

TM

# **BYPASS2000**

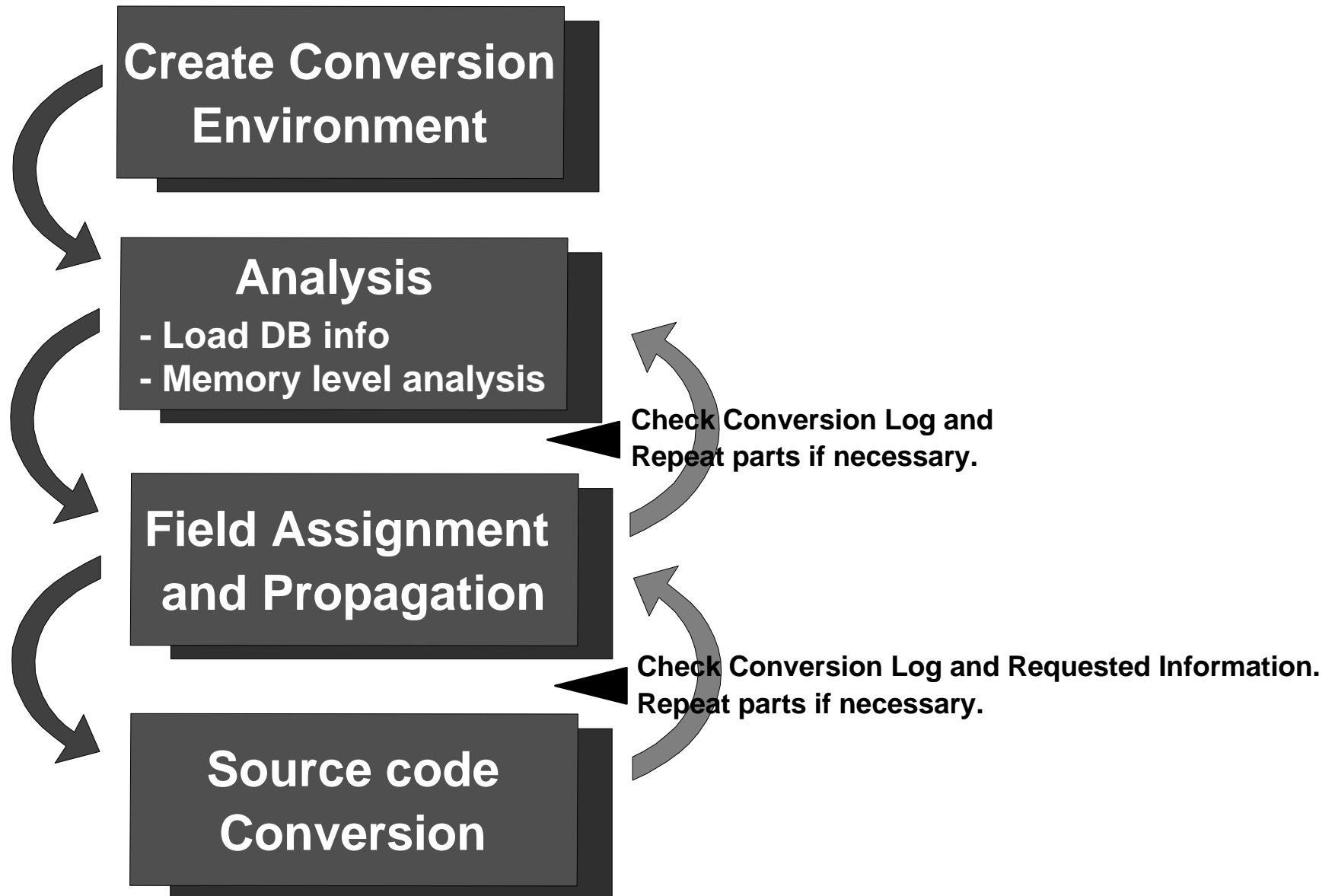
# **Product Storyboard**

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# The Conversion Process



Create an identifier for this environment

Identify to BYPASS2000 what is to be converted in this environment

- Program source files

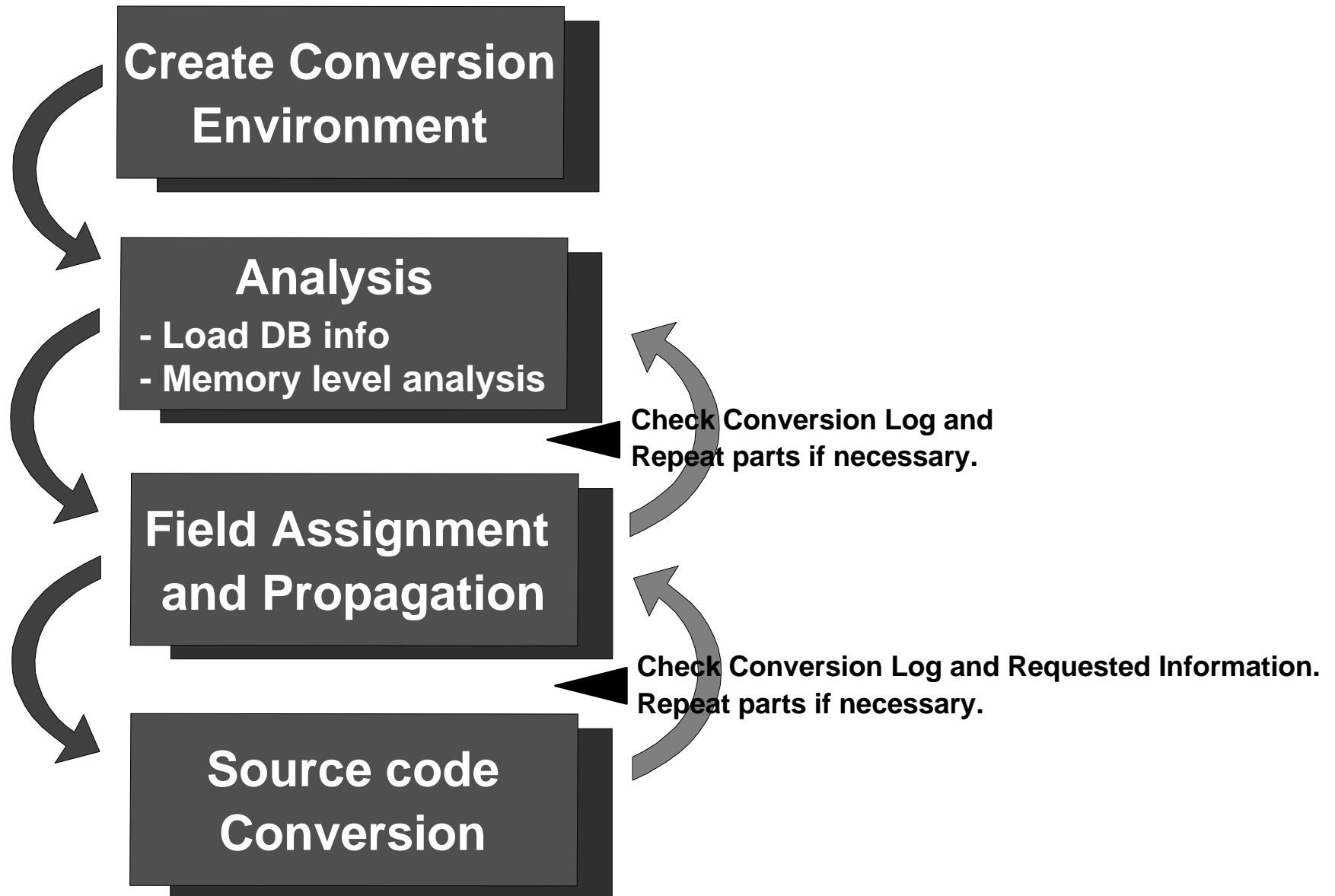
- File objects (PF, LF, DSPF, PRTF)

- DDS source

Once an environment is created, use the library name set up for this conversion environment ID when starting BP2000

- BP2000 MYENVDB

# The Conversion Process



```
BP2000                      BYPASS2000 for AS/400 - Main Menu          System:  TORAS020
Select one of the following:

  1. Set conversion environment
  2. Load AS/400 database information
  3. Memory-level analysis
