

# Data Center Design

## *The Client*

A global financial institution that offers banking, investment, life insurance and retirement services. They serve more than 85 million private, corporate and institutional customers in Europe, North America, Latin America, Asia and Australia.

### **EXECUTIVE SUMMARY**

#### **Challenge**

- New Data Center design
- No baseline for requirements
- Undefined strategy
- Limited resources
- Limited knowledge of legacy environment

#### **The Cavan Solution**

- Comprehensive inventory of existing data center equipment
- Disposition analysis
- Needs analysis
- Layout & design of new facility
- Specifications for power, cooling, cabling, grounding
- Project Management of implementation

#### **Benefits & Results**

- World-class data center space
- Built to Best Practices standards
- Highly scalable and modular in design
- Highly functional infrastructure
- Fully documented environment

## **Business Challenge**

The client had grown significantly through acquisition and was about to develop a new 500,000 square foot regional headquarters. The new facility would also house a new 3000 sf data center, one of three primary data centers for the company, thus playing a critical role in the overall global data center strategy.

The former 1980's vintage data center space designed for the mainframe era. It was packed with legacy systems and aging platforms, and was void of any documentation whatsoever. To further complicate matters, the client was mid way through a 7 year enterprise-wide outsourcing contract with IBM. It was unclear where applications resided, what platforms they ran on and what data center they were in.

The client was desperately needed assistance assessing and evaluating existing conditions, as well as their current and future data center requirements. They also needed help translating those requirements to a design for the new data centre facility.

## **The Cavan Solution**

Cavan's first mission was to capture and document the complete inventory of all systems and services in the existing data centre. As daunting as this was, we persevered until we had an accurate account of the environment.

We then conducted a detailed disposition analysis of the data with the client to determine what equipment would be relocated, retired, refreshed, consolidated and virtualized.

Once a clear picture emerged, we conducted a Best Practices design session with the entire IT leadership team to review:

- Tier Level requirements (Uptime Institute)
- Trends in Data Center planning and layout
- Options for modular power & cooling systems
- Options for cooling high-density server equipment
- Green technologies and efficiency
- Server cabinet selection
- Connectivity & cabling trends
- Facility security
- Data Center operations policies & procedures

When we were confident of capturing the client's requirements and preferences, we began our preliminary layouts for the new data center. We worked closely with the client's IT team to review growth and scalability by application, system and platform. Based on further discussions, we added IT staging and lab areas to the envelope, along with a network demarcation room and IT meeting spaces.

Meanwhile the building's architect and engineering team for were anxious to get the requisite floor loading data, power and cooling loads, and fire suppression preferences for the spaces. In response, we developed a complete set of design requirements for the data center envelope including room sizing, layout, raised floor grid, power receptacles, cooling loads and grounding design. We also developed detailed specifications for new server cabinets and network racks. Our final plan included thorough specification for all Ethernet and Fiber Channel connectivity in the room.

The Cavan Group provided on-site project management and oversight of the IT build for the Data Center, the provisioning of all telecommunications services, and testing user acceptance of the infrastructure. The outcome of these efforts was a complete set of documentation for client use.

### ***Results***

Within two years the client elected to in-source their entire data center operations environment and decided to use the new facility as the central node for all business critical systems.

The facility has been visited by the global IT leadership team and is being used as a template for all future data center facilities. The layout and design has scaled perfectly with the client's in-sourcing strategy, their transition to high-density servers and blade technologies and their continued expansion on the global financial stage.