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Nota di contenuto	VSAT Networks; Contents; Preface; Acronyms and Abbreviations; Notation; 1 Introduction; 1.1 VSAT network definition; 1.2 VSAT network configurations; 1.3 User terminal connectivity; 1.4 VSAT network applications and types of traffic; 1.4.1 Civilian VSAT networks; 1.4.2 Military VSAT networks; 1.5 VSAT networks: involved parties; 1.6 VSAT network options; 1.6.1 Star or mesh?; 1.6.2 Data/voice/video; 1.6.3 Fixed/demand assignment; 1.6.4 Frequency bands; 1.6.5 Hub options; 1.7 VSAT network earth stations; 1.7.1 VSAT station; 1.7.2 Hub station; 1.8 Economic aspects; 1.9 Regulatory aspects

1.9.1 Licensing; 1.9.2 Access to the space segment; 1.9.3 Local regulations; 1.10 Conclusions; 1.10.1 Advantages; 1.10.2 Drawbacks; 2 Use of satellites for VSAT networks; 2.1 Introduction; 2.1.1 The relay function; 2.1.2 Transparent and regenerative payload; 2.1.3 Coverage; 2.1.4 Impact of coverage on satellite relay performance; 2.1.5 Frequency reuse; 2.2 Orbits; 2.2.1 Newton's universal law of attraction; 2.2.2 Orbital parameters; 2.3 The geostationary satellite; 2.3.1 Orbit parameters; 2.3.2 Launching the satellite; 2.3.3 Distance to the satellite; 2.3.4 Propagation delay; 2.3.5 Conjunction of the sun and the satellite; 2.3.6 Orbit perturbations; 2.3.7 Apparent satellite movement; 2.3.8 Orbit corrections; 2.3.9 Doppler effect; 2.4 Satellites for VSAT services; 3 Operational aspects; 3.1 Installation; 3.1.1 Hub; 3.1.2 VSAT; 3.1.3 Antenna pointing; 3.2 The customer's concerns; 3.2.1 Interfaces to end equipment; 3.2.2 Independence from vendor; 3.2.3 Set-up time; 3.2.4 Access to the service; 3.2.5 Flexibility; 3.2.6 Failure and disaster recovery; 3.2.7 Blocking probability; 3.2.8 Response time; 3.2.9 Link quality; 3.2.10 Availability; 3.2.11 Maintenance; 3.2.12 Hazards; 3.2.13 Cost; 4 Networking aspects; 4.1 Network functions; 4.2 Some definitions; 4.2.1 Links and connections; 4.2.2 Bit rate; 4.2.3 Protocols; 4.2.4 Delay; 4.2.5 Throughput; 4.2.6 Channel efficiency; 4.2.7 Channel utilisation; 4.3 Traffic characterisation; 4.3.1 Traffic forecasts; 4.3.2 Traffic measurements; 4.3.3 Traffic source modelling; 4.4 The OSI reference model for data communications; 4.4.1 The physical layer; 4.4.2 The data link layer; 4.4.3 The network layer; 4.4.4 The transport layer; 4.4.5 The upper layers (5 to 7); 4.5 Application to VSAT networks; 4.5.1 Physical and protocol configurations of a VSAT network; 4.5.2 Protocol conversion (emulation); 4.5.3 Reasons for protocol conversion; 4.6 Multiple access; 4.6.1 Basic multiple access protocols; 4.6.2 Meshed networks; 4.6.3 Star-shaped networks; 4.6.4 Fixed assignment versus demand assignment; 4.6.5 Random time division multiple access; 4.6.6 Delay analysis; 4.6.7 Conclusion; 4.7 Network design; 4.7.1 Principles; 4.7.2 Guidelines for preliminary dimensioning; 4.7.3 Example; 4.8 Conclusion; 5 Radio frequency link analysis; 5.1 Principles; 5.1.1 Thermal noise; 5.1.2 Interference noise; 5.1.3 Intermodulation noise

Sommario/riassunto

VSAT Networks: Second Edition covers all the important issues involved with the installation of VSAT systems. Since the first edition was published, the VSAT market has continued to expand steadily. VSAT technologies have advanced, prompting an increase in the take-up of VSAT services. Offering a comprehensive introduction to the topic followed by a detailed exploration of multiple access protocols, delay analysis and system dimensioning, this edition is a highly relevant update of VSAT Networks. Written by a well respected and established member of the satellite community
