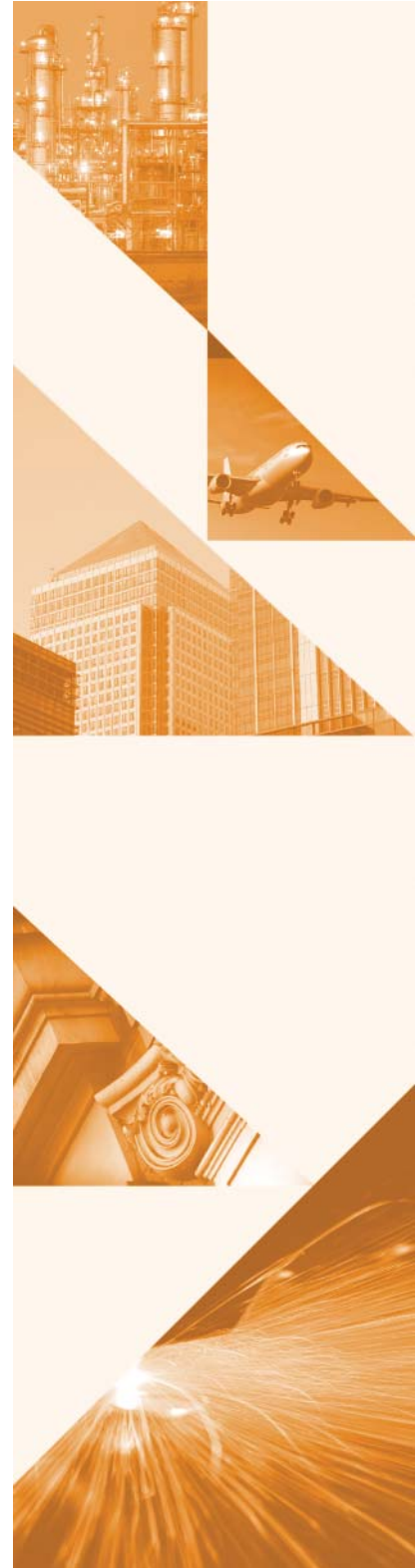


Electronic Document Delivery: How Production Fax and Workflow Software Drive Efficient Document Processing

A Lane Telecommunications White Paper





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Executive Summary

Managing and processing the flow of paper documents quickly and securely is a business critical challenge for most organisations. This is an increasingly important issue due to the sheer volume of data produced by modern business systems such as ERP, CRM and the many back-office solutions. Much of this information is produced in the form of documents that need to be efficiently and securely distributed throughout the organisation and beyond.

The movement of paper documents - faxes, emails and post - creates opportunities for messages to remain inactive for long periods or even go missing forever. Inconsistent processes or inexperienced staff can cause costly errors, with business and revenue lost through delays or failures in executing these messages.

Businesses need to find more robust ways of moving these documents: between departments and sites, or even across borders; sometimes collecting signatures on the way; often needing additional comments and notes. And in today's increasingly regulated world, transparency in this paper trail is vital to prove compliance and display validity of transactions.

This white paper looks at how companies can address these issues and shows how a powerful network fax server, such as Lane's Passport 4000, can be used, together with image-based workflow software, to manage, process and track messages and associated documents, from input to completion, through intuitive desktop user interfaces.

Document Delivery: Challenges

Many businesses have invested in highly complex business information systems that are seen as vital in controlling business, managing operations and optimising efficiency. The range of these systems, including ERP, CRM and various back office process automation solutions, has undoubtedly contributed to competitive advantage for those businesses that have invested in them. The volume of information handled by these systems can be vast and ranges from individual inter and intra-business communications to mass-produced documentation such as invoices, order acknowledgements and statements.

The challenge facing businesses that have these systems is how to ensure that the benefits derived from having them are not undermined by bottlenecks or insecurities in parts of the business not managed by them. Document delivery and receipt is one such area. Many enterprise applications simply do not handle this vital part of the communications process and as a result businesses often rely on an ad hoc collection of delivery solutions ranging from sending paper documents by post and manual fax to email with all the delays, inefficiencies and insecurities that these methods entail.

The argument that manual processes are inefficient and costly will not be lost on those businesses that have invested heavily in automating as many processes within the organisation as possible. In the hugely dynamic world we live in today with instant messaging and digitally connected communications networks it is easy to forget that a very significant part of business interaction still takes place using traditional paper-based documents and that these need to be transported from one location to another and then integrated into the enterprise workflow.

