

# **NUT Packager and Integrators Guide**

**REVISION HISTORY**

NUMBER	DATE	DESCRIPTION	NAME
2.8.0-rc2	2022-04-10	Current release of Network UPS Tools (NUT).	
2.6.0	2011-01-14	First release of AsciiDoc documentation for Network UPS Tools (NUT).	

# Contents

<b>1</b>	<b>Introduction</b>	<b>1</b>
<b>2</b>	<b>Packagers involved</b>	<b>2</b>
<b>3</b>	<b>Possible use cases</b>	<b>3</b>
<b>4</b>	<b>Optimized packaging proposal</b>	<b>3</b>
4.1	Overview of the package tree . . . . .	4
4.2	Detailed view of the package tree . . . . .	4
4.2.1	nut . . . . .	5
4.2.2	libupsclient1 . . . . .	5
4.2.3	libupsclient1-dev . . . . .	5
4.2.4	nut-cgi . . . . .	5
4.2.5	nut-powerman-pdu . . . . .	5
4.2.6	nut-snmp . . . . .	6
4.2.7	nut-xml . . . . .	6
4.2.8	nut-ipmi . . . . .	6
4.2.9	nut-modbus . . . . .	6
4.2.10	nut-linux-i2c . . . . .	6
4.2.11	nut-macosx-ups . . . . .	6
4.2.12	nut-clients . . . . .	7
4.2.13	python-pynut . . . . .	7
4.2.14	python-nut-gui . . . . .	7
4.2.15	nut-doc . . . . .	7

## **Abstract**

The aim of this document is to describe the best way to package the Network UPS Tools, and the best practices across the various packaging implementation of NUT.

So as to these can be spread on all supported platforms as a standard, and as a foundation block to build upon.

---

---

### Two NUT websites

This version of the page reflects NUT release *v2.8.0-rc2* with codebase committed f28ec588e at 2022-04-10T12:11:35+00:00  
Options, features and capabilities in current development (and future releases) are detailed on the main site and may differ from ones described here.

---

Arnaud Quette <[arnaud.quette@free.fr](mailto:arnaud.quette@free.fr)>

---



### Warning

this is a Work In Progress document.

---

## 1 Introduction

Packaging is a final aim for software. It eases and completes the software integration into an OS, and allows users to have an easy software installation and support out of the box.

---

### Note

making NUT packaging more uniform should help its documentation, support and maintenance across the supported OSes.

---

\*sandbox\*

This document assumes that you have read the other NUT documents such as `INSTALL.nut`, `FAQ`, `config-notes.txt`, `config-prereqs.txt` ...

Facts about NUT packaging  
=====

NUT has so much evolved those two last years (with USB and SNMP support, the premises of libraries, ...) that the simple "1, 2 or 3 package(s)" approach is no more suitable.

This fact has reached a high level since NUT 1.4. Actually, doing this would result in either being forced to install hosts of unneeded dependencies (`net-snmp`, `gd`, ... as seen on SUSE), to have a partially broken package [1] or not being able to use all NUT features [2].

Let's now have an overview on how NUT is currently packaged:

- 1) Debian:  
`http://packages.qa.debian.org/n/nut.html`  
`nut`, `nut-dev`, `nut-usb`, `nut-snmp`, `nut-xml`, `nut-cgi`, `nut-doc`
- 2) Mandriva  
`http://cvs.mandriva.com/cgi-bin/cvsweb.cgi/SPECS/nut/`  
`nut-server`  
`nut`  
`nut-cgi`
- 3) SUSE / Novell  
`nut`
- 4) RedHat

```
5) PLD
http://cvs.pld-linux.org/cgi-bin/cvsweb/SPECS/nut.spec
```

```
... (FreeBSD, Gentoo Linux, IRIX, NetBSD, OpenBSD)
```

This shows how much the packages name split is now scattered.

The result is:

- that a user of several systems will be lost, and will waste time
- there is a big waste of energy
- this makes things hard to create standard configuration wizards

[1] NUT build on Debian GNU/Linux m68k and Hurd was once broken due to hiddev dependencies, and usb support still included in the core package.

[2]

- snmp-ups driver is not available under Mandrake GNU/Linux, but its man is present. See <http://rpms.mandrakeclub.com/rpms/mandrake/9.1/i586/Mandrake/RPMS/nut-server-1.2.1-4mdk.i586.html> ↩
- secured ssh network mode not available (due to deps and/or non free)
- some systems don't provide libupsclient lib/header/.pc so as to client application (such as wmnut) can't be built
- the logger function is not (well) used, same goes for the syslog (triple redundancy in Mandriva)
- the solution is partial in every system: lost of tests case / feedback could be shared
- ...

## 2 Packagers involved

The following packagers are working on this subject:

- Debian (and derivatives): Arnaud Quette <[aquette@debian.org](mailto:aquette@debian.org)>
- SUSE/Novell: Stanislav Brabec <[sbrabec@suse.cz](mailto:sbrabec@suse.cz)>

---

### Note

the people below should be contacted to (re)launch discussions!

---

The following packagers should be interested in working on this subject:

- FreeBSD: Thierry Thomas? <>
  - Mandriva: Oden Erikson? <>
  - RedHat / Fedora Core: <>
  - Gentoo: <>
  - NetBSD: <>
  - OpenBSD: <>
  - PLD: Andrzej Zawadzki <[zawadaa@wp.pl](mailto:zawadaa@wp.pl)>
-

- E-Smith: Charlie Brady <[charlieb-nut-upsdev@e-smith.com](mailto:charlieb-nut-upsdev@e-smith.com)>
- Solaris, OpenSolaris, OpenIndiana and related illumos distributions: Jim Klimov <[jimklimov@gmail.com](mailto:jimklimov@gmail.com)>
- Windows: check with WinNUT author?!
- MacOS: <> ⇒ Charles Lepple? <>
- HP-UX: <>
- IBM AIX: <>

### 3 Possible use cases

- standalone (1 system + 1-n UPS)
- network server (same as standalone, but serving data to network clients)
- network monitoring client
- network supervision client

TO BE COMPLETED...

