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ViaNova 3000

No-nonsense migrations

Sven Akkermans

Presentation Overview

Part 1

- Company introduction (short)
- ViaNova, concepts & components
- The ViaNova 3000 Roadmap

Part 2

- ViaNova 3000: a real-life migration
- edWin/3K & MPUX without ViaNova 3000
- Summary

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Ordina Denkart NV

Supplying added-value transformations
since 1988

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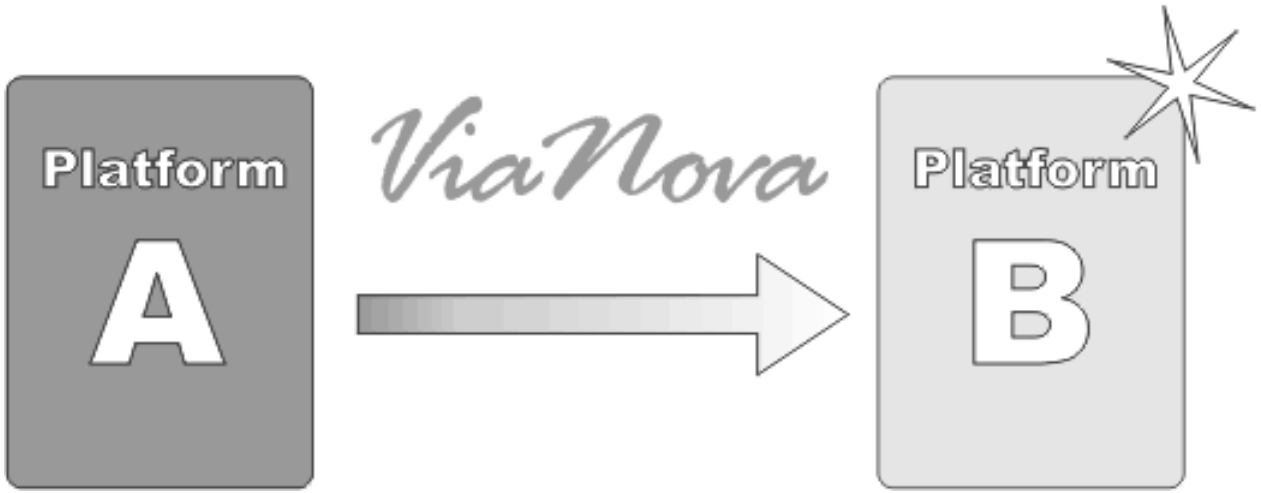
The Purpose of ViaNova 3000

The prime objective is to migrate one environment to another.



With Added-Value!

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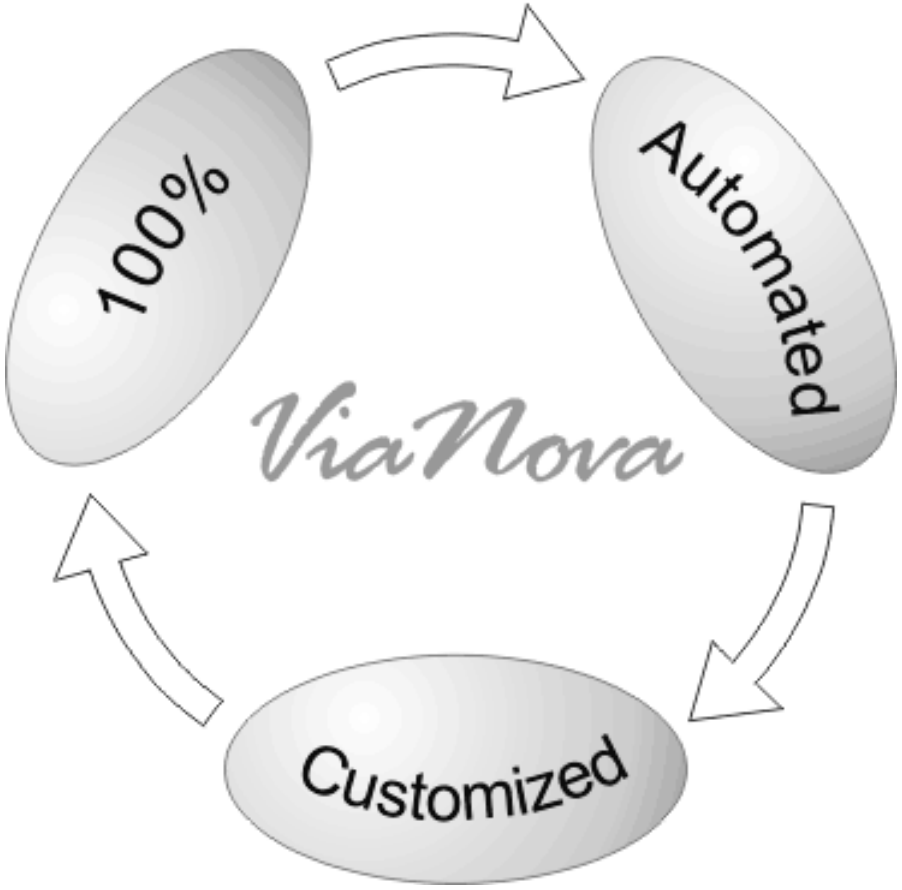
Key Concepts of ViaNova 3000



