# SOFTWARE CONFIGURATION MANAGEMENT

# WHAT IS IT?

- The art of coordinating software development to minimize confusion is called configuration management.
- identifying, organizing, and controlling modifications to the software being built by a programming team.
- to maximize productivity by minimizing mistakes.
- SCM activities are:
  - identify change,
  - control change,
  - Ensure that change is being properly implemented, and
  - report changes to others who may have an interest.

# SOFTWARE PROCESS INFORMATION

- computer programs
- work products
- data or content
- Software configuration item

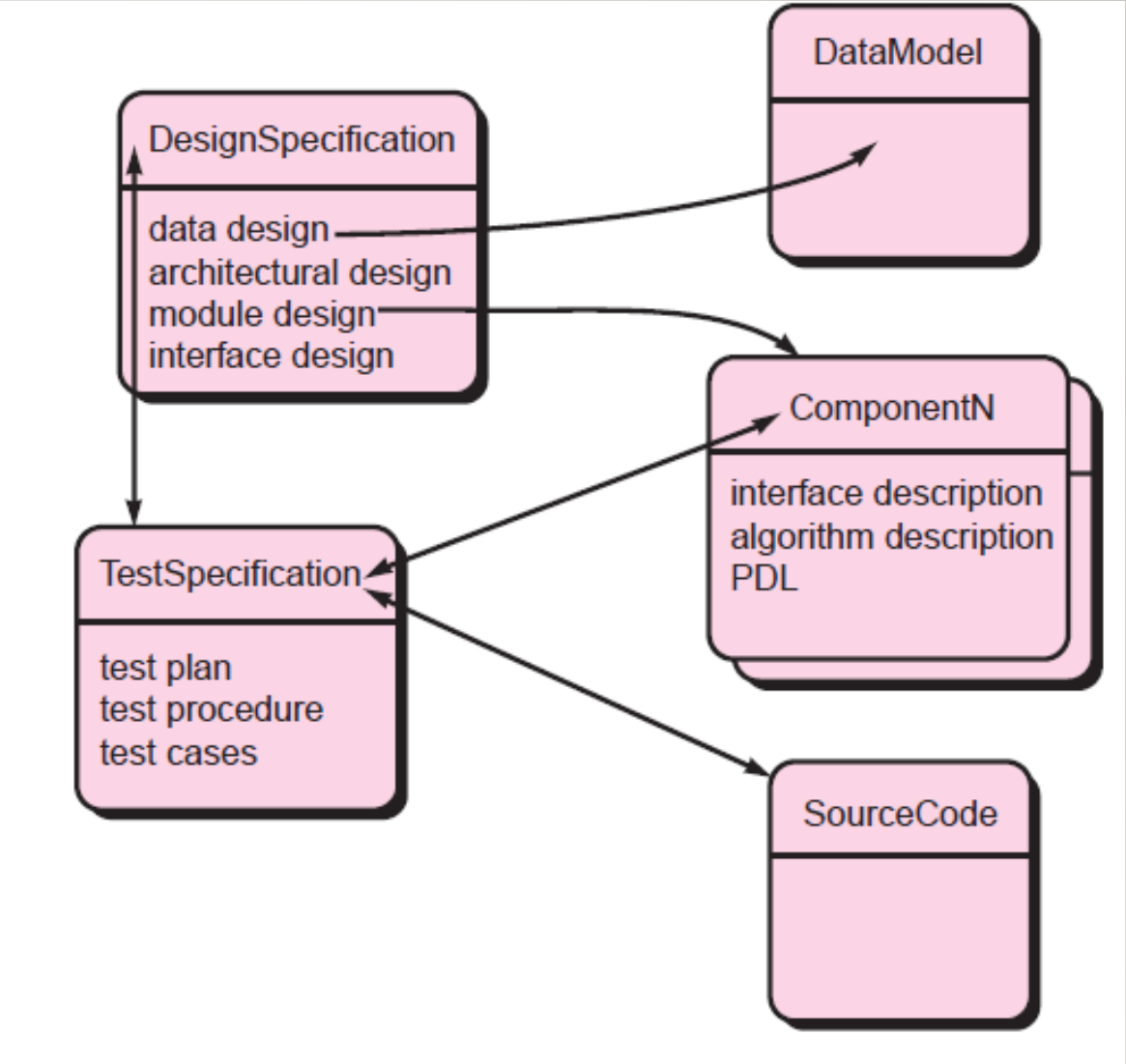
"No matter where you are in the system life cycle, the system will change, and the desire to change it will persist throughout the life cycle."

