# DDF Metadata Reference Guide

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# 1. Metadata Reference

DDF extracts basic metadata from the resources ingested. Many file types contain additional file format-specific metadata attributes. A neutral Catalog Taxonomy enables transformation of metadata to other formats. See also a list of all formats supported for ingest.

## 1.1. Common Metadata Attributes

DDF supports a wide variety of file types and data types for ingest. The DDF's internal Input Transformers extract the necessary data into a generalized format. DDF supports ingest of many datatypes and commonly used file formats, such as Microsoft office products: including Word documents, Excel spreadsheets, and PowerPoint presentations, as well as .pdf files, GeoJson, and others. See complete list. Many of these file types support additional file format-specific attributes from which additional metadata can be extracted.

| | |
|---|---|
| **NOTE** | These attributes are available in all the specified file formats; however, values are only present if present in the original document/resource. |

These attributes are supported by any file type ingested into DDF:

*Common Attributes in All Supported File Types*

- metadata
- id
- modified (date)
- title (filename)
- metadata content type (mime type)
- effective (date)
- created (date)

These 'media' file types have support for additional attributes to be available when ingested into DDF:

*File Types Supporting Additional Attributes*

- Video Types
  - WMV
  - AVI
  - MP4
  - MOV
  - h.264 MPEG2

- Image Types
  - JPEG-2000
- Document Types
  - .DOC, .DOCX, .DOTX, .DOCM
  - .PPT, .PPTX
  - .XLS, .XLSX
  - .PDF

These are the attributes common to any of the media file types which support additional attributes:

*Additional Possible Attributes Common to 'Media' File Types*

- `media.format-version`
- `media.format`
- `media.bit-rate`
- `media.bits-per-sample`
- `media.compression`
- `media.encoding`
- `media.frame-center`
- `media.frame-rate`
- `media.height-pixels`
- `media.number-of-bands`
- `media.scanning-mode`
- `media.type`
- `media.duration`
- `media.page-count`
- `datatype`
- `description`
- `contact.point-of-contact-name`
- `contact.contributor-name`
- `contact.creator-name`
- `contact.publisher-name`
- `contact.point-of-contact-phone`
- `topic.keyword`

## 1.2. File Format-specific Attributes

Many file formats support additional metadata attributes that DDF is able to extract and make discoverable.

### 1.2.1. Mp4 Additional Attribute

Mp4 files have an additional attribute:

- `ext.mp4.audio-sample-rate`

### 1.2.2. All File Formats Supported

*Supported File Types*

Using the various input transformers, DDF supports ingest of the following MIME types. While ingest is possible for these files, metadata is limited unless otherwise noted.

*Table 1. Application File Types*

| | | |
|---|---|---|
| activemessage | andrew-inset | applefile |
| applixware | atom+xml | atomcat+xml |
| atomicmail | atomsvc+xml | auth-policy+xml |
| batch-smtp | beep+xml | bizagi-modeler |
| cals-1840 | cbor | ccxml+xml |
| cea-2018+xml | cellml+xml | cnrp+xml |
| commonground | conference-info+xml | cpl+xml |
| csta+xml | cstadata+xml | cu-seeme |
| cybercash | davmount+xml | dca-rft |
| dec-dx | dialog-info+xml | dicom |
| dif+xml | dita+xml | dita+xml |
| dita+xml | dita+xml | dita+xml |
| dita+xml | dns | dvcs |
| ecmascript | edi-consent | edi-x12 |
| edifact | emma+xml | epp+xml |
| epub+zip | eshop | example |
| fastinfoset | fastsoap | fits |
| font-tdpfr | gzip | h224 |
| http | hyperstudio | ibe-key-request+xml |
| ibe-pkg-reply+xml | ibe-pp-data | iges |
| illustrator | im-iscomposing+xml | index |

| | | |
|---|---|---|
| index.cmd | index.obj | index.response |
| index.vnd | inf | iotp |
| ipp | isup | java-archive |
| java-serialized-object | java-vm | javascript |
| json | kate | kpml-request+xml |
| kpml-response+xml | lost+xml | mac-binhex40 |
| mac-compactpro | macwriteii | marc |
| mathematica | mathml+xml | mbms-associated-procedure-description+xml |
| mbms-deregister+xml | mbms-envelope+xml | mbms-msk+xml |
| mbms-msk-response+xml | mbms-protection-description+xml | mbms-reception-report+xml |
| mbms-register+xml | mbms-register-response+xml | mbms-user-service-description+xml |
| mbox | media_control+xml | mediaservercontrol+xml |
| mikey | moss-keys | moss-signature |
| mosskey-data | mosskey-request | mp4 |
| mpeg4-generic | mpeg4-iod | mpeg4-iod-xmt |
| msword | msword2 | msword5 |
| mxf | nasdata | news-checkgroups |
| news-groupinfo | news-transmission | nss |
| ocsp-request | ocsp-response | octet-stream |
| oda | oebps-package+xml | ogg |
| onenote | parityfec | patch-ops-error+xml |
| pdf | pgp-encrypted | pgp-keys |
| pgp-signature | pics-rules | pidf+xml |
| pidf-diff+xml | pkcs10 | pkcs7-mime |
| pkcs7-signature | pkix-cert | pkix-crl |
| pkix-pkipath | pkixcmp | pls+xml |
| poc-settings+xml | postscript | prs.alvestrand.titrax-sheet |
| prs.cww | prs.nprend | prs.plucker |
| qsig | quicktime | rdf+xml |
| reginfo+xml | relax-ng-compact-syntax | remote-printing |
| resource-lists+xml | resource-lists-diff+xml | riscos |
| rlmi+xml | rls-services+xml | rsd+xml |
| rss+xml | rtf | rtx |
| samlassertion+xml | samlmetadata+xml | sbml+xml |

| | | |
|---|---|---|
| scvp-cv-request | scvp-cv-response | scvp-vp-request |
| scvp-vp-response | sdp | sereal |
| sereal | sereal | sereal |
| set-payment | set-payment-initiation | set-registration |
| set-registration-initiation | sgml | sgml-open-catalog |
| shf+xml | sieve | simple-filter+xml |
| simple-message-summary | simplesymbolcontainer | slate |
| sldworks | smil+xml | soap+fastinfoset |
| soap+xml | sparql-query | sparql-results+xml |
| spirits-event+xml | srgs | srgs+xml |
| ssml+xml | timestamp-query | timestamp-reply |
| tve-trigger | ulpfec | vemmi |
| vividence.scriptfile | vnd.3gpp.bsf+xml | vnd.3gpp.pic-bw-large |
| vnd.3gpp.pic-bw-small | vnd.3gpp.pic-bw-var | vnd.3gpp.sms |
| vnd.3gpp2.bcmcsinfo+xml | vnd.3gpp2.sms | vnd.3gpp2.tcap |
| vnd.3m.post-it-notes | vnd.accpac.simply.aso | vnd.accpac.simply.imp |
| vnd.acucobol | vnd.acucorp | vnd.adobe.aftereffects.project |
| vnd.adobe.aftereffects.template | vnd.adobe.air-application-installer-package+zip | vnd.adobe.xdp+xml |
| vnd.adobe.xfdf | vnd.aether.imp | vnd.airzip.filesecure.azf |
| vnd.airzip.filesecure.azs | vnd.amazon.ebook | vnd.americandynamics.acc |
| vnd.amiga.ami | vnd.android.package-archive | vnd.anser-web-certificate-issue-initiation |
| vnd.anser-web-funds-transfer-initiation | vnd.antix.game-component | vnd.apple.installer+xml |
| vnd.apple.iwork | vnd.apple.keynote | vnd.apple.numbers |
| vnd.apple.pages | vnd.arastra.swi | vnd.audiograph |
| vnd.autopackage | vnd.avistar+xml | vnd.blueice.multipass |
| vnd.bluetooth.ep.oob | vnd.bmi | vnd.businessobjects |
| vnd.cab-jscript | vnd.canon-cpdl | vnd.canon-lips |
| vnd.cendio.thinlinc.clientconf | vnd.chemdraw+xml | vnd.chipnuts.karaoke-mmd |
| vnd.cinderella | vnd.cirpack.isdn-ext | vnd.claymore |
| vnd.clonk.c4group | vnd.commerce-battelle | vnd.commonspace |
| vnd.contact.cmsg | vnd.cosmocaller | vnd.crick.clicker |
| vnd.crick.clicker.keyboard | vnd.crick.clicker.palette | vnd.crick.clicker.template |
| vnd.crick.clicker.wordbank | vnd.criticaltools.wbs+xml | vnd.ctc-posml |