Postal services suffer from high postal costs, slow delivery times, manual handling inefficiencies, security concerns and many hidden costs ranging from stationery to printing and additional equipment. These costs, delays and inefficiencies manifest themselves within the business as slower response times, lower customer satisfaction, higher risk and lower profits. Added to these concerns is the possibility that items may never arrive at their intended destination and receipt confirmation is often impractical to set up or impossible to enforce and monitor.

Traditionally, manual faxing was the solution employed by most businesses where speed of delivery and the need for delivery receipts were required. Manual fax achieved this but at a cost: it has always been time consuming for employees and therefore an inefficient way of sending large volumes of documents. There was also the risk that confidential documents would end up sitting in a publicly accessible fax machine or that they would go astray on their way to the intended recipient. Even companies with fax servers optimised for general business communications often found that they were unable to effectively handle the volume of documents generated by their back-office systems. The result was often that IT administration overheads were higher than anticipated and manual intervention was still required.

Email, the most pervasive of new communications technologies, clearly offers a solution to document delivery between businesses but there are a number of serious issues with it that undermine its use for business-critical documentation. Most serious among these is security as email can be accessed and documents altered or intercepted but almost as important are the administrative overheads associated with Spam, viruses, 'phishing' attacks, delivery confirmations, compliance issues and reluctance of recipients to open attachments.

Document Delivery: Opportunities

Many organisations with highly sophisticated business management and back-office systems continue to diminish the potential benefits by failing to take advantage of the document delivery options available to them. Those that do address this issue gain significant competitive advantage using systems, such as Lane's Passport Document Exchange together with Passport Fax Server, that provide highly scalable production fax capabilities, automate document delivery and receipt, and provide effective workflow solutions.

Passport Document Exchange, driven by the Lane Fax Server's production fax capabilities, automates the delivery and receipt of high volume, business-critical documents in real time and at low cost. They integrate seamlessly into virtually any IT infrastructure and allow organisations to address significant practical issues at a strategic level. These technologies provide vital links both within an organisation and externally to its customers, suppliers and partners, and deliver competitive advantage by:

- Providing a highly scalable, efficient, fast and automated method of disseminating high volumes of documents produced at the application level.
- Integrating seamlessly with the existing IT infrastructure and environment.
- Delivering rapid return on investment through reduced communications costs and low ongoing maintenance.
- Improving secure access to, and management of, information resources within the organisation and enabling the business to meet compliance obligations.
- Providing an intuitive workflow interface that manages the flow of documents and improves business response times.
- Improving control, security and management of business-critical documents and enhancing the existing communications infrastructure.



The Role of Production Fax

Before looking at the role of Passport Document Exchange in creating the workflows necessary to smooth the flow of documents through a business it is important to look at the mechanism by which these documents are delivered and received into the workflow. The most efficient and effective way of achieving high volume, low cost, real time document delivery is through a production fax solution such as Lane's Passport 4000 Fax Server.

Fax servers do much more than simply handle fax; they act as a hub for many business communications, integrating flows of documents from various network resources and distributing them in the required format. Data streams from back-office applications feed invoices, statements or any high volume business output into the fax server which then distributes them via fax, email, encrypted PDF, certified email or even SMS having formatted the documents onto appropriate business stationery as required. Effective integration of the fax server and applications is vital if efficient and reliable delivery is to be maintained.

Fax and the future

Some of the limitations of other delivery mechanisms, notably email, have already been touched on. Despite this, fax is often regarded as a dated technology that is in decline. It is important, therefore, to understand the role that fax plays in a business context and to appreciate the advantages that it brings to the communications mix.

Lane is well placed to comment on the evolution of fax within the communications market having been involved as a vendor of messaging and document management systems for over 30 years.

The business has seen the strategic roll of Telex and other wire services wane as fax became prevalent throughout the world providing cheap, secure and legally recognised communications to virtually every business, irrespective of size or location. Lane's hardware based system, which was predominantly based on Telex and leased lines, gave way to the first release of their Passport Fax Server, then based on OS/2, which could manage both burgeoning fax traffic and integrate with e-mail as it became more widespread. Today, of course, Lane's Passport Fax Server has evolved significantly and is now the most powerful Windows-based fax server on the market.

