Top 40 Data Center KPIs



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Introduction

Modern data center managers are under constant pressure to do more with less while simultaneously being tasked with maximizing uptime and optimizing for efficiency and capacity utilization. In today's ever-changing data center environment, insights from data provide a critical competitive advantage to help tackle these challenges.

To gauge success and ensure business objectives are met, data center managers are increasingly turning to big data analytics to provide the necessary information, but with the massive volume and variety of data generated by data center devices, they don't always have the time or training to be able to collect that data, analyze it, and ultimately derive value from it. Plus, when using legacy tools like Excel and Visio, it's simply not possible to holistically see and analyze this data.

So how do you know where to begin, what to track, and what your goals should be? Based on our conversations with hundreds of customers in our global user groups for our Data Center Infrastructure Management (DCIM) solution, we've consolidated feedback on what data matters the most and compiled a list of the top 40 Key Performance Indicators (KPIs) that all data center managers should monitor to improve the overall health and efficiency of their data centers.

If the list seems overwhelming, know that measuring these KPIs is easy with DCIM software. In fact, with a modern DCIM solution, many of the KPIs come right out of the box in dashboard widgets and reports requiring zero configuration. Start monitoring the Top 40 Data Center KPIs in your environment and enjoy smarter, more data-driven decision-making across all facets of data center management from asset management to capacity planning to energy efficiency.



Capacity KPIs



1. Capacity by Key Data Center Resource (Space, Power, Cooling, and Data/Power Port Connections)

Having accurate, reliable, real-time information on the physical space, power, cooling, and network connectivity capacity in your data center is essential for making the most informed, data-driven decisions when you need to reserve space and deploy new IT equipment, use power resources more efficiently, save on operating expenses, or convince management you need more capacity. Being able to monitor real-time capacity at the site, floor, and cabinet levels greatly simplifies how you can find and reserve resources.



In a survey by EMA, 57% of IT executives reported that their top priority is reclaiming and/or re-purposing hardware and software that is underutilized.





2. Capacity by Logical Groups (Space, Power, Cooling, and Data/Power Connections by Function, Department, etc.)

For an extra level of granularity, plan and manage your capacity not only by data center resource, but by logical groups such as function, department, business unit, and customer. Data center projects are often assigned according to these logical groups; therefore, you should monitor each group's capacity utilization to properly allocate resources.



Traditional spreadsheets and CAD drawing programs make the intricacies of data center capacity management unnecessarily difficult, inefficient, and unreliable. To simplify and accelerate capacity demand planning, many organizations are turning to data center business intelligence, dashboards, and analytics.





3. Stranded Power Capacity Per Rack

Data center managers will often allocate more power to each rack than is actually demanded by the IT equipment. This causes stranded power that can be deployed elsewhere in the data center to save costs. For a single rack, a few kilowatts of stranded power may seem unremarkable, but when you factor in hundreds or thousands of racks, stranded power could account for as much as 50 percent of all available power. Monitor power consumption in your data center to identify stranded capacity. Then, deploy that power with confidence and delay spending millions to build your next data center.



Through tests in its own data center, Raritan determined that even at peak power consumption, 83% of their servers were using 60% or less of their nameplate rating.





4. What-If Analysis

What-if analysis charts for space and power capacity can help you understand the potential net impact of changes in your data center—particularly additions and decommissions—without impacting equipment in use. Conducting what-if analysis on a per-project basis gives you the flexibility to add the same equipment in different combinations and locations to multiple projects so you can better determine when you will run out of capacity and how long you can delay capital expenditures.



What-if analysis allows you to quickly and accurately predict the future state of your data center and ascertain if you can postpone adding additional resources or if you need to purchase more.





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