Redmine - Defect #3724

Mercurial repositories display revision ID instead of changeset ID

2009-08-10 05:14 - Scot Herring

Status:	Closed		**Start date:**	2009-08-10
Priority:	Low		**Due date:**	
Assignee:	Toshi MARUYAMA		**% Done:**	0%
Category:	SCM		**Estimated time:**	0.00 hour
Target version:	1.2.0			
Resolution:	Fixed		**Affected version:**	

Description

Redmine exposes Mercurial's revision IDs (one-up decimal number, similar to Subversion) as the primary means of referring to changesets, rather than the changeset ID (strings of hex digits, like Git). While this does work, it's explicitly discouraged in Mercurial's documentation.

From the [FAQ](#):

> You should always use some form of changeset ID rather than the local revision number when discussing revisions with other Mercurial users as they may have different revision numbering on their system.

And the page on [revision numbers](#) says:

> **Pitfalls**
>
> Revision numbers referring to changesets are <u>very likely</u> to be different in another copy of a repository. <u>Do not use them</u> to talk about changesets with other people. Use the changeset ID instead.

(Emphasis theirs.)

The behavior of hgweb.cgi (the web frontend that comes with Mercurial) is to expose *only* the short-form changeset IDs. However it *allows* entering a revision ID into the URL as well. So the following URLs will bring up the same patch:

- http://schismtracker.org/hg/rev/ff80faee224f
- http://schismtracker.org/hg/rev/1846
- http://schismtracker.org/hg/rev/20090805 (as hgweb allows entering tags as well -- I dunno if you want to get that elaborate :)

This is probably the sanest path to take with Redmine, in terms of keeping old URLs functioning and also to more or less parallel the way that Git repos are managed.

Issue #3567 might be tangentially related to this.

Related issues:

Related to Redmine - Feature #6092: Truncate Git revision labels in Activity ...	**Closed**	**2010-08-09**
Related to Redmine - Defect #4924: mercurial reader disregard information fro...	**Closed**	**2010-02-24**
Related to Redmine - Defect #6681: Mercurial, Bazaar and Darcs auto close iss...	**Closed**	**2010-10-15**
Related to Redmine - Feature #4455: Mercurial overhaul	**Closed**	**2009-12-21**
Related to Redmine - Defect #7518: Mercurial diff can be wrong if the previou...	**Closed**	**2011-02-02**
Related to Redmine - Defect #8030: Bazaar integration doesn't notice new comm...	**New**	**2011-03-31**
Related to Redmine - Feature #5501: Git: Mercurial: Adding visual merge/branc...	**Closed**	**2010-05-11**

Associated revisions

Revision 4613 - 2011-01-02 10:45 - Toshi MARUYAMA

Changing revision label and identifier at SCM adapter level (#3724, #6092)

Contributed by Yuya Nishihara.

Revision 4654 - 2011-01-08 07:24 - Toshi MARUYAMA

scm: mercurial: accept both of revision and nodeid as changeset id (#3724).

Contributed by Yuya Nishihara.

Revision 4661 - 2011-01-08 13:51 - Toshi MARUYAMA

scm: mercurial: cat test for accept both of revision number and changeset id (#3724).

Revision 4662 - 2011-01-08 14:51 - Toshi MARUYAMA

scm: mercurial: fix diff and test for accept both of revision number and changeset id (#3724).

Diff of changeset can be wrong if the previous changeset isn't the parent.

Revision 4663 - 2011-01-09 02:30 - Toshi MARUYAMA

scm: mercurial: annotate accepts both of revision number and changeset id (#3724).

Change annotate revision label to Mercurial style '4:def6d2f1254a'
and use identifier.

Revision 4664 - 2011-01-09 03:13 - Toshi MARUYAMA

scm: mercurial: functional test for accept both of revision number and changeset id (#3724).

Revision 4686 - 2011-01-11 06:15 - Toshi MARUYAMA

scm: mercurial: diff '-c' option supports above Mercurial 1.2 (#3724, #7253).

r4662 fails in old Mercurial.

Revision 4694 - 2011-01-11 17:02 - Toshi MARUYAMA

scm: use scmid for "commit:xxx" link if available (#3724).

scmid is more solid than revision number.

Contributed by Yuya Nishihara.

