

Infradox

Storage Broker Solution

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What is Infradox Storage Broker software?

In short:

The Infradox Storage Broker software is a most cost-effective yet flexible storage solution. Using this software enables virtually limitless storage capacity with guaranteed maximum availability of master files. Furthermore the Storage Broker software offers new and enhanced functionality for our clients, including a low-cost means of sharing files between solutions, effortless distribution of files to remote locations and a central repository of file information.

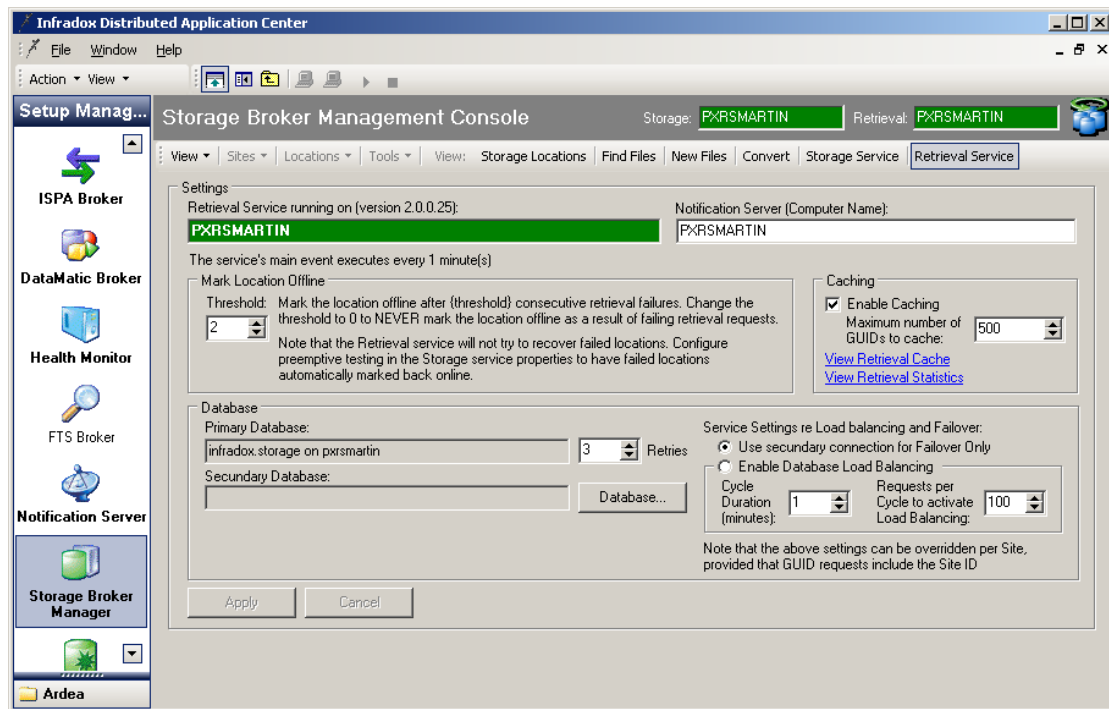
Xpertise developed the Infradox Storage Broker software;

1. To overcome storage limitations imposed by disk drive sizes.
2. To provide virtually limitless storage capacities via clustering using cheap disk drives via any storage solution type. Regardless of disks being built-in or attached to regular servers or storage being available through NAS servers and regardless of RAID implementations being used.
3. To offer scalability at any point in time by allowing the addition of further disks to expand existing logical storage locations.
4. To maximize the availability of master files through online redundancy and automatic storage failover in case storage locations are off line.
5. To have an automated means of monitoring the availability and capacity of storage locations and to instantly notify personnel before or as soon as problem conditions arise.
6. To be able to share high resolution files between web sites without having to copy the high resolution files.
7. To support low resolution archives of which the high resolution files are stored outside of the hosting center but available via remote connections (FTP and/or HTTP) at the point of delivery to end-users.
8. To build a centralized repository that can automatically collect information from disparate sources and as such to serve as a central point of information about files that are searchable and downloadable via multiple solutions.
9. To build a centralized repository of files that can be used to automatically and securely distribute physical files to multiple remote locations.

