

# BROCADE FILE MANAGEMENT ENGINE



## FILE MANAGEMENT

## A More Efficient Way to Move and Manage Files

### HIGHLIGHTS

- Establishes a transparent file mobility infrastructure for dynamic management of growing file environments
- Helps eliminate downtime and disruption during file migration, including open or locked files
- Simplifies file management through policy-driven automation and centralized control
- Automates complex file migration projects, saving time while minimizing cost, errors, and outages
- Automates the classification and transparent placement of file data within a tiered storage infrastructure
- Optimizes capacity and performance of file infrastructures to reduce capital and operational costs
- Integrates seamlessly into existing Windows environments for fast and simple deployment

Files are the core of today's digital business, and they are essential for productivity, timely communication, and collaboration throughout the enterprise and beyond. Any disruptions to file access can stop a business in its tracks.

Today, more files are being created, copied, and stored than ever before—with more users demanding continuous access to those files. In addition, files are growing in size as users incorporate image, video, and audio content. As a result, most IT organizations will likely see their file data *double* within two years.

With such widespread growth, file migration and consolidation is no longer an *ad hoc* project for storage administrators. As the amount of file data grows, IT organizations will face the tradeoff of more downtime and longer disruptions as they migrate and move files to add capacity, improve performance,

or optimize resources on an ongoing basis. Because extended outages pose too many risks to operations during the week, however, many organizations are left with only 52 weekends a year to manage their files and file infrastructures.

Faced with the sheer number of files and the corresponding costs and complexity challenges, IT organizations need a file management infrastructure that facilitates growth and adapts easily to changing business requirements.

### INTRODUCING THE BROCADE FILE MANAGEMENT ENGINE

The Brocade® File Management Engine (FME) is a file virtualization appliance that establishes a transparent file mobility infrastructure within the network to dynamically manage growing file environments. In particular, Brocade FME



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combines non-disruptive file movement with policy-driven automation to deliver powerful management capabilities for:

- Transparent file migration, including open and locked files such as Outlook PST files and Access databases
- File, server, and storage consolidation
- Asset deployment and retirement
- Capacity and performance optimization
- File classification and placement
- Automated file and directory archiving

Brocade FME provides a wide range of functions to simplify file management (see Table 1 and Figure 1). It enables IT

organizations to virtualize files and manage resources without having to schedule activity during weekend maintenance windows. The automation capabilities also eliminate many complex and manual processes associated with file migration. As a result, organizations are free to manage file data anytime, 365 days per year.

### TRANSPARENT AND OPEN FILE MOBILITY

Brocade FME file virtualization creates a logical abstraction layer between client access to files and the underlying physical storage. Because file access is no longer bound to the physical storage device, organizations can move or migrate files without disrupting users or applications.

Unlike other products, Brocade FME enables true open file migration without limitations or caveats. This requires sophisticated technology to handle the way different applications open, modify, store, lock, and enumerate files in order to maintain data integrity. Brocade FME leverages innovative technology to migrate files, directories, and shares while helping to ensure that:

- File migration does not disrupt client access
- Migrated files maintain their original attributes
- Shared and exclusive access characteristics are unaffected
- Range locks and alternate data streams are maintained

By providing complete transparent file access and mobility during file movement, Brocade FME minimizes the risk of data loss or corruption to help keep the business running smoothly.

### SIMPLIFIED, CENTRALIZED MANAGEMENT

Traditionally, managing client mappings and access to their files has been a time-consuming and labor-intensive process. Given the growing complexity of today's file infrastructures, it is also prone to errors and additional disruptions. The rising number of users and files—combined with increasing availability expectations—significantly compounds management complexity.

