Micro Data Centers and DCIM: A Match Made at the Edge

ZELLA DC™

How Zella DC Is Bringing Centralized Data Center Infrastructure Management to Mission-Critical Micro Data Centers Across the World

Small footprint. Big impact.

Traditional data center infrastructures are struggling to keep up with the massive volume of data generated by technology trends like the Internet of Things (IoT) and big data. With the increasing focus on edge computing and the need for real-time data access in remote locations, more organizations are seeking cost-effective, intelligent ways to process and store data in facilities closer to the populations they serve.

Deploying data centers at the edge, however, comes with its own set of challenges. Edge data centers tend to be far smaller than traditional data centers, with limited space and power capacity. They're typically part of a complex, dispersed deployment that must be managed remotely. Yet, they're just as mission critical as their enterprise cousins.

How can organizations deploy critical infrastructure at the edge when traditional data center architectures are no longer practical or sufficient?

That's where Zella DC comes in. A leader in micro data centers, Zella DC develops modular micro data centers that provide all the same capabilities as a traditional data center but with a footprint roughly the size of the refrigerator in your kitchen at home.

"We want to bring the data center to everyone," says Angie Keeler, Zella DC CEO and Cofounder.

The rugged, self-contained, and compact "data centers in a box" can be deployed quickly and securely into any environment. When combined with Data Center Infrastructure Management (DCIM) software, micro data centers provide fast, local data processing and storage that can be remotely managed but won't break the bank.

We sat down with Angie and Zella DC CTO and Cofounder Clinton Keeler to discuss edge data center challenges, key components and benefits of micro data centers, and how DCIM can provide customers with better management and control for their micro data center deployments.

Partner	Since 2010, Zella DC has been a leader and specialist in micro data centers. Based in Western Australia, Zella DC delivers everywhere from remote mining sites and satellite locations to office buildings in major cities. Zella DC's customers span six continents and a wide range of industries, including telecommunications, government, education, healthcare, and mining. Battle-hardened on remote mining sites, their products are the result of the company's rigorous R&D process and close relationships with their customers.
Customer Challenges	■ Equipment is deployed on an ad-hoc basis, leading to multiple different configurations and inconsistencies ■ Data center infrastructure is difficult to centrally manage and control, resulting in a lack of transparency across multiple remote sites ■ Critical data and infrastructure need to be protected against informational and physical security threats
Solution	■ Zella DC's range of micro data centers with cooling systems, rack-mounted UPSs, and plug-and-play components in a secure, robust box ■ Sunbird Power IQ® DCIM Monitoring software for fast, easy, centralized power management and reporting ■ Raritan® Power Distribution Units (PDUs) with intelligent power capabilities
Benefits	■ Each Zella Pro can be prepopulated and preconfigured with the components of your choice to ensure standardization across entire deployments ■ DCIM provides centralized management and control with real-time power monitoring, dashboards, and KPI reporting for multiple sites in a single system ■ Micro data centers and DCIM combine to provide best-in-class cybersecurity management to safeguard critical IT assets and reduce human error

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What is a micro data center?

Angie: A micro data center is a physical data center the size of a fridge. It has all the components of a traditional data center wrapped up into a tiny little footprint. It's completely self-contained so it can be positioned anywhere and everywhere.

Clinton: Because they need to be suitable for a wide range of environments, micro data centers also are rugged and highly secure. They're autonomous and smart, and can operate on or off the network with little human intervention.

What makes a Zella DC unique?

Angie: All our products address all eight aspects of traditional data centers—structure, data cabling, electrical, fire and environmental protection, mechanical, racking, security, and infrastructure management with Power IQ. It's truly a micro data center.

We started out in mining sites in the desert because we wanted them to test it and make sure it ticked all the right boxes. However, once it started to work so well in the desert and could really shine in those regions, our feeling was, "Well, if the product is going to work so beautifully on a mine site in the middle of nowhere, it's definitely going to work beautifully in an office."

Clinton: Understanding our customers' pain points has been really important to us because one of the biggest challenges when it comes to on-premise infrastructure is that every environment and organization is different. For example, it needs to be rugged enough for a mining site but quiet enough for an office. So, we've developed a micro data center that ticks as many boxes as possible.

The intelligent capabilities as far as Sunbird's DCIM and Raritan's intelligent PDUs also sets us apart. Many companies say they provide micro data centers but it's really just a rack with a fan, with no intelligent functionality.

Finally, our micro data centers have been developed not by us sitting in a lab and thinking that this is the best product for the market. We've done it the other way around and said, "Let the market come back to us and say what they want" through our research and development as well as our continual feedback from our customers.

