

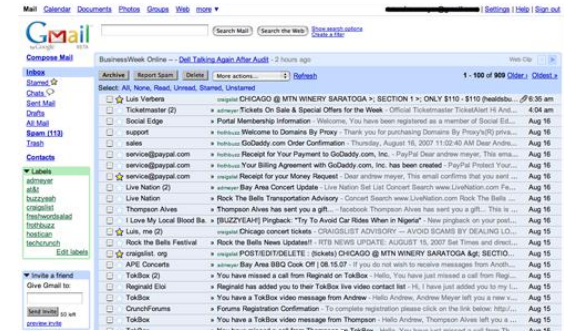
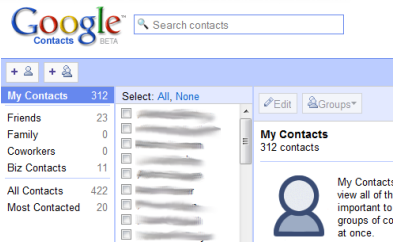
Projet Virtualisation ENSIMAG

Le 27 mars 2012 – NGUYEN Nam Avant vente DELL



Family "Anywhere"

Personal life mission critical apps live in the "cloud"



I just want access to my data where and when I want it.



Dell Desktop Virtualization Solutions

Architecture and Solution Delivery, breadth and depth



Profile, Persona, User-State

Unidesk, Liquidware, AppSense

Win OS

Apps

User

Desktop Virtualization SW

Citrix XenDesktop or Kaviza - VMware View

Hypervisor

VMware, Citrix, Microsoft, Red Hat

Efficient Data Center
Dell Server, Storage, Network



Dell desktop virtualization endpoint device solutions



Virtualize using existing clients: Devon IT VDI Blaster Dell Edition

DevonIT VDI™ Blaster Features:

- Allows re-tasking of current client systems.
- Simple to configure
- Utilizes various connection protocols (RDP, PCoIP, ICA/HDX, X11)
- Centralized Management with Devon IT Echo™.
- Install and run from DVD, USB, or hard disk.
- **No Microsoft VDA required if installed on SA-enrolled machine.**

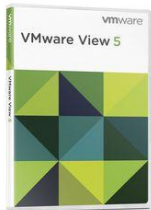


Dell FX100 Zero Client

- Dual-screen up to 1920x1200 resolution
- Embedded PCoIP Teradici hardware chipset
- No O/S or endpoint image management
- No CPU or memory
- CAC and SmartCard support
- Purpose-built for client virtualization
- **Requires Microsoft VDA**
- APEX2800 PCoIP Server Offload card



Reduces server CPU utilization



VMware View 4.X & 5.X PCoIP protocol only



OptiPlex™ FX130 & FX170 Thin Clients



- 1 GHz Eden x86 processor
- Single screen only
- 1 GB flash storage, 1 GB RAM
- DETOS (Linux) Only
- **Microsoft VDA required**

- 1.6 GHz Intel Atom N270 processor
- Single or dual-screen (uses dongle)
- 1,2, or 4 GB flash storage, 1 or 2 GB RAM
- DETOS (Linux), WES2009, and WES7
- **Microsoft VDA required**



Disk or Diskless Dell OptiPlex 790 & 990 FLX configs

Design the perfect thin or thick client



Features

- Combine OptiPlex disk or diskless with AIO Stand
- Dell EasyConnect technology in Dell BIOS
- OEM licensing for CITRIX
- Guaranteed right to stream a Microsoft Windows® OS to a diskless client

Benefits

- VDI-like security and management benefits
- Core i3 vs. Core i5 or i7, save >\$200/system
- 2 GB memory vs. 4 GB or 8 GB save \$60-\$120/system
- **No Microsoft VDA required if enrolled in SA.**

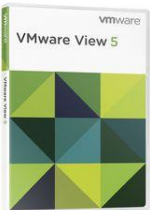
Use Cases

- Desktop Virtualization users with latency concerns or processing demands on the client
- LAN or connected classroom or laboratory environments



