

# ENTERPRISE FILE FABRIC™



## FEATURE LIST

Updated October 2021

## STORAGE CONNECTORS SUPPORTED

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Alfresco On-Premises	Username / password - WebDAV like protocol.
Amazon Cloud Drive	Username/password.
Amazon S3 DES-CBC3-SHA	Secure US Federal Government.
Amazon S3 RC4-MD5	Secure US Federal Government.
Amazon S3	Key / Secret Key Auth.
Amazon Glacier / Deep Archive	Using S3 API.
Amplidata (Quantum)	Using S3 compatible API.
BackBlaze	Certified using S3 compatible API.
Basecamp	BaseCamp V2 Oauth. Username/password for BC V1.
Box	OAuth using Box API's.
Caringo Swarm (Datacore)	Supported using S3 compatible API.
Ceph	Supported using S3 compatible API and also RADOS.
CleverSafe (IBM COS)	Supported using S3 compatible API.
CloudMe	Username / Password Auth.
Cloudian	Supported using S3 compatible API.
Connectria	Supported using S3 compatible API.
Constant Cloud Storage	Supported using S3 compatible API.
Documentum	SME CMIS Connector.
DropBox	Oauth using DropBox API's.
Dunkel Storage	Supported using S3 compatible API.
EMC Atmos	EMC Atmos API and S3 API.
EMC ECS	S3 API.
Egnyte	WebDav protocol.
Email	Archive, Backup, Index, Emails and attachments.
Evernote	Username / Password – Index Only.
FTP/FTPS/SFTP	Standards based protocol, use to connect to on-site storage.
FileNet	CMIS Connector.
FilesAnywhere	Username / password.

## STORAGE CONNECTORS SUPPORTED

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Google Cloud Storage	Key / Secret Key Auth.
Google Docs	OAuth.
Google Drive	OAuth.
Google Sites (classic)	OAuth.
GreenCloud	Supported using S3 compatible API.
HP Cloud	Based on OpenStack.
HPSS	Default Authentication access.
HostEurope	Supported using S3 compatible API.
Huddle	OAuth (Enabled on request).
IBM Cloud Object Storage (COS)	Supported using S3 compatible API.
IBM Connection Files	Username / password.
IBM FileNet	Supported using SMB Connector.
Jive	Hostname with Username / Password.
LucidLink	Supported using SMB Connector.
LunaCloud	Supported using S3 compatible API.
Memset Memstore	Based on OpenStack.
Microsoft Azure Storage	Key / Secret Key Auth.
NemakiWare	CMIS Connector.
NetApp Object Storage	S3 compatible API.
NetApp Global File Cache	Using SMB connector.
NetGear ReadyNas	Supported using WebDAV Provider.
Nifty Cloud Storage	Supported using S3 compatible API.
Nuxeo	CMIS Connector.
Office 365	OAuth.
Open S3 - S3 Compatible Cloud	Key / Secret key - supports any S3 compatible storage.
OpenStack Swift	Key tenants.
OpenText	Supported using CMIS Connector.
Pixit Storage	Supported using SMB Connector.

## STORAGE CONNECTORS SUPPORTED

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PogoPlug (deprecated)	Username / password - API not that stable.
Qumulo Storage	Using SMB Connector.
RackSpace CloudFiles	Username / API Key.
Riakcs	Supported using S3 compatible API.
RStor	Supported using S3 compatible API.
Safesync	Username / password.
SalesForce	OAuth using Salesforce API's.
Scality	Using S3 compatible API.
Seagate Lyve Cloud	
SeeWeb Cloud Storage	Supported using S3 compatible API.
Sharepoint	SharePoint protocol used to connect.
SoftNAS	Using SMB Connector.
SpectrumScale (GPFS)	Via OpenStack / S3 API.
StorNext	
SugarSync	username / password.
SwiftStack (Nvidia)	OpenStack Key tenants.
Tiscali Cloud Storage	Supported using S3 compatible API.
Wasabi	Supported using S3 compatible API.
WebDAV	Pervasive protocol, use to connect to to on-premises storage.
Zimbra	Username / password.

## PROTOCOL / API SUPPORT

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WebDav	WebDav access to any mapped storage.
File Fabric API	Rich API with built in test harness.
FTP / FTPS Interface	FTP / FTPS access to any mapped storage.
SFTP Interface	SFTP access to any mapped storage.

WebDav	WebDav access to any mapped storage.
File Fabric API	Rich API with built in test harness.
FTP / FTPS Interface	FTP / FTPS access to any mapped storage.
SFTP Interface	SFTP access to any mapped storage.
S3 interface	S3 V4 Sig. compatible API access to any mapped storage.
Ports Required	Port 80 and/or 443 is required. For FTP port 21 is required and for FTPS. port 990. For SFTP port 2200 is required.

