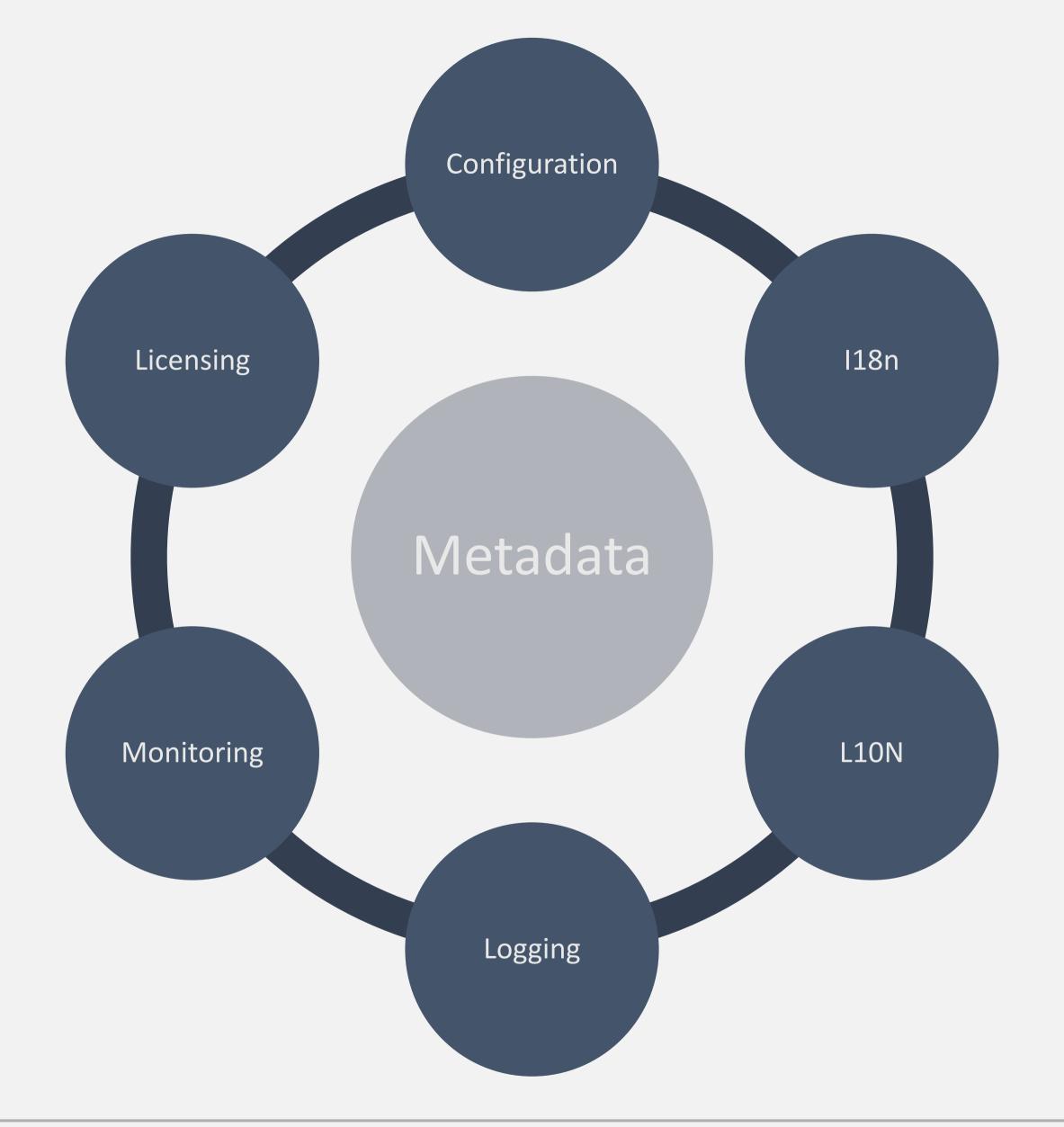
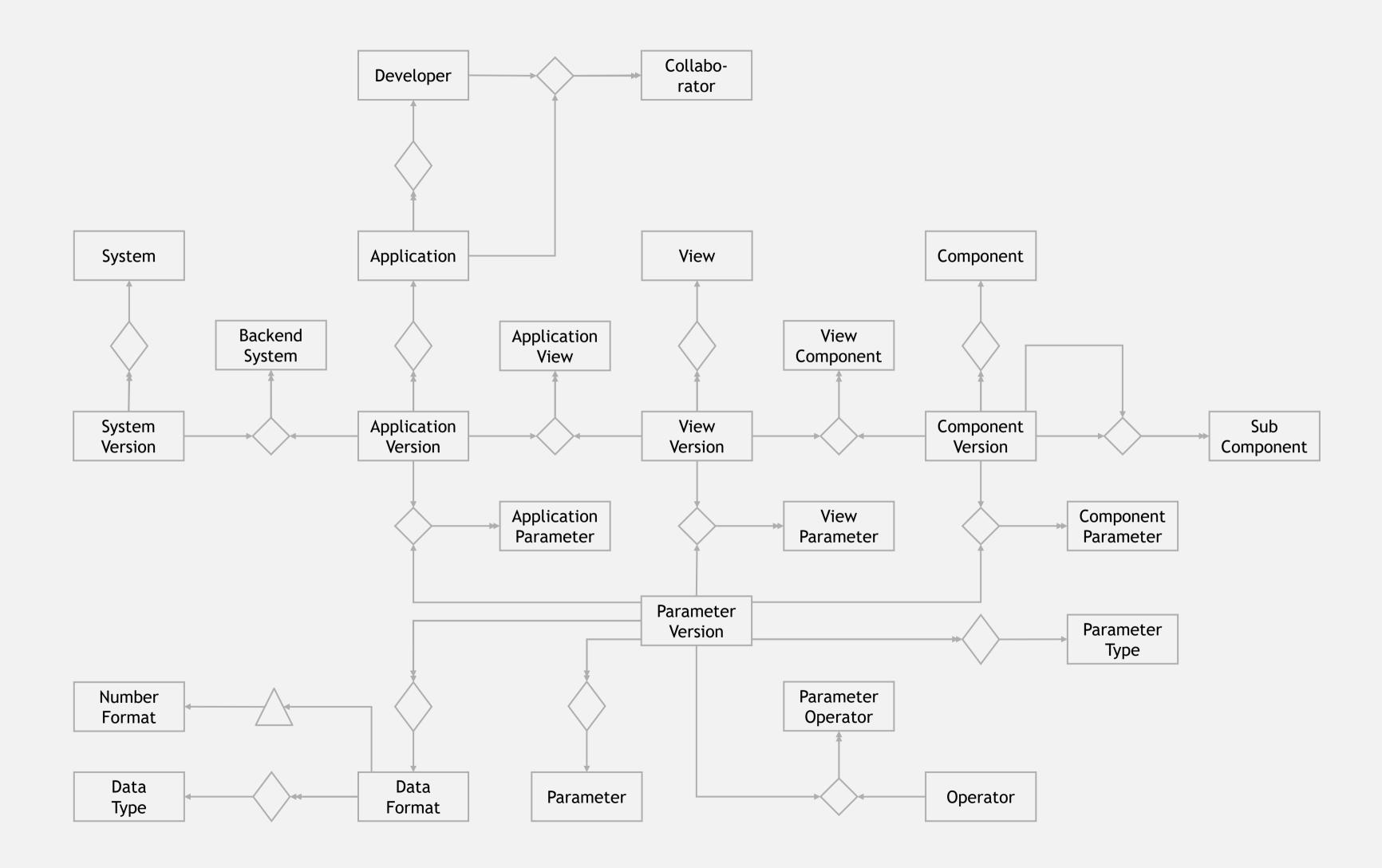


Appman

One app to rule them all





Metadata

Developer

developerID	firstName*	familyName*	userName*	email*	phoneNumber	mobileNumber*
1	Dardan	Rrafshi	DonColon	dardan.rrafshi@gmail.com	07376962198	+4915738961242
2	Hasan	Karadeniz	HKK_57	hsnkrdnz57@gmail.com	07376962198	+4915162472397
3	Maik	Dürr	Miauzz	maik.duerr@gmail.com	07376962198	+491749530195
4	Angelina	Wöll	Woellang	woellang@gmail.com	07376962198	+491629240215

Application

<u>appID</u>	name*	description*	homepageUrl	repositoryUrl	gitUrl	issueUrl	<u>author</u> *	license*	modifiedBy*	modifiedOn*
1	Yummy Yogurt	Create your very	https://yummy-yo	null	null	null	1	apache-2.0	1	2020-10-26 15:30:36
2	Vinyl	My own music	https://vinyl.com	null	null	null	1	apache-2.0	1	2020-10-26 15:30:45
3	Sitt	Stay hydrated	https://sitt.com	null	null	null	1	apache-2.0	2	2020-10-26 15:30:50
4	Machine Care	Care for it	https://machine	null	null	null	1	apache-2.0	3	2020-10-26 15:30:55

