The Axway Managed File Transfer Survival Guide

Part 1 – Assess Your Infrastructure

As more and more information is exchanged by organizations in an ever-increasing number of ways, risks such as data loss, data breach and damage to your company rise exponentially. The right managed file transfer solution is the answer – and this guide will shepherd you through the process, from assessment to decision to implementation.

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How to Use this Guide

Welcome to Assess Your Infrastructure, part 1 of "The Axway Managed File Transfer Survival Guide." If your organization is currently using outdated or ineffective file transfer methods – for example, FTP, commercial off-the-shelf (COTS) or homegrown data exchange tools, or web-based file transfer services – you're likely experiencing problems such as lost files, unmet SLAs, fines for non-compliance with privacy regulations, inefficient business processes, and mounting control issues. If you're ready to do something about it…

You've downloaded the right Guide.

The goal of this Guide is to arm you with the information you need to identify the best possible MFT solution for your organization – one that will improve security, governance and compliance, and reduce costs as you align business and technical initiatives. If you follow the steps in this Guide, you'll be equipped to implement a consolidated, comprehensive, company-wide managed file transfer system.

The Guide is divided into three easily digestible white papers designed to be on-point for your entire file transfer team – from the CIO to your solutions architects to your LOB managers.

The three white papers are:

1. **Assess Your Infrastructure.** This is an overview of basic file-transfer challenges and technologies and the compelling reasons why companies today need true managed file transfer, versus FTP and other legacy methods. This white paper also guides you through a comprehensive assessment of your own infrastructure so that you can determine what MFT capabilities you have today, where your problem spots are, and what you can do to solve them.
2. **Design and Optimize.** This will lead your team through a five-step design process for creating the ultimate managed file transfer infrastructure, and includes detailed use cases and relevant ROI data.
3. **Implementing a Successful MFT Strategy.** This white paper guides you through the seven phases of incremental MFT implementation necessary to ensure a smooth transition to the world of high-end managed file transfer, from building a solid business case for the project, to product testing, to rollout and support.

Introduction – Why Companies Need Managed File Transfer

It's a Data-Driven World

Enterprises are exchanging more business-critical, sensitive data than ever before, across diverse systems and multiple locations, and with vast communities of customers, partners, suppliers, banks and government agencies. Today, it is estimated that 80 percent of an enterprise's data is exchanged via files, and those files are getting larger. Additionally, employees are bringing their own devices (BYOD) and their own applications (BYOA), so your enterprise must be ready to adapt and apply policy to accommodate this trend. And as file sizes, volumes and file exchange methods increase, so do the risks of data loss, data breach, fines and potential damage to your company and brand.

In today's business environment, data transfer is under heavy scrutiny from industry regulators and government entities mandating strict regulations and stiff fines for non-compliance. Many organizations are pressured to track files of all sizes and types throughout the data exchange cycle, apply security policy to every file, and supply proof of every exchange in its entirety in the event of an audit. The costs of providing this type of file transfer service across your organization are increasing and the risk of security or service failure has never been higher.

As file transfer challenges become larger and more complex, the question of how to manage and secure data flows becomes increasingly important. And as your business grows, intelligently solving file transfer challenges is ever more critical to the success of your business.

