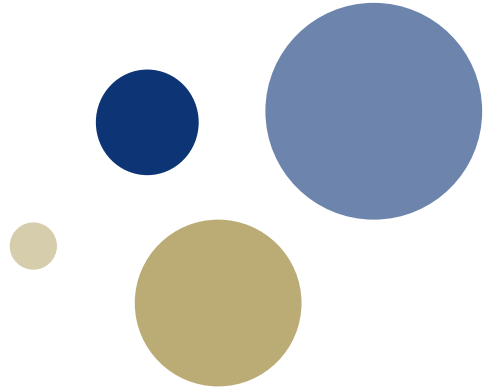


Version control for researchers

Sigurd Hofsmo Jakobsen

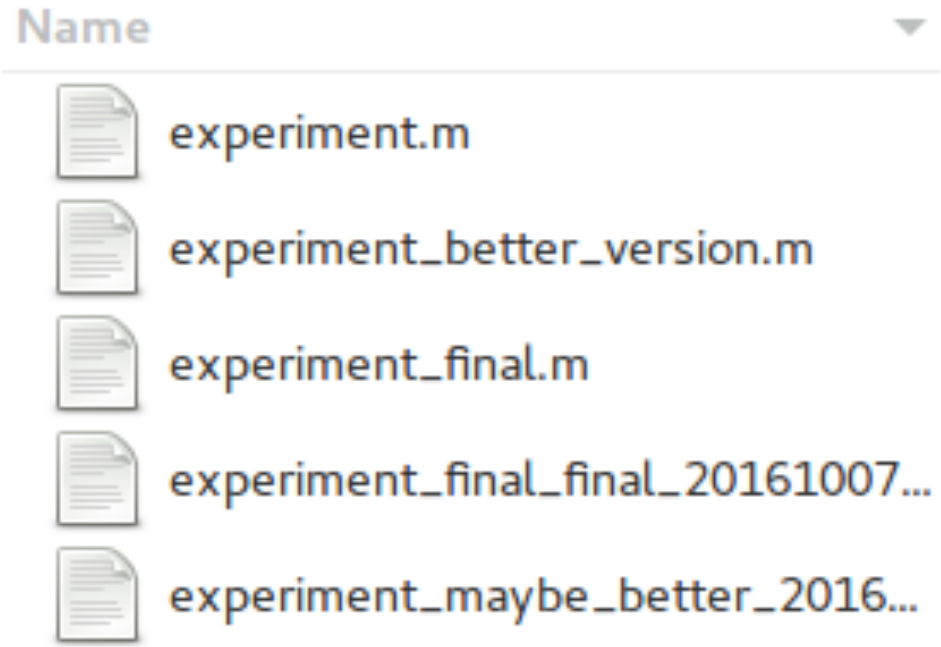
Department of electric power engineering

October 5, 2016

Outline

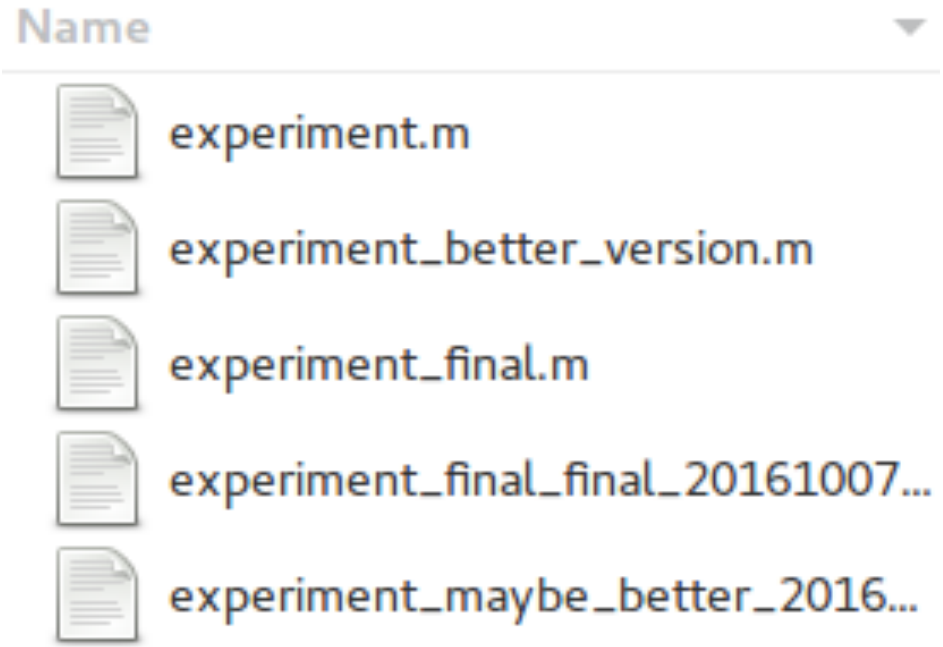
A basic example

— Only one person can work on a file at a time



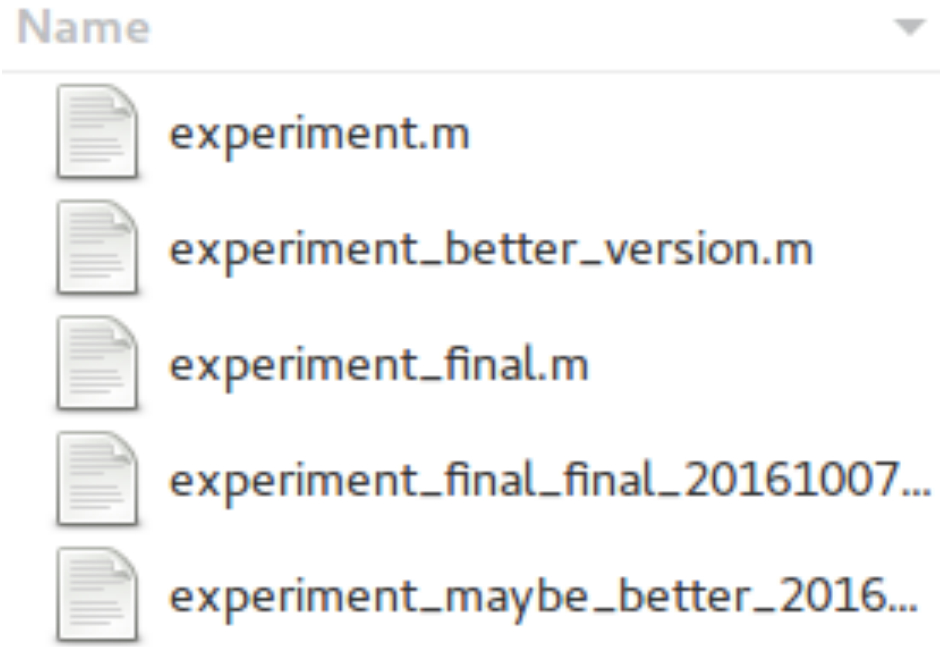
A basic example

- Only one person can work on a file at a time
- Difficult to keep track on which file to use



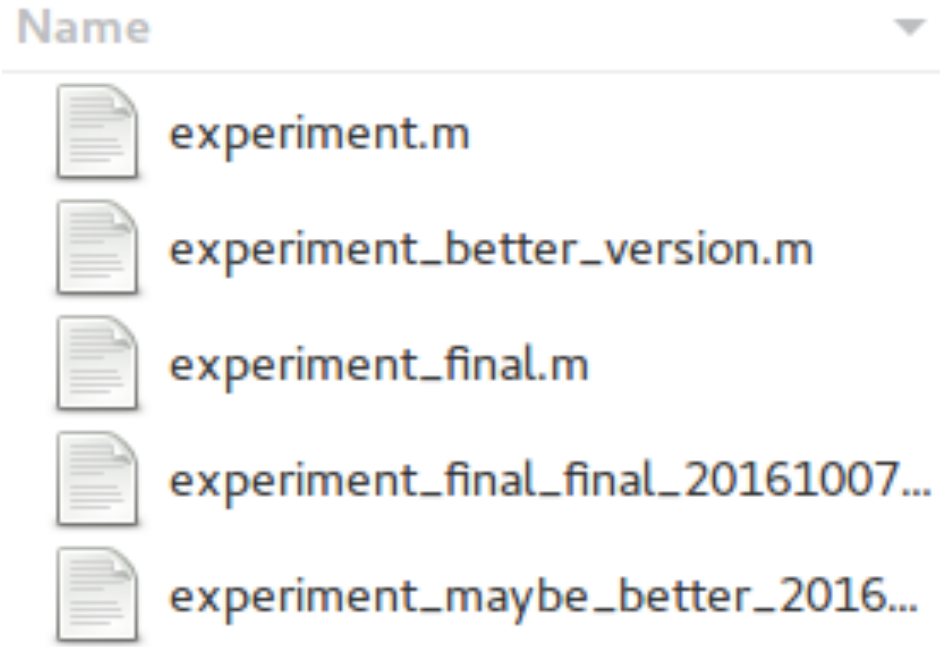
A basic example

- Only one person can work on a file at a time
- Difficult to keep track on which file to use
- Difficult to compare the files



