

# ISO/IEC 10164-15:2002-12 (E)

## Information technology - Open systems Interconnection - Systems management: Scheduling function

---

### Contents

Page

Reference number INTERNATIONAL STANDARD 10164-15 Second edition 2002-12-15 Information technology -- Open Systems Interconnection -- Systems management: Scheduling function Technologies de l'information -- Interconnexion de systèmes ouverts (OSI) -- Gestion-systèmes: Fonction de programmation PDF disclaimer This PDF file may contain embedded typefaces. In accordance with Adobe's licensing policy, this file may be printed or viewed but shall not be edited unless the typefaces which are embedded are licensed to and installed on the computer performing the editing. In downloading this file, parties accept therein the responsibility of not infringing Adobe's licensing policy. The ISO Central Secretariat accepts no liability in this area. Adobe is a trademark of Adobe Systems Incorporated. Details of the software products used to create this PDF file can be found in the General Info relative to the file; the PDF-creation parameters were optimized for printing. Every care has been taken to ensure that the file is suitable for use by ISO member bodies. In the unlikely event that a problem relating to it is found, please inform the Central Secretariat at the address given below. electronic or mechanical, including photocopying and microfilm, without permission in writing from either ISO at the address below or ISO's member body in the country of the requester. ISO copyright office Case postale 56 · CH-1211 Geneva 20 Tel. + 41 22 749 01 11 Fax + 41 22 749 09 47 E-mail copyright@iso.org Web www.iso.org Published in Switzerland

|          |   |   |    |
|----------|---|---|----|
| CONTENTS | 1   | Scope   | 1  |
| 2        | Normative references                                    |   | 1  |
| 2.1      | Identical Recommendations                               | International Standards                                 | 1  |
| 2.2      | Paired Recommendations                                  | International Standards equivalent in technical content | 2  |
| 2.3      | Additional references                                   |   | 2  |
| 3        | Definitions   |   | 2  |
| 3.1      | Basic reference model definitions                       |   | 3  |
| 3.2      | Abstract syntax notation one definitions                |   | 3  |
| 3.3      | Management framework definitions                        |   | 3  |
| 3.4      | Common management information service definitions       |   | 3  |
| 3.5      | Systems management overview definitions                 |   | 3  |
| 3.6      | Management information model definitions                |   | 3  |
| 3.7      | Additional definitions                                  |   | 4  |
| 4        | Abbreviations   |   | 4  |
| 5        | Conventions   |   | 4  |
| 6        | Requirements  |   | 4  |
| 7        | Model   |   | 5  |
| 7.1      | Internal scheduling mechanism                           |   | 5  |
| 7.2      | External scheduling mechanism                           |   | 5  |
| 7.3      | Types of scheduling                                     |   | 6  |
| 7.4      | Relationships between SOs and SMOs                      |   | 7  |
| 8        | Generic definitions                                     |   | 8  |
| 8.1      | Management information required for internal scheduling |   | 8  |
| 8.2      | Managed objects   |   | 8  |
| 8.3      | Packages  |   | 13 |
| 8.4      | Properties of SMOs                                      |   | 19 |

