The meeting was called to order at 10:00 a.m. on 10 February 1992 by Mr. J. Moulton. C. Kunzinger and A. Roginsky, both of the USA, agreed to take the minutes of this meeting.

ROLL CALL:

The following P-member bodies were represented: Belgium,Canada, Denmark, France, Japan, United Kingdom, and United States. Norway was also represented, and the CCITT was also represented.

AGENDA:

The agenda presented in temporary document P-1 was agreed to, with the following changes: 1) Group NSAP addresses will be discussed on Tuesday afternoon, 2) Transport Layer service and protocol issues will be discussed on Wednesday morning, and 3) Data Link service and protocol issues will be discussed on Thursday morning.

DOCUMENT REGISTER:

In addition to the documents distributed by SC6 in advance of this meeting, a total of 21 documents were submitted and were assigned temporary document numbers of the form P-xx: 1 from the chair, 1 from Belgium, 2 from Canada, 2 from CCITT, 1 from Japan-expert, 1 from UK, 2 from UK-expert, 10 from USA, and 1 from USA-expert.

OVERVIEW OF NATIONAL BODY CONTRIBUTIONS:

Each national body that submitted contributions to the meeting was afforded the opportunity to give a summary presentation the their respective documents, with detailed discussions to take place later in the week.

- Belgium in general supported the work, but questioned some of the procedural aspects with respect to Large Work items
- Canada noted their opposition to progression of the 6 potential NPS contained in SC6 N6885. Canada also noted there was an error made in SC6 N7106 in recording their vote: questions 1 and 2 were in fact answered with a ″NO″, but N7106, as distributed, showed a ″YES″ vote by mistake. Canada also noted that they were opposed at present to several of the Transport Service modes described in SC6 N7070.
- France noted a strong desire to insure that projects would be submitted only if there were real requirements identified.
- Japan noted that clarification was needed to point out enhancements were not limited only to ″high speed″, and stated that Japan felt that it would be premature to undertake changes to the OSI reference model.
- UK introduced three contributions: a) examination of group NSAP addressing in the context of routeing, b) requirements from distributed multi-media applications, and c) illustration of a ″low speed, high efficiency″ application.
- US noted that it had contributed a large quantity of input documents, and emphasized that these were submitted with the intention of stimulating technical discussion and were not submitted as base text for specific projects. The USA concurred with Japan and Canada with regard to the need for adequate justification for new projects. A ″roadmap″ mapping the USA contributions against specific items to be discussed in this meeting is contained in temporary document P-8.

- CCITT contributed two documents: a service definition multicast (X.6, previously known as X.PMS), and a discussion of OSI efficiency. It was noted that this topic had been discussed as early as 1983 with respect to the desirability of providing ″minimum functionality″ options for the lower layer protocols. A multi-media demonstration program will be made available during the week of the this meeting--a PC-based demo and audio tape that illustrate the CCITT ″FAST-BYTE″ project.

DISPOSITION OF COMMENTS ON SC6 N7105 (Enhanced Transport Mechanisms)

This NP has passed its ballot, and has been entered into the SC6 programme of work as project 1.06.36. Comments from several national bodies expressed concern over both the ″Scope″ and the ″Purpose″ for this project as expressed in JTC1 N1515 (SC6 N6887). Areas of concern were: more emphasis on need to provide coordination of multiple potential projects spanning the lower layers, need to establish adequate requirements before issuing subsequent NPs, emphasis that project title could be misleading since anticipated projects were not restricted only to the Transport layer.