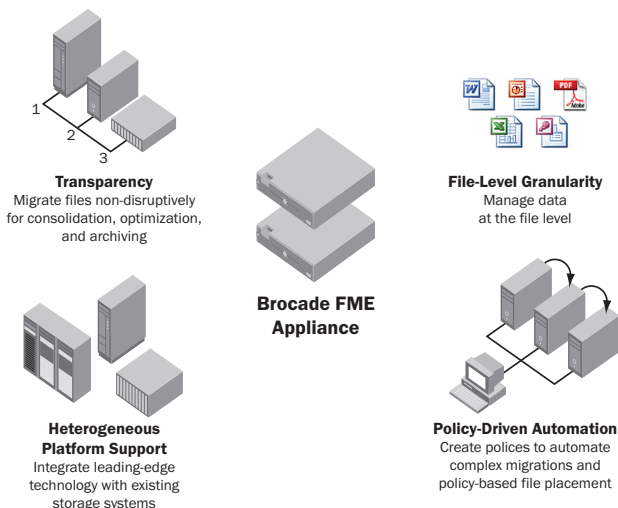
To overcome these challenges, Brocade FME includes an intelligent management application with a robust policy engine to automate redundant tasks and manual processes. This approach significantly reduces the time and resources needed to manage and move files.

In addition, organizations can customize policies to address different file management challenges. The intuitive, easy-to-use console enables centralized management for creating, scheduling, and monitoring a wide range of file management policies and tasks.

**Table 1.** Brocade FME core features.

Function	Benefit
Open file migration	<ul style="list-style-type: none"> <li>• Enables non-disruptive movement of open or locked files</li> <li>• Increases flexibility by supporting on-demand or scheduled data movement</li> </ul>
Redirection for logical migration	<ul style="list-style-type: none"> <li>• Logically links users to physical file locations to avoid disruption</li> <li>• Enables file access without causing a recall for tiered file solutions</li> </ul>
Transparency	<ul style="list-style-type: none"> <li>• Does not alter server, network, and storage resources</li> <li>• Does not alter client access and authentication</li> </ul>
Automated policies	<ul style="list-style-type: none"> <li>• Saves time by simplifying file classification and management based on metadata</li> <li>• Improves integrity with automated monitoring to verify correct file placement</li> </ul>
Scalable and granular namespace	<ul style="list-style-type: none"> <li>• Scales easily to support the management of billions of files and petabytes of data</li> <li>• Provides the flexibility of file management and mobility at the share, directory, or file level</li> </ul>
Heterogeneous resource support	<ul style="list-style-type: none"> <li>• Supports common management of Server Message Block (SMB) and Common Internet File System (CIFS) data</li> <li>• Abstracts servers, networks, and storage for easier management</li> </ul>

**Figure 1.** Brocade FME provides a wide range of capabilities to simplify file movement and management across the enterprise.



By leveraging these unique management features, organizations can:

- Automate non-disruptive migration of shares and directories
- Classify and place individual files on multiple storage tiers
- Schedule policies to execute during designated times
- Simulate and validate policies prior to actual execution
- Monitor and report status on various file policies and tasks

### **KEY FILE MANAGEMENT SOLUTION AREAS**

Brocade FME combines transparent file mobility with powerful automation and centralized management functionality to support:

- Transparent file migration
- Tiered file optimization
- Directory archival

#### **Transparent File Migration**

Brocade FME simplifies and automates file migration, helping to eliminate outages and errors, streamlining projects, and optimizing resource utilization. It addresses the following challenges:

- Disruptions and errors caused by complicated, labor-intensive processes
- Complications with migrating open or locked files
- Complexity from consolidating servers, storage, shares, or directories
- Additional lease costs due to delayed asset retirement
- The need for off-hours and weekend migrations

#### **Tiered File Optimization**

Brocade FME automates the classification and transparent placement of file data within a tiered storage infrastructure—improving availability, simplifying management, and optimizing resource utilization. It addresses the following challenges:

- Growth of low-value file data residing on primary storage
- Escalating storage resource costs
- Downtime due to expanding backup windows
- Adherence with compliance requirements for classification and retention of files

#### **Directory Archival**

Brocade FME automates the classification and transparent migration of directories and folders, optimizing resource capacity and performance while automating directory archival. It addresses the following challenges:

- Outages caused by capacity limitations
- Degraded performance from user access imbalance
- Inactive or completed project directories that are consuming primary storage
- Interdependencies of files within directories

### **INTEGRATION WITH MICROSOFT TECHNOLOGY**

Brocade FME integrates and extends the value of Microsoft Windows technology to expedite deployment into existing file infrastructures. This integrated approach avoids compromising or disrupting established Windows management, security, and network resources—and associated business processes.