Reason:???

# CM CAN BE VIEWED AS:

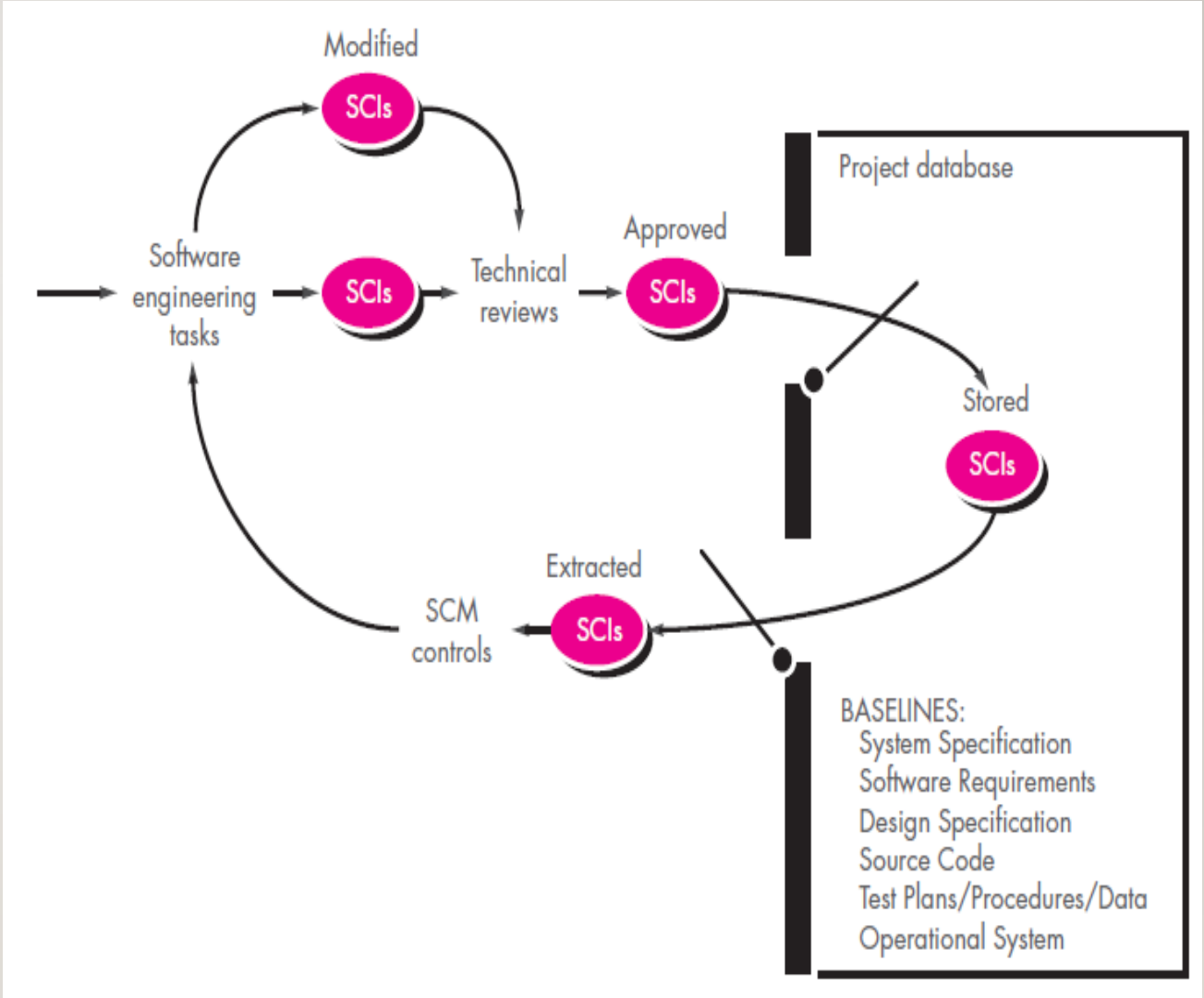
- auditing mechanism;
- controlling, tracking, and policy making mechanism
- Changing, Building, and Access control mechanism
- a quality assurance mechanism.

