DATA SHEET

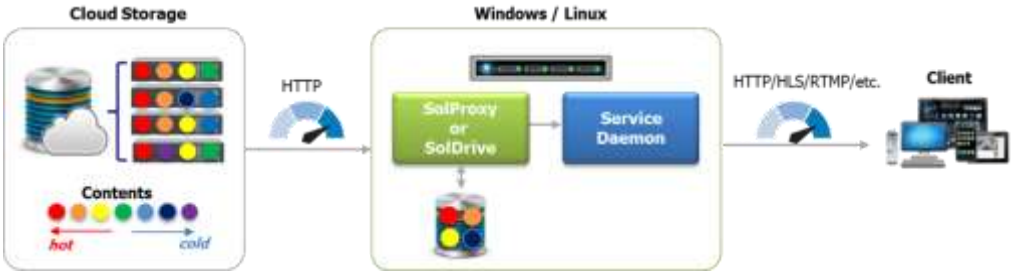
Solbox Cloud Storage Acceleration

Today's ongoing and rapidly-accelerating growth in data comes at the same time that organizations of all sizes are focused on cost deduction. Cloud storage is really beneficial for small and medium businesses, large enterprises and individuals. Cloud Storage provides lots of benefits such as flexibility, agility and cost-effectiveness. Many businesses take advantage of cloud storage.

But cloud storage has limitation on content service by focusing on storing data not delivering them. With sudden and explosive requests for hot content, there can be storage performance bottleneck, thus affecting the total service quality badly.

Solbox's Cloud Storage Acceleration is used by organizations of all sizes to provide high-performance access to cloud storage and to manage the delivery of hot content between the client and servers while some nodes of cloud storage which uses HTTP, RESTful API and WebDAV has got dramatic decline in Disk I/O by frequent requests for hot content. **Solbox's Cloud Storage Acceleration** helps enterprises to adopt seamless services using existing storage resources without latency to them.

Cloud Storage Acceleration Diagram



SolProxy

SolProxy supports the block-level requests or local caching for the cloud storage by connecting the storage in the reverse proxy mode regardless of HTTP request type of the clients.

Benefits

- Content caching is processed not at the storage node but at the cache node, that results in cutting down overload of the storage nodes.
- Distributed content caching on multiple nodes provides faster client access, maximized hit ratio and some degree of fault tolerance.
- It enables the stable and secured service on the multiple nodes by caching hot content when requests for hot content grow rapidly in the distributed caching environment.
- Cache nodes can be distributed into the multiple countries, thus allowing the cloud storage service globally.

Features

- **Dynamic Block-level Caching for HTTP Range Get**

  Solbox CSA provides the block-level caching for the response of the cloud storage to the client requests HTTP range Get, acting as a HTTP Reverse Proxy in front of the cloud storage.
- **Perfect Collapsed Forwarding**

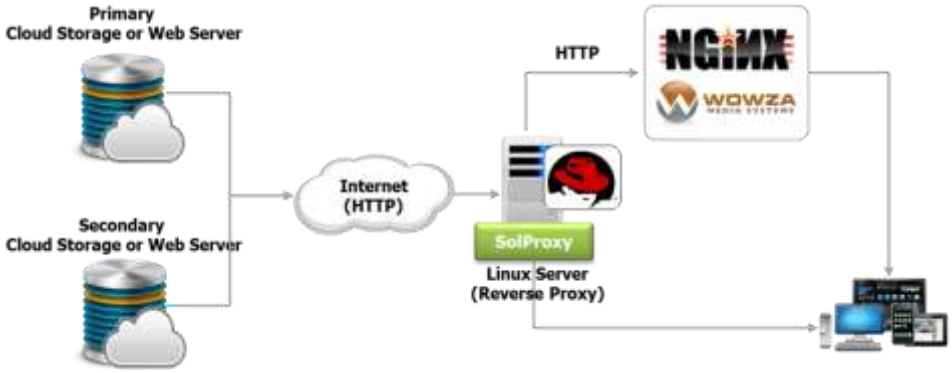
  By collapsing multiple requests for the non-cached and same object by the clients simultaneously, it enables only one request to be accepted into the cloud storage. There can be benefit to decrease down the overload of the cloud storage occurred from large-scale file downloading to take long download time or video streaming over progressive download on mobile devices.
- **Distributed Caching for Multiple Nodes**

