



Bazaar

Bazaar

a distributed version
control system

Bazaar

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Introduzione: i sistemi VCS

- Un sistema VCS tiene traccia in maniera efficiente delle modifiche apportate ai file
- Memorizza
 - Contenuto dei file
 - Metadata (autore, data, revision history)

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Introduzione: VCS vs DVCS

D -> Distributed – distribuito

- Ciascun sviluppatore può avere un proprio ramo di sviluppo indipendente
- Possibilità di lavoro off line
- Possibilità di sperimentare idee e/o nuove feature

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Terminologia

- Repository
- Revisione
- Revision-ID vs Revision-NO
- Tag
- Merge
- Atomic commit
- Branch
- Shared repository
- Working tree

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1a generazione: SCCS/RCS

- Focus:
 - compact storage of history
 - local filesystems
 - file locking to prevent concurrent access
- Issues:
 - no support for collections of files
 - Performance over time
- Note:
 - still useful today, e.g. Twiki, W3C

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2a generazione: CVS/Subversion

- Meglio integrati
- Supporto iniziale per il merge
- Ancora non distribuiti: fanno riferimento ad un unico repository

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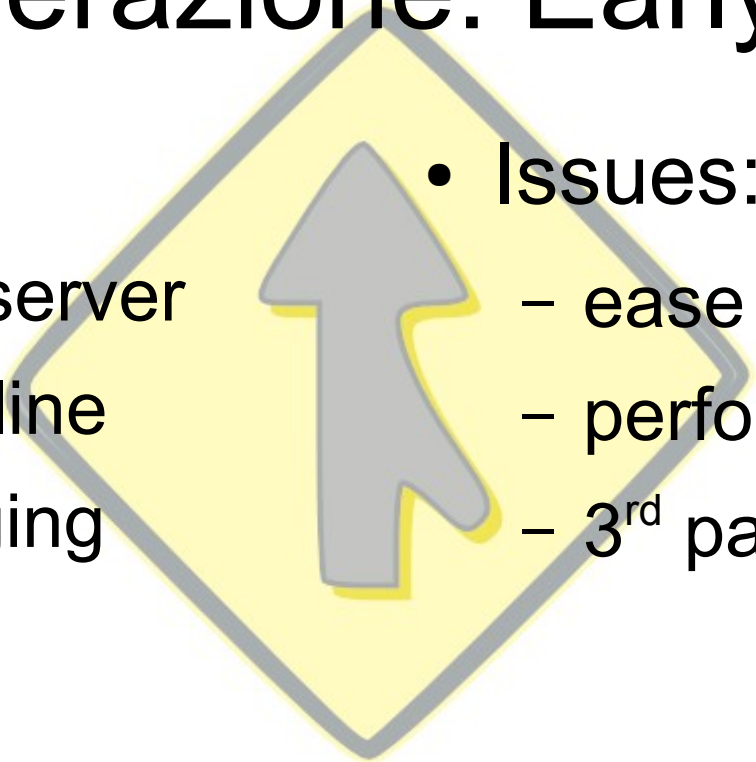
3a generazione: Early DCVS

- Focus

- No central server
- Working offline
- Smart merging

- Issues:

- ease of use (Arch)
- performance (most)
- 3rd party support



4a generazione

- Focus

- Easy setup
- Easy to use
- High performance

- Issues:

- maturity
- no clear “winner”
- 3rd party support



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mercurial

Bazaar: feature

Tratto dal sito ufficiale (www.bazaar-vcs.org)

- Good performance
- Safe with your data
- Friendly
- Free
- Easy to integrate
- Portable
- Great Docs and Support
- Numerosi protocolli ([http/ftp/ssh/bzr](http://ftp/ssh/bzr))

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Esempi di uso

- Creazione di un repository
- Aggiunta di file al repository
- Commit
- Rename di un file
- Browsing della storia
- Diff
- Push
- Pull
- Merge
- Branch

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Esempi: bzd help

```
bazaar$ bzr help
```

```
Bazaar -- a free distributed version-control tool
```

```
http://bazaar-vcs.org/
```

```
Basic commands:
```

bzr init	makes this directory a versioned branch
bzr branch	make a copy of another branch
bzr add	make files or directories versioned
bzr ignore	ignore a file or pattern
bzr mv	move or rename a versioned file
bzr status	summarize changes in working copy
bzr diff	show detailed diffs
bzr merge	pull in changes from another branch
bzr commit	save some or all changes
bzr log	show history of changes
bzr check	validate storage
bzr help init	more help on e.g. init command
bzr help commands	list all commands
bzr help topics	list all help topic

