

Estrategias de información agrícola y sus nuevas herramientas

2.3. Recomendaciones para el intercambio de metadatos

Estrategias de codificación apropiadas para producir
Datos Abiertos Vinculados para Datos Bibliográficos
(LODE-BD)



Contexto



Virtual Open Access
Agriculture & Aquaculture
Repository

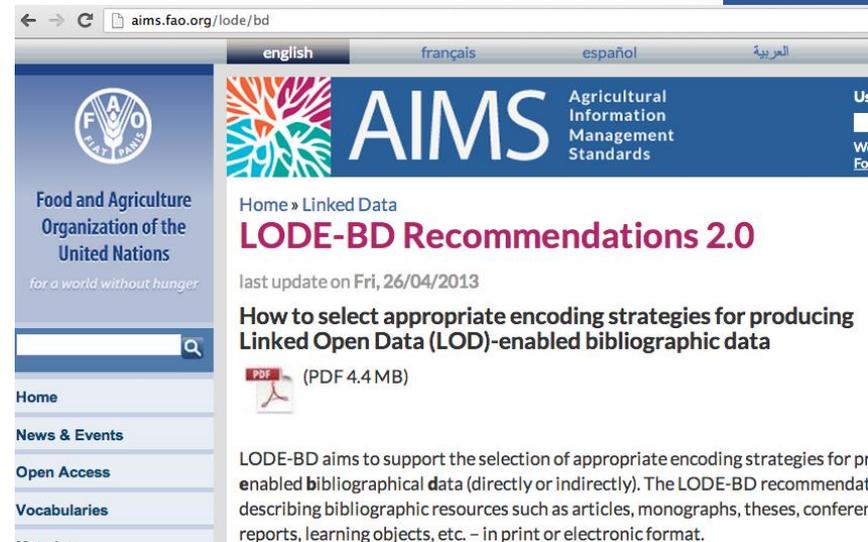
Tarea: convertir los datos bibliográficos

-A partir de una base de datos ad-hoc

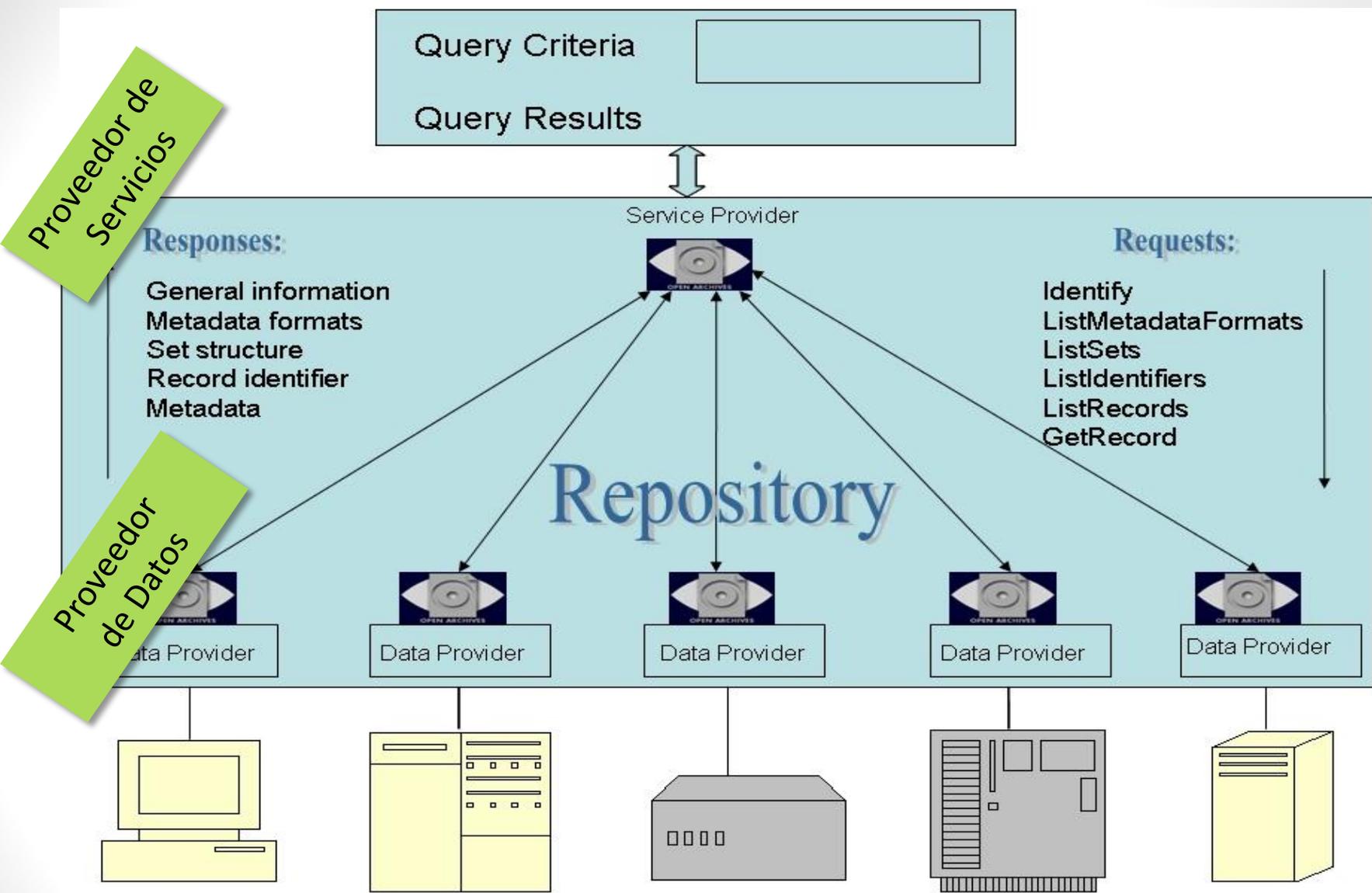
❑ En datos estandarizados en un repositorio de metadatos...

❑ Dirigirse al universo LOD

<http://aims.fao.org/lode/bd>



The screenshot shows a web browser window with the URL aims.fao.org/lode/bd. The page features the FAO logo and the AIMS (Agricultural Information Management Standards) logo. The main content area displays the title "LODE-BD Recommendations 2.0" and a PDF document titled "How to select appropriate encoding strategies for producing Linked Open Data (LOD)-enabled bibliographic data" (PDF 4.4 MB). The page also includes a search bar, a navigation menu with links for Home, News & Events, Open Access, and Vocabularies, and a footer with the text "LODE-BD aims to support the selection of appropriate encoding strategies for producing enabled bibliographical data (directly or indirectly). The LODE-BD recommendations describing bibliographic resources such as articles, monographs, theses, conference reports, learning objects, etc. - in print or electronic format."