  4. Field assignment (seeding)
  5. Propagation-level analysis
  6. Conversion
  7. User Guide
 90. Sign off

Selection or command          (C) COPYRIGHT HAL Informatica S.r.l. 1994, 1996
===> _____

F3=Exit   F4=Prompt   F9=Retrieve   F12=Cancel
F13=Information Assistant   F16=AS/400 main menu

MA  b                               MW                               20/007
```

The step we have called "Analysis" is actually identified as 2 steps in BP2000:

- Load DB Information
- Memory Level Analysis

Analysis creates a network model of the application

Network is made of:

Nodes - the fields declared in the application ○

Links - the relationship between nodes —

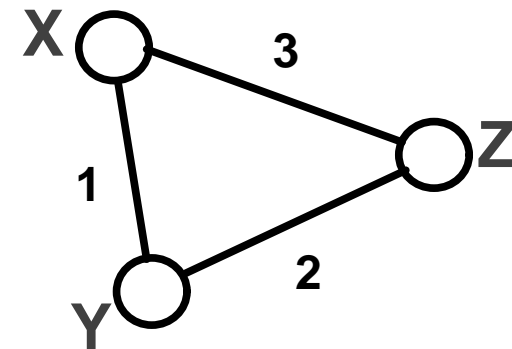
Analysis process: for *all* fields and instructions