| | | |
|---|---|---|
| vnd.ctct.ws+xml | vnd.cups-pdf | vnd.cups-postscript |
| vnd.cups-ppd | vnd.cups-raster | vnd.cups-raw |
| vnd.curl.car | vnd.curl.pcurl | vnd.cybank |
| vnd.data-vision.rdz | vnd.denovo.fcselayout-link | vnd.dir-bi.plate-dl-nosuffix |
| vnd.dna | vnd.dolby.mlp | vnd.dolby.mobile.1 |
| vnd.dolby.mobile.2 | vnd.dpgraph | vnd.dreamfactory |
| vnd.dvb.esgcontainer | vnd.dvb.ipdcdftnotifaccess | vnd.dvb.ipdcesgaccess |
| vnd.dvb.ipdcroaming | vnd.dvb.iptv.alfec-base | vnd.dvb.iptv.alfec-enhancement |
| vnd.dvb.notif-aggregate-root+xml | vnd.dvb.notif-container+xml | vnd.dvb.notif-generic+xml |
| vnd.dvb.notif-ia-msglist+xml | vnd.dvb.notif-ia-registration-request+xml | vnd.dvb.notif-ia-registration-response+xml |
| vnd.dvb.notif-init+xml | vnd.dxr | vnd.dynageo |
| vnd.ecdis-update | vnd.ecowin.chart | vnd.ecowin.filerequest |
| vnd.ecowin.fileupdate | vnd.ecowin.series | vnd.ecowin.seriesrequest |
| vnd.ecowin.seriesupdate | vnd.emclient.accessrequest+xml | vnd.enliven |
| vnd.epson.esf | vnd.epson.msf | vnd.epson.quickanime |
| vnd.epson.salt | vnd.epson.ssf | vnd.ericsson.quickcall |
| vnd.eszigno3+xml | vnd.etsi.aoc+xml | vnd.etsi.asic-e+zip |
| vnd.etsi.asic-s+zip | vnd.etsi.cug+xml | vnd.etsi.iptvcommand+xml |
| vnd.etsi.iptvdiscovery+xml | vnd.etsi.iptvprofile+xml | vnd.etsi.iptvsad-bc+xml |
| vnd.etsi.iptvsad-cod+xml | vnd.etsi.iptvsad-npvr+xml | vnd.etsi.iptvueprofile+xml |
| vnd.etsi.mcid+xml | vnd.etsi.sci+xml | vnd.etsi.simservs+xml |
| vnd.eudora.data | vnd.ezpix-album | vnd.ezpix-package |
| vnd.f-secure.mobile | vnd.fdf | vnd.fdsn.mseed |
| vnd.fdsn.seed | vnd.ffsns | vnd.fints |
| vnd.flographit | vnd.fluxtime.clip | vnd.font-fontforge-sfd |
| vnd.framemaker | vnd.frogans.fnc | vnd.frogans.ltf |
| vnd.fsc.weblaunch | vnd.fujitsu.oasys | vnd.fujitsu.oasys2 |
| vnd.fujitsu.oasys3 | vnd.fujitsu.oasysgp | vnd.fujitsu.oasysprs |
| vnd.fujixerox.art-ex | vnd.fujixerox.art4 | vnd.fujixerox.ddd |
| vnd.fujixerox.docuworks | vnd.fujixerox.docuworks.binder | vnd.fujixerox.hbpl |
| vnd.fut-misnet | vnd.fuzzysheet | vnd.genomatix.tuxedo |
| vnd.geogebra.file | vnd.geogebra.tool | vnd.geometry-explorer |
| vnd.gmx | vnd.google-earth.kml+xml | vnd.google-earth.kmz |
| vnd.grafeq | vnd.gridmp | vnd.groove-account |

| | | |
|---|---|---|
| vnd.groove-help | vnd.groove-identity-message | vnd.groove-injector |
| vnd.groove-tool-message | vnd.groove-tool-template | vnd.groove-vcard |
| vnd.handheld-entertainment+xml | vnd.hbci | vnd.hcl-bireports |
| vnd.hhe.lesson-player | vnd.hp-hpgl | vnd.hp-hpid |
| vnd.hp-hps | vnd.hp-jlyt | vnd.hp-pcl |
| vnd.hp-pclxl | vnd.httphone | vnd.hydrostatix.sof-data |
| vnd.hzn-3d-crossword | vnd.ibm.afplinedata | vnd.ibm.electronic-media |
| vnd.ibm.minipay | vnd.ibm.modcap | vnd.ibm.rights-management |
| vnd.ibm.secure-container | vnd.iccprofile | vnd.igloader |
| vnd.immervision-ivp | vnd.immervision-ivu | vnd.informedcontrol.rms+xml |
| vnd.informix-visionary | vnd.intercon.formnet | vnd.intertrust.digibox |
| vnd.intertrust.nncp | vnd.intu.qbo | vnd.intu.qfx |
| vnd.iptc.g2.conceptitem+xml | vnd.iptc.g2.knowledgeitem+xml | vnd.iptc.g2.newsitem+xml |
| vnd.iptc.g2.packageitem+xml | vnd.ipunplugged.rcprofile | vnd.irepository.package+xml |
| vnd.is-xpr | vnd.jam | vnd.japannet-directory-service |
| vnd.japannet-jpnstore-wakeup | vnd.japannet-payment-wakeup | vnd.japannet-registration |
| vnd.japannet-registration-wakeup | vnd.japannet-setstore-wakeup | vnd.japannet-verification |
| vnd.japannet-verification-wakeup | vnd.jcp.javame.midlet-rms | vnd.jisp |
| vnd.joost.joda-archive | vnd.kahootz | vnd.kde.karbon |
| vnd.kde.kchart | vnd.kde.kformula | vnd.kde.kivio |
| vnd.kde.kontour | vnd.kde.kpresenter | vnd.kde.kspread |
| vnd.kde.kword | vnd.kenameaapp | vnd.kidspiration |
| vnd.kinar | vnd.koan | vnd.kodak-descriptor |
| vnd.liberty-request+xml | vnd.llamagraphics.life-balance.desktop | vnd.llamagraphics.life-balance.exchange+xml |
| vnd.lotus-1-2-3 | vnd.lotus-approach | vnd.lotus-freelance |
| vnd.lotus-notes | vnd.lotus-organizer | vnd.lotus-screencam |
| vnd.lotus-wordpro | vnd.macports.portpkg | vnd.marlin.drm.actiontoken+xml |
| vnd.marlin.drm.conftoken+xml | vnd.marlin.drm.license+xml | vnd.marlin.drm.mdcf |
| vnd.mcd | vnd.medcalcdata | vnd.mediastation.cdkey |
| vnd.meridian-slingshot | vnd.mfer | vnd.mfmp |
| vnd.micrografx.flo | vnd.micrografx.igx | vnd.mif |
| vnd.mindjet.mindmanager | vnd.minisoft-hp3000-save | vnd.mitsubishi.misty-guard.trustweb |