Dell Precision R5500 racked workstation with PCoIP

- 2U rackmount workstation
- Dual Intel Xeon 6-core or 4-core E56XX or X56XX series processors
- Up to 192GB ECC
- Support for six 2.5" SAS or SATA
- Run Windows natively
- Discrete graphics from ATI & NVIDIA
- NVIDIA Tesla GPU option
- (5) full height, full length slots, (1) 1/2 height
- Teradici PCoIP encoder card
- **Direct connection via FX100 or via VMware View**

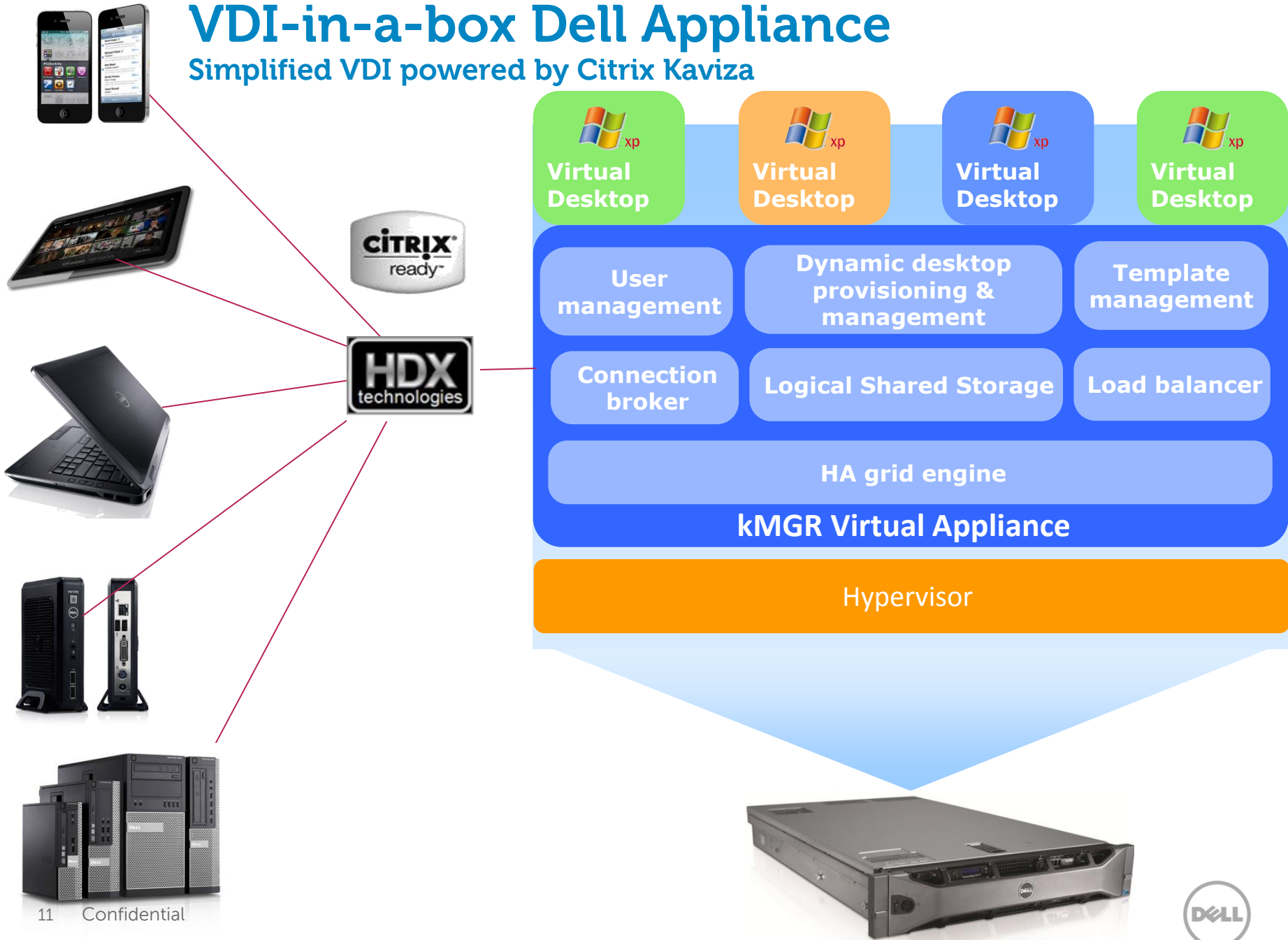


Dell Desktop Virtualization Backend Infrastructure Solutions



VDI-in-a-box Dell Appliance

Simplified VDI powered by Citrix Kaviza

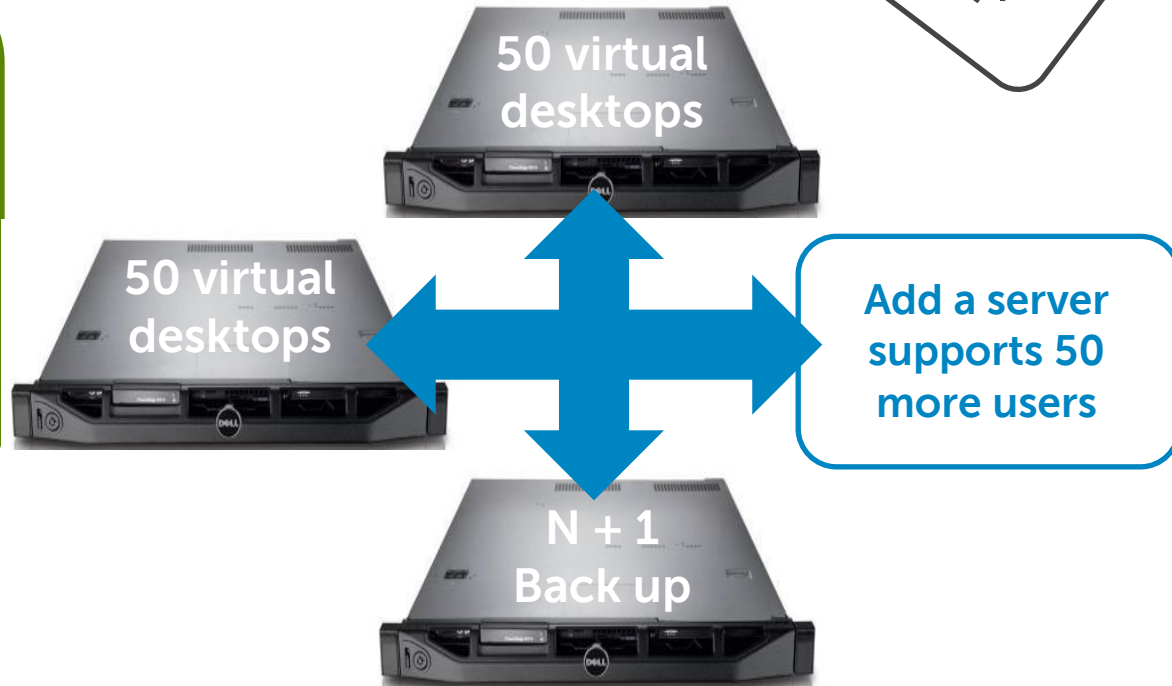


VDI-in-a-box Scale Out is easy

100 User
EXAMPLE*

Grid System

- N + 1 architecture
- 100 user deployment
- 50 virtual machines per server*
- 3 PowerEdge R710s



Total # of servers = #users/50 + 1

* See Dell Reference Architectures for complete details.



Palier d'évolution

Basic User Levels	Standard User Levels	Premium User Levels	ToR Switches	Management Servers	Virtualization Host Servers	Storage Arrays
0-80	0-60	0-42	1	1	1	1
81-160	61-120	43-84	1	1	2	1
161-240	121-180	85-126	1	1	3	1
241-320	181-240	127-168	1	1	4	1
321-400	241-300	169-210	1	1	5	1
401-480	301-360	211-252	1	1	6	1
481-500	361-420	253-294	1	1	7	1



