
“Il free software ha conquistato il mondo”: *è vero?*

Riccardo Lancellotti

Ieri e oggi: una riflessione

1991

From: torvalds@klaava.Helsinki.FI (Linus Benedict Torvalds)

Newsgroups: [comp.os.minix](#)

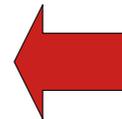
Subject: What would you like to see most in minix?

Summary: small poll for my new operating system

Date: 25 Aug 91 20:57:08 GMT

Organization: [University of Helsinki](#)

Hello everybody out there using minix -
I'm doing a (free) operating system (**just a hobby**, won't be big and professional like gnu) for 386(486) AT clones. This has been brewing since april, and is starting to get ready. I'd like any feedback on things people like/dislike in minix, as my OS resembles it somewhat [...]



2019



EDITION: EU

SCANDINAVIA AFRICA UK ITALY SPAIN MORE NEWSLETTERS ALL WRITERS

MUST READ: IT strategy: The CIO's guide to getting stuff done

Microsoft developer reveals Linux is now more used on Azure than Windows Server

Linux rules all the clouds now, including Microsoft's own Azure.

By Steven J. Vaughan-Nichols for Linux and Open Source | July 1, 2019 -- 00:19 GMT (01:19 BST) | Topic: Cloud



Microsoft...

- Microsoft è un caso particolare
- Software proprietario
 - Windows
 - Office
- Formati dati chiusi
 - .doc
- Posizioni critiche sul free software

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LINUX IS NOT IN THE PUBLIC DOMAIN.
LINUX IS A CANCER THAT ATTACHES ITSELF
IN AN INTELLECTUAL PROPERTY SENSE TO
EVERYTHING IT TOUCHES. THAT'S THE WAY
THAT THE LICENSE WORKS.

- STEVE BALLMER -

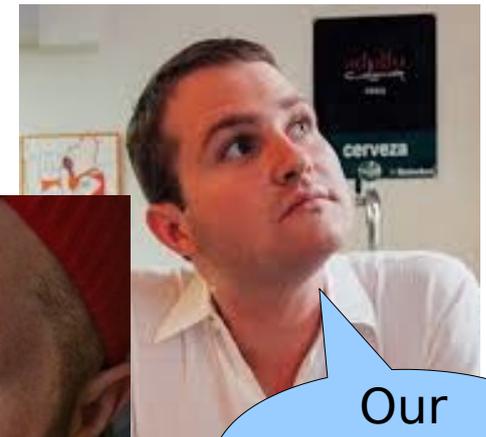
LIBQUOTES.COM

Il FOSS è omogeneo?

- F(L)OSS: Free (Libre) and Open Source Software
- Una comunità eterogenea:
 - **Neal Stephenson:**
“In the beginning was the command line”
- Molte comunità in una
 - Free SW / Open source
 - Sensibilità diverse
 - Valori diversi
- Una dicotomia:
 - Dress code o Geek code?
 - Filosofia o Economia?
 - **Conquistare il mondo o farsi conquistare?**



Will program
For food



Our
corporate
values...