Revision 4695 - 2011-01-11 17:03 - Toshi MARUYAMA

scm: mercurial: use scmid as identifier (#3724).

Contributed by Yuya Nishihara.

Revision 4696 - 2011-01-11 17:03 - Toshi MARUYAMA

scm: mercurial: add "commit:xxx" and "rNN" link test for mercurial (#3724).

Revision 4697 - 2011-01-11 17:03 - Toshi MARUYAMA

scm: mercurial: use revision text mercurial style "2:400bb8672109" (#3724).

Contributed by Yuya Nishihara.

Revision 4698 - 2011-01-11 17:04 - Toshi MARUYAMA

scm: changing two revision diff text at SCM adapter level (#3724).

Revision 4699 - 2011-01-11 17:04 - Toshi MARUYAMA

scm: mercurial: change two revision diff text of mercurial (#3724).

For example, "4:def6d2f1254a 2:400bb8672109".

Revision 4705 - 2011-01-13 13:05 - Toshi MARUYAMA

scm: mercurial: unit lib test for entries accept both of revision number and changeset id (#3724, #3421)

Revision 4733 - 2011-01-21 14:22 - Toshi MARUYAMA

scm: use format_revision() for history, view and annotate (#3724).

Revision 4734 - 2011-01-21 14:22 - Toshi MARUYAMA

scm: functional test of using format_revision() for annotate (#3724).

Revision 4857 - 2011-02-16 16:43 - Toshi MARUYAMA

scm: mercurial: add identifier to entry.lastrev (#3724, #3421).

Revision 4858 - 2011-02-16 16:43 - Toshi MARUYAMA

scm: in repository tree, use find_changeset_by_name instead of changesets.find_by_revision (#3724, #3421).

Mercurial revision numbers are far too brittle.
Please see #6681 description.

History

#1 - 2009-09-17 23:34 - Luke Hoersten

Yeah this is a problem for us too. It's very fragile and something as simple as removing a changeset with screw up ALL the links. This really needs to be fixed.

#2 - 2009-12-15 14:42 - Peter Fern

The attached patch addresses your concern, and I'm all for moving away from the ambiguous revision numbers, but this sort of behavioural change probably requires a configuration option, since it will definitely break any existing r##-style references... comments?

#3 - 2009-12-15 14:44 - Peter Fern

- File mercurial_scmid_authoritative.patch added

#4 - 2009-12-15 15:10 - Peter Fern

Actually, there are some further changes to be made in app/models/repository/mercurial.rb

#5 - 2009-12-15 15:14 - Luke Hoersten

Peter Fern wrote:

> The attached patch addresses your concern, and I'm all for moving away from the ambiguous revision numbers, but this sort of behavioural change probably requires a configuration option, since it will definitely break any existing r##-style references... comments?

Probably a conversion script of the r##-style references to hashes would be best. Thanks for doing this!

#6 - 2009-12-18 07:59 - Peter Fern

Just an update - I have a significant Mercurial patch near completion that addresses this issue, plus a number of others, please ignore my previous attachment.

#7 - 2009-12-18 08:52 - Scot Herring

Awesome. Look forward to it.

I don't see why it'd break r##, though - like I mentioned above, hg understands several kinds of references to changesets, so what's preventing redmine from allowing all three and just passing along whatever identifier to the client?

#8 - 2009-12-18 09:10 - Peter Fern

There are two keys in the Redmine database - revision and scmid, however Mercurial has 3 identifiers: revision, short changeset ID, and full changeset ID. Since revision is likely to get clobbered, and even the short changeset ID is not *guaranteed* to remain unique, I'd like to move to using the short ID as the revision, and the full ID as the scmid, since this is the only way we'll have a guaranteed unique identifier in the DB, and if the revision number gets routinely clobbered by merges, it's pretty useless anyway, since any references to it will now refer to some other commit.

#9 - 2009-12-18 14:24 - Luke Hoersten

Peter Fern wrote:

> Just an update - I have a significant Mercurial patch near completion that addresses this issue, plus a number of others, please ignore my previous attachment.

If you're working on a big Mercurial update, you may want to take a look at issue r3421. Mercurial is more or less useless without it in Redmine.