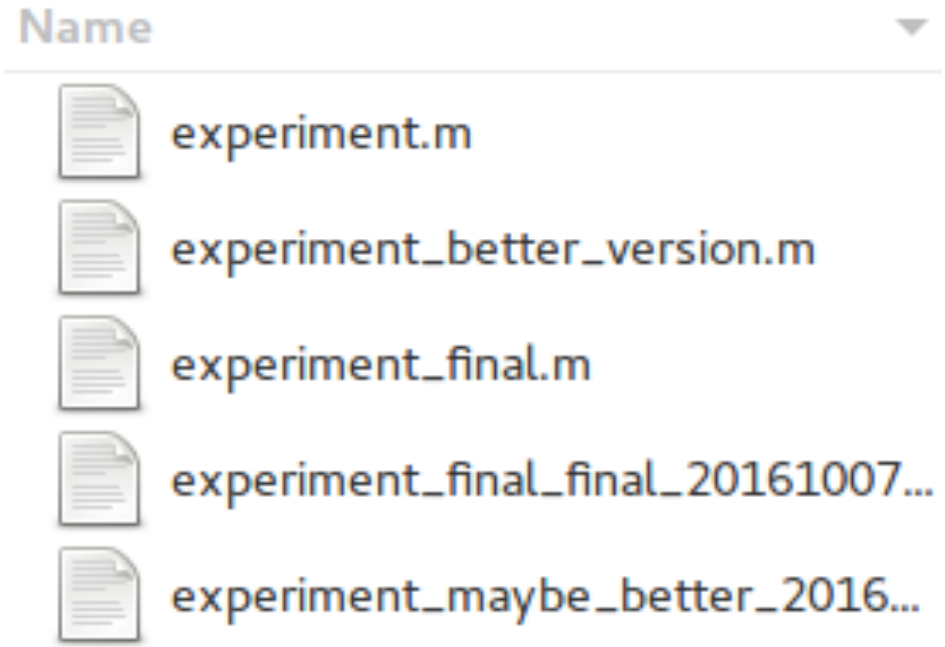
A basic example

- Only one person can work on a file at a time
- Difficult to keep track on which file to use
- Difficult to compare the files
- Do you have back up?



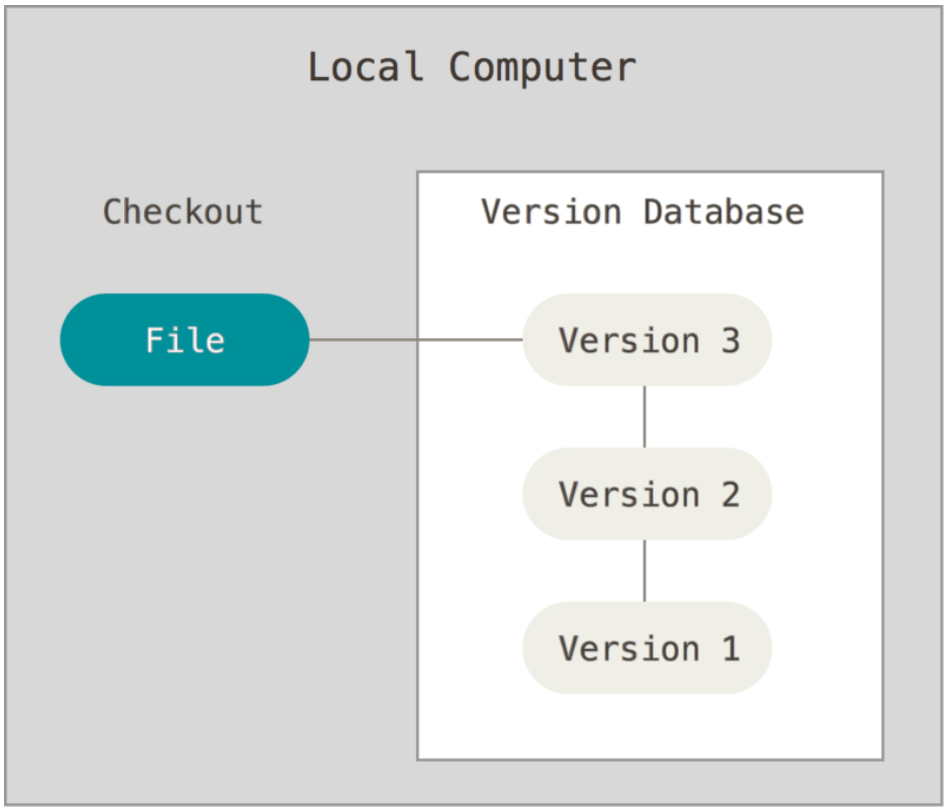
A basic example

- Only one person can work on a file at a time
- Difficult to keep track on which file to use
- Difficult to compare the files
- Do you have back up?
- Probably more issues



