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Time for smarter capacity planning

ACCURATELY PLANNING and managing rack power capacity is a struggle for many modern data center managers, but the repercussions of failing to do so are stranded rack power and space capacity and overspending on operating expenses. Fortunately, new machine learning and AI capabilities in second-generation Data Center Infrastructure Management (DCIM) software now allow for fast, easy, and accurate power capacity planning.

Most data center managers run into the same challenges in their attempts to plan and manage power capacity. It is expensive to build out a server-ready cabinet, costing around $15,000 per cabinet. There is immense pressure to properly monitor and understand power capacity and infrastructure health or risk costly downtime. And often, available capacity is taken for granted as overbuilding of data center capacity is a rampant and wasteful practice that leads to excessive stranded capacity.

The traditional method of capacity planning has failed data center managers. This commonplace method, where data center managers derate the nameplate value of a server device to around 60% or 70% when budgeting their power to determine how many servers can be deployed in a cabinet, is manually intensive, time-consuming, inaccurate due to being based on assumptions rather than data, and costly due to the high risk of stranding capacity and overspending on capital expenditures to add capacity.

However, with recent advances in AI and machine learning technologies now available in second-generation DCIM, the traditional method is no longer necessary. A complete solution of Sunbird's DCIM paired with intelligent rack PDUs

brings automation to data center power capacity planning and management, making it fast, easy, and accurate.

Sunbird's patent-pending Auto Power Budget feature unlocks precious rack capacity as each individual server make/model instance is assigned a unique power budget value that's automatically set from real-time outlet-measured power readings from intelligent rack PDUs – your devices' exact loads under your compute stress in your environment. This dramatically refines the traditional method of taking a percent of nameplate and improves the utilization of existing rack power and space.

Where the traditional derated budget method demands high effort and manual calculations, Auto Power Budget takes minimal effort and updates automatically. Where the traditional method provides low accuracy due to applying the same derating to all servers, Auto Power Budget provides high accuracy by using measured readings over long periods of time in its algorithms. And where the traditional approach presents high risk due to error-prone manual calculations and assumptions, Auto Power Budget's built-in algorithms and validations intelligently manage risk.

Data center managers must better leverage their data to make smarter capacity planning decisions, or risk stranding capacity and overspending. Being able to automate this process is a key differentiator between a successful data center manager and one who struggles, and now it's never been easier. Auto Power Budget takes the manual effort, inaccuracy, and risk out of power capacity planning, making it easy to deploy more compute, leveraging power in existing racks. It saves time and money, reduces risk, and eliminates stranded capacity.