These general concerns were discussed at length, with active participation by all national bodies. The consensus that was reached is the following: a) the project title will be changed to ″Enhanced Communications Functions and Facilities for OSI Lower Layers″ b) the amended ″Scope″ will be as follows:

> This project will define guidelines and principles to be used to enhance the lower layers of OSI. This framework will be used to coordinate the work on enhancements, which must take place in the context of specific new project proposed and balloted by J TC1.
>
> This project is for the development of guidelines for the lower layers to support enhanced functions and facilities which may include, but are not limited to:
>
> - high throughput capability for operation over high speed transmission facilities (e.g., ATM, FDDI, etc.)
> - multicast operation to support multipeer applications
> - selectable error control procedures
> - QOS selection and management (e.g., for latency control)
> - out-of-band signalling and synchronization
> - efficient operation
>
> The work will involve the identification of needed functions and facilities, and their partition into functional layers. Work on any project undertaken in the context of these guidelines that results in development of functions or facilities are not cove red by the existing OSI reference model architecture must be undertaken in liaison with SC 21. Consideration must be given to interworking with existing OSI conformant systems.
>
> The program of work is expected to include: 1) the identification of application requirements that have implications for OSI lower layer services and protocols 2) the examination of existing OSI lower layer services and protocols to determine if the requirements identified in (1) can be me t by existing or pending OSI standards 3) in those cases in which requirements cannot be met by existing or pending OSI standards, the consideration of proposals for modification/extension of existing OSI services and protocols 4) in those cases in which neither of the approaches outlined in (2) and (3) is sufficient to satisfy identified requirements, the consideration of proposals for new services and/or protocols.

c) The amended ″Purpose″ will be:

The purpose of this project is to ensure the growth and applicability of OSI in the context of high speed networking, while insuring that interoperability is not compromised, and that unnecessary disruption and destabilization of th existing OSI environm ent does not occur.

REMAINING CONCERN:

To address the concerns over project coordination, it was agreed to recommend to the conveners of WG 1, 2, and 4 that joint meetings be schedules during the July 1992 SC6 meeting to discuss projects developed under these guidelines.

******The meeting adjourned at 5:15 p.m.******

11 February 1992:

DISPOSITION OF COMMENTS ON N7106 (Group NSAP) :.J. Moulton opened the meeting at 9 a.m., and began the discussion of comments on SC6 N7106 (Summary of Voting on Group NSAP Addressing). The NP has already passed its ballot. Several of the comments from member bodies expressed concern that the work on g roup NSAP addresses could not be done in isolation, but in fact needed to be coordinated with complementary work on the Network layer standards that make use of NSAP addresses. p. Several alternatives were discussed: 1) expand scope of project to explicitly mention related standards that will be effected by a new address format 2) document the related standards in the ″Guidelines ″ document, or 3) leave things ″as is″, with the exp ectation that related standards would be considered naturally during the course of th project.

The consensus was that the ″Guidelines″ should state that Group NSAP addressing should not be developed in isolation, but rather with a view to the related NL standards that would need to operate with the new address format. The related standards would be enumerated in the ″Guidelines″ discussion of the generic topic of ″Multicast″.

Finally, it was recommended that the project title be changed from ″Group NSAP Addressing″ to ″Group Network Addressing″. Similar changes (NSAP==>Network) should also be made as needed in the text of the ″Scope″ and ″Purpose″ for this project.

″GUIDELINES″ TEXT:

The USA was the only NB to propose base text (in N7068). In presenting this document and the related document N7071, the USA noted that they were presented to stimulate discussion, and that the USA would welcome suggestions for improvements or changes to this text. Several presentations were made that identified other areas that also should be addressed within the ″Guidelines″: UK presented a requirement for low-speed multicast (P-20) and also for high-speed improved Transport functions, based on work done in project OSI-95 (P-19). CCITT presented the FAST_BYTE work as an example of ″minimum layer functionality″ types o f approaches. The general consensus was that N7068 should be amended.

