

Journaling Modes

Journaling has cost - one write = two disk writes (two seeks with hard disks)

➔ Several journaling modes balance consistency and performance

- **Data journalling** - journal all writes, including file data

- ◉ expensive to journal data

- **Metadata journaling** - journal only metadata

Used by most FS (IBM JFS, SGI XFS, NTFS)

- ◉ file may contain garbage data

- **Ordered mode** - write file data to real FS first, then journal metadata

Default mode for ext3

- ◉ old file may contain new data

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