

CYBER-IDENTITY UNIVERSE[®] unique identification and verification service

CYBER-IDENTITY UNIVERSE[®] UNique Identification and VERrification Service Compliance with ISO/TS 15000 standard for an e-business framework (Technical paper)

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Summary

The standard ISO 6523-1&2 "Structure for the identification of organizations and organization parts" specifies identifiers of organizations and parts of organizations to become world-wide unique. Such identifiers are used in data elements: "PartyId"-element, "PartyRef"-element, "ExternalLink"-element, "ExternalIdentifier"-element comply with the ebXML standards:

- ISO 15000-1: ebXML Collaborative Partner Profile Agreement
- ISO 15000-2: ebXML Messaging Service Specification
- ISO 15000-3: ebXML Registry Information Model
- ISO 15000-4: ebXML Registry Services Specification

Scope:

Identification of business partners in commercial transactions and of citizens in public administration has always been a critical issue. In most countries registers of citizens, of businesses and their managers exist as public or private services. Most of these registries are very reliable. They contain information which can be linked to electronic identification-systems. But they are domain specific and cannot easily be scaled to work in a global context. By participating in a **CYBER-IDENTITY UNIVERSE[®]** these traditional registration organizations can generate added value for themselves and for the Cyber world. Most importantly, a **CYBER-IDENTITY UNIVERSE[®]** provides a mechanism for global mapping of cyber identities leveraging on what already exists at the operational level. Today, traditional and new registries are databases with identifiers as primary or secondary retrieval keys for their entries (businesses or other entities). These identifiers have a syntax specific to such a registry (code issuing organization). In order to support a world-wide unique identification no such organizations wants to give up its code issuing scheme for some new scheme. Therefore, only a meta-registration scheme by which such existing code schemes are registered will provide a world-wide unique identification of businesses and entities thereof. A **UNIVERSE[®]** is such a system.

Current situation:

A **UNIVERSE[®]** providing verification of identifiers based on such registers can be used straightforward in any electronic document (word, PDF or e-mail). Today, such registers provide human readable interfaces using html. Soon they will offer html and xml interfaces concurrently.

Federation: The [Ticino Chamber of Commerce and Industry \(CCIA-TI\)](#) has implemented a **UNIVERSE[®]** according to the specification of the Cyber-Identity association. Thus, *CCIA-TI* is a **federated member** being entitled to use the registered brand name **CYBER-IDENTITY UNIVERSE[®]** for its service. *CCIA-TI* is a placeholder for any organization acting as Trusted Third Party.

Implementation: Basically, making an identifier verifiable online consists of two steps:

1. The identifier is prefixed by a meta-identifier, a so called International Code Designator (ICD) value according to ISO-6523. Thus the identifier is world-wide unique. ICD values are assigned by the British Standards Institution (BSI).
Example: The identifier 01501279 of "Fleuriot Fleurs" with the prefix 0085 (Swiss Chambers) results in 0085.01501279.
2. This result is transformed into an Internet address, a Uniform Resource Identifier (URI).
Example: 0085.01501279 results in the URI
<http://universe.ccciati.ch/urn/?urn=urn:iso6523:0085:01501279>. The first part of the URI "universe.cvci.ch" is the address of the **CYBER-IDENTITY UNIVERSE[®]** which vouches for the registered register.

For more information see <http://www.cyber-identity.com>.

Please note:

- The very first user can benefit from the system to make himself verifiable on the Internet. No critical mass is required.
- The **CYBER-IDENTITY UNIVERSE[®]** only provides information as the basis for authentication. The recipient, i.e. the verifier of the sender's hyperlinked identifier has to make use of this information.
- The provided information is publicly available data at the site of the register provider.
- The prerequisite to participate in a **CYBER-IDENTITY UNIVERSE[®]** is the availability of an online register with free access to some basic information.
- For authentication an appropriate interface, e.g. an e-mail address should be provided for the register entry. Such an address has to be verified by the registration authority.
- Today, a **CYBER-IDENTITY UNIVERSE[®]** can be used to manually verify unique identifiers which are contained in an electronic document. This is done by looking up such a universe-identifier in a browser which shows the appropriate information in the HTML-format.
- Tomorrow a **UNIVERSE[®]** can be used for automatic processing, i.e. for applications requesting XML-documents. This can be done in the context of web-services, UDDI, ebXML or other eCommerce applications.

