# CASE STUDY 1 – SETTING UP OF DATA CENTRE

## Client -Large Indian Power Utility (NPCIL)

#### **Engagement details**

- Engagement to sizing and implementation of the Data Centre Infrastructure.
- The objective of engagement was to operation and deploy Customer Applications on the proposed DC and enhance performance across geographies.

#### **Scope and approach**

- Site Survey & Requirement Analysis
- DC Architecture Design and Development
- Project Delivery Management
- Site Preparation
- Supply of Compute, Storage, Networking, Security Components & Various Operating Systems , DataBase Servers & Middleware Softwares.
- Virtualization, Network implementation, Configuration of File Server, Back up Server, Print Server & Mail Server.
- Plant Life Cycle Management application Implementation & Data Migration
- Design, development and Deployment of Intranet Website.
- FAT and Training to customer Personnel.
- Final User Manual.

Overall approach is to supply, implement & maintain the DC accordance to the tier-1 architecture and ISO 27001 standardized processes.

#### **Key Deliverables**

- 98.9% availability
- N+1 Power Management.
- Reliable and Scalable Infrastructure.
- Real-time network status and performance
- Optimization of overall system with in intranet and internet communications based on utilization of applications and submit reports accordingly

# CASE STUDY 2 – UPGRATION OF DATA CENTRE

### **Client – Indian Government Research Centre (ICFRE)**

#### **Engagement details**

- Engagement to refresh technology for the Data Centre Infrastructure that was deployed in 2008.
- To provide overall IT infrastructure management with standardized services and automating infrastructure management to deliver world class services.

#### Scope and approach

The infrastructure services for data centre aims to provide the following:

- Upgrade, Supply, Install, Operate & Maintain Data Centre IT Infrastructure.
- Ensure integration and interoperability with existing IT infrastructure including repositioning
- Operate the DC infrastructure including the network and perimeter security.
- Creation and Management of virtualization environment for all the proposed servers
- To ensure the data Backup & Recovery policy.
- Install new BMS & EMS solution for monitoring of all the equipment
- Remote configuration & deployment
- Incident & Problem management
- Support Services for 5 years.

Overall approach is to supply, implement & maintain the DC in accordance to the ISO 27001 standardized processes.

- Robust & Scalable infrastructure to deliver the services quickly and effectively.
- Enhanced reliability and security of information system
- Enhanced Infrastructure, Monitoring and Management
- Access to applications & services through Intranet, Internet etc.
- 99.9% availability
- Real-time network status and performance

# CASE STUDY 3 – IMPLEMENTATION OF DATA CENTRE

## Client –Smart City Limited (Agra Smart City)

#### **Engagement details**

• The data center will host all the software applications for various smart city components. The Data Centre shall provide the private cloud like functionalities which allows agility, seamless expansion which is non-disruptive and help infuse the new technologies into the existing landscape as and when available.

#### Scope and approach

The infrastructure services for data centre aims to provide the following:

- Installation, Commissioning, Implementation, Testing of Smart City Data Centre IT Infrastructure.
- Ensure integration and interoperability with existing (if any) IT infrastructure including repositioning
- Operate the DC infrastructure including the network and perimeter security.
- Creation and Management of Hyper Converged Infrastructure 8
  virtualization environment for all the proposed servers
- Implementation of Software Defined Network, Compute, Storage and Security devices (including SIEM)
- To ensure the data Backup & Recovery policy.
- Installation of EMS-NMS & SIEM for monitoring of all the equipment
- Remote configuration & deployment
- Incident & Problem management
- Integration with Cloud based DR site and smart city application

- Robust & Scalable infrastructure to deliver the services quickly and effectively.
- Enhanced reliability and security of information system
- Enhanced Infrastructure, Monitoring and Management
- Access to applications & services through Intranet, Internet etc.
- 99.982% availability
- Redundancy and concurrent maintainability
- N+1 fault tolerant providing at least 72-hour power outage protection
- Real-time network status and performance
- Optimization of overall system with in intranet and internet communications based on utilization of applications and submit reports accordingly

# CASE STUDY 4 — HCI FOR NATIONAL DATA CENTRE

## Client -Large Information Centre (NIC-NKN)

#### **Engagement details**

- Engagement to sizing and implementation of the Hyper Converged Infrastructure (HCI) Based Data Centre Infrastructure.
- The objective of engagement was to operation and deploy Mission critical Applications on the proposed DC and enhance performance across geographies..

