

The top of the slide features a blue banner. On the left, the text "SPA Computers Ltd." is written in a white, bold, sans-serif font. To the right of the text is a collage of three images: a tablet displaying a software interface, a computer monitor showing a data visualization, and a hand holding a handheld device with a keypad.

**SPA Computers Ltd.**

**SPA Computers Ltd**  
*The Embedded Systems Company*

**Set Top Box Solutions**

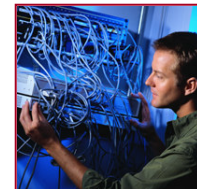
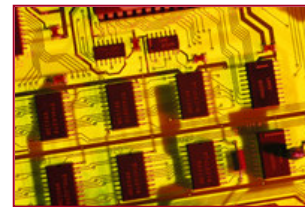
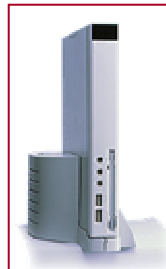
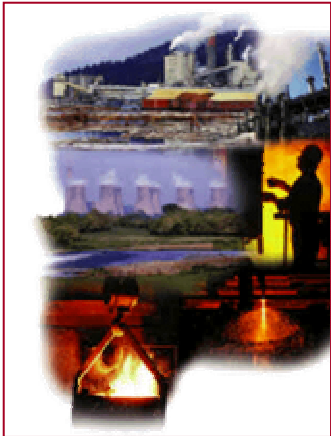
**SPA Computers Ltd.**



# Embedded Systems Overview

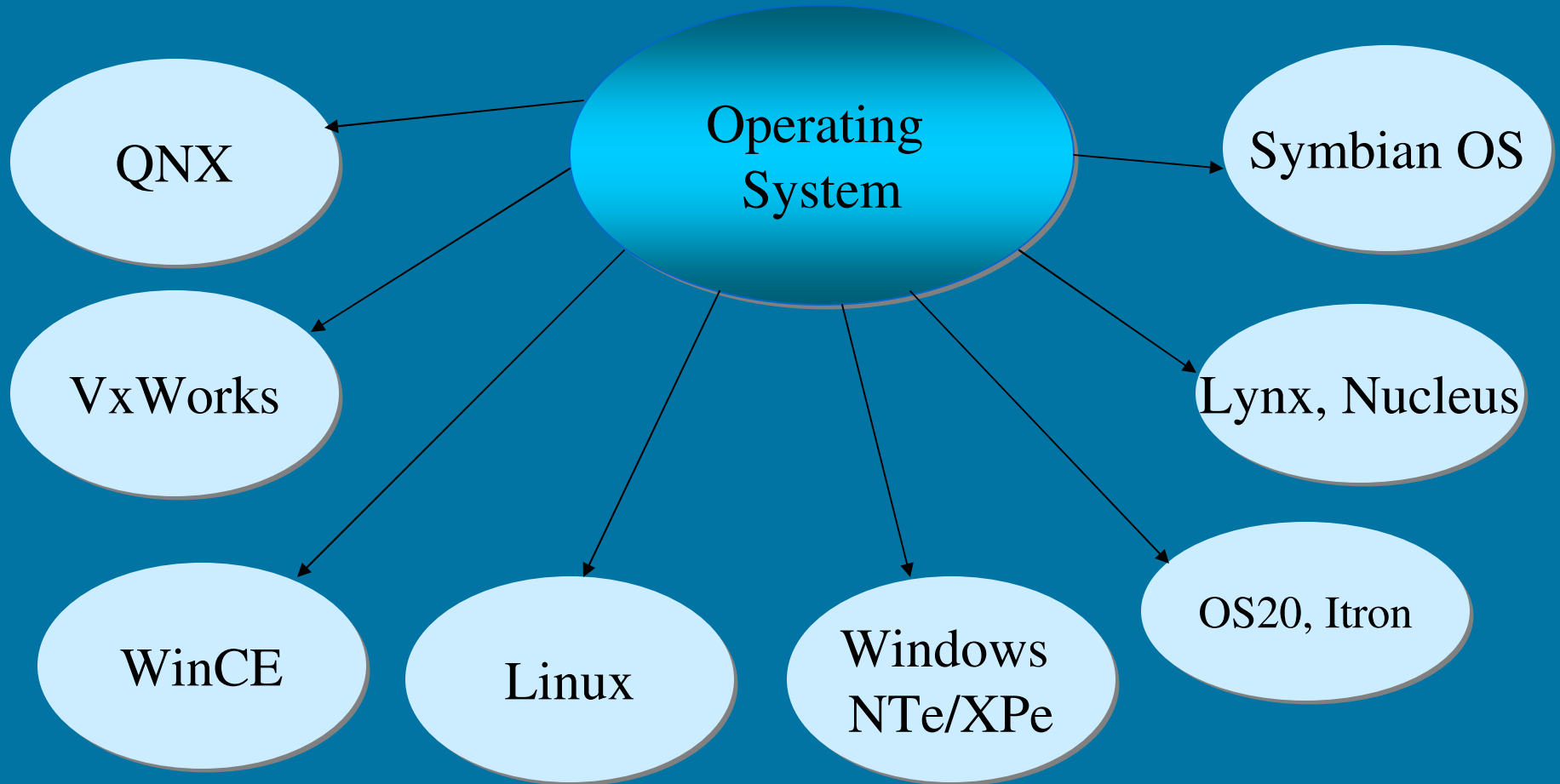
**SPA is a global leader in Operating Systems solutions for Embedded Systems used in Consumer Electronics, Industrial, Telecom and Automotive Sectors**

