



STOCKAGE &

Une approche novatrice au service de vos projets.

VIRTUALISATION

Vous voulez prendre de la hauteur ? Suivez le guide.





Stockage Objet ou comment avoir l'équivalent d'Amazon S3...





Stockage, Virtualisation, Infrastructure



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*Tutoriel #14 : stockage
1er décembre 2010*



UNIVERSITÉ
PARIS DESCARTES

Infos, slides et video :

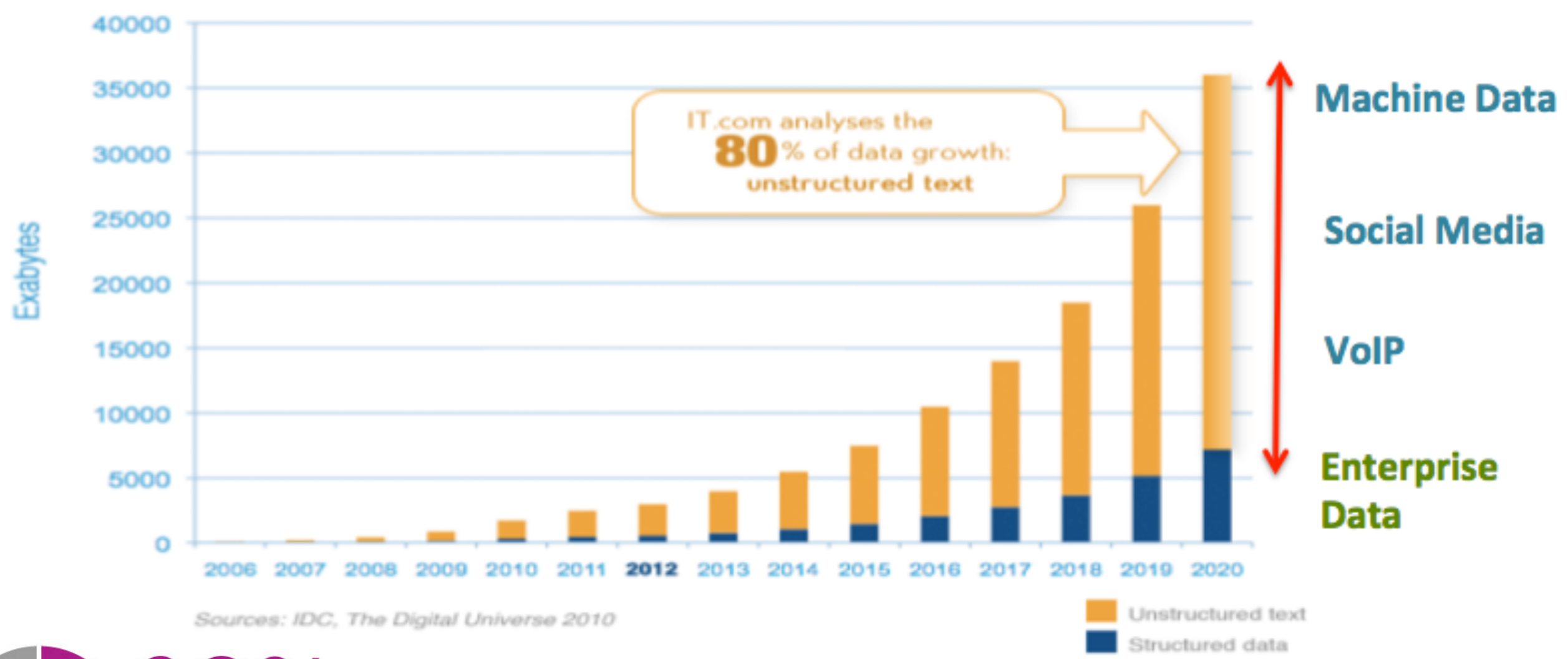
www.jres.org/tuto/tuto14/index



Stockage Objet : pourquoi ?

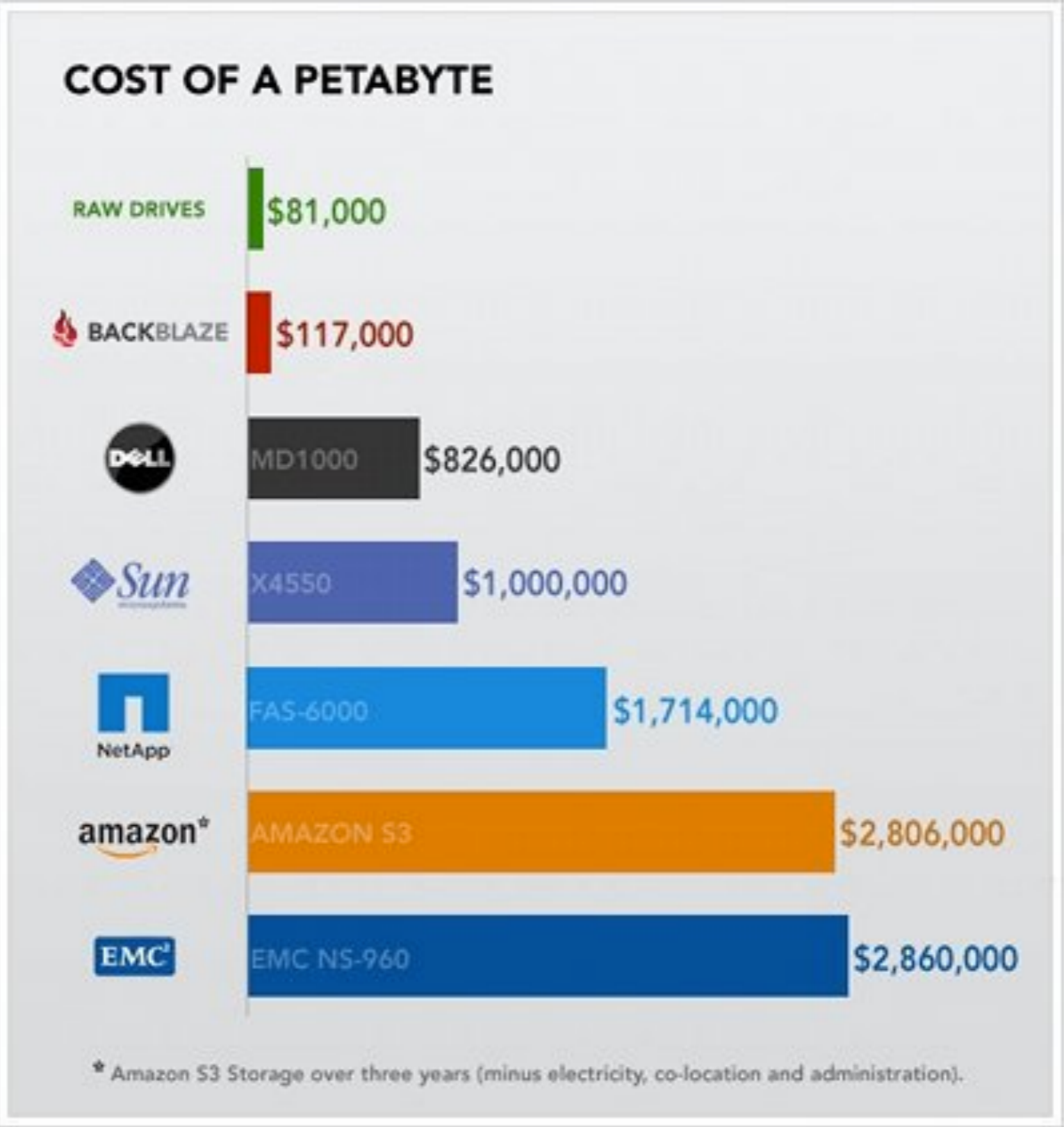
- Organizations are redefining data strategies due to the requirements of the evolving Enterprise Data Warehouse (EDW).

