Présentation Power Maroc

Power Maroc : Présentation Générale

Crée in 2011, Power Maroc est une SSII experte dans l'integration des solutions matérielles et logicielles, les solutions de virtualisation et de consolidation, les systems experts,les plateformes, convergées and hyperconvergées ainsi que les solutions cloud

Informations clés :

- ❖ Capital: 8.5 MDH
- ❖ 20 Consultants et ingénieurs
- ❖ **Le seul partenaire au Maroc avec le Status IBM Platinum Business Partner**
- ❖ **DELL-EMC Gold Business Partner**
- ❖ 10 ressources certifiées sur EMC Storage
- ❖ 12 ressources certifiées sur IBM Storage and IBM Power
- ❖ 5 ressources certifiées sur Vmware
- ❖ 2 ressources certifiées sur EMC VMAX3
- ❖ 2 ressources certifiées sur IBM DS8K
- ❖ 3 ressources certified certifiées sur Unity
- ❖ 3 ressources certified certifiées sur DataDomain
- ❖ 7 resources certified certifiées sur Software (Websphere, Spectrum,DB2,…)

Exercice	Chiffre Affaire
2012	10.049.856,00 MAD
2013	15.763.273,00 MAD
2014	30.588.325,00 MAD
2015	25.570.244,00 MAD
2016	48.019.354,00 MAD
2017	56.954.068,00 MAD
2018	83.227.185,00 MAD

Prix décérnés par IBM, EMC et Fujitsu

- ❖ **IBM Platinum Business Partner**
- ❖ EMC Gold Status Middle East, Turkey and Africa Executive DELL/EMC Partner Summit March 2017
- ❖ IBM Outstanding Storage Solution (IBM DS8886 AFA and HyperSwap) – June 2017
- ❖ Fujitsu SAP HANA First to Sell – December 2016
- ❖ IBM Innovation Award Hybrid Cloud Application Platform IBM PureApplication Interconnect February 2015

IBM Beacon Awards 2018

Nominations close January 16, 2018 @ 5 p.m. EST (New York)

Dear Power Maroc,

Thank you for your submission for a 2018 IBM Beacon Award in the Outstanding Storage Systems Solution category. Your firm has been selected by IBM as a runner-up (award finalist). Your nomination was among the best of hundreds received and sets the standard for business excellence and client success.

The IBM Beacon Awards recognize IBM Business Partners who have delivered exceptional solutions using IBM products and services. Winners and finalists exemplify what it means to be a trusted business advisor and provide true transformative value to clients.

As a Beacon Award finalist, your firm receives one complimentary registration to the PartnerWorld at Think IBM PartnerWorld Leadership Conference, which will take place in Las Vegas, Nevada, March 20-22. Award winners and finalists will be recognized throughout the conference. To assist you in planning, attached is an outline of the benefits for finalists, and details on how to register for the conference.

Please note, your selection as an IBM Beacon Award finalist should not be shared externally until IBM announces the winners and finalists at the PartnerWorld at Think.

I look forward to seeing you in Las Vegas.

Congratulations,

John Teltsch
General Manager
IBM Global Business Partners

Please refer to:
Company: Power Maroc
Award: Outstanding Storage Systems Solution
Beacon Reference ID: 1UHO7PP12U22O

PowerM : Trusted Infrastructure provider
Company Profile

2014 - CLOUD BUSINESS FIRST STEPS

- First to implement IBM Hybrid Cloud Solution (PaaS): IBM PureApplication
  - Strategic Partnership with EMC
    - + 15 Enterprise Customers
      - 50% software revenue
        - 3M$ Turnover

2018 - THE NEXT LEVEL

- #1 IBM Business Partner to achieve Platinum Level within the three IBM Specialties (Expert Level)
  - DELL Technologies Gold Business Partner (three in a row)
    - +60 Enterprise Customers (Target)
      - 8M$ turnover (Target)

2012 - DRIVEN BY INNOVATION

- Power Maroc Founded with the objective of helping customers navigate technology and business disruption through innovation
  - Strategic Partnership with IBM
    - 1M$ Turnover

2016 - STRATEGIC INFLECTION POINT

- #1 EMC Business Partner
  - Finance Technology Fund (FTF) became the effective major shareholder
    - +35 Enterprise Customers
      - 5M$ Turnover

IBM Platinum Business Partner

Authorized Channel Value Rewards

Application Platform & Integration

Data Repositories & Appliances

IBM Spectrum Storage Software

IBM XaaS - Entry

Authorized PureSystems
PureApplication System
PureData System

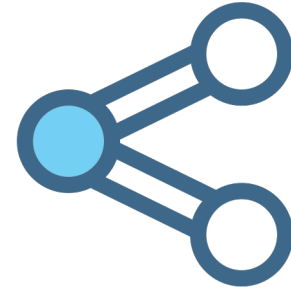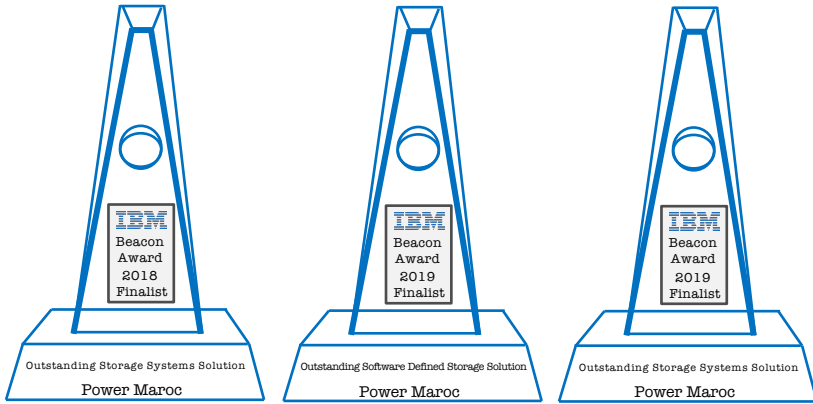**Authorized Systems and Storage**
Power Systems
Storage

News 2018

IBM Platinum Business Partner

Expert
Server Systems
Spectrum Software Defined Infrastructure
Storage Systems
Specialist
Cloud Management
Private Cloud

DELL EMC PARTNER GOLD

PowerM

PowerM and IBM Partnership last 2 years : #7 IBM Competencies , # 3 IBM Beacon Award Finalist, #Top 1% IBM BP WW, #3 IBM Public Client Reference

IBM Beacon Award 2018 Finalist
Outstanding Storage Systems Solution
Power Maroc

IBM Beacon Award 2019 Finalist
Outstanding Software Defined Storage Solution
Power Maroc

IBM Beacon Award 2019 Finalist
Outstanding Storage Systems Solution
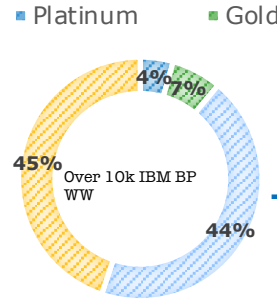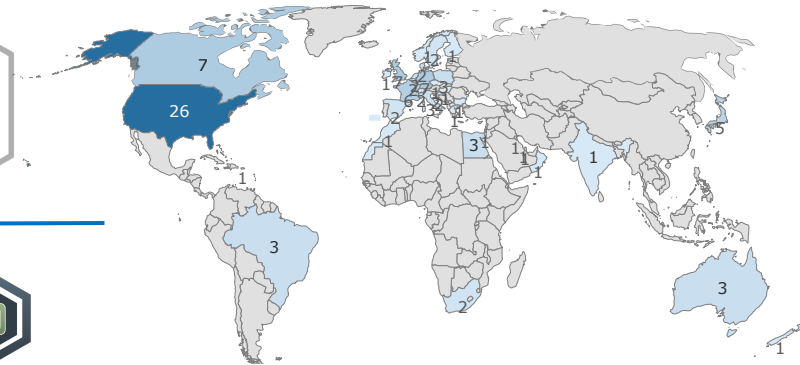Power Maroc

Session ID #3641 : Continious operations with optimal TCO using IBM Systems

Session ID #3668 : Streamline operations and reduce risk using IBM Systems

Panel ID #2430 : Redefining Data Protection for the Hybird, Multicloud World

■ Platinum ■ Gold

4% 7%

45% Over 10k IBM BP WW

44%

Top 1% IBM Business Partner Worldwide

Série 1

1   26

7

26

31

1

1

3

3

Systems

Data & IA

CLOUD

Power Systems

Storage Systems

Spectrum Software Defined Infrastructure

Private Cloud

Data Science and Business Analytics

Cloud Management

Hybrid Data Management

PowerM

IBM
Platinum Business Partner

IBM Data and Artificial Intelligence

3 Private Cloud

4 Data Science and Business Analytics
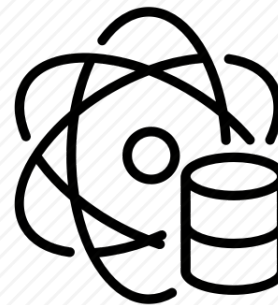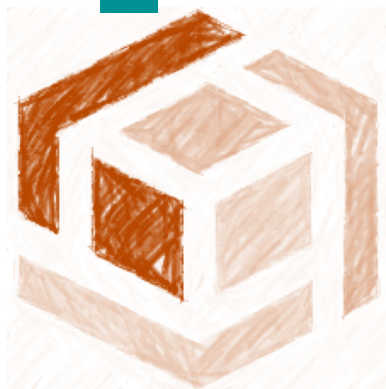
PowerM

IBM Systems

5 Power Systems

6 Storage Systems

7 Spectrum Software Defined Infrastructure

Power Maroc Key Achievements

#1

IBM Business Partner MEA to archive "Platinum Partnership Level" with 7 expertises : Server Systems ,Spectrum Software Defined Infrastructure ,Storage Systems ,Private Cloud ,Cloud Management and Hybrid Data Management

#1 Awards

3 x « IBM Beacon Finalist Award » :

- 2 x Outstanding Storage Systems Solution category
- 1 x Outstanding Software Defined Storage Solution category

WW Footprint

Speaker @IBM Think 2019 – San Francisco :

--Continuous Availability   # 3868
--Diamond Architecture # 3641
--Cyber Resiliency #4513

+ 3 Public IBM Client References

#30 DPS Reference

Including IBM Spectrum Protect , EMC Networker,Veritas Netbackup, EMC DataDomain ,EMC Networker, EMC Avamar, IBM Protect Plus, Veeam, IBM ProtectTier

#4

DELL Technologies Gold Business Partner for 4 years a row including :Server Systems,Storage Systems,Data Protection,Networking and Converged systems

#45 Storage Reference

High End, AFA and Software Defined Storage Reference including IBM DS8K, EMC VMAX, IBM Strowize, IBM FlashSystem, EMC VNX, EMC Unity, IBM SVC and EMC VPLEX

#10 System Expert

Including : Oracle Exadata,Oracle SuperCluster, IBM PureApplication, EMC VxRail, and Fujitsu HCI

#25 Power Reference

Including IBM Power, IBM PowerHA, IBM Geographically Dispersed Resiliency, PowerVM, and Linux On Power

- Maroc Telecom
- Orange
- Attijari WafaBank
- Royal Air Maroc
- Caisse de Dépôt et de Gestion
- Groupe Crédit Agricole Maroc
- MarocLear
- Maroc Leasing
- Direction Générale des Impôts
- Trésorerie Générale du Royaume
- Centre monétique Interbancaire
- Union Marocaine des Banques
- Al Amana Microfinances
- Ooredoo Algerie
- Jacobs Engineering SA
- Banque Central Populaire
- Ministère de l'Economie et des Finances
- Direction Générale des Impôts
- Trésorerie Générale du Royaume
- Ministère de Justice et des Libertés
- PortNet
- NewRest
- Instance Centrale de Prévention de la Corruption
- Caisse Nationale de Sécurité Sociale
- Caisse Nationale des Organismes de Prévoyance Sociale
- Caisse Marocaine des Retraites
- Office National des Hydrocarbures et des Mines
- Organisation Marocaine des Droits de l'Homme
- Bank AL Maghreb
- OCP Group
- Administration des Douanes et Impôts Indirects

PMP2.0

Welcome to PMP 2.0

Email Address: Email Address

Password: Password

Sign in

Forgot password?

PowerM Portal 2.0
Transforming customers and partners experience

3 x IBM Beacon Award Finalist   7 x IBM Competencies   #Top 40 IBM BP Worldwide

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PowerM Home Solutions Services Customer Support Official Blog PMers About Events Contact

PowerM Portal 2.0

Transforming customers and partners experience

Powered by IBM Watson

Read More ›

PowerM ChatBot
I didn't understand. You can try rephrasing.

service

We are providing a full service spectrum coverage including technology support, cloud, resiliency services, technology consulting, managed services and technology deployment.For a full list of our services please visit PowerM Services Page.

Type a Message

We are using cookies to give you the best experience on our website. You can find out more about which cookies we are using or switch them off in settings.   Accept   Reject

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PowerM Portal 2.0 : Transforming customers and partners experience

Building stronger customer relationships, providing 360º view of customer projects, assets, tickets and service requests

Are you a PMer ?

PMP 2.0 FOR PMERS

TIMESHEET MANAGEMENT   EXPENSE MANAGEMENT   INTERNAL SERVICE REQUESTS

PowerM Home Solutions Services Customer Support Official Blog PMers About Events Contact

Are you a PowerM Enterprise Customer ?