#10 - 2009-12-18 14:24 - Luke Hoersten

Luke Hoersten wrote:

Peter Fern wrote:

> Just an update - I have a significant Mercurial patch near completion that addresses this issue, plus a number of others, please ignore my previous attachment.

If you're working on a big Mercurial update, you may want to take a look at issue r3421. Mercurial is more or less useless without it in Redmine.

Sorry that's issue #3421.

#11 - 2009-12-19 02:08 - Peter Fern

I wouldn't say that - the only thing that doesn't work is file sizes... my patch incorporates branch and tag support like git, plus major performance improvements. I'll have it up in the next day or so. I've added a comment to #3421

#12 - 2009-12-19 03:54 - Luke Hoersten

Peter Fern wrote:

> I wouldn't say that - the only thing that doesn't work is file sizes... my patch incorporates branch and tag support like git, plus major performance improvements. I'll have it up in the next day or so. I've added a comment to #3421

You understand what #3421 is fixing right? Redmine pulls the history from the repo but file access is attempted on the file system instead of using 'hg cat' to grab what's in the changeset specified.

#13 - 2009-12-19 04:15 - Peter Fern

I think you'll find that's incorrect, and looking at the patch, it doesn't modify the 'cat' method in any way other than to add a default identifier of 'tip'. The only file access the the Mercurial code is to get file sizes, which I'd be happy to see resolved since it's the last functional hole in my patchset.

#14 - 2010-03-03 18:23 - Ted Lilley

As a user of the Mercurial plugin, I want to add my $.02 here.

Just as there is a reason for the globally-unique changeset hash id, there is also a reason for the integer revision id as well. I currently **rely** on Redmine as the source for access to the integer id, and removing it completely would break my build system implementation.

While a changeset hash is useful when discussing revisions between developers, it is unfortunately both completely unsuitable for use in build numbering of packages as well as being hostile to the human eye. Because of the necessity of numbering our builds with the revision number, in order to trace back any build package to the source code which created it, we simply make sure that our developers know of the mutability of the integer revision id and use the build repository as its authoritative source. This is simply the added cost of using a system like Mercurial, that you have to keep in mind something extra like the scope of the revision id.

It's not simply a matter of saying "suck it up, use the hash", either. When building .NET assemblies, the revision number must fit within a 16-bit integer. A hash can't possibly do this. Even if it were possible, however, I still wouldn't inflict hash numbers on our customers as a means of identifying a package.

So, whatever change you make, I would ask that both it preserve the integer revision id, as well as allowing r-style links in Redmine and being available in both the Repository view as well as the atom feed for the repository. Otherwise, Redmine's mercurial functionality will be significantly less useful to developers like me.

#15 - 2010-03-03 18:40 - Luke Hoersten

From the Mercurial book :

> [...] the same number in two different clones of a repository may identify different changesets.

What that means is if you swap out the repo for a modified clone, potentially all your short numbers which you've "hardcoded" into the Redmine issues/comments would be invalidated.

I want my Redmine comments to refer to a *specific* changeset, not a specific *clone's changeset*. Perhaps if you're using Mercurial in a more centralized manor this is fine, but my team doesn't work that way.

Ted Lilley wrote:

> As a user of the Mercurial plugin, I want to add my $.02 here.
>
> Just as there is a reason for the globally-unique changeset hash id, there is also a reason for the integer revision id as well. I currently **rely** on Redmine as the source for access to the integer id, and removing it completely would break my build system implementation.
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So, whatever change you make, I would ask that both it preserve the integer revision id, as well as allowing r-style links in Redmine and being available in both the Repository view as well as the atom feed for the repository. Otherwise, Redmine's mercurial functionality will be significantly less useful to developers like me.

#16 - 2010-03-03 19:15 - Toshi MARUYAMA

- % Done changed from 0 to 80

Please see [#4455](#) - Mercurial overhaul.

#17 - 2010-03-03 19:38 - Toshi MARUYAMA

Luke Hoersten wrote:

> From the [Mercurial book](#) :
>
>> [...] the same number in two different clones of a repository may identify different changesets.
>
> What that means is if you swap out the repo for a modified clone, potentially all your short numbers which you've "hardcoded" into the Redmine issues/comments would be invalidated.

