Report on the RARE ATM Task Force

18th RIPE Meeting
May 18, 1994
Amsterdam

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Outline

* Background...
* Activities of the Task Force...
* Types of services and applications...
* European PNO ATM pilot...
* Possible overlay network...
* IP over ATM...
* Next steps for IP over ATM...

Background

* ITU-ITS recommendations:
  I.- and Q.-series

- Fast growth of ATM Forum
- Publication of ATM Forum UNI specification Version 3.0
- Products available for LAN and WAN
- European PNO ATM pilot
- RARE ATM Taks Force...

RARE ATM Task Force

- Stemming from RARE WG-LLT
- Started middle 1993
- Chaired by Les Clyne, UKERNA, UK
- Involved countries/int. organization:
  CERN, CH, ES, FI, NL, UK
  BE, DE, IT, NO, FR
- An open distributionlist:
  tf-atm@rare.nl
- Activities...

Activities

- Look for European ATM activities
- Share experience on hard- and software
- Coordinate int. ATM networking
- Coordinate int. applications over ATM
- Provide recommendations on ATM- and higher layers
- get knowlegde about European ATM provision

Types of services and applications

- D/L/WAN to D/L/WAN interconnection (VBR)
- Desktop video/audio (VBR plus timing)
- Conference room videoconfering (CBR)

Future

- Cooperative working (VBR)
- Multicast functionality within ATM
- ATM QoS features
- ATM networkmanagement

European PNO ATM pilot

See latest version of:
Info-Booklet of the ATM-pilot Network
Dierk H. Zahnow,
tel: +49 228 181 7327
fax: +49 228 181 7396

Possible ATM overlay network

- Reduction of the number of public VP's
- Better bandwidth sharing between users
- National ATM switches will do VC switching
- Possible topology...

Possible topology

ftp://ftp.rare.nl/rare/working-groups/wg-llt/task-forces/atm/misc/
Overlay_map_v3_-_simple.ps
Overlay_map_v4_-_desirable.ps

IP over ATM

- Protocol stack

- Status of IP over ATM...

Status of IP over ATM

- RFC 1483
  Multiprotocol encapsulation over ATM AAL5
- RFC 1577
  Classical IP and ARP over ATM
- Inv-ARP
  enhancement of RFC 1293
- Internet Draft on MTU sizes
- Routing over Large Clouds
  NBMA-network
- IP multicasting, optimization, SVC's, etc.
- IETF distributionlist: IP-ATM@HPLMS2.HPL.HP.COM

Next steps for IP over ATM

- Find organizations to test IP over ATM
- Contact RARE ATM Task Force through chairman:
  L.Clyne@ukerna.ac.uk
- Already interested countries:
  CH, ES, FI, NL, NO, UK
- Discuss important issues like:
  routing, addressing, multicasting, etc.
- Test int. IP over ATM (with necessary safeguards)

Abbreviations

AAL	ATM Adaptation Layer
ABR	Available Bit Rate
ATM	Asynchronous Transfer Mode
CBR	Constant Bit Rate
DAN	Desktop Area Network
ITU-ITS	International Telecommunication Union-International Telecommunication Standard
NBMA	Non-Broadcast Multiple Access
PNO	Public Network Operator
PVC	Permient Virtual Circuit
QoS	Quality of Service
SVC	Switched Virtual Circuits
UNI	User-Network Interface
VBR	Variable Bit Rate
VCI	Virtual Channel Identifier
VPI	Virtual Path Identifier