ApplicationVersion

<u>app</u>	version	<u>addedBy</u> *	addedOn*
1	1.0.0	1	2020-10-26 15:30:36
1	1.1.0	1	2020-10-26 15:30:36
1	1.1.5	1	2020-10-26 15:30:36
2	1.0.0	1	2020-10-26 15:30:36

System

<u>systemID</u>	name*	description*	docUrl	modifiedBy*	modifiedOn*
1	MySQL	An open-source relation	null	1	2020-10-26 15:30:36
2	MongoDB	A document-based data	null	1	2020-10-26 15:30:45
3	Apache Tomcat	An open-source web	null	2	2020-10-26 15:30:50
4	Wildfly	An JEE application server	null	3	2020-10-26 15:30:55

SystemVersion

<u>system</u>	version	<u>addedBy</u> *	addedOn*
1	1.0.0	1	2020-10-26 15:30:36
1	1.1.0	1	2020-10-26 15:30:36
1	1.1.5	1	2020-10-26 15:30:36
2	1.0.0	1	2020-10-26 15:30:36

BackendSystem

<u>app</u>	<u>appVersion</u>	<u>system</u>	<u>systemVersion</u>	<u>addedBy</u> *	addedOn*
1	1.0.0	1	1.0.0	1	2020-10-26 15:30:36
1	1.0.0	3	1.0.0	1	2020-10-26 15:30:36
2	1.0.0	1	1.0.0	1	2020-10-26 15:30:36
2	1.0.0	3	1.0.0	1	2020-10-26 15:30:36

Collaborator

<u>developer</u>	арр
2	1
2	2
2	3
3	1

Metadata

View

7	<u>viewID</u>	name*	description*	route*	modifiedBy*	modifiedOn*
	1	Log In Form	A login view	/login	1	2020-10-26 15:30:36
	2	Playlist	Displays the information of a playlist	/playlist/{playlistID}	1	2020-10-26 15:30:45
	3	Sign Up Form	A sign up view	/signup	1	2020-10-26 15:30:50
	4	Mixer	A view to configure a frozen yogurt	/mixer	2	2020-10-26 15:30:55

ViewVersion

<u>view</u>	<u>version</u>	<u>addedBy</u> *	addedOn*
1	1.0.0	1	2020-10-26 15:30:36
1	1.1.0	1	2020-10-26 15:30:36
2	1.0.0	1	2020-10-26 15:30:36
3	1.0.0	1	2020-10-26 15:30:36

Component

<u>componentID</u>	name*	description*	<u>modifiedBy</u> *	modifiedOn*
1	Track List	Display information about tracks	1	2020-10-26 15:30:36
2	Player Control	A component to control a music player	1	2020-10-26 15:30:45
3	Volume Bar	A component to set the volume	1	2020-10-26 15:30:50
4	Ingredient Selector	A component to select an ingredient	1	2020-10-26 15:30:55

${\bf Component Version}$

<u>component</u>	version	<u>addedBy</u> *	addedOn*
1	1.0.0	1	2020-10-26 15:30:36
2	1.0.0	1	2020-10-26 15:30:36
3	1.0.0	1	2020-10-26 15:30:36
4	1.0.0	1	2020-10-26 15:30:36

ApplicationView

<u>app</u>	<u>appVersion</u>	<u>view</u>	<u>viewVersion</u>	<u>addedBy</u> *	addedOn*
1	1.0.0	1	1.0.0	1	2020-10-26 15:30:36
2	1.1.0	1	1.1.0	1	2020-10-26 15:30:36

ViewComponent

<u>view</u>	<u>viewVersion</u>	<u>component</u>	<u>componentVersion</u>	<u>addedBy</u> *	addedOn*
2	1.0.0	1	1.0.0	1	2020-10-26 15:30:36
2	1.1.0	2	1.0.0	1	2020-10-26 15:30:36

SubComponent

<u>component</u>	<u>componentVersion</u>	<u>subComponent</u>	<u>subComponentVersion</u>	<u>addedBy</u> *	addedOn*
2	1.0.0	3	1.0.0	1	2020-10-26 15:30:36
2	1.1.0	3	1.1.0	1	2020-10-26 15:30:36

Parameter

parameterID	name*	description*	modifiedBy*	modifiedOn*
1	databaseUrl	The host url of the database	1	2020-10-26 15:30:36
2	userName	The user name of a system	1	2020-10-26 15:30:36
3	sortBy	Sort a list by a criteria	1	2020-10-26 15:30:36
4	backgroundColor	The background color of an element	1	2020-10-26 15:30:36

ParameterType

<u>typeID</u>	name*	modifiedBy*	modifiedOn*
1	Filter parameter	1	2020-10-26 15:30:36
2	Sort parameter	1	2020-10-26 15:30:36
3	Styling parameter	1	2020-10-26 15:30:36
4	Configuration parameter	1	2020-10-26 15:30:36

ParameterVersion

<u>parameter</u>	version	isArray*	has Value Help*	<u>format</u> *	<u>type</u> *	modifiedBy*	modifiedOn*
1	1.0.0	0	0	1	4	1	2020-10-26 15:30:36
1	1.1.0	0	0	5	4	1	2020-10-26 15:30:36
2	1.0.0	0	1	1	2	1	2020-10-26 15:30:36
4	1.0.0	0	1	7	3	1	2020-10-26 15:30:36

DataType

typeID	name*
1	string
2	decimal
3	integer
4	boolean

DataFormat

<u>formatID</u>	name*	format*	<u>type*</u>
1	none	.*	1
2	date		1
3	time		1
4	date-time		1
5	uri		1
6	email		1
7	hostname		1
8	ipv4		1
9	ipv6		1
10	uuid		1
11	float		2

NumberFormat

<u>formatID</u>	min*	max*
13	-128	127
14	0	255
15	-32768	32767
16	0	65535

Operator

<u>operatorID</u>	name*	inputNumber*
EQ	Equals	1
ВТ	Between	2
NE	Not equals	1
SW	Starts with	1

ParameterOperator

<u>parameter</u>	<u>parameterVersion</u>	<u>operator</u>	<u>addedBy</u> *	addedOn*
1	1.0.0	EQ	1	2020-10-26 15:30:36
2	1.0.0	EQ	1	2020-10-26 15:30:36
2	1.0.0	ВТ	1	2020-10-26 15:30:36
2	1.0.0	SW	1	2020-10-26 15:30:36