The flexibility of e-mail as a communications medium appeared to signal the end of fax in the same way the fax had ended the Telex era. Indeed, to the casual observer fax usage has declined as stand alone fax machines have been discarded and e-mail has seemingly taken over our lives. This perception is, however, some way wide of the mark. Sales of stand-alone fax machines have declined sharply in recent years but this is primarily the result of a shift away from stand-alone fax machines to Multi-Function Peripherals (MFPs), fax servers with production fax capabilities and outsourced fax services. The reality is that fax usage is actually increasing year on year and is forecast to continue to do so.

It is clear, therefore, that fax as a communications technology has an important role to play in the foreseeable future. The growth in importance of production fax as a way of exchanging information generated from applications is driving the growth in the fax market. The ability of fax servers to draw together various disparate communications channels and to feed them with documents and messaging, from both cutting edge enterprise applications and legacy back-office systems, places them at the heart of evolving end-to-end document distribution infrastructures.

Production Fax delivers competitive advantage

A production fax capability is a vital component in an organisation's infrastructure because it can have a significant impact on the performance of the enterprise as a whole. Low cost, real-time delivery and receipt of business critical documents directly to and from key business applications via fax, email or the internet lowers operating costs, improves efficiency and strengthens trading relationships. Specific business benefits include:

Improved business performance: As discussed above, the traditional ad hoc mix of postal services, general purpose fax and email to deliver business-critical documents is just not robust enough for the modern business environment. The costs and delays inherent in manual processes, the additional hidden costs of delivery, the insecurities, the lack of management control and the inability to meet regulatory obligations combine to restrict business growth and impair profitability. Document delivery direct from desktop or back office applications via a production fax system addresses all these issues and dramatically improves business performance as a result.

Lower costs: A very large part of the costs associated with delivering high volume documents, such as invoices, statements and purchase orders, generated by back office systems, is incurred in printing, labour, mailing and equipment overheads. A production fax capability eliminates the need to print or mail documents and results in very rapid return on investment.

Compliance: As regulation and legislation relating to data security and confidentiality becomes ever tighter, organisations are legally obliged to put systems in place that guarantee compliance. Accurate records, protection of data, storage and retrieval of comprehensive audit trails are virtually impossible without a centrally organised and controlled system. Production fax automates processes, reduces the number of paper documents in the business, enforces compliance and provides end-to-end control including confirmation of delivery.

Less manual intervention: The production, distribution and processing of high volume documents happens faster and more efficiently with production fax. Business transactions are faster and more streamlined and fewer errors occur.

Seamless integration of business applications: One of the key benefits of automating document delivery is that fax servers, such as Lane's Passport 4000, are exceptionally good at interfacing with a multitude of disparate applications ranging



from the latest ERP and CRM solutions to entrenched legacy systems. They can do this through virtually any part of the communications infrastructure including email, fax and SMS. Enabling applications to perform automated document delivery functions optimises return on investment in them and improves management control.

Application-based workflow systems

Having the ability to generate and automate the distribution and receipt of information and documents from both internal and external sources does not necessarily deliver the seamless flow from source to recipient that enterprises require. The missing element is often a workflow component that receives documents in various formats, extracts data from them and directs them into a workflow that ensures they follow the correct path.

Passport Document Exchange

Lane's Passport Document Exchange is an application based workflow system that provides a range of communications and system interfaces together with a flexible architecture for creating an unlimited number of secure workflows. These workflows can be for inbound, outbound or internal and allow for the structured processing of different types of messages and documents. It controls and processes faxes, emails and paper-based documents with full auditing to compliance standards. In short, it cost-effectively transforms the way that businesses handle paper and electronic documents.

