
**Information technology — User
interfaces — Universal remote console —
Part 4:
Target description**

*Technologies de l'information — Interfaces utilisateur — Console à
distance universelle —
Partie 4: Description d'objectifs*

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Contents

Page

Foreword.....	iv
Introduction	v
1 Scope	1
2 Conformance	1
3 Normative references	1
4 Terms and definitions.....	2
5 Relation to other standards	2
5.1 Relation to XML.....	2
5.2 MIME type	3
6 The <target> element.....	3
6.1 General.....	3
6.2 The 'about' attribute	3
6.3 The 'id' attribute	3
6.4 The 'hidden' attribute	4
6.5 The <dcterms:conformsTo> element.....	4
6.6 The <dcterms:modified> element	4
6.7 The <locator> element.....	4
6.8 Target properties from DCMI	6
6.9 The <socket> element	6
6.10 Resource directory	10
6.11 Platform-specific mapping information	10
6.12 Extensions for security and privacy.....	10
Annex A (informative) XML Schema for target description	11
Annex B (informative) Example target description.....	12
Bibliography	14

Foreword

ISO (the International Organization for Standardization) and IEC (the International Electrotechnical Commission) form the specialized system for worldwide standardization. National bodies that are members of ISO or IEC participate in the development of International Standards through technical committees established by the respective organization to deal with particular fields of technical activity. ISO and IEC technical committees collaborate in fields of mutual interest. Other international organizations, governmental and non-governmental, in liaison with ISO and IEC, also take part in the work. In the field of information technology, ISO and IEC have established a joint technical committee, ISO/IEC JTC 1.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of the joint technical committee is to prepare International Standards. Draft International Standards adopted by the joint technical committee are circulated to national bodies for voting. Publication as an International Standard requires approval by at least 75 % of the national bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO and IEC shall not be held responsible for identifying any or all such patent rights.

ISO/IEC 24752-4 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 35, *User interfaces*.

ISO/IEC 24752 consists of the following parts, under the general title *Information technology — User interfaces — Universal remote console*:

- *Part 1: Framework* <https://standards.iteh.ai/catalog/standards/sist/53e2996d-66e1-4685-9b81-573121164740/iso-iec-24752-4-2008>
- *Part 2: User interface socket description*
- *Part 3: Presentation template*
- *Part 4: Target description*
- *Part 5: Resource description*

Introduction

A target is a device or service that can be remotely accessed by a universal remote console (URC). All targets provide exactly one target description (TD) through which they advertise their properties to URCs during the discovery phase of a target-URC interaction. The TD provides the information needed by a URC to connect to one of the target's sockets in order to start a control session. A target has exactly one TD.

Target properties are network-independent characteristics of a target that are made available to any URC in order to inform the user about the target's purpose and location, and to provide references to resources and documents that are needed to control the target via its sockets. The target description is independent of a natural language. URCs need to consult the referenced resources in order to present this information to the user.

A target description (TD) is an extensible markup language (XML) document describing a target so that it can be discovered by a URC. A TD contains references to XML (sub-)documents, pertaining to specific target sockets. These documents are: a user interface socket description (described in ISO/IEC 24752-2), resource directories (described in ISO/IEC 24752-5) and user interface implementation descriptions (UIIDs) including presentation templates (described in ISO/IEC 24752-3).

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Information technology — User interfaces — Universal remote console —

Part 4: Target description

1 Scope

ISO/IEC 24752 is a multi-part International Standard to facilitate operation of information and electronic products through remote and alternative interfaces and intelligent agents.

This part of ISO/IEC 24752 defines an extensible markup language (XML) based language for the description of targets and their sockets, as used within the universal remote console framework for discovery purposes. A document conforming to this language is a *target description*.

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2 Conformance

An XML file conforms to this part of ISO/IEC 24752 (i.e. is a target description) if

- it has the MIME type specified in 5.2, if applicable, and [ISO/IEC 24752-4:2008](https://standards.iteh.ai/catalog/standards/sist/53e2996d-66e1-4685-9b81-573121164740/iso-iec-24752-4-2008)
- its root element is the `<td:target>` element (`td:` representing the namespace `http://myurc.org/ns/targetdesc`) as defined in Clause 6.

An XML file does not conform to this part of ISO/IEC 24752 if it uses any element, attribute or value that is not part of this specification (except for extension points that are explicitly included by this part of ISO/IEC 24752, see 6.7.4 for example).

NOTE 1 Target manufacturers who want to add information to a target description beyond the elements, attributes and values specified in this part of ISO/IEC 24752 can do so by externally providing (proprietary) resource descriptions that point into the structure of a target description. Refer to ISO/IEC 24752-5 for details.

NOTE 2 Future versions of this part of ISO/IEC 24752 may add new elements, attributes and values. Also, future versions may drop the policy of strict language conformance in favor of allowing for language extensions. Therefore, URC manufacturers are encouraged to implement their URCs so that unrecognized markup is ignored without failing.