  Distributed caching allows caching to be distributed simultaneously among multiple nodes while multiple proxy nodes are used with this. It enables the proxy node to increase the content hit ratio, thus allowing larger caching capacity of the proxy node linearly.
- **Automatic Extension of Caching Nodes for Hot Content**

  With distributed caching for multiple nodes, hot content requested suddenly and explosively can be cached through more than one proxy node according to the overload.
- **Caching for Private Content**

  Solbox CSA supports caching for private content which requires authentication in the proxy node. Therefore this could be applied to the enterprise cloud storage which provides private content besides the public cloud storage.

SolProxy Diagram



SolDrive

SolDrive is a caching file system solution to let you connect and mount to various remote storages and cache file system. You can manage the contents of remote storage as a local disk by mounting remote storage. **SolDrive** has proven stability and high-performance of several years services with major game players, educational business and music streaming.

Benefits

- Offer the ability to mount terabytes of contents data of a remote storage as a local disk without modifying applications.
- Effectively optimize the management of your infrastructure at the equivalent local site by performing block-level caching of the contents stored in a remote storage.
- Secure the consequent and stable service by recovering its data from a remote site when a remote storage experiences failure or downtime unlike SAN/NAS.
- Connect to any web-based storage system.
- Once the facilities at the local site are fixed, the remote replicated data can be written back to the local site to resume operations.
- Achieve scalability, flexibility and economics of storage service by utilizing the common storage for the CDN service.

Features

- **Storage Mount**

  Provide functionality to aware the contents stored in a remote storage as local files and to control them.

- **Acceleration of Content I/O**

  Enhance dramatically the content I/O acceleration by supporting read-ahead caching by file or file-block, delayed write-back caching for block-write, and so on.
- **Off-line Mode in Case of a Remote Storage Failure**

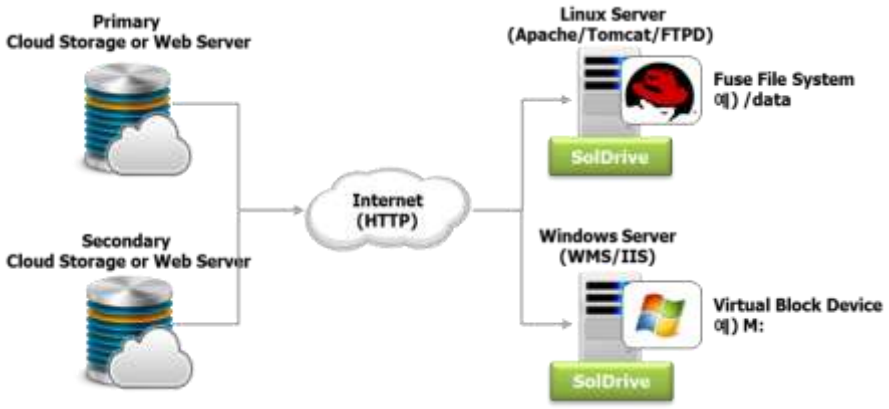
  Enable the constant service using the content cached in a local site at the off-line mode in case of remote storage failure.
- **Support Optimized Cache File Format**

  Minimize the physical size of the local cache files by managing the file-block access in a caching area.
- **Usage Control of Local Caching Disk**

  Specify the usage of caching disk at a local site within the specified range.
- **Quick Recovery of Service Failure**

  Perform the disk cache rebuilding and enable the service to re-open by recovering instantly if the hardware failure and downtime occurs.

SolDrive Diagram



SolProxy vs. SolDrive

Category	SolProxy	SolDrive
Behavior Mode	HTTP Reverse Proxy Mode	Local Disk Mode
Block-level Caching	Yes	Yes
Multiple Cloud Storage	Yes	Yes
Local Mount	No	Yes
Support Application	HTTP I/O Supporting	Disk I/O Supporting
Service Case	SolProxy + NginX Proxy (Progressive Download)	SolDrive + NginX + MP4 (Pseudo Streaming)

Applicable

- HTTP based Cloud Storage Services

Reference

- Solbox Cloud Storage : KT ICS / LGU+ CDN