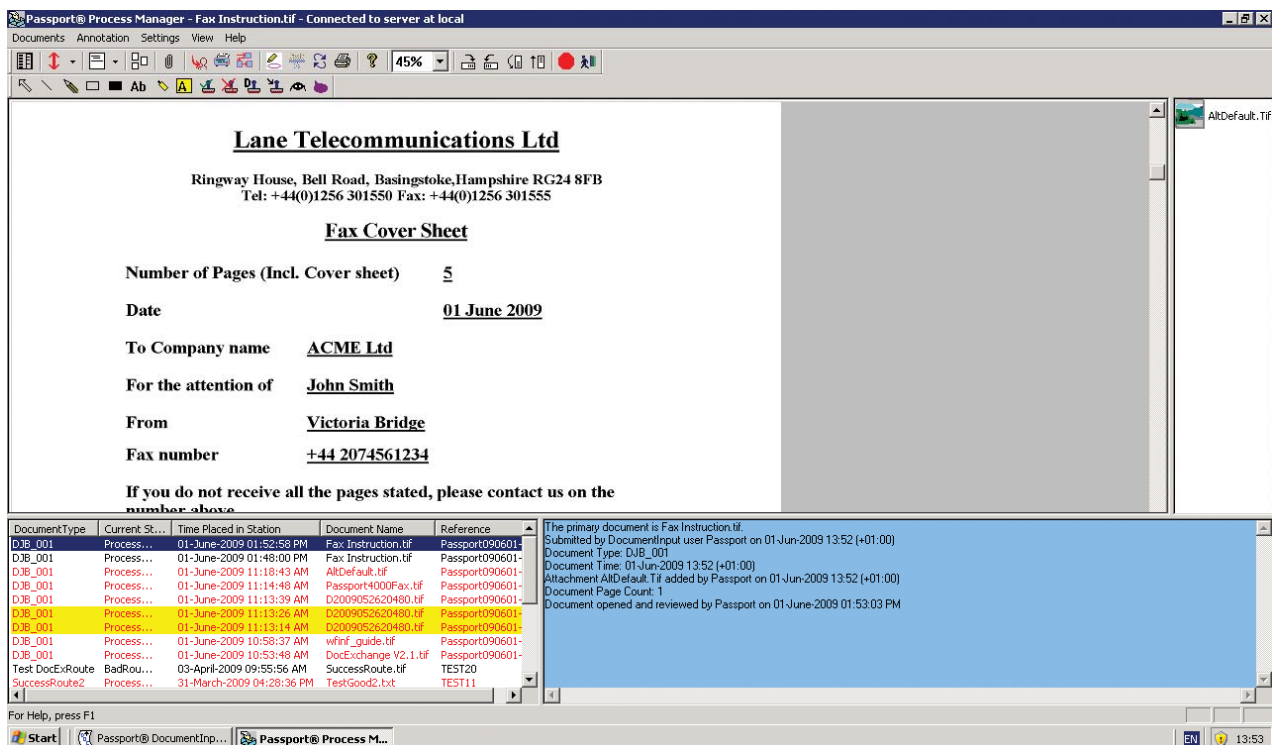
This allows organisations to integrate documents into one seamless workflow solution from wide ranging sources including:

- Fax, with DDI and TSID routing.
- Email, including digital signatures and secure encryption.
- Web, through forms input.
- Paper-based documents, scanned in via any Twain-compatible scanning device.
- Electronic documents: from popular desktop applications such as Microsoft Office.
- API: IBM WebSphere/MQ

Image-based workflow solutions such as Passport Document Exchange add value to fax environments in a number of ways:

Reduced costs and rapid ROI: The volume of paper circulating around organisations is still staggering, and a substantial amount of manual intervention is needed to sign or authorise documents. Passport Document Exchange reduces costs and delivers rapid ROI by:

- Enabling graphical signatures and multiple levels of authorisation to be applied to imaged documents via clear and intuitive user interfaces.
- Improving staff productivity by delivering documents directly to the users who need them at their workstations.
- Reducing paper by presenting documents electronically, across the enterprise.
- Reducing storage demands and vastly improving retrieval times.
- Improving accuracy through an exacting and detailed audit trail, which forces the input of key information, manages approvals, and defines how a document moves through a business process.





Improved client service: Effective, suitable and flexible communications are vital for retaining existing customers as well as attracting new ones. Businesses need to prevent lost instructions and orders, and be able to identify potential problems quickly. Passport Document Exchange provides:

- Versatile and robust communications for clients and prospects.
- A range of communications and systems interfaces as well as a flexible architecture to create an unlimited number of secure workflows.
- Streamlined and efficiently-managed inbound, outbound and internal communications, with structured processing for different types of messages and documents:

Increased security and compliance: Paper documents are not secure: they go missing on fax machines, printers and photocopiers, are left on in-trays, or simply disappear in internal

or external post. Recording the movement of these documents for compliance purposes is difficult and time-consuming, and retrieving filed documents can be tortuous. Passport Document Exchange addresses these security and compliance concerns by providing:

- High levels of document security: only authorised users can access specific documents; permissions-based rules limit the functions users can perform; and documents cannot be deleted on an ad-hoc basis.
- Robust audit trails: starting as soon as a document enters the system and maintained throughout the workflow and into archive, recording user and system actions.
- Forced compliance: workflows demand the input of key information as well as defining how a document will move around the business process.