#### Scope and approach

The infrastructure services for data centre aims to provide the following:

- Supply, Installation, Commissioning, Implementation, Testing of Hyper Converged IT Infrastructure.
- Ensure integration and interoperability with existing DC IT infrastructure
- Management of DC node through centrally.
- Creation and Management of virtualization environment for all the proposed HCI nodes
- Implementation & Integration with HCI based disaster recovery centre at different seismic zone

- Robust & Scalable infrastructure to deliver the services quickly and effectively.
- Enhanced reliability and security of information system
- Enhanced Infrastructure, Monitoring and Management
- High availability
- No single point of failure
- Redundancy and concurrent maintainability

# CASE STUDY 5 — HCI FOR DEVELOPMENT DATA CENTRE

## Client -Large Information Centre (C-DAC)

#### **Engagement details**

- Engagement to sizing and implementation of the Hyper Converged Infrastructure (HCI) Based Data Centre Infrastructure.
- HCI Solution with Cloud and Software Defined Network

#### Scope and approach

The infrastructure services for data centre aims to provide the following:

- Supply, Installation, Commissioning, Implementation, Testing of Hyper Converged IT Infrastructure.
- Implementation of Software defined network
- Implementation of Cloud based infrastructure
- Ensure integration and interoperability with existing DC IT infrastructure
- Management of DC node through centrally.
- Creation and Management of virtualization environment for all the proposed HCI nodes

- Robust & Scalable infrastructure to deliver the services quickly and effectively.
- Enhanced reliability and security of information system
- Enhanced Infrastructure, Monitoring and Management
- High availability
- No single point of failure
- Redundancy and concurrent maintainability

# CASE STUDY 6 — HCI FOR RESEARCH DATA CENTRE

## **Client – Large Engineering Research Centre Centre (CSIR-SERC)**

#### **Engagement details**

- Engagement to sizing and implementation of the Hyper Converged Infrastructure (HCI) Based Data Centre Infrastructure.
- HCI Solution with Cloud and Software Defined Network

#### Scope and approach

The infrastructure services for data centre aims to provide the following:

- Supply, Installation, Commissioning, Implementation, Testing of Hyper Converged IT Infrastructure.
- Implementation of Software defined network
- Implementation of Cloud based infrastructure
- Ensure integration and interoperability with existing DC IT infrastructure
- Management of DC node through centrally.
- Creation and Management of virtualization environment for all the proposed HCI nodes

- Robust & Scalable infrastructure to deliver the services quickly and effectively.
- Enhanced reliability and security of information system
- Enhanced Infrastructure, Monitoring and Management
- High availability
- No single point of failure
- Redundancy and concurrent maintainability

# CASE STUDY 7 –INFO. SECURITY INFRASTRUCTURE AT DC

## Client –Large State Power Corporation (PSPCL)

#### **Engagement details**

• To enhance and strengthen IT Security framework and 24X7 comprehensive information / cyber security management including monitoring, detecting, and mitigating incidents by upgrading and installing required cyber security solutions

#### Scope and approach

The Security services for data centre & Disaster recovery Centre aims to provide the following:

- Supply, Installation, Commissioning, Implementation, Testing, training and operation & maintenance of Next Generation Firewall, Sandboxing (Advance Threat Protection), Log Analyzer & Management
- Configuration of the ISP for internet connectivity on the appliance, Local Subnet and IP for respective Zones, Default, Reverse and Static Routing, HA (High Availability) configuration.
- Active-Active Failover (regular failover), enable failover on both the devices, Failover triggers, Configure the Identity Policy, Administration configuration as per the roles, Access Policy (IPv4) Configuration, MPLS Testing from HO to Brach location and by vice/versa. Testing Mailing Server, online application/services.
- Integration with existing Data Centre Facility