Analyze all data declarations creating nodes

Analyze instructions to create links between nodes

```

I           1  6  X
I           7  9  Y
I          10 12  Z
C           MOVE X  Y
C           MOVE Y  Z
C           X   IFEQ Z
    
```



# Memory Analysis

```
BP4SANL          BYPASS2000 Memory-level analysis          System: TORAS020
Select one of the following:

  1. Work with DDS
  2. Analyze DDS
  3. Work with Copy
  4. Analyze Copy
  5. Work with SQL table-definition source
  6. Analyze SQL table-definition sources
  7. Work with program
  8. Analyze program

 10. Additional user information

 22. Display conversion log
 23. Check requested information
 40. Delete analysis
Selection or command
===> _____

F3=Exit  F4=Prompt  F9=Retrieve  F12=Cancel
F13=Information Assistant  F16=AS/400 main menu

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```

Memory analysis is done in 4 parts:

DDS

Copy members

SQL table definition source

Program source

```

Work with DDS
Position to . . . : _____
Type choices, press Enter.
  2=Change   4=Delete   5=Display   8=Hold   9=Release
  I=Input source  O=Output source  Y=View log
  A=Analyze   D=Delete analysis  C=Convert
Opt DDS name      Library      Analy. Conv Typ  History  Appl. code
-  CUSTOMER       BPMASTER    9      9      CA
-  DAT_DES        BPMASTER    9      9      CA
-  ORDERDTL       BPMASTER    9      9      CA
-  ORDERHDR       BPMASTER    9      9      CA
-  SALESCUS       BPMASTER    9      9      CA
-  STOCK         BPMASTER    9      9      CA

F3=Exit      F4=Opt prompt  F5=Refresh      F6=Create  F10=Set conv. flag to zero
F12=Cancel   F15=Include new member  F21=Command entry  F24=More keys

