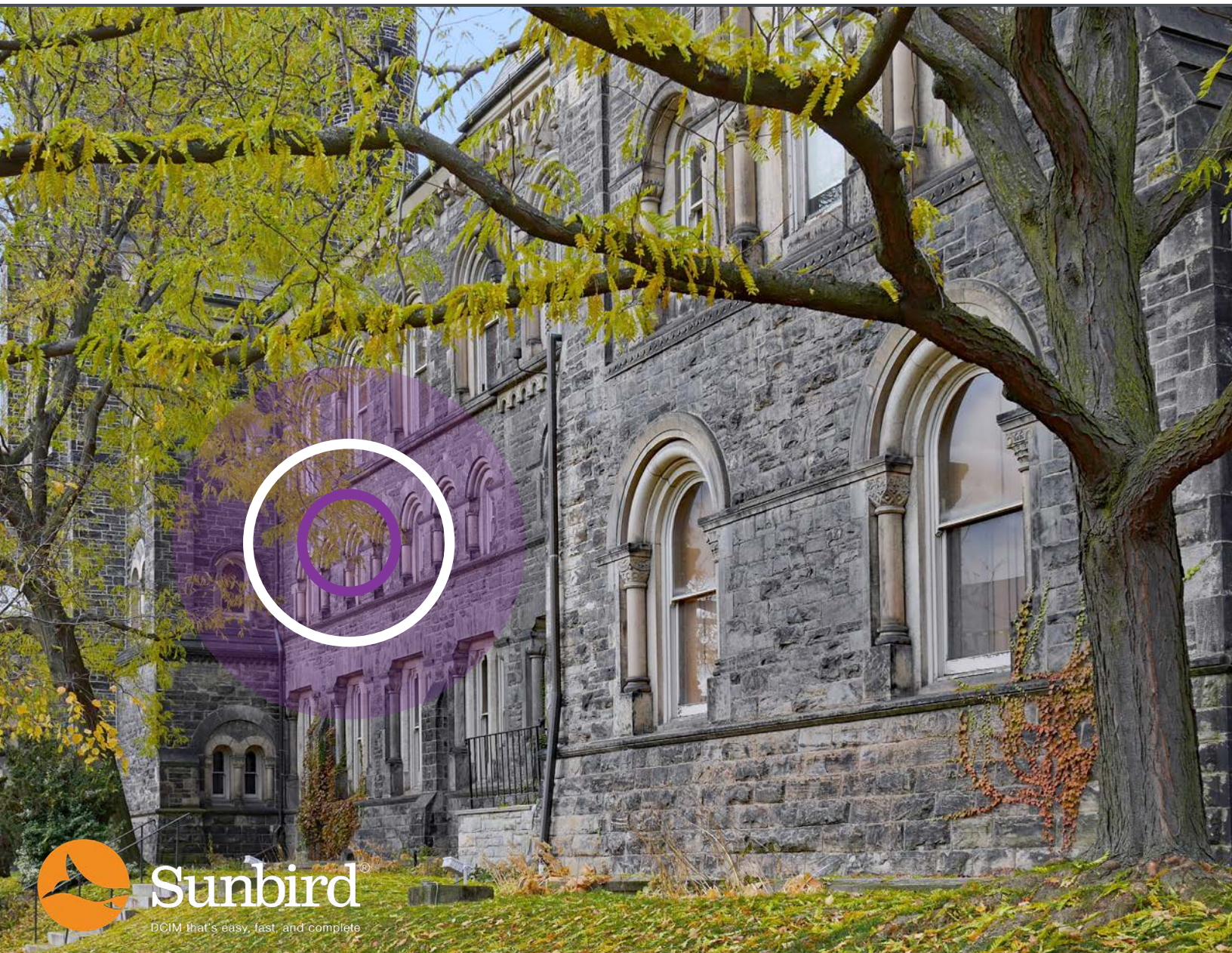
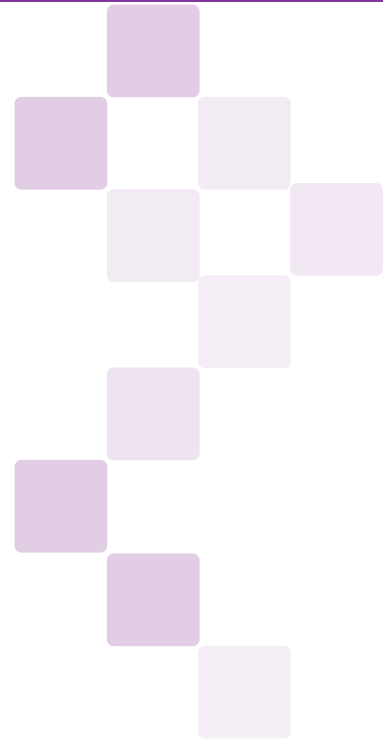


EBOOK

Tips for Managing Technology Assets in Higher Education

Data Centers, IT Closets, and Campus Networks



Sunbird®

DCIM that's easy, fast, and complete

Introduction

Higher education technology assets across data centers, IT closets, and campus networks of universities, academies, colleges, and institutes of technology enable breakthroughs in research, online education, administrative operations, and more.

But the varied applications of higher ed data centers can also make them complex and difficult to manage.

As a leader in second-generation Data Center Infrastructure Management (DCIM) software, we get to speak with many university data center managers and listen to their pain points.

