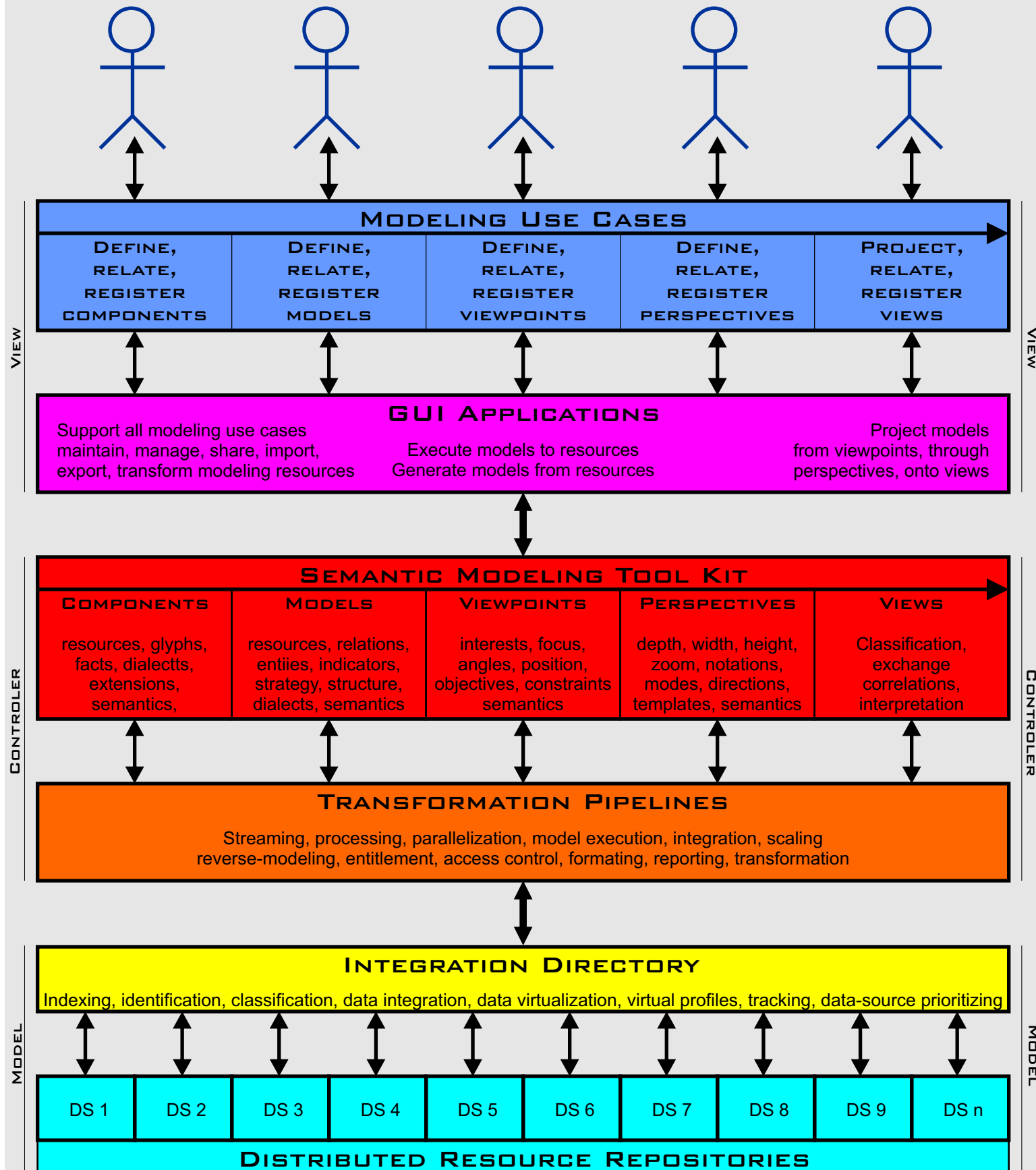


# Knowledge Architecture

## MODELING FRAMEWORK with Separation of Concerns



# Knowledge Architecture

## MODELING FRAMEWORK Legend

- BACKGROUND:** EVERYTHING ON THE GRAY BACKGROUND RECTANGLE IS CONSIDERED PART OF THE KNOWLEDGE ARCHITECTURE MODELING ECOSYSTEM FRAMEWORK.
- ACTORS:** THE FRAMEWORK ACTORS INCLUDE MODELING STAKEHOLDERS, MODELERS, TOOL AND COMPONENT DESIGNERS.
- INTERACTION:** THE FRAMEWORK ACTORS INTERACT WITH THE FRAMEWORK AUTOMATION ENGINE BY PERFORMING MODELING USE CASES THROUGH GUI APPLICATIONS.
- USE CASES:** THE MANY MODELING USE CASES CAN BE FIRST ORGANIZED BETWEEN THE PARTLY AND THE MORE FULLY AUTOMATED ONES. THE PARTLY AUTOMATED USE CASES ARE TYPICALLY ASSOCIATED WITH DEFINING, SELECTING, RELATING, AND REGISTERING MODELING RESOURCES OF 5 MAIN ARCHETYPES:
- 1) MODELING COMPONENTS (E.G. GLYPHS, GRAPHS, FACTS, ELEMENTS),
  - 2) MODELS (E.G. SYSTEMS, RESOURCES, PROCESSES),
  - 3) VIEWPOINTS (E.G. POSITION, ANGLE, INTERESTS),
  - 4) PERSPECTIVES (E.G. DEPTH, DIRECTION, NOTATION, MODE), AND
  - 5) VIEWS (E.G. DIAGRAMS)
- THE MORE FULLY AUTOMATED USE CASES INCLUDE
- 1) PROJECT MODELS FROM VIEWPOINTS, THROUGH PERSPECTIVES, ONTO VIEWS
  - 2) EXECUTE MODELS BY GENERATING AND MANAGING MODELED RESOURCES
  - 3) GENERATE MODELS FROM EXISTING RESOURCES
  - 4) MODELING SUPPORT TASKS INCLUDING MAINTENANCE, MANAGEMENT, EXCHANGE, TRANSFORMATION OF MODELING AND MODELED RESOURCES.
- APPLICATIONS:** USING THE MODELING AUTOMATION ENGINE TO SUPPORT ALL MODELING USE CASES BY PROVIDING USERS (E.G. ACTORS) WITH INTUITIVE, GRAPHICAL, AND INTERACTIVE INTERFACE TO MODELING FUNCTIONALITY AND AUTOMATION.