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```

Use the "Work with" option to monitor the progress of the analysis

The status of the various files will be reflected on this screen



# Memory Analysis: Work With



```

Work with program
Position to . . . : _____

Type choices, press Enter.
2=Change 4=Delete 5=Display 8=Hold 9=Release
I=Input source 0=Output source Y=View log A=Analyze
D=Delete analysis P=Propagate Q=Delete propagation C=Convert

Opt Pgm name Src file Library Ana Prp Conv History Appl. code
- CINS QRPGSRC BMASTER 9 9 9 CPA
- CORD QRPGSRC BMASTER 9 9 9 CPA
- DATRTN QRPGSRC BMASTER 9 9 9 CPA
- FNLO QRPGSRC BMASTER 9 9 9 CPA
- GETJOB QCLPSRC BMASTER 9 9 9 CPA
- OE QRPGSRC BMASTER 9 9 9 CPA
- ORDSTK QRPGSRC BMASTER 9 9 9 CPA
- RIDT QRPGSRC BMASTER 7 0 0 ADCPA
- RSTO QRPGSRC BMASTER 9 9 9 CPA
- RSTR QRPGSRC BMASTER 9 9 9 CPA
- STROE QCLPSRC BMASTER 9 9 9 CPA

F3=Exit F4=Opt prompt F5=Refresh F6=Create F10=Set conv. flag to zero
F12=Cancel F21=Command entry F23=More options F24=More keys

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```

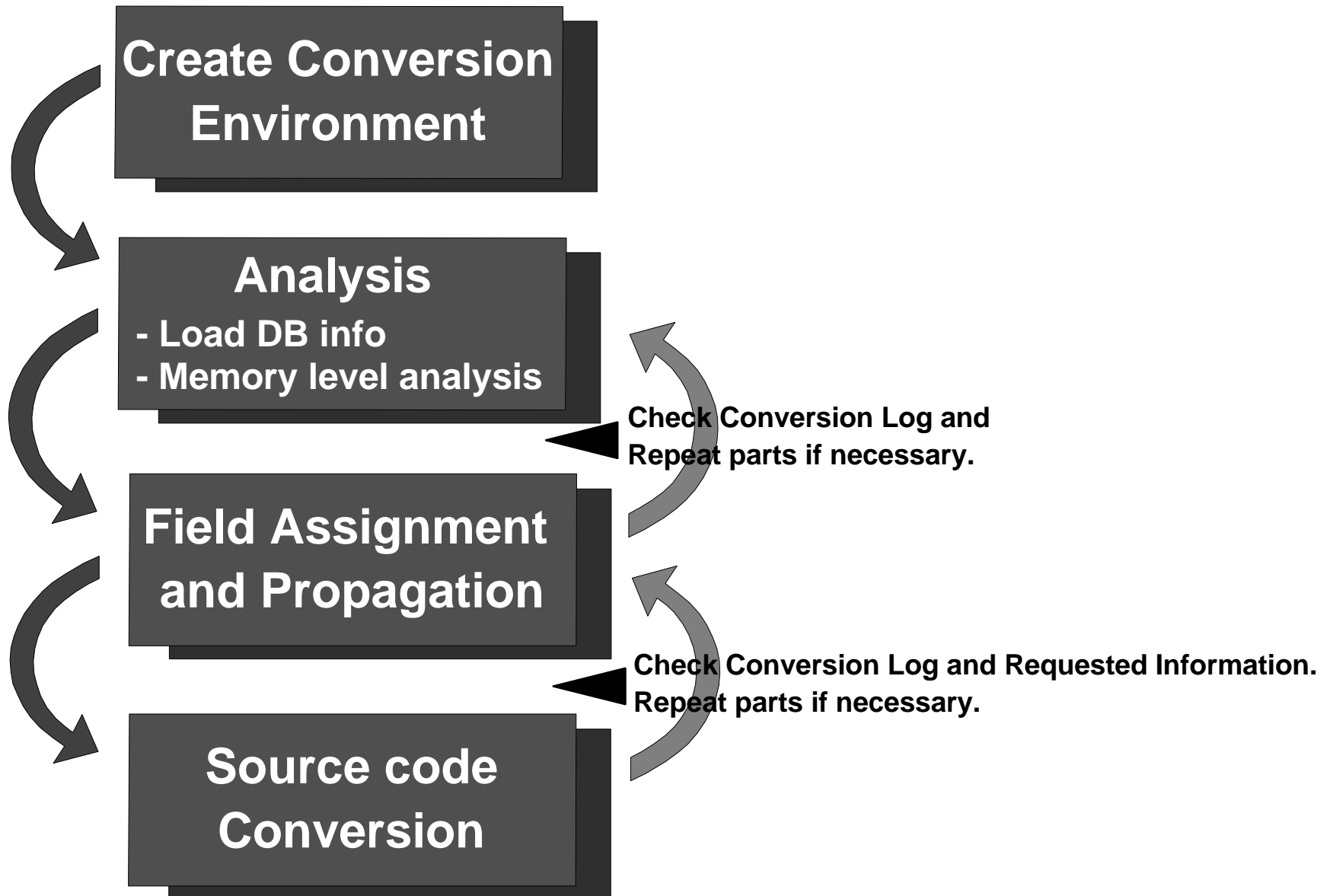
"Work with" also allows selective analysis for individual files, programs, etc..

Useful when:

Components need to be re-analyzed or

New files or programs have been "discovered" and must be added to the environment

# The Conversion Process



# Date Field Assignment

```
BP2000                      BYPASS2000 for AS/400 - Main Menu                      System: TORAS020
Select one of the following:
    1. Set conversion environment
    2. Load AS/400 database information
    3. Memory-level analysis
    4. Field assignment (seeding)
    5. Propagation-level analysis
    6. Conversion
    7. User Guide
    90. Sign off
Selection or command          (C) COPYRIGHT HAL Informatica S.r.l. 1994, 1996
===> _____
F3=Exit  F4=Prompt  F9=Retrieve  F12=Cancel
F13=Information Assistant  F16=AS/400 main menu
MA b MW 20/007
```

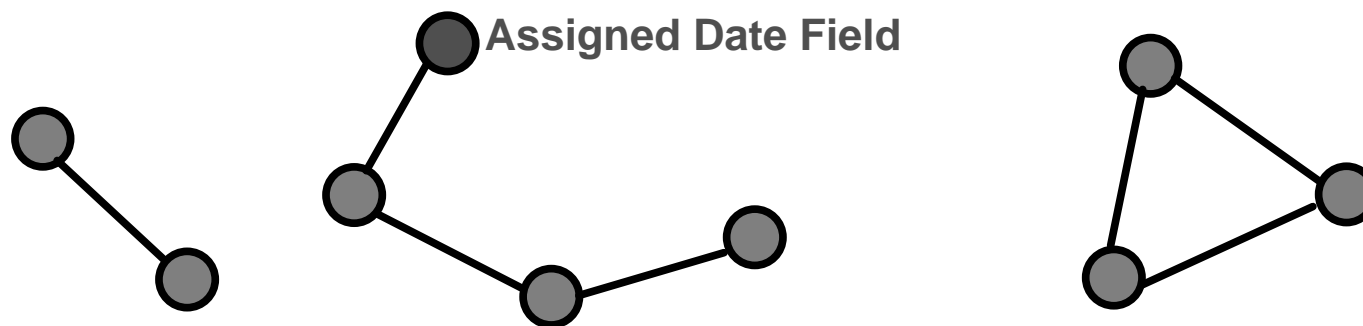
This step involves 2 options from the main menu:  
Field assignment  
Propagation level analysis

## Assigned fields are flagged nodes

Identify fields that contain dates and their formats

Typically, only database fields are assigned

Other fields may be assigned, but requires much more work on the user's part



# Date Field Assignment