Brocade FME integrates native Windows technology for:

- Transparent, on-demand implementation through Distributed File System (DFS)
- Seamless integration with Windows management tools
- Full compliance with Active Directory, SMB/CIFS, and DFS
- Granular file-level extension of DFS technology

Rather than implementing a proprietary namespace or file system, Brocade FME leverages proven DFS namespace technology. As a result, deployment with DFS takes minutes, not hours or days. In addition, Brocade FME extends management beyond DFS shares and directories all the way to individual files. The ability to manage files at any level provides unmatched flexibility and avoids a disruptive “all-or-nothing” approach.

Brocade FME seamlessly integrates with Active Directory and maintains user credentials and permissions through the virtualization layer to the storage device. This enhances overall security and helps ensure a comprehensive and accurate audit trail.

### **INDUSTRY-LEADING ARCHITECTURE**

Brocade is an industry leader in data center networking solutions and services that enable organizations to manage their most vital information assets more efficiently. With Brocade FME, organizations have a strategic platform for solving many of today’s file management challenges as well as a strategic platform for next-generation solutions.

## DATA SHEET

Brocade FME complements the strategic Brocade Data Center Fabric (DCF) architecture, helping organizations make their file data infrastructure more efficient, reliable, and adaptable to change. Key architectural benefits include:

- **Extensibility:** A scalable application platform for future file management solutions
- **Enterprise-readiness:** Clustering architecture for high availability, scalability, and performance in the most demanding environments
- **Resilience:** No indexes, metadata, or files are stored on the appliance—avoiding risk and exposure
- **Performance:** No requirement for a metadata index or database—streamlining operations
- **Transparency:** No changes to client access, network, or storage
- **Simplicity:** No desktop, server, or storage agents to deploy or manage

### MAXIMIZING INVESTMENTS

Brocade and its partners offer complete solutions to meet a wide range of technology and business requirements. These solutions include education and training, support, and services to help optimize technology investments. For more information, contact an authorized Brocade sales partner or visit [www.brocade.com](http://www.brocade.com).

## BROCADE FME ADMINISTRATION SERVER AND CONSOLE REQUIREMENTS

System Requirements	
Operating system (Brocade FME Administration Server)	<ul style="list-style-type: none"><li>• Microsoft Windows Server 2003 Standard Edition, Enterprise Edition, or Data Center Edition with SP1 (32-bit only)</li><li>• Microsoft Windows Server 2003 R2 Standard Edition (32-bit only)</li><li>• Microsoft Windows Server 2003 R2 Enterprise Edition (32-bit only)</li></ul>
Operating system (Brocade FME Console)	<ul style="list-style-type: none"><li>• Microsoft Windows Server 2003 with SP1 (32-bit only)</li><li>• Microsoft Windows Server 2003 R2 Standard Edition (32-bit only)</li><li>• Microsoft Windows Server 2003 R2 Enterprise Edition (32-bit only)</li><li>• Microsoft Windows XP Professional with SP1 and SP2</li></ul>
Brocade FME Administration Server Database	<ul style="list-style-type: none"><li>• MSDE with SP4 or SP4</li><li>• Microsoft SQL Server 2000 Standard or Enterprise Edition with SP3 or SP4</li><li>• Microsoft SQL 2005 Express, Standard, or Enterprise Edition</li></ul>
<ul style="list-style-type: none"><li>• Microsoft .NET Framework 2.0</li><li>• Internet Explorer 5.5, 6, 7</li><li>• Windows Script Host 5.6</li><li>• 2 GB RAM or better (recommended)</li><li>• 2 GHz or faster processor (recommended)</li><li>• Disk space: 500 MB or more (additional 75 MB for MSDE installation)</li><li>• Minimum video display of 1024×768 and 256 colors (use of more than 256 colors is recommended for optimal display)</li><li>• Brocade FME Administration Server and Console must be installed on local fixed NTFS disks</li><li>• Vista and Longhorn platforms and 64-bit operating systems are not supported</li></ul>	

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