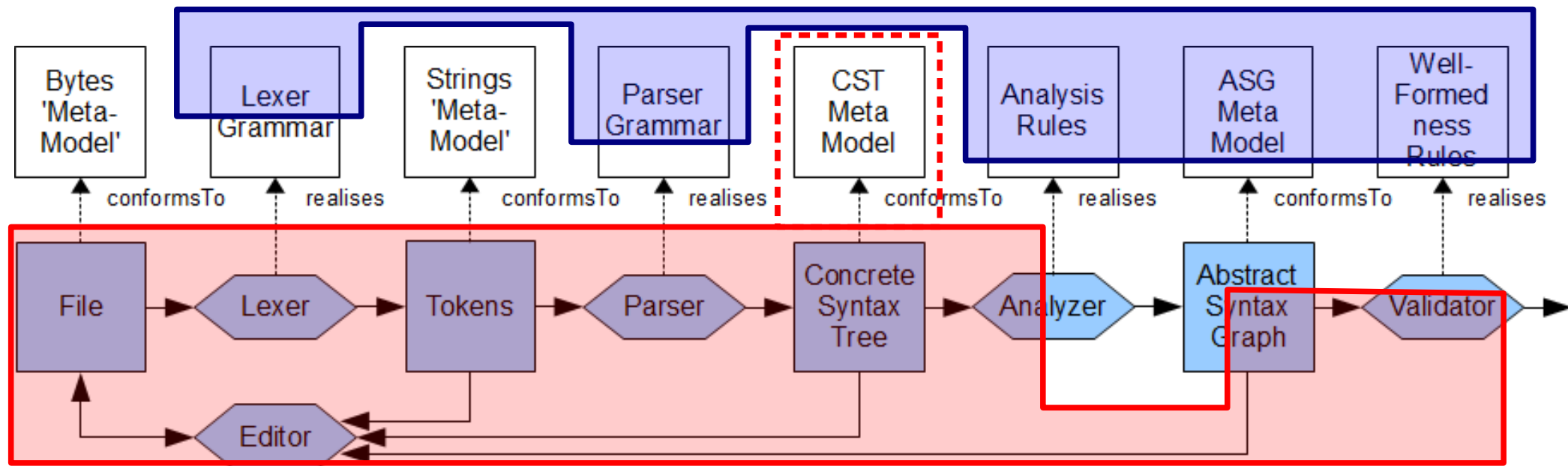# OCL Specification-driven

- Make OCL specification consumable
  - useable complete lexer/parser grammar
  - useable/accurate analysis/validation constraints
- Model-driven analyzer framework
- OCL-driven validation

Specification Authoring for OCL <=2.2

- FrameMaker document
  - Figures pasted from Rational Rose
  - Editorial text is entirely manual
- Partial textual evolution to OCL 2.0, 2.2
- Significant textual inconsistency (~50 issues)
- Numerous minor typos (~100 issues)
- Examples/specifications never tool-checked

Specification Authoring for OCL > 2.2

- Each clause (chapter) defined by a model

  - FrameMaker auto-generated

  - Content inherently consistent

  - Examples and content tool-checked

  -

  - Model may be re-used

Clause 8 OCL Abstract Syntax

- UML models of UML and OCL
  - UML Basic
  - OCL expressions
  - UML Advanced Basic Constructs (e.g. Templates)
    - needs collaboration with UML
- Package merge gives OCL Pivot Model
- Merge solves
  - insertion of OclAny into generalization hierarchy
  - extra OCL concepts: Iteration, VariableDeclaration
  - Complete OCL concepts

Clause 9 : OCL Concrete Syntax

- UML model of OCL AS model (Clause 8)

- UML model of OCL CS model

- Complete OCL model to specify

  - abstract syntax mapping

  - synthesized attributes

  - inherited attributes

  - disambiguation rules

Clause 11 : OCL Standard Library

- Pivot Model of OCL Standard Library defines
  - URI
  - classes
    - operations, iterates, iterations, properties
    - conformsTo
  - precedence, associativity

- Alternate models for legacy semantics
- Extensible for QVT, MOFM2T

Clause 12 : Complete OCL

(currently only partially specified)

- UML model of Complete OCL AS model

  - additional packages merged to Pivot Model

- UML model of Complete OCL CS model

- Complete OCL model to specify

  - abstract syntax mapping

  - synthesized attributes

  - inherited attributes

  - disambiguation rules

Clause 10 : OCL Semantics

- UML Model of OCL Values

- UML Model of OCL Evaluations

- UML Model of OCL Domain Mapping

- Complete OCL Model of

  - well-formedness rules

  - additional operations

  - tool-checked