

# The IT architect's guide to managed file transfer consolidation

## The need to modernize legacy file transfer

Sooner or later, most IT architects find themselves grappling with a proliferation of file transfer systems used to exchange critical information with customers, suppliers, partners and the internal workforce.

Businesses are demanding greater security, collaboration, scalability, reliability and service-level agreement (SLA) compliance at a lower cost. But the expense and complexity of maintaining multiple file transfer products deployed over time for projects, lines of business and departments stand in the way. And accelerating digitization across an ever-growing ecosystem of trading partners amplifies the management challenge, as enterprises conduct increasingly large volumes of internet-based transactions.

Enterprise managed file transfer (MFT) is now the solution of choice to modernize

legacy file transfer environments for many organizations. Whether deployed on-premises, in the cloud or in a hybrid cloud model, the right MFT solution can address the key pain points and weaknesses of outdated file transfer systems, while reducing IT's burden in managing and troubleshooting complex legacy file transfer systems.

As enterprises transition workloads to the cloud, MFT solutions built on a cloud-native, microservices architecture enable further modernization. And hybrid cloud models based on open platforms that avoid vendor lock-in, along with container technology and simplified orchestration, provide even greater flexibility to move at your pace. You gain an efficient way to deploy, manage and scale enterprise-grade secure file transfer across multiple environments. For organizations that

have already begun their cloud journey, or are actively considering MFT modernization, this paper outlines five key characteristics IT architects should look for in an enterprise file gateway solution:

1. Secure edge-based file transfers
2. Integration across a diverse technology stack
3. Enterprise scale and performance
4. High availability, failover and disaster recovery
5. Operational visibility, monitoring and reporting

By no means exhaustive, this list reflects priority capabilities identified by IT architects and business-to-business (B2B) professionals who rely on the [IBM Sterling File Gateway](#) solution as the foundation for MFT-based file transfer modernization. File Gateway consolidates your file exchange into a single solution to simplify operations, reduce cost and support expanding requirements amid rapid growth in file volumes, number of users and endpoints.

With these capabilities, you can modernize your current implementations, while helping build operational efficiencies and reduce infrastructure costs in the process. Not to mention win new revenue and drive higher productivity levels. Ultimately, it's about freeing up valuable IT resources to drive innovation that moves the business forward.

# Five key capabilities in an enterprise file gateway solution

The multi-protocol, multi-process File Gateway is engineered to address key pain points and future-proof file transfer environments. Based on a scalable architecture, IBM's edge-based MFT solution consolidates disparate centers of file transfer activity, facilitates secure exchange of file-based data over the internet and supports high availability through [IBM Sterling Global Mailbox](#).