- Enhanced reliability and security of nformation system
- 24/7 Threat Monitoring & Protection High availability
- Manage, detect and respond to network and cyber security threats: Identify anomalous activities
- Redundancy and concurrent maintainability

# CASE STUDY 8 – PROJECT TRACKING SYSTEM

## **Client – Large Government Municipal Sector**

#### **Engagement details**

• The Purpose of this project and engagement with Customer for Design, Development & Maintain the Web Based System to Keep Track Status/ Records all of its employees pending tasks nearing the assigned time, as well as committed turnaround time.

#### **Core Scope:**

- Design and Development of Web Based Application
- Implementation
- Installation & Commissioning Services
- Security Audit and Hosting
- Final Acceptance Test
- Training, User Documentation and support services

#### **Major Outcomes**

#### **System performs:**

- Tracking status of various Sites of Customer (e.g. parking site, Unipoles, Swimming Pool Sites and etc.).
- Generation Monthly Progress report of all projects with their current status.
- Monitoring online the progress of all projects and generation of Notification's on E-Mail I SMS of all pending tasks.
- Tracking Security Amount/ BG etc., submitted against various Tenders.
- Maintaining the Master data of all project sites.
- Facility to add officer's details or user's details who are maintaining projects.
- Tracking or log activities of the changes made in the system.
- Role Based User access rules.

# CASE STUDY 9 — E-GATE SYSTEM

## **Client – Large Government Secretariat**

#### **Engagement details**

• The Purpose of this project and engagement with Customer for Design, Development & Maintain the e-Gate System to restrict unauthorized entry.

The Uttarakhand Chief Minister, Mr. Trivendra Singh Rawat formally launched e-gatepass on date 14-03-2018 facility for visitors, seeking entry to secretariat and State Legislative Assembly at a function held at Secretariat, here Apart from regular pass facility, the visitors can avail benefit of e-pass facility, which is an automatic facility.

The visitors, workers and car owners seeking entry can apply for gate pass at any time. The pre-registration can be done for e-pass facility, which would be helpful to establish identity of outside visitors. The facility would be helpful for accuracy, clear photographs and MIS recording of visitors can be done.

#### **Core Scope:**

- Design and Development of Web Based Application
- Implementation
- Installation & Commissioning Services
- Security Audit and Hosting
- Final Acceptance Test
- Training, User Documentation and support services

**URL:** https://egatepass-uk.in

# CASE STUDY 10 – APPLICATION DESIGN, DOCUMENTATION & TRAINING-CGARD PROJECT AT MEDAGASCAR

## **Client – Large International Enterprise**

#### **Engagement details**

NIRD&PR intends to supply hardware, software and GIS items for the CGARD Technology Centre, Antananarivo, Madagascar.

#### **Overall Project Requirement**

- Requisite physical infrastructure including civil and electrical works, proper AC power sockets in rooms, water supply and furniture.
- Security of the premises.
- Exoneration from customs and other applicable taxes insofar import of equipment from India or third country is concerned in connection with supply of equipment.
- Exemption from paying taxes etc. for Indian personnel deputed in connection with supply of equipment.
- On-site Comprehensive Warranty and Maintenance for one year for hardware and three years for software from the date of commissioning of equipment

#### **Our Scope:**

- To install of all the Softwares/ Licenses.
- To provide Configuration of the required Hardware Drivers.
- To Update and Manages all the Patches.
- Provide monitoring services of server Logs.
- To Provide Database Backup & Restoring.
- To Setting up Instance in servers as backup.
- To Provide the overall documentation and to conduct training session for all the installed Softwares/Licenses.