### 4 Optimized packaging proposal

---

**Note**

The below proposed packages split is subject to discussion.

---

The aim of this is to:

- rationalize split according to the above use cases,
- share resources (descriptions, i18n, ...)
- find the best compromise between available features and dependencies,
- standardize nut packages name,
- create the foundation for the upcoming and underway improvements,
- improve nut integration,
- ease and improve user experience.

This standard was created by:

- capitalizing on the experience of existing packages,
  - using and improving the use of all nut features,
  - considering upcoming nut changes and improvements,
  - working closely with packagers.
-

## 4.1 Overview of the package tree

FIXME: make a dependency graph

- [nut](#)
- [libupsclient1](#)
- [libupsclient1-dev](#)
- [nut-cgi](#)
- [nut-powerman-pdu](#)
- [nut-snmp](#)
- [nut-xml](#)
- [nut-ipmi](#)
- [nut-modbus](#)
- [nut-linux-i2c](#) (platform-dependent)
- [nut-macosx-ups](#) (platform-dependent)
- [nut-clients](#)
- [python-pynut](#)
- [python-nut-gui](#) (or nut-control-center or Ultimate NUT Tool...)
- [nut-doc](#)

## 4.2 Detailed view of the package tree

---

### Note

- The **Desc** field represent the package's description, as exposed by the packaging system. Each package's description is composed of a paragraph common to all NUT packages, and a part that is specific to the package. The common part (further referenced by **COMMON DESC**) is:

```
Network UPS Tools (NUT) is a client/server monitoring system that allows
computers to share uninterruptible power supply (UPS) and power ↵
distribution
unit (PDU) hardware. Clients access the hardware through the server, and ↵
are
notified whenever the power status changes.
```

- The **Files** field lists the content of the package.
  - The mentioned **Size** is a rough estimation of packaged and installed size. This may varies across the systems and architecture, and is based upon the Debian x86 packages.
  - The **Deps** field lists the dependencies of the packages. The exact name may vary across the various systems.
  - The **Comment** field is used to place comment for points subject to discussion.
-



#### 4.2.1 nut

- Desc:
- Files: dummy/serial/USB drivers + upsd + upslog
- Size:
- Deps:

#### 4.2.2 libupsclient1

- Desc:
- Files:
- Size:
- Deps:

#### 4.2.3 libupsclient1-dev

- Desc:
- Files:
- Size:
- Deps:

---

**Note**

the "-dev" suffix is to be replaced by "-devel" on RPM based platforms.

---

#### 4.2.4 nut-cgi

- Desc:
- Files:
- Size:
- Deps:

#### 4.2.5 nut-powerman-pdu

- Desc:
  - Files:
  - Size:
  - Deps:
-

#### 4.2.6 nut-snmp

- Desc:
- Files:
- Size:
- Deps:

#### 4.2.7 nut-xml

- Desc:
- Files:
- Size:
- Deps:

#### 4.2.8 nut-ipmi

- Desc:
- Files:
- Size:
- Deps:

#### 4.2.9 nut-modbus

- Desc:
- Files:
- Size:
- Deps:

#### 4.2.10 nut-linux-i2c

- Desc: (platform-dependent)
- Files:
- Size:
- Deps:

#### 4.2.11 nut-macosx-ups

- Desc: (platform-dependent)
  - Files:
  - Size:
  - Deps:
-

#### 4.2.12 nut-clients

- Desc:
- Files:
- Size:
- Deps:

#### 4.2.13 python-pynut

- Desc:
- Files:
- Size:
- Deps:

#### 4.2.14 python-nut-gui

(or nut-control-center or Ultimate NUT Tool...)

- Desc:
- Files:
- Size:
- Deps:

#### 4.2.15 nut-doc

- Desc:
- Files:
- Size:
- Deps:

```
*sandbox*
nut-server
^^^^^^^^^

                Desc:
                Files: dummy/serial/USB drivers + upsd + upslog
                Size:
                Deps: nut-client, libusb, libc/ld

    B) nut-snmp

                Desc:
                Files: SNMP driver [/ manager ]
                Deps: nut-server, net-snmp, libc/ld

    C) nut-client

                Desc: don't force to have the server part/deps if not needed
```

```

Files: upsmon, upsc, upscmd, upsrw + driver.list [+nut-dev (lib, .h ←
      , .pc, man]
Deps: libc/ld

E) nut-cgi

Deps:
Files: snmp-ups and powernet + manpages

F) nut-doc:

Deps:
Files: dummycons + manpage

G) nut-dev:

Deps:
Files: upsmon, upsc, upscmd, upsrw

```

Note: "nut" can be a meta package

This kind of tree obviously needs modification on the conf/make files of NUT to allow build/install in a separate way.

```

...
TO BE CONTINUED
...

Configuration option
^^^^^^^^^^^^^^^^^^^^
name= "ups" or "nut"
./configure \
    --prefix=/ \
    --sysconfdir=/etc/$name \
    --mandir=/usr/share/man \
    --libdir=/usr/lib \
    --includedir=/usr/include \
    --datadir=/usr/share/$name \
    --with-statepath=/var/run/nut \
    --with-altpidpath=/var/run/nut \
    --with-drppath=/lib/nut \
    --with-cgipath=/usr/lib/cgi-bin/$name \
html-path
    --with-pidpath=/var/run/$name \
    --with-user=$name \
    --with-cgi \
    --without-ssl
...

```