GFS Crane DCIM for Business Continuity Planning:
Predicting Failures

> Business Continuity's tenet is simple: no single failure should impact continuous availability of any mission critical application. No enterprise can afford any disruption in the running of its applications or IT infrastructure as they support a globally interconnected round-the clock operation.

CIOs worldwide are challenged to provide applications and IT infrastructure to meet the business users' demands for:

- Change in business conditions: M&A, new products, new competition;
- Data Security: personally identifiable information, corporate sensitive data;
- Governance, Risk & Compliance: for audits, statutory, or industry-specific compliance;
- Business Continuity: epitomized by 99.999% uptime requirements; and
- Lean & Green IT: reduce operating costs, reduce power consumption and reduce emissions.

This paper concentrates on Business Continuity. Business Continuity is distinct from disaster recovery. The latter comes into play when a natural or other disaster occurs in a Data Center, and a secondary Data Center in a different location takes over as seamlessly as possible. Business Continuity on the other hand refers *also* to the uptime requirements within the same data center under perfectly external conditions.

Role of DCIM

The Data Center has a myriad of assets – both IT and Facilities, besides the mission critical applications themselves – that require near 100% uptime. To provide such high availability, Data Centers are built with minimum Tier 3 standards of Uptime Institute. Such standards require redundancies for all categories of equipment. This multiplication of assets, paradoxically, adds to the complexity of business continuity planning (BCP) as DC Managers now have to monitor the entire grid of computing and non-computing equipment, all provisioned with N+1 and sometimes N+2 levels. DC Managers in this industry now unequivocally state that mere redundancies are not good enough. What they need is the ability to predict failures and take proactive action. This can also reduce non-significant over-provisioning and avoidable capital expenditures. In turn, this can also improve asset utilization and reduce power consumption.

Strangely, while business continuity is fundamental to uninterrupted operation of an enterprise, BCP today is constructed at equipment redundancy level only. There is no predictive analytics to support BCP. This is where Data Center Infrastructure Management (DCIM) software like GFS Crane can help.

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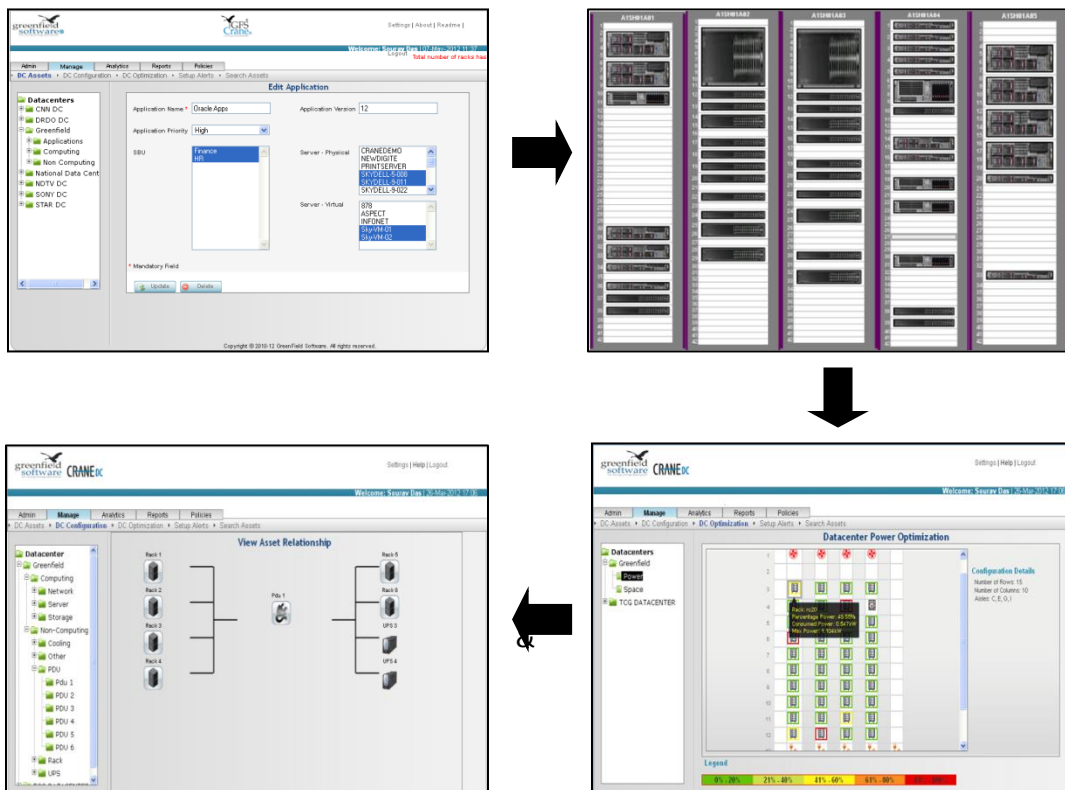# Predicting Failures

GFS Crane DCIM for BCP

GFS Crane DCIM comes with three unique features for BCP:

- Visually defining the entire chain of all asset relationships: application to back-up power, helping to identify missing or weakest links and the redundancy paths;
- Providing alerts when critical thresholds are breached;
- Trending to predict failures based on past incidents and their periodicity.

