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[Maul Publisher goes Unicode](#)

by Peter Koller

The Maul DTP application has been around for several years now and is still improving. Developer Peter Koller lets us take a peek behind the scenes and explains the new Unicode support.

[OS/2 and Wireless "g"](#)

by Mark Dodel

Until recently, there weren't many options to use the faster 802.11g standard for wireless LAN networking. With the new Generic MAC Wrapper Driver by Willibald Meyer, the situation has changed. Mark Dodel has given the driver and accompanying software and hardware a try to see how wireless networking can be like with OS/2 and eComStation.

[How to create a Database using Lotus Smartsuite](#)

by Arthur van Egmond

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[OS/2 Tips](#)

Collected useful hints from OS/2 forums

[Letters, Addenda, Errata](#)

What our readers have to say. Errata and additional information.

The VOICE Newsletter

Legend

An overview of markup that is used throughout the Newsletter.

Disclaimer and Copyright

The inevitable terms and conditions.

VOICE

What is VOICE?

A short introduction to VOICE and its goals.

Officers/Staff

The VOICE Board of Directors, site operators, and Newsletter staff.

Membership

Information for potential members, including the bylaws.

Sponsors

Persons, companies, and institutions that sponsor VOICE.



Hosted by Coloron

VOICE Future Events Calendar

VOICE Future Events Calendar

As part of our ongoing effort to help broaden the knowledge of the [OS/2](#) community on topics of interest, VOICE has the following [IRC](#) Speakup events/general meetings scheduled. For detailed information on VOICE meetings, time, and IRC client software, visit our website at <http://www.os2voice.org/>. For the logs of previous VOICE Speakup events please go to <http://www.os2voice.org/transcripts.html>. VOICE also maintains an event calendar on our website at <http://www.os2voice.org/calendar.html>. For a quick way to convert times on this page to your local time zone, try <http://www.timezoneconverter.com/cgi-bin/tzc.tzc>.

If you or your organization has any upcoming events you would like placed on the calendar, please send an email to editor@os2voice.org with the date and time and a brief (25 words or less) description of the event at least a month prior to the scheduled date.

Date	Time	Description
June		
June 03, 2006	03:00PM EST (20:00 GMT)	General VOICE Meeting on IRC in #voice. All are welcome.
June 04, 2006	03:00PM EST (20:00 GMT)	The Warp Doctor team meets in #warpdoctor on WEBBnet every Sunday.
June 07, 2006	10:00PM EST (02:00 GMT)	The SCOUG Help Desk meets in #SCOUG on WEBBnet every Wednesday.
June 11, 2006	03:00PM EST (20:00 GMT)	The Warp Doctor team meets in #warpdoctor on WEBBnet every Sunday.
June 14, 2006	10:00PM EST (02:00 GMT)	The SCOUG Help Desk meets in #SCOUG on WEBBnet every Wednesday.
June 17, 2006	03:00PM EST (20:00 GMT)	General VOICE Meeting on IRC in #voice. All are welcome.
June 18,	03:00PM EST	The Warp Doctor team meets in #warpdoctor on

2006	(20:00 GMT)	WEBBnet every Sunday.
June 21, 2006	10:00PM EST (02:00 GMT)	The SCOUG Help Desk meets in #SCOUG on WEBBnet every Wednesday.
June 25, 2006	03:00PM EST (20:00 GMT)	The Warp Doctor team meets in #warpdoctor on WEBBnet every Sunday.
June 28, 2006	10:00PM EST (02:00 GMT)	The SCOUG Help Desk meets in #SCOUG on WEBBnet every Wednesday.
July		
July 01, 2006	03:00PM EST (20:00 GMT)	General VOICE Meeting on IRC in #voice. All are welcome.
July 02, 2006	03:00PM EST (20:00 GMT)	The Warp Doctor team meets in #warpdoctor on WEBBnet every Sunday.
July 05, 2006	10:00PM EST (02:00 GMT)	The SCOUG Help Desk meets in #SCOUG on WEBBnet every Wednesday.
July 09, 2006	03:00PM EST (20:00 GMT)	The Warp Doctor team meets in #warpdoctor on WEBBnet every Sunday.
July 12, 2006	10:00PM EST (02:00 GMT)	The SCOUG Help Desk meets in #SCOUG on WEBBnet every Wednesday.
July 15, 2006	03:00PM EST (20:00 GMT)	General VOICE Meeting on IRC in #voice. All are welcome.
July 16, 2006	03:00PM EST (20:00 GMT)	The Warp Doctor team meets in #warpdoctor on WEBBnet every Sunday.
July 19, 2006	10:00PM EST (02:00 GMT)	The SCOUG Help Desk meets in #SCOUG on WEBBnet every Wednesday.
July 23, 2006	03:00PM EST (20:00 GMT)	The Warp Doctor team meets in #warpdoctor on WEBBnet every Sunday.
July 26, 2006	10:00PM EST (03:00 GMT)	The SCOUG Help Desk meets in #SCOUG on WEBBnet every Wednesday.
July 30, 2006	03:00PM EST (20:00 GMT)	The Warp Doctor team meets in #warpdoctor on WEBBnet every Sunday.

And the Os/2car goes to...

And the Os/2car goes to...

by [Mark Dodel](#), © June 2006

OS/2 World has announced the [results of their 2006 awards](#) and the [VOICE](#) website was voted "Best Site of the Year." VOICE has never been one to trumpet their own accomplishments, but I thought it was appropriate to take this time to point out the work of a few of the folks that have put a lot of their personal time into the project and helped make it one of the few remaining active online resources for the [OS/2](#) and eComStation community.

First off, Ken Kirchner who is the VOICE server admin, web master, and all around great guy. He has taken some suggestions from myself and others and implemented them on the website to make it the useful, always up-to-date site it is today. His talent and knowledge is what has brought about those features which make the site so useful, like the new [hobbes](#) file listing, the [archived article search](#) feature, and the automatically updated news listings on the main page. He has also been a great help with the Warpstock website (also hosted on the VOICE server) with things like mail and online polls.

I'd like to personally thank all the people who over the many years have submitted announcements to the VOICE mailing list which helps keep OS/2 and eComStation users informed without having to spend a lot of time hunting down this information on their own. If you have a news item related to OS/2 and eComStation, please email it to submit@os2voice.org or use the [online submission form](#).

Next, Christian Hennecke who stepped in as the Editor-in-Chief of the VOICE Newsletter a couple of years ago and has modernized it into a truly attractive and useful information source despite some tough times getting new content and help translating in our ever shrinking community of users and developers. The Newsletter has come a long way since it first appeared 9 years ago as a brief four pages of [HTML](#) (and that damn INF version `;-)`) with some news and information about VOICE and OS/2.

Finally to the writers, translators, and editors who continue to work on the Newsletter so folks have something new to read every month or so. Without these people there would be no VOICE Newsletter. If you haven't done so yet, please consider contributing an article for a future edition. There is a very well written guideline for submission of articles that you should definitely look over for hints about what to write and how to present it.

Our thanks also go to the voters. Thank you for the confidence you put on us. We will try to maintain the standard and have a few plans to further improve our services.

For the fifth time, the OS/2 World.com award has turned a spot-light on individuals, organisations, and companies that still support OS/2 and eComStation-many of them rather silently. Let us remember that the dedication shown is not self-evident and that there are people behind the products. Congratulations to all the other award winners and nominees alike!

Formatting: [Christian Hennecke](#)

Editing: [James Moe](#)

Mark Dodel is the founding editor of the VOICE Newsletter and is the current moderator of the VOICE News mailing list <http://www.os2voice.org>. Mark is a past president of [Warpstock](#), the annual OS/2-eComStation user conference in North America and continues as an advisor to the board of directors of Warpstock, Inc. He has worked for many years as a computer consultant for clinical hospital systems development.

Mobile Broadband under OS/2 in Australia

Mobile Broadband under OS/2 in Australia Using an LG 8330 3G phone with OS/2 and eCS

by [Ed Durrant](#), © June 2006



I recently received a new "3G" mobile broadband-capable phone from the mobile phone service that I use. It was under a deal to move current [Hutchinson CDMA](#) ("Orange") customers over to the Hutchinson 3G ("[3 Australia](#)") network as the CDMA network in Australia is being scaled back. This article documents how we can use the phone with OS/2 and eComStation.

The Phone Deal

The deal was good, paying out the remaining purchase costs on the old, non-compatible CDMA phone and supplying a brand new, full featured [LG U8330](#) phone for AU\$ 0. An additional "sweetener" being minimum monthly usage customers such as myself, saw the costs fall from around AU\$ 50/month [US\$36.40, €30.10] for two "family" phones to around AU\$ 20/month.

The phones have built in [VGA](#) resolution cameras and support video conferencing. They also have Internet access both to the phone companies service [portal](#) and to the wider Internet itself. You can browse websites on the phone (although it's less than perfect on such a small screen) and send and receive e-mail. The Internet connection is a [384Kb/s](#) download and 64Kb/s upload link, so very respectable for a mobile link.



Under Windows these phones connect to your [PC](#) via [USB](#) or [Bluetooth](#) to allow transfer of your appointment diary, music & video clips and to enable receipt to the PC of pictures and videos taken with the phone (these can also be transferred via e-mail). The most interesting feature is that they allow the PC to connect to the Internet via the phone. The pricing of the Internet connectivity service is also attractive at AU\$5.00 minimum monthly charge and up to 100MiB transfer for AU\$29.00 [US\$21.10, €17.45], with transfer over the 100MiB limit being charged at AU\$1.0 / MiB. For a low usage user, this is actually cheaper than standard dial-up using a 56Kb/s [modem](#) and there no telephone charges to add on.

So this all sounds like a great advert of what is possible in today's competitive telecommunications market and it's really nice that Windows users can have all of these features, *but what about OS/2 and eCS users?* Can we also take advantage of this simple Internet connection while on-the-road or at home?

Searching the Internet I found on Jonas Buys' [os2warp.be](#) website that the Nokia 6230i phone had been used by Tapio Angervuori from Finland as a modem by the Injoy dialer. However I found no other references, definitely not for my LG U8330.

I found the most useful information on Hutchinson's [Australian website](#). Although no mention of OS/2 or eCS was made (neither was Linux or Macintosh for that matter), the fact that connectivity to [PDA](#) devices was supported raised my hopes that it might be possible to use this phone with OS/2 as Tapio had done with the Nokia 6210i. I found the information I required on some of the site's web pages and further information by downloading some instruction manuals (as [PDF](#) files). It's interesting to note that this phone requires the PC to send *99# to connect, the same as Tapio states for the Nokia-perhaps this is some kind of standard across these new generation phones?

As well as the connection number, the other important piece of information necessary to connect is the [APN](#) name. Without this you cannot connect. This however cannot be easily passed from the PC to the phone via the dialer so it needs to be manually set within the phone. Again the "3 Australia" website provided all the details of how to do this.

I will detail below all of the steps required to get this working. Suffice to say, it was a nice surprise to get the bonus of mobile broadband that works with OS/2 & eCS on a phone that I took to save money!

Although these details are relevant to the LG U8330 phone, they may be valid for all "3G" phones on the "3" network, worldwide, so if you live in one of the countries listed below, you may wish to consider this new technology.

In 2000 [Hutchison Whampoa](#) obtained its first 3G licence in the [UK](#). Subsequently, through alliances with partners, the Group's international footprint outside Hong Kong and the United Kingdom covers Australia, Austria, Denmark, Ireland, Israel, Italy, Norway and Sweden.



Setting up the phone

As stated previously this is information directly from the phone company's website.



Caution It's best to follow these instructions "to the letter." Don't be tempted to add a new Access Point entry even though the phone lets you do this. Change the existing one. I have not found any way of switching from the first entry in the list.

Set up the APN on the phone (this setup is also necessary to browse any site other than the "3Services" portal on the phone's internal web browser):

1. Press **M** Menu.
2. Go to **M** Settings (or press [9]).
3. Go to **M** Access points (or press [5]).
4. Click on **M** Edit whilst **M** 3Services is highlighted.
5. Scroll down to the **M** APN field and enter **E** 3netaccess (overwriting **E** 3Services).
6. Click on **M** Done.

Turn the phone off, and turn it back on.

Setting up the OS/2 or eCS PC

I do not cover the installation of the **InJoy** dialer here. I presume you have it or an equivalent program installed, or know how to install it.

These settings are for the InJoy dialer. If you are using a different (**PPP** capable) dialer, look for similar fields.

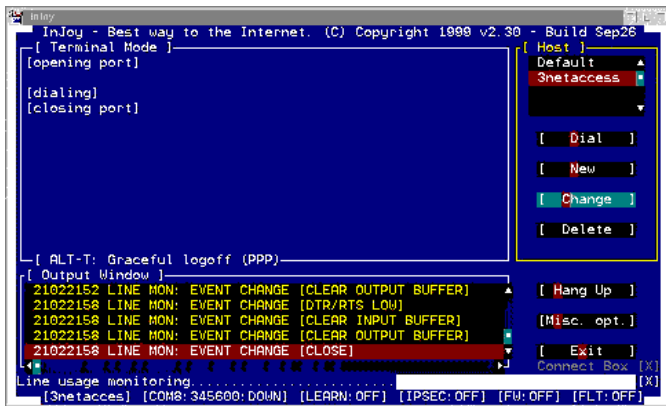


Fig 1. InJoy - Main Screen [\[Larger Image\]](#)

Create a new host profile by pressing the **M** New button.

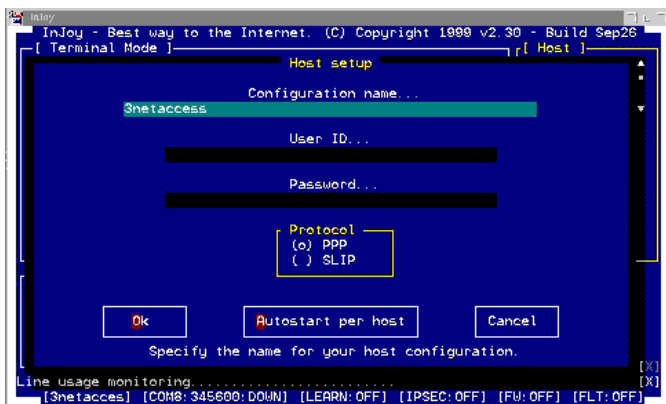


Fig 2. InJoy - Host Setup [Larger Image]

I have called this host profile [E 3netaccess](#) but the name is not relevant at this point. You can call this new host whatever you think is most suitable. Leave the [M User ID](#) and [M Password](#) fields blank. Click on [M OK](#).



Fig 3. InJoy - PPP Setup [Larger Image]

In the next screen displayed you can leave all settings at their default values as shown above. Now press the [M Comm setup](#) button.

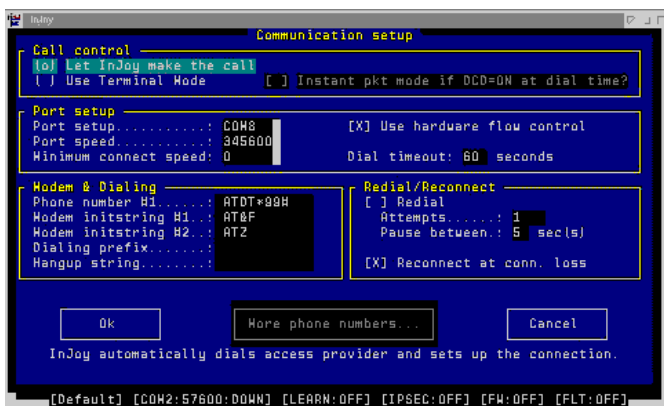


Fig 4. InJoy - Communication Setup [Larger Image]

This screen sets the communication interface parameters to connect to the phone which is seen as a USB attached modem. The values shown above seem to work well:

In the [M Port setup](#) section:

1. Set [M Port setup](#) to [E COM8](#) [A USB port is configured as COM8. See below]
2. Set [M Port speed](#) to [E 345600](#)
3. Choose a [M Minimum connection speed](#) of [E 0](#)

In the [M Redial/Reconnect](#) section:

1. Select [M Reconnect at conn. loss](#), so that an [\[X\]](#) is displayed as shown.

In the [M Modem & Dialing](#) section:

1. Set [M Phone number #1](#) to [E ATDT*99#](#)
2. Set [M Modem Initstring #1](#) to [E AT&F](#)
3. Set [M Modem Initstring #2](#) to [E ATZ](#).

These may not be the "perfect values." However they are "tried and tested" and work with the LG U8330 phone.

Now press [M OK](#) and you will be returned to the previous screen:



Fig 5. InJoy - PPP Setup again [Larger Image]

This time click on the **PPP options** button as highlighted here.



Fig 6. InJoy - PPP Options [Larger Image]

Although this screen may seem rather complex, all you need to do is to click on the **Make fast** button and the InJoy dialer presets the values for the fastest connection. Press **OK** to once again return to the screen below:



Fig 6. InJoy - PPP Setup last time [Larger Image]

We have now finished the configuration of InJoy dialer, so click on **Save** and you return to the very first InJoy screen. For now press **Exit** as we still need to configure the USB port.

Setting up the USB Modem connection

The last and most important component-USB modem support-is the easiest to install. The base USB support must already be loaded and you must have a working USB port. You will be plugging the USB cable from the phone into this port.

If not already installed, install the USB modem (sometimes referred to as USB Comm) support files using the instructions that come with the download. This process puts a file called `USBCOM.SYS` into the `\OS2\BOOT` directory and adds a `DEVICE=`

statement into CONFIG.SYS.

Edit CONFIG.SYS and find the `DEVICE=C:\OS2\BOOT\USBCOM.SYS` line. Add `/N:COM8` to the end of it. Recall in the Injoy setup the `Port setup` value was entered as `COM8`-which this parameter now corresponds to. I have avoided using a lower number COM port, such as COM1 - 4, as they may exist in your system already.

Save CONFIG.SYS, close down and restart your system. This is a good time also to turn off and on your phone to reset it. (If you find you have a connection failing later, turning the phone off and on usually fixes the problem.)

Once the system has restarted, connect the USB cable to the phone and then to the USB port on your system. Start up the Injoy dialer, select the new host profile that you created and press on `Dial`. If all is well, your system is now connected to the Internet via the LG U8330 phone.

You have Mobile Broadband connectivity under OS/2 or eCS!

If you want to try this all out before committing to an Internet service agreement, you can. Access to the service without a service agreement is charged at AU\$ 4.00 / MiB data transferred. You probably won't need to transfer more than one MiB of data before you know the system is working and you can then sign up to whichever plan is best for you online-even via the link you're already using over the phone.



