

# MPEG 20<sup>th</sup> Anniversary Event

## MPEG and CCITT/ITU-T Collaborative Work for Standardization

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Sakae OKUBO

<okubo@aoni.waseda.jp>

Waseda University

Global Information and Telecommunication Institute

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# 1. Roles at CCITT/ITU-T and MPEG

Year	CCITT/ITU-T	MPEG	
1984	<b>CCITT</b>		
...			<b>H.261 Specialists Group (Chair)</b>
1989			
1990			
1991			
1992			
1993			
1994			
1995			
1996			
...	<b>ITU-T</b>	<b>Requirements Sub-group (Chair)</b>	
1998			
1999			
2000			
2001			
2002			
2003			
2004			
2005			
2006			
2007			
2008			

## 2. MPEG-2 at everyday life



CATV STB

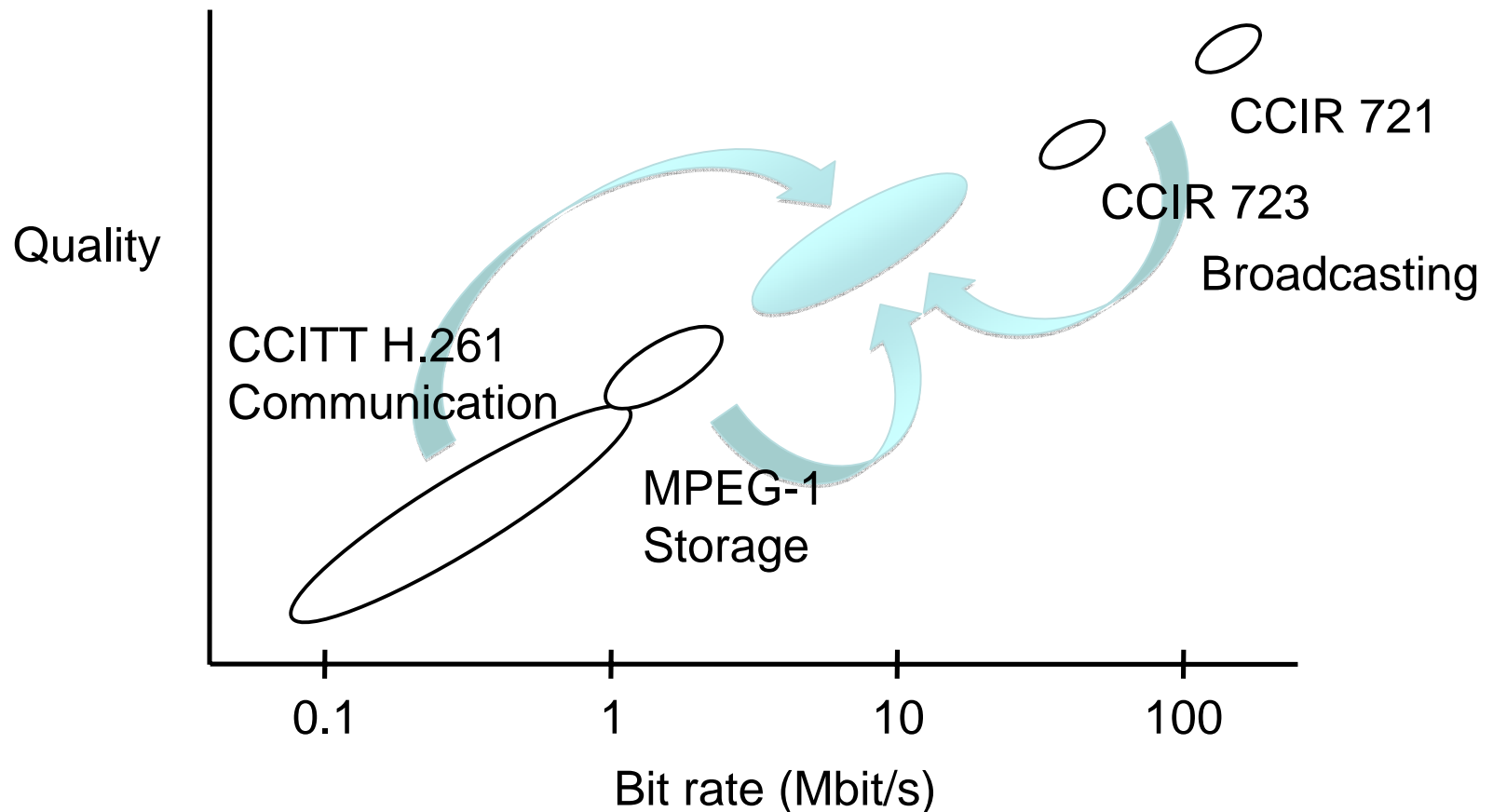
Hard Disc/DVD  
Recorder and Player

- H.262|ISO/IEC 13818-2  
(MPEG-2 video, MP@HL)
- H.222.0|ISO/IEC 13818-1  
(MPEG-2 systems, TS)

*Unrealized*  
Audiovisual communication  
systems over ATM using  
the above standards

Digital broadcasting + TV Anytime (+ Copy-once)

### 3. Video coding standardization around 1990



- CCITT group and MPEG took strict common text approach toward a single solution
- All players (broadcasting, storage, communication) assembled at MPEG meetings

## 4. MPEG Requirements Sub-group

- Listing of various requirements
  - Originated from various applications
  - One of them was “scalability” – now a product according to SVC of H.264/AVC
  - The most challenging requirement, even now, was “editing encoded bitstreams”
- Making the standard generic
  - Definition of coding tools
- Making the standard optimum to particular applications
  - Profile and Level – now HL looks the “main” level

## Level naming discussion at the Requirements Sub-group meeting on 16 July 1993 in New York



大久保榮：“身体で憶えた英単語”，  
画像電子学会誌，Coffee break欄，  
Vol.25, No.6, pp.730-733 (1996)

Level	Discussion on 15 July	My report on 16 July	Conclusion
HL	High	Very High	High
H-14	Intermediate	High	High - 1440
ML	Main	Main	Main