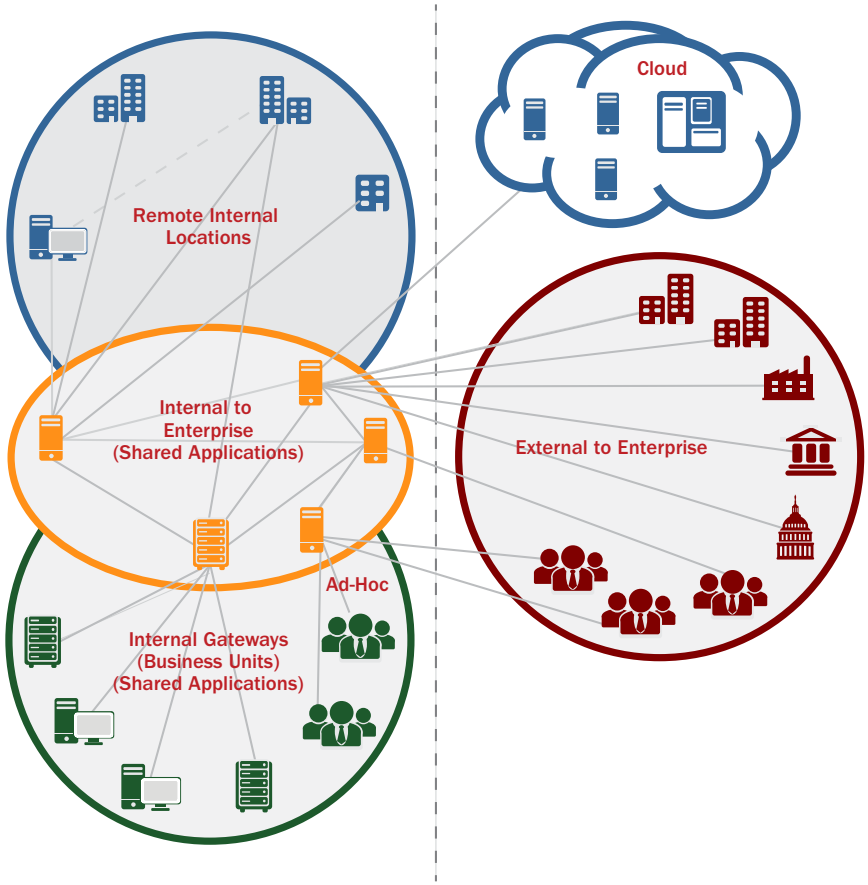
Types of File Transfer

File transfers can be system-to-system, system-to-human and human-to-human. Some transfers are part of structured processes, such as eInvoices automatically sent to customers upon product shipment. Other transfers are ad hoc in nature, such as personal health information sent from a doctor's office to a hospital. File transfers can require inspection, encryption and other security policies, or can be simple, unmanaged emails between employees and partners. But no matter the types of file transfer, the more sensitive the content of a message or file, the greater the need for governance and policy. It's this need to set policy, govern employee actions and ensure security that drives the need for a comprehensive MFT solution.

Thus far, maybe you've gotten by through deploying a combination of file transfer methods, added to your infrastructure over time – such as email, FTP, homegrown tools, point-to-point connections, and more recently, a range of cloud services your employees may be using for ad hoc and mobile device exchanges.

But piecemeal file-transfer technologies cobbled together over time simply cannot deliver visibility into what data is being transferred and who is responsible for it, or provide security controls for data exiting the enterprise.

Figure 1 illustrates how most companies have to manage disparate islands of technology throughout their enterprise – not just a single business system. The result? Files throughout the enterprise are difficult to manage, impossible to track, and may be exposing your organization to potential data breaches.



Downfalls of FTP

The original file transfer protocol (FTP) has been in use for more than 40 years, and it's easy to see why. FTP is initially free, and it enables easy file exchange between just about any device and system. But when it comes to today's complex information exchange requirements, FTP is missing key elements enterprises can't afford to be without.

Here are ten reasons FTP is no longer the right tool for the job:

1. **FTP has no encryption capabilities.** Encryption is the safest method available today for securing data, and FTP does not have the ability to encrypt or decrypt data.
2. **FTP does not protect user names and passwords.** Attackers can easily locate user names and passwords when FTP sessions are initiated.
3. **FTP does not have integrity checking.** When files sent via FTP arrive at their destination, there is no assurance that they arrive intact.
4. **FTP has no checkpoint restart feature.** When FTP transfers fail, they cannot be resumed from the point of failure, but must start from the beginning. With the growth in file size and overall data volumes, this limitation greatly increases transfer times (not to mention the accompanying frustration for senders and receivers of those files).

5. **FTP doesn't offer non-repudiation.** Using just FTP, there is no ability to prove that files have been sent.
6. **FTP can't compress data.** With today's file sizes, data compression is a necessity. FTP requires scripting to compress files, adding even more complexity and work for IT, and yet another potential failure point.
7. **FTP makes you wait.** FTP cannot push or pull files unless the client is available, which means transfers can be delayed without notification.
8. **FTP does not provide visibility.** When you can't see what's happening with your file transfers, you can't be in control of your business. FTP does not have monitoring capabilities.
9. **FTP is hard to manage.** It offers no consolidated view, automation or governance capabilities.
10. **FTP is** *not* **"free."** Despite the perception that FTP is a "free" tool, in actuality achieving and maintaining security using FTP requires complex scripting, constant maintenance, and even other applications for added layers of security – all of which can be costly to your organization.