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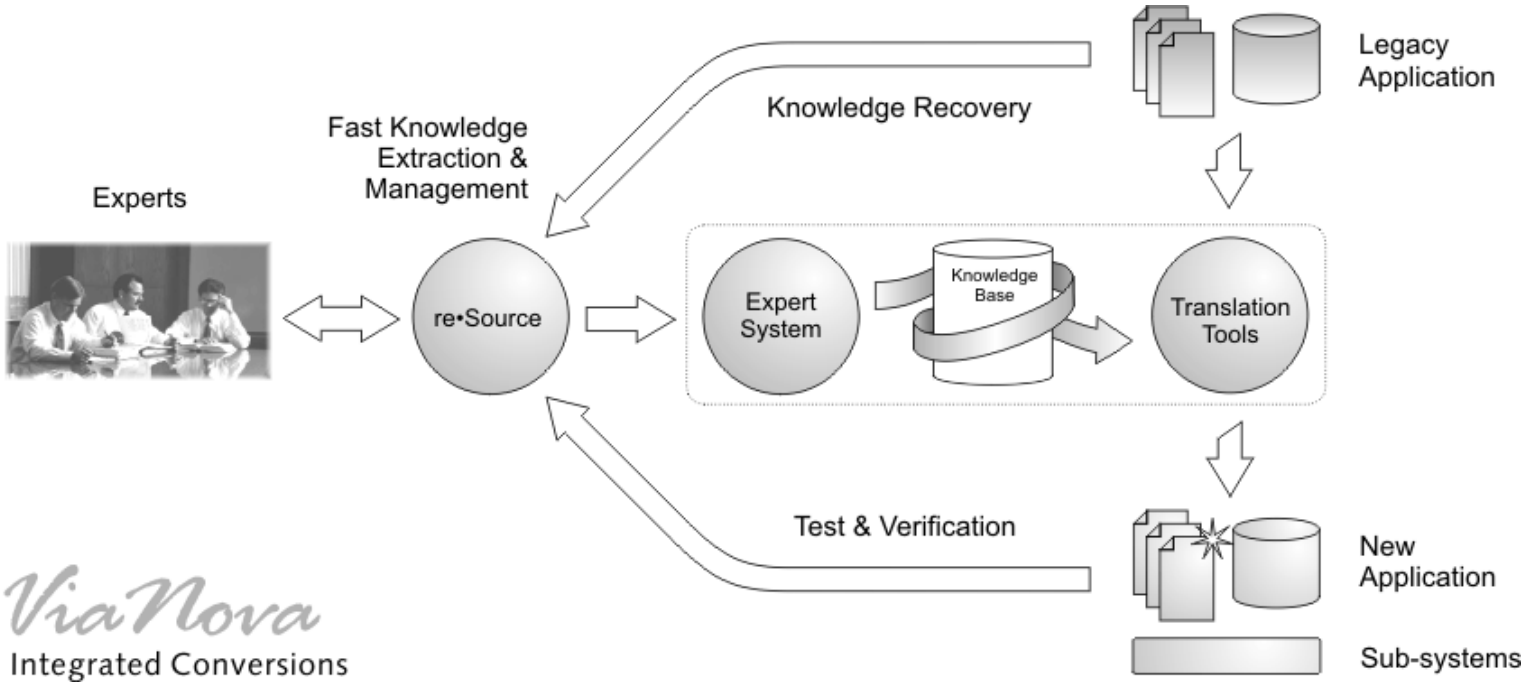
The ViaNova 3000 Tool chain



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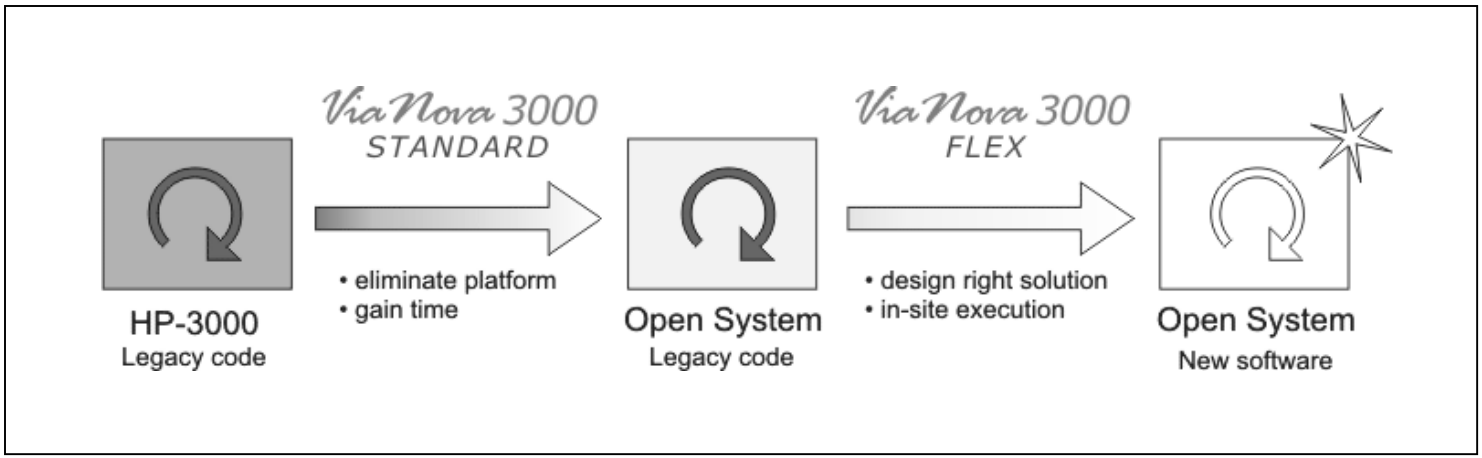
ViaNova 3000
An end-to-end solution



- For platform migrations, re-engineering or both
- Uses specialized migration tools & products
- Go *OPEN* without waste of *TIME* (or resources)

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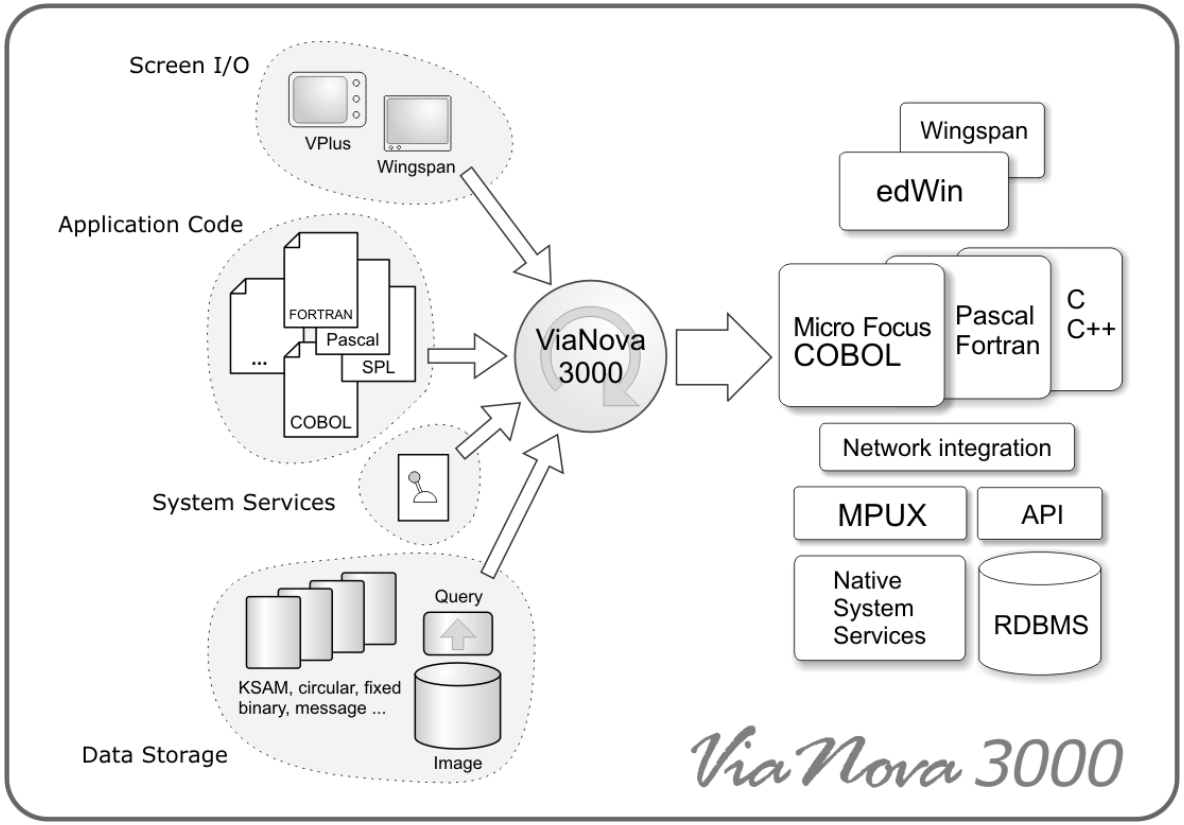
ViaNova 3000 Roadmap