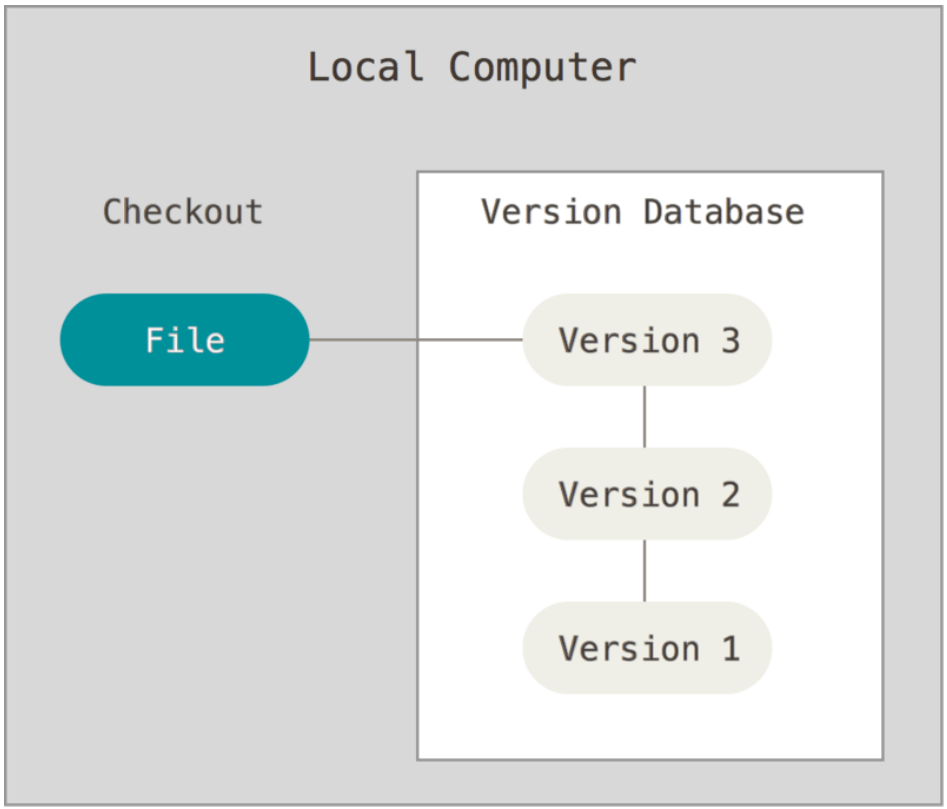
Smarter way of doing it

— Equivalent of storing your stuff on M



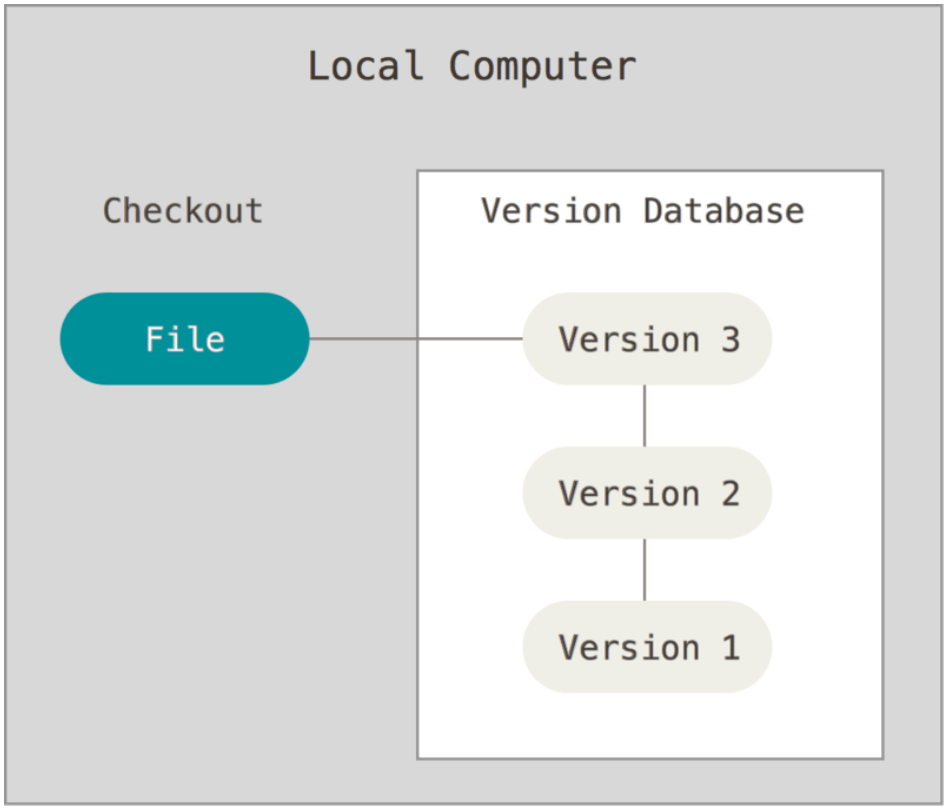
Smarter way of doing it

- Equivalent of storing your stuff on M
- Included in MAC



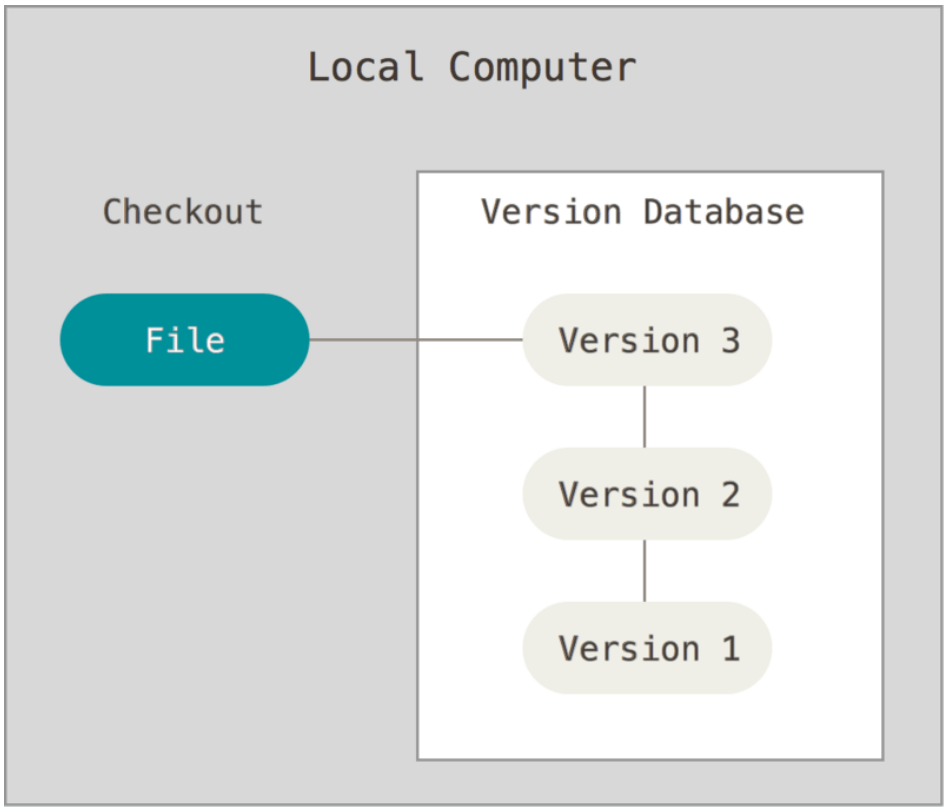
Smarter way of doing it

- Equivalent of storing your stuff on M
- Included in MAC
- Easy to set up



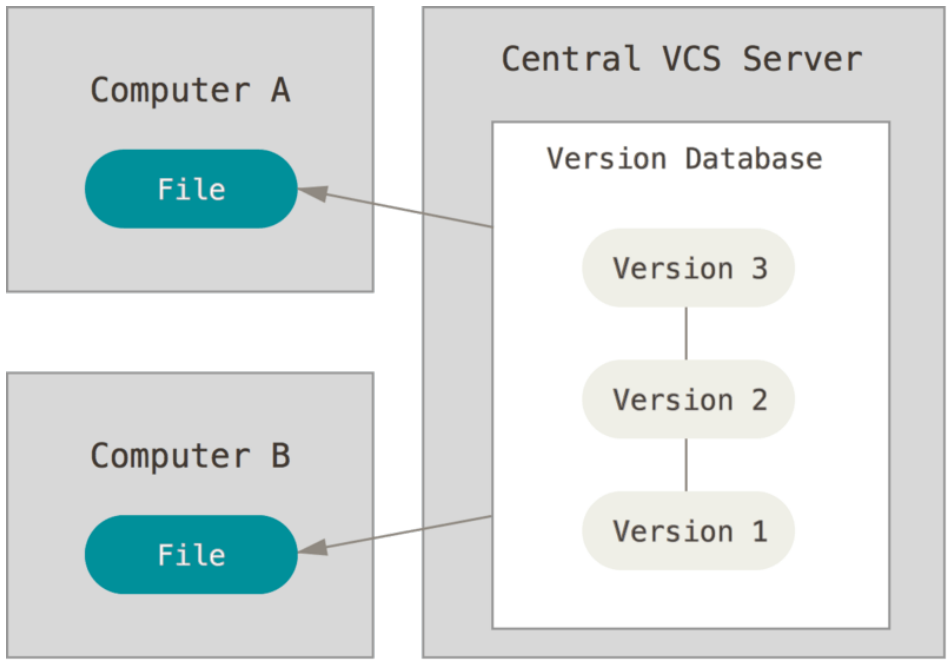
Smarter way of doing it

- Equivalent of storing your stuff on M
- Included in MAC
- Easy to set up
- Still difficult to collaborate



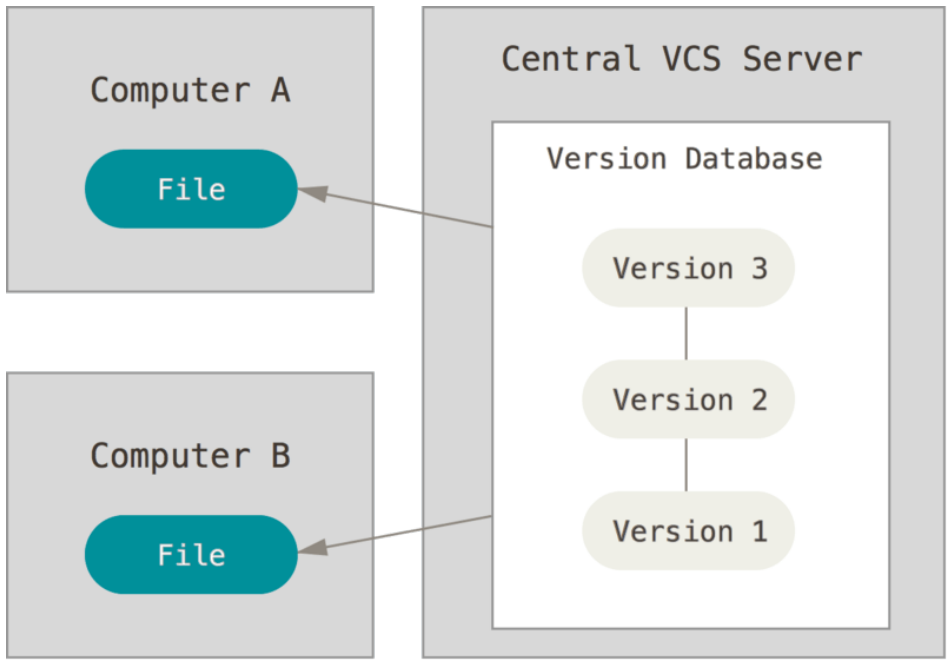
Centralized version control

— Examples:



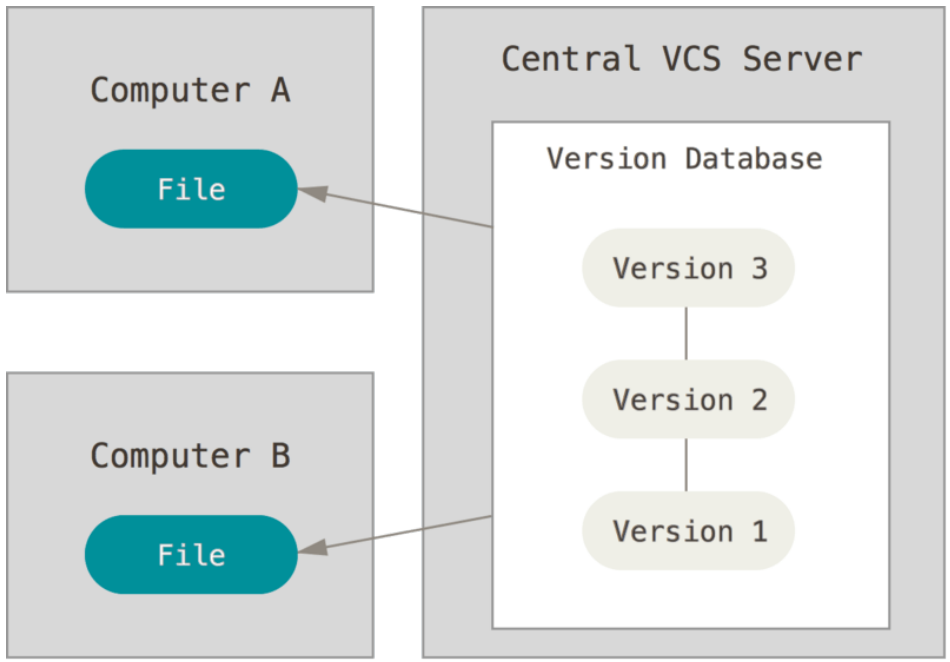
Centralized version control

— Examples:
  - CVS



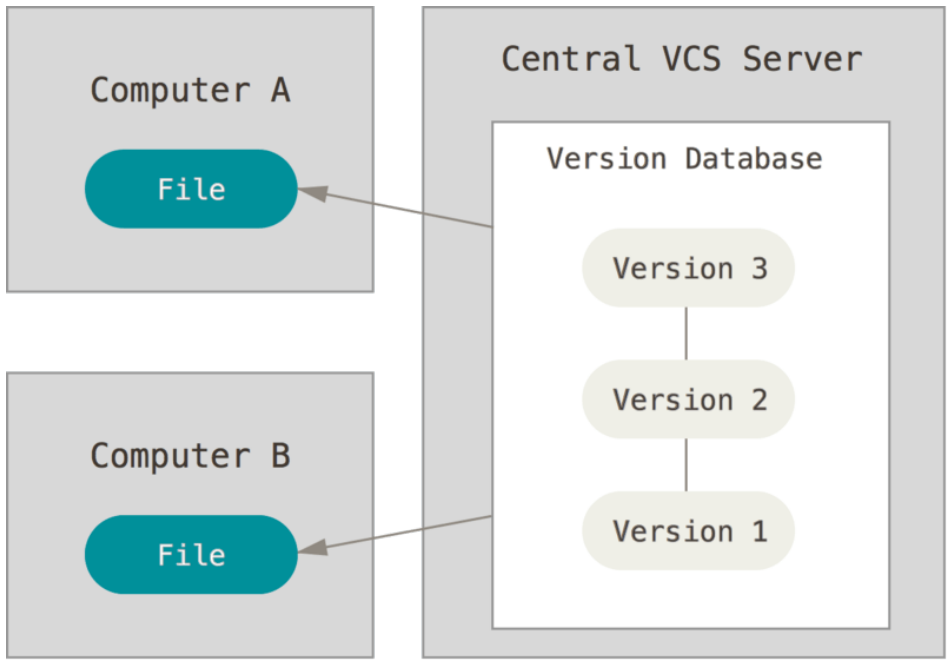
Centralized version control

— Examples:
- CVS
- subversion



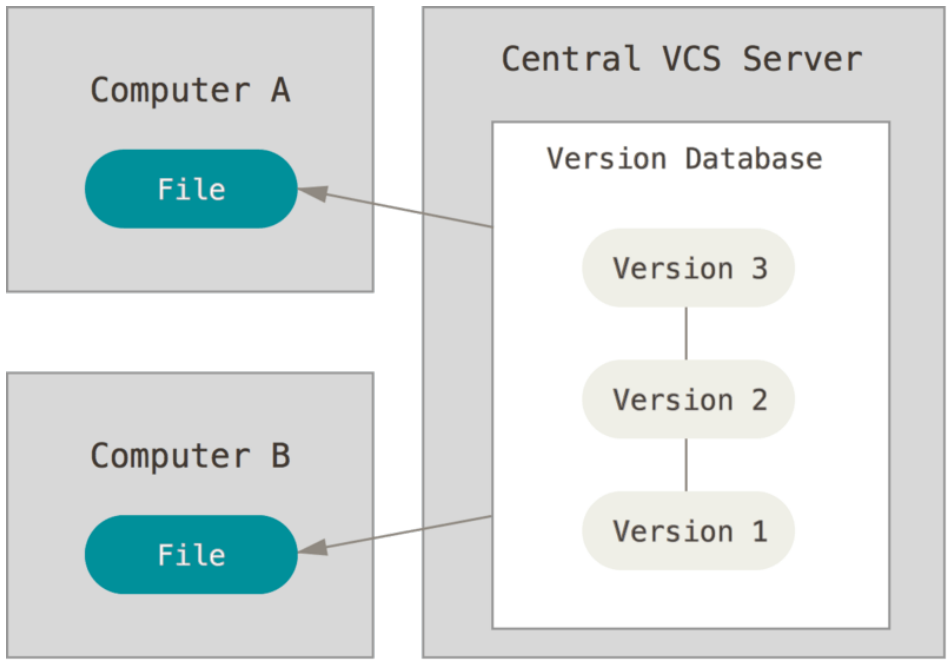
Centralized version control

- Examples:
  - CVS
  - subversion
  - perforce



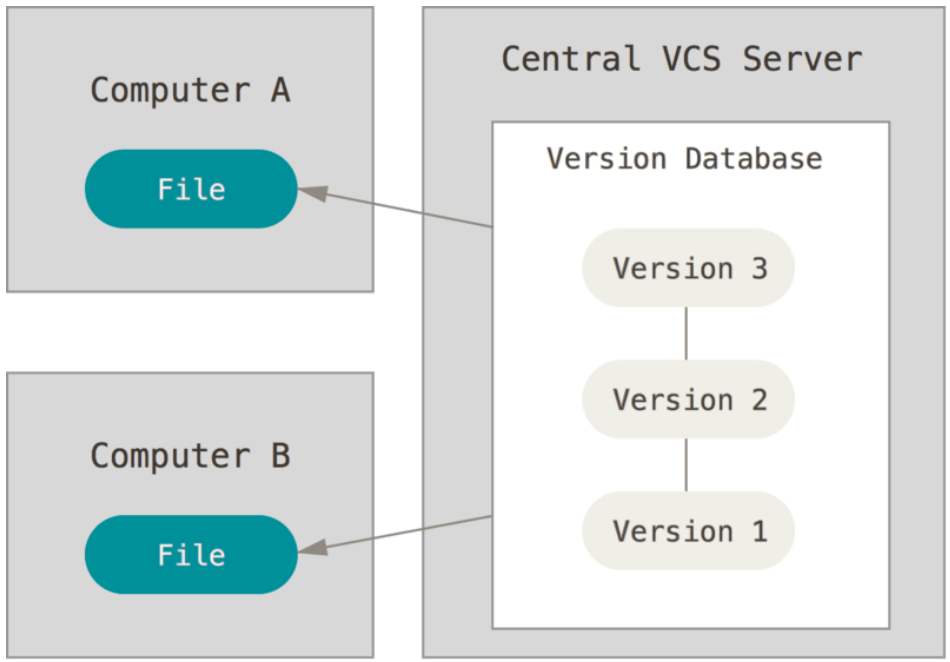
Centralized version control

- Examples:
  - CVS
  - subversion
  - perforce
- Easy to collaborate



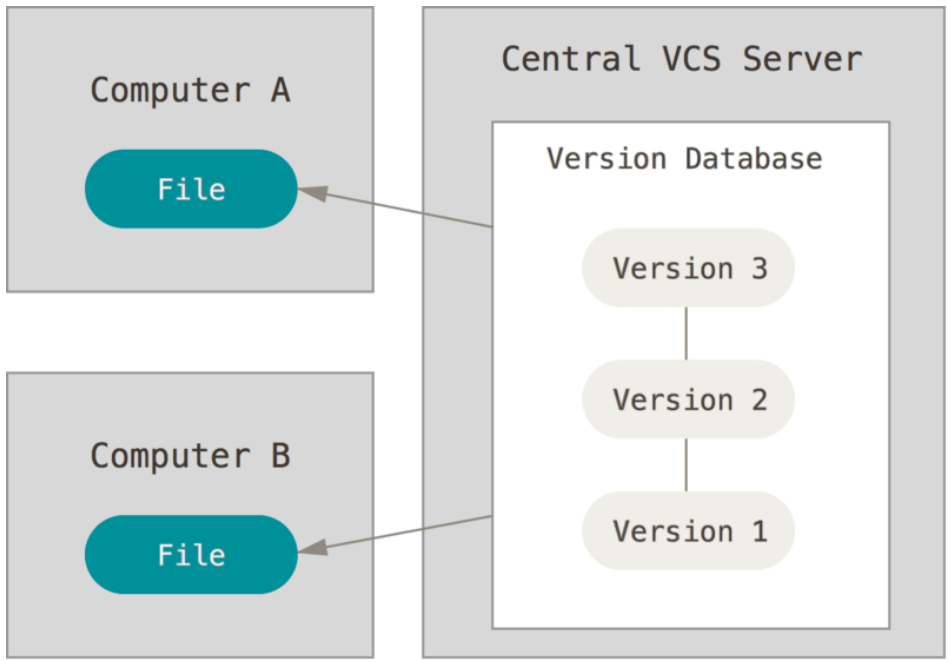
Centralized version control

- Examples:
  - CVS