After the French delegation was assured that the authorizing resolution for this meeting did not permit it to designate a revision of the text for the ″Guidelines″ as base text, the participants recommended that the Convener produce a revised text, combin ing elements from N7068, N7071, and the several temporary documents that were presented. He will be instructed to organize the revision according to the following general outline, which the participants agreed to: I. Application Environments: to identify known applications that can profit from enhanced communications functions II.Service Requirements:

to identify anticipated new services that are needed III.Protocol Functions and Facilities: to identify mechanisms that can provide the needed services IV.Work Plan: to outline the specific actions to be taken in developing the identified services and functions

The revised text will then be recommended for circulation to SC6 members for information, with the intent of holding detailed discussions during the July 1992 SC6 meeting.

It was reiterated that no new NP would be issued under this project unless it complied with the 4 step process outlined in the revised Scope for the Project, as agreed to at yesterday′s meeting.

TRANSPORT SERVICES AND PROTOCOLS:

Belgium presented document P-14. This paper identifies several requirements that Belgium feels should be addressed in regard to the Transport Layer enhancements. Principal suggestions were: 1)*requirement for a ″transactional service″ with low latency, 2)requirement for synchronization of data streams across different media in multi-media applications, 3) requirement for selectable error control, 4) requirement for compulsory QOS (Don′t establish connection is user-requested QOS cannot be provided by th e Transport service provider, 5) rate control, and 6) need for ″out-of-band″ signalling.

******MEETING ADJOURNED AT 17:30*********

12 February 1992

The meeting began at 9 a.m. with a continuation of the presentations on Transport Services and Functions. The USA described the contributions on High Speed Transport Services. The Japanese expressed concern that the existing expedited data function was absent from the proposed HSTS definition. The presentation on High Speed Transport Protocol was given next. Since HSTP contains 5 PDU types, versus the 10 existing types in today′s Transport Protocol, Japan expressed concern about a lack of interoperability between them. The USA presenter state d that the HSTP design was motivated more by performance than by interoperability--that is, if HSTP were 100% interoperable with today′s Trasnport Protocol, then its performance would have been severely compromised.

Next, the USA presented its contributions on Network Layer Services and Protocols (N7084, N7069, P5, P6, and P7). Several questions were posed about the need for a separate AFI to associate a group NSAP address with each of the existing (non-group) AFIs. The French delegate suggested to the CCITT representative that the question of Group NSAPs was sufficiently important for the CCITT to schedule inter-regnum work on it. CCITT representatives stated that as of now, no such work was in the plan, but coul d perhaps be considered if the CCITT hold an interim meeting in later in the year.

CCITT next presented an overview of X.6 (X.PMS), stating that this was not a description of any particular protocol. X.6 describes a multicast service as if it were a ″black box″, noting that the actual service may be located either within or external to a physical network. The USA asked about the ability of X.6 to scale to large networks. The response was that X.6 was a service description, not a protocol. Hence, no information on scaling was available. Denmark asked about accounting (billing) for X.6 facilities. No information was available.

Next, the USA presented its contributions on Data Link requirements (P-11) and possible changes to the service definitons (P-12).

CALL FOR GENERAL DISCUSSION:

The Convenor asked NBs if there were any other items that needed to be discussed before beginning the closing plenary. Having heard no requests for further discussion, the copies of the output documents were prepared in order to begin the closing plenary.

CLOSING PLENARY:

The output resolutions were approved by the attendees, and are contained in document P24:

1. Disposition of Comments on JTC1 N1515 was approved.

   Note: NBs agreed that this resolution, in conjunction with the revised title, Scope, and Purpose contained in P26 satisfies all NB comments that were considered at this meeting.

2. Circulation of revised "Guidelines" text for NB comment prior to the July 1992 SC6 meeting
3. Call for NB contributions on Lower Layer Multicast Mechanisms and Services
4. Statement on need for Upper/Lower layer coordination on enhanced functions, calling for significant liaison between SC6 and SC21.
5. Liaison to SC21 on this meeting's principle findings
6. Circulation of P-4 to NBs for comment prior to July 1992 SC6 meeting.
7. Request to SC6 and its WGs for joint meeting time between WGs 1, 2, and 4 in San Diego to discuss this project.