Metadata

ApplicationParameter

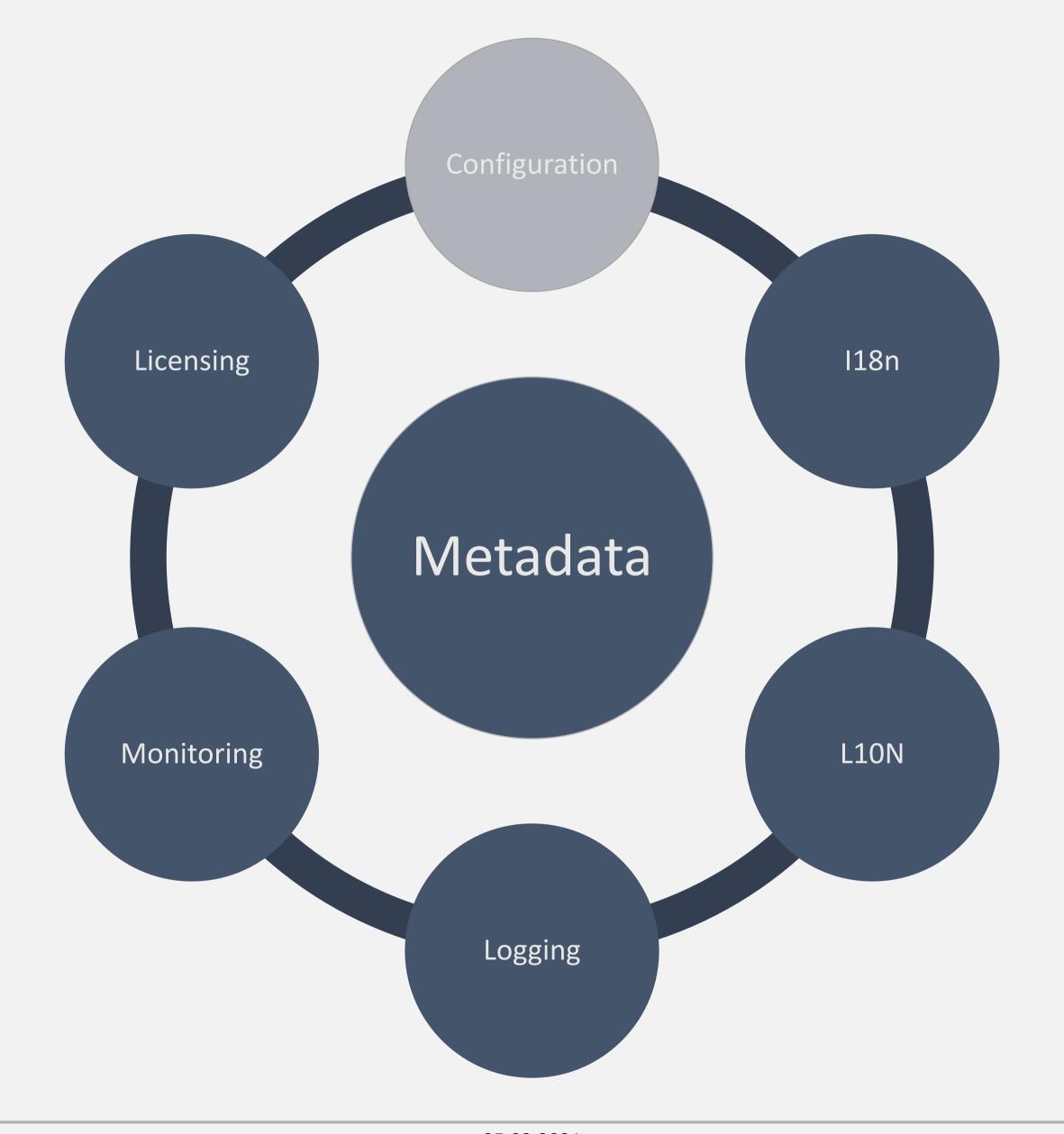
<u>арр</u>	<u>appVersion</u>	<u>parameter</u>	<u>parameterVersion</u>	required*	modifiedBy*	modifiedOn*
2	1.1.0	1	1.1.0	1	1	2020-10-26 15:30:36
2	1.1.0	2	1.0.0	1	1	2020-10-26 15:30:36
1	1.0.0	1	1.1.0	1	1	2020-10-26 15:30:36
1	1.0.0	2	1.0.0	1	1	2020-10-26 15:30:36

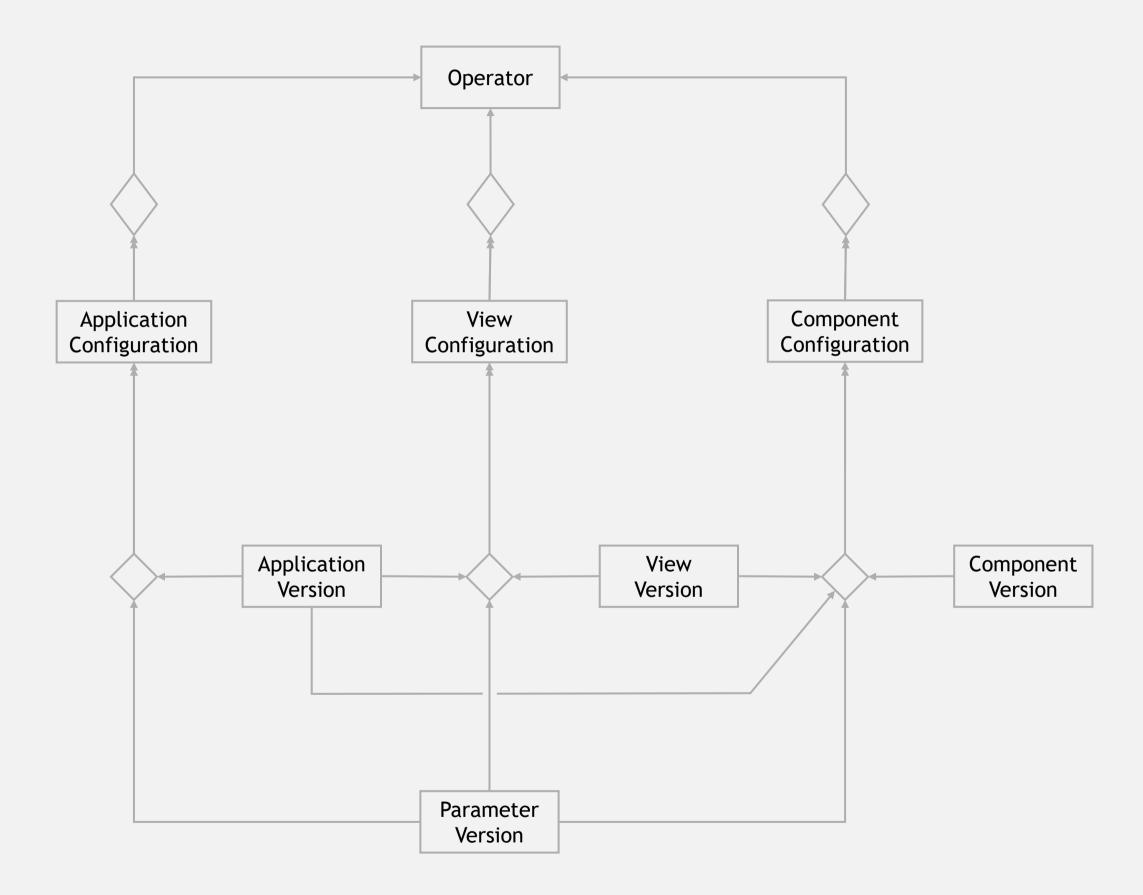
ViewParameter

<u>view</u>	<u>viewVersion</u>	<u>parameter</u>	<u>parameterVersion</u>	required*	modifiedBy*	modifiedOn*
2	1.0.0	4	1.0.0	1	1	2020-10-26 15:30:36
2	1.1.0	4	1.0.0	0	1	2020-10-26 15:30:36
4	1.0.0	4	1.0.0	0	1	2020-10-26 15:30:36
4	1.1.0	4	1.0.0	1	1	2020-10-26 15:30:36

ComponentParameter

<u>component</u>	<u>componentVersion</u>	<u>parameter</u>	<u>parameterVersion</u>	required*	modifiedBy*	modifiedOn*
1	1.0.0	3	1.0.0	1	1	2020-10-26 15:30:36
1	1.0.0	4	1.0.0	0	1	2020-10-26 15:30:36
4	1.0.0	4	1.0.0	0	1	2020-10-26 15:30:36
4	1.1.0	4	1.0.0	1	1	2020-10-26 15:30:36





Configuration

ApplicationConfiguration

<u>app</u>	<u>appVersion</u>	<u>parameter</u>	<u>parameterVersion</u>	<u>sequence</u>	<u>operator</u> *	value*	other	modifiedBy*	modifiedOn*
2	1.1.0	1	1.1.0	1	EQ	jdbc:mysql://localhost:3306/vinyl	null	1	2020-10-26 15:30:36
2	1.1.0	2	1.0.0	1	EQ	rrafshda	null	1	2020-10-26 15:30:36
1	1.0.0	1	1.1.0	1	EQ	jdbc:mysql://localhost:3306/vinyl	null	1	2020-10-26 15:30:36
1	1.0.0	2	1.0.0	1	EQ	root	null	1	2020-10-26 15:30:36