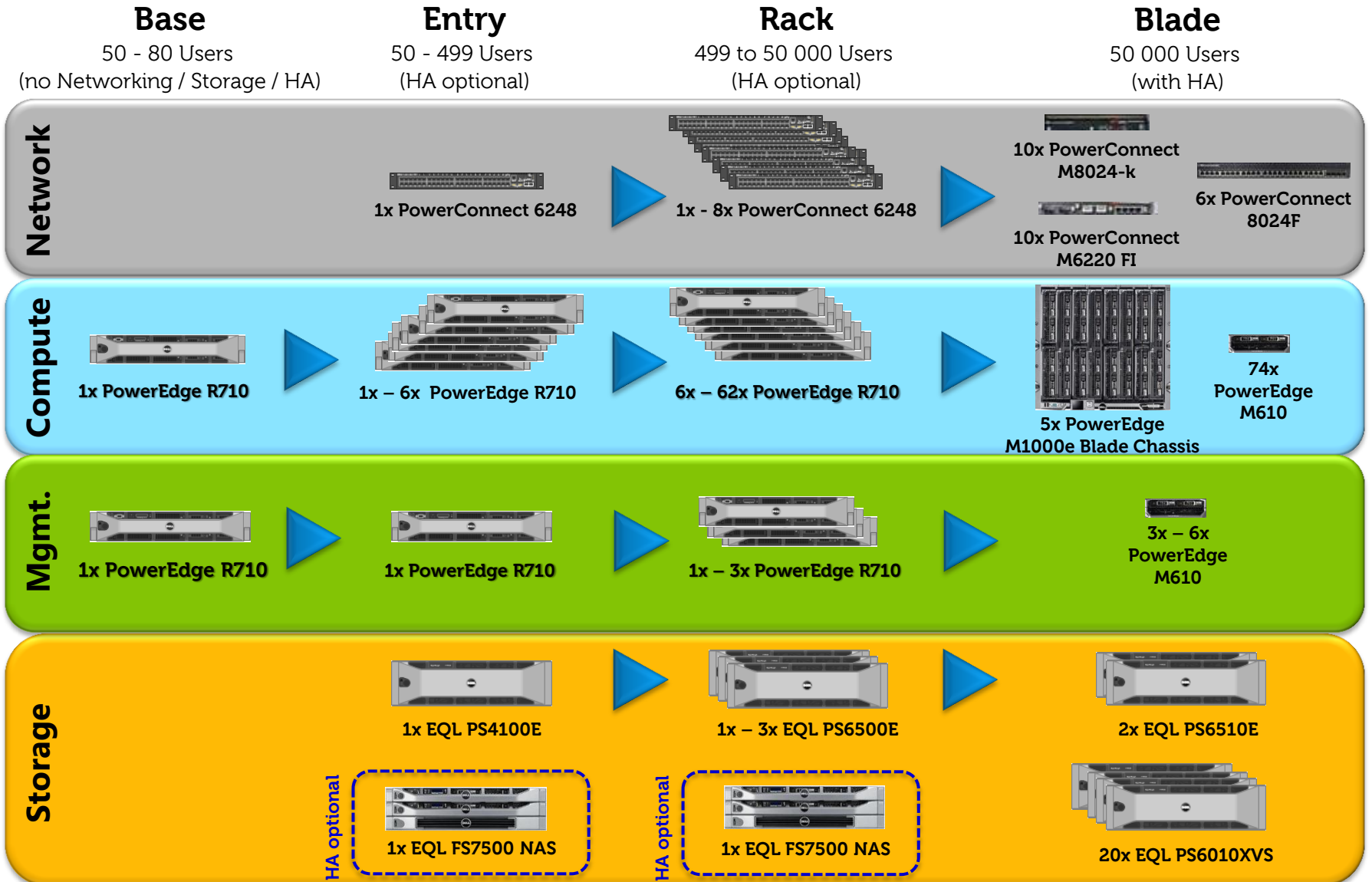
Les profils utilisateurs

User Workload	VM Memory Allocation	VM Memory Reservation	User Data Disk Space	OS Image Notes
Basic	1GB	0.5GB	5GB	This user workload leverages a shared desktop image emulates a task worker. Only two apps are open simultaneously and session idle time is approximately one hour and forty-five minutes.

User Workload	VM Memory Allocation	VM Memory Reservation	User Data Disk Space	OS Image Notes
Standard	1.5GB	1GB	10GB	This user workload leverages a shared desktop image emulates a high level knowledge worker. Eight applications are open simultaneously and session idle time is approximately two minutes.

