

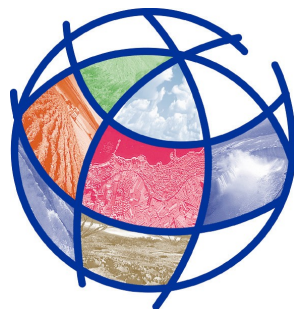
GMES Fast Track Service Land

Building a G2 SDI Node :

simple HOWTO for data providers

Gedas Vaitkus

AGI



geoland²



European Commission Fast Track Service Land within the GMES initiative in FP-7

© geoland2 consortium



■ CSW – Catalog service

- Find and retrieve metadata records in standard formats and schemas
 - One common catalog of metadata records for the whole project
 - OR several metadata catalogs for project components
 - OR many metadata catalogs hosted by each data provider

■ WMS – Web map service

- Display of vector datasets by Web/GIS clients
 - All partners establish and maintain their own WMS in case if vector data is produced

■ WFS – Web feature service

- Retrieval and updating of vector datasets by Web/GIS clients (GML)
 - SATCHMO team must decide if remote updating of vector datasets is needed

■ WCS – Web coverage service

- Retrieval of raster datasets or other 'coverages' of spatial information
 - All partners establish and maintain their own WCS in case if raster data or statistical tables, etc. are produced



■ Network connectivity

- DNS registration of your server hostname
- Firewall/router protected network with DMZ access to some ports
 - Minimum: HTTP (80), Tomcat (8080), FTP (21), SSH (22)
 - Optional: HTTPS (10000)
- TCP/IP cable connection
 - Internet UPLOAD speed MUST be at least 10 Mbps