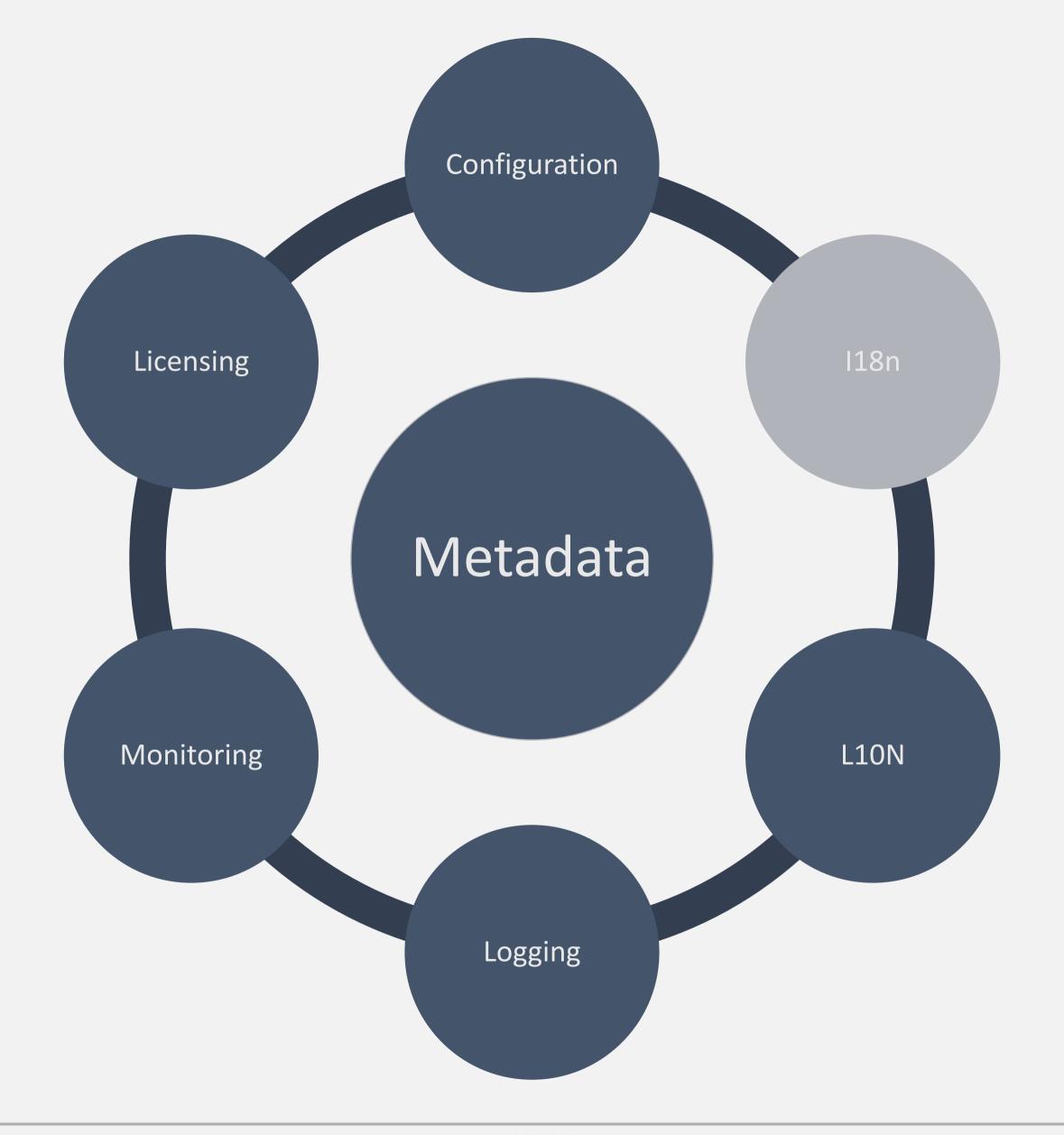
ViewConfiguration

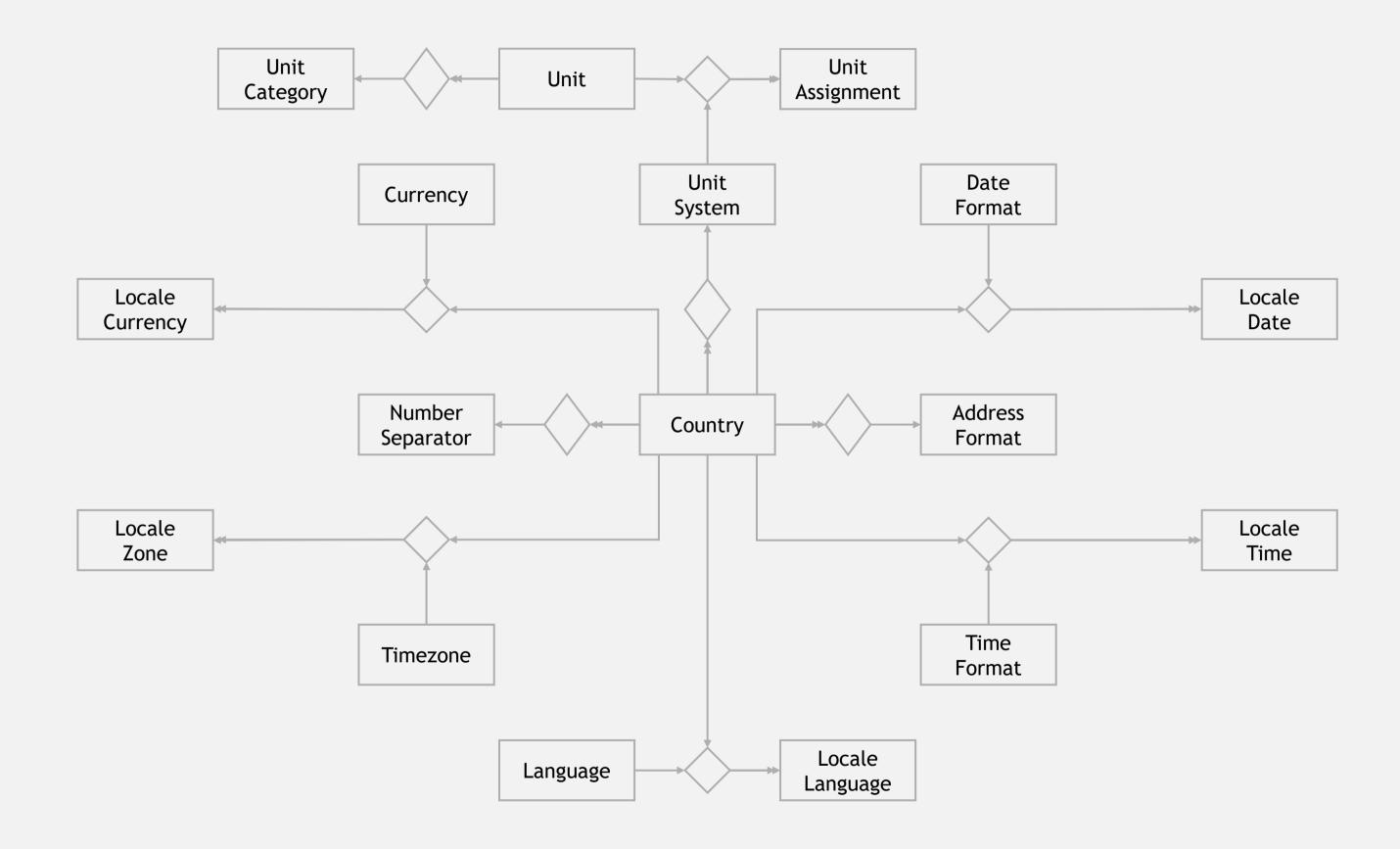
арр	<u>appVersion</u>	<u>view</u>	<u>viewVersion</u>	<u>parameter</u>	<u>parameterVersion</u>	<u>sequence</u>	operator*	value*	other	modifiedBy*	modifiedOn*
2	1.0.0	2	1.0.0	4	1.0.0	1	EQ	#44546A	null	1	2020-10-26 15:30:36
2	1.1.0	2	1.1.0	4	1.0.0	1	EQ	#203864	null	1	2020-10-26 15:30:36
1	1.0.0	4	1.0.0	4	1.0.0	1	EQ	#44546A	null	1	2020-10-26 15:30:36
1	1.1.0	4	1.1.0	4	1.0.0	1	EQ	#203864	null	1	2020-10-26 15:30:36

ComponentConfiguration

<u>app</u>	<u>appVersion</u>	<u>view</u>	<u>viewVersion</u>	<u>component</u>	<u>componentVersion</u>	<u>parameter</u>	<u>parameterVersion</u>	<u>sequence</u>	<u>operator</u> *	value*	other	<u>modifiedBy</u> *	modifiedOn*
2	1.0.0	2	1.0.0	1	1.0.0	3	1.0.0	1	EQ	artist	null	1	2020-10-26 15:30:36
2	1.0.0	2	1.0.0	1	1.0.0	4	1.0.0	1	EQ	#44546A	null	1	2020-10-26 15:30:36
1	1.0.0	4	1.0.0	4	1.0.0	4	1.0.0	1	EQ	#203864	null	1	2020-10-26 15:30:36
1	1.0.0	4	1.0.0	4	1.0.0	4	1.0.0	1	EQ	#203864	null	1	2020-10-26 15:30:36

• For the operators "Between" and "Not between" the value column must be less equal than the other column.





