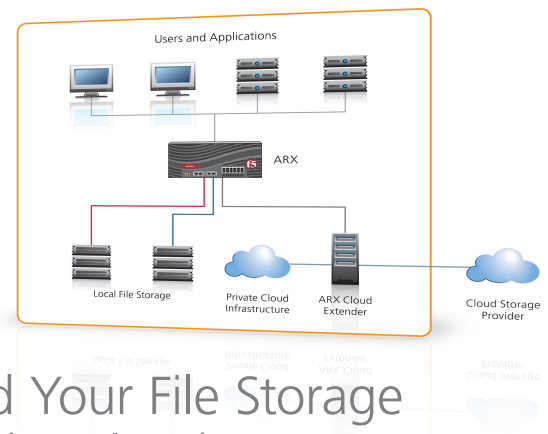


What's Inside:

- 1 Key Benefits
- 2 Maximize the Cost Savings from Cloud Storage
- 2 Simplify File Access to Data in the Cloud
- 3 Easily Integrate Private and Public Cloud Storage into Existing Environments
- 3 Automatically Tier Files to the Cloud
- 4 Secure Data in the Cloud
- 5 Architecture
- 6 ARX Cloud Extender System Requirements
- 7 Professional Services and Support
- 7 More Information



Seamlessly Extend Your File Storage Infrastructure to the Cloud

Cloud storage offers the potential to reduce the capital and operational costs of managing storage. However, deploying a cloud storage solution can introduce a new set of challenges, from unpredictable network latency affecting data access performance to the additional cost of bandwidth used to move data both into and out of the cloud.

F5® ARX® Cloud Extender™ maximizes the benefits of cloud storage while minimizing the challenges and costs of data access. ARX Cloud Extender presents a local file system to seamlessly integrate cloud-based storage into the existing environment and simplify access to data stored in the cloud. When combined with the automated storage tiering capabilities of ARX, ARX Cloud Extender enables you to effortlessly extend your file storage infrastructure from the data center to the cloud.

Key benefits

Maximize the cost savings from cloud storage

Maximize the amount of data tiered to the cloud while minimizing the impact of network latency and cost of bandwidth for data access.

Simplify file access to the cloud

Store files and access files stored in the cloud in the same manner as those on local file storage systems.

Easily integrate cloud storage

Integrate private and public clouds with local storage capacity in a virtual storage pool.

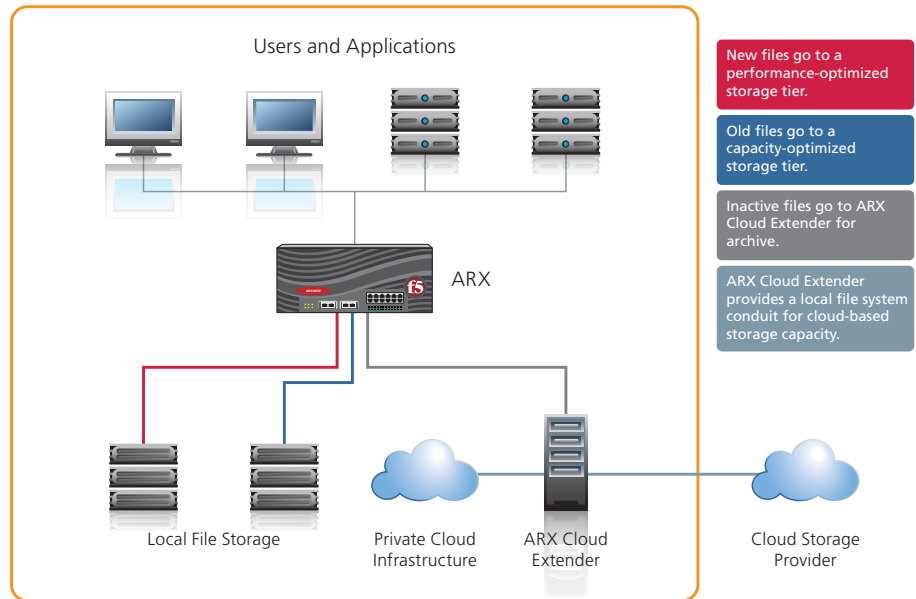
Automatically tier files to the cloud

Automatically identify and migrate appropriate files to cloud-based storage without disrupting users and applications.

