CCITT SGXV
Working Party on Visual Telephony
Specialists Group on Coding for Visual Telephony

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TITLE : REPORT OF THE FIRST MEETING IN TOKYO (DECEMBER 11-14, 1984)

CONTENTS

1. Operation of the Specialists Group

1.1 Relation to the Working Party

It was confirmed that the Specialists Group should report to and receive continuing direction from Study Group XV via the Working Party that will be charged with the study of Visual Telephony.

1.2 Meetings

1.2.1 It was recognized that a meeting is necessary once every 3 - 4 months.

1.2.2 Meetings will be held in home countries of participating experts in rotation, in principle at laboratories location.

1.2.3 At the end of each meeting, the time and place of next meeting will be decided assuming a notice of 3 - 4 months ahead being enough for preparation by hosting organizations.

1.2.4 The meeting place will be decided taking into account the topics to be discussed and benefit of those participants who attend also the Working Party meeting.

1.3 Documentation

Documents for Specialist Group activities are managed and numbered by the secretariat of the Group (NTT). Each participating member is requested to deliver his documents according to the core members list (to be completed at a later date).

2. Part 3 codec

Considering

a. that it is urgently needed to complete Parts 3 of H.120 and H.130 which are left 'under study', since some kinds of incompatible codecs have already been put into the marketplace and further

proliferation of different types of codecs will be anticipated,

b. that Annex 5 to the new Question 4/XV has been provided for the continuation of the study,

c. that the number of the standards for Part 3 should be kept as small as possible,

d. that one candidate (A) has been proposed by Japan and information on two possible candidates (B, C) and one possible candidate (D) have been provided by USA and GEC respectively at the Tokyo meeting,

e. that out of the four candidates, C can be superceded by A, and D has already been standardized as Part 2a, and

f. that the candidate B lacks technical details for discussion,

the Specialists Group on Coding for Visual Telephony has agreed to report to the Working Party next July according to the following guidelines.

1. The work of the Specialists Group for Part 3 issue will be finished by the report to the next July Working Party in order to concentrate on the sub-rate codec issue.

2. Draft for Part 3 includes the candidate A. The candidate B will be included after being discussed at a Specialists Group meeting based on the detailed proposal when available.

3. Candidates be further studied with the aim of aligning frame structure more closely to that specified in Part 2a of the Recommendation H.130.

4. The Part 2a is revised as necessary to show that it is also applicable for intra-regional use within 525 lines and 1.5 Mbit/s region.

5. All specifications should include sufficient details to allow the manufacture of compatible equipment with no intellectual property constraints, as far as compatibility is concerned. As far as 'intellectual property constraints', USA members reserved their position up to the next Specialists meeting.

3. Sub-rate codec

3.1 Guiding principle for the sub-rate codec study

The meeting reviewed the attitudes of the countries represented to the method of working. There was general agreement that the Specialists Group should collaborate as closely as possible in defining a worldwide standard for 'second generation' codecs. It was agreed that the best way to achieve this was eventually by conducting a 'hardware' related project involving international transmission tests, and that the Specialists Group was an ideal arena in which this could be achieved.

The aim would be to jointly formulate a specification by means of largely independent but parallel hardware experiments in participating countries. The Group would aim to avoid competition on standards, but

at a later date competition on codec manufacture could be encouraged.

3.2 Direct inter-connectivity between 625/50 and 525/60 codecs

It was confirmed that this is one of the fundamental facilities for the new generation sub-rate codec and that the burden to include this facility should be equally shared between 625/50 and 525/60 regions. Means for achieving this direct inter-connectivity will be discussed at the next Specialists Group meeting.

3.3 Facilities

It was confirmed that the new generation sub-rate codec should contain specifications for such facilities as;

a. full motion video,
b. high quality speech,
c. multipoint capability,
d. graphics mode,
e. encryption and
f. other optional facilities if necessary.

3.4 Bit rate and performance objective

There was a general agreement on that the study of the Specialists Group should include both of the following two categories;

a. 384 x n kbit/s and
b. 64 x m kbit/s,

and that special emphasis should be directed at n=1. For category a. at least, the bit rate should include facilities listed in 3.3.

As to the priority for these two categories, however, there was some divergence in opinions due possibly to that applications of the category b. codec is rather difficult to be defined while the major application of the category a. codec is recognized as videoconferencing.

Hence, it was agreed for the moment that the gate should be opened for both categories and that the priority should be decided in the course of study. Contributions based on the discussion during this meeting are requested.

3.5 Test tapes

The importance of common test tape use for the comparison of coding algorithm performance was recognized. It was reported that European countries have already produced a series of digitized moving sequences of typical videoconference/telephone scenes and that these can be made available to all who are interested. DIS, BNR and Japan also presented existence of related tapes.

Since it was made clear that there exists no digital test tapes in NTSC countries which correspond to European ones, NTSC countries were requested to refer to the European tapes when preparing their own tapes and to present activities directed for the purpose at the next meeting.

It was also suggested that these test tapes should be made by using high SNR cameras to evaluate intrinsic characteristics of coding algorithms.

3.6 Frame structure

An example of general frame structure for visual telephony on basic and primary rate accesses was presented by France. This information was recognized as a useful reference for the study of sub-rate codec frame structure. Further considerations were requested for all the related members in the Specialists Group.

3.7 International field trial

The Specialist Group expressed strong desire to have an international field trial toward the end of the study period before the final recommendation is drafted. INTELSAT's participation in this task is strongly desirable and cooperation from INTELSAT will be sought through the proper channel.

3.8 Timetable

A global timetable (Annex 1 of TD2) for the 384 x n kbit/s codec study covering the whole new study period was reviewed and it was confirmed,

a. that the study of the 384 kbit/s codec should be aimed at making a draft recommendation by early 1987, and

b. that the following items should be discussed at the next meeting.

b.1 Detailed examinations on the basic parameters

- bit rate
- video interface
- color processing
- sampling frequency and structure
- number of coded samples
- allocation of television standards conversion
- digital interface

b.2 Preliminary examinations on

- basic codec architecture
- coding algorithms
- frame structure

As for the 64 kbit/s codec study, its timetable will be discussed at the next meeting.

4. Next Meeting

4.1 Topics

4.1.1 Part 3 codec

A draft report to the July SG XV meeting will be examined.

4.1.2 Sub-rate codec

Items listed at 3.8 above will be discussed.

4.1.3 Next meeting and others

4.2 Time

April 23(Tuesday) - 26(Friday), 1985

4.3 Place

USA, at a laboratory site