

No One Buys A Computer

By

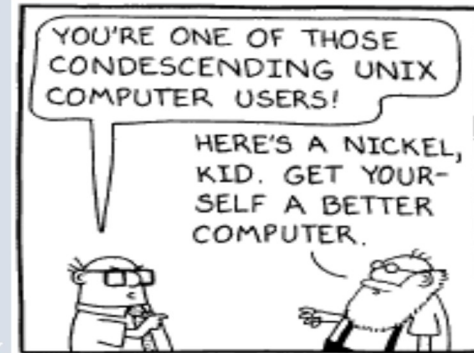
Jon “maddog” Hall

Board Chair: Linux Professional Institute

President: Linux[®] International[®]

Who Is maddog?

- *Half* Electrical Engineer, *Half* Business, *Half* Computer Science
- “Open Source” since **1969**
 - Mainframes 5 years
 - Unix since 1980
 - Linux since 1994
 - Latin America since 1994
- Companies (mostly large): Aetna Life and Casualty, Bell Labs, Digital Equipment Corporation, SGI, IBM, Linaro, Caninos Loucos
- Programmer, Systems Administrator, **Systems Engineer**, Product Manager, Technical Marketing Manager, University Educator, Author, **Businessperson**, Consultant
- Taught OS design and compiler design and database design among other courses
- *Extremely* large systems to *extremely* small ones
- Vendor *and* a customer
- **Pragmatic**



Before We Begin....

Happy Birthday Alan Turing!

In The Beginning

- No such thing as “Computer Science”
 - No Networking
 - No “Security”
 - No “Graphics” (OK, ASCII ART)
 - No “Systems Administrators”
- Only Computer Black Magic.....

No “Professional Programmers”

- You wrote programs to solve your own problems
 - Mathematicians
 - Physicists
 - Engineers
- Most systems had no operating systems

People Never Bought Computers

- Too expensive
 - Many companies leased computers
- No computers in homes or high schools
 - Computers only seen on TV or in university
- Software “owned” by customer
 - No copyright or patent protection for software
 - Software protected through contract law

Minicomputers/PCs and RPIs

- Hardware costs dropped
 - Margins reduced but volume went up
 - PC specialty stores grew then dropped
 - Just like Blockbusters
 - Hardware became an expense, not an asset
- Software became closed and non-owned
 - Other people decided what you needed

Large Companies Sold Systems

- Hardware, Software and Support
- Channels developed
- OEMs/Distributors/Retailers

Large Companies/Large Contracts

- “Stacks”
 - Oracle
 - SAP
 - PeopleSoft
- You have all been there

In 2000 IBM

- Invested 1 Billion dollars
- Made 2 Billion dollars

In 2005 IBM...

- Sold Lenovo Desktop and Laptop business
- Bought Price-Waterhouse Cooper
- Sold Lenovo Intel server business

IBM and Linux - 2014

- Another 1 Billion dollars invested
- Later bought Red Hat

IBM Never Talks....



So What Do They Buy?



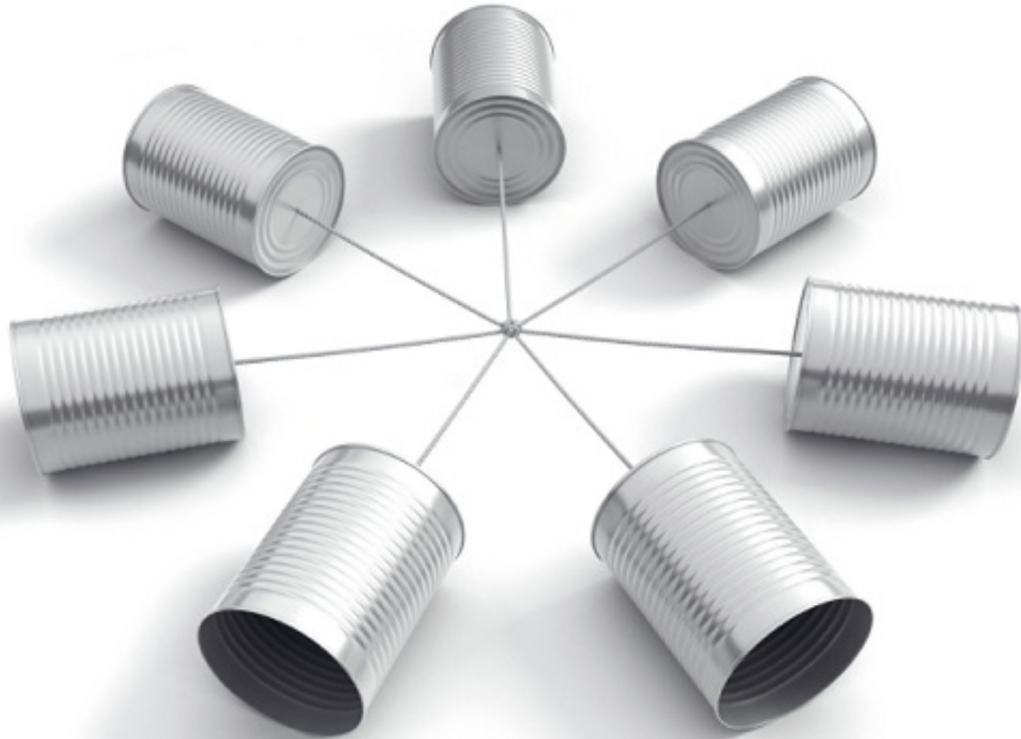
So What Do They Buy?

