

# 201953 Demonstration of the new SNOMED CT OWL Axioms

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## Summary

Since the July 2019 release of SNOMED CT, the OWL representation is the “source of truth” for definitions of concepts, from which the (inferred) relationships table is derived. We address the rationale, impact, and application of this change for modelers and users of SNOMED CT.

## Learning Objectives

1. Understand how and why SNOMED CT in OWL is provided using a RefSet
2. Gain insight into generation of OWL-files from the SNOMED CT OWL RefSet
3. Gain insight into the role and use of the OWL-file in semantic web tools and applications
4. Understand the value of using OWL for Members and Affiliates

## Abstract

SNOMED CT is a clinical terminology that relies on Description Logic (DL) and reasoning. Until recently, the Stated Relationships file has been used to partially represent the DL definitions however the limitations of the relational structure prohibited to fully represent semantics of the DL expressions. OWL, web ontology language, is a W3C Semantic Web representation language for authoring ontologies. OWL is designed to represent distinct, yet connected, statements (axioms) for concepts based on their properties. OWL is a broadly adopted standard for which numerous tools are provided, including editors and reasoners. A DL reasoner can be used to check consistency and to infer relationships.

In 2018, SNOMED International started incremental changes to the terminology release to better support logic profile enhancements for terminology content and technological improvements. With the July 2019 International Edition, SNOMED CT inactivated all Stated Relationships from the release and now includes a complete OWL file. The new OWL refset is designed to replace the stated relationships file and represents the DL definitions for SNOMED CT. It now follows the international standard of OWL 2 Web Ontology Language.

This session will provide a brief background on SNOMED in OWL, its rationale, and how to use the new OWL Axiom refset files to generate SNOMED in OWL. We will also provide use cases regarding the how and what of the new SNOMED CT OWL representation, including the modeling and the usage perspective, the use of third-party tooling such as Protégé, and the role of the OWL representation in the semantic web. This presentation intends to provide additional guidance beyond the current documentation for future implementation of the OWL refsets in applications and transformations to OWL ontology.