Downfalls of Standard File Transfer Software Solutions

Most standard MFT and FTP software have limited file transfer capabilities, don't offer the necessary agility or flexibility to handle architectural and business process changes, and might not even offer any security features.

Standard file transfer tools suffer from:

- **Lack of policy-driven governance:** Data Loss Prevention requires content inspection of data transfers and resolution of data transfer issues, all while allowing business to continue to flow smoothly.
- **Lack of centralized provisioning, configuration and management:** If business or regulatory requirements change, are you equipped to make those changes on hundreds or thousands of machines in a reasonable period of time? Can you implement new file flows to support a business process at the speed that your business requires?
- **Lack of visibility:** File transfer and supporting process details are not always available, or may only be available in isolation from the relevant business context. Even worse, details may only be available after the fact, which leads to fixing the blame instead of fixing the problem.
- **Integration issues:** Many businesses lack control over the entirety of the file transfer process. Their systems are typically not integrated or streamlined, and don't offer end-to-end visibility. Does your file transfer process allow you to adjust your architecture to support business requirements without having to effectively "re-install" hundreds or thousands of scripted or hard-coded file flows? Can you separate the physical from the logical to work in a truly service-based way?
- **Security risks:** Risks may include data loss or data corruption stemming from gaps in the security infrastructure, lack of policy and governance, and employees going around IT to send files via web-based services.

- **Lack of ownership:** Operations staff may be unable to respond to file transfer problems; or there may be no way to fix such problems easily because they may involve a mix of network-, operating system- and application-specific issues. Thus, fixing the problem requires action from a number of different groups, all with different objectives, management and expectations.
- **Lack of agility:** Often, file transfers must meet the needs of strategic projects and departmental objectives, both of which require quick availability of a secure means of exchanging data with partners. Yet in many organizations, processes are rigid and cumbersome for on-boarding partners, and lack the flexibility to respond to ad hoc file transfer demands.
- **Lack of BYOD support:** Employees use their own tablets and smart phones to send files, and the importance of securing those transfers – adding policy and governance to BYOD exchanges – while enabling their use in the organization has become a critical requirement.

All of these limitations create dissatisfied customers, both inside and outside the enterprise, and can burden the organization with increased cost of service and unacceptable risk profiles.

Downfalls of Web-based Services and Collaborative Tools

When your employees need to send a special-needs file — one that is large, or contains sensitive data that isn't a structured and/or scheduled data transfer — how do they do it? Are such transfers regulated by written or automated policy? And when your employees are collaborating on projects using web-based services, are the tools they use regulated by policy?

Chances are your employees are turning to cloud-based file transfer and collaborative services that are unsecured, untraceable and difficult to manage. This undermines control of information in your organization, and creates a reactive environment for IT.

Lost Files = Lost Revenue

Whether your organization sends purchase orders, invoices, personal health information (PHI), advanced shipping notices (ASN), CAD/CAM files, employee/HR records, or logistical data, transactional data flows often get disrupted. Throw in mergers and acquisitions, BYOD, and BYOA that create even more heterogeneous IT environments, and the challenges escalate: Transactions fail. Documents get corrupted and data doesn't match up. Messages get lost. All this disruption to smooth business flow leads to lost revenue and escalating costs, in terms of manpower, resources and missed SLAs.

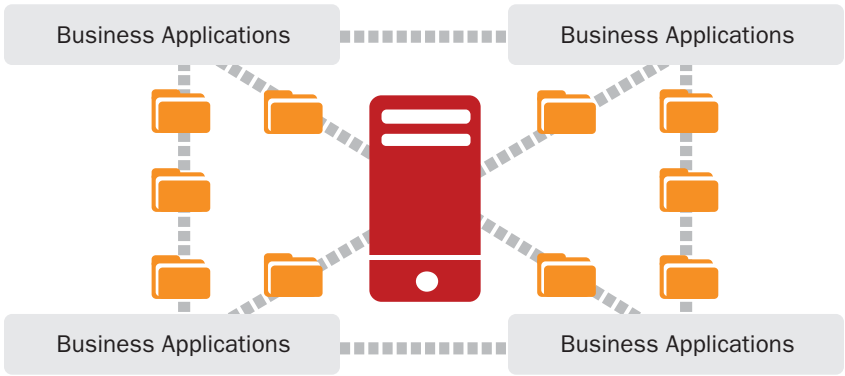


Figure 2 illustrates how file transfers in most businesses begin with a few business applications that reside on a server and need to talk to each other via file transfer.

