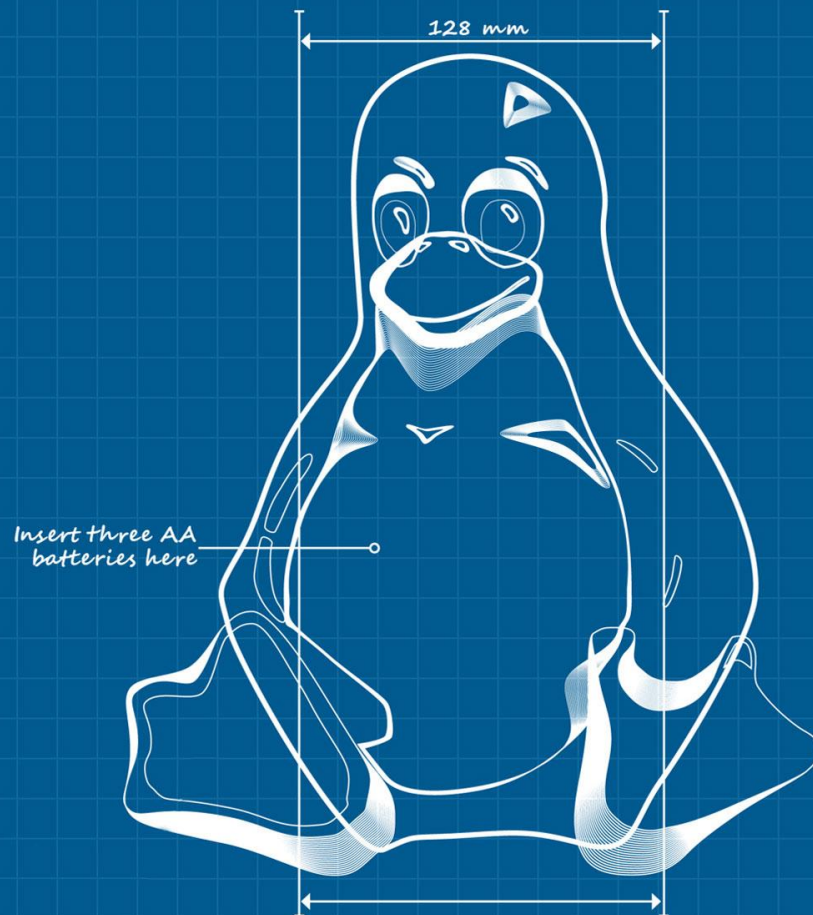


Linux

应用基础

2、系统安装

余恒
北京师范大学





以 CentOS 6.3 为例

Welcome to CentOS 6.3!

Install or upgrade an existing system
Install system with basic video driver
Rescue installed system
Boot from local drive
Memory test

Press [Tab] to edit options

CentOS 6
Community ENTERprise Operating System







What language would you like to use during the installation process?

Bulgarian (Български)

Catalan (Català)

Chinese(Simplified) (中文 (简体))

Chinese(Traditional) (中文 (正體))

Croatian (Hrvatski)

Czech (Čeština)

Danish (Dansk)

Dutch (Nederlands)

English (English)

Estonian (eesti keel)

Finnish (suomi)

French (Français)

German (Deutsch)

Greek (Ελληνικά)

Gujarati (ગુજરાતી)

Hebrew (עברית)

Hindi (हिन्दी)

← Back

→ Next



Select the appropriate keyboard for the system.

Portuguese
Romanian
Russian
Serbian
Serbian (latin)
Slovak (qwerty)
Slovenian
Spanish
Swedish
Swiss French
Swiss French (latin1)
Swiss German
Swiss German (latin1)
Turkish
U.S. English
U.S. International
Ukrainian
United Kingdom

← Back

→ Next

各国键盘

!`	!1	"2	£3	\$4	% €5	&6	/7	(8	)9	=0	?'	^i	← Backspace
Tab ⇄	Q	W	E €	R	T	Y	U	I	O	P	é {	* }	Enter ↵
Caps Lock ↑	A	S	D	F	G	H	J	K	L	ç @	° à #	§ ù	
Shift ↑	>	Z	X	C	V	B	N	M	;	:	-	Shift ↑	
Ctrl	Win Key	Alt							Alt Gr	Win Key	Menu	Ctrl	

半角/ 全角	!	"	# あ	\$ う	% え	& お	' や	(ゆ	) よ	を	=	^ ほ	| へ	Back Space
1 ぬ	2 ふ	3 あ	4 う	5 え	6 お	7 や	8 ゆ	9 よ	0 わ	- ほ	~ へ	¥ -		
Tab ← →	Q	W	E い	R	T	Y	U	I	O	P	,	{ 「		Enter
	た	て	い	す	か	ん	な	に	ら	せ	@ °	[°		
Caps Lock 英数	A	S	D	F	G	H	J	K	L	+	*	}	」	←
	ち	と	し	は	き	く	ま	の	り	:	れ	:	け	] む
Shift ↑	Z っ	X	C	V	B	N	M	< ,	> °	? °	・	-		Shift ↑
	つ	さ	そ	ひ	こ	み	も	, ね	・ る	/ め	\ ろ			
Ctrl	Win Key	Alt	無変換					変換	カタカナ ひらがな	Alt Gr	Win Key	Menu	Ctrl	

What type of devices will your installation involve?

