

Sauvegardes et PRA

Présentation de la mission

L'infrastructure ne comportant aucune solution de sauvegardes qui permet la pérennité des données . Il serait donc totalement impossible de rétablir les données récentes de la société en cas de problème important. Il est urgent que l'infrastructure est une solution de sauvegarde permettant de stocker les données récentes de la société . Avec un plan relance d'activité et une politique de sauvegarde pour permettre d'être prêt contre tout incident majeur dans l'avenir.

Contraintes techniques

- Achat deux types de matériels bande et disques durs magnétiques
- La première solution à bande magnétique :
 - Être présente sur chaque serveur physique
 - Accessible depuis le réseau
 - Posséder une capacité de stockage sur bande suffisante
 - Prévoir un stock de bandes suffisant pour que :
 - Chaque jour de la semaine sur une bande différente
 - Chaque fin de semaine sur une bande différente
 - Chaque mois sur une bande différente
 - Définir une politique de sauvegarde
- La deuxième solution (NAS) :
 - Posséder un accès redondant sur le réseau
 - Posséder au minimum un port USB3
 - Avoir une capacité de stockage de 10 To
 - Assembler les disques en RAID5

Contraintes budgétaires

- Un budget de 6500€ HT pour la mission
- Le budget de main d'œuvre 1500€ HT.
- Un budget matériel de 5000 € HT :

Analyse de la mission sauvegarde

Proposition 1 Nas :

Serveur Synology NAS DS415 (4x4 TO WD RED) 16TO



Prix

999,99 euros HT

CARACTÉRISTIQUES

Processeur Intel Atom C2538 à 2,4 GHz (Quad-Core)

Mémoire vive 2 Go

Alimentation interne
(intégrée) Non

Refroidissement passif
sans ventilateur Non

Dimensions 165 x 203 x 233,2 mm

Poids 2 kg

DISQUE

Capacité (totale) 16 To

Nombre de baies Boîtier 4 baies

Format de baie Pour disque 2,5" ou 3,5"

Interface disque SATA III

Géométrie disques
(RAID) JBOD, RAID 0, 1, 5, 6, 10, 5 + rechange, propriétaire

Système(s) de fichiers
du stockage interne EXT4

Système(s) de fichiers
du stockage externe EXT4, EXT3, FAT32, NTFS, HFS+

INTERFACE ET CONNECTIQUE

Connexion réseau 1000/100/10 Mbps (Gigabit Ethernet)

Plusieurs ports réseau Oui

Port(s) eSATA Oui

Ports(s) USB 2 ports USB 3.0 + 1 port USB 2.0

Cible iSCSI Oui

Proposition 2 NAS :

Serveur NAS WD NAS My Cloud Pro PR4100 - 16 To (4 x 4 To)



Processeur	Intel Pentium N3710 1,6 GHz (Quad-Core)
Mémoire vive	4 Go
Alimentation interne (intégrée)	Non
Refroidissement passif sans ventilateur	Oui
Dimensions	232 x 170 x 192 mm

Capacité (totale)	16 To
Nombre de baies	Boitier 4 baies
Format de baie	Pour disque 3,5"
Interface disque	SATA III
Géométrie disques (RAID)	JBOD, RAID 0, 1, 5, 10, 1+0
Système(s) de fichiers du stockage externe	FAT32, NTFS, HFS+J

Connexion réseau	1000/100/10 Mbps (Gigabit Ethernet)
Plusieurs ports réseau	Oui
Port(s) eSATA	Non
Ports(s) USB	3 ports USB 3.0
Cible iSCSI	Oui

Prix 1099,99

EUROS HT

Proposition : 1 (bandes magnétiques)

