AS/NZS ISO/IEC 14752:2003
ISO/IEC 14752:2000

Australian/New Zealand Standard™

Information technology—Open distributed processing—Protocol support for computational interactions

Standards Australia

STANDARDS NEW ZEALAND
Paerewa Aotearoa

This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee IT-015, Software Engineering. It was approved on behalf of the Council of Standards Australia on 6 May 2003 and on behalf of the Council of Standards New Zealand on 22 April 2003. It was published on 4 June 2003.

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This Standard was issued in draft form for comment as DR 03094.

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First published as AS/NZS ISO/IEC 14752:2003.

Jointly published by Standards Australia International Ltd, GPO Box 5420, Sydney, NSW 2001 and Standards New Zealand, Private Bag 2439, Wellington 6020

ISBN 0 7337 5282 9

PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee IT-015, Software Engineering.

This Standard is identical with, and has been reproduced from ISO/IEC 14752:2000, *Information technology—Open distributed processing—Protocol support for computational interactions*.

The objective of this Standard is to define how interactions between computational objects in a computational specification of a system relate to protocol support for those interactions in an engineering specification of that system.

The terms 'normative' and 'informative' are used to define the application of the annex to which they apply. A normative annex is an integral part of a standard, whereas an informative annex is only for information and guidance.

As this Standard is reproduced from an international standard, the following applies:

(a) Its number appears on the cover and title page while the international standard number appears only on the cover.

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Reference to International Standard		*Australian/New Zealand Standard*	
ISO/IEC		AS/NZS	
14750	Information technology—Open distributed processing—Interface definition language	ISO/IEC 14750	Information technology—Open distributed processing—Interface definition language
14753	Information technology—Open distributed processing—Interface references and binding	ISO/IEC 14753	Information technology—Open distributed processing—Interface references and binding

CONTENTS

Page

AUSTRALIAN/NEW ZEALAND STANDARD

INFORMATION TECHNOLOGY – OPEN DISTRIBUTED PROCESSING – PROTOCOL SUPPORT FOR COMPUTATIONAL INTERACTIONS

1 Scope

This Recommendation | International Standard is based on the framework of abstractions and concepts developed in the Reference Model for Open Distributed Processing (ITU-T Rec. X.902 | ISO/IEC 10746-2 and ITU-T Rec. X.903 | ISO/IEC 10746-3).

This Recommendation | International Standard defines how interactions between computational objects in a computational specification of a system relate to protocol support for those interactions in an engineering specification of that system. In particular it:

- defines a General Interworking Framework (GIF);
- within the GIF, defines a set of facilities each comprising a set of functionally-related service primitives as abstract definitions of the interactions of basic engineering objects and channel objects;
- defines the parameters of the service primitives of the GIF;
- defines the permitted sequence of the service primitives by means of state tables;
- specifies, in annexes, the mapping of the GIF service primitives and their parameters to the messages and fields of particular protocols.

As specified in this Recommendation | International Standard, the GIF defines protocol support for a pragmatic subset of the possible computational interactions defined in ITU-T Rec. X.903 | ISO/IEC 10746-3. It is also restricted in the features of the protocol support and the supported transparencies.

The GIF, as specified here, defines:

- support for computational operations, but not for streams;
- support using stub, binder and protocol objects hierarchically, such that any interaction at the interworking reference point of the supporting protocol object supports liaisons of one of those objects or of the basic engineering object, and any interaction to support those liaisons is passed via that interworking reference point; and
- interactions at a single interworking reference point, from the perspective of one side; interceptors are not explicitly considered;

NOTE 1 – It is intended that the GIF could be extended, in a future amendment, to support streams and flows. The present specification is restricted to areas that are technically stable.

The GIF supports at least some forms of:

- access transparency; and
- location transparency.

The GIF as specified here also supports a limited equivalent of relocation transparency. Other transparencies are not addressed in this present specification.

NOTE 2 – It is intended that the GIF could be extended, in future amendments, to support additional transparencies.

The GIF does not explicitly model Quality of Service requirements.

The application of security-related issues to the GIF are not included in the current text and are for further study.

The set of mappings to particular protocols specified in annexes to this Recommendation | International Standard is not exhaustive. The GIF could be mapped to other protocols.

NOTE 3 – In particular, a mapping to the DCOM protocol family would be a candidate for an additional annex.