Basic Storage Devices

- ☒ Installs or upgrades to typical types of storage devices. If you're not sure which option is right for you, this is probably it.






Specialized Storage Devices

- ☐ Installs or upgrades to enterprise devices such as Storage Area Networks (SANs). This option will allow you to add FCoE / iSCSI / zFCP disks and to filter out devices the installer should ignore.

 Back

 Next

Which type of installation would you like?

- ☐  **Use All Space**
Removes all partitions on the selected device(s). This includes partitions created by other operating systems.
Tip: This option will remove data from the selected device(s). Make sure you have backups.
- ☒  **Replace Existing Linux System(s)**
Removes only Linux partitions (created from a previous Linux installation). This does not remove other partitions you may have on your storage device(s) (such as VFAT or FAT32).
Tip: This option will remove data from the selected device(s). Make sure you have backups.
- ☐  **Shrink Current System**
Shrinks existing partitions to create free space for the default layout.
- ☐  **Use Free Space**
Retains your current data and partitions and uses only the unpartitioned space on the selected device (s), assuming you have enough free space available.
- ☐  **Create Custom Layout**
Manually create your own custom layout on the selected device(s) using our partitioning tool.

- ☐ Encrypt system
- ☐ Review and modify partitioning layout

Please Select A Device

Device	Size (MB)	Mount Point/ RAID/Volume	Type	Format
--------	--------------	-----------------------------	------	--------

▼ Hard Drives

▼ sda (/dev/sda)

Free	20473			
------	-------	--	--	--

Create

Edit

Delete

Reset

← Back

Next →

Drive /dev/sda (20480 MB) (Model: VMware, VMware Virtual S)

Free
20473 MB

Device

Size
(MB)

Model
RAID

▼ Hard Drives

▼ sda (/dev/sda)

Free

20473

Create Storage

Create Partition

☒ **Standard Partition**

General purpose partition creation

Create Software RAID

[Information](#)

☐ **RAID Partition**

Create a RAID formatted partition

☐ **RAID Device**

Requires at least 2 free RAID formatted partitions

Create LVM

[Information](#)

☐ **LVM Volume Group**

Requires at least 1 free LVM formatted partition

☐ **LVM Logical Volume**

Create a logical volume on selected volume group

☐ **LVM Physical Volume**

Create an LVM formatted partition

[Cancel](#)

[Create](#)

[Create](#)

[Edit](#)

[Delete](#)

[Reset](#)

[← Back](#)

[Next →](#)

Drive /dev/sda (20480 MB) (Model: VMware, VMware Virtual S)

Add Partition

Mount Point:

File System Type:

/

/boot

/home

/tmp

/usr

/var

/usr/local

/opt

Allowable Drives:

Size (MB):

Additional Size Of

☒ Fixed size

☐ Fill all space up to (MB):

☐ Fill to maximum allowable size

☐ Force to be a primary partition

☐ Encrypt

Cancel

OK

← Back

→ Next

分区

- Linux操作系统有两个基本分区：

根目录分区和交换分区

在windows下，各个分区分别用大写英文字母C: . D:表示；而Linux操作系统不关心分区，只有目录的概念。所有目录均位于“根目录”下。根目录用斜杠 / 表示。每个物理分区所在的目录称为该分区的“挂载点”，表示计算机启动时将这个分区加载到该目录之中。

Drive /dev/sda (20480 MB) (Model: VMware, VMware Virtual S)

Mount Point:

File System Type:

Allowable Drives:

Size (MB):

Additional Size Options

☒ Fixed size

☐ Fill all space up to (MB):

☐ Fill to maximum allowable size

☐ Force to be a primary partition

☐ Encrypt

ext2
ext3
ext4
physical volume (LVM)
software RAID
swap
vfat

200

1

Cancel

OK

 Back

 Next

文件格式

文件格式	最大文件	最大分区	代表操作系统
ISO 9660	4G	4G	光盘(1988)
FAT16	2G	2G	DOS (1987)
FAT32	4G	2T	Win 98 (1996)
exFAT	16E	64Z	U盘 (2006)
NTFS	16T	256T	Win XP (2001)
ext2	1T	4T	Redhat 9 (1993)
ext3	2T	16T	kernel 2.4.15 (2001)
ext4	16T	1E = 1024PB	kernel 2.6.28 (2008)