PMP 2.0 FOR POWERM CUSTOMERS

Un positionnement unique entre Constructeurs et SSII traditionnels

PowerM

Equipe certifiés sur toute les technologies dans le domaine des infrastructures

IBM
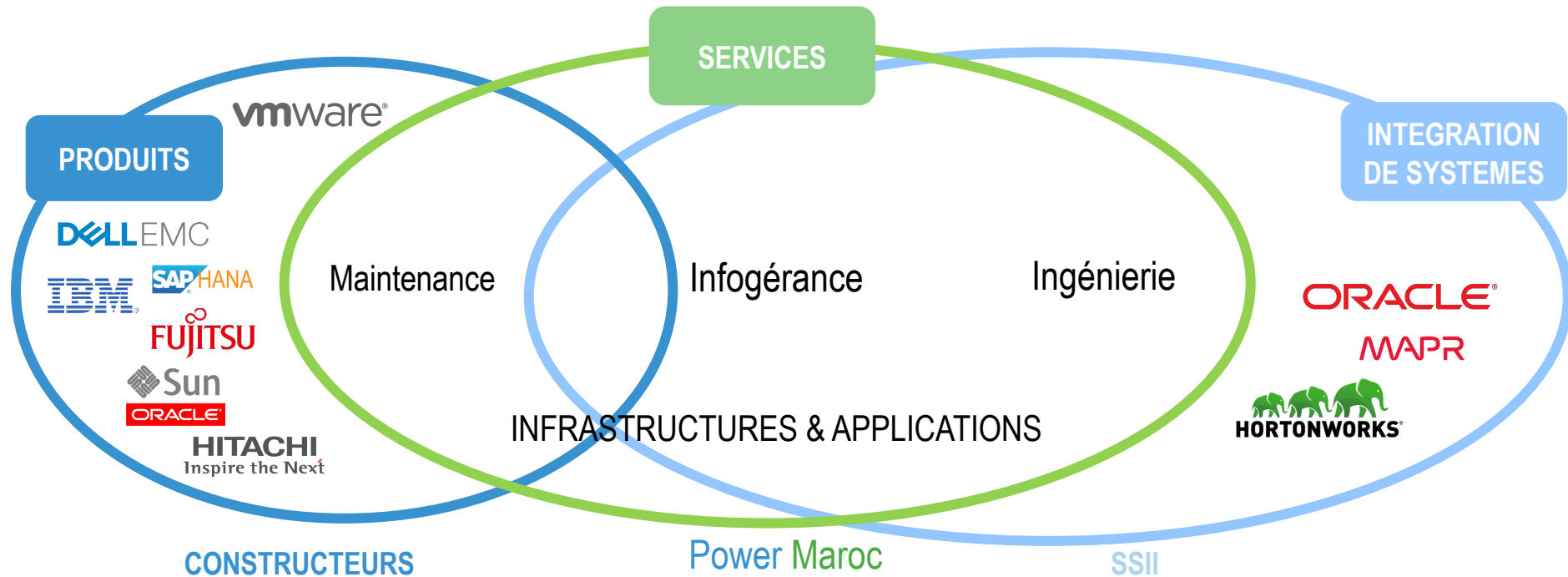
- ✓ IBM Power Server
- ✓ IBM Storage System
- ✓ IBM SVC
- ✓ IBM Flash System
- ✓ IBM ProtecTier
- ✓ IBM Spectrum
- ✓ IBM Tape System
- ✓ IBM SAN System

30 Certifications

8 Références

25 %

Premier Business Partner IBM

DELL EMC

- ✓ DELL Rack Server
- ✓ DELL Blade Server
- ✓ EMC Unity Storage
- ✓ EMC VMAX Storage
- ✓ EMC VPLEX
- ✓ EMC DataDomain
- ✓ EMC Avamar
- ✓ EMC Networker

15 Certifications

10 Références

30 %

DELL EMC PARTNER GOLD

ORACLE

- ✓ Oracle Exadata
- ✓ Oracle SuperCluster
- ✓ Oracle ZFS
- ✓ Oracle StorageTek
- ✓ Oracle SUN Server
- ✓ Oracle DataBase
- ✓ Oracle WebLogic

12 Certifications

6 Références

30 %

ORACLE Platinum Partner

vmware

- ✓ VMware vSphere
- ✓ VMware vSAN
- ✓ VMware Horizon
- ✓ VMware NSX
- ✓ VMware AirWatch

6 Certifications

10 Références

10 %

vmware PARTNER ENTERPRISE

VERITAS / veeam

- ✓ Veritas BackupExec
- ✓ Veritas Netbackup
- ✓ Veritas DLO
- ✓ Veeam Backup
- ✓ Veeam Replication

4 Certifications

5 Références

5 %

VERITAS Partner Force Silver Partner

veeam SILVER pro partner

Moyens techniques

Afin de vous proposer les meilleures solutions, Power Maroc s'est équipée d'une infrastructure à la pointe de la technologie garantissant performances et évolutivité.
- CRM pour gérer la relation client
- Un outil de service Desk pour saisir les incidents, assurer l'affectation et tracer la résolution et le traitement.

Power Maroc dispose également :
- Une salle de Serveurs offrant un environnement conforme aux exigences de sécurité les plus strictes
- Plateforme de firewall : Système redondé de la meilleure technologie opérateur pour protection, contre les flux non autorisés
- Laboratoire de test pour la mise en place des maquettes servant pour :
    - Le test des solutions en interne
    - La préparation des POC (Proof Of Concept) pour les différents clients.

Moyens Logistiques :

Power Maroc met à la disposition de ses consultants des ordinateurs portables, des Téléphones GSM, Internet mobile et des voitures :

- 6 Véhicules
- 2 Coursiers
- Téléphones GSM, PC portable et internet mobile pour quasiment tous les consultants
- Département Achats Et logistiques
- 3 comptes bancaires gérant les transactions de la société
- Bureau de magasinage.
- 2 Salles de formation.
- 2 Salles de réunion
- 4 bureaux (sur Bd Anfa et Bd Zertouni sur Casablanca en plus des bureaux à Regus)

PowerM Selected as a Finalist for the IBM Beacon Award 2018-Think/PartnerWorld: Outstanding Storage Systems Solution category

Enterprise Storage Diamond Architecture for Mission Critical Systems
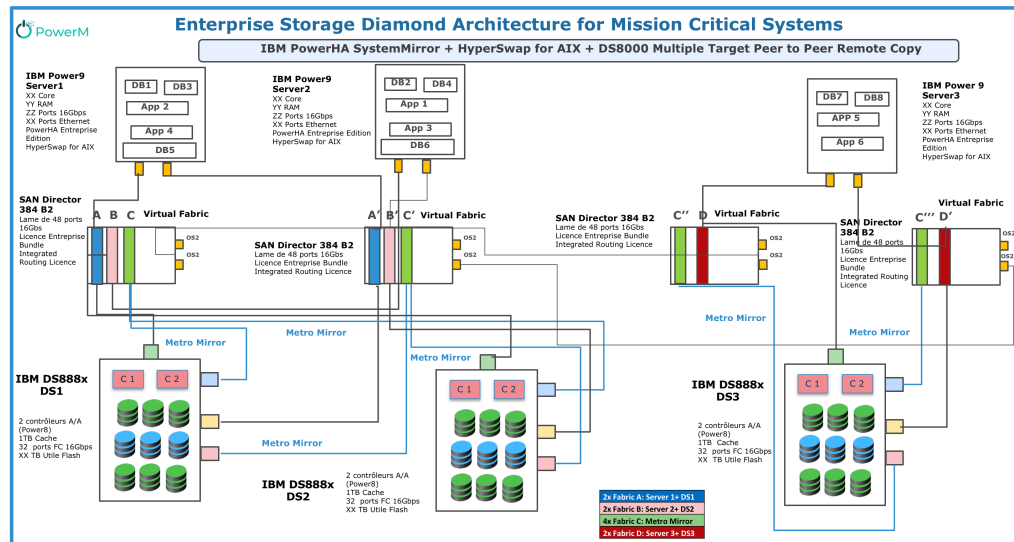
Las Vegas 20/03/2018

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The Beacon Awards, an integral part of IBM's Business Partner program, recognize select business partners who deliver exceptional IBM-based solutions that drive business value and transform the way clients and industries do business in the cognitive era. This year's awards honor achievement across 19 solution areas including analytics, collaboration, cloud, commerce, cognitive, the Internet of Things, security, systems and Watson. **Winners and Finalist were selected by a panel of IBM executives, industry analysts, and media members.**

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San Francisco 12/02/2019

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PowerM Selected as a Finalist for the IBM Beacon Award 2019-Think/PartnerWorld: Outstanding Software Defined Storage Solution category

- +600 Virtual Machine (Windows/Redhat)
- +30 BareMetal servers
- + 50 Oracle databases (11g and 12c) hosted on Oracle Exadata
- + 10 Websphere Application Server Instance
- + 30 JBOSS Applications servers
- Microsoft Exchange Server 2012
- +40 Tomcat Server
- +10 AIX 6.1 LPAR Partitions
- 3 sites configurations (VPLEX)
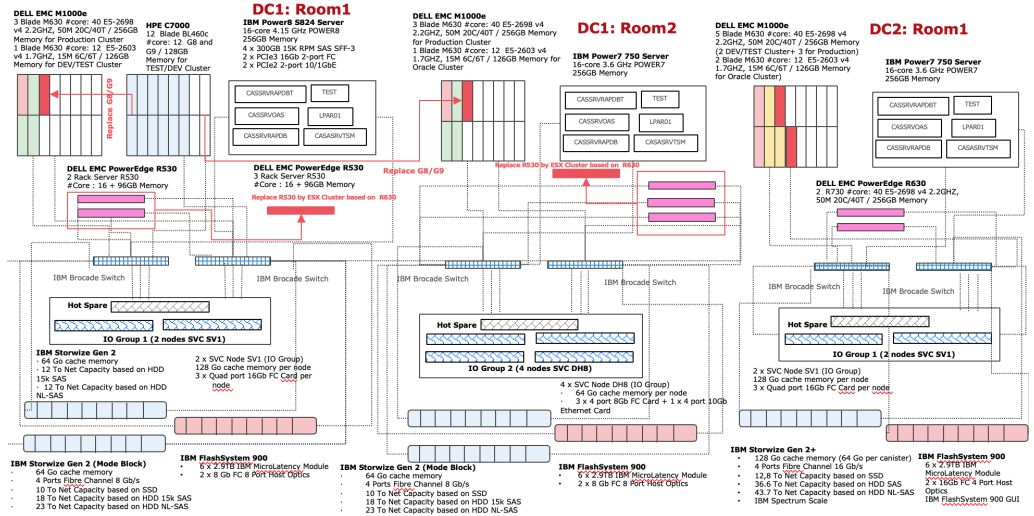- 2 x IBM ProtectTier
- 6 x LTO Library (2 per site)

San Francisco 12/02/2019

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Attijari WafaBank: Subsidiaires Infrastructure consolidation Business case

Customer Profile	
	Attijariwafa bank التجاري وفا بنك
Traded as	MASI : **ATW**
Industry	Banking, Financial Services
Founded	1904: Creation of Wafabank 1911: Creation of BCM 2003: Creation of Attijariwafa Bank
Headquarters	20 000 Casablanca 2, Bd Moulay Youssef, Morocco
Number of locations	3972 branches
Area served	Africa – Tunisia – Egypt
Products	Credit cards, consumer banking, corporate banking, finance and insurance, investment banking, mortgage loans, private banking, private equity, savings, Securities, asset management, wealth management
Revenue	US$ 2,6 billion
Net income	US$ 475 million
Total assets	US$ 43 billion
Total equity	US$ 4,7 billion
Number of employees	17 669
Subsidiaries	Attijari – Wafa Assurance – Wafasalaf – Wafa Immobilier – CBAO – Union Gabonaise de Banque – Crédit du Congo – BIM SA – Crédit du Sénégal – Société ivoirienne de banque – SCB Cameroun – BIA Togo – Attijari bank Mauritanie – Barclays Bank Egypt – Cogebanque

Business Need:
- Expand the market share in Africa
- Embrace the Omnichannel digital banking trend without compromising on data availability or efficiency.
- Consolidate the core banking systems for all African Subsidiaries
- Reduce total cost of ownership (TCO)
- Homogenous disaster recovery plan for all African Subsidiaries
- Compliance with banking systems rules

Challenge:
- Consolidate multiple banking systems in one platform (with the DR)
- Different time zone with different SLA
- Data Migration Challenge
- Monitoring and charge back
- Performance optimization for OLTP and Bach processing

Key Technical drivers:
- Performance for critical enterprise applications such as real-time operational analytics and online transaction processing.
- Optimized systems for extreme performance with High-Performance Flash Enclosure Gen2.
- Extensive server platform support with special integration with IBM Power server platforms.
- Flexible configuration options, advanced tiering and automated quality-of-service management to support systems of insight and cloud initiatives.
- Resiliency and world-class business continuity for critical enterprise applications.
- Optimizes real-time workload requirements with dynamically self-tuning cache usage for transformational efficiency
- Flexible business-continuity scenarios with true 2-way and multi-site data replication, in a wide range of configurations
- Continuous access to data during planned and unplanned system and site outages

Solution proposed by Power Maroc

SLA	RPO	RTO	Dual site	Distance between datacenter	Links between datacenter
24h/24h and 7d/7d	Near Zero	Zero	Yes	8 km	DWDW (4 to 8 Gbps)
Hosts	**OS**	**Databases**	**Applications/ERP**	**Storage**	**SAN**
IBM Power8	AIX 7.1 PowerVM	Oracle Database	Delta Banking System	IBM DS8886 (All Flash Array) 170TB Site 1 + 130 TB Site 2	IBM SAN Director B256B
High Availability	**Monitoring**	**Disaster Recovery**	**3th Site**	**Replication**	**Backup/Restore**
IBM PowerHA SystemMirror + HyperSwap for AIX	IBM Spectrum Control Advanced Edition	Yes	Yes planned for 2019	DS8000 Multiple Target Peer to Peer Remote Copy	IBM Spectrum Protect

