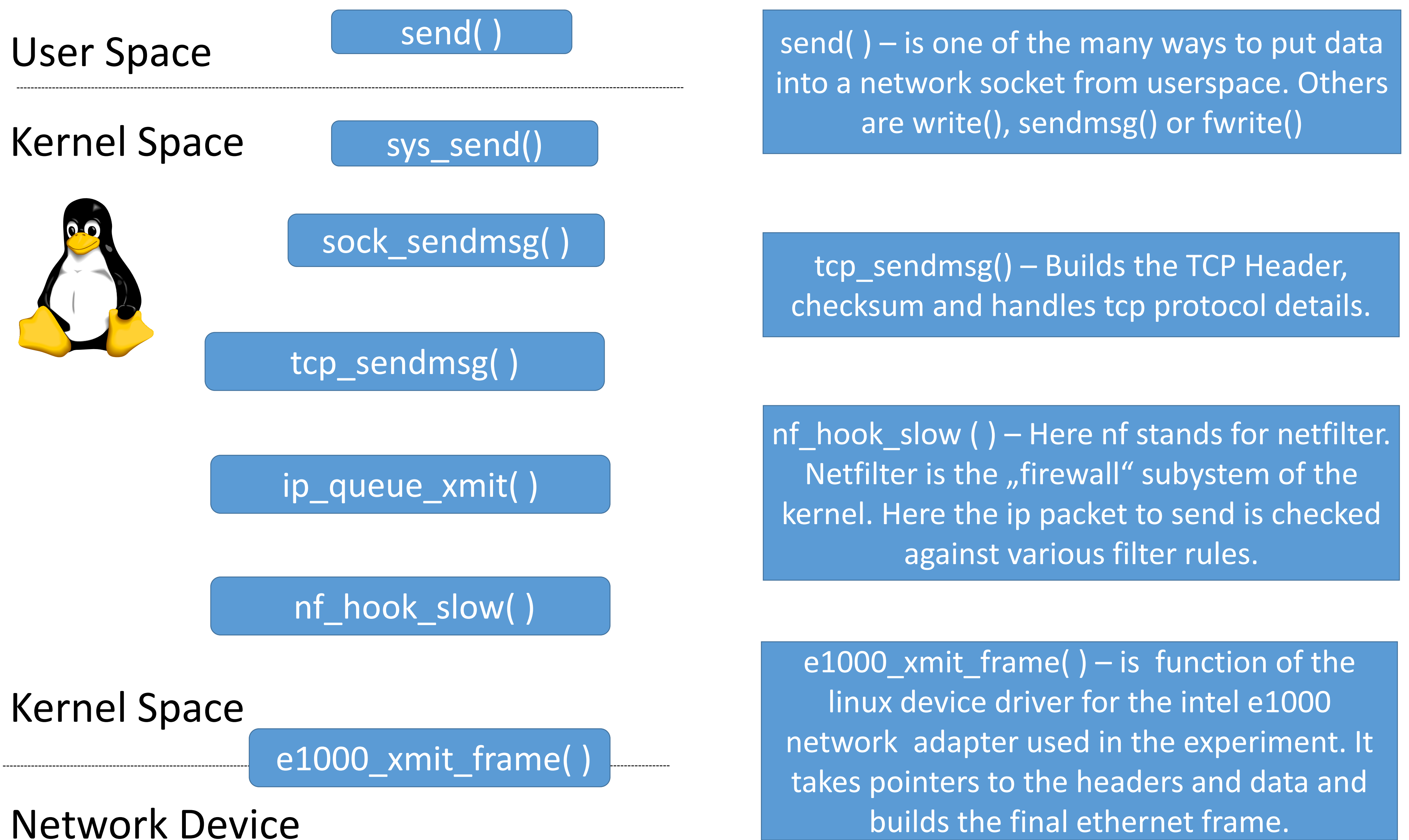


Tracing the Way of Data in a TCP Connection through the Linux Kernel

Summary:

The following figure gives an overview of the linux kernel TCP/IP internals and the involved functions. For clear arrangement all function calls for locking and unlocking of data structures have been left out. The function descriptions are summarized. Often these functions call several subfunctions to do their work. Also detailed call stack semantics are omitted. So when `sock_sendmsg()` is placed below `sys_send()` this means it gets called after `sys_send()` not necessarily by `sys_send()`.



Measurement Method (ftrace):

For these Measurements the Linux Function Tracing Framework ftrace has been used. A recommendable and easy interface to the ftrace kernel facility is the `trace-cmd` command-line utility. For tracing all kernel calls happening on behalf of process `<x>` use:

```
„trace-cmd record -p function_graph -P <x>“
```