```

Assign date field
I/O area list

Type choices, press Enter.
1=Select      6=Print assigned date fields  A=Assign from dict. to database
2=Set/Reset  File as dictionary              Ass.---- File attributes ----

Opt Src name  I/O area name  Seq D  Type  Name  D
-  CUSTOMER   *CUSTOMER      000   PF   CUSTOMER
-  DAT_DES    *DFTRCD        000   PF   DAT_DES
-  ORDERDTL   *ORDERDTL      000   PF   ORDERDTL
1 ORDERHDR   *ORDERHDR      000  Y  PF   ORDERHDR
-  SALESCUS   *SALESCUS      000   PF   SALESCUS
-  STOCK     *STOCK         000  Y  PF   STOCK

F3=Exit      F5=Refresh      F12=Cancel
F17=Top      F18=Bottom     F21=Print assigned date field of listed sources

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```

Select the files from a list of files in your environment

# Identifying Date Fields



```

Assign date field - Field list -
Pgm name  ORDERHDR      I/O area *ORDERHDR      Seq  0
Search field name: _____ Position to displ: _____

Type choices, press Enter.
D=Assign date field      1-7=Quick-assign date field      W=Work with data assigned
*=Annul assignment      R=Reusable field      U=User def.field      V=View all attributes

  Data Field      F      F Field Fld      Field Int. D
Opt Type name      R Occ. G Displ Type      Len. Dec. A
-      01 ORDERHDR      Y      1 CHAR      34  0  0
-      02 ORHNBR      1 CHAR      5  0  0
      NUMBER
-      02 CUSNBR      6 CHAR      5  0  0
      CUSTOMER CODE
D      02 ORHDTA      11 PKD      4  6  0
      ORDER DATE !!!
-      02 ORHDLY      15 PKD      4  6  0
      DELIYERY DATE !!!      +

F3=Exit F5=Refresh F11=View colhdg F14=Set HI rules F15=View only highlight
F17=Top F18=Bottom F19=Field type F20=Default type F21=PF contents F12=Canc.

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```

From the list of fields, find the date fields

Also identify the format of each date

F21 to see the data in the file

May help to confirm dates and formats

# Date Field Details



```

Create HSDATFLD record for Date fields

Type choices, press Enter.
Src name. . . . . : ORDEFr
I/O-area name . . . . . : *ORDE
I/O-area sequence number. . . . . : 000
Field name. . . . . : ORHD1
Displacement. . . . . : 00011
Type. . . . . : PKD
Length. . . . . : 00004
Integer / Decimal . . . . . : 6

Date type . . . . . : 002
Position field substring. . . . . : 00001
Length field substring. . . . . : 00004
Field type. . . . . : P
Year length . . . . . : 2
Expansion type . . . . . : 0 (0=Expand/1=No expand)
Propagation type. . . . . : 0 (0=Propag./1=No propag./2=With confirm.)

F3=Exit   F4=List date type   F5=Refresh   F12=Cancel

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```

Display Data Type

Type choice, press Enter.  
1=Select

Opt Cod	Short Description
001	Year Year
002	YMD Year,Month,Day
003	DMY Day,Month,Year/Month,Day,Year
004	D-M-Y Day-Month-Year/Month-Day-Year
005	Y-JUL Year and Julian day

F3=Exit F5=Refresh F12=Canc.F17=Top F18=Bot

To assign a date field, provide a date type code  
 Prompt (F4) for a list of formats supported  
 Typically, the rest of the parameters may be default

The purpose of the propagation phase is to flag all the nodes linked to assigned date fields

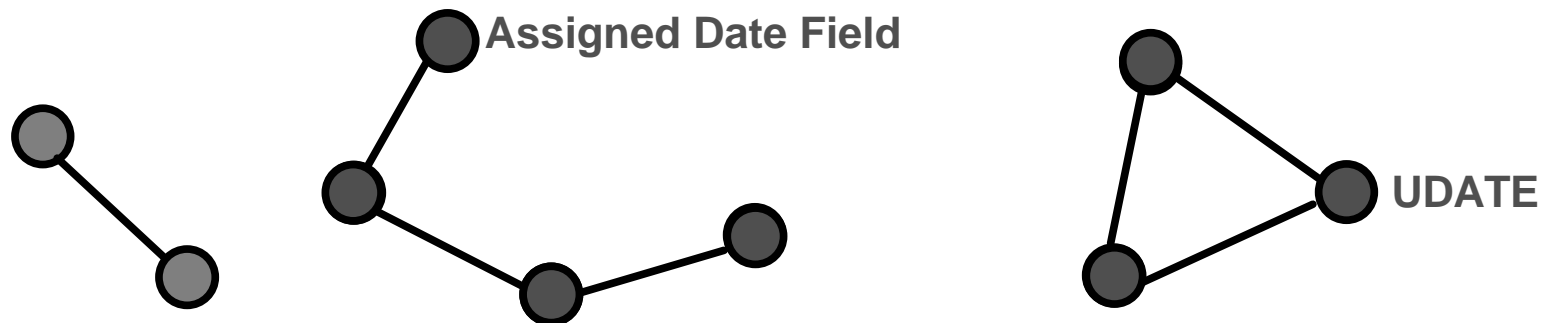
Some date fields are "pre-assigned" by BYPASS