|  |   |    |
|--|---|----|
| 8.5  | Compliance .....  | 21 |
| 8.6  | Generic definitions from the object management function .....       | 21 |
| 8.7  | Generic definitions from the state management function .....        | 21 |
| 8.8  | Generic definitions from the event report management function ..... | 21 |
| 8.9  | Generic definitions from the test management function .....         | 21 |
| 8.10   | Generic definitions from the summarization function .....           | 21 |
| 9  | Service definition .....  | 22 |
| 10   | Functional units .....  | 22 |
| 11   | Protocol and abstract syntax .....                                  | 22 |
| 11.1   | Managed objects .....   | 22 |
| 11.2   | Management attributes .....   | 23 |
| 11.3   | Management actions .....  | 23 |
| 11.4   | Management notifications .....                                      | 23 |
| 12   | Relationships with other functions .....                            | 23 |
| 13   | Conformance .....   | 23 |
| 13.1   | Static conformance .....  | 24 |
| 13.2   | Dynamic conformance .....   | 24 |
| 13.3   | Management implementation conformance statement requirements .....  | 24 |
| Annex A - Definition of management information ..... |   | 24 |
| A.1  | Object class definitions .....                                      | 24 |
| A.1.1  | Scheduler object definition .....                                   | 24 |
| A.1.2  | Daily scheduler object definition .....                             | 25 |
| A.1.3  | Weekly scheduler object definition .....                            | 25 |
| A.1.4  | Monthly scheduler object definition .....                           | 25 |
| A.1.5  | Periodic scheduler object definition .....                          | 25 |
| A.1.6  | Daily operation scheduler object definition .....                   | 25 |
| A.1.7  | Weekly operation scheduler object definition .....                  | 25 |
| A.1.8  | Monthly operation scheduler object definition .....                 | 25 |
| A.1.9  | Periodic operation scheduler object definition .....                | 26 |
| A.1.10   | Operation result record object definition .....                     | 26 |
| A.1.11   | multischeduler object definition .....                              | 26 |
| A.1.12   | typeOfDayController .....   | 27 |
| A.2  | Name bindings .....   | 27 |
| A.2.1  | Scheduler name binding .....  | 27 |
| A.2.2  | type of day controller name-binding .....                           | 28 |
| A.3  | Packages .....  | 28 |
| A.3.1  | Multiple daily scheduling package .....                             | 28 |
| A.3.2  | Multiple monthly scheduling package .....                           | 28 |
| A.3.3  | Multiple weekly scheduling package .....                            | 28 |
| A.3.4  | Periodic scheduling package .....                                   | 29 |
| A.3.5  | Resynchronize mode package .....                                    | 29 |
| A.3.6  | Scheduled managed objects package .....                             | 29 |
| A.3.7  | Scheduler object package .....                                      | 29 |
| A.3.8  | Operations scheduling package .....                                 | 29 |
| A.3.9  | Operation notification package .....                                | 29 |
| A.4  | Attributes .....  | 29 |
| A.4.1  | External scheduler name attribute .....                             | 30 |
| A.4.2  | On duty attribute .....   | 30 |
| A.4.3  | Resynchronize mode attribute .....                                  | 30 |
| A.4.4  | Scheduled managed objects attribute .....                           | 30 |
| A.4.5  | Scheduler ID attribute .....  | 31 |
| A.4.6  | scheduling data attribute .....                                     | 31 |
| A.4.7  | Sequence of days attribute .....                                    | 31 |
| A.4.8  | Sequence of months attribute .....                                  | 31 |
| A.4.9  | Sequence of weeks attribute .....                                   | 31 |

|  |   |           |
|--|---|-----------|
| A.4.10   | Time period attribute .....   | 31        |
| A.4.11   | Operation specifications attribute .....  | 31        |
| A.4.12   | Operation result attribute .....  | 32        |
| A.4.13   | type of day controller instance attribute .....   | 32        |
| A.4.14   | type of day controller id attribute .....   | 32        |
| A.4.15   | week day translation list attribute .....   | 32        |
| A.4.16   | Behaviour for current TypeOfDay initial value .....   | 32        |
| A.5  | Notifications .....   | 32        |
| A.5.1  | Operation result notification .....   | 32        |
| A.6  | ASN.1 definitions .....   | 32        |
| <b>Annex B - Exemple of scheduling Data values .....</b> |   | <b>36</b> |
| B.1  | <b>Example 1: Shows several index values use .....</b>  | <b>36</b> |
| B.1.1  | Interval solution .....   | 36        |
| B.1.2  | Trigger solution .....  | 36        |
| B.2  | <b>Example 2: Shows typeOfDay use .....</b>   | <b>37</b> |
| B.2.1  | Interval solution .....   | 37        |
| B.2.2  | Trigger solution .....  | 38        |
| B.3  | <b>Example 3: Shows overlapping intervals, implicit repetition (months periodicity) and mixed scheduler types .....</b> | <b>38</b> |
| <b>Annex C - MCS proforma .....</b>                      |   | <b>40</b> |
| <b>Annex D - PICS proforma .....</b>                     |   | <b>40</b> |
| <b>Annex E - MOCS proforma .....</b>                     |   | <b>40</b> |
| <b>Annex F - MIDS proforma .....</b>                     |   | <b>40</b> |
| <b>Annex G - MRCS proforma .....</b>                     |   | <b>40</b> |