CASE tools for configuration management

- CM processes are standardised and involve applying pre-defined procedures

- Large amounts of data must be managed

- CASE tool support for CM is therefore essential

- Mature CASE tools to support configuration management are available ranging from stand-alone tools to integrated CM workbenches

Change management tools

- Change management is a procedural process so it can be modelled and integrated with a version management system

- Change management tools
  - Form editor to support processing the change request forms
  - Workflow system to define who does what and to automate information transfer
  - Change database that manages change proposals and is linked to a VM system

Version management tools

- ## Version and release identification
  - Systems assign identifiers automatically when a new version is submitted to the system

- ## Storage management
  - System stores the differences between versions rather than all the version code
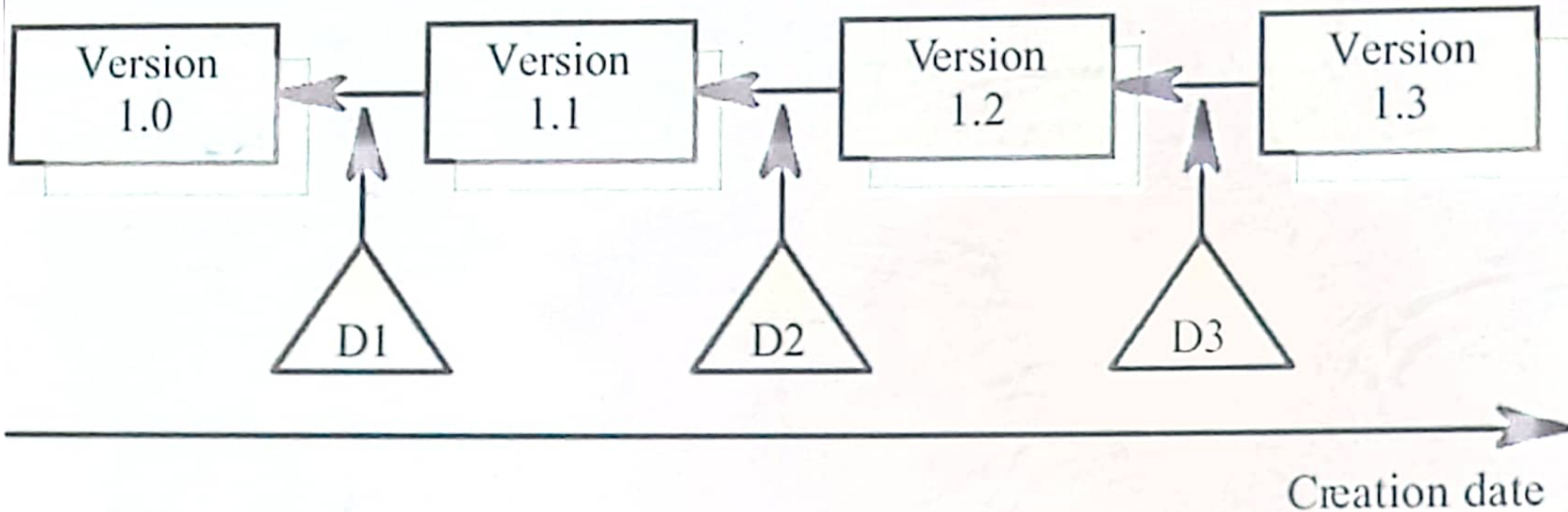
Change history recording
- Record reasons for version creation

