

Why is CVS so annoying?

Considering subversion as a replacement for CVS



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Care / don't care:

- Just for information!
- Target environment: anyone using CVS for
 - configuration distribution (a la infrastructures.org)
 - means of distributing home directories & gaining backup resiliency.
- We use it for
 - Home directories
 - Research into figuring out how to apply infrastructure.org principles to enabling Gentoo Linux to be able to used in server / production environments.



I am:

- A Canadian travelling on a British passport who used to work in the US who now lives in Australia. So don't try to second guess the accent...
- An operations consultant and infrastructure engineer.
- Someone who cares about
 - Usability
 - Scalability
 - Maintainability
- In order to make systems administrators' lives better...



About Subversion



About Subversion

- Designed as a next-generation CVS
- Semantics are *very* similar

```
cv$ checkout -d /path/to/repos Blah
```

```
svn checkout file:///path/to/repos/Blah
```

- All the things that CVS does that annoy the hell out of you? Fugggetabout it!
- Of course, svn adds some new wrinkles...



Design goals

- Versions directories & meta-data
 - you can move / rename files!!!!!!!!!!!!!!!!!!!!
- Tagging/branching doesn't take forever. In fact, it takes no time at all!
 - Branch at will!
- Natively client-server
- Commits are atomic
 - (All or nothing)



Design goals

- Good internationalization support
- Does The Right Thing™ with binary files!

“Takes advantage of the Net's experience with CVS to choose better default behaviours”

This alone should be enough to get you seriously thinking about switching...



Internals

- Unmodified copies of working copy files are hidden locally, meaning:
 - `svn diff` does not need to talk to repository
 - `svn revert` is made possible
- Back end is Berkley DB
- Three modes of repository access:
 - `file:///`
 - `svn://gold/` and `svn+ssh://gold/`
 - `http://gold/`



Easy branches, huh?

- Common way to lay out a repository

.../repos/

project1

trunk

branches

name

anothername

tags

tagone

tagtwo



Easy branches, huh?

- The other way to lay out a repository

```
.../repos/  
  trunk  
    project1  
    project2  
  branches  
    name  
    anothername  
  tags  
    tagone  
    tagtwo
```



So what does
this have to do
with
infrastructure
management?



Pulling configuration

- `http://` and `https://` methods means having target systems access the repository and pull configuration a snap!

Binaries

- Since subversion is rather intelligent about binaries, it's not beyond the pale to consider using your RCS system to push binaries as well...



Easy branches, huh?

- So why not:

.../repos/

trunk

mail1

mail2

oracle1

/etc/system

oracle2

branches

dbupdate

oracle1

/etc/system



Easy branches, huh?

- Or how about by Operating Environment?

.../repos/

trunk

oracle1

/etc/system

branches

IBM-AIX-5.0

Gentoo-Linux-2003Q3

Sun-Solaris-8.0

oracle1

/etc/system



Disaster recovery

- What happens if you have to change gold servers?

```
svn --switch old new
```

- For example,

```
svn --switch  
http://broken/repos/  
http://shinynew/repos/
```



Conclusion



Good points

- **Build in network support is awesome!**
- Berkley DB means you get transaction rollback, repository recovery and overall robustness.
- **Simple tagging/branching offers all sorts of possibilities for configuration management.**
- Variety of clients offers promise (especially Tortise, the windows explorer-shell client!)
- **Excellent disconnected support**



Not so good

- **A little tricky to see into the repository.**
 - (the tools are there, but they need to mature)
- **Still a fast moving target**
 - went from 0.26 to 0.29 in the time I was surfing the learning curve!
 - Reliance on Apache 2 may be an issue for some
- Branching/tagging is so flexible that it takes a while to get a handle on.
- Authentication is a bit fuzzy (by design, relies on underlying network transport)



Try this at home kids!

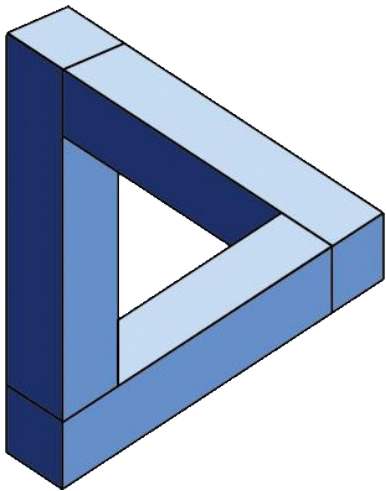
- Joey Hess (debian guy) and others have written about putting their entire home directories in CVS
- So try it with Subversion!
- Great learning experience....



Prepared on a Gentoo Linux system

running GNOME 2.4

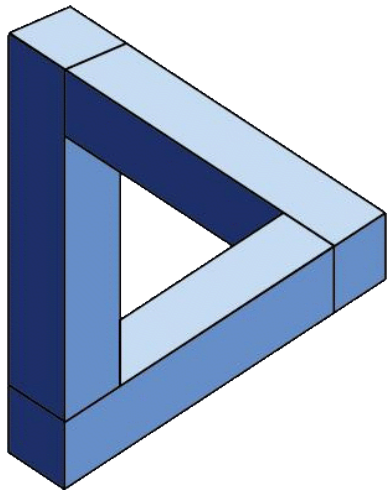
using OpenOffice-ximian 1.1



Operational Dynamics

Sydney, Toronto, New York, London

Questions?



Andrew Frederick Cowie

Managing Director

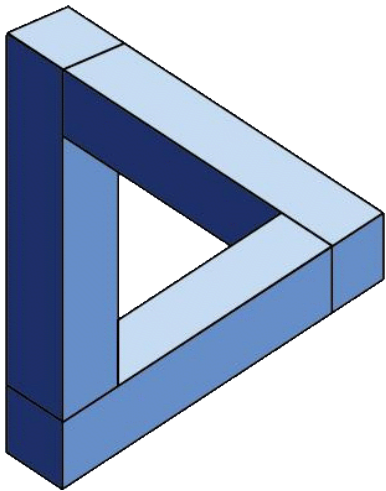
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These slides available at

operationaldynamics.com/talks



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