

Project Origins

- <http://techhuman.wordpress.com/>
- <http://deliriotecnologico.blogspot.it/>
- <http://powerpc-notebook.org/>

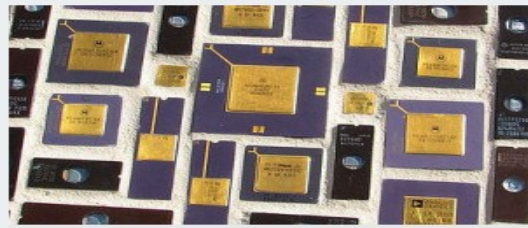
Ready to switch to gnu/linux PowerPC notebooks.

The game has changed, now gnu/linux is everywhere running on every cpu architectures and devices. It's the right time to make new choices, a new PowerPC Notebook designed around Gnu/Linux, make it happen!



Join

Join and strengthen the PowerPC Notebook Team. Subscribe to the newsletter.



How To

Our passion on innovation and for this project have already motivated a producer to start to design the mobo of this PowerPC Notebook. Your participation make the difference to produce and design an ideal device.



Develop

We are searching software developers able to run PowerPC console games (Wii / WiiU, ps3, xbox360). Fine tune gnu/linux on this PowerPC notebook.

Creation dates of CPU architectures

Architecture	Instruction set	Bits	Introduced
Alpha		64	1992
ARM		32	1983
ARMv8-A	64/32		2011[2]
AVR32		32	2006
Blackfin		32	2000
DLX		32	1990
eSi-RISC	16/32		2009
Itanium (IA)		64	2001
M32R		32	1997
Motorola 6		32	1979
Mico32		32	2006
MIPS		64 (32→64)	1981
MMIX		64	1999
6502		8	1975
65k		64 (8→64)[8]	2006?
NS320xx		32	1982
PA-RISC (H64)		64 (32→64)	1986
PowerPC		32/64 (32→64)	1991
S+core		16/32	2005
SPARC		64 (32→64)	1985
SuperH (SH)		32	1990s
System/360		64 (32→64)	1964
VAX		32	1977
x86		32 (16→32)	1978
x86-64		64 (32→64)	2003

Mainstream processor families

Current mainstream:

- ARM
- MIPS
- x86
- Power Architecture (Power - PowerPC)
- Sparc

CPU with many (proprietary) applications force to keep compatibility into new CPUs.

Windows was born and grown on x86. Used by everyone, it also forced to keep compatibility when going to new CPUs.

PowerPC History

- 1991 **Created by AIM (Apple IBM Motorola)** (mix some drawn back compatibility between IBM Power e Motorola 88000)
- 1993 PowerPC 601
- 1997 Freescale/IBM G3, Gekko (IBM) Nintendo GameCube
- 1999 Freescale G4
- 2004 MPC 7447A (Freescale G4 variant)
- 2003 G5 64 bits (IBM)
- 2006 BroadWay IBM (64 bits) Nintendo Wii
- 2006 Cell (64 bits) Sony Playstation 3
- 2007 PWRficient PA6T (64 bits)
- 2010 e5500 core (64 bits) Freescale
- 2012 Espresso (64 bits) IBM Nintendo Wii U
- 2012 e6500 core (64 bits) Freescale
- 2014 Axxia AXE3500

x86 vs PowerPC

- 1993 Windows 25 million licenses
- 1993 PowerPC 601 released
- 1994 first Apple computer with PowerPC

PowerPC is released without software compiled for it: OS and previous applications was running on 386 or Motorola 68000.

When Apple created PowerPC they were running parts of Mac OS written for 68k, under emulation on the PowerPC.