| | | |
|---|---|---|
| vnd.mobius.daf | vnd.mobius.dis | vnd.mobius.mbk |
| vnd.mobius.mqy | vnd.mobius.msl | vnd.mobius.plc |
| vnd.mobius.txf | vnd.mophun.application | vnd.mophun.certificate |
| vnd.motorola.flexsuite | vnd.motorola.flexsuite.adsi | vnd.motorola.flexsuite.fis |
| vnd.motorola.flexsuite.gotap | vnd.motorola.flexsuite.kmr | vnd.motorola.flexsuite.ttc |
| vnd.motorola.flexsuite.wem | vnd.motorola.iprm | vnd.mozilla.xul+xml |
| vnd.ms-artgalry | vnd.ms-asf | vnd.ms-cab-compressed |
| vnd.ms-excel | vnd.ms-excel.addin.macroenabled.12 | vnd.ms-excel.sheet.2 |
| vnd.ms-excel.sheet.3 | vnd.ms-excel.sheet.4 | vnd.ms-excel.sheet.binary.macroenabled.12 |
| vnd.ms-excel.sheet.macroenabled.12 | vnd.ms-excel.template.macroenabled.12 | vnd.ms-excel.workspace.3 |
| vnd.ms-excel.workspace.4 | vnd.ms-fontobject | vnd.ms-htmlhelp |
| vnd.ms-ims | vnd.ms-lrm | vnd.ms-outlook |
| vnd.ms-outlook-pst | vnd.ms-pki.seccat | vnd.ms-pki.stl |
| vnd.ms-playready.initiator+xml | vnd.ms-powerpoint | vnd.ms-powerpoint.addin.macroenabled.12 |
| vnd.ms-powerpoint.presentation.macroenabled.12 | vnd.ms-powerpoint.slide.macroenabled.12 | vnd.ms-powerpoint.slideshow.macroenabled.12 |
| vnd.ms-powerpoint.template.macroenabled.12 | vnd.ms-project | vnd.ms-tnef |
| vnd.ms-visio.drawing | vnd.ms-visio.drawing.macroenabled.12 | vnd.ms-visio.stencil |
| vnd.ms-visio.stencil.macroenabled.12 | vnd.ms-visio.template | vnd.ms-visio.template.macroenabled.12 |
| vnd.ms-visio.viewer | vnd.ms-wmdrm.lic-chlg-req | vnd.ms-wmdrm.lic-resp |
| vnd.ms-wmdrm.meter-chlg-req | vnd.ms-wmdrm.meter-resp | vnd.ms-word.document.macroenabled.12 |
| vnd.ms-word.template.macroenabled.12 | vnd.ms-works | vnd.ms-wpl |
| vnd.ms-xpsdocument | vnd.mseq | vnd.msign |
| vnd.multiad.creator | vnd.multiad.creator.cif | vnd.music-niff |
| vnd.musician | vnd.muvee.style | vnd.ncd.control |
| vnd.ncd.reference | vnd.nervana | vnd.netfpx |
| vnd.neurolanguage.nlu | vnd.noblenet-directory | vnd.noblenet-sealer |

| | | |
|---|---|---|
| vnd.noblenet-web | vnd.nokia.catalogs | vnd.nokia.conml+wbxml |
| vnd.nokia.conml+xml | vnd.nokia.iptv.config+xml | vnd.nokia.isds-radio-presets |
| vnd.nokia.landmark+wbxml | vnd.nokia.landmark+xml | vnd.nokia.landmarkcollection+xml |
| vnd.nokia.n-gage.ac+xml | vnd.nokia.n-gage.data | vnd.nokia.n-gage.symbian.install |
| vnd.nokia.ncd | vnd.nokia.pcd+wbxml | vnd.nokia.pcd+xml |
| vnd.nokia.radio-preset | vnd.nokia.radio-presets | vnd.novadigm.edm |
| vnd.novadigm.edx | vnd.novadigm.ext | vnd.oasis.opendocument.chart |
| vnd.oasis.opendocument.chart-template | vnd.oasis.opendocument.database | vnd.oasis.opendocument.formula |
| vnd.oasis.opendocument.formula-template | vnd.oasis.opendocument.graphics | vnd.oasis.opendocument.graphics-template |
| vnd.oasis.opendocument.image | vnd.oasis.opendocument.image-template | vnd.oasis.opendocument.presentation |
| vnd.oasis.opendocument.presentation-template | vnd.oasis.opendocument.spreadsheet | vnd.oasis.opendocument.spreadsheet-template |
| vnd.oasis.opendocument.text | vnd.oasis.opendocument.text-master | vnd.oasis.opendocument.text-template |
| vnd.oasis.opendocument.text-web | vnd.obn | vnd.olpc-sugar |
| vnd.oma-scws-config | vnd.oma-scws-http-request | vnd.oma-scws-http-response |
| vnd.oma.bcast.associated-procedure-parameter+xml | vnd.oma.bcast.drm-trigger+xml | vnd.oma.bcast.imd+xml |
| vnd.oma.bcast.ltkm | vnd.oma.bcast.notification+xml | vnd.oma.bcast.provisioningtrigger |
| vnd.oma.bcast.sgboot | vnd.oma.bcast.sgdd+xml | vnd.oma.bcast.sgdu |
| vnd.oma.bcast.simple-symbol-container | vnd.oma.bcast.smartcard-trigger+xml | vnd.oma.bcast.sprov+xml |
| vnd.oma.bcast.stkm | vnd.oma.dcd | vnd.oma.dcdc |
| vnd.oma.dd2+xml | vnd.oma.drm.risd+xml | vnd.oma.group-usage-list+xml |
| vnd.oma.poc.detailed-progress-report+xml | vnd.oma.poc.final-report+xml | vnd.oma.poc.groups+xml |
| vnd.oma.poc.invocation-descriptor+xml | vnd.oma.poc.optimized-progress-report+xml | vnd.oma.xcap-directory+xml |
| vnd.omads-email+xml | vnd.omads-file+xml | vnd.omads-folder+xml |
| vnd.omaloc-supl-init | vnd.openofficeorg.extension | vnd.openxmlformats-officedocument.presentationml.presentation |
| vnd.openxmlformats-officedocument.presentationml.slide | vnd.openxmlformats-officedocument.presentationml.slideshow | vnd.openxmlformats-officedocument.presentationml.template |

