

IPv6 plans in ESA Telecom

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ESA Establishments

Staff: 1771 (30 October 2001)

- Establishments
- Offices
- ESA Ground Stations
- Ground Stations used by ESA
- Ariane Downrange Stations



ELDO (1962), ESRO (1962), ESA (1973)



Current activities on IPv4

- Studies, prototypes and commercial developments for satellite-specific issues in the areas of :
 - IPsec and Security in general
 - Multicast
 - TCP performance
 - QoS over DVB-S/RCS links
 - On-board processing network architectures

... for IPv4



Why work on IPv6 at ESA Telecom?

- Pre-operational networks are evolving toward mature technology but for seamless integration of satellite networks some satellite specific issues have to be addressed:
 - Physical and Link
 - Encapsulation, ROHC, ARP schemes
 - Transport
 - PEP's and NAT
 - Security
 - IPSec imposed, NAT and PEP issues, transition without breaking IPSec
 - Routing/Addressing/Multicast/Architectural
 - ASM/SSM multicast routing on flat networks
 - NAT obsolete
 - Transition scenario's for satellite gateways and terminals
 - Management
 - Zero-conf issues for terminals



Concrete plans

- **Study:** Initiate a contract to look at IPv6 specific issues in satellite communications such as:
 - Changing network architectures
 - Improved IPv6 encapsulations
 - Propose transition mechanisms for gateways/terminals
- **Short-term implementation:** Support emerging IP-over-DVB encapsulations that would foster IPv6
- **Short-term Demo:** Link up with a terrestrial IPv6 IST project to demonstrate satellite/terrestrial integration
- **Long-term Demo:** Demonstrate IPv6 over on-board processing payload (mid-2004)





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Satellite Applications

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Call for Ideas

Develop your ideas for future research and development programmes in the area of satellite communication in close cooperation with the Telecommunications Team of the European Space Agency (ESA).
Call for Ideas open until 30th September 2002

News



New ESA Telecom website

The ESA Telecommunications website has a new look and feel. The emphasis is on business-to-business opportunities with information and links to new support facilities.



Relationship between ESA Telecom's programme lines and the ARTES elements

The Telecom programme has recently been restructured

- [Current opportunities](#)
- [Secure Site](#)
- [Events](#)