## 5. WTSA-08 outcome

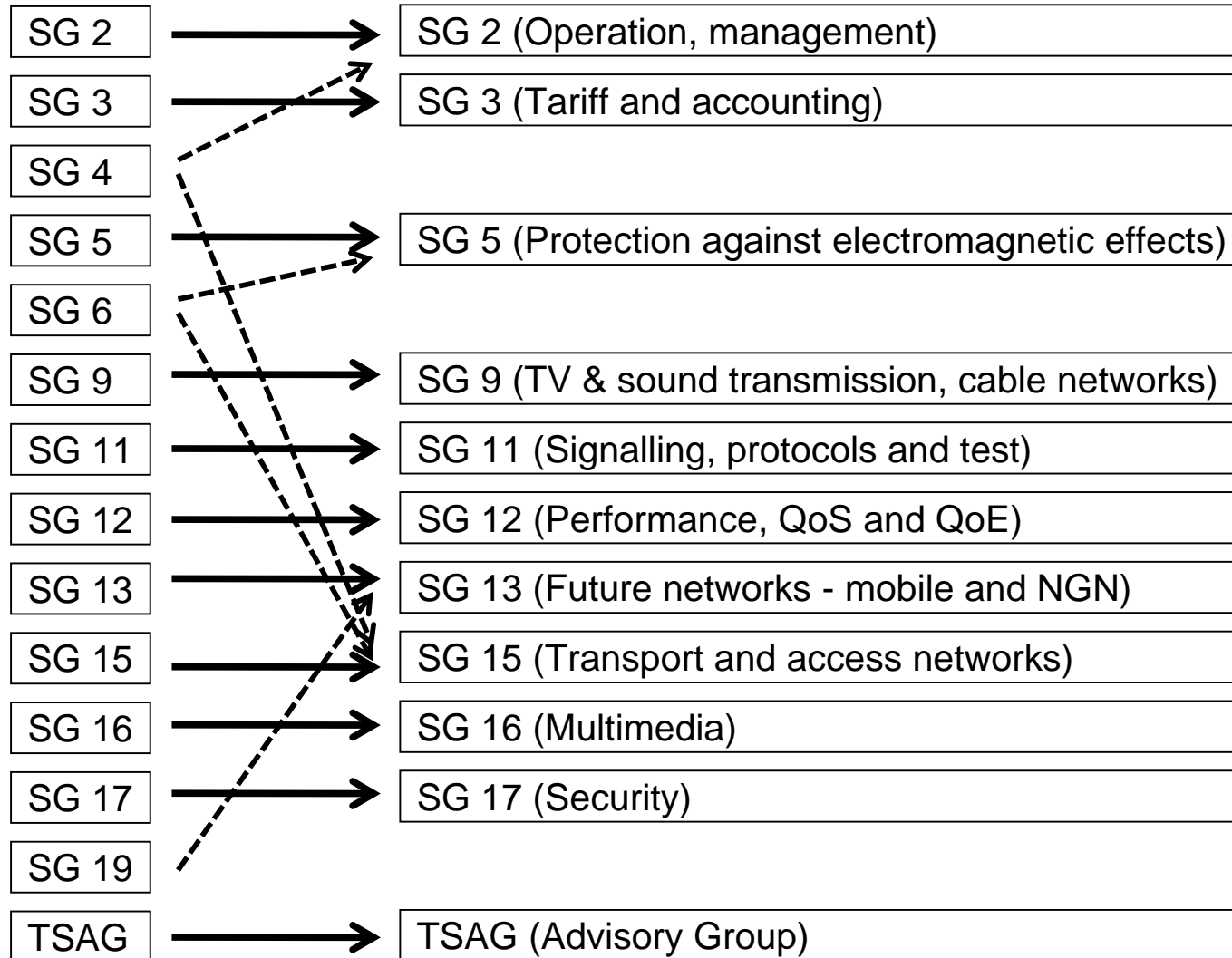
What is WTSA (World Telecommunication Standardization Assembly)?

- Regular four yearly event that defines the next period (2009-2012) of study for ITU-T
- Held in Johannesburg during 21-30 October 2008
- Defined Study Group (SG) structure and elected Chairmen and Vice-Chairmen
- Reviewed the work methods and set various guidelines including academia involvement

# Study Groups

2005-2008

2009-2012



# SG 16 Leaders

## Chairman

Mr Yushi NAITO (Mitsubishi Electric, Japan)

## Vice-Chairmen

Mr Fode Soumah (Guinea)

Mr Seong-Ho Jeong (Republic of Korea)

Ms Claude Lamblin (France)

Mr Zong Noah Luo (China)

Mr Mark Neibert (United States)

Mr Ibaa Quelchek (Syrian Arab Republic)

# Questions assigned to SG16

Question	Question title
A1/16	Voiceband modems and facsimile terminals protocols: specification, performance evaluation and interworking with NGN
A2/16	Voice gateway signal processing functions and circuit multiplication equipment / systems
A3/16	Speech enhancement functions in signal processing network equipment
A4/16	Interaction aspects of signal processing network equipment
B1/16	Multimedia applications and services
B2/16	Multimedia architecture
B3/16	Multimedia systems, terminals and data conferencing
B4/16	H.323 real-time multimedia system
B5/16	Advanced multimedia system for NGN and other packet-based networks
B6/16	Multimedia gateway control architectures and protocols
B7/16	Advanced functions for H.300-series systems and beyond
B8/16	Multimedia application platforms and end systems for IPTV
B9/16	Multimedia functions in NGN and other networks
B10/16	USN Applications and Services
C1/16	Visual coding
C2/16	Generic sound activity detection
C3/16	Embedded variable bit rate coding of speech signals
C4/16	Speech and audio coding and related software tools
C5/16	System and coordination aspects of media coding
D1/16	Multimedia coordination
D2/16	Accessibility to Multimedia Systems and Services
D3/16	Multimedia framework for e-health applications
D4/16	Vehicle gateway platform for telecommunication/ITS services/applications

