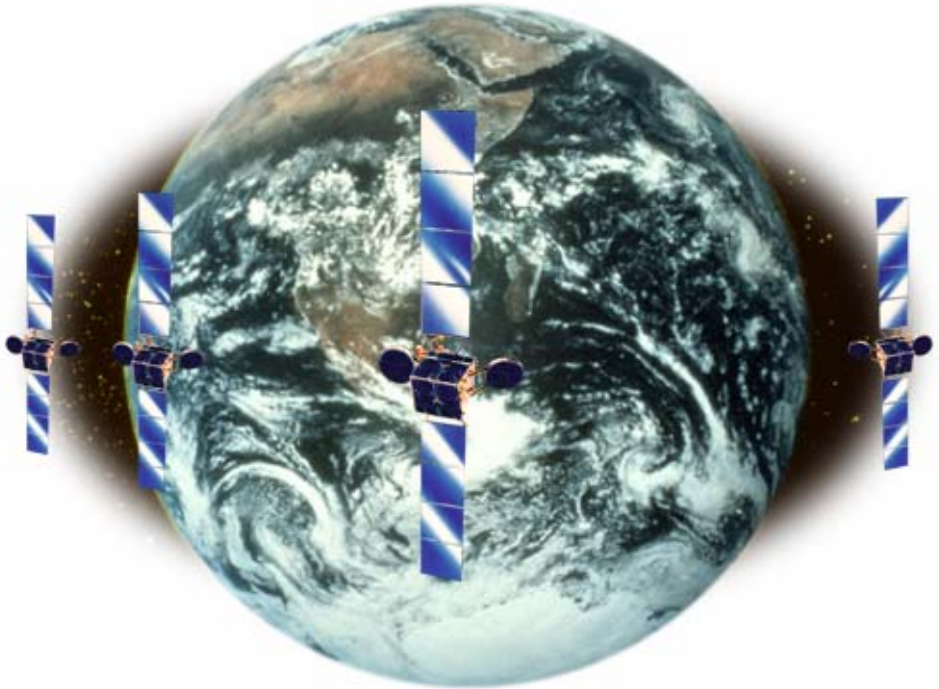

Contribution Networks - What Does the Future Hold ?

A Brave New Networked World of Broadcasting
NMC Seminar- EBU Headquarters Geneva 21 and 22 June 2005

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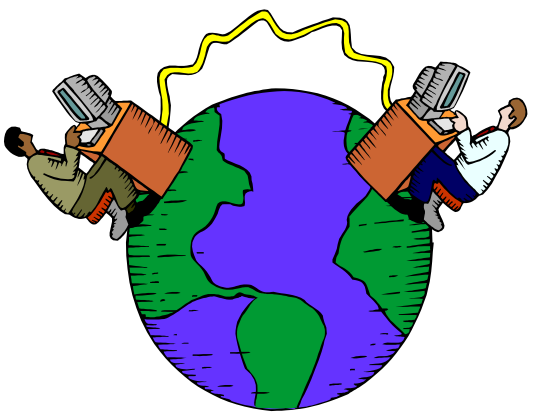
What is a “contribution network” ?

- It is used to exchange or distribute media content before aggregation by a broadcaster or a service operator:
  - Live video feeds
  - Media files
  - Data content (associated metadata)
- It is used to provide connections for service or production of programs:
  - Voice intercommunications
  - Intranet connection

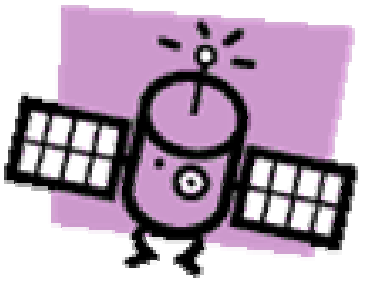
Who are the players?

- Broadcasters operating their own national and dedicated networks
- National telcos offering resource from their portfolio
- “Virtual” operators buying bandwidth and providing service dedicated to broadcasters
- Eurovision

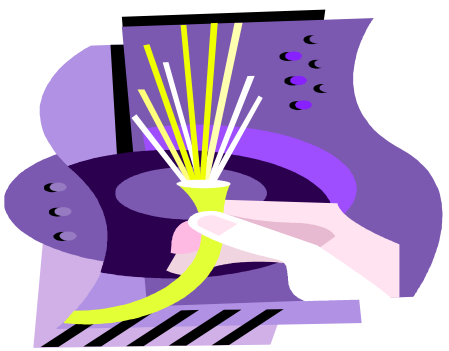


What physical media for the future ?