- TOOLS:** THE FRAMEWORK SEMANTIC MODELING TOOLS INCLUDE NOTATIONAL COMPONENTS USED TO REPRESENT RESOURCES IN MODELS OF MORE COMPOUND RESOURCES (E.G. SYSTEMS). COMPONENTS, MODELS, VIEWPOINTS, PERSPECTIVES, VIEWS, AND PROJECTION ENGINES ARE IMPORTANT MODELING TOOLS USEFULLY ASSEMBLED INTO EFFECTIVE TOOL LIBRARIES.
- PROJECTIONS:** VIEWPOINTS CAN BE DEFINED TO DETERMINE WHAT MODEL ASPECTS SHOULD BE CONSIDERED, AS WELL AS PERSPECTIVES THAT SPECIFY HOW THOSE ASPECTS ARE TO BE PROJECTED ONTO VIEWS (E.G. DIAGRAMS, TEXT, FACTS, EXPORT/IMPORT FORMATS), ACCORDING TO STAKEHOLDER REQUIREMENTS. HORIZONTAL ARROWS INDICATE THE NORMAL PROJECTION WORK-FLOW.
- PIPELINES:** HIGHLY PARALLELIZED STREAMING CONTENT TRANSFORMATION PIPELINE ENGINES PROVIDE THE MODELING FRAMEWORK ECOSYSTEM WITH REQUIRED PROCESSING, PERFORMANCE, SCALABILITY, FLEXIBILITY, MODULARITY, CONTROL, ENTITLEMENT, TRACKING, REPORTING, PROJECTION, MANAGEMENT, AND MAINTAINABILITY.
- INTEGRATION:** DECOUPLING DATA FROM RELATED SEMANTICS, AS WELL AS INFORMATION FROM DATA-SOURCES, THE MODELING FRAMEWORK PROVIDES AN INTEGRATION DIRECTORY THAT VIRTUALIZES KNOWLEDGE, INFORMATION, AND PROFILES. THE INTEGRATION DIRECTORY IS ALSO RESPONSIBLE FOR MANAGING AND PRIORITIZING ALTERNATE DISTRIBUTED DATA-SOURCES.
- DATA SOURCES:** THROUGH ITS INTEGRATION DIRECTORY, THE MODELING FRAMEWORK ACCESSES ANY NUMBER OF, POSSIBLY REDUNDANT, DATA-SOURCES (E.G. DATABASES).
- GLOSSARY:** MANY OF THE TERMS USED HERE ARE DEFINED IN THE KNOWLEDGEARCHITECT.ORG HYPERLINK GLOSSARY, AVAILABLE AT [HTTP://WWW.KNOWLEDGEARCHITECT.ORG/GLOSSARY.HTML](http://www.KNOWLEDGEARCHITECT.ORG/GLOSSARY.HTML), FROM THE [HTTP://WWW.KNOWLEDGEARCHITECT.ORG/](http://www.KNOWLEDGEARCHITECT.ORG/) WEB SITE.