HPE StoreEver LTO-6 Ultrium 6250



Description du produit	HPE StoreEver LTO-6 Ultrium 6250 - lecteur de bandes magnétiques - LTO Ultrium - SAS-2
Type de périphérique	Lecteur de bandes magnétiques
Data Transfer Rate	LTO Ultrium 6
Type de châssis	Externe
Type d'interface	SAS-2
Fonctions clés	Chiffrement
Dimensions (LxPxH)	22.3 cm x 29.5 cm x 7.7 cm
Poids	4.65 kg
Stockage amovible	LTO Ultrium
Capacité de l'unité de stockage amovible	2.5 To (natif) / 6.25 To (compressé)
Cartouches de bande prises en charge (lecture et écriture)	Ultrium 6, Ultrium 5
Licence Type	160 Mo/s (576 Gbph)
Débit de transfert de données (compressé)	400 Mo/s (1440 Gbph)

PRIX 2000 HT



HP Ultrium RW Data Cartridge LTO Ultrium

Description du produit

Type

Manufacturer

Capacité compressée

HPE Ultrium RW Data Cartridge - LTO Ultrium - support de stockage

Support de stockage - LTO Ultrium

Ultrium 6

6.25 To

Prix 40.97 HT

Proposition 2 : Lecteur de bande magnétique LTO5 Dell



1 962€ HT

Général

Type LTO Ultrium

Cartouche de bande Ultrium 5

Nombre de supports inclus 1

Support

Capacité normale 1.5 To

Capacité compressée 3 To

Caractéristiques

Type Support de stockage - LTO Ultrium

Cartouche de bande Ultrium 5

Nombre de supports inclus 1

Capacité normale 1.5 To

Capacité compressée 3 To

Justification de la solution

Pour la solution à bande notre choix c'est porté sur la proposition numéro 2 . La raison principale de ce choix est une garantie d'avoir un accès serveur pour notre lecteur car nos deux matériels sont du même constructeur .Ce qui nous permet de valider leur compatibilité .Un critère d'une importance capital pour notre mission.

Pour la solution avec le Nas notre choix c'est porté sur la proposition numéro 1 .La mémoire vive est deux fois supérieur à la proposition numéro 2 ce qui donne une vitesse d'accès au données plus rapide pour ce serveur Nas par rapport à l'autre proposition.

Plan de reprise d'activité

- Contraintes du niveau de services: 24h 48h et 72h
- Inventaires des éléments du matériels d'interconnexions
- Topologie et hiérarchisation des systèmes critiques
- Politique de sauvegarde

Politique Sauvegarde

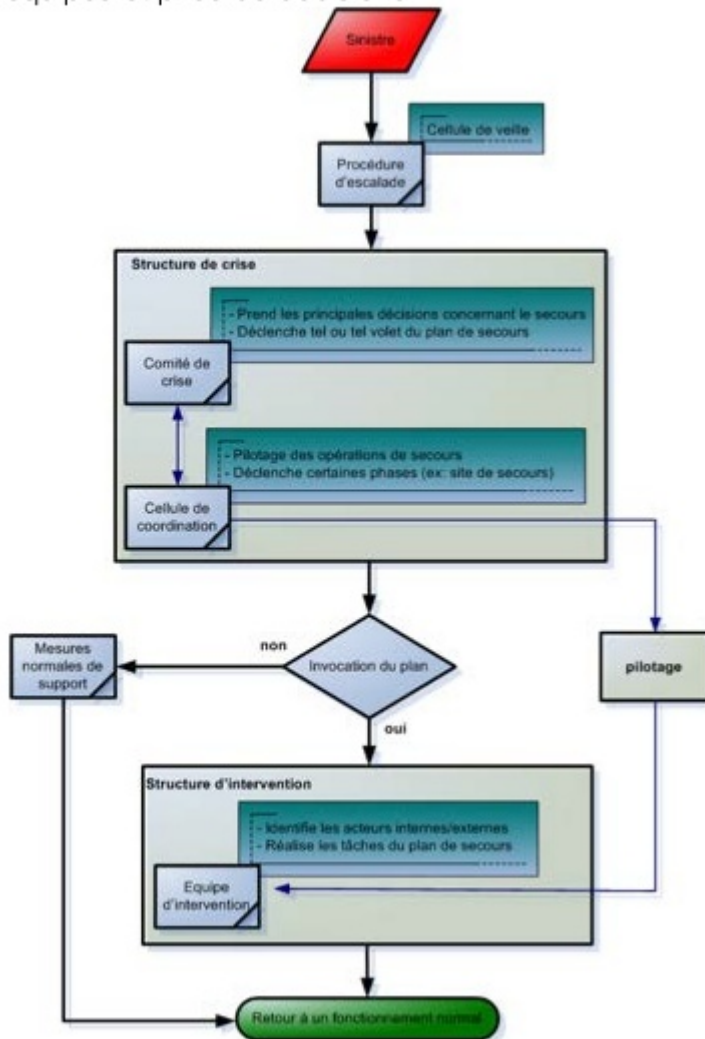
Trois types sauvegardes :

