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Partners Making Critical Difference

Dhaval Valia, October 18, 2012, 1130 hrs

India's six leading systems integrators were honored with the Critical Difference Partner 2012 awards at the CRN Leadership Summit.

Instituted jointly by CRN and Emerson Network Power, the Critical Difference Partner Awards aim to recognize and honor systems integrators who excel at providing end-to-end data center solutions, that include not just the core compute and network infrastructure but also the design and integration of power and cooling solutions, and the lifecycle management services.

Here we present the six awarding case studies on end-to-end data center installation.

Allied Digital Services

In FY2011-12, Mumbai-based Allied Digital Services clocked revenue of Rs 600 crore of which DC solutions and services contributed Rs 108 crore. The company executed 28 DC projects in the last fiscal—24 tier-2 DCs, three tier-3 DCs and one tier-1 DC. A vast majority of the DCs, 24, were 500-1,500 sq ft in size, while the remaining were smaller than 500 sq ft.

The company's winning project was for HDFC Standard Life which involved the optimization of the existing DC space and the reduction of the cooling and power consumption requirements.

Said Nitin Shah, CMD, Allied Digital, "The customer was keen to move to a private cloud and wanted to first optimize its current infrastructure before investing in new infrastructure. For this they signed us up, and our brief included studying the existing infrastructure, identifying applications and servers that could be consolidated, and helping the company to create a detailed implementation plan for a private cloud."

The entire project took four months to complete. Since the project was for re-modelling the existing DC, no new procurement or deployment of UPS or batteries was envisaged. Existing racks from President were replaced with Emerson Knur racks to further reduce cooling requirements. Existing monitoring devices were reused in order to provide investment protection to the customer.

Allied's in-house developed integrated service delivery framework was deployed to monitor and manage the transformed infrastructure. Along with this, native tools from VMware were used to manage the virtual environment.

Through this optimization Allied achieved a 15:1 consolidation ratio and a total cost savings of 22 percent—14 percent savings in power requirements; 18 percent reduction in cooling requirements; and 20 percent savings with the raised floor footprint. Allied also ensured the migration of business critical applications with zero downtime.

Ashtech Infotech

Mumbai-based Ashtech Infotech, which recorded a turnover of Rs 58 crore in FY2011-12, garnered Rs 10 crore from DC solutions. It executed four large DC projects during the last fiscal with three tier-2 and one tier-3 DCs. Of these, three DCs were smaller than 500 sq ft and one project was for a DC of 1,000 sq ft.

The winning project for Ashtech was the DC built for the Adani Group in Ahmedabad. "We won this project from Adani after their stringent evaluation of the bidders which included some very large SIs. We had to build a DC which not only met their current needs but also their requirements for the next five years," informed B Shankar, Director, Ashtech.

Consideration of the design parameters began with the selection of the DC's location where Ashtech assessed risk factors such as the structural strength of the building and its load-bearing capacity. All environmental protections were looked at including

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water-proofing, protection from lightning, and pest control systems.

The second line of design parameters was fire protection and safety. Power being the raw material and cooling being the most expensive item for any DC, its design demanded careful study and analysis of rack placement, equipment distribution, power consumption, heat dissipation and all allied parameters.

Ashtech provided a redundant N+1 UPS, auto failover DC set, and two independent power lines to individual racks. It also provided 3-tier access control, IP surveillance, water leak detection, a rodent repellent system, a fire suppression system, and aspirating smoke detection and conventional smoke detection systems.

"Cabling becomes a major sprawl if not designed well," pointed out Shankar. "We used a high-density pre-terminated MPO solution for fiber connectivity and an MRJ solution for copper connectivity. This provided distinct advantages such as high-density, modular design, minimized downtime and faster deployment time."

Choice Solutions

Of the Rs 92 crore topline recorded by Hyderabad-based Choice Solutions in FY2011-12, the DC build business contributed 15 percent. The company executed eight end-to-end DC projects during the fiscal—two tier-1, five tier-2, and one tier-3. Of these, six DCs were smaller than 500 sq ft while two were of 500-1,500 sq ft sizes.

The winning project for Choice was executed for NABARD, which had been supporting its services and network in a tier-1 environment at its headquarters in Mumbai. To support its new IT initiatives there was a need to increase its computing power several-fold and also to increase its resilience. A 700 sq ft space was identified for the new DC by consolidating the existing server space and its adjoining area.

"NABARD's first condition was that the new DC had to be built and operationalized within 75 days of order confirmation which many bidders found difficult to meet. We won the project and also successfully met this requirement," informed KV Jagannath, MD, Choice Solutions.

Choice designed a 2N solution as per the Uptime Institute's tier-3 topology from the power-tapping point onward. "NABARD is a green organization with most of its facilities being BEE-certified. The headquarters building meets the BEE Four Star rating. Considering this, we had to offer a PUE rating that was the industry best. We designed the solution with a planned PUE of 1.59 at maximum IT load, which is well below the average DC PUE range of 1.8-1.89 identified by the Uptime Institute in 2011," said Jagannath.