# CONFIGURATION ITEMS



# BASELINE

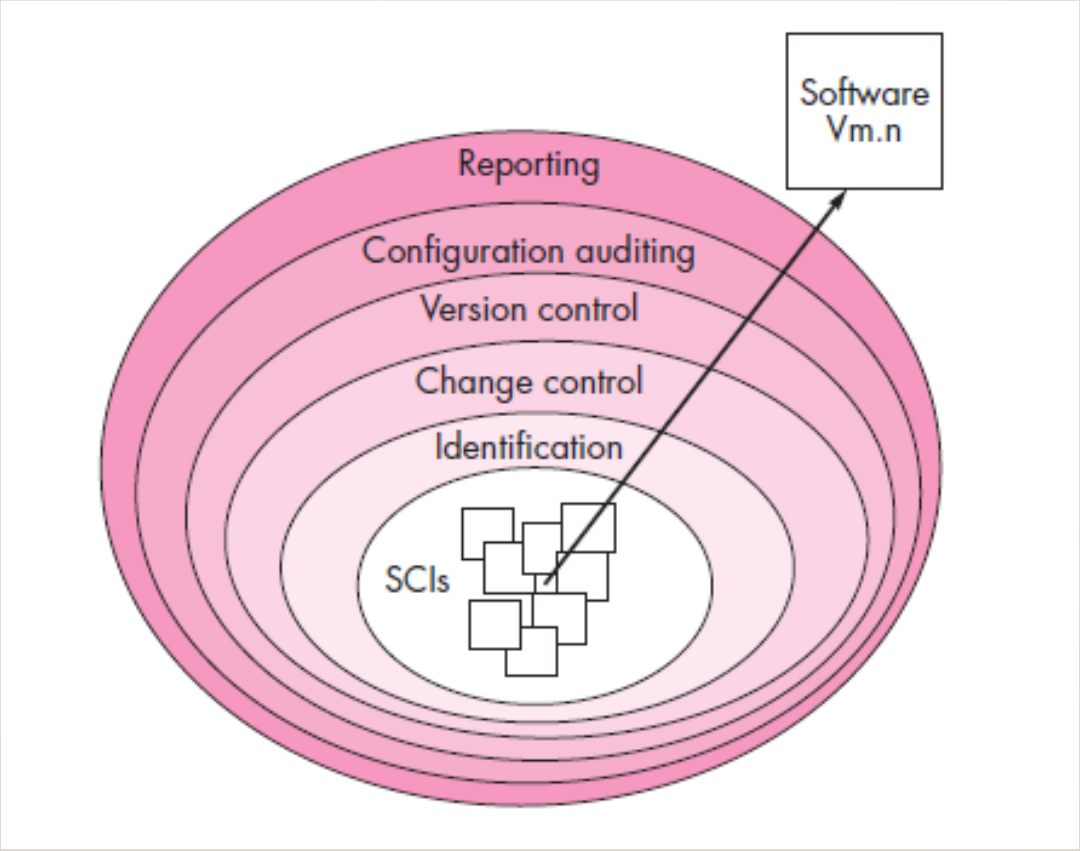
A specification or product that has been formally reviewed and agreed upon, that thereafter serves as the basis for further development, and that can be changed only through formal change control procedures.



