Guidelines for Resource ID Formation

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A Resource ID is a Universal Resource Identifier (URI) with the basic formation of:

scheme://authority/path

Each resource described in a system must have a unique identifier. Resources described in accordance with the SPASE data model will always have a scheme of "spase".

To aid in generating unique identifiers, the following conventions should be used for defining the path portion of the URI. This convention uses information about the resource to create an informative and unique URI. The full formation rule for a resource identifier is:

spase://NameAuthority/ResourceType/Project/Observatory/InstrumentType/Cadence

where

NameAuthority: The naming authority of a resource should be assigned at the highest, most appropriate level of entity to which the commissioning or origination of the resource can be attributed. Visit the SPASE website for the current list and more information.

ResourceType: The type or class of resource. This should match the allowed values for the ResourceType element in the SPASE data model. For example, for a NumericalData resource the *ResourceType* is "NumericalData".

Project: The name of the top-level observatory, observatory group, project or agency. For example, for a NumericalData resource for the project IGPP/LANL, the *Project* is "IGPPLANL". The *Project* can repeat as necessary to represent organizational hierarchy. The *Project* may be omitted if not relevant.

Observatory: The name of the observatory which hosts the instrument. For example, an *Observatory* in the IGPP/LANL project is "CRT".

InstrumentType: The type of instrument used in observation. This should match the allowed values for the InstrumentType element in the SPASE data model. For example, a magnetometer would have the value of "Magnetometer". For complex instrument suites, it is recommended to add an extra level in the *InstrumentType* to represent the suite. For example, .../SuiteName/SubInstrument/...

Cadence: The nominal cadence of the observed values expressed as an ISO 8601 duration. For example, data with a 1 second resolution would have a *cadence* of "PT1S". Commas in fractional times must be replaced with a decimal point (see note under "Character Limitations")

Special Note: The *cadence* can be replaced with any value which reflects the organization of the underlying data provided that the URI remains unique. For example, the year of observation (i.e. 2008) or other similar multi-part value (i.e. 2008/October).

The described template for Resource Identifiers is applied up to the appropriate level. For example, Resource Identifiers for Observatory resources stop at *Observatory* and for Instrument resources stop at *Instrument*.

Resource Identifiers are case-sensitive and in ASCII. For example,

spase://SMWG/Repository/NASA/GSFC/SPDF/**CDAWEB**

is not the same as

spase://SMWG/Repository/NASA/GSFC/SPDF/**CDAWeb**

Character Limitations

The Augmented Backus–Naur Form (ABNF) for a Resource Identifier is:

```
ALPHA = A-Z / a-z
DIGIT = 0-9
segment = ALPHA / DIGIT / "-" / "." / "_"
scheme = segment authority
= segment
path = segment *("/" segment)

URI         = scheme "://" authority "/" path
```

This is consistent with that for a URI but is more constrained. The restriction on allowed characters affects ISO 8601 durations. With ISO 8601 durations "," notation at the start of the fractional part of a value. For a Resource Identifier the "," must be replaced with a "." notation. For example, the ISO 8601 representation for a 1.5 second duration is "PT1,5S" which is represented in a Resource Identifier as "PT1.5S".

A Full Example

A Resource Identifier for NumericalData from the magnetometer at the CRT observatory in the IGPP/LANL project which has an observatory cadence of 1 second would be:

spase://NASA/NumericalData/IGPPLANL/CRT/Magnetometer/PT1S

Special Cases

There are two special cases of Resource Identifiers which have slightly different formation rules.

Person Resources

A person resource is assigned a Resource Identifier where the portion after the ResourceType is the name of the person represented in the following format:

FirstName [“.” MiddleInitial] [“.” LastName] [“.” GenSuffix]

where *MiddleInitial* and *LastName* are both optional and may take on multiple values as needed. *GenSuffix* is also optional and represents generational suffixes such as "Jr", "III", etc.

Using a "." to separate names allows for hyphenated names to properly represented.

For example, a person description for “John W. Smith” assigned by the SMWG Naming Authority would have a Person Resource Identifier of:

spase://SMWG/Person/John.W.Smith

When name conflicts occur, a unique identifier can be created by eliminating the middle initial or adding a sequence number to the end of the name. For example, another John W. Smith may be assigned the resource identifier of:

spase://SMWG/Person/John.W.Smith-2

Granule Resources

Granule resources are augmentations to a parent resource and preserve this pedigree in the assigned Resource Identifier by appending a node to the Resource Identifier of the Parent. For example, if a Granule with the name of "2008" is part of the NumericalData resource with the resource identifier of:

spase://NASA/NumericalData/IGPPLANL/CRT/Magnetometer/PT1S

it would be assigned a Resource Identifier of:

spase://NASA/NumericalData/IGPPLANL/CRT/Magnetometer/PT1S/2008

References

RFC3986, Uniform Resource Identifier (URI): Generic Syntax, January 2005, http://tools.ietf.org/html/rfc3986

ISO 8601 – 2004(E), Data elements and interchange formats — Information interchange — Representation of dates and times, Third edition, 2004-12-01.

History

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