A BMS system was deployed for monitoring the DC infrastructure including UPS, precision air-conditioners, fire protection systems and security systems. Choice is providing an onsite 24/7 operations and management service for the DC. It is also required to provide six years warranty/AMC support.

Compton Business Solutions

Delhi-based Compton Business Solutions, which recorded a turnover of Rs 88 crore in FY2011-12, garnered Rs 17 crore from providing end-to-end data center (DC) solutions and services. The company implemented seven large DC projects—four tier-2 and three tier-3.

Compton's winning end-to-end greenfield DC project was for Century Communications Limited (CCL), a media and entertainment company with interest in VFX and animation.

The 3,000 sq ft DC was for CCL's new 50,000 sq ft post-production studio in Chennai set up for offshore film post-production projects. The DC project included complete DC design and integration with 300 blade servers and 250 high-end graphics workstations; an intelligent cabling solution; a networking backbone; storage, mail and security servers; and IP-based remote monitoring.

The entire project was completed in six months. "The customer first had the impression of needing two DC rooms. We suggested going in for a chassis server which comprises 16 blade servers in one single chassis. The rack number was thus reduced to three (four chassis servers each) and was implemented in half the area. We also implemented a HNAS solution comprising 210 HDDs each of 300 GB with clustering support having failover and recovery options," informs Sandeep Vahi, Director, Compton.

According to Vahi, the solution helped CCL to reduce its compute infrastructure power consumption from 169 KW to just 45 KW. "In addition, our precision AC solution helped achieve a PAC TR of 14.76 against the 56.33 of a conventional solution." While the cooling and UPS used were from Emerson, the racks were from President.

Compton also deployed the advanced very early warning aspirating smoke detection system with continuous air sampling.

The entire infrastructure was housed in a secure environment with biometric scanning, smart-card access and IP surveillance. Compton also created an NOC for remote monitoring of the DC.

Network Techlab

Mumbai-based Network Techlab, which recorded a turnover of Rs 50 crore in FY2011-12, saw nearly 10 percent of its revenue coming from DC solutions including active compute infrastructure, passive power solutions, cooling solutions and other electrical solutions.

The company executed 10 DC projects during the last fiscal. Eight of these DCs were server room solutions for SMB customers, while two were tier-3 DCs above 500 sq ft and 1,000 sq ft in size, respectively.

Network Techlab's winning DC project was for Just Dial, a search and directory services company based out of Mumbai. A tier-3 800 sq ft DC, it was implemented in a four month period during which the entire scope, spec and deployment was



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Partners Making Critical Difference

a four-month period during which the server setup, testing and deployment were done.

The company's deep understanding of mission critical DCs, and the five 9s—99.999 percent for uptime and reliability for business critical continuity solutions helped it to bag the project.

"For Just Dial, our mandate was to provide the entire design and deployment which included server, storage, networks, cooling, power and fire safety, plus civil works and interiors," informed Atul Gosar, Chief Executive Officer, Network Techlab.

The initial requirement was for 21 racks with loads of 5 KVA per 12 racks, 3 KVA per six racks, and 2 KVA per three racks; this is upgradable to 28 racks with the additional seven racks of 10 KVA load per rack.

Informed Gosar, "The DC has been built with no single point of failure. We also deployed precision AC with a digital scroll for energy savings. The precision AC modulates cooling capacity based on the load and heat, and thus reduces input power with capacity modulation from 10 percent to 100 percent."

Part of the solution was also providing a building management system from Honeywell for monitoring the UPS, cooling, DG and other DC equipment across Just Dial's seven regional branches.

Pentagon System

Mumbai-based Pentagon System and Services, which recorded a turnover of Rs 131 crore in FY2011-12, executed five large DC projects which brought in business of Rs 11 crore. It executed two tier-3, two tier-2 and one tier-1 DCs. Of these, two were less than 500 sq ft in size, two were 500-1,500 sq ft, and one was a 7,000 sq ft DC for one of India's leading financial institutions which won Pentagon the Emerson Critical Difference Partner Award 2012.

The BFSI customer wanted a 7,000 sq ft DC at its premises in Mumbai to handle extremely critical transactions with no time-lag. Any loss of data would culminate in huge losses for the institution as well as for its customers; the DC therefore needed high availability along with the capability to handle high-density loads. At the same time, the DC had to be provisioned for future expansion over the next 8-10 years.

"The DC was required to run critical applications [continuously because] downtime had huge cost implications. Since it had extensive blade deployment and virtualization, the rack load density was too high for ordinary precision cooling to handle," informed Sairaman Mudaliar, Director, Pentagon. "Keeping this in mind, we had to design a DC where efficiency had to be extremely high and PUE very low. The DC was so large that the initial load was almost 500 KVA. Since the data was very important, the emphasis on physical security was also high."

The DC solution provided by Pentagon included servers, storage, UPS, cooling, racks, an integrated building management system and a datacenter infrastructure monitoring system.

Pentagon brought in some innovation in the design such as using a low footprint UPS keeping the PUE in mind. It also introduced variable frequency chillers to improve the DC's efficiency.



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