

Innovations @ Hughes

IAD 2017

Dharmendra Singh

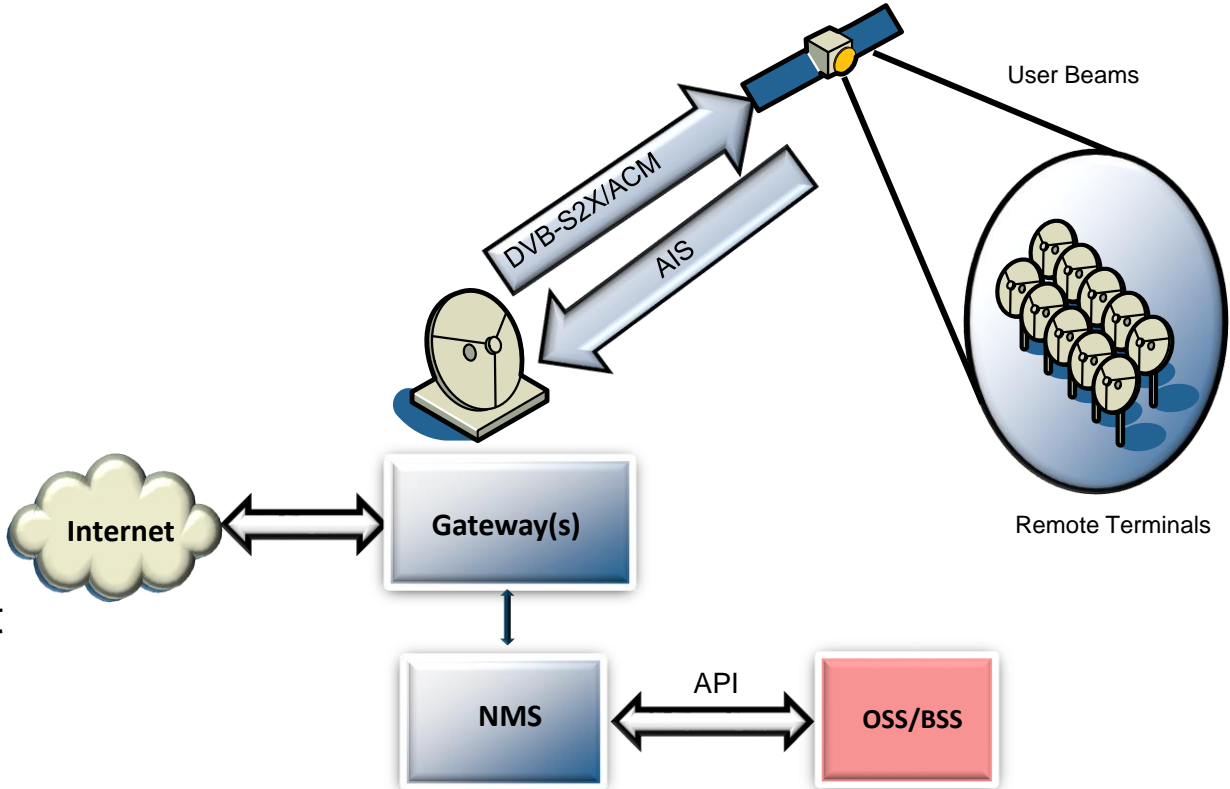
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HUGHES[®]
An EchoStar Company

HUGHES – The Satellite Communication Company

- We launch & operate satellites
- We manufacture ground systems
 - VSAT Gateways
 - VSAT Modems
- We run worlds largest VSAT Broadband Services network



Innovations @Satellite Technology

Satellites



- Bigger Satellites
- Smaller spot beams
- Frequency reuse
- Q/V Band – next generation
- More bits per Hz