Worldwide Corporate Data Growth

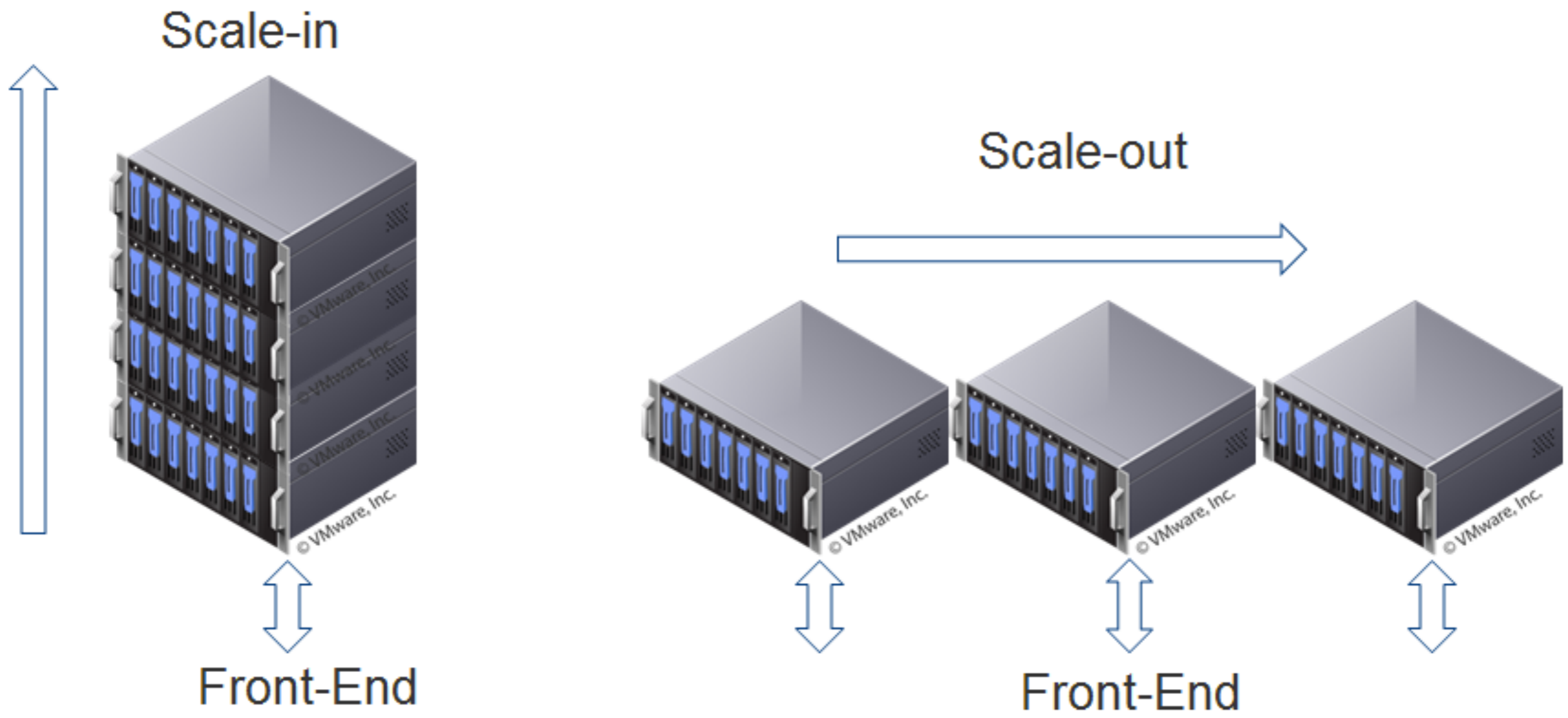


 **80%**
of organized data
is unstructured

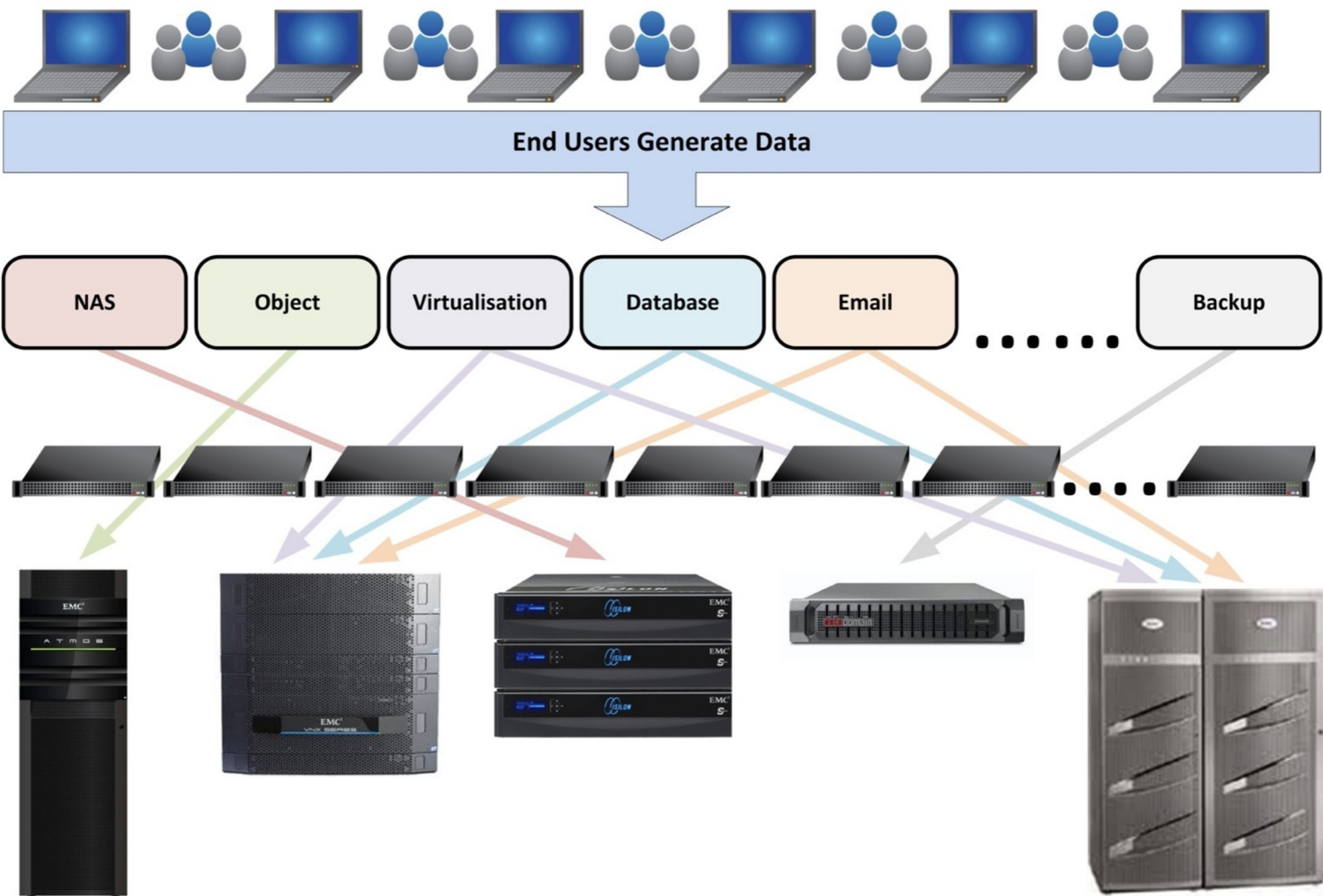
Stockage Objet : pourquoi ?