Internationalization

Country

<u>code</u>	key*	name*	dialingCode*	<u>addressFormat</u> *	<u>numberSeparator</u> *	<u>unitSystem</u> *
DE	DEU	Germany	+49	1	1	1
US	USA	United States	+1	2	2	2
GB	GBR	United Kingdom	+44	3	2	2
CH	CHE	Switzerland	+41	4	3	1

UnitSystem

<u>systemID</u>	name*
1	metric
2	imperial
3	customary

UnitAssignment

<u>system</u>	<u>unit</u>
1	1
1	2
1	3
1	4

Unit

<u>unitID</u>	name*	abbreviation*	factor*	offset*	<u>category</u> *
1	Kilometer	km	1000	0	1
2	Hectometer	hm	100	0	1
3	Meter	m	1	0	1
4	Decimeter	dm	0.1	0	1

UnitCategory

<u>categoryID</u>	name*
1	Length
2	Force
3	Speed
4	Acceleration

AddressFormat

<u>formatID</u>	format*
1	Format 1
2	Format 2
3	Format 3
4	Format 4

NumberSeparator

<u>separatorID</u>	thousandSeparator*	decimalSeparator*
1	,	
2	•	,
3	,	`
4		`

Currency

<u>code</u>	digitalCode*	name*	symbol*
EUR	978	European Euro	€
USD	840	United States Dollar	\$
GBP	826	Britisch Pound	£
CHF	756	Swiss Franc	Fr

LocaleCurrency

<u>country</u>	<u>currency</u>
DE	EUR
US	USD
GB	GBP
СН	CHF

Internationalization

DateFormat

<u>formatID</u>	format*			
1	DD.MM.YYYY			
2	DD/MM/YYYY			
3	MM/DD/YYYY			
4	YYYYMMDD			

LocaleDate

<u>country</u>	<u>format</u>	displayStyle*
DE	1	medium
GB	2	medium
US	3	medium
СН	4	medium

TimeFormat

<u>formatID</u>	format*		
1	HH:mm:ss		
2	HH:mm		
3	HH:mm:ss.SSS		
4			

LocaleTime

<u>country</u>	<u>format</u>	displayStyle*
DE	1	medium
GB	2	medium
US	3	medium
СН	4	medium

Timezone

<u>zoneID</u>	name*	offset*	offsetDST*
1	Europe/Berlin	+01:00	+02:00
2	Europe/Brussels	+01:00	+02:00
3	Europe/Bucharest	+02:00	+03:00
4	Europe/Budapest	+01:00	+02:00

LocaleTimezone

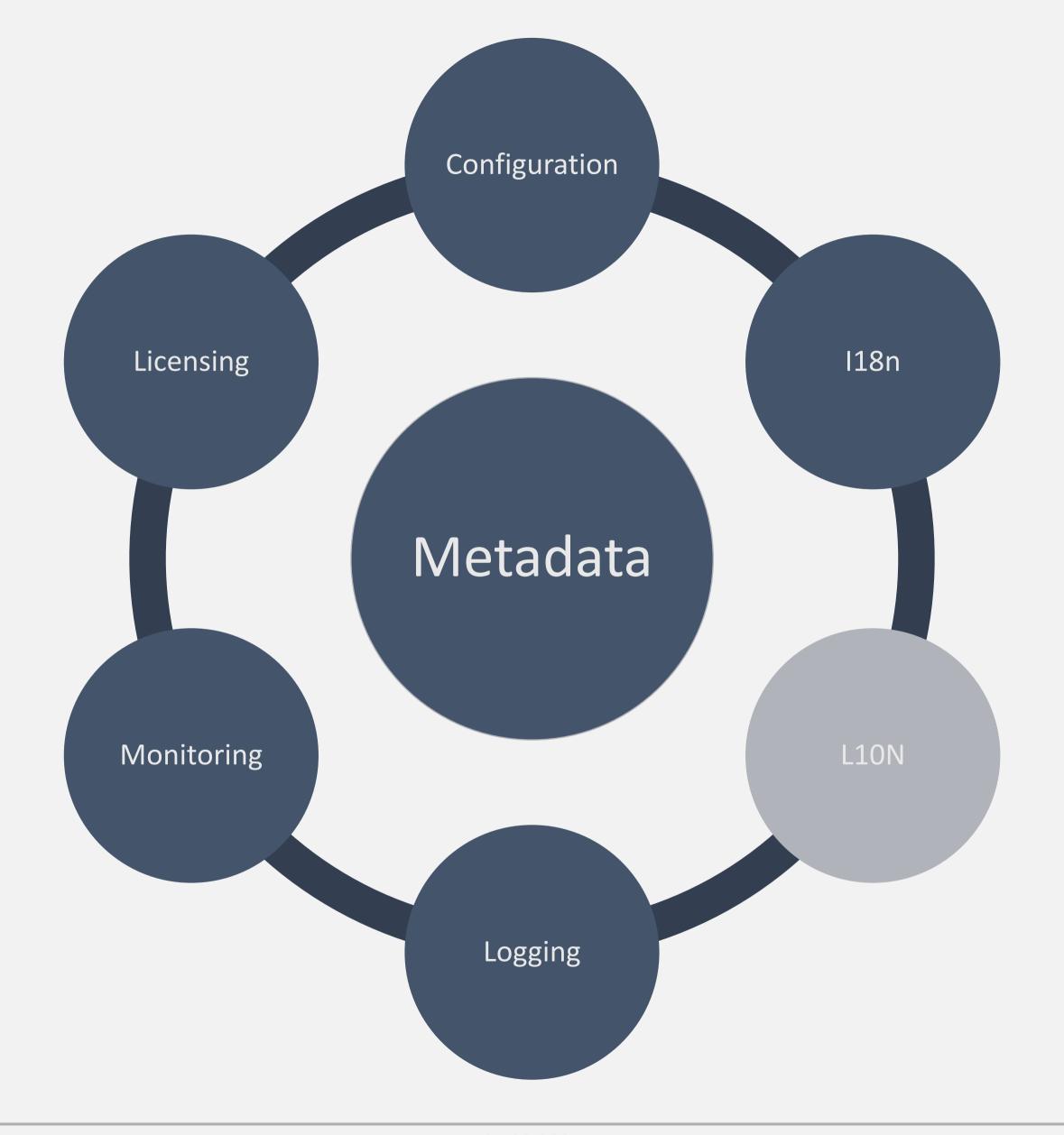
<u>country</u>	<u>timezone</u>
DE	1
GB	2
US	3
СН	4

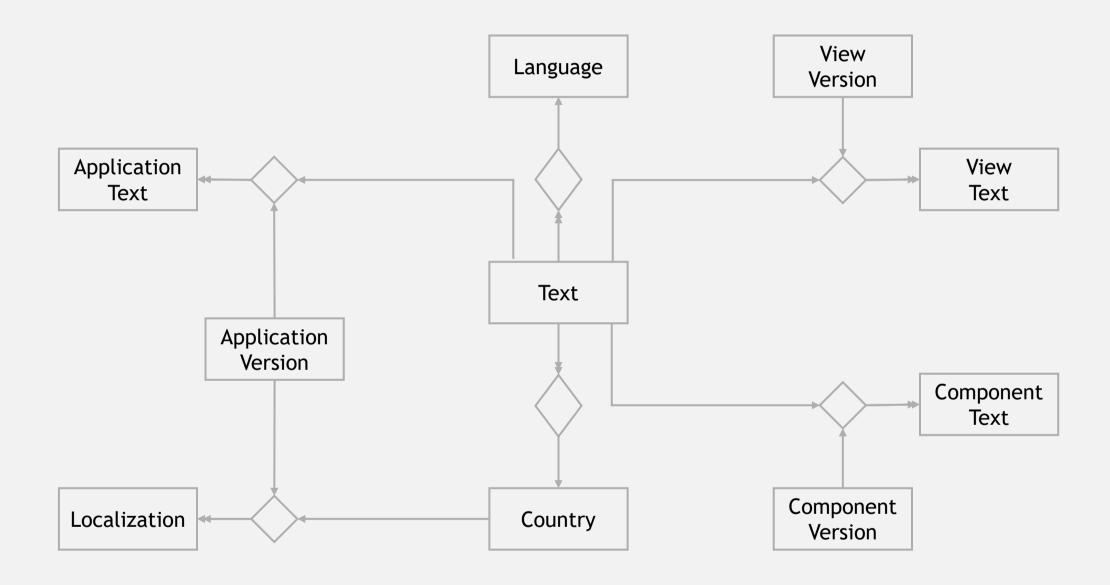
Language

<u>code</u>	name*	nativeName*	
de	German	Deutsch	
en	English	English	
fr	French	français	
es	Spanish	español	

LocaleLanguage

<u>country</u>	<u>language</u>	isOfficial*
DE	de	1
US	en	1
GB	en	1
СН	de	1





Localization

Text

<u>textID</u>	<u>country</u>	<u>language</u>	short	medium	large	<u>modifiedBy</u> *	modifiedOn*
back	DE	de	Zurück	null	null	1	2020-10-26 15:30:36
back	US	en	Back	null	null	1	2020-10-26 15:30:36
back	ES	es	Volver	null	null	1	2020-10-26 15:30:36
cancel	DE	de	Abbrechen	null	null	1	2020-10-26 15:30:36
cancel	US	en	Cancel	null	null	1	2020-10-26 15:30:36
cancel	ES	es	Cancelar	null	null	1	2020-10-26 15:30:36
userName	DE	de	Benutzername	null	null	1	2020-10-26 15:30:36
userName	US	en	User name	null	null	1	2020-10-26 15:30:36
userName	ES	es	Nombre de usuario	null	null	1	2020-10-26 15:30:36
password	DE	de	Passwort	null	null	1	2020-10-26 15:30:36
password	US	en	Password	null	null	1	2020-10-26 15:30:36

