

PPDCloud

Using ownCloud to provide mobile and offline access to our existing storage

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Outline

- Motivation
- Solutions
- Design



Motivation (1)

- Requests from users to use commercial cloud storage provides (DropBox, Google Drive, etc).
- Main use case is sharing the documents between their various devices, not sharing with other internal or external users.



- Can we provide “Cloud” like access to our users home file areas?
- Most “Cloud” storage applications provide caching on the clients, can we use this to solve another problem we have?



Motivation(2)

- Windows Offline Files now means we have a reasonable success rate of getting (Windows) laptop users to store their data on our servers.
- There is no simple equivalent for the increasing number of Mac (and soon to be Linux) laptop users.






Solutions

- Buy integrated storage that includes cloud interfaces (NetApp, Synology).
- Software to add cloud interfaces to our existing storage
 - Commercial: Voronis DataAnywhere
 - FOSS: ownCloud mounting our existing Windows shares as “External Storage”

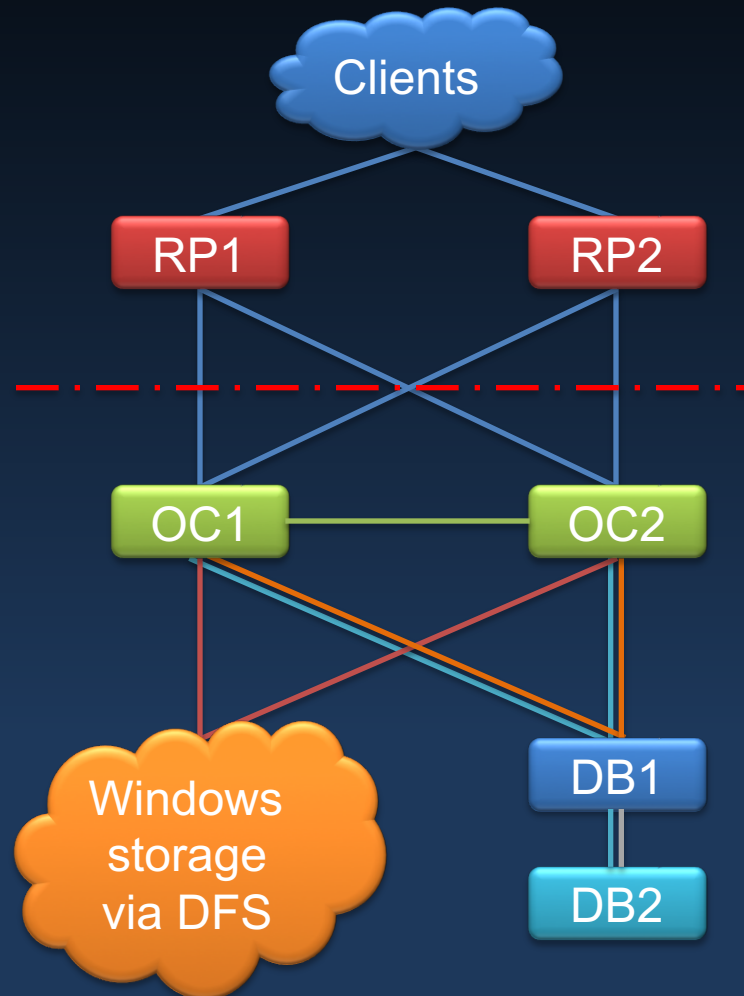


Comparisons

	Hardware	DatAnywhere	ownCloud
Server Costs	\$\$\$ to \$\$\$\$\$\$	\$\$\$	0
Client Costs	0	0	\$ (mobile client)
Vendor Lock In	Yes	Yes	No
Clients			



Setup



Reverse Proxies

- Two independent VMs behind DNS RR alias running Linux with Apache.
- Uses `mod_proxy_balancer` to balance between the two backend servers.
- Sit in our firewall DMZ



ownCloud Servers

- Two Linux VMs with onecloud, Apache, samba
- Sessions shared via memcached
- Only accept connections from the reverse proxies
- Owncloud Config
 - Default user quota set to 0B
 - Local Storage set to NFS Mount from the DB Server
 - LDAP Users and Groups from AD, access controlled by Groups
 - External Storage enabled with all protocols except “SMB/CIFS with OC Login”



Database Server(s)

- Linux VMs running PGSQL 9.2 with active/passive master/slave replication
- Low load, ownCloud does not store much in the DBs
- Small NFS export to ownCloud Servers for ownCloud Data.
 - Stores the CIFS mounts.
 - Periodically rsynced to the slave.



Storage

- Our existing windows file storage
- No configuration for ownCloud needed
- DFS tree redirecting to Failover Cluster server shared storage and normal windows file shares.



Current Status/Issues

- Service is in preproduction with a small number of user testers, no show stopping issues have been discovered
- Issues so far:
 - Doesn't handle file locking and conflicts as smoothly as Windows Offline Files.
 - Tablet client requires files to be cached individually – cannot cache a whole directory.
 - No Windows Phone client



Future

- Branding
- Office 365
 - STFC now has corporate Office 365 subscription. ownCloud does not currently support O365 external storage.
- Local storage and Sharing
 - Currently disabled



Conclusions

- ownCloud appears to be able to allow us to provide access to our existing storage from a multitude of clients, and solve the issue of unbacked up files on non-windows laptops.





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