SabreFDI
(Formatted Data Interchange)

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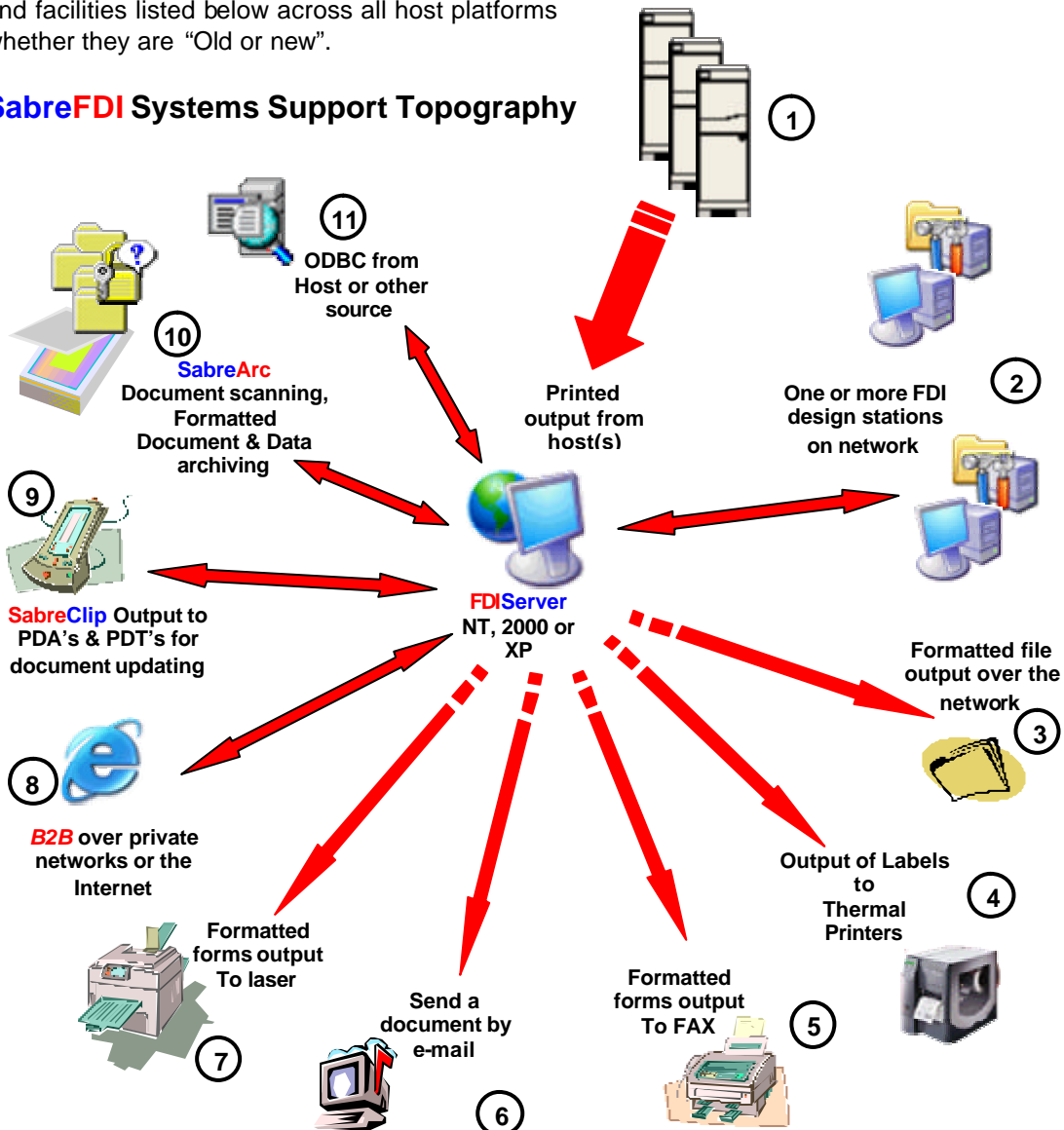
What is SabreFDI?

SabreFDI is an advanced Windows based server product which sits between the host or hosts applications and any number of input and output devices that are listed in the diagram below. Products with this type of function are normally referred to as "Middleware".

SabreFDI's principle aim is to ensure that the information produced by the output host is delivered in a form and format best suited to the users needs on any modern Windows driver supported device, with little or no modification to the existing application or purchase of additional software modules.

Updating and modifying host systems and software is an expensive and time consuming business, also it is the case that new systems may not always be as flexible as one would have hoped or specific modules to do a data output task are too expensive for some of the smaller departments or applications. **SabreFDI** will ensure that all your new and host legacy systems will be able to support a consistent range of functionality using a common PC based Graphical User Interface (GUI) on a modern industry standard platform.

