



# Hardware Compatibility List

“ça marche ou bien ?”

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- Linux provider, consumer & corporate market
- started in 1998
- Edge-IT, Conectiva, Linbox
- based in Paris, France - Curitiba, Brazil

<http://www.mandriva.com/en/linux/>

# Hard/software compatibility

Do these pieces of software and hardware work together?

- perfectly
- after some adjustments
- not at all

# Get a (working) computer

## Get a (working) numeric environment

- Mac : comes with MacOS; works.
- PC : most of the time, comes with a Windows edition preinstalled; works.
- what about Linux distributions, BSDs?

# Options

- QA agreements between hardware and software makers (even better: same entity)
- hard/soft maker recommendation (“ready”)
  - compatibility list
- friend recommendation
- trial



Welcome to the Mandriva hardware compatibility list !

### Laptop

- HP Pavilion zv5200 pw893ea#abe
- Hp pavilion ze2000 ea390ua#aba
- Asus M3n
- Hp 530 notebook pcgn796aa#abm
- Acer Travelmate 4650
- IBM 2628qsp
- Sony Vgn-a197xpgb
- Hp compaq nw8440 rn039et#abf
- HP Presario v2000 ew997la#abm

Laptop: 1840 | +

### Desktop

- Tiny computers Ms-6741
- Elitegroup Ecs g553
- Foxconn G33m03
- Time computers Ms-6712
- Dixon Philips freevents
- Fujitsu Siemens D1335
- HP El466aa-aba a1330n
- Hp-pavilion Gc597aa-abf t3708.fr
- HP Df247a-aba 725n

Desktop: 1814 | +

### Server

- Fujitsu Siemens Primergy econel 100
- Dell Poweredge 830
- Dell Poweredge 6450/700
- Dell Poweredge 1550/1000
- Intel S5000xvn
- HP Proliant dl380 g5
- Dell Poweredge 1550/933
- ibm eserver xseries 220 -8645-
- Dell Poweredge 2550

Server: 19 | +

### HCL β 1 — August, 8th update

This site is supposed to help you spot and report hardware that runs Mandriva Linux.

See the [HCL wiki page](#) for more information about this project.

### Legend

- Unknown working status
- Does not work
- Works partially
- Works with modifications
- Works, out of the box

### Other

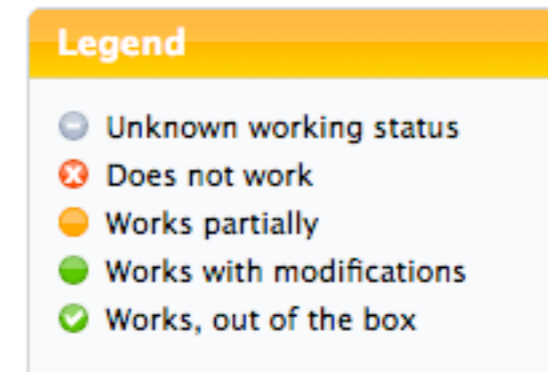
- HP Pavilion dv8000 es998ea#abf
- Toshiba Qosmio g25
- Lenovo 6365cto
- IBM 2367nu5

### Statistics

- 7525 systems
- 44441 configs
- 10 distributions
- 1218 brands: Via, AMD, Unknow, Nvidia, MSI, Dell, Intel, Toshiba, ATI, Compal, To be filled by oem, American megatrends inc, Gigabyte

# Mandriva HCL

- collaborative catalog
- register and list volunteers and QA labs hardware
- list everyone annotations about own hardware



# Several issues

1. gather hardware data
2. sort effectively data (clean up)
3. annotate hardware systems
4. promote the best systems
5. make use of it (purchase recommendation, QA improvements)

# I. Gather hardware data

- hclcollector (dmidecode, lshw)
- xml compiled archive posted on our server with the user identity
- lists most system specifics (components, names, manufacturers, etc.)

# 2. Sort data (a)

## Clean up the reports

- Dell, Dell Corp, Dell Corporate : Dell
- Unknow, To be filled by oem : /dev/null
- Asus 701 : Asus EeePC 701
- Hp pavilion ze2000 ea390ua#aba
- HP E1466aa-aba a1330n
- IBM 2681 IjI

## 2. Sort data (b)

- One single system (HP Travelmate 4650) may exist in several configurations (some components differ).
- This difference may be discriminative in the system diagnostic (BIOS, video card) or not (processor).
- This is a rough, first approach hypothesis.