This is a very serious problem. But there is no way to resolve this problem simply. Because scmid of changeset table is not unique and revision is unique.

#18 - 2010-03-13 04:03 - Toshi MARUYAMA

Luke Hoersten wrote:

> What that means is if you swap out the repo for a modified clone, potentially all your short numbers which you've "hardcoded" into the Redmine issues/comments would be invalidated.

1

```
  /- B
A--------C

DB      hg
0 A     0 A
1 B     1 B
2 C     2 C
```

2

```
A---C

DB      hg
0 A     0 A
1 B     1 C
2 C
```

3

```
  /-----D
A---C

DB      hg
0 A     0 A
1 B     1 C
2 C     2 D
```

4

```
   /--------B
  /-----D
A---C

DB      hg
0 A     0 A
1 B     1 C
2 C     2 D
3 B     3 B
```

#19 - 2010-03-13 06:05 - Toshi MARUYAMA

- File hg-overhaul-000.png added

- File hg-overhaul-001.png added

- File hg-overhaul-002.png added

- File hg-overhaul-003.png added

- % Done changed from 80 to 90

I finish testing of last big feature of [#4455](#).
This feature is **"old rNN record on DB and wikis can not delete"**.
http://github.com/marutosi/redmine/tree/hg-overhaul-0.9
http://github.com/marutosi/redmine/commit/30845a8c8ed51a71beb6e1d4df4dfbcf3a55c444

#20 - 2010-05-17 01:04 - Ammler _

I really hope, Mercurial will at least keep the option to use the revision number. That is in fact one of the big advantages compared to git, I am aware of the possibility to have same repo with different orders of changesets, but that doesn't matter, if you define server/buildsystem repo as master repo.

Please keep at least revision number for Mercurial as option.

I also changed hgweb to show revision numbers instead short hashes.

#21 - 2010-05-17 02:23 - Toshi MARUYAMA

Thank you for your feedback.
Yuya's [#4455](#) new implementation keeps redmine original DB structure.
Please see http://www.redmine.org/issues/4455#note-78 .

#22 - 2011-01-08 06:11 - Toshi MARUYAMA

- Status changed from New to 7

- Assignee set to Toshi MARUYAMA

- Target version set to 1.2.0

- % Done changed from 90 to 0

#23 - 2011-01-08 08:56 - Yuya Nishihara

To Toshi: JFTR, the arguments of assert_equal are expected, actual

[r4654](#) [trunk/test/unit/repository_mercurial_test.rb](#)

```
assert_equal @repository.find_changeset_by_name(r).revision, '2'
```

should be

```
assert_equal '2', @repository.find_changeset_by_name(r).revision
```


#24 - 2011-01-08 09:45 - Toshi MARUYAMA

Yuya Nishihara wrote:

> To Toshi: JFTR, the arguments of assert_equal are expected, actual
>
> [r4654](#) [trunk/test/unit/repository_mercurial_test.rb](#)
>
> [...]
>
> should be

[...]

I fixed and committed. Thanks.

#25 - 2011-01-25 12:32 - Toshi MARUYAMA

- File before-link.png added

- File before-repository.png added

- File after-annotate.png added

- File after-link-id.png added

- File after-link-revno.png added

- File after-repository.png added

- File before-annotate.png added

- Status changed from 7 to Closed

- Resolution set to Fixed

I think there are two cases of revision number inconsistency.

- History editing (hg strip, hg rebase etc.)
- Replacing repository

If you did history editing, you need to delete repository from redmine and re-add it.
There are some feature issues of re-syncing #1273.

About replacing repository, I wrote at #6681 description.

