Linux Administration

2038

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The origin of time

```
$ man 7 time
```

The Epoch

> *UNIX systems represent time in seconds since the Epoch, 1970-01-01 00:00:00 +0000 (UTC).*

Counting time

UNIX time is stored in a signed 32-bit integer, with values ranging from 0 to 2,147,483,647.

- 0 is used for January 1, 1970, 00:00:00.
- 2,147,483,647 will be used for January 19, 2038 03:14:07.

2038 bug

- Systems still relying on a signed 32-bit integer after January 19, 2038 will not be able to process time properly, and will likely experience various type of issues.
- Systems should be tested, updated or migrated before that date.
- Various languages, applications and operating systems have already implemented a solution. Linux is now using a 64-bit counter for this.