

12 Years of FUSS Free Upgrade For a Sustainable School

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AUTONOME
PROVINZ
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ALTO ADIGE



Linux Day 2017 | Bozen | October 28th 2017

It all started in 2004



FUSS

- Free Upgrade in South Tyrol's Schools

Intendenza scolastica italiana
(*project management*)

CTS "L. Einaudi"
Center for professional training
(*administration*)

Truelite Srl
(*technological partner*)



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Why FUSS?

- Migration of all didactic workstations to Free Software
- Upgrade of school networks
- Better use of public money

Why FUSS?

- Ethical choice
 - Shared values between Free Software and School
 - Direct participation of teachers and students
 - Knowledge sharing
 - Free access to information

Digital Sustainability

- Objectives

Use of Free Software +

Use of open standards +

Free didactic materials

= KNOWLEDGE SHARING

FUSS numbers (2005)

83 Schools

81 Servers

2.300 Desktops

Staff involved:

~1.800 teachers

~16.000 students

~10.000 families

Summer 2005

until June 30th, 2005

→ **proprietary software**

September 1st 2005



Project phases

November 2004

- Communication with school representatives and IT staff

Spring 2005

- Analysis and hardware/software data gathering

June 2005

- Installation parties for teachers

Summer 2005

- Migration in all schools

First year (2005-2006)

September - January

- Training for support team

February - June

- Training-on-the-job for support team

FUSS Team

- 7 teachers
- 2 IT technicians

FUSS Project Today (2017)

FUSS Group

- **Governance:** Italian School Department (4 persons)
- **Technical assistance:** ICT Department for maintenance of 4.000+ PCs, 61 servers and networks (10 persons)
- **First line:** 100 teachers
 - 50 technical contact persons
 - 50 didactic contact persons

Financial aspects

- **before 2005:** around **160.000 €/year**
(2.500 desktops)
(Windows & MS Office licenses)
- **after 2005:** on average **13.000 €/year**
(3.300 desktops)
(Free Software development and software maintenance)
- Investment on **people**

Financial aspects

Anno	Descrizione	Durata	Importo
2002	Microsoft School Agreement	annuale	€ 156.760,00
2003	Microsoft School Agreement	annuale	€ 165.156,38
2004	Microsoft School Agreement	annuale	€ 159.773,00
2005	Licenze Microsoft Windows XP	illimitata	€ 23.940,00

before ...

Anno	Importo
2009	€ 5.880,00
2010	€ 15.600,00
2011	€ 11.699,40
2012	€ 15.846,89
2013	€ 5.368,33
2014	€ 15.168,24
2015	€ 17.100,41
2017	€ 35.136,00
	€ 121.799,27

... and after

Transparency



Contattaci se desideri avere ulteriori informazioni e notizie sul progetto

Se desideri condividere questioni/problematiche/dubbi e altro riguardo la gestione di un laboratorio informatico utilizzando le soluzioni offerte dal progetto Fuss puoi iscriverti alla [mailing list](#).



Servizi per insegnanti e scuole

Il Dipartimento di Istruzione e Formazione in lingua italiana offre alle scuole e ai propri docenti alcuni servizi per aumentare le loro possibilità di insegnamento, creare nuovi percorsi didattici e ottimizzare il flusso informativo tra dirigenza, segreteria e docenti.

Transparency

← → ↻ Secure | <https://work.fuss.bz.it/projects>

Home Progetti Aiuto

Fuss at work

Progetti

[Mostra tutte le segnalazioni](#) | [Attività generale](#)

Area per componenti FUSS

Area per scambio informazioni riguardo personalizzazioni effettuate sui server e client della didattica, richieste introduzione nuove funzionalità, richieste sistemazione errori rilevati

Care: materiale di supporto per chi utilizza la distribuzione FUSS

Nelle pagine di questo wiki è possibile trovare materiale e siti di supporto e aiuto per l'utilizzo a casa della distribuzione GNU/Linux FUSS presente nelle scuole

Distribuzione FUSS

Pacchetti custom della distribuzione FUSS

- Fuss Artwork
- Fuss Client
- Fuss Client Artwork
- Fuss Desktop Control
- FUSS Full Distribution Standalone
Project regarding the development of the FUSS Full Distribution, standalone.
Please add here bug reports, requests, wish-lists, etc.
The latest 32bit and 64bit ISOs are available here: <http://iso2.fuss.bz.it/fuss8/client/beta/>
- Fuss Menu
- Fuss Software
Metapackages per software didattico utilizzato per FUSS
- Fuss Wallpapers
- Server
Materiale relativo a pacchetti e servizi server
 - Coova-chilli
 - Fuss Backup
 - Fuss Server
- Strumenti Generazione ISO
Strumenti per automatizzare la generazione delle immagini ISO FUSS Server e Client

Nuovi Sviluppi

Progetto contenente proposte di nuovi sviluppi

Octofuss

Suite di amministrazione "Octofuss"

- [octofuss-client](#)
Agente presente lato FUSS Client.
- [octofuss-gtk](#)
UI per octofussd (dismissed)
- [Octofussctl](#)
Tool command line per Octofuss.
- [Octofussd](#)
Demone lato FUSS Server.
- [Octonet](#)
Interfaccia web per Octofuss.