Proveedor de Servicios

Proveedor de Datos

**8 repositorios
(13 paises, 17 instituciones)**

Preguntas de los proveedores de datos

Para convertir datos locales en un conjunto de Datos Vinculados ---

- ¿Qué estándares de metadatos se deben usar?
- ¿Cuál es el conjunto mínimo de propiedades a incluir para asegurar el intercambio significativo de datos?
- ¿Hay algún modelo de metadatos o perfil de aplicación para mis datos?
- ¿Qué valores de datos pueden proporcionar - cadena de texto sin formato o Uniform Resource Identifier o URI (en español «identificador uniforme de recursos»)?
- ¿Cómo codificar nuestros datos a fin de pasar de una base de datos local a un conjunto de datos de datos vinculados?



Se aplicaron varios estándares

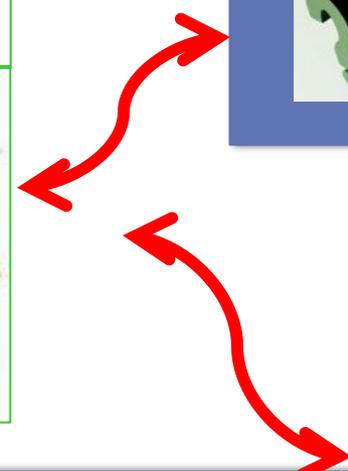
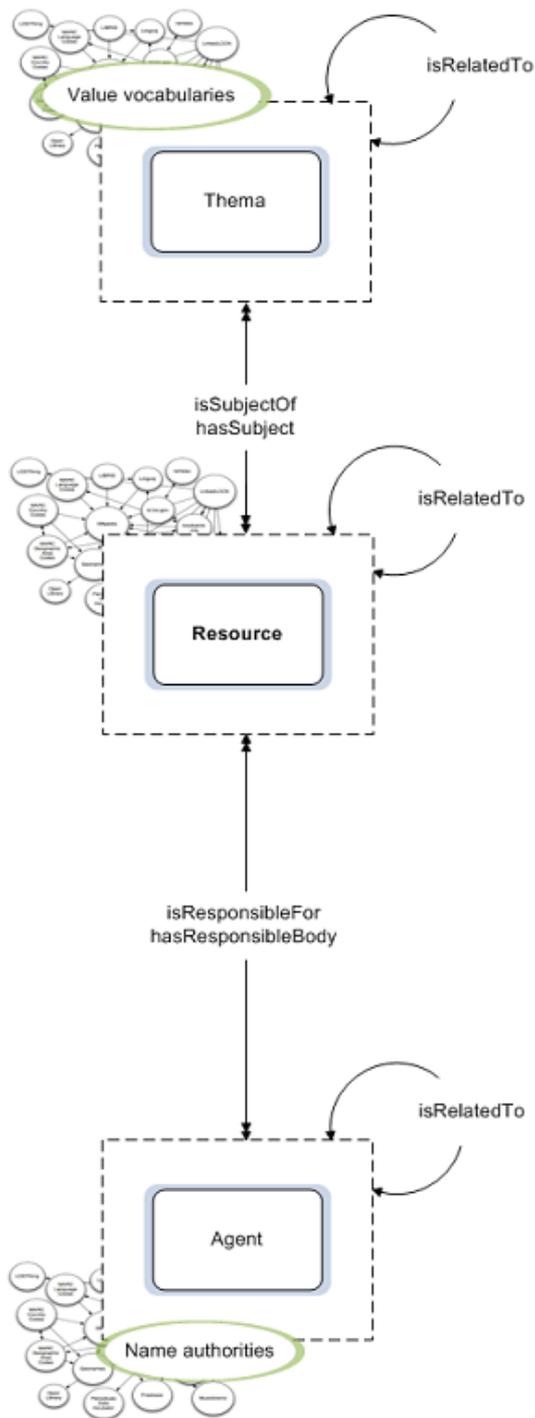
Ejemplo: <Responsible Body>