# CASE STUDY 11 – MASTER CONSULTANT FOR MALAWI

## Client – Large Government Information Technology and Management Institute

#### **Engagement details**

Selection of Consultant as Master Trainer for Incubation Center in Malawi, Africa

#### **Activities Performed**

- Assisting customer to scoping requirements at Malawi and presenting to technical team before visit to Malawi to prepare information gathering template
- Preparation, presenting and submitting approval for recommendations after visit
- Facilitating in enabling subject matter experts (hence forth SMEs) from industry
- To define course and finalize training plan
- Setting up incubation center as per approved recommendations for entrepreneurship activities at Malawi
- Facilitating in tendering, evaluation and recommendation for selection of implementation partner for incubation center
- Preparing report on progress of implementation of incubation centers
- End to end management of incubation center setup by shortlisted vendor includes: Training, Monitoring and management of project timelines and quality
- Assisting for preparing training content and schedule for recommended courses
- Facilitating in preparing project completion report and presentations after relevant signoffs

#### **Major Outcomes**

- Determining the strategic and operational problems via consultation.
- Help in Identifying problems and suggesting solutions.
- Better Reviewing strategy.
- Strong Training capacity building and skill development.
- Entrepreneurship Development.

# CASE STUDY 12 – APPLICATION / PERFORMANCE TESTING

## **Client – Large International Enterprise**

#### **Engagement details**

The objective of the activity is to benchmark the application performance (The Contracts) up to a load of 500 concurrent users

#### **Activities Performed**

- Application Understanding and Script Preparation
- Load & Endurance Testing
- Test Data Preparation
- Setting up of test Environment
- Database Population
- Load Test executions and Monitoring of Server Hardware Resource Utilization
- Reporting of the Issues & Results to the Concern team at client side
- Test Environment verification (checking the VPN connectivity and load generating machines)
- Understanding of the application architecture, Functional understanding of the In-scope workflows
- Recording the load test scripts
- Enhancing the scripts by parameterizing and correlating the dynamic values
- Dry runs to validate the scripts for multiple users and iteration
- Monitoring of Server Hardware Resource Utilization
- Compiling the statistics (Response time, throughput, Pass/Fail etc) from different load test execution
- Preparing the response time/ resource consumption trends with respect to user load

# CASE STUDY 13 — DEVELOPMENT & IMPLEMENTATION

## **Client – Large International Enterprise**

#### Customer

The Directorate of Treasuries and Finance Services cum State internal Auditor was setup on 09.11.2000 on inception of the state. The Directorate is mainly responsible for monitoring and control of all government payments and receipts made through its treasuries/sub treasuries/Pay and Accounts Offices within & out of state. At present it has:

- State Data Center at Dehradun
- 13 Districts Treasuries
- 05 Upgraded Sub Treasuries
- 02 Pay and Accounts Offices
- 66 Sub Treasuries
- 02 nodal Point for Non Postal Stamps

- Design and Development of Web Based Application
- Oracle Database Implementation.
- Database Integration
- Support Services
- To Provide Database Backup & Restoring.
- To Provide the overall documentation and to conduct training session

# CASE STUDY 14 — DEVELOPMENT OF IT STRATEGY

## **Client – Large International Enterprise**

#### Customer

Vyome Biosciences is an innovation driven company, with a vision to develop novel drugs for antibiotics-resistant acne and other opportunist pathogens through a unique pipeline of antibiotics that retard resistance development. Vyome's development platform is completely risk mitigated. Vyome has a deep pipeline of IP based products targeting multiple indications. Vyome has state-of-the-art infrastructure facilities to carry out all its research and lab development work, with full-fledged formulation, analytical, chemistry, biology & molecular biology, clinical and the regulatory divisions. The infrastructure and the team enables Vyome to conceive ideas, develop them and commercialize them at a rapid pace.