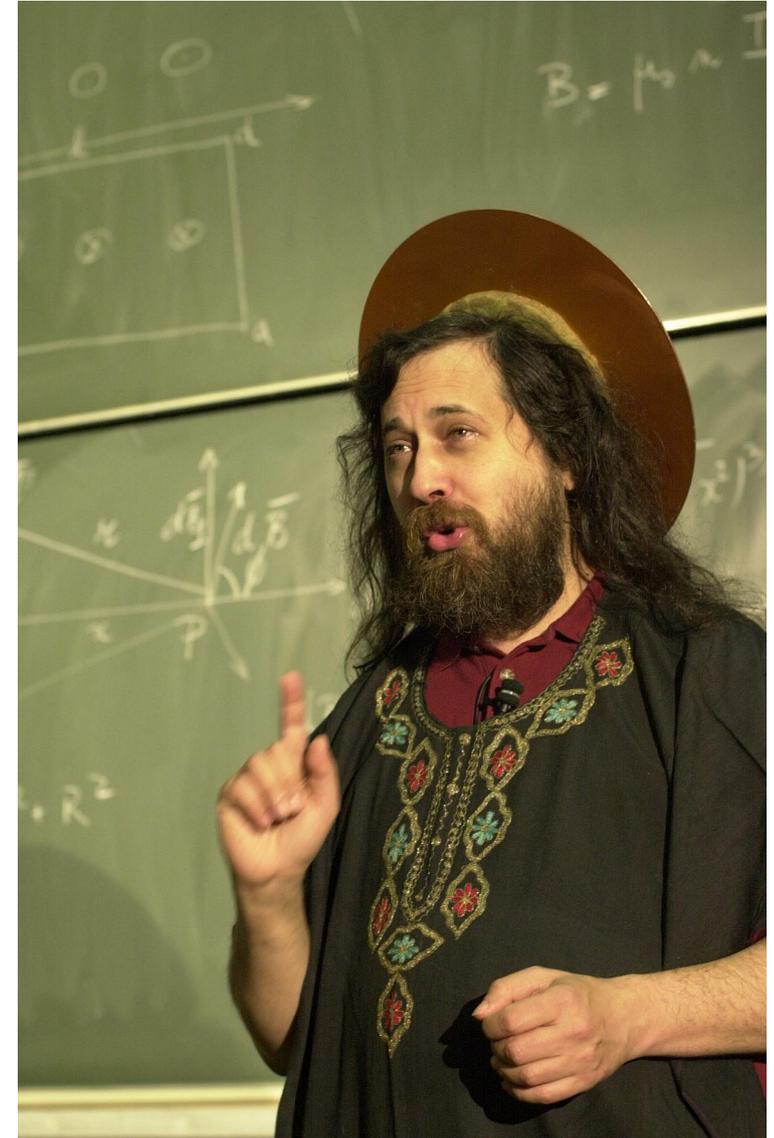
Duri e puri

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- Attenzione alla dimensione filosofica
 - “Free as in freedom”
- Esempio:
Richard Stallman 
 - Definizione delle 4 libertà (run, study, copy, modify)
 - GPL
 - Free Software Foundation
- Posizioni intransigenti e controverse (es. cloud)



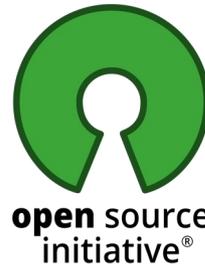
Corporate-aware

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- Attenzione alla dimensione economica
 - Necessità di relazionarsi con aziende
- Esempio:
Bruce Parens
 - Movimento Open Source (con Eric Raymond)
 - Si mette anche la cravatta!
- → Che legame c'è tra FOSS e aziende?



Linux kernel

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- Nasce da un progetto free
- Linux Foundation



- Contributi importanti da aziende

- Scheduler
- Memory Management
- Chipset support
- Mobile platforms
- Networking



Red Hat



Top companies contributing to the Linux kernel, 4.8–4.13

Company	Changes	%
Intel	10,833	13.1%
none	6,819	8.2%
Red Hat	5,965	7.2%
Linaro	4,636	5.6%
unknown	3,408	4.1%
IBM	3,359	4.1%
consultants	2,743	3.3%
Samsung	2,633	3.2%
SUSE	2,481	3.0%
Google	2,477	3.0%
AMD	2,215	2.7%
Renesas Electronics	1,680	2.0%
Mellanox	1,649	2.0%
Oracle	1,402	1.7%
Huawei Technologies	1,275	1.5%
Broadcom	1,267	1.5%
ARM	1,256	1.5%
Texas Instruments	1,136	1.4%
Free Electrons	969	1.2%
NXP Semiconductors	839	1.0%
Canonical	805	1.0%
Facebook	771	0.9%
Imagination Technologies	669	0.8%
Cavium	664	0.8%
Code Aurora Forum	648	0.8%
Outreachy	633	0.8%
BayLibre	615	0.7%
NVIDIA	579	0.7%
linutronix	565	0.7%
Rockchip	507	0.6%

