SatExpander

Xnet One

Virtualized Satellite Hub System

PRODUCT SHEET

VIRTUALIZED HUB FOR CRITICAL CONNECTIVITY

SatExpander Xnet One is the ideal choice for high-availability satellite networks requiring high-capacity connectivity. Built on off-the-shelf server (COTS) with virtualized architecture and carrier grade management system, SatExpander Xnet One presents highly integrated carrier-grade satellite connectivity solution for critical infrastructure applications. Delivering very high throughputs and efficiencies, SatExpander Xnet One offers dynamic satellite backup, ad-hoc satellite capacity enhancement, and always-on satellite connectivity to increase network robustness and ensure service continuity.

HIGH PERFORMANCE FOR DATA INTENSIVE NETWORKS

Designed to deliver highest levels of efficiency and resiliency, SatExpander Xnet One presents comprehensive set of capabilities and features. Dynamically connecting multiple remote modems when needed, SatExpander Xnet One enables data connectivity of up to 425Mbps per modem, supporting very high outbound and inbound data rates.
The most bandwidth-efficient waveform, SatExpander NS4™, is used for the inbound carriers, providing very high-performance transmission and space segment efficiency as well as high robustness and resiliency. SatExpander NS4™ waveform is also supported for the outbound carrier, as well as standard DVB-S2 and DVB-S2X.

DYNAMIC RESOURCE MANAGEMENT (DynamiX)

Fast, flexible, and uncompromising, SatExpander DynamiX provides dynamic allocation of network resources in MCPC / Point-to-Multi-Point networks (Dynamic SCPC). DynamiX optimizes and maximizes performance and usage of inbound carriers while meeting the SLA of each remote modem. Managing the network resources, DynamiX continuously monitors network traffic, loads, policies, and configuration, and automatically assigns bandwidth, power, modulation, and code rate to each modem. Offering multiple modes of operation, comprehensive configuration, and high granularity of allocated resources, DynamiX provides highest flexibility and responsiveness, delivering superior Quality of Service (QoS) and Quality of Experience (QoE).

HIGH AVAILABILITY

SatExpander Xnet One supports 1:1 outbound redundancy and 1:N inbound redundancy with automatic failover, ensuring very high system availability. Integrated redundant power supply and RF redundancy enable hot standby redundancy, guaranteeing high system reliability.

HIGHLIGHTS

- **Compact virtualized hub for high-capacity satellite connectivity**
- **Dynamic satellite backup and/or ad-hoc satellite capacity enhancement and/or always-on satellite connectivity**
- **Advanced dynamic resource management with SatExpander DynamiX engine**
- **High performance and efficiency with SatExpander NS4™ technology**
- **Up to 425Mbps per modem**
- **1:1 outbound redundancy and 1:N inbound redundancy**
- **Scale-up option to full-size Xnet network**

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TECHNICAL SPECIFICATIONS

GENERAL

Frequencies: L, C, X, KU, KA
Topology:
Star (PTMP), SCPC, Managed SCPC, Distributed

FORWARD CARRIER

NOVELSAT NS4™ (PROPRIETARY)

Modulation (FEC Granularity):
QPSK (17), 8PSK (15), 16APSK (15), 32APSK (15), 64APSK (8)
Roll-Off:
1.02, 1.05, 1.1, 1.15, 1.20, 1.25,1.35
Coding: LDPC

DVB-S2/S2X

Carrier bandwidth:
Up to 110Msps (500Mbps)
Modulation (FEC Granularity):**
QPSK (14), 8APSK (2), 8PSK (9), 16APSK (19), 32APSK (9), 64APSK (5)
Roll-Off: 1.05, 1.1, 1.15, 1.20, 1.25,1.35
Coding: LDPC

RETURN CARRIER

DYNAMIX NOVELSAT NS4™ (PROPRIETARY)

Carrier bandwidth:
Up to 80Msps / 425Mbps
Modulation (FEC Granularity):
QPSK (17), 8PSK (15), 16APSK (15), 32APSK (15), 64APSK (8)
Roll-Off:
1.02, 1.05, 1.1, 1.15, 1.20, 1.25,1.35
Coding: LDPC

* Future
** Some only for DVB-S2X
*** Optional

INTERFACES

RF TX & RX

L-Band: 950-2150 Mhz

USER DATA & MANAGEMENT PORTS

Data: 4 X 1 / 10 GigE
MNG: 1 X 1 / 10 GigE
SFP

FEATURES

RF:
Interference/jamming resiliency and mitigation (higher throughput over equivalent SNR of DVB-S2X)
IP:
IPV4 Layer 3 Router Mode, Transparent Layer 2 (***), TCP, UDP, ICMP, DiffServ, SNMPv2/v3
Protocol Enhancements:
NSPE2 (IP encapsulation)
Traffic Acceleration and optimization (***)
QOS:
Diffserv, CIR, MIR
Security:
AES 256-bit encryption*

MANAGEMENT

System: Centralized NovelNet NMS (***)
GUI Interface: Web based (HTTP / HTTPS)
CLI: Telnet / SSH
Access Control:
Per user permission management

POWER

100-240 VAC/2.5A
2000W Dual Power supply

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