



Implementing a Secure, Auditable and Compliant MFT solution for a UK Water Utility's Internal, M2M, P2P and B2B File Transfers



The Company

Thames Water Utilities Limited (TW) is the UK's largest water and wastewater services company. Every day, TW supplies 2,600 million litres of tap water to 8.5 million customers across London and the Thames Valley. It removes and treats 2,800 million litres of sewage for an area covering 13.6 million customers. It conducts over 500,000 tests per year to ensure the drinking water - currently at its best-ever quality level - meets stringent UK and European standards. It operates the Thames Water Ring Main, a 50-mile-long supplies much of London, and is currently being extended. It has 349 sewage treatment works including Beckton, in East London, which is the largest in Europe. Some of these works create renewable energy, making Thames Water the biggest generator of *green power* within the M25 motorway network around London. Other major Thames Water sites include the Customer Centre, Swindon, which annually handles four million enquiries and manages 3.5 million customer accounts. TW company headquarters is based at Clearwater Court, Vastern Road, Reading.

The Company

Thames Water Utilities Limited (TW) is the UK's largest water and waste water services Utility company.

The Challenge

TW needed a secure Managed File Transfer (MFT) solution which would meet emerging requirements for internal and external B2B file transfer. Protocol choice, security adherence and audit compliance were also key requirements.

The Solution

Spazio Managed File Transfer/ Secure (MFT/S) combined with *Spazio File Services Governance*.

The Benefits

- Cost efficiency through the consolidation of different file transfer platforms
- Flexibility to set up new secure connections
- Easy rollout
- A single secure platform for various file transfer needs, both internal and externally
- Centrally managed, operated & monitored
- Reduction of Media/Transportation Costs: cutting DVDs, using Couriers, etc.

The Challenge

During 2008, TW had shown considerable foresight to address the way data was being moved securely into, around and out of their company. At the same time, being mindful that the UK Information Commissioners Office was pressing UK companies to be vigilant in the need to exercise stringent data protection requirements and meet statutory obligations. An extensive review of the data transfer requirements within Customer Services was undertaken by the Thames Water IS Security team and they identified the need for a secure Managed File transfer system that could be used to bring data transfers into one secure application that could be used whenever data needed to be sent externally. Offerings from Axway, Sterling and Primeur were reviewed by Wipro, the internal IT provider, and the IS Security team.

The Solution

The IS Security team and Wipro personnel concluded that the *Spazio MFT/S* solution offered the best fit to the business requirements. It offered a relatively low cost and simple implementation whilst providing the security features and options to integrate with the corporate SAP ERP application that was required.

The solution platform chosen was Windows to meet the security, functionality, manageability and performance requirements for a Utility of TW's size. Initially, the solution was implemented to address the requirements in the Customer Services business unit and comprised the core components of the Spazio Managed File Transfer solution:

- *Spazio MFT/S*: provides store and forward (asynchronous) secure file transfer functionality over multiple protocols
- *Spazio Files Services Governance*: web based monitoring, tracking and audit of file transfer activity.



Implementing these Primeur products gave the following advantages:

- Users only need to use a browser to send and receive files securely. They didn't need to have any knowledge of the underlying technicalities of the file transfer.
- The security techniques used for the communication is enforced by Spazio's internal MFT/S queue architecture.
- Spazio MFT/S handles the transfer to the internal/external end-points.
- Spazio MFT/S offers multiple transport protocols – therefore, more options exist for communicating to external third parties.
- All file transfer activity is recorded in *Spazio File Services Governance* to fulfill audit and compliance requirements.
- User uses a simple web based interface for sending/receiving files and to monitor file transfer activity.
- No client software is needed on the users' PC/laptop.

“A key factor in our decision was the flexibility of the Primeur solution and the genuine commitment they have to security with a separate security division. We are delighted with the results gained and pleased we chose Primeur. Spazio MFTS is proven and reliable for the safe transfer and management of our inbound and outbound file movements at Thames Water”.

Mal Grant - Head of IS Security, Governance & Risk at Thames Water

Regular File Transfers occur to known recipients: the implementation allows initiation and receipt of File Transfers either using a browser (HTTP/S) or via FTP transport. Using this method means no additional client software is needed within TW. The architecture enables, at no additional cost to TW, individuals or organisations external to TW to send and retrieve files using HTTP/S or either of the standard secure IP clients of FTP/S or SFTP. Again, this means that third party agencies, who are regular sources and recipients of encrypted data, are able to use any of a variety of clients (many available free via the Internet) to implement a fully scalable file transfer solution. Spazio Administration tools allows for immediate set up of new users/recipients for new transfer requests, which could be as simple as the result of a phone call where the result is – *“I'll send you a file”*. Therefore, the Primeur solution enables this type of one-off file transfer. This type of queue (file stream) is used regularly to move highly important, urgent, secret and confidential company documents for distribution and receipt globally.