SabreFDI can receive ASCII information from more than one host at a time (concurrently) which is normally passively captured from the host print data stream. Once received, rules based applications created by the PC based graphical tools allow the user to ensure that a consistent level of operational performance and facilities are available to any of the devices and facilities listed below across all host platforms whether they are "Old or new".

SabreFDI Systems Support Topography

1. Printed output from host(s)
2. One or more FDI design stations on network
3. Formatted file output over the network
4. Output of Labels to Thermal Printers
5. Formatted forms output To FAX
6. Send a document by e-mail
7. Formatted forms output To laser
8. B2B over private networks or the Internet
9. SabreClip Output to PDA's & PDT's for document updating
10. SabreArc Document scanning, Formatted Document & Data archiving
11. ODBC from Host or other source

FDIServer NT, 2000 or XP

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1) Host Platforms (Standard)

SabreFDI integrates with host systems by capturing host output normally sent to a printer.

So long as the host can send printed data to a network device (even a location on the network, not necessarily a printer), **SabreFDI** can intercept the print and process it in its constantly running software engine on the server.

This method of data capture is easy to achieve and **SabreFDI** can receive data from more than one host at the same time.

Although the data must be in an ASCII (human readable format), if the data has formatting and control codes embedded in it for an existing printing application, this is not normally an issue.

Features:

- Simple method of data capture and integration that needs no host modification to the host source

- Easy to use PC tools that provide a consistent interface application that can be used on a departmental level on a local or remote server

- Reliable and low cost

- Runs on a variety of Windows based operating systems with a low network and hardware "Foot print"

- Application version control is easy to maintain across departments.

Benefits

- Provides a consistent "Cross platform" level of capability with the same set of tools

- Releases the user from expensive host up-grades (if available) to support special or more advanced data and document delivery methods of control or usage.

- Allows any host to support any Windows based hardware device without the need for expensive and often limited vendor written hardware drivers

- Allows the IT infrastructure and department planners a base level guarantee of what can be delivered, regardless of the choice of future systems and may reduce the cost of future software purchases

- Allows "Special" applications and facilities to be produced and developed at a much faster rate without further purchase of software from other vendors.

- Can reduce deployment costs considerably if the host system is licensed "Per user" or "Output device"

- Allows the departmental purchase of the "Right kit for the job at the right price" rather than being limited to what the vendors host system supports

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2) Graphical "DataSet Designer" tools (Standard)

The SabreFDI DataSet Designer tools are a currently "Unlicensed" single program file which allows a PC literate operator with the correct level of training and knowledge of the application requirements, the ability to create an FDI application and fully test it, without initially little or no interaction with the **Sabre FDI** application server.

All the application components are loaded into the designer screen with all the source of the application being held in a single data file.

The design of the system is such that the application can be modified or developed at a remote location, loading the application onto the server is utilised by a few mouse clicks.

The operator need not be at the same location on the server, all server operations are controlled by the tools.

View of "Tools screen" with Despatch Note application

Datamap

- Recognition Fields
  - Branch code
  - Despatch note
  - hash total text
  - Input page number
- Transactional Fields
  - Warehouse code
    - Item Code
    - Description
    - Unit
    - Quanti
    - Quanti
    - Quanti
  - Line up
    - Bra
    - cu
    - Nu
    - catchw
    - Catchw
- Static Fields
  - Despatch
  - Input page
  - Reprint tag
  - Customer name
  - Invoice address
  - Delivery address
  - Despatch note number

J SAINSBURY NEWPORT
STORE NO 2105
FOX ROAD

NEWPORT
ISLE OF WIGHT
PO30 5ZB

J SAINSBURY PLC (STORES)
MILK PAYMENT DIRECT DEPT FLOOR 2
9-11 STREATHAM HIGH ROAD
NORWICH HOUSE

LONDON
SW16 1BU

Route:NE07   Area   001

005692   JS MLK WHL 35X1PT   NP   LAYER
                                        GL
            687/002/035   0/00/00

"DataMap" Field association view

Shows all the mapped data fields and their association with each other (if any).

"Input Page" view

Shows the data positions selected for processing on a sample of the page sent by the host.

Process Map

- Normal despatch note
- Recognition
- CHAFDI2
  - Customer Copy
    - [Print location] Equals "CHADWELL HEATH"
    - 2 Copies
    - Transaction Overlay
    - Hash totals
    - Reprint
    - Customer Copy
    - Pink tray 3
    - White tray 2
- FENFDI2
  - Customer Copy
    - [Print location] Equals "FENSTANTON DAIRY"
    - 2 Copies
    - Customer Copy
    - Reprint
    - Hash totals (Copy)
    - Transaction Overlay (Copy)
    - Pink tray 3
    - White tray 2
- SEVFDI2
  - Customer Copy
    - [Print location] Equals "SEVERNSIDE DAIRY"
    - 2 Copies
    - Reprint
    - Customer Copy (Copy)
    - Hash totals (Copy)
- HANFDI
  - Cus
- KIDFDI
- NEWFDI
- SUNFDI
- TOTFDI
- Archive

DAIRY CREST LTD.   **DESPATCH NOTE**

Delivery Address	Despatch Number	Our Order Number	Branch
J SAINSBURY NEWPORT	151920300	1519203	
STORE NO 2105	Delivery Due Date	Your Reference	Your Order Date
FOX ROAD			
NEWPOR			
ISLE OF			
PO30 5Z			

"Form design" view

This section shows the data format that will be sent for each one of the output applications.