User Workload	VM Memory Allocation	VM Memory Reservation	User Data Disk Space	OS Image Notes
Premium	2.5GB	1.5GB	20GB	This user workload leverages a shared desktop image emulates a medium knowledge worker. Five applications are open simultaneously and session idle time is approximately 45 seconds.

Évolution de 50 à 50 000 utilisateurs



Cas d'étude ENSIMAG

Analyse des besoins:

- Mettre en place une solution de virtualisation de poste de travail
- Virtualisation de serveurs de service enseignement
- Service de stockage NAS

Contraintes:

- Budget contenu
- Annuaire = LDAP,OPENLDAP
- Postes virtuels à la fois LINUX et Windows
- Administration simple et centralisée
- Provisionnement rapide

Solutions:

- Utiliser la virtualisation de postes pour fournir aux élèves des espaces de travail pour leur année de scolarité



Solutions techniques possibles

Solutions écartées:

VMware VIEW et CITRIX :

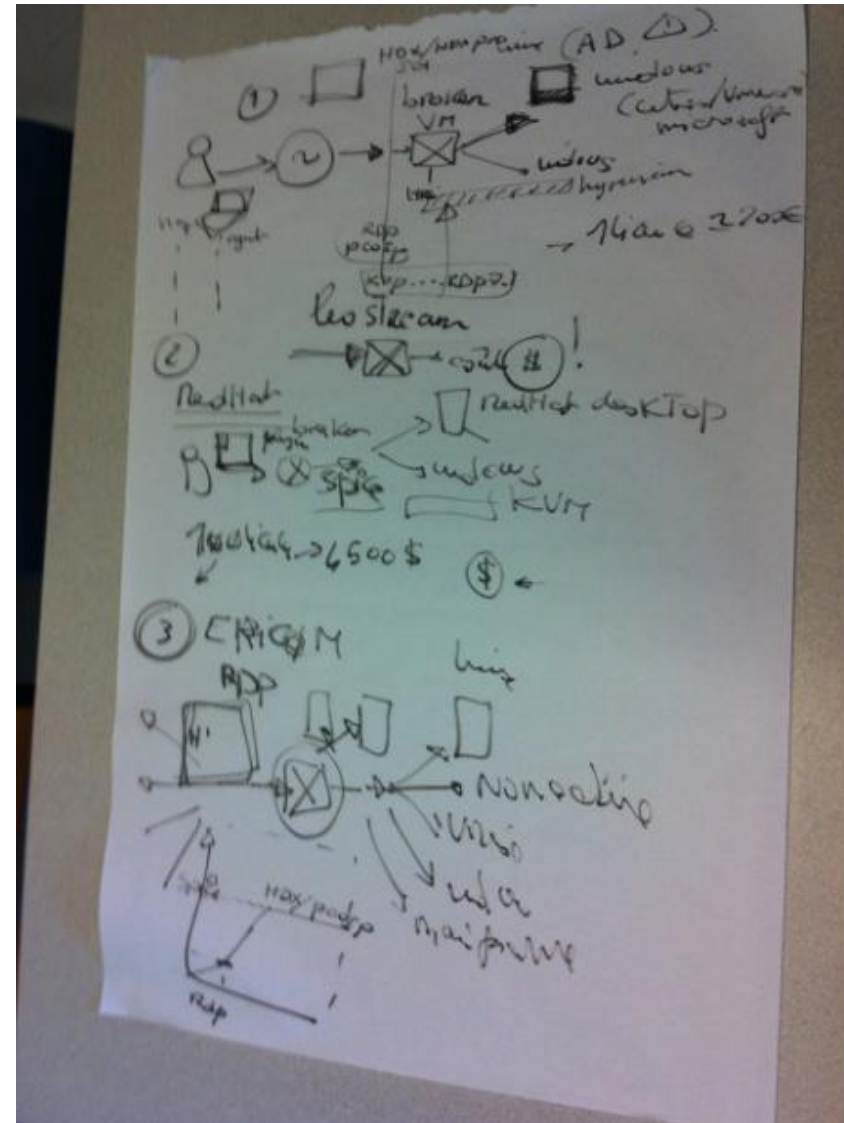
- ✓ Annuaire AD de Microsoft pré requis
- ✓ Postes exclusivement Windows
- ✓ Solution VMWARE VIEW possible avec LEOSTREAM