Every master file (e.g. a high resolution image or a video file) is stored in 2 separate online locations within the Infradox hosting environment. The Infradox Storage Broker software allows files to be stored on any drive/system on the network although we assign two - a 2nd location for redundancy/automatic failover - or more dedicated locations for master files of a specific client, to ascertain that files belonging to a logical group are stored together.

To guarantee high availability and retrieval speed version 2 of the storage broker solution now supports distributed transactions (the software stores all information in both a master database and in a slave/failover database), an in-memory cache and automatic database load balancing of retrieval requests.

Existing Infradox web solutions can be converted to work with the new Infradox Storage Broker software if required.



Building a centralized file information repository

In addition to its technical advantages (i.e. availability and scalability), the Infradox Storage Broker software builds a centralized repository of information about the files it manages. It can also gather information from different web sites that offer the same files but attach different information and/or restrictions (e.g. territorial restrictions, localized captions etc.) to the files depending on their deployment usage. Because each file in the Storage Broker system has a unique ID, all and any information – including sales information – with regards to a particular file can be accessed with ease.

Master file sharing between web sites

With the Storage Broker software we can import just the file data of selected files from any site in our hosting center into the database of any other site by simply including each file's unique storage broker ID, without increasing storage requirements. This is useful for portals as well as "sub sites", and if agencies that are working together (representation) want to share files between sites (syndication). Another example is a photographer running a web site that contains files that are also (completely or partly) available on the agent's site.

Low resolution archives with master files accessible via remote connections

The Infradox Storage Broker software makes it possible to import just the file data (e.g. technical specifications, credit info, captions, keywords etc.) and to store only a low resolution version for web display purposes only. File data can be read from embedded IPTC/XMP tags, or imported from external system files. And data can even be automatically retrieved from (or received from) remote locations. The Infradox system automatically generates thumbnails and (watermarked) previews from the low resolution files and can automatically retrieve the master file (e.g. a high resolution image) at the point of delivery only. E.g. When a user wants to download a master file from your web site. This can be done fully automatically, even through secured FTP or HTTP locations. It is also even possible to have thumbnails and previews stored on remote servers.

Syndication & distributing files to remote locations

The Infradox Storage Broker software plays a central role in increasing the syndication and distribution possibilities of master files to multiple remote locations. E.g. off-site backup and sending files to agents and/or picture desks.

Availability, scalability and enhanced functionality through technology

The Infradox Storage Broker software consists of several applications. The core of the software is made up of two MS-Windows service applications and a com based agent.

Infradox SBR is the MS-Windows service application that is dedicated to serving file retrieval requests. Infradox SBS is the MS-Windows service application that processes storage requests for new files (2 phase commit), has functions for batch processing of jobs and preemptive monitoring of storage locations. Both service applications post important information to the Infradox Notification Server so that you are notified of important events. The Infradox Storage Broker Agent is installed on monitored servers that are accessible through UNC's¹ in a MS-Windows domain. FTP/HTTP servers do not require the agent to be installed. Finally the management console software requires a server application to be installed and a plugin to be installed in Infradox IDAC². The plugin can connect to its server application using COM/DCOM and HTTP.

In order to provide maximum scalability and availability any solution can make use of distributed Storage Broker services (i.e. running on different servers). Both storage and retrieval functions can be performed by different and/or multiple servers. Infradox web sites can furthermore use a round-robin mechanism to automatically select the Storage Broker retrieval service that is the least busy or to select a next server if the primary server is unavailable.

Version 2 of Storage Broker software supports distributed database transactions to guarantee maximum availability and uses in-memory caching mechanisms and automatic database load balancing for the best possible retrieval speed.

¹ Unique Naming Convention

² Infradox Distributed Application Center

Further Information

All Infradox Storage Broker software is designed, developed and owned by Xpertise-ICT BV and ready for deployment as of June 2006. The information in this document is copyright protected © 2006 Xpertise-ICT BV, The Netherlands.

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