A full range of font af graphical design tools are available. The view changes as each application in the process map is selected.

Other design "Tool boxes" are available if the output is to be data rather than graphical.

"Process Map" output Page view

This section shows the actual list of applications active for this type of input data when recognised by the server.

Each heading indicates the type of output that is created when the conditions are met in the input data and the device it will be delivered too.

Although the applications can be built to a very high degree of complexity with mathematical computations if required, the system does not use any complex "Scripting" language and in its very nature is "Self documenting" as all fields and functions have names and description fields.

At least 90% of the functionality can be access and immediately viewed in one of the 4 screens or by use of the tool bars.

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3) File output (optional)

It may be the case that data (or components of it) may be required to be extracted from the input application at the time it is processed. A typical application would be a document is printed but some aspect of the information produced such as the totals or specific results may need to be used in an "Excel" spreadsheet or similar package.

In this case the destination on the network is defined and the data is identified that needs to be appended to or created in the file.

Options exist that in the written location the system will append to an existing file or create a new one on each occurrence of the data.

The application can be created so that the data is only written out if the input data meets certain conditions.

Example:

Output file is written of specific information if someone has a special blood or communicable condition.

More advanced facilities for data transfer and storage are found in the sections **SabreArc** (10), **ODBC** (11) and **SabreB2B** (8).

4) Thermal label output

SabreFDI can be used to output information to thermal printers, even if the original data output print or source provided was not intended for use by devices of this type.

Device support is such that any Windows font can be used on these devices, even to the point of producing limited graphics, exceeding what can normally be achieved by the vendor provided drivers.

It is possible using our system to send a letter or document to one device while using a subset of that information to produce an accompanying label on a thermal printer at the same time, a data condition on the input data can be used to control if a label is produced and if so, how many are required and in what format.

SabreFDI can dynamically convert any data item on the page to one of a popular number of barcode types.

Examples:

Despatched items sent with an enclosed document with a label produced for the package at the same time with no further operator action.

Put away labels, Product rating plates etc..

SabreFDI support will allow you to select the right printer for the job from an ever expanding range of high performance devices on today's market.

Why limit your choice?

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5) Output to fax (Standard with MAPI compliant fax systems)
6) Output to e-mail (Standard with MAPI compliant e-mail systems)

In many cases it is not always viable to print and post a document and the formatted output needs to be sent via an alternative method such as FAX and e-mail.

The output format of the document is exactly as it would be sent to a printer from the **Sabre FDI** system, containing all the form design elements, font size and types and graphical images.

Faxing

SabreFDI uses the Windows **MAPI** interface to send the fax output to a third party fax software package such as "WinFax Pro" (Standard) or any other MAPI compliant package such as "Right Fax" (Optional).

E-mail

Sabre FDI uses the Windows **MAPI** interface to send the e-mail output to a third party e-mail software package such Exchange or Lotus notes. Others may be supported, we will advise, but if you can attach a windows file document or use the email interface on your Windows desktop, the likely hood SabreFDI will support it without modification. **The actual documents are sent as a j-peg attachment which can be viewed in any Internet Browser, support of PDF output attachments is optional.**

Delivery control

Normally the fax number or e-mail address for the recipient is collected from detail on the document, but it is quite feasible to collect this information from another ODBC source such as the sending host or a local database.

It is possible (and very desirable) to use this method to actually control how the document is delivered on a document by document basis by using a field (or fields) in the host to assist **Sabre FDI** in determining how the recipient agreed to receive the data.

Example: Producing a supplier purchase order but with "Conditional" delivery

As each purchase order document is received from the host, **Sabre FDI** reads a specific point on the page or ODBC field on the host or local database.

Field = number: The document gets faxed to that number
Field = e-mail address: The document gets e-mailed to that location as an attachment
Field = blank: The document is printed

Using this method, any system can have a fax or e-mail facility and everybody gets the document delivered in the way they wish, without modification to the original host or the **Sabre FDI** application.

Fax and email is also available from the **Sabre Arc** database on an automatic or manual basis.

For high security applications it is possible to e-mail a link automatically from the **Sabre Arc** archiving system that tells the recipient that the information is available, but they can only view or extract the information over a secure web browser interface from the link. This **optional** feature will ensure that only the right "Eyes" get to see and use the information.