■ Computer hardware

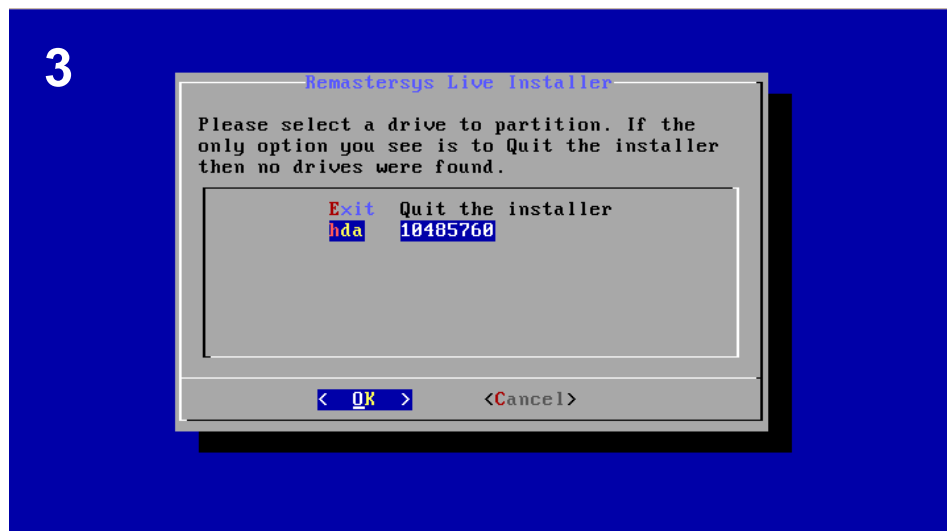
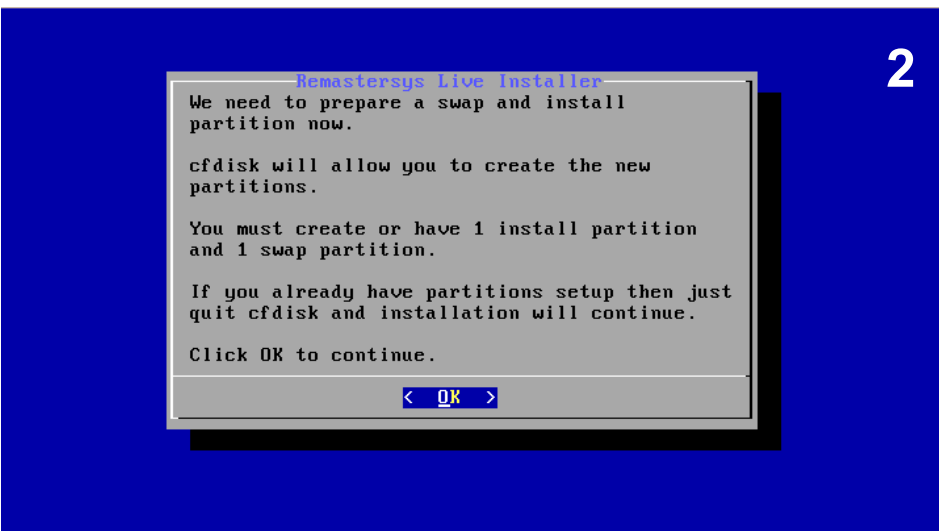
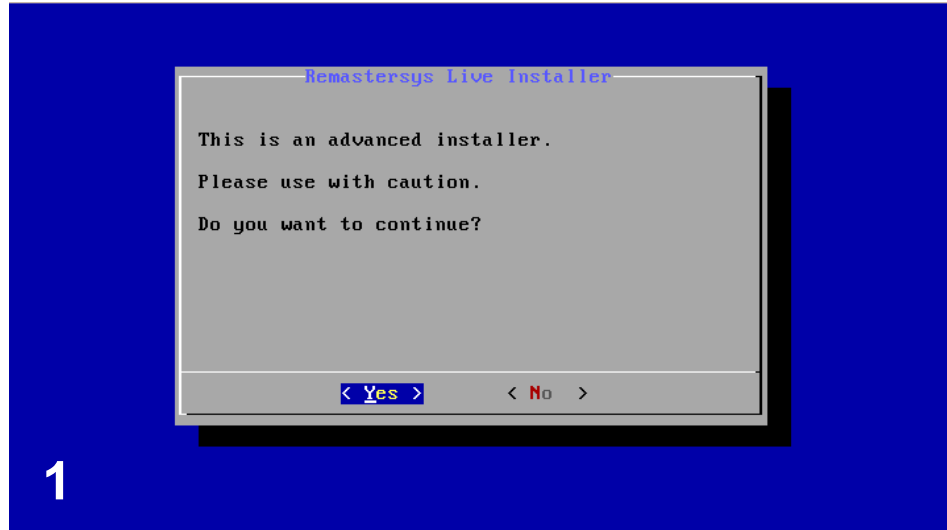
- Minimum: a modern PC with at least
 - Intel Dual Core processor (64 bits)
 - Minimum: 2 Gb of RAM (4 Gb recommended)
 - 20 Gb HDD space + disk space for the datasets
 - DVD-ROM reading device
- No special requirements for multimedia components
 - Video card, sound – not essential

■ Other requirements

- MUST be operational on 24/7 basis
 - High-quality hardware components
 - External UPS device is mandatory
 - Air-conditioning of the room may be also required (depending on the conditions)



- Download ISO image and manual
 - <http://www.agi.lt/sdi-iso>
- Burn DVD disk from ISO image
 - Use special software (Win/NIX)
- Read the Manual
 - At least Sections 2 and 3 (“Installation”, “Configuration”)
- Insert DVD disk and restart PC....



Start the setup process, assign disk space for the system



```

cfdisk (util-linux-ng 2.13.1.1)

Disk Drive: /dev/hda
Size: 10737418240 bytes, 10.7 GB
Heads: 16 Sectors per Track: 63 Cylinders: 20005

Name      Flags      Part Type  FS Type      [Label]      Size (MB)
-----
hda1     Boot      Primary   Linux        Solaris      8000.01
hda2     [ ]      Primary   Linux swap   Solaris      2737.38

[Bootable] [ Delete ] [ Help ] [Maximize] [ Print ]
[ Quit ] [ Type ] [ Units ] [ Write ]

Write partition table to disk (this might destroy data)_
  
```

4

```

Remastersys Live Installer

Please select a swap partition to use. If the
only option you see is to Quit the installer
then no swap partitions were found.

Exit  Quit the installer
hda2  2673216

< OK >  <Cancel>
  
```

5

```

Remastersys Live Installer

Please select a partition to install the root
system to. If the only option you see is to
Quit the installer then no partitions were
found.

Exit  Quit the installer
hda1  7812472

< OK >  <Cancel>
  