- Journalières (19H00)
- Hebdomadaire (Vendredi 20h)
- Mensuel (30 du mois à 21h00)

Changement de la bande tous les mois (stock de 20 bandes pour 3ans)

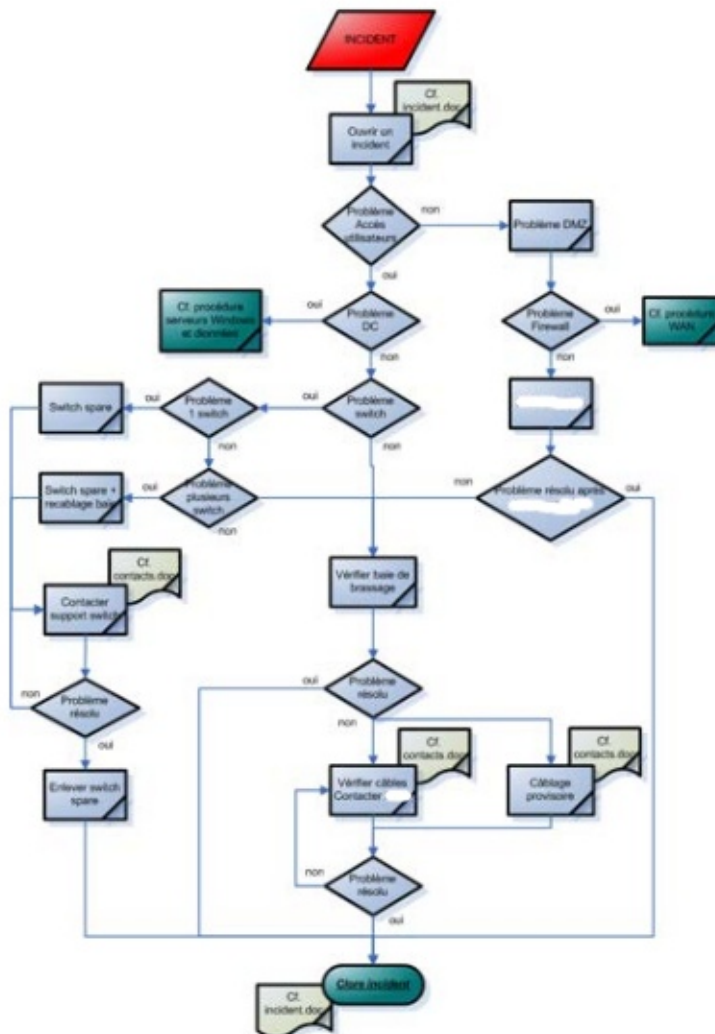
Exemple : Un Sinistre

1^{ère} étape en cas de sinistre informatique : Invocation ou non du plan de secours et dans quelle mesure, ainsi que l'organisation des équipes et prise de décisions.

