

Supplement XXX:

DICOMWEB SUPPORT FOR RETRIEVE VIA APPLICATION/ZIP

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Introduction / Scope

- Add “application/zip” as an option in the DICOMweb WADO-RS specification, to retrieve an entire DICOM study or series as a single file
- Specific use case to extend Part 18 is that researchers in analytics / machine learning users of DICOMweb want to retrieve studies / series / collections of images.
 - DICOMweb currently provides a means to retrieve an entire study or an entire series using a “multipart/related” content type; but this requires special non-browser implementations to retrieve the content (multipart/related is not supported by any browsers; it would require special programmatic interventions); and it provides the objects separately (as opposed to a bundle) making them more difficult to work with on disk / importing into their machine learning tooling as they are streamed into individual files
- Benefits consumer use of DICOM objects, as providing a ZIP file of DICOM content to a patient or caregiver is more familiar than providing them with a multipart/related response to be programmatically interpreted
- Additional considerations to consider, such as whether to include support for ZIP encryption, and whether to include flags to support DICOMDIR

Examples

Retrieve the full study:

```
GET https://server.com/wado/studies/2.16.124.113543
```

```
Accept: application/zip
```

Retrieve an individual series:

```
GET https://server.com/wado/studies/2.16.124.113543/series/2.16.678
```

```
Accept: application/zip
```

BRAD! Add the "transfer syntax example"

Open Questions 1-4

Q	Question	Suggested Response
1	(Brad) Do we want to include support for DICOMDIR structures, or make it the default (or only) format?	No. Instead recommend ONLY DICOM Zip format.
2	(Joel) Would we consider supporting the DICOM media type already defined in Part 12 section V?	Yes, that sounds reasonable (need to check on viability). See http://dicom.nema.org/medical/dicom/current/output/html/part12.html#chapter_V
3	(Brad) Do we want to have parameters to support anonymization or ZIP encryption?	
4	(Brad) Do we need to specify any details regarding the transfer syntax / media types of the contained files?	Yes, but use the same structure as what multipart/related supports.

Open Questions 5-8

Q	Question	Suggested Response
5	(David) Do we want to specify a different RESTful resource (e.g., /packaged)	No, that shouldn't be necessary; it's essentially a transformation on the same path as other WADO-RS services
6	(David) Do we want to allow support for tar or rar, be silent on it, or explicitly disallow it?	Be silent on it (if an implementation chooses to add additional formats, sure)
7	(Brad) Is "zip" a "DICOM media type", a rendered media type, or something else?	It is a DICOM media type defined in Part 12 Section V – see Q2
8	(Joel) Can we support retrievals that are completely specified in a URL (and not require Accept header to be passed)?	This is already supported in PS3.18 6.1.1.5 (query parameter "accept"). http://dicom.nema.org/medical/dicom/current/output/html/part18.html#sect_6.1.1.5