Esempi: creazione di un repository

```
bazaar$ ls
```

```
file_a.c file_b.c
```

```
bazaar$ bzzr init
```

```
bazaar$ ls -a
```

```
. .. .bzzr file_a.c file_b.c
```



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Esempi: aggiunta di file

```
bazaar$ ls
```

```
file_a.c file_b.c
```

```
bazaar$ bzip add file_a.c
```

```
added file_a.c
```

```
bazaar$ bzip st
```

```
added:
```

```
file_a.c
```

```
unknown:
```

```
file_b.c
```



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Esempi: commit

```
bazaar$ bzc ci -m "Aggiunto file file_a.c"
```

```
Committing revision 1 to "bazaar/".
```

```
added file_a.c
```

```
Committed revision 1.
```

```
bazaar$ bzc add file_b.c
```

```
added file_b.c
```

```
bazaar$ bzc ci -m "Aggiunto file file_b.c"
```

```
Committing revision 2 to "bazaar/".
```

```
added file_b.c
```

```
Committed revision 2.
```

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Esempi: log

```
bazaar$ bzc log
```

```
revno: 2
```

```
committer: <kreijack@nwind.it>
```

```
branch nick: repotest
```

```
timestamp: Wed 2007-10-24 22:55:26 +0200
```

```
message:
```

```
  Aggiunto file file_b.c
```

```
revno: 1
```

```
committer: <kreijack@nwind.it>
```

```
branch nick: repotest
```

```
timestamp: Wed 2007-10-24 22:55:12 +0200
```

```
message:
```

```
  Aggiunto file file_a.c
```

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Esempi: log

```
bazaar$ bzr log -r 3..56
```

```
bazaar$ bzr log -r ..-5
```

```
bazaar$ bzr log -r revid:aaaaeeebbbccc..revid:kkkl l mmn
```

```
bazaar$ bzr log -r tag:rev_01..
```

```
bazaar$ bzr diff -r branch:.. /myorigin
```

```
bazaar$ bzr diff -r 5.2.5..-1
```

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Esempi: diff

```
bazaar$ echo "New line" >>file_a.c
bazaar$ bzc ci -m "Modificato file_a.c"
Comitting revision 3 to "bazaar/".
modified file_a.c
Comitted revision 3.
bazaar$ bzc diff -r 2..3
=== modified file 'file_a.c'
--- file_a.c      2007-10-24 20:55:12 +0000
+++ file_a.c      2007-10-24 20:59:51 +0000
@@ -0,0 +1,1 @@
+New line
```

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Esempi: diff

```
bazaar$ bzip mv file_a.c file_a_renamed.c
file_a.c => file_a_renamed.c
bazaar$ bzip ci -m "Rinominato file_a.c ->
file_a_renamed.c"
Committing revision 4 to "bazaar/".
renamed file_a.c => file_a_renamed.c
Committed revision 4.
bazaar$ bzip diff -r 3..4
=== renamed file 'file_a.c' => 'file_a_renamed.c'
```

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Esempi: diff

```
bazaar$ bzip mv file_a.c file_a_renamed.c
file_a.c => file_a_renamed.c
bazaar$ bzip ci -m "Rinominato file_a.c ->
file_a_renamed.c"
Committing revision 4 to "bazaar/".
renamed file_a.c => file_a_renamed.c
Committed revision 4.
bazaar$ bzip diff -r 3..4
=== renamed file 'file_a.c' => 'file_a_renamed.c'
```

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Esempio: branch & pull

```
$ cd myproject  
myproject$ bzr init; bzr  
add; bzr commit
```

```
$ bzr branch myproject mycopy  
$ ls  
myproject mycopy  
$ cd mycopy
```

```
<hack/hack/hack/commit>
```

```
mycopy$ bzr pull
```

```
<hack/hack/hack/commit>
```

```
mycopy$ bzr pull
```

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Esempio: branch & pull & merge

```
a$ bzr init; bzr add; bzr  
commit
```

```
$ bzr branch a b; cd b
```

```
<hack/hack/hack/commit>
```

```
<hack/hack/hack/commit>
```

```
b$ bzr merge
```

```
b$ bzr ci -m "merge from a"
```

```
a$ bzr merge ../b
```

```
a$ bzr ci -m "merge from b"
```

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Frontend: QBzr

The image shows two windows from the QBzr application. The left window, titled "QBzr - Diff - lalinsky@gmail.com-20070211113053-m8h3oytpoo672p9s", displays a diff between two versions of the file "taglib/asf/asftag.h". The right window, titled "QBzr - Log", shows a list of revisions with columns for Revision (Rev), Date, Author, and Message.

