STORAGE MADE EASY ENTERPRISE FILE FABRIC™ ARCHITECTURE

SOFTWARE STACK

The SME platform is built using open Internet technologies. The base operating system uses a hardened version of CentOS Linux Operating System. The Apache Internet Server is used for serving http requests and for temporary caching memcached is used. File Metadata is stored using a MySQL database.

The web interface is written in using PHP / HTML / Ajax, and protocol adapters are written using Perl.

By using standard components SME can be adapted and customized to a wide variety of deployments.

A standard secure firewall friendly protocol, HTTPS, is used for communicating with the clients.

The basic premises of SME is to act as a single control point for all corporate data, be it private or public. All files and data remain stored in the original provider. The SME platform only retains the meta data e.g. file name, size (if available), security permissions, location etc.

The Apache server is stateless and can be run on a separate host from the MySQL DB Server. This allows flexibility in deployment topologies for scalability and high availability using proven deployment configurations supported by Apache web server (e.g. standard n-tier architecture with multiple web servers behind a load balancer) and MySQL DB (replication).
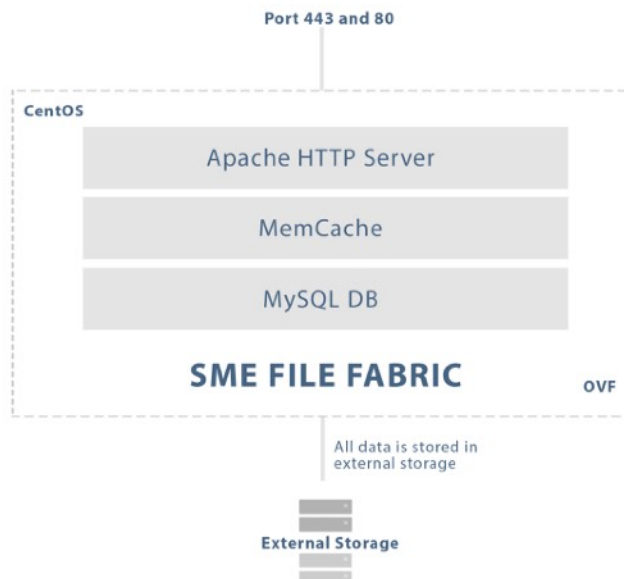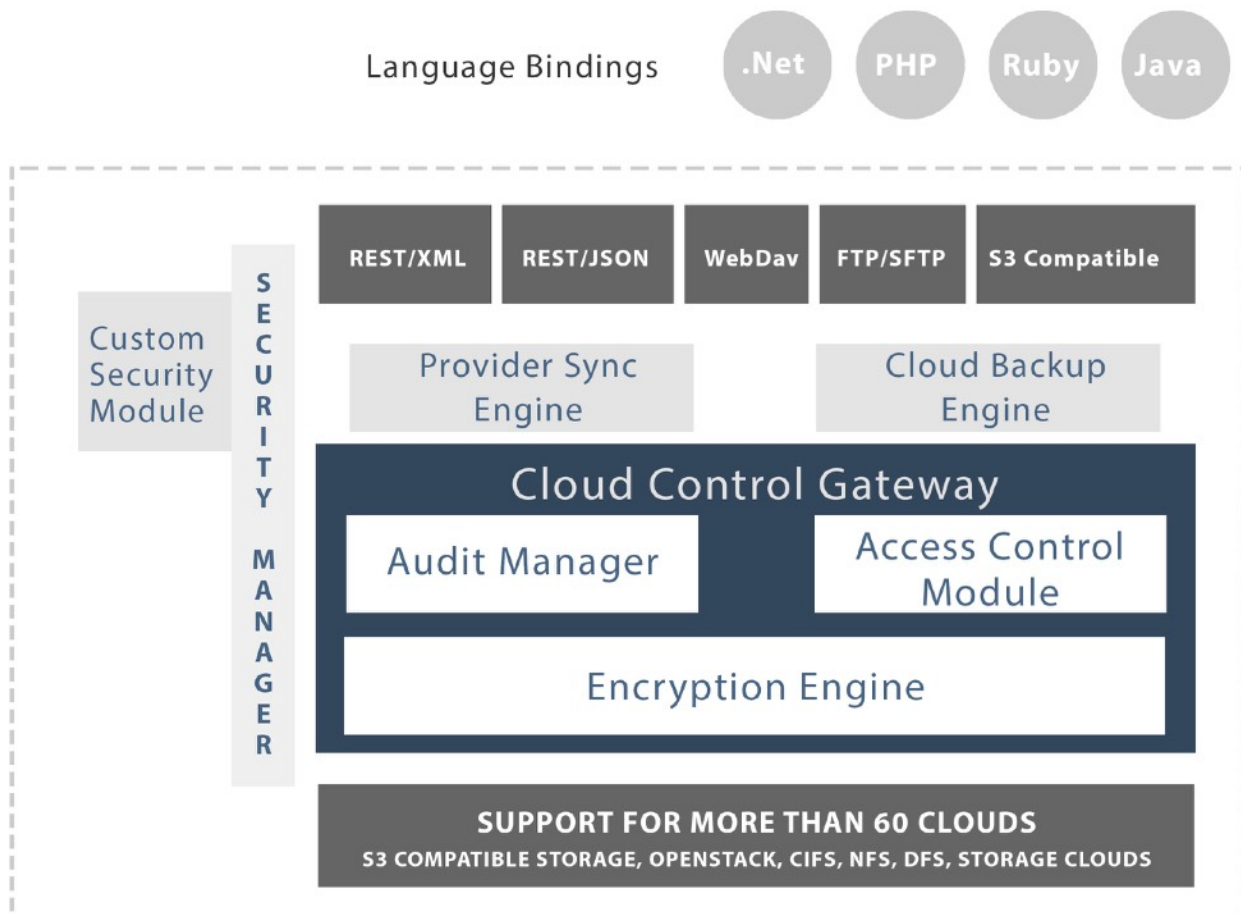
Components