| | | |
|---|---|---|
| vnd.openxmlformats-officedocument.spreadsheetml.sheet | vnd.openxmlformats-officedocument.spreadsheetml.template | vnd.openxmlformats-officedocument.wordprocessingml.document |
| vnd.openxmlformats-officedocument.wordprocessingml.template | vnd.osa.netdeploy | vnd.osgi.bundle |
| vnd.osgi.dp | vnd.otps.ct-kip+xml | vnd.palm |
| vnd.paos.xml | vnd.pg.format | vnd.pg.osasli |
| vnd.piaccess.application-licence | vnd.picsel | vnd.poc.group-advertisement+xml |
| vnd.pocketlearn | vnd.powerbuilder6 | vnd.powerbuilder6-s |
| vnd.powerbuilder7 | vnd.powerbuilder7-s | vnd.powerbuilder75 |
| vnd.powerbuilder75-s | vnd.preminet | vnd.previewsystems.box |
| vnd.proteus.magazine | vnd.publishare-delta-tree | vnd.pvi.ptid1 |
| vnd.pwg-multiplexed | vnd.pwg-xhtml-print+xml | vnd.qualcomm.brew-app-res |
| vnd.quark.quarkxpress | vnd.rapid | vnd.recordare.musicxml |
| vnd.recordare.musicxml+xml | vnd.renlearn.rlprint | vnd.rim.cod |
| vnd.rn-realmedia | vnd.route66.link66+xml | vnd.ruckus.download |
| vnd.s3sms | vnd.sbm.cid | vnd.sbm.mid2 |
| vnd.scribus | vnd.sealed.3df | vnd.sealed.csf |
| vnd.sealed.doc | vnd.sealed.eml | vnd.sealed.mht |
| vnd.sealed.net | vnd.sealed.ppt | vnd.sealed.tiff |
| vnd.sealed.xls | vnd.sealedmedia.softseal.html | vnd.sealedmedia.softseal.pdf |
| vnd.seemail | vnd.sema | vnd.semd |
| vnd.semf | vnd.shana.informed.formdata | vnd.shana.informed.formtemplate |
| vnd.shana.informed.interchange | vnd.shana.informed.package | vnd.simtech-mindmapper |
| vnd.smaf | vnd.smart.teacher | vnd.software602.filler.form+xml |
| vnd.software602.filler.form-xml-zip | vnd.solent.sdkm+xml | vnd.spotfire.dxp |
| vnd.spotfire.sfs | vnd.sss-cod | vnd.sss-dtf |
| vnd.sss-ntf | vnd.stardivision.calc | vnd.stardivision.draw |
| vnd.stardivision.impress | vnd.stardivision.math | vnd.stardivision.writer |
| vnd.stardivision.writer-global | vnd.street-stream | vnd.sun.wadl+xml |
| vnd.sun.xml.calc | vnd.sun.xml.calc.template | vnd.sun.xml.draw |
| vnd.sun.xml.draw.template | vnd.sun.xml.impress | vnd.sun.xml.impress.template |
| vnd.sun.xml.math | vnd.sun.xml.writer | vnd.sun.xml.writer.global |
| vnd.sun.xml.writer.template | vnd.sus-calendar | vnd.svd |

| | | |
|---|---|---|
| vnd.swiftview-ics | vnd.symbian.install | vnd.syncml+xml |
| vnd.syncml.dm+wbxml | vnd.syncml.dm+xml | vnd.syncml.dm.notification |
| vnd.syncml.ds.notification | vnd.tao.intent-module-archive | vnd.tcpdump.pcap |
| vnd.tmobile-livetv | vnd.trid.tpt | vnd.triscape.mxs |
| vnd.trueapp | vnd.truedoc | vnd.ufdl |
| vnd.uiq.theme | vnd.umajin | vnd.unity |
| vnd.uoml+xml | vnd.uplanet.alert | vnd.uplanet.alert-wbxml |
| vnd.uplanet.bearer-choice | vnd.uplanet.bearer-choice-wbxml | vnd.uplanet.cacheop |
| vnd.uplanet.cacheop-wbxml | vnd.uplanet.channel | vnd.uplanet.channel-wbxml |
| vnd.uplanet.list | vnd.uplanet.list-wbxml | vnd.uplanet.listcmd |
| vnd.uplanet.listcmd-wbxml | vnd.uplanet.signal | vnd.vcx |
| vnd.vd-study | vnd.vectorworks | vnd.vidsoft.vidconference |
| vnd.visio | vnd.visionary | vnd.vividence.scriptfile |
| vnd.vsf | vnd.wap.sic | vnd.wap.slc |
| vnd.wap.wbxml | vnd.wap.wmlc | vnd.wap.wmlscriptc |
| vnd.webturbo | vnd.wfa.wsc | vnd.wmc |
| vnd.wmf.bootstrap | vnd.wordperfect | vnd.wqd |
| vnd.wrq-hp3000-labelled | vnd.wt.stf | vnd.wv.csp+wbxml |
| vnd.wv.csp+xml | vnd.wv.ssp+xml | vnd.xara |
| vnd.xfdl | vnd.xfdl.webform | vnd.xmi+xml |
| vnd.xmpie.cpkg | vnd.xmpie.dpkg | vnd.xmpie.plan |
| vnd.xmpie.ppkg | vnd.xmpie.xlim | vnd.yamaha.hv-dic |
| vnd.yamaha.hv-script | vnd.yamaha.hv-voice | vnd.yamaha.openscoreformat |
| vnd.yamaha.openscoreformat.osfpvg+xml | vnd.yamaha.smaf-audio | vnd.yamaha.smaf-phrase |
| vnd.yellowriver-custom-menu | vnd.zul | vnd.zzazz.deck+xml |
| voicexml+xml | watcherinfo+xml | whoispp-query |
| whoispp-response | winhlp | wita |
| wordperfect5.1 | wsdl+xml | wspolicy+xml |
| x-123 | x-7z-compressed | x-abiword |
| x-ace-compressed | x-adobe-indesign | x-adobe-indesign-interchange |
| x-apple-diskimage | x-appleworks | x-archive |
| x-arj | x-authorware-bin | x-authorware-map |
| x-authorware-seg | x-axcrypt | x-bcpio |
| x-berkeley-db | x-berkeley-db | x-berkeley-db |

