

Blog > The Modular Data Center



The Modular Data Center

The Good, the Bad and, the Not so Ugly

In today's global economy, organizations must be agile when it comes to changing business landscapes, whether scaling up or down data capacity, high-density computing, or cloud environments. The modular data center may be a viable choice.

Modular Data Centers, also called Micro or Containerized Data Centers, provide a portable approach to deploying data center capacity anywhere and anytime. It comprises prefabricated modules and standardized components, including racks and IT infrastructure.

By the end of 2023, the global data center market size is forecasted to grow to more than \$416 billion, with the modular data center estimated to be over \$30 billion.

Modular Data Center Drivers

Cloud Computing

Provides a high-density or private cloud computing solution that becomes operational quickly.

Network Edge

Organizations are utilizing technologies that need to deploy at the network edge.

Scalability

Sustainability

The concept of pay as you grow is an easy solution when needing to expand or decrease capacity according to your organization's needs.

Net-zero initiatives play a significant role within the data center industry. Modular

data centers are factory-produced structures. They require fewer people to build

and maintain on-site operations, decreasing energy costs, including power for the

plant, tools, lighting, transport, and workman accommodations. Additionally, these

data centers are prefabricated — components are pre-cut to standard sizes which decreases waste. Modular data centers are built off-site and shipped to their destination in one delivery. Recycling is an option for modular parts like cooling, uninterruptible power supply (UPS), and equipment if or when the modular data center is no longer needed. Flexible and Mobile

Companies are looking for location flexibility to get their end users as close to the

data source as possible while offering the option to scale quickly. These data centers can move seamlessly from one location to another.

Fully Tested with Quick Deployment Modular data centers are fully tested before deployment. It takes a few days up to a few weeks to deploy compared to 9 to 12 months at a traditional data center.

Challenges of Modular Data Centers

Testing and Certification

Depending on what country you are deploying your modular data center, local authority approvals must be met for specific test certificates, like building materials, equipment, and components used in the construction. Other certifications include structural design calculation formats, fire rating of the door and wall panels, cables and electrical panels, and firefighting vendor certification. Once a modular data center is ready to deploy, it must pass a final inspection.

The US National Electrical Code (NEC) article 646 allows manufacturers to certify modular data centers for compliance before distribution with the UL2755 certification. It must be obtained before the modular data center is shipped from the factory to the installation site.

Long-Term Agreement On average, modular data center customers must enter into an agreement term of

15 to 25 years. This long-term agreement is risky since many components, controls, and software are vendor-owned. It makes for a one-sided relationship where the customer depends on the vendor. In this type of long-term relationship, ensuring the vendor will have spare parts available is difficult to gauge when it comes to replacing equipment or software.

Weather Unlike a traditional data center, the modular data center is out in the open and

subjected to extreme weather conditions, insects, animals, and even vandalism. **Modular Data Center Use Cases**

The use of modular data centers within the sporting industry is common. Formula

Sporting Events

One teams require the ability to process data on-site. Teams need computing, storage, and network technologies to analyze data and monitor performance on the track. The short distance between the source and the processing of information provides teams with telemetry data that is accessible in real-time. Formula One cars have 120 sensors that measure oil, water, exhaust, tire temperatures, speed, engine revs per minute, clutch fluid pressure, and the driver's heartbeat. They need a modular data center that is compact, light, quick to set up, and transportable anywhere in the world. Military

Modular data centers are used for defense military deployments. It provides the

military with a strategic advantage in remote locations, easily transferred from one place to another, and can be deployed anywhere in the world, including war zones. Once a mission is complete, the modular data center can be easily relocated. **Disaster Areas**

Modular data centers are a viable choice for disaster-prone areas due to the lower cost of deployment, their ability to be deployed in harsh conditions, and are secured more easily due to their smaller size compared to traditional facilities.

The Takeaway Modular data centers have their benefits and challenges. Exploring and evaluating long-term vs. short-term goals is essential before choosing a data center provider.