I think Mercurial user should not use "rNN" in wiki.
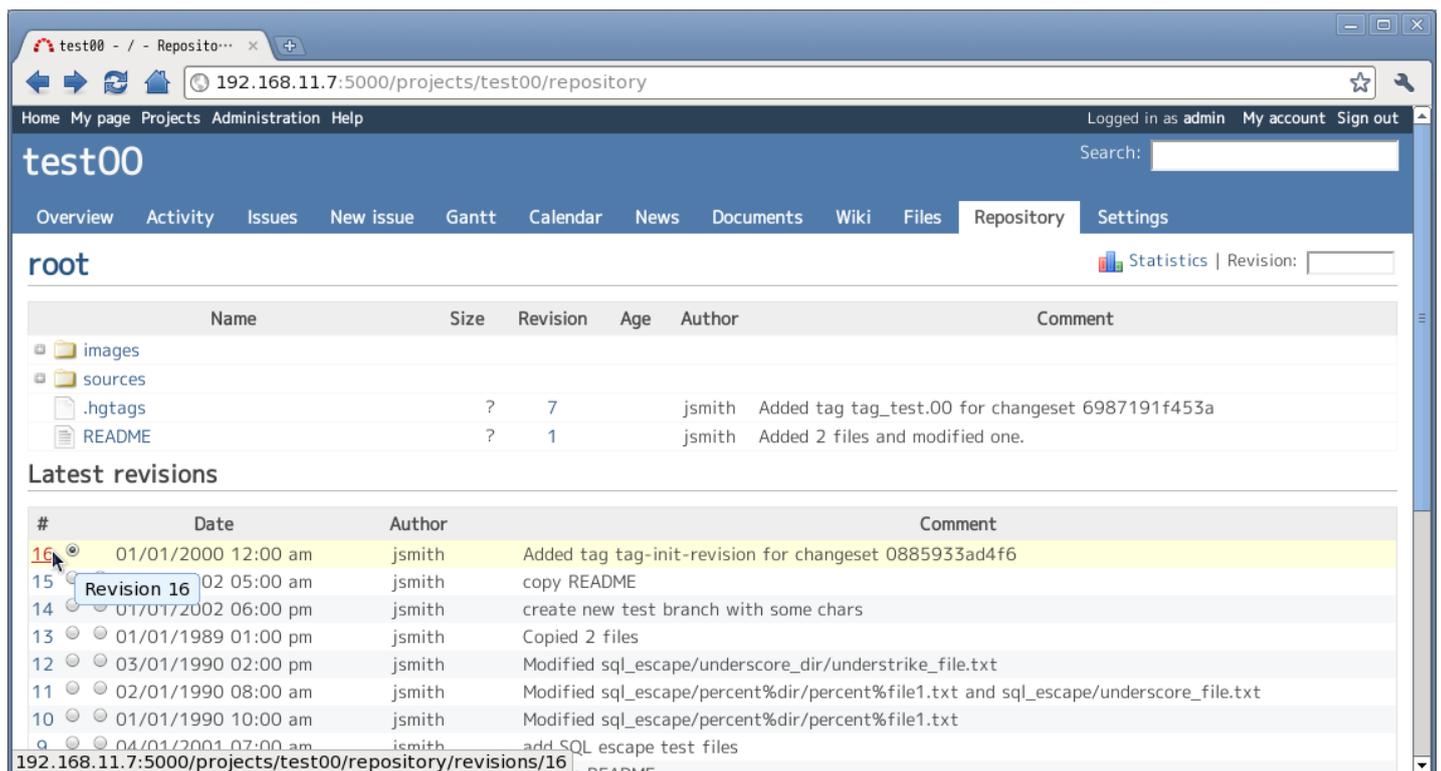If someone wrote "rNN" in wiki, it is user's own risk.
#6681 changed auto close issue text from "rNN" to "commit:XXX".

Redmine stores revision number and changeset id in database.
To resolve this issue, we changed as following.

- Change revision text to Mercurial style "2:400bb8672109"
- Change revision link from revision number to changeset id
- Redmine URL accepts both of revision number and changeset id
- diff, cat and annotate accepts both of revision number and changeset id

Before

test00 - Revision 16 - red...

192.168.11.90:4000/projects/test00/repository/revisions/16

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test00

Search: [   ]   Jump to a project... ▼

| Overview | Activity | Issues | New issue | Gantt | Calendar | News | Documents | Wiki | Files | **Repository** | Settings |

Revision 16   « Previous | Next » [16   ] OK

ID: 4cddb4e45f52
Added by jsmith about 11 years ago

Added tag tag-init-revision for changeset 0885933ad4f6

Files

View differences   ● added ● modified ● copied ● renamed ● deleted

● .hgtags

---

test00 - /README - Annot...