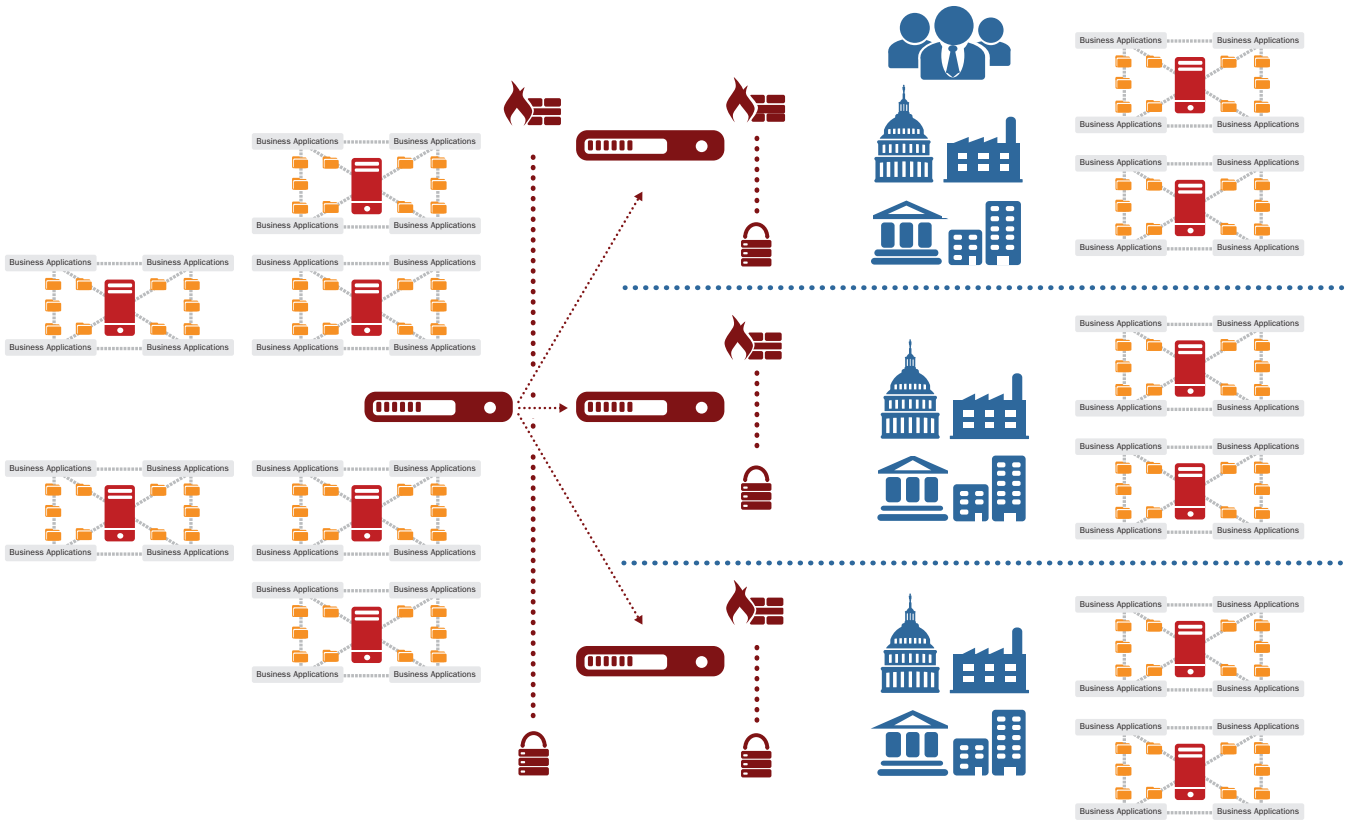


Figure 3 shows what happens when file transfer needs grow more complex. Now scripts are running everywhere, and as requirements continue to increase, various servers may be added for business partner connectivity. Business processes have now expanded beyond the firewall; yet often these highly connective requirements are served piecemeal, through a combination of conventional scripts and scheduled jobs.

