



# SPACENET ULTRA HIGH-AVAILABILITY VSAT

## Broadband Connectivity, Maximum Availability... Anywhere

High-availability broadband connectivity has gone from luxury to necessity. For highly-populated areas, most sites have a variety of broadband options to choose from (such as cable, DSL, 3G/4G/LTE). However for rural and remote locations, the options for reliable broadband technology have remained limited... until now. To address the need for reliable, high-availability broadband service – no matter where, no matter when, no matter what – SageNet delivers its Spacenet-Ultra High-Availability Satellite VSAT services.

Spacenet-Ultra High-Availability VSAT provides the bandwidth that businesses, government agencies, energy companies and public utilities demand and deserve, while maintaining the high-availability expected from a business-grade service. And unlike traditional VSAT services, Spacenet-Ultra High-Availability VSAT delivers this bandwidth regardless of weather conditions.

### SPACENET-ULTRA HIGH-AVAILABILITY VSAT SERVICE .....

Traditional VSAT network availability can be adversely affected by weather conditions, such as heavy rain, snow, sleet, and freezing rain, at either the remote site or at the teleport location. Spacenet-Ultra High-Availability VSAT mitigates these conditions both at the remote site, as well as the hub.

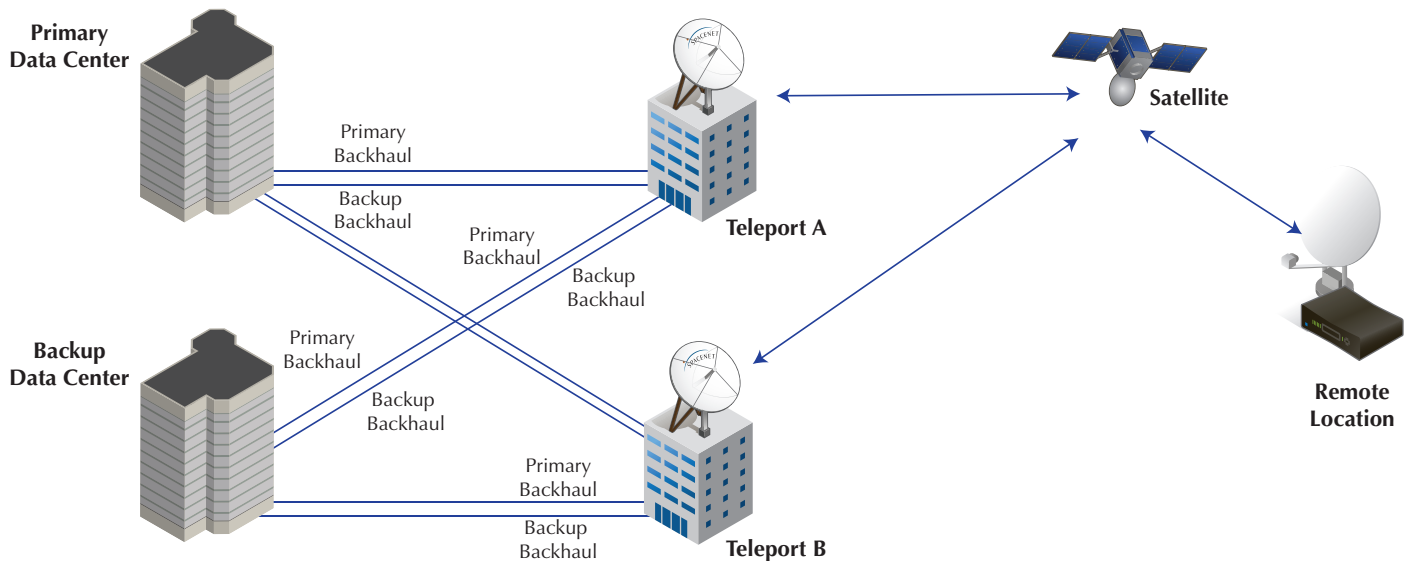
A secondary factor affecting all communications technologies is hardware failures. The hardware used in Spacenet-Ultra High-Availability VSAT offers a MTBF of more than 20 years, nearly eliminating hardware failure as a factor in availability.

### THE HUB .....

Spacenet-Ultra High-Availability VSAT Service automatically addresses weather conditions at each remote location, as well as weather conditions at the hub location itself. The intelligent network features hub diversity, automatic uplink power control and Adaptive Code Modulation (ACM) to address weather conditions. Equipment and backhaul redundancy mitigate hardware failures as well as teleport to data center connectivity issues

### Benefits:

- Provides reliable, high availability Broadband connection to any location
- Connectivity maintained during rain conditions at the remote site
- Connectivity maintained during rain conditions at the hub site
- Connectivity not affected by terrestrial backhaul outage
- Connectivity not affected by hub-related disasters
- Always on service with speeds up to 25 Mbps/5Mbps.



## INTELLIGENT HUBS .....

The hub dynamically monitors individual remote site signal level on a packet-by-packet basis and automatically selects the most efficient MODCOD to ensure reliable delivery of each packet to the remote end.

To respond to its own weather conditions, the hub first automatically adjusts transmission power and/or inbound channel rate (dynamic channels) to ensure the most robust transmission medium without affecting total network throughput.

Furthermore, when severe weather conditions are either anticipated, or encountered, service is switched to a geographically-diverse teleport, practically eliminating all localized teleport issues (weather related or not).

## BACKHAUL REDUNDANCY .....

Each teleport has a primary backhaul connection (such as MPLS) to each one of the customer's data centers. A redundant backhaul (such as IP VPN) is also available. Service switches automatically between the two redundant backhauls.

## THE REMOTE VSAT .....

At the remote site, a three-dimensional ACM and uplink power control addresses local weather conditions, automatically changing transmission parameters in order to maintain optimum connectivity. The VSAT uses several techniques, including:

- increasing transmission power until it reaches the maximum power density allowed by the FCC
- use of a more robust modulation code,
- and, if necessary, temporarily reducing speed to ensure data connectivity.

## REMOTE SITE VSAT HARDWARE OPTIONS

For locations with significant snow/freezing rain, antennas with active de-ice are available. For even higher VSAT availability, redundant VSAT kits (containing a second IDU, second transmitter and a redundancy controller) are available.



To learn more about SageNet's complete line of Spacenet Satellite Services™, visit [www.sagenet.com](http://www.sagenet.com) or call 1-866-480-2263.

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