OS/2 WARP

e-business

Device Driver Update

WarpStock Europe 2000 - Karlsruhe, Germany

Oct. 13-15, 2000

Warpstock Europe 2000
Karlsruhe, Germany 13. - 15. October 2000

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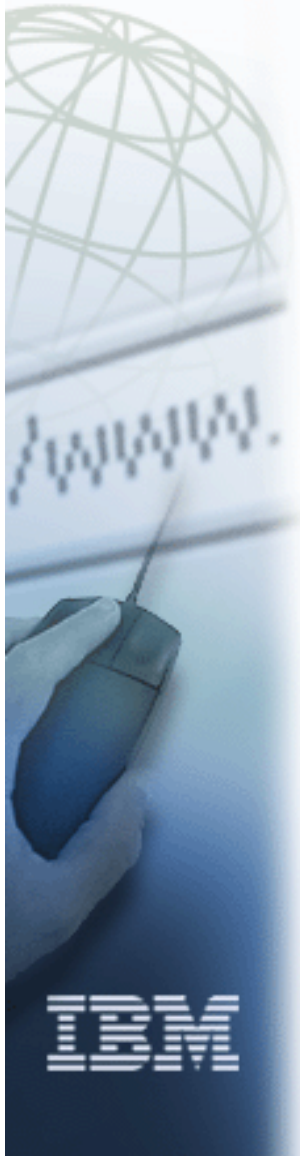
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IBM

Agenda

- Current OS/2 Device Driver status
- Ongoing development efforts
  - ▶ within IBM
  - ▶ within IHV's
  - ▶ in the OS/2 community
- Planned Hardware and DD Enhancements

- Demo

Current OS/2 DD status... Overview

- OS/2 is well suited to run on most of today's PC hardware: >5,600 devices listed on DDPAK site!

  - ► Display adapters
  - ► Network adapters
  - ► USB adapters
  - ► PCCard devices
  - ► Multimedia devices
  - ► Printers

> 200,000 downloads from DDPAK per month!

Display adapters

- SciTech Display Doctor (TM) runs on over 400 different graphics adapters, exploiting many acceleration functions:

  ► IBM licensed version available for free download

  ► Full version available from SciTech (www.scitechsoft.com)

- New "native" OS/2 Display drivers available for:
  ► S3 Savage
  ► Matrox G400
  ► IBMGRADD V083 build now on DDPAK
    – TIP: includes decent NeoMagic support for TP600
  ► ...

USB support

- Comprehensive USB support for available from IBM:

  - ►USB Keyboard support
  - ►USB Mouse support
  - ►USB Modem support (generic)
  - ►USB Printer support (generic)
  - ►USB Mass Storage Device support
    - – Floppy disk (incl. LS-120)
    - – Removable Media (ZIP)
  - ►coming:
    - – USB CD-ROM/CD-RW support (4Q00)
    - – USB-to-parallel/serial support BELKIN (4Q00)
    - – IBM multi-function desktop hub

- currently UHCI (Intel/VIA) only, OHCI (Microsoft/Compaq standard) planned for 2001

Multimedia support

- This is a traditionally weak spot of OS/2:
  - ► lack of drivers
  - ► lack of applications

- Some exceptions though:
  - ► SBLive! driver by Sander van Leuwen:
    - – supports up to 128 concurrent streams
    - – based on Linux driver opensourced by CreativeLabs
  - ► Crystal Audio drivers by Joe Nord
    - – excellent quality
    - – ODIN enabled, new Mixer API
  - ► generic Win-OS/2 audio driver by John Gow
  - ► WinCast drivers by Tim Snipe
  - ► USB Audio drivers for Labtec speakers
  - ► ...

Printer support

- IBM's printer drivers will continue to be updated:
  - ▶ OMNI driver:
    - – was recently ported to Linux by IBM, resulting enhancements will be backported to OS/2
    - – Tip: do not use default "Magic Square" Dithering algorithm! "Stucki" gives much better results!
    - – Tip: DJ2500 series contains Resolution Enhancement!
  - ▶ PCL driver:
    - – continuing work with HP, Lexmark and others...
  - ▶ PSCRIPT driver:
    - – good coverage, color enhanced...

- Non-IBM drivers from printer manufacturers:
  - ▶ HP Laserjet series
  - ▶ EPSON inkjet printers
  - ▶ ...