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Part 2: Some real-life info

- Customer case: ViaNova at SUMMIT
- MPUX™ in the field: examples
- edWin/3K™ connects users everywhere

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ViaNova 3000 in Practice

- ViaNova 3000 offers a **STANDARD** solution as well as a **FLEX**ible one
- ViaNova can be infinitely customized
- MPE emulation as broad as needed
- Example: SUMMIT Information Systems

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ViaNova 3000 in Practice

SUMMIT Information Systems

- Software services for Credit Unions
- Main driver: *diversify to other platforms*
- Migration started before HP announcement

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SUMMIT: Initial environment

- 1.7 million lines of FORTRAN/C code
- Duplicated data interfaces handled through proprietary data definition tools
- Own sub-system for User I/O, different proprietary UI clients

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SUMMIT Requirements

- Change platform AND language
  Integrate all in single development environment
- Keep code maintainable
  Ex. compliance with coding standards
- Avoid emulation where possible!
  Tailored solution essential

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SUMMIT: Project Set-up

- Migrate to C++
  Eliminate FORTRAN altogether
- From HP e3000 to HP 9000 in 2 steps
  First code, then platform
- Image data goes into Eloquence
  Other data migrated to customized MPUX

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SUMMIT: The Project

- Phase 1: C++ Executable on MPE
  Define interfaces to migrate to.
  Perform automated conversion.
  Use code freeze for re-training.

- Phase 2: Migrate to HP 9000/HP-UX
  Parallel development
  Eliminate intrinsics altogether.
  Deliver SPX (custom MPUX) and sub-systems.

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SUMMIT: issues & solutions

- **Double file access interface**
  Conversion tools provide global consistency across C-programs, FORTRAN-code, etc.
- **Proprietary user interface**
  Maintain socket I/O, Escape sequences
- **Coding standards compliance**
  An MPUX wrapper library was delivered: SPX
  Control & maintenance transferred to the Customer
- **MPE Batch jobs**
  Tailored automatic conversion to UNIX shell scripts

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SUMMIT: Issue & Solution 1

Subject	Double Data File Interface	
Example	• Synchronization of interfaces • Propagation of changes • Simpler management	
Usage Frequent		*Standard language* Yes
Solution	Tools with application-wide overview	

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SUMMIT: Issue & Solution 1

Original FORTRAN code

```
EQUIVALENCE
     * (AA REC(  1),  AA APP SSN),
     * (AA REC(  3),  AA APP NUMBER),
     * (AA REC(  4),  AA APP KEY),
     * (AA REC( 10),  AA SUBS CHANGE),
     * (AA REC( 11),  AA AMORT TYPE),
     * (AA REC( 12),  AA ATTACHMENT),
     * (AA REC( 13),  AA SALES PRICE),
     * (AA REC( 15),  AA CLOSING COST),
     :
```

During translation:

- Analyse Field Size & Layout
- Map to C-structure
- Translate FORTRAN refs.

Original C code

```
typedef struct {
   long     lAppSsn;
   USHORT   usAppNumber;
   char     caAppKey[12];
   char     caSubsChange[2];
   char     caAmortType[2];
   char     cAttachment;
   char     cPad1;
   long     lSalesPrice;
   long     lClosingCost;
   long     lPrepaidEscrow;
   long     lOtherFinancing;
   long     lOtherEquity;
   long     lCashDeposit;
   long     lSellerClosing;
   :
```

Maintain C record layout

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SUMMIT: Issue & Solution 1

Solution	
Applicable to other conversions **Yes, any mixed environment**	
Traceability **High**	*Maintainability* **High**
Portability **High**	*Readability* **High**
Availability **Unix, Linux, NT**	*Future development* **Dedicated generator**
Manual work **Limited**	*External dependencies* **None**

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SUMMIT: Issue & Solution 2

Subject	Proprietary User Interface (non-VPlus)	
Example	• Escape codes • Socket I/O • Different proprietary clients	
Usage Frequent		*Standard language* Yes
Solution	Modular design of ViaNova 3000	

