

DISTRIBUTED ANTENNA SYSTEMS (DAS) SOLUTIONS

Infrastructure Solutions for Wireless Service and Neutral Host Providers



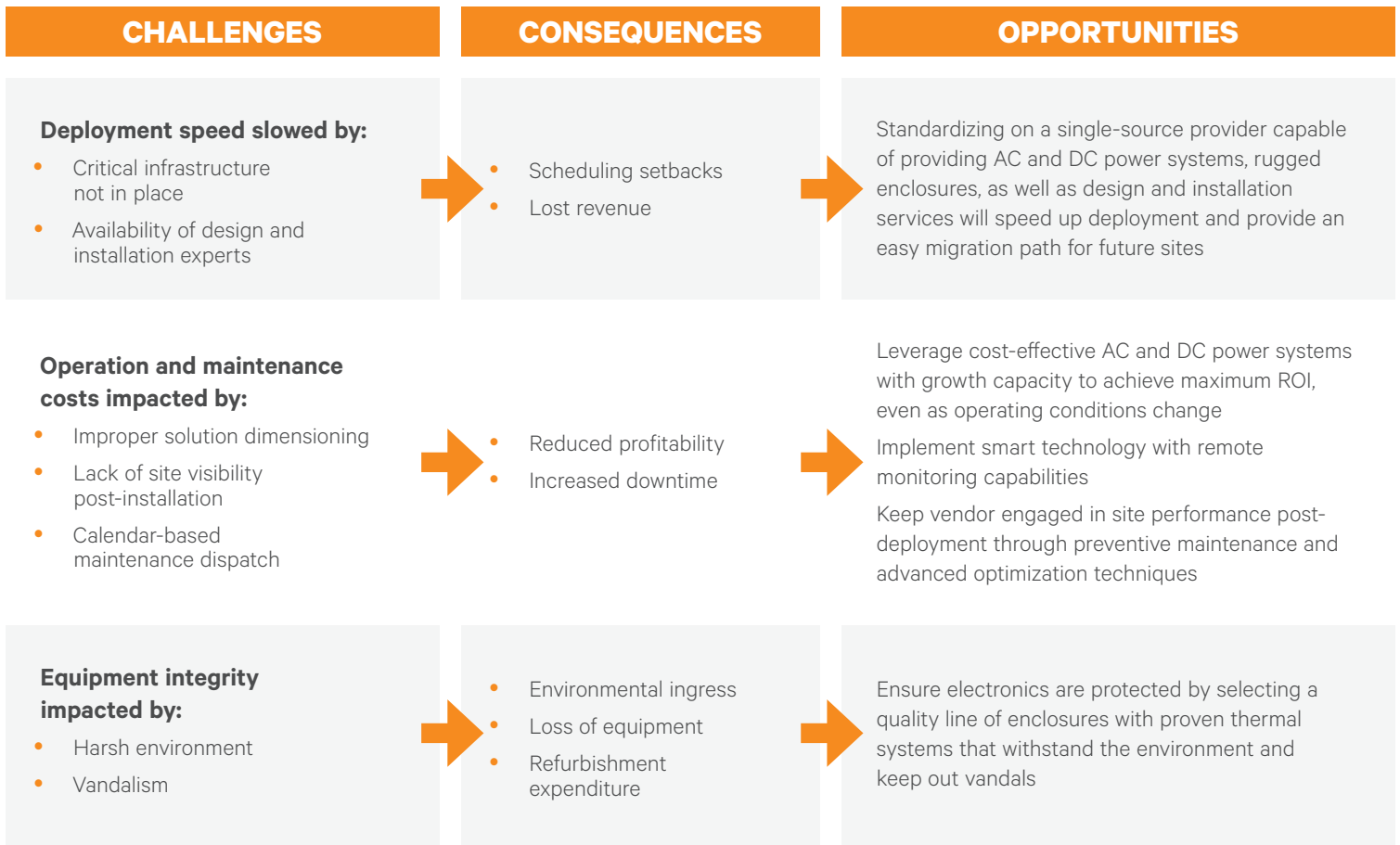
The Challenge

Indoors and Outdoors

Wireless service and neutral host providers are faced with deploying and operating indoor and outdoor DAS networks to enhance their end-user's experience by providing better coverage and higher bandwidth – all while maintaining the reliability and up time expected from a conventional macro cell site.