## USER MANAGEMENT

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Batch User Creation	xls, cvs import, AD / LDAP Import, Automated provision on first login.
Active Directory Integration	Fully Supported. Multiple Domains and failover proxy support.
LDAP Integration	Fully Supported (tested against OpenLDAP).
SAML Integration	SAML integrations is based on SAML v2.0 specifications. SAML IDP is also supported.
Single Sign on Support	Active Directory, LDAP and SAML are supported out of the box.
Block User access	BYOD device blocking is supported plus best of breed. BYOD integrations.
User Profiles	User Quota management, Group/Role management.
Two Factor Authentication	2FA support when using AD, LDAP or SAML irrespective of the underlying storage support.

## ADMINISTRATORS

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Administer Users	Either via the File Fabric or delegated to LDAP / Active Directory SAML.
Administer Security	Comprehensive policy options.
Administer User Passwords	Additionally set lock out controls / strong passwords / login attempts.
Add additional Admins	Able to limit subset of features for sub-admin.
Administer Notifications	Comprehensive policy options.
Administer File Events	Comprehensive policy options.
Administer Folder permissions	Folder permissions can be different at nested levels.
Administer File sharing	Set comprehensive file / folder sharing policies.
Administer Devices	Enable / disallow access devices.
Set User quotas	On a per user basis.
Provisioning API	Supports integration with custom provisioning systems.
SNMP Traps	The base Operating System is Linux therefore all SNMP traps are fully supported.
Monitoring	The Base Operating System for the File Fabric Appliance instance is Linux therefore normal monitoring tools/Apps, such as Nagios, can be used.

## SECURE FILE / FOLDER SHARING

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Secure shared file sharing	Using generated URL.
File Sharing URL options	Download Limit, Password, Time Expiry, Named User authentication.
Shared folder URL	Support for providing a URL where users can drop files.

Shared folders options	Support for named users, password protected and issued with 2FA.
Folder anonymity	Supports drop folder anonymity.
Permalinks	Permanent URLs for files and folders.
Shared team folder	User must be signed in using File Fabric Identity management or AD/LDAP/SAML.
Team Folder permission hierarchy	Sub folder permissions can be different to parent folder permissions.
Group / E-Room Access	Supported with Business Group WorkSpaces.
File Updated Notification	Can be configured with Audit Watch rules.
Distributed File Locking	Requires Cluster module.
Comments and Notifications	Comment collaboration in files/folders can be real time.
Shared file expiration	Set passwords and time expiry on files.
Built in messaging	Send users messages via web interface. Also supported on Mobile.
Fax integration	By default with Interfax service.
SMS integration	Ability to integrate with Twilio for File Fabric file events and shared link password notifications.
Data workflow rules	For Group/E-Room shares.
Email integration	Share files directly using URI from email Outlook Plugin, Mac Mail Plugin and also Filebox to email attachments to a folder.
Mobile File Sharing	Built into iOS, Android Apps.
Restrict / control file sharing	Using Built in policies.
File Share support on Web	Available to internal users dependent on policies set.
Desktop App File Sharing	Built into Windows, Mac, Linux Apps.
Watermarking	Convert documents to PDF's and add traceable watermarks (DLP).

## FILES (OTHER)

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Metadata Tag / Classification	For easy grouping and classification of data.
Unified content search	Single namespace search across multiple storage endpoints.
Favourite Files	Favourite files / folders for quick access across.
Contacts	Create and store contracts.
Create files	Create new files from the web / mobile / desktop interfaces for txt, doc, xls, ppt or html (for editing).
File Comments	Each file has full file commenting availability and users can collaborate in real-time on comments.
Trash Bin	Prevents accidental deletion and overwriting.

## IDENTITY MANAGEMENT

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File Fabric Identity Management	Secure Token Authentication, X500 style use / system directory management.
Bulk Import of Users	Using CSV or excel files.
Microsoft Active Directory	Integration with Company's Active Directory solution.
LDAP	Integration with Company's LDAP solution.
SAML / SAML IDP	Integration with Company's SAML solution.
Two Factor Authentication	Supports multi-factor authentication (MFA/2FA) using either an email code, shared secret or Google Authenticator.
OKTA / DUO / ADFS	Supported using SAML.
Ping Identity Management	Supported using SAML.



