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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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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*

— *Part 2: User interface socket description*

— *Part 3: Presentation template*

— *Part 4: Target description*

— *Part 5: Resource description*

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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*.

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
- 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*

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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.

5 Relation to other standards

5.1 Relation to XML

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.

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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).

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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://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.

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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.**).

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6.8 Target properties from DCMI

Any element and element refinement from the set of Dublin Core Metadata Initiative (DCMI) Metadata Terms may be used to describe a target, if appropriate (as specified in ISO 15836:2003). Each of them may occur multiple times within a <target> element. In particular, the following DCMI terms may be applied to a target:

- <dc:identifier> specifying the product code (or instance code) of the target
- <dc:creator> specifying the manufacturer of the target
- <dc:publisher> specifying the provider of the target
- <dc:contributor> specifying co-manufacturers of the target

It is recommended to use the 'xsi:type' attribute to identify the coding schema, if appropriate.

EXAMPLE An identifier according to a specific identification schema:
<dc:identifier xsi:type="myComp:companyCode">0123456</dc:identifier>

6.9 The <socket> element

6.9.1 General

The <socket> element specifies a socket of the target. A socket provides access to a functional unit of a target that is distinct from other sockets of the same target, regarding its function. Examples include a telephone-fax combination as target, consisting of a phone and a fax as separate sockets. Refer to ISO/IEC 24752-1 for the specification of a socket.

In general, a socket inherits a target's properties. If specified both on target and socket levels, the socket property overrides the target's property.

The <socket> element contains the information that is needed for a URC to understand a socket's purpose, and to open a session with the socket.

EXAMPLE
```
<socket id="socket"
    name="http://example.com/ATM-2003/socket"
    type="location-dependent"
    hidden="false">
    <socketDescriptionLocalAt>socket/socketdescription.xml</socketDescriptionLocalAt>
    <category taxonomyName="http://www.unspsc.org">48.11.14.01.00</category>
    <!-- any DC term may be added here ---></socket>
```
At least one <socket> element is required within <target>. <socket> may occur multiple times.

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

6.9.2 The 'id' attribute

The 'id' attribute shall be present. Its value is a string that shall be unique among all 'id' attributes within the target description.

NOTE This is necessary to specify resources for the <socket> element.

6.9.3 The 'name' attribute

The 'name' attribute shall be present. It specifies a URI (see IETF RFC 3986) that identifies the socket globally. The URI shall not contain a fragment identifier.

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The URI may or may not be resolvable. It is recommended to derive this URI from the target's URI by concatenation, e.g. http://example.com/target/socket if the target's URI is http://example.com/target.

NOTE The name of a socket is an important global identifier and is used to specify the binding of resources that are provided in separate files. The same URI should be the used in the corresponding socket description ('about' attribute of <uiSocket> element). Refer to ISO/IEC 24752-2 for details on the socket description.

6.9.4 The 'type' attribute

The 'type' attribute may be present. If present, it shall only occur once. Allowed values are "location-dependent" (default), "location-informative", and "location-free".

Location-dependent sockets have a defined location, and require the user to be close to the target and its socket.

EXAMPLE 1 An ATM is location-dependent.

Location-informative sockets have a defined location, but can be controlled from anywhere.

EXAMPLE 2 A home security system is location-informative.

Location-free sockets have no meaningful location, i.e. they exist in a virtual space.

EXAMPLE 3 A currency rate information socket is location-free.

6.9.5 The 'hidden' attribute

The 'hidden' attribute may be present. It specifies whether a socket is intended to be shown to a URC's user when discovered by the URC. The default value is "false".

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

The syntax and meaning of the 'hidden' attribute for a socket is the same as when applied to the <target> element (see 6.4).

The 'hidden' attribute may 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.

6.9.6 The 'maxSessions' attribute

The 'maxSessions' attribute may be present. It provides a hint to the URC as to how many sessions the target socket can maintain simultaneously. This number is just a hint by the target according to its best knowledge prior to runtime, and the actual behavior may vary.

The value of 'maxSessions' shall be an integer equal to or greater than "1". There is no default value for 'maxSessions'. If the 'maxSessions' attribute is not present, no information about the maximum number of sessions is available.

NOTE The 'maxSessions' attribute can let a URC make informed guesses ahead of time that can help to increase usability and avoid unnecessary network traffic. For example, if maxSessions="1" and the URC has already a session open with the socket, an additional open session request will probably fail.

6.9.7 The 'sharedSessions' attribute

The 'sharedSessions' attribute may be present. It provides a hint to the URC as to whether multiple sessions with the same target socket will be shared or not. In a shared session, the values of the socket elements will be common to all sessions of this socket. Note that this is just a hint by the target according to its best knowledge prior to runtime, and the actual behavior may vary.

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The value of ‘sharedSessions’ shall be a Boolean, i.e. “true” or “false”. “true” means that the sessions are supposed to be shared. There is no default value for ‘sharedSessions’. If the ‘sharedSessions’ attribute is not present, no information about the sharing of sessions is available.

