# What's New in Cameo Concept Modeler 19.0 LTR

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## New capabilities

- The complex, nested constructs found in widely-used ontologies can now be successfully imported from OWL, visualized in diagrams, augmented with new concept models, and exported to OWL.
- Complements between classes are supported.
- Property restrictions can now be modeled in a namespace other than that of its domain, range, or restricted property.
- All subtypes of OWL Object Property (e.g., owl:TransitiveProperty) can now be imported and exported.
- A property that has multiple domains is supported.
- A UML property used in multiple classes is now interpreted in OWL as a domain that is the union of those classes.
- Unqualified cardinality restrictions is now supported by {subsets} in UML.
- A minimum cardinality of 0 in OWL is retained as a {subsets} to support its use as a flag.
- A literal annotation may now have either a language or a datatype.
- A datatype property can now be modeled as an association end or a class attribute.
- Both IRI and literal annotations are now supported.
- A maximum cardinality restriction without a minimum cardinality restriction on a property is now supported.

### Usability improvements

- The smart manipulator on shapes in a Concept Model diagram shows only relevant relations.
- Importing an OWL ontology into a non-CCM project now prompts to load the CCM profile.
- Empty IRI tagged values are now automatically removed.
- The available choices are clearer when a project file is open, and a style is missing or out of date.
- The AutoStyler plugin now manages the 'Defined Elsewhere' style.
- The CCM plugin now manages the 'Default' style.
- The logging verbosity level can now be adjusted independently for the MagicDraw notification window vs log file.
- Unspecified OWL property cardinalities are now clearer, as explicit UML multiplicities.
- Both IRI and literal annotations are now available on the concept modeling diagram palette.

#### OWL export improvements

· Classes that are not directly owned by a package now result in a warning.

### Bug fixes

- Importing or exporting complex, nested class expressions involving unions, intersections, complements, and restrictions no longer results in a loss
  of fidelity.
- Annotation language and datatype are no longer lost or forced to be "en".
- IRI annotations are no longer lost on importing and exporting.
- Importing resources with local names that start with a number no longer fails.
- Annotations on an ontology are no longer incorrectly emitted as annotation assertions.
- Messages appearing in the notification window no longer have the beginning of the URL stripped off.
- Importing a restriction that has another restriction as its filler no longer causes a subtle notation inconsistency.
- Opening a project without AutoStyler installed no longer results in a prompt to update the 'Defined Elsewhere' style.
- Importing a property domain that is an intersection of classes no longer creates multiple named properties in UML.
- Importing a property with multiple domains now results in an intersection of those domains as the owner of the UML property.
- Exporting a property with multiple domains to OWL results in a union of those domains as the domain of the property.
- Exporting a property with multiple types to OWL results in a union of those types as the range of the property.
- Importing an ontology into CCM no longer refers to «Anything» as «Property Holder» in log messages.
- Importing an ontology into CCM no longer ignores annotations on ontologies imported by that ontology.