| | | |
|---|---|---|
| x-berkeley-db | x-berkeley-db | x-berkeley-db |
| x-berkeley-db | x-berkeley-db | x-berkeley-db |
| x-berkeley-db | x-berkeley-db | x-berkeley-db |
| x-bibtex-text-file | x-bittorrent | x-bplist |
| x-bzip | x-bzip2 | x-cdlink |
| x-chat | x-chess-pgn | x-chrome-package |
| x-compress | x-coredump | x-corelpresentations |
| x-cpio | x-csh | x-debian-package |
| x-dex | x-director | x-doom |
| x-dosexec | x-dtbncx+xml | x-dtbook+xml |
| x-dtbresource+xml | x-dvi | x-elc |
| x-elf | x-emf | x-erdas-hfa |
| x-executable | x-fictionbook+xml | x-filemaker |
| x-font-adobe-metric | x-font-bdf | x-font-dos |
| x-font-framemaker | x-font-ghostscript | x-font-libgrx |
| x-font-linux-psf | x-font-otf | x-font-pcf |
| x-font-printer-metric | x-font-snf | x-font-speedo |
| x-font-sunos-news | x-font-ttf | x-font-type1 |
| x-font-vfont | x-foxmail | x-futuresplash |
| x-gnucash | x-gnumeric | x-grib |
| x-gtar | x-hdf | x-hwp |
| x-hwp-v5 | x-ibooks+zip | x-isatab |
| x-isatab-assay | x-isatab-investigation | x-iso9660-image |
| x-itunes-ipa | x-java-jnilib | x-java-jnlp-file |
| x-java-pack200 | x-kdelnk | x-killustrator |
| x-latex | x-lha | x-lharc |
| x-matlab-data | x-matroska | x-mobipocket-ebook |
| x-ms-application | x-ms-installer | x-ms-wmd |
| x-ms-wmz | x-ms-xbap | x-msaccess |
| x-msbinder | x-mscardfile | x-msclip |
| x-msdownload | x-msdownload | x-msdownload |
| x-msdownload | x-msdownload | x-msdownload |
| x-msdownload | x-msmediaview | x-msmetafile |
| x-msmoney | x-mspublisher | x-msschedule |
| x-msterminal | x-mswrite | x-mysql-db |

| | | |
|---|---|---|
| x-mysql-misam-compressed-index | x-mysql-misam-data | x-mysql-misam-index |
| x-mysql-table-definition | x-netcdf | x-object |
| x-pkcs12 | x-pkcs7-certificates | x-pkcs7-certreqresp |
| x-project | x-prt | x-quattro-pro |
| x-rar-compressed | x-roxio-toast | x-rpm |
| x-sas | x-sas-access | x-sas-audit |
| x-sas-backup | x-sas-catalog | x-sas-data |
| x-sas-data-index | x-sas-dmdb | x-sas-fdb |
| x-sas-itemstor | x-sas-mddb | x-sas-program-data |
| x-sas-putility | x-sas-transport | x-sas-utility |
| x-sas-view | x-sc | x-sfdu |
| x-sh | x-shapefile | x-shar |
| x-sharedlib | x-shockwave-flash | x-silverlight-app |
| x-snappy-framed | x-sqlite3 | x-staroffice-template |
| x-stuffit | x-stuffitx | x-sv4cpio |
| x-sv4crc | x-tar | x-tex |
| x-tex-tfm | x-texinfo | x-tika-iworks-protected |
| x-tika-java-enterprise-archive | x-tika-java-web-archive | x-tika-msoffice |
| x-tika-msoffice-embedded | x-tika-msoffice-embedded | x-tika-msoffice-embedded |
| x-tika-msworks-spreadsheet | x-tika-old-excel | x-tika-ooxml |
| x-tika-ooxml-protected | x-tika-staroffice | x-tika-unix-dump |
| x-tika-visio-ooxml | x-uc2-compressed | x-ustar |
| x-vhd | x-vmdk | x-wais-source |
| x-webarchive | x-x509-ca-cert | x-xfig |
| x-xmind | x-xpinstall | x-xz |
| x-zoo | x400-bp | xcap-att+xml |
| xcap-caps+xml | xcap-el+xml | xcap-error+xml |
| xcap-ns+xml | xcon-conference-info+xml | xcon-conference-info-diff+xml |
| xenc+xml | xhtml+xml | xhtml-voice+xml |
| xml | xml-dtd | xml-external-parsed-entity |
| xmpp+xml | xop+xml | xquery |
| xslfo+xml | xslt+xml | xspf+xml |
| xv+xml | zip | zlib |

*Table 2. Audio File Types*

| | | |
|---|---|---|
| 32kadpcm | 3gpp | 3gpp2 |

| | | |
|---|---|---|
| ac3 | adpcm | amr |
| amr-wb | amr-wb+ | asc |
| basic | bv16 | bv32 |
| clearmode | cn | dat12 |
| dls | dsr-es201108 | dsr-es202050 |
| dsr-es202211 | dsr-es202212 | dvi4 |
| eac3 | evrc | evrc-qcp |
| evrc0 | evrc1 | evrcb |
| evrcb0 | evrcb1 | evrcwb |
| evrcwb0 | evrcwb1 | example |
| g719 | g722 | g7221 |
| g723 | g726-16 | g726-24 |
| g726-32 | g726-40 | g728 |
| g729 | g7291 | g729d |
| g729e | gsm | gsm-efr |
| ilbc | l16 | l20 |
| l24 | l8 | lpc |
| midi | mobile-xmf | mp4 |
| mp4a-latm | mpa | mpa-robust |
| mpeg | mpeg4-generic | ogg |
| opus | parityfec | pcma |
| pcma-wb | pcmu | pcmu-wb |
| prs.sid | qcelp | red |
| rtp-enc-aescm128 | rtp-midi | rtx |
| smv | smv-qcp | smv0 |
| sp-midi | speex | t140c |
| t38 | telephone-event | tone |
| ulpfec | vdvi | vmr-wb |
| vnd.3gpp.iufp | vnd.4sb | vnd.adobe.soundbooth |
| vnd.audiokoz | vnd.celp | vnd.cisco.nse |
| vnd.cmles.radio-events | vnd.cns.anp1 | vnd.cns.inf1 |
| vnd.digital-winds | vnd.dlna.adts | vnd.dolby.heaac.1 |
| vnd.dolby.heaac.2 | vnd.dolby.mlp | vnd.dolby.mps |
| vnd.dolby.pl2 | vnd.dolby.pl2x | vnd.dolby.pl2z |
| vnd.dts | vnd.dts.hd | vnd.everad.plj |

| | | |
|---|---|---|
| vnd.hns.audio | vnd.lucent.voice | vnd.ms-playready.media.pya |
| vnd.nokia.mobile-xmf | vnd.nortel.vbk | vnd.nuera.ecelp4800 |
| vnd.nuera.ecelp7470 | vnd.nuera.ecelp9600 | vnd.octel.sbc |
| vnd.qcelp | vnd.rhetorex.32kadpcm | vnd.sealedmedia.softseal.mpeg |
| vnd.vmx.cvsd | vorbis | vorbis-config |
| x-aac | x-adbcm | x-aiff |
| x-dec-adbcm | x-dec-basic | x-flac |
| x-matroska | x-mod | x-mpegurl |
| x-ms-wax | x-ms-wma | x-oggflac |
| x-oggpcm | x-pn-realaudio | x-pn-realaudio-plugin |
| x-wav | | |

*Table 3. Chemical File Types*

| | | |
|---|---|---|
| x-cdx | x-cif | x-cmdf |
| x-cml | x-csml | x-pdb |
| x-xyz | | |