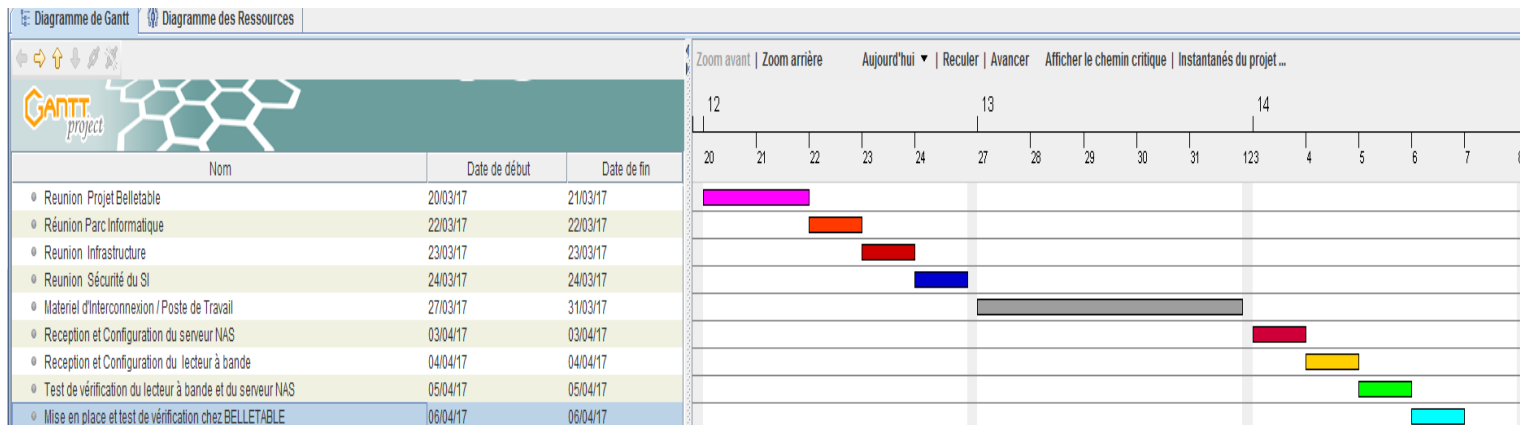


Exemple : Un Incident

Le câblage provisoire sera l'achat de câbles réseau au mètre (voir contacts) puis sertissage sur place afin de desservir les utilisateurs directement depuis la salle serveur en cas de disfonctionnement du réseau LAN (câblage).



Planification



Compte rendu

• Réunion du Projet Belletable :

- Présentation du projet par le chef de projet Séko FOFANA
- Les besoins prioritaires du projet
- Répartition des missions à faire

• Réunion sur le Parc informatique :

- Présentation du parc informatique par Justy Bastiot
- Fiabilité de fournisseurs
- Visioconférence

• Réunion sur l'infrastructure :

- Présentation de la nouvelle infrastructure Jérémy Embulu
- Segmentation du réseau /Plan d'adressage
- Configuration des commutateurs avec un lien trunk

• Réunion sur la sécurité du SI :

- Présentation du système d'information par Killian Boubennec
- Politique de sécurité
- Pérennité des données

Amélioration


Le cloud

Le cloud offre aux entreprises la possibilité de centraliser leurs données, services et applications auxquels elles peuvent avoir accès 24h sur 24 . Un système efficace donc et qui explique en partie pourquoi de plus en plus d'entreprises investissent dans le cloud.

