

UI Health Case Study Snapshot

Company

University of Illinois
Hospital & Health
Sciences System
(UI Health)

Country

United States

Industry

Healthcare

ABOUT UI HEALTH

Founded on a legacy of excellence, the University of Illinois Hospital & Health Sciences System (UI Health) has been serving the Chicagoland community for over 100 years. Consistently ranked among the top healthcare institutions in the nation, UI Health is part of the robust University of Illinois Chicago (UIC) clinical enterprise that consists of a 455-bed tertiary care hospital, 26 outpatient clinics, 13 federally qualified Mile Square Health Center facilities, and seven UIC health institutions.

UI Health cares for more than 135,000 unique patients every year through a patient-centered focus that goes above and beyond for its patients by providing safe, high-quality, cost-effective, and foremost responsible care.

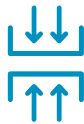


BUSINESS CHALLENGES



Power Provisioning

Delays: The process of making a rack operational was mired in procedural delays, taking 6-7 weeks due to procurement, contractor walkthroughs, and space identification among other steps.



Space Constraints:

The excessive cabling both above and below the floor complicated the process of identifying primary power sources, thus delaying space allocation for new equipment installations and troubleshooting.



Breaker

Troubleshooting: The task of locating breakers during tripping incidents was exacerbated by overcrowded power whips and the necessity to remove tiles to trace cables back to the breaker panel.

STRATEGIC OBJECTIVES

To address these challenges UI Health aimed to:



Streamline power provisioning processes to minimize delays



Reconfigure power distribution to manage space constraints and ease troubleshooting



Foster a closer collaboration between networking, server, and storage teams to streamline procurement and planning processes

KEY SOLUTIONS IMPLEMENTED



Overhead Power

Distribution System: This system significantly eased the power provisioning process, reduced the procurement time from 6-7 weeks to 2 days, and facilitated easier management and identification of power sources.



Wire Basket Overhead Cable Tray Routing System:

Assisted in managing the cables up top, thus addressing the space constraints challenge.



Enhanced Policies and

Procedures: UI Health, drawing insights from other healthcare institutions and in-house collaboration, streamlined its data center policies and procedures to align with the new infrastructure setup.

PANDUIT SOLUTION

- Overhead Power Distribution
- FlexFusion Cabinet
- G5 PDU
- Wire Basket Overhead Cable Tray Routing System
- Cable Management
- TX6A™ Copper Cables
- Opti-Core® Fiber Patch Cords
- TX6A-28™ Patch Cords
- Mini-Com® Jack Module
- Surface Mount Box
- Faceplate Modular Patch Panels
- Patch Panel
- Fiber Cassettes
- Fiber QuickNet™ Trunk Cables

BUSINESS BENEFITS

- **Enhanced Manageability:** The new setup facilitated a swift and efficient location of cabling, thus simplifying troubleshooting and space management.
- **Increased Efficiency:** The streamlined processes reduced the time spent on operational steps in procurement, thus freeing up the team to focus on critical tasks.
- **Ease of Deployment:** Overhead Power Distribution's innovative connector design enabled the electrician to install 8 new outlets with minimal downtime.
- **Future-proofed Capacity:** The strategic upgrade has positioned UI Health to efficiently meet its future high-density power requirements, ensuring a robust, resilient, and efficient data center infrastructure.

Business Challenges



New Challenges Emerge with an Increase in High-Density Demands

As the need for higher density in data centers becomes increasingly evident, data center teams are encountering a fresh set of challenges. The networking team at UI Health quickly recognized the imperative to not only upgrade their data center equipment but also to reconfigure their power distribution, policies, and procedures to address common data center challenges such as power provisioning, space limitations, and efficient troubleshooting.

CHALLENGE 1: Streamlining Power Provisioning Efficiency

The power provisioning process presented a significant challenge for the UI Health team, transforming what should have been a straightforward task into a prolonged, 6-7 week ordeal for each rack deployment. This intricate procedure encompassed the acquisition of new equipment, meticulous contractor walk-throughs, thorough assessments of existing hardware, precise identification of available spaces, and the integration of essential components, including extensive piping work.

In the fast-paced realm of data center operations, where every moment is crucial, the team recognized an urgent need to innovate their policies and workflows, aiming for rapid deployment of IT resources. A pivotal aspect of their strategic overhaul involved establishing a new row of cabinets, pre-provisioned with ample power capacity, ready to accommodate future high-density workloads.

CHALLENGE 2: Overcoming Spatial Limitations

The UI Health team encountered a complex network of intricate cabling that spanned both above and below the floor. This congestion of wires not only obscured the visibility of primary power sources but also introduced significant delays in allocating space for new equipment and complicated the crucial task of troubleshooting breakers.