DEMO con mockup backend disponibile all'indirizzo: <https://octonet.fuss.bz.it/> (credenziali root / root)
- [PyOctofuss](#)
Libreria Python comune a octofuss server e client. Implementa il protocollo di comunicazione e diverse utility.

Octomon

Octomon - piattaforma di monitoring e asset management

PyHearing

Web application per gestione udienze docenti/genitori.
Repository git: <https://work.fuss.bz.it/git/pyhearing>

Standard installazioni FUSS

Progetto per la discussione degli standard da adottare nelle installazioni FUSS nelle scuole della Provincia di Bolzano (struttura cartelle nella home, hostnames, domini delle scuole, ...)

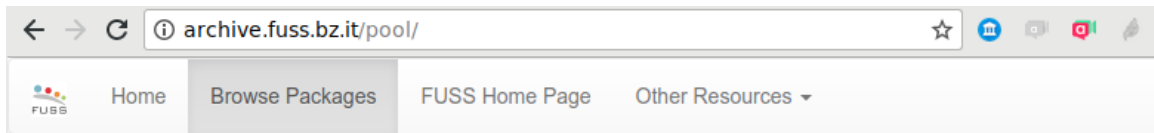
WebSftp

A django-based web file manager based on SFTP.




Esporta su Atom

Powered by [Redmine](#) © 2006-2016 Jean-Philippe Lang

Transparency




FUSS Packages

Name	Last modified
 Parent Directory	
 contrib/	
 main/	

Apache/2.4.25 (Debian) Server at archive.fuss.bz.it Port 80



FUSS ISO Images

Name	Last modified	Size	Description
 Parent Directory		-	
 client/	2017-08-22 12:50	-	
 server/	2017-08-22 12:43	-	

Transparency by Law

FUSS strictly complies with **Article 69** of the **Italian Code for the Digital Administration (CAD)**

All the code developed for FUSS is free, public, and transparent and it can be consulted here:

<https://work.fuss.bz.it>

<https://iso.fuss.bz.it>

Transparency by Law



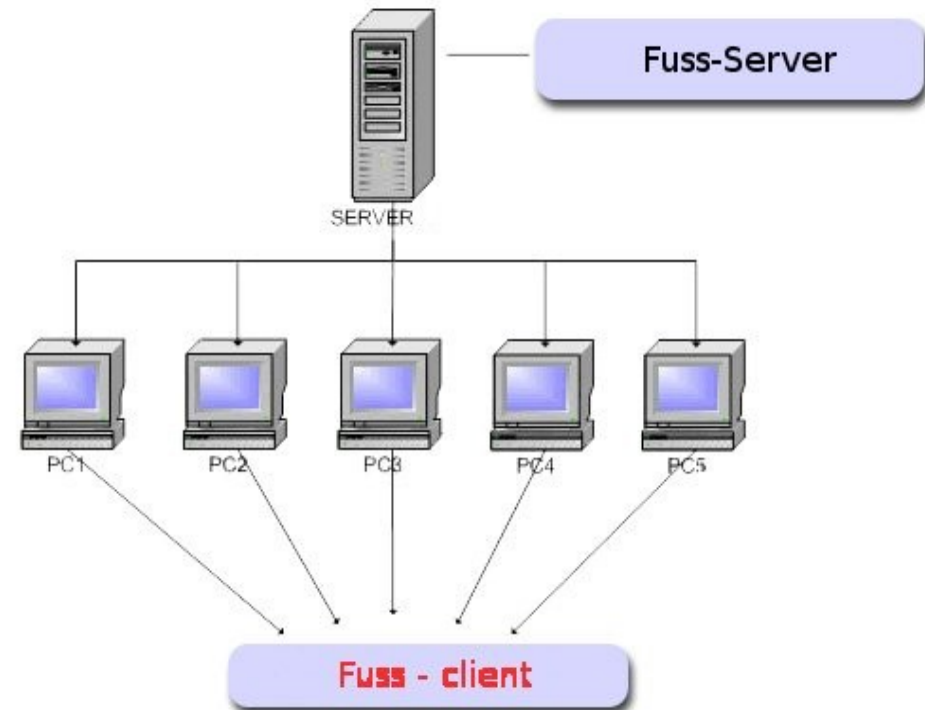
Public Money

Public Code

fsfe.org

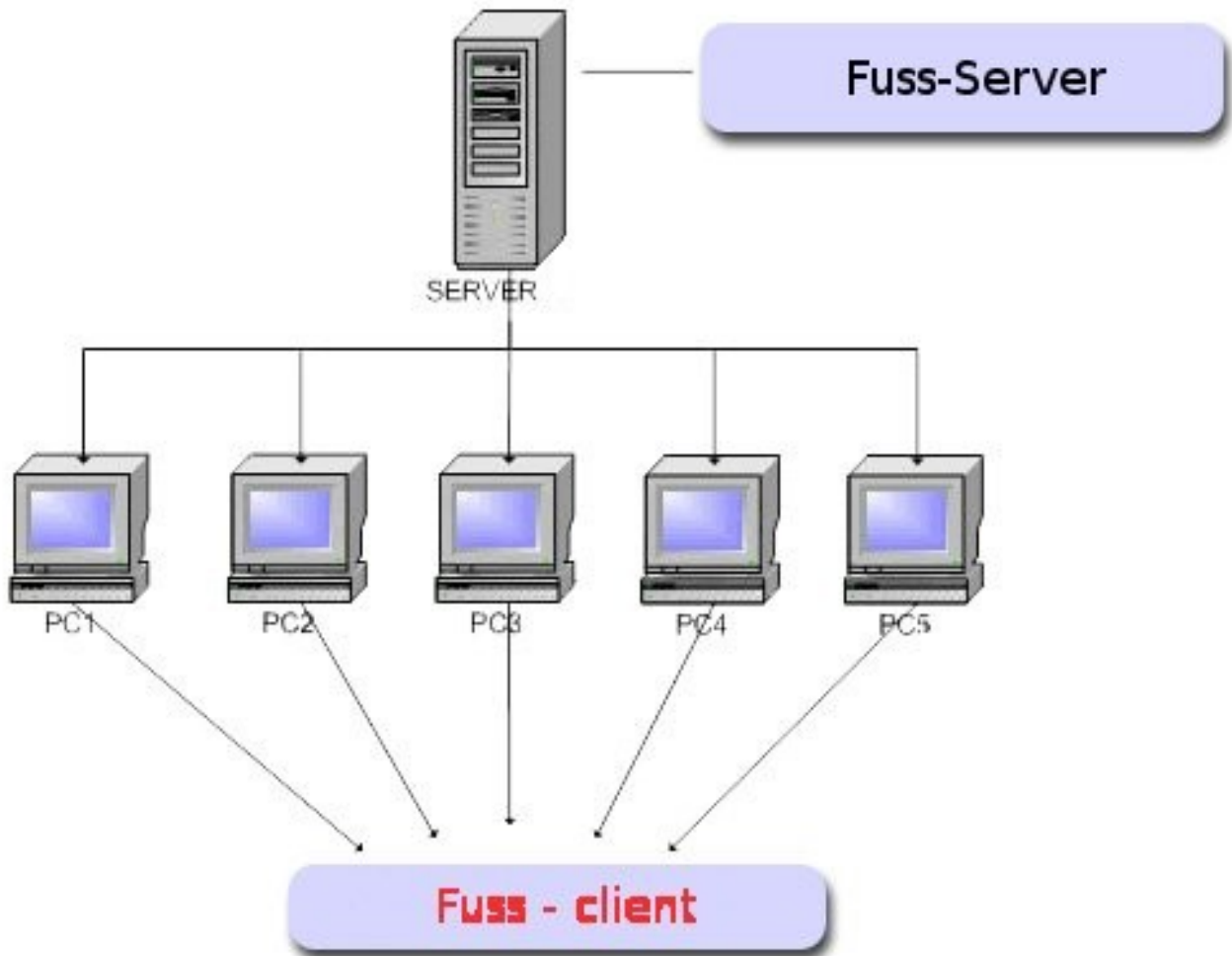
FUSS Server

- DHCP server
- DNS server
- Web server
- Firewall
- Autoconfiguration of FUSS clients
- LDAP for network users and groups
- Distribution of policies regarding permissions towards all clients
- HTTP Proxy/Cache server
- VOIP as PBX (private branch exchange) with possibility to interconnect more schools
- Content filter
- Windows domain controller
- File and printer sharing
- Backup



FUSS Maintenance Tools

- **Fuss-client**
- **OctoNet**
- **OctoMon**
- **Fuss-menu**



OctoNet

(webapp that replaces OctoFuss)

OctoNet

Connected: localhost

Resources ▾



root ▾

Welcome!

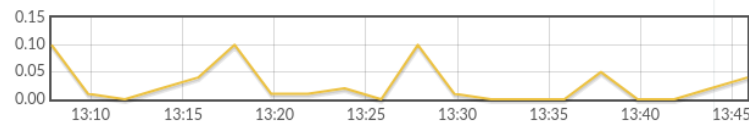
Server information

Organization configured in octofussd	My organization
Current kernel version	4.9.0-3-amd64
Total ram size in megabytes	7987

Filesystems



Load



Fuss News

Octofuss - Nuova release Octonet 0.2.23

La nuova release include un cambiamento nell'assegnazione dei permessi agli utenti: quando questo vengono creati, hanno assegnati come default tutti i permessi tranne l'amministrazione delle stampanti e l'accesso tramite captive portal.