PowerPC OS appeared and disappeared

- 1995

Windows NT 3.51 and NT 4.0 for PowerPC dropped in 1996

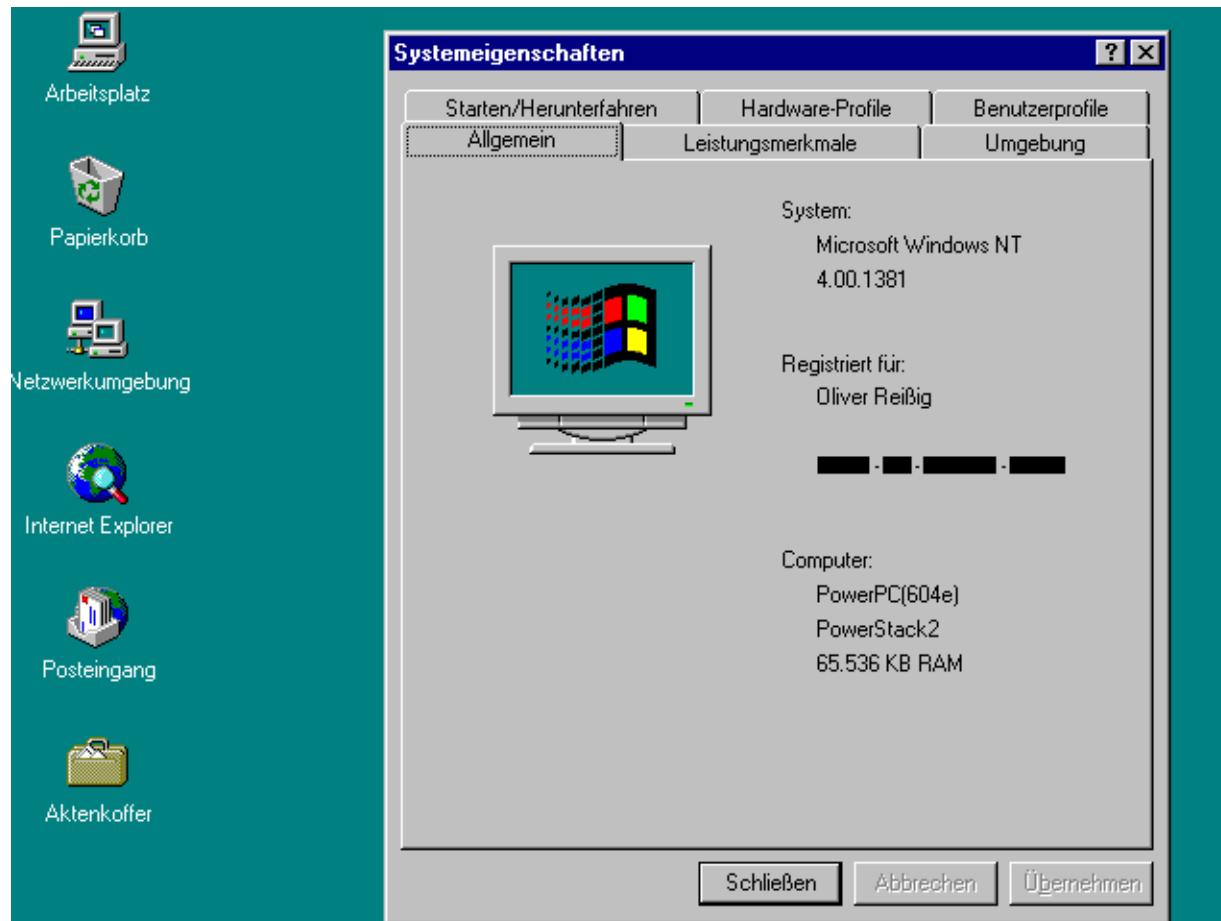
- December 1995

Os/2 Warp, PowerPC edition

- 1995

Solaris 2.51 for PowerPC






Windows NT 4.0 PowerPC



OS/2 PowerPC



PowerPC game consoles

Name	Image	Producer	CPU	Clock	On the market	No. sold
<u>Pippin</u>		<u>Apple</u> <u>Bandai</u> Katz Media	<u>PowerPC 603</u>	66 MHz	1995 - 1997	42.000
<u>GameCube</u>		<u>Nintendo</u>	<u>Gekko</u>	486 MHz	2001 - 2007	21.74 million
<u>Xbox 360</u>		<u>Microsoft</u>	<u>XCPU</u> (Xbox 360) <u>XCGPU</u> (Xbox 360 S)	3.2 GHz	2005 - <i>present</i>	77.2 million <i>March 2013</i>
<u>Wii</u>		<u>Nintendo</u>	<u>Broadway</u>	729 MHz	2006 - <i>present</i>	99.8 million <i>March 2013</i>
<u>PlayStation 3</u>		<u>Sony</u>	<u>Cell B.E.</u>	3.2 GHz	2006 - <i>present</i>	78.4 million <i>May</i>

Game consoles processors

- PS2 MIPS
- PS3 PowerPC
- PS4 x86_64
- Nintendo N64 MIPS
- Nintendo GameCube PowerPC
- Nintendo Wii/WiiU PowerPC
- MS Xbox x86
- MS Xbox 360 PowerPC
- MS Xbox One x86_64
- PSP MIPS
- PSP VITA ARM