Secure data in the cloud

Safely and securely store data on private or public cloud storage solutions.

With ARX Cloud Extender, organizations can automatically and seamlessly tier appropriate files to the cloud without affecting user or application access.



Maximize the Cost Savings from Cloud Storage

When used as part of a tiered storage implementation, cloud storage can offer organizations significant savings in both capital and operational costs. Storage tiering matches different types of files with the most appropriate type of storage based on the business value of those files. With cloud storage, this matching must take into account the additional network latency and bandwidth costs of accessing files over the WAN. ARX solutions help maximize the benefits realized by ensuring that only inactive data is tiered to the cloud.

F5 ARX and ARX Cloud Extender enable organizations to tier inactive data to the cloud with minimal additional cost. ARX Cloud Extender simplifies file access to cloud-based storage capacity and presents it as a local storage tier. The ARX device's automated storage tiering policies reduce IT overhead by continuously identifying files that are appropriate to store in the cloud. Finally, the ARX Global Namespace eliminates the disruption of tiering files to cloud-based storage capacity, meaning that users and applications have online access to files whether stored on a local device or in the cloud.

Simplify File Access to Data in the Cloud

ARX Cloud Extender simplifies the deployment of cloud storage by translating CIFS and NFS file access by users and applications to the appropriate web services application programming interface (API) for supported cloud storage providers.

Native CIFS and NFS support

ARX Cloud Extender software runs on industry-standard Windows and Linux servers to provide a local file system connector to cloud-based storage capacity through native CIFS and NFS protocols. Using ARX Cloud Extender, users and applications can easily access files stored in the cloud in the same manner as they do with their local file storage devices.

Web services API translation

ARX Cloud Extender translates client file access from CIFS and NFS to the relevant web services API for the supported cloud storage provider. ARX Cloud Extender makes the appropriate API calls to either put a file into, or get a file from, the cloud, before presenting it back to the client system.

Easily Integrate Private and Public Cloud Storage into Existing Environments

ARX Cloud Extender is designed to be deployed in conjunction with ARX file virtualization solutions to seamlessly integrate cloud storage offerings into existing file storage environments.

Global Namespace

ARX devices provide a Global Namespace to federate multiple file storage systems and aggregate available capacity into a virtual storage pool. ARX Cloud Extender extends the virtual storage pool to incorporate capacity from both private and public cloud storage offerings. Combined with ARX, ARX Cloud Extender seamlessly presents this capacity to users and applications through the Global Namespace as part of their local file systems.

Non-disruptive data migration

ARX enables organizations to non-disruptively migrate file data between heterogeneous storage devices. ARX Cloud Extender provides a local file system front end to cloud-based storage capacity that serves as a target for ARX migrations.

Deployment flexibility for cloud storage

ARX Cloud Extender can integrate capacity from multiple private and public cloud storage offerings to give organizations increased flexibility in how they can use cloud storage to meet their business requirements.

Automatically Tier Files to the Cloud

By combining ARX Cloud Extender with ARX, enterprises can automatically and non-disruptively tier appropriate files to the cloud without affecting user or application access.

Policy-based storage tiering

ARX devices provide automated storage tiering policies that can migrate individual files between different types of storage based on file attributes such as age, type, and size, in addition to other attributes. File-level tiering policies can help maximize the cost savings from cloud storage by only migrating appropriate files. This minimizes any new costs for data access that are particular to public cloud storage, such as the cost for bandwidth and file access performance over a WAN.

Cloud as a storage tier

ARX Cloud Extender enhances the ARX device's storage tiering capabilities by providing a cloud storage tier suitable for file data. ARX Cloud Extender presents a local file system front end to cloud-based storage capacity. The ARX device can seamlessly integrate ARX Cloud Extender into the Global Namespace and extend the range of its automated storage tiering policies to include the cloud. Users and applications have online access to files regardless of their current locations, so files can be migrated between different tiers without disrupting access.

