



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

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 behaves 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,

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

		returns eidr:partyResolutionType
10.5237	Full	eidr:partyResolutionType
10.5237	DOIKernel	doi:kernelMetadata with a doi:referentParty 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

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
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	XML as eidr:serviceResolutionType

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.

	application/vnd.eidr.full	
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	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.

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.

- 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>

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

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"

Data/semantic types:

- EN 15907
- EBUCore
- EN 15744