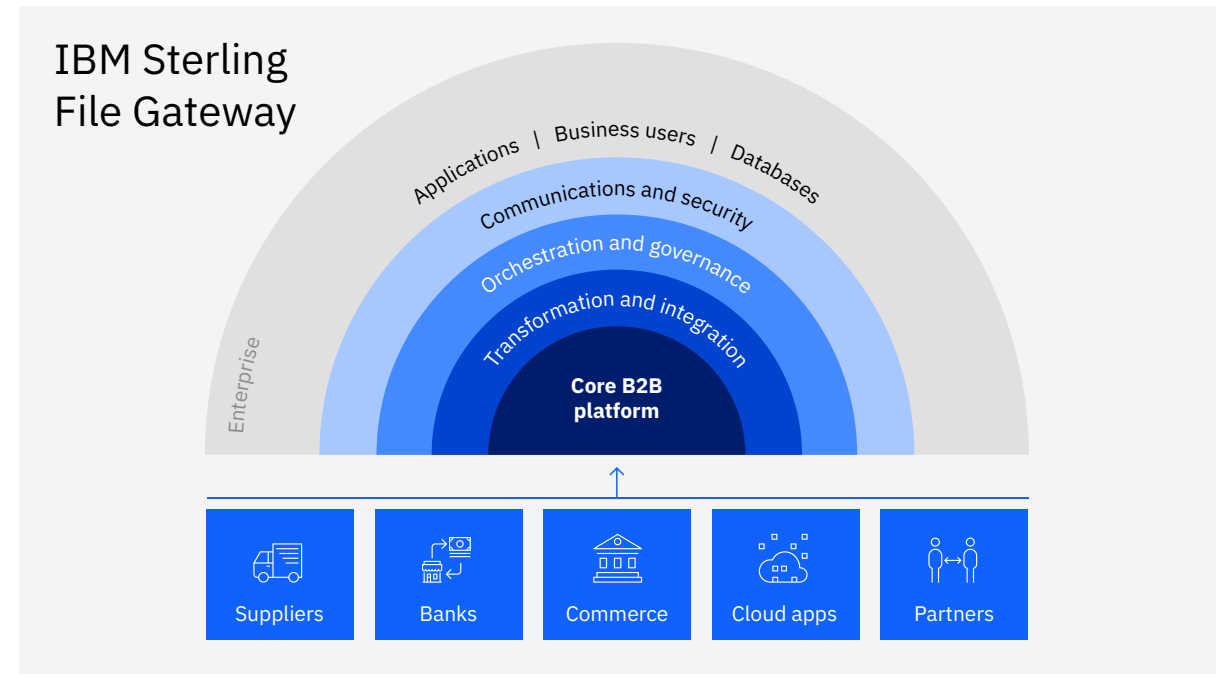
File Gateway supplies capabilities needed to monitor, administer, route and transform high volumes of inbound and out bound files. The solution also supports a simple, efficient path to hybrid cloud deployment through IBM certified containers and seamless integration with RESTful APIs for better collaboration.

Built on [IBM Sterling B2B Integrator](#), File Gateway helps companies avoid the risk and operational issues that can result from using loosely controlled file transfer servers while improving partner onboarding, strengthening

compliance, speeding processes with automation and supplying visibility across hundreds of processes. A complementary solution, [IBM Sterling Control Center](#), provides critical monitoring and configuration management capabilities with a centralized, normalized database for audits, reporting and near real-time monitoring of file transfers. In addition, [IBM Sterling Control Center Director](#) makes it faster and easier to centrally update and configure IBM Sterling Connect:Direct nodes and scale your managed file transfer environment.

**Watch:** [The Smarter Way to Manage MFT Environments](#)

Leading companies around the world undertake the managed file transfer journey with File Gateway as a foundation. File Gateway delivers on the five key capabilities that enterprises need across an evolving B2B communications landscape.



**Figure 1:** IBM Sterling File Gateway enables edge-based data exchange with an intelligent centralized gateway

# 01 – Secure edge-based file transfers

Security is the top reason IT leaders give for choosing MFT<sup>1</sup>, which comes as no surprise. In the face of ever-growing threats to data privacy and requirements to comply with new regulations, security that protects file transfers needs to evolve. Encrypting the transport layer with HTTPS, FTPS or SFTP is a necessary first step, but no longer adequate for enterprises that make data security a top priority. Advanced threats demand an even higher level of security that a defense-in-depth strategy provides.

File Gateway, in conjunction with [IBM Sterling Secure Proxy](#) (IBM's proxy front-end for File Gateway), delivers industry-leading security capabilities, as well as full audit trails, session breaks and protocol inspection, to maximize the protection of sensitive data at multiple layers. These capabilities are also supported in cloud deployment models, making it easy to maintain the same level of robust edge security across environments.

## Authentication

Multi-factor authentication validates a connection by IP address, certificate, security token, ID/password and more. LDAP and Active Directory are supported in File Gateway to help ensure user authentication, while role-based user interfaces help ensure that only permissioned individuals can view data.

## DMZ perimeter security

File Gateway includes a perimeter server management tool that can be installed in a DMZ to help secure communications between outer layers of a network and the TCP-based transport adapter, while the optional Secure Proxy offers even more robust DMZ traversal, including providing session breaks for secure protocols. No data is stored in the DMZ, with perimeter server or Secure Proxy providing a virtual endpoint for communications.

## Defence at rest

File Gateway supplies a secure repository

with data at rest encryption, as well as mailboxing that provides a logical separation of data and authentication protocols to govern data access.