We hear that the most common challenges of managing higher ed data centers are:

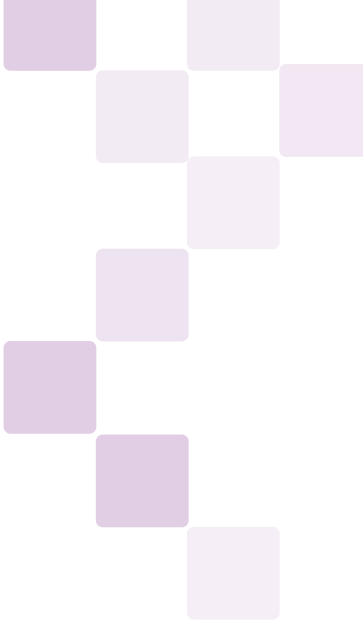
- Constant change in the data center
- Lack of a common tool to understand operations
- High-density power and cooling requirements for high-performance compute
- Managers have to act as colocation operators with multiple tenants
- Sprawling IDF/MDF estate across campus
- Smaller teams with limited process maturity
- Wide range of equipment types with little standardization

These challenges are significant, but we have seen first-hand that with the right tools, information, and processes, they can be overcome.

In this eBook, we have compiled the five tips for managing higher ed data centers.



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1. Maintain an accurate asset inventory and track changes.

University data centers often operate similarly to a colocation facility for the many departments and researchers that have equipment in them.

This can lead to constant moves, adds, and changes in the data centers and technicians who don't properly document their work. Equipment often shows up with no trace of who bought it, and the multitude of departments and researchers results in little to no standardization of device models and configurations.

This issue is magnified by the fact that universities often have many sites and network closets distributed across one or more campuses. Plus, legacy management tools like Excel and Visio are still commonly used which are manual, time-consuming, and prone to human error.

These headaches can disappear by deploying DCIM software and implementing processes that require all assets and changes to be documented in the system. This enables a single version of truth that improves all facets of data center management including capacity planning, troubleshooting, and reporting. *(continued)*



1. Maintain an accurate asset inventory and track changes (continued).

Asset management is simplified with:

- **Real-time views** of assets across your entire footprint including equipment in racks like servers, storage, networking equipment, rack PDUs, rack UPSs, and patch panels and the supporting infrastructure for relationship and dependency mapping.
- **Model templates library** that automates capacity search and population of key information for the models you deploy like make, model, dimensions, weight, and data/power ports.
- **2D/3D rack elevation diagrams** that are automatically updated with every equipment change.
- **Custom fields** so you can track everything that is important to your university.
- **Parts management** to track your inventory of parts and spares like SFPs, hard drives, and cables.
- **Voice response-guided asset audits** with barcode and QR code scanners that enable one person to perform faster and more accurate audits.
- **CMDB integration** with out-of-the-box connectors to reduce manual data entry.

Change management is made easy with:

- **Built-in work order management** to track all moves, adds, and changes in the data center.
- **Ticket system integration** with out-of-the-box connectors to minimize swivel chair management, eliminate work requests through random emails, and provide an organized worklist with real-time status updated automatically between systems.
- **Clear visual work orders** with rack elevations and port-to-port instructions that ensure work orders are assigned to the right team and completed correctly the first time.




FROM THE EXPERTS:

“It helps us track what assets are in the data center and locate them when they need service.”

 Jeff W., Project Manager

“A built-in models library is very helpful and has saved us a bunch of time.”

 PennState Tyler Kauffman, Systems Administrator

2. Centralize monitoring of data center power and cooling.

The data center operations team at universities often have limited tools and a lack of visibility into their power and environment.

High-performance compute (HPC) infrastructure can cause hot spots, power spikes, and power balancing issues and if you're not aware of them until it's too late then your research users could experience downtime.

Further, many universities have sustainability initiatives to reduce energy consumption and contain operating costs. This requires monitoring and reporting that drives informed decisions about where and how to increase energy efficiency.

DCIM software provides robust power and environmental monitoring so you can know the health and efficiency of any site, get alerts to maintain uptime and save money. *(continued)*



2. Centralize monitoring of data center power and cooling (continued).

DCIM software enables proactive real-time data center power management with:

- **Metering and monitoring** of rack PDUs, RPPs, floor PDUs, branch circuits, busways, UPSs, and building meters.
- **Thresholds and alerts** to be automatically notified of power anomalies so you can proactively remediate them.
- **Charts and reports** for circuit breaker capacity and power failover redundancy.
- **Automatic single-line diagrams** that improve power planning and troubleshooting.

Environmental monitoring is made easy with:

- **Enterprise-class sensor polling** that gathers and stores live measured readings from temperature, humidity, airflow, and other environment sensors and transforms it into actionable insights.
- **Thermal map time-lapse videos** to enable the early detection of hot spots forming in your data center.
- **ASHRAE psychrometric cooling charts** that show you exactly where you are overcooling and wasting energy.
- **Thresholds and alerts** so you are the first to know of deviations from industry- or manufacturer-recommended guidelines.



“What we’re trying to do as an organization is to get out of the data world and into the information world.”



Raymond Parpart, Director Data Center Strategy & Operations

FROM THE EXPERTS:

“Monitoring can be granular which gives the user better flexibility how they want it to be used.”



Christopher L., Data Center Infrastructure Specialist II

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