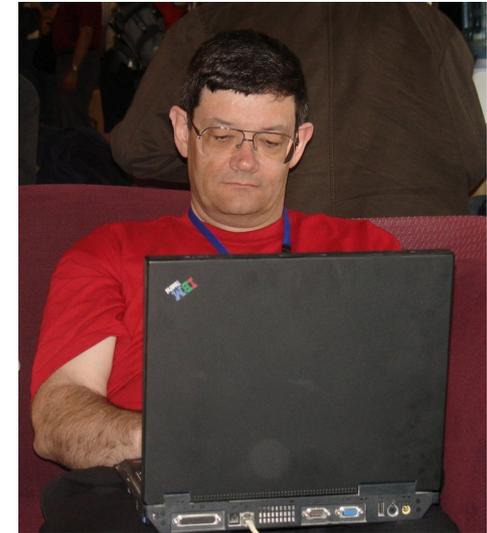
Linux kernel

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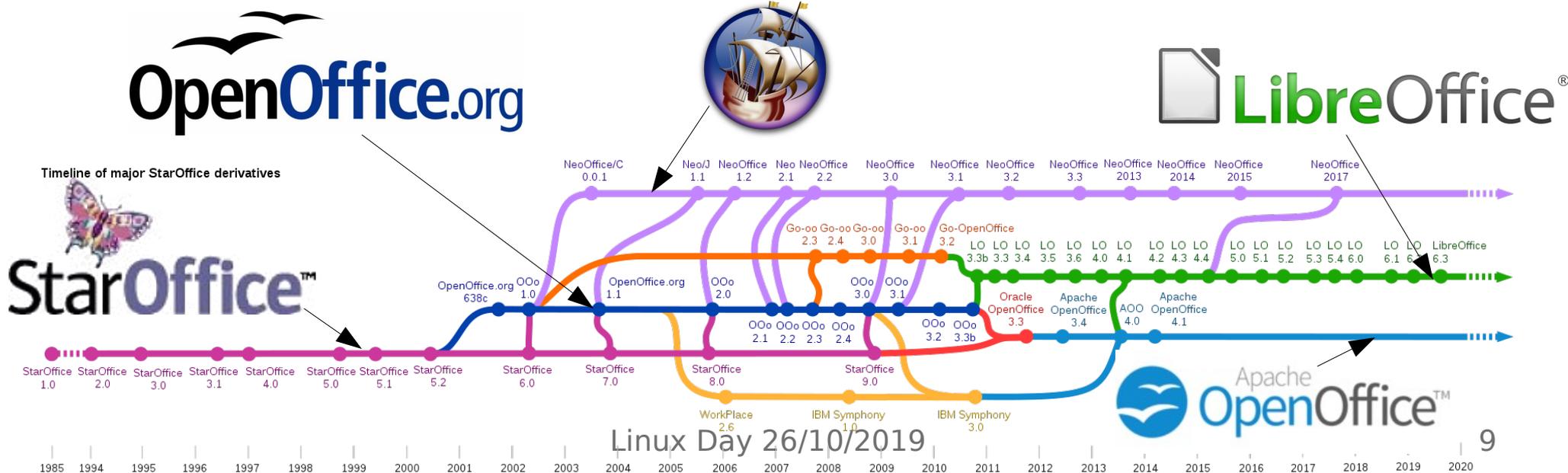
- Alcune figure interessanti:
- Andrew Morton (Google)
- Theodore T'So (Google)
- Robert Love (Novell, Red Hat, Google)
- Andrea Arcangeli (Red Hat)
- Alan Cox (Red Hat)