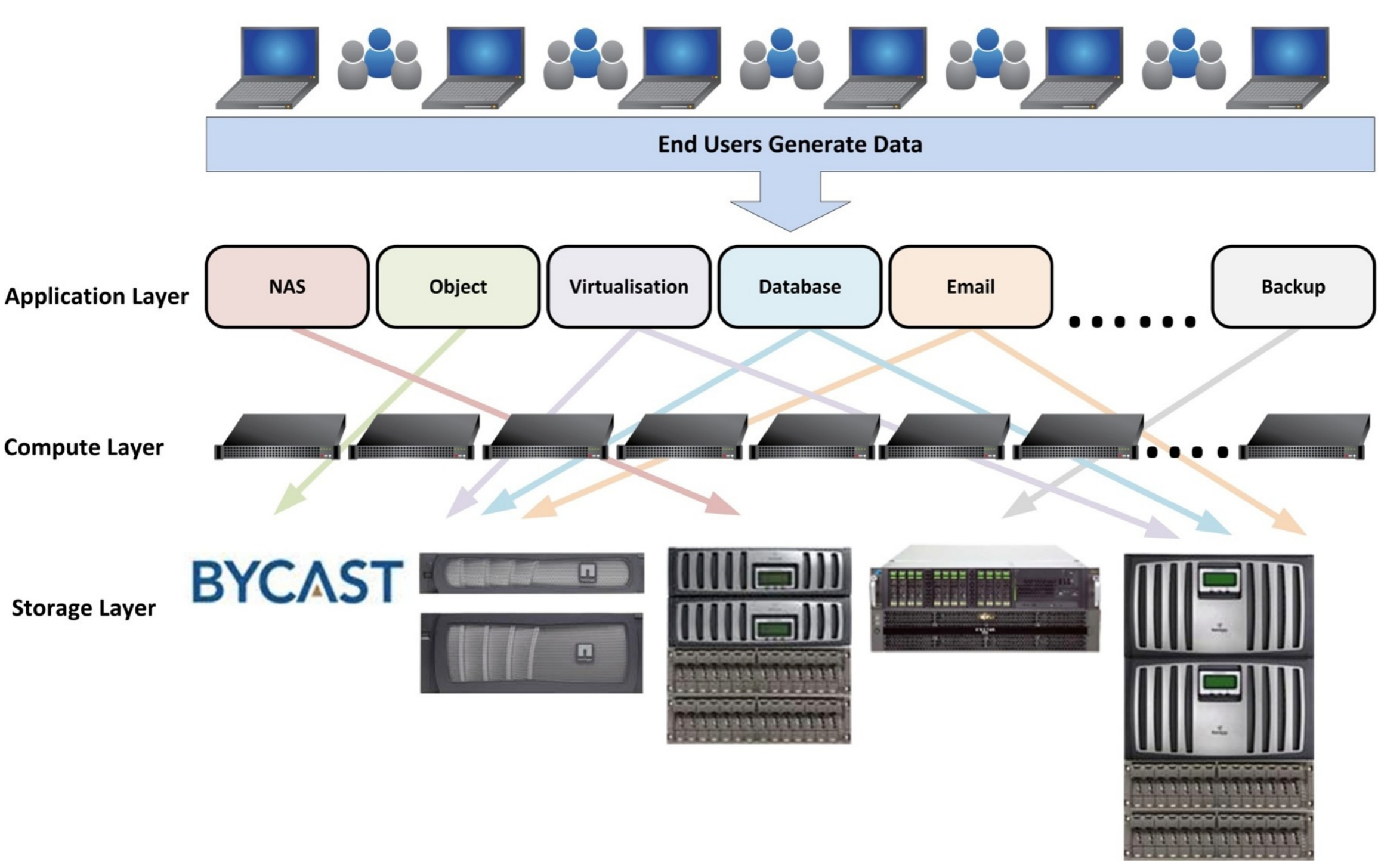
Ca scale pas : up vs out



Scale up : cloud E*C

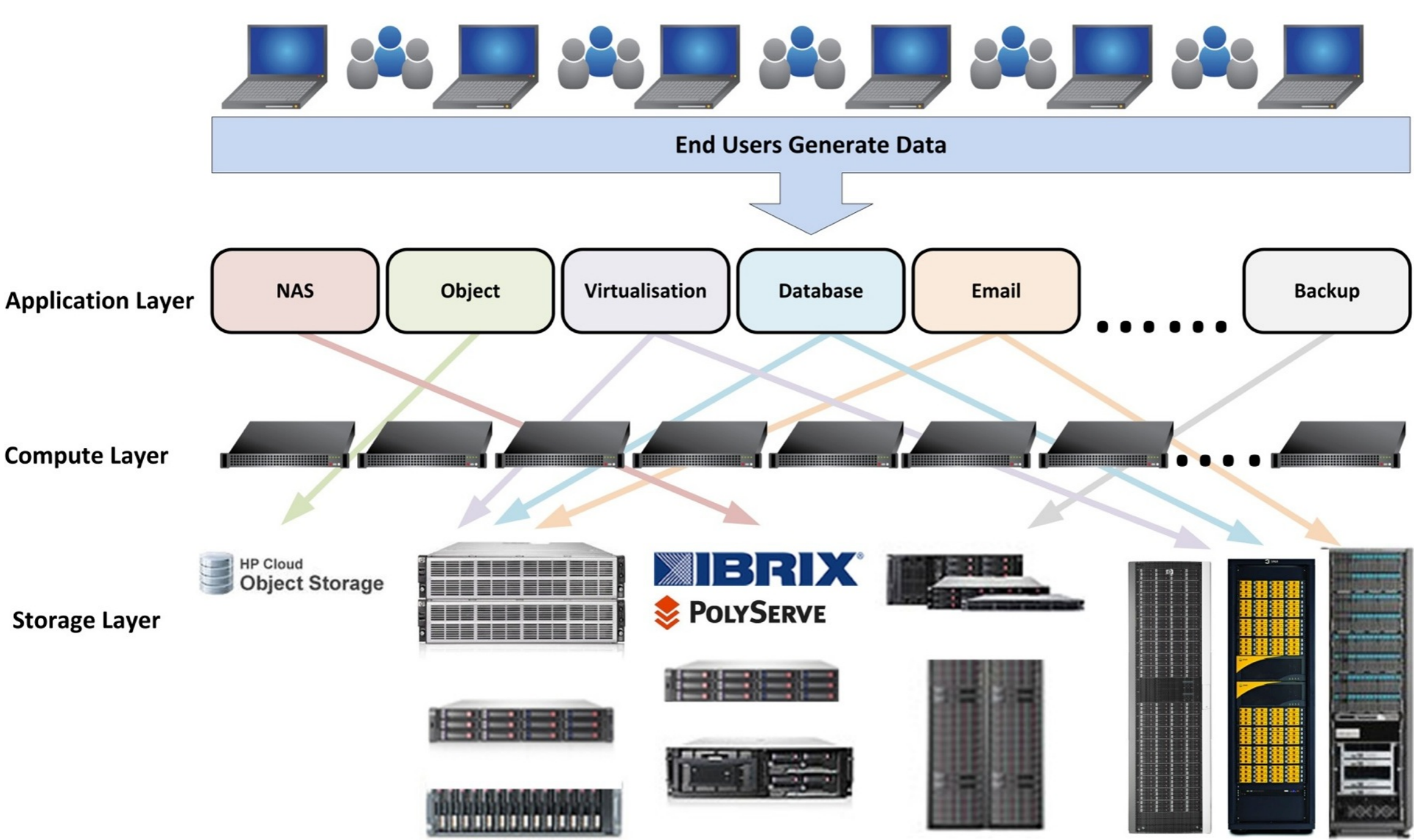


Scale up : cloud N****p

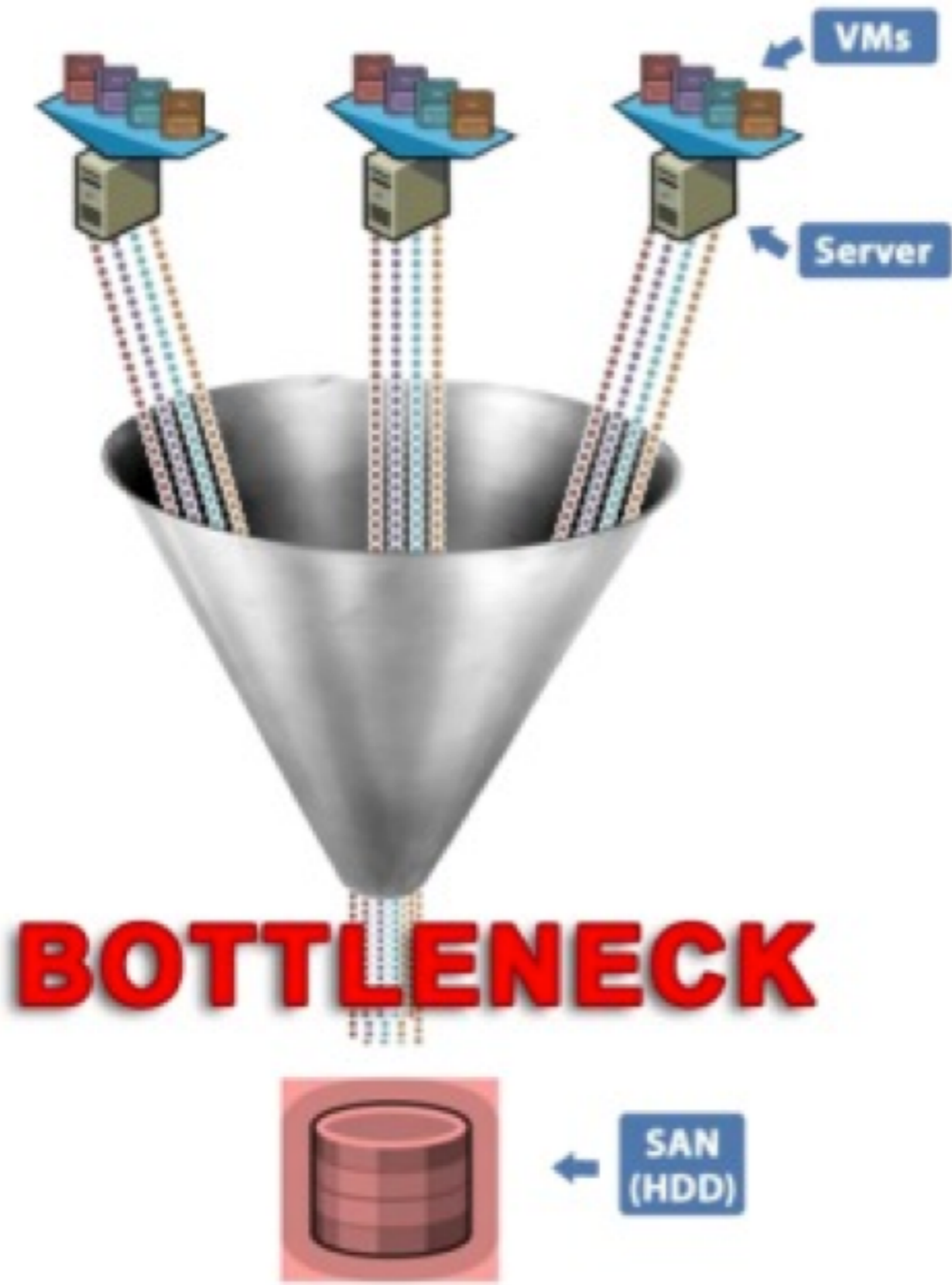


The Cloud ends here!

Scale up : cloud H*



Scale up =



source : OCZ

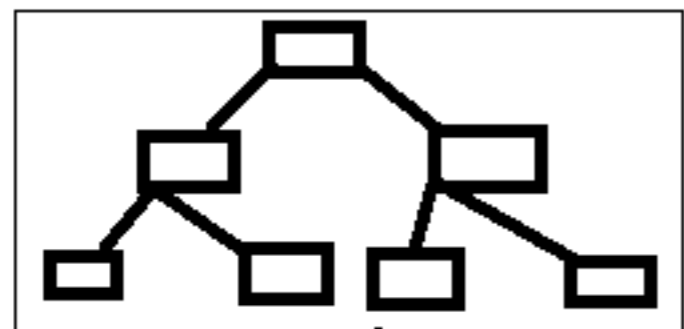
Stockage Objet : raid is dead



- ✓ SATA / SAS : 4 & 6To
- ✓ Temps de reconstruction++
- ✓ Pas hardware agnostic :-)
- ✓ Legacy = \$\$\$