3 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO/IEC 24752-1, *Information technology — User interfaces — Universal remote console — Part 1: Framework*

ISO/IEC 24752-5, *Information technology — User interfaces — Universal remote console — Part 5: Resource description*

ISO 15836:2003, *Information and documentation — The Dublin Core metadata element set*

DCMI Metadata Terms, 2005-06-13, <http://dublincore.org/documents/2005/06/13/dcmi-terms/>

IETF RFC 2046, Multipurpose Internet Mail Extensions (MIME) Part Two: Media Types, November 1996, <http://www.ietf.org/rfc/rfc2046.txt>

IETF RFC 3986, Uniform Resource Identifier (URI): Generic Syntax, January 2005, <http://www.ietf.org/rfc/rfc3986.txt>

W3C Recommendation: Extensible Markup Language (XML) 1.0 (Third Edition), W3C Recommendation 04 February 2004, <http://www.w3.org/TR/2004/REC-xml-20040204/>

W3C Recommendation: Namespaces in XML, World Wide Web Consortium 14 January 1999, <http://www.w3.org/TR/1999/REC-xml-names-19990114/>

W3C Recommendation: RDF/XML Syntax Specification (Revised), W3C Recommendation 10 February 2004. <http://www.w3.org/TR/2004/REC-rdf-syntax-grammar-20040210/>

W3C Recommendation: XML Schema Part 2: Datatypes, W3C Recommendation 02 May 2001, <http://www.w3.org/TR/2001/REC-xmlschema-2-20010502/>

4 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO/IEC 24752-1 and ISO/IEC 24752-5 apply.

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5 Relation to other standards

ISO/IEC 24752-4:2008

5.1 Relation to XML <https://standards.iteh.ai/catalog/standards/sist/53e2996d-66e1-4685-9b81-573121164740/iso-iec-24752-4-2008>

This specification defines an XML based language. Markup in XML is case sensitive.

Tag names, and attribute names and values are not localizable, i.e. they are identical for all international languages. However, the text content between tags can be language specific. As with all XML based languages, white space characters immediately surrounding tags are non-significant.

This specification makes use of the XML namespaces concept to enable the import of element and attribute names defined elsewhere.

All element and attribute names used in this International Standard with no namespace prefix are defined by this International Standard and are part of the target description namespace with URI reference <http://myurc.org/ns/targetdesc>. It is recommended to use the namespace identifier 'td' for it, if not defined as default namespace.

Throughout this International Standard, the following namespace prefixes and corresponding namespace identifiers are used for referencing foreign namespaces:

- xsd: The XML Schema namespace (<http://www.w3.org/2001/XMLSchema>);
- rdf: The Resource Description Framework namespace (<http://www.w3.org/1999/02/22-rdf-syntax-ns#>);
- dc: The Dublin Core Metadata Element Set V1.1 namespace (<http://purl.org/dc/elements/1.1/>), as specified in ISO 15836:2003;
- dcterms: The DCMI Metadata Terms namespace (<http://purl.org/dc/terms>);

For an XML Schema definition for the target description language see Annex A.

5.2 MIME type

A target description shall have a MIME type of “application/urc-targetdesc+xml”, if applicable (as specified in IETF RFC 2046). This MIME type applies even though the target description contains a resource directory (see 6.10).

6 The <target> element

6.1 General

A target description is an XML document, with a single root element <target>.

EXAMPLE

```
<target
  xmlns:td="http://myurc.org/ns/targetdesc"
  about="http://example.com/thermometer"
  id="target"
  hidden="false" >
  ...
</target>
```

Typically the <target> element has a namespace definition attached to declare the namespace for the target description, which is <http://myurc.org/ns/targetdesc>. It is recommended to use the identifier 'td' for it, if it is not the default namespace.

NOTE There is no label or other natural-language information contained in <target>. <target> is an "anchor" for attaching language-dependent descriptions that are stored as target resources or supplemental resources. Resources (either referenced in the TD or provided by external resource services) pertaining to a <target> element may have the following roles: label, help (with arbitrary help categories), accesskey, keyword, location. Refer to ISO/IEC 24752-5 for details on how to define resources.

A sample target description is provided in Annex B of this International Standard. The following subsections describe the attributes and elements of <target>.

6.2 The 'about' attribute

The 'about' attribute shall be present, and its value is a Uniform Resource Identifier (URI, as specified in IETF RFC 3986).

The 'about' attribute references the target that is being described in the target description. Its value specifies a globally unique identifier (URI) for the target. The URI may or may not be resolvable.

NOTE 1 Target manufacturers are encouraged to make the target descriptions of their products publicly available by posting the target description at the target's name URI.

NOTE 2 The target's URI is provided by the target manufacturer. Typically the same URI is used for a class of identical targets (products), disregarding their specific instance and location.

6.3 The 'id' attribute

The 'id' attribute shall be present, and its value is a string. It shall be unique among all 'id' attributes within the target description.

NOTE 1 The about and 'id' attributes are needed to attach resources to the <target> element.