The result of this detailed evaluation was TW's decision to adopt a platform consisting of Spazio MFT/S – Primeur's solution for management and secure file transfer – and File Services Governance – Primeur's solution for visibility, audit, and control of file flows. The selected Spazio solution was the best functional and economic solution for Monitoring, Control, and Archiving of file transfer throughout the network from a single point of control. Also, it provided management and control of data/file transfer over different technologies and protocols including: IBM WebSphere MQ, FTP, FTP(S), SFTP, HTTP(S).

Managed File Transfer

The implemented Primeur solution has two Gateways: a Hub and Gateway configuration. External protocols that are available are: FTP, FTP/S, HTTP, HTTP/S, and SFTP. A central Hub handles routing to/from the gateways and the internal systems.

An important consideration in choosing Primeur was the ability to work within TW's SAP environment and ongoing SOA considerations, and to potentially integrate with core IBM technology, such as, WebSphere Message Broker, and WebSphere MQ.

The solution described above is represented in the following high level architecture diagram.

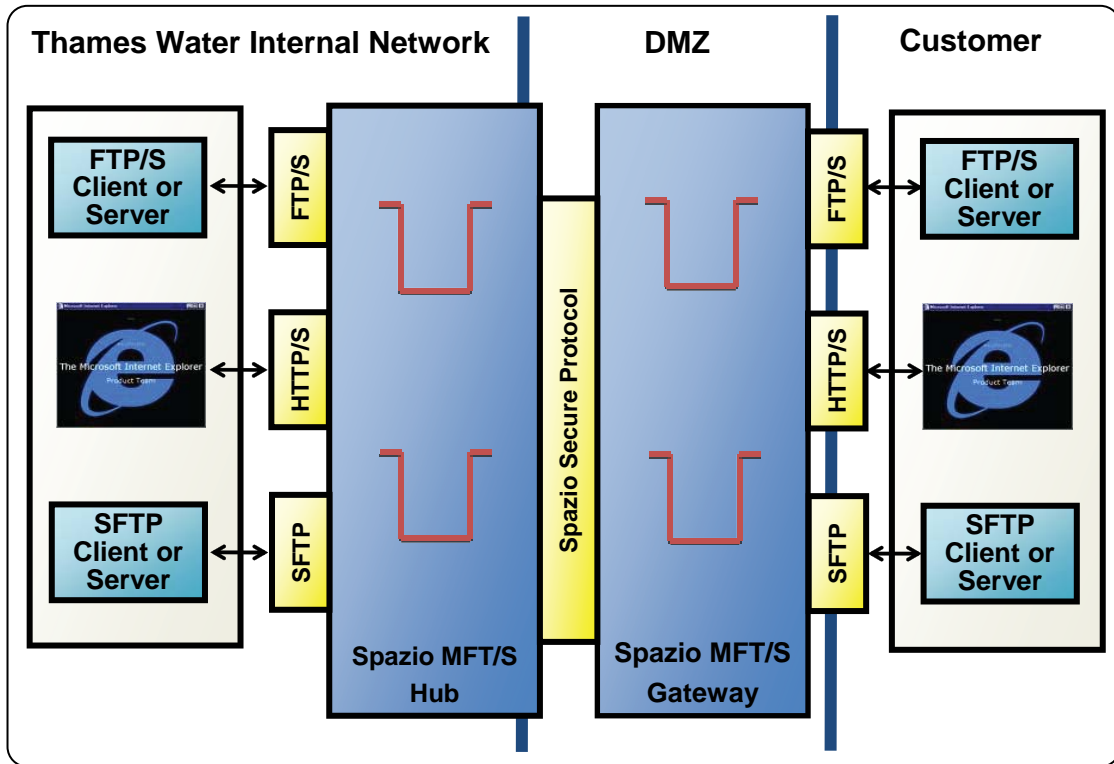


Figure 1: Overview of the THAMES WATER file transfer platform

Compliance, Visibility, and Audit

Spazio File Services Governance is used to monitor all these running on the Spazio MFT/s infrastructure. It gives TW the benefit of putting critical internal and external file transfers under control before they are migrated to the new platform, and will provide accurate data on which to plan and resource the migration project.

