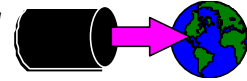


Sharing HP e3000 Data to the World



A Robelle Tutorial

Paul Gobes, February 2000

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For: Application Developers, Webmasters, System Administrators

No HP 3000 is an island. The data that lives on your HP 3000 needs to be shared with applications that reside on other machines, platforms, and networks. The "E"-revolution means that you need to make your HP 3000 data available to the rest of the world. Learn how you can be the hero of your workgroup, department or company.

Sharing HP e3000 data to the World is presented by Robelle's Paul Gobes. Paul is the Technical Support Manager. During his 9 years with the company, he has spent much time as a technical support person and trainer, helping users of Qedit and Suprtool to get the most from this software.

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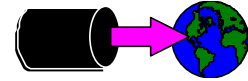
Toll-free: 1.888.ROBELLE
Telephone: 604.582.1700
Fax: 604.582.1799
E-mail: support@robelle.com
Web: www.robelle.com

Suprtool and Qedit are trademarks of Robelle Solutions Technology Inc.

For Techies

References

What's Inside



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This presentation discusses various methods of sharing the data from your HP 3000 to the rest of the world. It is broken down into the following segments corresponding to different approaches to achieve this goal:

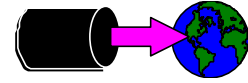
- “Direct Access” includes ODBC, Middleman
- “Publishing on the Web” includes Servers, Reports, Interactive access with CGI, Perl, Java and STExport
- “Mapping Drives” includes Samba and NFS
- “Exporting/Converting:” includes examples for conversions to MS-Access and Oracle-UX using Suprtool
- “Transport Methods” includes FTP client/server and WRQ transfers

For Techies

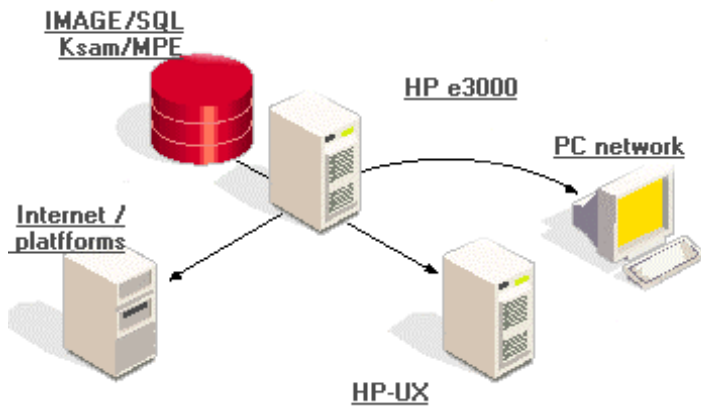
References

Various websites where more data is available are listed on the *corresponding notes pages*

Introduction



- Your data is on your HP e3000



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There are many ways to share data, the best method depends on the situation:

Online vs. Batch Summary info

Raw data vs. Converted data

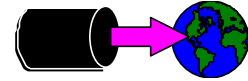
Resident data vs. Moved data

Global access vs. Local network access

For Techies

References

Direct Access : ODBC



- Open Database Connectivity
- Developed by Microsoft, now a 'standard'
- Client-Server Architecture
- Used in PC Apps
 - MS-Access
 - MS-Excel
 - Crystal Reports
 - Improptu

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What is it?

ODBC stands for Open DataBase Connectivity. It has been developed by Microsoft and is pretty much the standard when it comes to accessing databases on remote computer or databases from different manufacturers.

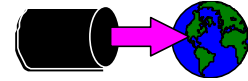
How does it work

It's typically using a client/server architecture where you have a program running on a PC e.g. MS-Excel, MS-Access, VisualBasic trying to get at data on a server e.g. UNIX machine running Oracle, Allbase, HP3000 running Image. The client sends SQL statements to the server where the data retrieval actually takes place. The data is then sent back to the client for processing.

For Techies

References

ODBC/SE on HP 3000



- Available from HP free since MPE/iX 5.0
- Originally did not allow UPDATES
- Needs attaching to ALLBASE db
- MB Foster product "special edition"

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Free ODBC access on HP 3000 has been available since MPE 5.0. It was then called Allbase/PC API and was based on technology from a company called Gupta. Because of certain limitations and user requesting additional capabilities, Allbase/PC API has been replaced with ODBCLink/SE from M.B. Foster. ODBCLink/SE has been available starting with MPE/iX 5.5 Express 3. For most customers, they first saw the new product bundled with MPE/iX 6.0.

It's very easy to install on the server as it only requires a background job. It's also very easy to install the driver on the PC. There is varying level of complexity when it comes to actually get one client application to retrieve data.

ODBCLink/SE provides full access i.e. read/update/write to Allbase and Image/SQL databases.

It can access Allbase environments directly. To access IMAGE databases, you have to create an intermediate Allbase environment. This is called "attaching" an Image database.

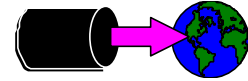
ODBCLink/SE is "special edition" of MBF ODBCLINK option of Data Express. The complete product offers a lot more functionality such as access to MPE files and KSAM, access over serial connections, native access to Image databases (no more intermediate Allbase environments). Of course, the complete version is not free.