# THE SCM REPOSITORY

- “any thing or person thought of as a center of accumulation or storage.”
- set of mechanisms and data structures that allow a software team to manage change in an effective manner.

# SCM PROCESS


Software
Vm.n
Reporting
Configuration auditing
Version control
Change control
Identification
SCIs

# IDENTIFICATION OF OBJECTS IN THE SOFTWARE CONFIGURATION

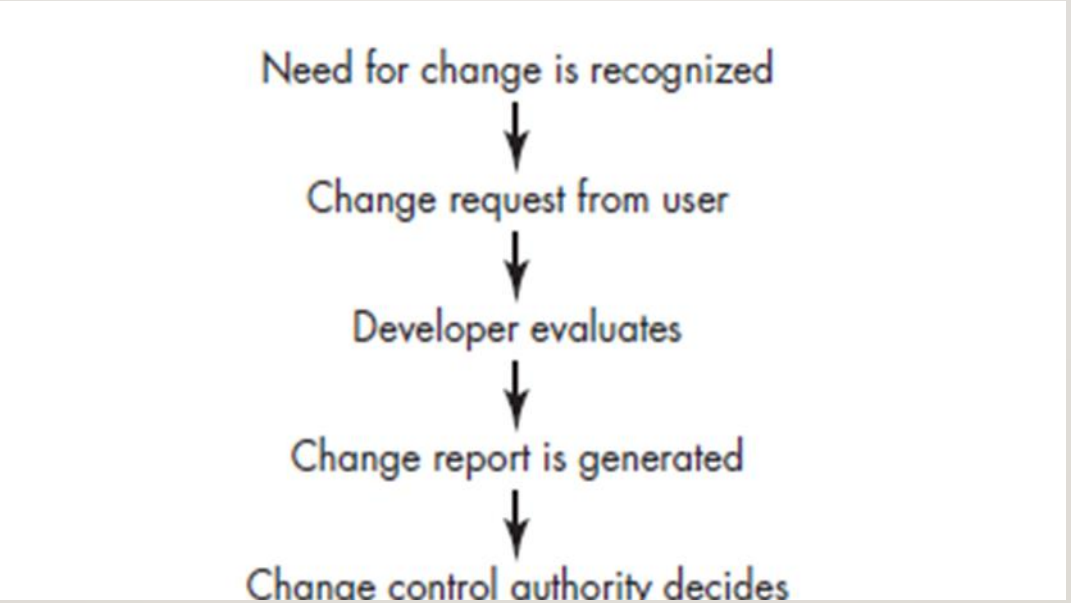
- basic object
- aggregate object

- Class diagram -> part-of -> requirements model;
- Requirements model ->part-of -> requirements specification;

# VERSION CONTROL

- a project database (repository) that stores all relevant configuration objects,
- a version management capability that stores all versions of a configuration object
- a make facility that enables you to collect all relevant configuration objects and construct a specific version of the software.