NOTE The ‘sharedSessions’ attribute can let a URC make informed guesses ahead of time that can help to increase usability and decrease network traffic.

6.9.8 The ‘requestable’ attribute

The ‘requestable’ attribute may be present. It provides a hint to the URC as to whether it can request to open a session with the target socket directly, or only after a Session Forward request initiated by the target (see ISO/IEC 24752-1).

The value of ‘requestable’ shall be a Boolean, i.e. “true” or “false”. The value “true” means that the URC can request to open a session directly. “false” means that a URC can only open a session if the target has initiated a Session Forward request to this socket. The default value is “true”.

NOTE 1 Sockets that can be directly opened and forwarded to should be assigned a ‘requestable’ value of “true”.

NOTE 2 The ‘requestable’ attribute can help to make URCs more usable by hiding sockets from users that are note directly requestable.

6.9.9 The <socketDescriptionLocalAt> element

The <socketDescriptionLocalAt> element specifies a URI (see IETF RFC 3986) as element content that can be used to retrieve the socket description document for the socket. The URI shall be local to the target-URC network. Typically this URI is relative, in which case it is based on the URI of the target description (or based on a base URI provided by the target in some platform-specific way).

The <socketDescriptionLocalAt> element shall be present exactly once.

EXAMPLE <socketDescriptionLocalAt>socket/socketdescription.xml</socketDescriptionLocalAt>
NOTE A URC may request a socket description before it opens a session with the pertinent socket, for example to check whether the socket offers the desired functionality. Refer to ISO/IEC 24752-1 for details of session management.

6.9.10 The <category> element

6.9.10.1 General

<category> may occur any number of times. It specifies a target category as text content. A classification schema may be specified by the ‘taxonomyName’ attribute (see 6.9.10.2).

EXAMPLE <category taxonomyName="uriOfATaxonomy">code</category>
The <category> element can be repeated with different values. This is useful if the classification schema allows for multiple values, or if multiple classification schemas are employed.

NOTE <category> is not intended for specifying free keywords for a target's socket. Use a keyword resource for language-dependent free keywords, refer to ISO/IEC 24752-5.

6.9.10.2 The ‘taxonomyName’ attribute

The ‘taxonomyName’ attribute should be present. It specifies a URI (see IETF RFC 3986) that indicates the content type that is used for the text content of the <category> element. For example, when using the UNSPSC classification schema, the value http://www.unspsc.org can be used.

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6.9.11 The <constraints> element

<constraints> may occur any number of times as a subelement of <socket>. It may contain (as subelements) preconditions on the use of the socket, for example constraints on the user's location in order to let the user control the target.

NOTE The <constraints> element is defined as a placeholder in this International Standard, so that subsequent versions of this International Standard or target vendors can add subelements to <constraints>, possibly by using vocabularies from other standards.

6.9.12 Socket properties from DCMI

Additionally any element and element refinement from the set of Dublin Core Metadata Initiative (DCMI) Metadata Terms may be used to describe a socket, if appropriate (see ISO 15836:2003). Each of them may occur multiple times within a <socket> element. In particular, the following DCMI terms may be applied to a socket.

- <dc:creator> specifying the manufacturer of the socket
- <dc:publisher> specifying the provider of the socket
- <dc:contributor> specifying a co-manufacturer of the socket
- <dcterms:hasVersion> specifying the name of an alternate socket for accessing the same or similar functionality
- <dcterms:isVersionOf> specifying the name of the primary socket among a set of alternate sockets for accessing the same or similar functionality

It is recommended to use the 'xsi:type' attribute to identify the coding schema, if appropriate.

In general, a socket inherits a target's properties. If specified both on target and socket level, the socket property overwrites the target's property.

6.9.13 Platform-specific mapping information

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

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.

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6.10 Resource directory

A target description shall contain exactly one resource directory, as defined by ISO/IEC 24752-5.

EXAMPLE

```
<rdf:RDF
    xmlns:rdf="http://www.w3.org/1999/02/22-rdf-syntax-ns#"
    xmlns="http://myurc.org/ns/res#">
        <ResDir>
        <!-- Content of the root resource directory here -->

        …
    </ResDir>
```

A resource directory references the documents and resources that are available from the target and that are related to the discovery and control of the target. The resource directory may contain references to subdirectories of resources (in the form of lower-level resource directories) on the target, to resource sheets on the target, to user interface implementation descriptions (UIIDs) on the target, and to external resource services.

Error! Reference source not found. provides a sample target description with a complete resource directory, contained in the <rdf:RDF> element of the TD.

6.11 Platform-specific mapping information

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

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.

6.12 Extensions for security and privacy

For applications and environments where security and privacy mechanisms are implemented above the level of transport security, additional elements in the TD may be introduced for specific networking platforms and environments. For example, new subelements of <target> or <socket> may be specified in networking specific guidelines. However, these extensions should be kept as minimal as possible, to minimize the platform-dependence of the TD.