Meet Zella DC

Angie and Clinton Keeler founded Zella DC in 2010 to provide a simple solution to a complex problem. Organizations across a variety of business sectors need to protect their servers and equipment—regardless of whether they are working in a quiet office or a hot and dusty mine site. They need proven components that are reliable yet cost effective.

Zella DC micro data centers are efficient and secure alternatives to colocating servers and networking equipment or to managing them in a traditional server room. By focusing only on excellence in design and by learning from its customers, Zella DC has grown into a leading supplier of standalone, energy-efficient data storage units. Each Zella Pro is robust and secure, with cooling systems that minimize energy costs while giving customers flexibility of size and sophistication. Zellabox has designed a micro data center that runs autonomously and is controlled centrally. All boxes are monitored 24/7/365, even when the network is unavailable.

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How have micro data center deployments changed with the increasing focus on edge computing?

Clinton: The conversation has completely changed from when we first started to what we're seeing now. Traditionally, micro data center deployments have been more ad-hoc. A customer may have needed infrastructure but without building a dedicated server room. Maybe they wanted something that could be deployed quickly to a satellite office.

Now we're seeing more organizations wanting to standardize and have centralized management and control. For example, you could have a head office and replace the server room with two Zella Pros there, or you might have 20 satellite offices and one micro data center in each.

Our customers ask us, "So how are you going to manage that infrastructure, with all those sites?" And we tell them, "We'll do it through Power IQ."

How do micro data centers support mission-critical applications at the edge?

Angie: Imagine when we have self-driving cars come onto the market. The edge of the network is where these cars will be driving. In the future, you imagine all these roads with cars that have no human interaction. There needs to be super-fast processing happening right at the edge of the network because if someone walks into the middle of the road, the car needs to be able to react quickly, and the time it takes for information to be sent to the cloud and back again will take too long.

So, processing speed and cybersecurity are critical at the edge. It's just not practical anymore to be sending data back and forth between a head office and a satellite office. Also, the existing infrastructure may be old, outdated, or difficult to expand. With micro data centers, you don't need to have a dedicated building or server room.

In addition, each Zella Pro can be prepopulated and preconfigured locally before being shipped to the remote location to ensure standardization and consistency across your entire deployment. Whether you have one or one hundred Zella Pros, you know that each one has the exact same components.

Clinton: We're also finding that telecommunications are

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starting to look at how they can cache data. For streaming services like Netflix, for example, there are multiple hubs or network exchanges, and now they're having to start to process and cache data closer to where the people are. Infrastructure to support all these exchanges can be costly.

"Our customers ask us, 'So how are you going to manage that infrastructure, with all those sites?' And we tell them, 'We'll do it through Power IQ.'"

Clinton Keeler, Chief Technology Officer
Zella DC

locked doors, which also reduces human error. We also offer Raritan KVM switches with the highest level of encryption for improved cyber security and control.

Angie: Human error is a major cause of cybersecurity issues. That's why we've separated the cooling system from the critical equipment so technicians won't have access to it. For additional peace of mind, a Zella Pro can process data with no connection to the network but still be placed at the edge. It's completely standalone so you don't have to rely on anything else.

How have micro data centers and DCIM software helped to demystify the way customers understand data center infrastructure?

Angie: For CIOs and CTOs, the data center as a whole

Uptime is also hugely important in terms of mission-critical applications. A micro data center must be working 100% of the time because it is looking after mission-critical environments, and if it goes down, that will cause losses for the customer. Similarly, a mining site might run critical and communications infrastructure through a micro data center. If it goes down and they lose communications, that's a health and safety hazard.

How do micro data centers combat and protect against physical and informational security threats?

Clinton: Many large organizations are worried about being hacked as well as physical security threats. With micro data centers, all critical infrastructure is behind