Royal Air Maroc : Production and local DR infrastructure : Business case

PowerM
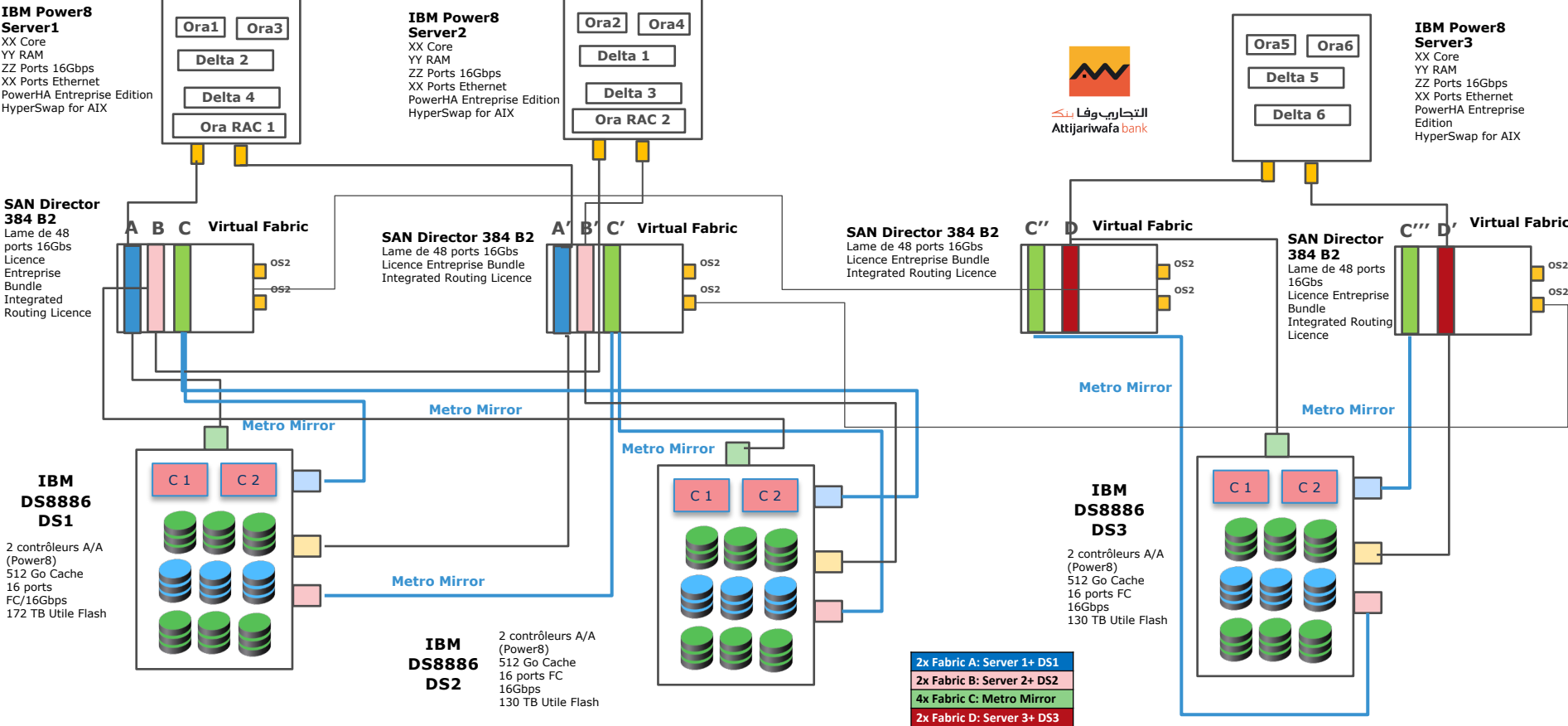
DC1: Room1

DELL EMC M1000e
3 Blade M630 #core: 40 E5-2698
v4 2.2GHZ, 50M 20C/40T / 256GB
Memory for Production Cluster
1 Blade M630 #core: 12 E5-2603
v4 1.7GHZ, 15M 6C/6T / 126GB
Memory for DEV/TEST Cluster

HPE C7000
12 Blade BL460c
G9 / 128GB
Memory for
TEST/DEV Cluster

IBM Power8 S824 Server
16-core 4.15 GHz POWER8
256GB Memory
4 x 300GB 15K RPM SAS SFF-3
2 x PCIe3 16Gb 2-port FC
2 x PCIe2 2-port 10/1GbE

Replace G8/G9

CASSRVRAPDBT	TEST
CASSRVOAS	LPAR01
CASSRVRAPDB	CASASRVTSM

DELL EMC M1000e
3 Blade M630 #core: 40 E5-2698 v4
2.2GHZ, 50M 20C/40T / 256GB Memory
for Production Cluster
1 Blade M630 #core: 12 E5-2603 v4
1.7GHZ, 15M 6C/6T / 126GB Memory for
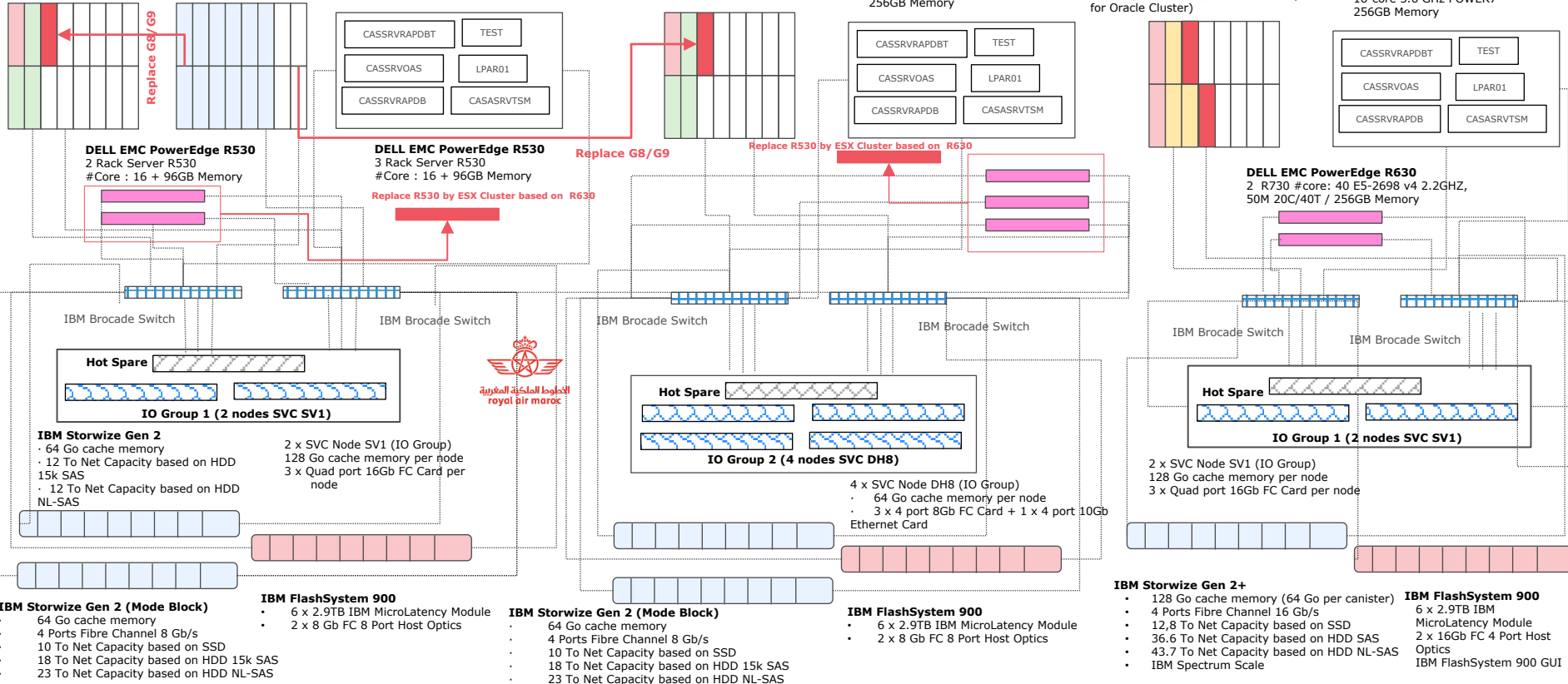Oracle Cluster

DC1: Room2

IBM Power7 750 Server
16-core 3.6 GHz POWER7
256GB Memory

CASSRVRAPDBT	TEST
CASSRVOAS	LPAR01
CASSRVRAPDB	CASASRVTSM

Replace R530 by ESX Cluster based on R630

DELL EMC M1000e
5 Blade M630 #core: 40 E5-2698 v4
2.2GHZ, 50M 20C/40T / 256GB Memory
(2 DEV/TEST Cluster+ 3 for Production)
2 Blade M630 #core: 12 E5-2603 v4
1.7GHZ, 15M 6C/6T / 126GB Memory
for Oracle Cluster)

DC2: Room1

IBM Power7 750 Server
16-core 3.6 GHz POWER7
256GB Memory

CASSRVRAPDBT	TEST
CASSRVOAS	LPAR01
CASSRVRAPDB	CASASRVTSM

DELL EMC PowerEdge R530
2 Rack Server R530
#Core : 16 + 96GB Memory

DELL EMC PowerEdge R530
3 Rack Server R530
#Core : 16 + 96GB Memory

Replace G8/G9

Replace R530 by ESX Cluster based on R630

DELL EMC PowerEdge R630
2 R730 #core: 40 E5-2698 v4 2.2GHZ,
50M 20C/40T / 256GB Memory

IBM Brocade Switch

IBM Brocade Switch

IBM Brocade Switch

IBM Brocade Switch

IBM Brocade Switch

IBM Brocade Switch

royal air maroc
الخطوط الملكية المغربية

Hot Spare

IO Group 1 (2 nodes SVC SV1)

IBM Storwize Gen 2
· 64 Go cache memory
· 12 To Net Capacity based on HDD
15k SAS
· 12 To Net Capacity based on HDD
NL-SAS

2 x SVC Node SV1 (IO Group)
128 Go cache memory per node
3 x Quad port 16Gb FC Card per
node

Hot Spare

IO Group 2 (4 nodes SVC DH8)

4 x SVC Node DH8 (IO Group)
· 64 Go cache memory per node
· 3 x 4 port 8Gb FC Card + 1 x 4 port 10Gb
Ethernet Card

Hot Spare

IO Group 1 (2 nodes SVC SV1)

2 x SVC Node SV1 (IO Group)
128 Go cache memory per node
3 x Quad port 16Gb FC Card per node

IBM Storwize Gen 2 (Mode Block)
· 64 Go cache memory
· 4 Ports Fibre Channel 8 Gb/s
· 10 To Net Capacity based on SSD
· 18 To Net Capacity based on HDD 15k SAS
· 23 To Net Capacity based on HDD NL-SAS

IBM FlashSystem 900
• 6 x 2.9TB IBM MicroLatency Module
• 2 x 8 Gb FC 8 Port Host Optics

IBM Storwize Gen 2 (Mode Block)
· 64 Go cache memory
· 4 Ports Fibre Channel 8 Gb/s
· 10 To Net Capacity based on SSD
· 18 To Net Capacity based on HDD 15k SAS
· 23 To Net Capacity based on HDD NL-SAS

IBM FlashSystem 900
• 6 x 2.9TB IBM MicroLatency Module
• 2 x 8 Gb FC 8 Port Host Optics

IBM Storwize Gen 2+
• 128 Go cache memory (64 Go per canister)
• 4 Ports Fibre Channel 16 Gb/s
• 12,8 To Net Capacity based on SSD
• 36.6 To Net Capacity based on HDD SAS
• 43.7 To Net Capacity based on HDD NL-SAS
• IBM Spectrum Scale

IBM FlashSystem 900
6 x 2.9TB IBM
MicroLatency Module
2 x 16Gb FC 4 Port Host
Optics
IBM FlashSystem 900 GUI

Customer Profile

Industry	Telecommunications
Stockholders	Orange (49 %) Finance Com (25,5 %) CDG (25,5 %)
Headquarters	Orange HQ Tour – Sidi Maarouf ,Casablanca, Morocco
Area served	Morocco
Products	Land line phones, Mobile phone lines, Internet access, 4G+
Revenue	US$ 515 million
Net income	US$ 48 million
Number of employees	2500

PRINCIPAL

673 rPerf

SECONDAIRE

455 rPerf

Puissance des POWER7 existants

673 rPerf activés	1.165 rPerf installés	455 rPerf activés	1.165 rPerf installés

Puissance des POWER8 proposée par PowerM

334 à 1.338 rPerf activés	2.676 rPerf installés	167 à 1.170 rPerf activés	1.338 rPerf installés

+98%   ← Jusqu'à →   +157%

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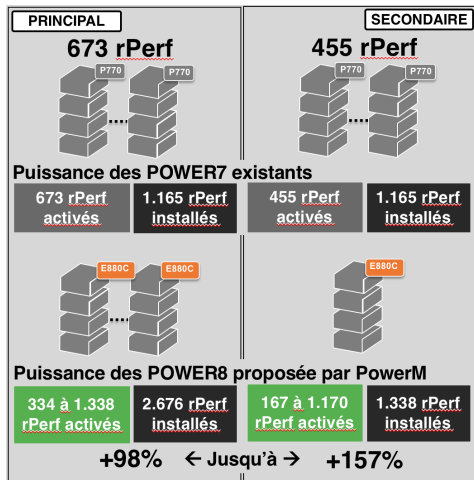
2 serveurs IBM Power E880C identiques avec chacun:

Console HMC avec écran
Rack T42 avec les PDUs necessaires
2 Books de 32 cores 4.35GHz
        - Extensible à 4 Books (128 cores)
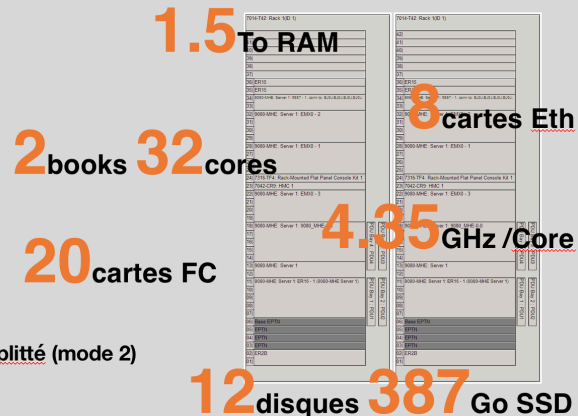**1.5 To de RAM**

I/O
- Répartis sur **2** I/O Drawers
- **20** Cartes Fibre Channel **16**Gb/s Dual-Port
- **8** Cartes Ethernet **10**Gb/s SR Quad-Port
- Paire redondante de contrôleurs SAS RAID
- Carte USB

DVD-RAM
12 disques 387 Go SSD dans un tiroir disque splitté (mode 2)
Licences AIX Enterprise Edition
Licences PowerHA Strandard Edition