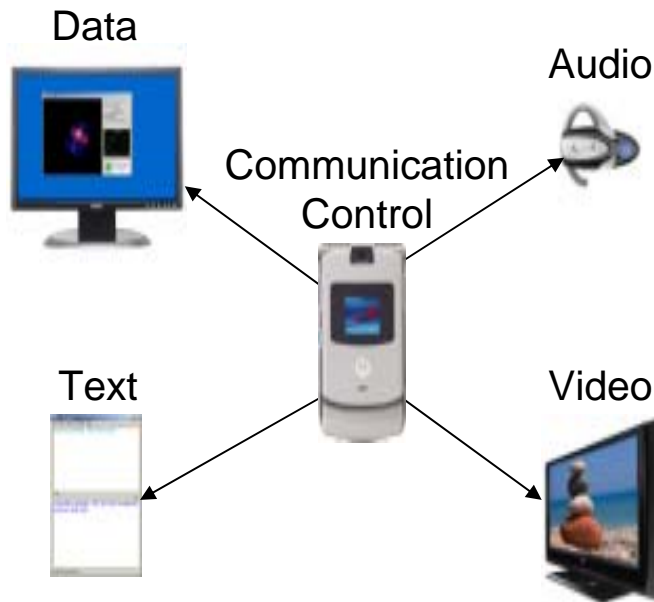
## 6. ITU-T SG 16 highlights

- Advanced Multimedia System (AMS)
  - Architecture and protocol are under study
- Multimedia information access triggered by tag-based identification
  - F.771 (08/08) Service description and requirements for multimedia information access triggered by tag-based identification
  - H.621 (08/08) Architecture of a system for multimedia information access triggered by tag-based identification
  - ID coding and ID resolution protocol are under study

# Advanced Multimedia System (AMS)

AMS will be characterized by:

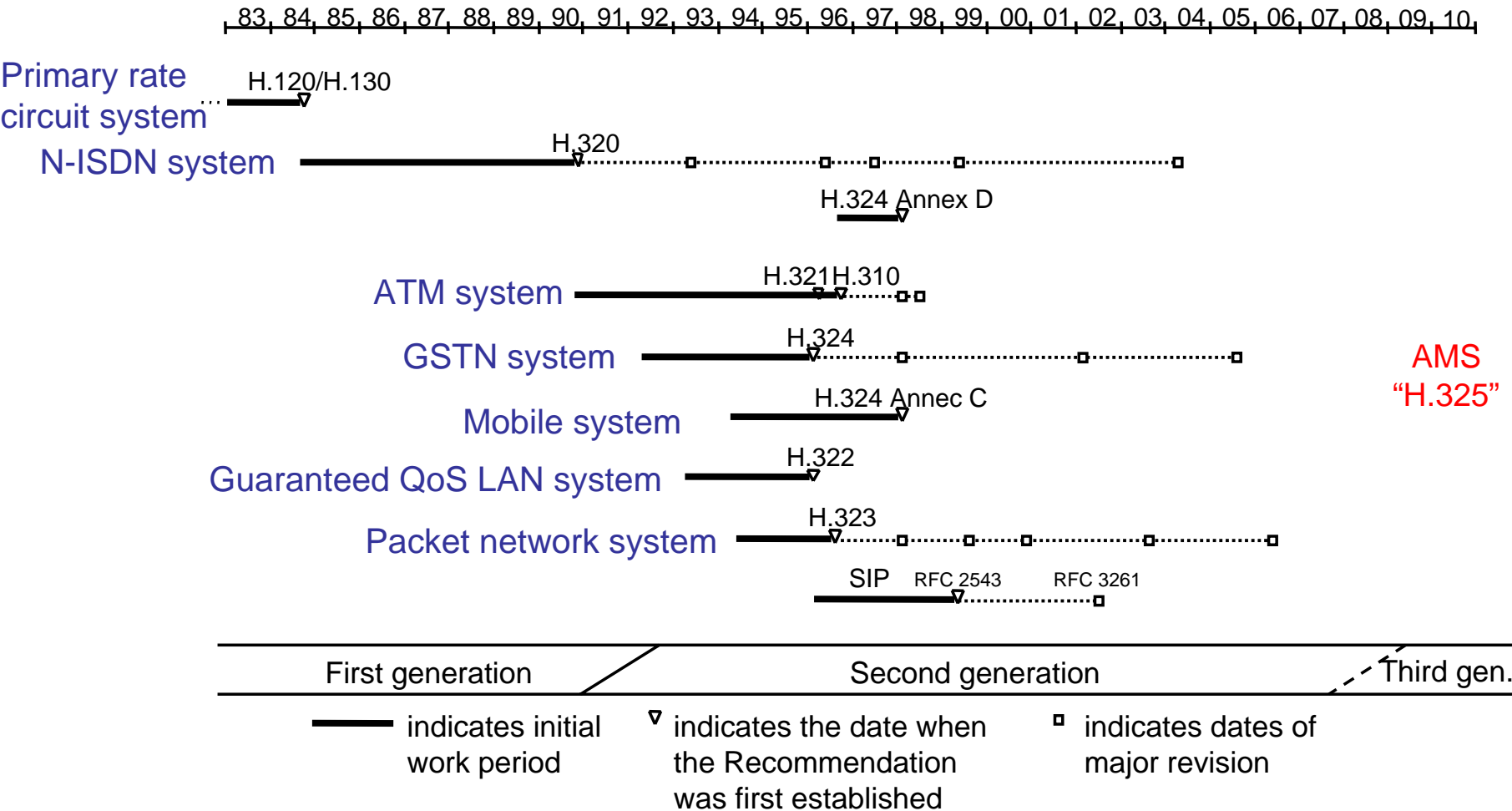
- Open and decomposed architecture
- Realization of flexible use of various media input/output and control devices
- Third generation system ==> to be H.325