Example:

Purchase orders are also a favourite as well as customer statements.

fdi technology ltd

internet: www.fdi-tech.co.uk
email: general@fdi-tech.co.uk

general: +44 (0) 1206 792700
sales: +44 (0) 1206 792723
support: +44 (0) 1206 792720

facsimile: +44 (0) 1206 798075

suite 5, garden house
hythe quay
colchester
essex, co2 8jf

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7) Formatted output to laser (Standard)

By far the most common usage of **Sabre FDI** is to produce output to laser printers.

The level and range of facilities in **Sabre FDI** for this type of operation are wide ranging and comprehensive.

Sabre FDI can format output that are fixed items such as labels or a simple one page letter, however, the system can also manipulate complex multi-page documents such as invoices with "Floating" transactional items such as product lines (or purchase orders with order lines) that flow over the page.

The computational aspects of **Sabre FDI** can ensure that the number of output pages that are produced are reduce to the minimum required by ensuring that the "Transaction" space of the output forms design is used in its most efficient manner, saving a great deal of paper.

Example:

A two or three page purchase order produced on a matrix printer in "landscape" can often be reproduced on a single "Portrait" output page, perhaps on standard letter headed paper.

Benefit:

Not only is the output easier to read as it uses smart proportional fonts of your choice, you no longer need to use pre-printed stationary as the boxes and forms are printed at the same time as the data.

If you want to use multi-purpose letter headed stationary, the output can be designed to fit around the printed design. You only need the company logo on the letter head as all the other details (which can change from time to time like phone numbers and addresses) can be added by the system, which will save on printing costs and reduce the stock holding of different paper sets.

Any other pre-printed stationary is effectively eliminated with very effective savings.

Using Sabre FDI to reduce systems development time and improve flexibility

It is often the case that different departments or sites wish to produce different types of documents that utilise similar data. The application viewed in a designer image on the next page is an example of despatch notes produced for Dairy Crest site around the country.

In this example, every data page includes every item of data that may need to be used on any one of the despatch notes. The "Conditional" processing tools are used to decide what data is actually produced on which despatch note and how many copies are produced produced. The application in this case is to produce two copies of each despatch note one marked "Customer copy" which is also drawn from a different paper tray which contains a different coloured paper.

You can imagine how much simpler rolling out a system can be if within the source all the information required at any one time at any location is produced all the time, then **Sabre FDI** is used to "Filter" and manipulate the output based on the specific needs of that location.

In the case of Dairy Crest the output format is delivered and conditioned by data on the despatch note which contains the site at which the document is printed.

Some sites ship only the "Liquid" product types while some ship solids such as cheese, which have a different column setup for the information.

In two locations "Dairy Crest" also ship directly to USAF airbases, in which case the format is switched to landscape and the product prices are included.

Dairy Crest Standard Despatch Note

SabreFDI is used to calculate the "Balance to follow" values in case of shortages. The column is left blank if there is no shortage.

DAIRY CREST LTD. — DESPATCH NOTE

Despatch Number	Our Order Number	Branch
151920300	1519203	

Delivery Address: J SAINSBURY NEWPORT, STORE NO 2105, FOX ROAD, NEWPORT, ISLE OF WIGHT, PO30 5ZB

Delivery Due Date	Your Reference	Your Order Date
31/07/02	C07232105183	29/07/02

Customer Code	Our Order Date	Page Number
X0023 /709	08/10/02	1 OF 1

Despatching Address: NEWPORT DAIRY, 23 MILL STREET, NEWPORT, ISLE OF WIGHT, PO30 5DQ

Route Details		Delivery Time
NE07 NEWPORT	00	7:00

Invoice Address: J SAINSBURY PLC (STORES), MILK PAYMENT DIRECT DEPT FLOOR 2, 9-11 STREATHAM HIGH ROAD, NORWICH HOUSE, LONDON, SW16 1BU

Stock Room: NEWPORT DAIRY   Telephone: 020 88187507

Item Code	Quantity Ordered	Product Description	Quantity Despatched	Consumer Units	Balance To Follow
005692	2 LAYER	JS MLK WHL 35X1PT 687/002/035	2	70	
000352	8 LAYER	JS MLK STND 20X4PT PBT 687/006/020	8	160	
000354	4 LAYER	JS MLK STND 12X6PT PBT 687/007/012	4	48	
005694	1 LAYER	JS MLK SKIM 35X1PT 687/018/035	1	35	
005693	2 LAYER	JS MLK SEMI 35X1PT 687/024/035	2	70	
000362	4 LAYER	JS MLK SKIM 20X4PT PBT 687/046/020 JS SKIMMED	4	80	
000357	20 LAYER	JS MLK SEMI 20X4PT PBT 687/048/020	20	400	
000359	8 LAYER	JS MLK SEMI 12X6PT PBT 687/058/012	8	96	
002822	3 LAYER	JS MLK STND 35X2PT PBT 687/074/035	3	105	
002823	8 LAYER	JS MLK SEMI 35X2PT PBT 687/076/035 JS SEMI SK	8	280	
002824	3 LAYER	JS MLK SKIM 35X2PT PBT 687/078/035 JS SKIMMED	3	105	
HASH TOTAL	63			1449	

Container: 4 HIGH IN 18

OCN   Temperature   N001519203

Dairy Crest "Cheese" Despatch note

Note the difference in some of the column formatting and information.

