



UltraSatNet System vs Alternatives Comparison Chart

PERFORMANCE CHARACTERISTICS	UltraSatNet	VSAT	Cell Phones	Leased Lines	Radios	Fiber	Microwave Links
BER 10 ₋₇ or Better	Yes	No	No	No	No	Yes	Yes
Secure System (before encryption)	High	Medium	Low	Low	Low	Medium	Medium
Secure System (after encryption)	High	High	Medium	Medium	Medium	High	High
Reliable through Solar Occurrences*	Yes	No	Yes	Yes	Yes	Yes	Yes
Reliable through Heavy Rains/Thunderstorms*	Yes	No	No	Yes	No		
Reliable through Snow*	Yes	No	Yes	Yes	Yes	Yes	Yes
Private network not affected by high demands	Yes	Yes	No	No	No	Yes	Yes
Network Availability during Emergencies	High	Medium	Low	Low	Low	High	High
Open pipeline with no additional data charges	Yes	Yes	No	Yes	Yes	Yes	Yes
Wide Area Coverage	Excellent	Good	Low	Low	Low	Low	Low
Expansion Flexibility	Excellent	Good	Low	Low	Low	Low	Low
CAPITAL COST - END TO END							
Installed Remote/Hub	\$7.5k	\$10k	\$4k	\$4k	\$8k	\$25k/mi	\$50-100
RECURRING COST INCLUDING O&M							
Monthly Costs: Per 500 meter pole-top Gateway---600 Gateways	\$10	\$150	\$75-150	\$75-151	\$10	\$10	\$10
Monthly recurring cost/site- 200 sites	\$40-75	\$150	\$75-200	\$150-500	\$10	\$10	\$10
Monthly recurring cost/site - 500 sites	\$16-30	\$100	\$75-200	\$150-500	\$15	\$10	\$10
Monthly recurring cost/site-1000 sites	\$10-15	\$100	\$75-201	\$150-500	\$20	\$10	\$10
SYSTEM ROLL OUT ISSUES							
Permits required for repeater sites, etc.	No	No	Yes	No	No	No	Yes
Concrete Pads or Structure Required for New Remote Sites	No	Yes	No	No	No	No	Yes
Dependent on Outside Contractors or Service People	No	Yes	Yes	Yes	No	No	No
Repeater/WAN Infrastructure Required	No	Yes	Yes	Yes	Yes	Yes	Yes
Lead Time	Short	Short	Medium	Medium	Medium	Long	Long
Frequency Coordination	No	No	No	No	Yes	No	Yes
* While maintaining a BER of 10 ⁻⁶							