LibreOffice

- Progetto con storia molto complessa:
- StarOffice (StarDivision 1985, M. Börries)
- OpenOffice.org (Sun 1999, Oracle 2010)
- AOO (Apache Foundation)
- NeoOffice (2003 Planamesa Software)
- LibreOffice (2010, The Document Foundation)

STAR-DIVISION

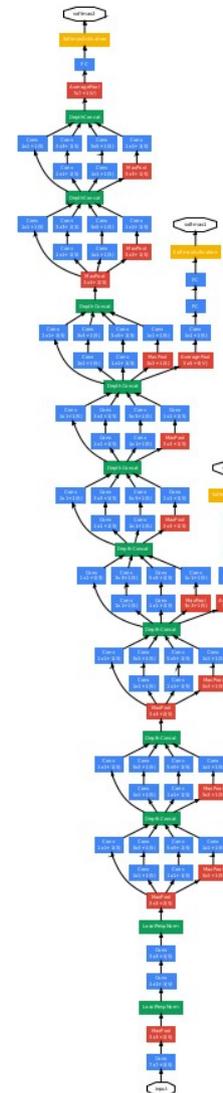


La complessità del SW

- **Dimensione** del software
 - Kernel linux: >62K files, >25 M LoC
 - LibreOffice: >108K files, >20 M LoC
- Non banale gestire questa complessità senza strutture
 - Necessaria attenzione all'economia
- Il software **non è solo codice**
 - Presenza anche di altri file molto importanti
 - Termine “Open Source” fuorviante
- Il software non può essere ridotto al solo codice sorgente!
 - Retaggio di un mondo basato su **linguaggi imperativi**
 - Oggi il mondo è molto più **data-centric**

La complessità del SW

```
/*  
 * schedule() is the main scheduler function.  
 */  
asmlinkage void __sched schedule(void)  
{  
    struct task_struct *prev, *next;  
    unsigned long *switch_count;  
    struct rq *rq;  
    int cpu;  
  
    need_resched:  
    preempt_disable();  
    cpu = smp_processor_id();  
    rq = cpu_rq(cpu);  
    rcu_note_context_switch(cpu);  
    prev = rq->curr;  
  
    schedule_debug(prev);  
  
    if (sched_feat(HRTICK))  
        hrtick_clear(rq);  
  
    raw_spin_lock_irq(&rq->lock);  
  
    switch_count = &prev->nivcsw;  
    if (prev->state && !(preempt_count() & PREEMPT_ACTIVE)) {  
        if (unlikely(signal_pending_state(prev->state, prev))) {  
            prev->state = TASK_RUNNING;  
        } else {  
            /*  
             * If a worker is going to sleep, notify and  
             * ask workqueue whether it wants to wake up a  
             * task to maintain concurrency. If so, wake  
             * up the task.  
             */  
            if (prev->flags & PF_WQ_WORKER) {  
                struct task_struct *to_wakeup;  
  
                to_wakeup = wq_worker_sleeping(prev, cpu);  
                if (to_wakeup)  
                    try_to_wake_up_local(to_wakeup);  
            }  
            deactivate_task(rq, prev, DEQUEUE_SLEEP);  
        }  
    }  
}
```



Qualche pensiero conclusivo

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- FOSS: forte evoluzione dalla nascita ad oggi
- FOSS non è un luogo ma un **viaggio**
- Simile al pellegrinaggio medievale
 - Incontro di **culture** e **valori** diversi
 - **Cambiamento** ed **evoluzione**
- Dove ci porterà questo viaggio nei prossimi anni?



