

# Semantic Infrastructure Metadata Specialist User Story 6

Semantic Infrastructure Services
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**Semantic Infrastructure Metadata Specialist User Story 6:**  
**Support data transformations in order to allow different flow cytometry tools to work together**

## Domain Description

Flow cytometry (FCM) is a technique for counting and examining microscopic particles, which is routinely used in the diagnosis of health disorders, especially blood cancers, but has many other applications in both research and clinical practice. Automated identification systems could potentially help findings of rare and hidden populations. An informatics specialist is working on objectively comparing many of the FCM analytical methods available in the community for use in automated population identification using computational methods. The primary barrier to this evaluation is the wide variety of data standards used by the tooling, which includes MIFlowCyt, ACS, NetCDF, Gating-ML, FuGEFlow, and OBI. The informaticist decides to take an approach of defining semantic relationships and transformation services. The result is a system in which FCM analytical workflows are able to discover and perform translations as needed during analytical comparisons.

## Technical Description

Semantic relationship and rules between data elements can be formed, stored, and shared in the metadata repository. Furthermore, these relationships can be reasoned on using a inference engines and workflow engines. Translation services can be defined and identified as such, which would allow for them to be discovered and applied as needed.

## Cross Reference

## Related Services