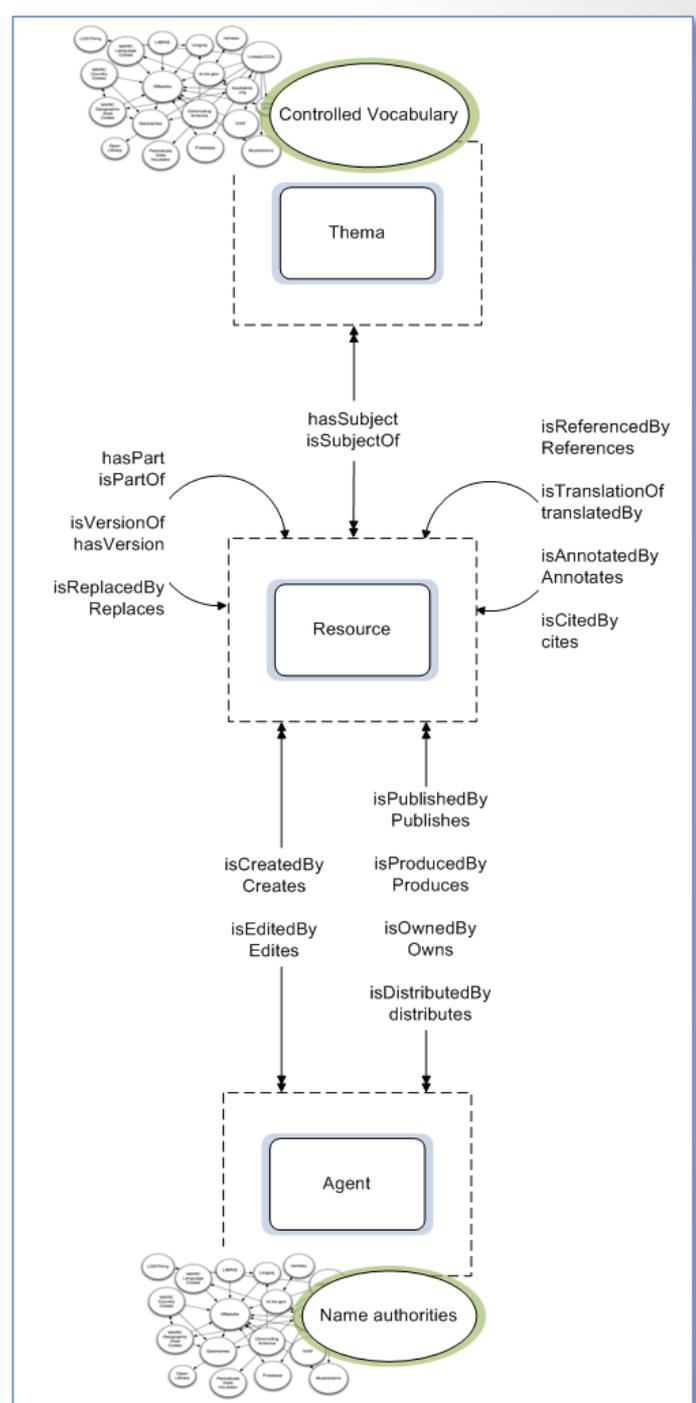
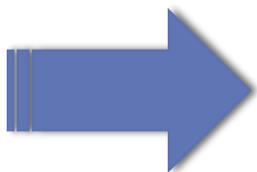
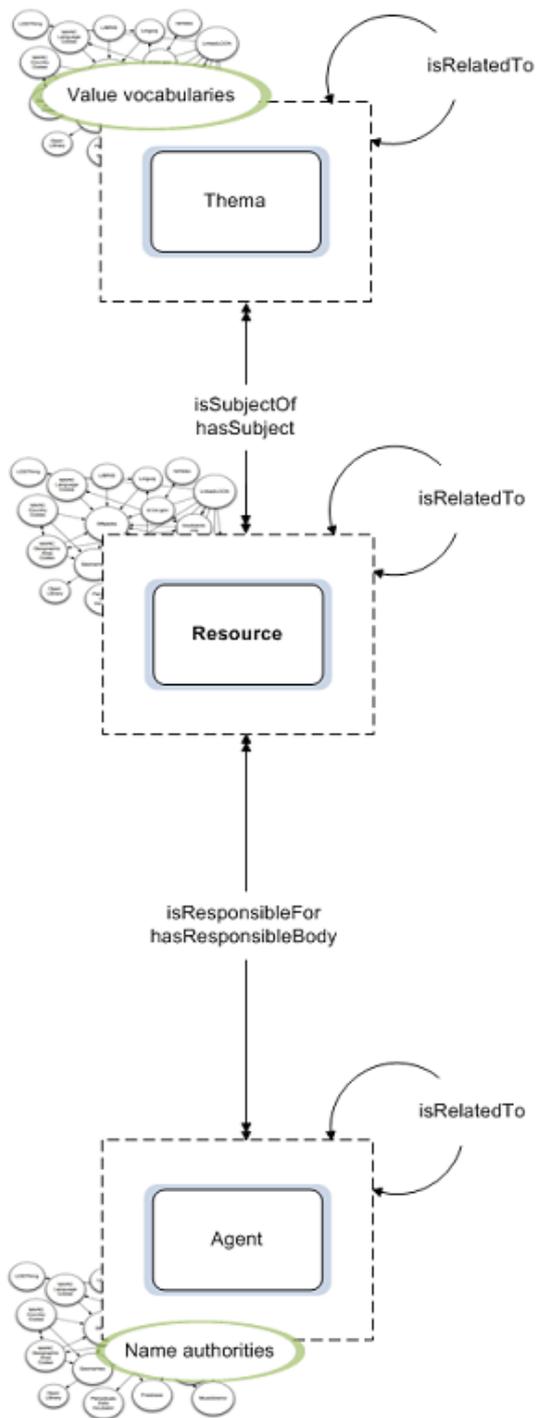
metadatos relacionados procedentes de 8 proveedores de datos

	A	B	C	D	E	F	G	H	I	J
1		1. FAO Open Archive	3. ProdlInra - Book/Journal article	4. Organic Eprints	5. Epsilon Open Archive	6. U Gov	7. OceanDocs Repository		8. AGRIS-AgriDrupal e.g.	8 AGRIS DataDictionary
2	creator-person	Personal Name	Personal Name [personal info]	Authors	Creators	Personal Name	Authors	creator-person	Personal Name	Author's name
3			Author Inra							
4			. name							
5		role	.role			role			role	role
6			.[unit detail]							affiliation
7			.[external affiliation detail]							email
8			Author non-inra							
9			. name							
10			.role							
11			.[afficiation detail]			autor list				
12	creator-corporateBody	Corporate Author	Corporate author	Corporate authors			Corporate Authors	creator-corporateBody	Corporate Author	ate Author
13			. name							
14			. type							
15			.[unit detail]							
16			. Acronym							
17			Corporate name							
18	contributor			Editors	Editors			editors contributor		
19				research affiliation	Divisions					
20				Funding part	Funders		Funders			
21					Supervisor					
22					Oponent					

Todo el mundo utilizaba un formato ad-hoc local.

Paso 1. Conocer el modelo de datos





Paso 2. Relacionar los metadatos con las propiedades y grupos LODI-BD

FAO Open Archive	Controlled
Title	No
Project title	Authority Data
Translated Title	No
Transliterated Title	No
Subtitle	No

Alternative Title
Personal author
Corporate author
Role
Conference
Edition
Publisher
Place
Date
Year
Copyright date

A Group	B Property	C Requirement		D Value Control	E Important Attributes
		M HR R O			
		Non Analytical	Analytical		
1. Title Information	title++	M	M	n	language
	alternative title	O	O	n	
	title supplement	O	O	n	
2. Responsible Body	creator	HR	HR	n or Name authority (personal, corporate body, conference)	scheme
	contributor	O	O	n or Name authority	
	publisher/issuer+	HR	R	n or Name authority	
3. Physical Characteristics	date++	M	M	Syntax encoding rule	scheme
	identifier+	HR	HR	Syntax encoding rule	scheme
	language++	M	M	Controlled list	scheme
	format/medium+	HR	HR	Controlled list	scheme
	edition /version	R	R	n	
	source+	HR	R	n	

Once
Once or many
0 or once
0 or many

9 Grupos de Propiedades

1. Información del título
2. Entidad responsable
3. Características físicas
4. Ubicación
5. Materia
6. Descripción del contenido
7. Propiedad intelectual
8. uso
9. Relación entre documentos / agentes

ODE-BD Group	Metadata Terms		
	General		Narrower
	dc:-based	dcterms:-based	
Title Information	dc:title	dcterms:title	dcterms:alternative ags:titleSupplement
	dc:creator	dcterms:creator	ags:creatorPersonal ags:creatorCorporate ags:creatorConference
Responsible Body	dc:contributor	dcterms:contributor	bibo:editor
	dc:publisher	dcterms:publisher	bibo:issuer bibo:producer bibo:distributor bibo:owner
	dc:date	dcterms:date	dcterms:created dcterms:dateAccepted dcterms:dateCopyrighted dcterms:dateSubmitted dcterms:modified dcterms:valid dcterms:available dcterms:issued
	dc:identifier		bibo:asin bibo:coden bibo:doi bibo:eanucc13 bibo:eissn bibo:gtin14

Meaningful Bibliographic Metadata (M2B)