1.5 To RAM
8 cartes Eth
2 books **32** cores
4.35 GHz /Core
20 cartes FC
12 disques **387** Go SSD

Un serveur IBM Power E880C

Console HMC avec écran
Rack T42 avec les PDUs necessaires
2 Books de 32 cores 4.35GHz (Extensible à 4 Books)
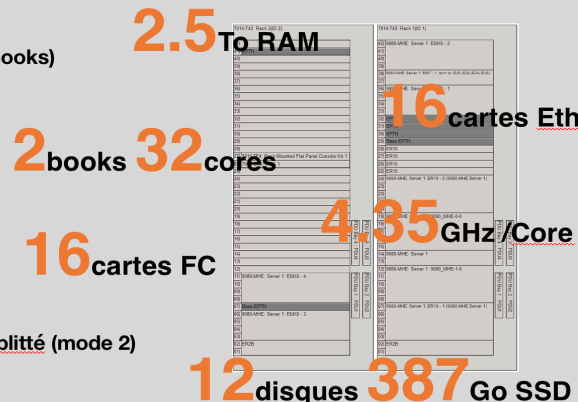**2.5 To de RAM**

I/O presque doublé par rapport à une machine du site principal
- Répartis sur **4** I/O Drawers et slots internes
- **36** Cartes Fibre Channel **16**Gb/s Dual-Port
- **16** Cartes Ethernet **10**Gb/s SR Quad-Port
- Paire redondante de contrôleurs SAS RAID
- Carte USB

DVD-RAM
12 disques 387 Go SSD dans un tiroir disque splitté (mode 2)
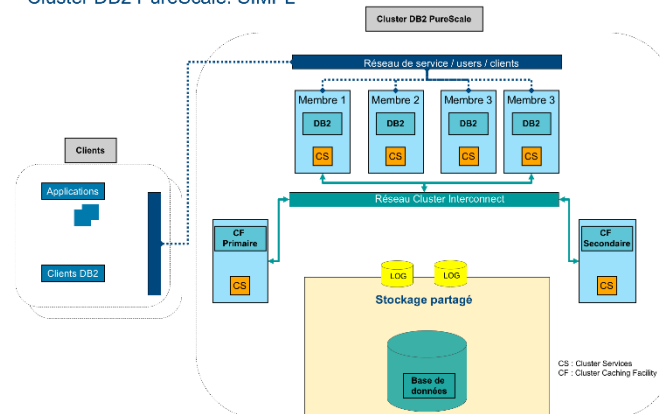**Licences AIX Enterprise Edition**

2.5 To RAM
16 cartes Eth
2 books **32** cores
4.35 GHz /Core
16 cartes FC
12 disques **387** Go SSD

General Administration of Taxes : Infrastructure Tech Refresh e-Services taxes: Business case

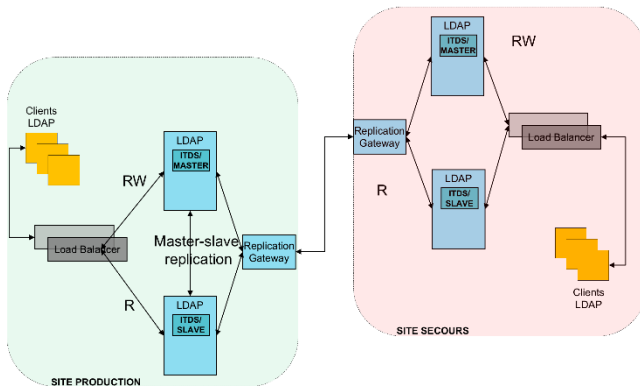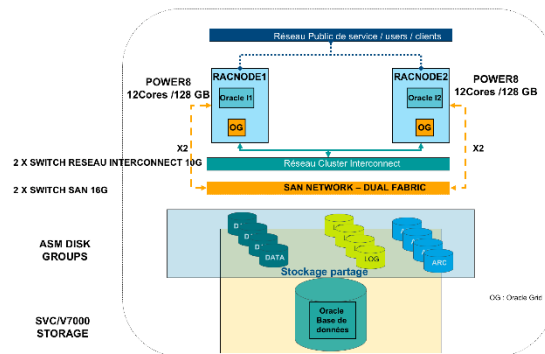| Customer Profile	
Part of	Moroccan Ministry of Finance
Industry	Government
Headquarters	Direction Générale des Impots –Rabat Agdal ,Rabat, Morocco
Area served	Morocco
Products/Solutions	The General Tax Administration manages mainly four state taxes (Corporate tax, income tax, value added tax, registration and stamp duties). It is also responsible for managing three local taxes on behalf of local authorities (business tax, tax on dwellings and tax on communal services).
Population Fiscale	414 674 (as per 2016)
Telepaiement	79% (as per 2016)
Paiement classique	21% (as per 2016)
Subscribers	232024 (as per 2016)
Recettes nettes 2016 par impot	US$ 4.3 Billion (as per 2016)
Number of employees	5079
Technical Overview	IBM Power8 IBM SAN Volume Controller IBM DS8000 DELL Servers DB2 PureScale Oracle Real Application Cluster Tivoli Directory Server IBM AIX, Linux Redhat and Vmware Vmware NSX Microsoft Exchange

VDS & distributed port groups
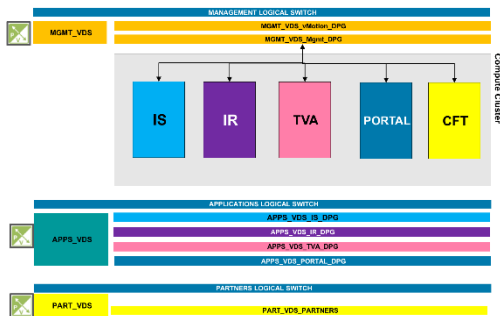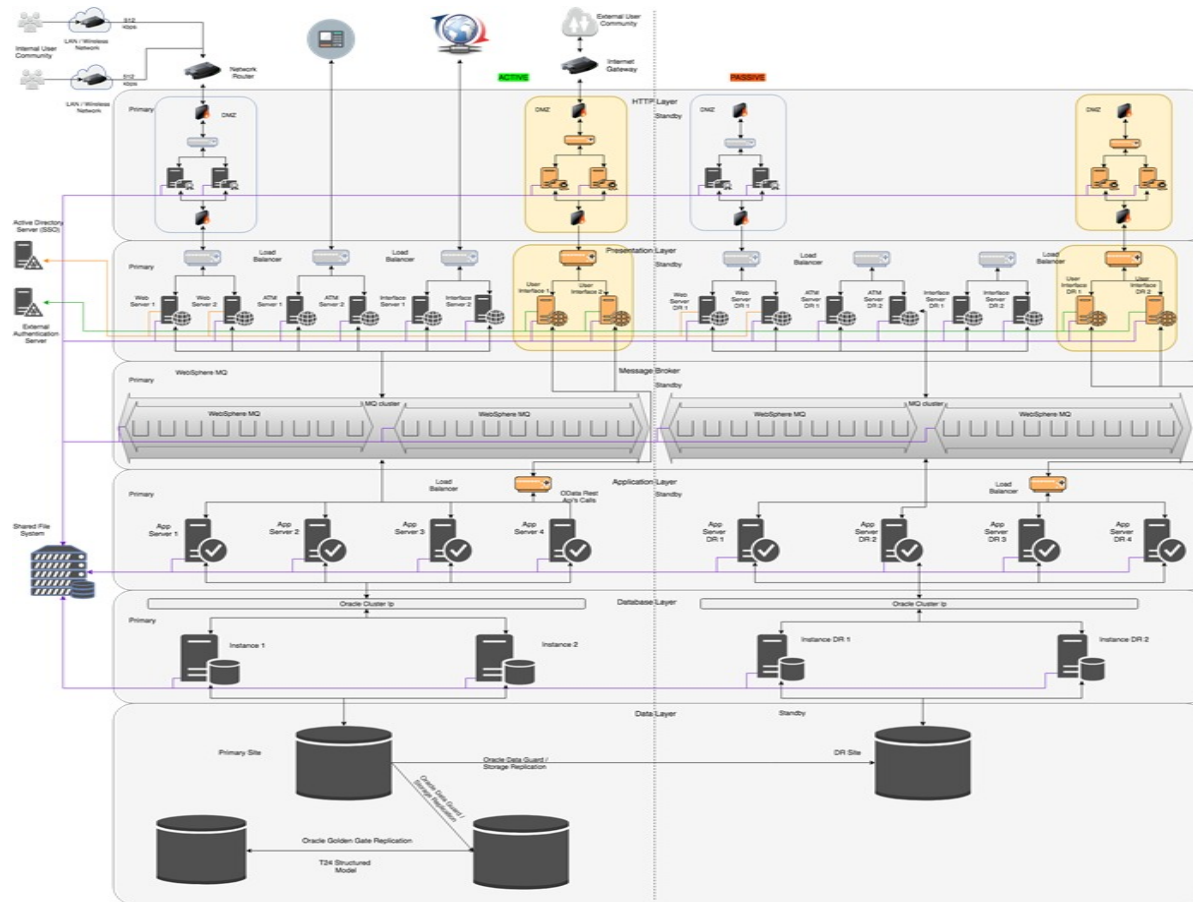

Cluster DB2 PureScale: SIMPL

ITDS – HIGH LEVEL ARCHITECTURE

Cluster de base de données Oracle RAC- TSAVA

Banque Centrale Populaire: TEMENOS Infrastructure and Middleware Stack

Customer Profile	
Part of	Banque Centrale Populaire
Industry	Finance
Headquarters	Banque Centrale Populaire –Diouri Casablanca , Morocco
Area served	Morocco and Africa
Products/Solutions	Credit cards, consumer banking, corporate banking, finance and insurance, investment banking, mortgage loans, private banking, private equity, savings, Securities, asset management, wealth management
Revenue	2,1 Billion US $ (as per 2016)
Net Income	264 Million US $ (as per 2016)
Total Assets	35 Billion US$ (as per 2016)
Stockholders	
Number of employees	8000
Technical Overview	IBM Websphere Application Server Network Deployment IBM Websphere MQ IBM Spectrum Scale Oracle VDBench IBM AIX IBM DS8886F CopyServices

Customer Profile	Maroc Telecom
Traded as	EuroNext Paris : **IAM** MASI **: IAM**
Industry	Telecommunications
Stockholders	EAU Etisalat (53,09 %) Morocco State (30,00 %) Stock Exchange (16,82 %) Personnel (0,01 %) Auto-detention (0,08 %)
Headquarters	Maroc Telecom HQ Tour – Hay RIAD ,Rabat, Morocco
Area served	Morocco, Niger, Ivory Coast, Benin, Maurinanie, Mali, Burkina Faso, Gabon, Togo, Benin
Products	Land line phones, Mobile phone lines, Internet access, 4G+
Revenue	US$ 3,5 billion
Net income	US$ 559.8 million
Total assets	US$ 12billion
Number of employees	11 807
Subsidiaries	Maroc Menara Maroc Casanet Mauritanie Mauritel Burkina Faso Onatel Gabon Gabon Télécom Mali Sotelma Bénin Bénin Télécoms Moov Togo Moov Bénin Moov Côte-d'Ivoire Moov Niger Moov Centrafrique Medi 1 TV

Business Need:

- Enhance user experience and satisfaction
- Compliance with Maroc Telecom Disaster Recovery Plan
- Reduce cost of Oracle and Websphere License
- Reduce complex administration task
- Reduce total cost of ownership (TCO)
- Homogenous disaster recovery plan for all enterprise application

Challenge:

- Migrate 18 in house J2EE application from heterogeneous platforms (HPUX, AIX, Linux, Windows) (different versions 6.x to 8x) to one consolidate platform
- Design and implement multiple pattern including Oracle and Oracle RAC
- Shot migration window
- Complex migration path (6.x to 8.x) (in house applications)
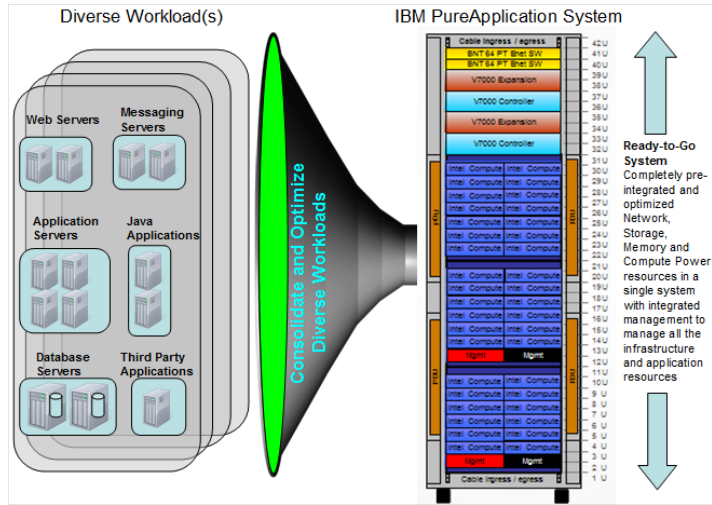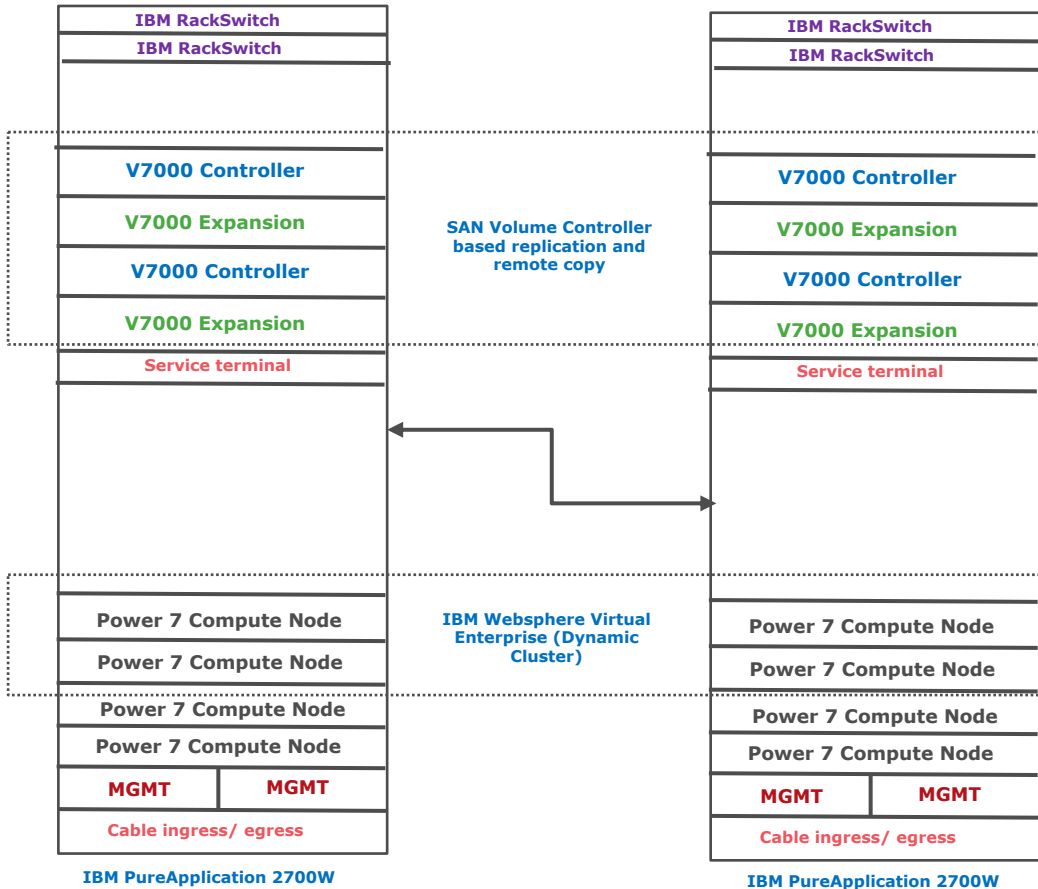- Integration with the existing DevOps platform based on Rational UrbanCode

Overview:

IBM PureApplication helped Maroc Telecom to deploy application environments quickly and repeatedly for both on-premises and off-premises cloud landscapes. App deployment normally requires scripting and configuring the tasks to deploy and manage an application, its environment and the underlying infrastructure.