  - subversion
  - perforce
- Easy to collaborate
- Check out specific versions



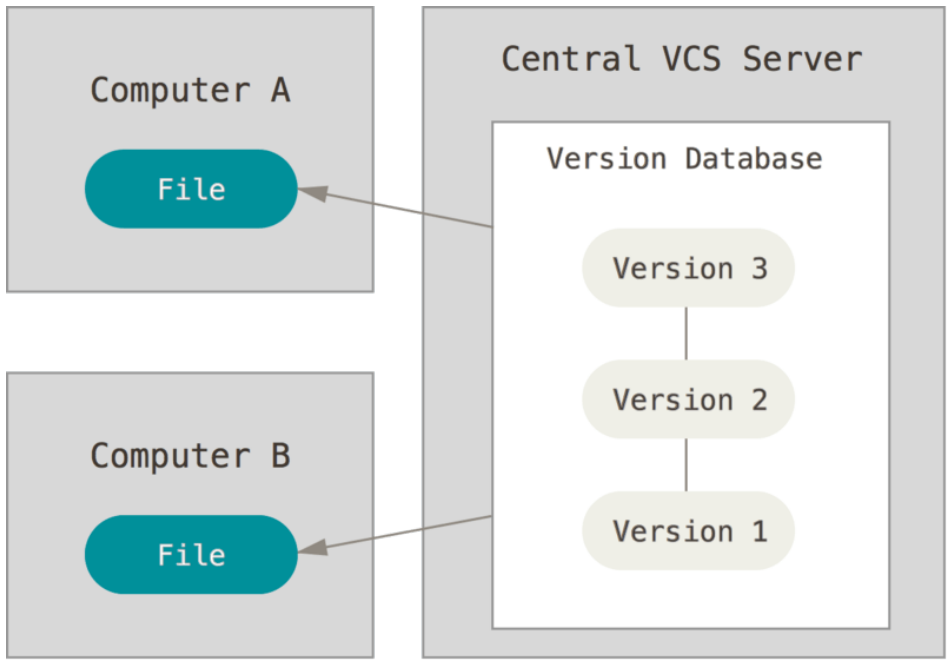
Centralized version control

- Examples:
  - CVS
  - subversion
  - perforce
- Easy to collaborate
- Check out specific versions
- Single point of failure (N-0)



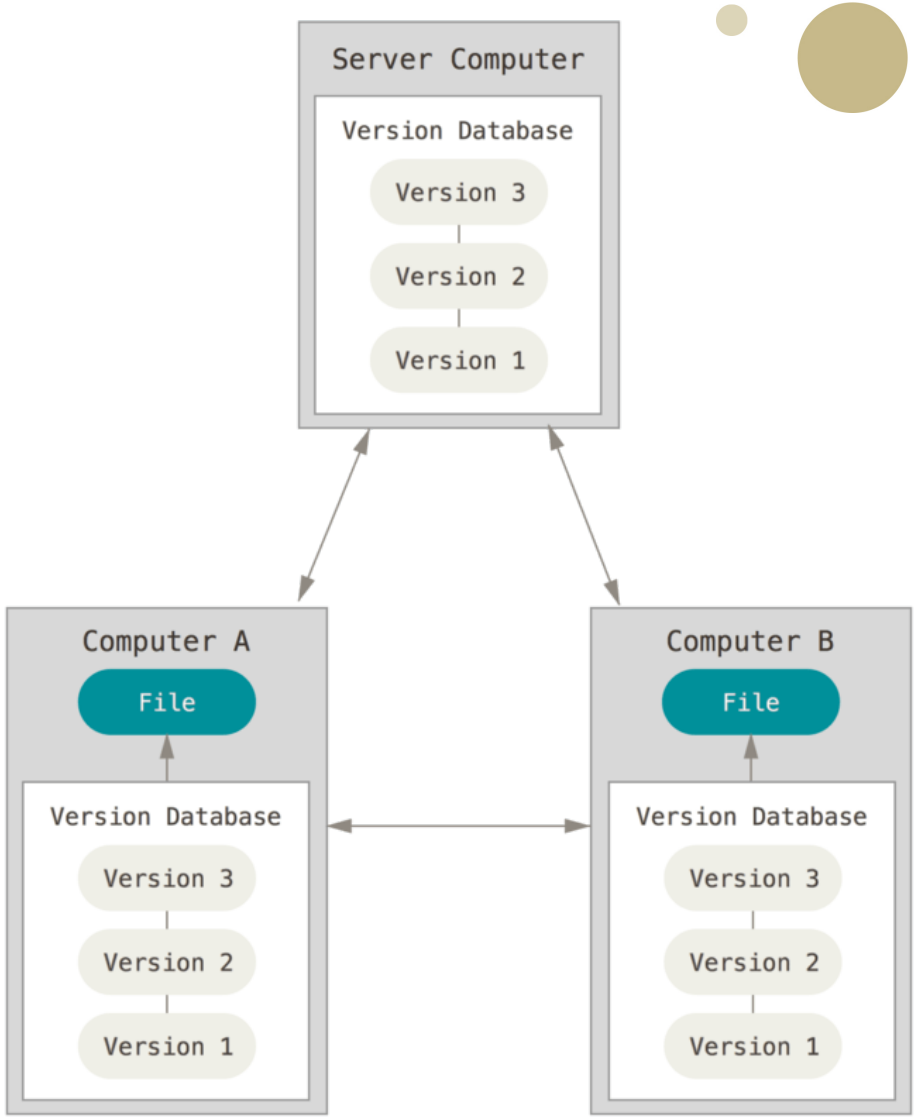
Centralized version control

- Examples:
  - CVS
  - subversion
  - perforce
- Easy to collaborate
- Check out specific versions
- Single point of failure (N-0)
- If the server dies only checked out versions can be saved