Recommendations of a set of metadata properties and encoding vocabularies

<http://aims.fao.org/metadata/m2b>

“++” = propiedad obligatoria

“+” = muy recomendable

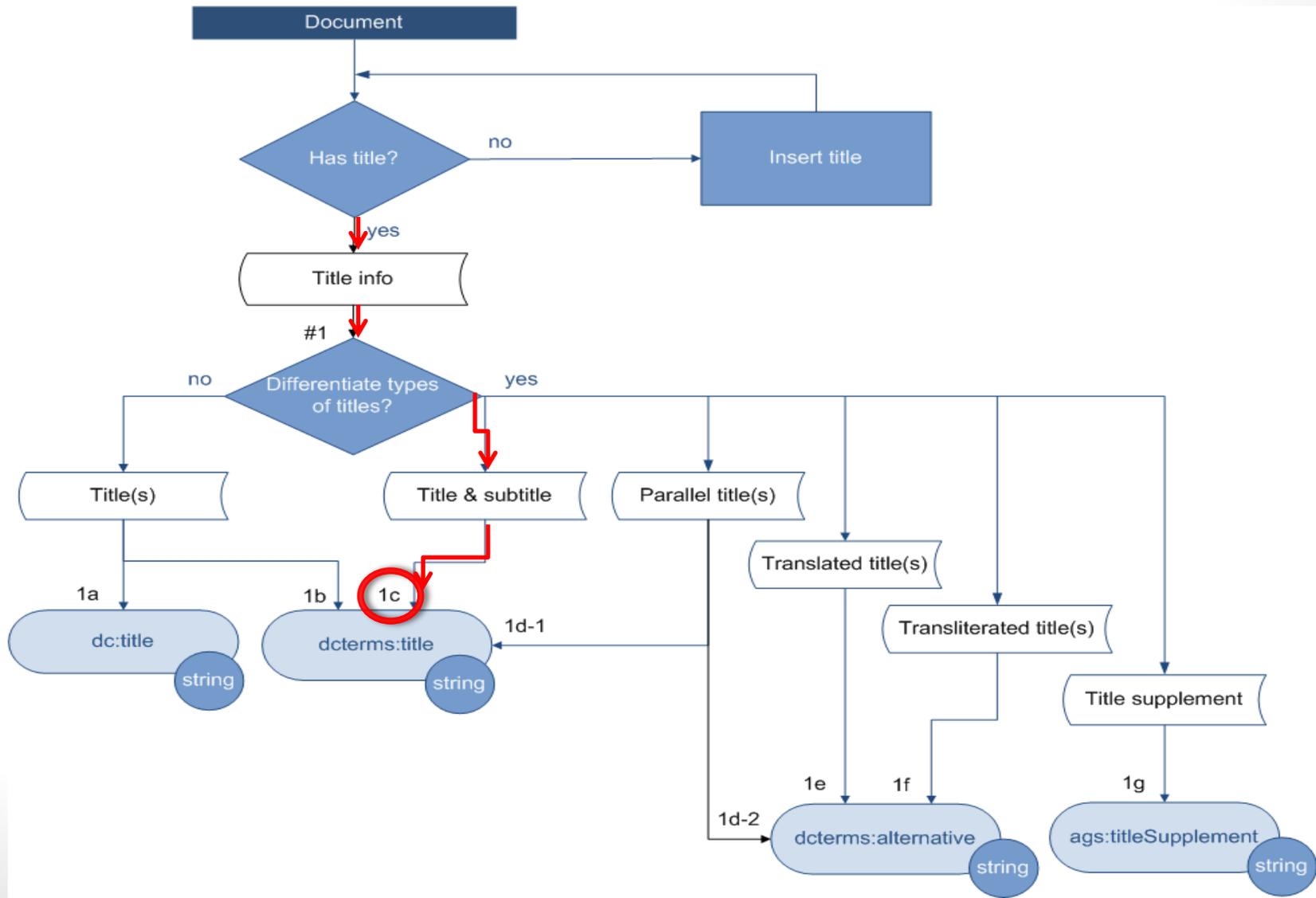
Table 1. Groups of Common Properties

A	B	C		D	E
Group	Property	Requirement M HR R O		Value Control	Important Attributes
		Non Analytical	Analytical		
1. Title Information	title++	M	M	n	language
	alternative title	O	O	n	
2. Responsible Body	creator+	HR	HR	n or Name authority (personal, corporate body, conference)	scheme
	contributor	O	O	n or Name authority	
	publisher/issuer+	HR	R		

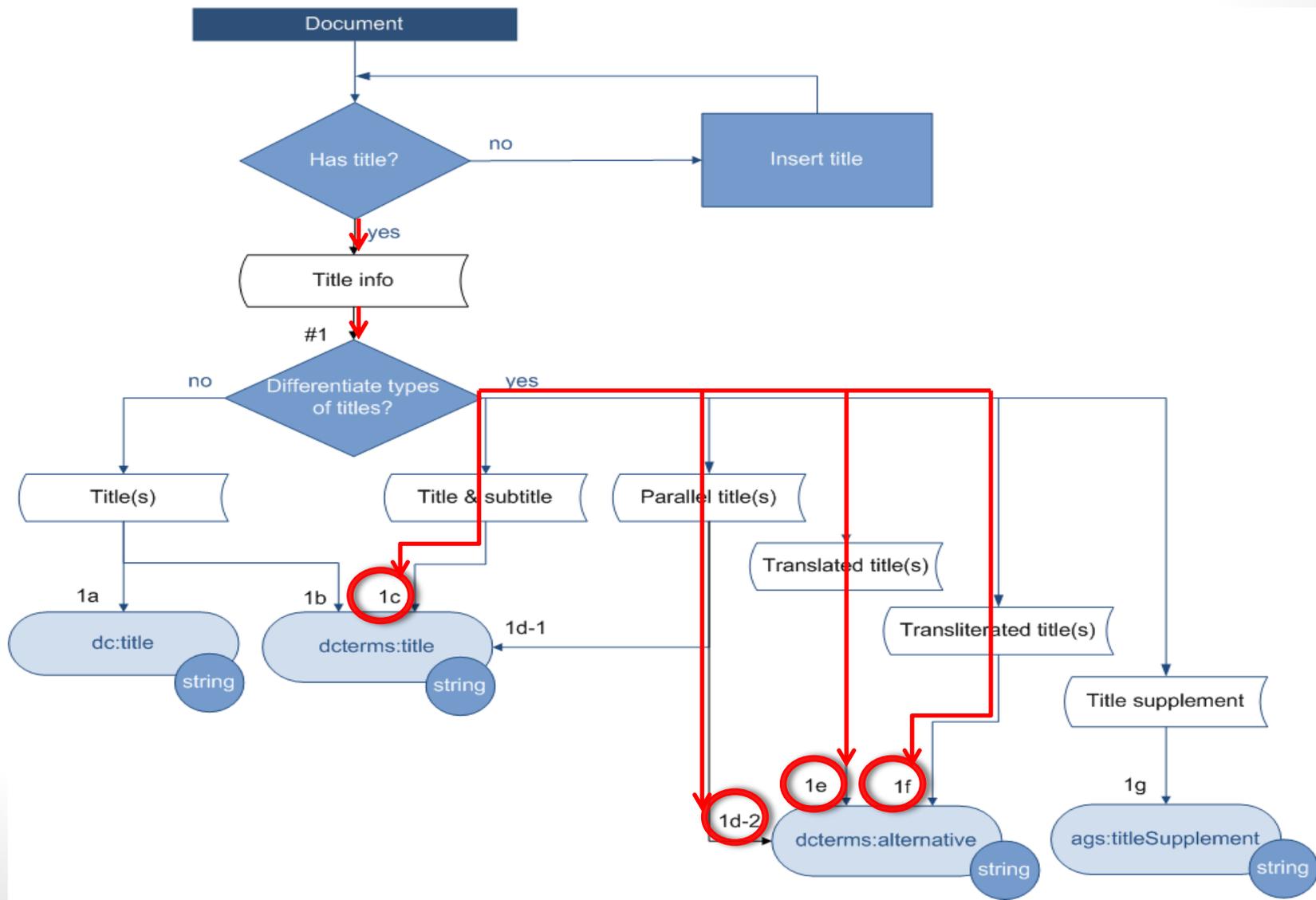
Meaningful Bibliographic Metadata (M2B)