Solutions to Problems

Play A Game?



A Multi-Player Networked Game?



The Game Has Changed

- Computers Do Not Cost Millions Of Dollars
 - SBCs
 - Web Based Development
- Software can be Collaborative
- Marketing is Social
- Financing is more Crowded
 - Having Prototype is Key

Single Owner/Cooperatives

- Single Owner Business
- Employee Owned Cooperatives

The employees are the owners

Problem – POS/ERP System

- Point Of Sale
- Enterprise Resource Planning
 - Customer Relationship Management
 - Inventory
 - Accounting
 - Human Resources
 - Manufacturing Control
 - Etc.

POS/ERP System – Closed Source

- Closed Source
 - NEC
 - Not Extendable
 - Expensive
 - Oracle
 - Not Extendable
 - Expensive
 - Expensive
 - Expensive (5,000 for software license...no hardware)

ODOO

- Open Source Backplane
- Open Source Modules
- Gratis Modules
- Closed Source Modules
- Community Association
- Support Companies – 1568 worldwide
 - 81 in USA
 - 13 in Brazil

Hardware And Software

- Software (Source code available)
 - Windows
 - GNU/Linux
 - Ubuntu/Debian (.deb)
 - Red Hat (.rpm)
- Hardware
 - INTEL/AMD
 - ARM 64 Bit

Building a POS System ~ 700 USD

- Single Board Computer
- USB Scanner
- USB Printer
 - Cash Drawer runs off Printer
- USB Scale
- VESA LCD Panel (touchscreen)
- USB Keyboard
- USB Mouse



Building An ODOO ERP System

- Labrador/RPi with VESA mount case – 160 USD
- 2 TB 2.5" SATA HDD/SSD – 70 USD
- Keyboard/Mouse – 14.99 USD
- USB/SATA cable – 8 USD
- Power Supply – 10 USD
- VESA Monitor ~ 186.00 USD

Total POS/ERP System

- One POS system for each sales station
- One ERP system for each store

ODOO Live! - Ananias Filho of Kmee



Books On ODOO

- Working with Odoo: Learn how to use Odoo, a resourceful, open source business application platform designed to transform and modernize your business – by Greg Moss, Packt Publishing
- Learn Odoo: A beginner's guide to designing, configuring, and customizing business applications with Odoo by Greg Moss, Packt Publishing
- [Odoo.com](https://www.odoo.com)

FreedomBox

- A Free Software server for your home* to keep the most private of your data (no binary blobs)
- Easy to set up and maintain
- Made from an SBC and 2.5in HHD/SSD
- Build on top of (and included in) Debian 10
- Founded by Eben Moglen

*Home could be a small community or business, or just your own home

FreedomBox Functionality

- Bepasty (File & Snippet Sharing)
- Calibre (e-Library)
- Coturn (VoIP Helper)
- Deluge (Distributed File Sharing via BitTorrent)
- Ejabberd (Chat Server)
- GitWeb (Simple Git Hosting)
- I2P (Anonymity Network)
- Ikiwiki (Wiki and Blog)
- Inifnoted (Collaborative text edition with Gobby)
- JSXC (Web Chat Client)
- Matrix Synapse (Chat Server)
- MediaWiki (Wiki)
- Minetest (Block Sandbox)
- MiniDLNA (Simple Media Server)
- MLDonkey (Peer-to-peer File Sharing)
- Mumble (Voice Chat) Server
- OpenVPN (Virtual Private Network)
- Privoxy (Web Proxy)
- Quassel (Text Chat Client via IRC)
- Radicale (Calendar and Addressbook)
- Roundcube (Email Client)
- Samba (Network File Storage)
- Searx (Web Search)
- Shadowsocks (SOCKS5 proxy)
- Sharing (File Publishing)
- Syncthing (File Synchronization)
- Tiny Tiny RSS (News Feed Reader)
- Tor (Anonymity Network)
- Transmission (Distributed File Sharing via BitTorrent)
- User Websites
- WireGuard (Virtual Private Network)
- Zoph (Photo manager)

Potential FreedomBox Uses

Federated Social Media - fediverse.party

- Diaspora
- Misskey
- Pixelfed
- Pleroma
- Hubzilla
- Mastodon
- PeerTube
- GNU Social
- Friendica

Kodi Multimedia Center – Kodi.tv

- Videos
- TV shows
- Music
- Photos
- PVR
- Games
- Plugin Addons

But Wait, There is more!

- Hook up to your power amplifier – Stereo to 7.1
- NFS mount your phone for videos and music
- Use as “first connection to Internet”
- IoT on same system
- Debian based

Not Often Discussed

- OTA TV in cities through USB dongle
- Simple Burgler alarm through webcam
- Inexpensive LCD projectors for TV

Douglas Conrad and his experiences

Summary

- There are hundreds of thousands of FOSS programs out there
- There are dozens of cheap SBCs to put it on
- You could make dozens of “solutions” not only for you, but for customers

Questions?



WORLD DOMINATION
THROUGH
WORLD COOPERATION