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Annex A
(informative)

XML Schema for target description

An XML Schema Definition for presentation templates is available at http://myurc.org/ns/targetdesc.

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Annex B
(informative)

Example target description

The following XML code is a sample target description for a digital thermometer. It contains a description of the thermometer's locator functions, and its single socket. The second part (provided in RDF) contains a reference to a resource sheet, a description of a presentation template, a reference to a resource service and a reference to a resource directory (a file that serves as a subdirectory for atomic resource descriptions).

```
<?xml version="1.0" encoding="UTF-8"?>
<!-- Note: This document should be served with a MIME type of “application/urc-targetdesc+xml”, if applicable -->

<target
      about="http://example.com/thermometer"
      id="target"
      hidden="false"
      xmlns="http://myurc.org/ns/targetdesc"
      xmlns:ext="http://example.com/ext"
      xmlns:dc="http://purl.org/dc/elements/1.1/"
      xmlns:dcterms="http://purl.org/dc/terms/"
      xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
      xsi:schemaLocation="http://myurc.org/ns/targetdesc http://myurc.org/ns/targetdesc
            http://purl.org/dc/elements/1.1/ http://dublincore.org/schemas/xmls/qdc/2006/01/06/dc.xsd
            http://purl.org/dc/terms/ http://dublincore.org/schemas/xmls/qdc/2006/01/06/dcterms.xsd">

      <dcterms:conformsTo>http://myurc.org/iso24752-4/2007</dcterms:conformsTo>
      <dc:creator>Trace R&amp;amp;D Center</dc:creator>
      <dc:title xml:lang="en">Target description for a digital thermometer</dc:title>
      <dcterms:modified>2006-04-10</dcterms:modified>

      <locator type="audio" id="audio-locator"/>
      <locator type="visual" id="visual-locator"/>
      <locator type="other" id="irPing">
            <extension>
                  <!-- The  content of <extension> is not specified by this standard -->
                  <ext:IRPing type="ext:basicIR"/>
            </extension>
      </locator>

      <socket id="socket" name="http://example.com/thermometer/socket">
            <socketDescriptionLocalAt>socket/socketdescription.xml</socketDescriptionLocalAt>
            <category taxonomyName="http://www.unspsc.org">41.11.22.00</category>
      </socket>

      <rdf:RDF xmlns:rdf="http://www.w3.org/1999/02/22-rdf-syntax-ns#" xmlns:res="http://myurc.org/ns/res#">
            <!--Description of the root resource directory-->
            <res:ResDir>
                  <res:dirItems rdf:parseType="Collection">
                        <!-- Reference to resource sheet with English text labels for socket. -->
                        <res:ResSheet rdf:about="http://example.com/thermometer/rsheet-en.rdf">
                              <res:forLang>en</res:forLang>
                              <dcterms:conformsTo>http://myurc.org/iso24752-5/2007</dcterms:conformsTo>
                              <res:localAt>rsheet-en.rdf</res:localAt>
                              <dc:type>Text</dc:type>
                              <res:aResDescForDomain rdf:resource="http://example.com/thermometer/socket"/>
                              <res:groupingForDomain rdf:resource="http://example.com/thermometer/socket"/>
                        </res:ResSheet>
                        <!-- Description of a UIID that is a presentation template for the digital thermometer. -->
                        <res:UiidDesc rdf:about="http://example.com/thermometer/pret.xml">
                              <dcterms:conformsTo>http://myurc.org/iso24752-5/2007</dcterms:conformsTo>
```


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```
                        <res:forSocket rdf:resource="http://example.com/thermometer/socket"/>
                        <res:localAt>pret.xml</res:localAt>
                        <dc:publisher>MyCorp, Inc.</dc:publisher>
                    </res:UiidDesc>
                    <!-- Description of a resource service that provides text labels for the thermometer's socket. -->
                    <res:ResSvcDesc rdf:about="http://myurc.org/resservice.wsdl">
                        <res:forLang>en</res:forLang>
                        <res:aResDescForDomain rdf:resource="http://example.com/thermometer/socket"/>
                        <dc:type>Text</dc:type>
                        <res:role rdf:resource="http://myurc.org/ns/res#label"/>
                    </res:ResSvcDesc>
                    <!-- Reference to another resource directory with references to resource sheets that contains labels, help texts, access keys, and keywords for the socket in different languages.  Also it contains a grouping for the socket. -->
                    <res:ResDir>
                        <res:forLang/>
                        <res:localAt>resdir-misc.rdf</res:localAt>
                        <res:aResDescForDomain rdf:resource="http://example.com/thermometer/socket"/>
                        <res:groupingForDomain rdf:resource="http://example.com/thermometer/socket"/>
                    </res:ResDir>
                </res:dirItems>
            </res:ResDir>
        </rdf:RDF>
</target>
```

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Bibliography

[1] ISO/IEC 24752-2, *Information technology — User interfaces — Universal remote console — Part 2: User interface socket description*

[2] ISO/IEC 24752-3, *Information technology — User interfaces — Universal remote console — Part 3: Presentation template*

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