IBM PureApplication simplifies and automates these tasks and processes to accelerate application delivery, lower costs and reduce errors:
- Enhance performance **by 37% (average for all application)**
- Accelerate deployment of applications **(from days to hours)**
- Reduce administrative task **(by 70%)**
- Efficiently manage, maintain and operate deployed application environments.
- Execute repeatable patterns for fast, seamless and reliable deployments.
- Simplify application lifecycle management

Solution proposed by Power Maroc

SLA	RPO	RTO	Dual site	Distance between datacenter	Links between datacenter
24h/24h and 7d/7d	Near Zero	Near Zero	Yes	40 km	DWDW (4 to 8 Gbps)
Hosts	**OS**	**Databases**	**Applications/ERP**	**Storage**	**SAN**
IBM Power 7 IBM PureApplication	AIX 7.1 PowerVM	Oracle Database DB2 Database	18 in house J2EE applications	IBM Strowize V7000	IBM Brocade
High Availability	**Monitoring**	**Disaster Recovery**	**Virtualization**	**Replication**	**Backup/Restore**
IBM PowerHA SystemMirror + Websphere Virtual Enterprise	IBM Tivoli Monitoring	Yes	PowerVM Websphere Virtual Enterprise IBM SAN Volume Controller	IBM SAN Volume Controller	Veritas NetBackup

Maroc Telecom: IBM PureApplication Hybrid Cloud Application Platform

Left rack — IBM PureApplication 2700W:

IBM RackSwitch
IBM RackSwitch
V7000 Controller
V7000 Expansion
V7000 Controller
V7000 Expansion
Service terminal
Power 7 Compute Node
Power 7 Compute Node
Power 7 Compute Node
Power 7 Compute Node
MGMT — MGMT
Cable ingress/ egress

IBM PureApplication 2700W

Center labels:
- SAN Volume Controller based replication and remote copy
- IBM Websphere Virtual Enterprise (Dynamic Cluster)

Right rack — IBM PureApplication 2700W:

IBM RackSwitch
IBM RackSwitch
V7000 Controller
V7000 Expansion
V7000 Controller
V7000 Expansion
Service terminal
Power 7 Compute Node
Power 7 Compute Node
Power 7 Compute Node
Power 7 Compute Node
MGMT — MGMT
Cable ingress/ egress

IBM PureApplication 2700W

Diverse Workload(s) / IBM PureApplication System

Diverse Workload(s):
- Web Servers
- Messaging Servers
- Application Servers
- Java Applications
- Database Servers
- Third Party Applications

Consolidate and Optimize Diverse Workloads

Ready-to-Go System
Completely pre-integrated and optimized Network, Storage, Memory and Compute Power resources in a single system with integrated management to manage all the infrastructure and application resources

Software list (left column):
- IBM Power 7
- IBM AIX 7 Enterprise Edition
- IBM PowerVM
- IBM SAN Volume Controller
- IBM Strorwize V7000
- IBM OS Image for Power Systems™ (AIX 6.1 and AIX 7.1)
- WebSphere Application Server Hypervisor Edition V7 or V8 with Intelligent Management Pack
- WebSphere Application Server Hypervisor Edition V8.5
- DB2 9.7 FP8 and DB2 10.1 FP2 Enterprise Server Edition Hypervisor
- IBM Web Application Patter V1 (with WebSphere Application Server V7)
- IBM Web Application Pattern V2 (with WebSphere Application Server V8)

Software list (right column):
- IBM Transactional Database for Cloud V1.1 (with DB2 V9.7 FP8 and V10.1 FP2)
- IBM Data Mart for Cloud V1.1 (with DB2 V9.7 FP8 and V10.1 FP2)
- IBM Application Pattern for Java™ V1 (64-bit Java 7 SDK)
- IBM Licence Metric Tool
- Oracle Dababase and Oracle RAC Patterns

Maroc Telecom : Solution d'archivage des ticket Call Data Record Fixe et Mobile

- Solution doit permettre d'archiver 6 ans de tickets et extensible à 10 ans de rétention avec un Chargement de plus de 850 millions de tickets (400 Go) par jour.
- Réduire les temps de recherche de quelques jours à quelques minutes
- Tolérance aux pannes : la solution doit être hautement disponible et doit assurer la continuité du service en cas de pannes (perte d'un composant, serveur de collecte, application, collection,…)
- Technologie de compression de données : la solution doit supporter la compression de données
- Isolement des données : la solution doit fournir la capacité de séparer les données provenant de différentes sources dans des tables physiques distinctes, et appliquer des politiques d'archivage et de sécurité sur ces différentes tables.
- Format des fichiers log supportés : la solution doit supporter plusieurs formats de fichiers log (cdr brut, ascii txt, etc)
- Configuration de la Collecte : différents modes de fonctionnement de la solution : collecte en temps réel, collecte périodique, collecte programmée,…
- Sources des logs et intégration : formats de journalisations supportés et éventuellement le besoin de déployer des agents sur les nœuds d'extrémité
- Préservation des Logs bruts : la solution doit être capable de collecter complètement les Logs sans filtrage
- Requêtes personnalisables : la solution doit supporter des requêtes personnalisées avec la syntaxe SQL
- Requête Langage flexible : la solution doit prendre en charge un langage de requête flexible qui permet l'analyse totalement arbitraire, y compris la recherche sur la base de sous-chaînes dans les colonnes..

- Solution HawkEye AP Hexis pour 20 cores (Collection – Hawkeye AP Collector et Agrégation – Serveur de Journaux evolutif Hawkeye AP)
- Système EMC Centera avec une capacité est de 375 TB d'espace utilisable pour le contenu archivé protégé par une mise en parité au niveau des objets (40 nœuds chacun avec 4 disques de 3TB)
- 2 `serveurs IBM X3850 à 40 cores et 512 Go de RAM
- Une baie de stockage EMC VNX de 100TB

Groupe Crédit Agricole Maroc –GCAM- Infrastructure consolidation : Business case

Customer Profile

Customer Profile	
Industry	Banking, Financial Services
Stockholders	Moroccan State (75,17%) MAMDA - MCMA (9,83%) CDG(10,00%) ATLANTA - SANAD (5,00%)
Headquarters	Place des Alaouites, BP.49, 10 000, Rabat, Morocco
Profil	GCAM is a Moroccan bank with public capital. In the past, oriented towards agriculture, the banking network has diversified from the 1990s to agribusiness, mortgage financing and then to all sectors of the economy.
Products	Credit cards, consumer banking, corporate banking, investment banking, mortgage loans, private banking, savings
Revenue	US$ 180 Million
Net income	US$ 27.1 million
Number of employees	3 800
Subsidiaries	Assalaf AL Akhdar CAM Gestion Holdagro Tamwil Al Fellah Fondation Crédit Agricole du Maroc pour le Développement Durable Fondation Crédit Agricole du Maroc pour les Arts et le Patrimoine Rural Fondation ARDI

Business Need:

- Enhance RPO and RTO
- Compliance with GCAM Disaster Recovery Plan
- Reduce complex administration task
- Reduce total cost of ownership (TCO)
- Reduce Batch processing time
- Homogenous virtualization and replication for all high end storage

Challenge:

- Virtualization of existing IBM Storage (XIV Gen1, XIV Gen2, DS48000)
- Short migration windows
- Flexible RPO and RTO per application / storage subsystem
- Continuous data protection with multiple recovery points to restore applications instantly to a specific point in time
- Tape and backup migration from IBM ProtectTier/IBM LTO Tape Library TS to EMC DataDomain
- Minimize network utilization
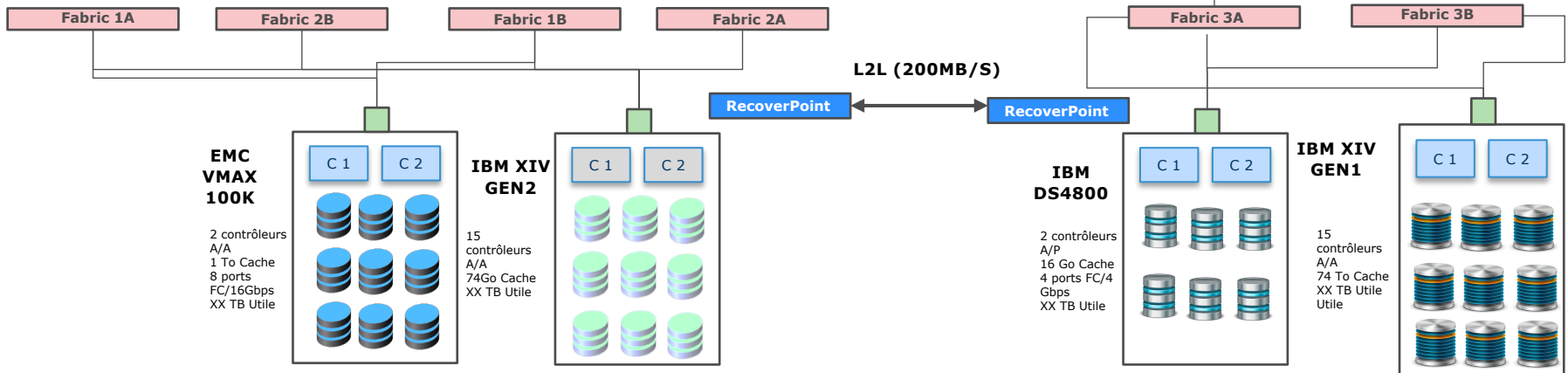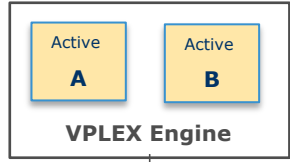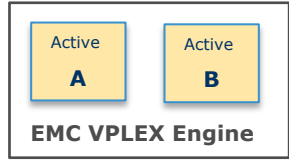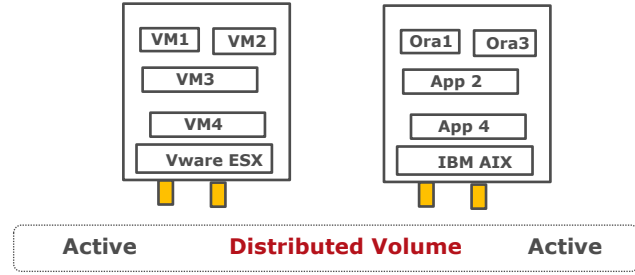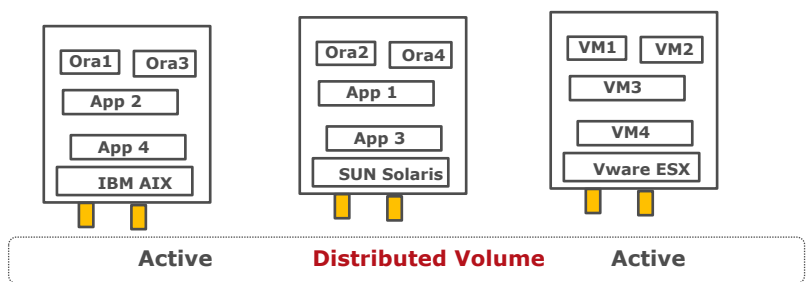- Reduce replicated data over the network.

Overview:

- The solution provides protection to applications in the face of disasters through automatic failover and failback between arrays and datacenters.
- The storage virtualization gives GCAM IT staff much more flexibility to move workloads between different tiers of storage including IBM DS4800, EMC VMAX 100K, and IBM XIV GEN1 and GEN2
- Flexible Deployment: Data migration was done with minimum downtime, saving countless weekends of maintenance downtime and IT resources.
- Enterprise Data Protection
- Data center Consolidation and Relocation
- Minimize network utilization with bandwidth compression and deduplication, significantly reducing replicated data over the network.

