



EIDR AND THE DOI PROXY

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Background

Resolving an ID is a fundamental part of any DOI system. EIDR supports several resolution types, all of which are available through the DOI proxy using either query parameters or content negotiation:

Content Records (10.5240 prefix)

| API Resolution Type | Schema type used |
|----------------------|--|
| Full | eidr:fullObjectInfoType |
| Simple | eidr:simpleDataInfoType |
| SelfDefined | eidr:allSelfDefinedInfoType |
| Provenance | eidr:provenanceInfoType |
| DOI Kernel | doi:kernelMetadata with a doi:referentCreation element |
| Alternate IDs | eidr:alternateIDsType |
| Linked Alternate IDs | eidr:linkedAlternateIDsType |

Party Records (10.5237 prefix)

| API Resolution Type | Schema type used |
|---------------------|------------------|
|---------------------|------------------|

| | |
|------------|---|
| Full | eidr:partyResolutionType |
| DOI Kernel | doi:kernelMetadata with a doi:referentParty element |

Video Service Records (10.5239 prefix)

| API Resolution Type | Schema type used |
|---------------------|---|
| Full | eidr:serviceResolutionType |
| DOI Kernel | doi:kernelMetadata with a doi:referentParty element |

Proxy resolutions follow alias chains, and behave like the `Resolve()` call with `followAlias` set to true. See the *EIDR Registry Programmer's Guide* for information on special cases for deleted objects, over-nested aliases, etc.

The DOI proxy supports both parameterized resolution and content negotiation via an Accept Header. If the HTTP request to the proxy contains both a resolution parameter and an Accept header, the resolution parameter is honored rather than the Accept header. This allows browser-based viewing of XML records.

If there is no Accept header and no resolution parameter, the Proxy returns Full metadata for the underlying object.

Parameterized Resolution

This uses the standard Handle System `locatt` mechanism¹. Resolutions take the following forms:

`https://doi.org/<Handle Prefix>/<Handle Suffix>`

`https://doi.org/<Handle Prefix>/<Handle Suffix>?locatt=type:Type`

where *Type* is as follows (*None* means a query string is not provided):

| DOI Prefix | Type | XML Schema type used |
|----------------------|-----------|--|
| Party Records | | |
| 10.5237 | None | If the request has no Accept headers, or has "Accept: */*" and is not from a browser, or has an Accept header without any types handled by content negotiation, returns eidr:partyResolutionType |
| 10.5237 | Full | eidr:partyResolutionType |
| 10.5237 | DOIKernel | doi:kernelMetadata with a doi:referentParty |

¹ See http://www.handle.net/tech_manual/Handle_Technical_Manual.pdf and http://www.handle.net/overviews/handle_type_10320_loc.html

| | | |
|------------------------------|--------------------|--|
| | | element |
| Video Service Records | | |
| 10.5239 | None | If the request has no Accept headers, or has "Accept: */*" and is not from a browser, or has an Accept header without any types handled by content negotiation, returns eidr:serviceResolutionType |
| 10.5239 | Full | eidr:serviceResolutionType |
| 10/5239 | DOIKernel | doi:kernelMetadata with a doi:referentParty element |
| Content Records | | |
| 10.5240 | None | If the request has no Accept headers, or has "Accept: */*" and is not from a browser, or has an Accept header without any types handled by content negotiation, returns eidr:fullObjectInfoType |
| 10.5240 | Full | eidr:fullObjectInfoType |
| 10.5240 | Simple | eidr:simpleDataInfoType |
| 10.5240 | SelfDefined | eidr:allSelfDefinedInfoType |
| 10.5240 | AlternateIDs | eidr:alternateIDsType |
| 10.5240 | DOIKernel | doi:kernelMetadata |
| 10.5240 | Provenance | eidr:provenanceInfoType |
| 10.5240 | LinkedAlternateIDs | eidr:linkedAlternateIDsType |

Content Negotiation

Content Negotiation allows a user to request a particular representation of a web resource, specified as one or more MIME types.² EIDR recognizes several MIME types for each prefix.

| DOI Prefix | MIME Type | Return value |
|----------------------|--|---|
| Party Records | | |
| 10.5237 | None | EIDR UI web page for the Party if request comes from a browser; XML as eidr:partyResolutionType otherwise |
| 10.5237 | application/vnd.eidr.full+xml application/vnd.eidr.full | XML as eidr:partyResolutionType |
| 10.5237 | application/vnd.doi.kernel+xml application/vnd.doi.kernel | XML as doi:kernelMetadata with a doi:referentParty element |
| 10.5237 | text/html | EIDR UI web page for the Party |
| 10.5237 | text/xml application/xml | XML as eidr:partyResolutionType |

² See http://en.wikipedia.org/wiki/Content_negotiation for a useful overview, <http://www.w3.org/Protocols/rfc2616/rfc2616-sec12.html> for the spec, https://developer.mozilla.org/en-US/docs/Web/HTTP/Content_negotiation for its use with HTML browsers, and <http://www.crosscite.org/cn/> for its use by other DOI Registration Agencies.

