Next Generation IT Roadmap – An Emergent Need

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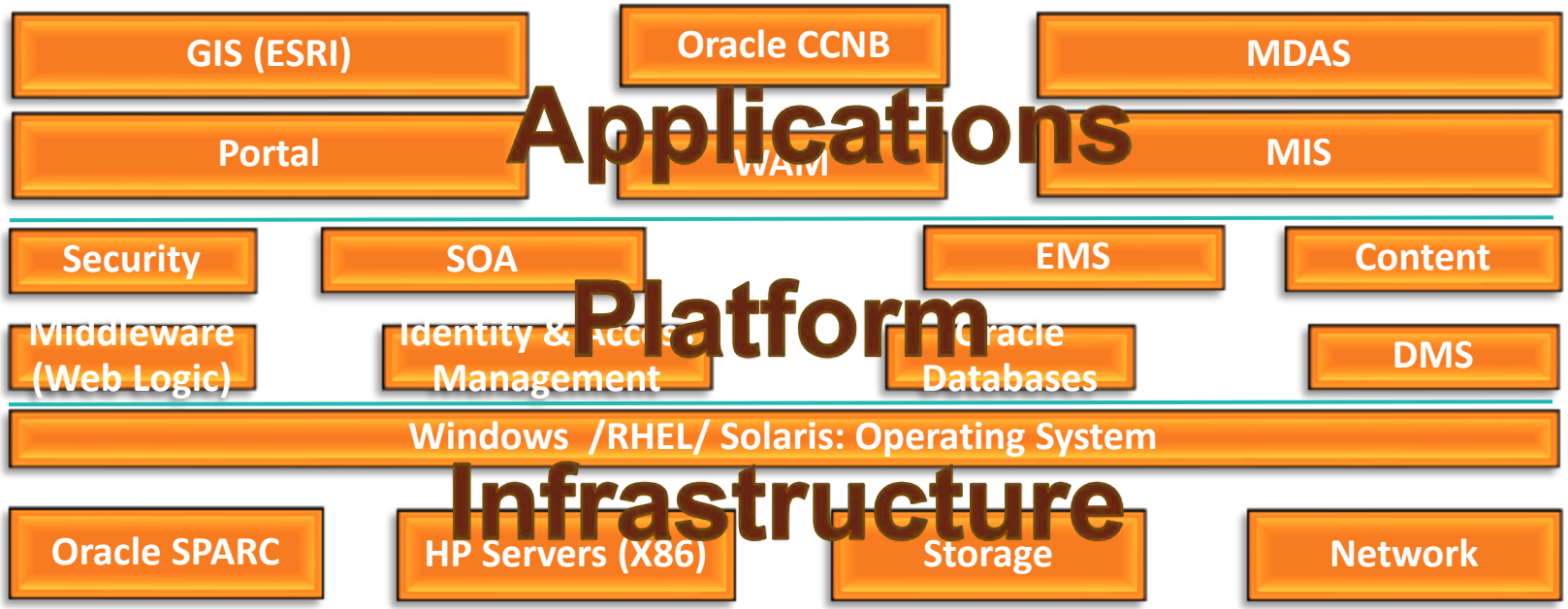
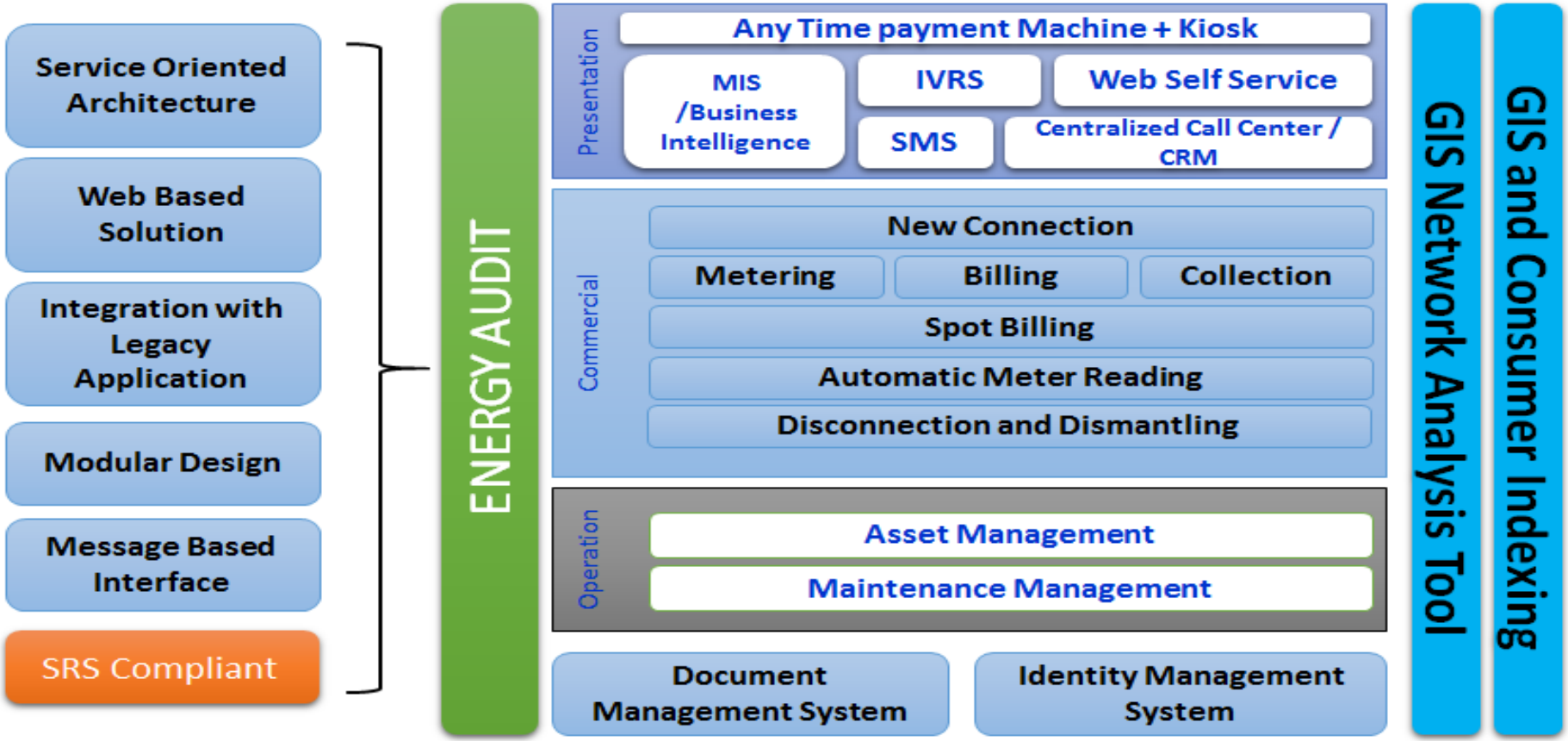


