

Template 3901: Installation of a physical object at a function place

Shorthand template

The shorthand template contains five roles:

- beginning, cardinality 1
- context, cardinality 0 :?
- functionalPO, cardinality 1
- installedPO, cardinality 1
- materializedPO, cardinality 1

$\forall s(\text{ST-3901}(s) \rightarrow$

$\exists 1x(\text{beginning}(s, x)) \wedge$

$\exists 1x(\text{functionalPO}(s, x)) \wedge$

$\exists 1x(\text{installedPO}(s, x)) \wedge$

$\exists 1x(\text{materializedPO}(s, x)) \wedge$

$\forall x(\text{beginning}(s, x) \rightarrow \exists z(\text{Classification}(z) \wedge \text{classified}(z, x) \wedge \text{classifier}(z, \text{XmlSchemaDateTime}))) \wedge$

$\forall x(\text{context}(s, x) \rightarrow \text{ClassOfTemporalWholePart}(x)) \wedge$

$\forall x(\text{functionalPO}(s, x) \rightarrow \text{FunctionalPhysicalObject}(x)) \wedge$

$\forall x(\text{installedPO}(s, x) \rightarrow \text{PhysicalObject}(x)) \wedge$

$\forall x(\text{materializedPO}(s, x) \rightarrow \text{MaterializedPhysicalObject}(x))$

Longhand template

$$\begin{aligned} & \forall s, x_1, x_4, x_5 (\text{ST-3901}(s) \wedge \\ & \quad \underline{\text{beginning}}(s, x_1) \wedge \\ & \quad \underline{\text{functionalPO}}(s, x_3) \wedge \\ & \quad \underline{\text{installedPO}}(s, x_4) \wedge \\ & \quad \underline{\text{materializedPO}}(s, x_5) \\ \rightarrow & \exists y_1, y_2, y_3, y_4, y_5, y_6 (\text{LT-3901.1002.1.TemporalWholePart}(y_1) \wedge \\ & \quad \text{whole}(y_1, x_3) \wedge \text{part}(y_1, x_4) \wedge \\ & \quad \text{LT-3901.1002.2.TemporalWholePart}(y_2) \wedge \\ & \quad \text{whole}(y_2, x_5) \wedge \text{part}(y_2, x_4) \wedge \\ & \quad \text{LT-3901.1002.1.Beginning1}(y_3) \wedge \\ & \quad \text{whole}(y_3, x_3) \wedge \text{part}(y_3, y_6) \wedge \\ & \quad \text{LT-3901.1002.2.Beginning2}(y_4) \wedge \\ & \quad \text{whole}(y_4, x_4) \wedge \text{part}(y_4, y_6) \wedge \\ & \quad \text{LT-3901.ClassOfRepresentationOfThing}(y_5) \wedge \\ & \quad \text{represented}(y_5, y_6) \wedge \text{pattern}(y_5, x_1) \\ & \quad \text{LT-3901.PointInTime}(y_6) \wedge \\ & \quad \forall x_2 (\underline{\text{context}}(s, x_2) \\ & \quad \rightarrow \exists z_1, z_2 (\text{LT-3901.1002.1.Classification1}(z_1) \wedge \\ & \quad \quad \text{classified}(z_1, y_1) \wedge \text{classifier}(z_1, x_2) \wedge \\ & \quad \quad \text{LT-3901.1002.2.Classification2}(z_2) \wedge \\ & \quad \quad \text{classified}(z_2, y_2) \wedge \text{classifier}(z_2, x_2)))))) \end{aligned}$$