ApplicationText

<u>app</u>	<u>appVersion</u>	<u>text</u>	<u>country</u>	<u>language</u>	<u>addedBy</u> *	addedOn*
1	1.0.0	back	DE	de	1	2020-10-26 15:30:36
1	1.0.0	back	US	en	1	2020-10-26 15:30:36
1	1.0.0	back	ES	es	1	2020-10-26 15:30:36
1	1.0.0	cancel	DE	de	1	2020-10-26 15:30:36

ViewText

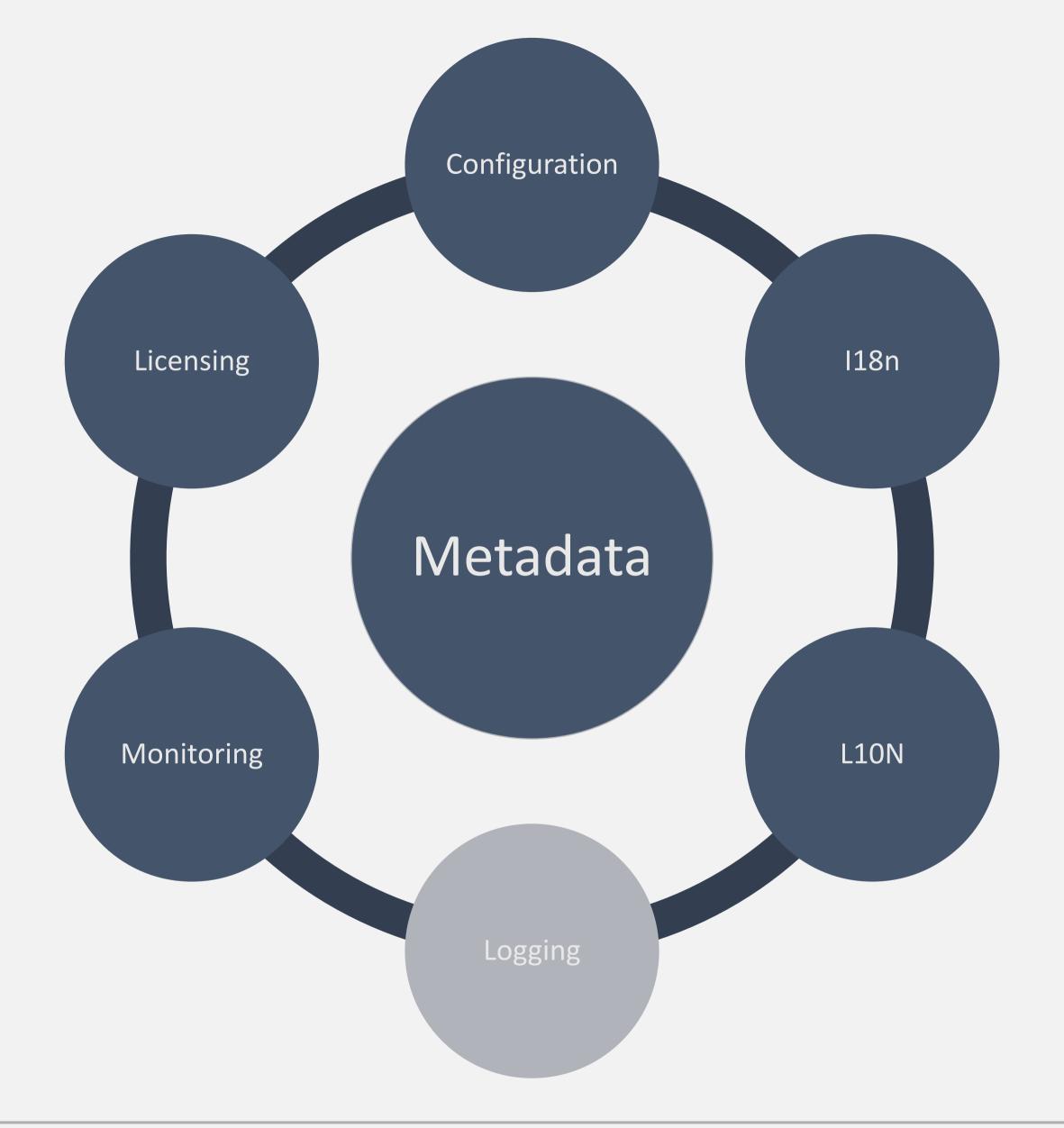
<u>view</u>	<u>viewVersion</u>	<u>text</u>	<u>country</u>	<u>language</u>	<u>addedBy</u> *	addedOn*
1	1.0.0	userName	DE	de	1	2020-10-26 15:30:36
1	1.0.0	userName	US	en	1	2020-10-26 15:30:36
1	1.0.0	userName	ES	es	1	2020-10-26 15:30:36
1	1.0.0	password	DE	de	1	2020-10-26 15:30:36

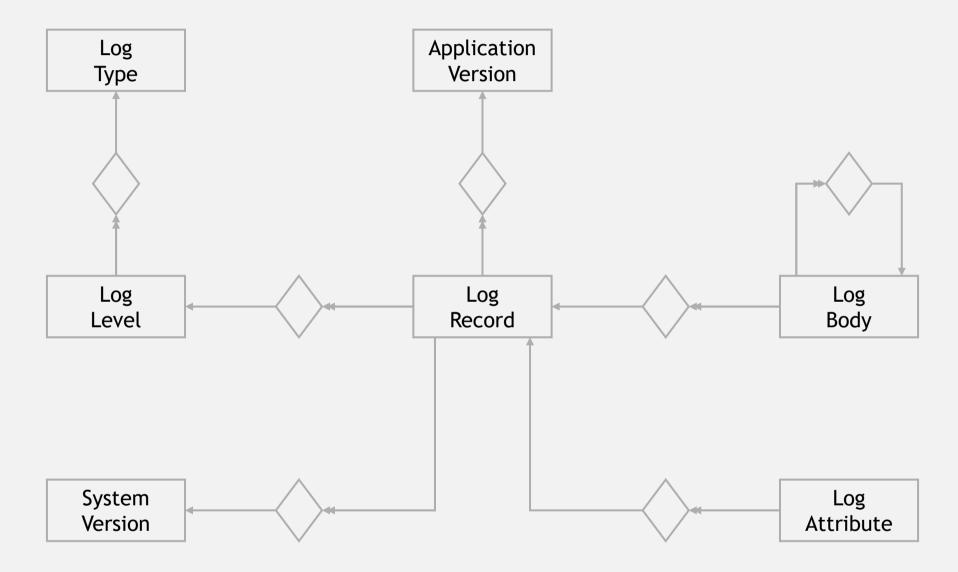
ComponentText

<u>component</u>	<u>componentVersion</u>	<u>text</u>	<u>country</u>	<u>language</u>	<u>addedBy</u> *	addedOn*
1	1.0.0	artist	DE	de	1	2020-10-26 15:30:36
1	1.0.0	artist	US	en	1	2020-10-26 15:30:36
1	1.0.0	artist	ES	es	1	2020-10-26 15:30:36
1	1.0.0	duration	DE	de	1	2020-10-26 15:30:36

Localization

<u>app</u>	<u>appVersion</u>	<u>country</u>	<u>addedBy</u> *	addedOn*
1	1.0.0	DE	1	2020-10-26 15:30:36
1	1.0.0	US	1	2020-10-26 15:30:36
1	1.0.0	ES	1	2020-10-26 15:30:36
1	1.1.0	US	1	2020-10-26 15:30:36





LogRecord

logID	eventName*	<u>level</u> *	levelText*	<u>app</u> *	appVersion*	<u>system</u>	<u>systemVersion</u>	addedOn*	traceID
1	FindByID	9	Info (Level 1)	1	1.0.0	1	1.0.0	2020-10-26 15:30:36	1
2	ProcessStarted	9	Info (Level 1)	1	1.0.0	null	null	2020-10-26 15:30:36	2
3	RequestFailed	17	Error (Level 1)	1	1.0.0	3	1.0.0	2020-10-26 15:30:36	3
4	ProcessEnded	9	Info (Level 1)	1	1.0.0	null	null	2020-10-26 15:30:36	2