Communication Breakdown

As illustrated in Figure 1, if you look closely at a specific server or system within your network, it often times looks relatively easy to understand and subsequently manage. However, this is typically not the case in reality. To further complicate matters, as you look more holistically at your enterprise's ecosystem the intricacies of the network begin to emerge. What happens if there is a breakdown in the complex connectivity shown in Figure 3? How will you know if data representing your business arrived late, or was only partially transmitted? Once you reach this level of complexity, you simply must have visibility and insight into every aspect of your file transfer activity.

Now add the challenge of corporate governance and privacy mandates such as Sarbanes-Oxley and HIPAA, and data encryption laws for the electronic transfer of personal information. How can you comply with these mandates and still grow your business?

And as if managing scripted and scheduled file transfers weren't already complex enough, you must also contend with the ad hoc collaborative file movement between employees, and between employees and the outside world. These file transfers are likely taking place outside the scope of your current B2B or MFT infrastructure, which means that every day, potentially thousands of files are transferred with limited to no auditing, control or management — most typically via email.

The Alternative – A New Breed of Managed File Transfer

Today's enterprise needs an MFT solution that goes beyond the boundaries of typical file exchange, is easy for employees and IT to manage, and offers the versatility to make cloud-based transfer services obsolete. The new breed of MFT provides:

- Internal and external file transfer and workflow
- Integration with backend systems
- System-to-system, system-to-person, structured and ad hoc (person-to-person) file transfers
- Policy-driven governance
- The ability to "bridge" files and messages
- Central management and control of all file transfer activity
- Extensibility into all devices (BYOD) and networks (BYOA)
- Global visibility into business activity
- Intra- and extra-enterprise monitoring capabilities (BAM)
- Automation for file transfer related activities and processes
- Encryption/decryption
- End-to-end security
- Full auditability
- Guaranteed delivery (non-repudiation)
- Performance metrics/monitoring

The new breed of MFT is agile enough to:

- Handle the diversity of new trading partners, including the protocols and data types they require and security requirements they impose
- Quickly on-board new customers and new file flows
- Provide a clear, easy way to manage business processes and handle the inevitable exceptions
- Simplify file-based application integration challenges while maintaining a flexible architecture
- Provide guaranteed delivery of large files – locally or over great distances – to ensure processing within defined timelines
- Limit or eliminate hard-coded "scripts" for process automation
- Enable visibility into how and when transactions are taking place

So, now that you've read about the problems with standard FTP and managed file transfer solutions, and contrasted that against a true MFT solution, what do you do now? We suggest you begin by assessing your current situation – business needs, capabilities, and infrastructure – to get a clear and complete picture of the shape your system is in today.

Assess Your Current Infrastructure

Your System Today

As your organization grows, and as technology rapidly evolves and customers and partners place new demands on your business, you probably use whatever applications, technology and services you have available to exchange files and keep business flowing. This strategy may or may not have served your operations adequately in the past. However, you may be experiencing pressure from within your company to:

- Secure confidential data residing inside your organization — among systems, applications, and departments
- Maintain your competitiveness in the marketplace
- Respond to security audits and other compliance demands, and become proactive in your compliance efforts
- Implement a file transfer solution that scales to meet your growing business needs
- Bridge your message-based solution with application-related files
- Consolidate a variety of internal, disparate, one-off point solutions into a single, streamlined solution that delivers end-to-end visibility across your supply chain
- Make appropriate audit and log information available to comply with industry, financial and legal obligations
- Integrate disparate, external, point solutions into a single managed server for all external traffic
- Offer Internet-based file exchange services that will provide better connectivity for your partners and customers
- Install a secure, open solution that is platform and protocol agnostic
- Switch from a costly VAN to direct connections

Start here

Still not sure if MFT is necessary for your organization? This questionnaire will help you assess your current situation and apply that understanding to the business and technological pressures on your department to help your business run more efficiently and be more competitive in today's marketplace.

		YES	NO
1	Do you need fast access to audit and log information to comply with industry, financial, regulatory or legal obligations?		
2	Do you want to offer new, Internet-based file exchange services that will provide better connectivity with partners and customers?		
3	Do you face security concerns such as: ▪ multiple file transfer touch points (among systems, applica¬tions, departments or people)? ▪ confidential data residing in the Demilitarized Zone (DMZ)? ▪ security risks due to files being sent via web-based services and personal email accounts? ▪ the need for a security policy requiring data content inspection?		
4	Does your business need the agility to rapidly engage new trading partners? Do you, your customers and partners need visibility into how and when transactions are taking place?		
5	Does your current file transfer solution include hard-coded scripts sitting on multiple servers?		
6	Do you need to switch from a Value-Added Network (VAN) to direct connectivity?		
7	Does your current file transfer solution generate high costs for data flow change management, platform and application upgrades, or file-transfer problem diagnosis and resolution?		
8	Would you like to make better, more informed business decisions with customized, event-driven workflows for real-time exception management?		
9	Does your current file transfer system make it difficult or impossible to grow and scale at the speed your business requires?		
10	Do you need a file transfer solution that allows you to automate related business processes and activities, process data flows as soon as they are available, remove latency in data processing, and reduce manual operations?		