# 2. Sort data (b)

**Travelmate 4650** 

**LAPTOP (notebook)**

- ◉ Mandriva Linux 2008 Spring, 2.6.24.4-laptop-1mnb
- ◉ Mandriva Linux 2008 Spring, 2.6.24.4-desktop586-1mnb

3 hosts

No comment

Components 

**PROCESSOR**

- » Intel pentium m processor 1.60ghz

**STORAGE**

- » Western digital Wdc wd2500beve-2

**REMOVABLE**

- » Tsstcorp Cd/dvdw ts-l632b

**VIDEO CARD**

- » Intel Mobile 915gm/gms/910gml express graphics controller

**BASE BOARD**

- » Acer Dunlin

**CHASSIS**

- » Compal Notebook

**BIOS**

- » Acer V1.80d

**NETWORK**

- » Broadcom Netxtreme bcm5788 gigabit ethernet
- » Intel Pro/wireless 2200bg

**Travelmate 4650** 

**LAPTOP (notebook)**

- ◉ Mandriva Linux 2008, 2.6.22.9-laptop-1mdv

1 hosts

No comment

Components 

**PROCESSOR**

- » Intel pentium m processor 1.73ghz

**STORAGE**

- » Hitachi Ic25n080atmr04-0

**REMOVABLE**

- » Tsstcorp Cd/dvdw ts-l632b

**VIDEO CARD**

- » Nvidia Nv43 geforce go 6600

**BASE BOARD**

- » Acer Dunlin

**CHASSIS**

- » Compal Notebook

**BIOS**

- » Acer V2.30d

**NETWORK**

- » Intel Pro/wireless 2200bg network connection
- » Broadcom Netxtreme bcm5788 gigabit ethernet

**MODEM**

- » Intel 82801fb/fbm/fr/fw/frw ich6 family ac97 modem controller

# 2. Sort data (b)

Solution :

- we define a list of essential components (bios, mother board, video card, etc.) as some sort of a “configuration signature” (sid)
- we gather configurations that share the same signature
- same signature => same diagnostic

# MySQL GROUP\_CONCAT

Useful to extract a list of configurations sharing the same characteristics (sid) in our case.

name	value
Nick Park	Gromit
Nick Park	Wallace
Bob Clampett, Fritz Freleng	Titi
Bob Clampett, Fritz Freleng	Grosminet
Jean-Yves Raimbaud, Olivier Jean-Marie	Oggy
Jean-Yves Raimbaud, Olivier Jean-Marie	Jack
Jean-Yves Raimbaud, Olivier Jean-Marie	Bob
Jean-Yves Raimbaud, Olivier Jean-Marie	Monica
Jean-Yves Raimbaud, Olivier Jean-Marie	Joey
Jean-Yves Raimbaud, Olivier Jean-Marie	Dee Dee
Jean-Yves Raimbaud, Olivier Jean-Marie	Marky

count( 1 )	name	GROUP_CONCAT( b.value )
2	Bob Clampett, Fritz Freleng	Titi,Grosminet
7	Jean-Yves Raimbaud, Olivier Jean-Marie	Oggy,Jack,Bob,Monica,Joey,Dee Dee,Marky
2	Nick Park	Gromit,Wallace

# MySQL GROUP\_CONCAT, 2

```
(SELECT
  configuration_id,
  CONCAT(h.hardware_type_id, '.', hc.hardware_id) AS cid
FROM
  configurationHardware AS hc
  JOIN hardware AS h ON h.id=hc.hardware_id
  JOIN configuration AS c ON c.id=hc.configuration_id
WHERE
  c.system_id=4103
  AND hardware_type_id IN (4, 5, 8)
ORDER BY configuration_id, hardware_type_id) AS t2
```

configuration_id	cid
17341	4.633
17341	5.4516
17341	8.39
17341	8.611
30335	4.681
30335	5.4516
30335	8.39
30335	8.611
35225	4.681
35225	5.4516
35225	8.39
35225	8.611
38727	4.681
38727	5.4516
38727	8.39
38727	8.611