Recommendations of a set of metadata properties and encoding vocabularies

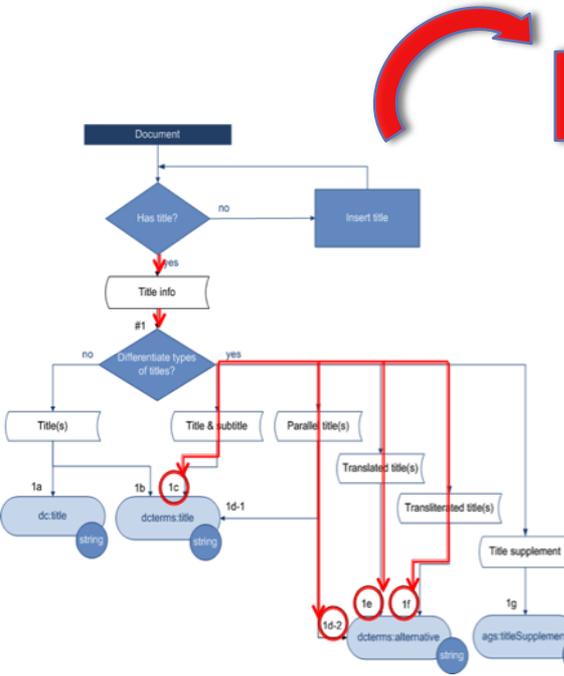
Paso 3. Árboles de decisión LODE-BD, paso a paso



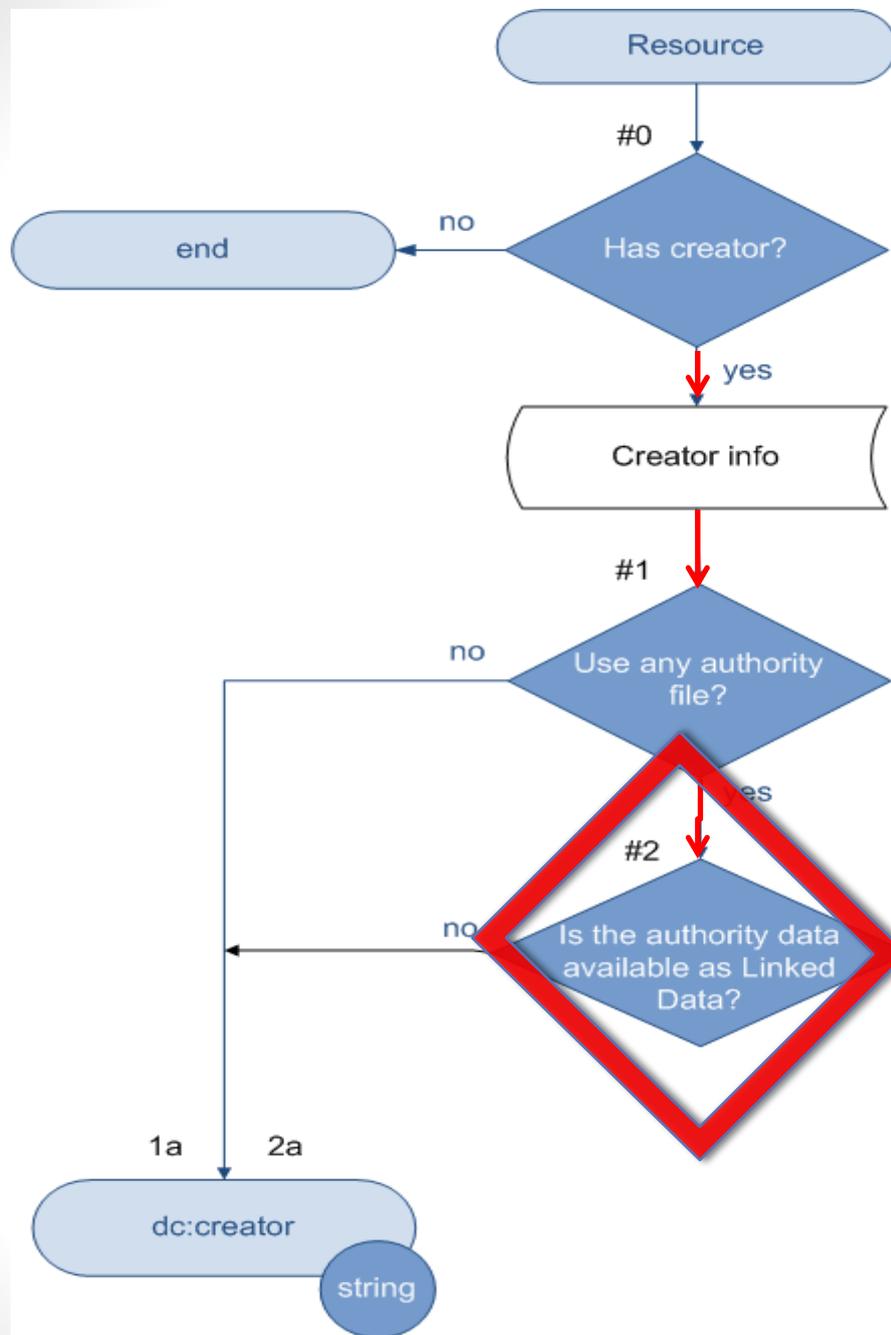
Paso 3. Árboles de decisión LODE-BD, paso a paso



