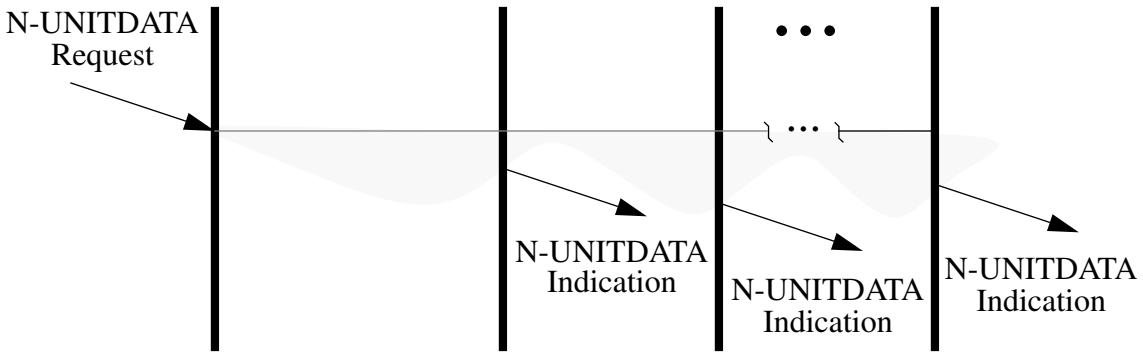

Sequence of primitives in a multicast network-connectionless-mode transmission
(a)

(b) (c)

Multicast Primitives

Figure XX

Figures

Add the following two figures

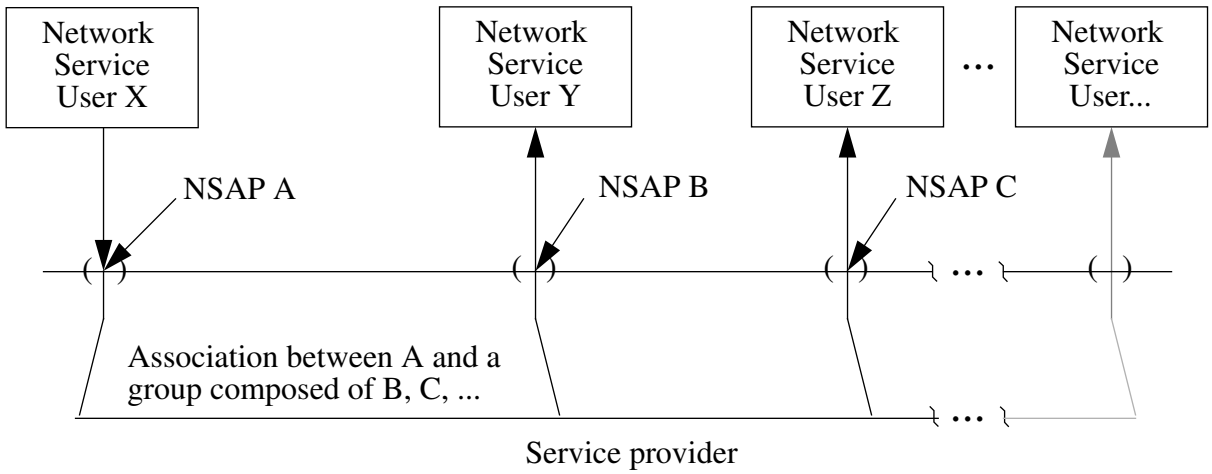

Figure 3b -- Model of a multicast network-connectionless-mode transmission

Add a new section and an editor's note after 15.2.3, increment the numbering of section 15.2.4 and 15.2.5:

15.2.4 Receive scope

This parameter informs the NS provider of any scope limitations (as opposed to the global networking address domain) for the multicast PDUs the NS user requests to receive. For example the NS user may request PDUs available on a single subnetwork or all subnetworks within his own area.

Editor's Note:

The Receive scope parameter is being investigated as a means of passing information to a NS provider on how far away to look for specific multicast NSDUs. It is felt at this time that a NS user may know whether the NSDUs are very local (perhaps originated on a common subnetwork) or of global interest (perhaps originated anywhere in the global network addressing domain). Further work is needed to specify this parameter.

