INTERNATIONAL STANDARD ISO/IEC 9595:1991
TECHNICAL CORRIGENDUM 4

Published 1995-09-15

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION • МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ • ORGANISATION INTERNATIONALE DE NORMALISATION
INTERNATIONAL ELECTROTECHNICAL COMMISSION • МЕЖДУНАРОДНАЯ ЭЛЕКТРОТЕХНИЧЕСКАЯ КОМИССИЯ • COMMISSION ÉLECTROTECHNIQUE INTERNATIONALE

Information technology — Open Systems Interconnection — Common management information service definition

TECHNICAL CORRIGENDUM 4

Technologies de l'information — Interconnexion de systèmes ouverts — Définition du service commun d'information de gestion

RECTIFICATIF TECHNIQUE 4

Technical corrigendum 4 to International Standard ISO/IEC 9595:1991 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology.*

Page 28

Append the following annex.

UDC 681.3.621.39 **Ref. No. ISO/IEC 9595:1991/Cor.4:1995(E)**

Descriptors: data processing, information interchange, network interconnection, open systems interconnection, application layer, communication procedure, control procedures, management.

Printed in Switzerland

Annex C
(informative)

Preferred implementations

C.1 Introduction

Some interoperability problems have arisen due to different interpretations of the procedures specified in this International Standard and in ISO/IEC 9596-1 : 1991.

The purpose of this annex is to recommend one consistent interpretation and to notify users that these recommendations may become mandatory requirements in the next revisions of CMIS and CMIP.

Recommendations for preferred implementations are presented in C.2. Commentaries, rationale and associated information are provided by subsequent clauses of this annex.

C.2 Recommendations

C.2.1 If the invoking CMISE-service-user requests that a management operation be performed by a single managed object (i.e. the scope of the operation indicates that only the base object is selected and the filter parameter is absent), then the performing CMISE-service-user may optionally return the managed object class and managed object instance parameters in the response.

C.2.2 If the filter parameter is present or the scope of the operation indicates anything other than the base object alone, it is recommended that for each managed object that performs the operation, that the performing CMISE-service-user includes the managed object class and managed object instance parameters in the response.

NOTE – A conformant implementation of ISO/IEC 9596-1 : 1991 (CMIP version 2) may generate a success confirmation that is indicated by the return of the invoke identifier alone, in response to a request to perform a management operation on a single managed object. The invoking CMISE-service-user is forewarned that this confirmation does not guarantee that the managed object performed the operation, if a filter was specified that evaluated to false.

C.2.3 If the invoking CMISE-service-user requests that a management operation be performed by multiple managed objects (i.e. the scope parameter specifies other than the base object alone), then it is recommended that the performing CMISE-service-user generate a result for the final response that only contains the invoke identifier (to indicate the completion of the entire operation). If this is the only response, then the invoking CMISE-service-user shall assume that no managed object was selected by the scope and optional filter parameters.

C.3 Managed object selection and response issues

C.3.1 Selection of a single managed object

When the base object alone is specified, the service definitions in this International Standard indicate that it is not necessary to include the managed object class and managed object instance parameters in the success response. The rationale is that if there is only one managed object requested to perform the operation, then there is no need to repeat its identity in the response. In addition, the M-SET, M-ACTION and M-DELETE services do not mandate that there be a result parameter in the success confirmation.

C.3.1.1 If no filter parameter is specified and the managed object performs the operation as requested, a success confirmation can be indicated by the return of the invoke identifier parameter alone.

C.3.1.2 If a filter parameter is specified and the filter evaluates to TRUE, and the managed object performs the operation as requested, a success confirmation can be indicated by the return of the invoke identifier parameter alone.

C.3.1.3 If a filter parameter is specified and the filter evaluates to FALSE, and hence the managed object does not perform the operation, there are two possible interpretations predicated on the phrase "if the operation cannot be performed, then the performing CMISE-service-user rejects the M-XXX request by issuing an M-XXX response primitive with the appropriate error code".

C.3.1.3.1 The first interpretation is that the operation cannot be performed and the CMISE-service-user rejects the request with the appropriate error code. However, the services defined in this International Standard do not specify a particular error code for this purpose.

C.3.1.3.2 The second interpretation is that no managed object was selected to perform the operation and that a request to do nothing should produce a result that indicates that nothing was done. This interpretation produces a success confirmation indicated by the return of the invoke identifier parameter alone. It is not possible to distinguish between this response and the response generated by C.3.1.2. This is the preferred implementation as recommended by C.2.3.

C.3.2 Selection of multiple managed objects

When a scope parameter that indicates more than the base object alone is specified, the possibility arises that zero, one or more managed objects are selected to perform the operation. The service definitions in this International Standard can be interpretted in different ways, depending on the number of managed objects selected.

C.3.2.1 Zero objects selected

There are two possible interpretations, predicated on the phrase "if the operation cannot be performed, then the performing CMISE-service-user rejects the M-XXX request by issuing an M-XXX response primitive with the appropriate error code".

C.3.2.1.1 The first interpretation is that the operation cannot be performed and the CMISE-service-user rejects the request with the appropriate error code. However, the services defined in this International Standard do not specify a particular error code for this purpose.

C.3.2.1.2 The second interpretation is that no managed object was selected to perform the operation and that a request to do nothing should produce a result that indicates that nothing was done. This interpretation produces a success confirmation indicated by the return of the invoke identifier parameter alone. This is the preferred implementation as recommended by C.2.3.

C.3.2.2 Exactly one object selected

There are two possible interpretations, predicated on the phrase "if only one response is to be generated, then procedures X, Y and Z shall be ignored". Procedures X, Y and Z generate one linked response for each managed object that performed the operation.

C.3.2.2.1 The first interpretation is that a single response that does not contain the linked identifier can be returned. In this case, the response ought to contain the managed object class and managed object instance parameters (though this is not specified) so that the invoking CMISE-service-user is informed of the managed object from the multiple selection that actually performed the operation.

C.3.2.2.2 The second interpretation is that the phrase "if only one response is to be generated" is intended only to apply to the request that specified the base object alone. In this interpretation there would be a response that contains the linked identifier for the managed object that performed the operation, followed by a response that only contains the invoke identifier (to indicate the completion of the entire operation).

C.3.2.3 More than one objects selected

There is a single interpretation in which there is a response that contains the linked identifier for each managed object that performed the operation, followed by a response that only contains the invoke identifier (to indicate the completion of the entire operation).

NOTE — The text in the base standard has been modified by ISO/IEC 9595:1991/Cor.1:1992.

C.3.3 Multiple responses from a single managed object

The M-ACTION service allows multiple responses to be generated from a request to perform an operation on a single managed object. The procedures in this International Standard specify that if more than one response is to be generated, that each response shall contain the linked identifier, the managed object class and managed object instance parameters. In the case of multiple reponses, the final response shall only contain the invoke identifier. These procedures are aligned with the recommendations contained in this annex.