## ACCESS CONTROL PERMISSIONS (ACL'S)

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Shared Folder Granular	Sub Folders different permissions to parent permissions.
Creation of shared folders	As designated by Group/Role by users.
Read only access to folders	Note this is different to DLP view only.
Read/Write access for users/roles	
No access for users and roles	
Shared sub folder permissions	Providers management of shared sub folder permissions.
Restrict or allow access by IP address	e.g office only or by country.
Restrict access by Client type	e.g Web and Windows Apps only.
Restrict shared folder creation	
Granular control on user capabilities	
Set storage Quotas per user	
Set secure File Sharing Polices	Configure default time expiry, whether a password should be set, how many times a file can be downloaded.
Virtual Workspace	Control sharing with external users via a separation of access control concerns between internal and external sharing for security reasons.
Team Folder Quota management	Quota management on team folders.
Separate Access for business group workspaces	Business Group workspaces control sharing with external users and there is a separation of concerns between internal and external sharing for security reasons.
Specific Folder Permissions available	No Access; Read/Download; Read/Download + Write/ Upload; Manage Permissions.
Additional Folder Permission modifiers	Upload files; Rename files; Move files; Delete files; Modify structure; Create subfolders; Manage Trash; Create shared links; Web View Only; List folders.

## DATA GOVERNANCE

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Event Auditing	Comprehensive event auditing for user actions and file actions. Can be exported as time series data.
Audit granularity	Ability to set audit options around types of events to monitor.
Event notifications	On Audit events – set an Audit Watch.
Audit integration	Exportable as CSV/Excel. An API / stream interface is also provided.
Reporting	On bandwidth or storage used per user, role or department.
Geo Location Logging	The platform support GEO Location features for all document uploads which records the IP address and Town / Country of Origin, and the IP Address Town / Destination Country where the upload is accepted.
Administration role	Admin role for each Account. Can be more than one admin.
GEO Location restrictions	Restrict/allow where the server can be accessed by IP address.
Block device / App use	As part of BYOD management capabilities devices or Apps can be blocked from use on a per user basis. The solution can also integrate with best of breed BYOD solutions such as BlackBerry Sector, Oracle Mobility or Mobile Iron.
Set File Sharing policies	Configure default time expiry, whether a password should be set and how many times a file can be downloaded.
DLP	Web View Only permissions. Document / image watermarking, Policies, PII / SPI Search.
Multi-factor Authentication	Setup secondary authentication, such as Google (2FA) Authenticator, or email, in order to access the account can be further self-configured.

## DATA GOVERNANCE (CONT.)

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PII Detection	The PII Content Detection module can be configured to detect PII data. It ships with 60 common PII entities and can be further self-configured.
End to End encryption from client to storage	Using FIPS certified streamed encryption (needs to be configured).
Single access point for auditing and data encryption	
Private encrypted links	
Private shared time based links	
Full audit on shared links	
Set password for shared links	
Expire shared links manually	
Enable / Disable collaboration features	
Full User actions Audit	

## REMOTE ACCESS

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Remote Access Support	Provided out of the box - supports web, mobile and integrated access to remote storage resources at web scale speed.
Remote User experience	Improved due to M-Stream fast file transfer acceleration feature.

## COLLABORATION

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Team Shared folders with granular permissions	The Org shared folders feature provides a team shared folder feature that can function across multiple storage endpoints. Common organization data can be appropriately pinned to the most cost effective or appropriate resource for access by named users/roles.
Web browser editing (inc. collaborative editing)	Using integrated Microsoft Office Online or Zoho Office. Works with all mapped storage.
Collaboration with external users	Can be achieve using Group WorkSpaces, 'Drop Folders' or Guest users.
Auto Sharing File Rules	Load a file to specific folder and have a rule set that ensure it is automatically shared to group workspace (external users) participant.
Access control for Group WorkSpaces (external users)	Supported
ACL	Can be set for Shared Folder and virtual collaboration groups.
File locking	Users can lock files if they don't want other collaborators to update the file being worked on.
Unlimited Document versioning support	Document versions are support and you can view previous versions.
Built in messaging for collaboration	Messaging is built into the platform so users can send each other messages from the web, windows, Android and iOS platforms.

## COLLABORATION

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Comment on files for review	Real time commenting on files directly from the web browser and discuss live with colleagues.
Send Links for external Users to drop Content	Supported using Drop Folders feature.
Unlimited Document Version	The file fabric provides document versions support to roll back to previous version of documents.
Email files directly to storage	Using the 'FileBox' feature.
File / Folder Sharing	Advanced file sharing features which include sharing files /folders over email and even support for RSS file Streams.
Fax integration	Integrates with the Interfax service which enables users to send documents as faxes directly from our service. An Interfax account is needed.
Workflow rules	Rules can be set on data so that users are emailed if new files are uploaded to a specific folder, or file versions changes. Users can filter on certain types of file extensions or set all file extensions.
Approval Workflow	Simple user based Workflow approval on file is supported.