Cloud Ecosystem: Microsoft Azure, Windows Server 2012 R2, System Center 2012 R2



Public Cloud

Microsoft Azure		Service Categories		Microsoft Azure Services																									
	<p>Cloud computing services can be divided into three different classifications. These are referred to as Infrastructure as a Service (IaaS), Platform as a Service (PaaS) and Software as a Service (SaaS). The classification you can depend on your requirements.</p>	Business Intelligence		Compute								Data Services				Network Services													
		Applications		Virtual Machines		Web Sites		Mobile Services		Cloud Services		Storage		SQL Database		HDInsight		Azure Recovery Manager		Backup		Cache		Virtual Network		Traffic Manager		Express Route	
		Data		Enables you to build and run a virtual machine in the cloud and connect it to other services.		Allows you to get started with web apps for free. You can use any programming language.		Enables you to build mobile applications for Windows, iOS, and Android.		Allows you to create and scale your cloud-based applications and services.		Enables you to store data in the cloud and access it from anywhere.		Allows you to create and scale your SQL database in the cloud.		Allows you to process and analyze big data in the cloud.		Enables you to protect your applications and data in the cloud.		Allows you to create a backup of your data in the cloud.		Enables you to make your applications available for users who may not have the bandwidth for loading large data sets.		Enables you to create and manage your virtual network in the cloud.		Allows you to route traffic to the nearest datacenter.		Enables you to connect your on-premises network to the cloud.	
		Runtime		Enables you to build and run a virtual machine in the cloud and connect it to other services.		Enables you to build mobile applications for Windows, iOS, and Android.		Allows you to create and scale your cloud-based applications and services.		Enables you to store data in the cloud and access it from anywhere.		Allows you to create and scale your SQL database in the cloud.		Allows you to process and analyze big data in the cloud.		Enables you to protect your applications and data in the cloud.		Allows you to create a backup of your data in the cloud.		Enables you to make your applications available for users who may not have the bandwidth for loading large data sets.		Enables you to create and manage your virtual network in the cloud.		Allows you to route traffic to the nearest datacenter.		Enables you to connect your on-premises network to the cloud.			
Middleware		Operating System		Virtualization		Security		Networking		Management by the customer		Management by the provider		Management by the customer		Management by the provider		Management by the customer		Management by the provider		Management by the customer		Management by the provider		Management by the customer		Management by the provider	
Microsoft Azure is an open and flexible cloud platform that enables you to quickly build, deploy and manage applications across a global network of Microsoft managed datacenters. You can build applications using any language, tool, or framework. And you can integrate your public cloud applications with your existing IT environments.																													
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On-Premises Cloud

System Center 2012 R2	Microsoft Desktop Optimization Pack											
	App Controller	Virtual Machine Manager (VMM)	Operations Manager	Configuration Manager	Service Manager	Orchestrator	Data Protection Manager (DPM)	Azure Pack	Windows Intune	Management	System Center Configuration Manager with Windows Intune	Microsoft Desktop Optimization Pack
	Provides a central web service for managing your applications and services.	Provides a management solution for your virtual machines and services.	Provides infrastructure monitoring for your applications and services.	Manages your PCs and servers, including software, updates, and security.	Defines an integrated platform for your applications and services.	Provides a workflow for managing your applications and services.	Enables data protection and recovery for your applications and services.	Allows you to build a private cloud and manage your applications and services.	Manages PCs and mobile devices from the cloud, which enables people to use a variety of devices to access corporate applications and data.	Users can work from anywhere on their mobile devices.	Enables you to manage your applications and services from the cloud.	Enables you to manage your applications and services from the cloud.
Infrastructure Provisioning and Monitoring Automation and Self-Service Application Performance Monitoring IT Service Management												