OS/2 drivers from EPSON

- Follow-on work to a driver developed by EPSON Germany
- Now based on IBM's OMNI driver, with "plug-in" DLL that contains EPSON's proprietary extensions
  - ► that way the developent effort for EPSON is minimal
  - ► EPSON can easily protect their intellectua property (IBM has no source code access to that DLL)
  - ► ensures that EPSON driver benefits from ongoing OMNI enhancements

- Three drivers supporting most current and older EPSON inkjet printers:
  - ► EPOMNI: Stylus Color 600 / 800 / 850 / 1520 / 3000, Stylus Photo / EX / 700
  - ► EPOMNI2:   Stylus Color 640 / 740 / 900, Stylus Photo 750 / 1200
  - ► EPOMNI3:   Stylus Color 660 / 760 / 860 / 1160, Stylus Photo 870 / 1270

Non-IBM IDE drivers

- DANIS506.ADD
  - ► based on current IBM1S506.ADD sources
- DANIATAPI.FLT
  - ► merged IBMIDECD.FLT & IBMATAPI.FLT codebase
- Features added:
  - ► complete chipset coverage (Intel, VIA, ALi, SiS, CMD, Promise, Cyrix, HighPoint and AMD)
  - ► current Ultra ATA66 & 100 standards
  - ► Hot-Swap (IBM ThinkPad UltraBay)
  - ► Iomega ZIP250 support
  - ► PCCard attached ATAPI support (Iomega ZIP250 PCCard adapter, Iomega Clik!)
  - ► improved performance
- available on hobbes.nmsu.edu

IBM IrDA support

- IrDA is the current standard for Infrared communication
- IBM has a complete IrDA stack for OS/2:
  - ► Physical driver (HW interface, currently implemented for UART chips in most notebooks)
  - ► IrDA base driver
  - ► IAS driver
  - ► NDIS driver
  - ► NEW: IrCOMM driver
    - – provides connectivity with:
      - ● IR cellphones with HW modem (Nokia, Ericsson, Siemens, ...)
      - ● IR enabled printers (HP LJ6MP, DJ340/360)
      - ● PDA's (Future...)

OS/2 Device Drivers delivered in 2000

- USB Basic (Stack Support for USB devices)
- USB Audio (Audio Playback and Microphone Record)
- USB Mouse (2/3 button, scrolling, and Trackpoint mice)
- USB Modem
- USB Keyboard
- USB Mass Storage (Support for Floppy, Zip, and LS-120)
- USB Print Device Driver (Support for legacy (via converter cable) and USB printers)
- Scrolling Mouse (Support for 2/3 button, scrolling (including cordless), and Trackpoint)
- PC Card 5.0 Card and Socket Device Driver
- Printer Pak 13/14/15 (Supporting 53 new printers)
- Sci-Tech GRADD (Supporting 136 new video chipsets)
- LAN Adapter Certification (43 Adapters Tested/Certified)
- Updated PRINT01.SYS (Improve Printer Polling Algorithm)

What we're working on right now...

- Unified Mouse (Merge MOUSE.SYS and MOUSE2.SYS into Single Driver, TrackPoint IV support)
- USB CD/CD-RW/DVD Support
- UDF IFS Extensions for USB CD/DVD
- USB Ethernet Adapter
- VIA Disk Controller Support
- ATA100 Controller Support
- Upgrade IR Stack Support (IR for PDA/Cellular Telephone/Printers)
- OS/2 Certification of OEM Hardware (Review of Compatibility Test Kit results from OEM/Posting to Internet)
- Hardware Compatibility Test Kit Updates (Updates for New Device Support)

What we're looking at...

- USB Bootable Removable Media
- USB Version 2.0 Support
- UDF IFS Version 2.0 Support
- USB Hard Disk Support
- Enable Ultra-Bay Hot Plug Capability (Mobile Systems Support)
- USB OHCI Support (Non-Intel USB Stack Support)
- DVD Streaming Media (Subsystem support for DVD Streaming Data - Banking Requirement)
- ... ? (your comments)

Hardware and DD Enhancements planned

e-business Enabling Enhancements

Hardware and Device Driver Enhancements & Defect Support

Fee-based Transition Services and Product Enhancement Services

Software Stack Support

Warranty Defect Support Followed by Fee-based Defect Support

- Focus -- hardware and device driver support IBM determines most essential:
  - ► Hardware support from IBM and other PC manufacturers as:
    - – Compatibility tested systems, followed by
    - – Warranty defect support, followed by
    - – Fee-based defect support
  - ► Device Drivers from:
    - – IBM
    - – IHV / ISV / OEM
- Anticipate shift to Universal Serial Bus (USB) and legacy free device support
- Move from DDPAK to SW choice -> subscription needed!

Relevant IBM URL's

- For hardware and device driver information refer to:

  `http://service.software.ibm.com/os2ddpak/`

- To submit device driver requirements refer to:

  `http://www.ibm.com/software/os/warp/feedback/`