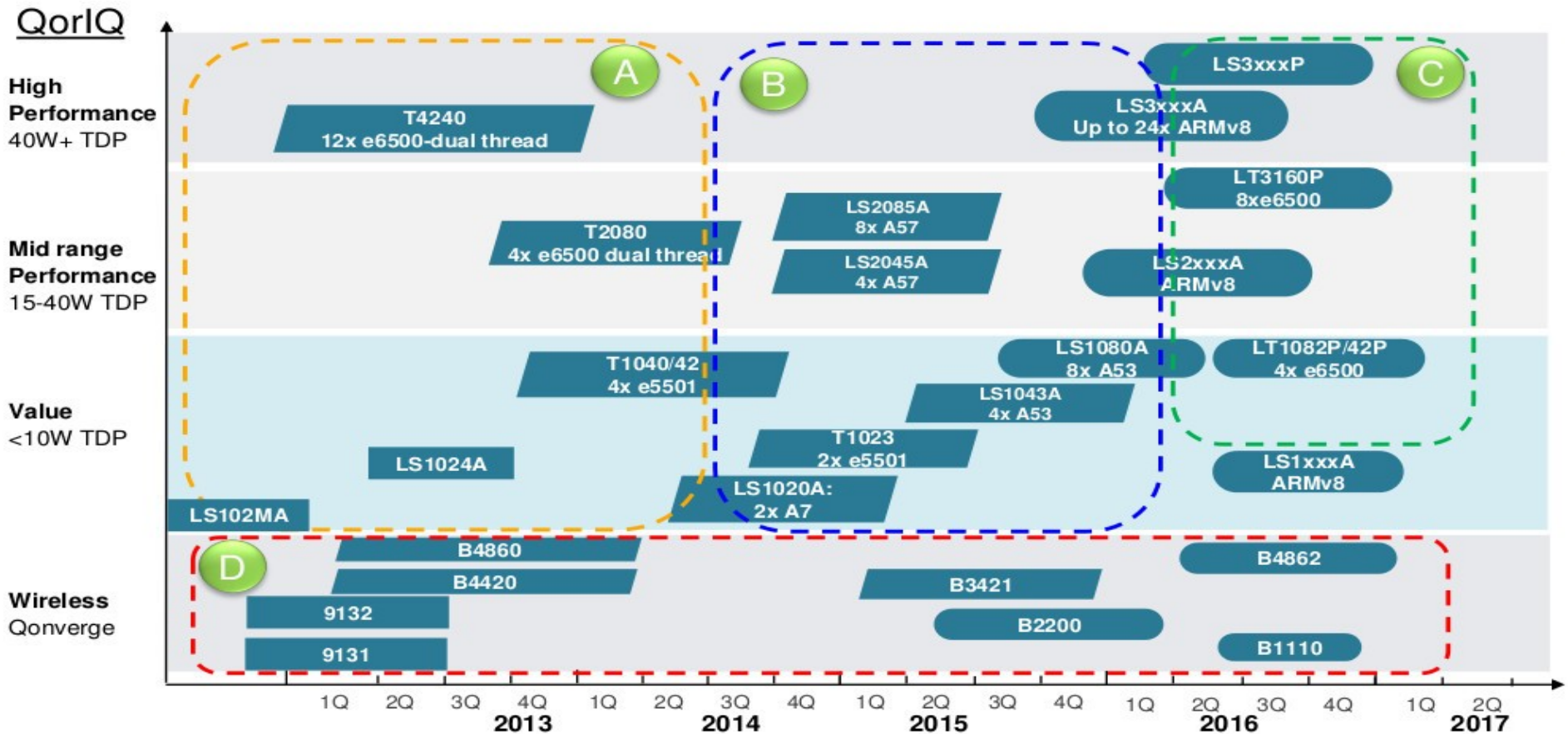
Consoles have a tiny OS with few embedded applications. Games are written from scratch or are developed on cross-architecture engines. CPU change affects them less.