```

6

```

Remastersys Live Installer

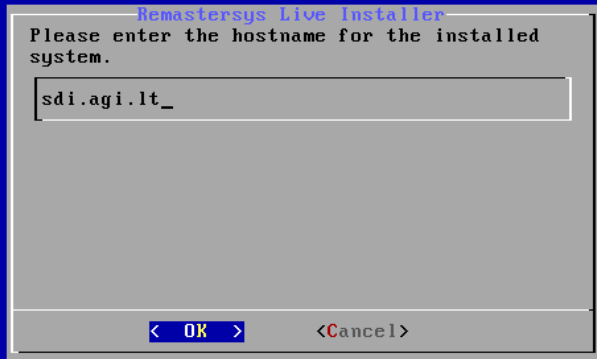
Please select a partition to install /home to.
If the only option you see is root then no
extra partitions were found.

root  put /home on the root partition

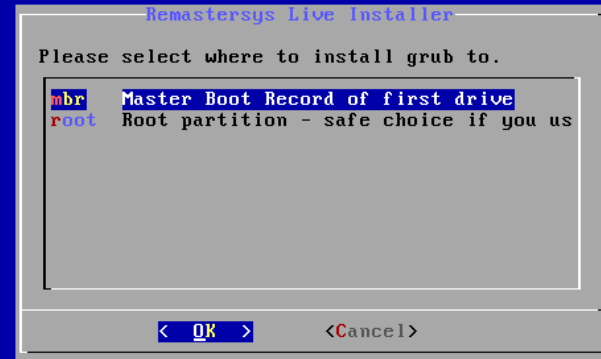
< OK >  <Cancel>
  
```

7

Create and install disk partitions



8



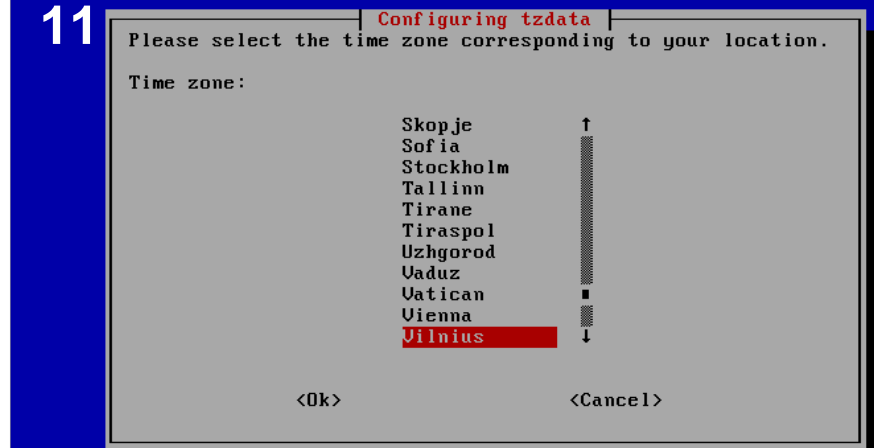
9

Package configuration



10

Package configuration



11

Select server host name, boot loader and time zone



```

Remastersys Live Installer
Please verify that this information is
correct.
Your backup mode system will be installed on
ext3 formatted hda1 partition and grub will be
installed to the master boot record.

Do you want to continue?

< Yes > < No >

```

12

```

Remastersys Live Installer

Installation is complete.

If everything went well you should have your
new system installed and ready.

Do you want to reboot now to try it out?

< Yes > < No >

```

13

```

Debian GNU/Linux 5.0 sdi.agi.lt tty1
sdi.agi.lt login sdi
Password:
Linux sdi.agi.lt 2.6.26-2-686 #1 SMP Wed Nov 4 20:45:37 UTC 2009 i686

The programs included with the Debian GNU/Linux system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*/copyright.

Debian GNU/Linux comes with ABSOLUTELY NO WARRANTY, to the extent
permitted by applicable law.
You have mail.
sdi@sdi:~$ su
Password:
sdi:/home/sdi# mc_

