

# NetworkManager

GREAT NETWORKING POWERED BY DBUS



## About

**NetworkManager** is the most advanced way of managing network connections and related configuration in modern Linux-based distributions. It is the default connection manager not only in widely-used user-oriented distributions like Ubuntu, but also in professional ones like Red Hat Enterprise Linux. Emerging operating systems like Google's Chrome OS, where network connectivity is a key feature, have adopted and invested a great effort in this project.

The most important aspect of NetworkManager, is that it aims for simplicity and ease of use. Quoting from the project website:

*"Everything should 'Just Work' as automatically as possible and never stop you from doing what you want to do."*



```
'ATE0' -->
<-- 'ATE0'
<-- 'OK'
'AT+GMI' -->
<-- 'Lanedo'
<-- 'OK'
'AT+GMM' -->
<-- 'Dummy Modem'
<-- 'OK'
'AT+CGMR' -->
<-- '1.0'
<-- 'OK'
'AT+CPIN?' -->
<-- '+CPIN: READY'
<-- 'OK'
```

**ModemManager** is a sub-system of NetworkManager which controls mobile broadband (2G/3G) devices and connections. Whether built-in devices, USB dongles, bluetooth-paired telephones, or professional RS232/USB devices with external power supplies, ModemManager is able to prepare and configure the modems and setup connections with them. A wide range of vendor-specific plugins provide targeted capabilities, configurations and basic support for different modems. This system currently provides basic support for the following modem vendors:

*Alcatel, AnyDATA, Cinterion, Qualcomm Gobi, HSO, Huawei, Iridium, Linktop, Longcheer, MBM, Motorola, Nokia, Novatel, Option, Samsung, Sierra Wireless (including Wavecom), Simtech, and ZTE.*

**Lanedo** is a successful European company that provides software consultancy services everywhere from Europe, to Asia and America. With leading expertise from developers in open source communities at your command, Lanedo can offer support contracts, development, patch back folding, customization of a project or simply an evaluation.

## Enabling new hardware

As opposed to other operating systems, where hardware manufacturers need to supply device drivers that need to be installed before using their products, the GNU/Linux user expects everything to work flawlessly when the device is connected, without needing to install specific tools or drivers. Therefore, ModemManager needs to be as up to date as possible when it comes to supporting newly released devices.

Lanedo, has proven experience in writing plugins to support new hardware in ModemManager. We have lately written basic plugins for Wavecom (now part of Sierra Wireless) and Cinterion/Siemens 2G/3G modems; as well as a new Iridium plugin for the Iridium satellite network based modems and handsets.

## Improved hardware support

Being a Free and Open Source project, it is not uncommon to see that even if some hardware is supported in a basic way (with detection and connection setup), lots of side features provided by the modems are left completely untouched.

For example, some modems expose a single physical port both for setup with AT commands and for the connection itself. Of course that means that while in connected mode, the modem can not monitor the signal strength or the network registration status. The only way of getting separate connections is to enable CMUX serial port multiplexing, which is something that ModemManager doesn't currently support.

Lanedo can help hardware manufacturers in getting the best of their modems, by improving both the ModemManager generic code base and the vendor-specific plugins.

## LTE support

3GPP Long Term Evolution, usually referred as 4G, is the future of mobile broadband connections. ModemManager currently doesn't properly support LTE devices because introducing such a new technology involves not only supporting new hardware, but also evolving the generic code base with LTE-specific features. At Lanedo we have improved ModemManager in such a way previously, when extending it to support not only USB modems but also slower RS232 devices.



## Core development

Improving ModemManager is something that shouldn't be done only by a community of developers as there are parties with a bigger interest in the success of the project. Hardware manufacturers will benefit directly if their devices are properly supported by ModemManager.

Lanedo can help in the daily maintenance tasks of the ModemManager project, providing code review, testing support and release management when necessary.

## Contact us

We believe that hardware manufacturers should take one step forward, and actively support projects like NetworkManager/ModemManager so they can give the best performance with their hardware on all platforms and so that newer modems introduced in the market are supported as soon as possible.

For more information on how Lanedo can help you integrate your products with NetworkManager and ModemManager, please contact us:

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