# MySQL GROUP\_CONCAT, 3

```
(SELECT
  configuration_id,
  CONCAT(GROUP_CONCAT(cid ORDER BY cid ASC)) AS sid
FROM (...) AS t2
GROUP BY configuration_id) AS t3
```

configuration_id	sid
17341	4.633,5.4516,8.39,8.611
30335	4.681,5.4516,8.39,8.611
35225	4.681,5.4516,8.39,8.611
38727	4.681,5.4516,8.39,8.611

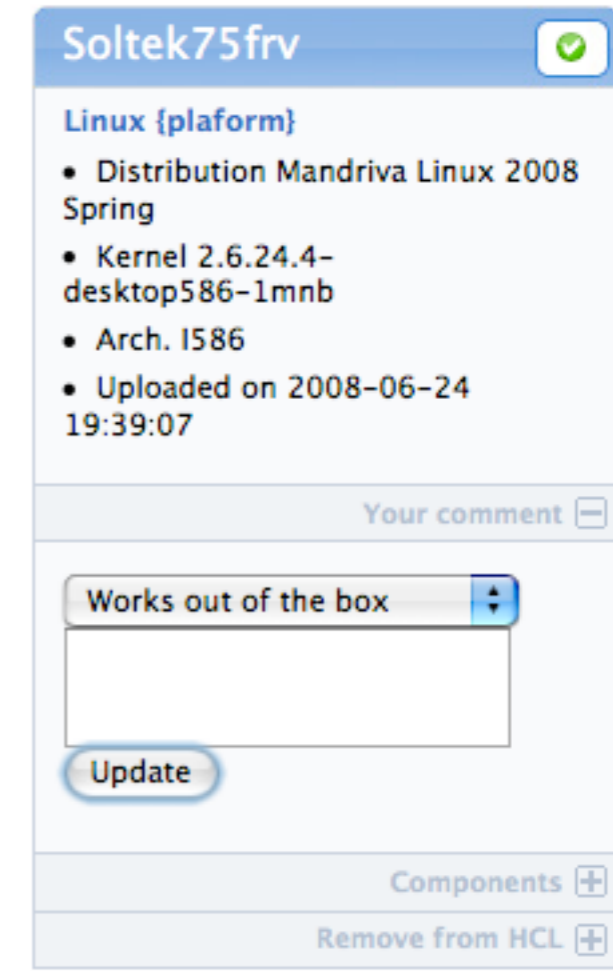
```
SELECT
  COUNT(1) AS cnt,
  CONCAT(GROUP_CONCAT(configuration_id)) AS config_id_list,
  sid
FROM (...) AS t3
GROUP BY sid
```

cnt	config_id_list	sid
1	17341	[BLOB - 23 o]
3	30335,35225,38727	[BLOB - 23 o]

# 3. Annotate

- can be done in step I. (gather data)
- can be done online

issue : to make that obvious and simple



# 4. Promote systems (a)

- Full text search returns:
  - systems list; a system is made of:
    - several configurations; a config has:
      - several components;
      - several diagnostics.

# 4. Promote systems (b)

- Our minimalist bias (for a start):
  - we promote systems and configurations reviews, not components
  - we focus on Mandriva systems
  - expert mode, collaboration will be next

# 5. Use data (purchase)

- Every working system certified by Mandriva QA or a significant number of users
- will be a reference for online purchase through a partner retailer shop

# 5. Use data (QA)

- We expect to sort the reports to help developers to focus on systems or components in need.

# Under the hood

- PHP (Zend Framework)
- MySQL
- jQuery
- YUI CSS

# TODO

- improve registration/annotation process for users
- improved search algorithm (full text is not the right solution in every situation); qualify search terms; improve reports accessibility
- performances
- i18n / l10n
- include component and peripheral reports
- share the code and the data

# Questions?

# More info

- <http://hcl.mandriva.com/beta>
- [http://wiki.mandriva.com/en/Hardware\\_Compatibility\\_List](http://wiki.mandriva.com/en/Hardware_Compatibility_List)