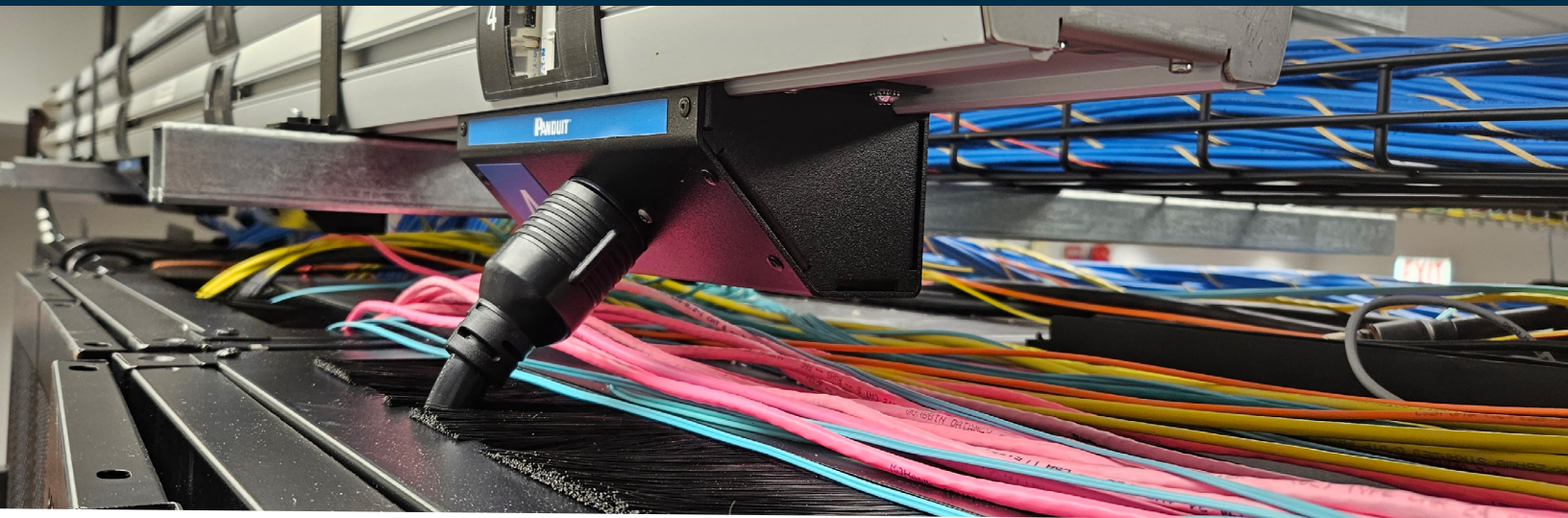
In the face of these spatial constraints, it became evident that a streamlined approach was necessary to untangle the complexity and pave the way for efficient equipment integration and maintenance.

CHALLENGE 3: Streamlining the Breaker Troubleshooting Process

Addressing breaker trips evolved into a formidable challenge for the UI Health team, necessitating the meticulous removal of tiles to trace back and identify the root cause of the issue. A labyrinth of switching gear, cabling, power whips, and piping had accumulated over 23 years both overhead and beneath the floor.

Complicating matters further, the transition to high-density racks, notable for their increased depth, significantly impeded the team's ability to access and remove tiles, hindering their ability to track cables back to the breaker panel efficiently. Recognizing the critical nature of this issue, the UI Health team was compelled to seek innovative solutions to alleviate these challenges.

Strategic Objectives



Elevating Power Provisioning and Infrastructure Optimization

Optimizing the Power Provisioning Processes

At UI Health, enhancing data center policies and procedures has been paramount, aiming to ensure that power provisioning experiences are swift and seamless. Over two decades of dedicated service have seen the integration of vital data center components, including cabinets, cabling, switches, uninterruptible power supplies, power distribution units, and racks. Yet, with an eye on the future and the rise of higher-density power requirements, UI Health acknowledged the imperative need for a holistic strategy.

Ensuring Adequate Capacity and Future-Proofing Power Distribution

A critical facet of UI Health's strategic objectives centered around safeguarding the data center environment from the pitfalls of equipment installations without proper capacity allocations. Confronted with a spectrum of power whips ranging from 20-60 amps, both above and below the floor, establishing a uniform standard became imperative. With a predominant reliance on 30 amp 3-phase power, the integration of the Panduit Overhead Power Distribution emerged as the most synergistic solution, future-proofing UI Health's power distribution framework.

Fostering Organizational Continuity

Building upon a foundation of continuity and collaboration, the UI Health team proactively upgraded its data center processes, optimizing the delivery and provisioning of power to minimize delays. While the networking team maintained strong synergies with server and storage units, procurement delays necessitated a strategic pivot. Engaging with data center professionals from peer hospital institutions, UI Health crafted and instituted policies that harmonized team interactions, streamlined procurement processes, and clarified specifications related to BTUs, power requirements, and plug types. This policy overhaul catalyzed enhanced communication and more effective meetings across teams.

Enhancing Visibility and Troubleshooting Efficiency

The innovative layout of the Overhead Power Distribution brought breakers into clear view, significantly enhancing the team's ability to efficiently locate and track power whips. This newfound visibility not only facilitated swift space allocation but also revolutionized troubleshooting practices, eliminating guesswork and fostering a more proactive and responsive data center environment.