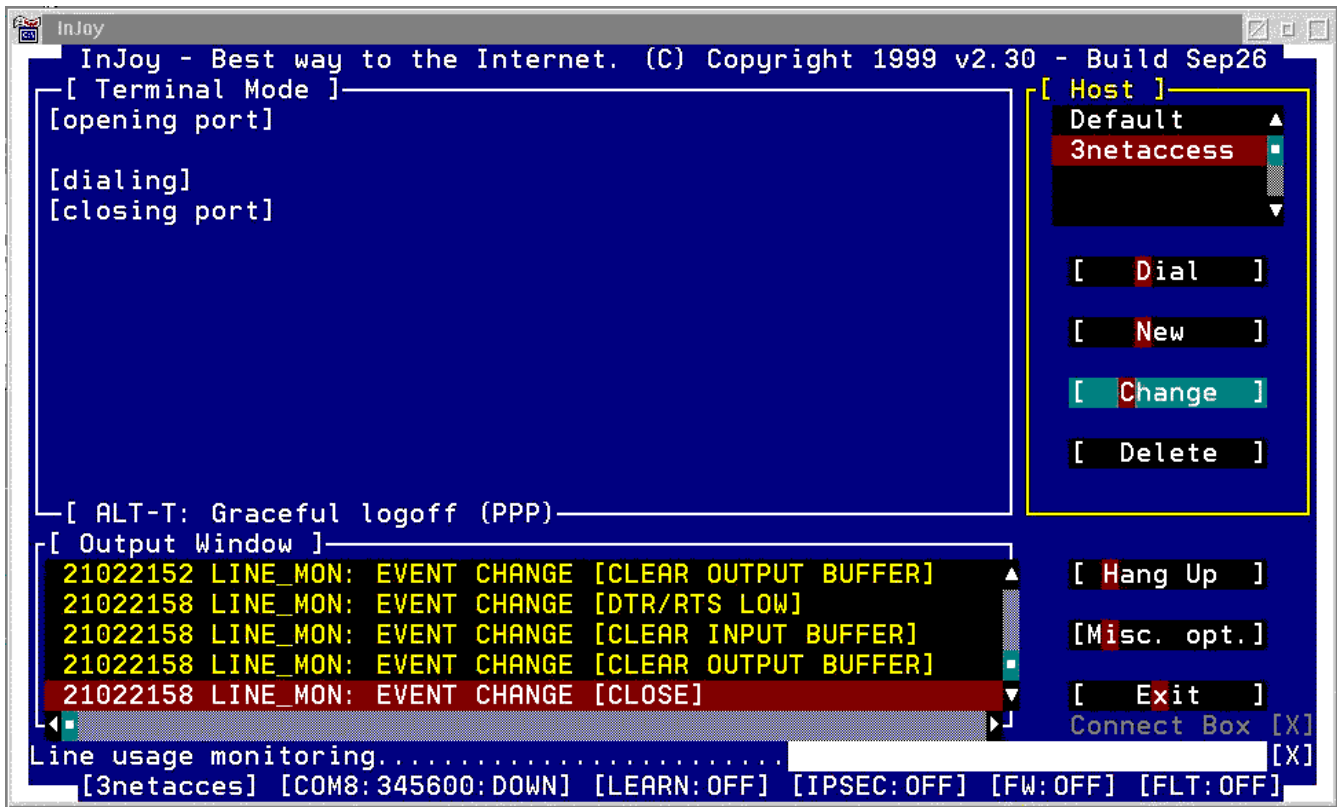
Editing: [James Moe](#)

References:

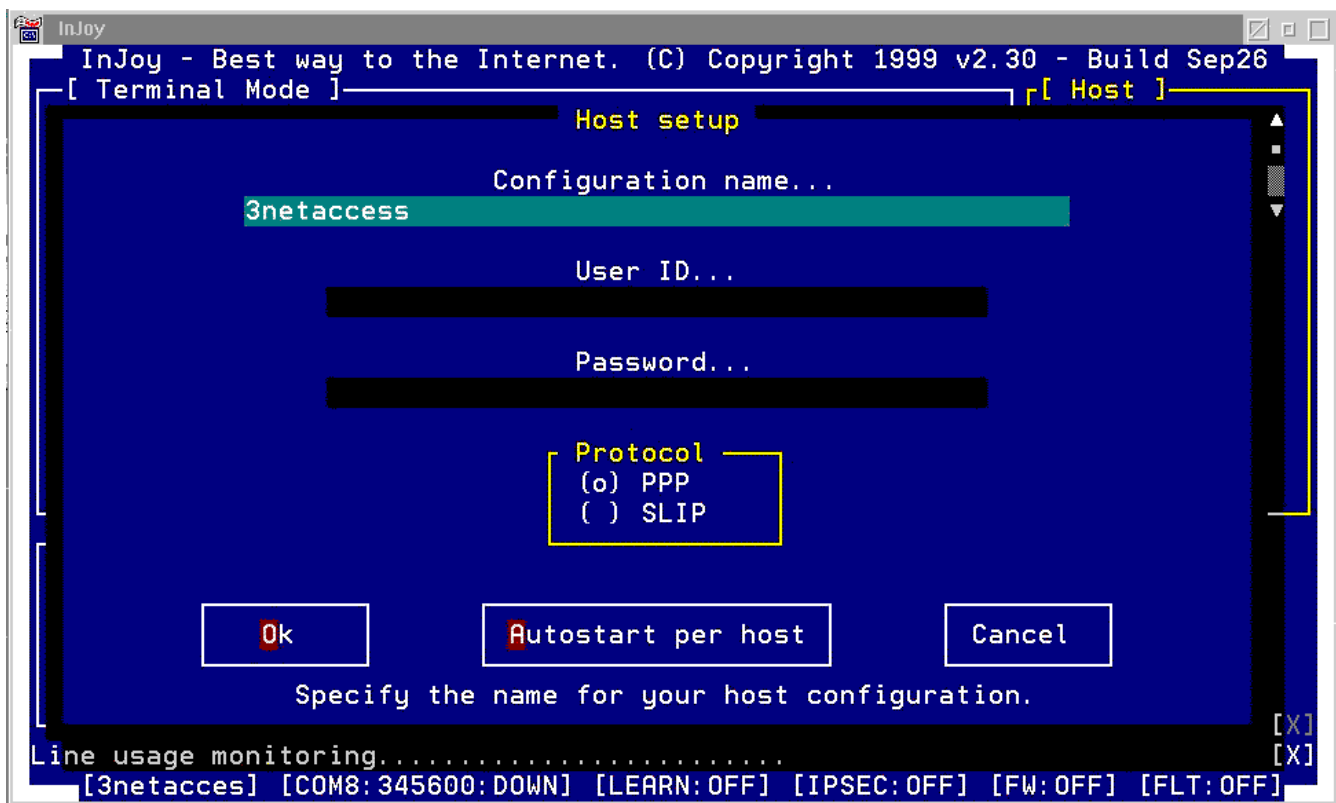
INJOY Dialer: <http://www.fx.dk>
OS2Warp.be website: <http://www.os2warp.be>
"3" Australia: <http://www.three.com.au>

Ed Durrant has worked with and supported OS/2 since version 1.1 and presently lives in Sydney Australia.

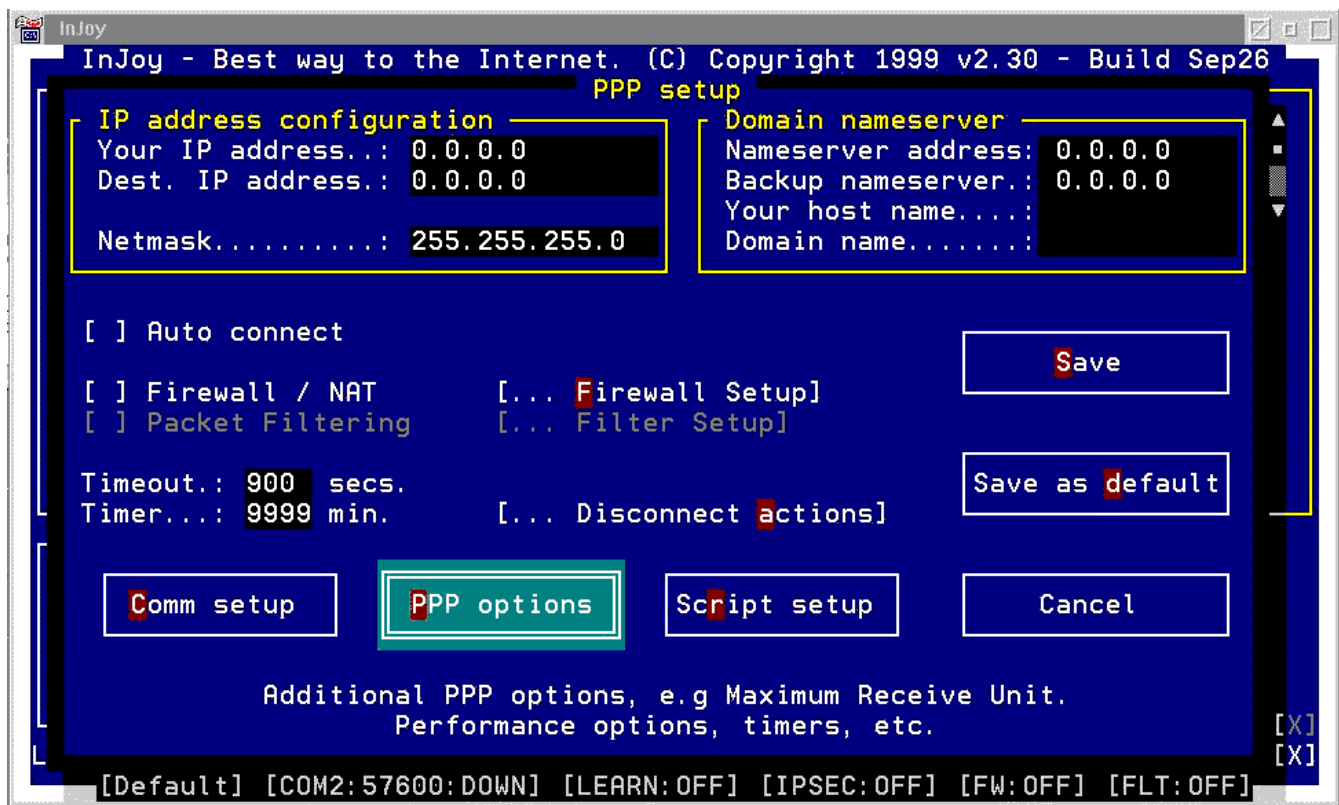
injoy-start.png



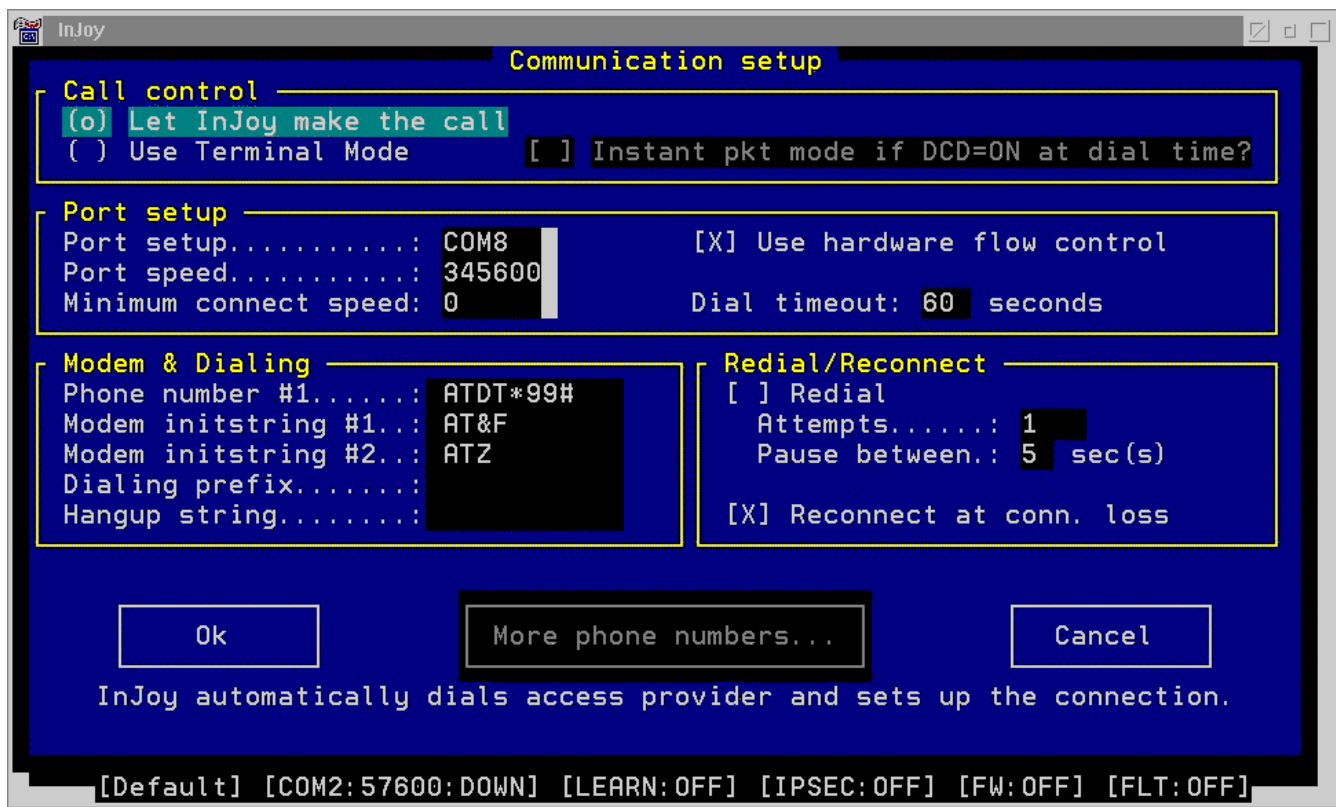
injoy-config.png



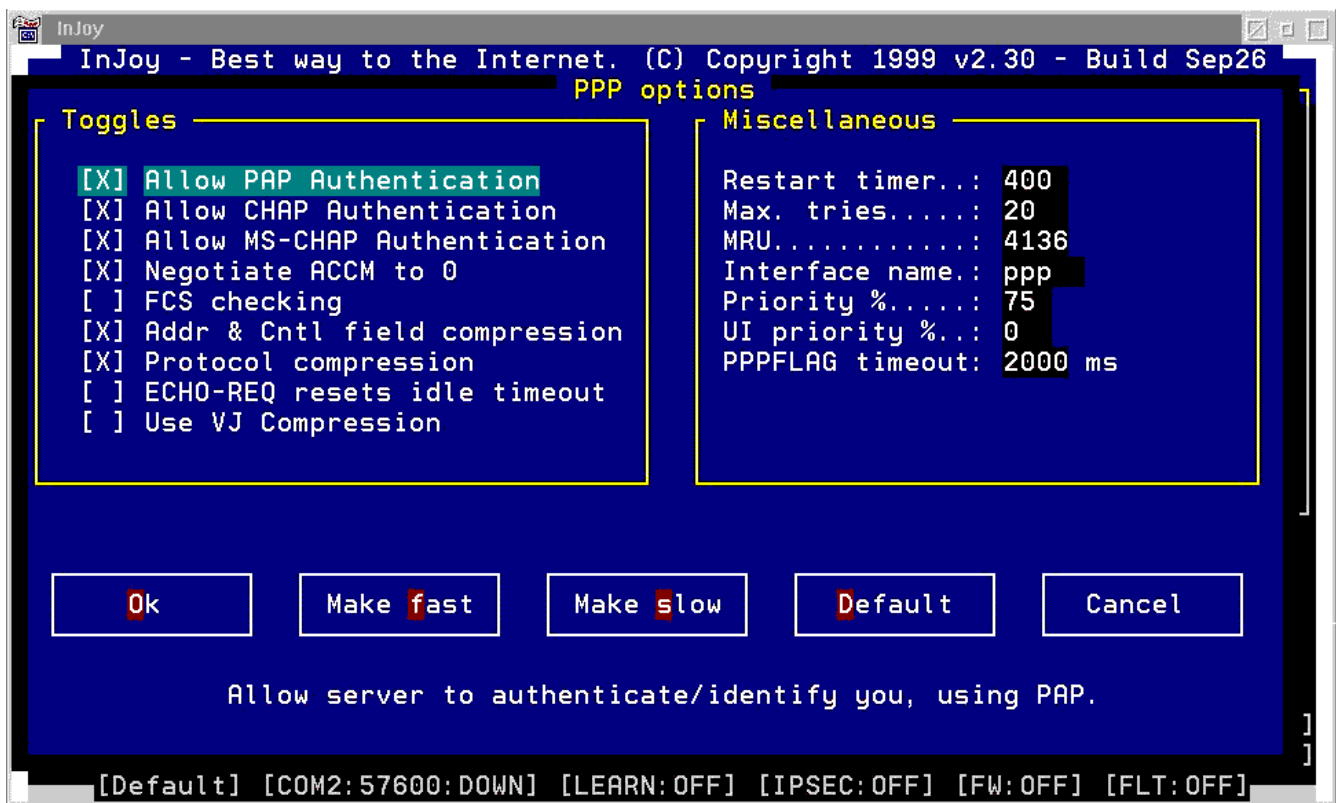
injoy-ppp-hl.png



injoy-com.png



injoy-ppp.png



USB Removables

USB Removables Care and Feeding FAQs

by [Lon Hooker](#), © June 2006

The use of [USB](#) storage devices with [eCS](#) has been, until fairly recently, a rather chancy proposition. Some devices worked fine "out-of-the-box," while others were not usable no matter what was done to them. There were many reasons for this, but with the latest releases of the various drivers and other software involved, nearly all types of USB removables are now quite well supported. This support is not always as seamless as we might like and rather drastic measures may be needed in some cases, but as a rule, a few simple procedures allow nearly all of them to function.

Having said that, please do not expect these devices to behave the same as they do under a certain "other" operating system. In general attachment is noticeably slower and their appearance on the desktop may be quite different (multi-slot card readers, drive letter assignments, etc.). This is due to the way USB is implemented under [eCS](#) and to the properties of [LVM](#).

Introduction

The information presented here is the result of my own testing, research into the available documents and the reports and experiences of others. It is as complete as I can make it with the resources at hand, but there is no guarantee as to its applicability in all cases. Note especially that all testing was done exclusively on [eCS/LVM](#) systems and that there was no testing on any [OS/2](#) Warp system, [LVM](#)-based or otherwise.

