Multimedia Applications of IBIS and the ALCATEL 9343

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Communication Model

PROSUMER

RCST

SERVICE PROVIDER

Services Management

RCST

THALES

SATELLITE

HISPASAT

ALCATEL SPACE

UPC

Broadcast Ch.
Interaction Ch.

Sign

Sire

Sistemas y Redes Telemáticas

NETWORK CONTROL

Networ

k Management

RCST

ALCATEL SPACE

PROSUMER

RCST

ALCATEL SPACE

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Transparent Satellites

DVB-S

DVB-RCS

DVB-RCS

TV Interactive Provider #1

TV Interactive Provider #2

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What is New about IBIS and the A9343 DVB OBP?
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Regenerative Satellite Overview

DVB-S

A9343 DVB-OBP

DVB-RCS

3 Mbps 4 bits

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**IBIS On Board Processor Advantages**

- **STÁNDAR User Terminals DVB-RCS / DVB-S (Low Cost)**
- **Half the Propagation Delay (Allows Real-Time Services)**
- **Half the Bandwidth requirements.**
- **Multi-spot with Full Cross-Connection between U/L and D/L beams.**
- **Less Back-off required On-Board for a single carrier.**
- **Regenerative Gain.**
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Example of European Coverage in Ka Band
Example of American Coverage in Ka Band
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DVB-RCS UPLINK is MF-TDMA

DVB-S DOWNLINK #N

DVB-S DOWNLINK #2

DVB-RCS UPLINK
DVB-RCS UPLINK
DVB-RCS UPLINK

UPLINK COVERAGE

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MPEG2 Packet Level Switching

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Regenerative Signalling Channel

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**UPLINK FRAME USER PLAN (DVB-RCS compliant)**

1 Frame = approx. 69ms

1 TRF Burst /Frame

2 TRF Burst /Frame

4 TRF Burst /Frame

6 TRF Burst /Frame

18 TRF Burst /Frame

Combinations

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IBIS Services and Applications

♦ One Single Hop allows Real Time Applications: VoIP and Videoconferencing.
♦ Interactive Digital TV and Tele-shopping
♦ Internet Service Providers Access
♦ IP Multicast and IP Streaming
♦ Distributed TV Broadcast
♦ Push Services
♦ Interactive Gaming and Distributed Processing
♦ Tele-education y Tele-medicine.

➔ LANs Interconnection (Virtual Private Network): IBIS combines BandWidth Over-Demand with dinamic Conections between users located anywhere within the IBIS coverage.
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IBIS SCENARIO

Corporate Facility

Server (Internet, E-mail, etc.)

Internet

ISP

RCST

Neighbourhood/SMATV

ALCATEL SPACE

DVB-S regenerative
DVB-S transparent
DVB-RCS

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A Multi-Beam System

Freq.

MF-TDMA RESOURCE ALLOCATION

time

RCST

QoS type A QUEUE
QoS type B QUEUE
QoS type C QUEUE

QUEUING FOR ROUTE #1
QUEUING FOR ROUTE #2
QUEUING FOR ROUTE #3

Channel_id_1
Channel_id_2
Channel_id_3

D/L #1
D/L #2
D/L #3

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MPEG PACKET LEVEL SWITCHING

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CONCLUSION

• For further information, please visit:

www.alcatel.es/ist-ibus