LogLevel

<u>levelID</u>	<u>type</u> *	name*
1	1	Trace (Level 1)
2	1	Trace (Level 2)
3	2	Debug (Level 1)
4	2	Debug (Level 2)

LogType

<u>typeID</u>	name*
1	Trace
2	Debug
3	Info
4	Warn

LogBody

<u>bodyID</u>	<u>log</u> *	key	value	<u>parent</u>
1	1	message	The entity with the ID 1 could not be found	3
2	1	code	404	3
3	1	error	null	null
4	3	null	Request to https://api.yummy-yogurt.com was sent	null

LogAttribute

<u>log</u>	<u>key</u>	value*		
1	url	jdbc:mysql://localhost:3306/vinyl		
1	port	3306		
3	url	https://api.yummy-yogurt.com		
3	port	8080		

- The system and systemVersion column in the log record table must be maintained together:
 - system column is null ↔ systemVersion column is null
 - system column is not null \leftrightarrow systemVersion column is not null

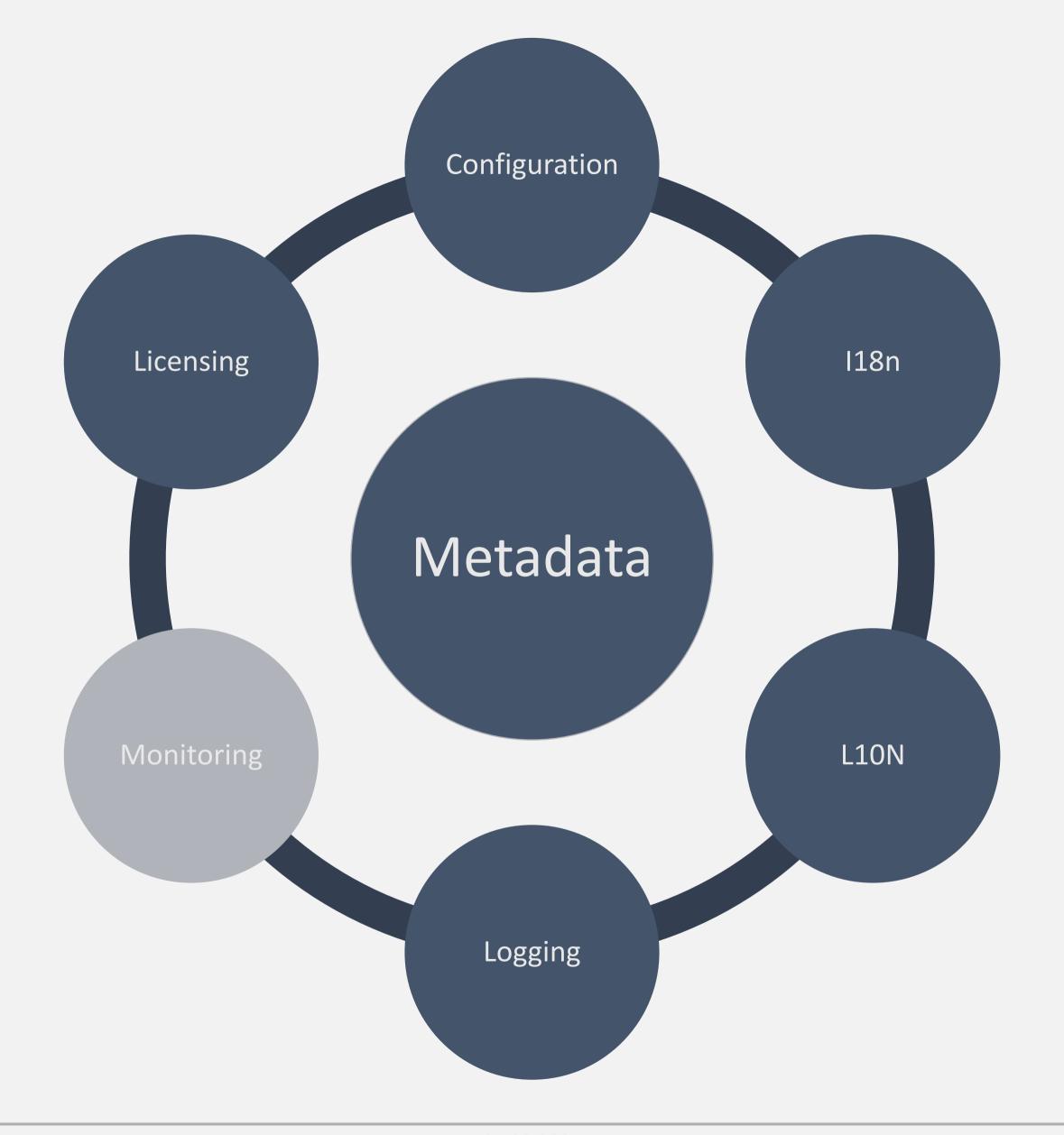
Logging

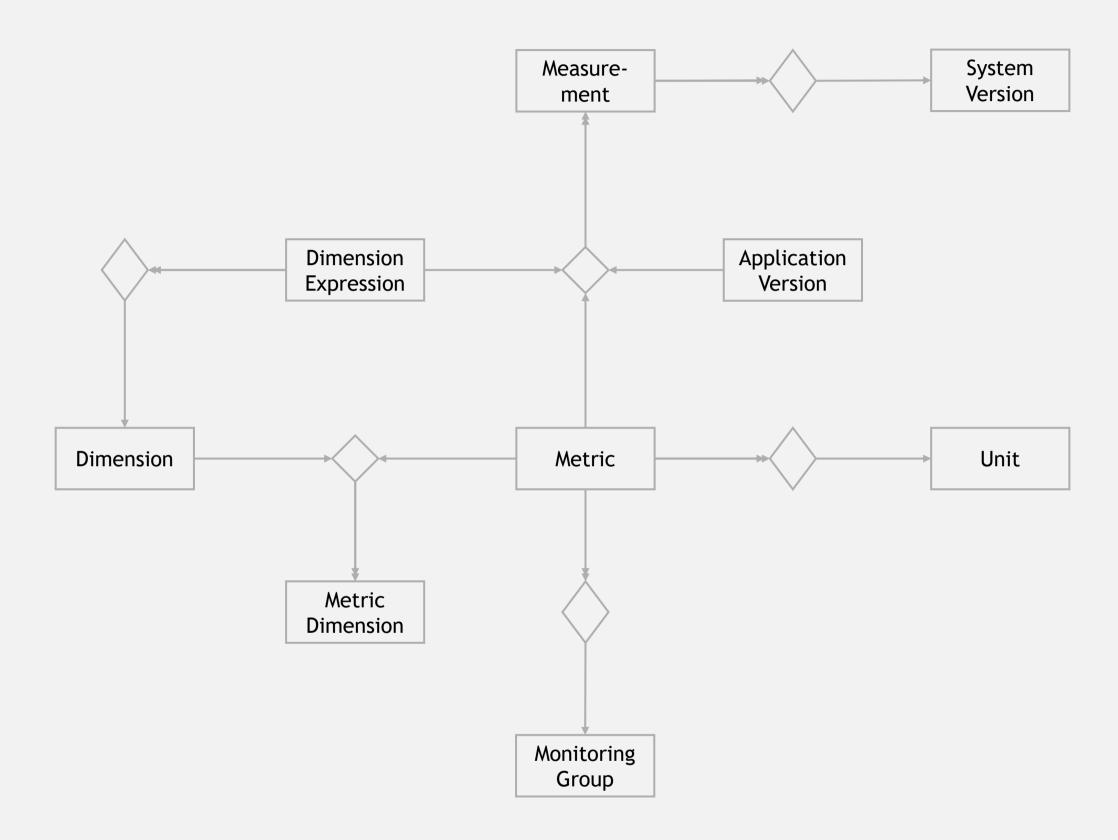
Understanding the Log Body

- The log body can contain a json tree structure or just plain text. There are certain combinations for the columns **key**, **value** and **parent** that are not allowed in the log body.
- The following red combinations are not allowed:
 - If the key and value column are null, there is no reason to insert the row, as it doesn't provide any information about the log.
 - If the key column is null and the others are not null, you try to add a value to a nested object. But only key/value pairs can be added to a nested object.
 - If the value column is null and the others are not null, you try to add a key/value pair to a nested object that doesn't provide any information about the log.
- The green combinations are allowed and have the following meaning:
 - If all columns are not null, you add a key/value pair to a nested object.
 - If the parent column is null, but the others are not null, you add a key/value pair to the root of the object.
 - If the key column is not null and the others are null, you define the key for a nested object.
 - If the value column is not null and the others are null, the body is just plain text and not a json object.