The procedures are based on the latest versions of the software as noted in the text. If older versions are used, the results are unpredictable at best and may be hazardous to your data at the worst.

The main concern here is with USB attached devices using fixed magnetic media. Detailed information regarding devices using other interfaces and media types is available in section 4 of the documentation file included with `OS2DASD.DMD`. I have tried to keep things as simple and non-technical as possible, but if you wish to delve further, there is a short reading list at the end of this article.

Terminology

The use of USB mass storage devices in conjunction with LVM requires an understanding of some basic terms.

Physical Drive

A hardware device that provides persistent data storage. It has a standard communication interface allowing the operating system to transfer data between the storage media and memory. The storage media may be either fixed or removable.

Disk Partition

A disk partition allocates a subset of a physical drive's storage. That subset may be either all or part of the storage available. Partitions are confined to a single physical drive.

Volume

The concept of the "logical volume" is crucial to USB [MSD](#) support under eCS.

Logical volumes overlaid and hide the actual physical partitions on a hard drive and allow the user to directly control such parameters as drive letter assignment and drive space allocation. The information describing these volumes is stored in the "Drive Letter Allocation Table" (DLAT), located in a special sector of the [EBR / MBR](#) track, after the partition tables. This information is invisible to, and does not affect, any operating system that is not LVM based. When an LVM system is started, `OS2DASD.DMD` reads the DLATs and assigns drive letters to the various volumes according to the information found therein, rather than using a fixed algorithm as is done by non-LVM systems. The flip side is that an LVM based system cannot access any partition, regardless of file system, that does not contain valid LVM information.

Simply put, therefore, all removable devices must be "blessed" with LVM information before they can be used by eCS. The single exception to this rule is any device configured as a Large Floppy.

There are two types of volume in use by LVM systems:

Compatibility Volume

A volume created on a single underlying partition which exactly corresponds to an physical partition. As the name implies, a Compatibility volume is accessible by any operating system having the appropriate file system drivers.

A Compatibility volume may use any file system except standard JFS, but see note following.

LVM Volume

A Logical Volume is created from either a single partition, or it may span multiple partitions on one or more physical disks.

LVM volumes were designed for [JFS](#), and only standard JFS can take advantage of its partition spanning capabilities.



Caution "Standard JFS" is specified in the foregoing statements because "bootable JFS" is exactly opposite-it can *only* be installed on a Compatibility volume to preclude installing an operating system to a volume that spans multiple partitions.

Media

There are two types of media: partitionable and non-partitionable.

Partitionable media

Media that can be partitioned by tools such as LVM or [FDISK](#).

Any removable device containing partitionable media is supported and controlled by the `usbmsd.add /REMOVABLES:[n]` statement in `CONFIG.SYS`, and appears in the WPS as a removable hard drive. This specifically includes any USB device configured as a Large Floppy.

Large Floppy

Partitionable media containing no defined partition(s) and using only the FAT16 format. Originally designed to be used by "Super Floppy" devices, this configuration is now mostly used by smaller (< 2 GiB) USB storage devices. Note that even though such media is not partitioned, it is still capable of being partitioned and may be converted to a different format simply by using an appropriate partitioning tool and formatter.

Since Large Floppy devices do use partitionable media, they are supported and controlled by the `usbmsd.add /REMOVABLES:[n]` statement in `CONFIG.SYS` and appear in the WPS as removable hard drives.

Non-partitionable media

Media that is not capable of being partitioned by tools such as FDISK or LVM: standard floppies, CD-R and CD-RW disks are examples.

USB floppy drives are supported by the `usbmsd.add /FLOPPIES:[n]` statement in `CONFIG.SYS` and are indicated by a "floppy" icon in the Drives folder.

USB CD R/RW drives are supported by `usbcdrom.add`. Unless you actually have one of them, the entry referring to this driver should be removed from `CONFIG.SYS` to prevent a spurious CD-ROM icon from appearing in the Drives folder.

FAQs

1. What devices work with eCS?
2. What supporting software do I need?
3. Do I need to make any changes to `CONFIG.SYS`?
4. I booted with a removable drive attached. Now it shows in my WPS drives folder as a "fixed disk" and there's no `Eject` selection. How can I remove it safely?
5. My drive works fine with Windows. Why doesn't it work with eCS?
6. LVM won't make any changes to my drive. How can I create a new partition/volume?
7. Still no luck. eCS refuses to access my drive.
8. I have an 80 GiB HDD, formatted FAT32, but eCS can't access it. There is data on it that I can't afford to lose, so the foregoing procedures are out of the question.
9. Can I use devices containing multiple volumes?
10. What file systems can be used on these devices?
11. How do I format FAT32 media?
12. What about multi-port flash card readers?

1: What devices work with eCS?

Most of the ones you pick up at the computer store either work "out-of-the-box" or can be made to work with a bit of suitable coercion, depending on how badly they have been mangled by buggy partitioning tools.

- Most so-called "thumb drives" (< 2GiB) come from the factory configured as Large Floppies. They can either be used 'as-is' or converted to something more useful than FAT16.
- Hard drives in USB enclosures need only minimal intervention to configure them for LVM. Multiple volumes are supported.
- [PDA](#)-type devices should be accessible as long as their drives can be "blessed" by LVM and you have the required file system driver. This has not been tested by your humble scribe, however, so you're on your own.
- *External* multi-slot flash card readers are no problem as long as the media itself doesn't have some odd format that won't accept LVM information..
- *Internal* multi-slot card readers connected to a mainboard USB header are specifically *not* supported.



[Back to FAQs](#)

2: What supporting software do I need?

Quite a bit, but most of it should already be installed. You do, however, need to check that the versions you have installed are the latest available and that they are properly configured.

Bear in mind that there is a high degree of interdependence between the various drivers. If any one of them is at the wrong level, the others may not work as expected. This could result in anything from the device simply failing to work, on up to data loss and system traps.

I realize that there is a lot of advice regarding the various drivers, and their configuration, coming from various sources. Take it if you will, but be sure to apply the "version" test before doing so: Does the advice being offered apply to the software version(s) you have installed on your computer? Apples and oranges. . .

To check the build level of IBM drivers, open a command prompt and run `bldlevel [path][filename]`. The version of third party software may be determined from its accompanying documentation. Beware of using file dates for this purpose, however, because different distributions of the exact same file often show very different file dates. . . IBM is famous for this.

The versions noted below are current as of this writing:

USB Basic stack from IBM

Build level 10.162. It is best to use [eCSMT](#) for the installation and update so that the correct number and type of `usb?hcd.sys` drivers are entered in `CONFIG.SYS`.

USB MSD stack from IBM

Build level 10.162. Again, use [eCSMT](#) for the installation to ensure that `usbmon.exe` (`usbmsdd.exe` in [eCS 1.2MR](#) and later) is correctly installed.



Warning You may have two files in your USB installation, both named `usbmon.exe`. They serve two entirely different purposes and must be installed to different directories:

- `\os2\usbmon.exe` is the USB printer daemon. It is started via an object in the startup folder called [USBPRT Auto monitor](#). Of interest only to a USB printer and may be removed if not required.
- `\OS2\BOOT\usbmon.exe` is the USB MSD daemon. It is also started via an object in the startup folder, this one called [Removable Device Monitor V1.1](#). Whenever a USB MSD is attached, this daemon detects the drive and passes it to LVM. LVM, in turn, runs `/rediscoverprm` to actually mount the drive. The object in the startup folder should be created automatically when the USBMSD package is installed, but, if needed, it can be installed manually by running `\OS2\BOOT\USBICON.CMD`.

In an effort to alleviate the above confusion, Serenity Systems made the following change in [eCS 1.2MR](#):

`\ECS\BOOT\USBMSDD.EXE`. This is a full replacement for the USB MSD daemon above. It appears in the startup folder as [Removable Device Monitor V1.2](#).



Warning Some people still recommend using Chris Wolgemuth's CWusbmsd.add. Simply put, don't. It was written to cover some deficiencies in the IBM drivers available at the time and was the only way most people could get their MSD's to work. If used with current IBM software, however, it only causes serious problems. All references to it should be removed from CONFIG.SYS.

OS2DASD.DMD

Build level 14.104. Distributed by [IBM](#) in `ide10161.zip`.



Caution Do not use `DANIDASD.DMD`. It is not "LVM aware," so is only for use on non-LVM systems.

DaniS506.ADD

Current [Apr 2006] version is 1.75. eCSMT or manual installation.

FAT32.IFS

The only acceptable version of `FAT32.IFS` as of this writing is version 0.9.11, dated Dec 24 2005. Earlier versions of this driver contained fatal flaws causing the loss or corruption of data on removables used to transfer data between computers. Those earlier versions must be avoided. Available as either a [ZIP archive](#) or [WarpIN package](#).

DFSee from FSYS Software

Unfortunately, situations arise while managing USB devices where LVM cannot accomplish some given task. The biggest problem is when a buggy partitioning tool (Partition Magic and Windows being the worst) makes non-standard entries in the partition tables. LVM can't handle it and is unable to do anything at all. In such cases, DFSee can diagnose, work with and correct the problem.

In addition, from version 7.15, it has the only "native" FAT32 formatting option for eCS. . . a chore that could previously only be done on Windows. See section on format options.

As you will see later, many, if not most, of the procedures in this document are based on DFSee simply because of LVM's shortcomings.

The current version is available at the [FSys Homepage](#) and [Hobbes](#).

The demo version is fully functional but does not offer technical support. Registered users, however, will find the author to be very responsive to support requests.

USBcfg.exe

A program for configuring the various USB drivers after they have been installed on your computer making any needed changes to `CONFIG.SYS` in the most painless possible way. Under active development as of this writing, the current version can be found at [Hobbes](#).



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3: Will I need to make any changes to CONFIG.SYS?

No doubt. All the software mentioned above must be installed or, if already installed, checked for proper configuration.

USB Drivers



Caution Some entries, notably the USB drivers, are case sensitive and require the use of **upper case**.

Once installed, either by eCSMT or manually, the entire USB stack can be configured using Peter Brown's excellent program USBcfg.exe. The information here explains what is needed by that program.

Code
`BASEDEV=USB?HCD.SYS`

For the USB system to operate correctly, these entries must conform to your hardware both in number and type. This is determined by running `\os2\hcimonit.exe`. The output tells you what type and how many USB controllers you have on your system, either on the mainboard or on an adapter card. For example:

CMD
`[X:\]hcimonit`
 You have 3 PCI USB UHCI host controller(s)
 You have 1 PCI USB EHCI host controller(s)

OHCI and **UHCI** = USB hardware specification 1.1, depending on your chipset. **EHCI** = USB 2.0.

Since CONFIG.SYS must have a separate entry for each host controller, the following entries are required in the above case:

Code
`BASEDEV=USBHCD.SYS`
`BASEDEV=USBHCD.SYS`
`BASEDEV=USBHCD.SYS`
`BASEDEV=USBHCD.SYS`

OHCI controllers are handled the same as UHCI: one line per controller.



Note These USB statements apply only to host controllers, and not to the number of ports you have on your box. The two are not related. If your system is properly configured, it makes no difference which port a device is plugged into, USB.D.SYS detects whether it is 1.1 or 2.0 and passes it to the proper controller.

Code
`BASEDEV=usbmsd.add /FLOPPIES:[n] /REMOVABLES:[n]`

When USB support is first installed, this line may be placed in CONFIG.SYS, but **REM**d out and having no parameters at all. If you simply delete the "REM," the driver reverts to default values of `/FLOPPIES:1 /REMOVABLES:1`. In most cases, this must be changed.

There are two types of device covered by this statement. The difference is subtle and the two types are supported separately:

REMOVABLES:[n]

All devices that use *partitionable*, *fixed* media are supported by this parameter. Most USB mass storage devices are of this type, including thumb drives, hard drives and external multi-slot card readers. Internal USB multi-slot card readers are specifically *not* supported by the current crop of USB drivers.

The number of removables specified here requires some thought, as it

1. defines the number of containers available within LVM for the attachment of removable media, and thereby
2. limits the number of devices you may have attached at any one time

You see these containers when you open LVM. . . they appear as 96 MiB "placeholders" unless a device is actually attached. There is also some rather lurid warnings from LVM that these empty containers have "bad partition tables," etc. Ignore them.

The rule of thumb is to specify one removable for each removable you have, plus one for each "slot" or opening in

a multi-device card reader. This is not set in stone, however, and may be adjusted by experience if you know you'll never attach more than "n" devices at any given time. The maximum number would be the number of unused drive letters on your system.

For the purposes of this parameter, a USB hard drive containing multiple volumes counts as a single device and occupies only one container in LVM. In other words, it looks exactly the same as an internal hard drive. On attachment, each visible volume is assigned a separate drive letter according to its DLAT. If no drive letter is specified (DLAT = "--"), the volume is 'hidden.' If the assigned drive letter is an asterisk (*), or the assigned drive letter conflicts with one already in use by the system, LVM assigns the lowest available drive letter. Ejecting any one volume cleanly ejects all volumes on the disk.



Note Hint: Make sure at least one volume is always visible on multi-volume devices, since LVM is unable to assign any drive letters at all if all volumes are hidden. In such a case, you could use DFSee to assign drive letters.

FLOPPIES: [n]

This parameter only supports devices that use *non-partitionable, removable* media, such as USB standard floppy drives.

The default value is 1. If you do not have or use such a device, the value must be explicitly set to "0" to remove the service and prevent the appearance of a bogus floppy icon in the WPS.

FAT32.IFS - The FAT32 Installable File System

Here is a typical CONFIG.SYS entry for FAT32:

```
Code
IFS=[d]:\OS2\FAT32.IFS /Q /H /CACHE:2048
```



Warning Do not use any version of this driver prior to 0.9.11! They all contain a serious flaw that causes data loss or corruption on removables that are used to transfer data between computers.

Check the paths in the statement carefully, and also check for duplicate entries. At some point in its history, the default locations for FAT32.IFS and its associated files were changed requiring a change to their CONFIG.SYS entries. This is a problem mainly for users who manually installed older versions and then used the WarpIN installer for a later version. In any case check that the entries in your CONFIG.SYS are pointing to valid locations and that there are no duplicates.

The **/H** switch loads the driver into High memory and is Highly recommended. (Sorry!)

```
Code
CALL=[d]:\OS2\CACHEF32.EXE
```

The use of CACHEF32 is problematic. Normally, the purpose of a cache is to speed up read/write operations. In the case of CACHEF32, however, speed gains seem marginal and, in some cases, seem to dramatically slow write times. The current "best practice" is to go ahead and use it unless you notice excessively slow write times. It can be stopped from the command line with **CMD** `cachef32 /q` and re-started by entering **CMD** `cachef32...` no need to re-boot.

The meanings of some lesser used switches are explained in FAT32.INF.

OS2DASD.DMD - Direct Access Storage Device driver

```
Code
BASEDEV=OS2DASD.DMD
```

There are only two switches documented for this driver, neither of which are for use with USB removables.

`/LF`

Forces all removable devices to be treated as Large Floppy rather than partitioned media.

Although this switch can be used to provide access to Large Floppy configured USB devices, it does so at the cost of **denying** access to media in **other** formats. For example, if this switch is used, a 512 MiB FAT32 thumb drive cannot be accessed. . . regardless of what you place in your `usbmsd.add` statement.

Furthermore, if used, the `/LF` switch causes a new "floppy drive" icon to appear in the drives folder each time a USB device is attached. Even after the device is removed, the icon remains until the system is shut down, taking up a drive letter.

`/MP`

Used to support allocating a predetermined number of drive letters for a partitioned removable media device. Note that this option only applies to partitioned removable devices, and is ignored for any other device type.

This switch applies only to [lomega ZIP drives](#) allowing them to use partitioned *removable* media. It has nothing to do with USB devices which use partitioned *fixed* media and are controlled by the `usbmsd.add` `/REMOVABLES:[n]` statement.

Other switches to this driver are sometimes referenced, but they are relics from obsolete versions and since they are **not** documented for the current version, their use is questionable at best. Remember the "version rule."

DaniS506.ADD



Note `DANIDASD.DMD` is also available, but is only for use on non-LVM systems.

Code

```
BASEDEV=DANIS506.ADD
```

This is the preferred [IDE](#) driver because it supports a wider range of devices and is simpler to use than `IBM1S506.ADD`. No switches are needed for normal operation. See the documentation in the distribution file for special requirements.



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4: I booted with a removable drive attached. Now it shows in my drives folder as a "fixed disk" and there's no "eject" selection. Can I remove it safely?

In the first place booting with USB MSDs is not recommended. . . for exactly this reason. Fortunately, a safe ejection is possible either from the command line, by issuing `CMD eject [d:]`, or with DFSee (8.xx or later), using the [File->Media management](#) menu item. When the disk is re-inserted, it appears correctly as a "removable."



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5: My drive works fine with Windows, why doesn't it work with eCS?

In general for eCS to access any removable, it must be partitioned and contain a valid DLAT. Unfortunately, if the drive was partitioned by a tool that was not LVM aware (notably Partition Magic or Windows FDISK), LVM probably cannot make the required changes. You can always try, but in most cases DFSee is the only tool that works.



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6: LVM won't make any changes to my drive. How can I create a new partition/volume?

Use DFSee. Since the drive is already "clean," i.e., all free space, it's pretty simple:

1. [Mode=FDISK > Create new partition](#). Create a primary partition, selecting [Create NEW mode](#). . . and [Include LVM information](#). Selecting [OK](#) brings up an [Edit LVM info](#) dialogue which writes the needed information to disk (see figures 1 and 2). Follow the dialogues, allowing DFSee to write the changes. You don't need to choose a partition type; that is set by the format program.

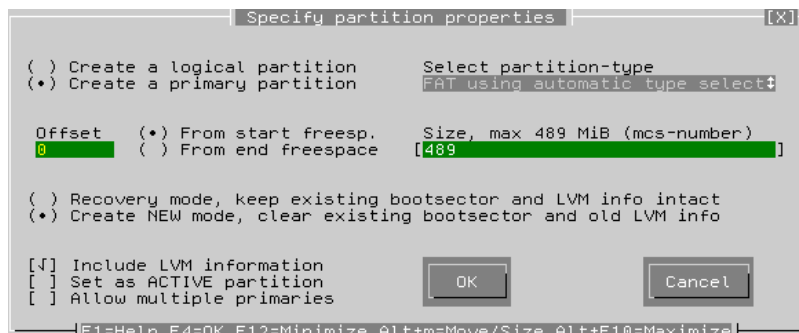


Figure 1. DFSee Create Partition dialogue

If there is only one partition, make it 'primary.' If there are multiple partitions, they should all be made 'logical.' Check the boxes for [Create NEW mode](#). . . and [Include LVM information](#).