VSATs



- High throughput
- Smaller Terminals
- Lower cost
- Single cable

For You

Lower cost per bit

Lower cost per subscriber

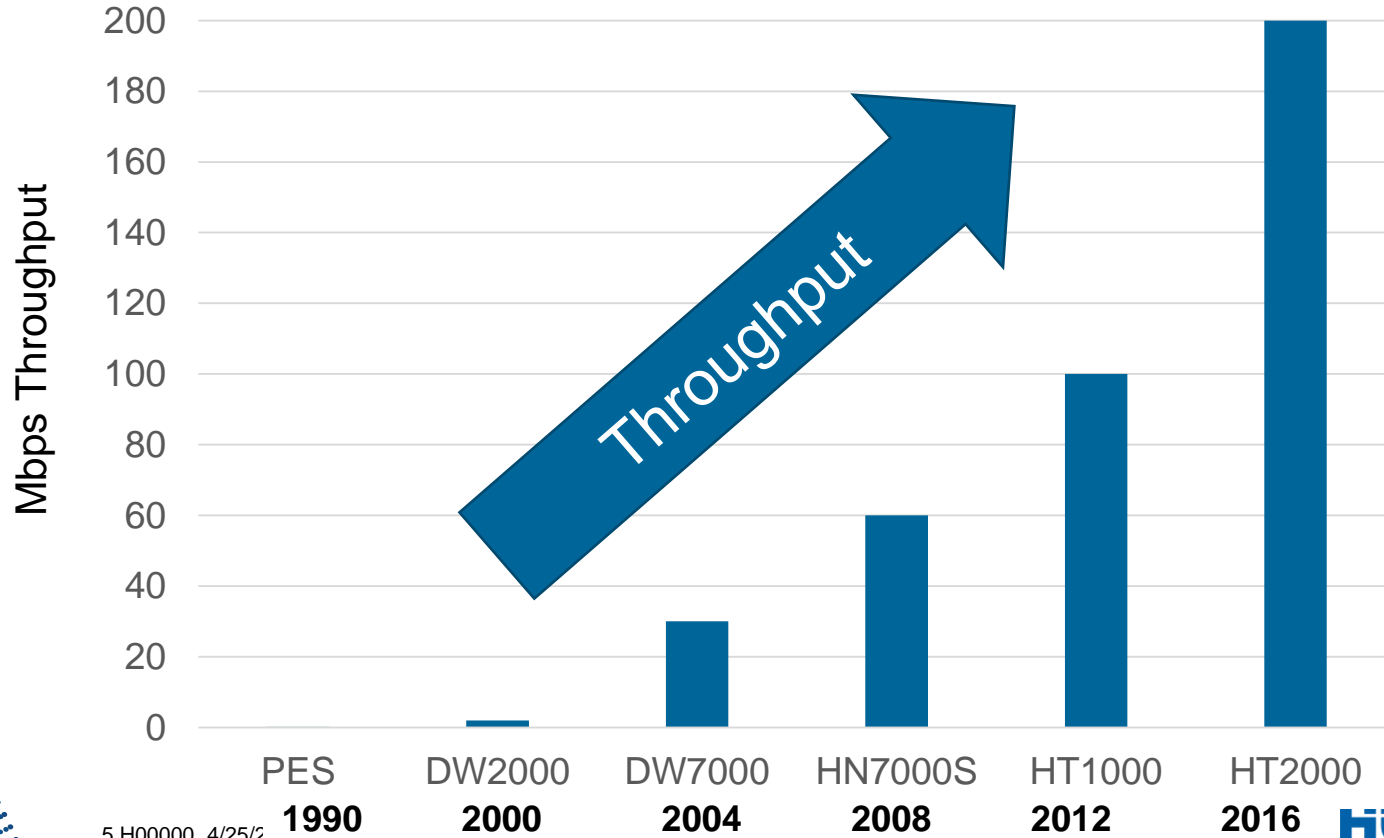
More Mbps per subscriber

EchoStar XIX – Worlds Fastest Satellite

- 220 Gbps
- Over 100 beams
- 20 Gateways
- Coast to Coast footprint



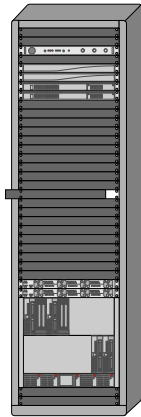
VSAT Terminal Advances



5 H00000 4/25/2

JUPITER System with DVB-S2X

Scalable Gateways



- 3 Gbps+ Capacity
- 1 ~ 32 Beam
- 225 Msps Outbound per beam
- 96 Msps Inbound per beam

HG2xx

Powerful Remote Terminals

Desktop



- 200 Mbps download speed

Rack Mount



- 50Mbps Upload Speed

Outdoor



- Different form factors

JUPITER NMS

The **comsys** VSAT Report

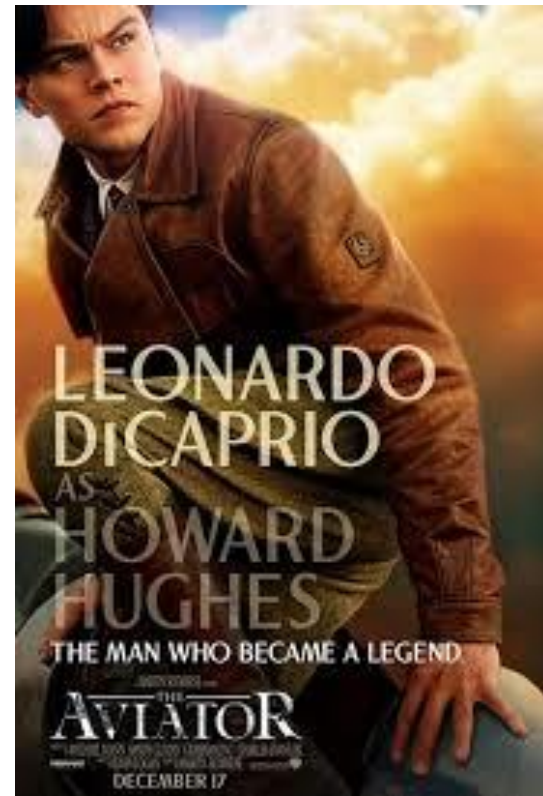
14th edition

Hughes #1 VSAT system provider:

- 2016 Terminals shipped
 - 43.4% Enterprise market
 - 57% Consumer market
- 50.2% of historical market share



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