**SPA is also a complete End-to-End software solution provider**



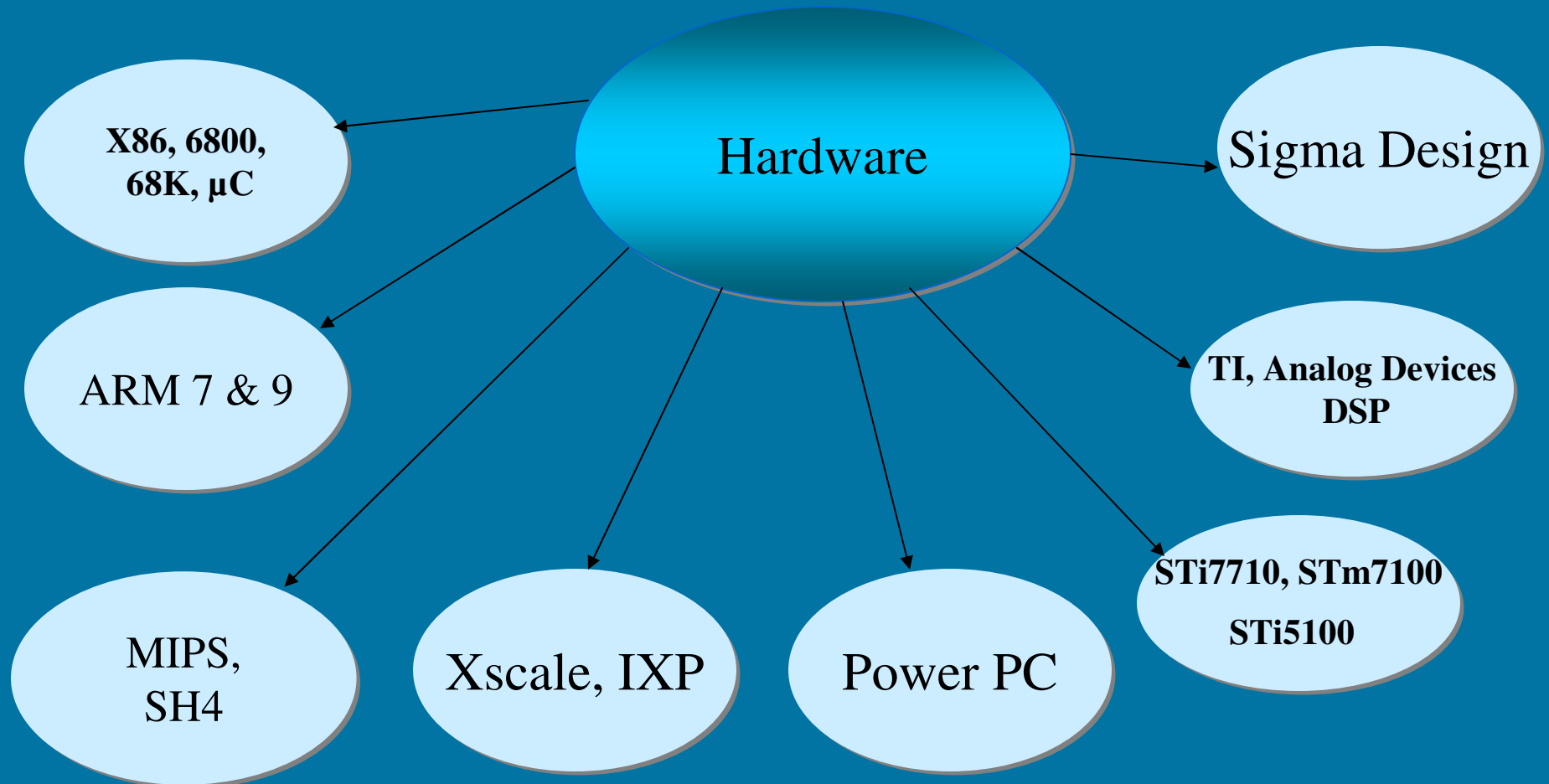


# Our OS Expertise





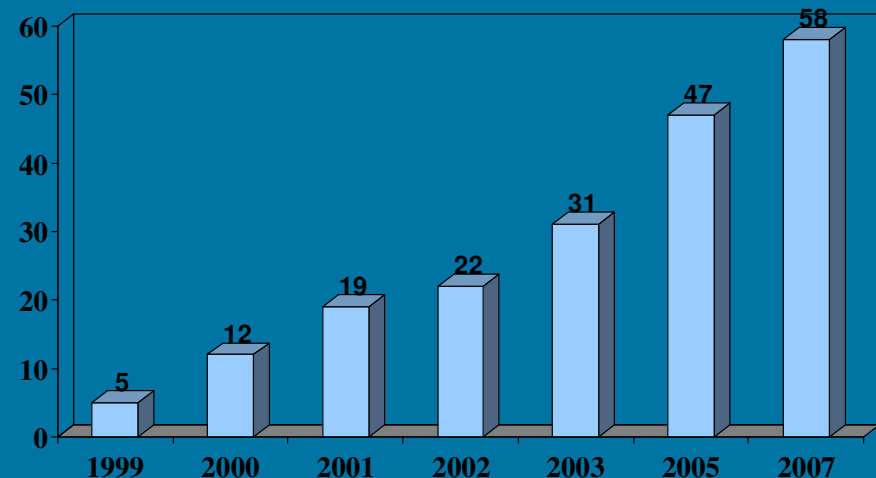
# Our Hardware Expertise





## Our STB Team

- Started off in 1999, working on QNX and Linux based STBs on X86 platform
- Started working with Multi II CAS, Conax and then NAGRAVision based CAS Solutions
- Developed expertise with Cable, terrestrial and Satellite STBs
- Went on to do with on ISDB (Integrated Services Digital Broadcasting) and DVB (Digital Video Broadcasting) STBs and ARIB Specification implementation





# IP Set Top Box

- **Hardware Specifications**
- **Core : VIA MVP3H + 686A South Bridge**
- **Processor : AMD 450MHz**
- **System Memory : 64MB**
- **Storage : Slim DVD-ROM**
- **32MB Disk-on-Module, w/o OS**
- **Video : Tvia 5300 + 8MB Video cache**
- **TV-out : Tvia 5300 integrated**
- **Audio : C-media with 4 channel**
- **MPEG-2 : Sigma Design 8475 + 4MB Buffer**
- **Ethernet : 10/100 Ethernet LAN**
- **One PCI-bus riser card**
- **TV-Tuner (NTSC)**
- **125W P/S + Chassis + Wireless keyboard (English) + Cable Set**
- **Latest operating system of WinCE.Net 5.0 from Microsoft**
- **Windows Media Player**
- **Browsing with Internet Explorer 6.0**
- **Flash experience with Macromedia Flash 6.0**
- **Full compatible to VOD, Web Mail, Web-Portal etc**
- **PVR and DVD support**