## Progress

- Beginning of 2005 – Study initiated
- July 2007 -- New Question 12/16 (now B5/16) was established
- Collection of requirements has been almost completed
- Currently study on architecture and protocol is ongoing
- XML will be used for protocol description

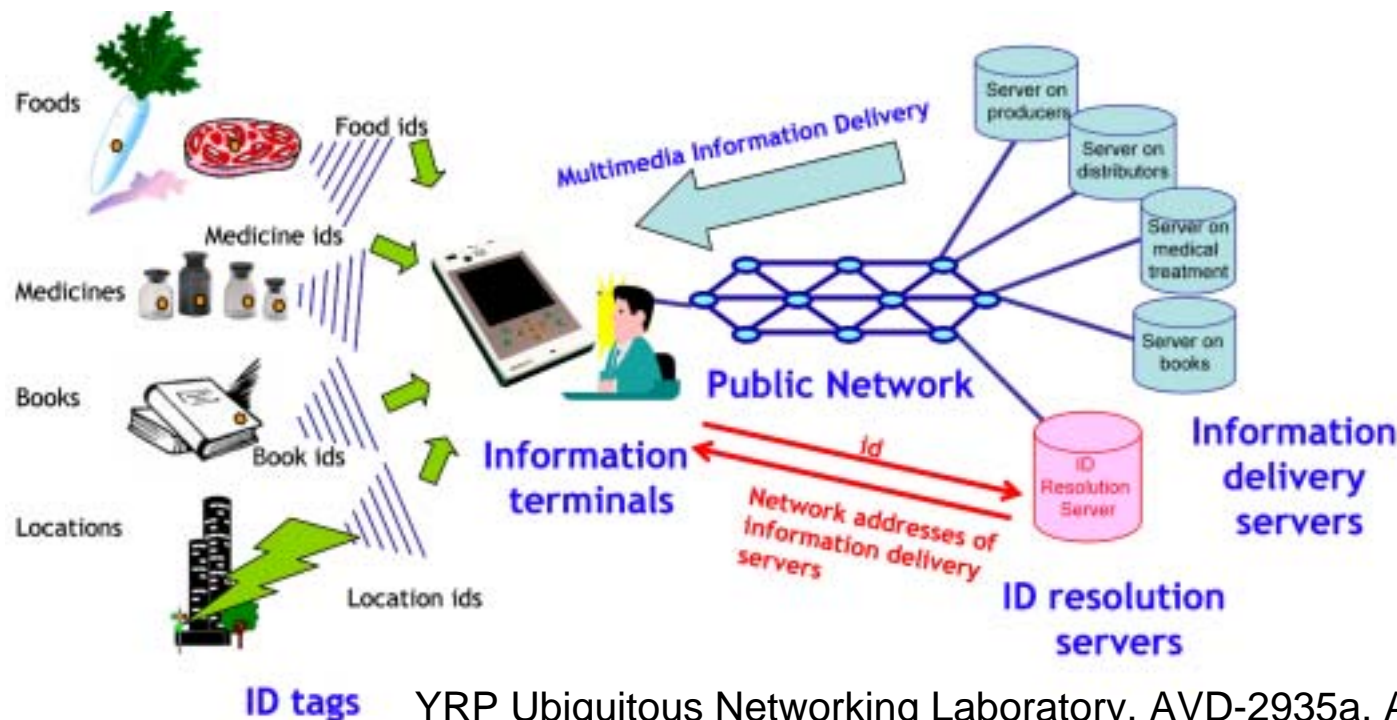
# Standardization of H.300-series and other audiovisual communication systems