NOTE 2 An atomic resource with role “<http://myurc.org/ns/res#location>” can be used to provide a location description for a target (see ISO/IEC 24752-5).

6.4 The 'hidden' attribute

The 'hidden' attribute may be present. It has a Boolean value (i.e. either "true" or "false"). The default value is "false".

A value of "true" is a hint to the URC that this target should not be shown to the user. However, it is available to the user if referenced explicitly, for example when another target forwards a URC to the hidden target.

This attribute is motivated by the desire not to overload the user with targets and sockets that they may not need to know about during discovery. Hidden targets are not supposed to be visible to a user, unless the user specifically requests to see them. However, hidden targets can still be accessed by the URC, for example when another socket forwards the URC to the hidden target.

Additionally, during discovery the 'hidden' status of a target may be provided by the underlying network in an implementation-dependent fashion. This is to relieve the URCs so that it is not burdened with retrieving and parsing the TD of a 'hidden' target that it is not interested in.

NOTE The 'hidden' attribute can be specified on target and socket level. The socket inherits the setting from the target. If specified on both levels, the socket's 'hidden' attribute overrides the one of the target.

6.5 The <dcterms:conformsTo> element

The <target> element shall have a subelement <dcterms:conformsTo> that specifies a reference to an established standard to which the target conforms. The value, a URI (as specified in IETF RFC 3986), is provided as element content. The value <http://www.myurc.org/iso24752-4/2007> indicates that the described target conforms to this International Standard.

EXAMPLE <dcterms:conformsTo><http://www.myurc.org/iso24752-4/2007></dcterms:conformsTo>

NOTE 1 The value of the <dcterms:conformsTo> element can be used when testing for conformance of a target description.

NOTE 2 The <dcterms:conformsTo> element is taken from the set of Dublin Core Metadata Terms.

6.6 The <dcterms:modified> element

The <dcterms:modified> element indicates that the TD has been modified from its original version, while still referencing the same target URI, as specified in 6.2. Its content is of type xsd:date or xsd:dateTime.

EXAMPLE <dcterms:modified>2003-12-30</dcterms:modified>

<dcterms:modified> may be present. If present, it shall only occur once.

NOTE The <dcterms:modified> element is taken from the set of Dublin Core Metadata Terms.

A target description should remain stable wherever possible. A TD that is changed shall be assigned a new about URI (see 6.2) or <dcterms:modified> element. If a TD has been modified but retained its about URI (as specified in 6.2), elements that have changed should be assigned a new identifier ('id' attributes).

NOTE 1 This is done to support caching and to facilitate the longevity of target description and supplemental resources.

NOTE 2 A target may change its TD for one URC while having a session with another one if it continues its service to the other URC according to the old TD.

6.7 The <locator> element

6.7.1 General

The <locator> element contains functional location information (interpreted by the URC). The purpose is to let the user activate a function on the target that helps them to locate the target.

EXAMPLE Examples include audio functions such as a beep or bell, visual functions such as a flash, and direction based functions such as an "infrared ping" function.

```
<locator type="audio" id="audio-locator" />
<locator type="visual" id="visual-locator" />
<locator type="other" id="irping-locator" />
```

The <locator> element may occur any number of times.

The meaning of the type value is as follows:

- "audio": Audible locator, i.e. the target emits an audible signal (such as a beep or bell) when invoked from the URC
- "visual": Visual locator, i.e. the target emits a visual signal (such as a flash) when invoked from the URC
- "other": Other means for localizing a target, e.g. IR pulse.

NOTE 1 For type "other", more specific information can be provided through the <extension> subelement (see section 6.7.4).

NOTE 2 There is no natural-language information contained in <locator>. This element is just the "anchor" for attaching language-dependent descriptions that are stored as target resources or supplemental resources.

6.7.2 The 'type' attribute

The 'type' attribute shall be present for every <locator> element. Allowed values are "audio", "visual" and "other".

6.7.3 The 'id' attribute

The 'id' attribute shall be present and shall be unique among all 'id' attributes within the target description. It is used to attach resources to the <locator> element, and to identify the specific locator function when invoked on the target by a URC.

6.7.4 Platform-specific mapping information

The <mapping> element may be used any number of times inside a <locator> element to include platform-specific mapping information.

A <mapping> element shall have a 'platform' attribute whose value is not restricted by this International Standard.

A <mapping> element may have arbitrary element content and subelements. However, subelements shall be from namespaces other than the td namespace.

NOTE Target descriptions that contain platform specific mapping information lose their platform neutrality. Although multiple mappings may be specified in a target description (one for each platform) it is recommended to consider other mechanisms of specifying the binding to platform-specific technologies. For example, mapping information may be provided in an external file with references to the elements of the target description.

6.7.5 The <extension> element

The <extension> element is a container for vendor-specific extension elements from any namespace other than the td namespace. This International Standard does not define the processing of this element.

<extension> may occur any number of times.

NOTE By restricting vendor-specific extensions to specified elements, target descriptions can be strictly validated against an XML Schema Definition (see **Error! Reference source not found.**).