Diff View:

```
void ASF::Tag::setAttribute(const String &name, const Att
{
    AttributeList value;

taglib/asf/asftag.h
Last modified: 02/09/07 16:41:55. Status modified. Kind: file

    /*!
     * Removes the \a key attribute from the tag
     */
    void removeItem(const String &key);

    void setAttribute(const String &name, const String

    /*!
     * Sets the \a key attribute to the value of \a att
     * with the \a key is already present, it will be :
     */
    void setAttribute(const String &name, const Attrib
    void addAttribute(const String &name, const Attrib

private:

    class TagPrivate;
    TagPrivate *d;

};
}
#endif
```

Log View:

Rev	Date	Author	Message
336	5/7/2007 9:47:33 AM	Lukáš Lalinský <lalinsky@gmail.com>	Merge SVN.
335	5/7/2007 8:18:13 AM	Lukáš Lalinský <lalinsky@gmail.com>	MP4, ASF: Check if the file is valid before readin...
334	5/7/2007 8:06:12 AM	Lukáš Lalinský <lalinsky@gmail.com>	File::readBlock: Don't try to read empty blocks.
333	5/7/2007 8:04:28 AM	Lukas Lalinsky <lalinsky@gmail.com>	Fix file opening on Windows.
332	5/7/2007 7:53:51 AM	Lukas Lalinsky <lalinsky@gmail.com>	Fix compilation under MSVC 2003.
331	3/16/2007 11:37:2...	Lukáš Lalinský <lalinsky@gmail.com>	Merge from SVN
279.1.9	2/16/2007 8:15:55 ...	wheeler	SVN_SILENT whoops, those were tabs
279.1.8	2/16/2007 6:29:40 ...	wheeler	Delete d-pointer.
330	2/13/2007 10:19:1...	Lukáš Lalinský <lalinsky@gmail.com>	Merge from SVN
279.1.7	2/13/2007 2:19:20 ...	wheeler	SVN_SILENT whoops
279.1.6	2/13/2007 2:18:30 ...	wheeler	Read the frame data length as a synch-safe int...
279.1.5	2/13/2007 1:55:56 ...	wheeler	Don't try to parse invalid frames.
279.1.4	2/13/2007 1:26:31 ...	wheeler	Add another sanity check -- don't let invalid fra...
279.1.3	2/13/2007 12:40:5...	wheeler	Fix the byte ordering for UTF 16BE
279.1.2	2/12/2007 11:21:4...	wheeler	Rework the read-only check so that it gets along...
279.1.1	2/12/2007 9:43:10 ...	wheeler	Actually overwrite the value, as documented.
329	2/11/2007 5:43:41 ...	Lukáš Lalinský <lalinsky@gmail.com>	Change documentation title to TagLib.Ext
328	2/11/2007 5:39:05 ...	Lukáš Lalinský <lalinsky@gmail.com>	ASF: More documentation.
327	2/11/2007 5:27:01 ...	Lukáš Lalinský <lalinsky@gmail.com>	ASF, MP4: Documentation, API fixes, nitpicking,...
326	2/11/2007 5:05:34 ...	Lukáš Lalinský <lalinsky@gmail.com>	Fix the API documentation CSS for new versions...
325	2/11/2007 3:49:51 ...	Lukáš Lalinský <lalinsky@gmail.com>	Oh, well, changing the license of ASF and MP4 c...
324	2/11/2007 3:44:33 ...	Lukáš Lalinský <lalinsky@gmail.com>	Add doxygen files to generate the documentati...

Revision Info:

Revision: lalinsky@gmail.com-20070213181913-jzh4fwgcu0b0bgy9
Parent revisions: lalinsky@gmail.com-20070211134341-ttk2n8letnx337n, vcs-
imports@canonical.com-20070213101920-98810479d3e860ad
Author: Lukáš Lalinský <lalinsky@gmail.com>
Branch nick: extra

Merge from SVN

taglib/mpeg/id3v2/frames/textidentificationframe.cpp
taglib/mpeg/id3v2/id3v2framefactory.cpp
taglib/toolkit/tfile.cpp
taglib/toolkit/tfile.h
taglib/toolkit/tmap.tcc
taglib/toolkit/tstring.cpp

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Reference

- Bazaar site: <http://www.bazaar-vcs.org>
- Webservice:
<http://goffredo-baroncelli.homelinux.net/bazaar>
- QbZR: <http://bazaar-vcs.org/QBZR>

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