*Table 4. Image File Types*

| | | |
|---|---|---|
| bmp | cgm | example |
| fits | g3fax | gif |
| icns | ief | jp2 |
| jpeg | jpm | jpx |
| naplps | nitf | png |
| prs.btif | prs.pti | svg+xml |
| t38 | tiff | tiff-fx |
| vnd.adobe.photoshop | vnd.adobe.premiere | vnd.cns.inf2 |
| vnd.djvu | vnd.dwg | vnd.dxb |
| vnd.dxf | vnd.dxf | vnd.dxf |
| vnd.fastbidsheet | vnd.fpx | vnd.fst |
| vnd.fujixerox.edmics-mmr | vnd.fujixerox.edmics-rlc | vnd.globalgraphics.pgb |
| vnd.microsoft.icon | vnd.mix | vnd.ms-modi |
| vnd.net-fpx | vnd.radiance | vnd.sealed.png |
| vnd.sealedmedia.softseal.gif | vnd.sealedmedia.softseal.jpg | vnd.svf |
| vnd.wap.wbmp | vnd.xiff | webp |
| x-bpg | x-cmu-raster | x-cmx |
| x-freehand | x-jp2-codestream | x-jp2-container |

| | | |
|---|---|---|
| x-ms-bmp | x-niff | x-pcx |
| x-pict | x-portable-anymap | x-portable-bitmap |
| x-portable-graymap | x-portable-pixmap | x-raw-adobe |
| x-raw-canon | x-raw-casio | x-raw-epson |
| x-raw-fuji | x-raw-hasselblad | x-raw-imacon |
| x-raw-kodak | x-raw-leaf | x-raw-logitech |
| x-raw-mamiya | x-raw-minolta | x-raw-nikon |
| x-raw-olympus | x-raw-panasonic | x-raw-pentax |
| x-raw-phaseone | x-raw-rawzor | x-raw-red |
| x-raw-sigma | x-raw-sony | x-rgb |
| x-xbitmap | x-xcf | x-xpixmap |
| x-xwindowdump | | |

*Table 5. Message File Types*

| | | |
|---|---|---|
| cpim | delivery-status | disposition-notification |
| example | external-body | global |
| global-delivery-status | global-disposition-notification | global-headers |
| http | imdn+xml | news |
| partial | rfc822 | s-http |
| sip | sipfrag | tracking-status |
| vnd.si.simp | x-emlx | |

*Table 6. Model File Types*

| | | |
|---|---|---|
| example | iges | mesh |
| vnd.dwf | vnd.dwf | vnd.dwf |
| vnd.dwf | vnd.dwfx+xps | vnd.flatland.3dml |
| vnd.gdl | vnd.gs-gdl | vnd.gs.gdl |
| vnd.gtw | vnd.moml+xml | vnd.mts |
| vnd.parasolid.transmit.binary | vnd.parasolid.transmit.text | vnd.vtu |
| vrml | | |

*Table 7. Multipart File Types*

| | | |
|---|---|---|
| alternative | appledouble | byteranges |
| digest | encrypted | example |
| form-data | header-set | mixed |
| parallel | related | report |

| | | |
|---|---|---|
| signed | voice-message | |

*Table 8. Text File Types*

| | | |
|---|---|---|
| asp | aspdotnet | calendar |
| css | csv | directory |
| dns | ecmascript | enriched |
| example | html | iso19139+xml |
| parityfec | plain | prs.fallenstein.rst |
| prs.lines.tag | red | rfc822-headers |
| richtext | rtp-enc-aescm128 | rtx |
| sgml | t140 | tab-separated-values |
| troff | ulpfec | uri-list |
| vnd.abc | vnd.curl | vnd.curl.dcurl |
| vnd.curl.mcurl | vnd.curl.scurl | vnd.dmclientscript |
| vnd.esmertec.theme-descriptor | vnd.fly | vnd.fmi.flexstor |
| vnd.graphviz | vnd.in3d.3dml | vnd.in3d.spot |
| vnd.iptc.anpa | vnd.iptc.newsml | vnd.iptc.nitf |
| vnd.latex-z | vnd.motorola.reflex | vnd.ms-mediapackage |
| vnd.net2phone.commcenter.command | vnd.si.uricatalogue | vnd.sun.j2me.app-descriptor |
| vnd.trolltech.linguist | vnd.wap.si | vnd.wap.sl |
| vnd.wap.wml | vnd.wap.wmlscript | vtt |
| x-actionscript | x-ada | x-applescript |
| x-asciidoc | x-aspectj | x-assembly |
| x-awk | x-basic | x-c++hdr |
| x-c++src | x-cgi | x-chdr |
| x-clojure | x-cobol | x-coffeescript |
| x-coldfusion | x-common-lisp | x-csharp |
| x-csrc | x-d | x-diff |
| x-eiffel | x-emacs-lisp | x-erlang |
| x-expect | x-forth | x-fortran |
| x-go | x-groovy | x-haml |
| x-haskell | x-haxe | x-idl |
| x-ini | x-java-properties | x-java-source |
| x-jsp | x-less | x-lex |
| x-log | x-lua | x-matlab |

| | | |
|---|---|---|
| x-ml | x-modula | x-objcsrc |
| x-ocaml | x-pascal | x-perl |
| x-php | x-prolog | x-python |
| x-rexx | x-rsrc | x-rst |
| x-ruby | x-scala | x-scheme |
| x-sed | x-setext | x-sql |
| x-stsrc | x-tcl | x-tika-text-based-message |
| x-uuencode | x-vbasic | x-vbdotnet |
| x-vbscript | x-vcalendar | x-vcard |
| x-verilog | x-vhdl | x-web-markdown |
| x-yacc | x-yaml | |

*Table 9. Video File Types*

| | | |
|---|---|---|
| 3gpp | 3gpp-tt | 3gpp2 |
| bmpeg | bt656 | celb |
| daala | dv | example |
| h261 | h263 | h263-1998 |
| h263-2000 | h264 | jpeg |
| jpeg2000 | mj2 | mp1s |
| mp2p | mp2t | mp4 |
| mp4v-es | mpeg | mpeg4-generic |
| mpv | nv | ogg |
| parityfec | pointer | quicktime |
| raw | rtp-enc-aescm128 | rtx |
| smpte292m | theora | ulpfec |
| vc1 | vnd.cctv | vnd.dlna.mpeg-tts |
| vnd.fvt | vnd.hns.video | vnd.iptvforum.1dparityfec-1010 |
| vnd.iptvforum.1dparityfec-2005 | vnd.iptvforum.2dparityfec-1010 | vnd.iptvforum.2dparityfec-2005 |
| vnd.iptvforum.ttsavc | vnd.iptvforum.ttsmpeg2 | vnd.motorola.video |
| vnd.motorola.videop | vnd.mpegurl | vnd.ms-playready.media.pyv |
| vnd.nokia.interleaved-multimedia | vnd.nokia.videovoip | vnd.objectvideo |
| vnd.sealed.mpeg1 | vnd.sealed.mpeg4 | vnd.sealed.swf |
| vnd.sealedmedia.softseal.mov | vnd.vivo | webm |
| x-dirac | x-f4v | x-flc |
| x-fli | x-flv | x-jng |

| | | |
|---|---|---|
| `x-m4v` | `x-matroska` | `x-mng` |
| `x-ms-asf` | `x-ms-wm` | `x-ms-wmv` |
| `x-ms-wmx` | `x-ms-wvx` | `x-msvideo` |
| `x-oggrgb` | `x-ogguvs` | `x-oggyuv` |
| `x-ogm` | `x-sgi-movie` | |

*Table 10. x-conference File Types*

| | | |
|---|---|---|
| `x-cooltalk` | | |

# 1.3. Catalog Taxonomy Definitions

To facilitate data sharing while maximizing the usefulness of metadata, the attributes on resources are normalized into a common taxonomy that maps to attributes in the desired output format.