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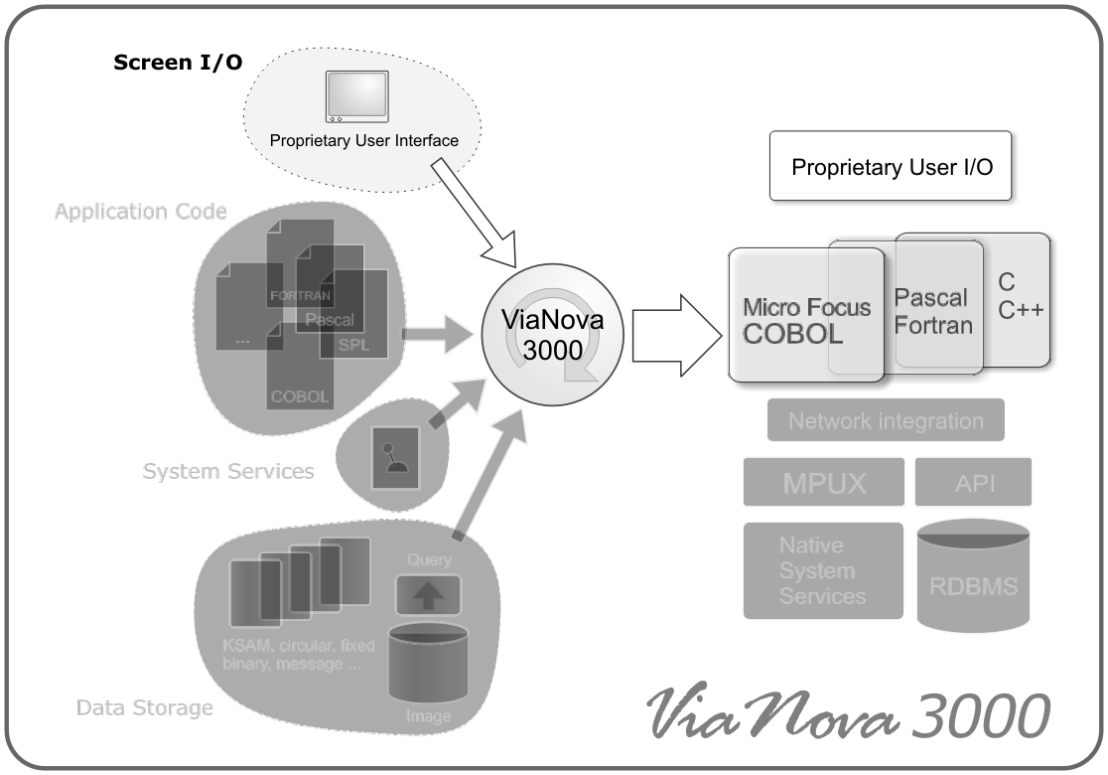
SUMMIT: Issue & Solution 2

Accommodate Proprietary UI



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SUMMIT: Issue & Solution 2

Solution	
Applicable to other conversions **Yes**	
Traceability **High**	*Maintainability* **High**
Portability **Medium**	*Readability* **High**
Availability **Unix, Linux, NT**	*Future development* **As on MPE**
Manual work **Limited**	*External dependencies* **None**

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SUMMIT: Issue & Solution 3

Subject	Integration into new environment	
Example	• Company standards • Eliminate old platform • Isolate dependencies	
Usage Frequent		*Standard language* Yes
Solution	Free customizing in ViaNova 3000	

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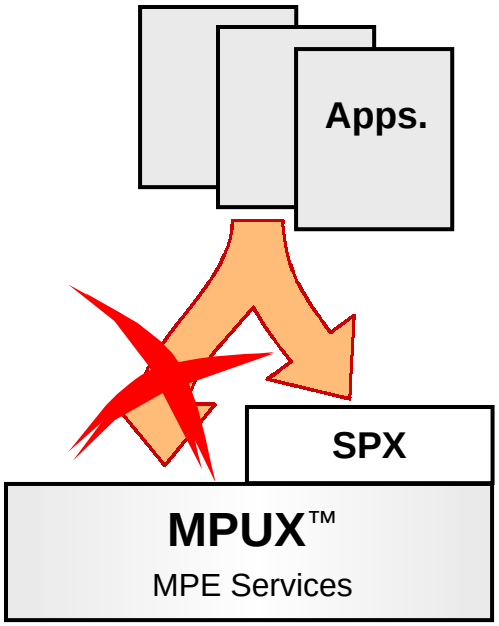
SUMMIT: Issue & Solution 3

SPX: System API abstraction



- Interface complies with Coding Standards
- Intrinsics are automatically hidden in separate layer
- Customer becomes independent of proprietary product

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SUMMIT: Issue & Solution 3

Solution	
Applicable to other conversions **Yes**	
Traceability **High**	*Maintainability* **High**
Portability **Customer dependent**	*Readability* **High**
Availability **Unix, Linux, NT**	*Future development* **New platform**
Manual work **Limited**	*External dependencies* **None**

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SUMMIT: Issue & Solution 4

Subject	Translation of MPE Batch jobs
Example	• File Equations • Program flow
Usage Frequent	*Standard language* Yes
Solution	Unix scripts and utilities

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SUMMIT: Issue & Solution 4

MPE Batch Job Translation

```
!COMMENT
!FILE DEOYINFO=DEOYINFO.DATA,OLD;DEV=DISC
!IF FINFO("GLOBMTPT.DATA",0) = TRUE THEN
!XEQ GLOBMTPT.DATA
! IF XXXXXX_LOCATION = "ONLINE" THEN
! FILE DEOYLOG=DIRS5498.EOY.CCC,OLD;DEV=DISC
! ELSE
! COMMENT *** IT APPEARS YOU ARE A INHOUSE CLIENT...
! COMMENT *** ARE GOING TO USE THE DEFAULT;
!  IF FINFO("DEOYLOG.DATA",0) = FALSE THEN
!  BUILD DEOYLOG.DATA;REC=-72,32,F,ASCII;DISC=1000
!  ELSE
!  TELLOP USING CURRENT DEOYLOG.DATA FOR LOGGING
!  FILE DEOYLOG=DEOYLOG.DATA,OLD;DEV=DISC
!  ENDIF
! ENDIF
!ENDIF
```

Original Job

```
export DEOYINFO="DEOYINFO.DATA,OLD;DEV=DISC"
if [[ $(spxcomfunc -f "FINFO(\"GLOBMTPT.DATA\",0)") -eq ${TRUE} ]]
then
   spxrun ../DATA/globmtpt
   if [[ XXXXXX_LOCATION = "ONLINE" ]]
   then
      export DEOYLOG="DIRS5498.EOY.CCC,OLD;DEV=DISC"
   else
      echo " *** IT APPEARS YOU ARE A INHOUSE CLIENT SO WE"
      echo " *** ARE GOING TO USE THE DEFAULT;"
      if [[ $(spxcomfunc -f "FINFO(\"DEOYLOG.DATA\",0)") -eq ${FALSE} ]]
      then
         spxcommand -c "build DEOYLOG.DATA;REC=-72,32,F,ASCII;DISC=1000"
      else
         spxcommand -c "tellop USING CURRENT DEOYLOG.DATA FOR LOGGING"
         export DEOYLOG="DEOYLOG.DATA,OLD;DEV=DISC"
      fi
   fi
fi
```

Translated Version

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SUMMIT: Issue & Solution 4

Solution	
Applicable to other conversions **Yes, other scripting languages**	
Traceability **High**	*Maintainability* **High**
Portability **Medium**	*Readability* **High**
Availability **Unix, Linux, NT**	*Future development* **Shell scripts**
Manual work **Limited**	*External dependencies* **None**