## Secure data in transit

File Gateway supports a full range of secure protocols, including FTPS, HTTPS, REST, AS2, AS4, Connect:Direct, SSH/SFTP, and vertical-specific protocols such as SWIFT and EBICS, as well as standards for end-to-end encryption including PGP, SSL, TLS and S/MIME. The solution also scans files in-flight for viruses before they enter the trusted zone and ensures that no data ever lands on disk in the DMZ.

## Extend the security ecosystem

Most organizations have a vast ecosystem of IT security tools. File Gateway flexibly integrates with existing technologies such as identity access manager (IAM), allowlisting and blocklisting tools and scanning engines.

The solution is also designed to align with a zero trust approach with Connect:Direct, a security-hardened protocol to help prevent the spread of malware.



IBM Sterling Secure Proxy enables secure and high-speed data movement over the internet

# 02 – Integration across a diverse technology stack

Managing file transfers across a diverse technology stack can consume time and IT resources with integrations, maintenance and troubleshooting. With the steady incorporation of new technologies, either through deployment choices or mergers and acquisitions, the integration overhead imposed on IT teams is rising and can limit business effectiveness in exchanging files with internal and external stakeholders.

File Gateway integrates across infrastructure and back-office applications with a standardized architecture, pre-built connectors and APIs that enable interoperability with third-party solutions. IBM's agnostic approach – with deployment options on-premises, in the cloud or a

hybrid cloud model – avoids vendor lock-in, minimizes time-consuming custom integrations, enables IT to focus on value-added projects and helps future-proof the organization.

## **Platforms**

File Gateway delivers out-of-the-box support for all leading operating systems, including UNIX, Windows and Linux (and zLinux), as well as the IBM iSeries platform. It can also be deployed on a hosted (or public dedicated) cloud infrastructure, as well as on open platforms such as the Red Hat® OpenShift® container platform that simplifies deployment across any cloud, anywhere – hybrid and multi-cloud infrastructure. A certified container that

has all required components significantly reduces installation and patch time.

## **Back-office services**

IT teams benefit with built-in support for leading databases, LDAP and Active Directory frameworks, and message buses like IBM MQ Series and Java Message Service. File Gateway's service-oriented architecture (SOA) allows services to link together to form complex processes. The additional capability to communicate with other machines and protocols via RESTful APIs enables seamless collaboration with trading partners and secure, repeatable workflows for data movement internally and externally.

# 03 – Enterprise scale and performance

Many IT organizations have responded to rapid growth in file volumes, sizes, connections and concurrent sessions by adding more personnel, FTP servers and non-scalable point solutions like Ipswitch and Globalscape for various departments. These band-aid approaches may be expedient, but they are also unsustainable as B2B communities continue to grow and highly scalable, timely file exchange becomes a business imperative.

Moreover, the lack of scalability across legacy systems for high volumes of concurrent file transfers can result in delays and error messages when files are not moved in a timely manner, driving up help desk calls. File Gateway scales to the file transfer requirements of the most demanding enterprises.

## **Endpoint scalability**

File Gateway enables your file management environment to scale to thousands of communications endpoints, while providing industry-leading flexibility to define and simplify how files are moved across endpoints. This is achieved in two primary ways. First, a wizard-driven partner onboarding approach creates the necessary configurations behind the scenes for partner information, minimizing set-up activities to bring a new partner online faster.

The second way is through repeatable processes. Because most file transfers fall into just a few distinct patterns, routing processes can be configured to allow for a wide variety of partner payloads (with flexibility for those that require special handling). Compared to other solutions,

onboarding a new partner is no longer a developmental activity that requires scripting or process build-out, but becomes a configuration activity that in many cases can be taken out of the IT group and handled by business users.

## **Process flexibility**

IT teams can expand the capabilities of File Gateway by creating new processes that manipulate files and file metadata as part of the routing mechanism to provide data as the endpoints need to see it. This may include file renaming between the source endpoint and its destination, zipping or unzipping files, or other activities such as data validation, formatting or manipulation.

Process flexibility in File Gateway means that many value-add processing functions

can be performed based on your unique requirements. With powerful content-based routing and logic capabilities in File Gateway, fewer processes can address multiple use cases, which allows for easier ongoing maintenance of process flows.