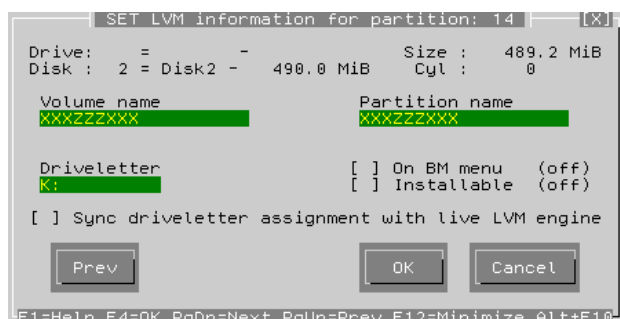


Figure 2. DFSee Edit LVM Information Dialogue

Enter whatever you want; just make sure the box labelled [Sync driveletter assignment with live LVM engine](#) is left **unchecked**. (This item only works for fixed disks-not removables.)

2. If you are using FAT32 and have DFSee version 7.15 or later, you should format the volume now. Using the menu, go to the item [Actions > Format volume or partition > With a FAT/FAT32 file system](#) and follow the dialogues (see figure 3).
3. Close DFSee and eject the drive.



Caution DFSee must be closed before attempting to eject a device. This is because all drives are "locked" while DFSee is running, thus disabling these functions: eject, the USB MSD daemon, and 'LVM /rediscoverprm'.

4. Format as required (other than FAT32). See format options below.

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7: Still no luck. eCS refuses to access my drive.

Well, there's one procedure that's (almost) guaranteed to work. It's based on the theory that some manufacturers, OSes, or partitioning tools are prone to put "strange stuff" on their drives. This forces us, as eCS users, to take some drastic measures.



Note There's a chance that LVM will trap your system when you eject the drive at the end of this procedure, so save your work before starting. If you don't want to risk a trap+autocheck, simply do a controlled system shutdown-without ejecting the drive-when you're finished.

What you're going to do is to 'zero' the drive, create a new partition, "LVM" it and format it. The descriptions were made using DFSee version 8.00. Older versions are slightly different

1. [File > Open object to work with](#). Select your drive.
2. [Actions > Erase, wipe selected areas > Erase current object](#). Just so you're aware, this may take a fairly long time with larger drives. You can stop the process at any time by pressing escape.
3. When the "wipe" process is finished, go to step 1 in the previous procedure and proceed from there. Do not close DFSee or attempt to eject the drive at this time.

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8: I have an 80 GiB HDD, already formatted FAT32, but eCS can't access it. There is data on it that I can't afford to lose, so the foregoing procedures are out of the question.

All you need is to create a valid eCS logical volume, but LVM won't do it. DFSee, however, will write the needed LVM information. Note that this procedure does **not** disturb any existing file systems or data that may exist on the disk:

From the DFSee main menu, go to [Edit > LVM information](#) and select the partition from the pick list. This brings up an interactive dialogue (see figure 5) where you can assign LVM volume information to an existing partition. Enter what you will, pick [OK](#) and DFSee writes a new DLAT, creating a logical volume that is accessible by eCS.

When DFSee is finished, you must eject and re-attach the drive to properly register it with LVM.

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9: Can I use devices containing more than one logical volume?

Yes. USB attached hard drives are partitioned and formatted exactly the same as internal hard drives.

When attached, each volume appears in the WPS as a separate removable hard drive with a drive letter as specified in its DLAT. If the DLAT contains neither an asterisk (*) nor a specific drive letter, the volume is considered "hidden" and is not mounted. At least one volume must be visible so that LVM can mount the device. The ejection of any one volume cleanly ejects all mounted volumes on that device.

JFS volumes spanning more than one physical drive are not supported.

As with all partitionable media, multi-partitioned devices are controlled by the [usbmsd.add /REMOVABLES:n](#) statement in `CONFIG.SYS`. In the case of these devices, however, only one (1) removable need be specified per device, regardless of the number of volumes it contains.

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10: What file systems can be used on these devices?

There are a number of things to take into consideration when selecting a file system, with some special factors applying to removables, namely cross-platform portability. Start with the following table:

Table 1. Comparison of common file systems

Characteristic	JFS	HPFS	FAT32	FAT16
Max volume size	2 TiB	64 GiB	2 TiB	2 GiB
Max file size	2 TiB	2 GiB	2 GiB	2 GiB
Volume type	LVM*	Compatibility	Compatibility	Compatibility
Long filename support	Yes	Yes	Yes	Limited

Extended Attributes	Within file system	Within file system	Separate file	Separate file
Operating system support	eCS only	eCS only	eCS, Windows	eCS, Windows

* The general case for standard JFS. Bootable JFS, however, must be installed on a Compatibility volume.

JFS

If there is no need to interact with other operating systems, this is the best option. JFS is a 32 bit file system and will accept very large files, up to 2 TiB, as against the 2 GiB limit for the others. Large system backups and video files come to mind.

HPFS

A 16 bit file system that can be used where the 2 GiB file size limit is not an issue.

FAT32

Provides seamless long filename support for drives used with other operating systems. The flaws that caused almost certain data loss with versions 0.9.10 and older have been eliminated, making FAT32 a superior alternative to FAT16.

In the past a major disadvantage of FAT32 was the lack of a native eCS format program, but with the release of DFSee 7.15, that obstacle has been removed. In fact, DFSee's format routine is far better than that in Windows since it offers full control over the whole format process and avoids the arbitrary restrictions imposed by the different versions of Windows. (See below.)

Currently, the biggest problem with FAT32 removables is their slow write speed. Much of this stems from a deficiency in `CACHEF32.exe` and is proving very difficult to fix, although it is being addressed.

Another reported problem is that it may take an extremely long time to attach some FAT32 HDDs. It seems to depend on the size of the drive. . . over 5 minutes for very large drives (>250 GiB). Back-leveling to older releases as a workaround for this problem is **not recommended** due to the high probability of data loss/corruption inherent in those versions.

FAT16

Limited to drives of < 2 GiB. FAT16 can exist either as a non-partitioned Large Floppy, or as a normal compatibility volume.

Long filename support between FAT16 devices and other volumes in eCS is automatic via longname [EAs](#). Long filenames in Windows can be accommodated if you wish to make the extra effort. On Hobbes: [vfat2ea_v15.zip](#) [VFATMon11.zip](#)

NTFS


Of limited use mostly because the current eCS driver is in "alpha" state and restricted to read only mode. Also, [NTFS](#) volumes can only be formatted by Windows. Other than that, it can be made accessible to eCS simply by writing the required LVM information.

Format Programs

FAT16, HPFS and JFS media can be formatted by the eCS native format program, `FORMAT`.

FAT32 media is best formatted by DFSee. Windows can also be used, subject to the following limitations:

Version	Min Size	Max Size
Win95 SR2	512 MiB	2 TiB
Win98SE	512 MiB	127.53 GiB
WinME	512 MiB	2 TiB
Win2K/XP	32 MiB	32 GiB

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11: How can I format FAT32 media?

With DFSee 8.xx and later, it's simple. There are, however, some issues with DFSee 7.15.

First of all 7.15 has a nasty little bug: If you format over a pre-existing volume, there is a trap in LVM when you eject the device at the end of the format process. It can be avoided by using LVM to 'hide the partition from OS/2' before proceeding. Do **not** use DFSee for this step!

Also with 7.15 you need to use the [File > Open object to work with](#) dialogue to select the partition you want to format.

1. If the media is *not* partitioned (i.e., it's all freespace or configured as a Large Floppy), create a new partition and format it as described in question (6).
2. If the media is already volumized, use the menu and go to the item [Actions > Format volume or partition > With a FAT/FAT32 file system](#) and follow the dialogues.

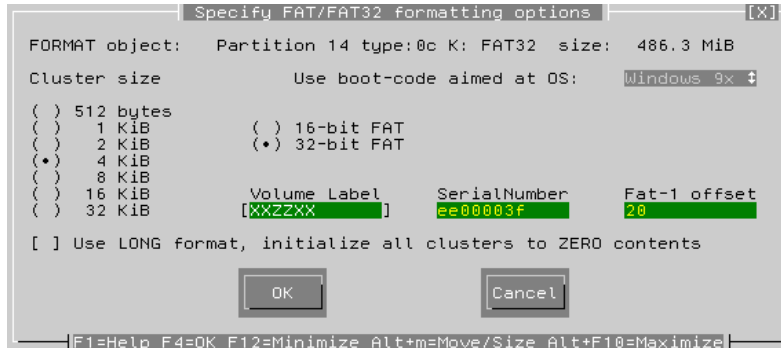


Figure 3. DFSee FAT32 Format dialogue

3. After it's formatted, go to [Edit > LVM information](#). Assign a drive letter and **uncheck** the [Sync driveletter . . .](#) box. (See figure 2)
4. The drive cannot be accessed until DFSee is closed and the drive has been ejected and re-attached.



Note During the format process, the drive letter in the WPS changes from whatever it had previously been assigned to "first available." This is expected. Just eject the drive no matter what it calls itself at the completion of the format and re-attach it.



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12: What about multi-port flash card readers?

Most of them work without problems except that they might lock the [BIOS](#) if plugged in at boot time. Internal card readers, i.e., those connected to a mainboard USB header, are not supported.

Do not, however, expect them to look the same as they do in "other OSes", i.e., a "removable drive" icon for each slot in the reader any time it is plugged in, even if no media is actually present.

In eCS when a multi-reader is plugged in, nothing at all shows in the WPS until a card is actually inserted into the reader at which time an icon with drive letter appears in the WPS. When the card is ejected, the icon disappears. The reader itself may be removed without having to "eject" it. . . only the card need be ejected. In other words, the reader acts like a USB hub, each slot being a separate port.

The same rules and procedures regarding LVM information and filesystems apply to flash cards as to any other partitionable media.

Since flash cards are partitionable media, they are supported by the [usbmsd.add /REMOVABLES:\[n\]](#) statement, with one removable specified for each reader slot that may be used concurrently.



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Formatting: [Christian Hennecke](#)

Editing: [James Moe](#)

References:

USBMSD.TXT: Installed with the USBMSD.ADD and located in the \OS2\BOOT directory.

IDEDASD.TXT: If you installed OS2DASD.DMD using eCSMT, look for it in \OS2\BOOT. If you installed it manually, look for readme.txt, included in the distribution zipfile, ide10161.zip. See especially Section 4, "Removable Media."

FAT32.INF: Located in \OS2\BOOK and accessible via the system information folder.

FAT32.TXT: Included in the distribution file for FAT32.IFS version 0.9.11. See especially the section dealing with "Removable Media."

FAT32 driver ZIP archive: ftp://ftp.netlabs.org/pub/fat32/f32_0911.zip

FAT32 driver WPI archive: <ftp://ftp.netlabs.org/pub/fat32/>

DFSee: <http://www.dfsee.com/>

Maul Publisher goes Unicode

Maul Publisher goes Unicode

by [Peter Koller](#), © June 2006

With the modern requirement to provide advanced editing features, Unicode becomes essential. Maul Publisher V3.06 is the first version to use the Unicode library found in recent versions of OS/2 and eComStation. But what does that mean to the end user?

What is Maul Publisher

Maul Publisher is an industrial strength desktop publisher capable of creating virtually all of the printing seen on everyday household items. You can use it to easily lay out newspapers, cards, books, labels, stamps, posters, charts, forms, and even designs like building plans or furniture arrangements.

In essence, the application combines text and images on a page. Once the page has been created, you can print it, create a [PDF](#) document with it, or turn it into an image or [metafile](#). Maul has some uniquely powerful tools to deal with both pictures and text, and is specially designed to provide the best quality possible for a given printer.

Because the application tunes its output to the printer, you must have a printer installed. The resolution available to a printer is between four to eight times finer than that available on a screen, and because of this, and the fact that rounding is minimised, the printed output from Maul is usually stunningly clear.

What is Unicode

Unicode is designed to support a character set larger than 255 [codepoints](#). This has several distinct advantages:

- The character set can support many languages
- More codepoints are available for symbols and special graphics
- The application has less processing to do with languages and codepages
- The Unicode [API](#) provides advanced character testing features

With version 3.06, Maul Publisher includes the OS/2 Unicode API and this has a significant impact on how the application decides where to place text, and what text to place.

Maul and Unicode

The Unicode API provides a much more useful set of character tests. This probably has very little impact for western languages where words are separated by spaces, but provides major improvements for languages where words are not separated by spaces, such as Japanese. By testing for `_punctstart` and `_punctend` attributes, Maul can now correctly format pictogram strings in quotes.

The additional characters available in Unicode enable Maul to support smart quotes for the first time. I have called them *Intelligent text quotes*, because "smart quotes" is the phrase used by MS Office. And anyway ¶Maul does it better:

“Intelligent text quotes”

Fig. 1. Intelligent text quotes example

The Unicode character set enables character lookup by name so the application doesn't need to know the codepoint of a particular character. This made it possible to add a bulleted (and numbered) list tool which considerably simplifies the addition of lists to your text articles.

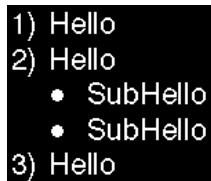


Fig. 2. Bullets and lists example

Maul and character testing

Because Maul was developed by just one person ¶me ¶I can only guess which character properties to use when formatting a text article. This means that I must depend on the end user ¶you ¶to help determine what these character tests should be.

The character test is used to divide sentences up into words. The words then determine how much text fits onto a line. Where appropriate, hyphenation breaks words in two when they do not fit on a line.

Generally, for western languages the space character determines where a word ends. However, there are situations where the space character is not available. This can happen where a comma is used to separate two words, such as in "hello,there." Maul can break up this string by testing for characters with a `break` attribute. The space character is a classic example of a character that has a `break` attribute.

For pictogram languages such as Japanese, every character has a `break` attribute. This behaviour must be modified when the pictogram is in quotes. This is achieved by using an `attach` attribute. The `attach` attribute overrides the `break` attribute of the previous character. Characters that the Unicode API tests as `_punctend` are marked with both a `break` and an `attach` attribute. All the alphanumeric characters have no attributes set.

It turns out that you can break up a string into words in any language with just the two attributes described above. The example below shows how this works with some Kanji text. I have shown the attributes on the second line. Note that the Kanji string is not meant to mean anything in particular.



Fig. 3. Attributes example


Because of the `attach` attributes `ab` above, the separated words include their closing quotes.

If these attributes are wrong, for example *bopomofo* is not marked as breaking, then the text formatter will tend to fail. As I don't use these languages, I rely on you to tell me if it doesn't work!

Unicode limitations

Because Maul Publisher relies on zero based text escape sequences called LOLs, only UTF-8 Unicode is supported. The UTF-8 Unicode codepage number is 1208. UTF-8 Unicode is a format that can be processed by systems that work on a per character basis. It is distinguished by the fact that it never starts with a zero. The UTF-8 Unicode codeset can consist of codepoints of 5 or more bytes in size.

OS/2 supports codepoints of only 3 bytes at present, and Maul is designed with this in mind. This provides the full gamut of characters available in the Unicode compatible fonts available for OS/2. UTF-8 Unicode takes up more space than normal 16 bit Unicode, and to test characters the UTF-8 characters must first be converted into 16 bit Unicode.

The  Insert character dialog provided in Maul Publisher shows the byte sequence as it is found in the file, the 16 bit Unicode equivalent, the character attributes, and where possible the name of the character.

The full list of character attributes as Maul displays them is:

```
CHARCLASS_BREAKING 0x001
CHARCLASS_ATTACH   0x002
CHARCLASS_SPACE    0x004
CHARCLASS_HYPHEN   0x008
CHARCLASS_QUOTE    0x010
CHARCLASS_RQUOTE   0x020
```

So the right quote in the example image above (Figure 3) has the code [0033]:

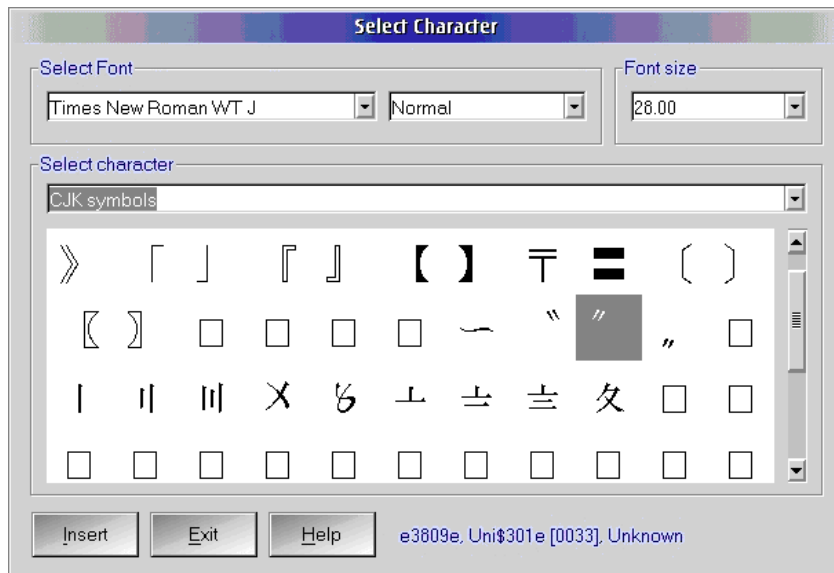


Fig. 4. Insert char dialog

Editing: [James Moe](#)

References:

Maul Publisher 3.06
Developer: Maison d'Anglais
Price: 113.85 €

Maison d'Anglais home page: <http://www.manglais.com>

OS/2 and Wireless "g"

OS/2 and Wireless "g"

by [Mark Dodel](#), © June 2006

Note From [Wikipedia](#) on [PC Cards](#):

CardBus are [PCMCIA 2.1](#) or later ([JEIDA 4.2](#) or later) 32-bit PCMCIA cards and were introduced in 1995. The original PC Card bus was 16-bit, similar to [ISA](#). CardBus is effectively a 32-bit, 33 [MHz PCI](#) bus, in the same physical form as the earlier cards. The notch on the left hand front of the card is slightly shallower on a CardBus card so a 32-bit card cannot be plugged into a slot that can only accept 16-bit cards. Most new slots are compatible with both CardBus and the original 16-bit PC Card devices.

