) Intel
Linux (glibc 2.2) Intel
Linux (glibc 2.2) iSeries
Linux (glibc 2.2) Itanium
Linux (glibc 2.2) zSeries
Linux (glibc 2.3) Intel
Linux (libc 5) Intel

Mac OS X 10.2

MS Windows 2000
MS Windows 2000 Server
MS Windows 32bit
MS Windows NT Intel
MS Windows TS/Citrix
MS Windows XP

SCO OpenServer 5.00 COFF
SCO OpenServer 5.00 ELF
SCO OpenServer 5.04 COFF
SCO OpenServer 5.04 ELF
SCO OpenServer 5.05 ELF
SCO OpenServer 5.06 ELF
SCO OpenServer 5.07 ELF
SCO Unix V.3 R2.4
SCO UnixWare 7 ELF

Sun O/S 4.1.3
Sun Solaris 2.5
Sun Solaris 2.6
Sun Solaris 2.6 Intel
Sun Solaris 7 (32-bit)
Sun Solaris 7 (64-bit)
Sun Solaris 7 Intel
Sun Solaris 8 (32-bit)
Sun Solaris 8 (64-bit)
Sun Solaris 8 Intel
Sun Solaris 9 (32-bit)
Sun Solaris 9 (64-bit)

UNIX SVR4v3 MP-RAS 3.x

Using the integrated development environment

AcuBench

- Project Manager: improves organization and efficiency

- Screen Designer: creates GUI screens at touch of a button – and outputs COBOL code

- Code Editor: generates and manages source code

- Report Composer: designs graphical report layouts, generates code
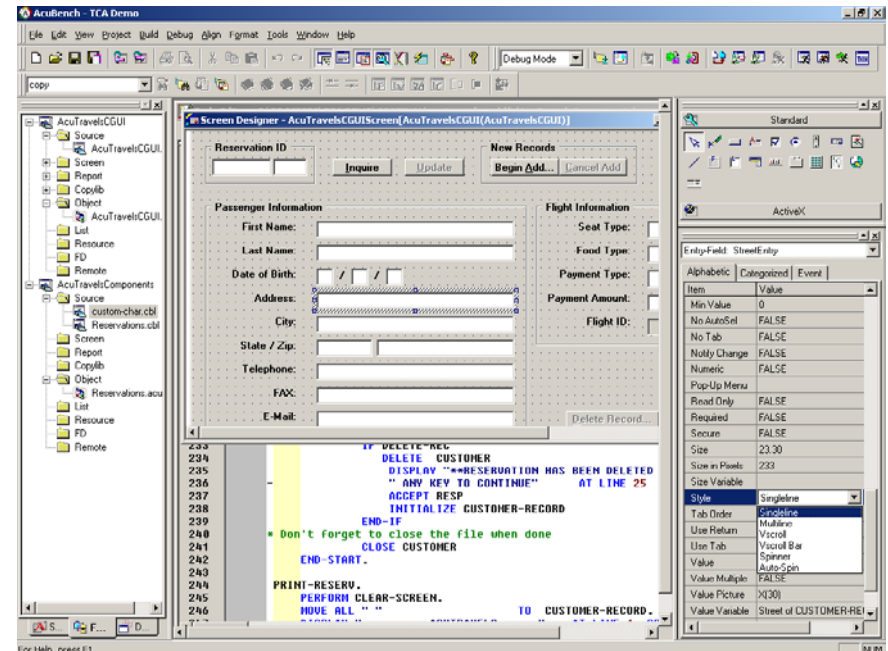
Incorporating XML technology

- xml2fd utility – used to create FD and SELECT copybooks from XML data

- AcuXML – a runtime file interface that reads and writes XML data

Interoperability

- Componentize COBOL applications and expose in a Service-Oriented Architecture (SOA)

- Provide true standards-based Web services using COBOL

- Interoperate with other languages (Java, Visual Basic, Delphi, ASP, JSP, C/C++, C#)

- Plug COBOL applications into the Microsoft .NET Framework

- Interoperate with J2EE Application Servers (WebSphere®, WebLogic®)

Life-after-migration demonstration

- Use AcuBench as a Project Management, Design, Coding, Testing, and Deployment tool

- Create XML output from COBOL

- Read XML data into COBOL

- Have VB front end interoperate with COBOL service

- Have Java front end interoperate with COBOL service

"Life-after-migration" DEMO

Thank you

- Download our updated HP e3000 White Paper by going to **www.acucorp.com/hpwp**

- Or visit **www.acucorp.com/hp**

The new face of COBOL℠

ACUCORP®

Steve Hjerpe
shjerpe@acucorp.com

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Thank You for Attending

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      Jeanette Nusford
          Alan Yeo
   Michael Marxmeier
    Sven Akkermans
       Steve Hjerpe
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We would also like to thank **invent3k** and **invent9k** for their participation ☺

Interex, Encompass and HP bring you a powerful new HP World.