System date fields, such as UDATE

BYPASS2000 already has the network of nodes and links in its repository database

Using the date assignments, BYPASS can search for and flag the rest of the date impacted fields

This process is called Propagation





# Propagation

```
BP2000          BYPASS2000 for AS/400 - Main Menu          System:  TORAS020
Select one of the following:
  1. Set conversion environment
  2. Load AS/400 database information
  3. Memory-level analysis
  4. Field assignment
  5. Propagation-level analysis
  6. Conversion
  7. User Guide
 90. Sign off
Selection or command
===> 5
F3=Exit  F4=Prompt
F13=Information Assist

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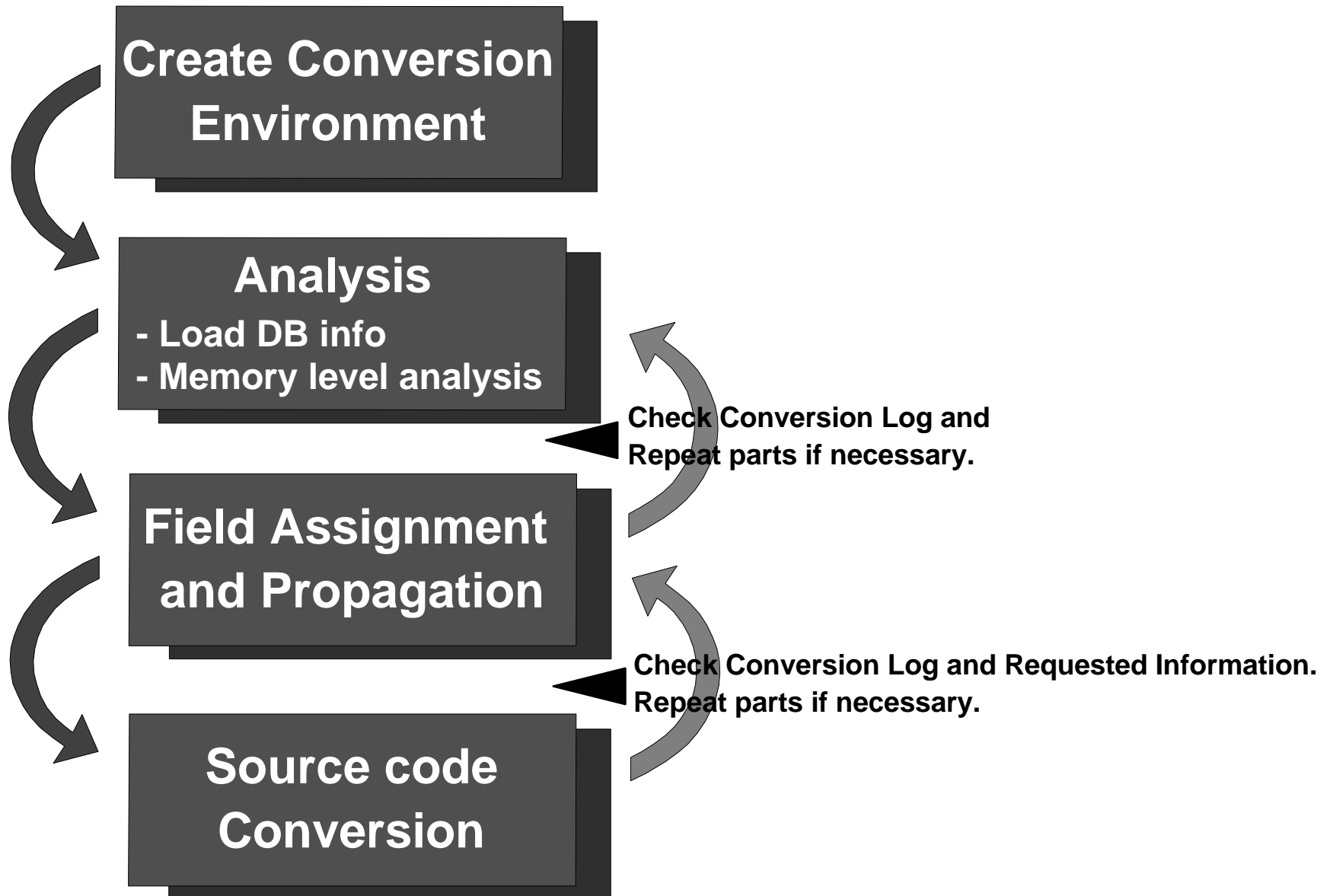
BP4SPRP          BYPASS2000 Propagation-level analysis      System:  TORAS020
Select one of the following:
  1. Field assignment (seeding)
  5. Work with program
  6. Analyze program date-field propagation
 22. Display conversion log
 23. Check requested information
 30. Work with propagation result
 31. Check propagation trace
 42. Delete propagation-level analysis
Selection or command
===>
F3=Exit  F4=Prompt  F9=Retrieve  F12=Cancel
F13=Information Assistant  F16=AS/400 main menu

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```

Propagation has its own menu

Note "Work with" and "Analyze propagation" options

# The Conversion Process