```

14

Left	File	Command	Options	Right		
<- /sdi				<- /home/sdi		
Name	Size	MTime		Name	Size	MTime
UP--DIR	UP--DIR			UP--DIR	UP--DIR	
/config	4096	Jan 6 17:10		/.mc	4096	Feb 3 17:34
~/degree	16	Feb 5 20:21		./bash_history	21	Feb 4 13:35
/degree-2.2	4096	Jan 5 20:48		./bash_logout	220	Aug 27 2009
~/geoserver	28	Jan 7 01:30		./bashrc	3116	Aug 27 2009
/geoserver-2.0	4096	Dec 16 12:40		./profile	675	Aug 27 2009
~/mapbender	18	Jan 7 01:30		*1_ssh.sh	1437	Jan 6 22:51
/mapbender-2.6	4096	Dec 12 18:22		*2_xml.sh	12832	Jan 7 00:37
~/openlayers	19	Jan 7 01:30		*3_sdi.sh	8057	Jan 6 18:50
/openlayers-2.8	4096	Dec 18 15:40		README.TXT	4412	Jan 6 23:03
UP--DIR				UP--DIR		

15

Finalize setup, reboot, login and start using the system



- Login as user 'sdi'
- Become 'root'
 - Run 'su' with root password
- Restore SSH authentication keys
 - Run 1_ssh.sh
- Update your profile in XML files
 - Edit values in 2_xml.sh and save
 - Run 2_xml.sh
- Activate SDI services
 - Run 3_sdi.sh
 - Read explanations (!!!)
 - Select activation options by entering corresponding numbers

```
-----  
WELCOME TO THE SDI SERVICES ACTIVATION SCRIPT! READ IT CAREFULLY...  
  
This is an essential and OBLIGATORY, yet completely harmless operation.  
This script helps you activate SDI services at any time without losing  
your data and settings. If you want to manually activate certain SDI  
services, please modify /var/lib/tomcat5.5/conf/server.xml file, but  
don't forget to make it's copy before running this script again.  
  
The SDI services activation process consists of 2 consecutive steps:  
1. Selection of your Web Catalogue Server operation mode - you will have  
to choose if you want to activate the soap2http-proxy service together  
with your Deegree 2.2 SDI applications. This application is NOT a part  
of Deegree 2.2 software, so most users can ignore it.  
However, soap2http-proxy is OBLIGATORY for FP7 Geoland2 Data Providers  
connecting their catalogs to http://www.Geoland2.eu portal.  
2. Selection of pre-defined active services on your SDI Server out of 4  
proposed setups (detailed explanations will follow), or switch all SDI  
services off and restore the initial system config.  
-----  
STEP 1: Do you want to activate the soap2http-proxy? [1-2]:  
1) YES  
2) NO  
#? █
```

```
-----  
SDI SERVER ACTIVATION OPTIONS (soap2http-proxy activated):  
[1] LITE version (GeoServer WMS, WFS and WCS - no CSW!);  
[2] PRO version (Deegree CSW, WMS, WFS, WCS, WPS and iGeoPortal);  
[3] COMBO version (GeoServer WMS, WFS and WCS + Deegree CSW);  
[4] CAT version (Deegree CSW only);  
[5] Switch OFF all SDI services and restore the original config.  
-----  
STEP 2: Select the SDI Server activation option [1-5]:  
1) LITE  
2) PRO  
3) COMBO  
4) CAT  
5) OFF  
#? █
```




■ SDI Server is an Open Source software

- Re-mastered Debian Linux version 5.x (Lenny)
 - On-line references on Debian are available on-line (Google)
 - On-line references of OS SDI software (Deegree, GeoServer, etc.) are available on-line

■ Next SDI Server update scheduled for mid-2010

- Waiting for release of new stable versions of SDI software
 - Deegree version 2.3
 - Geoserver version 2.1

■ SDI Server manual are constantly updated

- Updated versions of the Manual are loaded to the FTP server
 - Release date is indicated in the file name of PDF files

■ SDI Server ISO images are updated if necessary

- Updates are recorded in UPDATES.TXT file
 - NO changes in ISO file name, so read the TXT file

■ Consult AGI for undocumented issues

- SDI Server is maintained by the AGI Applied Research Center
 - Contact Gedas Vaitkus (gedas@agi.lt, tel.: +370-37-755226 OR +370-620-72870)