# CHANGE CONTROL



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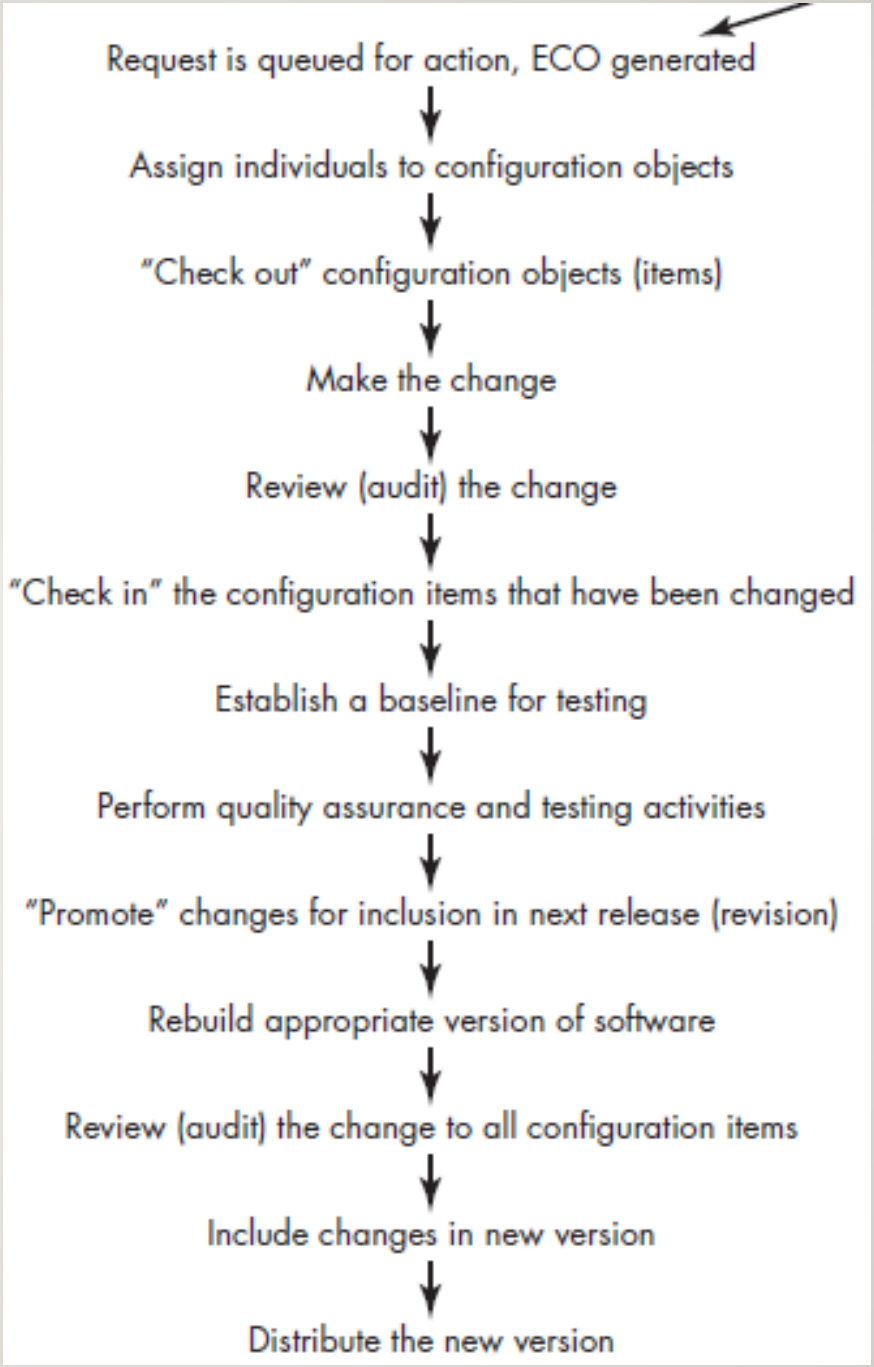