**NOTE** The taxonomy is presented here for reference only.

## 1.3.1. Core Attributes

*Table 11. Core Attributes.* **Injected by default.**

| Term | Definition | Datatype | Constraints | Example Value |
|---|---|---|---|---|
| title | A name for the resource. Dublin Core elements-title. | String | < 1024 characters | |
| source-id | ID of the source where the Metacard is cataloged. While this cannot be moved or renamed for legacy reasons, it should be treated as non-mappable, since this field is overwritten by the system when federated results are retrieved. | String | < 1024 characters | |
| metadata-content-type **[deprecated]** *see Media Attributes* | Content type of the resource. | String | < 1024 characters | |

| Term | Definition | Datatype | Constraints | Example Value |
|---|---|---|---|---|
| metadata-content-type-version **[deprecated]** *see Media Attributes* | Version of the metadata content type of the resource. | String | < 1024 characters | |
| metadata-target-namespace **[deprecated]** *see Media Attributes* | Target namespace of the metadata. | String | < 1024 characters | |
| metadata | Additional XML metadata describing the resource. | XML | A valid XML string per RFC 4825 (must be well-formed but not necessarily schema-compliant). | |
| location | The primary geospatial location of the resource. | Geometry | Valid Well Known Text (WKT) per http://www.opengeospatial.org/standards/wkt-crs *Coordinates must be in **lon-lat** coordinate order* | POINT(150 30) |
| expiration | The expiration date of the resource. | Date | | |
| effective **[deprecated]** | The `effective` time of the event or resource represented by the metacard. Deprecated in favor of created and modified. | Date | | |

| Term | Definition | Datatype | Constraints | Example Value |
|---|---|---|---|---|
| point-of-contact **[deprecated]** | The name of the point of contact for the resource. This is set internally to the user's subject and should be considered read-only to other DDF components. | String | < 1024 characters | |
| resource-uri | Catalog-specific location of the resource for the metacard. This URI is used for internal catalog requests. | String | Valid URI per RFC 2396 | |
| resource-download-url | URL location of the resource for the metacard. This attributes provides a client-resolvable URL to the download location of the resource. Clients should use this URL for download requests. | String | Valid URL per RFC 2396 | |
| resource-size | Size in bytes of resource. | String | Although this type cannot be changed for legacy reasons, its value should always be a parsable whole number. | |
| thumbnail | The thumbnail for the resource in JPEG format. | Base 64 encoded binary string per RFC 4648 | ⇐ 128 KB | |
| description | An account of the resource. Dublin Core elements-description. | String | | |
| checksum | Checksum value for the primary resource for the metacard. | String | < 1024 characters | |
| checksum-algorithm | Algorithm used to calculate the checksum on the primary resource of the metacard. | String | < 1024 characters | |
| created | The creation date of the resource Dublin Core terms-created. | Date | | |

| Term | Definition | Datatype | Constraints | Example Value |
|---|---|---|---|---|
| modified | The modification date of the resource Dublin Core terms-modified. | Date | | |
| language | The languages of the resource. Dublin Core language. | List of Strings | Alpha-3 language codes per ISO_639-2 | |
| resource.derived-uri | Catalog-specific Locations for accessing the resources derived from another source (for example, an overlay of a larger image). This URI is used for internal catalog requests. | List of Strings | Valid URI per RFC 2396 | |
| resource.derived-download-url | Download URLs for accessing the resources derived from another source (for example, an overlay of a larger image). Clients should use this URL for download requests. | List of Strings | Valid URLs per RFC 2396 | |
| datatype | The generic types of the resource including the Dublin Core terms-type. DCMI Type term labels are expected here as opposed to term names. | List of Strings | `Collection`, `Dataset`, `Event`, `Image`, `Interactive Resource`, `Moving Image`, `Physical Object`, `Service`, `Software`, `Sound`, `Still Image`, and/or `Text` | |

### 1.3.2. Associations Attributes

*Table 12. Associations (Attributes in this group represent associations between resources.)* **Injected by default.**

| Term | Definition | Datatype | Constraints | Example Value |
|---|---|---|---|---|
| metacard.associations.derived | ID of one or more metacards derived from this metacard. | List of Strings | A valid metacard ID (conventionally, a type 4 random UUID with hyphens removed). | 70809f17782c42b8ba15747b86b50ebf |
| metacard.associations.related | ID of one or more metacards related to this metacard. | List of Strings | A valid metacard ID (conventionally, a type 4 random UUID with hyphens removed). | 70809f17782c42b8ba15747b86b50ebf |
| associations.external | One or more URI's identifying external associated resources. | List of Strings | A valid URI. | https://infocorp.org/wikia/reference |

### 1.3.3. Contact Attributes

*Table 13. Contact (Attributes in this group reflect metadata about different kinds of people/groups/units/organizations that can be associated with a metacard.)* **Injected by default.**

| Term | Definition | Datatype | Constraints | Example Value |
|---|---|---|---|---|
| contact.creator-name | The names of this metacard's creators. | List of Strings | < 1024 characters per entry | |
| contact.creator-address | The physical addresses of this metacard's creators. | List of Strings | < 1024 characters per entry | |
| contact.creator-email | The email addresses of this metacard's creators. | List of Strings | A valid email address per RFC 5322. | |
| contact.creator-phone | The phone numbers of this metacard's creators. | List of Strings | < 1024 characters per entry | |
| contact.publisher-name | The names of this metacard's publishers. | List of Strings | < 1024 characters per entry | |

| Term | Definition | Datatype | Constraints | Example Value |
|---|---|---|---|---|
| contact.publisher-address | The physical addresses of this metacard's publishers. | List of Strings | < 1024 characters per entry | |
| contact.publisher-email | The email addresses of this metacard's publishers. | List of Strings | A valid email address per RFC 5322. | |
| contact.publisher-phone | The phone numbers of this metacard's publishers. | List of Strings | < 1024 characters per entry | |
| contact.contributor-name | The name of the contributors to this metacard. | List of Strings | < 1024 characters per entry | |
| contact.contributor-address | The physical addresses of the contributors to this metacard. | List of Strings | < 1024 characters per entry | |
| contact.contributor-email | The email addresses of the contributors to this metacard. | List of Strings | A valid email address per RFC 5322. | |
| contact.contributor-phone | The phone numbers of the contributors to this metacard. | List of Strings | < 1024 characters per entry | |
| contact.point-of-contact-name | The names of the points of contact for this metacard. | List of Strings | < 1024 characters per entry | |
| contact.point-of-contact-address | The physical addresses of the points of contact for this metacard. | List of Strings | < 1024 characters per entry | |
| contact.point-of-contact-email | The email addresses of the points of contact for this metacard. | List of Strings | A valid email address per RFC 5322. | |
| contact.point-of-contact-phone | The phone numbers of the points of contact for this metacard. | List of Strings | < 1024 characters per entry | |

