IoT: Client Devices

ext2

Background

Typical Linux General Purpose Filesystems

- Remy Card, 1993
- Basic design in use today (see: ext4)
- Non-journaling
- Based on earlier Berkeley Fast Filesystem

Drivers for every major OS

- Though they may be third-party

Aside: Journaling FS

Like a database of changes

- Write to changes to *journal* before committing to disk
- *File writes* usually require many separate *disk writes*
- Non-atomicity leads to potential corruption

Crash recovery

- Requires FS walk if no journal, not always recoverable
- Journal played back to ensure that all changes are applied

Superblock
Describes filesystem (@ byte 1024, 1024 byes in length)

Block Group Descriptor Table
Immediately after superblock, locates block groups

1 ↓ 1..*

Block Group
Contains groups of blocks

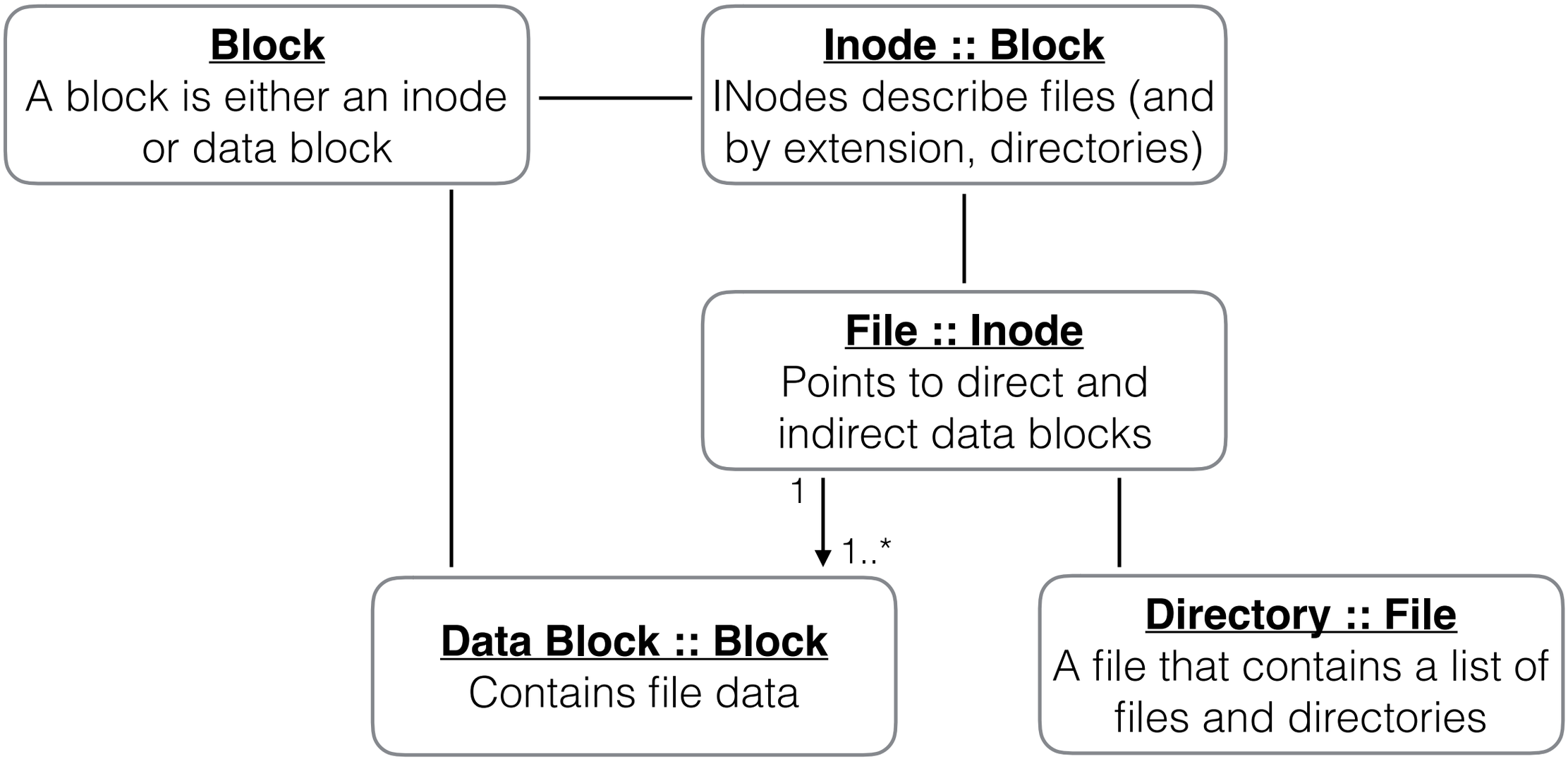
1 ↓ 1..*

Block
An inode or a data block

Design - Blocks

Filesystem is based on blocks and block management

block size not tied to physical blocks



Design - Files and Directories