Valido per creazione di singolo utente, in massa oppure per importazione tramite CSV.

By Christopher R. Gabriel on 2017-07-11T12:11:05Z

Octofuss - Nuova release Octonet 0.2.19

La release include un nuovo strumento per la conversione dei file LDIF generati da backup LDAP per la conversione in file CSV pronto all'importazione.

Utile in caso di reinstallazione di un Server FUSS migrando le definizioni degli utenti e relativi gruppi.

By Christopher R. Gabriel on 2017-06-30T20:41:55Z

Users

- Users & Groups
- User authorization
- Disk Quotas

Hosts

- DHCP leases
- Managed Hosts
- Queue of host actions
- Upgrade Manager

Network

- Switchboard
- Content filter
- Firewall
- Network Printers

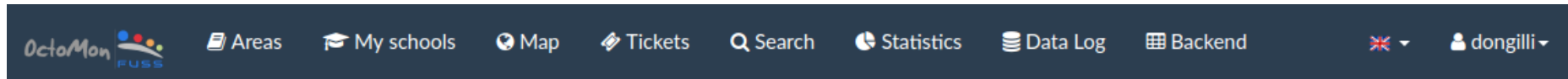
- Script manager

Shares

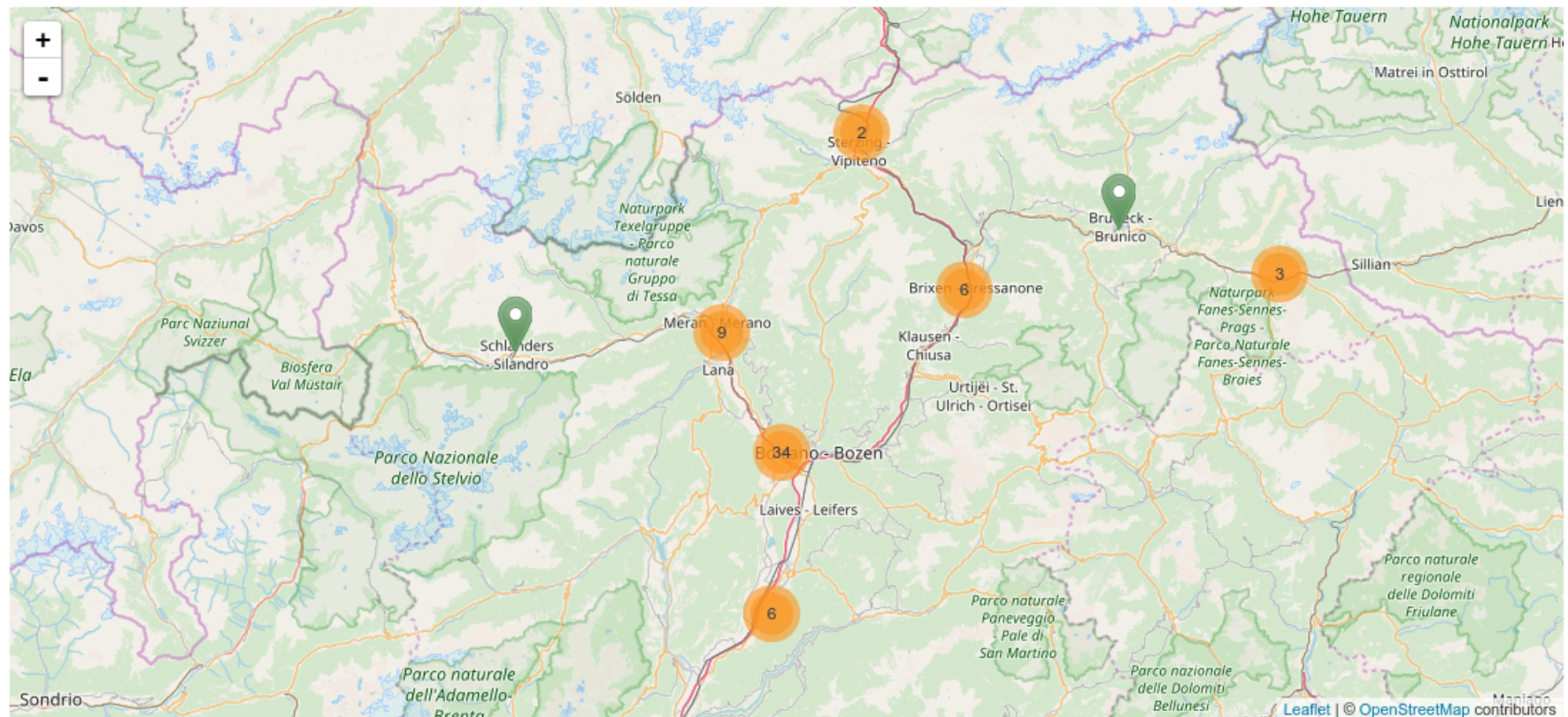
- Samba Service

OctoMon

(server and client monitoring tool)