名为“Swap”的交换分区则用于和内存交换程序的运行数据，相当于windows下的虚拟内存。

Please Select A Device

Device	Size (MB)	Mount Point/ RAID/Volume	Type	Format
--------	--------------	-----------------------------	------	--------

▼ Hard Drives

▼ sda (/dev/sda)

sda1	1000		swap	✓
sda2	19479 /		ext4	✓

Create

Edit

Delete

Reset

← Back

Next →

☒ Install boot loader on /dev/sda. [Change device](#)

☐ Use a boot loader password [Change password](#)

Boot loader operating system list

Default	Label	Device
<input checked="" type="radio"/>	CentOS	/dev/sda2

[Add](#)[Edit](#)[Delete](#)[← Back](#)[Nex →](#)

GRUB (Grand Unified Bootloader)

- 计算机启动后, BIOS将寻找第一个可启动的设备 (通常为硬盘) , 而后从主引导记录 (Master Boot Record , MBR , 位于硬盘的前512字节内) 中载入启动程序 , 然后把控制交给这段代码。
- GRUB将 boot.img写入MBR , 用于启动 core.img , 后者读取配置文件启动系统或者其它的系统引导程序
- 由于配置文件外置 , 很容易修改维护和进行多系统 (内核) 引导。

GNU GRUB version 1.97~beta4

```
Linux Mint 8 Helena, linux 2.6.31-14-generic (/dev/sda5)
Linux Mint 8 Helena, linux 2.6.31-14-generic (recovery mode)
Memory test (memtest86+)
Memory test (memtest86+, serial console 115200)
Windows Vista (loader) (on /dev/sda2)
```

Use the ↑ and ↓ keys to select which entry is highlighted.
Press enter to boot the selected OS, 'e' to edit the
commands before booting or 'c' for a command-line.

一个典型的Grub 界面


The default installation of CentOS is a minimum install. You can optionally select a different set of software now.

- ☐ Desktop
- ☐ Minimal Desktop
- ☒ Minimal
- ☐ Basic Server
- ☐ Database Server
- ☐ Web Server
- ☐ Virtual Host
- ☐ Software Development Workstation

Please select any additional repositories that you want to use for software installation.

☒ CentOS

 [Add additional software repositories](#)

 [Modify repository](#)

You can further customize the software selection now, or after install via the software management application.

☒ [Customize later](#) ☐ [Customize now](#)

 [Back](#)

 [Next](#)

Applications

Base System

Databases

Desktops

Development

High Availability

Languages

Load Balancer

Resilient Storage

Servers



☒ Emacs



☒ Graphics Creation Tools



☐ Internet Applications



☒ Internet Browser



☐ Office Suite and Productivity



☒ TeX support



☒ Technical Writing

The GNU Emacs extensible, customizable, text editor.

Optional packages selected: 0 of 4

Optional packages

← Back

→ Next

- › **Welcome**
- License Information**
- Create User**
- Date and Time**
- Kdump**

Welcome

There are a few more steps to take before your system is ready to use. The Setup Agent will now guide you through some basic configuration. Please click the "Forward" button in the lower right corner to continue



Back

Forward



CentOS release 6.3 (Final)



test

Other...



Thu 1:28 AM

Mint Linux 安装



Computer



mint's Home



Install Linux Mint



Installation type

This computer currently has no detected operating systems. What would you like to do?



Erase disk and install Linux Mint

Warning: This will delete any files on the disk.



Something else

You can create or resize partitions yourself, or choose multiple partitions for Linux Mint.



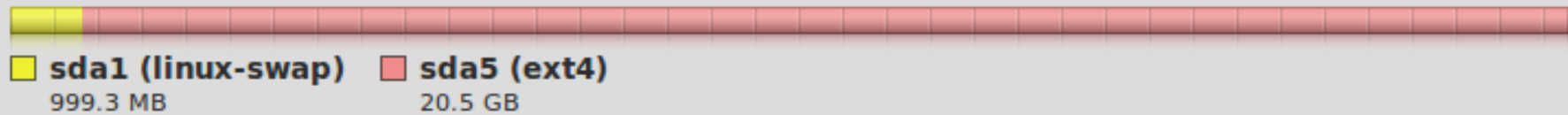
Quit



Back

Continue

Installation type



Device	Type	Mount point	Format?	Size	Used
/dev/sda					
/dev/sda1	swap		<input type="checkbox"/>	999 MB	unknown
/dev/sda5	ext4	/	<input checked="" type="checkbox"/>	20472 MB	unknown

New Partition Table... Add... Change... Delete Revert

Device for boot loader installation:

/dev/sda VMware, VMware Virtual S (21.5 GB) ▼

Quit

Back

Install Now

Install (as superuser)

Who are you?

Your name:

Your computer's name:


The name it uses when it talks to other computers.