Replace the present paragraph 15.2.4 with:

The sequence of primitives in a non-multicast network-connectionless-mode transmission is defined in the network service primitive time sequence diagram, see figure 20. The sequence of primitives in multicast network-connectionless-mode transmission is defined in the network service multicast primitive time sequence diagrams, see figure XX. The N-UNITDATA.Indications for the multicast transmission case arrive in an arbitrary order that is not simultaneous and in addition there is no deterministic ordering of N-UNITDATA.Indications arriving at any particular receiving NSAP resulting from separate N-UNITDATA.Requests.

A. Annex

Replace in three parts of the Annex (second paragraph in A.1, first paragraph in A.2 and the second paragraph of A.4.2) the words "pair of NSAPs" with:

pair of NSAPs or a sending NSAP and a group of receiving NSAPs

Add to the end of A.5.1:

For multicast transfer, the destination address must be a group NSAP address.

12. Quality of Network Service

Change the second paragraph, first sentence of 10 from "between a pair of NSAPs." to:

between a pair of NSAPs or a sending NSAP and a group of receiving NSAPs

Change the end of first paragraph, last sentence of 10.3.1 from "intended receiving NS user." to:

intended receiving NS user or all receiving NS users in the case of multicast transfer.

13. Section two: Definition of connection-mode primitives

This amendment makes no additions or changes to section two of ISO 8348.

14. UNITDATA

Retitle section 15: "Connectionless-mode Primitives"

Retitle section 15.1: "UNITDATA" and change within the first sentence of 15.1 from "to another network-service-access-point" to:

to another network-service-access-point or a group of network-service-access-points

Change the third paragraph, first sentence of 15.1 from "any specific pair of NSAPs." to:

any specific pair of NSAPs or a specific sending NSAP and a specific group of receiving NSAPs.

Add the following paragraph to the end of 15.2:

Two optional primitives are defined for those NS users and providers which implement the OSI Connectionless Multicast capabilities. The N-JOIN-GROUP.request primitive provides a means for the NS user to register with the NS provider to receive specific multicast NSDUs. The multicast NSDU requested is identified by the destination address of the NSDU matching the destination address passed as a parameter of this primitive. This primitive notifies the NS provider of a request which may involve actions of Network layer routeing protocols. The NS provider upon being issued this primitive will attempt to obtain the multicast PDUs as defined in the parameters of this primitive, but there is no guarantee that the provider will actually receive such PDUs for passing on to the requesting NS user. The N-LEAVE-GROUP.request primitive in a like way provides the NS user the capability to terminate the reception of specific multicast NSDUs. After issuing an N-LEAVE-GROUP.request primitive for specific multicast NSDUs, it is still possible for the NS user to receive N-UNITDATA.Indications for these specific multicast NSDUs for a short undefined period of time

Change Table 15 to add two new optional Primitives (N-JOIN-GROUP.Request and N-LEAVE-GROUP.Request) and one new parameter (Receive scope). The N-JOIN-GROUP request has two mandatory parameters (Destination address and Receive scope) and the N-LEAVE-GROUP has one mandatory parameter (Destination Address).

Add to the end of 15.2.1 a new sentence:

For multicast transfer, the destination address must be a group NSAP address.

4. References

This Amendment makes no changes to clause 2 of ISO 8348/Addendum 1.

5. Definitions

This Amendment makes no changes to clause 3 of ISO 8348/Addendum 1.

6. Abbreviations

This Amendment makes no changes to clause 4 of ISO 8348/Addendum 1.

7. Conventions

This Amendment makes no changes to clause 5 of ISO 8348/Addendum 1.

8. Overview and general characteristics

This Amendment makes no changes to clause 6 of ISO 8348/Addendum 1.

9. Features of the Network Service

Add to section 7 point (i) after the words "destination NSAP":

or group of destination NSAPs

10. Classes of Network Service

This Amendment makes no changes to clause 8 of ISO 8348/Addendum 1.

