



## DISTRIBUTED ANTENNA SYSTEM

A distributed antenna system (DAS) is a set of interconnected antennas driven by active electronics sitting typically in the IDF (intermediate distribution frame—telecom room) and MDF (main distribution frame—telecom room). A DAS allows for coverage within a building from multiple carriers without having to deploy multiple systems.

### COMPONENTS OF YOUR COMPLETE DISTRIBUTED ANTENNA SYSTEM

RF Source	Set of radios provided by the carriers that may be a base transceiver station (BTS) small cell or in some cases a repeater. This is what provides the capacity for the DAS.
Headend Equipment	Active equipment that allows for multiple cellular carrier frequencies to be combined and sent over a medium to the remote.
Remotes	Takes the cellular signal from the headend, turns it into RF and sends it to an antenna (integrated or external).
RF Conditioning	Enables cellular signals to be combined or split as the system requires, allowing for a more efficient system.
Antennas	Radiating devices that propagate RF signals to your mobile equipment and typically support a wide range of cellular frequencies.

#### WE ADD VALUE BY ENABLING:

Technology Selection	Systems Interoperability	Project Deployment
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### COMMON CHALLENGES



Providing consistent voice and data **COVERAGE**



Supporting employee and **GUEST DEVICES**



Escalating **BANDWIDTH** requirements



Budgeting for **ENTERPRISE-FUNDED** systems



Coordinating with **INTEGRATORS** and **CARRIERS**

“The macro network is becoming less and less able to deliver ubiquitous service as the number of buildings or the height of buildings in a given area increases. Both obstructions and elevated noise levels demand higher levels of signals than can be generated by conventional macro cellular base stations.”

Source: ANSI/BICSI 006-2015 DAS Design and Implementation Best Practices.

## TECHNOLOGY SOLUTIONS



### Voice and data coverage

A distributed antenna system (DAS) can be designed to account for new buildings constructed with RF-isolating materials such as low-emission glass, concrete and rebar. This is particularly important in “green” buildings. An RF survey can help identify dead spots and other coverage issues before the system is designed.



### Employee and guest devices

A neutral host (multi-operator) DAS allows for quality coverage for employees, customers and visitors who bring their own devices not owned by the company, enabling a robust BYOD policy.



### Bandwidth requirements

Many employees and visitors have unlimited data and prefer using the cellular service for all their data needs. A well planned DAS system is necessary to provide connectivity for individuals who do not want to use the corporate Wi-Fi.



### Enterprise-funded systems

Because carriers are shifting the responsibility for DAS funding back to the enterprise, customers now need to budget for their own system. It is important to request a rough order of magnitude (ROM) quote from your distributor before engaging with an integrator to make sure you have adequate budget for your DAS.



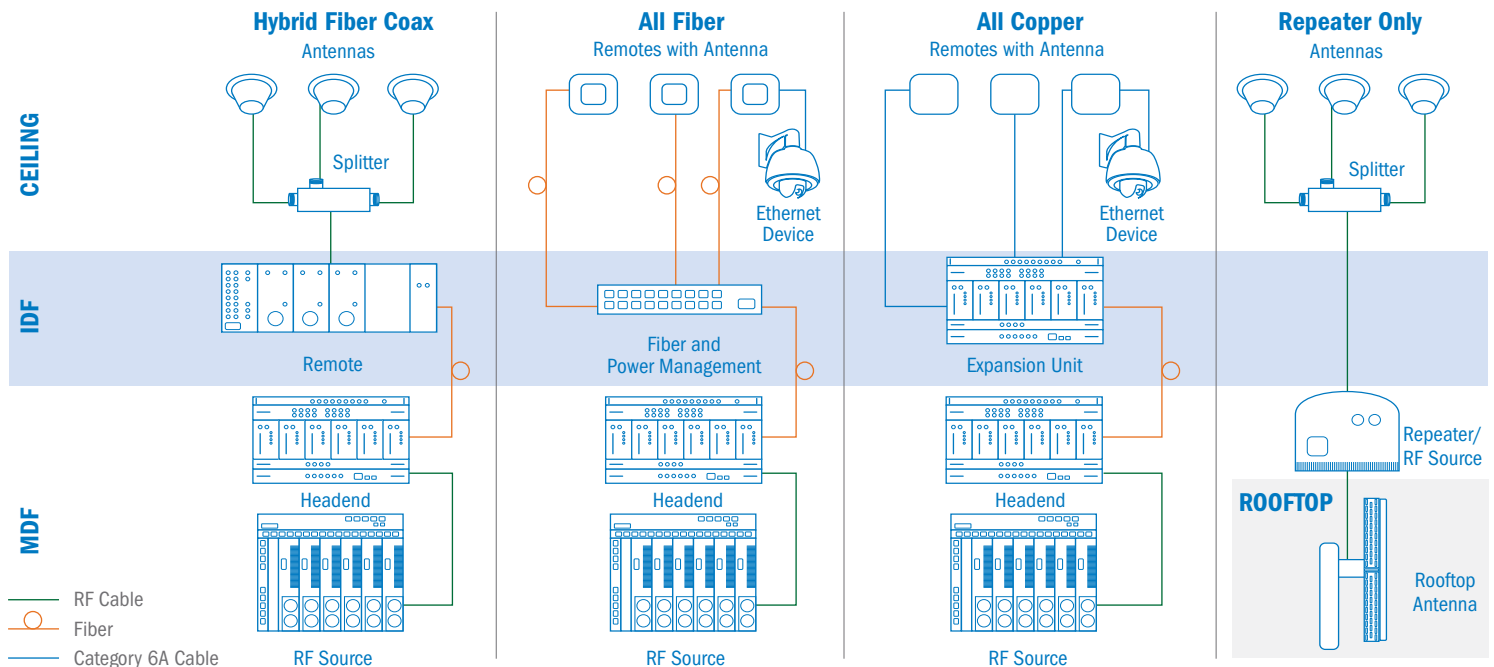
### Integrators and carriers

The spectrums used by a DAS are owned by the carriers and require an explicit retransmit agreement. Working with a qualified system integrator allows for a carrier-grade design that is more likely to be approved and allows for carrier coordination for retransmit agreements. Selecting the right partner can streamline this process for you.

## CONCEPTUAL SYSTEM LAYOUT

### DAS solutions supplied by Anixter

For system integration and installation, we recommend working with a certified wireless integrator or contractor.



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