



Satellite Broadband: High Speed Internet Everywhere

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Satellite Broadband – Past

- First generation product
- Slow speed
- Data constraints
- Limited capacity
- Over 1,000,000 customers



Satellite Broadband - Today

- 2 Service providers
- New satellites in 2017
- 25/3+Mbps
- 100Mbps in select markets
- Unlimited plans
- No hard data limits
- Focus on rural and underserved markets
- Over 2,200,000 customers



Satellite Broadband-Applications

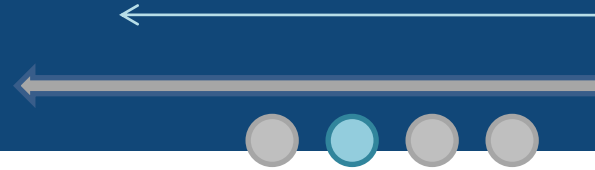
- Residential
- Business
- Distance Learning
- Government
- Tele-health
- Airlines
- VoIP
- Agriculture
- Security
- Continuity



Satellite Broadband - Benefits

- 3-5 day install
- Increased bonus data time
- Demand from small business
- Reliable
- Cost efficient deployment
- Focus on rural consumers





Satellite Broadband – Small Business

HughesNet Survey:

- 67% of small business respondents have home-based businesses.
- 10% of small business respondents are farms.
- 30% of small business respondents operate a business like an accounting firm, law office, salon or health practice.

Common Uses:

1. Email and web browsing
2. To access business services like accounting, security monitoring and payroll
3. Running company website
4. Business social media accounts
5. Process credit card transactions
6. As back-up connectivity to another method

Satellite Broadband – Disaster Recovery and Relief



- Easy set up and removal
- Fast high-speed communications
- Short and long-term relief

- Recovery centers
- Medical
- Public safety
- Government



- Currently supporting hurricane, fire, flood and tornado relief
- Puerto Rico, Louisiana, Sonoma County, South Texas and many more locations.
- Over 250,000 hours of service donated

Satellite Broadband – Next Generation GEO 22000

- Hughes and ViaSat launch new satellites in 2022
- 8-10X more capacity
- 100/20Mps nationally
- 100% private investment
- Proven technology



Satellite Broadband – Low Earth Satellites (LEO) 300

- SpaceX, Amazon, One Web
- Lower latency
- Capacity limitations
- Requires 30,000 + satellites
- Full deployment 2027+
- 10's of Billions to deploy
- Current Status- In beta



Satellite Broadband-Future

- Telemedicine
- Smart Agriculture
- IoT
- 5G
- Continued private investment





Things to Consider

- What is the true cost for consumers to connect.
- How long does it take to build out the infrastructure?
- Is telling a consumer they will have high speed internet in 5+ years a winning strategy?
- Does everyone want the service?
- Majority of broadband traffic (82%) for video/entertainment.

Satellite Broadband – Conclusion

Don't let the aspirational get in the way of the practical.

- Proven technology
- Most cost efficient to reach rural areas
- Targeted deployment
- Installation in days
- Continuing advancement





Questions?