

**NAME**

`uuid_generate`, `uuid_generate_random`, `uuid_generate_time` - create a new unique UUID value

**SYNOPSIS**

```
#include <uuid/uuid.h>
```

```
void uuid_generate(uuid_t out);  
void uuid_generate_random(uuid_t out);  
void uuid_generate_time(uuid_t out);
```

**DESCRIPTION**

The **uuid\_generate** function creates a new universally unique identifier (UUID). The uuid will be generated based on high-quality randomness from `/dev/urandom`, if available. If it is not available, then **uuid\_generate** will use an alternative algorithm which uses the current time, the local ethernet MAC address (if available), and random data generated using a pseudo-random generator.

The **uuid\_generate\_random** function forces the use of the all-random UUID format, even if a high-quality random number generator (i.e., `/dev/urandom`) is not available, in which case a pseudo-random generator will be substituted. Note that the use of a pseudo-random generator may compromise the uniqueness of UUID's generated in this fashion.

The **uuid\_generate\_time** function forces the use of the alternative algorithm which uses the current time and the local ethernet MAC address (if available). This algorithm used to be the default one used to generate UUID, but because of the use of the ethernet MAC address, it can leak information about when and where the UUID was generated. This can cause privacy problems in some applications, so the **uuid\_generate** function only uses this algorithm if a high-quality source of randomness is not available.

The UUID is 16 bytes (128 bits) long, which gives approximately  $3.4 \times 10^{38}$  unique values (there are approximately  $10^{80}$  elementary particles in the universe according to Carl Sagan's *Cosmos*). The new UUID can reasonably be considered unique among all UUIDs created on the local system, and among UUIDs created on other systems in the past and in the future.

**RETURN VALUE**

The newly created UUID is returned in the memory location pointed to by *out*.

**CONFORMING TO**

OSF DCE 1.1

**AUTHOR**

Theodore Y. Ts'o

**AVAILABILITY**

<http://e2fsprogs.sourceforge.net/> <<http://e2fsprogs.sourceforge.net/>>

**SEE ALSO**

**uuid(3), uuidgen(1), uuid\_clear(3), uuid\_compare(3), uuid\_copy(3), uuid\_is\_null(3), uuid\_parse(3),  
uuid\_time(3), uuid\_unparse(3)**