## LANGUAGE SUPPORT

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Multi-Language Support.	Internationalization supported using the Portable Object template extension language files (PO files). Pot files are templates that contain source text but no translations, while .po files also contain the translations to a particular language.
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Multi-Language Support (Apps) using device localisation strings.

## ARCHITECTURE

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Scalable Architecture	HA n-tier architecture Classic n-tier.
Multiple Deployment options	Depending on load requirements.
Solution is highly available & scalable	Tested with multiple thousands of users and millions of files. Largest single deployed user base is for 350,000 users.
Data Access	Can access data using Rest API, File Fabric Client Apps, FTPS, FTP, WebDav, or S3 compatible API.
Proxy Support	Use a forward proxy to cloud storage.
Software Appliance	Main File Fabric image provided as a OVA/OVF, VMWARE Compatible, ESXi, Hyper-V, XEN, QCow or KVM image.
Docker Support	File Fabric Services deployed as Docker images which can be moved or scaled.

## SEARCH

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Unified Storage Search	With full search operators - API and UI.
Tagged files	Allows for grouping of data from disparate clouds and easy search from use of MetaData tagging.
Deep Content Search PHI / PII Discovery	Search of document content for any mapped storage (PII Discovery). Fully supported using Content Discover module.
Content Discovery	Discover, classify and search using custom classifications.

## CLIENT APPLICATIONS

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Web Browser	GlobalFile Manager designed to easily navigate large data sets across on-premises and on-cloud storage.
iOS client	Native iPhone and iPad App.
Android Client	Native Android App.
Windows	Native, Drive, Sync, Office Plug In's , Outlook Plugin, dedicated explorer App.
Mac	Native, Drive, Sync, Spotlight search of date in clouds, Mac Mail plugin.
Linux	Native, Drive, Sync, dedicated explorer App.
Browser Plug-In's	For Chrome, Safari, Firefox.
SalesForce Force App	App that integrates directly into SalesForce for behind the file private file sharing.
Slack Integration sharing	Integration with Slack for private file sharing.
MS Teams Integration	Comprehensive integration with Microsoft Teams.
Gmail (web) integration.	Chrome / Firefox.

## DEPLOYMENT MODEL

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On-Site Use	Behind corporate firewall as cloud control point.
Marketplace	Google Marketplace, Amazon Marketplace, Azure Marketplace, Exoscale marketplace, VMWARE Marketplace.
IaaS deployment	AWS EC2, Azure, RackSpace, Linode, Memset etc.
Supplied as a software Appliance	VM Image, Hyper-V, KVM, XEN, OVF. Can also be deployed as a virtual box image or as an OpenStack Compute image (Glance).

## CUSTOMIZATION

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White Label Branding	Solution can be fully branded at the appliance and tenant level. For example, a digital marketing agency could brand the File Fabric and allow their partners to brand their own interfaces.
Application Branding	Mobile and desktop applications can be branded.
Desktop App Branding	Available for all operating systems.
Internationalization	Multi-Language is supported.
User Terms / Policies etc	Fully configurable as required.

## DATA BACKUP / DATA MIGRATION

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RClone Integration	The File Fabric is a validate connector within the open source <a href="#">RClone</a> application which can facilitate import / export of data.
<a href="#">M-Stream</a> WAN acceleration	File Transfer Acceleration for upload, download, rack-to-rack and server-to-server copy/move.
Storage Archive	Archive data from one storage solution directly to another.
Copy / Move	Drag/drop from the web file manager between storage endpoints.
Backup/Archive Email	IMAP only. Email is backed up and each file becomes a text file and is indexed for search.
Backup	The File Fabric is integrated with <a href="#">Duplicacy</a> to provide lock free e-deduplicated backup.



## DATA PROTECTION

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File Versioning support	Fully supported.
SSL Transfer	On the wire TLS 1.2 supported encryption.
Data at rest encryption	Supported (over and above that provided by Storage).
Public / private key data encryption	256 bit SHA-1 AES FIPS Data encryption. Can also be integrated with other encryption systems.
Group Policy	To define security settings for all users.
Retention policy	Data not deleted unless removed from Trash.
Background backup to secondary storage	File Fabric storage-to-storage Archive ('Forever File').
Email Backup	Any IMAP email box can be backed up and be scheduled to be backed up at regular intervals.
Large File Support	The File Fabric supports file splitting at an abstract level above any storage Provider and where cloud providers natively support this.
External Key Management	Supports Hashicorp's open source Vault for external encryption key management.
Ransomware Protection	Supported using storage-to-storage backup and s3 compatible object lock for storage providers that support this feature.
Ransomware Recovery	Recoverable at file/folder level at a point in time.