DAIRY CREST LTD. — DESPATCH NOTE

Despatch Number	Our Order Number	Branch
921205700	9212057	

Delivery Address: BATLEYS (80211) (KS), CHESTER LE STREET, BIRTLEY, DURHAM, DH2 1SR

Delivery Due Date	Your Reference	Your Order Date
3/05/01	PICK NOTE TEST	03/05/01

Customer Code	Our Order Date	Page Number
G0407 /007	04/05/01	1 OF 1

Despatching Address: SUNBURY CROSS, 42 HANWORTH ROAD, SUNBURY ON THAMES, MIDDLESEX, TW16 5DA

Route Details		Delivery Time
WALES / KENT	1	6:00

Invoice Address: DAIRY CREST LTD, HOUSEHOLD DIVISION, ALDERSHOT

Stock Room: SUNBURY CROSS   Telephone: 01932 778500

Item Code	Qty. Ordered	Cases	Product Description	Catch Weight	Qty. Desp	Units Shorted
011495	5 EACH	5	SI CHD MI W HPRO 1X2K	10.000 KG	5	
011542	5 EACH	5	CHC DAN BLUE WHL N3K 1K	15.000 KG	5	
012264	7 EACH	3 (1)	WICK CENT HAM HLF N2.7K 1KGS	19.040 KG	7	
011129	48 EACH	4	SSMW GING BEER 12X1L		48	
011263	66 EACH	11	CRM AEROSOL 6X500ML		66	
011317	72 EACH	12	SHP YOG VFF STW 6X175G	75.600 KG	72	
011319	96 EACH	4	SHP YOG TROP STD 6X4X120G	276.480 KG	96	
011477	96 EACH	4	SI VAR D&G+C&O 200G 24 WDGS	460.800 KG	96	
011495	3 EACH	3	SI CHD MI W HPRO 1X2K	6.000 KG	3	
011542	8 EACH	8	CHC DAN BLUE WHL N3K 1K	24.000 KG	8	
011129	60 EACH	5	SSMW GING BEER 12X1L		60	
011263	72 EACH	12	CRM AEROSOL 6X500ML		72	
011319	72 EACH	3	SHP YOG TROP STD 6X4X120G	207.360 KG	72	
011477	72 EACH	3	SI VAR D&G+C&O 200G 24 WDGS	345.600 KG	72	
HASH TOTAL	682					

Container: Cases 83

OCN   Temperature   W009212057

Dairy Crest "Priced" Despatch note

Note the completely different format (in landscape) and the prices.

Despatch notes for **Bacardi Martini**, **First Drinks Brands** and **G.Costa**

Although each company mentioned above has variations on the content of the despatch documents, In G.Costa's case we actually used ODBC in **Sabre**FDI to conditionally add prices to some despatch notes for a range, but not all, customers. What they all have in common is that they may extensive use of the SabreArc implementation of the World Renowned "Kofax" document scanning interface.

You will see on the Bacardi despatch note below barcode and OMR (**O**ptical **M**ark **R**ecognition) barcodes that are "Read" by the scanning system in order to track POD's and related issues.

Patch Codes

These codes are placed on the first page only of each despatch note to signify to the scanning system the start of a new despatch note.

All other documents including customer GRN's are stored as "Attachments" to this first page.

OMR Check boxes

These boxes are "Ticked" by the despatch administrator to signify any issues with the document which signify a "Dirty" POD.

This information is used to track issues and listed weekly on "KPI" (**k**ey **P**erformance **I**ndicator reports) produced by the system.

Index Barcode

This contains the Despatch note number and load number (Their can be more than one shipment per despatch note number).

This is used to link this document with the original archived at print time with no operator re-entry of indexing information or "keys".

All of the companies mentioned above use **Sabre**FDI extensively for many document related applications within their organisations. More information on the uses of the **Sabre**FDI product within these companies can be found in the User profiles at the rear of the document.

8) **Sabre**B2B **data interchange over private networks or the internet (optional)**

In growing popularity in industry and commerce is the ability to transmit and receive documents in an electronic format over the Internet.

Although today the preferred electronic business transfer method is EDI, however more and more we see the continued growth of information interchanged using XML.

The primary resistance to the full realisation of the potential of this interchange method is the fact that as of today, there are still no recognised formatting standards for the use of this interchange method and it is still left between the trading or communicating parties to decide how the structure will be defined.