### 1.3.4. DateTime Attributes

*Table 14. DateTime (Attributes in this group reflect temporal aspects about the resource.)* **Injected by default.**

| Term | Definition | Datatype | Constraints | Example Value |
|---|---|---|---|---|
| datetime.start | Start times for the resource. | List of Dates | | |
| datetime.end | End times for the resource. | List of Dates | | |
| datetime.name | A descriptive name for the corresponding temporal attributes. See datetime.start and datetime.end. | List of Strings | < 1024 characters per entry | |

### 1.3.5. History Attributes

*Table 15. History (Attributes in this group describe the history/versioning of the metacard.)* **Injected by default.**

| Term | Definition | Datatype | Constraints | Example Value |
|---|---|---|---|---|
| metacard.version.id | Internal attribute identifier for which metacard this version is representing | String | A valid metacard ID (conventionally, a type 4 random UUID with hyphens removed). | 70809f17782c42b8ba15747b86b50ebf |
| metacard.version.edited-by | Internal attribute identifying the editor of a history metacard. | String | A valid email address per RFC 5322 | |
| metacard.version.versioned-on | Internal attribute for the versioned date of a metacard version. | Date | | |
| metacard.version.action | Internal attribute for the action associated with a history metacard. | String | One of `Deleted`, `Deleted-Content`, `Versioned`, `Versioned-Content` | |
| metacard.version.tags | Internal attribute for the tags that were on the original metacard. | String | | |

| Term | Definition | Datatype | Constraints | Example Value |
|---|---|---|---|---|
| metacard.version.type | Internal attribute for the metacard type of the original metacard. | String | | |
| metacard.version.type-binary | Internal attribute for the serialized metacard type of the original metacard. | Binary | | |
| metacard.version.resource-uri | Internal attribute for the original resource uri. | URI | | |

### 1.3.6. Location Attributes

*Table 16. Location (Attributes in this group reflect location aspects about the resource.)* **Injected by default.**

| Term | Definition | Datatype | Constraints | Example Value |
|---|---|---|---|---|
| location.altitude-meters | Altitude of the resource in meters. | List of Doubles | > 0 | |
| location.country-code | One or more country codes associated with the resource. | List of Strings | ISO_3166-1 alpha-3 codes | |
| location.crs-code | Coordinate reference system code of the resource. | List of Strings | < 1024 characters per entry | EPSG:4326 |
| location.crs-name | Coordinate reference system name of the resource. | List of Strings | < 1024 characters per entry | WGS 84 |

### 1.3.7. Media Attributes

*Table 17. Media (Attributes in this group reflect metadata about media in general.)* **Injected by default.**

| Term | Definition | Datatype | Constraints | Example Value |
|---|---|---|---|---|
| media.format | The file format, physical medium, or dimensions of the resource. Dublin Core elements-format | String | < 1024 characters | txt, docx, xml - typically the extension or a more complete name for such, note that this is not the mime type |

| Term | Definition | Datatype | Constraints | Example Value |
|---|---|---|---|---|
| media.format-version | The file format version of the resource. Note that the syntax can vary widely from format to format. | String | < 1024 characters | POSIX, 2016, 1.0 |
| media.bit-rate | The bit rate of the media, in bits per second. | Double | | |
| media.frame-rate | The frame rate of the video, in frames per second. | Double | | |
| media.frame-center | The center of the video frame. | Geometry | Valid Well Known Text (WKT) | |
| media.height-pixels | The height of the media resource in pixels. | Integer | | |
| media.width-pixels | The width of the media resource in pixels. | Integer | | |
| media.compression | The type of compression this media uses.<br><br>EXIF STANAG 4559 NC, NM, C1, M1, I1, C3, M3, C4, M4, C5, M5, C8, M8 | String | One of the values defined for EXIF Compression tag. | |
| media.bits-per-sample | The number of bits per image component. | Integer | | |
| media.type (RFC 2046) | A two-part identifier for file formats and format content. | String | A valid mime-type per https://www.ietf.org/rfc/rfc2046.txt | application/json |
| media.encoding | The encoding format of the media. | List of Strings | < 1024 characters per entry | MPEG-2, RGB |

| Term | Definition | Datatype | Constraints | Example Value |
|---|---|---|---|---|
| media.number-of-bands | The number of spectral bands in the media. | Integer | The significance of this number is instrumentation-specific, but there are eight commonly recognized bands. https://en.wikipedia.org/wiki/Multispectral_image | |
| media.scanning-mode (MPEG2) | Indicate if progressive or interlaced scans are being applied. | String | PROGRESSIVE, INTERLACED | |

### 1.3.8. Metacard Attributes

*Table 18. Metacard (Attributes in this group describe the metacard itself.)* **Injected by default.**

| Term | Definition | Datatype | Constraints | Example Value |
|---|---|---|---|---|
| metacard.created | The creation date of the metacard. | Date | | |
| metacard.modified | The modified date of the metacard. | Date | | |
| metacard.owner | The email address of the metacard owner. | String | A valid email address per RFC 5322 | |
| metacard-tags | Collections of data that go together, used for filtering. query results. NOTE: these are system tags. For descriptive tags, Topic Attributes. | List of Strings | < 1024 characters per entry | |

### 1.3.9. Security Attributes

*Table 19. Security (Attributes in this group relate to security of the resource and metadata.)* **Injected by default.**

| Term | Definition | Datatype | Constraints | Example Value |
|---|---|---|---|---|
| security.access-groups | Attribute name for storing groups to enforce access controls upon that enable a user to read and write a metacard. | List of Strings | < 1024 characters per entry | |
| security.access-individuals | Attribute name for storing the email addresses of users to enforce access controls upon that enable the ability to read and write a metacard. | List of Strings | A valid email address per RFC 5322. | |
| security.access-individuals-read | Attribute name for storing the email addresses of users to enforce access controls upon that can read, but not explicitly write to a metacard. | List of Strings | A valid email address per RFC 5322. | |
| security.access-groups-read | Attribute name for storing groups to enforce access controls upon that enable a user to read, but not necessarily write to a metacard. | List of Strings | < 1024 characters per entry | |
| security.access-administrators | Attribute name for explicitly stating who has the permissions to modify the access control values of a metacard. These values include changing the security.access-groups, security.access-individuals and the security.access-administrators values. | List of Strings | A valid email address per RFC 5322. | |

### 1.3.10. Topic Attributes

*Table 20. Topic (Attributes in this group describe the topic of the resource.)* **Injected by default.**

| Term | Definition | Datatype | Constraints | Example Value |
|---|---|---|---|---|
| topic.category | A category code from a given vocabulary. | List of Strings | A valid entry from the corresponding controlled vocabulary. | |

| Term | Definition | Datatype | Constraints | Example Value |
|---|---|---|---|---|
| topic.keyword | One or more keywords describing the subject matter of the metacard or resource. | List of Strings | < 1024 characters per entry | |
| topic.vocabulary | An identifier of a controlled vocabulary from which the topic category is derived. | List of Strings | Valid URI per RFC 2396. | |

### 1.3.11. Validation Attributes

*Table 21. Validation (Attributes in this group identify validation issues with the metacard and/or resource.)*
**Injected by default.**

| Term | Definition | Datatype | Constraints | Example Value |
|---|---|---|---|---|
| validation-warnings | Textual description of validation warnings on the resource. | List of Strings | < 1024 characters per entry | |
| validation-errors | Textual description of validation errors on the resource. | List of Strings | < 1024 characters per entry | |

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