



# OSDL Japan Linux Symposium

## Next Generation File Systems

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# Current Linux File Systems

- Ext3 is the current most popular file system
  - Performance improved in 2.6
  - Journaling mechanism speeds up recovery time after a crash
  - Quite stable
    - Well used
    - Lots of distros are used as default file system
  - Fully compatible with ext2
- Ext2 is the ancestor of ext3
  - Not a few users are still using ext2
  - Compact and full-featured



# Ext3 issues

- However, there are some issues..
  - Size limitations compared with other file systems
    - Reiserfs, XFS, etc
  - Ongoing development of ext4(?), the successor to ext3
  - Ext3 is developed as addition of the journaling feature to ext2, however, code are completely separated.
    - $\text{ext2} + \text{jbd} \neq \text{ext3}$

# Discussion Point

- Ext4 are considering to file system of the “next generation”. What kind of features or characteristics should be considered for the “next generation” file systems?
  - Stability
  - Compatibility to the previous versions
  - Performance
  - Size
  - How we put priority for each
- What is the major feature of ext4?
- How compatible are ext3 and ext4?
- How do we maintain the code of the ext file system family?
  - ext2, ext3, ext4, and ocfs2\*
- What can we do for the “next generation” file systems?

\* ocfs2  $\hat{=}$  ext3 + ocfs