Pick a username:

Choose a password:

Confirm your password:

- ☐ Log in automatically
- ☒ Require my password to log in
- ☐ Encrypt my home folder

 Back

Continue

► Copying files...



Menu



Install (as superuser)



target



Thu Aug 30, 3:30



Computer

Places

- Computer
- Home Folder
- Network
- Desktop
- Trash

System

- Software Manager
- Package Manager
- Control Center
- Terminal
- Lock Screen
- Logout
- Quit

Favorites

All applications ➔



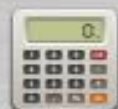
Web Browser

Firefox Web Browser



Internet Messenger

Pidgin Internet Messen...



Calculator

Perform arithmetic, sci...



Terminal

Use the command line



Monitors

Change resolution and ...



Mail Client

Thunderbird Mail



Media Player

Banshee



Text Editor

pluma



Sound

Change sound volume ...



System Monitor

View current processes...

Search:



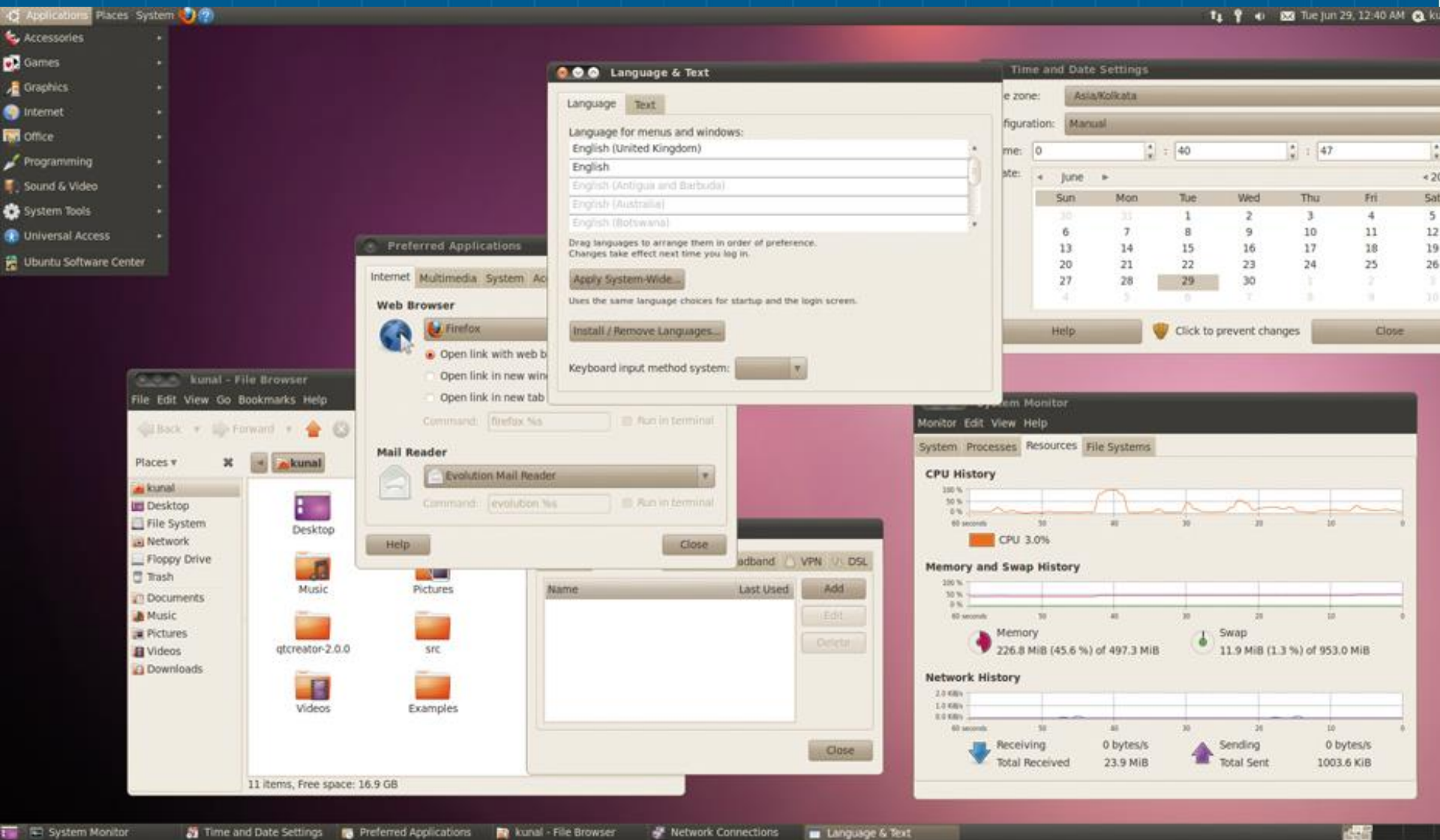


GNOME 和 KDE

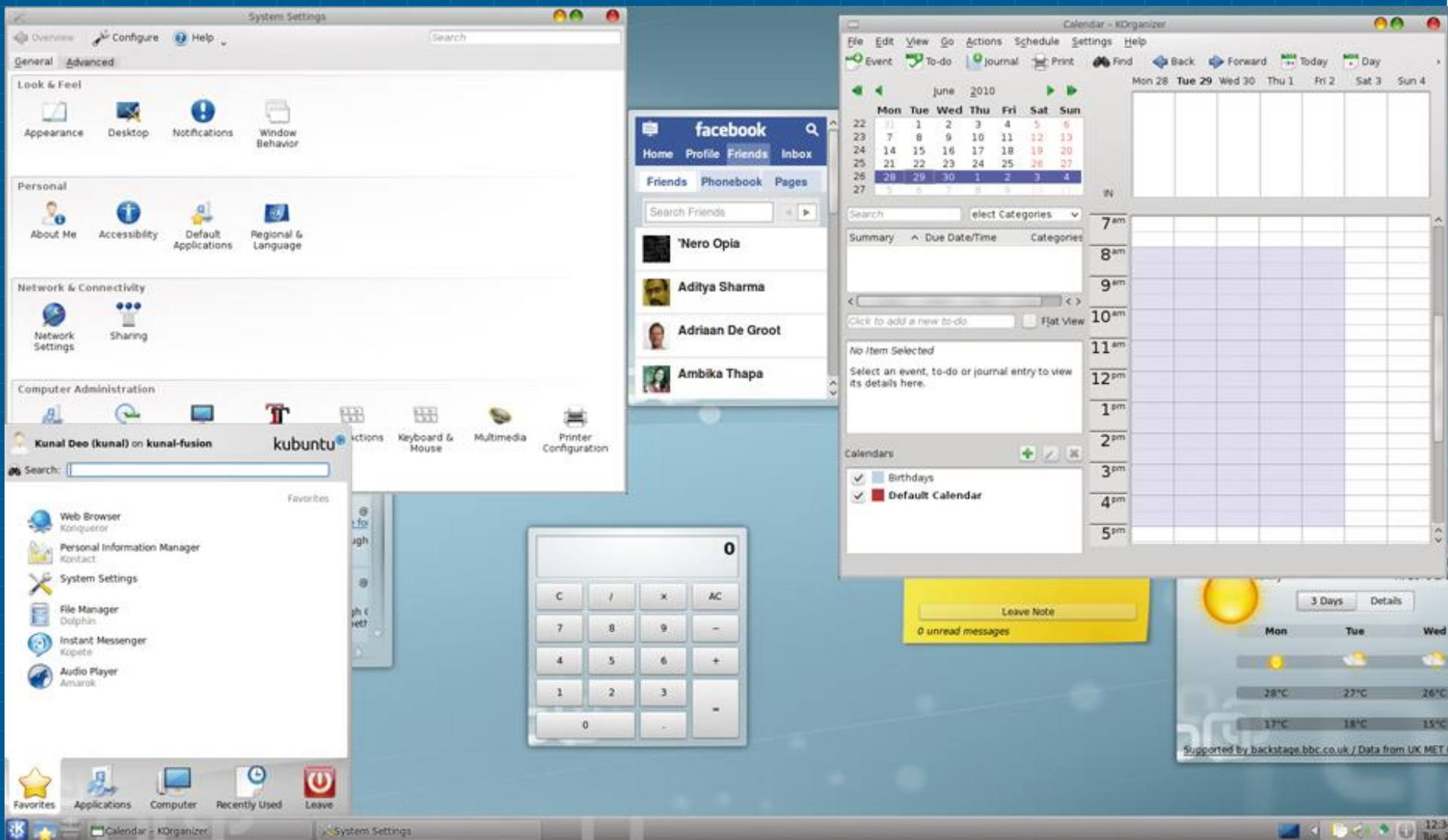


- 都是桌面环境，提供窗口式的用户界面。
- GNOME使用GIMP Toolkit (GTK+) ，开发，而KDE使用Qt库，目前都开放源码
- 都有一系列“本族软件”，比如：
 - G系：Gedit，Nautilus，Console
 - K系：Kate，Konqueror, Konsole
- 桌面只有一个，但软件可以通用

GNOME 桌面 (ubuntu)



KDE桌面 (Kubuntu)



其它桌面系统

- Xfce (Xubuntu) : 2007年基于XForms三维图形库设计, 用来提高系统的效率, 在节省系统资源的同时, 能够快速加载和执行应用程序。



- LXDE (Lightweight X11 Desktop Environment) (Lubuntu) : 主要为Unix以及如Linux、BSD等POSIX相容平台上提供一个轻量、快速的桌面环境。