CardBus includes the bus mastering ability, which allows a controller on the bus to talk to other devices or memory without going through the [CPU](#). Many chipsets are available for both PCI and CardBus cards, such as those that support [Wi-Fi](#).

I've been using wireless [LAN](#) technology with [OS/2](#) for 7 years now, starting with the original commercial grade [IBM Wireless LAN](#) technology in 2000 and moving on to the then standard 802.11b wireless hardware of a [Cisco 340](#) card the following year. I've been using the 11 [Mbps](#) "b" wireless quite successfully for all my Internet access until very recently. There wasn't a whole lot of options until recently to use the now faster 802.11g (54 Mbps). I've personally used the Cisco 340, Cisco 350, and the [IBM High Rate PC Cards](#) under [eComStation](#) with drivers that either come with [eCS](#) and Passport Advantage or were given me in beta status by the original developer.

The only option for the faster "g" mode available to the OS/2-eComStation user was the wireless bridge like the [Asus WL330g](#) described by Daniela Engert last year in the Newsletter. Even when I bought my new IBM Thinkpad T42p laptop last year, I was reduced to using a PC Card Cisco 350 wireless card since there was no publicly available driver for the built-in Intel 2100b Mini-[PCI](#) card. My main interest was that the laptop had a mini-PCI wireless network card and an antenna built-in to the cover so I could hopefully at some point use the built-in wireless card or replace it with a supported mini-PCI card.

The wait is finally over

Well, the wait is finally over for at least some of us. After months and months of a very closed beta, Willibald Meyer released the [Generic MAC Wrapper Driver](#) (GenMAC) in November of 2005. This is an OS/2 driver which uses Win32 drivers to provide OS/2 support for several Mini-PCI and PCI wireless [NICs](#), as well as a few wired Ethernet cards. I have read on the GenMAC support mailing list that GenMAC even supports a few PC Card wireless cards. D-Link AirPlus Xtreme G, DWL-G650 ([HW](#) Ver. C3, [FW](#) Ver. 4.30) and the Netgear WG511T (Atheros 168c:0013) were listed as working. Other PC Card cards are limited to the few 802.11b models that we have had support for in the past, like the IBM High Rate wireless card, the Cisco 340/350 cards, the Lucent ORiNOCO cards, and the Artem wireless cards. A more complete list can be found on the [OS/2 Warp Compatible Hardware](#) site.

The following 21 devices are supported in the GenMAC 1.0 release:

```
Device : 10b7:9200 "3Com 3C90xC PCI"
Device : 10b7:1700 "3Com/SKNet Gigabit"
Device : 11ab:4320 "3Com/SKNet Gigabit"
Device : 1148:4320 "3Com/SKNet Gigabit"
Device : 1814:0101 "ASUS Wlan RT2400"
Device : 8086:4220 "Intel 2200 Wlan"
Device : 8086:1043 "Intel 2100 Wlan"
Device : 168c:0012 "Atheros Wlan"
Device : 168c:0013 "Atheros Wlan"
Device : 168c:1014 "Atheros Wlan"
Device : 14e4:4320 "Broadcom B/G"
Device : 14e4:4318 "Broadcom B/G"
Device : 14e4:165d "Broadcom Gigabit"
Device : 14e4:4401 "Broadcom 10/100"
Device : 14e4:170c "Broadcom 10/100"
Device : 104c:9066 "Dlink DWL-G520+"
Device : 10de:0066 "nForce 2 10/100"
Device : 10de:00d6 "nForce 3 10/100"
Device : 10de:0057 "nForce 4 10/100/1000"
Device : 10ec:8169 "Rtl 8169 GigaBit"
Device : 10ec:8180 "Rtl 8180 Wlan"
```

The latest (as of this writing still not released publicly) release is GenMAC 1.7. It adds several additional supported devices:

```
Device : 11AB:4362 "3Com/SKNet Gigabit"
Device : 14B9:A504 "CISCO mPCI"
Device : 14e4:167d "Broadcom Gigabit"
Device : 14e4:4324 "Broadcom A/B/G"
Device : 8086:101E "Intel 10/100/1000"
Device : 8086:1076 "Intel 10/100/1000"
Device : 8086:1229 "Intel 10/100"
Device : 8086:4223 "Intel 2915 a/b/g"
Device : 8086:4224 "Intel 2915 a/b/g"
Device : 10ec:8168 "Rtl 8168 GigaBit"
```

Upgrading to 802.11g

Although I've been generally satisfied with the 11 Mbps throughput provided by the Cisco 350 PC Card card and earlier by my IBM High

Rate and Cisco 340 PC Card cards, I have been itching to move to the newer and considerably faster 54 Mbps technology of 802.11g. It's not like it's really needed since my cable Internet service is rated at a maximum of 3 Mbps download and I doubt I ever get anything close to that anyway. However, it would be nice to have a new toy to play with, and I have pretty much everything working in my Thinkpad T42p-except for the Windows-only modem, Bluetooth, and the built-in wireless-so the lure of the now available GenMAC driver was just too much for me.



Figure 1. Intel 2000bg Wireless Mini-PCI card

The Intel 2100b wireless card that came with my Thinkpad is of the older 802.11b variety which caps out at 11 Mbps, the same as the Cisco 350 PC Card card I had been using. Reading the posts of people who had access to the closed GenMAC beta and what cards they were using I decided on the Intel 2200 Mini-PCI which is one of the faster 54 Mbps 802.11g chip sets and is one of the supported options in my T42p. I bought one from eBay for about \$40 US (including shipping) [e31.70].

Depending on the notebook model, changing the Mini-PCI card can be a bit daunting. In my older Medion laptop it was just a matter of unscrewing a plate on the underside to get access to the mini-PCI card. Unfortunately, the Medion had no built-in antenna for a wireless mini-PCI card. In the case of the T42p I had to remove the keyboard and surrounding bezel, but then it was easy to pull out the original Intel 2100b card, unplug the antenna wire, insert the 2200bg card and then reattach the antenna cable. After reconnecting the keyboard, I held my breath while I rebooted. I had heard that IBM laptops would refuse to boot if a non-IBM approved version of a wireless card was in place. I had paid extra to get what was billed as an IBM version of the Intel 2200bg card. The system booted up, and like the Intel 2100b card before it eCS 1.2 ignored the new card since I had not yet installed the new driver.

GenMAC Installation

After unzipping the `genmac.zip` file to a new directory, you run the `install.cmd` script which copies all the driver and `.nif` files to your system's `x:\ibmcom\macs` directory, copies the `genm32.msg` file to the `x:\ibmcom` directory, and adds a line to your `CONFIG.SYS` for running the required GenMAC `helperw.exe` file. The final step is to run `MPTS` (also called "Adapters and Protocols").

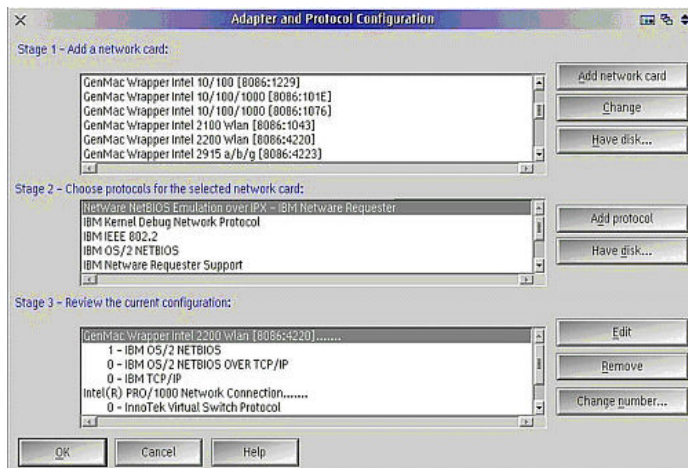


Figure 2. MPTS - Multiple Protocol and Transport Services configuration dialog [Larger image]

In MPTS you select the correct network card driver from the list (Stage 1 above), then add the required networking protocols (Stage 2 above). Then save your changes and reboot.

If you are going to use Christian Langanke's [Wireless LAN Monitor](#), it is advisable to make the GenMAC the `lan0` adapter ["0 - IBM TCP/IP" above] for `TCP/IP`. Also if you are using the VPC/2 (Virtual PC for OS/2) network driver, it is strongly advised to have this configured to a wired adapter (in my case my T42p's Intel Pro 1000 adapter). I spent a few months trying to get all my networking

configured properly (TCP/IP via wireless, NetBIOS/TCPIP, VPC/2 Internet access and the XWLAN monitor). Until I discovered this, there was always something amiss. Configuring it for the wireless card does work to allow shared folders and Internet access in a [VPC](#) container, but what I had been told is that the VPC/2 network driver requires being configured to an adapter that supports promiscuous mode if you want to use switched networking. My understanding is that no wireless card supports this mode, so you have to configure it to the wired card.

Pulling it together with XWLAN

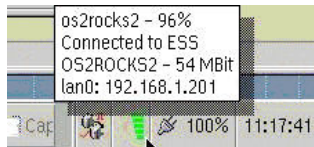


Figure 3. XWLAN Monitor

As you can see in the bit of screen capture to the left, the [WLAN](#) widget (from version 2.13 of WLAN) on eCenter not only gives a visual readout of the connection strength (the green horizontal bars, which changes to gray/black bars if the radio signal weakens) but it also changes the display based on what may be going on with the connection. For example if it is searching for a network, it displays a magnifying glass. Or if the wireless driver is missing, it shows a red X. If you move the mouse pointer over the widget, you get a popup with information about the connection including the [SSID](#) (the wireless router's assigned name), signal strength, the negotiated speed of the connection and the adapter and [IP](#) address. The WLAN Monitor can be used as an eCenter widget as you see here or as a separate standalone utility.

A right mouse click on the XWLAN widget gives a context menu with options to disable/enable the radio, create/edit/select a connection profile, reconfigure or disable the TCP/IP interface, or scan for hotspots. (An Internet hotspot is a place that provides wireless network access, for example a hotel or restaurant lobby.) Just select [Scan for hotspots](#) and a window pops up showing any wireless networks that are broadcasting.

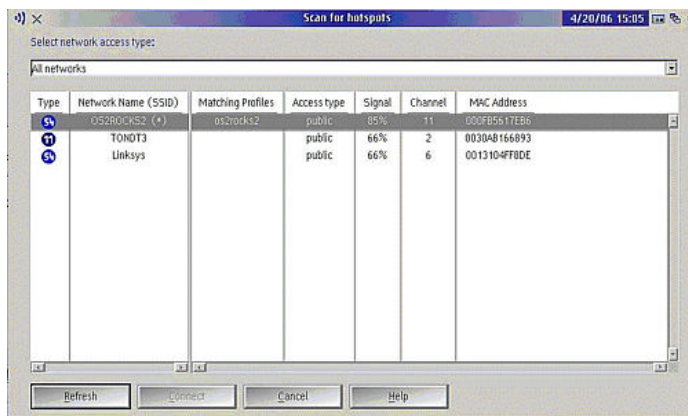


Figure 4. XWLAN Scan for hotspots dialog [\[Larger image\]](#)

Many newer wireless routers have the ability to turn off SSID broadcasting so they wouldn't show up on the above scan. For those you would need a profile to connect to them. Note in the above display that the network type is shown, 802.11b (11 Mbps) versus 802.11g (54 Mbps). Other useful information is whether it is public or encrypted, the signal strength, the routers [MAC](#) address and of course the [SSID](#). You can just click on a line and then select the [Connect](#) button (which becomes enabled once you select a non-connected network) to connect to that wireless network. This feature is so cool. No need to boot to something insecure like Windows to find any Internet hotspots now.

This utility even shows the channel the routers are using to broadcast on, so you can pick an unused channel for your own router. Available channels are dependent on the local laws. In the United States where I am located, legally we are limited to 11 channels. Generally a router comes preset to a default of channel 1 or 6. Generally channels 1, 6, and 11 won't interfere with one another, but other channels can overlap with adjacent channels. For example looking at the above channel list, I chose channel 11 for my router (OS2ROCKS) because my neighbors are already using channel 2 (which would overlap channel 1 and 3) and channel 6 (which would overlap channel 5 and 7).

The wireless router

I've used a Netgear MR314 wireless router for years. It is a basic 802.11b wireless access point with a 4 port wired router. I've tried other brands and always end up giving those away. The same has been the case with the newer 802.11g wireless routers. I first tried a TrendNet router but I never got it to connect to the Internet.

When a refurbished Netgear WGT624 appeared on [geeks.com](#) at a cheap price I thought I'd try it out and see if it was as reliable as my old MR314. The Netgear MR314 wireless router provides a site blocking feature based on a list of words you setup. The Netgear WGT624 has that feature as well. Any site that a client (wired or wireless) accessing the web through the Netgear router that contains any word in the list is blocked and a message appears instead stating the site was blocked by the Netgear router. You can set a fixed address that bypasses the blocking so one trusted client can get to any site.

Other useful features that are more standard in most wireless routers are things like security, access logging, port forwarding (pass incoming server calls to clients for selected ports), and Dynamic [DNS](#) service (allowing people to get to your internet servers even though you only have a dynamically assigned IP address). The Netgears have all of these features as well.

That said, so far I'm not as happy with the newer WGT624 router since it seems to lose the Internet connection every so often (anywhere from once a day to every few days) and I have to release/renew the [DHCP](#) connection to get it back. That was a problem I never had with the older MR314 router.

Wireless Security

If you want to use encryption, this is configured in the Profile settings [\[icon\]](#) Security tab. Currently only [WEP](#) 64 and WEP 128 are supported, and not the more current [WPA](#) encryption. I have not tried this, instead relying on my Netgear router's [MAC](#) address access listing to prevent unauthorized access to my wireless network. I've also turned off SSID broadcasting to make it harder for someone to find my network.

Was it worth the change?

Running a quick local speed test, I ran a `CMD` batch file that posted the time and copied the eCS 2.0 beta 2 [CD ISO](#) file (697,120,768 bytes) from my file server via the Intel 2200bg 802.11g wireless adapter. That took just about 5 minutes which is about 18 Mbps. Nowhere near the 54 Mbps of the 802.11g standard but the same file copy using an IBM High Rate 802.11b PC Card card took almost 25 minutes [3.7 Mbps]. So the 802.11g was five times faster than the 802.11b wireless. Definitely a noticeable gain.

Since I have been using wireless networking for years, it's not much of a change for me. I've been accessing the Internet from my family room couch for years now. However it is really nice that we have access to the newer technology. My Netgear router is capable of 108 Mbps when using similarly capable Netgear adapters.

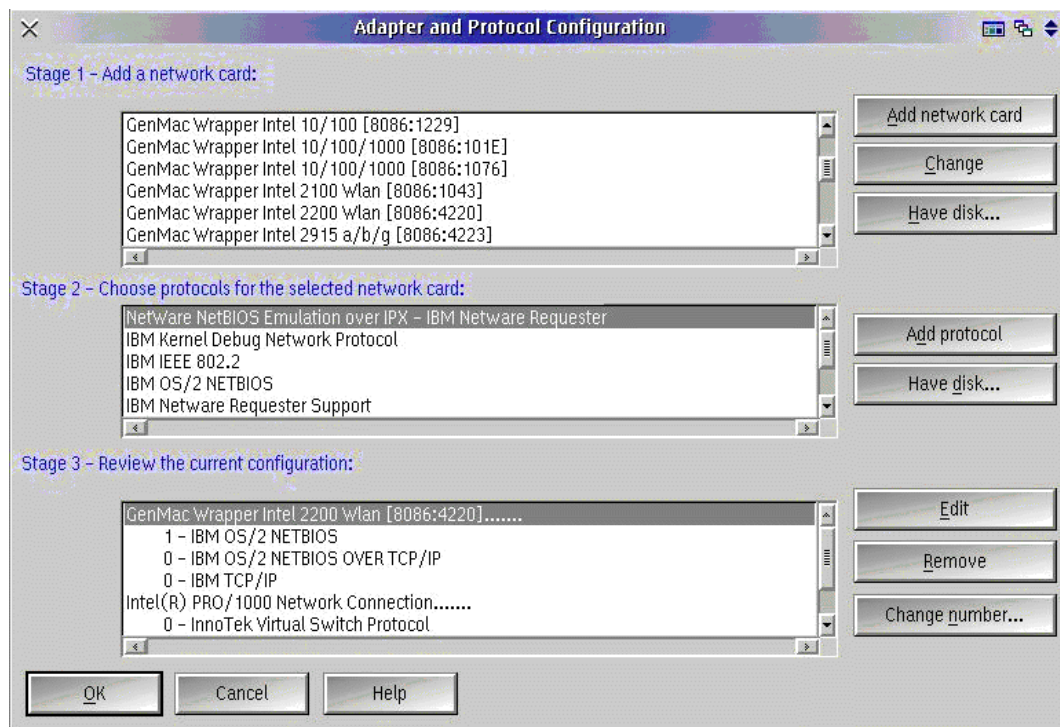
There is also a new standard that is either just being released-or will be released soon-called [MIMO](#) (802.11n) which standardizes this 108 Mbps protocol. This raises the question, "Will we keep up?". I honestly have been surprised that we have done so well to date, and I don't really have a lot of need for 54 Mbps throughput let alone 108 Mbps, but eventually the 802.11b hardware will be almost impossible to obtain and then the same fate will follow for the 802.11g. Let's hope that wonderful and creative talents like Willibald Meyer continue to provide us with viable solutions.