# CONFIGURATION AUDIT

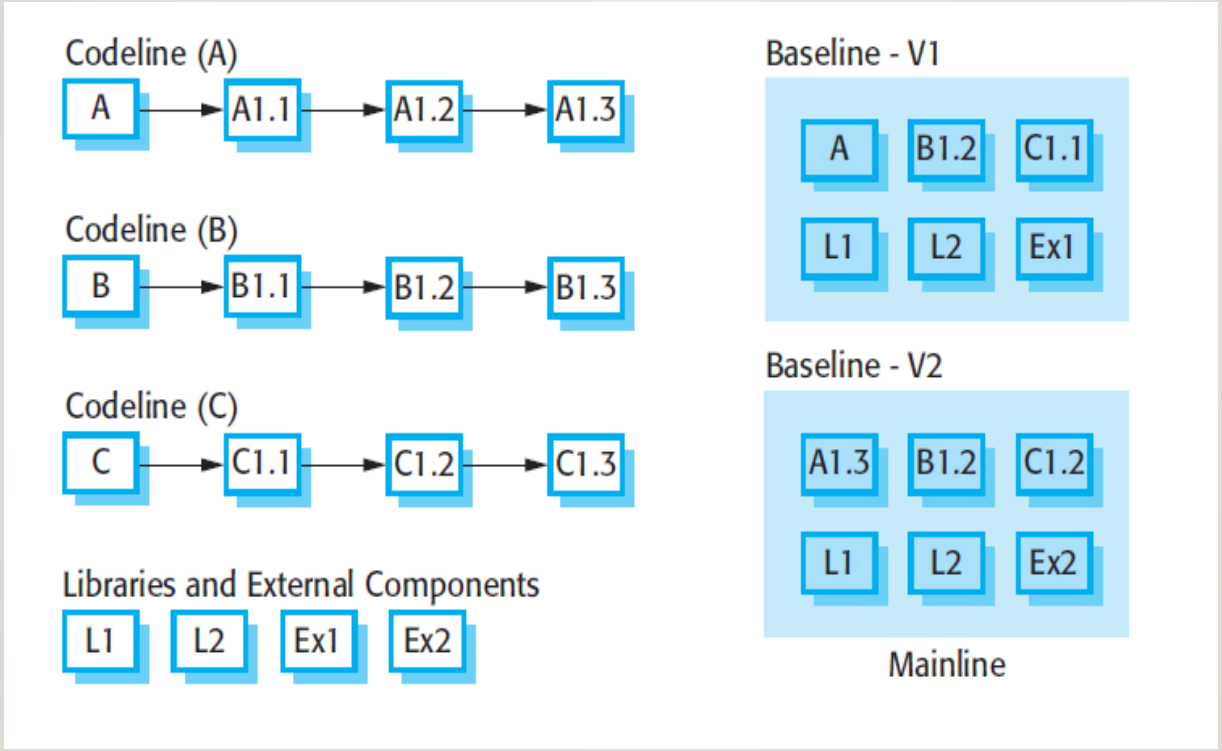
- A software configuration audit complements the technical review by assessing a configuration object for characteristics that are generally not considered during review.

# STATUS REPORTING

answers the following questions:

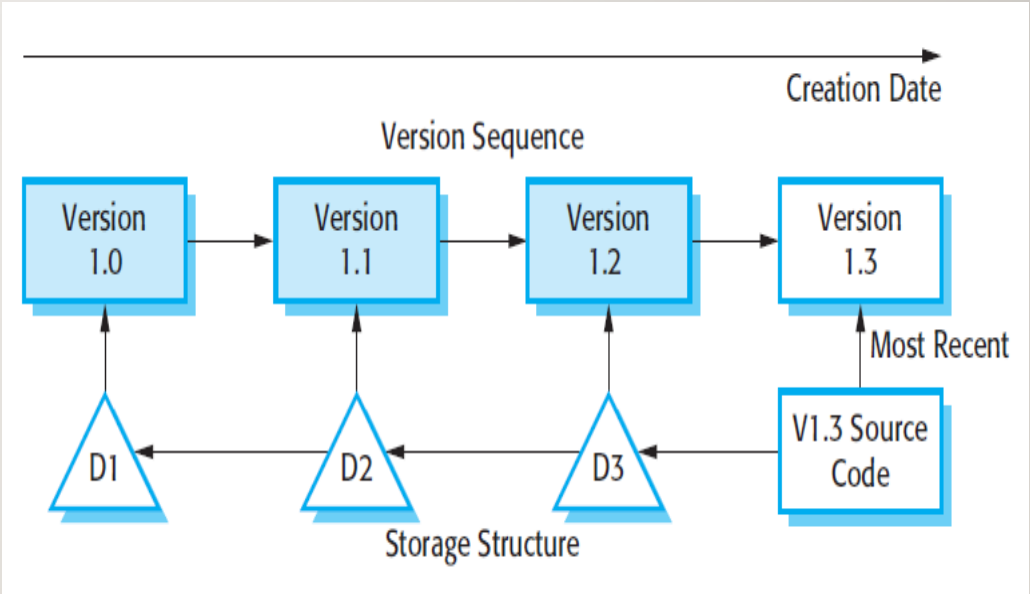
- What happened?
- Who did it?
- When did it happen?
- What else will be affected?