Solution proposed by Power Maroc/Corporate Software

SLA	RPO	RTO	Dual site	Distance between datacenter	Links between datacenter
24h/24h and 7d/7d	Near Zero	Zero	Yes	110km	L2L (200Mbps)
Hosts	**OS**	**Databases**	**Applications/ERP**	**Storage**	**SAN**
IBM Power IBM xSeries	IBM AIX, Vmware, , Windows	Oracle Database	In house and ERP application	IBM XIV Gen1 EMC VMAX100 IBM DS48000 IBM XIV Gen2	IBM Brocade (4G/8G/16G)
High Availability	**Monitoring**	**Disaster Recovery**	**Virtualization**	**Replication**	**Backup/Restore**
IBM PowerHA SystemMirror + Vmware HA/SRM	Tivoli Monitoring Nagios	Yes	EMC VPLEX	EMC RecoverPoint	IBM Spectrum /Tivoli Storage Manager IBM ProtectTier EMC DataDomain

Groupe Crédit Agricole Maroc -GCAM -EMC Continuous Availability Architecture

National Office of Electricity and Water (ONEE) Infrastructure and ERP consolidation : Business case

PowerM

.	
	Office National de l'Électricité
Industry	Electricity
Founded	1963
Headquarters	ONEE -Casablanca, Morocco
Area served	Morocco
Profile	The National Electricity Office (ONE) is the country's sole Moroccan electricity supply operator. A public establishment of an industrial and commercial nature created in 1963, it employs nearly 10,000 employees and has about 4 million subscribers. Among its mission is to satisfy the demand of electricity of Morocco with the best conditions of cost and quality of service
Consolidate Revenue ONEE	US$ 3.25 Billion
Number of employees	20 000

	Office National de l'Électricité et de l'Eau Potable
Industry	Water and sanitation
Founded	1972
Headquarters	ONEE -Rabat, Morocco
Area served	Morocco
Profile	National Office of Electricity and Water (ONEE Water Branch) is a Moroccan public institution, with an industrial and commercial character and financial autonomy. The NEE Water Branch is a leading player in the water and sanitation sector in Morocco, responsible for the planning, production and distribution of the country's water resources

Business and service Partner: Power Maroc and Corporate Software
Vendor : EMC
Revenue : US$ 3.5 Million
Year : 2016-2015

Overview:
- Data Migration form HP Server and EVA4k/6k storage to DELL-EMC continuous availability architecture (based on DELL Chassis/ Vmware and VPLEX/Rpoint +VMAX100K)
- Dual site architecture (two Rooms) + Distance DR site
- Performance optimization for OLTP and Bach processing
- Consolidation of 80% of ONEE-BE IT Systems
- Short migration windows
- Virtualization of existing storage and heterogeneous SAN Fabric

Business and service Partner: Power Maroc and Corporate Software
Vendor : ORACLE
Revenue : US$ 4.5 Million
Year : 2016-2017

Overview:
- Data Migration from HPUX and HP XP24K/EVA to Oracle Exadata
- Reduce batch processing time from 25 hours to 2 hours (contractual SLA)
- Performance optimization for OLTP and Bach processing
- Implementation of the disaster recovery plan (including BIA, process, DR stategy, business continuity and DR execution plan)
- Massively reduce ONEE CapEx and OpEx
- Delivering corporate data security and availability

ONEE – Water Branch -- Solution proposed by Power Maroc/Corporate Software

SLA	RPO	RTO	Dual site	Distance between datacenter	Links between datacenter
Business days	Near Zero	Zero	Yes	40 km	L2L (100 Mbps)

Hosts	OS	Databases	Applications/ERP	Storage	SAN
DELL Chassis	Windows/ Vmware	Oracle SQLServer	SAP R/3	2 x EMC VMAX 100K(Hybrid) 150TB Site 1 + 1 x VNX 5000 - 200TB Site 2 EMC VLPEX and RecoverPoint	Brocade /EMC VPLEX

| High Availability	Monitoring	Disaster Recovery	3th Site	Replication	Backup/Restore
Microsoft Cluster Vmware HA and SRM	Nagios	Yes	Yes	EMC VPLEX/RecoverPoint	Veritas Netbackup EMC DataDomain

ONEE –Electricity Branch -- Solution proposed by Power Maroc/Corporate Software

SLA	RPO	RTO	Dual site	Distance between datacenter	Links between datacenter
Business days	Near Zero	Zero	Yes	25 km	Dark Fiber(2 Gbps)

Hosts	OS	Databases	Applications/ERP	Storage	SAN
Oracle SPARC Oracle Exadata	Oracle Linux	Oracle Exadata	SAP R/3	¼ Oracle Exadata Site 1 + Oracle Linux Server+ 1/8 Oracle Exadata Site 2 + Oracle Linux Server+	Brocade /EMC

High Availability	Monitoring	Disaster Recovery	3th Site	Replication	Backup/Restore
Oracle DataGuard	Oracle EM	Yes	No	Oracle DataGuard/Exadata	EMC Networker Oracle ZS3 Disk Appliance

PowerM

ONEE- Electricity Branch: Oracle Maximum Availability Architecture (MAA)

- 1/4 Exadata Machine for production
- 1/8 Exadata Machine for DR
- Oracle Server X5-2 for SAP Application Serveur
- Oracle VM and Oracle Linux
- Oracle Enterprise Manager
- Two (2) Backup Appliance Oracle ZFS Storage Appliance ZS3-2
- Two (2) Backup Server Oracle Server X5-2
- Two (2) Media Server Oracle Server X5-2L
- Two (2) LTO Library Oracle StorageTek SL150
- EMC Networker

http://www.oracle.com/technetwork/database/features/availability/exadata-maa-131903.pdf
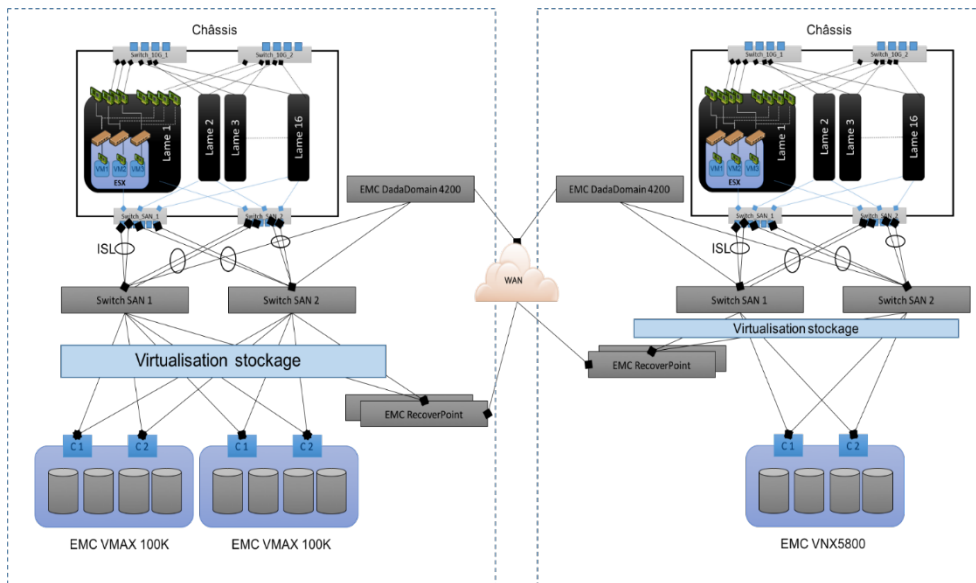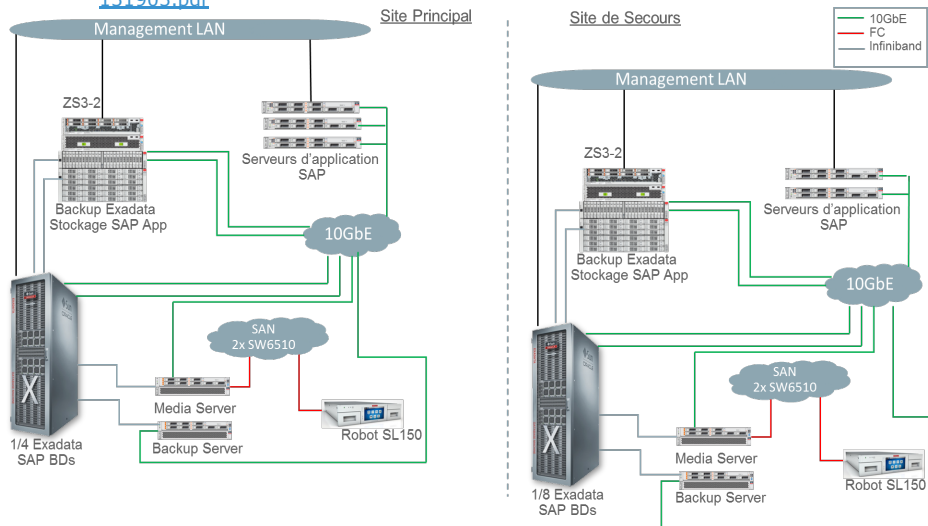
ONEE- Water Branch : EMC Continuous Availability Architecture

- Two (2) EMC High End VMAX 100K
- One (1) EMC Midrange VNX5800
- Four (4) Virtualisation Engine EMC VPLEX
- Eight EMC Continious data protection RecoverPoint
- Four (4) Switchs SAN Brocade B6520
- Four (4) DELL Blade
- Vmware Entreprise Plus With Operations Management
- Two (2) VTL EMC DataDomain DD4200
- Veritas Netbackup

https://www.emc.com/en-us/storage/vplex.htm

Maroc Telecom –IAM(2)- Databases and backup Consolidation : Business case

Customer Profile

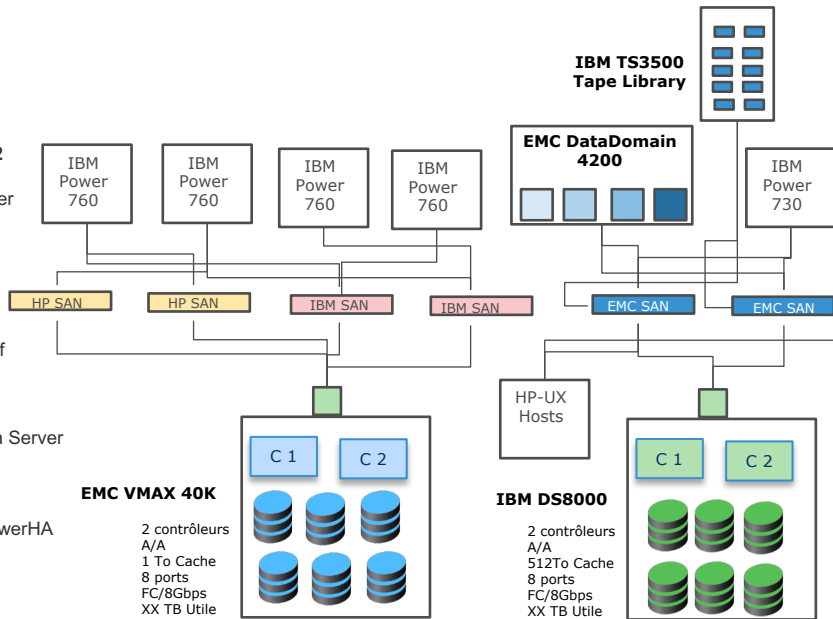|	
	Maroc Telecom
Traded as	EuroNext Paris : **IAM** MASI : **IAM**
Industry	Telecommunications
Stockholders	EAU Etisalat (53,09 %) Morocco State (30,00 %) Stock Exchange (16,82 %) Personnel (0,01 %) Auto-detention (0,08 %)
Headquarters	Maroc Telecom HQ Tour – Hay RIAD ,Rabat, Morocco
Area served	Morocco, Niger, Ivory Coast, Benin, Maurinanie, Mali, Burkina Faso, Gabon, Togo, Benin
Products	Land line phones, Mobile phone lines, Internet access, 4G+
Revenue	US$ 3,5 billion
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Total assets	US$ 12billion
Number of employees	11 807
Subsidiaries	Maroc Menara Maroc Casanet Mauritanie Mauritel Burkina Faso Onatel Gabon Gabon Télécom Mali Sotelma Bénin Bénin Télécoms Moov Togo Moov Bénin Moov Côte-d'Ivoire Moov Niger Moov Centrafrique Medi 1 TV

Business Need:
- Reduce complex administration task
- Reduce total cost of ownership (TCO)(Oracle License)
- Near Real-Time Data warehousing and Dashboard

Challenge:
- Reduce Maroc Telecom Data warehouse backup windows **from 42 hours to 5 hours** without any database tuning
- Consolidate **9 Databases (mission critical)** into the Power7 server
- Integration into existing heterogeneous SAN (HP, IBM and EMC)
- Software upgrade (major version)(Veritas NetBackup)
- Short migration windows

Overview:
- EMC DataDomain 4200 Backup Appliance: backup throughput of 10TB/h
- Veritas Netbackup Suite: 80 agents (OS, Databases,…)
- Tape Library IBM TS3500 (with 10 LTO drives and 500 Slots)
- Backup Server IBM Power 730 (hosting Veritas Netbackup Media Server and Catalogue)
- Integration with IBM DS8000
- Switch SAN EMC Connectrix DS6510
- 4 servers IBM Power 760 running Oracle Databases and IBM PowerHA SystemMirror
- Integration with EMC VMAX 40K
- Hardware Management Console HMC
- Oracle Database Enterprise Edition

IBM TS3500 Tape Library

EMC DataDomain 4200

IBM Power 760 / IBM Power 760 / IBM Power 760 / IBM Power 760 / IBM Power 730

HP SAN | HP SAN | IBM SAN | IBM SAN | EMC SAN | EMC SAN

HP-UX Hosts

EMC VMAX 40K
C 1 | C 2
2 contrôleurs A/A
1 To Cache
8 ports
FC/8Gbps
XX TB Utile

IBM DS8000
C 1 | C 2
2 contrôleurs A/A
512To Cache
8 ports
FC/8Gbps
XX TB Utile

Solution proposed by Power Maroc

SLA	RPO	RTO	Dual site	Distance between datacenter	Links between datacenter
24h/24h and 7d/7d	Near Zero	Near Zero	No	Local Datacenter	Local Datacenter
Hosts	**OS**	**Databases**	**Applications/ERP**	**Storage**	**SAN**
IBM Power 7	AIX 7.1 PowerVM	Oracle Database	In house applications SOPRA	EMC VMAX40K IBM DS8000	Brocade (HP, IBM and EMC)
High Availability	**Monitoring**	**Disaster Recovery**	**Virtualization**	**Replication**	**Backup/Restore**
IBM PowerHA SystemMirror	Oracle Enterprise Manager	Yes	PowerVM	No	Veritas NetBackup

PORTNET The National Single Window for Foreign Trade Procedures : Business case

Customer Profile	PORTNET الشباك الوطني لتبسيط مساطر التجارة الخارجية Guichet Unique National des Procédures du Commerce Extérieur
Industry	Trade and services
Profile	PortNet, the National Single Window for Foreign Trade Procedures, is a computer tool which enables the e-processing of authorizations, permits,certicates, customs documents and other deliveries by the competent organizations of the State, to undertake import and export operations. The safe developed system guarantees the technological and legal security of different documents upon the integration of a digital signature and e-payment. Therefore, PortNet allows economic operators, through a progressive integration of their supply chains and those of public and private service providers, to have a better control on complex import and export trade.
Headquarters	Harbour building of Port of Casablanca, 2nd Floor Port of Casablanca, 20000, Casablanca, Morocco
Area served	Over 9 commercial ports in Morocco
Key Figures	More than 19 200 integrated importers. More than 24 000 integrated users. More than 133 interconnected marine and shipping agents. More than 20 interconnected key public and private bodies. More than 760 integrated forwarding agents authorized by customs. More than 315 681 monthly exchanged messages in 2015. 15 connected banks in Morocco. More than 900 monthly registered stop-overs.