There are other third-party ODBC drivers e.g. Linkway ODBC from Computing Solutions Limited. <http://www.csllink.com/>

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References

MiniSoft Middleman



- Fast key retrieval
- IMAGE-like intrinsic calls (not SQL)
- Item level Read/Write/Updates
- Support TPI with multiple record sets
- Easy to implement IMAGE security
- One listener job on the 3000
- One database open per client
- Clients access data using Middleman OCX
 - Can use Visual Basic or C++

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A software development tool designed for building Windows client/server applications. Direct Image and TurboImage database access. Developers can design applications that read, write, delete and update databases, KSAM or MPE files.

No terminal emulation software is required to use applications developed with MiddleMan as no session is needed on the HP 3000.

Includes a server program that can be customized to meet the needs of specific applications. MiddleMan supports the concurrent use of multiple server programs.

Includes a trace and debugging facility for application testing and error correction and a network file transfer facility for fast large file transfers.

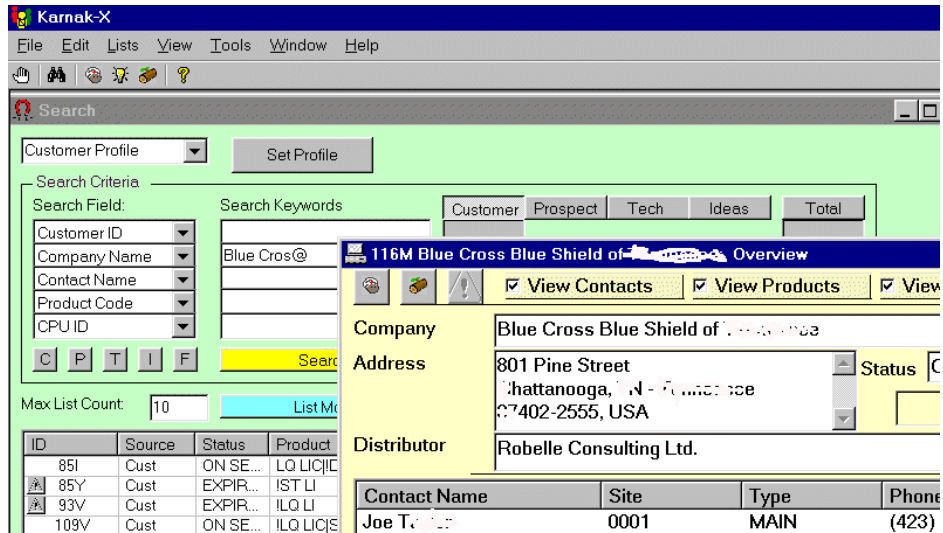
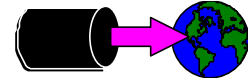
MiddleMan is accessible from a variety of Windows-based applications, including Visual Basic, Visual C, Powerbuilder, Delphi, COBOL, Excel, WordPerfect, Lotus and many other applications that support DDE or OLE.

For Techies

References

www.minisoft.com/middleman/middleman.htm

Example Application : KX



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Our MIS programmers developed an application that merged data access from three HP 3000 based systems into a centralized Windows client.

KC: Customer Accounts (who, where, what)

KB: Tech Support Knowledge Base (product bugs tracking and enhancement request)

KT: Sales Prospects (demos and information requests)

The new system accesses all 3 Image databases and allows for cross-checking and quick keyed reads including TPI searches.

MIS chose Middleman over ODBC because it had more control over security (Item level), volume (could restrict how many records) and data manipulation using the already familiar Image intrinsics. They wanted a flexible 'car' not a large volume 'bus'. At that time Updates were not possible and the full

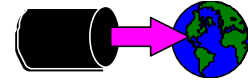
MB Foster product was deemed too expensive.

The need of ODBC/SE to attach to Allbase was also considered less flexible with a longer learning curve.

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References

Publishing on the Web



- Apache webserver on HP3000 (in MPE/iX 6.5)
- easy to install
- uses the POSIX namespace
- MS II on NT networks

Apache for MPE/iX is server software that turns your HP3000 into a full-featured web server. With a front-end browser and Apache, applications and documents on your HP3000 can be accessed on the Internet or over an intranet. Apache is open software from the Apache Software Foundation

Apache 1.3.4 for MPE/iX downloads as a compressed tar file with two files included: An installation job and the Apache binary and distribution files in compressed tar format

The installation job sets up the PUB.APACHE structure and its associated users if these don't already exist on your system. It then untars the Apache distribution files into the PUB.APACHE account.

MPE/iX 6.0 version available at HP's "JAZZ" site
<http://jazz.external.hp.com/src/apache/index.html>

PATH= /APACHE/PUB/htdocs/

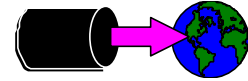
CODE -----LOGICAL RECORD----- FILENAME

SIZE	TYP	EOF	LIMIT	
1B	BA	640	100000	202020-ytd.html
1B	BA	2326	2147483647	apache_pb.gif
1B	BA	1082	2147483647	index.html
1B	BA	743	2147483647	kbweb.html
16W	HBD	0	67107839	manual/