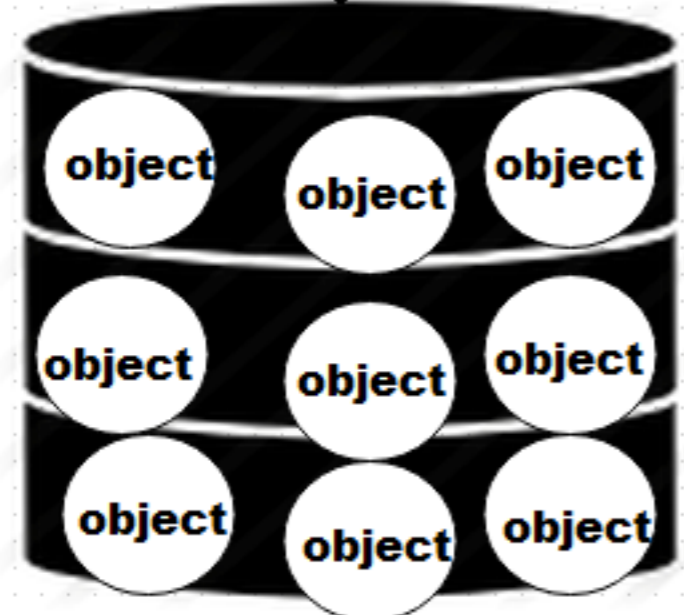
Stockage Objet : FS vs Object



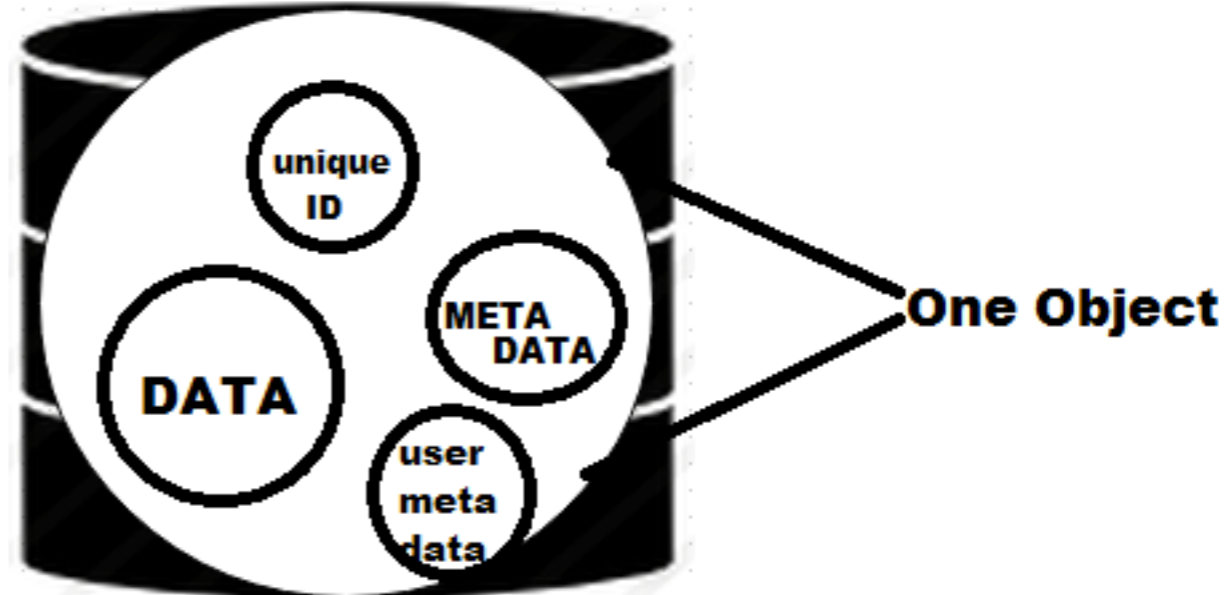
VIRTUAL VIEW TO USER



FLAT NAME SPACE



- ✓ Limites des FS classiques inodes, nb de fichier...
- ✓ Méthode d'accès
- ✓ Gestion des droits
- ✓ Clè / valeur
- ✓ Métadonnées



Stockage Objet : S3 et S3 like

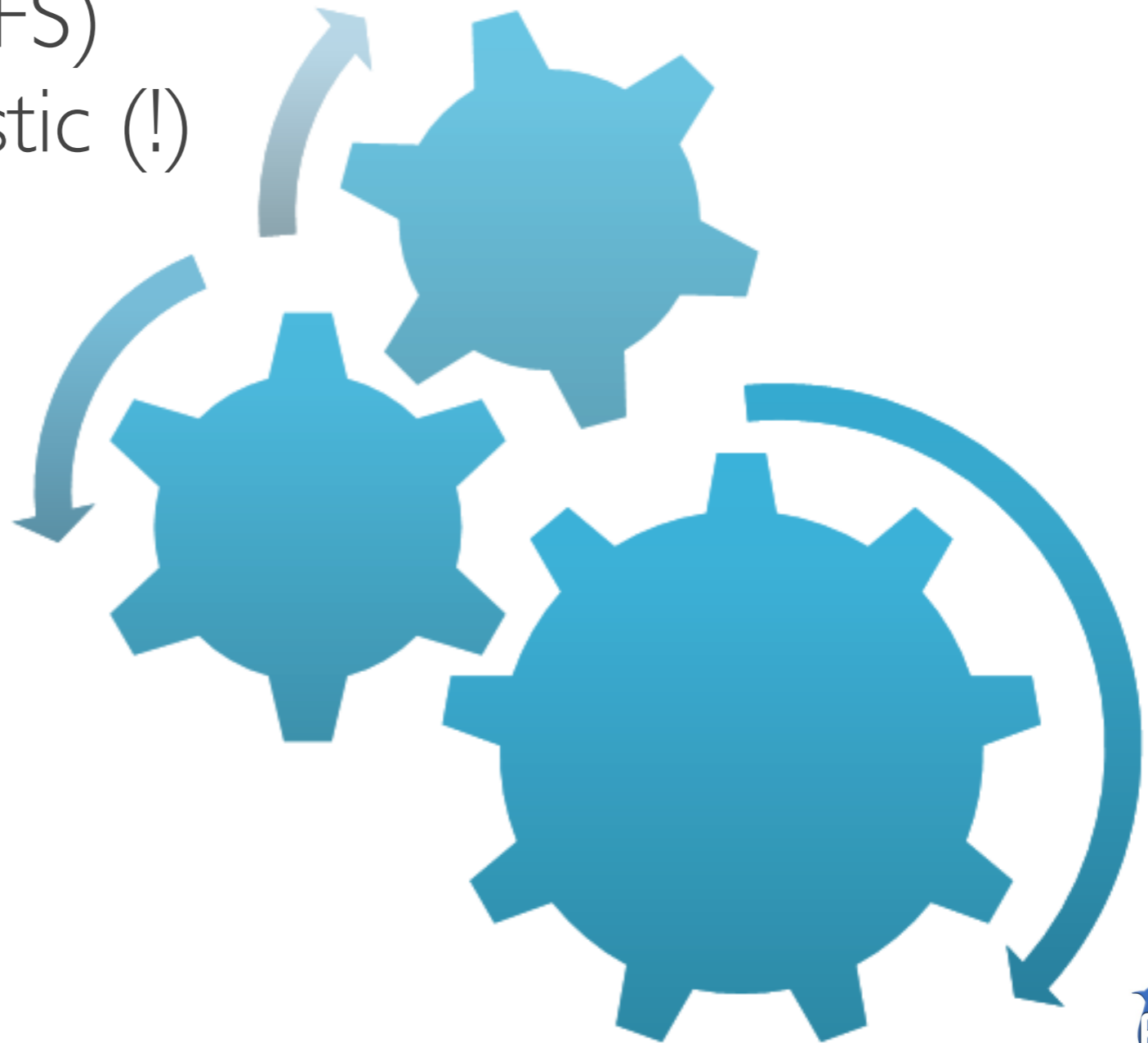


RESTful API
GET PUT POST DELETE



Comments...

- ✓ Replicas, Erasure coding (plus de raid)
- ✓ Forte distribution et répartition (scale-out)
- ✓ Données des données (métadonnées)
- ✓ API RESTful... (FS)
- ✓ Hardware agnostic (!)