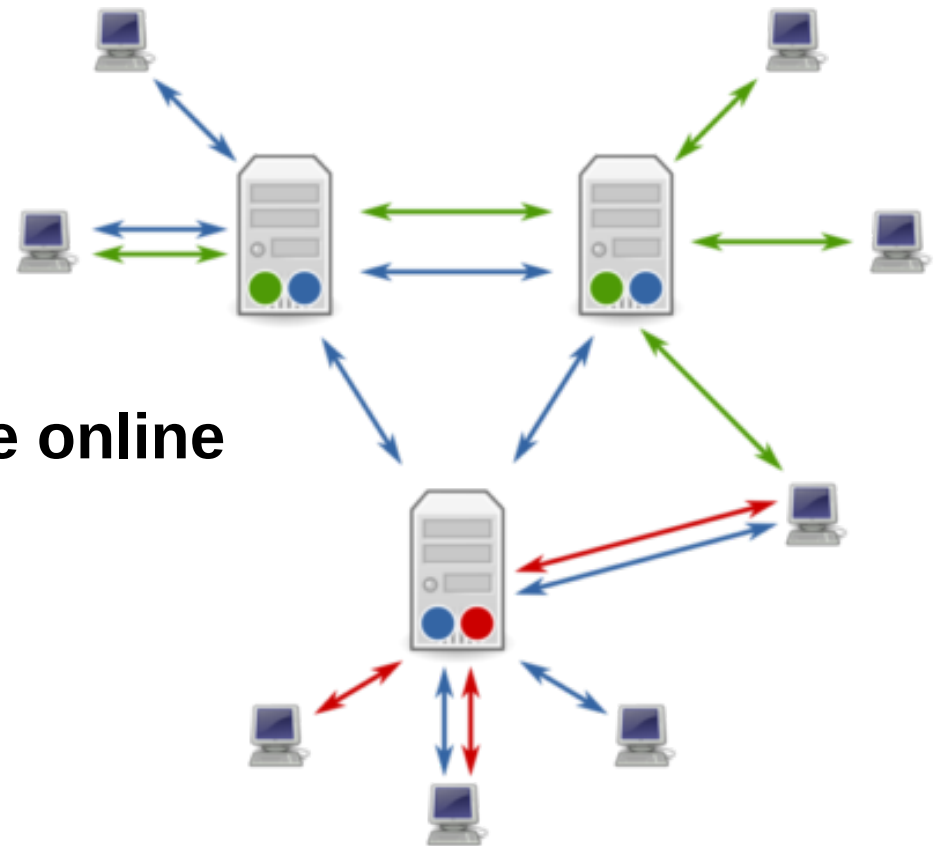
Map



Services for teachers and students

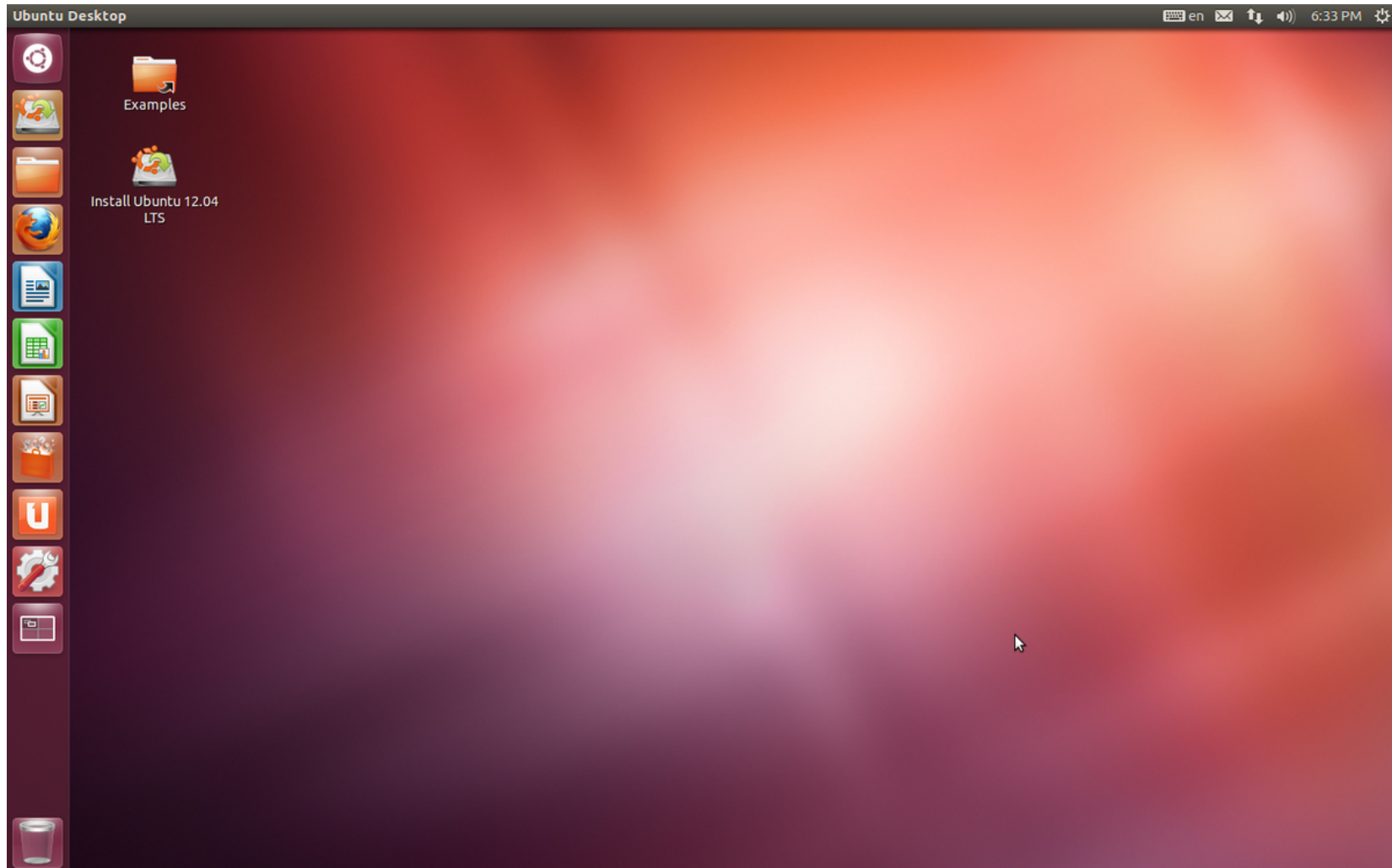
Servers of the Italian School Department