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Next

Other technological issues at your organization may not be as readily apparent – perhaps because you solve them or deal with them on a daily basis in a reactive way, or because they are not obviously linked to file transfer. This checklist is designed to help you identify challenges your organization could be solving in a more proactive way with the right MFT strategy. Check all issues that affect your organization today.

	Data security risks		Increased risk of losing data
	Insufficient format, protocol, network or platform support		Cannot reliably connect with partners or applications
	Network and firewall isolation of Cloud-Subscriber systems with management		Unable to connect with partners
	Lack of triggering processing procedures		Insufficient automation for key processes
	Unacceptable downtime		No centralized file transfer management
	Dissatisfied customers and partners		Dissatisfied internal customers
	Operations staff unable to respond to problems; no way to easily fix problems, difficulty assigning accountability		No visibility into file location; whether files arrive at their destination; if they arrive intact; if they are consumed by correct application
	Audit and log information cannot be configured to comply with industry, financial and legal obligations		Cannot compete in the marketplace (unable to offer new services to customers due to system limitations)
	Current solutions are not extensible or scalable		Current system is costly to maintain and use
	Integration issues cause lack of control and visibility into the entire file transfer process		Unable to automatically trigger an application to consume a file when delivered to a destination
	Unable to transfer large files over ad hoc systems, such as email		Unable to create and enforce policy to protect sensitive information and avoid data breach
	Others?		No control of employee devices used for file transfer (BYOD) or other networks used for file transfer (BYOA)

The above checklist and questionnaire are not meant simply to point out infrastructure downfalls or add to your frustrations. Rather, they are designed to highlight factors your team contends with every day.

As difficult as it is to ensure that you get the most – and sometimes even more than that – out of your existing infrastructure, wouldn't it be great if you could identify one comprehensive solution that would enable you to satisfy the demands of the business, proactively solve potential problems, and eliminate chronic concerns about the health of your network?

Next

As you continue to think through the issues you face every day, it's important to make sure you remember all of your key internal customers. These individuals constitute your best indicators for on-going performance issues and the most easily achievable opportunities for success; and they are key to determining the business implications of proposed architecture changes.

Name Business Unit

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

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Other criteria to consider

Now that you have evaluated your own infrastructure and identified some key internal customers, it's time to ask yourself: What would my customers list as my top system problems? How do they see the business?

For example:

- Are you losing sales revenue and/or profit due to customer SLA violations and charge-backs?
- Can you control the movement of financial data with enough precision to ensure that your CFO's "Fast Close" initiative is achievable?
- Are you able to track and trace your food products or pharmaceuticals, in accord with industry or regulatory standards?
- Are you leveraging industry standards like SWIFT/ETEBAC/EBICS to extend your payments process?

List customer criteria/pain points here:

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

Take a Deep Breath

Whew – time to pause and take a deep breath. You have now completed the first part of the Managed File Transfer Survival Guide. And it's possible that at this point in the series you may be feeling a bit anxious or even overwhelmed with your current situation and the needs of your organization. Rest assured – you have now uncovered some critical infrastructure issues, and you understand how they affect your team, other parts of the organization, and ultimately the business as a whole.

Keep in mind, the information you have gathered thus far is critical for the next white paper in our series, Design and Optimize for Managed File Transfer. We recommend that you continue the MFT evaluation process as soon as possible in order to maintain momentum for this project. In fact, if you haven't already, you may want to form an MFT project team consisting of a project manager, system architect(s), key LOB managers, decision makers and IT staff. As with any major IT project, this functional team will need to take on deadline-driven tasks and meet regularly to discuss progress.

So, don't delay. Keep moving! And read more in the next installment of the Axway MFT Survival Guide, coming soon.

For More Information, visit www.axway.com