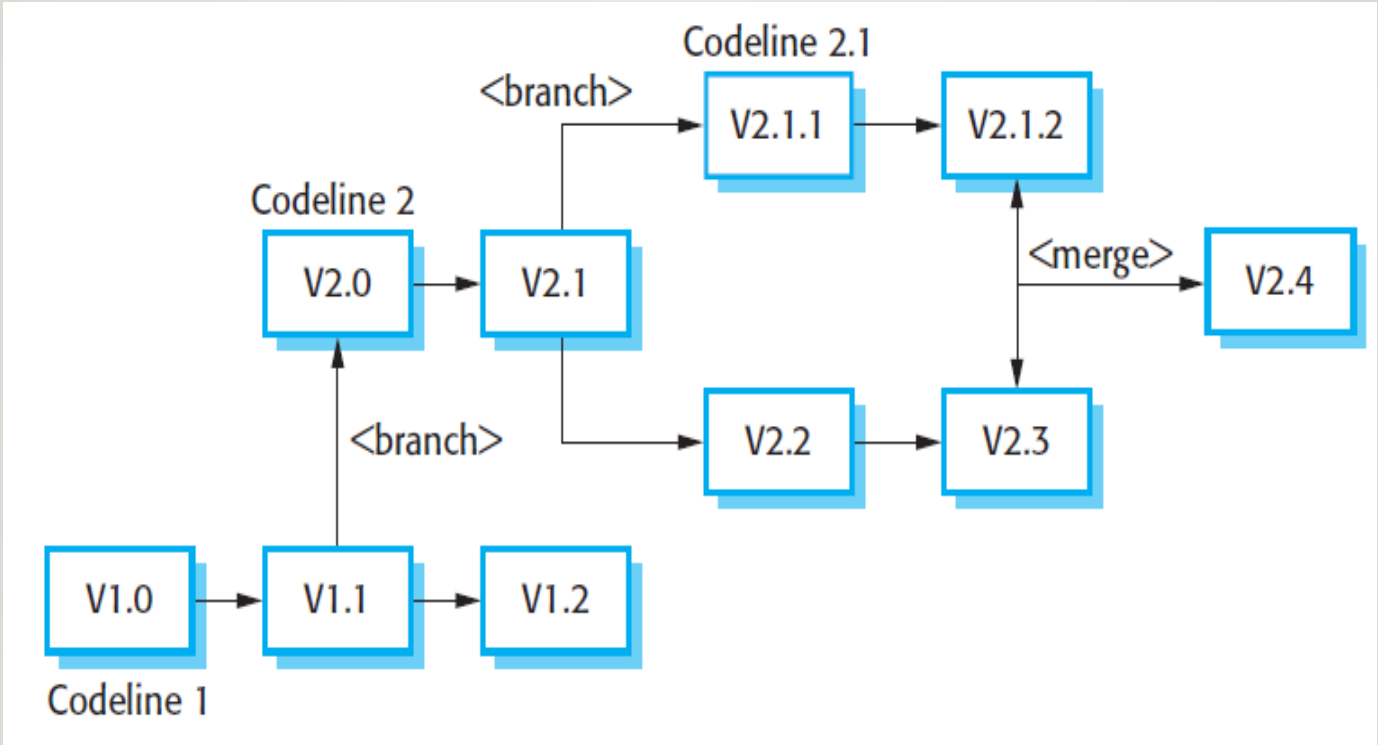
# VERSION MANAGEMENT



# FEATURES

- Version and release identification
- Storage management
- Change history recording
- Independent development
- Project support

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V2.1.2
Codeline 2
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V2.1
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V2.4
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V2.2
V2.3
V1.0
V1.1
V1.2
Codeline 1