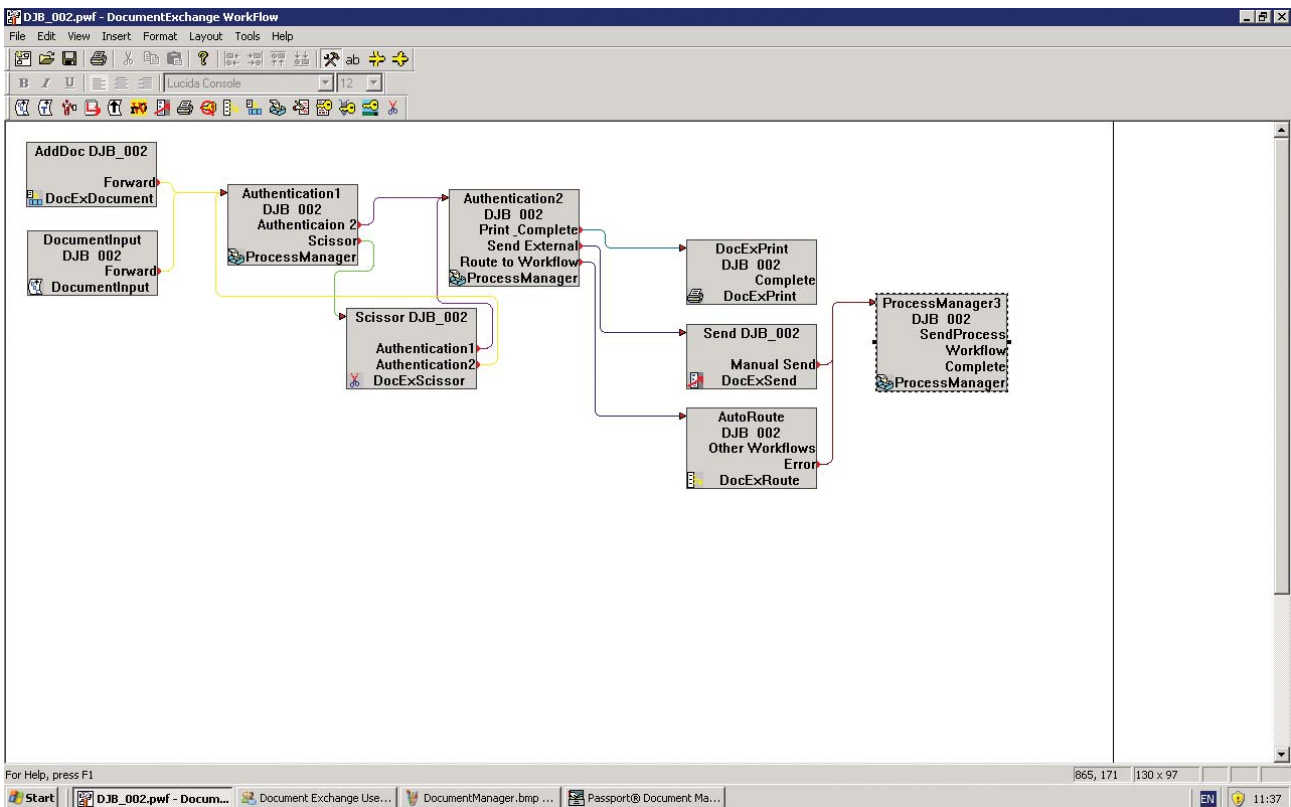
| DocumentType | Current Station | Time Placed in Station | Document Name | Reference |
|---------------------|-------------------------------|-----------------------------|----------------------|------------------|
| DJB_001 | ProcessManager DJB_001 | 01-June-2009 10:53:48 AM | DocExchange V2.1.tif | Passport090601-1 |
| DJB_001 | ProcessManager DJB_001 | 01-June-2009 10:58:37 AM | wfinf_guide.tif | Passport090601-2 |
| DJB_001 | ProcessManager DJB_001 | 01-June-2009 11:13:14 AM | D2009052620480.tif | Passport090601-3 |
| DJB_001 | ProcessManager DJB_001 | 01-June-2009 11:13:26 AM | D2009052620480.tif | Passport090601-4 |
| DJB_001 | ProcessManager DJB_001 | 01-June-2009 11:13:39 AM | D2009052620480.tif | Passport090601-5 |
| DJB_001 | ProcessManager DJB_001 | 01-June-2009 11:14:48 AM | Passport4000Fax.tif | Passport090601-6 |
| DJB_001 | ProcessManager DJB_001 | 01-June-2009 11:18:43 AM | AltDefault.tif | Passport090601-7 |
| Message Review | Message Review | 26-January-2009 11:51:05 AM | RA9012600017.tif | 2009012600002 |
| Message Review | Message Review | 26-January-2009 11:55:43 AM | RA9012600018.tif | 2009012600003 |
| Message Review | Message Review | 26-January-2009 12:16:49 PM | RA9012600019.tif | 2009012600004 |
| Message Review | Message Review | 26-January-2009 01:20:49 PM | RA9012600020.tif | 2009012600005 |
| SuccessRoute | ProcessManager SuccessRoute | 31-March-2009 10:39:11 AM | TestGood2.txt | TEST2 |
| SuccessRoute | ProcessManager SuccessRoute | 31-March-2009 10:39:14 AM | TestGood.txt | TEST3 |
| SuccessRoute | ProcessManager SuccessRoute | 31-March-2009 10:40:57 AM | TestGood2.txt | TEST4 |
| SuccessRoute | ProcessManager SuccessRoute | 31-March-2009 10:46:03 AM | TestGood2.txt | TEST5 |
| SuccessRoute2 | ProcessManager SuccessRoute2 | 31-March-2009 10:48:56 AM | TestGood2.txt | TEST6 |
| SuccessRoute2 | ProcessManager SuccessRoute2 | 31-March-2009 10:51:08 AM | TestGood2.txt | TEST7 |
| SuccessRoute2 | ProcessManager SuccessRoute2 | 31-March-2009 10:52:32 AM | TestGood2.txt | TEST8 |
| SuccessRoute2 | ProcessManager SuccessRoute2 | 31-March-2009 04:28:36 PM | TestGood2.txt | TEST11 |
| Test DocExRoute | BadRoute Test DocExRoute | 31-March-2009 10:39:09 AM | TestBad.txt | TEST1 |
| Test DocExRoute | BadRoute Test DocExRoute | 31-March-2009 04:28:13 PM | TestBad.txt | TEST10 |
| Test DocExRoute | BadRoute Test DocExRoute | 03-April-2009 09:55:56 AM | SuccessRoute.tif | TEST20 |
| Unassigned Document | NewDocumentAwaitingAssignment | 01-April-2009 10:02:25 AM | TestGood.txt | 2009040100001 |
| Unassigned Document | NewDocumentAwaitingAssignment | 01-April-2009 10:02:59 AM | TestGood.txt | 2009040100002 |
| Unassigned Document | NewDocumentAwaitingAssignment | 01-April-2009 10:06:18 AM | TestGood.txt | 2009040100003 |
| Unassigned Document | NewDocumentAwaitingAssignment | 01-April-2009 10:06:27 AM | TestGood.txt | 2009040100004 |