AMS  
"H.325"

# Multimedia information access triggered by tag-based identification

This service enables users to access rich multimedia information regarding the object with tag-based ID through users' electronic devices equipped with ID tag readers and communication functions.



YRP Ubiquitous Networking Laboratory, AVD-2935a, August 2006

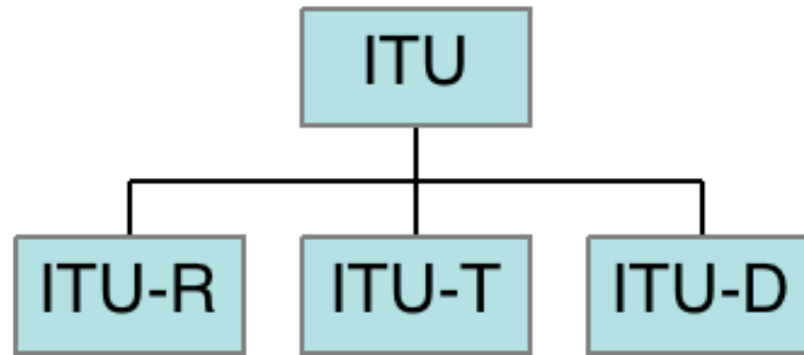
## 7. Message to active video coding experts

-- Compression is still needed --

- Expansion of the source bandwidth is quicker than that of what the network/media would provide
  - In videoconferencing, CIF => 4CIF => HDTV => 3 HDTVs (Telepresence) => ...
  - In broadcasting, NHK is developing “Super Hi-Vision” with 4320 lines x 7680 pels (16 HDTV) resolution and 35 Gbit/s source rate
- New technologies are to be explored while a theory is not found to give the upper limit of compression

# (Backup-1)

## ITU Organization



ITU International Telecommunication Union

ITU-R Radiocommunication Sector

ITU-T Telecommunication Standardization Sector

ITU-D Telecommunication Development Sector

<http://www.itu.int/aboutitu/structure/index.html>

## (Backup-2)

## ITU-T Study Groups

- SG 2 Operational aspects of service provision and telecommunications management
- SG 3 Tariff and accounting principles including related telecommunication economic and policy issues
- SG 5 Protection against electromagnetic environment effects
- SG 9 Television and sound transmission and integrated broadband cable networks
- SG 11 Signalling requirements, protocols and test specifications
- SG 12 Performance, QoS and QoE
- SG 13 Future networks including mobile and NGN
- SG 15 Optical transport networks and access network infrastructures
- SG 16 Multimedia coding, systems and applications
- SG 17 Security
- TSAG Telecommunication Standardization Advisory Group