Solutions

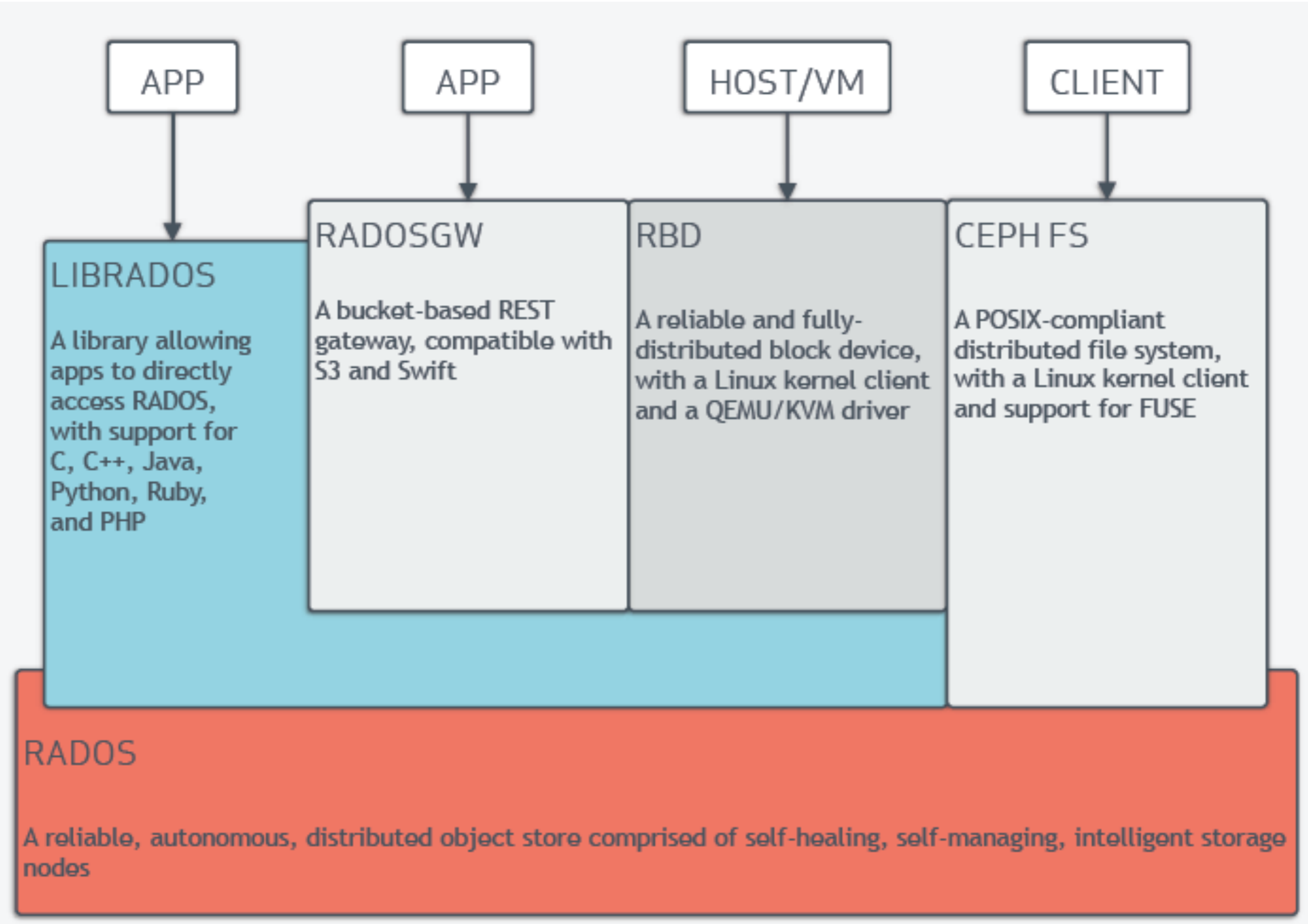


<http://s3tools.org/>

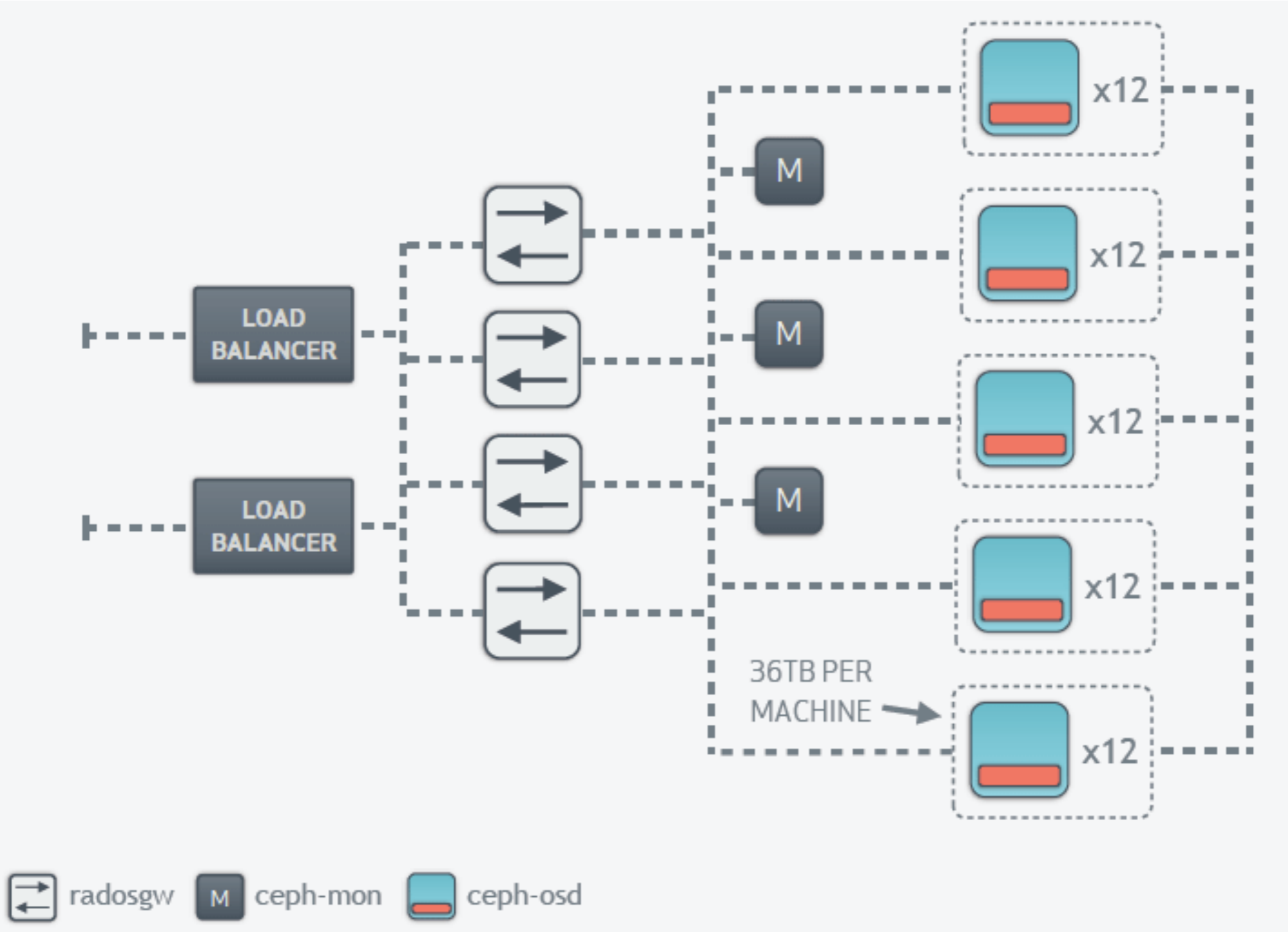


.../...