Configuring Asset Relationships:

GFS Crane DCIM provides powerful drawing tools to configure entire Data Center across its multiple zones and floors with all asset relationships: computing as well as non-computing. This includes:

- Which applications are on which servers and storage: primary and secondary;
- On which racks are these servers and storage mounted;
- The associated network servers, PDUs and UPS
- The configuration of all other equipment: HVAC, chillers, transformers and back-up power.

Drag
Drop

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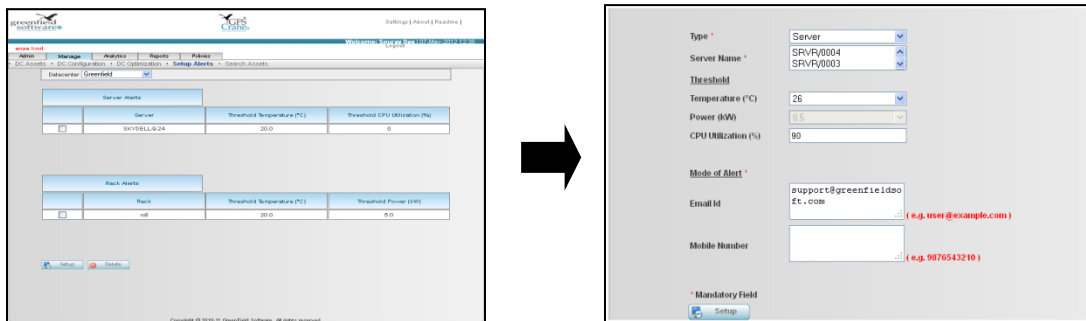## Predicting Failures

features help to simulate different configurations that help to optimize both the asset deployment in the DC as well as capacity planning.

Once drawn and captured in the database, one can identify exactly which are the weakest or missing links that have the potential to make business continuity vulnerable. Procurement decisions through GFS Crane Manufacturer Repository can assist to plug these gaps.

Redundancy paths are mapped to assist immediate identification of alternatives to overcome a failure or (even better) before it occurs as failure predictions are an important feature of BCP supported by GFS Crane.

Setting Alerts:

GFS Crane provides the user to set threshold levels for different parameters such as utilization, power and temperature. Automatic alerts are dispatched via email and text messages when such threshold levels are breached to help prevent failures.


Failure Predictions:

GFS Crane maintains a history of all move-add-change (MAC) decisions as well as a record of prior failures, the moment they happened and their cause. Analytic tools can then make probabilistic forecasts of potential failures based on past data of periodicity of equipment failure over time or prevent a MAC decision that has shown to have been problematic on previous occurrence(s).

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Summary

Business Continuity Planning is fundamental to the success of an enterprise. Merely providing for equipment redundancy is neither operationally efficient nor economically sound. Today's demands of high availability, while at the same time ensuring better asset utilization and energy efficiency, necessitate a software that can support business continuity. GFS Crane provides this through its Asset Management and Capacity Planning modules.

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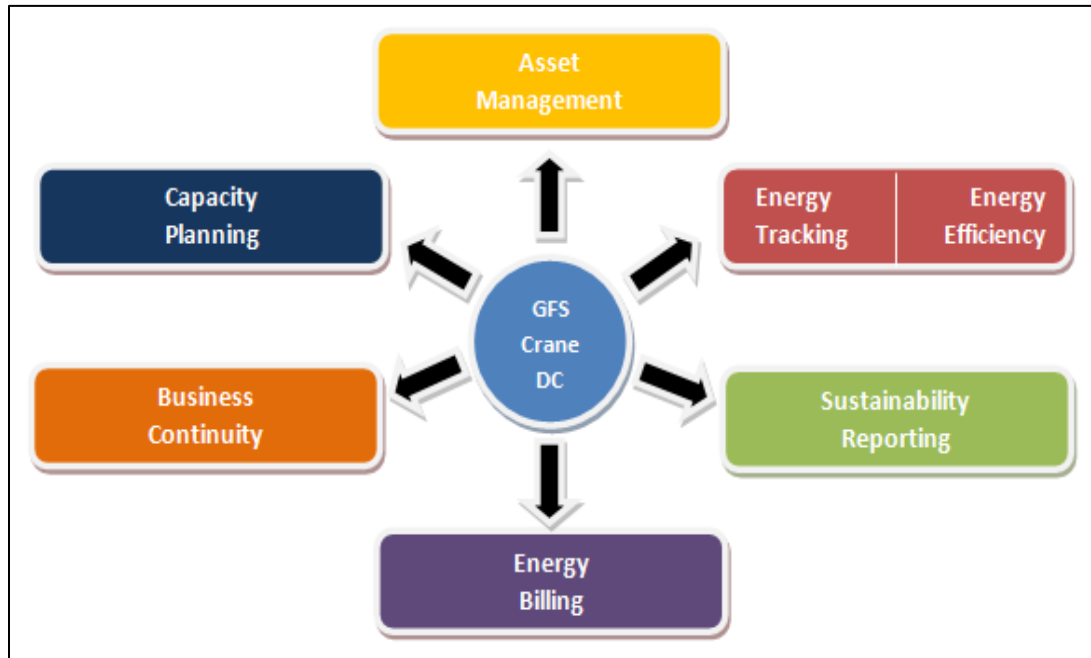
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GreenField Software's Mission is to help Data Centers control capital expenditures reduce operating expenses and mitigate the risks of Data Center failures.

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.