When deployed as a containerized solution with microservices architecture, File Gateway provides further flexibility to auto-scale. As demand shifts you can scale up or down quickly to meet changing transaction volumes and manage costs.

# 04 – High availability, failover and disaster recovery

High availability, failover and disaster recovery are essential characteristics of a high-performance managed file transfer platform. With intolerance for delay and disruption increasing among trading partners and customers, organizations can't afford costly downtime that's virtually guaranteed in legacy environments that rely on FTP and email exchanges.

For high availability requirements that span wide geographical areas and to support redundancy and disaster recovery strategies, cloud deployments provide a significant advantage from a cost, time and performance standpoint. Additionally, the optional **IBM Sterling Global Mailbox** solution that can be deployed on-premises or in the cloud, provides for replication of incoming payload across data centers regardless of distance with a robust and reliable data storage solution. Tight integration with File Gateway gives the overall solution a higher degree of availability and performance.

## Clustering

File Gateway can cluster across servers within a data center or across multiple clouds, removing issues of single point of failure and allowing other servers in the cluster to pick up in the event of a server disruption. Clustering support also provides automatic load balancing for improved performance.

Clustering in File Gateway can be achieved vertically within fewer servers to provide scale for performance and volume, or can be distributed horizontally across more servers to increase scale and availability in the event of an outage in a particular server. When clustered, File Gateway provides internal load balancing to ensure payloads are seamlessly transferred to other nodes in the cluster in the event a node is down, and to evenly distribute the load in high-volume scenarios.

## Global Mailbox

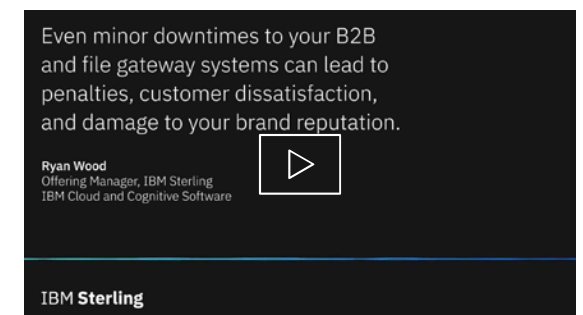
This component delivers capability to support two key use cases. The first use

case addresses active/active deployments across data centers or multiple clouds, allowing data to be processed in multiple locations and improving scalability to address ever-increasing throughput requirements. Within the solution you have the necessary command and control to ensure incoming payload is only processed in one location to avoid duplicate processing.

The second use case addresses active/passive disaster recovery capabilities. Global Mailbox provides out-of-the-box functionality that allows you to replicate data over to another data center or cloud in near-real time, so that in the event of an outage you can easily switch over and pick up processing in the backup data center or cloud. This helps to eliminate manual and time-consuming activities to bring the disaster recovery environment online and significantly reduces data loss.

In both use cases, Global Mailbox provides

a consistent view across data centers or clouds that allows you to easily see the incoming payloads and determine their status of replication and, in the event of an outage, delivers a clear view of payload not yet processed. Additional capabilities include immediate or deferred replication configuration at the mailbox level to allow you to specify priority or levels of risk at the partner level.



IBM Sterling Global Mailbox enables always-on connectivity, providing greater resilience to protect against operational disruptions

# 05 – Operational visibility, monitoring and reporting

Effective file transfer management and SLA compliance require high degrees of operational visibility, monitoring and reporting not possible in disparate legacy systems. A 360-degree view in near-real time across the full lifecycle of a file transfer, from its point of origin to fulfillment, is needed to ensure the high reliability trading partners, customers and internal users expect.

File Gateway delivers a broad range of monitoring from a single centralized point within the base product, while the optional [IBM Sterling Control Center](#) monitoring and governance solution which is also containerized, tracks critical events wherever they occur and alerts stakeholders to issues with transfers or servers. In addition, role-based dashboards can be readily customized to the needs of operations

staff, IT governance, risk and compliance professionals, and business users.

## **myFileGateway**

For a secure, yet approachable, low barrier access, myFileGateway is an easy to use, browser based web UI that allows internal and external end users access to their mailbox structure as well as reports and events that you decide to make available to them.