Paso 4. Encontrar los metadatos y los ejemplos de codificación



Decision	Question	Answer	Action	Value Type	Examples		
					Metadata Term	Value	
#0	Has title?	No	Insert title and go back to #0				
		Yes	Continue to #1				
#1	Differentiate types of titles?	No	1a	String	dc:title	Solar radiation energy and its utilization by Lucerne (Medicagosativa L.)	
			1b	String	dcterms:title	On the state of man [world agricultural situation]	
		Yes	title(s) and subtitle(s)	1c	String	dcterms:title	FAO yearbook of forest products, 1996-2000
			parallel title(s)	1d-1	String	dcterms:title	Annuaire des produits forestiers de la FAO, 1996-2000
				1d-2	String	dcterms:alternative	
			translated title(s)	1e	String	dcterms:alternative	Annuario de productos forestales de la FAO, 1996-2000
						Working together for an International Alliance Against Hunger	
			transliterated title(s)	1f	String	dcterms:alternative	Posly dobroj voli Prodovol'stvennoj i Sel'skokhozyajstvennoj Organizatsii Ob'edinennykh Natsij



Sigue el camino para encontrar un camino directo a LOD



URI

DC Terms User Guide/Publishing Metadata

2.1.11 dcterms:modified

2.1.12 dcterms:title

2.1.13 dcterms:valid

2.2 Properties of the terms namespace used only with non-literal values

2.2.1 dcterms:accrualMethod

2.2.2 dcterms:accrualPeriodicity

2.2.3 dcterms:accrualPolicy

2.2.4 dcterms:accessRights

2.2.5 dcterms:audience

2.2.6 dcterms:conformsTo

2.2.7 dcterms:contributor

2.2.8 dcterms:coverage

2.2.9 dcterms:creator

2.2.10 dcterms:educationLevel

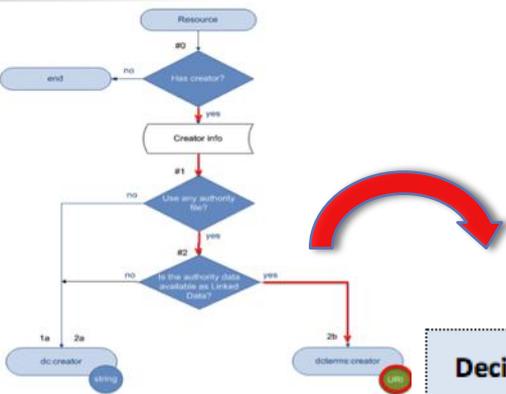
2.2.11 dcterms:extent

2.2.12 dcterms:format

2.2.13 dcterms:hasFormat

2.2.14 dcterms:hasPart

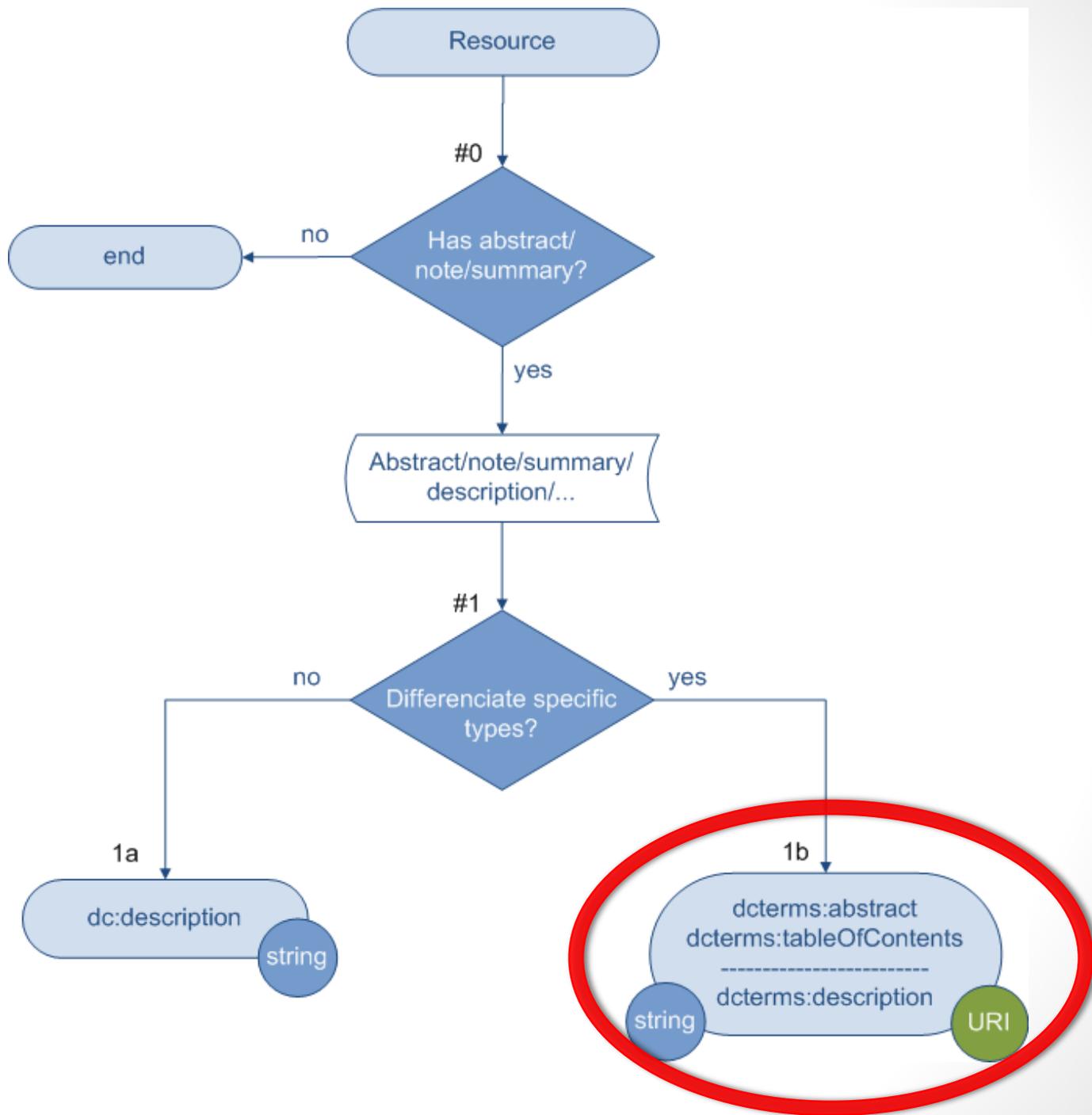
*Estas propiedades
sólo pueden usar
valores no
literales*