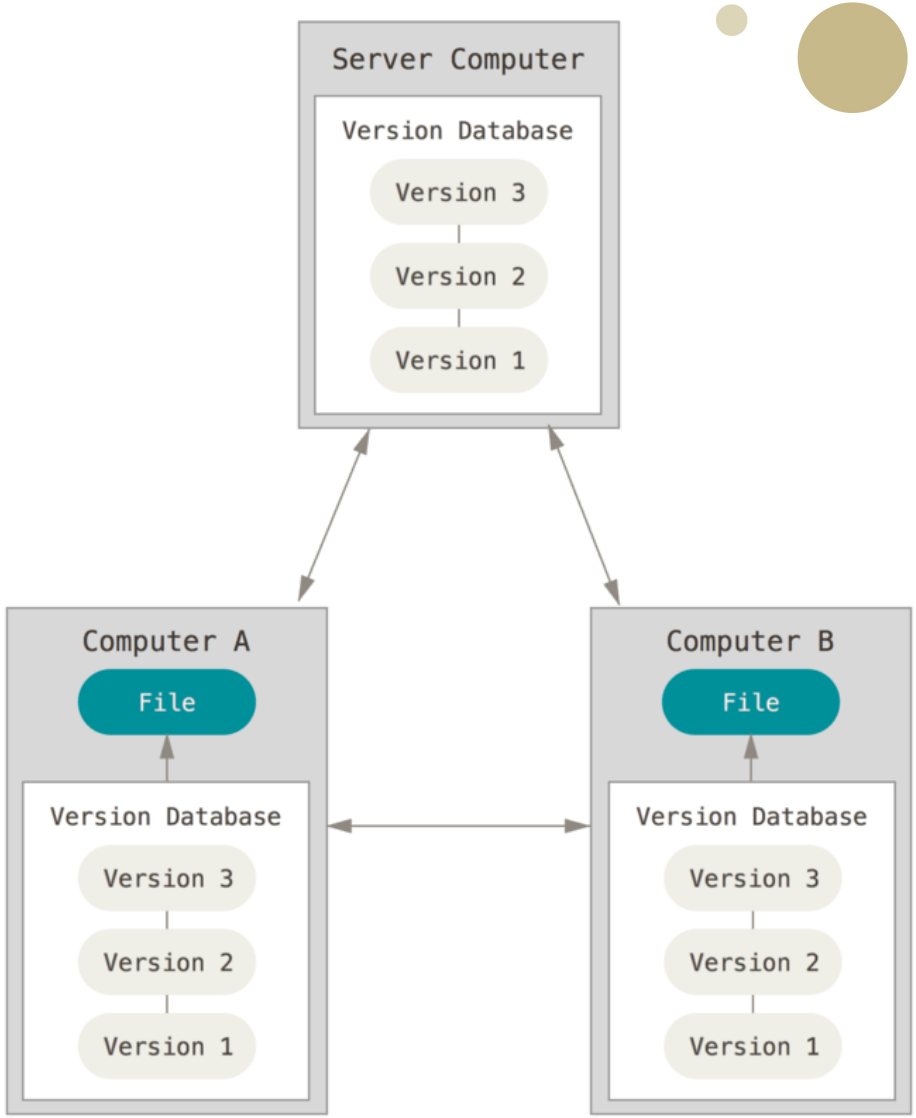
Distsributed version control

— Examples:



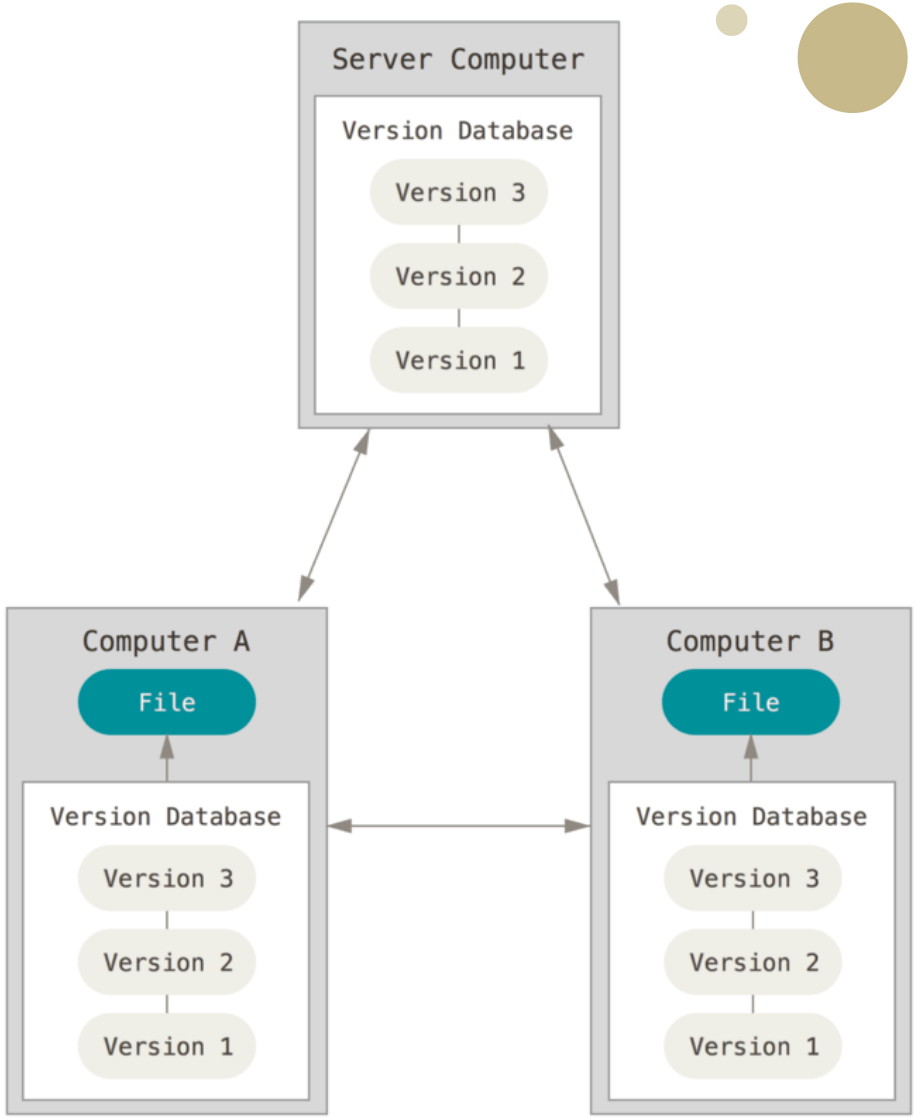
Distsributed version control

— Examples:
- Git



Distsributed version control

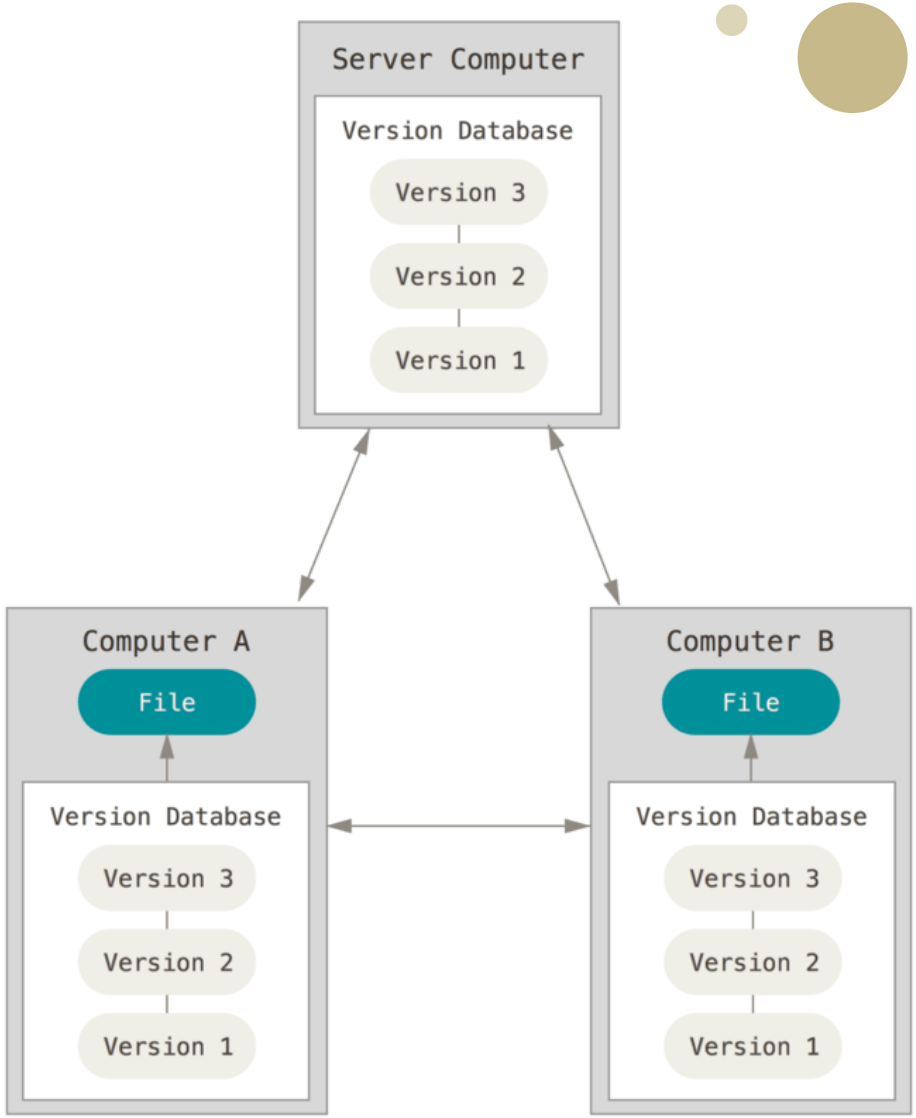
— Examples:
- Git
- Mercurial



Distsributed version control

— Examples:

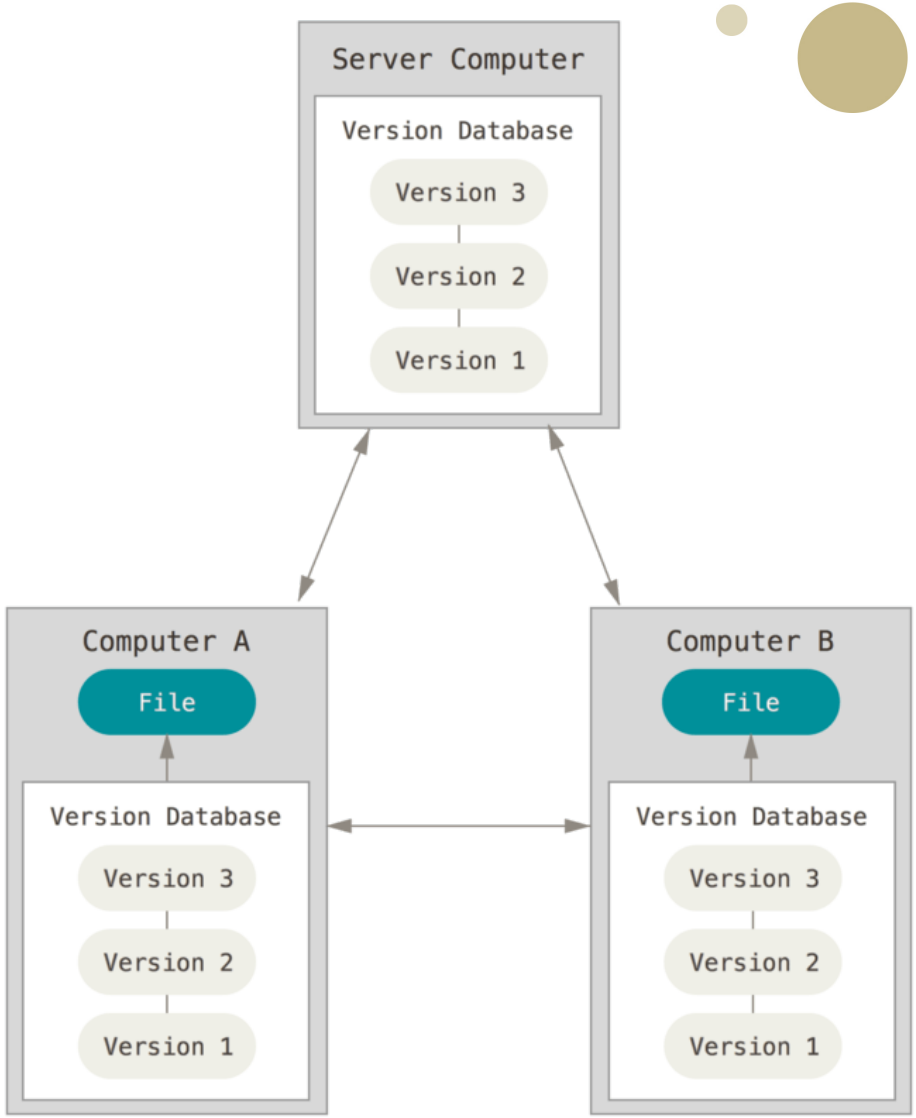
- Git
- Mercurial
- Bazaar



Distsributed version control

— Examples:

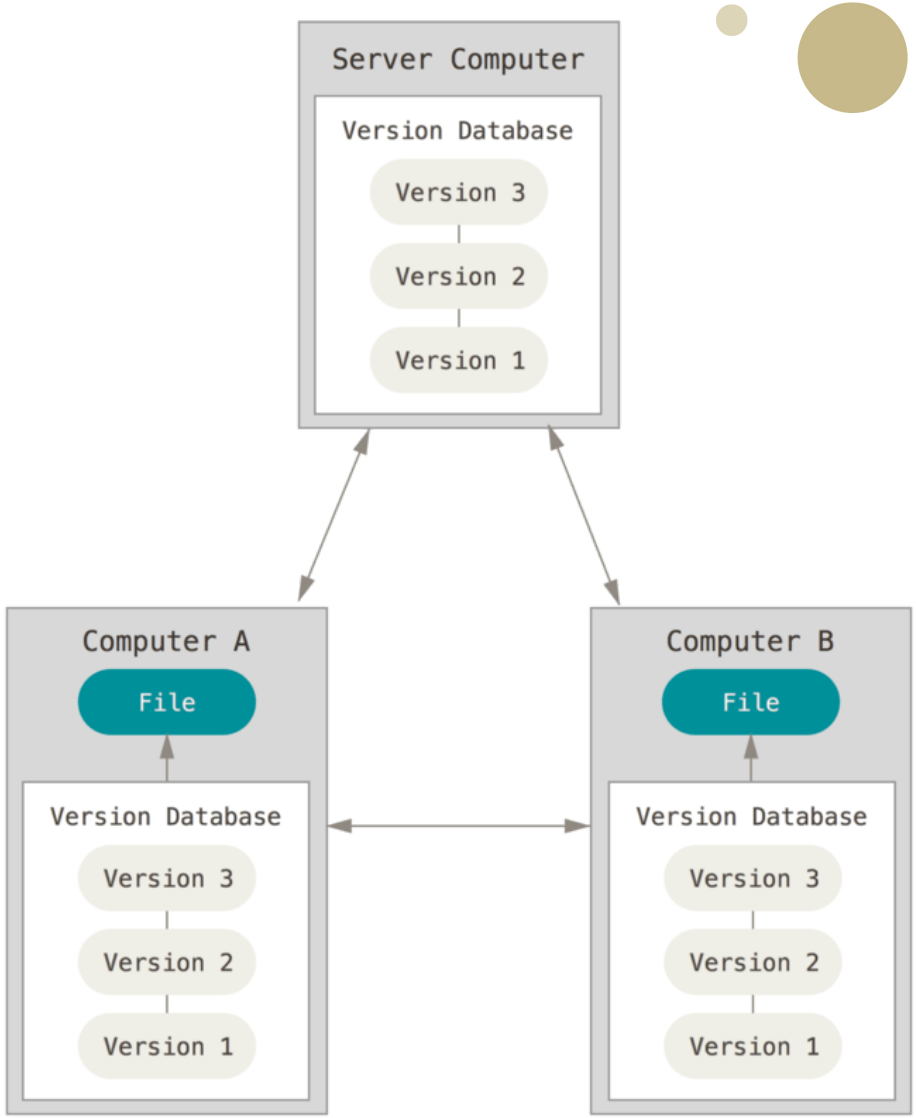
- Git
- Mercurial
- Bazaar
- Darcs



Distsributed version control

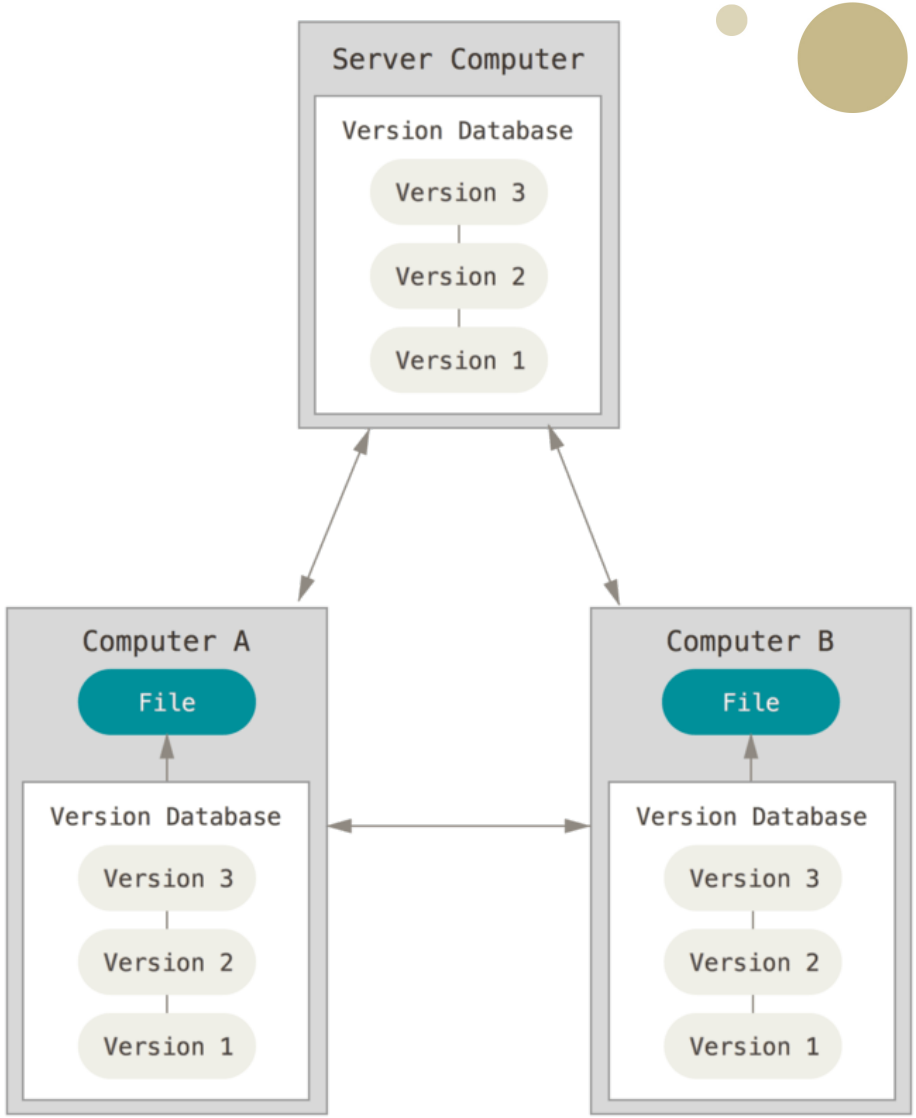
— Examples:
  - Git
  - Mercurial
  - Bazaar
  - Darcs

— Same advantages as centralized version control



Distsributed version control

- Examples:
  - Git
  - Mercurial
  - Bazaar
  - Darcs
- Same advantages as centralized version control
- All users can reconstruct the project



Distsributed version control

- Examples:
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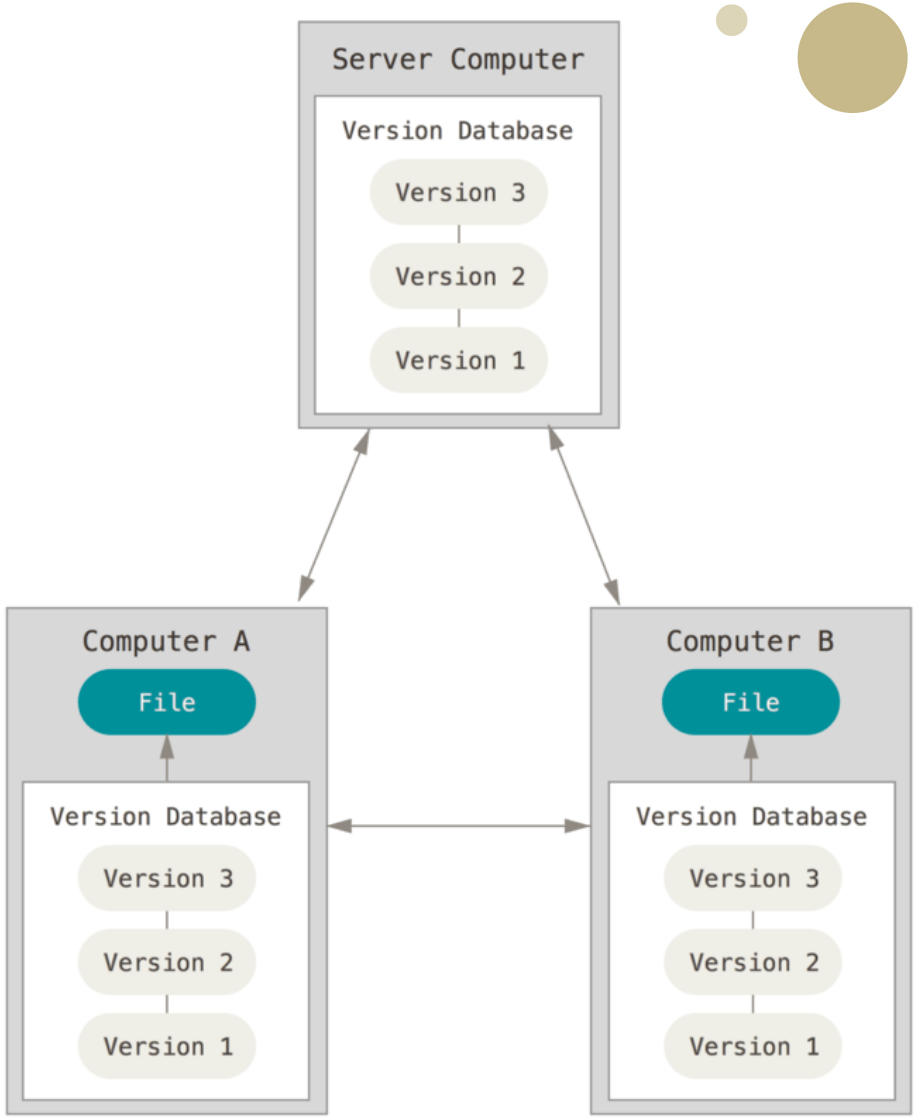
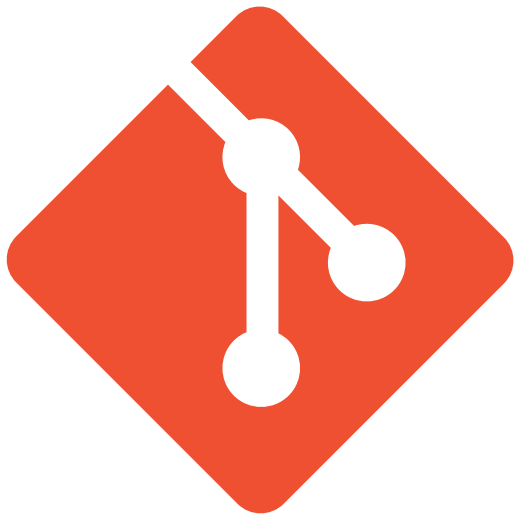
  - Bazaar
  - Darcs
- Same advantages as centralized version control
- All users can reconstruct the project
- Easy to work against multiple servers



Outline

About git

— Developed by the team behind Linux



About git

— Developed by the team behind Linux
— used by companies such as:

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- used by companies such as:
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About git

— Developed by the team behind Linux
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  - Microsoft

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- used by companies such as:
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— used by companies such as:
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  - Google
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  - Facebook

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  - Android
  - Facebook
  - Twitter

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  - Google
  - Android
  - Facebook
  - Twitter
  - Linkedin

Outline

References

— Most pictures and a lot of information from:
`www.git-scm.com/book/en/v2/`

— This presentation:
`https://github.com/Hofsmo/presentations/tree/vc`