192.168.11.90:4000/projects/test00/repository/revisions/6/annotate/README

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test00

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root / README @ 6   Statistics | Revision: [6   ]

History | View | Annotate | Download

1	1	jsmith	Mercurial test repository
2	6	jsmith	
3	6	jsmith	Mercurial is a distributed version control system. Mercurial is dedicated to speed and efficiency with a sane user interface.
4	6	jsmith	It is written in Python.

Revision 6

192.168.11.90:4000/projects/test00/repository/revisions/6

After

test00 - / - Repository - R...

192.168.11.90:5000/projects/test00/repository

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test00

Search: [   ]

| Overview | Activity | Issues | New issue | Gantt | Calendar | News | Documents | Wiki | Files | **Repository** | Settings |

root   Statistics | Revision: [   ]

	Name	Size	Revision	Age	Author	Comment
▢ 📁	images					
▢ 📁	sources					
📄	.hgtags	?	7:3c3b3c8cba58		jsmith	Added tag tag_test.00 for changeset 6987191f453a
📄	README	?	1:9d5b5b004199		jsmith	Added 2 files and modified one.

Latest revisions

#	Date	Author	Comment
16:4cddb4e45f52 ●	01/01/2000 12:00 am	jsmith	Added tag tag-init-revision for changeset 0885933ad4f6
15:933ca60293d7	Revision 16:4cddb4e45f52	jsmith	copy README
14:24ea8892e2ec	01/01/2002 06:00 pm	jsmith	create new test branch with some chars
13:3a330eb32958 ○ ○	01/01/1989 01:00 pm	jsmith	Copied 2 files
12:a072136d74b0 ○ ○	03/01/1990 02:00 pm	jsmith	Modified sql_escape/underscore_dir/understrike_file.txt
			Modified sql_escape/percent%dir/percent%file1.txt and

192.168.11.90:5000/projects/test00/repository/revisions/4cddb4e45f52

test00 - Revision 16:4cddb... ✕

192.168.11.90:5000/projects/test00/repository/revisions/4cddb4e45f52

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test00

Search:

Overview | Activity | Issues | New issue | Gantt | Calendar | News | Documents | Wiki | Files | **Repository** | Settings

Revision 16:4cddb4e45f52

« Previous | Next » [4cddb4e45t] [OK]

ID: 4cddb4e45f52
Added by jsmith about 11 years ago

Added tag tag-init-revision for changeset 0885933ad4f6

Files

View differences

○ added ○ modified ○ copied ○ renamed ○ deleted

○ .hgtags

Browser window

test00 - /README - Annot...

192.168.11.90:5000/projects/test00/repository/revisions/7fab6ce80d87/annotate/README

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test00

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root / README @ 6:7fab6ce80d87

📊 Statistics | Revision: `7fab6ce80d`

History | View | Annotate | Download

1	1:9d5b5b004199	jsmith	Mercurial test repository
2	6:7fab6ce80d87	jsmith	
3	6:7fab6ce80d87	jsmith	Mercurial is a distributed version control system. Mercurial is dedicated to speed and efficiency with a sane user interface.
4	6:7fab6ce80d87	jsmith	It is written in Python.

Revision 6:7fab6ce80d87

192.168.11.90:5000/projects/test00/repository/revisions/7fab6ce80d87

Files

mercurial_scmid_authoritative.patch	2.89 KB	2009-12-15	Peter Fern
hg-overhaul-000.png	8.77 KB	2010-03-13	Toshi MARUYAMA
hg-overhaul-001.png	11.4 KB	2010-03-13	Toshi MARUYAMA
hg-overhaul-002.png	13.7 KB	2010-03-13	Toshi MARUYAMA
hg-overhaul-003.png	25 KB	2010-03-13	Toshi MARUYAMA
before-link.png	53.9 KB	2011-01-25	Toshi MARUYAMA
before-repository.png	105 KB	2011-01-25	Toshi MARUYAMA
after-annotate.png	81.4 KB	2011-01-25	Toshi MARUYAMA
after-link-id.png	55.7 KB	2011-01-25	Toshi MARUYAMA
after-link-revno.png	54.5 KB	2011-01-25	Toshi MARUYAMA
after-repository.png	93.3 KB	2011-01-25	Toshi MARUYAMA
before-annotate.png	68.9 KB	2011-01-25	Toshi MARUYAMA