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SUMMIT: MPUX support

- Non-standard package
- INTRINSICS support through wrappers
- MPE-compatible JCL where unavoidable
- SPOOLER

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Case Summary

- Project near completion
- Two beta customers scheduled to go into production in April 2003
- Intention to proceed with REACTOR
  - Same powerful migration technology
  - Perfectly integrated in current environment

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MPUX™ in the field
a few examples

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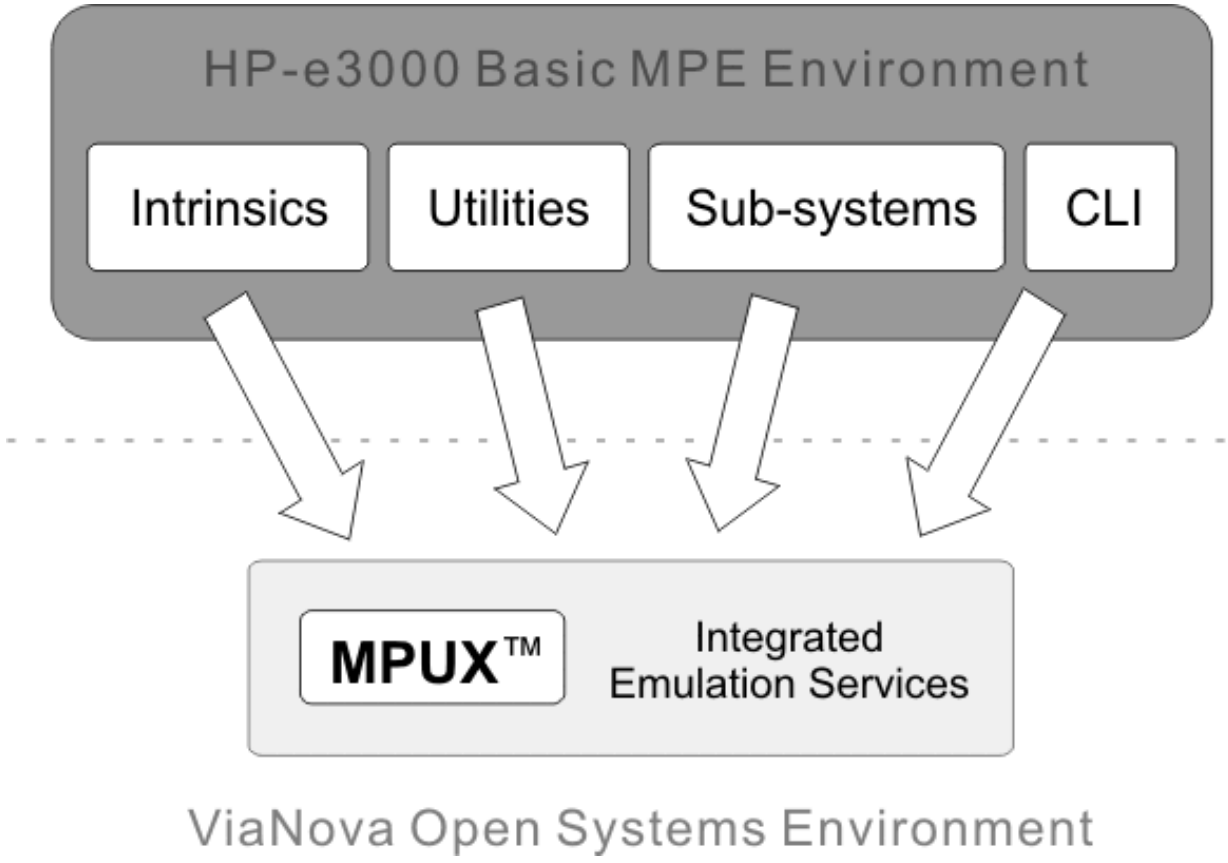
MPUX™ integrates MPE services



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MPUX benefits

MPUX offers these immediate benefits:

- Support for over 150 intrinsics
- Sub-systems for printing and streaming
- MPE-compatible tools (FCOPY, SORT…)
- File systems and Account support
- A dual-mode CLI: access MPE & UNIX!

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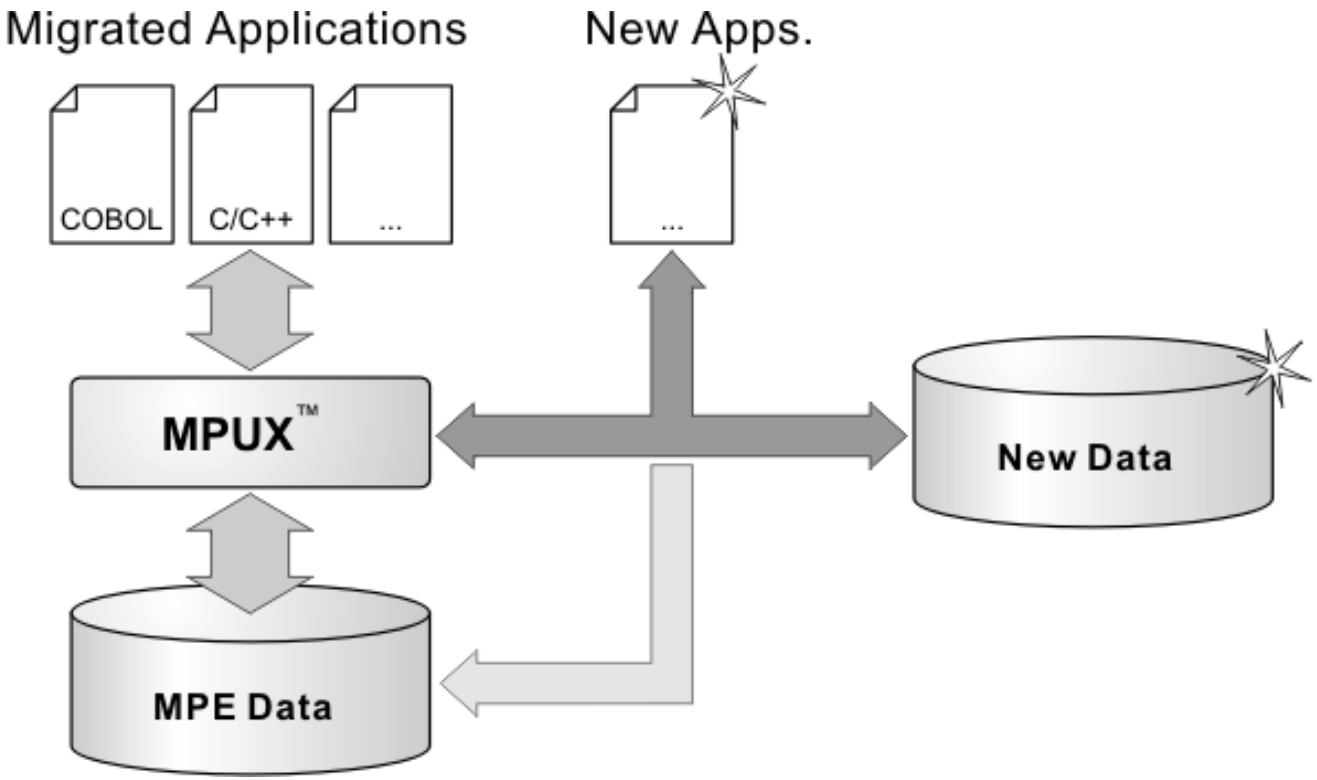
MPUX & Your data files