Business Need:

- Reducing human contact through the digitalization of all foreign trade procedures
- Traceability of all operations in real time
- Securing information and improving revenue
- Optimize application performance
- Implement Disaster Recovery Plan

Challenge:

- Migration from existing SUN platform to Oracle SuperCluster
- Short migration windows
- Application code revue and optimization
- Reduce replicated data over the network.
- Performance optimization for OLTP and Bach processing

Overview:

- Oracle SuperCluster M7 combines Oracle Database efficiency and performance with near-zero-overhead secure multitenancy tools to create a complete secure, infrastructure for database and applications. Elastic configurations allow to start with a small system and easily scale to cloud as demand grows over time.
- The Oracle M7 high-performance processor architecture delivers enterprise Java application and Oracle Database performance
- Oracle VM Server for SPARC and Oracle Solaris near-zero-overhead virtualization work in tandem with an ultra-fast InfiniBand fabric to allow for maximum performance and scalability with no wasted space, power, compute, memory, human, or software resources.
- Implementation of the disaster recovery plan
- Massively reduce Portnet CapEx and OpEx
- Delivering corporate data security and availability

ONEE – Water Electricity -- Solution proposed Corporate Software

SLA	RPO	RTO	Dual site	Distance between datacenter	Links between datacenter
Business days	Near Zero	Near Zero	Yes	90km	LAN to LAN (100MB/s)
Hosts	**OS**	**Databases**	**Applications/ERP**	**Storage**	**SAN**
Oracle Linux Oracle Exadata	Oracle Linux	Oracle Exadata Oracle SuperCluster	In house application	Oracle Exadata and SuperCluster Storage	SAN Brocade
High Availability	**Monitoring**	**Disaster Recovery**	**3th Site**	**Replication**	**Backup/Restore**
Oracle DataGuard	Oracle EM	Yes	No	Oracle DataGuard/Exadata	Veritas NetBackup Oracle ZS3 Disk Appliance

TGR- Tech Refresh Backup and Protection
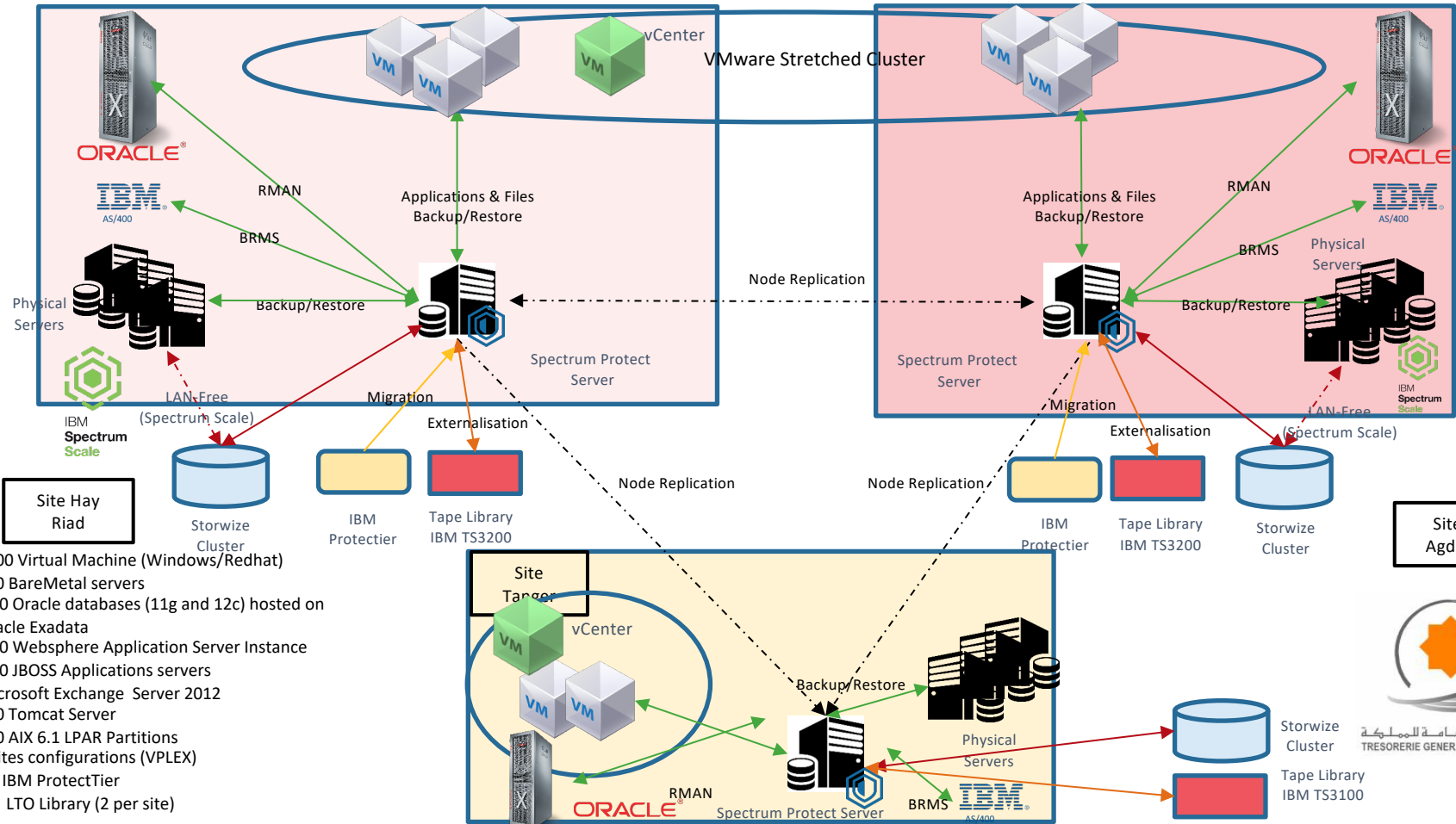
PowerM

VMware Stretched Cluster

vCenter

Site Hay Riad

Site Agdal

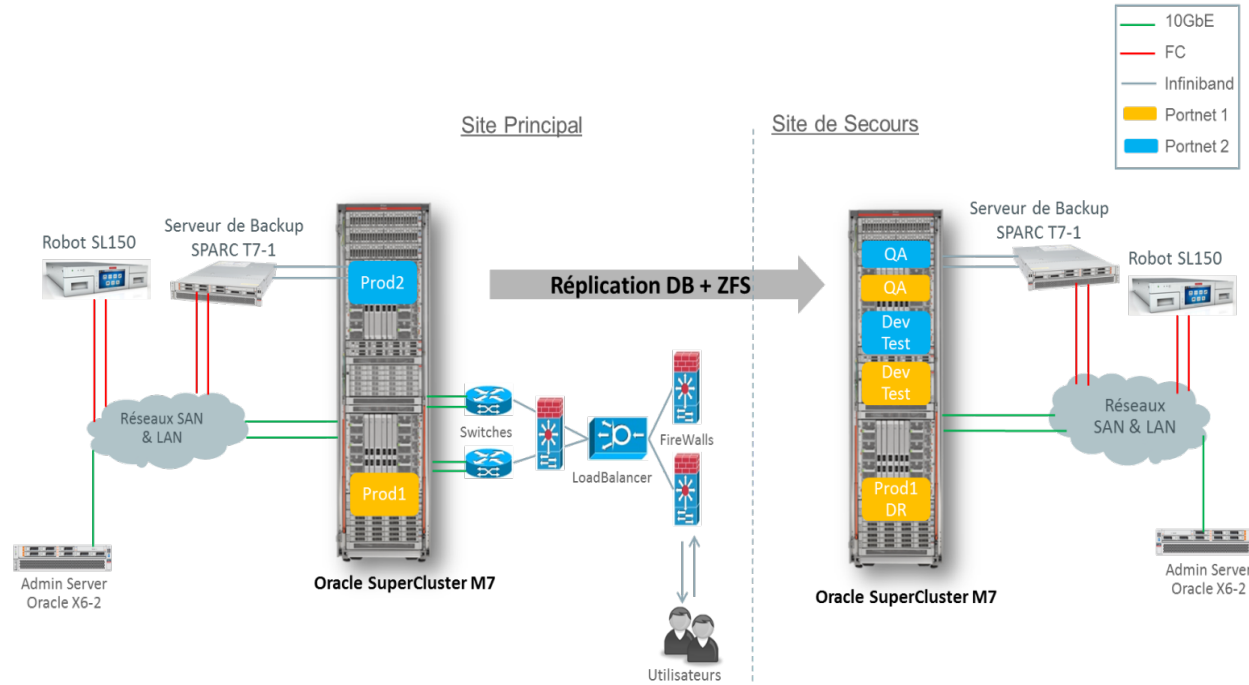**Site Tanger**

- +600 Virtual Machine (Windows/Redhat)
- +30 BareMetal servers
- + 50 Oracle databases (11g and 12c) hosted on Oracle Exadata
- + 10 Websphere Application Server Instance
- + 30 JBOSS Applications servers
- Microsoft Exchange Server 2012
- +40 Tomcat Server
- +10 AIX 6.1 LPAR Partitions
- 3 sites configurations (VPLEX)
- 2 x IBM ProtectTier
- 6 x LTO Library (2 per site)

PORTNET: Oracle Maximum Availability Architecture (MAA)

Legend:
- 10GbE
- FC
- Infiniband
- Portnet 1
- Portnet 2

Site Principal

Robot SL150

Serveur de Backup SPARC T7-1

Prod2

Prod1

Oracle SuperCluster M7

Réseaux SAN & LAN

Admin Server Oracle X6-2

Switches

FireWalls

LoadBalancer

Utilisateurs

Réplication DB + ZFS

Site de Secours

Serveur de Backup SPARC T7-1

Robot SL150

QA
QA
Dev Test
Dev Test
Prod1 DR

Oracle SuperCluster M7

Réseaux SAN & LAN

Admin Server Oracle X6-2

---

2 x switchs LAN Ethernet Oracle ES2-64 :

40x ports 10GbE Base-T RJ45

6x ports QSFP+

Bandwidth : 1,28 TB/s

Support Jumbo frames 9216 bytes

VLAN, Link aggregation, QoS, VxLAN

---

2 x switchs SAN FC BROCADE 300

Support of 24 ports FC

16 ports FC actif

Ports Type : FL, F, E, M_port

Protocoles : SSH, HTTP, HTTPS, SNMP, Telnet, SMI-S

Services : RSCN, RCS, QoS, WWN/Port zoning, Fabric watch

---

2 x Oracle STK SL150 + Veritas Netbackup

4 x DriveLTO6 FC

Veritas Netbackup

Interfaces : 8 Gb Fibre Channel, 10/100 Ethernet and USB

---

2 x Oracle SuperCluster M7

4x PDOMs SPARC M7-8

2 x 32 cores SPARC M7 Processors @ 4.13 GHz

1 TB RAM Memory (32 x 32GB DDR4 DIMMs)

2 x Card Ethernet Sun Dual 10 GbE SFP+ (2 ports

2 x Card Sun Quad Data Rate (QDR) InfiniBand (2 ports

1x Card HBA FC 16Gb Dual ports (2 ports

1x Card Quad 1Gb Ethernet (4 ports

3 x Exadata Storage Servers HC (High Capacity)

2 x Processor 10 cœurs Intel E5-2630 v4

4 x 3.2 TB NVMe PCI flash drives (Exadata Smart Flash Cache)

12 x 8 TB SAS HDD disks

NET Capacity = 60TB (with ASM High Redundancy)

1x Shared Storage ZFS Appliance ZS3-ES Dual Controller

4x 8-core 2.1G Hz Intel Xeon E5-2658 processors

512 GB RAM Memory

2x dual-port InfiniBand HCA

4x 1.6 TB read-optimized solid-state disks (SSDs

20 x 8 TB high-capacity 7,200 RPM disks

4 x 200 GB write-optimized SSD

Maroc Telecom –IAM(3)- Storage Virtualisation : Business case

Customer Profile	Maroc Telecom
Traded as	EuroNext Paris : **IAM** MASI **: IAM**
Industry	Telecommunications
Stockholders	EAU Etisalat (53,09 %) Morocco State (30,00 %) Stock Exchange (16,82 %) Personnel (0,01 %) Auto-detention (0,08 %)
Headquarters	Maroc Telecom HQ Tour – Hay RIAD ,Rabat, Morocco
Area served	Morocco, Niger, Ivory Coast, Benin, Maurinanie, Mali, Burkina Faso, Gabon, Togo, Benin
Products	Land line phones, Mobile phone lines, Internet access, 4G+
Revenue	US$ 3,5 billion
Net income	US$ 559.8 million
Total assets	US$ 12billion
Number of employees	11 807
Subsidiaries	Maroc Menara Maroc Casanet Mauritanie Mauritel Burkina Faso Onatel Gabon Gabon Télécom Mali Sotelma Bénin Bénin Télécoms Moov Togo Moov Bénin Moov Côte-d'Ivoire Moov Niger Moov Centrafrique Medi 1 TV