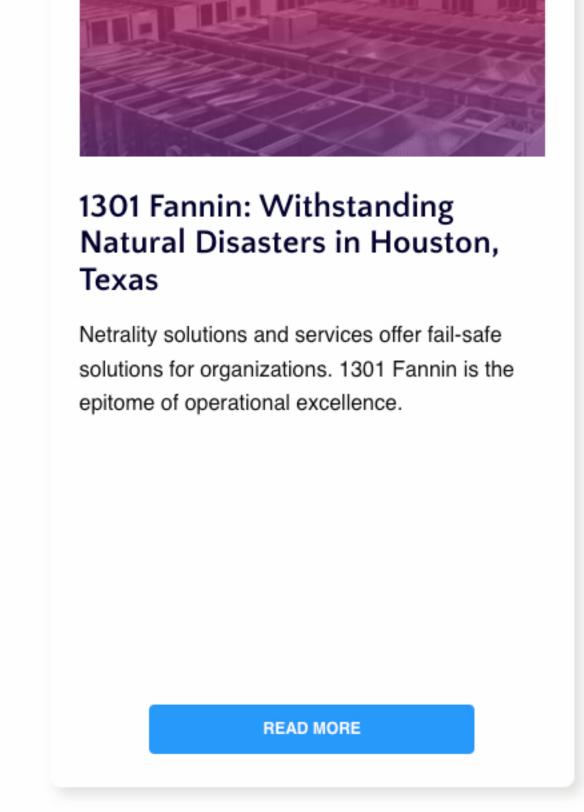
There are many options. Remember to ask the right questions to ensure your

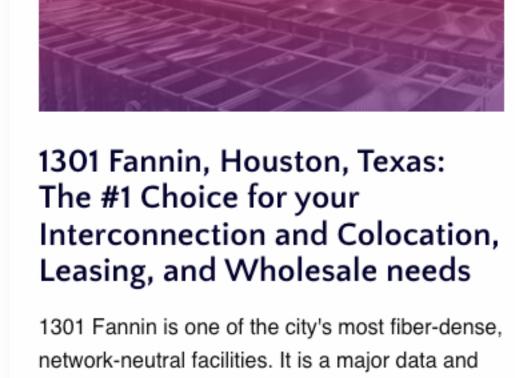
business strategies align with the specific provider, their solutions, and services.

Netrality owns and operates strategic interconnected data centers and Meet Me

Rooms, providing a mix of colocation and powered shell and wholesale data center solutions driven by fiber-dense, network-rich interconnection environments. Contact us today to learn more!

More similar blogs





Internet traffic hub, providing reliable network

providers, and enterprise customers. Our data

interconnection infrastructure for carriers, service

center's robust ecosystem has over 70+ providers, including AT&T, Verizon, Comcast, Cogent, Crown Castle, Arelion, Megaport, HoustonIX, NetIX, GTT, and Meriplex.... **READ MORE**



facilities provides Faster speeds, increased bandwidth, greater reliability, and lower costs.

READ MORE

markets. Peering at Netrality's urban-located



Subscribe to Netrality via Email

Stay up to date with upcoming news and events. (Unsubscribe at any time)

MARKETPLACE INTERCONNECTION -PARTNERS

COLOCATION EDGE SOLUTIONS

INTERCONNECTED DATA CENTERS ABOUT OUR DATA CENTERS HOUSTON - 1301 FANNIN KANSAS CITY - 1102 GRAND KANSAS CITY METRO - KC2 I 7801 NIEMAN PHILADELPHIA - 401 NORTH BROAD

ST. LOUIS - 210 NORTH TUCKER

CHICAGO – 717 SOUTH WELLS

INDIANAPOLIS - INDY TELCOM CENTER

ST. LOUIS - 900 WALNUT

COMPANY RESOURCES INDUSTRY ABOUT US RESOURCES BLOG EVENTS DATA CENTER QUIZ

©2023 Netrality Properties, LP All rights Reserved.

Email Address

PRIVACY