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MPUX™ Customer A

MPE applications parse LISTF output

To figure out something about files:

- An application starts a LISTF command
- The output is captured in a temporary file
- The application parses the temporary file

Therefore LISTF in MPUX must be completely MPE-compatible (1:1)

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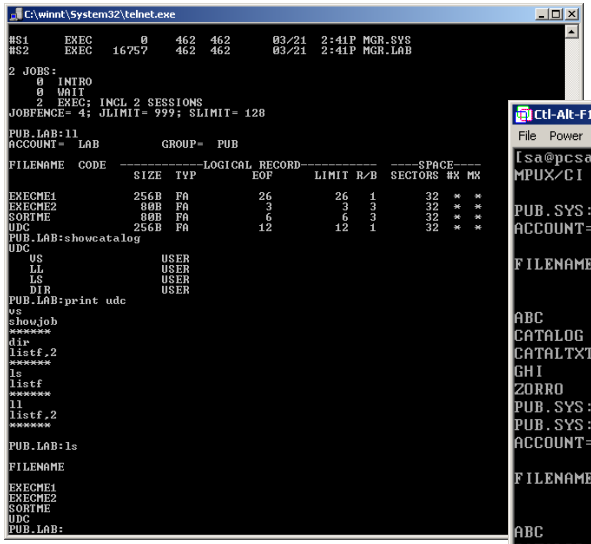
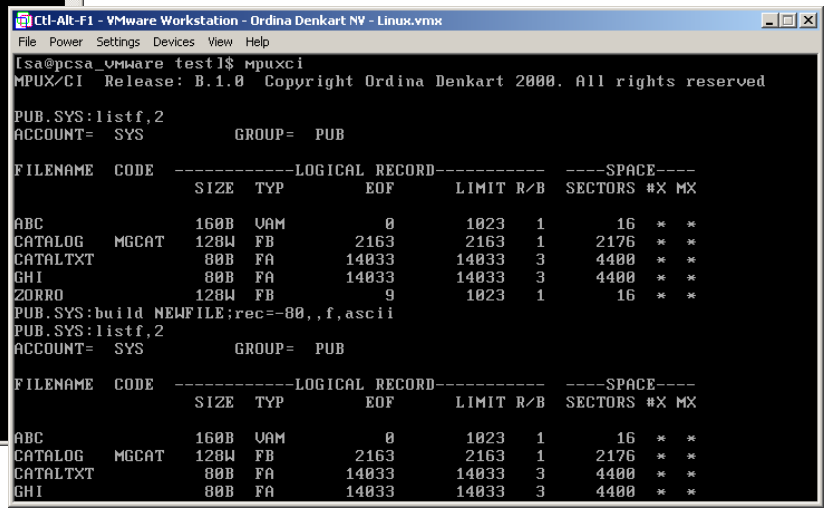
MPUX™ Customer A – (*cont'd*)



HP e3000

MPUX



MPUX makes migrating comfortable

- **MPE-compatible**: you know what you are dealing with
- **No code changes required**: it'll work as it did before

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MPUX™ Customer B

Use new tools in old environment

Use native tools to modify appl. environment.

- MPE emulation dictates basic data organization and access methods
- However UNIX/PC tools cannot be changed
- Adapt data organization, Reverse emulation

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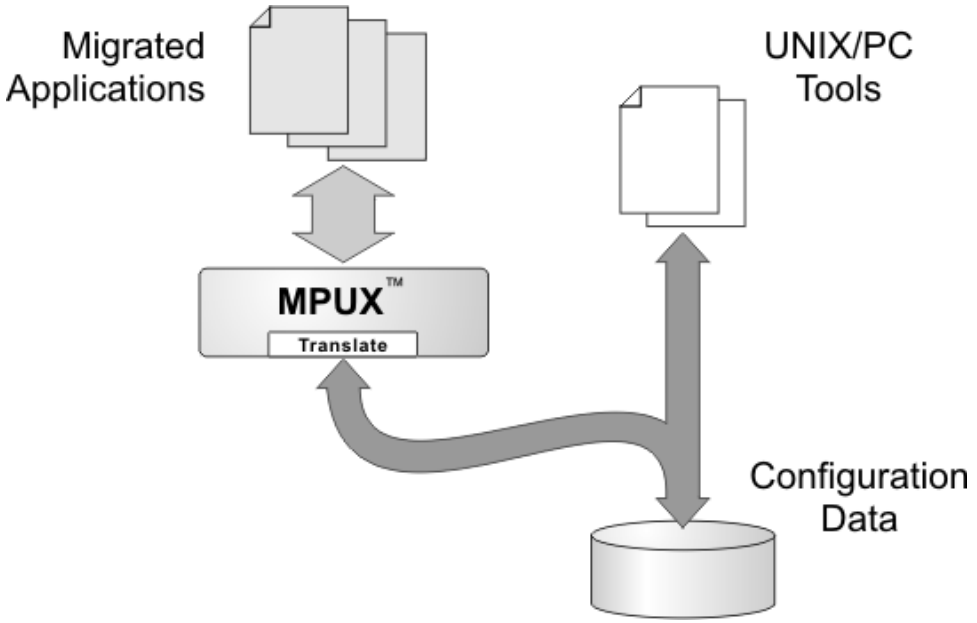
MPUX™ Customer B – (*cont'd*)