Choix possibles :

- ✓ Ericom Software
- ✓ Redhat VDI
- ✓ Broker LEOSTREAM

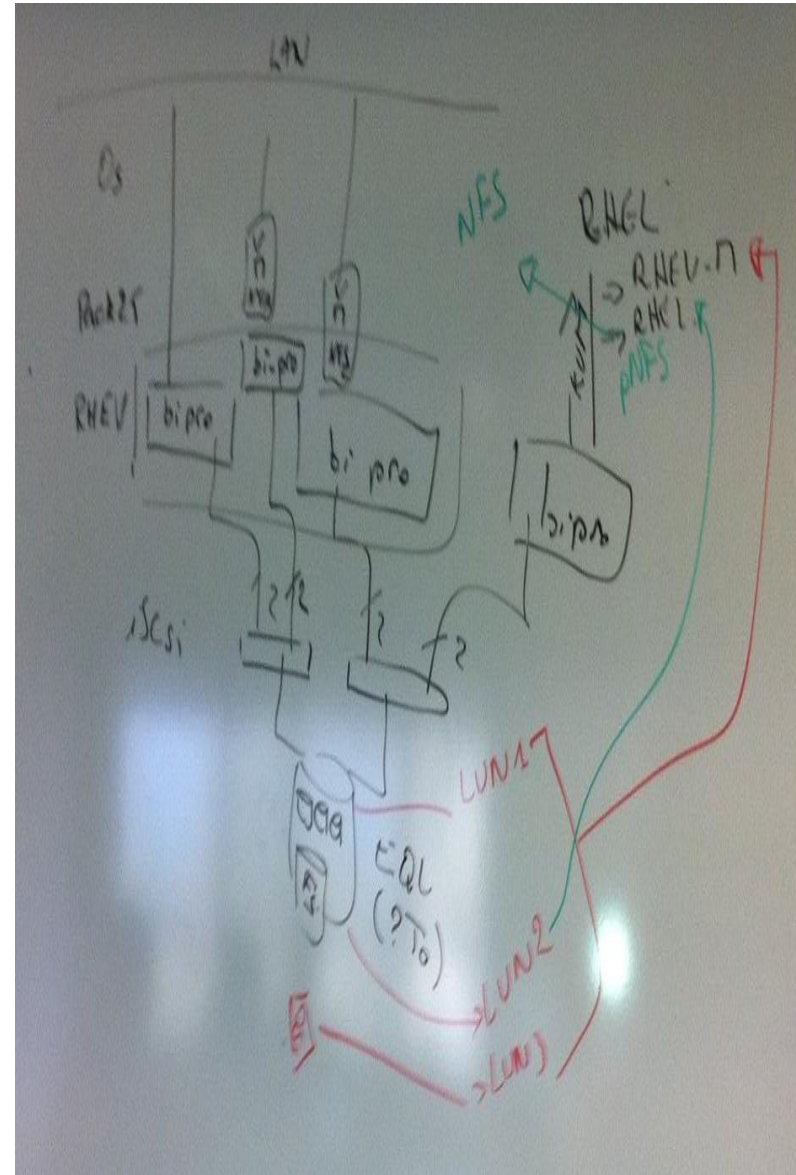
Choix retenu:

- ✓ REDHAT VDI
 - Coût abordable
 - Annuaire Ldap intégration
 - Support et maintenance de REDHAT
 - mutualisation avec projet virtualisation serveur

