futurenetwings

Case Study for Application Centric Data Center Automation of a Power Plant

Our client is one of North India's prominent power companies involved in transmission and distribution of electricity. The client wanted a cloud based system for Metering, billing collection, customer care etc. and in order to do so would have to establish their own Data Centre(DC) and Disaster Recovery Centre(DRC) which would host their ERP application and related hardware.

We helped them build a highly secure next generation automated cloud ready Software Defined Network infrastructure for achieving the above with the help of Cisco's ACI (Application Centric Infrastructure) architecture.

At present, their application connects everything from users and devices in client's HO or branch location to an application in the DC or DR. The highly intelligent network deployed and maintained by Future Netwings can constantly adapt, protect, and selfheal to ensure maximum uptime and SLA's due to inform across all SAP and related business processes. The design was a transformation from today's manual and fragmented network to an open, software delivered architecture.

Challenge

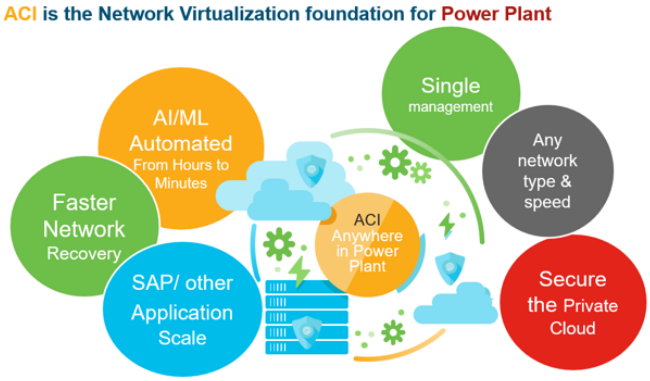
- Handle large number of East-West Traffic
- Improve the speed of decision making
- Shift operational focus from infrastructure management to service improvements
- Create a digital transformation

Deployment

- Use **APIC Cluster & ACI**
- Use Cisco **Nexus** 9k **Spine & Leaf**
- Use Cisco **Intent Assurance**
- Use Cisco **Tetration**
- Use Cisco **ISE, FTD, FMC**
- Use Cisco **VMware vCenter**
- Cisco **Hyperflex & UCS** system
- Cisco ASR Router

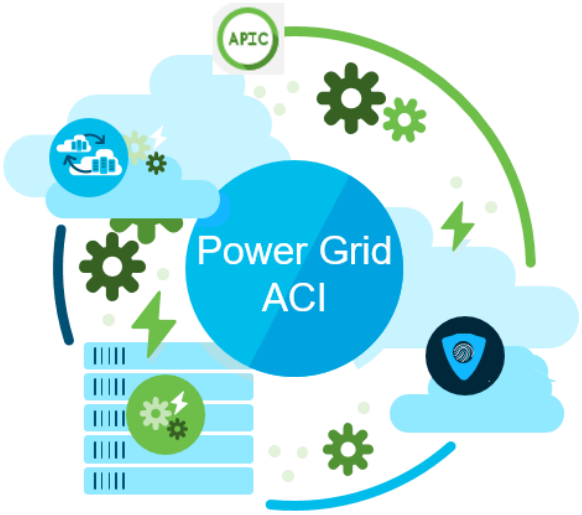
Result

- Fully **Automated** Network
- Capture **Business Intent** immediately into **Policies**
- Self **Healing**
- **Real time App Visibility** and Corrective **Actions** through **Analytics**
- **Virtualized Network**
- **Private Cloud ready** infrastructure
- Intent Ready Application **mobility**



Highly skilled team from Future Netwings was involved for deploying the Intent-Based Cisco Networking solution to create an automated programmable cloud centric network virtualization infrastructure at Client's data center to connect business SAP applications to network elements for delivering contextual Software defined Network-based insights by automating the network virtualization processes and proactively predicting network performance through our centralized NOC and automatically identify anomalies through Artificial Intelligence(AI) and Machine Learning(ML).

We call Cisco ACI the Swiss army knife of our client Data Center as it connects and simplifies their SAP systems and operations. In words of our client *: "It has become the foundation of our entire business and service delivery model ".*



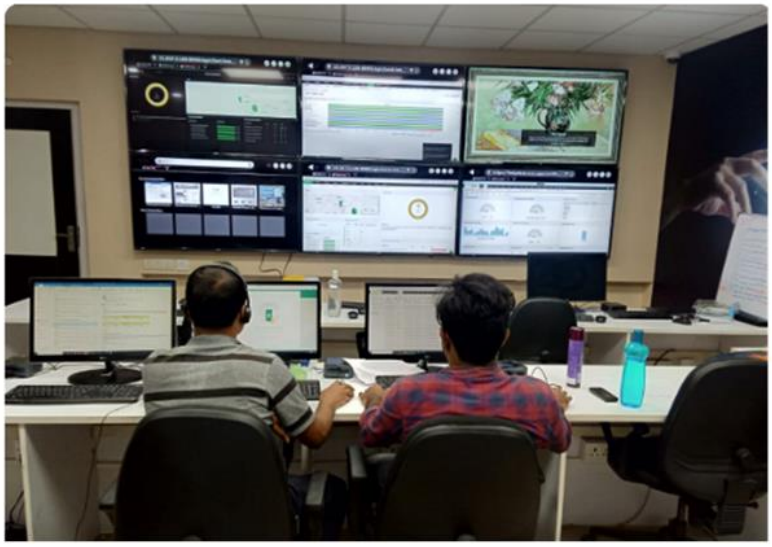
Optimizes Power Plant's Business

- Single point for configuration and troubleshooting
- Fully Software defined network & security automation
- Workload Mobility across Data Center
- Scale within and across data centers and geographies
- Seamless integration of underlay and overlay networks optimizes management overhead
- Fully private cloud ready application & network virtualization

Protects Power Plant's Business

- Business continuity & disaster recovery
- Pervasive security policy
  - Distributed stateless firewall
  - Line rate encryption & security enforcement
- Security at scale with performance
- Compliant: PCI, FIPS, CC, UC-APL

We also took up the task of 24X7 monitoring and management of their network through our NOC (Network Operation Center) & SOC (Security Operation Center).