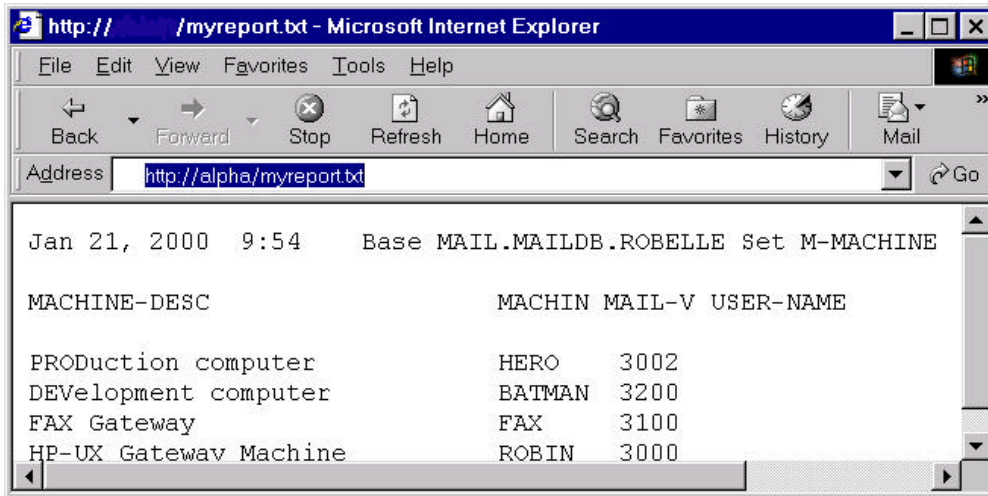
For Techies

References

Publish Existing Reports



- Save existing reports in appropriate POSIX directory



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Protect your investment in existing reports, that already captures and formats your data.

You can always add fancy HTML code later if the effort warrants it.

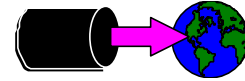
Write your existing reports to a disc file then move it to the directory where you publish your web pages, e.g.

```
:copy myreport, /APACHE/PUB/htdocs/myreport.txt
```

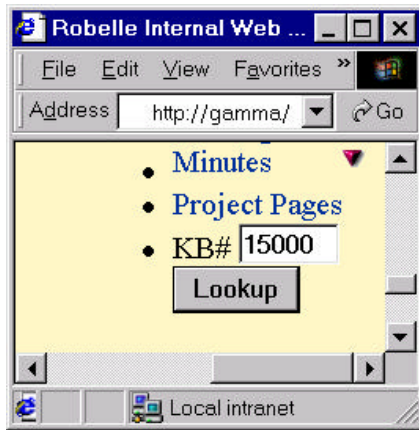
For Techies

References

Interactive access



- Use CGI or Perl scripts to access IMAGE data via MPE programs



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Sample cgi-bin scripts that evoke an MPE cmd file

```
list /APACHE/PUB/cgi-bin/kblookup
#!/bin/sh
echo "Content-type: text/html"
# environment var query_string contains name=value&name=value
runkb=runkb-$$PPID-$$RANDOM
echo $QUERY_STRING | awk -f mkrunkb >$runkb
chmod 555 $runkb
./$runkb
rm $runkb
```

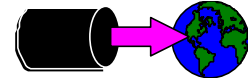
```
list /APACHE/PUB/cgi-bin/mkrunkb
BEGIN { FS="="; RS="&" }
    { var[$1]=$2 }
END { printf "callci KBWEB.CMD.MIS %s", var["kb"] }
```

Perl examples on <http://www.robelle.com/support/examples.html>

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References

Access using JAVA



- Part of FOS in MPE/iX 6.0
- Java Developers Kit bundled into MPE/iX 6.5
- JDBC (Minisoft) uses SQL statements,
- ADBC (Adager/Advanced Network Systems) uses IMAGE intrinsics

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The ADBC Developer's Kit is a technology that allows efficient, direct TCP/IP, read/write access to IMAGE/SQL and TurboIMAGE databases from ANY and all Java-enabled clients (Mac, UNIX, Workstations, PCs, ...), without any need for SQL, ODBC, JDBC, and related SQL-dependent middleware.

The MiniSoft JDBC (Java Data Base Connectivity) driver lets any programmer write applications in Java to access MPE flat files, KSAM files, Image, and TurboIMAGE databases using standard SQL statements. It allows a developer to deploy a one-, two-, or three-tier database-access solution, providing the user with access to databases located on any HP system.

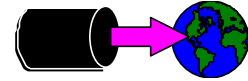
More info on the commercial packages, plus sample coding examples are available at <http://www.advnetsys.com/java3k.htm>

Lots of info and White Papers from the JAZZ site on Java
<http://jazz.external.hp.com/src/java/index.html>

For Techies

References

Adding HTML presentation code



- STExport can create HTML files
- Data can be formatted in a table
 - HTML TABLE command
- Or it can be formatted like a List Standard listing
 - HTML PREFORMATTED command
- Formatting is applied by STExport
 - Numeric data is right justified, with decimal points
 - Alpha data is left justified
 - Dates are formatted as you specify

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STExport is a program that comes with Robelle's SUPRTOOL Database Handyman product.