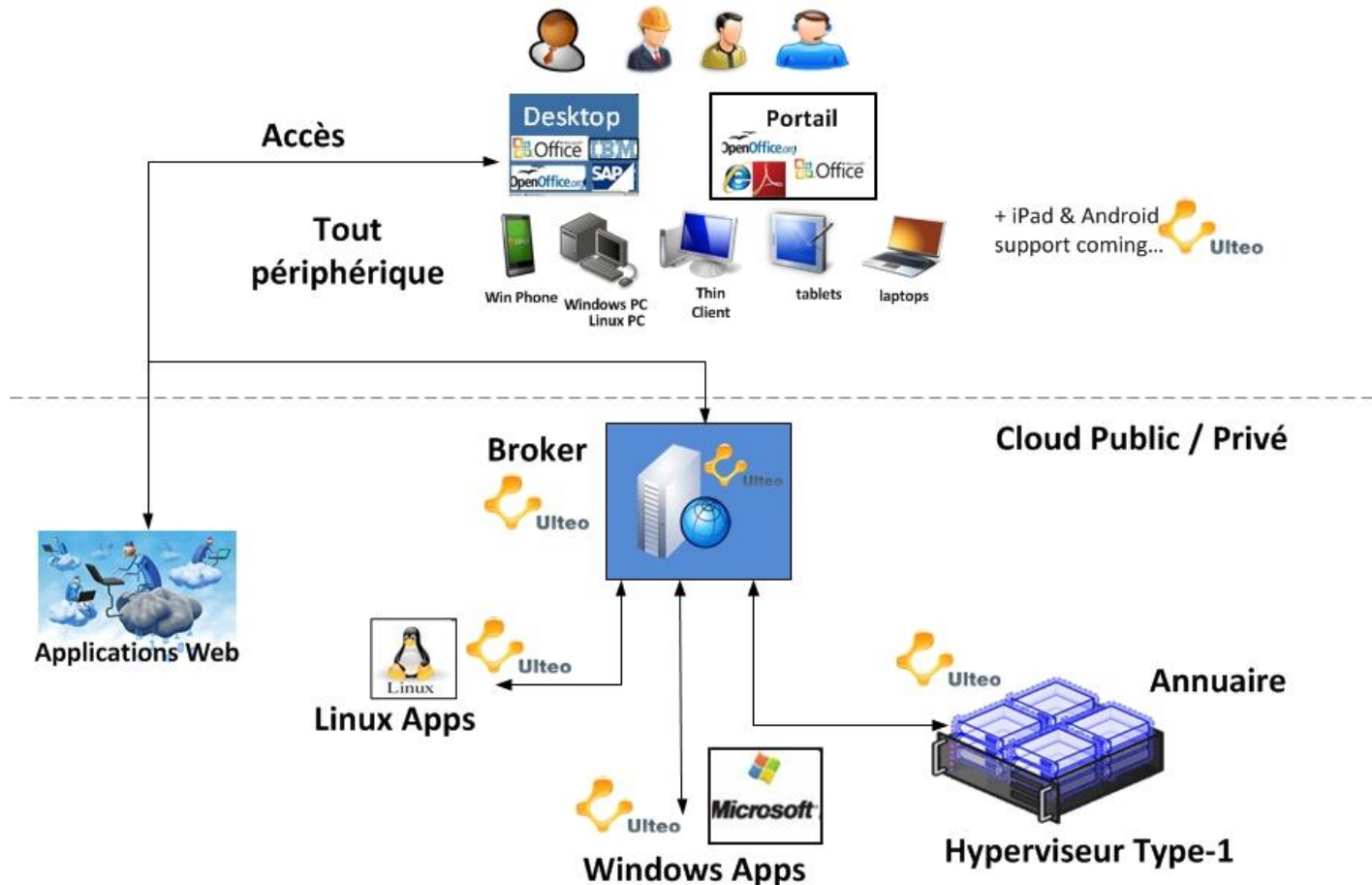


Choix final – REDHAT VDI

- Mise en oeuvre en pratique la solution **Redhat virtualization for servers**.
- Remplacement de la solution actuelle à base de redhat 6.
- Mise en oeuvre de **Redhat virtualization for desktops**
- Réutiliser l'infrastructure actuelle
- 2 serveurs x Dell R410 existants dont on upgraderait la mémoire (passage de 8 Go à 24 voire 32 Go).
- Test de la migration à chaud entre les 2 serveurs
- Les serveurs mis en machines virtuelles en production sont des "petits" serveurs de services à destination de l'enseignement (exemple : serveur Ldap enseignement, serveur d'exercices de TP, web enseignement divers, ...)



Ulteo Open Virtual Desktop – OVD



- Bureau complet ou applications
- Mode publication transparente
- Windows & / ou Linux
- Accès Navigateur ou client natif
- Reconnaissance drives & imprimantes

- Interface administration web
- Reporting & monitoring
- Accès universel / Gateway / WAN
- iPad & Android