This document outlines the major improvements in Bazaar 2.1 vs Bazaar 2.0. As well as summarizing improvements made to the core product, it highlights enhancements within the broader Bazaar world of potential interest to those
upgrading.

Bazaar 2.1.0 marks the start of our second long-term-stable series. This series will be supported with bug fixes for the next 12 months. All users are encouraged to upgrade from the 2.0.x stable series.

1 Better efficiency

Many operations now consume less memory. Several operations are also faster including branching, logging merged revisions and upgrading from pre-2a to 2a format.

2 New command options

Several commands have new options. These include:

<table>
<thead>
<tr>
<th>Command</th>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>branch</td>
<td>bind</td>
<td>Bind to the source location</td>
</tr>
<tr>
<td>commit</td>
<td>commit-time</td>
<td>Give an explicit commit timestamp</td>
</tr>
<tr>
<td>switch</td>
<td>revision</td>
<td>Switch to a particular revision</td>
</tr>
<tr>
<td>unshelve</td>
<td>keep</td>
<td>Apply changes but don’t delete them</td>
</tr>
<tr>
<td>unshelve</td>
<td>preview</td>
<td>Show the diff that would result from unshelving</td>
</tr>
<tr>
<td>update</td>
<td>revision</td>
<td>Update to a particular revision</td>
</tr>
</tbody>
</table>

Other command improvements include:

- A ../user-reference/shelve-help editor can be defined to provide shelf functionality at a granularity finer than per-patch hunk.
- ../user-reference/send-help send now supports the OS X Mail application.

See the help for the commands above for further details.

3 Per-file merge hooks

Hooks can now be defined for smart merging of selected file types. This enables easier merging of ChangeLogs, Release Notes and other file that frequently conflict.

4 DWIM revision identifiers

Revision identifiers can now be given in a Do-What-I-Mean style. For example, you can now just give a tag (instead of saying tag:xxx) or just say today (instead of saying date:today). Prefixes are now only required if the revision spec could be ambiguous.

5 Launchpad compatibility

Launchpad has announced that the edge.launchpad.net instance is deprecated and may be shut down in the future. Bazaar has therefore been updated in this release to talk to the main (launchpad.net) servers, rather than the edge ones (the same code is running on both servers during the interim).
6 New ignore patterns

Patterns prefixed with `!` are exceptions to ignore patterns and take precedence over regular ignores. Such exceptions are used to specify files that should be versioned which would otherwise be ignored. Patterns prefixed with `!!` act as regular ignore patterns, but have highest precedence, even over the `!` exception patterns.

7 Smart server home directory support

`bzr+ssh` and `bzr` paths can now be relative to home directories specified in the URL. Paths starting with a path segment of `~` are relative to the home directory of the user running the server, and paths starting with `~user` are relative to the home directory of the named user. For example, for a user “bob” with a home directory of `/home/bob`, these URLs are all equivalent:

- `bzr+ssh://bob@host/~repo`
- `bzr+ssh://bob@host/~bob/repo`
- `bzr+ssh://bob@host/home/bob/repo`

If `bzr serve` was invoked with a `--directory` argument, then no home directories outside that directory will be accessible via this method.

This is a feature of `bzr serve`, so pre-2.1 clients will automatically benefit from this feature when `bzr` on the server is upgraded.

8 Generalized glob support on Windows

On Windows, glob expansion is now handled in a universal way across all commands. In previous versions, it was explicitly handed by just a few commands, e.g. `add`. A side effect of this change is that patterns now need to be quoted when passed to the `ignore` command, e.g. `bzd ignore *.foo` now needs to be given as `bzd ignore "*.foo"`.

9 Improved Git and Mercurial interoperability

Many improvements have been made to the `git` and `hg` plugins. With these plugins installed, most Git and Mercurial repositories can now be read by standard Bazaar clients. Changes can also be written back via the `dpush` command.

10 Metaprojects

New plugins are available for constructing larger projects from smaller ones. These include:

- `builder` - construction of a branch using recipes
- `externals` - Subversion-style external branches

**Note:** The builder plugin has been designed to complement the `bUILDDeb` plugin to streamline Debian source package management. It may also be useful for building test images for a QA team or disk images for installers, say.
11 Colocated branch workspaces

A colocated workspace is one where a single working tree is used across one or more branches managed at that same location. This is now supported by the new colo plugin and by Bazaar Explorer.

12 Better documentation

A ../admin-guide/index covering topics such as setting up servers, security, backups and email integration has been added.

A large number of documentation bugs have been fixed, clarifying numerous issues and filling in some missing holes. The ../user-reference/index has been organized into topics making it easier to navigate through and print selected sections of.

To assist users migrating from other tools, a Survival Guide has been published explaining Bazaar to users of other tools in terms they already know. Sections are provided for existing users of CVS, Subversion, ClearCase, Perforce, Visual SourceSafe, Git, Mercurial, Darcs and Monotone.

Selected documents have also been translated to Japanese.

13 Enhanced GUI clients

Numerous enhancements have been made to most of our GUIs including Bazaar Explorer, TortoiseBZR and the QBzr-Eclipse add-on. These applications all build on top of improvements made to QBzr. Bzr-gtk has also been improved.

Bazaar Explorer has over a dozen new features including smart toolbars, support for all bzr commands (including those in plugins), a better working tree browser and a submit delta report showing the cumulative effect of a series of commits. See What’s New in Bazaar Explorer 1.0? for more information.

14 Further information

For more detailed information on the changes made, be sure to check the ../release-notes/index for:

- the interim bzr milestones
- the plugins you use.

Enjoy, The Bazaar Development Team