- Tools to support teachers and students
 - e-learning
 - DMS
 - soon LibreOffice online
 - e-Survey



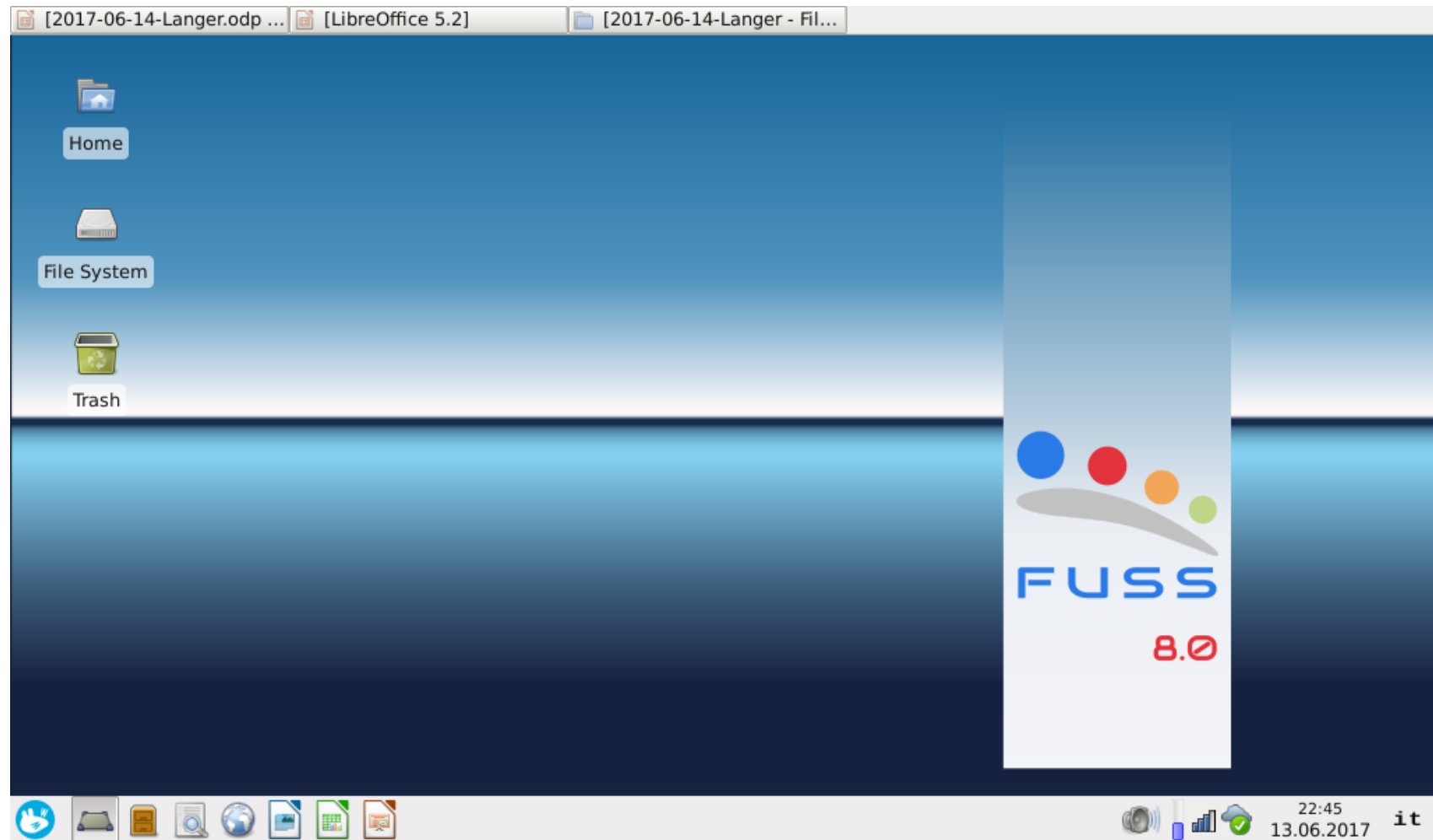
FUSS 6 (2013)