```

BP2000                BYPASS2000 for AS/400 - Main Menu                System: TORAS020
Select one of the following:
  1. Set conversion environment
  2. Load AS/400 database information
  3. Memory-level analysis
  4. Field assign
  5. Propagation
  6. Conversion
  7. User Guide
  90. Sign off
Selection or command
===> 6
F3=Exit  F4=Prompt
F13=Information Ass

MA  b

BP4SCNV                BYPASS2000 Conversion                System: TORAS020
Select one of the following:
  1. Work with DDS
  2. Convert DDS
  3. Work with Copy
  4. Convert copy
  5. Work with program
  6. Convert program
  7. Convert DDS, copy and program
  8. Check requested information
  9. Work with new dictionary names
 10. Database conversion
 22. Display conversion log
Selection or command
===>
F3=Exit  F4=Prompt  F9=Retrieve  F12=Cancel
F13=Information Assistant  F16=AS/400 main menu

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```

The Conversion process has its own sub-menu

Note the "Work with" and "Convert" options

# Conversion Process



```

BP4SCNY                BYPASS2000 Conversion                System: TORAS020
Select one of the following:

 1. Work with DDS
 2. Convert DDS
 3. Work with Copy
 4. Convert copy
 5. Work with program
 6. Convert program
 7. Convert DDS,
 8. Check request
 9. Work with new
10. Database conversion
22. Display conversion

Selection or command
===> 5

F3=Exit   F4=Prompt
F13=Information Assis

Work with program
Type choices, press Enter.
 2=Change  4=Delete  5=Display  8=Hold  9=Release
 I=Input source  O=Output source  V=View log  A=Analyze
 D=Delete analysis  P=Propagate  Q=Delete propagation  C=Convert
Position to . . . : _____

Opt Pgm name  Src file  Library  Ana Prp Conv  History  Appl. code
--  --  --  --  --  --  --  --
  CINS  QRPGRSRC  BPMAS...  9  9  9  CPA
  CORD  QRPGRSRC  BPMAS...  9  9  9  CPA
  DATRTN  QRPGRSRC  BPMAS...  9  9  9  CPA
  FNLO  QRPGRSRC  BPMAS...  9  9  9  CPA
  GETJOB  QCLPSRC  BPMAS...  9  9  9  CPA
  OE  QRPGRSRC  BPMAS...  9  9  9  CPA
  ORDSTK  QRPGRSRC  BPMAS...  9  9  9  CPA
  RIDT  QRPGRSRC  BPMAS...  7  0  0  ADCPA
  RSTO  QRPGRSRC  BPMAS...  9  9  9  CPA
  RSTR  QRPGRSRC  BPMAS...  9  9  9  CPA
  STROE  QCLPSRC  BPMAS...  9  9  9  CPA

F3=Exit   F4=Opt prompt  F5=Refresh  F6=Create  F10=Set conv. flag to zero
F12=Cancel F21=Command entry F23=More options  F24=More keys

MA b MW 08/002

```

Use "Work with" options to convert specific ones  
 Or to monitor progress  
 Or to look at output source (option O)

```
BP4DBCNY          BYPASS2000 Database conversion          System: TORAS016
Select one of the following:

  1. Work with file
  2. Create migration program
  3. Create migration-dispatcher program
  4. Create test migration program
  5. Create test migration-dispatcher program
  6. Create DIM program
  7. Create DIM dispatcher program

 22. Display conversion log

Selection or command
===> _____

F3=Exit   F4=Prompt   F9=Retrieve   F12=Cancel
F13=Information Assistant   F16=AS/400 main menu
Type option number or command.
```