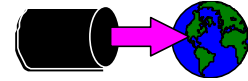
STExport reads self-describing ("link") files, and reformats the data into an ascii output file:

- Numeric fields (Integers, Packed, etc) are converted to their character representations
- Character fields are enclosed in quotation marks
- Trailing blanks are (optionally) removed from character fields
- Leading zeros are (optionally) removed from numeric fields
- The fields are separated with delimiters
- Date fields can be reformatted
- Numeric fields with implied decimals have a decimal point inserted
- Output records can be variable-length
- Either of two HTML (Hypertext Markup Language) formats can be generated
- The first record can contain field names

For Techies

References

Preparing HTML Tables



- Use the HTML TABLE command

```
$input reptfile
$heading none
$heading column "Account #"
$heading column "Amount"
$heading column "Date"
$heading column "Product #"
$heading column "Last Name"
$heading column "First Name"
$html table title "Orders" heading "BC Sales over $100"
$output bcsales
$xeq
```

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STExport remembers the heading settings from one task to the next. If a task needs the same column/field headings as the prior STExport task used, no Heading command is needed. If a task needs to establish its own column/field headings, use Heading None to disable any prior headings before defining any new ones.

The HTML Title option sets the <TITLE> option in the HTML code, which usually appears in the browser's application title bar.

The HTML Heading option sets the <H1> option in the HTML code, which will be shown at the top of the document.

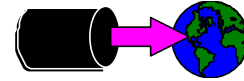
Transfer the output file to a web server using FTP, Reflection file transfer, or some other file transfer mechanism.

For Techies

References

The REPTFILE used in this example was created halfway through Module 5, Working with Suprlink.

Table With Column Headings



- The table has one column per field, and one row per record

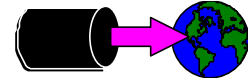
Account #	Amount	Date	Product #	Last Name	First Name
10003	112.07	19951016	50511501	Melander	John
10003	166.00	19951016	50512501	Melander	John
10003	219.10	19951016	50513001	Melander	John
10020	224.15	19951000	50511501	Nisbet	Walley
10020	167.13	19951028	50512501	Nisbet	Walley

```
<html>
<head>
<title>Orders</title>
</head>
<body>
<h1>BC Sales over $100</h1>
<table border=1>
<tr><th>Account #<th>Amount<th>Date<th>Product
#<th>Last Name<th>First Name</tr>
<tr><td align=right>10003<td
align=right>112.07<td align=right>19951016<td
align=right>50511501<td>Melander<td>John</tr>
<tr><td align=right>10003<td
align=right>166.00<td align=right>19951016<td
align=right>50512501<td>Melander<td>John</tr>
<tr><td align=right>10003<td
align=right>219.10<td align=right>19951016<td
align=right>50513001<td>Melander<td>John</tr>
<tr><td align=right>10020<td
align=right>224.15<td align=right>19951000<td
align=right>50511501<td>Nisbet<td>Walley</tr>
<tr><td align=right>10020<td
align=right>167.13<td align=right>19951028<td
align=right>50512501<td>Nisbet<td>Walley</tr>
</table>
</body>
</html>
```

For Techies

References

Mapping Drives



- Use SAMBA for PC networks
- Allows HP3000 files to appear as “the H: Drive on my pc”
- File stays on the 3000 but appears local
- Acces via web browser
- Easy Import to PC application (if data is prepared)

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File and Print Sharing :One of the most popular file and print sharing methods with NT is the UNIX-based Samba. Samba has been ported to the HP 3000 and provides an easy mechanism for file and print sharing between the HP 3000 and NT platforms

The Samba/iX package contains programs like SMBD and NMBD to provide server functionality and also contains utilities like SMBCLIENT or NMBLOOKUP to provide client functionality.

To set up your HP 3000 system as a Samba server you have to create a configuration file. This file defines which directory trees of the MPE file system should be accessible by clients.

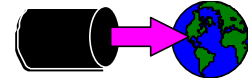
A listener process is then started (either under INETD or as a separate job) that waits for incoming client connection requests and creates child processes (servers) as needed. The server side validates the username and password which are sent by the client and grants access to the requested share if appropriate. A share may also be configured to allow guest access (i.e. without a valid username/password pair specified by the client). This is similar in concept to anonymous ftp.

MPE port by Lars Appel lappel@HPUGRCA.GRC.HP.COM

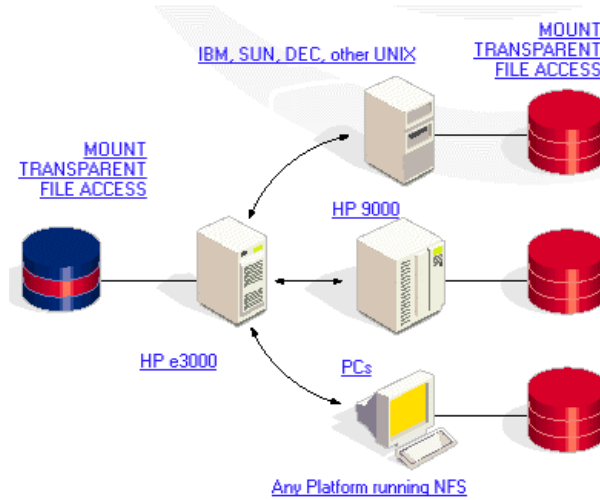
For Techies

References

Network File System (NFS)



- Quest software product
- available through HP



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NFS/iX: Transparent Network File System Access

NFS/iX allows H3000 systems to coexist with open systems in the same network by allowing transparent access to and from its file system. NFS's client/server design opens files for distributed access between different systems without demanding network transfers. UNIX file access is possible from MPE operating systems with full POSIX shell user commands.