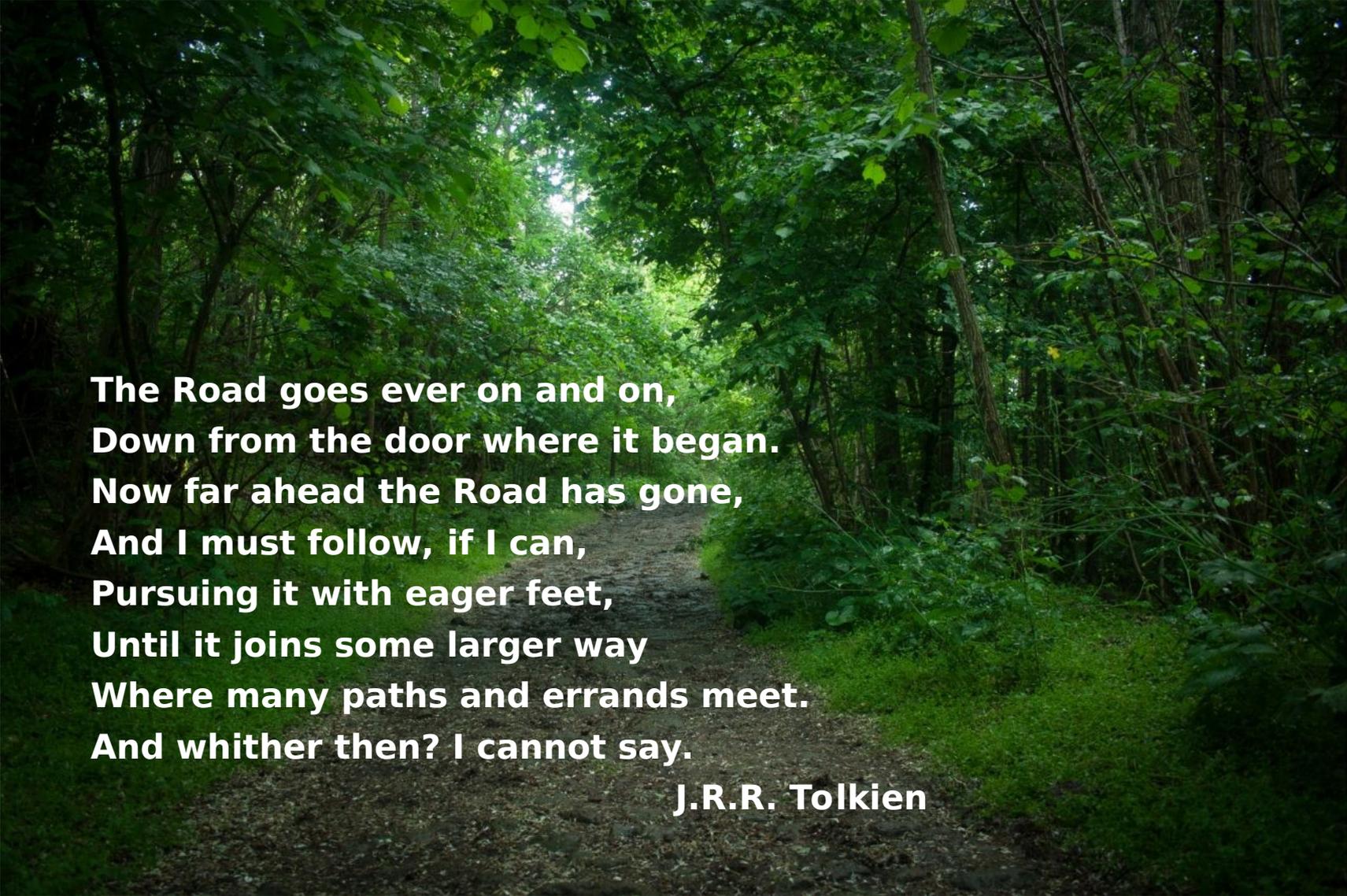
Qualche pensiero conclusivo

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**The Road goes ever on and on,
Down from the door where it began.
Now far ahead the Road has gone,
And I must follow, if I can,
Pursuing it with eager feet,
Until it joins some larger way
Where many paths and errands meet.
And whither then? I cannot say.**

J.R.R. Tolkien

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