The Path to a Reliable Network, Rapidly Deployed with minimized implementation and maintenance expenditure.

By leveraging AC and DC power systems, enclosures and services currently utilized in networks throughout the world, DAS operators are able to deploy high quality networks that meet stringent telecommunications industry standards. From a service provider perspective, this means they are able to limit customer churn by providing a high-quality end-user experience. From a neutral host provider perspective, this means they are able to win and support clients by offering reliable infrastructures with superior performance.

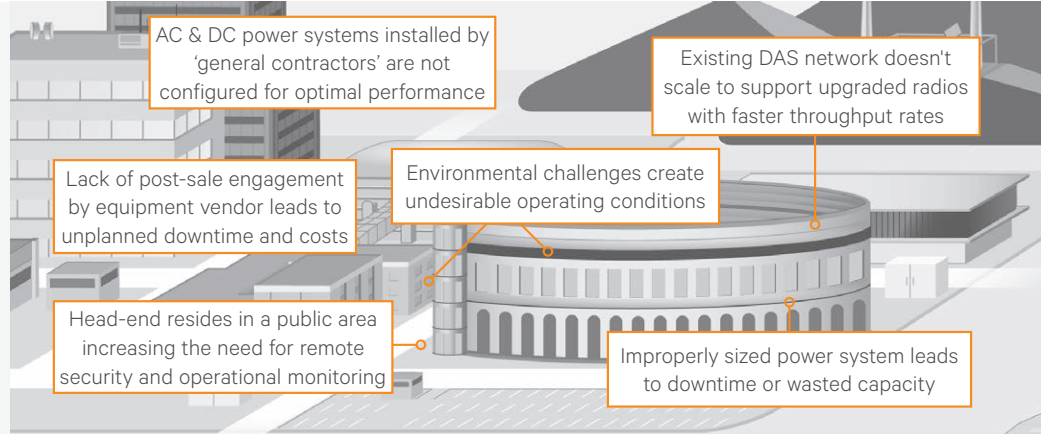


As society grows to expect smarter functions, more interactive features and ever-present coverage from their mobile devices, networks are becoming more complex.

DISTRIBUTED ANTENNA SYSTEMS (DAS) SOLUTIONS

We understand your operating challenges

Vertiv™ has the technology and expertise to meet and overcome operating challenges like these.



High-End Infrastructure Solutions

The head-end is the 'heart' of the Distributed Antenna System. At this point, the radio interfaces with the host unit and is distributed throughout the entire antenna system. In order to assure the entire network is functioning properly with zero down time, the head-end must operate with the highest integrity.

NetSure™ DC Power Systems

Increase Reliability, Minimize Operating Cost and Reduce Energy Consumption

NetSure DC power systems deliver the highest reliability and efficiencies on the market, reducing energy usage, carbon emissions and ultimately total cost of ownership.

NetSure™ 7100 Series

The versatile NetSure 7100 DC power system offers single or three-phase input up to 277/480 VAC and is now available as an indoor enclosure in the row. Designed for 3500 watt or 2000 watt rectifiers and 1500 watt DC to DC converters this modular design provides up to 4000 amps of current at -48 volts. The basic components of the power system include an intelligent NetSure Control Unit (NCU), a module mounting shelf assemblies which house the rectifiers and converters, and a modular distribution cabinet.



NetSure™ 5100 Series



The NetSure 5100 Series, a compact -48 volt DC power solution, features an intelligent NCU controller, a high efficiency rectifier, converter, solar converter and multiple distribution options to meet a variety of application demands. The system is available with integrated and external distribution panels and is ideal for network edge applications requiring reliable, high power density.

High-efficiency eSure Rectifiers

Reduce OpEx and CO₂ Emissions

Designed to offer superior performance and uncompromised reliability, eSure rectifiers offer the highest density form factor in the DC power industry. In addition to saving space, they are designed to operate extremely efficiently over a wide input voltage range in the most demanding environments.



Enclosures & Shelters

Vertiv XTE 800 Enclosures

Rapid Deployment

The walk-in Vertiv XTE 800 Series is ideal for rapid deployment at the network edge. This enclosure solution provides an optimal environment for your head-end equipment that keeps you on schedule and on budget. Choose from a variety of sizes and finishes to meet any deployment scenario.