Véase la siguiente diapositiva para una imagen más grande

Decision	Question	Answer	Action	Value Type	Examples	
					Metadata Term	Value
#0	Has creator?	No	End			
		Yes	Continue to #1			
#1	Use any authority file?	No	1a	String	dc:creator	[Unauthorized form]: <ul style="list-style-type: none"> • Tim Berners-Lee • Tim B-L • Timothy John Berners-Lee • FAO of the UN • FAO Council (78th Session) Nov. 24, 1980, Rome, Italy
		Yes	Go to #2			
#2	Is the authority data available as Linked Data?	No	1b	String	dc:creator	[Authorized form]: <ul style="list-style-type: none"> • Berners-Lee, Tim • Food and Agriculture Organization of the United Nations • FAO Council (Sess. 78 : 24 Nov 1980 : Rome, Italy)
		Yes	2b	URI	dcterms:creator	http://aims.fao.org/aos/corporate/c_1297 [1] <ul style="list-style-type: none"> • http://aims.fao.org/aos/conference/c_1842[2] • http://viaf.org/viaf/85312226/#Berners-Lee,_Tim [3]

Decision	Question	Answer	Action	Value Type	Examples	
					Metadata Term	Value
#0	Has creator?	No	End			
		Yes	Continue to #1			
#1	Use any authority file?	No	1a	String	dc:creator	[Unauthorized form]: <ul style="list-style-type: none"> • Tim Berners-Lee • Tim B-L • Timothy John Berners-Lee • FAO of the UN • FAO Council (78th Session) Nov. 24, 1980, Rome, Italy
		Yes	Go to #2			
#2	Is the authority data available as Linked Data?	No	1b	String	dc:creator	[Authorized form]: <ul style="list-style-type: none"> • Berners-Lee, Tim • Food and Agriculture Organization of the United Nations • FAO Council (Sess. 78 : 24 Nov 1980 : Rome, Italy)
		Yes	2b	URI	dcterms:creator	http://aims.fao.org/aos/corporate/c_1297 [1] <ul style="list-style-type: none"> • http://aims.fao.org/aos/conference/c_1842[2] • http://viaf.org/viaf/85312226/#Berners-Lee,_Tim [3]



Una lista de todos los términos de metadatos utilizados en LODE-BD

Equivalencia con los términos de Schema.org

LODE-BD Group	Metadata Terms			schema.org Terms	schema.org Types
	General Metadata Terms		More Specific Terms <u>dcterms: + bibo:</u>	> : <u>narrowMatch</u>	[Dots indicate the level of a sub-type]
	<u>dc:-based</u>	<u>dcterms:-based</u>		< : <u>boardMatch</u>	
1. Title Information	<u>dc:title</u>	<u>dcterms:title</u>	<u>dcterms:alternative</u>	<u>name</u>	Thing
				> <u>headline</u>	. <u>CreativeWork</u>
				> <u>alternativeHeadline</u>	. <u>CreativeWork</u>
2. Responsible Body	<u>dc:creator</u>	<u>dcterms:creator</u>		<u>creator</u>	
				<u>author</u>	. <u>CreativeWork</u>
	<u>dc:contributor</u>	<u>dcterms:contributor</u>	<u>bibo:editor</u>	<u>contributor</u>	
				> <u>editor</u>	. <u>CreativeWork</u>
				> <u>illustrator</u>	. . Book
	<u>dc:publisher</u>	<u>dcterms:publisher</u>	<u>bibo:issuer</u>	<u>publisher</u>	. <u>CreativeWork</u>
				<u>bibo:producer</u>	< <u>provider</u>
<u>bibo:distributor</u>					. <u>CreativeWork</u>
<u>bibo:owner</u>					
3. Physical Characteristics	<u>dc:date</u>	<u>dcterms:date</u>	<u>dcterms:created</u>	<u>dateCreated</u>	. <u>CreativeWork</u>
			<u>dcterms:dateAccepted</u>		
			<u>dcterms:dateCopyrighted</u>	<u>copyrightYear</u>	. <u>CreativeWork</u>
			<u>dcterms:dateSubmitted</u>		
			<u>dcterms:modified</u>	<u>dateModified</u>	. <u>CreativeWork</u>
			<u>dcterms:valid</u>		

Varios diccionarios de datos y ejemplos de registros

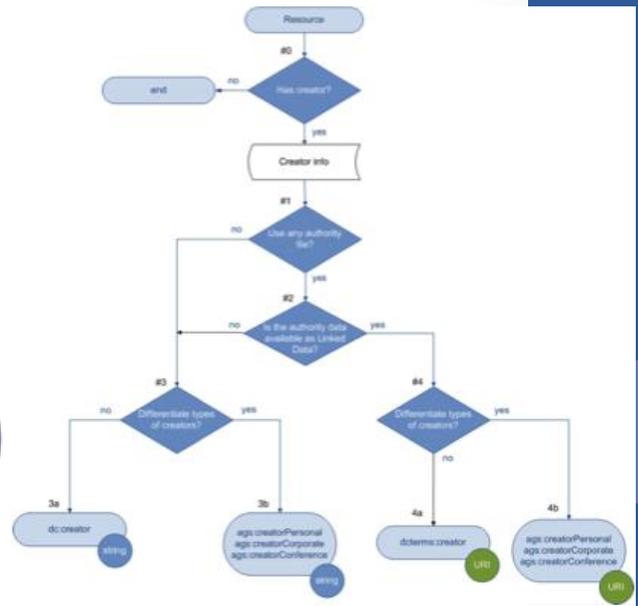
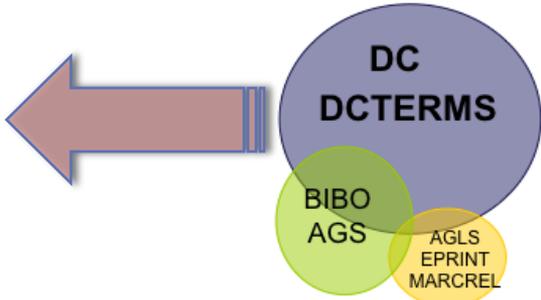
9 Grupos de Propiedades



