UNIVERSAL HARDWARE PLATFORM

ENTERPRISE NETWORKS
WHY USE UHP FOR ENTERPRISE NETWORKS?

- **One-for-all** technology: Software-Defined Functionality
- Highest **transmit capability** from remote: 225 Mbps
- Smallest, lowest power consumption, most **reliable** IDU
- **AES-256** encryption of user data and network management
- NMS with **API** for interfacing with OSS/BSS, etc.
- **Mesh** capability: eliminate double bandwidth allocation due to double hop
- **VNO** capability with hierarchical traffic shaper
- **QoS**: support for **VoIP** with cRTP header compression + **Video** over TDMA
- High availability: **Local-/Geo- Redundant** Teleports with Fast switchover
OFFICE CONNECT AND BUSINESS CONTINUITY

- Broadband connectivity for primary and offload/backup lines to regional offices
- The same level of access and enterprise applications for all remote employees
- Efficient voice and video collaboration and M2M data transmission in one network
- High-throughput terminals with burstable TDMA or dedicated SCPC channels
- Various QoS levels and support of VoIP, videoconferencing, IP multicast, etc.
- Content delivery (training, software etc.)
BANKING AND FINANCE

- Seamless communications for remote branches, trade machines and mobile offices
- Secure and reliable infrastructure for critical financial transactions
- Voice and video connection with remote branches for collaboration and training
- Corporate TV and dynamic digital signage
- Surveillance video for all branches
- Two-way terminals with burstable TDMA or dedicated SCPC channels for backup
ENERGY & UTILITY

- Reliable communications for rigs, vessels, pipelines and remote offices
- One network for business applications, SCADA traffic, surveillance and crew welfare
- Efficient capacity use and burstable throughput thanks to dynamic bandwidth allocation
- Real-time transmission for critical data and remote management
- High scalability and flexible topologies
- Autonomous terminals with low power consumption and suspend mode for SCADA
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DISRUPTIVE INNOVATIONS
SOFTWARE DEFINED NETWORK

- Universal routers for all network roles
- Dynamic SW-definable mode of operation
- Quick and easy transfer/swap of the functionality SW licenses
- Reduced CAPEX for spare parts and network upgrades
- Quick and easy field replacement and change of network topology

- Powerful L3/L2 router with 190’000 pps
- Mesh: eliminate double bandwidth allocation
- Multiple configuration profiles
- Embedded Computer for advanced applications and traffic processing
- Sophisticated QoS with VLAN management and built-in 2G, 3G & LTE backhaul optimization
BANDWIDTH EFFICIENCY

- Dual DVB-S2X demodulators with separate IF inputs
- Up to 500 Msps DVB-S2X ACM up to 256APSK
- Integrated high-speed DVB-S2X modulator for SCPC return channel
- Proprietary encapsulation with 99% efficiency and advanced QoS
- Up to 20% savings on bandwidth

- Multichannel MF-TDMA LDPC demodulator
- 12 MODCODs with QPSK, 8PSK & 16APSK
- Data rates up to 27 Mbps/terminal
- Hubless and Mesh topologies
- Highest TDMA efficiency of 96% and flexible frame structure
- >20% advantage over other TDMA implementations
MULTI-SPOT HTS HUB

- Designed for multi-spot HTS networks
- Based on low-CAPEX universal controllers
- Required functionality is activated by SW license as network develops
- Easy SW license transfer between teleports, beams and satellites
- Cost-effective scalability up to 64 spot-beams and 500 000 terminals
- Self-healing network architecture
- Dynamically assigned network roles
- Automatic M:N local and geographic redundancy
- M:N site diversity with multiple teleports for increased availability
- Saves over 40% of Hub CAPEX due to functionality SW license reuse
DUAL-GATEWAY

- Hierarchical multilevel topologies with basic STAR terminals
- Direct connectivity of the terminal with the Hub and respective Gateway
- Unlimited number of regional Gateways
- High spectral efficiency of all TDM channels of the Hub and Gateways
- Compatible with multi-sport HTS satellites and dual-band solutions
- Dual-Gateway ensures more than 50% savings compared to Mesh network
BEAM SWITCHING

- Preconfigured, locally-stored coverage maps and network parameters
- Automatic round-robin and map-based switchover between satellites or beams
- Change of mode of operation when required
- Automatic adjustment of uplink power and Doppler effect compensation up to 1300 km/h
- Communications with mobile antenna based on standard OpenAMIP protocol
- COTM terminal retains the same IP address after switchover to another hosting network
QUALITY OF SERVICE

- Classification of IP packets
- Customized action rules
- Traffic policy manager
- Multichannel hierarchic traffic-shaper:
  - CIR – committed data rate
  - MIR – maximum data rate
  - MIR to CIR slope factor
  - Day/Night CIR change
- Multiple Tx priority queues with Class-Based Queueing