更多分支

- Gnome 3.x：2011年4月发布，全新设计的风格 and 用户界面让许多人惊艳，也让许多老用户不知所措。
- Unity（Ubuntu）：并非独立的桌面环境，只是Gnome的图形化前端。延续了Gnome 3.x的风格。
- Mate（Mint Linux）：作为Gnome 2.x的后续分支，与Gnome 3.x 分庭抗礼。吸引了许多不适应3.x的老用户。

Gnome 3.x



目录结构

- /bin : 存放着Linux下常用的命令、工具
- /dev : 存放着Linux下所有的设备文件, 及可用的驱动程序
- /home : 用户主目录, 每建一个用户, 就会在这里新建一个与用户同名的目录, 给该用户一个自己的空间
- /lost+found : 顾名思义, 一些丢失的文件也许可以在这里找到
- /mnt : 外部设备的挂载点
- /proc : 这其实是一个假的目录, 通过这里你可以访问到内存里的内容。
- /sbin : 这里存放着系统级的命令与工具
- /usr : 通常用来安装各种软件的地方 /usr/X11R6 /usr/bin /usr/sbin
- /boot : 内核, Linux就是从这里启动的
- /etc : 这里存放Linux大部分的配置文件
- /root : root用户的主目录
- /var : 通常用来存放一些变量 /var/log /var/spool

**ROOT DIRECTORY
OF THE ENTIRE
FILE SYSTEM
HIERARCHY**
/
PRIMARY HIERARCHY

/bin/	ESSENTIAL USER COMMAND BINARIES
/boot/	STATIC FILES OF THE BOOT LOADER
/dev/	DEVICE FILES
/etc/	HOST-SPECIFIC SYSTEM CONFIGURATION <small>REQUIRED DIRECTORIES: OPT, X11, SGML, XML</small>
/home/	USER HOME DIRECTORIES
/lib/	ESSENTIAL SHARED LIBRARIES AND KERNEL MODULES
/media/	MOUNT POINT FOR REMOVABLE MEDIA
/mnt/	MOUNT POINT FOR A TEMPORARILY MOUNTED FILESYSTEMS
/opt/	ADD-ON APPLICATION SOFTWARE PACKAGES
/sbin/	SYSTEM BINARIES
/srv/	DATA FOR SERVICES PROVIDED BY THIS SYSTEM
/tmp/	TEMPORARY FILES
/usr/	(MULTI-)USER UTILITIES AND APPLICATIONS <small>SECONDARY HIERARCHY REQUIRED DIRECTORIES: BIN, INCLUDE, LIB, LOCAL, SBIN, SHARE</small>
/var/	VARIABLE FILES
/root/	HOME DIRECTORY FOR THE ROOT USER
/proc/	VIRTUAL FILESYSTEM DOCUMENTING KERNEL AND PROCESS STATUS AS TEXT FILES



FILESYSTEM HIERARCHY STANDARD (FHS)

软件替代方案

Windows

搜狗\谷歌输入法

M\$ Office

Internet Explorer

Photoshop

Illustrator

Acrobat Reader

暴风影音(QQ影音)

QQ\MSN

金山词霸

Linux

SCIM

WPS & TeX

FireFox

GIMP

Inkscape

xpdf, Okular

Mplayer

Pidgin(Skype)