Vertiv XTE 600 Enclosures

Withstand Harsh Environments

The Vertiv XTE 600 Series utilizes a proven structural system, integrated mechanical components, and a sealing system that withstands rain, dust, snow and hurricane winds. When combined with a NetSure power system, they are a perfect power hub solution for multiple remote DAS units.



Vertiv XTE 400 Enclosures

Economical Solution

The Vertiv XTE 400 Series economically houses a wide variety of access electronics. These enclosures offer numerous options and are ideal for inconspicuous deployment of DAS remote units and power solutions.



Indoor Racks and Enclosures

Enhance Security

Vertiv makes world-class indoor racks/cabinets and accessories ideal for housing DAS infrastructure equipment securely in an un-secured environment. Optional thermal systems are also available for poorly ventilated locations.



With Vertiv™, you can achieve greater operational efficiency and rapid deployment while increasing your network’s reliability.

Remote Units

Remote units in the DAS network can be deployed in extremely different conditions, from an environmentally controlled office building with limited security concerns, to a light or telephone pole in a dense urban setting where environmental control and security are paramount. Regardless of the situation, reliable infrastructure solutions are required to assure worry-free operation.

Small Systems Designed to Power the Remote Units of Your Critical DAS Infrastructure

NetSure™ 211 DC Power Systems Speed Deployment



The NetSure 211 offers an efficient solution for powering remote units. This compact -48V system combines reliable rectifiers with an advanced Ethernet-accessible controller. Centralized control, flexible distribution and high power density are all available in this small package.

Liebert® GXT4 UPS High Reliability



If your DAS remotes require uninterruptible AC power, the Liebert GXT4 true on-line uninterruptible power system (UPS) is a reliable solution, combining low cost of ownership with rich functionality, small size and high capacity. The UPS offers internal batteries, optional external batteries, and internal bypass capability, resulting in continuous uptime for the connected equipment.

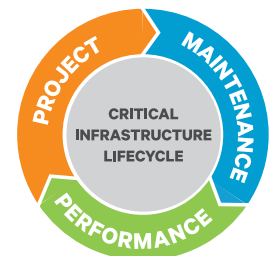
NetSure 5100 DC Power Systems Enable Centralized Control



If powering many remote units from a central location is desired, the NetSure 5100 functions well as a power hub for multiple DAS remote units. When coupled with a remote DC distribution panel, the system provides overcurrent protection for multiple small loads. Panels accept either fuses from 1A to 20A or load breakers up to 150A.

Design, Deployment and Optimization Services

From project launch to ongoing maintenance and performance optimization, Vertiv strives to keep your network infrastructure highly available, efficient and adaptable.



PROJECT

When launching new facilities or powering up new equipment, you want to do it right – right from the start

- Plan
- Design
- Engineer
- Integrate
- Commission
- Project management

MAINTENANCE

Services to ensure that your business-critical infrastructure operates reliably, safely and efficiently

- Preventive and corrective maintenance
- Remote services and monitoring
- Cap / fan / battery replacements
- Repair
- Spare parts

PERFORMANCE

Full range of services designed to optimize infrastructure performance and reduce complexity

- Assess
- Audit
- Model
- Configure
- Upgrade
- Train

Vertiv™ DAS Capabilities

- High quality AC and DC power systems with proven low failure rates
- High-efficiency rectifiers to minimize operational costs
- Variety of power systems to support all head-end/host unit and remote unit
- Flexible, secure, environmentally controlled enclosures protect your investment
- Speeds network deployment through single point of contact coordination of head-end infrastructure engineering and installation
- Maintenance solutions to keep your infrastructure operating at peak efficiency
- Vertiv is a proven infrastructure solutions provider with vast experience in a wide variety of telecommunications environments

As expectations for constant wireless network availability regardless of location continues to grow, the demand for DAS will follow accordingly. Both coverage and capacity requirements need to be addressed; both rely heavily on the dependability of their AC and DC power and enclosure infrastructure. Rest assured, Vertiv has your needs covered. We deliver proven AC and DC power and enclosure expertise and a vast understanding of existing network infrastructure design.

Nationwide, Vertiv has a team of network infrastructure experts standing by to help you rapidly deploy a flexible, yet affordable DAS solution.