SME is built as an open modular platform. All functionality is available via the SME API and major components have hooks to integrate with external systems .e.g authentication, a new storage provider, payment gateway, audit stream etc.

Details of the SME API can be found at:
https://storagemadeeasy.com/for_developers/

PROTOCOL ADAPTORS

At the top of the SME Architecture diagram are protocol adapters These allow access to data using multiple protocols from any supported storage provider.

Out of the box SME supports:

- REST/XML and REST/JSON: SME proprietary API. This is used by all the SME tools, is fully documented and can be used to develop custom application.

- WebDav/HTTPS: Standard WebDav is protocol especially useful for iOS apps (Pages, Keynote, Numbers) that support WebDav.

- FTP/FTPS/SFTP: Standard FTP, FTP Secure protocol, and SFTP are supported.

PROVIDER SYNC ENGINE

The provider Sync Engine is used to discover new data added to the storage provider outside of SME. It can be run in realtime, scheduled and manual mode:

- Real-time: new data is checked every time storage provider is accessed. For optimum performance only relevant subset of data is checked for new data.

- Scheduled: storage provider is accessed at schedule interval.

- Manual: Administrator initiates a sync.

CLOUD BACKUP ENGINE

Used to backup files updated via SME platform to another storage provider for Business Continuity, Disaster Recovery (such as Ransomware attacks) and Availability.

ACCESS CONTROL MODULE

The ACL module is responsible for applying permissions. Every operation is verified by the access control module to ascertain that the user has permission to perform the operation.

HEAD OFFICE

Vehera Ltd |1 Mulgrave Chambers | 26-28 Mulgrave Road | Sutton | London | SM2 6LE | UK

USA TELEPHONE	**UK TELEPHONE**	**EU TELEPHONE**
+1 415 477 1053	+44(0)2086432885	+41 435 080 078

✉ Sales@StorageMadeEasy.com   Ⓢ StorageMadeEasy

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