18 Árboles de Decisión y Escenarios

Group	Property	Requirement		Value Control	Important Attributes
		M	H R I O J		
1. Title Information	title**	O	M	n	language
	alternative title	O	O	n	
2. Responsible Body	title supplement	HR	HR	n or Name authority (personal, corporate body, conference)	scheme
	creator*	HR	HR	n or Name authority	
	contributor	O	O	n or Name authority	
3. Physical Characteristics	publisher/issuer*	HR	R	n or Name authority	scheme
	date**	M	M	Syntax encoding rule	scheme
	identifier**	HR	HR	Syntax encoding rule	scheme
	language**	M	M	Controlled list	scheme
	formalSpecimens*	HR	HR	Controlled list	scheme
4. Location	edition / version	R	R	n	
	source*	HR	R	n	
	location**	M	M	n or Rule [Holding unit names may be managed through a controlled list]	
5. Subject	availability	O	O	n	
	subject term*	HR	HR	Controlled vocabulary	language scheme
	classification	O	O	Controlled vocabulary, Classification system	scheme
	[freely assigned] keyword	R	R	n	language
6. Description of content	geographic term	O	O	Controlled vocabulary	language
	description/abstract (or notes/summary/table of contents)	R	R	n	language
7. Intellectual property	type/form/genre	R	R	Controlled vocabulary	language
	rights*	R	R	n [Rights holders may be managed through name authorities]	scheme
8. Usage	terms of use	R	R	n [Rights holders may be managed through name authorities]	scheme
	access condition	R	R	n [Rights holders may be managed through name authorities]	scheme
9. Relation	audience	O	O	Controlled list	scheme
	literary indication	O	O	Controlled list	scheme
9. Relation	indication level	O	O	Controlled list	scheme
	relation between resources*	O	HR	Controlled resource IDs	
9. Relation	relation between agents*	O	O	n or Name authority	

LODE-BD



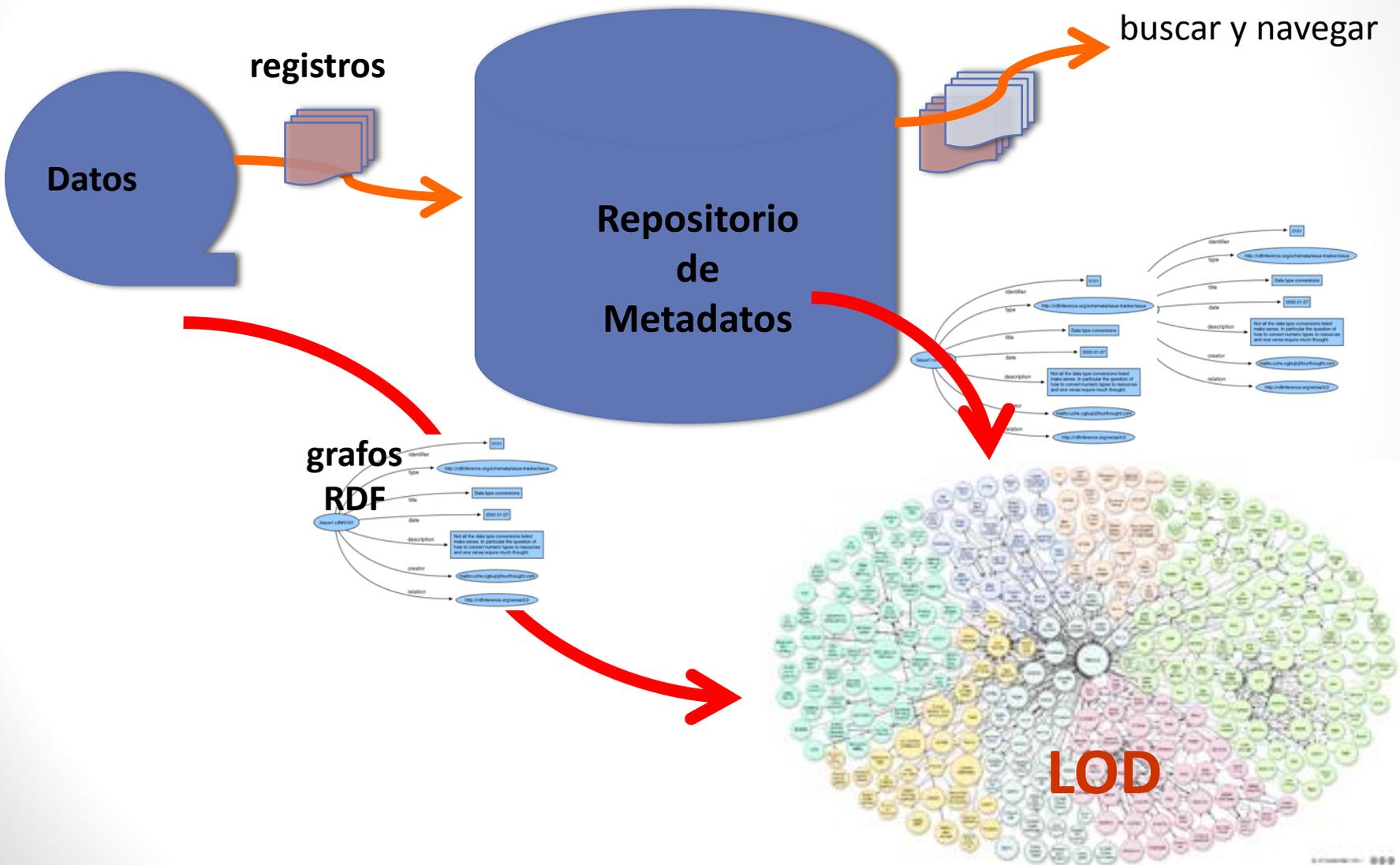
Paso 5. Implementar el enfoque LODÉ-BD en un sistema



- Alternativa # 1, la estrategia de "**tiempo de diseño**": cambiar el modelo ad-hoc actual para utilizar las "buenas prácticas" del modelo LODÉ. => Esto significa realizar algunos cambios en su base de datos y los servicios que tienen acceso a ella.
- Alternativa # 2, la estrategia de "**tiempo de ejecución**": adaptar sobre la marcha el modelo de "buenas prácticas" bajo petición y dejar su modelo ad-hoc como es. => Esto significa añadir un servicio de conversión.



Paso 6. Generar datos



Principios LOD-DB

- Promover el uso de **estándares de metadatos** bien establecidos y los emergentes vocabularios LOD propuestos en la comunidad de Linked Data;
- Fomentar el uso de los **datos de autoridad, vocabularios controlados**, y normas de codificación de sintaxis en metadatos siempre que sea posible;
- Fomentar el uso de **recursos URI** como valores de datos cuando estén disponibles;
- Facilitar el proceso de toma de decisiones sobre la codificación de datos con fines de **intercambio y reutilización**;
- Proporcionar un soporte de referencia que está **abierto** a sugerencias sobre nuevas propiedades y términos de metadatos de acuerdo a las necesidades de la comunidad Linked Data.

¡Gracias!

Recomendaciones LODE-BD v.2.0

<http://aims.fao.org/lode/bd>

Véase también :

AGROVOC como LOD, <http://aims.fao.org/standards/agrovoc/about>

Datos bibliográficos de OpenAgris como LOD. <http://aims.fao.org/openagris>