| Video Service Records | | |
|------------------------------|--|---|
| 10.5239 | None | EIDR UI web page for the Video Service if request comes from a browser; XML as eidr:serviceResolutionType otherwise |
| 10.5239 | application/vnd.eidr.full+xml application/vnd.eidr.full | XML as eidr:serviceResolutionType |
| 10/5239 | application/vnd.doi.kernel+xml application/vnd.doi.kernel | XML as doi:kernelMetadata with a doi:referentParty element |
| 10.5237 | text/html | EIDR UI web page for the Video Service |
| 10.5237 | text/xml application/xml | XML as eidr:serviceResolutionType |
| Content Records | | |
| 10.5240 | None | EIDR UI web page for the Content Record if the request comes from a browser; XML as eidr:fullObjectInfoType |
| 10.5240 | application/vnd.eidr.full+xml application/vnd.eidr.full | XML as eidr:fullObjectInfoType |
| 10.5240 | application/vnd.eidr.simple+xml application/vnd.eidr.simple | XML as eidr:simpleDataInfoType |
| 10.5240 | application/vnd.eidr.selfdefined+xml application/vnd.eidr.selfdefined | XML as eidr:allSelfDefinedInfoType |
| 10.5240 | application/vnd.eidr.provenance+xml application/vnd.eidr.provenance | XML as eidr:provenanceInfoType |
| 10.5240 | application/vnd.doi.kernel+xml application/vnd.doi.kernel | XML as doi:kernelMetadata |
| 10.5240 | application/vnd.eidr.alternateids+xml application/vnd.eidr.alternateids | XML as eidr:alternateIDsType |
| 10.5240 | application/vnd.eidr.linkedalternateids+xml application/vnd.eidr.linkedalternateids | XML as eidr:linkedAlternateIDsType |
| 10.5240 | text/html application/xhtml+xml | EIDR UI web page for the Content Record |
| 10.5240 | text/xml application/xml | XML as eidr:fullObjectInfoType |

Notes:

- EIDR XML is always UTF-8.
- An Accept header value of */* is a special case. If the request comes from a browser it returns the UI page for the requested ID; otherwise, it returns Full metadata for the ID.
- The EIDR Registry does not support application/xhtml+xml, and returns text/html

Browser Considerations

All browsers send an `Accept` header, but the headers are not standardized³. If you want to see a specific format in a browser, you must use the `?locatt=type:` mechanism. The Proxy will return the UI page if:

- It gets `"Accept: */*"` from a browser.
- It gets `"Accept: text/html"` or `"Accept: application/xhtml+xml"` whether or not the source is a browser

Examples

The DOI Proxy accepts EIDR IDs in their canonical form and in URN form⁴.

Canonical form:

- To get EIDR Full XML from curl, use `curl -L https://doi.org/10.5240/E5C6-A6EA-403E-5D80-8BBF-G`
- To get EIDR DOI Kernel XML from curl, use `curl -L-H "Accept: application/vnd.doi.kernel" https://doi.org/10.5240/E5C6-A6EA-403E-5D80-8BBF-G`⁵
- To get the EIDR UI for an EIDR ID in a browser, use <https://doi.org/10.5240/E5C6-A6EA-403E-5D80-8BBF-G>
- To get EIDR Full XML in a browser, use <https://doi.org/10.5240/E5C6-A6EA-403E-5D80-8BBF-G?locatt=type:Full> -- if you do not include the parameter, the Proxy will behave based on the browser's `Accept:` header
- To get EIDR Kernel XML in a browser, use <https://doi.org/10.5240/E5C6-A6EA-403E-5D80-8BBF-G?locatt=type:DOIKernel>

URN:

You can substitute a URN form of the EIDR ID in all the above examples such as:

- To get the EIDR UI in a browser for an EIDR ID in URN form, use <https://doi.org/urn:eidr:10.5240:E5C6-A6EA-403E-5D80-8BBF-G>
- To get EIDR Full XML in a browser with the EIDR ID in URN form, use <https://doi.org/urn:eidr:10.5240:E5C6-A6EA-403E-5D80-8BBF-G?locatt=type:Full>

³ See https://developer.mozilla.org/en-US/docs/Web/HTTP/Content_negotiation for a useful summary of User Agents and their `Accept` headers, and <http://blogs.msdn.com/b/ieinternals/archive/2009/07/01/ie-and-the-accept-header.aspx> for a discussion of Internet Explorer's behavior.

⁴ The DOI Proxy also accepts the non-standard "urn:doi:10.5240:..." See *EIDR ID Formats* for details.

⁵ Or `"Accept: application/vnd.doi.kernel+xml"`

Futures

There is a short list of other types under consideration. If you have a need for any of these or suggestions for other formats and types, please send mail to support@eidr.org

Syntactic types:

- Various flavors of RDF (XML, JSON)
- JSON for the existing types

Data/semantic types:

- EN 15907
- EBUCore
- EN 15744