

Warehouse Data Center: Accelerating the Launch of China/Beijing Unicom IDC Services

[Takeaway] Based on the operator's specific service requirements, Huawei proposed its 'Warehouse Data Center' solution to help Beijing Unicom build an integrated data center that is efficient, green and agile in terms of service delivery.

By Pan Zhimin

Beijing, China's core internet hub, is a hot spot that's being targeted by IDC players. Beijing Unicom, a subsidiary of China Unicom, which is the largest broadband service provider in northern China, has in recent years been increasing its investments in data center infrastructure so, as to leverage its network advantages and implement its cloud strategies.

Innovative Design to Support Service Development

Beijing Unicom wanted to transform an empty warehouse with 5000+ square meters of floor space into a data center, to house more than 1000 IT cabinets. The operator expected a quality data center to be delivered in eight months, while optimizing space utilization, maximizing the number of cabinets accommodated and with minimal investment, to enable them to rapidly launch services and establish a foothold in the IDC market. A traditional data center solution was quickly ruled out, because the implementation would have taken up to two or three years, the architecture would not be flexible enough to meet the needs of multiple IDC customers, the overall energy consumption would be high and the OPEX would be unattractive to Beijing Unicom. Huawei proposed its Warehouse Data Center solution, which was purposely designed to transform warehouses and factory buildings into and flexible and green data centers.

offers three types of IP44 dustproof and waterproof micro modules to maximize on the use of building space and match the floor bearing capacity and onsite environment. Every essential component was designed and pre-integrated in 'all-in-one' modules, including high-density IT cabinets and all the required air conditioning, water supply and drainage, power distribution, fire extinguishing, alarm, safety, cabling and monitoring components. The integrated modules were then transported to Beijing Unicom's site and installed and commissioned in a matter of three months, by simply connecting them up to the site's external power supply and cooling source.

To greatly increase the single-cabinet power density and power usage effectiveness (PUE), Huawei implemented several innovative measures such as isolating cold and hot air flows, sealing up aisles and integrating in-row air conditioners. This enabled us to deliver a 1.05 PUE inside the modules and less than 1.4 for the entire data center, far less than the average data center PUE in China and beating the global average. The data center is green, energy saving and has allowed Beijing Unicom to significantly reduce its operating expenses (OPEX) and helped them advance their position in the IDC market.

Total Integration Enables Beijing Unicom to Focus on Services

No matter how large or small, a data center involves eight systems and dozens of subsystems that are both complex and demanding in terms of technical requirements and compliance with standards and regulations. The subsystems are closely coupled and interconnected. Every change can trigger a chain reaction in other subsystems and impact project implementation.

Running against time, yet still expected to deliver a quality product, Huawei proposed our ‘Total Integration Delivery’ service to help Beijing Unicom consolidate 13 separate RFPs into one that incorporated the entire project scope. As the Prime Systems Integrator (PSI), Huawei assumed overall project responsibility, coordinating the various project teams and assumed overall responsibility for the schedule and budget. The end result was that the project was successfully delivered in just three months, enabling Beijing Unicom to remain focused all the while on its core service development activities.

As the first such facility in China, the Beijing Unicom IDC warehouse project was granted the data center industry’s 2013 ‘Oscar’ level "Innovation in the Medium Data Center" award by Data Center Dynamic (DCD).

Customer Comment

This initial phase of the Beijing Unicom’s IDC warehouse rollout represents a brand-new, innovative model for the design, building and implementation of IDCs, making full re-use of existing warehouses to deliver high-density and standardized micro module equipment rooms. It is a valuable asset to Beijing Unicom, playing a key role in the development and operation of its IDC services

After visiting the IDC site, a Senior Manager of Beijing Unicom commented: "The project represents a brand-new IDC construction approach that makes full use of existing warehouses to deliver high-density and standardized micro module equipment rooms. It has a significant value for the development and operation of Beijing Unicom’s IDC services. I *look forward to* closer cooperation between Beijing Unicom and Huawei in the future, to provide continued support for micro module development, and to optimize and promote warehouse DC solutions."