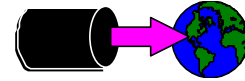
To bridge HP 3000 and open systems, NFS/iX:

- Transforms an HP 3000 into a file server for other NFS clients
- Allows MPE users to access files residing on other open systems supporting NFS
- Supports shared printer access

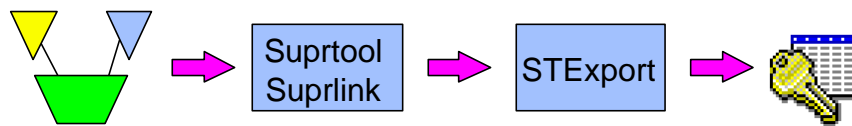
For Techies

References

Exporting IMAGE/SQL Data to other Applications



- Extract the IMAGE data using Suprtool and Suprlink
- Convert the files using STExport
- Transfer the file to the PC
- Import the delimited file



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In the previous modules, you have learnt how to use Suprtool and Suprlink's powerful selection, extracting and linking features to create an output file containing the data you need. In many cases, this file would be used as input to a host-based reporting tool like Quiz, or a Cobol program, which would generate the report the user requires.

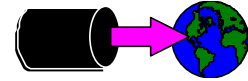
But what if the reporting tool is on a different machine, with a different operating system? In those cases, the file would require some further conversion, to make it legible by the destination application.

Importing to a PC application is similar in concept to almost any job where Suprtool is used to feed IMAGE data to a program. The only extra step would be using STExport to reformat the output before transferring the file to the PC.

For Techies

References

Data needs to be converted



- Image data has:
 - Fixed-width fields
 - binary storage formats (J2, K2, P28, etc)
 - Structure defined in Root File.

- PC Applications require:
 - variable-length fields
 - Ascii values for numerics
 - field delimiters
 - Field name declarations

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For many years, Suprtool has been able to create output files in Lotus' PRN format directly:

```
> output salesumm, PRN
```

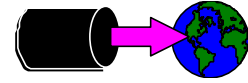
This creates a comma-delimited file, with double-quotes around the character fields, and binary fields converted to ascii. This format can still be loaded directly into a number of PC applications. However, some applications require that the data be formatted slightly differently. For example, IMAGE stores trailing blanks on character fields. So that field would include the trailing blanks within the quotes in the PRN file. If the PC application is used to generate form letters, the blanks would be included between the addressee's first and last names.

Much of Suprtool is built around the assumption that it works with fixed-length records. So STExport was added as a separate module in version 3.8, to handle reformatting of HP3000 data into formats that can be loaded directly into applications on PCs and other platforms.

For Techies

References

STExport converts the data



- STExport reads self-describing files
- Outputs ascii files
- Allows you to specify:
 - field delimiters to use
 - date format
 - fieldnames in first record
 - numeric format
 - fixed or variable length
 - quotes on character fields
 - HTML - *table* or *preformatted*

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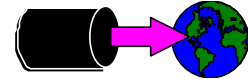
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- Character fields are enclosed in quotation marks
- Trailing blanks are (optionally) removed from character fields
- Leading zeros are (optionally) removed from numeric fields
- The fields are separated with delimiters
- Date fields can be reformatted
- Numeric fields with implied decimals have a decimal point inserted
- Output records can be variable-length
- Either of two HTML (Hypertext Markup Language) formats can be generated
- The first record can contain field names
-and more...

For Techies

References

The IMAGE Data Looks Like This



```
>get employees; list; xeq

ADDRESS          = 307-2222 Edinburgh
BANK-ACCT        = 001-2547-66983
BANK-NAME        = Toronto Dominion
BIRTH-DATE       = 19700214      CITY           = Richmond
COUNTRY          = Canada
DATE-HIRED       = 19920304      DEPARTMENT-NO  = 10
EMPLOY-STATUS    = 1            EMPLOYEE-NO    = 5557
HOME-PHONE       = (604) 574-2627
MARITAL-STATUS   = 2            NAME           = Grinham, Robert
POSTAL-CODE      = V9H 2R6      PROVINCE-CODE  = BC
REVIEWED-DATE   = 19960501      SALARY         = 4000.00
SEX              = M            SIN            = 689521478
SPOUSE-NAME      =
TITLE            = Administrative Clerk
VACATION-DAYS    = 15          WORK-PHONE     = (604) 244-4000 x2587
```

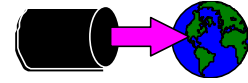
20

EMPLOYEES	Master	Set# 1	Offset	
Entry:				
ADDRESS		X20	1	
BANK-ACCT		X20	21	
BANK-NAME		X20	41	
BIRTH-DATE		I2	61	<<YYYYMMDD>>
CITY		X20	65	
COUNTRY		X20	85	
DATE-HIRED		I2	105	<<YYYYMMDD>>
DEPARTMENT-NO		I1	109	
EMPLOY-STATUS		I1	111	
EMPLOYEE-NO		I2	113	<<Search Field>>
HOME-PHONE		X20	117	
MARITAL-STATUS		I1	137	
NAME		X20	139	
POSTAL-CODE		X10	159	
PROVINCE-CODE		X2	169	
REVIEWED-DATE		I2	171	<<YYYYMMDD>>
SALARY		I2	175	<< .2 >>
SEX		X2	179	
SIN		I2	181	
SPOUSE-NAME		X20	185	
TITLE		X20	205	
VACATION-DAYS		I1	225	
WORK-PHONE		X20	227	