(Ubuntu 12.04)



FUSS 8 (2017)

(Debian 8 + Xfce)



2017 – 2018: FUSS 8

New distribution based on **Debian 8**:

- client e server based on Debian “Jessie”
- virtualization based on Proxmox VE
- network installation of clients (via PXE)
- LDAP + Kerberos
- update of FUSS captive portal
- backup on NAS
- FUSS “standalone” image

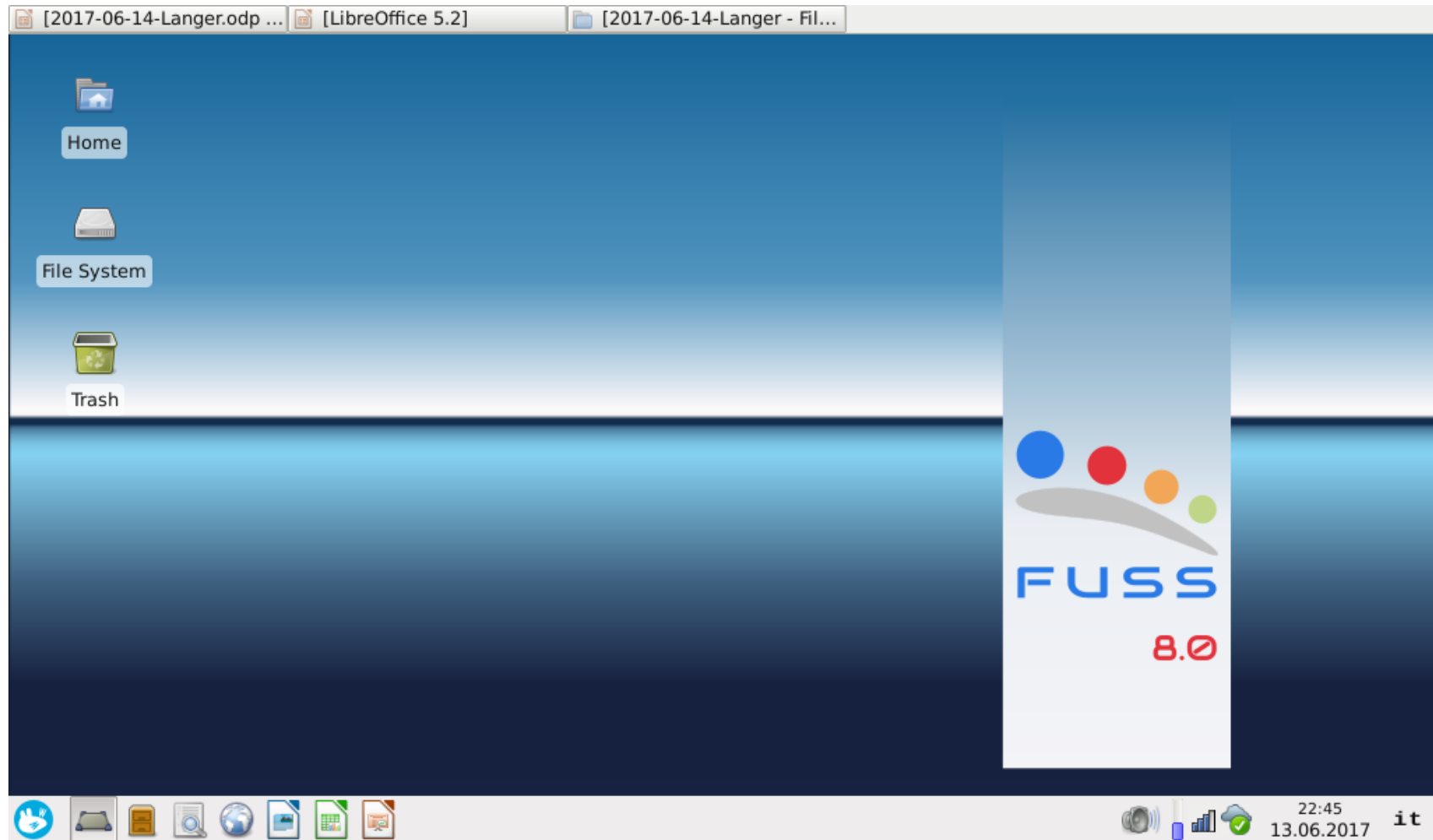


2017 – 2018: FUSS 8




FUSS 8 (2017)

(Debian 8 + Xfce)



LibreOffice

-  LibreOffice[®] is used
 - in schools
 - didactics
 - administration
 - In the Italian School Department
 - Installed on each computer of the Province of Bolzano

Open File Formats

www.provincia.bz.it/informatica-digitalizzazione/digitalizzazione/amministrazione-digitale/formati-di-f 133% formati bolzano

AMBITO	DESCRIZIONE	Formato ammesso (*)
Documenti non modificabili	PDF (Portable Document Format)	PDF
Documenti di testo	Plain Text File	TXT
	<u>OpenDocument Text</u>	<u>ODT</u>
	Microsoft Word 97/2000/XP	DOC
	Microsoft Office Open XML (Strict)	DOCX
	<u>Open Document Spreadsheet</u>	<u>ODS</u>
Documenti di calcolo (tabelle)	Microsoft Excel 97/2000/XP	XLS
	Microsoft Office Open XML (Strict)	XLSX
	Extended Markup Language	XML
	Comma separated values	CSV
	Graphics Interchange Format	GIF
Immagini grafiche	Immagini JPG	JPG

Open & Linux Desk

„Open and Linux“ Schalter

jeden 1. und 3. Mittwoch im Monat
von 17.30h bis 19.30h
„Guido Fronza“-Saal - Dalmatienstraße 30/B - 3. Stock



zur Karte:



Eine Gruppe von Freiwilligen unterstützt dich

- beim Installieren und Konfigurieren des Betriebssystems GNU/Linux
- beim Installieren und Konfigurieren von Freier Software
- GNU/Linux und jene Software zu verwenden, die bereits an den italienischsprachigen Schulen des Landes verwendet wird (Projekt FUSS: www.fuss.bz.it)
- beim Konfigurieren des Smart Card-Lesegerätes für die eGovernment-Dienste