This means that many companies and organisations are left with a number of issues;

- How can they convert a specific document such as a purchase order or invoice into an agreed or structured format that can be used by another organisation?

- How can they manage the problem of having to produce differing structure formats of the same document for use by different organisations?

- How can they send just some of the documents in the print run in this format such as purchase orders, when normally they are faxed, e-mailed or printed?

- How can they easily adapt their existing systems to send documents in this format or handle documents of this type if they are received?

SabreFDI has now been adapted using its conditional processing ability that specific documents in a print run can be converted into an "Interchange" format to suit the needs of a specific organisations interchange formatting methods.

SabreFDI can then be told to extract and send a document in an agreed format directly from the print run, in much the same selection method as if it was send a fax or e-mail, which of course can still continue in the same print run concurrently.

Additional development of the **Sabre**FDI data processing server and archiving system means that documents received in this format can be "Processed" by **Sabre**FDI and placed in a readable format in the SabreArc archiving system.

Other facilities can be written by in house staff or specialist third parties that can "Post" extracts of the information into financial and other host systems.

Although this type of facility may be currently be of greater benefit to Industry than the NHS, these exciting developments allow a degree of "Future proofing" and flexibility that might extend the life of some NHS core IT financial systems or reduce the cost of new systems when this facility is required.

Document workflow (optional)

With some of its trading partners and larger customers such as Bacardi Martini, First Drinks Brands FDI Technology are implementing sophisticated supplier invoicing and purchase order workflow systems to ease the manual burden and cost of paper documents with non EDI trading partners.

Although of significance in manual cost saving in its own right, the main overhead of these systems is "Scanning in" the supplier's paper invoice. The future target of FDI is to provide a low cost facility to enable their suppliers to send "Electronic" documents for direct entry onto the workflow system, trials are in progress.

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suite 5, garden house
hythe quay
colchester
essex, co2 8jf

Transaction Consolidation

Having eliminated "Pre-Printed" stationary from your cost overhead you need to ensure that if you have to continue producing paper, it needs to be produced as efficiently as possible. **SabreFDI** has a specific standard feature which will ensure that this always happens on documents that use "Repeating transaction" information on the output.

Documents of this type normally fall into two categories;

Customer facing, such as;

- Invoices
- Credits
- Statements
- Remittances
- Advices
- Despatch notes

Internal such as;

- GRN's
- Pick notes
- Put away lists
- ERP reports

In many cases these documents were designed to be produced in a fixed pitch on "landscape" format, but by some subtle re-design and perhaps a switch to a "Portrait" layout, the use of the **SabreFDI** "Transaction Consolidation" feature will cut down the number of pages you actually print for these documents by up to 70% in some cases.

Example case histories

Dairy Crest

At Dairy Crest, customer statements had 19 transaction lines per statement page from the ERP host. By redesigning the document and recalculating the "Brought forward" and "Carried forward" totals with facilities in SabreFDI, we now have 52 transaction lines per statement page so this means that for very 3 pages produce on average from the host, only one statement document page is produced from **SabreFDI**.

Dairy Crest Invoices also benefits from a similar ratio of reduced document page production.

UK Coal

UK Coal's Power Generating customer's invoices were typically over 110 pages long; on average these documents are now only producing 40 actual pages per invoice, including a "Summary" section at the rear of 2 or 3 pages where **SabreFDI** calculates the totals per site in summary form. With eventual agreement from UK Coal's customers, the transaction detail from the invoices is to be automatically e-mailed in CSV format for spreadsheet use, only the "Summary" will be posted as a paper invoice.

Thomas Plant

Thomas Plant are the vendors of the quality "Kitchen Craft" range of domestic cook ware and even though **SabreFDI** produces a "Remittance slip" on the bottom of each statement page, ERP host document reduction is in the factor of 2 to 1.

Thomas Plant also uses **SabreFDI** "Context Rules" to select a number of colour marketing "Inserts" from multiple "Pre-loaded" laser trays which are "Interleaved" when the statements are printed. As in their market, the person reading the statement is the person who normally orders the good's; so this is a valuable way of getting the marketing message out there.

SabreClip output to PDA's & PDT's (optional)

How many documents are produced that are designed to accept written updates by the users, the results of which are then updated back into a system?

These documents are the target of the latest development of **SabreFDI** "**SabreClip"** This acronym stands for **"Sabre Clipboard"** and is designed to support the growing range of advanced Windows CE powered PDA's (**P**ersonal **D**ata **A**ssistants) or PDT's (**P**ortable **D**ata **T**erminals).