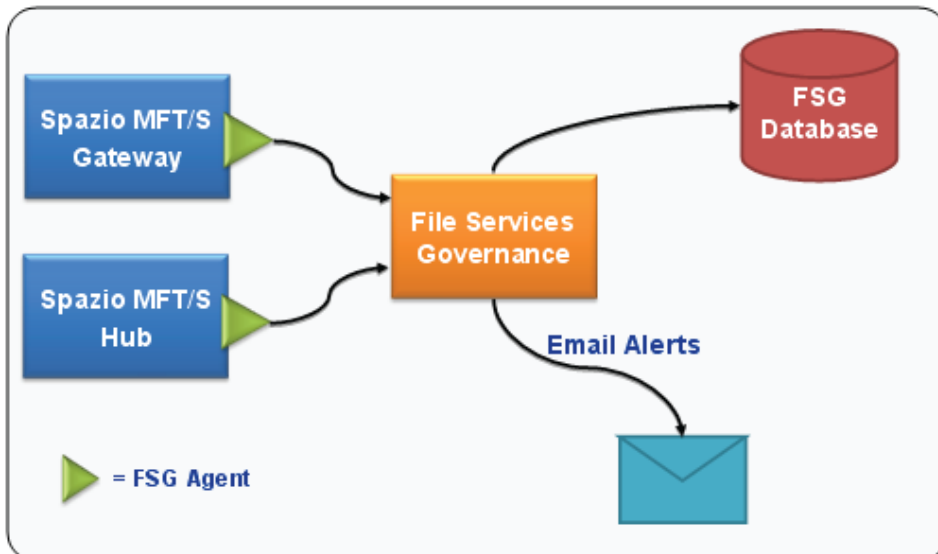


Figure 2: File Services Governance connections

Spazio File Services Governance provides four key functions:

Discovery: to discover which files are moved within the company infrastructure and which servers they travel to/from, and by identifying and cataloguing each individual transfer step to create information on end to end File Transfer flows.

Catalogue: to enrich the flows identified during the Discovery phase and to associate SLA attributes with them such as: time/date cut-offs, cross country calendars, business level information, triggers and alerts. New flows can also be defined and inserted.

Monitor & Audit: a web based interface for monitoring and control of all file transfer activity, the status of the transfers and any errors for each single File Transfer. Extensive filtering and drill down functionality is provided so users can identify clearly and concisely only the information that is pertinent to them.

Report: a batch based reporting tool (BIRT from the Eclipse project) for data and trend analysis, as well as usage and service level reporting for management and business presentation.

Security

TW has strict security requirements which needed to be implemented in the new solution. Primeur's *Spazio MFT/S (DSSP)* implements both link-oriented and end-to-end security functionality providing all the Public Key Infrastructure (PKI) and services (via cryptographic libraries) necessary for implementing a modern standards-based (PKCS) public key cryptographic system.

Spazio MFT/S Link-oriented Security (between the hub and gateway) provides authentication and encryption while the data is in transit.

Spazio MFT/S End-to-End Security is used to encrypt/sign outbound files using PGP when they are dispatched to a *Spazio MFT/S* queue. The files then remain encrypted through the TW infrastructure all the way to the recipient. For inbound files, the files are received encrypted with PGP. They pass through the Gateway and Hub and are only decrypted when the file is acquired from the *Spazio MFT/s* queue on the hub.

Benefits

Business Benefits

The primary business benefit to Thames Water is the assurance that critical and sensitive data can be securely transmitted to third parties using a system requiring minimum maintenance once correctly set-up. The browser based secure transfer is easy to configure and enables secure data connections to be quickly set-up and monitored with full usage information available for audit.

Architectural Benefits

Establishment of a usable common platform that is secure and easy to use and one that meets the requirements of internal audit. Spazio MFT/S provides a platform so that subsequent projects will see it as the natural and most cost effective way to implement file transfers designed to meet corporate standards for secure data transfer, encryption, audit and compliance.

Specific Project Benefits include:

- Cost effective and efficient secure data transfer platform
- Flexibility to set up new secure connections
- Easy rollout
- Comprehensive file auditing
- A single secure platform for various file transfer needs, both internal and external
- Centrally managed, operated & monitored
- Reduction of Media/Transportation Costs: cutting DVDs, using Couriers, etc.

About Primeur

Primeur is a multinational company and one of the main producers of middleware solutions for distributed and heterogeneous IT systems. Primeur is a leader in **Managed File Transfer, End-to-End Security and Governance**. With more than 500 customers worldwide - including large companies operating in the areas of Finance, Industry and Services - it has branches and distributors in Europe, United States of America, South America and Asia Pacific.

Primeur is an IBM Premier Business Partner particularly active on IBM WebSphere, Tivoli, Rational and Information Management platforms. In addition, it provides software and services for SOA (Service Oriented Architecture), communication middleware, legacy application integration and data security.

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