Stockage Objet : Ceph

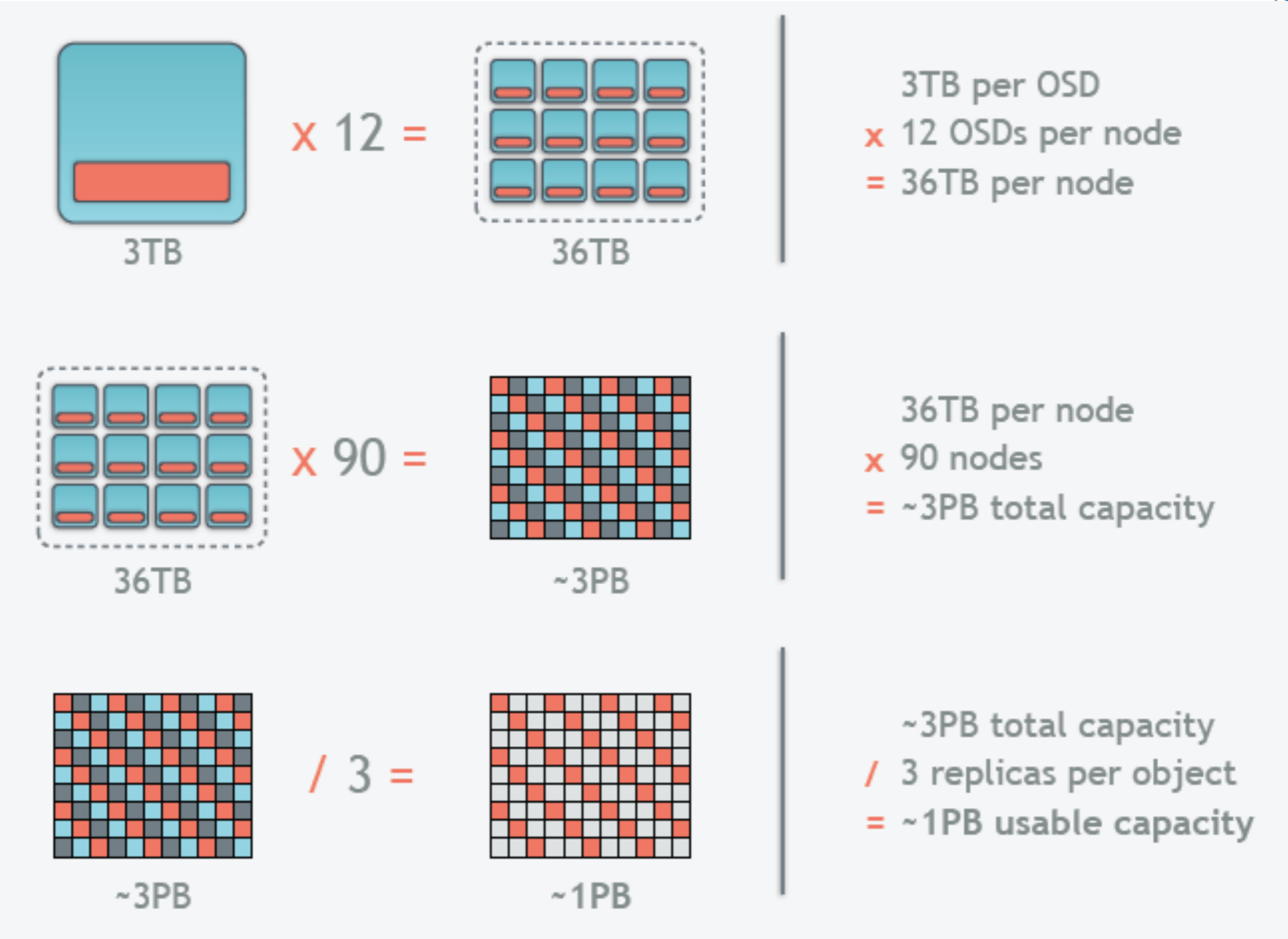


Stockage Objet : Ceph S3



source : DreamHost

Stockage Objet : replicas 3



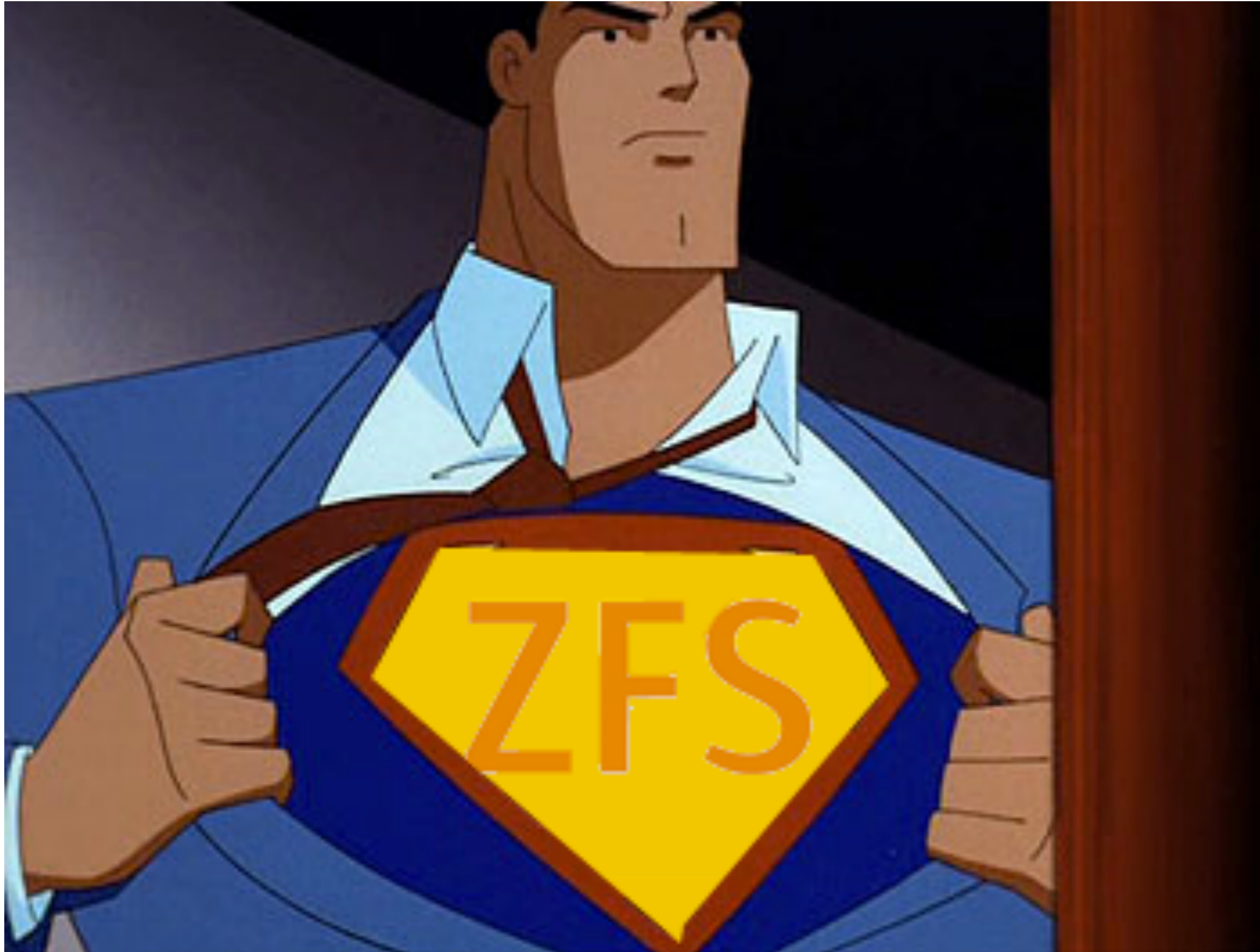


Object Storage vs SAN/NAS

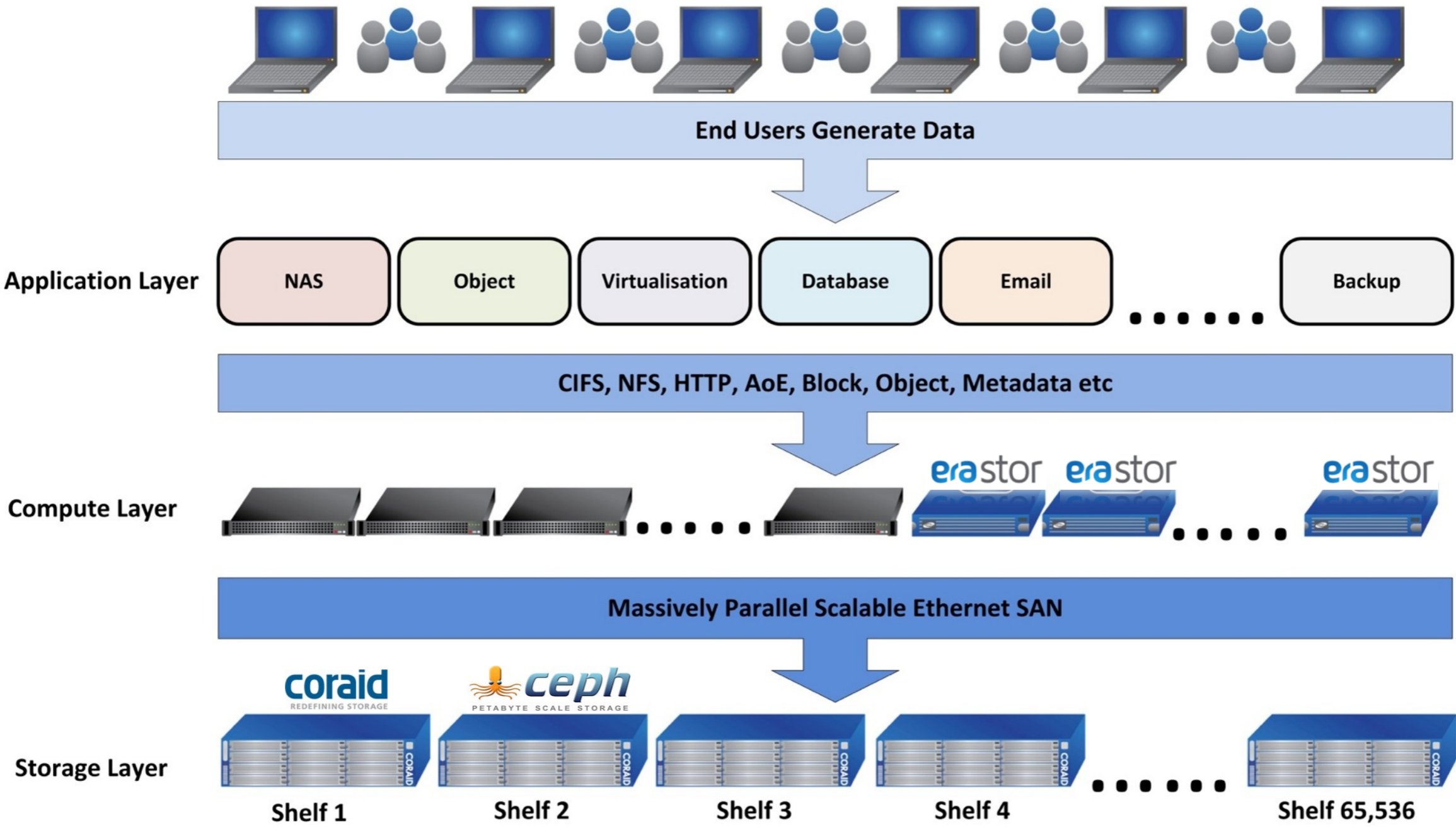


	S3 like	SAN	NAS
Sécurité N sites	Green	Orange	Orange
Performance	Red	Green	Orange