Ease of deployment: Passport Document Exchange is easy to deploy and use. By incorporating a graphical workflow designer, complex workflows can be created simply by performing familiar drag-and-drop operations. Features include:

- Ease of construction: a graphical workflow designer gives great flexibility; workflows can be constructed quickly and easily, and can be as simple or complex as required.
- User-friendly design: workflows are easy to read and understand; workflows and tasks can be linked through colour coding; and notes can be added.
- Portability: workflows can be promoted from a test to a production environment.
- Integrated imaging: no need to depend on third-party imaging tools and applications.

Enterprise configuration: Documents received in one office may need to be passed to another for processing; these may be in a different building or even across borders. With Passport Document Exchange, these locations are accessed via the workflow process. This ensures:

- Distributed processing: with the appropriate underlying network infrastructure, workflows can encompass more than one geographical region.
- Robust business continuity: Passport Document Exchange has been designed to enable resilient configurations. Hot standby clustering components allow strong disaster-recovery systems which can be deployed across your wide area network.





Passport Document Exchange in Action

Lane's Passport Fax Server and Document Exchange solutions are deployed in organisations throughout the world; smoothing the path of business-critical documents and getting information where it is needed quickly, efficiently and securely. The following example of these technologies in action demonstrates their strategic importance to the organisation. The client name has been excluded in order to respect client confidentiality.