- Generates data migration programs for changed files
- Expands 2 digit years to 4 digit years using windowing logic
- Migration dispatcher program generates CLP to run migration
- Can also generate test data and DIM programs

# Conversion Results



DATE1 receives current date. APP is year portion of DATE1. DATE2 is new date.

```

C      MOVE UDATE      DATE1    60
C      MOVE DATE1      APP       20
C      ADD 1           APP
C      MOVELDATE1      DATE2    60
C      MOVE APP        DATE2
  
```

DATE1 expanded.  
UPDATE to \*DATE.  
APP, DATE1 and  
DATE2 expanded.

```

B2REM *****
B2REM ****  CONVERSION START  ***
B2REM *****
B2OLDC*                MOVE UDATE      DATE1    60
B2MODC                MOVE *DATE      DATE1    80
B2REM *****
B2REM ****  CONVERSION END  ****
B2REM *****
B2MODC                MOVE DATE1      APP       40
B2000C                ADD 1           APP
B2MODC                MOVELDATE1      DATE2    80
B2000C                MOVE APP        DATE2
  
```

# Conversion Results



```

C          ...          ...          ...          ...
C          MOVE DRHDTE          ORHDTA
  
```

DATE2 is work field in program.  
DRHDLY is display field.  
DRHDTE is display field.  
ORHDTA is database field.

008 - 8 Digit date  
P - Packed  
3 - Date Format 3

006 - 6 Digit date  
N - Zoned  
3 - Date Format 3

Windowing logic  
(add/remove century)  
added when moving  
to/from Display fields.

```

B2REM *****
B2OLDLC*          MOVE DATE2          DRHDLY
B2NEWC          MOVE '008P3'          HB2@FA
B2NEWC          MOVE DATE2          HB2@F
B2NEWC          MOVE '006N3'          HB2@TA
B2NEWC          EXSR HB@RMV          RMV CENTURY
B2NEWC          MOVE HB2@T          DRHDLY
B2REM **          *****

B2REM *****
B2OLDLC*          MOVE DRHDTE          ORHDTA
B2NEWC          MOVE '006N3'          HB2@FA
B2NEWC          MOVE DRHDTE          HB2@F
B2NEWC          MOVE '008P3'          HB2@TA
B2NEWC          EXSR HB@ADD          ADD CENTURY
B2NEWC          MOVE HB2@T          ORHDTA
B2REM *****
  
```

# Conversion Results



Program described data.  
No dates in program.  
Field names different  
from DDS definition.

```

FSTOCK  IF  F      48          DISK
FQPRINT O   F     132         PRINTER
ISTOCK  AA
I              1    5  PROD
I              6   25  DESC
I              P  34  360CURQTY
I              P  46  480MINQTY
C              READ STOCK          90
C              *IN90  IFEQ '1'
C              SETON                LR
C              RETRN
C              ENDIF
C              CURQTY  IFLE MINQTY
C              EXCPT
C              ENDIF
OQPRINT E
O
O

```

Record length  
increased, field from/to  
positions adjusted for  
longer record length  
due to expanded date  
field in record.

```

B2MODFSTOCK  IF  F      49          DISK
FQPRINT      O   F     132         PRINTER
ISTOCK       AA
I              1    5  PROD
I              6   25  DESC
I              P  35  370CURQTY
I              P  47  490MINQTY
C              READ STOCK          90
C              *IN90  IFEQ '1'
C              SETON                LR
C              RETRN
C              ENDIF
C              CURQTY  IFLE MINQTY
C              EXCPT
C              ENDIF
OQPRINT      E

```



# Conversion Results

\*\*\*\*\* PARM BLOCK FOR DATE ROUTINE \*\*\*\*\*

IMYDATA DS

```

I          1  1 P1
I          2  70P2
I          6  70P2INC
I          8 100P3
  
```

\*\*\*\*\*

```

C          *ENTRY  PLIST
C          PARM      MYDATA
C          SELEC
C          P1        WHEQ 'Y'
* INCREMENT YEAR BY 1
C          ADD 1     P2INC
C          P1        WHEQ 'Y'
C          SETON
C          ENDSL
C          RETRN
  
```

**BYPASS2000 finds date in DS passed as parm into this program. No other indication of dates .**

**BYPASS2000 enlarges DS subfield containing the year.**

```

IMYDATA DS
I          1  1 P1
B2MODI    2  90P2
B2MODI    6  90P2INC
B2MODI   10 120P3
  
```

\*\*\*\*\*

```

C          *ENTRY  PLIST
C          PARM      MYDATA
C          SELEC
C          P1        WHEQ 'Y'
* INCREMENT YEAR BY 1
B2000C    ADD 1     P2INC
C          P1        WHEQ 'X'
C          SETON
C          ENDSL
C          RETRN
  
```