MPUX makes for better integration

- **MPUX Flexibility**: can be customized to your liking
- **Use native tools:** best way to get used to new platform

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edWin/3K™ connects users everywhere

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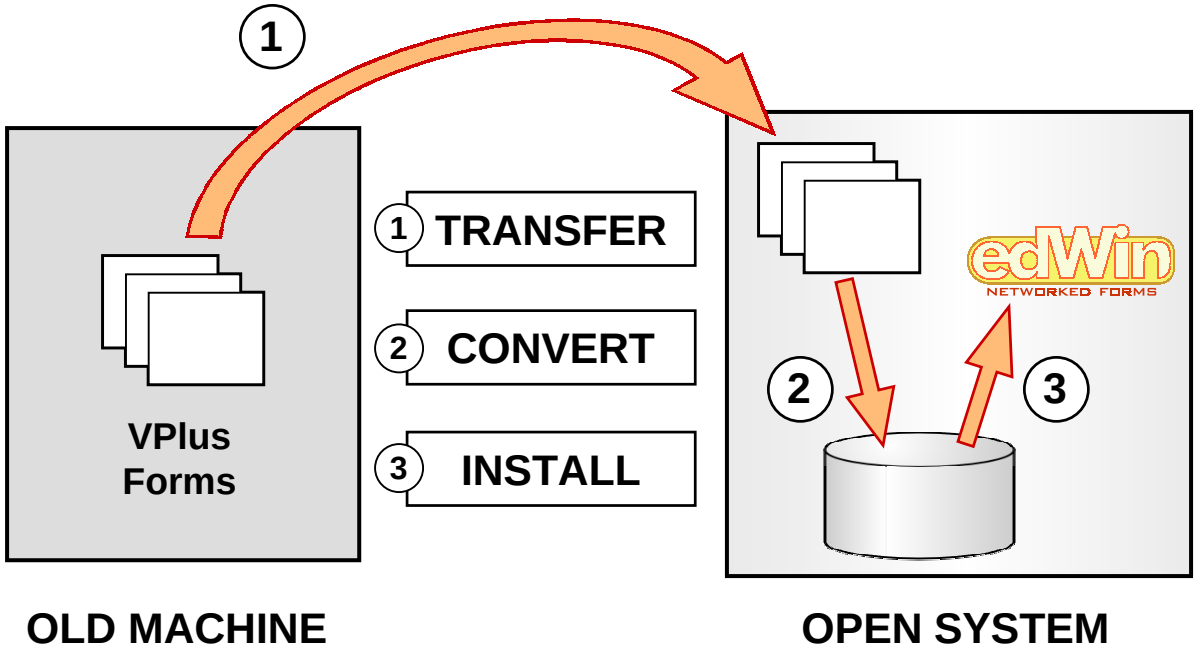
Migrate Vplus in 3 simple steps

edWin NETWORKED FORMS **migrates quickly & completely:**



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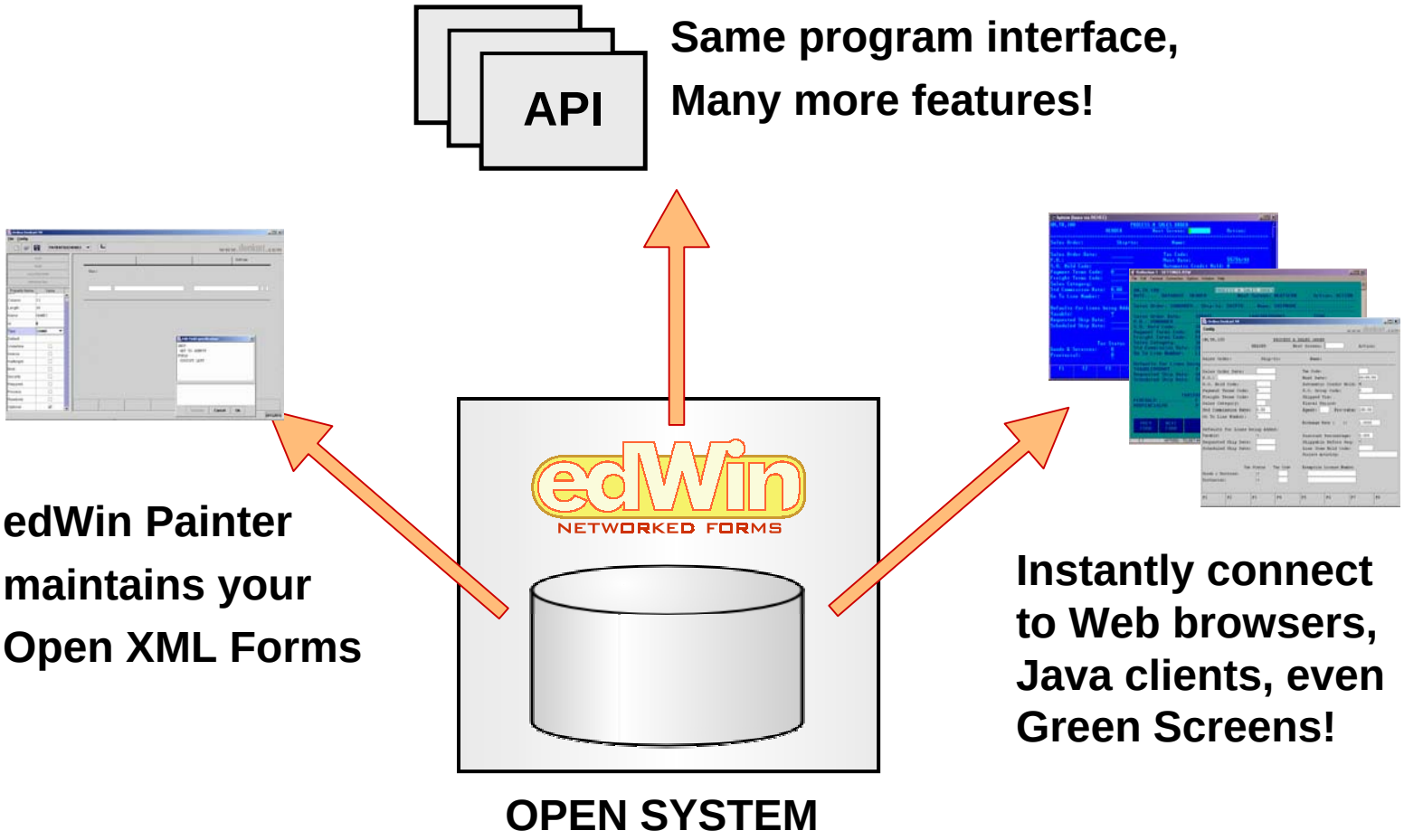
After migration: you got edWin!