Scalabilité	Green	Red	Red
HW agnostic	Green	Red	Red
Coûts / ROI	Orange	Red	Red

ZFS ou Zettabyte File System



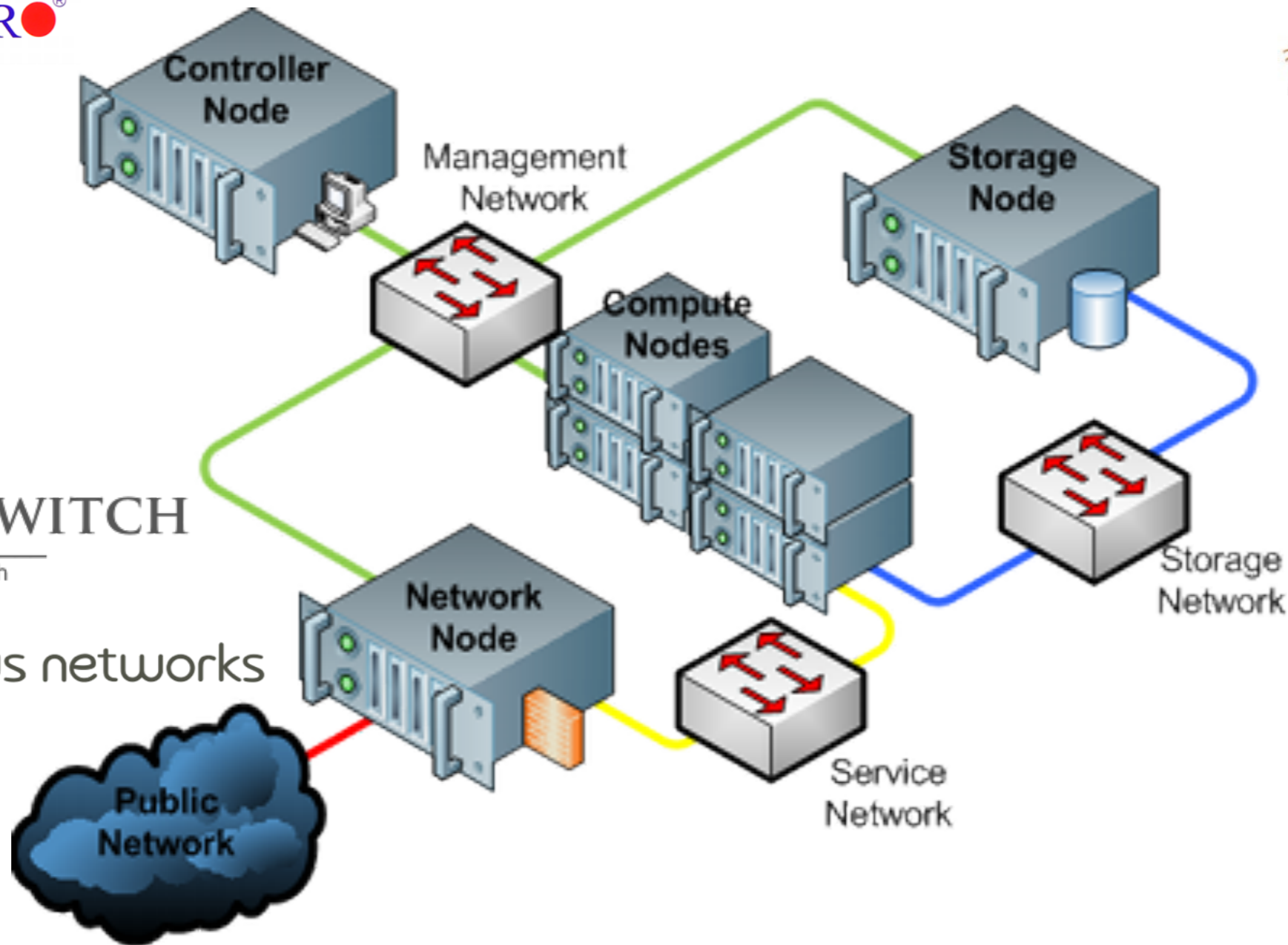
Scale out : cloud ZFS / Coraid / ...



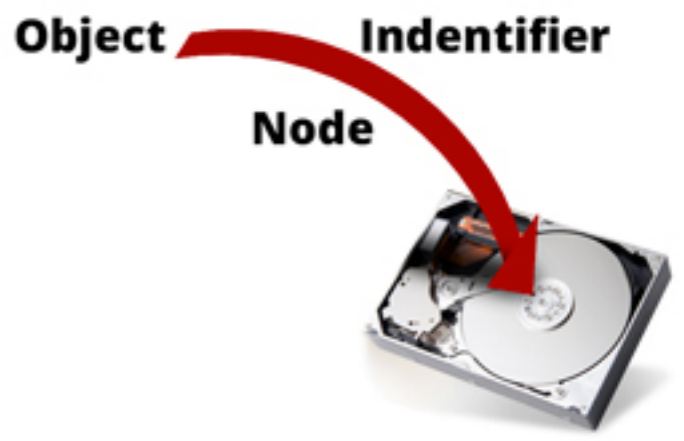


OPEN VSWITCH

An Open Virtual Switch



Tendances et à suivre...





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