- Satellite:
  - Ideal for distribution
  - Easy to initiate
  - From anywhere to anywhere
  - The only solution for news



- Fibre:
  - Bi-directional point-to-point connection
  - High capacity
  - Low cost
  - Increasingly used for sports

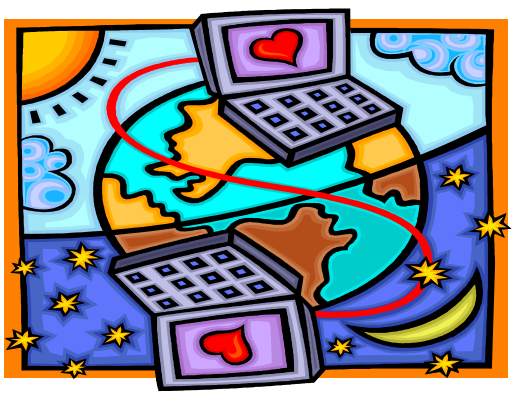


A revolution in this quiet world: IP

IP (Internet Protocol) has changed radically the way of networking the world. Contribution networks have not been spared...

IP was initially pushed by Internet and is now everywhere in the media world. A few examples:

- LANs and WANs
- Triple play networks
- 3G mobile networks
- Backbone infrastructure for Telcos



However, IP is not (yet) perfectly suited for contribution networks

- Packet routing structure causes problems with real time connections. It introduces delays and complicates the terminal equipment
- Security is a critical issue for sensitive and expansive content
- Complex management is needed to handle high quality video. Management systems have to take care of packet routing

How IP impacts contribution networks

- Internet offers connections, file transfer and streaming, for (almost) free...
- Flexible infrastructures have been built everywhere. “Triple play” networks are a perfect example. They carry telephone, TV and connect to Internet.
- As such structures are amortised through a wide range of services, they are more cost effective compared to “specialised” networks
- The requirement for transport of real time service (telephone&voice, TV) pushes development of IP technology

➡ Middle-term, IP based telecom networks will (almost) replace dedicated contribution networks

Contribution network strikes back...

Many specific requirements are not yet satisfied:

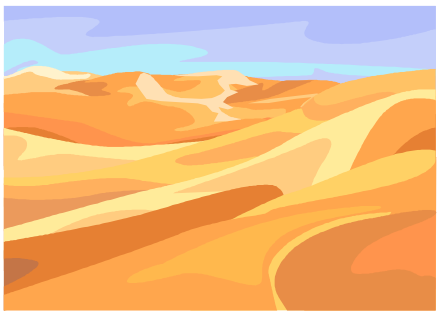
- QoS for high bitrate video
- Low network latency
- Guaranteed security

Contribution network strikes back /2...

Many places cannot be reached at short notice with traditional networks

- Remote places
- Developing countries
- Disasters ...

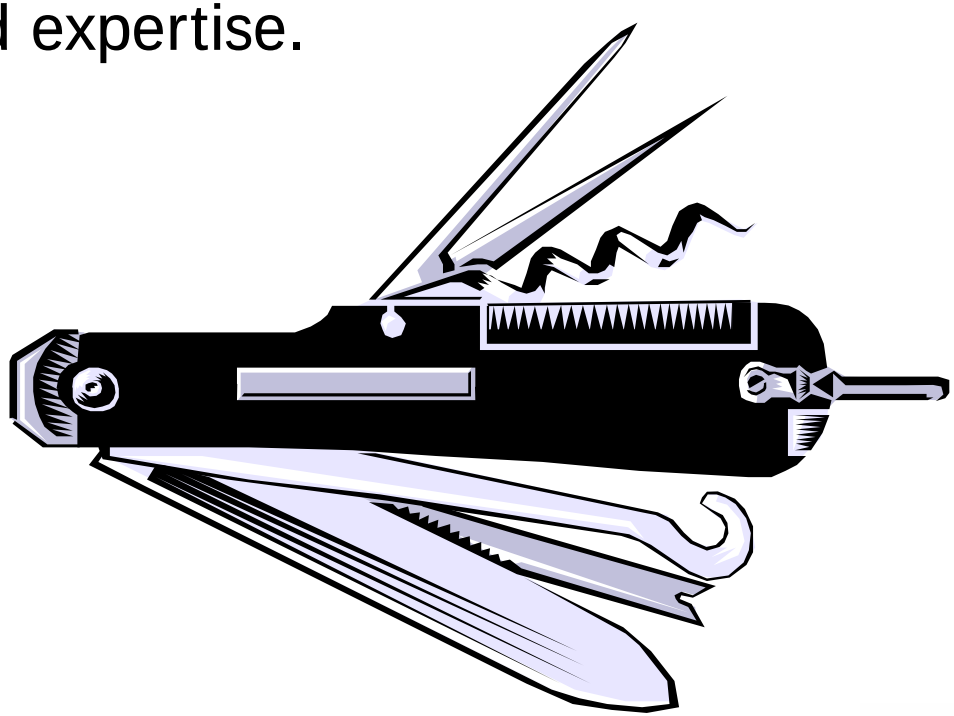
Specific solutions have to be provided for News coverage



Contribution network strikes back /3...

During special events, broadcasters require a single gateway for all media contents and services

...and ask for dedicated expertise.



Conclusions

- The everyday media traffic will smoothly move to telecom networks and the Internet
- The contribution networks shall continue to be preferred for specific usage especially news and special events coverage
- This “niche” market requires specific expertise not (yet) owned by global telecom carriers
- The future lies in the integration of targeted services