key	value	parent
null	null	null
null	null	Χ
null	Χ	Χ
X	null	X
X	Χ	Χ
X	Χ	null
X	null	null
null	X	null
Hull	^	Hull

Figure 1 – Possible combinations for the log body





Monitoring

Metric

metricID	name*	description*	monitoringGroup*	<u>unit</u>	modifiedBy*	modifiedOn*
1	CPU Time	Measures the time the CPU	3	137	1	2020-10-26 15:30:36
2	Memory Usage	Measures the usage of the	3	33	1	2020-10-26 15:30:36
3	Response Count	Counts the amount of Resp	4	null	1	2020-10-26 15:30:36
4	Process Count	Counts the processes of the	3	null	1	2020-10-26 15:30:36

MonitoringGroup

groupID	name*	modifiedBy*	modifiedOn*
1	Database	1	2020-10-26 15:30:36
2	File System	1	2020-10-26 15:30:36
3	Operating System	1	2020-10-26 15:30:36
4	Http Response	1	2020-10-26 15:30:36

Dimension

dimensionID	name*	description*	modifiedBy*	modifiedOn*
1	Status Code	The status code of http response	1	2020-10-26 15:30:36
2	Memory State	The state of the memory	1	2020-10-26 15:30:36
3	Http Method	The http method of the request	1	2020-10-26 15:30:36
4	Operation	The operation that is performed by the request	1	2020-10-26 15:30:36

DimensionExpression

<u>dimension</u>	<u>expression</u>	<u>addedBy</u> *	addedOn*
1	404	1	2020-10-26 15:30:36
1	500	1	2020-10-26 15:30:36
2	used	1	2020-10-26 15:30:36
2	free	1	2020-10-26 15:30:36

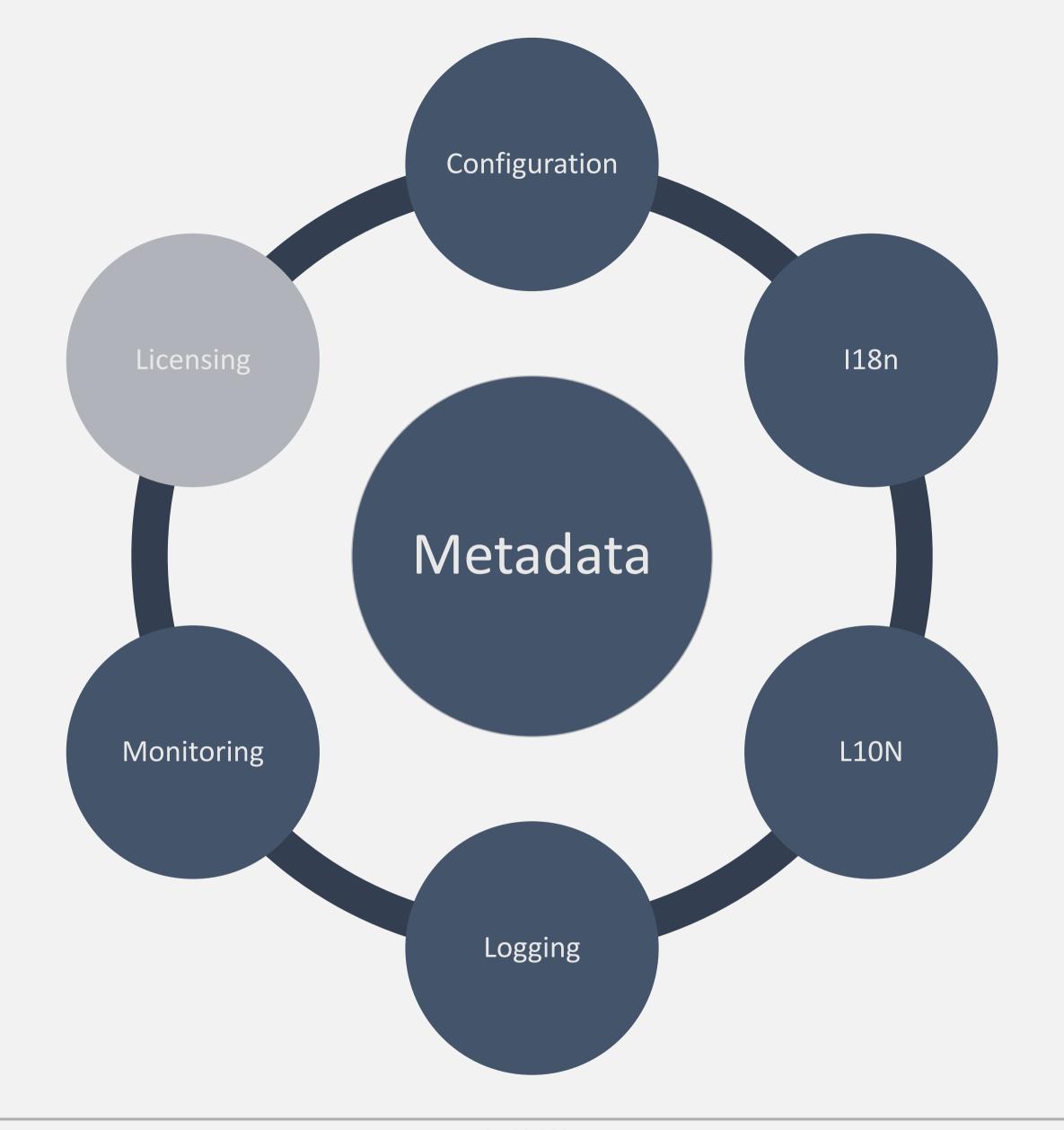
MetricDimension

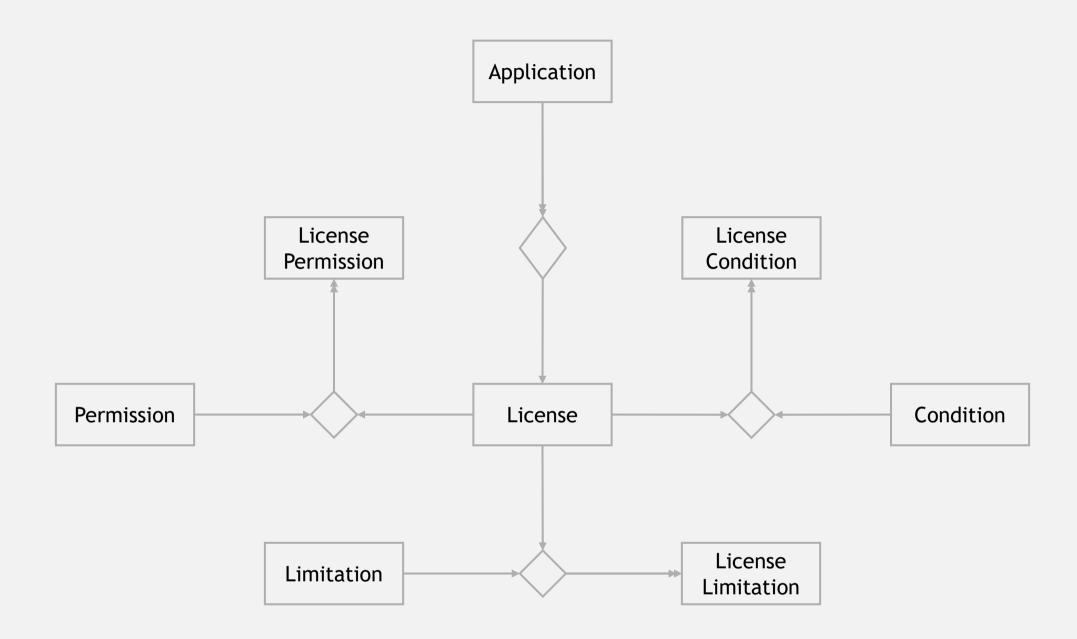
<u>metric</u>	<u>dimension</u>	<u>addedBy</u> *	addedOn*
2	1	1	2020-10-26 15:30:36
3	2	1	2020-10-26 15:30:36
5	3	1	2020-10-26 15:30:36
5	4	1	2020-10-26 15:30:36

Measurement

<u>app</u>	<u>appVersion</u>	<u>metric</u>	<u>dimension</u>	<u>expression</u>	<u>addedOn</u>	<u>system</u>	<u>systemVersion</u>	value*
1	1.0.0	3	1	404	2020-10-26 15:30:36	null	null	1
1	1.0.0	3	1	404	2020-10-26 15:30:36	null	null	2
1	1.0.0	2	2	used	2020-10-26 15:30:36	null	null	10
1	1.0.0	2	2	used	2020-10-26 15:30:36	null	null	8

- The system and systemVersion column in the measurement table must be maintained together:
 - system column is null ↔ systemVersion column is null
 - system column is not null ↔ systemVersion column is not null





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