Additionally, myFileGateway allows users a manual entry point to upload and download their files as part of the process. This can be valuable in situations in which their endpoint may be down for some reason and enables users to perform their necessary functions.

Another use case addressed by myFileGateway is smaller, manual process-

oriented trading partners who do not have the technical expertise to send/receive their payload programmatically. This capability allows them to function within your environment while still allowing you to process their payload automatically.

## **Auditing and policy enforcement**

Using File Gateway, reports can be run to validate endpoints, transfers, times, format and more, while the solution may be configured to enforce corporate policies such as encryption of all communications.

## **Error identification and route replay**

Users can search on failed transfers and restart the transfer, either through a full reprocessing from the beginning of route, or simply retransmitting to the endpoint. File Gateway provides a variety of event codes

that can be used as trace points in a variety of ways. In addition to these out-of-the-box codes, you also have the ability to set up and configure your own unique codes that can be used in the same manner and in conjunction with the delivered ones.

## **Control Center integration**

IBM Sterling Control Center provides a central, customizable application for visibility of file transfers and integrates with FileGateway to validate transfers sent and alert users if transfers failed or failed to start. Control Center has the ability to not only monitor for errors, but can also be configured to notify you in the event expected processes were not initiated, took too long or a variety of other scenarios based on your requirements.

# Making the business case for MFT gateway modernization

When it's time to make the business case to modernize legacy file transfer environments with enterprise MFT, analyst research can help strengthen your case. For instance, IDC surveyed IBM clients using IBM Sterling B2B Integration and MFT solutions<sup>2</sup> and discovered these clients are realizing a **three-year ROI of 291%** on average, or **\$291,900 in total benefits per 100 trading partners** per year. For background, on average these clients have 5,042 trading partners on an ongoing basis and exchange an annual volume of 146.81 million B2B documents.

Notably, clients interviewed had not yet completed migrations to the cloud and IBM's containerized versions of the solution that provide multiple deployment options and opportunities to optimize computing resources. So, IDC expects that in future

surveys "cost saving associated with optimized compute resources should contribute to higher value and ROI."

In addition to significant ROI, IBM clients reported business value across a breadth of areas which IDC translated into benefits worth an annual average of \$14.72 million per organization or \$108,700 per user.

Additional business value clients reported, include:

- 45% faster to onboard new partners
- 85% more productive document management teams
- 61% faster delivery of documents and desktops
- 80% fewer document transaction errors
- 99% less unplanned downtime