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edWin™ benefits

edWin offers these immediate benefits:

- edWin supports *all* of VPlus
- There's no need to change anything
- Screen I/O is automatically *OPEN* and *platform independent*.

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edWin/3K™ Example A

Easy client distribution

Actually, there's not much installation needed

- Web/Java interfaces are downloadable
- Browser-model irrelevant
- Wide range of supported client platforms

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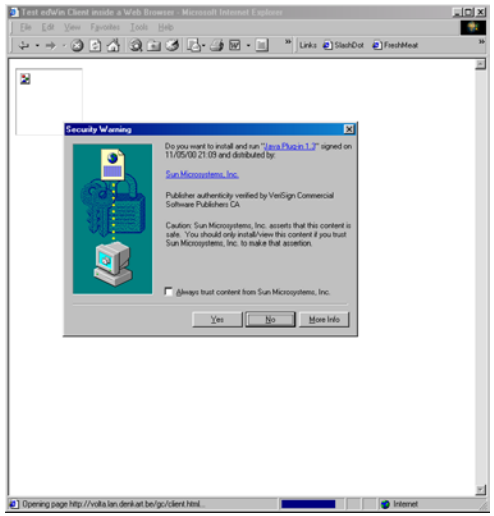
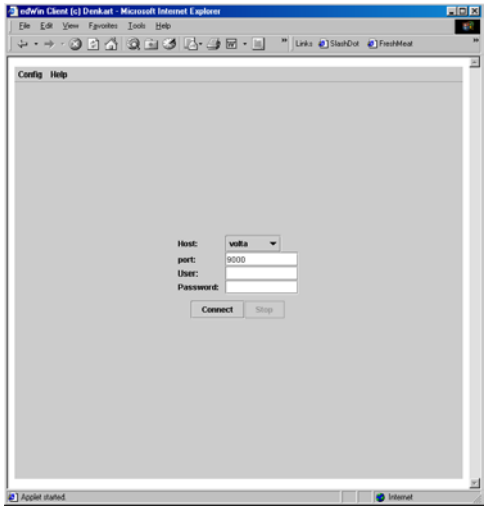
edWin/3K™ Example A – (*cont'd*)

Connect to edWin/3K Application Server



Automatic installation



And you're ready to go!

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edWin/3K™ Example B

edWin: Compatibility & New features

edWin has fundamentally different architecture

- Client-Server model for advanced networking
- Graphical and Browser-based clients
- Nevertheless FULL Forms & Line-mode support
- Menu offers access to Applications and even CI screens

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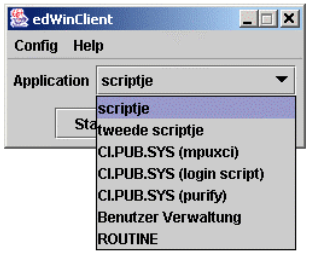
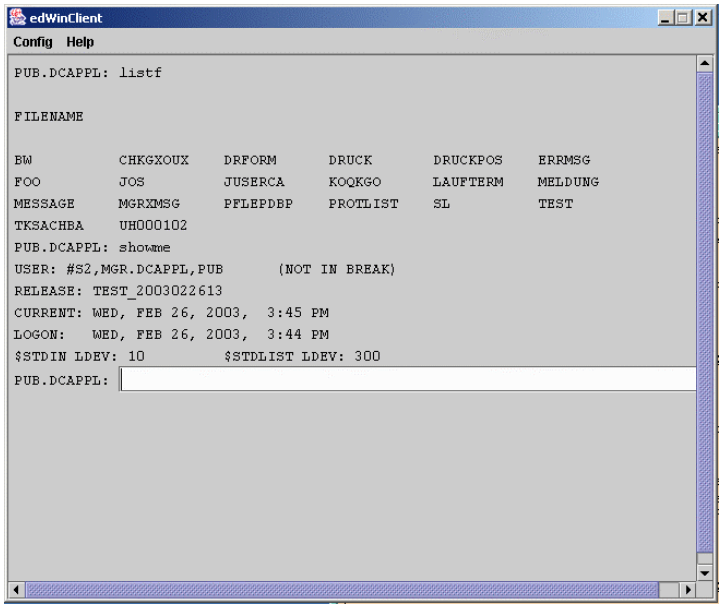
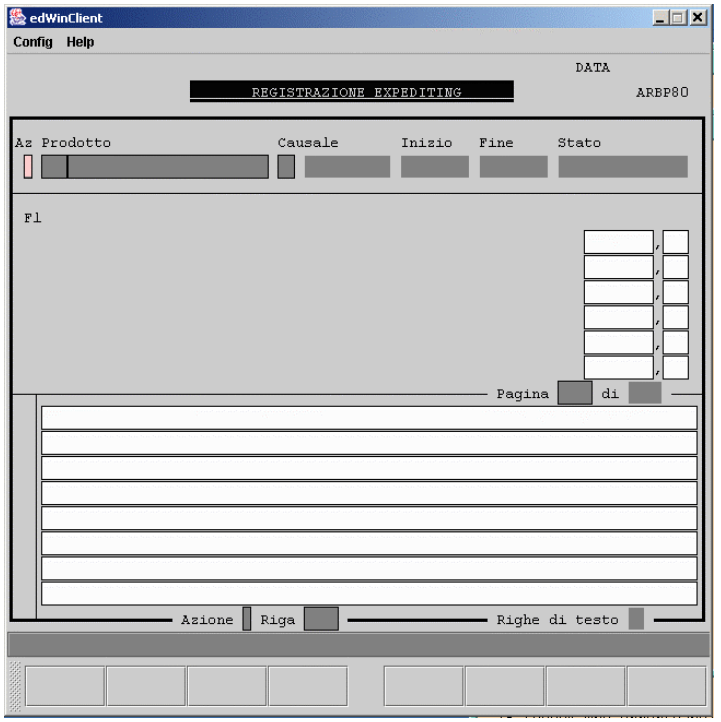
edWin/3K™ Example B – (*cont'd*)







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Presentation Summary

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Results after a ViaNova 3000 Migration

The **entire** environment is transferred to a new platform

The new environment makes you feel **right at home**

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Advantages of a ViaNova 3000 Migration

- The end-result is what you want!
- The environment is now **platform-independent**.
- Future development is not bound by any intermediate layer or emulation.

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ViaNova 3000: a 100% solution

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