IP Telephony: The technology which will see off the PSTN

Bibliographical Project

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-“Voice over IP”, “Fax over IP”

-Replacing the traditional method of delivery of services by PSTN through utilization of data networks (Internet)

-Saving fortunes, Newly-presented capabilities

-Actual implementation has proved to be a hard-to-overcome challenge, since:

-Data networks have not been designed with telecommunications services in mind:

Bursty data (E-Mail, Transaction processing, file transfer,...)

-Telecom services requirement: a stream of data free of any kind of interruption

Fundamentals -The PSTN versus the Internet (Switching Modes and Networking Modes)

<table>
<tr><td colspan="2">Connection-Orientated</td><td>Connectionless</td></tr>
<tr><td>Circuit Switched</td><td colspan="2">Packet Switched</td></tr>
<tr><td></td><td>Virtual Circuit</td><td>Datagram Switching</td></tr>
</table>

Features of Internet Telephony:

-Adjustable quality

-Security

-User identification

-User interface

-Feature ubiquity

-Shared facilities

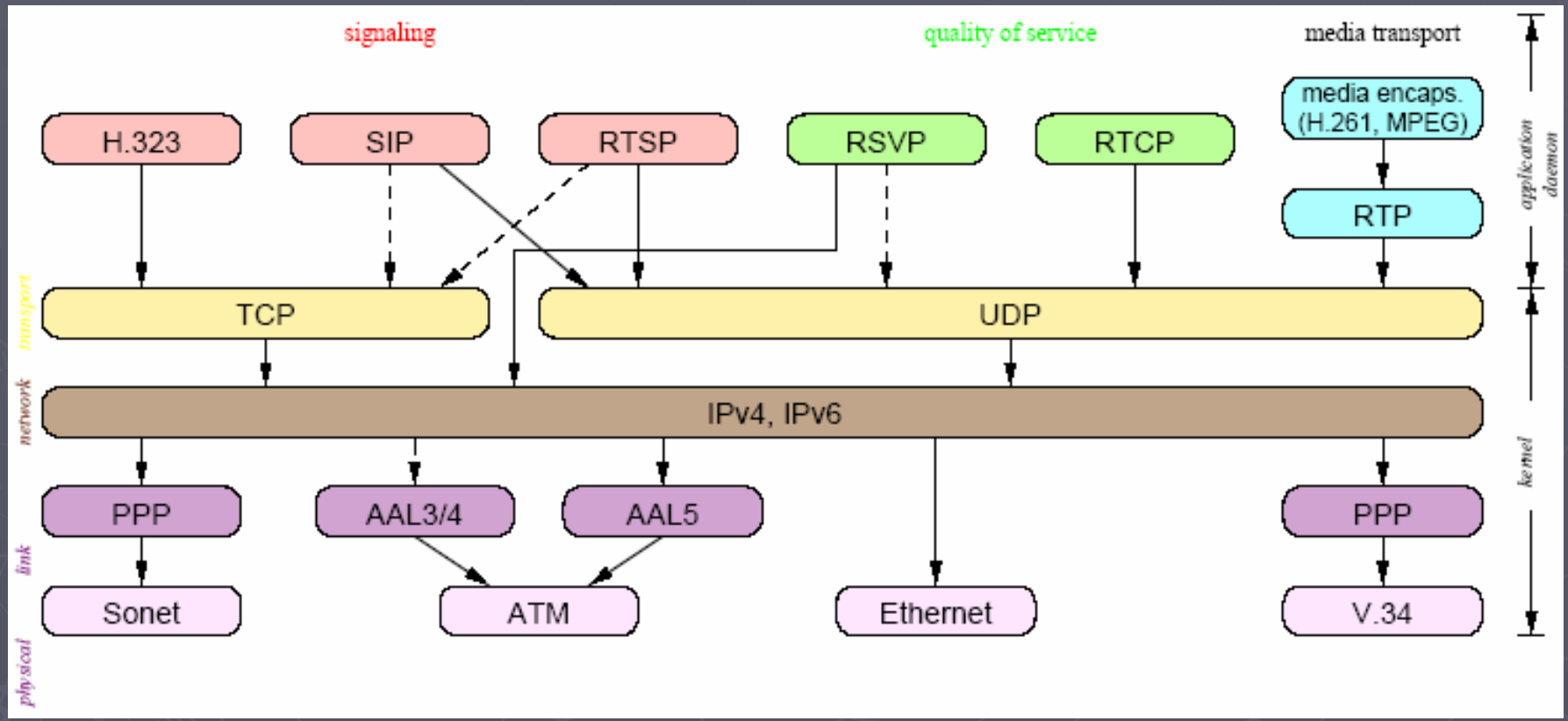
-Advanced services

IP Telephony Technologies

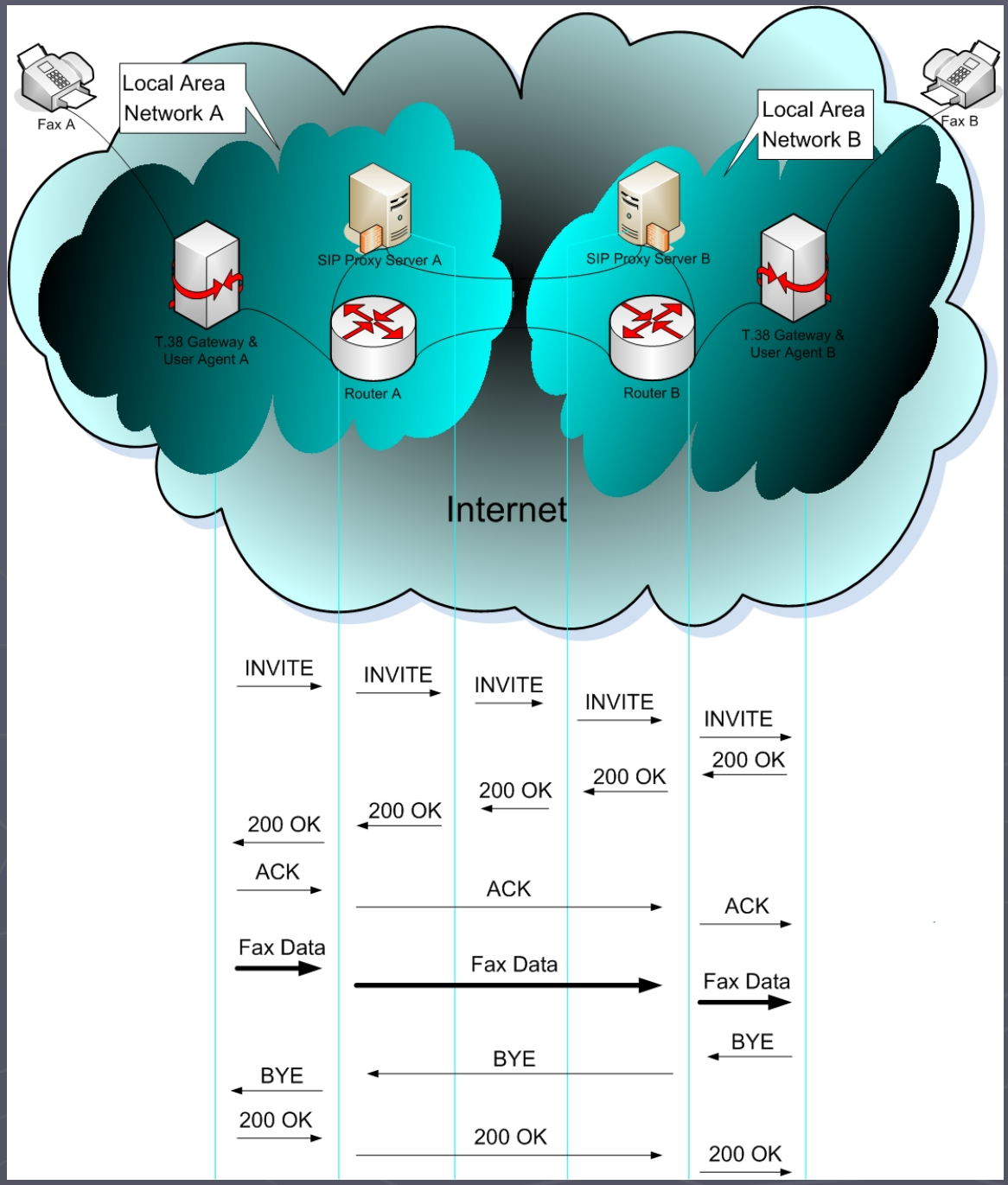
-QoS architectures:
IntServ, MPLS/GMPLS, DiffServ

-Call Signaling:
-MGCP/H.248/Megaco
-H.323
Binary, Complex
Umbrella protocol
-SIP
Text-based, User mobility
SIP only defines how sessions are to be setup and torn down:
-SDP for capabilities exchange
-URLs for addressing
-Domain Name System (DNS) for service location
-Telephony Routing over IP (TRIP) for call routing

Internet telephony protocol stack



Fax over IP: A success story



IP Telephony Trends and Economics

Piper Jaffray:

- Minutes of communication services travelling over IP telephony networks will grow from 70 billion minutes and 6% of all the PSTN traffic in the year 2003 to over a trillion minutes by the year 2006.

Kauffman Group:

- By switching to emerging fax over IP, companies can save as much as 70 percent on their long distance phone bill, while gaining some important new features.

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