Specific Examples:

Code Sample 1:

```
<eb:PartyId>  
    http://universe.cciati.ch/urn/?urn=urn:iso6523:0060:170294610  
</eb:PartyId>
```

Code Sample 1 shows a "PartyId"-element which is used to identify an ebXML Party. The ID in the example is the world-wide unique identifier for the organization "OASIS OPEN" in the DUNS register. "PartyId" is a required element in ebXML MSG (Message Service Specification) as well as in ebXML CPPA (Collaboration-Protocol Profile and Agreement Specification).

Code Sample 2:

```
<tp:PartyRef xlink:type="simple" xlink:href=  
    "http://universe.cciati.ch/urn/?urn=urn:iso6523:0085:02500328" />  
<tp:PartyRef xlink:type="simple" xlink:href=  
    "http://universe.cciati.ch/urn/?urn=urn:iso6523:0169:CH-550-0174556-3" />  
<tp:PartyRef xlink:type="simple" xlink:href=  
    "http://universe.cciati.ch/urn/?urn=urn:iso6523:0166:326489" />  
<tp:PartyRef xlink:type="simple" xlink:href=  
    "http://universe.cciati.ch/urn/?urn=urn:iso6523:0060:480367507" />
```

Code Sample 2 shows several "PartyRef"-elements for the small company "Reuge SA" which produces and sells musical boxes.

"PartyRef" is defined in ebXML CPPA and has the purpose to link to any kind of information about the ebXML Party which may be of interest for a trading partner. **Using UNIVERSE[®] -identifiers in this element assures that this information is provided by a recognized register approved by CCIA-TI.**

Code Sample 3:

```
<rim:ExternalLink
  externalURI=
    "http://universe.cciati.ch/urn/?urn=urn:iso6523:0002:429143050"
  id="urn:uuid:...">
  <rim:Name>
    <rim:LocalizedString value="CHATEAU PETRUS" />
  </rim:Name>
  ...
</rim:ExternalLink>
```

Code Sample 3 shows an “ExternalLink”-element which is defined in the ebXML registry specifications. In this example it designates a link to verified register information about the winegrowing company “CHATEAU PETRUS”. Please note that an organization does not have to manage its own website when using a **UNIVERSE**[®]-identifier as “ExternalLink”. The information is also provided by a trustworthy registration authority.

Code Sample 4:

```
<rim:ExternalIdentifier id="urn:uuid:..." identificationScheme="URI"
  value=
    "http://universe.cciati.ch/urn/?urn=urn:iso6523:0002:429143050" >
  ...
</rim:ExternalIdentifier>
```

The same organization with the attribute “ExternalLink” can also be uniquely identified in an ebXML registry transaction by a universe-identifier as value in the “ExternalIdentifier”-element.

Outlook:

So far, all examples were using URLs pointing to organization entries in directories of recognized Issuing Organizations which provide a directory with an HTML-interface. This is straightforward and reflects the current situation of directories providing only human readable information about organizations.

In future scenarios **UNIVERSE**[®]-identifiers are extended to the application of any kind of objects connected to an organization:

Products (e.g. with the GS1 Global Trade Item Number), employees (e.g. within the attribute “url” in a registry object “Person”) and also documents.

A **CYBER-IDENTITY UNIVERSE**[®] can be used as a “URN resolver”:

When a URN (Uniform Resource Name) is applied to identify an organization, e.g. in an ebXML service message, no information can be retrieved directly about this organization. If the **UNIVERSE**[®] is configured as the resolver of URNs such as “urn:icd:0060:123456789” or “urn:duns:123456789” online information about a business partner is available.

Above we have discussed the usage of **UNIVERSE**[®]-identifiers contained in ebXML documents. Meanwhile, it is foreseeable that the directories participating in a **CYBER-IDENTITY UNIVERSE**[®] will, additional to the HTML interface, provide an XML interface. Probably, this will be ebXML.