# *DFSee 9.xx overview, demo - Q&A*

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DFSee functionality overview
What is new in version 9.xx
Demos, Questions and Answers

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# *Presentation contents*

- Who am I

- DFSee 9.xx functional overview

- Version history, new in version 9

- Demo of several DFSee functions

  - DFSDISK procedure, for dfsee-support information
  - Binary editor, and disassembler
  - File recovery (undelete) for a single file on JFS
  - Imaging, create image for a small partition
  - Whatever you like (and is doable :-)

# *Who am I ?*

# Jan van Wijk

- Software Engineer, C, Rexx, Assembly, PHP
- Founded FSYS Software in 2001, developing and supporting DFSee from version 4 to 9.xx
- First OS/2 experience in 1987, developing parts of OS/2 1.0 EE  (Query Manager, later DB2)
- Used to be a systems-integration architect at a large bank, 500 servers and 7500 workstations
- Doing embedded systems development now too

  - Home page:      http://www.dfsee.com

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# *What is DFSee, functional view*

- DFSee is an OS neutral utility like FDISK, LVM, PQ-Partition Magic, PQ-Drive-Image Norton-Ghost, Undelete and more ...

- Main areas of functionality:
  - Backup and restore of partitioning information
  - Search missing partitions and recreate them
  - FDISK/LVM create and maintain partitions
  - Imaging, disk-areas to/from (compressed) files
  - Cloning, disk-areas to/from other disk-areas
  - FS-specific: Check, Display, Undelete and Fix
  - Disk data analysis and update (binary edit, disasm)

# *Managing partition info*

- Backup/Restore commands Psave/Prestore and the corresponding items in the FDISK menu

- BSFIND command to search lost partitions

- Both are integrated in the DFSDISK procedure, preparing you for a partition recovery ... (Can be done 'post-disaster' as well :-)

- Recovery script can often be made (and tested!) based on the (7) DFSDISK result files

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# *Create and maintain partitions*

- Use the CR/DELETE commands or menu items to manage the partition tables

- Use the LVM command/menu to create and update the OS/2 or eCS LVM information

- Use the Partition Table Editor (PTE) to directly manipulate table entries

- Use the various SETxx and FIXxx commands to change partition properties and fix errors
  - (see the DFSxxx.TXT documentation for details)

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# *Imaging to/from files*

- Imaging is a process where DFSee objects like disks or partitions are copied into a regular (often compressed) image-FILE

    - You NEED regular file-level access in the OS you are running to read/write this imagefile!

- Can use 'smart' technology to skip unused areas

- Images can be restored to the same or to a different object, but keep the SAME size!

- Imaging is used for backup and restore, including data transfer between systems

# *Cloning between objects*

- Cloning is a process where sectors from any DFSee object like disks and partitions are directly copied to another DFSee object

    - Disk-to-disk clone, as backup or recovery clone includes all partitioning and LVM info

    - Partition-to-partition clone, mainly for backup

- Special handling possible for bad sector areas

- Like imaging, can use 'smart' technology to skip any unused (freespace) areas in the object

# *File recovery and undelete*

- File recovery is the copying of file-data as a new file on another filesystem, retaining as much of the name, path and file properties as possible

- When targeting files that have been DELETED it is usually called 'UNDELETE'

- For 'normal' files it is often used to recover files from damaged or inaccessible filesystems

    - Uses a SEARCH, DISPLAY, RECOVER scenario
    - One file search/recover menuitem for HPFS/NTFS/JFS

# *DFSee versions and user interface*

- DFSee is available in an OS/2 (eCS), DOS, Windows-NT/W2K/XP/Vista, Linux, and an experimental MAC OS-X version.

  - It is a non-graphical text based program, can run from bootdiskette or bootable CD
  - Most functions can be run from a MENU interface with additional dialogs
  - Much more through a command-line
  - Output can go to the screen AND a logfile
  - Command scripting capability (recovery)
    - Improved in 9.xx with many C/Perl-like features

# *Major versions*

- 1.xx 1994 HPFS browsing/fixing OS/2 16/32-bit
- 2.xx 1997 NTFS, FAT, FDISK, DOS-version
  Basic imaging, undelete, setboot
- 3.xx 1999 Windowed UI, BSFIND, NT-version
  Ptable save/restore, DFSDISK
- 4.xx 2001 Cloning, Scripting, freespace-wipe
- 5.xx 2002 Menu-system, dialogs, FS-resize
- 6.xx 2003 Linux version, Smart imaging
- 7.xx 2005 Installer, Mouse, new dialogs
- 8.xx 2006 JFS support, sector editor,
  FAT formatting, smart disk clone
- 9.xx 2007 Geo sniffing, more linux FS support
- 9.xx 2008 Enhanced (C/Perl) scripting support

# *What is new in DFSee 9.xx*

- ## Contents based disk geometry (sniffing)
  - Using partition-tables and LVM information
  - Can be disabled using a '-geocalc-' switch

- ## EXT2/3 and ReiserFS basic support
  - allows disk-allocation map, 'smart' imaging/cloning but no file level displays and recovery yet

- ## GRUB detailed reporting and analysis

- ## Generate HTML menu-documentation

  - See DFSHIST.TXT and history web-page

# *New in version 9, continued*

- ### Greatly enhanced native scripting capabilities

  - Uses 'C' and 'Perl' like expressions, variables and control statemens like if-then-else and while, and with direct access to many DFSee internal variables ...

    Also see seperate 'TxScript' presentation'

- ### Disassembler modus (F2) for x86 processors added to the binary sector editor

  - Great for analysis of bootcode, or any other piece of x86 code you may encounter while browsing your disk ...

# *Interactive binary editing*

- Large window with HEX and ASCII sections

- Variable of lines and columns, user selectable

- Integrated SEARCH facility, highlighted result

- Variable item size, sectors, clusters ...
  (in any DFSee object, disk, partition etc)

- Editing of files of any size, byte size granularity,
  including insert and delete at the EOF position

- X86 disassembler modus for x86 machine code

# *Enhanced native scripting*

- Backwards compatible with existing .DFS scripts

- Much better error checking possible

- Direct access to much DFSee specific info, including disk sectors from a script

- Powerful expressions, variables and functions
  - Can be used directly from the DFSee commandline too:
    example:      say {i2hex($_magic)}

- Conditional and looping control allows more intelligent and powerful scripts

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# Questions ?

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# *DFSee 9.xx DEMO topics*

- Sector editor, sizing, undo, fill, search

- Binary file edit

- Create, format and use FAT32 partition

- JFS filefind, with SLT
- JFS recovery names

- Smart imaging (JFS)

- DFSDISK dialog

- Virtual disks, DFS -d-, add/remove media

- Recovery example, load .Pdx files

- Run a recovery script

- Using script variables and expressions

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