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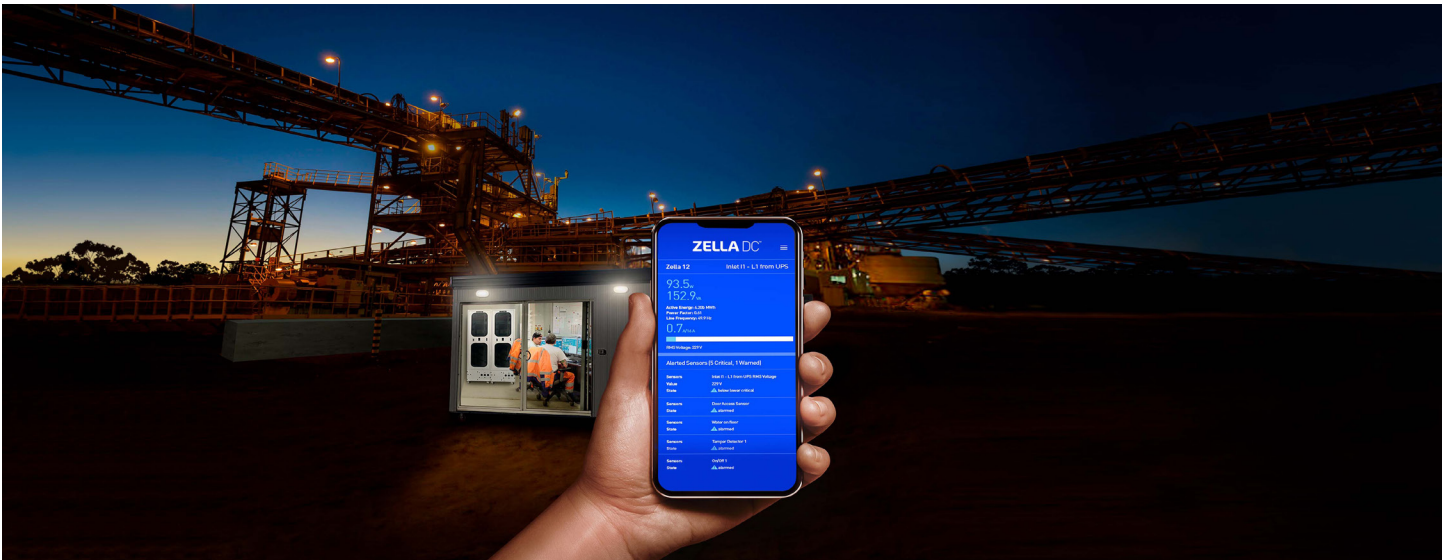
is a complex system—think of the eight disciplines that you need to consider when designing and running a data center. We've taken those aspects and shrunk them down into a tiny space to alleviate the fog of what running a micro data center on site means.

Clinton: One of our biggest challenges is explaining infrastructure to IT managers versus data center managers. Data center managers understand data center infrastructure and the abilities of PDUs, while IT managers know much more when it comes to the actual IT servers and equipment. So, an easy-to-use DCIM tool like Power IQ makes it simple to understand things like how IT assets are managed, how power is monitored, and how to generate reports and KPIs to share with upper management and to drive efficiencies. When we talk to customers and introduce them to Power IQ, they come away thinking that it's something they can learn very, very quickly. They start looking not just at Zella Pro but at other parts of the business, too. They start having conversations not just around micro data centers but the existing central data center as well.

How does the ability to centrally manage and control infrastructure help micro data center customers?

Clinton: In terms of our evolution, the ability to manage infrastructure remotely has become much more important. In our early days of research and development, we found that if we could have more centralized control and management, it would improve uptime and how we monitor power, loads, equipment, and cybersecurity. And that's one of the reasons why, when we went to the market and looked at options, we saw Power IQ as giving us that extra level of edge in terms of centralized management and control.

Angie: When we talk about how customers can manage micro data centers at the edge, Power IQ and Raritan PDUs give them the capabilities necessary to manage, control, understand, and maintain their data centers effectively. Being able to centrally control infrastructure means that customers can manage from the local office

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what is happening in their satellite and remote offices, regardless of geopolitical boundaries.

"When we talk about how customers can manage micro data centers at the edge, Power IQ and Raritan PDUs give them the capabilities necessary to manage, control, understand, and maintain their data centers effectively."

Angie Keeler, Chief Executive Officer
Zella DC

What is the key to bringing micro data centers to everyone?

Angie: To bring the data center to everyone, you need to make sure that you are creating an environment that is easy to use but that is robust enough that it performs exactly the same way as a traditional data center.

A Zella Pro is so easy to use that it can be managed and maintained by the day-to-day people, without the need for specialists. This means that the customer saves as well. Instead of a technician making the trip out to the data center to replace a faulty piece of equipment, we simply ship a new component to the customer, and they plug it in.

Micro data centers can be deployed anywhere, and when combined with DCIM software, they can be standardized and managed quickly and easily from anywhere as well.

Want more from Angie and Clinton? Reach out to them at www.zelladc.com.

Call 732.993.4476 or visit **SunbirdDCIM.com**

Sunbird Software is changing the way data centers are being managed. With a focus on real user scenarios for real customer problems, we help data center operators manage tasks and processes faster and more efficiently than ever before, while saving costs and improving availability. We strive to eliminate the complexity they have been forced to accept from point tools and homegrown applications, removing the dependency on emails and spreadsheets to transform the delivery of data center services. Sunbird delivers on this commitment with unexpected simplicity through products that are easy to find, buy, deploy, use, and maintain. Our solutions are rooted in our deep connections with our customers who share best practices and participate in our user groups and product development process.

Based in Piscataway, NJ, Sunbird serves over 1,850 DCIM customers worldwide. For more information, please visit SunbirdDCIM.com.

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