# Cable Set Top Box

- **Developed using VxWorks on X86 platform**
- **MPEG-II Digital & Fully DVB Compliant.**
- **Max. 1000 channels receivable.**
- **Channel list mode in All, Favorite, Scrambled.**
- **Searching channels by name.**
- **Favorite channel groups.**
- **Channel search in automatic, manual and network search.**
- **Channel sorting by channel number, Alphabet.**
- **Installation Wizard helps easy and automatic installation step by step.**
- **Timer setting supports automatic Turn-On and Off daily.**
- **Subtitle supports EBU and DVB subtitle.**
- **Teletext supports DVB ETS300472 by VBI insertion.**



- **Auto language selection of program for Audio language with user setting in menu.**
- **8 OSD Languages: English, Dutch, French, Danish, Swedish, Spanish, Turkish, German.**
- **Conditional Access with Multi II/Conax/Nagra**
- **Automatic Software Upgrade service.**
- **User-friendly EPG and Information Plate.**



# Terrestrial Set Top Box

- **Developed on STi7710 using OS20**
- **MPEG-II Digital & Fully DVB-T Compliant.**
- **Max. 200 channels receivable.**
- **Includes BML Browser for Data Broadcasting**
- **Channel list mode in All, Favorite, Scrambled.**
- **Searching channels by name.**
- **Favorite channel groups.**
- **Channel search in automatic, manual and network search.**
- **Channel sorting by channel number, Alphabet, FTA.**
- **Installation Wizard helps easy and automatic installation step by step.**
- **Timer setting supports automatic Turn-On and Off daily.**
- **Subtitle supports EBU and DVB subtitle.**
- **Teletext supports DVB ETS300472 by VBI insertion.**
- **Auto language selection of program for Audio language with user setting in menu.**
- **Finnish, Swedish, English, Norwegian, Danish as OSD language.**
- **Conditional Access using Multi II CAS**
- **Automatic Software Upgrade service.**
- **User-friendly EPG and Information Plate**





# Digital Satellite Set Top Box

- **Developed on STx5105 using OS20**
- **MPEG-2 Digital & Fully DVB Compliant**
- **Max. 1500 channels receivable.**
- **Channel list mode in All, Favorite, Satellite.**
- **Searching channels by name.**
- **Favorite channel groups option.**
- **Channel search in automatic, manual and network search.**
- **Channel Sorting by channel number, Alphabet, FTA.**
- **Installation Wizard helps easy and automatic installation step by step.**
- **DiSEqC Control Version 1.0 and 2.0 compatible.**
- **Timer Setting Supports automatic Turn-On and Off daily Subtitle supports EBU and DVB subtitle.**
- **Teletext Supports DVB ETS300472 by VBI insertion.**
- **Auto language selection of program for Audio language with user setting in menu.**
- **PAL/NTSC In and Out.**
- **English, Arabic, Persian and more than 10 European and Asian OSD languages.**
- **Conditional Access using Conax**
- **Software Upgrade via Ethernet or USB**
- **User-friendly EPG and Information Plate.**





# PVR Set Top Box

The solution was developed on STb7100 using Linux

The PVR software offers the following features:

- recording of digital TV and digital radio
  - time shift of live TV
  - FFWD, REW, SLOWMOTION, FREEZE, SKIP
  - storing of the DVB-SI service information
  - recording time only limited by free disk space
  - programming of the PVR through electronic program guide
  - graphical interface to the video archive
- The following additional functionalities were also added -
- Recording of one channel, in the background while playing another
  - Recording of two channels in the background, while playing stored content
  - Interface to a USB 2.0 based HDD for storage
  - About 100 Hrs of recording in approx 200GB HDD
  - Momentary pausing and playback of LiveTV with Time Shift Recording
  - PiP support to see two programs on 1 screen
  - Support for Two Common Interface Slots for Pay TV Channels
  - Electronic Program Guide (EPG) Display and one-touch recording based on EPG.
  - MP3 and Audio format playbacks
  - Favorite Groups Configuration
  - Remote Software Upgrade





**SPA Computers Ltd.**

**Thank You**

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**Surpassing Expectations**

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