Melde dich an

- online unter: fuss.bz.it/open-linux-desk
- im Bürgerzentrum Europa-Neustift, Dalmatienstraße 30/C



Città di Bolzano
Stadt Bozen
Quartiere Europa-Novacella
Stadtviertel Europa-Neustift



Digital Sustainability
Südtirol-Alto Adige



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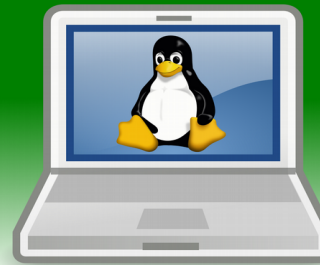


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Sportello Open and Linux

1° e 3° mercoledì di ogni mese 17:30-19:30
Sala "Guido Fronza" - Via Dalmazia 30/B - 3° piano



come arrivarci



Un gruppo di volontari sarà a tua disposizione per

- installare e configurare il sistema operativo GNU/Linux
- installare e configurare software libero
- guidarti all'uso di GNU/Linux e di software libero come avviene nelle scuole grazie al progetto FUSS (www.fuss.bz.it)
- configurare il lettore di smartcard per accedere ai servizi di eGovernment

Iscriviti

- online al link fuss.bz.it/open-linux-desk
- presso il Centro Civico Europa-Novacella, via Dalmazia 30/C



Città di Bolzano
Stadt Bozen
Quartiere Europa-Novacella
Stadtviertel Europa-Neustift



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... almost forgot:

**What about
security?**

Security

- The **National Institute of Standards and Technology (NIST)** in the **United States** specifically recommends **against** the practice of **Security by Obscurity**: "System security should not depend on the secrecy of the implementation or its components."
- **Eric Raymond**, author of the book *"The Cathedral and the Bazaar"* formulated the **Linus's Law**: "Given enough eyeballs, all bugs are shallow."

Proprietary Software



Free Software



Further information:

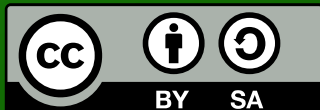
info@fuss.bz.it
<https://fuss.bz.it>



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