Business Need:

- Enhance RPO and RTO
- Compliance with Maroc Telecom Disaster Recovery Plan
- Reduce complex administration task
- Reduce total cost of ownership (TCO)
- Homogenous virtualization and replication for all high end storage

Challenge:

- Virtualization of 1PB of data across heterogeneous storage system (IBM, EMC, HP and Hitachi)
- Short migration windows
- Flexible RPO and RTO per application / storage subsystem
- Continuous data protection with multiple recovery points to restore applications instantly to a specific point in time
- Minimize network utilization
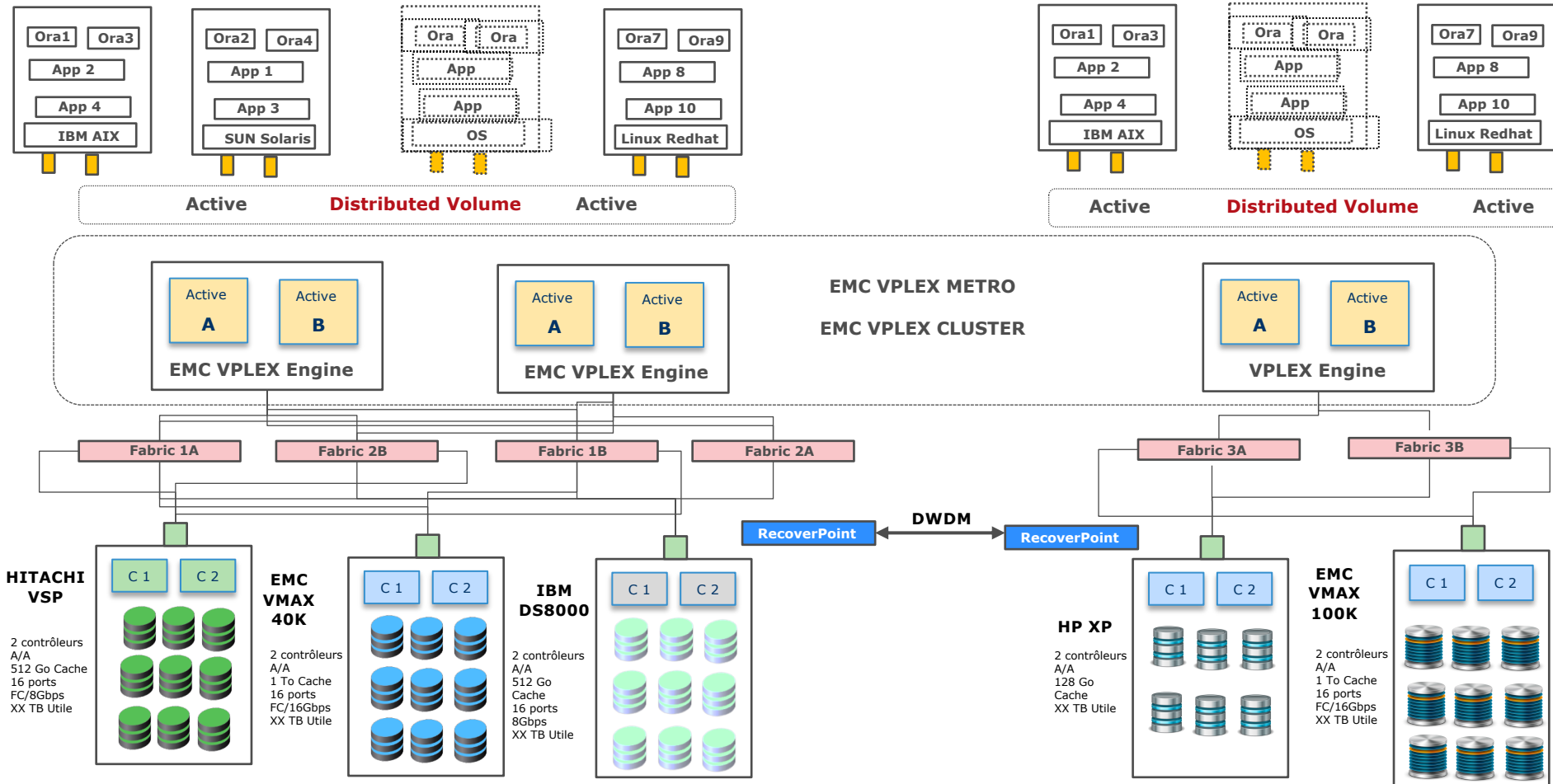- Reduce replicated data over the network.

Overview:

- The solution provides protection to applications in the face of disasters through automatic failover and failback between arrays and datacenters.
- The storage virtualization gives Maroc Telecom IT staff much more flexibility to move workloads between different tiers of storage including IBM DS8000, EMC VMAX 400K, Hitachi HDS, HP EVA/XP
- Flexible Deployment: Data migration was done with minimum downtime, saving countless weekends of maintenance downtime and IT resources.
- Enterprise Data Protection
- Data center Consolidation and Relocation
- Minimize network utilization with bandwidth compression and deduplication, significantly reducing replicated data over the network.

Solution proposed by Power Maroc

SLA	RPO	RTO	Dual site	Distance between datacenter	Links between datacenter
24h/24h and 7d/7d	Near Zero	Zero	Yes	40 km	DWDW (4 to 8 Gbps)
Hosts	**OS**	**Databases**	**Applications/ERP**	**Storage**	**SAN**
IBM Power Oracle SUN HP and DELL Blades	AIX,Solaris,Vmware, Linux, Windows	Oracle Database	In house and ERP application	IBM DS8000 EMC VMAX400 Hitachi HDS HP XP and EVA	IBM Brocade
High Availability	**Monitoring**	**Disaster Recovery**	**Virtualization**	**Replication**	**Backup/Restore**
IBM PowerHA SystemMirror + Veritas Cluster Vmware HA/SRM	HP SiteScope	Yes	EMC VPLEX	EMC RecoverPoint	Veritas NetBackup

Maroc Telecom : EMC Continuous Availability Architecture

PowerM

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Business Need:

- Improved security
- Proactive approach to IT problems
- Better uptime
- Cost savings over in-house IT
- Free internal staff for strategic work
- Lack of internal IT
- Reduce CAPEX/OPEX

Solution:

- Consortium provide Management, Monitoring and Reporting services of the existing and new components on site and remotely to Maroc Telecom through the highly skilled PowerM and CS Teams with SLAs for Incidents and problems
- Managed Services for around 300 servers and 20 storage sub systems 24/24 and 7d/7d
- A dedicated team of 11 consultants on site and 5 consultants off site (remote)
- Use of existing HP Site Scope for monitoring and service desk
- IT as a services for server platform support , backup and recovery management, storage management and hypervisors management
- KPI(s) for one Quarter (average): 800 services requests /tickets (including support, change request, incident, problem,…)/97% backup succes/

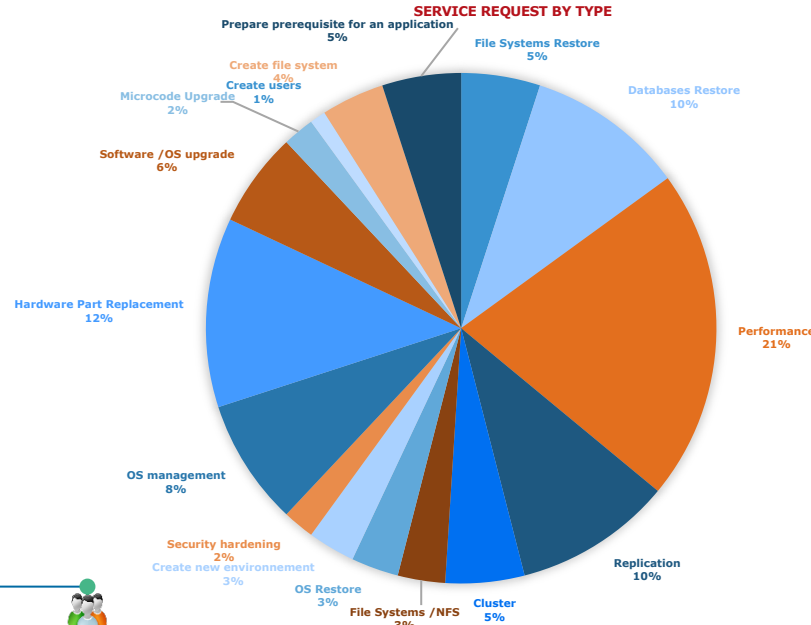| |
|---|
| - Switch Brocade DXC 240 |
| - Librairie SUN SL8500 |
| - Brocade 5300 |
| - SUN T5240 Servers |
| - Licences Veritas NetBackup |
| - SPARC T5440 Servers |
| - SPARC T5220 Servers |
| - SPARC M4000 Servers |
| - SPARC M9000 Servers |
| - SPARC M5000 Servers |
| - SUN V490 Servers |
| - Firewall CISCO ASA Servers |
| - Load Balancer CISCO Servers |

- Quantum scalar i500 avec 6 lecteurs LTO4
- Baie de stockage EMC CX3-40
- Switchs Brocade DS-4100B
- 43 Serveurs Fujitsu RX
- Load Balancer Alteon ACEdir 4 with AC Pwr-8 10/100T
- Quantum scalar 100 avec 4 lecteurs LTO3
- Blade and lames DELLPower Edge
- 09 Blade Servers Blade BX620
- 90 serveurs Fujitsu Siemens Lame Blade BX620
- Serveurs Dell R710
- DELL PE M1000e Blade Enclosure
- Power Connect M6348 Switch,
- PowerConnect M8024-k 10GbE Switch
- PowerEdge M910 Blade Server,
- Equal Logic PS 6110 Baie de Stockage
- Rack 42U including 1U KMM and PowerEdge KVM
- DELL 1 Power Edge M820 Blade Server
- 96 Serveurs DELL M710
- 2 x VTL FlaconStor

Maroc Telecom –Managed Services: Business case

Backup TB per Day	50 TB
Backup windows for application type 1	2 hours
Backup windows for application type 2	4 hours
Backup windows for application type 3	8 hours
Backup windows for application type 4	Weekend
Number of Oracle Database to backup	28
Microsoft Exchange backup	Yes
SharePoint backup	Yes
Appplication server backup	Yes
File Systems backup	Yes
Vmware backup	Yes

SERVICE REQUEST BY TYPE

- Prepare prerequisite for an application 5%
- File Systems Restore 5%
- Create file system 4%
- Create users 1%
- Microcode Upgrade 2%
- Databases Restore 10%
- Software /OS upgrade 6%
- Performance 21%
- Hardware Part Replacement 12%
- Replication 10%
- OS management 8%
- Cluster 5%
- Security hardening 2%
- Create new environnement 3%
- File Systems /NFS 3%
- OS Restore 3%

Manage Virtual environment	X
High Availability	X
System Console Management	X
Manage Operating System / File Systems	X
Manage Operating System and Security	X
Support Performance and Capacity Reporting	X
Advanced Management- Backup and Recovery Management	X
Monitoring- Storage Management	X
Base Management- Storage Management	X
Virtual Environment/Hypervisor Management	X

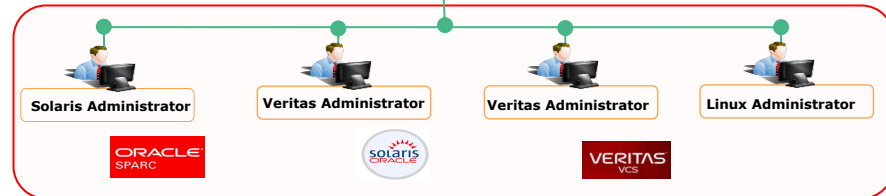## Managed Service on site resources Site Al Irfane - Rabat

IAM MCO Account MANAGER

Systems and Storage Team

Backup and recovery Team

Systems and storage administrator
Systems and storage administrator
Systems and storage administrator
Systems and storage administrator

Backup and recovery administrator
Backup and recovery administrator

ORACLE SPARC   HITACHI Hitachi Data Systems   solaris ORACLE   VERITAS VCS   MCDATA

Symantec   ORACLE STORAGETEK   FalconStor Software
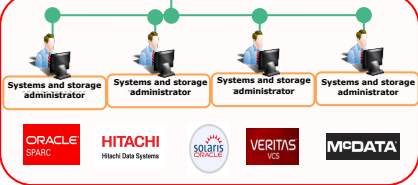
Managed Service on site resources 5 other Sites - Rabat

IAM MCO Account MANAGER

Infrastructure Support Team

Solaris Administrator   Veritas Administrator   Veritas Administrator   Linux Administrator

ORACLE SPARC   solaris ORACLE   VERITAS VCS

Direction de la Météorologie Nationale HPC 900TFLOPS

Customer Profile	الملكة المغربية وزارة التجهيز والنقل واللوجستيك والماء قطاع الماء مديرية الأرصاد الجوية الوطنية
Part of	Moroccan Ministry of Equipment, Transport, Logistics and Water
Industry	Government
Headquarters	Préfecture Hay Hassani-Ain Chock, BP 8106 Casablanca
Area served	Morocco
Products/Solutions	Ensure the activities related to meteorological and climatological information necessary to satisfy all the needs of the users at the national level and to assure the international exchanges of data in application of the agreements ratified by the Kingdom of Morocco; Conduct atmospheric, theoretical, experimental and applied atmospheric, meteorological and climatological studies and research as well as studies and related research relevant to its mission; Participate in the preparation of international agreements in liaison with the administrations concerned in the fields of its competence and in the drafting of meteorological regulations and their execution.
Computing Power And Storage	900 Tflops 9600 core 500TB Storage
forecasting models	NORAF (10km), ALADIN (7.5km), ALARO (5km) e AROME (1.3km) AROME 3D-VAR (2.5km)
Technical Overview	IBM V7000 Storage IBM SAN Switch IBM Spectrum Protect Lenovo Thinksystem Servers Redhat Enterprise Linux Server Switchs EDR Mellanox Compilateur INTEL Debuggeur