For Techies

References

The MS Access Data Looks Like This



- The table already exists in an MS Access database
- We will be appending records to the table

Employee Name	Employee Num	Status	Address	City	Province/State	Country
Brinham, Robert	5557	1	307-2222 Edinburg	Richmond	BC	Canada
Fernandes, Karen	24386	1	1786 E 30th	Vancouver	BC	Canada

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The table is defined like this:

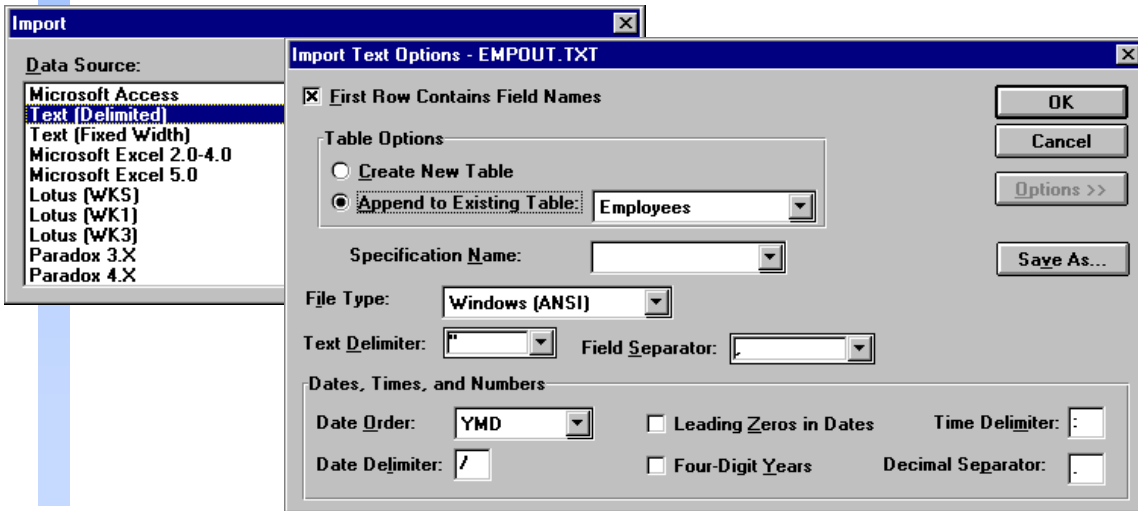
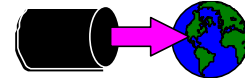
Name	Type	Size
Employee Name	Text	50
Employee Number	Number (Long)	4
Status	Number (Long)	4
Address	Text	50
City	Text	50
Province/State	Text	50
Country	Text	50
Postal/Zip Code	Text	50
Home Phone Number	Text	50
Sex	Text	50
Social Insurance Number	Number (Long)	4
Hire Date	Date/Time	8
Marital Status	Number (Integer)	2
Spouse Name	Text	50
Monthly Salary	Currency	8
Bank Name	Text	50
Bank Account ID	Text	50
Birth Date	Date/Time	8
Title	Text	50
Department Name	Text	50
Work Phone Number	Text	50
Last Review Date	Date/Time	8
Vacation Days	Number (Integer)	2

For Techies

Employee Number is the index item to the table. It's configured as non-duplicating.

References

The MS Access Import Choices



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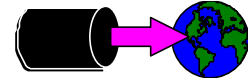
MS Access can import data from a variety of source applications. Not surprisingly, Suprtool and IMAGE/SQL are not listed, so we'll use the generic delimited text format. We'll just use the MS Access defaults for delimiters and separators because they are also the defaults in STExport.

For Techies

References

The MS Access manual explains the various import options.

The Import File Text (Delimited)



■ Without Column Headings

```
"Fernandes, Karen",24386,1,"1786 E 30th","Vancouver","BC","Canada",...  
"Grinham, Robert",5557,1,"307-2222 Edinburgh","Richmond","BC","Cana...
```

■ With Column Headings

```
"Employee Name","Employee Number","Status","Address","City","Provin...  
"Fernandes, Karen",24386,1,"1786 E 30th","Vancouver","BC","Canada",...  
"Grinham, Robert",5557,1,"307-2222 Edinburgh","Richmond","BC","Cana...
```

■ Fields in Different Sequence, With Column Headings

```
"Address","Bank Account ID","Bank Name","Birth Date","City","Countr...  
"1786 E 30th","006-2407-11896","First National",1958/04/01,"Vancouv...  
"307-2222 Edinburgh","001-2547-66983","Toronto Dominion",1970/02/14...
```

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It is important that MS Access know where to find the fields in the import record. The separator character (in this case a comma) separates the fields, and the text delimiter character (here, double-quotes) marks the start and end of text fields.

If we are creating a new table then there is no need to synchronize the import file with anything. All we need to do is to put the fields in the desired order. If the first row of the file contains the field names, then those names will be used. If not, the columns will be named 1, 2, 3, etc.