PowerPC is an active architecture

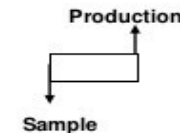
- Since 2013 there is OpenPower Foundation with around 50 companies taking part on an open technical community. They created an open ecosystem, using the POWER Architecture.
- Freescale have an active Roadmap based on Power architecture
- LSI have a new processor AXE3500 476FB PowerPC 6 core

PowerPC roadmap

QorIQ Multicore Communications Processor Solution Roadmap



External Use | 10



Free Software on any CPU

- "Free software" means software that respects users' freedom and community.
- Users have the freedom to run, copy, distribute, study, change and improve the software. Thus, "free software" means liberty, not "software at no price".
- Gnu/Linux is free software → you can view ,change and recompile the sources for many different CPUs
- It is possible to run the same programs recompiled for different CPUs.
- **You can easily change the CPU architecture**

Free Software Video card and devices

- Open Source Video drivers now are partially supported by ATI and even by NVIDIA.
- Support for old devices is much longer in the open source world than with proprietary software
- Less product obsolescence

Today PowerPC computers

- A few desktop PowerPC computers exists
- There is no PowerPC notebook

PowerPC Desktop/embedded

- AmigaOne X1000, (beta test x5000) A-eon



- AmigaOne 500 ACube Systems



PowerPC Notebook tech specs

- CPU: 64 bit PowerPC, multi-thread - AltiVec
- video card: MXM (upgradable)
- USB
- SATA
- RAM: DDR3, upgradable
- HD/SSD 2.5", upgradable
- Standard notebook case 15,6"

PowerPC notebook project steps

- Notebook without motherboard
- Design a PowerPC board
- Board prototype + fit inside notebook
- Board production + notebooks assembling

How to participate

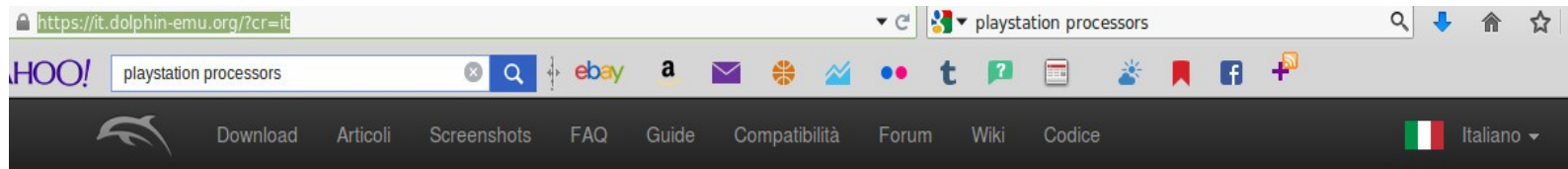
- Spread the word (physical presentation, videos, web and digital diffusion, translations, video production, etc)
- OS optimizing for the motherboard
- PowerPC Applications optimization (test gnu/linux application package, and feedback or fix the errors)
- Virtualization PS3/WiiU/Wii/Xbox360
- Power server virtualization
- Hardware wishes list
- Participate in a group buying

Solidal Group Buying

- People already make group buying with little producers in the food. Example: they buy organic milk from a farm and define together with the farmer **a fair price in a middle between the producer and buyer willing.**
- We want to do the same in hardware and software: to help and promote little producers of hardware and software that really want to do something for innovation and **find together a fair price for each other,**

Port to PowerPC Dolphin Wii emulator

- <https://it.dolphin-emu.org/?cr=it>



You have been redirected to the **Italiano** version of the website based on your browser language preferences. If you prefer the english version, [click here to go back](#).



Emulatore Dolphin

Dolphin è un emulatore per due recenti console Nintendo: il **GameCube** e il **Wii**. Permette ai videogiocatori di godersi i giochi di queste console su PC in **full HD** (1080p) con numerosi miglioramenti: compatibilità con tutti i controller per PC, maggior velocità, multiplayer tramite internet, e molto altro!

[Scarica Dolphin 4.0.2 per Windows, Mac e Linux »](#)



[://it.dolphin-emu.org/?cr=it#carousel-sshot](https://it.dolphin-emu.org/?cr=it#carousel-sshot)

Game Console Emulator projects

- The Wii/WiiU, PS3 and Xbox360 emulator are compiled for x86 and they need to emulate the PowerPC processor
- Porting them to PowerPC means that we don't need the PowerPC emulation but we need only virtualization because they will run on the same Power architecture
- Virtualizing we speed up many times these game console “emulators”

Port to PowerPC

Xbox360 , PS3 emulators

- Xbox360 <https://github.com/benvanik/xenia>
- PS3 <https://github.com/DHrpcs3/rpcs3>

Roadmap

- Build a multi-disciplinary project team
- Actions to spread the idea
- Crowd-funding/Group buying
- Beta tester program for software optimization
- To go into production before the end of 2015