## DOCUMENT EDITING / VIEWING

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Browser Creation / Edit of documents	Supports Zoho, Google Docs and Office Online integrations (or a built-in text editor).
Edit documents in Android/iOS	MS Office, third party office applications.
Windows Doc editing	Double click on docs from the cloud drive and use native Apps or use MS Office or LibreOffice Plug-Ins.
Mac Doc Editing	Double click on docs from the cloud drive and use native Apps.
Web Previewers	The File Fabric integrates with many different web previewers including Google Viewer, Microsoft office Previewer and also provides private behind the firewall previewers. Other rich content previewers are also supported for image and video previewing and also specialised previewers such as Genomics and AutoCAD previewers for example.
PDF Annotations	The File Fabric provides a fully featured HTML5 PDF Annotation suite with editing/creation and Audit capabilities.

## MEDIA SPECIFIC FEATURES

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Video Previewers	Supports browser video previews.
Browser image gallery	Supports Browser image gallery.
Proxy Creation	Supports manual and automated transcoding of video proxy files.
File Transfer Acceleration	Supports large file transfer acceleration using M-Stream feature.
HLS Streaming	Supports HLS MXF streaming.
AI integration	Integrated with Google Vision to support AI video metadata extraction.
Single Namespace media access	Works across on-premises and on-cloud storage content.
Media Storage	Supports best-of-breed media storage such as Pixit, StorNext, NAS/SAN and on-premises / on-cloud object storage.
Encrypt Assets	Encrypt media assets for secure delivery (inc. checksum validation).

## CLUSTER MANAGEMENT

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Cluster Management console	Configure deployed instances to be clusterable and manage users / quotas etc from a single server.
Global Shared Folder Connector	Work on shared team folders on each clustered server in a single namespace.
Multi-Site Single Namespace	Can be configured with to work using several appliances across geographies in a single namespace.

## REGULATORY COMPLIANCE

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Can be configured as part of working with the following Compliance Regimes:

HIPPA

FERPA

European Data Residency

General Data Protection Regulation (GDPR)

California Consumer Privacy Act (CCPA)

## SIMPLICITY AND USABILITY

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Web based file manager

Works like a desktop file manager with full drag and drop support.

Cloud/Net Drive

Supports cloud drives across all desktop operating systems akin to a users file server drive for simplicity & ease of use.

Sync

Full support for drop box like sync.

Packagers

The File Fabric supplies packagers to enterprise customers in which they can self configure end user features & brand the Apps.

## FILE ACCELERATION

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M-Stream®

The File Fabric's M-Stream feature enables file acceleration between on-premises and object storage data sets, for both upload and download. M-Stream is certified for SwiftStack/ OpenStack, Amazon S3, Cloudian, Scality, IBM COS, CIFS, Mounted File System.

SMBStream™

SMBStream accelerate and secures access to SMB shares remotely without the need for a VPN.

## ABOUT

### STORAGE MADE EASY®

Storage Made Easy's Enterprise File Fabric™ integrates file and object data into one single platform through a unified file system that can work with existing on-premises data storage assets, such as SMB, NAS/SAN, and on-cloud storage assets, such as Amazon S3/FsX and Azure / Azure Files. It is able to make access to storage for end users easier, quicker and more secure.

End users, whether local or remote, are able to securely access a unified file system using existing domain identity integration and encrypted web scale protocols that bridge desktop and cloud, and which provide familiar workflow access to end users.

Files and Folders, dependent on policy settings implemented, can be shared securely with authenticated users inclusive of two factor authentication prior to access. 'Drop Folder' URL links can also be shared in which parties can receive and/or share data securely.

The platform's unique File Transfer acceleration technology M-Stream®, speeds up the transfer of files from desktop to storage, storage to desktop or even storage-to-storage, enhancing user productivity and providing immediate ROI for remote workers stuck on consumer broadband.

Cloud-like economics are provided across the entire storage portfolio, unlocking the benefits and cost- efficiency of data assets whilst providing strict policy and security controls to help mitigate concerns such as ransomware attacks. using the built in Ransomware protection and recovery features.



[@SMEStorage](https://twitter.com/SMEStorage)  
[/StorageMadeEasy](https://www.facebook.com/StorageMadeEasy)  
[/company/storage-made-easy](https://www.linkedin.com/company/storage-made-easy)