Independent development
- Only one version at a time may be checked out for change. Parallel working on different versions
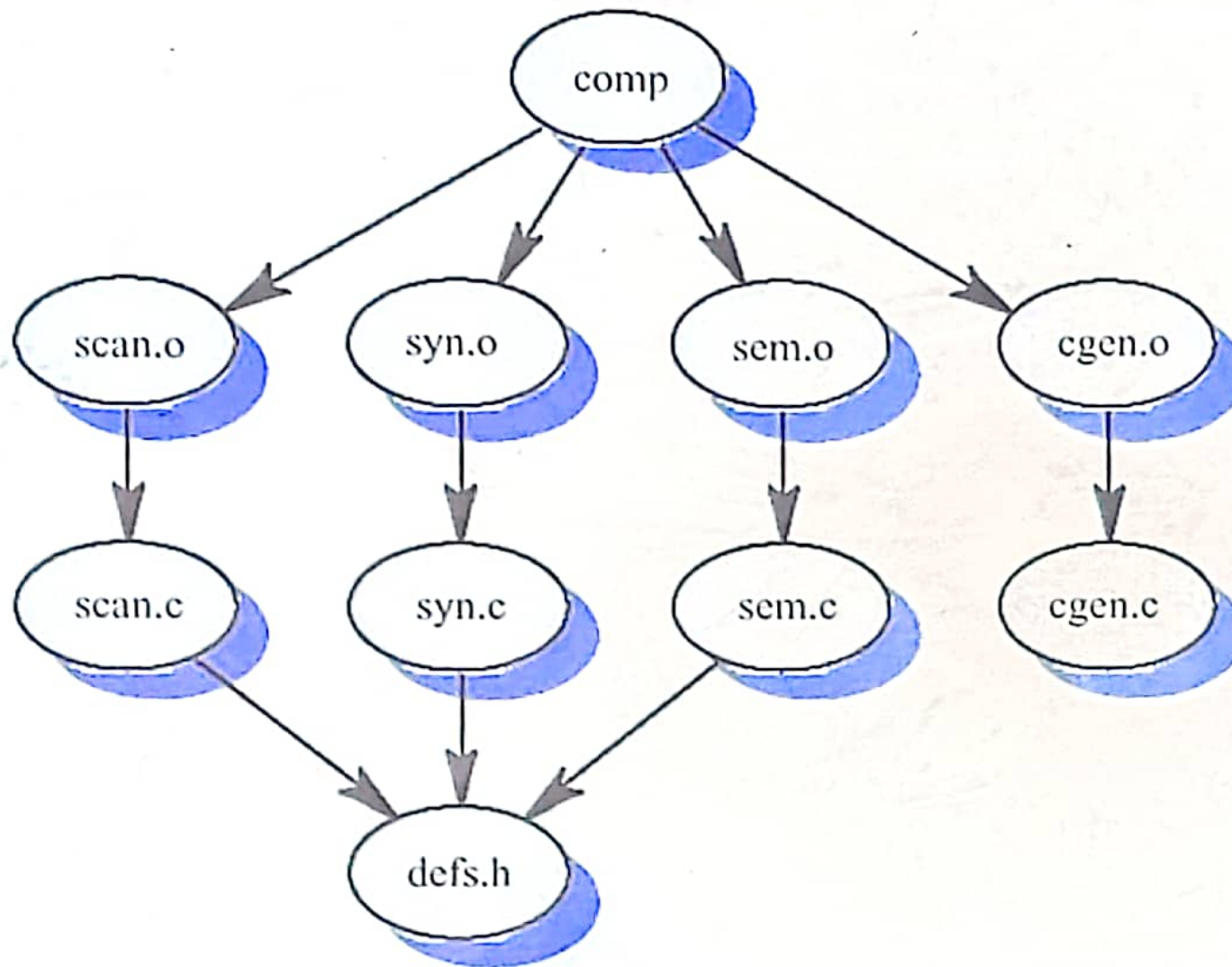
Delta-based versioning

System building

- Building a large system is computationally expensive and may take several hours

- Hundreds of files may be involved

- System building tools may provide
  - A dependency specification language and interpreter
  - Tool selection and instantiation support
  - Distributed compilation
  - Derived object management

Component dependencies

Summary

- Configuration management is the management of system change to software products
- A formal document naming scheme should be established and documents should be managed in a database
- The configuration data base should record information about changes and change requests
- A consistent scheme of version identification should be established using version numbers, attributes or change sets

Summary

- System releases include executable code, data, configuration files and documentation

- System building involves assembling components into a system

- CASE tools are available to support all CM activities

- CASE tools may be stand-alone tools or may be integrated systems which integrate support for version management, system building and change management