Client: A large international asset management and securities services company with over 42,000 staff at offices in hundreds of locations throughout the world. Offices range in size from many thousands at the US head office to single person offices in remote locations.

Requirement: This client has used Lane fax servers for many years to handle the business-critical receipt and distribution of fax and messaging throughout its large international network. Changing business circumstances, rapidly expanding volumes of paper documents within the business and an increasingly stringent legal framework meant that the company had to address issues concerning the flow of paper documents through the business. Effective management and control of these documents was critical for both the competitive position of the company and its compliance obligations.

Solution: When upgrading the client to the latest version of the Passport Fax Server, Lane installed its Passport Document Exchange workflow system to automate the receipt and processing of thousands of client instructions received as faxes, paper documents or SWIFT messages. These messages often related to time-critical instructions concerning pensions, investments and the transfer of funds for high net worth individuals, corporations and even governments around the world so it was clearly vital that the system was efficient, secure and resilient. The system is installed at the head office in the US and has users deployed throughout the world.

In order to fully automate inbound instruction processing it was important that the system could extract data from documents, letters, forms, faxes and emails, and use this to route them into appropriate workflows. Routing can be either fixed, where all instructions of a particular type go to one destination, or conditional, where the ultimate destination and process is dictated by the content extracted. This was achieved using a combination of technologies including:

OCR (Optical Character Recognition)

This allows the automatic capture of machine produced character sets and fonts that are either extracted from pre-set fields or from full pages of text. The process requires the information to be presented in consistent locations within the document.

ICR (Intelligent Character Recognition)

ICR is the capture and interpretation of hand printed and written characters. Data is entered by scanning images of the documents which are then analysed by the software to extract relevant data.

Bar code recognition

This highly effective method of capturing data can be used to process large volumes of documents with a very high level of recognition and accuracy.

Intelligent Document Recognition (IDR)

IDR works by applying a set of rules to capture data, such as postcodes, registration numbers, VAT numbers, or key words from documents.

Once within the Passport Document Exchange system, documents follow a workflow process that has been set up through an intuitive graphical workflow designer. In this example, documents are first authenticated and validated, either through a call back to the sender or via other rules-based criteria such as incremental document numbering systems. Multiple faxes or messages are then separated, logged and tracked as separate documents which each follow the appropriate path through the workflow.

Each document will follow a set path depending on the message content and intended recipient. Some documents need to pass to several individuals to be processed and each may be required to add a digital signature, annotation or key word before it passes to the next stage in the workflow.

At each stage Passport Document Exchange logs the recipient, their actions and comments. Each action is time-stamped and the resulting audit trail is fully compliant. Management controls within the system provide alerts if actions are delayed unduly and can be used to identify bottlenecks that result in slower response times to instructions received by the company. This ensures that processing efficiency is optimised.

Once processed, each document is then archived together with its full audit trail, so subsequent retrieval of the document or information relating to it is both quick and easy. Passport Document Exchange manages the complete document lifecycle from the moment it is received by the business and because it runs on a Microsoft SQL Server database it provides the highest levels of security, reliability and scalability.

Conclusion

Many modern businesses have invested heavily in applications that automate business critical tasks, aid management and control production. These systems generate vast quantities of documents and internal information that must be distributed efficiently, reliably and securely. The need to comply with legislation is an added burden that can become unmanageable where paper-based documents clog up processes and become impossible to trace or monitor.

Fax server technology with production fax capabilities provides a centralised hub that can deliver a secure and efficient method of distributing documents directly from back office, ERP and business management applications. Inbound documents can be very efficiently dealt with using workflow applications such as Lane's Passport Document Exchange. These applications dramatically reduce the amount of paper documents circulating within organisations while improving productivity, lowering costs, improving customer relations, reducing risk, satisfying regulatory obligations and creating a real competitive advantage for the business.

About Lane Telecommunications

Since its formation in 1976 Lane has been at the forefront of messaging communications and is now recognised internationally as a leader in fax integration, across the financial, healthcare, manufacturing and transport industries. Based in the UK, US and Singapore, Lane has implemented systems across 50 countries and provided professional services in all time zones. Lane offers the very best solutions for integrating fax servers as a part of wider communications networks. As specialists in messaging solutions for over 30 years, Lane delivers seamlessly integrated fax and messaging systems across entire organisations and into consolidated data networks, across one site, many sites or across borders.



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