

GFS Crane for Power Utilities

While Power Utilities enjoy a notional transfer price for electricity to run their captive data centers, there is a strong business case for DCIM in this industry. This Paper shows how DCIM Capacity Planning helped a Power Utility's CIO address his key challenge of space constraint while computing requirements were growing due to business growth. At the same time, DCIM helped the CIO to implement a corporate mandate of reducing power use and carbon footprint of its Data Center.

While cost of power may not give sleepless nights to a Power Utility CIO, he too is challenged like his peers in other industries of running an IT infrastructure with minimum capital costs and minimum data center failures.

This paper shows how DCIM Capacity Planning can help overcome space and other capacity constraints in a Data Center and finally concludes with a Case Study of GFS Crane deployment in a leading Power Utility firm.

Data Center Capacity Planning

The demand for data center resources is growing rapidly. To support a fast-growing business, today's data centers are required to provide additional capacities like CPU cycles, power, space and network, timely and efficiently, but at the same time stay within an approved organizational budget and comply with 'Green' standards.

This makes 'Capacity Planning' one of the most challenging tasks for a data center manager. Capacity Planning literally means planning for future capacity requirements – one has to forecast future requirements accurately and then work towards providing those requirements as and when required, but also ensure that the critical capacities are neither over-provisioned nor under-provisioned. While over-provisioning results in stranded capital, under-provisioning often leads to unplanned outages which call for another costly upgrade within months.

GFS Crane for Capacity Planning

GFS Crane helps Data Center Capacity Planning in the following four ways:

- Baseline the current capacity of the data center;
- Free up stranded capacities;
- Forecast future capacity requirement; and
- Validate capacity projections.

Baseline Current Capacity:

GFS Crane, through real-time monitoring of critical data center parameters like CPU, memory utilization of servers and power, space utilization in racks, finds out how data center resources are currently being utilized by the business and how much capacity remains to be used.

Free Up Stranded Capacities:

GFS Crane identifies 'orphaned' servers that can be retired thereby freeing up stranded power and space capacities. It identifies under-performing servers that can be repurposed or replaced by more efficient devices thereby creating extra capacity within the existing facility. The software provides visibility of racks which has sufficient power and space capacities to accommodate new IT devices.

Forecast Future Capacity Requirements:

GFS Crane enables the user to capture the estimated rise in energy consumption due to business growth and checks whether the estimated growth can be accommodated within the current available capacities of the data center or the extra capacity that needs to be provisioned to accommodate the growth.

Validate Capacity Projections:

GFS Crane comes with advanced 'what-if' analysis and simulation techniques that use the in-built GFS Manufacturer Repository, (a multi-vendor database of different equipment categories), to simulate new device addition in the data center and validate the impact on power and space usage. The 'auto-provisioning' feature of the software helps in identifying the best rack or the best row in the data center for provisioning devices under planned procurement.

GFS Crane in Power Utilities

Formed in 1897, Indian power utility CESC is the sole provider of electricity transmission and distribution to most parts of the city of Kolkata and its twin city Howrah, and has a customer base of more than 2.3 million people.

CESC's primary goal is to ensure the continued delivery of reliable, safe electric power to their customers while adhering to safe environmental practices in all their operations. This includes managing, maintaining and expanding their IT resources effectively at the lowest possible cost. Being located in a metropolis like Kolkata, a big constraint for CESC was the lack of space. To combat the problem of growing Data Center space requirements as a result of business growth, the company decided to deploy GFS Crane, a DCIM solution from GreenField Software, which has the capability to estimate and optimize floor and rack space utilization.

Besides space optimization, GFS Crane helps CESC to track asset utilization and power consumption that are being used today and estimate what will be needed in the future. GFS Crane identified inefficiencies that were leading to wastage of power and underutilization of existing assets. GFS Crane helped to improve Power Usage Effectiveness (PUE), a key metric for energy efficiency of a Data Center that CESC intended monitoring real-time. CESC implemented GFS Crane to reduce power usage while also reducing the carbon footprint of its Data Center. CESC recognized the integration of Sustainability Reporting in GFS Crane as a unique feature that set it apart from other DCIM solutions in the market.

Summary

Sound capacity planning is fundamental to operational efficiencies in a data center. Over-provisioning to provide redundancies has been the primary cause of asset under-utilization and increased power consumption, while at the same time increasing the complexity in the data center. Paradoxically, increased complexity aggravates chances of data center failures. Powerful Capacity Planning features of GFS Crane DCIM helps the data center manager deliver on a key result area of controlling capital costs through accurate forecasting of future capacity requirements based on real-time data, historical trends as well as benchmarked data from the Manufacturer Repository. This greatly reduces chances of outages or wasted capacity due to wrong provisioning.

"We are one of the oldest utility companies in the nation with a firm commitment to the environment. Generating clean power has been one of our big investments. Modernizing our Data Center and IT infrastructure is crucial to meeting our business goals of reducing costs as well as conforming to sustainability standards. We believe that GFS Crane DC will give us the ability to adapt our Data Centers to the dynamic changes in business requirements and setting benchmarks for rest of the industry. We are proud to be one of the pioneers in the adoption of DCIM in India."

- *Debashish Roy, Chief Information Officer, CESC Limited*

GreenField Software's Mission is to help Data Centers control capital expenditures, reduce operating expenses and mitigate the risks of Data Center failures.

Besides DCIM Software, GFS offers Data Center Advisory Services in the areas of best practices, capacity planning, energy efficiency and business continuity of data centers.

<http://www.greenfieldsoft.com>

For a live demonstration of GFS Crane, write to us:

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