Formatting: [Christian Hennecke](#)

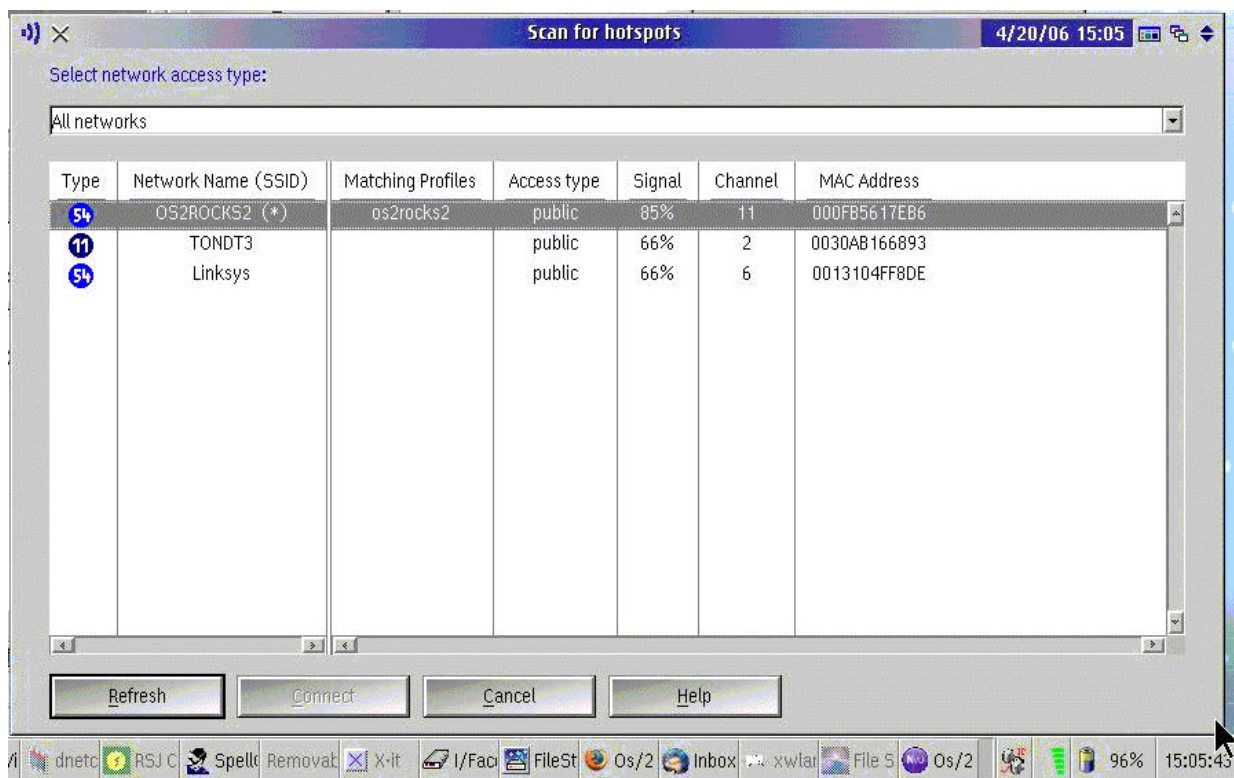
Editing: [James Moe](#)

Mark Dodel is the founding editor of the VOICE Newsletter and is the current moderator of the VOICE News mailing list <http://www.os2voice.org>. Mark is a past president of [Warpstock](#), the annual OS/2-eComStation user conference in North America and continues as an advisor to the board of directors of Warpstock, Inc. He has worked for many years as a computer consultant for clinical hospital systems development.

mpts1.jpg



xwlan2.jpg



How to create a Database using Lotus Smartsuite

How to create a Database using Lotus Smartsuite Part Four

by [Arthur van Egmond](#), © June 2006

Welcome back. Thanks for joining me in our tour through creating a database using Lotus Smartsuite. Over the past three installments we have created a few databases.

We started simply enough with the database Genre. You did your homework and you made two other databases, Dvdformat and Dvdextra. In Part 3 we created the database Contacts.

Heavy Lifting

Now it is time for the real work. We are going to create a database Movies. We will not finish this database this time because there simply is too much to be done for one part.

We create the menu which allows us to open all our databases. We can then place just one object on our Desktop to access all our databases.

We are going to create ten forms, two reports, and about 30 macros. A lot of work.

In this article we create the database, the main form, the [DVD](#) region screen, the help screen, the print screen, the explanation screen, and adjust the list form.

We will create some of the macros.

Make the Database Movies

So let's start. Create the database and add all the fields as shown in Table 1. Save the database as `movies.dbf`.

Table 1. Fields attributes of the database Movies

Field name	Type	Length
Title	Text	50
Genre	Text	15
Time	Time	Fixed
Dvdformat	Text	15
Dvdextra	Text	15
Numberofdisks	Numeric	3
Imdbcode	Text	25
Borrowedto	Text	70
Storyline	Memo	Fixed
Region01	Boolean	Fixed
Region02	Boolean	Fixed
Region03	Boolean	Fixed
Region04	Boolean	Fixed

Region05	Boolean	Fixed
Region06	Boolean	Fixed
Region07	Boolean	Fixed
Region08	Boolean	Fixed
Regionfree	Boolean	Fixed
Audiomono	Boolean	Fixed
Audiostereo	Boolean	Fixed
Audiodolbysurround5.0	Boolean	Fixed
Audiodolbydigital5.1	Boolean	Fixed
Audiodolbydigitalex	Boolean	Fixed
Audiodolbydts	Boolean	Fixed
Audiodolbydtses	Boolean	Fixed
LanguageNl (Dutch)	Boolean	Fixed
LanguageEn	Boolean	Fixed
LanguageFr	Boolean	Fixed
LanguageGr (Germany)	Boolean	Fixed
LanguageOther	Boolean	Fixed
SubtitleNl (Dutch)	Boolean	Fixed
SubtitleEn	Boolean	Fixed
SubtitleFr	Boolean	Fixed
SubtitleGr (Germany)	Boolean	Fixed
SubtitleOther	Boolean	Fixed
FormatPal	Boolean	Fixed
FormatNtsc	Boolean	Fixed
Format04:03	Boolean	Fixed
Format14:09	Boolean	Fixed
Format16:09	Boolean	Fixed
Actor01	Text	30
Actor02	Text	30
Actor03	Text	30
Actor04	Text	30
Actor05	Text	30
Releaseyear	Numeric	4
Cover	PicturePlus	Ole Disable
Otherinfo	Memo	Fixed
MovieID	Numeric	10 auto enter serial, unique, filled in.

Menu

First we make the menu.

- Select the [M File](#) menu
- Select [M New database](#)
- Click [M OK](#)

- Give this database the name [E menu.dbf](#)
- Click [M OK](#)

We won't need any fields in this database because we are only using it to access other databases. However, Approach doesn't allow a database with no fields (I wonder why :-)) so we add just one field.

- Name the field [E Menu](#)
- Set the size to [E 1](#)
- Click [M OK](#)
- Now click [M Design](#) and get rid of the ugly header and the field

We now know how to create a more interesting header. We also create the rectangle on the left side of the screen. We are not going to use this for all our buttons, only the Exit button and maybe the Help button. Let's just see.

Now change the background to our favorite blue and create the rectangle and header like we have done so many times now. Don't forget to set the margins to 0cm. You can delete the worksheet (select the worksheet, press the right mousebutton, click [M Delete](#)) because we don't need it in this database. Although we use it in a different way, it is still a database.

Let us make the Exit macro.

- Create a macro with the name [E Sure!](#) and the command [M Exit](#)
- Create a macro with the name [E Nope!](#) and the command [M View - Menu](#)
- Create a macro with the name [E Exit](#)

Now create a new form.

- Name this form [E Alert](#)
- Make it like we have made the Help form. This time title it [E Alert screen](#)
- Add the following text to this screen:

[Entry](#)
[Alert! You are about to exit Approach](#)
[Have you saved all your work?](#)
[Perhaps you have left another database open?](#)

Put two buttons on the alert screen, one for [Sure!](#) and one for [Nope!](#). Just for fun, make the text on the [Sure!](#) button green and the text on the [Nope!](#) button red. :-)

Create a macro with the name [E Alert](#) and the command [M View - Alert](#).

Create a button on the main screen, attach the [Alert](#) macro to it, and add the text [E Exit](#).

Okay, we have given ourselves a little reminder. I think in this situation it is okay. You can use it more but don't use it too often.

Now let us create some more macros:

Table 2. Required macros

Macro Name	Type	How to create
Contacts	open	browse to database and select Contacts
Genre	open	browse to database and select Genre
Dvdformat	open	browse to database and select Dvdformat
Dvdextra	open	browse to database and select Dvdextra
Movies	open	browse to database and select Movies

All we have to do now is make some decoration in the menu area and create buttons to open the databases.

The Decoration

Draw a rectangle:

Table 3. Menu Decoration - Rectangle

Attribute	Value
Width	1.0
Height	10.0
Top	2.0
Left	1.0
Style	Sunk
Background	Transparent
Border Color	Maroon

Now draw a textbox and type `MyDatabases` but after each letter hit the [Enter] key. It looks like this.

M
y
D
a
t
a
b
a
s
e
s

Table 4. Menu Decoration - Textbox

W (cm)	H	T	L	Attributes
0.8	9.8	2.1	1.1	Gill Sans 18 point bold. Maroon text. Align Center.

Looks pretty cool. :-)

Let's create the buttons. This time I like to use oval buttons. Create an oval shape.

Table 5. Menu Decoration - Oval Button

Attribute	Value
Width	3.5
Height	1.0
Top	3.0
Left	4.0
Style	Rise
Fill Color	Light Yellow (default)
Border Color	Orange
Shadow Color	Maroon

Now copy this button and paste it four times so you have a total of five buttons.

Apply the macros to the corresponding buttons and add a textfield to the button.

Table 6. Menu Decoration - Button Positions

Button	Position (cm)		Macro settings
	T	L	
Genre	5.0	5.5	macro genre
Dvdextra	7.5	5.5	macro dvdextra
Dvdmedia	9.0	5.5	macro dvdmedia
Contacts	3.0	10.0	macro contacts

To make it nicer let us link the buttons movie - genre, genre - dvdextra, dvdextra - dvdmedia with lines. I have used a line of 2pt width and used the same color as the button color.

Table 7. Menu Decoration - Button Lines

Buttons	W	H	T	L
Movies - Genre	1.30	1.10	3.96	5.89
Genre - Dvdextra	0.00	1.00	6.00	7.25
Dvdextra - Dvdmedia	0.00	1.00	8.00	7.25

Because we have a shadow under the buttons we should also create a shadow under the lines. Use maroon for this line color.

Table 8. Menu Decoration - Shadow Lines

Buttons	W	H	T	L
Movies - Genre	1.13	1.02	3.98	6.02
Genre - Dvdextra	0.00	0.94	6.05	7.30
Dvdextra - Dvdmedia	0.00	0.94	8.05	7.30

Okay let's create some fancy text for the buttons.

Table 9. Menu Decoration - Text

Attribute	Value
Width	3.0
Height	0.7
Font	Gill Sans 16pt
Style	Bottom Text Relief
Text Color	Maroon

When you position the text over the button it looks like the text is carved in the button. Position the text over the button so it's more or less in the centre. It's a bit difficult to exactly position a square over an oval so move the text around until it looks okay.

My text is on

Table 10. Menu Decoration - Text field positions

Text	Position (cm)	
	T	L

Movies	3.15	4.25
Genre	5.14	5.76
Dvdextra	7.16	5.80
Dvdmedia	9.16	5.74
Contacts	3.13	10.26

Create a macro **My Menu** like we did before. Leave only the **Help** menu with the **About** and **Help** items. Apply this macro on all tabs. Now deselect all the views. Only the main window is left now. Save the file and select **View > Browse**.

Basically the menu is ready. If required, we can make changes later. You can now test all buttons to see if you can open a database. When finished testing, we continue with the database **Movies**.

The Movies Forms

As you can see all the fields are present on the main tab. This is a little bit crowded in my opinion. Let's delete some of the fields here. Later we will create new forms for the other fields.

Delete all the fields except Title, Genre, Time, Dvdmedia, Dvdextra, Number of disks, Imdbcode, Film ID, Borrowed To, Storyline, and Cover. Don't worry! Deleting the fields here doesn't remove them from the database.

Okay, that's more like it. Now we can create a few styles. Like I said we will create 11 forms. So maybe it's nice to create a style for this. We simply apply the style to the new form. Now create three styles called Button, Button text and Background.

After you have created and saved your styles select the gray dotted area. Click in the tab styles on background. Now change the page name and the form name to Input. Set all margins to 0cm.

Create the menubar and the header as we did before. Select all fields and adjust the font and font color for data and labels.

Position the fields like this:

Table 11. Forms - Text field positions and types

Field	Position (cm)				Type	Display
	W	H	T	L		
Title	6.0	1.0	3.0	4.0	text	Lead capitalize
Genre	6.0	1.0	3.0	12.5	-	display as entered
Time	2.5	1.0	4.5	4.0	time	HH:M
Dvdformat	2.5	1.0	4.5	7.5	-	display as entered
Dvdextra	2.5	1.0	4.5	12.5	-	display as entered
Numberofdi	2.5	1.0	4.5	16.0	-	display as entered
Imdbcode	6.0	1.0	6.0	4.0	text	all lowercase
MovieID	2.5	1.0	6.0	12.5	-	display as entered
Cover	2.3	3.0	6.5	16.0	-	raise fill color transparen [2]
Borrowedto	6.0	1.0	7.5	4.0	-	display as entered
Storyline	-	-	-	-	-	[3]

1 This time format is not presently the default but you can adjust it to any format you like. I have selected the time format HH:MM:SS h. With this format I only have to delete the h to get HH:MM:SS.

2 Create a label Cover and put this on top of the pictureplus field.

3 My experience with Approach is that when you type text in a memofield with the format like we use you sometimes don't see the whole

letter at the beginning or at the end of a line. What we need is a workaround for this problem. Therefore we are going to create the lines ourselves. See Table 12.

Use the following parameters to draw hairlines:

Table 12. Forms - Connecting hairlines

Type	Position (cm)				Color
	W	H	T	L	
horizontal	14.5	-	4.0	10.5	darkgray
horizontal	14.45	-	4.05	10.55	black
vertical	-	4.0	4.0	10.5	darkgray
vertical	-	3.95	4.05	10.55	black
horizontal	14.45	-	4.05	14.47	lightgray
horizontal	14.5	-	4.0	14.5	white
vertical	-	3.95	18.47	10.55	lightgray
vertical	-	4.0	18.5	10.5	white

Now add a label to the field with the text [☞ Storyline](#).

Table 13. Storyline Label

Attribute	Value
Width	14.3
Height	3.8
Top	10.6
Left	4.1
Style	None, No Label
Fill Color	Transparent
Border Color	Transparent
Shadow Color	Transparent

Drag the field inside the just created rectangle.

Okay. Our input form is now almost ready, all the fields are in place. ☺ –)

Adjust the Worksheet

Rename the worksheet to [☞ List](#) and select our favorite font and colors. All that we have to do now is: Create the forms Dvdregion, Help, Print, and Explanation.

Okay, create four forms and modify them like this.

- Adjust the page name to the form name
- Set all margins to [☞ 0 cm](#)
- Set all forms to [☞ Show Form as Dialog](#)
- On each form we create a rectangle:

Table 14. Form Rectangle Dimensions

W	H	T	L
10.0	7.0	0.0	0.11

Use copy and paste to copy the rectangle over all forms.

- Create a header for each form with the title of the form just as we did so many times now: Dvdregionscreen, Helpscreen, Printscreens, Explanationscreen
- Enter a ½ point line under the title.

Dvdregion Screen

On the Dvdregion Screen add this information in a textbox (We also need to add a button Close to it):

Table 15. Dvdregion Textbox

W (cm)	H	T	L	Attributes
9.80	5.50	0.50	0.15	Gill Sans 9 point

1. Playable in all regions. (In this database we use *Region Free*)
2. United States of America, Canada
3. Greenland, Europe, Egypt, Middle East, Lesotho, Swaziland, South Africa, Japan
4. Southeast Asia, South Korea, Hong Kong, Indonesia, Philippines, Taiwan
5. Australia, New Zealand, Mexico, Central America, South America
6. Russia, lands of the former Soviet Union, Eastern Europe, India, Mongolia, Africa
7. China
8. (Reserved for future use)
9. International areas (like airplanes and ships)

Help Screen

On the Help Screen add this information, also use Gill Sans 9 point.

Entry
F1 Show this screen
F2 Switch to the input screen
F3 Switch to list view

When you are in the input screen with the New button, you add a new record. When you are in the search screen with the New button, you start a new search of the entire database. Make sure the PATH, DPATH, and LIBPATH statements in the CONFIG.SYS include the path to your favorite browser, otherwise the button Internet will not work.

Print Screen

On the Print Screen add the following information. Use Gill Sans 14 point.

The first part is for Print Card (or List) and the second is for the semicolon. I did it this way so the text would line up better. Otherwise depending on the font you either end up with semicolons that are not lined up, or with text that is difficult to read. Therefore I split all the text into blocks.

Table 16. Print Screen Buttons

Button Text	W	H	T	L
Print Card	3.50	0.50	1.25	0.50
; (semicolon)	0.50	0.50	1.25	4.00
Print List	3.50	0.50	2.50	0.50
; (semicolon)	0.50	0.50	2.50	4.00

Explanation Screen

On the Explanation Screen enter the following information (use the same settings as the Helpscreen, etc.):

Entry

The field Actor1 is meant to be filled with the lead actor, and the field Actor2 is intended for the lead actress. When it's not clear who it is, or there is no lead actor or actress, these fields can be used for other actors or actresses. The remaining Actor fields are used for actors with the other important roles.

That's All for Today

Okay, I think this is more than enough for now. The macros I've promised to make will have to wait until next time. Hope you enjoyed this part also and hope to see you again next time when we continue with our database.

Editing: [James Moe](#)

References:

Example database files: [databases.zip](#)

Part 1: http://www.os2voice.org/VNL/past_issues/VNL0106H/feature_5.html

Part 2: http://www.os2voice.org/VNL/past_issues/VNL0206H/feature_5.html

Part 3: http://www.os2voice.org/VNL/past_issues/VNL0406H/feature_6.html

Arthur van Egmond lives in the Netherlands. He is married but doesn't have any children yet. He works for the government in the department of Social Security and his main job is to keep the client computers up and running. His first experience with OS/2 was with version 2.1. Since then he upgraded to eCS 1.2. He owns or at least has seen nearly all versions.

Tips

Tips

We scan the Web, Usenet and the OS/2 mailing lists looking for these gems. Have you run across an interesting bit of information about OS/2 or eComStation recently? Please share it with all our readers. Send your tips to tips@os2voice.org. If you are interested in joining a particular OS/2 mailing list, check out the VOICE Mailing List page for subscribing instructions for a large variety of existing lists - <http://www.os2voice.org/maillinglists.html>.



Warning These tips are from OS/2-eComStation users and in some cases can not be verified by myself. Please heed this as a warning that if you are not sure about something, don't do it.

This month's fascinating tidbits!