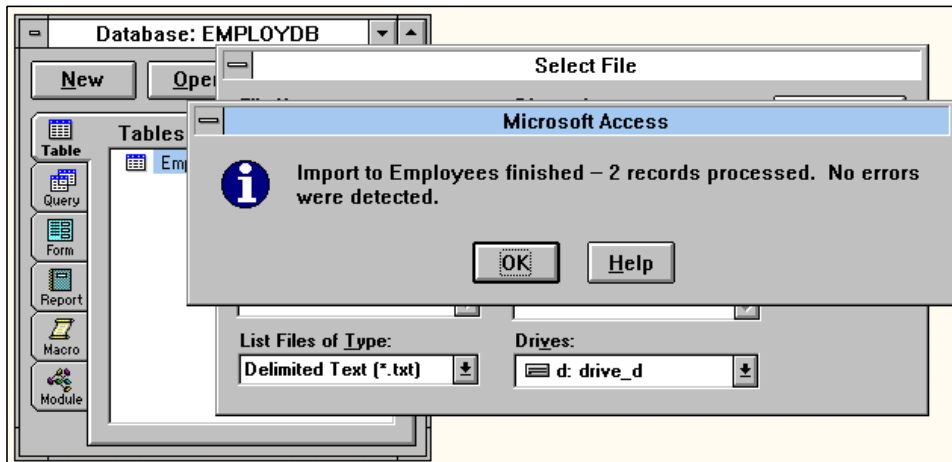
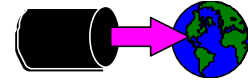
If we are appending the data to an existing table, then either the fields in the import file must be in the same sequence as those in the table, or the first row of the file must contain field names. The names must match the names in the MS Access database, though the sequence need not be the same.

Note: For our example we will create a file that has all the fields required, but we'll use whatever field sequence is produced by Suprtool and Suprlink. We'll put field names in the first record so that MS Access will know how to load the data.

For Techies

References

Import the Data into MS Access



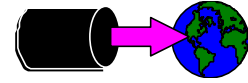
24

MS Access lets you know the outcome of the import operation.

For Techies

References

Why Use STExport?



STExport lets you....

- Strip trailing spaces from text fields
- Control the format of dates and numbers
- Add field names to the first record
- Specify the delimiter and separator characters

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Thank you, Michael Shumko, for your recent subscription to our fine magazine, Scientific American. You will soon receive your first issue, along with your free gift, the Binford 9000 Particle Accelerator. Blah blah blah ...

Obviously for some applications it's critical that text fields have their trailing spaces removed. STExport gives you control over the format of the data going into the import file, whereas the PRN option of Suprtool's Output command does not have any flexibility.

STExport Formatting Commands

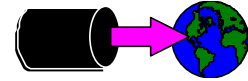
- Columns
- Date
- Delimiter
- Floating
- Heading
- Quote
- Sign
- Spaces
- Zero

For Techies

Confusing terminology: STExport calls the character that appears between fields a *delimiter*; MS Access calls this a *field separator*. STExport calls the character used around byte-type fields a *quote*; MS Access calls this a *text delimiter*.

References

Importing into Oracle/UX



- Load the file into the Oracle table
- The load specs are in their own control file

```
sqlload userid=username/userpass control=loaddate.ctl log=load.log
```

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You can import the data into an Oracle/UX database with the SQL*Loader utility. To execute SQL*Loader, you can do:

```
sqlload userid=username/userpass control=loaddata.ctl log=load.log
```

where `sqlload` is the filename of the SQL*Loader program

`userid` is the username and password to use to connect to the database

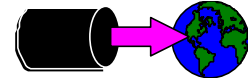
`control` is used to point the file containing the load specifications (shown on the slide)

`log` is requesting SQL*Loader to write the various messages generated during the load operation, including error messages

For Techies

References

Importing into Oracle/UX The Control File



```
load data
  infile '/users/mike/oracle/data/empdept'
  append into table employees
  fields terminated by ","
  optionally enclosed by '"'
(employee_name, employee_number, status, address,
 city, province_state, country, postal_zip_code,
 home_phone_number, sex, social_insurance_number,
 hire_date, marital_status, spouse_name,
 monthly_salary, bank_name, bank_account_id,
 birth_date, title, department_name,
 work_phone_number, last_review_date, vacation_days)
```

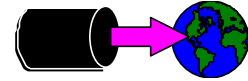
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load data	load command
infile	name of the data file
append into table	destination table <i>insert</i> assumes the table is empty <i>append</i> creates new rows <i>replace</i> deletes existing rows before loading <i>truncate</i> is the same as <i>replace</i>
fields terminated by	character used between column values
optionally enclosed by	character used around text strings
(employee_name,...)	column names, in the same sequence as the data file

For Techies

References

Transport Methods



- File Transport Protocol (ftp)
- Most common tool, Windows, Unix, ...

```
Command Prompt
z:\>ftp gamma
Connected to gamma.ROBELLE.COM.
220 HP ARPA FTP Server [A0010001] (C) Hewlett-Packard Co
User (gamma.ROBELLE.COM:(none)): user.admin
230 User logged on
ftp> get udc
200 PORT command ok.
150 File: udc opened; data connection will be opened
226 Transfer complete.
246 bytes received in 0.18 seconds (1.37 Kbytes/sec)
ftp> quit
221 Server is closing command connection

z:\>type udc
setcatalog phnmuuc.current.cognos
*****
```

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Almost every computer that supports TCP/IP will have an ftp client.

You can either PULL the file (GET) or PUSH it (PUT).