Innovative Solutions from Panduit



Chris Mactal, Account Executive from Panduit discusses the importance of the collaboration between Panduit and UI Health:

Working alongside UI Health was a collaborative endeavor. Our internal teams and the customer came together to identify the precise needs and craft a solution to meet them. It's gratifying to see our combined efforts result in a robust solution that will serve UI Health efficiently for many years to come. At Panduit, it's about more than just delivering products; it's about ensuring those products genuinely address the unique needs of our customers.

A Strategic Partnership for Success

Leveraging a Comprehensive Portfolio for Long-Term Objectives

UI Health's pursuit of transformative solutions found a perfect partner in Panduit, a brand synonymous with innovation and excellence. With a comprehensive portfolio at our disposal, we were poised to significantly contribute to UI Health's long-term strategic goals.

Collaborative Discovery and Tailored Solutions

The Panduit team—comprising knowledgeable engineers, sales professionals, and business development experts—engaged deeply with UI Health. Through a series of discovery sessions and voice-of-customer interviews, we collectively identified the Overhead Power Distribution system as the optimal solution to address UI Health's primary challenges.

A Visit to the Panduit Experience Center – Unveiling Potential

To further elucidate the potential of Panduit offerings, we invited the UI Health team to the Panduit Experience Center (PEC). This visit unveiled the depth of Panduit expertise, extending far beyond patch cords to encompass a versatile array of products and solutions to meet UI Health's specific needs.

Transforming Infrastructure with the Overhead Power Distribution

The transformation journey targeted both cabinets and Power Distribution Units. Given the different requirements, the Panduit Overhead Power Distribution system emerged as a cleaner and more efficient solution compared to the existing array of custom whips and conduit. Additionally, the Wire Basket Overhead Cable Tray Routing System played a pivotal role in managing overhead cables, while our technical systems engineers provided 3D renderings to help UI Health visualize the future of their data center.

Benefits

Benefits and Testimonials: A Story of Success

The Overhead Power Distribution system ingeniously merges the benefits of traditional busway and whip methods, effectively addressing their limitations. It stands as a cost-effective and efficient solution for overhead power distribution, promising safety and rapid deployment.

Peter Ejmont, Network Engineer at UI Health, encapsulated the benefits:

With the Overhead Power Distribution, we have a singular power source to rely on. Troubleshooting becomes straightforward, providing us with ease of deployment and enhanced manageability.



Efficient Installation

The installation process saw a collaborative effort between UI Health, Panduit, and Webster Electric Company, a trusted partner of UI Health. Capitalizing on the rapid deployment capabilities of the Overhead Power Distribution system, the installation was completed in under two hours within a live data center environment, ensuring minimal disruption to the power supply. The Webster team lauded the system's near foolproof nature, eliminating the need for custom power whips.

Elevating Efficiency and Future-Proofing Capacity

Strategic Future-Proofing and Enhanced Manageability

Navigating the complexities of future-proofing the data center was a formidable challenge, yet with the expert guidance from Panduit and UI Health's innovative approach, the project transformed into a manageable and strategic initiative. The spectrum of benefits, though continually expanding in correlation with the data center's evolution, is already making a significant impact.

Efficiency in Procurement and Deployment

The UI Health team has realized immediate advantages, particularly in the procurement phase, where what was once a 6-7 week,

cumbersome process is now streamlined and efficient. The introduction of the Overhead Power Distribution system has catalyzed the development of new strategies and procedures, fostering seamless collaboration across departments and transforming daily operations for the networking team. The focus has shifted from operational procurement steps to power provisioning, reducing wait times from weeks to just two days.

Gustavo Aldaba, retired Network Manager and current consultant for UI Health, highlights the Overhead Power Distribution system's pivotal role in streamlining the procurement process:

This solution has revolutionized our approach to power provisioning for future racks and equipment. It's clarified circuit identification, alleviated underfloor congestion, and it's a leap forward that we achieved in partnership with Panduit. Without this innovation, we would still be entrenched in traditional, time-consuming methods.

Enhanced Cable Management and Time Savings

The Overhead Power Distribution system has significantly improved the team's ability to quickly and efficiently locate cabling, with embedded breakers easing the identification of malfunctions and clarifying space allocations. This has instilled a renewed sense of ownership and competency within the UI Health team.

Gustavo Aldaba further explains the time-saving benefits:

Everything is now identifiable and accessible above the rack, eliminating the need to dismantle flooring and trace cabling. This translates to substantial time savings.

Empowerment and Self-Sufficiency

The previous reliance on contractors and electricians for cabling identification, PDU replacements, and troubleshooting is now a thing of the past. The UI Health team has embraced self-sufficiency, confidently handling tasks and troubleshooting independently.

Continued Focus on Overhead Power Distribution

As UI Health propels its data center infrastructure into the future, the Overhead Power Distribution solution remains at the forefront, with the 30 amp 3-phase system continuing to offer ample capacity planning opportunities for the years ahead.



PANDUIT[®]

Panduit Corp
World Headquarters
Tinley Park, IL 60487

cs@panduit.com
US and Canada: 800.777.3300
Europe, Middle East, and Africa: 44.20.8601.7200
Latin America: 52.33.3777.6000
Asia Pacific: 65.6305.7575

www.panduit.com/overhead-power-distribution