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MARS

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April 13, 2021

**1 Representing MARS in OGIT ontology**

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# Chapter 1

## Representing MARS in OGIT ontology

### Overview

All definition in the *ogit/MARS* namespace aim to have a proper modelling of **MARS Nodes** as graph data.

Those definitions will obsolete

- **MARS XML Schema**
- Modelling of MARS nodes in the **Automation NTO**

### Transition to MARS NTO

#### Entity Mappings

instead of just one entity type *ogit/Automation/MARSNode* there are now four:

- *ogit/MARS/Application*
- *ogit/MARS/Resource*
- *ogit/MARS/Software*
- *ogit/MARS/Machine*

#### Attribute Mappings

general remarks:

- */NodeID*, */ID* is supposed to be stored in *ogit/\_xid* (user provided indentifiers)
- */NodeName* is mapped to *ogit/name*
- */NodeType* is mapped to *ogit/\_type* (one of the four entity types)
- the following attributes from *ogit/Automation/MARSNode* become obsolete:

- ogit/Automation/marsNodeFormalRepresentation
- ogit/Automation/marsNodeType (replaced by ogit/\_type)
- a few attributes from ogit/Automation NTO have been reused
- attributes from SGO or other NTOs have been reused when appropriate
- the following attributes were added without having a corresponding definition in MARS XML Schema:
  - ogit/url for "Software" and "Resource"
  - ogit/serialNumber for "Software"
  - ogit/Automation/lifecycle
- only a subset of attributes defined by MARS XML Schema is mapped to *ontology defined attributes*. All others will remain "free attributes"
- the following *classification attributes* have a predefined list of allowed values:
  - ApplicationClass, ApplicationSubClass
  - ResourceClass
  - MachineClass
- the values of *classification attributes* for Software MARS nodes are not validated, yet

The full mapping is defined here.

### Verb Mappings

- ogit/Automation/MARSNode -ogit/relates-> ogit/Automation/MARSNode is replaced by:
  - ogit/MARS/Application -ogit/dependsOn-> ogit/MARS/Resource
  - ogit/MARS/Resource -ogit/dependsOn-> ogit/MARS/Software
  - ogit/MARS/Software -ogit/dependsOn-> ogit/MARS/Machine
- most relationships for ogit/Automation/MARSNode are also allowed for ogit/MARS/\*:
  - everything from the ogit/ServiceManagement NTO
  - relations to objects with secondary data: ogit/Timeseries, ogit/Attachment, ...
  - when appropriate the new mappings are only for specific MARS nodes, e.g. only ogit/MARS/↔ Application
- some relationships for ogit/Automation/MARSNode were not duplicated for ogit/MARS/\* (at least not yet):
  - most relationships between ogit/Automation/MARSNode and other entities from ogit/↔ Automation NTO