

How Mozilla draws the line between configuration and data while using configuration management tools



About the authors



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I want to tell you a story...

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A 4GB .iso file was checked into our CM VCS

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China puppet master updates from svn on a
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E-mail based commit reports were... large

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E-mail based commit reports were... large

Puppet was down in China for a week



That was a catalyst for the
separation of configuration and
data



What else doesn't belong in a
VCS?



Can we define what belongs in a
VCS?



Data classifications

Data classifications



Configuration data

Data classifications



Configuration data

Application data



Characteristics of configuration data

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Human readable, often line-oriented ASCII

Characteristics of configuration data



Human readable, often line-oriented ASCII

Human writable

Characteristics of configuration data



Human readable, often line-oriented ASCII

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Typically small file sizes

Characteristics of configuration data



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Hopefully, there are comments



Characteristics of application data

Characteristics of application data



Binary

Characteristics of application data



Binary

Machine readable

Characteristics of application data



Binary

Machine readable

Machine writable

Characteristics of application data



Binary

Machine readable

Machine writable

Typically large files



That's it. Any questions?



Just because you can do it
doesn't mean you should



It's healthy to push the limits of
technology.. within reason



Let's take a look into our storage options

Version control systems



Version control systems



Great for configuration data

Version control systems



Great for configuration data

Geared towards a collaborative environment

Version control systems



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Often not ideal for binaries (more in a second)

Version control systems



Great for configuration data

Geared towards a collaborative environment

Often not ideal for binaries (more in a second)

Replication is easy

File system based storage



Great for binaries and large files

File system based storage



Great for binaries and large files

Versioning can be hard

File system based storage



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Versioning can be hard

Replication can be hard

File system based storage



Great for binaries and large files

Versioning is hard

Replication is hard

Lots of available tools

File system based storage



Great for binaries and large files

Versioning can be hard

Replication can be hard

Lots of available tools



How Firefox builds are stored

Continuous integration workflow



Developer commits code to hg.mozilla.org

Continuous integration workflow



Developer commits code to hg.mozilla.org

Build bots check out the code, build it, and run automated tests

Continuous integration workflow



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We don't bother to version builds outside of regular filesystem snapshots



Referencing external data sources using configuration management



```
vcsrepo { "${repo_root}/...":  
  ensure => present,  
  provider => "git",  
  source => "git://github.com/mozilla/...",  
}
```

Distributing binary data outside VCS



Package data and depend on package
managers

Distributing binary data outside VCS



Package data and depend on package managers

Use external tools such as wget, rsync, and lsync

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Distributed file systems

Distributing binary data outside VCS



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Use external tools such as wget, rsync, and lsync

Distributed file systems

NFS

Distributing binary data outside VCS



Package data and depend on package managers

Use external tools such as wget, rsync, and lsync

Distributed file systems

NFS (nasty)

Some tools that may work for you



Git annex

Some tools that may work for you



Git annex

Git media

Some tools that may work for you



Git annex

Git media

Gitattributes

Some tools that may work for you



Git annex

Git media

Gitattributes

Boar



Questions?

[https://github.com/bhourigan/lca2013/
lca2013.pdf](https://github.com/bhourigan/lca2013/lca2013.pdf)