Windows Server 2012 R2	Storage		Virtualization		File Services & Failover Clustering		Networking		Management		Virtual Desktop Infrastructure				
 Delivers an enterprise-class, multi-tenant datacenter and cloud infrastructure.	 Storage Spaces	 Data Deduplication	 Storage Quality of Service	 Generation 2 Virtual Machines	 Online VHEX	 Failover Clustering	 Cluster Shared Volumes	 Server Message Block (SMB)	 Hyper-V Extensible Switch	 NIC Teaming	 SMB Multichannel	 Local and Remote Server Management	 Remote Desktop Virtualization Host	 Remote Desktop Session Host	
	Enables you to group multiple disks into storage spaces and manage them as a single unit. Supports up to 32 disks per storage space. Supports up to 1024 TB of storage space. Supports up to 1024 storage spaces per server.	Reduces network duplication and improves performance. Supports up to 1024 TB of storage space. Supports up to 1024 storage spaces per server.	Allows you to set Quality of Service (QoS) parameters for storage in the virtual machine. Supports up to 1024 TB of storage space. Supports up to 1024 storage spaces per server.	Provides enhanced virtual machine features and better support for applications. Supports up to 1024 TB of storage space. Supports up to 1024 storage spaces per server.	Enables you to keep or remove the size of virtual hard disks in the virtual machine or in storage.	Provides high availability and scalability. Supports up to 1024 TB of storage space. Supports up to 1024 storage spaces per server.	Enables the configuration and management of shared virtual machines. Supports up to 1024 TB of storage space. Supports up to 1024 storage spaces per server.	Enables you to create and manage the size of virtual hard disks in the virtual machine or in storage. Supports up to 1024 TB of storage space. Supports up to 1024 storage spaces per server.	Enables you to connect to remote servers and manage them as a single unit. Supports up to 1024 TB of storage space. Supports up to 1024 storage spaces per server.	Allows you to connect to remote servers and manage them as a single unit. Supports up to 1024 TB of storage space. Supports up to 1024 storage spaces per server.	Enables network adapter teaming to improve network performance. Supports up to 1024 TB of storage space. Supports up to 1024 storage spaces per server.	Enables multichannel negotiation and supports up to 1024 TB of storage space. Supports up to 1024 storage spaces per server.	Allows you to manage multiple servers and manage them as a single unit. Supports up to 1024 TB of storage space. Supports up to 1024 storage spaces per server.	Enables you to create and manage the size of virtual hard disks in the virtual machine or in storage. Supports up to 1024 TB of storage space. Supports up to 1024 storage spaces per server.	Enables you to create and manage the size of virtual hard disks in the virtual machine or in storage. Supports up to 1024 TB of storage space. Supports up to 1024 storage spaces per server.
	 Resilient File System (ReFS)	 SMB Transparent Failover	 Hyper-V Replica	 Enhanced Session Mode	 Live Migration	 Scale-Out File Server	 Shared Virtual Hard Disks	 Network Quality of Service	 Network Virtualization	 SMB Direct	 Single Root I/O Virtualization	 Microsoft Windows PowerShell	 Remote Desktop Experiences		
Provides a new level of system reliability and data protection. Supports up to 1024 TB of storage space. Supports up to 1024 storage spaces per server.	Supports server applications, virtual machines, and storage spaces. Supports up to 1024 TB of storage space. Supports up to 1024 storage spaces per server.	Provides application replication between virtual machines. Supports up to 1024 TB of storage space. Supports up to 1024 storage spaces per server.	Provides enhanced session mode between virtual machines. Supports up to 1024 TB of storage space. Supports up to 1024 storage spaces per server.	Enables you to move a running virtual machine to a different host without downtime. Supports up to 1024 TB of storage space. Supports up to 1024 storage spaces per server.	Enables you to move a running virtual machine to a different host without downtime. Supports up to 1024 TB of storage space. Supports up to 1024 storage spaces per server.	Enables you to create and manage the size of virtual hard disks in the virtual machine or in storage. Supports up to 1024 TB of storage space. Supports up to 1024 storage spaces per server.	Enables you to create and manage the size of virtual hard disks in the virtual machine or in storage. Supports up to 1024 TB of storage space. Supports up to 1024 storage spaces per server.	Enables you to create and manage the size of virtual hard disks in the virtual machine or in storage. Supports up to 1024 TB of storage space. Supports up to 1024 storage spaces per server.	Enables network adapter teaming to improve network performance. Supports up to 1024 TB of storage space. Supports up to 1024 storage spaces per server.	Enables you to create and manage the size of virtual hard disks in the virtual machine or in storage. Supports up to 1024 TB of storage space. Supports up to 1024 storage spaces per server.	Enables you to create and manage the size of virtual hard disks in the virtual machine or in storage. Supports up to 1024 TB of storage space. Supports up to 1024 storage spaces per server.	Enables you to create and manage the size of virtual hard disks in the virtual machine or in storage. Supports up to 1024 TB of storage space. Supports up to 1024 storage spaces per server.			

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