- The company's Information-Technology ("IT") systems are an essential part of the business operations. Further, with the growth that the company has experienced in the recent past, the company wants to invest in IT systems to mitigate risks and reap the benefits of better systems and processes
- To leverage existing IT Infrastructure while moving to state of art IT infrastructure as enabler to company growth
- Create a roadmap on evolution of automation to next level
- To enhance information security
- To deepen usage of IT among the employees

# CASE STUDY 15 – SMART CITY "ICT SOLUTION CONSULTANT"

## **Client – Large Indian Consulting Enterprise**

#### **Project**

The Purpose of this project is to Planning, Sizing, Designing, Implementation & Maintenance of the PAN City Solution for Muzaffarpur Smart City under the Smart City initiative.

- Formulation of City Challenges.
- Engagement with the City Municipal Corporation and MoUD team in setting up the strategy for Smart City implementation.
- Conducting the City survey to design the solution.
- Preparation of Feasibility report to capture the summarize view of the city Parameters (E.g no's of traffic junctions, City surveillance locations, Parking locations, Smart Management for Solid waste, Environmental sensors locations, Internet Bandwidth Availability etc.) and high level solutions.
- Presentation and submission of feasibility report for approval.
- Engagement with various industry stakeholders
- Preparation of Presentation of Detailed project report for City planning and implementation approach along with defining the of Functional requirement and Sizing for the ICT city solution across the city.
- Preparation of Indicative Bill of material and Project budget.
- Preparation of RFPs (Technically Qualification Criteria, functional specification, Scope of Work, SLAs etc.)
- Engagement in Bid evaluation process and selection of Master System integrator for smart city Implementation.
- End to end Management of Project delivery as per the milestone plan submitted by selected MSI.

# CASE STUDY 16 – ICT SPECIALIST-SMART CITY

## **Client – Large Indian Consulting Enterprise**

#### **Project**

The Purpose of this project is to Planning, Sizing, Designing, Implementation & Maintenance of the PAN City Solution for Bareilly Smart City under the Smart City initiative.

- Formulation of City Challenges.
- Engagement with the City Municipal Corporation and MoUD team in setting up the strategy for Smart City implementation.
- Conducting the City survey to design the solution.
- Preparation of Feasibility report to capture the summarize view of the city Parameters (E.g no's of traffic junctions, City surveillance locations, Parking locations, Smart Management for Solid waste, Environmental sensors locations, Internet Bandwidth Availability etc.) and high level solutions.
- Presentation and submission of feasibility report for approval.
- Engagement with various industry stakeholders
- Preparation of Presentation of Detailed project report for City planning and implementation approach along with defining the of Functional requirement and Sizing for the ICT city solution across the city.
- Preparation of Indicative Bill of material and Project budget.
- Preparation of RFPs (Technically Qualification Criteria, functional specification, Scope of Work, SLAs etc.)
- Engagement in Bid evaluation process and selection of Master System integrator for smart city Implementation.
- End to end Management of Project delivery as per the milestone plan submitted by selected MSI.
- To ensure the successful Project completion (Go-Live)

# CASE STUDY 17 – CONSULITING, DESIGN & TESTING SERVICES

## **Client – Large International Enterprise**

#### **Engagement details**

The objective to provide consulting, QA design and testing services for Cafex Platfrom

#### **Customer Details**

CafeX is a single task-based collaboration application. CafeX Platform provides a series of collaboration and communication channels as components to be consumed as a cloud service. Each of these services extends a discrete set of capabilities to enterprises and consumers. CafeX Meetings is a pervasive video collaboration solution which provides fast and easy connectivity for people to collaborate using web-based voice and video conferencing

#### **Core Scope**

- To design software QA testing services specifically to meet customer needs.
- To perform best practices into a structured testing methodology and is capable of delivering cost-effective, bug-free solutions using the blended delivery model.
- QA Testing Services: Security Testing, Mobile App Testing, Automation Testing, Software Testing, API Testing
- Testing Tools: Testrail, Atlassian Jira, Selenium, TestNG, Jmeter, OWASP Zap, Android UI Automator, Postman

#### **Major Outcomes**

- From automation, performance and functionality to localization and regression, our testing service encompasses everything that enabled us to deliver quality products for CafeX, swiftly.
- Using the best approach, tools and frameworks we mitigated risks and improved the time to market and customer businesses RO.