Date	Description	OS version	Experience level
December	USB Pocket Drive	Both	General

December	For Firefox	Both	General
January 19, 2006	Switching TCP/IP Connections	Both	Advanced
January 23, 2006	Mice With Optical Sensors	Both	General
Feb. 1, 2006	JFS & Duplicate Block References	Both	Advanced
February 14, 2006	OpenOffice Crash, & Fix	Both	General
February 17, 2006	AIC7870.ADD Problem, & Solution	Both	Intermediate
February 21, 2006	VIRTUALADDRESSLIMIT vs. SNAP	Both	Intermediate
March 3, 2006	"Resume" in Z!	Both	General
April 6, 2006	The Last Word	Both	General

Seagate's [USB Pocket Drive](#) December 25, 2005 - Both - General

All this from `comp.os.os2.bugs`:

"me" had written, plaintively, in `comp.os.os2.bugs`:

I am trying to get this drive working under [OS/2](#) with the latest USB drivers and the latest [FAT32](#) drivers. I can work on the driver with DFSee

"steve" responded:

I have never gotten a USB 1GiB pen drive to work formatted as FAT32. Worked fine as FAT16.

The problem, I think, had to do with the drive geometry being reported incorrectly so after it was formatted as FAT32 either the [FAT](#) table or directories were misplaced.

Indeed, for me DFSee also saw the disk, but I had no luck ever getting it to work with FAT32.

William L. Hartzell replied in turn:

I seem to remember that you need a real recent version of the USB [DASD](#) driver as OS/2 was using a drive geometry different than MS and everyone else, until the most recent driver. I'll have to get this newest FAT32 driver as my older one did not support USB drives. I would partition the drive using OS/2 tools, but format it with Windows 95 second edition or 98 (if you can find it).

"me" was *beside* himself with joy:

SUCCESS!!!

My pocket drive is now working! Last night I took a look at the INF file that came along with the FAT32 driver and it mentioned things to try if your USB removable wasn't working. It seems `OS2PCARD.DMD` is a problem for me as they indicated it could be. As I don't use [PCMCIA ATA](#) drives I rem'ed it out and the pocket drive now works.

Well, when you're in trouble. . . The Manual??

But, "All's well that ends well" (W.S.); and we're not complaining. -yke

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Plugins For Firefox December 31, 2005 - Both - General

Eric Erickson (`netscape.public.mozilla.os2`) complained:

This is Firefox, not Mozilla. There is no [about:plugins](#) on the [Help](#) menu item anymore. It seems to me that some of the [UI](#) has taken a step backwards with Firefox.

So I'm still in search of how to get new plugins installed and how to determine what plugins are installed.

Heikki Kekki (or was it Hessu?) helped him out:

Just type `about:plugins` into Firefox's location bar. Put the line

```
Code
user_pref("plugin.expose_full_path", true);
```

into `prefs.js` and you see full paths. For example,
`G:\MOZPROFILES\Mozilla\plugins\npswf2.dll`. And in this case, Mozilla and Firefox use the same plugins. Look at [Steve Wendt's Tips for Warpzilla](#)

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Switching TCP/IP Connections January 19, 2006 - Both - Advanced

Peter Koller (he of Maul Publisher) tells us:

Here is an easy way to change the interfaces TCP/IP uses to connect to a network. Sometimes this is useful to setup a temporary connection when traveling with your laptop.

Create a CMD file to clear the current settings and re-initialise the interfaces.

The CMD file consists of 3 parts, and you can create as many command files as you require. In the following examples, I have an ethernet card configured as *lan0*, and a wifi card configured as *lan1*. These interfaces are defined in `\mptn\setup.cmd`. When you add a network card in [Setup > Adapters and Protocols](#), you chose a number for each interface.

```
@echo off
REM Part 1: We delete all interfaces
ifconfig lan0 delete
ifconfig lan1 delete
REM . . .and so on
REM Part 2: We need to clear the route and arp tables
route -fn
arp -f
REM We must always have this
ifconfig lo 127.0.0.0
REM Now comes the interesting part.
REM Part 3:
REM You can either configure a fixed interface like this. . .
REM ifconfig lan0 192.168.1.10 -netmask 255.255.255.0 metric 1 mtu 1500
REM . . .OR you can configure a leased interface like this
REM dhcpstrt -d 0 -i lan0
REM Here we set a default route to the network
route add default 192.168.1.1 -hopcount 1
REM Decide about IP forwarding,
REM - The alternatives are: ipgate on or ipgate off
```

. . .and that's it!

I have created 2 files, `wired.cmd`, and `wireless.cmd`. Here they are again:

`wired.cmd`

```
echo off
ifconfig lan0 delete
ifconfig lan1 delete
```

```
route -fn
arp -f
ifconfig lo 127.0.0.0
ifconfig lan0 192.168.1.10 -netmask 255.255.255.0 metric 1 mtu 1500
route add default 192.168.1.1 -hopcount 1
ipgate off
```

wireless.cmd

```
echo off
ifconfig lan0 delete
ifconfig lan1 delete
route -fn
arp -f
ifconfig lo 127.0.0.0
route add default 192.168.1.1 -hopcount 1
dhcpstrt -d 0 -i lan1
ipgate off
start wifistat.exe
```

I use this technique a lot to create quick connections to different networks I want to access with my laptop.

That's really **cute**, Peter. Thanks. -yke



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Mice With Optical Sensors

January 23, 2006 - Both - General

Peter J Seymour asked in `comp.os.os2.misc`, somewhat wistfully:

Looking round a local [PC](#) store recently, I noticed that there has been one of those changeovers in manufacturing that occur from time to time. It seems that the traditional ball mouse is now difficult to find and that the main PC stores are only stocking mice with optical sensors.

What I am wondering is does this pose any OS/2 issues? Will these optical sensor mice work with the existing drivers?

Doug Bissett replied, helpfully:

I have used a Labtec optical mouse, and now use a Logitech optical mouse (both are USB, but I did use the Labtec with a PS/2 adapter, since USB didn't want to play nice on my old machine). Both work far better than a ball mouse, BUT, you need to be careful about what pattern is on your mouse pad. A plain, single color, cloth pad works best. If you have one with a high contrast, sharply defined, pattern (especially on plastic), you can have a problem with the mouse thinking that a large jump has been made, as it crosses the boundary, and the cursor will jump around on you. I use the SingleMouse driver [smouse], as supplied by [eCS](#) and [eCSMT](#).

Marty agreed:

Yup. I found out the hard way that wood grain falls into the "bad" category of things to run your optical mouse over. I was ready to smash it into tiny bits before I tried a plain white sheet of paper under it.

"Percival P. Cassidy" had a different take on the situation:

I hate mice, with or without balls. Have you ever thought of a trackball instead? It needs less real estate. I have several different Logitech models, both wired and wireless, on different machines, and they seem to work fine with the AMouse driver.



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JFS & Duplicate Block References

Feb. 1, 2006 - Both - Advanced

We've marked this item "Advanced" largely because:

1. an ailing [JFS](#) is not for the faint-of-heart,
2. "Duplicate Block References" is not for the faint-of-heart, and

3. any non-trivial use of DFSee is not for the faint-of-heart.

That said however, some things turn out to be not so hard to do. . . Sometimes.

Mark Dodel had a problem alright. And using DFSee to fix it resulted in this ominous message "CHKDSK: Duplicate block references have been detected in meta-data." UH-oh!

Jan Henkes, in the `dfsee-support` forum, tried to help:

Had the same problem with a formerly always stable JFS volume. Suddenly unreadable because CHKDSK does not want to finish on a JFS-volume with a unrecoverable problem with the superblock and its copy (both were missing on my system, very presumably 'eaten' by that wonderful piece of s**t called the Winblows (2k/xp) Disk Manager).

All you want is CHKDSK **not** to run on that volume.

Now there's this tiny utility ISJ that will set a flag on the broken volume to 'nocheck' and after reboot all data will most likely be accessible again. Run ISJ with the `-C` switch `CMD ISJ -C`, and chose the appropriate volume.

Download [ISJ](#).

Reboot, and then **don't shutdown** before you've recovered and backed-up all data!!

I recovered all data thanks to our friend from (I think) Odessa, but after this nasty as well as time-consuming incident I got the creeps and changed all JFS back to [HPFS](#). . . :-)

Mark replied:

I finally thought to boot with the eCS 1.2MR [CD](#) and remove the autocheck on the `JFS . IFS` line in `CONFIG . SYS`. And just managed to boot the system, and the original JFS volume that wouldn't chkdsk was [now] accessible. Very cool. I'm not sure if it was using DFSee to set as clean or if I used JRescuer against it before I left it alone for a week. I'm now backing it up to a USB drive, but its taking forever since its a USB 1.0 port. Thanks a lot for the suggestion.

I guess its time to start looking for a replacement for the old Pentium Pro file server as the lack of USB 2.0 alone is painful. Funny how a few years ago I couldn't see any sense to USB. Now I have several USB drives, card readers, printers and a couple of USB scanners. Too bad there isn't FireWire for eCS as that drive is very fast on my iMac.

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OpenOffice Crash, & Fix

February 14, 2006 - Both - General

Julian Thomas informs us:

On OS2, running OO 1.1.4 I had a crash (text document). Open Office subsequently would not start up.

Fix was to restore this file:

`G:\openoffice\user\registry\cache\org.openoffice.Setup.dat` from a backup.

We all **do** have backups, don't we?? -yke

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AIC7870.ADD Problem, & Solution

February 17, 2006 - Both - Intermediate

V.Weise has written us directly:

The driver `AIC7870 . ADD` (versions 10.3, 10.3.1) cannot be operated with Realtek RTL8029-driver `PCIND . OS2` (normal version 2.1 in `\Ibmcom\Macs\`)

Symptoms: Programs which try to test the [SCSI](#) devices (e.g., `qscsi.exe` from ImpOS/2, `asptest.exe` from STI, `sane-find-scanner.exe` and `cdrecord -scanbus`) will stop although the driver seems to be

correctly installed - and is shown in the hardware-manager.

Solution: A patched version of `rtl8029p.zip` on Hobbes.

That's [rtl8029p.zip](#), dated 12-2004. -yke

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VIRTUALADDRESSLIMIT vs. SNAP

February 21, 2006 - Both - Intermediate

Mark Dodel forwarded this from the Scitech SNAP OS/2 news group

<news://www-1.scitechsoft.com/scitech.snap.graphics.os2:>

Regarding a thread on problems with having *VIRTUALADDRESSLIMIT* set to 2048 or more when a video card has a lot of video RAM in use. Andy Willis suggested a possible workaround and Scitech's Steve Wendt concurred:

Willis: Cards with less than 128MiB do seem to be getting less common. . . Isn't there a setting that allows only 32MiB to be reported by SNAP?

Wendt: Yes - <http://www.scitechsoft.com/support/faq/fom.cgi?file=21>

Willis: Would that get around the problem?

Wendt: I'm sure it would help in many cases.

The following day Steve Wendt added:

There is also `CMD gaoption vidmem <size>` which should work on all the drivers that have chipsets with massive video memory sizes.

Mark then clarified things a bit:

The actual `CONFIG.SYS` setting according to the above web page is

Code
`SET SNAP_MAXVRAM_32MB=Y`

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"Resume" in Z!

March 3, 2006 - Both - General

In `comp.os.os2.apps` was this, from Z!'s author - "dink" himself:

If you accidentally quit (or hit previous/next) a track and didn't mean to, just reload z! (if needed) and press `[Alt-L]`. It will resume the last track that got interrupted and jump to the time index where it was interrupted.

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The Last Word

April 6, 2006 - Both - General

This month's column is shorter, item-wise, than most on my watch. Importantly, as short as it is, we received the items only over **several** consecutive months. . . Instead of the usual **one** month. Not good! Help me out, guys and gals! -yke (Your Kindly Editor)

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Formatting: [Christian Hennecke](#)
Editing: [James Moe](#)

Letters, Addenda, Errata

Letters, Addenda, Errata

If you have any comments regarding articles or tips in this or any previous issue of the VOICE Newsletter, please send them to editor@os2voice.org. We are always interested in what our readers have to say.

Addendum

April 10, 2006

Jürgen Ulbts provided the following update to Andreas Peters' article [DBox2 - Video Streaming on OS/2 and eCS](#):

First of all, thank you for the interesting article about the DBox2! I found the whole issue very interesting this month. :-).

I have an update for the DBox2 article that you can hopefully add to it. But it doesn't matter if you can't.

After I had already created a ready-to-run package for the ProjectX version 0.90.3.00 from 2005-12-31 (compiled version plus source code in a subdirectory), I have uploaded version 0.90.4.00 (2006-03-30) as a ready-to-run package to [Hobbes](#).

Version 0.90.4.00 now comes with a small installer (`instos2.cmd` - Christian already knows it from my Java Movie Database) that creates two batch files for starting ProjectX (`startOS2.cmd` for `java.exe`, and `startOS2Debug.cmd` for `javaw.exe`, i.e., one with and one without a command line window) and also the corresponding [WPS](#) objects (incl. icon, thanks to Rüdiger Ihle) and links to the documentation and the ProjectX web site.

This version also uses the native `IDCTSSE.DLL` for accelerated display of previews (thanks to Roland Brill for the [DLL](#)).

April 25, 2006

Jürgen Gaida from our translation team pointed out the following regarding scrolling with the new Newsletter layout:

I just noticed that since the new layout went online, the site has become much slower than the old one using Mozilla 1.4.2 ([VAC](#) build). Partially, Mozilla causes almost 100% CPU load and the whole system is slowed down. Do you have any explanation for this?

I still have to test this with a later Mozilla but maybe you already know the problem!

Christian Hennecke answers:

First, I thought that it was caused by transparent [PNGs](#). To my knowledge, the OS/2 graphics engine lacks some features that are required for displaying real transparency, and the work-around apparently needs quite a bit of computing power.

But in our case it is not caused by PNGs. Instead it is the legend which has a fixed position. On OS/2 Mozilla apparently has problems with the `position: fixed; css` property. If I changed this, scrolling would get fast again. However, the legend wouldn't be accessible from anywhere in the article anymore.

As an alternative, we could add a title attribute or an event handler to every occurrence of special markup using Javascript so that an explanation would be displayed as a fly-over help upon moving the mouse over it. This could get really distracting, though.

Tell us what **you** think about this! How would you prefer information about the markup to be displayed?

Translation: [Christian Hennecke](#)

Formatting: [Christian Hennecke](#)

Editing: [James Moe](#)

Legend for markup

Legend for markup

Articles published in the VOICE Newsletter use the following markup:

Inside paragraphs ("inline elements")

"This was the first time a *computer* was used for such calculations."

A newly introduced term that is used for the first time in the article, terms in foreign languages, slightly emphasized things.

"Do **not** format your drive unless you have a working backup."

A strong emphasis, e.g., for a warning.

V.O.I.C.E

An acronym or abbreviation. If you move the mouse pointer over the acronym, an explanation is displayed.

"You have selected to delete the file test.zip. Continue?" or "To be or not to be?"

A quote from real persons or books, or program messages.

Hamlet

The source of a quote. This could tell you whom the "To be or not to be?" quote from above originated from.

 Browse or  File > New

Active **GUI** elements, which cause some action to occur when clicked: menu items, push buttons, checkboxes, radio buttons, lists, combo boxes.

A ">" separates elements that have to be selected consecutively. In the above example, this would mean that you first have to select the menu item "File" and then "New."

 Shutdown

Static GUI elements, which are used for information purposes: window and dialog titles, group names. Groups are borders, usually surrounding several associated active GUI elements.

 Templates or  Local System > System Setup > Mouse

Workplace Shell desktop objects, both abstract and with a file system pendant.

A ">" separates such elements that have to be selected consecutively. In the above example, this would mean that you first have to open the "Local System" folder object, then the "System Setup" folder, and then the "Mouse" object.

CONFIG.SYS, OS2\INSTALL, or C:\OS2\BOOT\OS2DASD.DMD

The name of a file or folder, or its partial or fully qualified path in the file system.


 SysSetObjectData()


Any snippet of program code in a wider sense. E.g., [HTML](#), [CSS](#), [REXX](#), [C](#), Pascal.

[Ctrl-C]

Keyboard input to be entered by the user.

A "-" or "+" between two keys means that they have to be pressed simultaneously. In the above example, you would have to press both the "Ctrl" and "C" keys.

 The quick brown fox jumps over the lazy dog.
Text that has to be typed in an entry field.

 `unzip test.zip -d x:\temp`
A command that has to be entered at a command line and executed by pressing the "Enter" key.

 `unzip: cannot find either test or test.zip.`
Output that is displayed by a program at a command line.

directory or *filename*
A variable, variable name, or program argument. Often used to explain command syntax.

`192.168.1.1` or `comp.os.os2.bugs`
All kinds of addresses.

Paragraph-like elements ("block elements")

Emacs is an extremely feature-rich and extensible editor. However, these qualities have a price: complexity. Many people have surrendered to the steep learning curve that has to be overcome before one can take advantage of all the program's goodies. To help you avoid the same fate, this article describes the installation and customization of the Emacs editor in great detail.

The summary of an article. Usually located directly after the title.

"The VOICE bylaws state:

The name of this organization shall be the "Virtual OS/2 International Consumer Education," hereinafter called VOICE. OS/2 is defined as a computer operating system marketed by IBM. ISV is defined as Independent Software Vendor. SOHO is defined as Small Office/Home Office. OS/2 and IBM are the registered trademarks of the International Business Machines Corporation.

So this organization is about OS/2."

Quotes that extend over several lines.

OS/2 history

Side note Operating System/2 (OS/2) was originally developed as a joint project between IBM and Microsoft. Its intention was to replace the antiquated Disk Operating System (DOS) as the operating system of choice. At the time, DOS was at version 3.x, and IBM and Microsoft both realized that with the advent of the Intel 80286 in the mid-1980's, it was quickly becoming obsolete. Thus, OS/2 was born, initially as a 16-bit, command-line based operating system. Microsoft worked closely with IBM up to version 1.3. While IBM worked on the "guts," they worked on the new graphical user interface that was due for later versions. OS/2's kernel was developed by IBM from the ground up as the Personal Computer (PC) version of a mainframe operating system, with all of the time-slicing, stability, and other features previously existing solely on those high-end machines.


A box that contains side notes and digressions that don't otherwise fit into the flow of the article.

Partial CONFIG.SYS

```
BUFFERS=100
IOPL=NO
DISKCACHE=512,LW,32
MAXWAIT=1
MEMMAN=SWAP,PROTECT
SWAPPATH=H:\ 10240 92160
BREAK=OFF
THREADS=1024
PRINTMONBUFSIZE=2048,134,134
```

Generic file content with header.

Example #1: xcenter.c

 `SOM_Scope BOOL SOMLINK xctr_xwpMoveWidget(XCenter *somSelf,
ULONG ulIndex2Move,
ULONG ulBeforeIndex)
{`

```
// XCenterData *somThis = XCenterGetData(somSelf);
XCenterMethodDebug("XCenter", "xctr_xwpMoveWidget");
return ctrpMoveWidget(somSelf, ulIndex2Move, ulBeforeIndex);
}
```

Several lines of code.