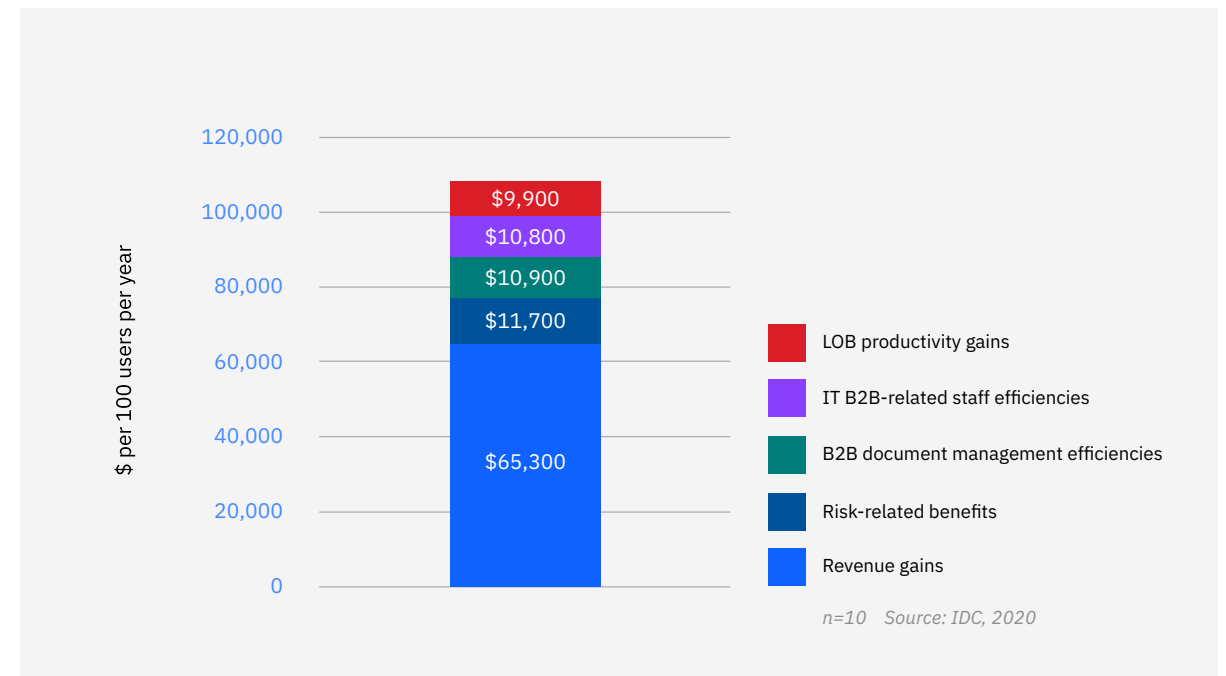


Figure 2: Average annual benefits per 100 users



## Making the business case for MFT gateway modernization continued

One of the biggest areas of risk associated with file transfers is incomplete or failed transfers. So, IDC drilled down further into reported savings in unplanned downtime to quantify the reduction. Their research revealed that companies are cutting Mean Time to Respond in half and achieving a 99% reduction in lost productivity time per year per user (valued at \$1.89 million) and a 99% reduction in lost gross revenue per year per organization (valued at \$7.45 million).

IDC states what IT architects already know: “An organization’s ability to ensure the robust, secure, and timely flow of information and data between its business partners, employees, and customers is increasingly fundamental for competing successfully in the digital economy.” For IT architects on the front lines helping drive the business forward, a modern MFT solution is essential for success.

### Explore the IBM Sterling File Gateway solution

A scalable, secure and always-on edge-based gateway that consolidates file transfers on a single platform.



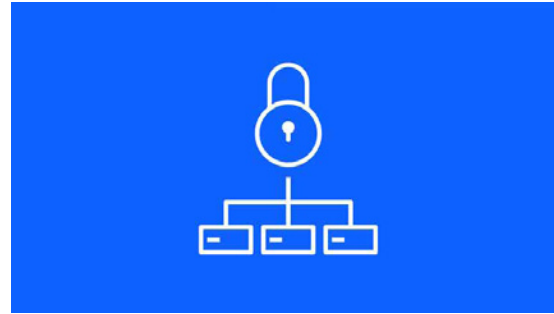
## Next steps



### **IDC Business Value of IBM Sterling B2B Integration and Managed File Transfer Solutions**

See how IDC calculates how IBM customers will realize an annual average value of \$14.72 million per organization.

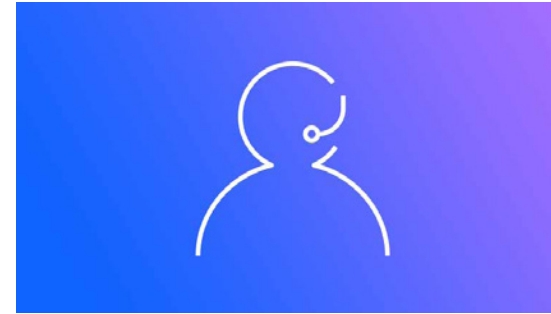
[Read the IDC report](#)



### **How Equifax modernized their MFT platform**

Hear how a next-generation MFT platform enhanced Equifax's security compliance levels and became a cornerstone of their digital transformation initiatives.

[Watch webinar](#)



### **Speak with an expert**

Consolidate your file exchange into a single solution to simplify operations, reduce cost and support expanding requirements.

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Produced in the United States of America  
January 2022

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## Sources

1. Vanson Bourne, IBM Supply Chain Data Report, 2019
2. IDC White Paper, [The Business Value of IBM Sterling B2B Integration and Managed File Transfer Solutions](#), IBM, 2020