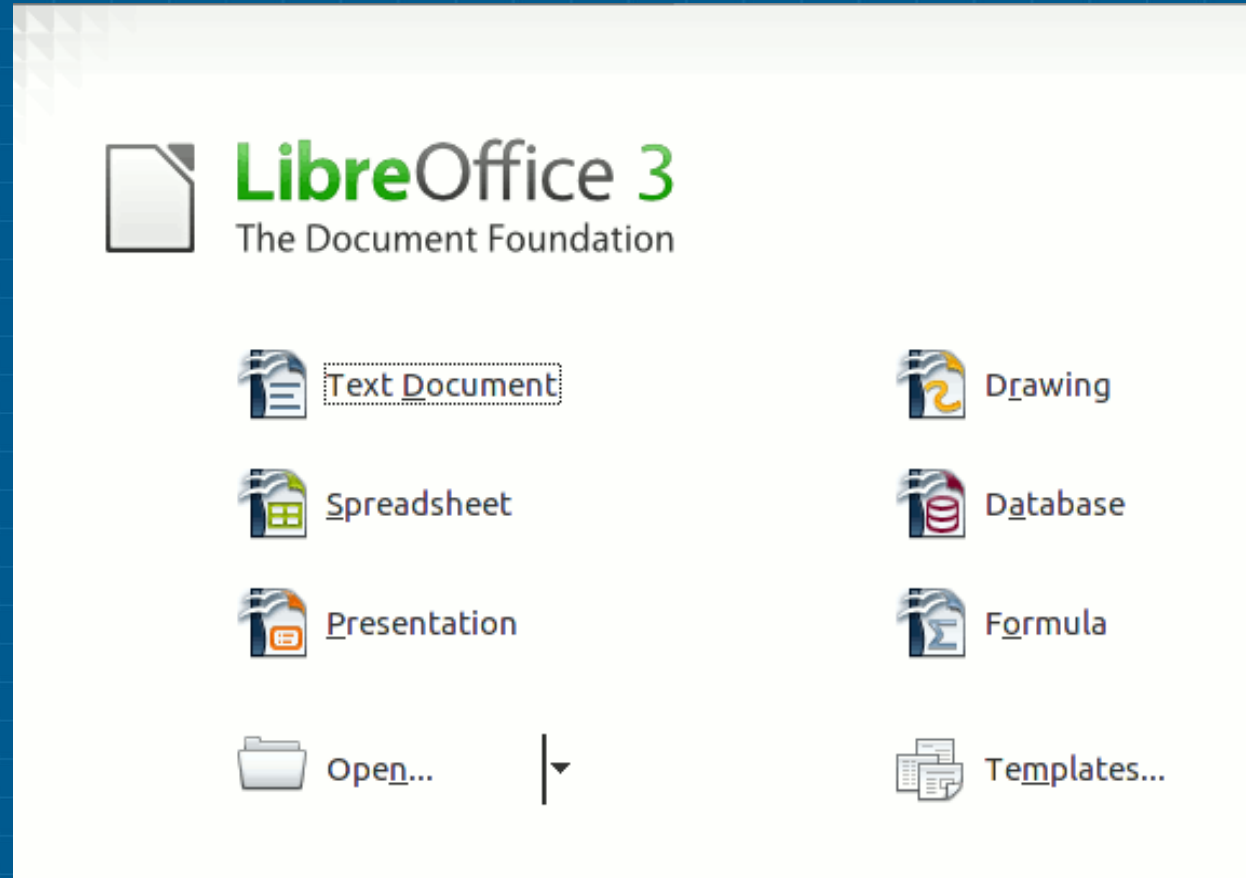
Goldendict, 星际译王

Libre Office

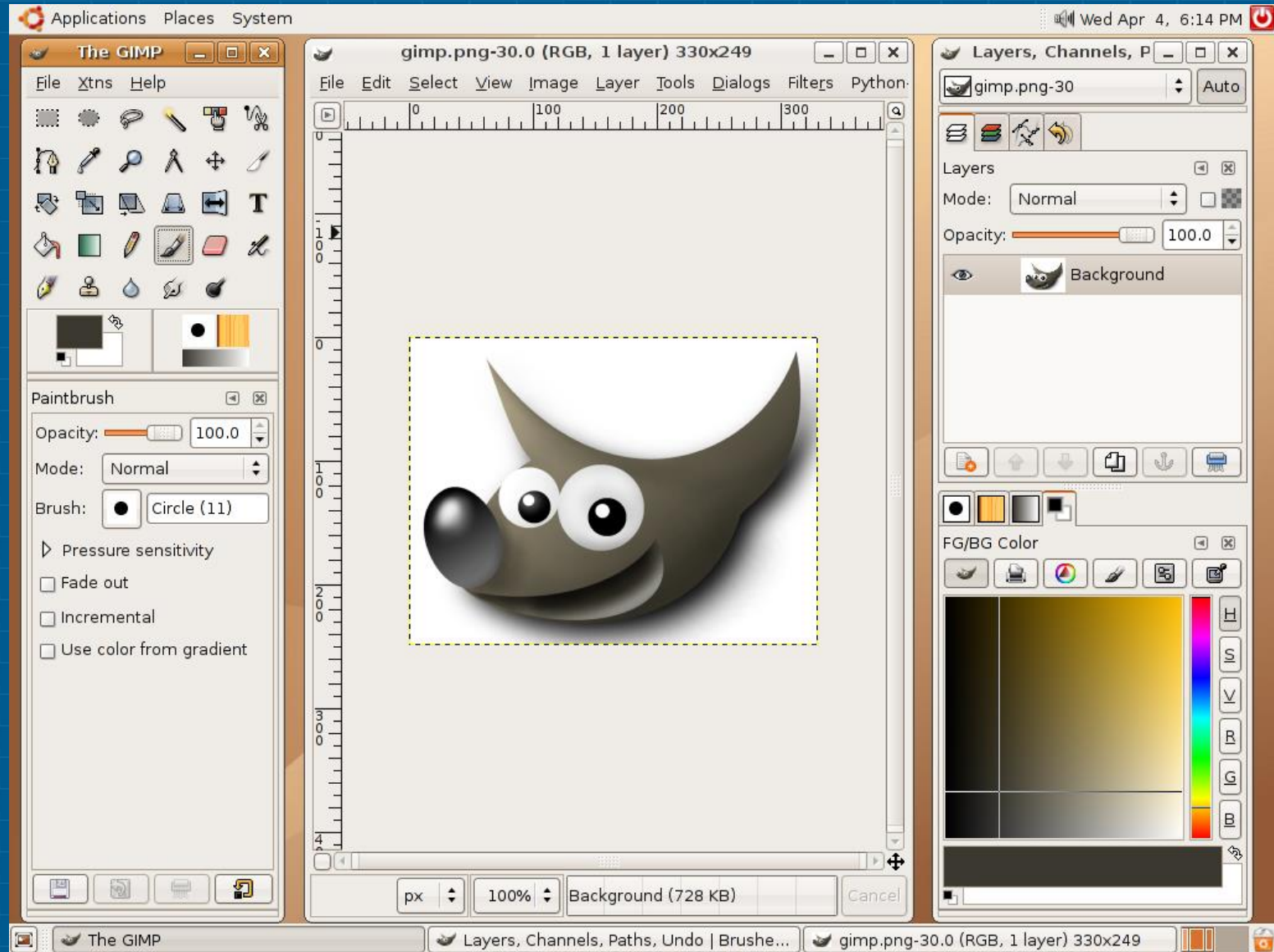
兼容MS office

默认保存为
开源格式ODF

可直接输出
为PDF

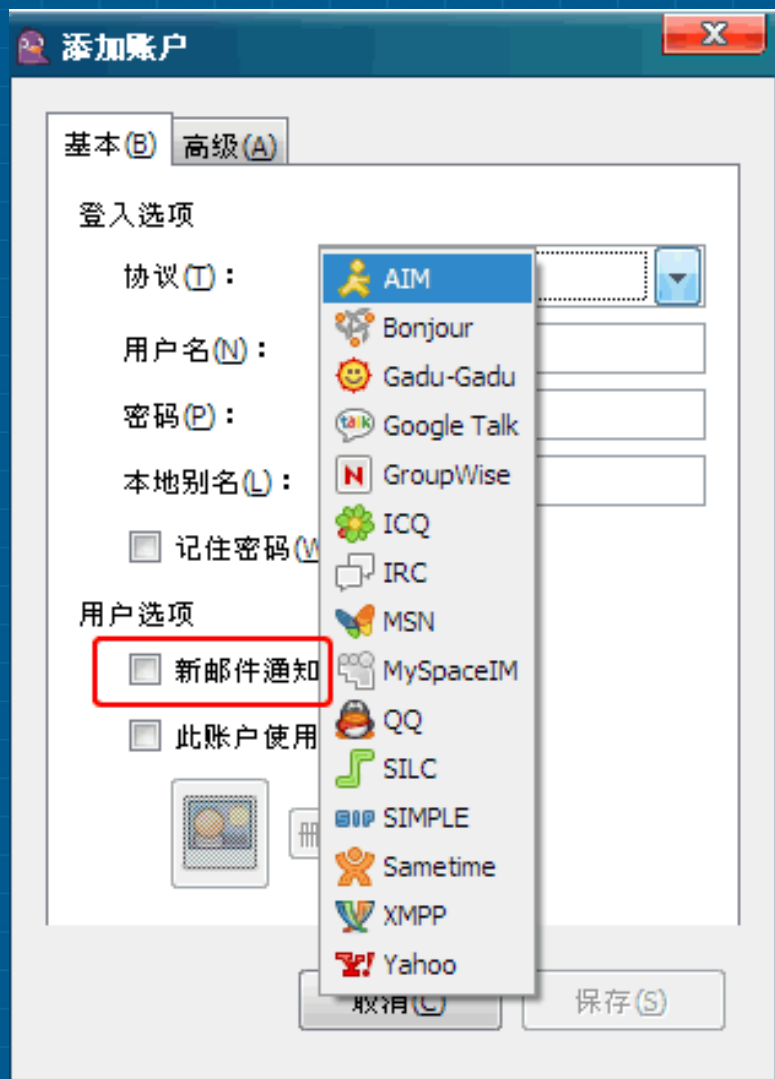


GIMP



Pidgin

支持几乎所有接口开放的
通讯协议：Facebook IM、
Twitter、MSN、Gtalk 等
等



但QQ会不定期升级接口协议，以
客户端版本不对为由禁用账户

科学绘图

- GNUPlot
 - 简单轻便、功能强大，用户最广的科学绘图软件
- SuperMongo
 - 曾备受天文界亲睐，后来开始收费
- Matplotlib (python)
 - python的绘图库，具有PY的一切优点
- 图形化界面（开源 Origin）：
 - QtiPlot，基于Qt，源码免费。免费分支**SciDAVis**
 - Lablot 基于KDE，完全免费

编辑器

- Emacs : 伪装成编辑器的操作系统
- Vim : 全能的开源编辑器
- Gedit : Gnome环境下的系统编辑器
- Kate : KDE环境下的系统编辑器
- Kile : KDE环境下的TeX文件编辑器
-