Exiting IT Landscape

- **Servers:** **HPE (Intel X86)**- Web, GIS, DNS, Access Control, Anti-Virus, Reverse Proxy, EMS/NMS, DMS, WAM, Test, Mail, Backup **Oracle -** Database and Application & ExaCC.
- **Network:** **HPE-** Core/ Access/ Distribution Switches, Router, Router Internet/ VPN/ MPLS| **RADWARE- Application** Load Balancer, CHEKCPOINT – Firewall,
- **Storage:** **HPE-** SAN, SAN Switch, Tape
- **Applications:** **Oracle-** CCnB-Billing, MIS (Business Intellegence) Asset Mgt. ,Maintenance Mgt. (WAM)| ESRI Arc GIS | IDM- CA | Directory Services : Microsoft |NewGen : Document Mgt. |
- **OS:** RedHat Linux, Windows, Oracle Linux
- **Others:** **EMERSON**- UPS, **HPE-**EMS/NMS, **Array:** VPN Appliance:
- **Platform:** **Oracle:** Database, Weblogic Middleware & Integration| **Microsoft:** SQL Server, Oracle

Building Blocks of IT Scheme



Current Challenges and Area for Enhancement

- **Managing Disaster Recovery Site Infrastructure**
  - High Management and Monitoring of Resources: Civil, Electrical, Power, Servers, Network, Storage, Software, etc.
  - Replica of DC (Performance), but mostly keep idle, use in case of Disaster/Failure.
  - Operational and recurring cost: Support, Services, Upgrade & Patching, 24*7 running.
  - 24*7 up and running
- **Silo environment and Non-standardization**
  - Multiple applications running Silos: Can’t share the resources.
  - Multiple type of Infrastructure platform, components like Sparc, Intel X86, etc.
  - Multiple vendors and their coordination

Recent Enhancements and Approach

- Foundation of On-Premise Cloud: Consolidation of DB Layer
  - Single Pane of Glass for Monitoring & Management and patch & upgrade management.
  - Highest availability: Using RAC and built in redundancy and high availability.
  - Guaranteed Performance, Automated Management, Elastic, Agility, Self Service, isolation.
  - Robust infrastructure and architecture
- Use of More Common Platform: Intel X86
- SLA are born by the provider directly
- Availing Services and product on an OPEX model than CAPEX

The Experience of Cloud looks way Forward

Future Roadmap – Experience of Clod Looks way forward

- **DR on Cloud (Hybrid Environment of On-Premise & Public Cloud)**
  - Managed & Monitored by the service provider
  - SLAs of availability, Performance, Manageability ensure by Service Provider (24*7,365 days)
  - Runs on Optimal Resources and Scales in case of Disaster / Failure: Scalability & Agility
  - Runs of OPEX and not on CAPEX.
  - Support “Pay as you Use/Grow” and BYOL(Bring Your Own Licenses).
  - Accessibility to new and emerging technology on the fly for Example Mobility, Blockchain, analytics, Machine Learning, etc.
  - Test, development, acceptance, pre-production can also be deployed at cloud.
  - Provides Virtualization, Orchestration, Self Service for resource management as per need.
  - A hybrid environment provides combination & Leverage of both on-premise and public cloud.

Future Roadmap – Experience of Clod Looks way forward

- **Consolidation**
  - Common and standardize platform for the Application & Database
  - Ease of data and application integration
  - Provides Ease of Management & Monitoring like Backup & Recovery, Replication, Upgrade, Patching
  - Resource Interoperability & Grid environment for optimal utilization of resources.

- **Foundation for Future Applications**
  - Platform to incorporate Upcoming modules like SCADA/AMI/DMS.
  - Cloud Provides an agile and flexible environment to incorporate the gradual needs.

Future Roadmap – Experience of Clod Looks way forward

On-Premises

Data Center: Hisar

Data Replication

Public Cloud

Disaster Recovery: Public Cloud

Benefits Envisaged

- **Cost Effective : Resources Can be Scaled in case of Disaster if happens, otherwise can run on optimal resources.**
- **Managed & Monitoring: SLAs borne by the service provider**
- **No need for Existing DR Data Center (and inline Civil Power, Electrical, Cooling, and IT infrastructure setup).**
- **Immediate Accessibility to emerging Technology.**
- **Platform Standardization and Consolidation.**
- **Ease of Provisioning for immediate requirements, provide multiple options of VMs, Bare metal, Engineered/dedicated systems, IaaS, PaaS, SaaS, etc. services.**
- **The Cloud Credits can be utilized among various services**
- **Agile Platform for Upcoming applications and modules like SCADA/DMS/AMI**


THANK
YOU