Contrary to popular belief, you don't have to be **"Radio linked"** and **"Online"** to make effective use of these devices! The flexible implementation of **SabreClip** means that you do not have to have all sites or routes transferred to PDT operation, you can mix and match from the same source

Although the use of devices of this type is not new, the reducing cost of these devices and the advanced capabilities are now making them cost effectively available to applications that were once considered prohibitive in cost to support. The issue with using devices such as these is now not the purchase cost, but more a case of **"How can we get our applications to support them?"** This is not a major issue for big budgets and new systems but adapting older legacy systems to cost effectively support these types of devices is an almost impossible task.
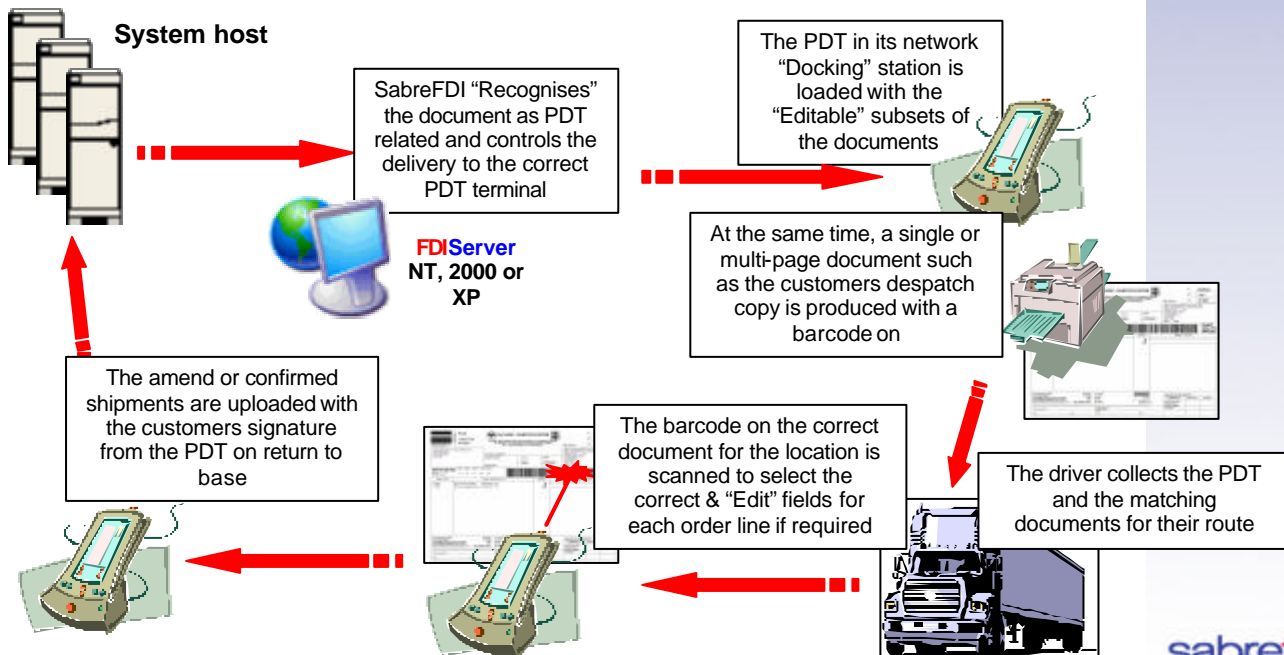
Until now…

Usage scenario

The main application development thrust of our product is aimed at the despatch market, where errors in shipments cause considerable cash flow issues when delays in getting details of the confirmed delivery quantities, cause issues when they do not match the invoice for the shipment.

Some times items are missing, damaged, cross picked or refused and delays in getting the POD back with its confirmed shipping quantities on, mean that the invoice does not match what was actually shipped to the customer.

Credits have to be raised, tempers have to be soothed and relationships have to be repaired and in the mean time the invoice which is incorrect is not being paid which impacts on cash flow. Our development uses the **Intermec 700 series PDT** because it has a very useful **"Laser"** barcode scanner and a touch sensitive screen that can accept signatures and data input, but we can support any Windows CE driven hand held device.

System host

SabreFDI "Recognises" the document as PDT related and controls the delivery to the correct PDT terminal

FDIServer
NT, 2000 or XP

The PDT in its network "Docking" station is loaded with the "Editable" subsets of the documents

At the same time, a single or multi-page document such as the customers despatch copy is produced with a barcode on

The driver collects the PDT and the matching documents for their route

The barcode on the correct document for the location is scanned to select the correct & "Edit" fields for each order line if required

The amend or confirmed shipments are uploaded with the customers signature from the PDT on return to base

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Other Industrial applications for SabreClip

Warehouse picking

Very often, support of PDT devices for picking are only provided as part of a costly "Warehousing" system upgrade that put the availability of such systems out of financial reach of many organisations.

It is possible with our product to send a paper "Pick" document to a PDT so the items can be picked using this type of device.

The benefits of doing this are as follows;

The operation can be supported without putting more "Users" on your system as the SabreClip system is not an "Online" operation.