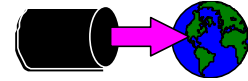
Here is an automated MPE job that pushes files using ftp:

```
!job jcopyobj,bob.green,qedituxo;outclass=lp,2;inpri=7
!echo user robcopy !robcopypass >temppass
!echo binary >>temppass
!echo timeout 999 >>temppass
!echo exitonerror >>temppass
!echo cd /users/robdev/qedit/obj >>temppass
!echo put qeduxok.pub qed.flg >>temppass
!echo close >>temppass
!echo quit >>temppass
!setvar ftplasterr 0
!run ftp.arpa.sys;info="!HPUXDEV";stdin=temppass
!if ftplasterr <> 0 then
! showvar ftp@
! setjcw jcw fatal
!endif
!eoj
```

For Techies

References

FTP server



- Since MPE/iX 5.5, a part of FOS
- Easy to setup
- Needs background job
- Can setup user or anonymous access

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there is also an HP3000 compatible ZIPper, which you can get from <ftp://ftp.nha.co.za>

There is also LZW from Telamon, Inc. which is what we use when in our Qedit for Windows CD to HP3000 uploads.

To support anonymous FTP:

FTPGUEST account and user, named USER under the FTPGUEST account should be created:

```
:NEWACCT FTPGUEST,USER
:ALTACCT FTPGUEST;PASS=ANYPASS
:ALTUSER USER.FTPGUEST;PASS=ANYPASS
:ALTACCT FTPGUEST;CAP=AL,AM,GL,IA,ND,SF
:ALTGROUP PUB.FTPGUEST;CAP=IA
:ALTUSER USER.FTPGUEST;CAP=IA,SF,ND
```

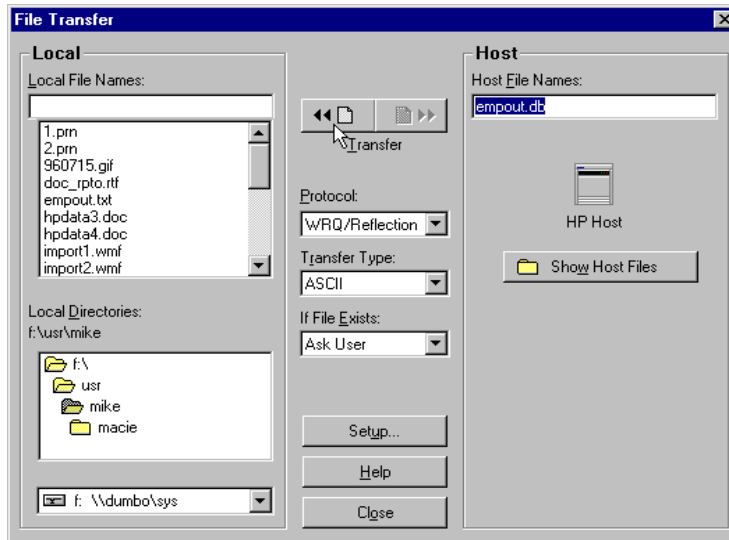
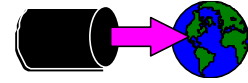
FTP manual online:

http://docs.hp.com/dynaweb/smpe/b1020/b974/@Generic__BookView

For Techies

References

WRQ Reflection transfer



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WRQ's REFLECTION is the most popular terminal emulation program used to connect to HP 3000s. Its transfer utility is built into the main File menu. It allows bi-directional transfers between the pc network and the host 3000.

Transfer Types : ASCII, Binary and LABELS which is great for moving MPE program files between systems. It writes an informational label at the start of the file with its MPE file attributes.

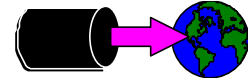
Usually ftp is faster than Reflection transfer.

For Techies

FTP client capability is included in MPE/iX 5.0

References

Qedit Scripting Language



- Qedit for Windows has a new scripting language
- Can automate manipulating of HP3000 files
- Save them as new files on local PC networks

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Qedit scripting is unique way to access files on various servers, do some editing and create new files either on a new server or a local pc network. These scripts can be automated in batch files and scheduled, here is a sample 2 line .bat file that invokes the script then mails the file to me:

```
C:\ROBELLE\QEDIT\qwin32.exe -r C:\scripts\backupcheck.qsl  
mailfile alpha paul "backup summary" c:\robops\log\backupck.log
```

(n.b. mailfile is a WINBATCH script..)

The QSL script could:

- 1) opens a new empty file,
- 2) opens a report disc file on one HP3000 server
- 3) finds and saves the "GRAND TOTAL " lines
- 4) does the same for the other 2 HP3000s
- 5) saves the new summary file on one of the NT servers.

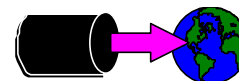
A similar QSL script can be view at:

<http://www.robelle.com/support/qwin/backupck.txt>

For Techies

References

Summary



- There are many different ways to share your e3000 data
- Online keyed info vs. Batch Summary info
- Raw data vs. Converted data
- Resident data vs. Moved data
- Global access vs. Local network access

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	Direct Access	Web Publish	Map Drives	Export/ Convert
Online	+++		+	-
Batch Summary	-			++
Raw data	+		+	-
Converted data				++
Resident data	+			
Moved data				++
Global access	-	+++	-	
Local access	+	+	+	

For Techies

References