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. 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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