

AS/NZS 3646.1 Supp 1:1995

ISO 8571-1:1988/Amd.2:1993

AS/NZS 3646.1 Supplement 1:1995

**Information processing systems—
Open Systems Interconnection—
File transfer, access and
management**

**Part 1: General introduction—
Overlapped access**

**(Supplement to
AS/NZS 3646.1:1993)**

[ISO title: Information processing systems—Open Systems
Interconnection—File Transfer, Access and Management
Part 1: General introduction, Amendment 2: Overlapped access]

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PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee IT/1 on Information Systems—Interconnection. It is identical with and has been reproduced from ISO 8571-1:1988/Amd.2:1993, *Information processing systems—Open Systems Interconnection—File Transfer, Access and Management*, Part 1: *General introduction*, Amendment 2: *Overlapped access*.

The objective of this Standard is to provide users of the FTAM Standards with an extension of the scope to include the services offered by overlapped access.

This Standard adds to the text of AS/NZS 3646.1:1993.

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AUSTRALIAN/NEW ZEALAND STANDARD

**Information processing systems—Open Systems Interconnection—
File transfer, access and management****Part 1: General introduction—Overlapped access**

(Supplement to AS/NZS 3646.1:1993)

0 Introduction

Clause 0 provides an introduction to this amendment. The text in this clause is not intended for inclusion in ISO 8571 part 1.

0.1 General

ISO 8571 part 1 defines in an abstract way the externally visible file transfer, access and management service.

This amendment extends this service definition to incorporate the services offered by overlapped access.

0.2 Rationale

The objective in introducing overlapped access is to allow more efficient access to structured files when a single initiator has a need to perform many reading and updating operations; the serial nature of the current FTAM data transfer services introduces a significant control overhead if the FADUs are small. In this context, an FADU is small if its transmission time is comparable with the time to complete a confirmed service on the association (the association's round trip delay).

0.3 Summary

The current design envelope that there should be at most one file selection per association and one file open per file selection is maintained. If access to more than one file is to be overlapped, more than one association is necessary. The overlapped access takes place within a constant set of presentation contexts established as at present when the file is opened, or previously.

Two different degrees of overlap have been identified. Firstly, requests for future accesses may be issued whilst a previously requested BDT action is in progress, allowing the creation of a queue of read and write requests. In general, PCI relating to a given BDT action may be overlapped with

other BDT actions, subject to restrictions; this is called consecutive access. Secondly, read and write actions can be performed in parallel, so that both directions of data transfer are exploited at any one time. Requests are then taken from the queue whenever either direction of transfer becomes free. This is called concurrent access.

The transfer of a single FADU, specified in a single F-READ request has the same interpretation as in ISO 8571. The resultant effect on the virtual filestore of a set of overlapped requests using consecutive access shall be the same as that of the equivalent set of requests issued in series; the service provided is serializable. If concurrent access is used then the resultant effect of a set of write actions on the virtual filestore, is also serializable. However, due to the non-determinism introduced by the use of concurrent access, it is also possible that in some uses of the service, the data transferred as a result of a read action is not consistent with the current state of the file.

1 Scope and field of application

This amendment makes no additions to clause 1.

2 References

This amendment makes no additions to clause 2.

3 Reference model definitions

This amendment makes no additions to clause 3.

4 Service conventions definitions

This amendment makes no additions to clause 4.

5 FTAM Definitions

5.2.9 phase:

Replace definition:

The period of time in which protocol exchanges have a particular purpose, such as establishing or releasing an application context; for each phase a set of valid messages is defined in terms of state transitions or LOTOS events. If overlapped access is allowed then (during the open regime) there may be more than one phase valid at any time i.e. there may be a number of protocol exchanges in progress.

Add the following definitions and re-number accordingly:

5.4.2 concurrent access: a restricted overlapped access sequence in which the user data or protocol control information of a read action may be in the process of transmission at the same time as the user data or protocol control information of a write action.

5.4.3 consecutive access: a restricted overlapped access sequence in which the protocol control information of one access action may be in the process of transmission at the same time as the protocol control information or user data of another access action.

Note - consecutive access is a restricted form of concurrent access.

5.4.9 overlapped access: an access procedure in which protocol control information or user data relating to more than one access action can be in the process of transmission at the same time.

6 Abbreviations

This amendment makes no additions to clause 6.

7 OSI architectural background

This amendment makes no additions to clause 7.