11. Model of the Network Service

Change the second to the last paragraph, first sentence of 9.1, from "to both NS users" to:

to all NS users

Change the second paragraph, end of the first sentence of 9.3 from "a given pair of NSAPs." to

a given pair of NSAPs or a sending NSAP and a group of receiving NSAPs

Change the third paragraph (following the first note) of 9.3 from ", as provided between any two NSAPs, "to:

, as provided between any two NSAPs or a sending NSAP and a group of receiving NSAPs,

Change Figure 3 to Figure 3a. Change the reference in the fourth paragraph (following the second note) of 9.3 from figure 3 to figure 3a. Add to the end of this paragraph the following sentences:

In Figure 3b, USER X represents the NS user that passes objects to the NS provider. USERS Y, Z and others represent the NS users that accept multicast objects from the NS provider.

Change the sixth paragraph (beginning "However, with ...) of 9.3 from "between a pair of NSAPs," to:

between a pair of NSAPs or a sending NSAP and a group of receiving NSAPs

Information processing systems - Data communications - Network service definition

Amendment X: Addition of connectionless-mode multicast services

1. Introduction

This Amendment to ISO 8348 provides additions to the connectionless-mode transmission service definition in order to support multicast PDU transfer. The connectionless-mode transmission service is contained in ISO 8348 / Addendum 1.

ISO 8348 / Addendum 1 restricts the connectionless-mode transmission to the case of exchanging NSDUs between one sending NS user and one receiving NS user. Subnetwork standards exist which support the transfer of a SDU from one entity to a number of other entities in a single logical operation. With the current ISO 8348 / Addendum 1, no Network layer services are described to utilize such multicast capabilities. While the capability of a subnetwork to directly support multicast is advantageous to the utility of the multicast networking service, this is not a requirement for the multicast services provided here.

This Amendment is one component of a number of standardization actions on-going to support an OSI connectionless-mode multicast capability. Additional proposals are on-going to provide additions to the connectionless-mode Transport protocol, the connectionless-mode Network Layer Protocol, the ES-IS routeing protocol as well as the Network layer addressing addendum of the same standard that this Amendment covers.

This Amendment defines “connectionless-mode multicast transfer network services” and the functions related to it, which may be provided by the Network Layer of the of the OSI Reference Model. It adds to the concepts and principles defined in ISO 8348; it does not modify them.

2. ISO 8348 Addendum 1 - Introduction

Add a section prior to 0.3 within clause 0 of ISO 8348 Addendum 1 with the following text (no other changes to clause 0 of ISO 8348 Addendum 1):

0.2.3 Multicast transfer

Connectionless-mode transmission can deliver a unit of data from one Network entity to one or more Network entities by the performance of a single service access. In order to support the sending of a unit to multiple Network entities, the Network service providers must support the optional features of OSI Connectionless-mode Multicast and the destination address used must be a group address.

3. Scope and field of application

This Amendment makes no changes to clause 1 of ISO 8348/Addendum 1.

1991-11-08

ISO/IEC JTC1/SC6
TELECOMMUNICATIONS AND INFORMATION EXCHANGE BETWEEN SYSTEMS
Secretariat: U.S.A. (ANSI)

Title: **Proposed changes to the Network service definition to support connectionless multicast**

Source: **USA**

Project(s): **[new]**

Status: **For discussion at the interim meeting of SC6 on "enhanced transport mechanism guidelines" in Paris on February 10-13, 1992.**

This contribution presents an approach that is currently being evaluated within the US for high performance networking. After further review, the services presented in this document may undergo significant changes.

Requested Action:

Attachments:

Distribution:

Accredited Standards Committee*
X3, INFORMATION PROCESSING SYSTEMS

X3S3.3/91-267R
8 November, 1991

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To: X3S3

From: X3S3.3

Re: Proposed changes to the Network service definition to support connectionless multicast

Task group X3S3.3 has prepared this working draft of an Addendum to the Network service definition covering the addition of multicast service for discussion at the interim SC6 meeting on "enhanced transport mechanism guidelines" in Paris on February 10-13, 1991.