Local metadata cache

ARX Cloud Extender provides a local metadata cache for files tiered to the cloud. Local caching allows administrators to perform many metadata operations without triggering a recall of affected files from the cloud. This further reduces the costs of tiering files to the cloud because these metadata operations can occur without being affected by WAN latency or incurring additional bandwidth costs from the cloud storage provider.

Schedulable cloud migration

ARX Cloud Extender provides a schedulable migration policy engine that can help minimize the impact on the network of tiering large numbers of files from the ARX Cloud Extender server to the cloud storage provider. Migrations can be scheduled to occur during off-peak hours to further reduce network load and minimize the need for additional bandwidth.

Secure Data in the Cloud

ARX Cloud Extender enables files to be safely and securely stored in the cloud, giving organizations the confidence to deploy cloud-based storage capacity.

File access control

With ARX, file security attributes do not change when files are migrated between different tiers. Access control lists (ACLs) remain with the file, ensuring that only authorized users or applications can access that file, regardless of where it is stored. ARX Cloud Extender preserves file security attributes when tiering to the cloud, extending an organization's access control from local to cloud-based storage.

Data encryption

ARX Cloud Extender ensures the security of your data stored in public cloud storage services by independently encrypting every file using Advanced Encryption Standard (AES) algorithms.

Architecture

ARX Cloud Extender provides a scalable file serving architecture for connecting to cloud-based storage capacity.

File system front end to cloud storage

ARX Cloud Extender is a software solution installed on industry-standard Windows and Linux file servers to provide a file system front end to the object-based platforms typically used for cloud storage. This gives organizations native support for CIFS and NFS protocols with transparent data traffic translation to web services APIs for storing files in the cloud.

Extensible plug-in architecture

ARX Cloud Extender is designed with an extensible plug-in architecture that can be expanded to support a wide range of private and public cloud storage options. Please contact your F5 representative for current available storage plug-ins.

High availability

ARX Cloud Extender supports several options for enterprise-class high availability based on the configuration of the underlying file server platform, including virtual server high availability or physical server clustering.

Simple configuration and management

ARX Cloud Extender provides an easy-to-use centralized management interface to simplify creating and scheduling cloud migration policies across multiple ARX Cloud Extender devices.

ARX Cloud Extender System Requirements

ARX Cloud Extender is a software solution that is installed on a Windows or Linux file server. Physical system requirements are in addition to those required for the relevant file server.

Host System Requirements

Memory	2 GB available RAM
Available Disk Space:	2 GB for the application, configuration data, and logging
Operating System:	Windows Server 2003 Windows Server 2003 R2 Windows Server 2008 Windows Server 2008 R2 Red Hat Enterprise Linux 5.x SUSE Linux Enterprise Server 10
Web Browser:	Internet Explorer 6 or later Firefox 2.0 or later Opera 9 or later

Professional Services and Support

F5 is dedicated to helping you get the most from your F5 products. To find out how F5 support services can help you improve your ROI, reduce administrative time and expense, and optimize the performance and reliability of your IT infrastructure, contact consulting@f5.com.

More Information

For more information about ARX and ARX Cloud Extender solutions, use the search function on f5.com to find these resources.

Product overviews

[ARX Series](#)

[ARX Cloud Extender](#)

Datasheets

[ARX Series](#)

White papers

[Intelligent File Virtualization with F5 ARX](#)

[Create a Smarter Storage Strategy](#)

Analyst reports

[Got Files? Get Cloud!](#)

[File Virtualization: A Bridge to the Cloud](#)

[The Economic Impact of File Virtualization](#)

F5 Networks, Inc. 401 Elliott Avenue West, Seattle, WA 98119 888-882-4447 www.f5.com

F5 Networks, Inc.
Corporate Headquarters
info@f5.com

F5 Networks
Asia-Pacific
apacinfo@f5.com

F5 Networks Ltd.
Europe/Middle-East/Africa
emeainfo@f5.com

F5 Networks
Japan K.K.
f5j-info@f5.com



IT agility. Your way.®