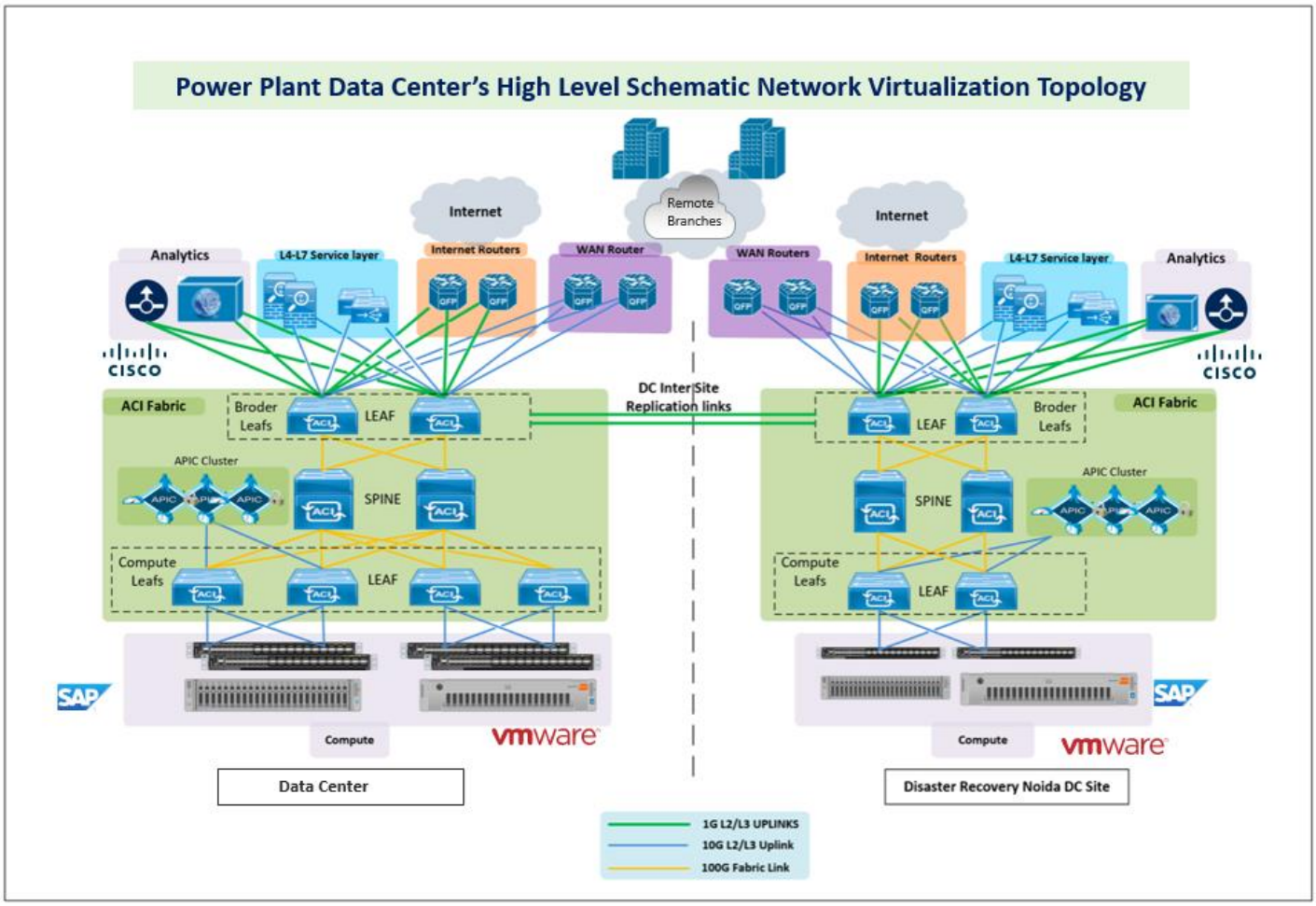


FNSPL NOC deliverables

- Call logging
- WAN Network Management
- Log analysis
- Root Cause Analysis for each issue
- DC & DR –monitoring of all LAN devices
- Link utilization monitoring
- Application health monitoring
- Liaison with OEMs
- Software upgradation remotely
- Security vulnerability monitoring
- User level access violation monitoring
- DC – DR Replication monitoring

Snapshot of Future Netwings NOC in Kolkata

USP of FNSPL NOC : L1 automation and network anomaly detection using AI (Artificial Intelligence) and ML (Machine Learning).



The following key points were considered during the design and implementation of the above virtualized network:

- Modular design built around Cisco's software defined ACI fabric using Cisco N9K Spine and Leaf CLOS architecture.
- Cisco FPR 4100 series Firewall and Cisco ISE for providing DC and end point security services.
- ASR-1002 Router for Internet and ASR903 for WAN connectivity.
- Compute leaf switches for connecting Cisco's cloud ready virtualized Hyperflex Solution which is providing converged compute and storage services for SAP application. Compute Leaf is used for virtualized as well as physical compute connections.
- Cisco Stealthwatch and Cisco Tetration for providing Application insight, Threat detection and Analytics services for applications.
- Virtual Machine Managers (vCenter / SCVMM) have been used to integrate with Cisco APIC Controller for application mobility and making the public Cloud.