A quantity of "Pick Notes can be sent to one PDT, SabreFDI would use its conditional processing to distribute the "Pick Notes" by;

Single order picks   = Orders that only have one order line to be picked can be channelled to a specific or a range of PDT's, leaving the more complex picks for more experienced staff

Location Picks   = Orders sorted and sent to PDT's via primary warehouse "Location" codes

Weight Picks   = Orders over a total weight are sent to a Pick operator with a trolley or forklift (or the use of this device is indicated). This figure is calculated by SabreFDI

Cross Order Picks   = Individual order items from multiple picks on the PDT are sorted in location/part number order to improve pick efficiency, orders are then sorted at a central "Pick rack" at the despatch point

The advantage of the system over paper is that any changes in the pick quantities are rapidly and accurately updated into the system after picking and there is no question on who actually picked them.

Because the Picking PDT application is not strictly "Interactive" it does not need a user "Log on" to the main system which helps with security and reduces the host system "User license" cost.

Pick documents do not need to be sorted before the pick run and they are less likely to be mislaid.

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9) SabreArc COLD, Image & Data archiving (optional)

SabreArc is primarily an SQL based COLD **C**omputer **O**utput **T**o **L**aser **D**isk) archiving system that can selectively place a document produced by **SabreFDI** into its record structure. This process is carried out automatically at "Print time" the stored image faithfully reproduces all the formatting of the document (or documents id multi page) produced.

This feature is important if the document produced varies from its original host format in any way (which it normally does if formatted by **SabreFDI**) and later reference to the document for viewing or reproduction is required.

The documents are stored in such a way to be a "Legal hierarchical" archive, which means that if the format design of the document is modified by the **SabreFDI** dataset tools at a later date, the older documents are still in their old format while only the new documents stored since the design revision are viewed in the new format.

Benefits

- Storage of paper copies are eliminated with the consequential elimination of manual filing and retrieval

- Documents are secure and cannot be lost or mislaid

- Ideal for "Credit Chasing with fax and e-mail support from archive to produce copies of invoices for the customer

- Documents can be faxed, e-mailed or printed from the archive

- Documents can be viewed by the SabreArc proprietary viewer or via an Internet Browser "Plug in"

- Open systems structure means that other image based systems can find and "View" documents without any complex integration or merging procedures

File storage

Document image indexes are stored in an exclusive SQL database or share this resource with another system. The images are stored as part of the NTFS directory tree file structure in such a way that other systems can access the images with no integration difficulties or access to our system.

DLL based viewer technology can be provided by **SabreFDI** so that other system viewers can open the compressed proprietary **SabreFDI** format, alternatively, **SabreFDI** can store the images in a known Windows format as well in the same directory in METAFILE or JPEG format.

Document scanning (optional)

SabreArc utilises the industry standard "Kofax" OEM scanning software in order that images can be also stored in the SabreArc archiving system.

Scanning systems are normally built on a "Bespoke" basis to reflect the wide range of applications required and features in the product, some of these features are;

OCR (**O**ptical **C**haracter **R**ecognition)   IMR (**O**ptical **M**ark **R**ecognition)
Network based Index validation   Network based scan stations

And much more…..

10) ODBC Database connectivity (Standard)

ODBC (**O**pen **D**ata **B**ase **C**onnectivity) is a universally adopted data structure standard found in most modern IT host systems and data base architectures. Although of limited availability on older legacy systems that were produced more than six σ seven years ago, any modern system tends to support this data architecture standard, if you are currently looking at systems, ensure that it supports ODBC as standard or as an option.

Support of this standard as part of the core SabreFDI operation gives our system the following advantages;

- During a print run, **Sabre FDI** can access one or more ODBC based systems dynamically (this operation is not exclusive to the host data source) and using a reference common to the related systems such as a code or number, can reference material and data stored in the records it has found

- Data "Discovered" using this process can be added to the print

- Data can be "Compared" in different systems at the same time to assist in "Rules" based decision making in **Sabre FDI**

- Information such as a location or code can be used to activate the "Rules" in **Sabre FDI** to affect the format or content of the document, or the location and form of its delivery

- Information can be "Added" to the related records on the ODBC source(s) from the data in the print run

This facility offers the informed user an unparalleled range of connectivity and integration options, especially when running older legacy systems with more modern IT infrastructures.

Benefits:

- Host print output need not be modified to include additional data; it can be automatically "Harvested" at print time

- Document delivery methods such as Print, Fax, E-mail and Internet can be automatically tailored to the needs of the recipient or application by "Sourcing" this information in their record or file. The delivery method and address changes when their record is updated

- Information from "Old" systems can be posted to new systems as the information is processed by **Sabre FDI**

- Significant reduction in host print modifications which increase flexibility, reduce development time and cost and can reduce annual maintenance charges for "Special" program modifications.

- Implementing ERP upgrades is simpler as "Patches" do not have to be re-applied and tested.