Entry

The quick brown fox jumps over the lazy dog.
Then it escapes the hunter by hiding behind a bush.

Several lines that have to be entered into an entry field or similar.

CMD

```
unzip notexist.zip -d x:\
unzip: cannot find either notexist or notexist.zip.
```

Input and output at a command line.



Caution While RSU is great to have on standard OS/2 systems, I don't recommend using it on eComStation systems. The eCS Maintenance Tool provides its own method of installing FixPaks over the Internet, and it's already much more advanced than RSU ever was. It also handles post-installation dependencies specific to eComStation (like updating the dialog and icon resources), which RSU does not.

An important note.



Warning Create a backup of your INI files before installing this software. It is still in beta state and could completely break your [WPS](#).

A warning.



Note Now that we have finished the above configuration steps it is save to reboot the machine and start the server for the first time.

Notes about a larger section of work that has been finished and the consequences thereof.



Note As you can see, the configuration steps executed above have changed the application's display the way we wished. We need to keep this in mind for later, when we adapt the printout.

Things to keep in mind.



Note Congratulations! You have finished configuring the most versatile and complex editor ever developed!

Specific characteristics that mark an operation's success. Something that is particularly positive about a piece of software or

hardware.

Tables

A table cell

A table cell

A table cell

A non-specific marker for table cells.

Tbl. 1. A table caption

Single applications	Tools	Office	Graphics	Sum
Gui	Textmode	Rexxable	EMX	test
A sub-caption that can be used more than once inside the table				
all	test	test	test	test
500	16	test	test	516
test	test	test	test	test
test	test	test	test	516

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What is VOICE?

What is VOICE?

VOICE is a nonprofit, virtual user group, devoted to the education and marketing of the [OS/2](#) operating system. VOICE was formed by a small group of OS/2 users who felt they could do something to advance knowledge of the OS/2 operating system, and is comprised of other OS/2 users who feel that something needed to be done with getting OS/2 more widely recognized.

VOICE is not affiliated with [IBM](#).

Mission Statement

Representing OS/2 to I.B.M. and the industry, as well as marketing OS/2 to users and professionals worldwide.

VOICE Objectives

1. Serve as a "virtual", on-line user group for OS/2 users, without a local user group, and to any other OS/2 users interested in VOICE.
2. Promote OS/2 to the [SOHO](#) consumer and to general computer users.
3. Provide an effective communication channel between members, user groups, ISV's [independent software vendors], and IBM.
4. To help OS/2 User Groups organize and promote their activities.

Virtual Meetings

Weekly [IRC](#) meetings are held on WEBBnet in the channel #VOICE. Meetings are now held on the first and third Saturday of each month at 3:00PM [EST](#) (20:00 [GMT](#)).

For a list of current WEBBnet IRC servers please refer to <http://www.webbnet.info>.

If you're unfamiliar with IRC, visit [IRC Clients](#) (http://www.moon-scape.com/warp/irc_clients.html). There is a list of available IRC clients, with descriptions, and a link to a chart that compares features of each. If you need further assistance e-mail [Jeremy Workman](#) (rs@fyrelizard.com).

Officers and Staff

Officers and Staff

There are Six Officers presiding over VOICE affairs. They are common OS/2 users, voted into office by the membership of VOICE, and act solely to carry the VOICE of our members to the rest of the world. They are:

Position	Name	e-mail
VOICE Board of Directors		
President	Roderick Klein	president@os2voice.org
Vice-president	Walter Metcalf	vicepresident@os2voice.org
Treasurer	Gordon Snider	treasurer@os2voice.org
Secretary	John Edwards	secretary@os2voice.org

Marketing/Liaison Officer	Roderick Klein	liaison@os2voice.org
Assisting the VOICE Board		
System Administrator	Ken Kirchner	sysadmin@os2voice.org
Web Master	Ken Kirchner	sysadmin@os2voice.org
VOICE Newsletter		
Publisher/Editor in Chief	Christian Hennecke	editor@os2voice.org
Founding Editor/Publisher	Mark Dodel	madodel@ptdprolog.net
Associate Editor	Marckus Kraft	marckus@web.de
Tips Editor	Bill Loughman	tips@os2voice.org
Assistant Editor	James Moe	jimoe@soehnen-moe.com
Assistant Editor	Bärbel Hennecke	christian.hennecke@os2voice.org
Translator/Assistant Editor	Jürgen Gaida	jp.gaida@web.de
Assistant Editor	Karl-Heinz Markus	fox@on-line.de
Translator/Assistant Editor	Gabriele Durrant	gaby.d@bigpond.net.au
Translator/Assistant Editor	Ines Schmitt	ines_schmitt@onlinehome.de
Translator/Assistant Editor	OS/2 User Group Dresden	os2info@gmx.net

Membership Information

Membership Information

To become a member of VOICE, you must agree to abide by the bylaws and code of ethics of VOICE, and send in a check or money order to cover the dues for a one year membership. The dues are listed below.

1 Year Membership Dues for VOICE

Kind of membership	Dues in USD
Student	10.00
Individual	25.00
Corporate	100.00

All monies must be in United States Currency. Make out your check or money order to:

VOICE
60 Saint Patrick Street
Apt 628
Toronto, Ontario M5T 2X5
Canada

Secure credit card payment for VOICE membership and sponsorship is now available through BMT Micro.
<http://www.bmtmicro.com/BMTCatalog/os2/voicememberships.html> and through Mensys at
https://shop.mensys.nl/cgi-bin/db2www/mns_art2.d2w/report?artname=VOICESUB.

Please review the VOICE [Bylaws](#) and [Code of Ethics](#) and then fill out the [membership application form](#) and enclose it with your membership dues.

Bylaws

Bylaws

Virtual [OS/2](#) International Consumer Education (VOICE)
ENACTED APRIL 2, 1997
REVISED APRIL 30, 1999

ARTICLE I NAME

Section A

The name of this organization shall be the "Virtual OS/2 International Consumer Education," hereinafter called VOICE. OS/2 is defined as a computer operating system marketed by [IBM](#). [ISV](#) is defined as Independent Software Vendor. [SOHO](#) is defined as Small Office/Home Office. OS/2 and IBM are the registered trademarks of the International Business Machines Corporation.

ARTICLE II PURPOSE

Section A

Mission Statement:

Provide ongoing support, information and education to the OS/2 community.

Section B

The objectives of VOICE shall be:

1. To serve as a "virtual" not-for-profit, on-line OS/2 user group with membership open to anyone interested in using the OS/2 operating system.
To support OS/2 to the SOHO/Home markets, and encourage the use of OS/2 by those users interested in alternatives.
2. To provide an effective communications channel between members, User Groups, ISVs, and IBM.
3. To assist OS/2 related User Groups organize and promote their activities and projects.

Section C

Achievement of the objectives of VOICE shall be accomplished by:

1. Planning and conducting regular meetings of VOICE.

2. Developing and maintaining a web site to facilitate the exchange of ideas and foster communication between members. The web site will also serve as a central collection point of OS/2 related information for use by both new and experienced OS/2 users.
 - a. Use of such the above web site and any other electronic service is made available to the Internet community on a strictly voluntary basis and at their own risk. VOICE and the Executive Board will not be responsible for any direct, indirect, incidental, special or consequential damages including, for example, loss of profits resulting from the use of the web site service or software obtained from the service, even if VOICE has been advised of the possibility of damages.
3. Promoting VOICE and OS/2 through various means, such as on-line and off-line advertising and voluntary participation in OS/2 promotional activities (i.e. seminars, demonstrations, etc).
4. Working with existing OS/2 support structures, such as existing web sites and newsletters, to improve communication and form a cohesive relationship between all OS/2 users, ISVs, User Groups, and IBM.
 - a. Contacting ISVs directly to keep abreast of OS/2 news and development in addition to providing feedback on ISV products.
 - b. Contacting OS/2 user groups to keep them informed about OS/2 related news and events.
5. Developing and maintaining a list of VOICE members.
6. Developing and maintaining a reference library of VOICE related documentation (i.e., minutes of meetings, committee reports, membership lists, etc).

ARTICLE III MEMBERSHIP

Section A Classes of Membership:

1. There will be several classes of membership: Corporate membership, Individual membership, and Student membership.
2. Each Corporate member is entitled to five (5) votes.
3. Each Individual member is entitled to one (1) vote.
4. Each Student member is entitled to one (1) vote.

Section B Qualification:

1. A membership may be held by any company, organization, or individual with an interest in OS/2.
2. Qualification for membership shall be automatic unless the Executive Board believes this membership would not be in the best interests of VOICE.

Section C Application:

1. Application for membership may be made using the [Online Membership Form](#).
2. Membership dues may be paid either by using the [Online Membership Order Form](#) at BMT Micro or by check (cheque) or Money Order (US Funds) made payable to VOICE and mailed to the Treasurer of VOICE at the address listed.
3. The application for Corporate Membership shall designate an individual to serve as that corporation's voting delegate. The member corporation may designate its delegate at any time by written notice to the Secretary.
4. The Executive Board shall promptly act to accept or reject an application for membership and will inform the applicant of its decision as soon as possible.

Section D

Fees:

1. An annual membership fee will be established by the Executive Board to cover the operating expenses of VOICE and OS/2 projects on behalf of VOICE including but not limited to representation at and participation in the annual Warpstock conference.

Section E

Termination of Membership:

1. Membership terminates when qualification for membership ceases to exist.
2. A membership may be terminated by notification in writing to the Secretary from the corporate delegate of a Corporate membership, or an individual for an Individual or Student membership.
3. Membership of a Corporate, Individual, or Student membership may be terminated by the Executive Board at any time if the Board rules that the member is not acting in the best interests of VOICE, as defined by this document and the Code of Ethics.
4. Membership shall expire after 12 months from the date the application was submitted, unless the member's annual fee is received by the Treasurer prior to that date.
5. The Treasurer will notify the member, by e-mail, 30 days prior to the member's expiration date that the membership will expire in 30 days. The member will then have 30 days to renew the membership via either the Website at BMT Micro or in writing, with check (cheque) or Money Order enclosed to the Treasurer of VOICE.

ARTICLE IV GOVERNMENT

Section A

Executive Board of Directors:

1. Executive Board - The government of VOICE shall be vested in the Executive Board, which shall consist of six members.
2. Executive Board Officers - The executive officers shall be: President, Vice-President, Secretary, Treasurer, Liaison Chairperson and Marketing/PR Chairperson.
3. The tenure of an officer or Executive Board member shall terminate if the incumbent becomes ineligible to hold office.
4. New positions may be added to the Executive Board when deemed necessary by a majority rule of the Board.
5. A majority rule of the Board can result in the removal of an officer from his/her position if the Board rules that the officer is not fulfilling his/her duties or is not abiding to the by-laws of this document as well as the Code of Ethics.

Section B

The President shall:

1. Be the principal executive officer.
2. Participate as an executive officer of the Executive Board of VOICE.
3. Provide for committees as described in Article VII.
4. Preside over all formal meetings and Executive Board meetings of VOICE.
5. Be ex officio a member of all committees.
6. Provide for the discharge, pro tempore, of necessary functions in the event of the absence or incapacity of a member.
7. Call all Executive Board meetings.

Section C

The Vice-President shall:

1. Participate as an executive officer of the Executive Board of VOICE.
2. Be of official service to the President.
3. Perform the duties, pro tempore, of the President in case of Presidential absence.
4. Act as Chairman of the Program Committee.

Section D

The Secretary shall:

1. Participate as an executive officer of the Executive Board of VOICE.
2. Publish and maintain the minutes of Executive Board meetings.
3. Be responsible for all official publications of VOICE, except those published by the Marketing Chairperson.
4. In conjunction with the Liaison Chairperson and Marketing Chairperson, form and maintain a healthy relationship with User Groups, ISVs, and IBM.
5. In addition to the Liaison Chairperson, be responsible for all official correspondence with ISVs, User Groups, IBM, and any other organization.

Section E

The Treasurer shall:

1. Participate as an executive officer of the Executive Board of VOICE.
2. Be responsible for all monies of VOICE.
3. Maintain all accounts and handle all financial transactions of VOICE and prepare and issue to each member an annual financial statement.
4. Maintain the membership roster.
5. Prepare and maintain an operating budget by fiscal year for VOICE. An approval of the budget by the Executive Board is required.
6. Arrange for an annual audit of the financial accounts of VOICE. An Audit Committee consisting of at least three (3) members of VOICE will be appointed by the President. Said committee will review their findings with the Executive Board for approval.
7. Collect all fees pertaining to membership. The Treasurer may appoint a member to collect fees in the event of his/her absence.

Section F

The Liaison Chairperson shall:

1. Participate as an executive officer of the Executive Board of VOICE.
2. In conjunction with the Secretary and Marketing Chairperson, form and maintain a healthy relationship with User Groups, ISVs, the press, and IBM.
3. Maintain a list of User Group, ISV, press, and IBM contacts and be the contact point for Executive Board or members wishing to reach User Groups, ISVs, the press, and IBM.
4. In addition to the Secretary, be responsible for all official correspondence with ISVs, User Groups, IBM, and any other organization.

Section G

The Marketing/PR Chairperson shall:

1. Participate as executive officers of the Executive Board of VOICE.
2. Be responsible for the marketing and public relations of VOICE with, but not limited to, User Groups, ISVs, the press, and IBM.
3. Issue press releases, as necessary, for VOICE, ISV, and User Group news and events.
4. Write articles for both on-line and paper magazines promoting VOICE news and events.
5. In conjunction with the Secretary and Marketing Chairperson, form and maintain a healthy relationship with User Groups, ISVs, the press, and IBM.
6. Inform and provide the Secretary with copies of any official publications and press releases written and distributed by the Marketing Chairperson.

Section H

Scope of Duties:

The duties of the Executive Board and the officers shall include but not be restricted to those named in this article.

ARTICLE V

Nomination, Election and Length of Term

Section A

1. The Nominating Committee shall present a slate of candidates for each office at the last scheduled public meeting of VOICE. This committee will be chaired either by the Past President or a delegate member appointed by the President.
2. Additional nominations may be appended to the slate of officers upon receipt by the Nominating Committee, before the close of the meeting, of a petition signed by five (5) delegate members. No delegate may sign more than one petition for the same office.
3. Elections shall be conducted by e-mail, to the current membership list, commencing immediately following the Board of Directors meeting where all candidates for open positions have attended and supplied a short Bio for posting on the VOICE Website.
4. Ballot will be by e-mail to the current Secretary. Ballots will be accepted for 10 days following the initial e-mail to the membership list. No ballots will be accepted after the 10 days has lapsed. Winners will be notified within 24 hours of the close of balloting, and will be posted to the VOICE Website immediately thereafter.
5. A candidate is elected upon receiving a majority of the votes for the office. Should the first ballot fail to produce a majority vote for any office(s), a run-off shall be held between the two candidates receiving the highest and second highest number of votes cast for the office(s).
6. The procedure for electing the remaining members of the Executive Board shall be as follows. Each delegate member may vote for as many candidates as there are vacancies to be filled. Those candidates, equal in number to the actual number of vacancies to be filled, receiving the highest number of votes shall be declared elected to the Executive Board. In the case of a tie which results in a conflict, a run-off between the tied candidates shall be held to fill the vacancies remaining.
7. Elected officers and Board members shall assume their duties upon adjournment of that meeting.

Section B

Vacancies:

1. In the event the office of President becomes vacant, the Vice President shall succeed to the Presidency.
2. When any other office becomes vacant, the Executive Board shall act to fill the office for the unexpired term. They shall use such procedures for this as they deem advisable under the circumstances, including if they wish, the holding of a special election.

Section C

Eligibility:

1. Only member delegates are eligible to be Executive Board members.
2. No restriction shall be placed on the number of times a person may be re-elected to office.
3. No nomination shall be accepted unless the nominee has given assurance of willingness to fulfill the responsibilities and duties of the office for which he is nominated.
4. Employees and relatives of IBM and its subsidiaries are ineligible to serve as officers or members of the Executive Board. However, IBM can appoint an official non-voting representative(s) to act as vendor liaison at Executive Board meetings and committee meetings.

Section D

Duties of Officers:

The Executive Board shall:

1. Establish official policy for VOICE. This includes a Code of Ethics and standard practices to be observed at all VOICE functions.
2. Monitor and supervise all VOICE related activities.
3. Establish fees for membership.
4. Sanction special projects related to VOICE.
5. Control the distribution of VOICE membership roster to parties internal and external to VOICE.

Section E

Length of Term

1. The term of the Executive Board members shall be 2 years.
2. Elections will be staggered so as to not have a turnover of the entire Executive Board at the same time.
3. Elections held in even numbered years shall be for:
 - a. President
 - b. Marketing Chairperson
 - c. Treasurer
4. Elections held in odd numbered years shall be for:
 - a. Vice President
 - b. Secretary
 - c. Liaison Chairperson

ARTICLE VI MEETINGS

Section A

Definitions for Meetings of VOICE:

1. A formal meeting is an event composed of one or more scheduled sessions for the general membership of VOICE. The sessions may be concurrent and/or contiguous for each day of the meeting. A formal meeting is completed when adjourned 'sine die.'
2. The Executive Board will conduct separate meetings to conduct the business of VOICE. Board meetings will be open to all

members.

3. Committees will conduct separate meetings to discuss pertinent topics of interest. Committee meetings will be open to all members.

Section B Schedules:

1. Formal meetings will be conducted at least twice a month. Locations for these meetings shall be selected by the Executive Board based on the recommendations of the Program Committee.
2. Executive Board meetings will be conducted at least two times a month. The President shall select the meeting location and time.
3. Committee meetings will be conducted periodically as determined by the committee. The Committee Chairman shall select the meeting location and time.

Section C Meeting Preliminaries

1. The agenda and other particulars for a formal meeting shall be distributed by the VOICE Secretary to the members at least 2 days prior to the opening day of the formal meeting.
 - a. The agenda and other particulars for a board meeting shall be distributed by the VOICE President to the members of the Executive Board at least 2 days prior to the opening day of the board meeting.
 - b. The agenda and other particulars for a committee meeting shall be distributed by the Committee Chairman to interested members at least 2 days prior to the opening of the committee meeting.

Section D Attendance:

1. Attendance at all board meetings is limited to Executive Board members and guests invited by the Executive Board.
2. Attendance at all general meetings is open to the public. Membership not required.
3. Special "Members Only" meetings may be scheduled by the Executive Board at a date and time other than a regularly scheduled General meeting.

Section E Proceedings:

A recording secretary shall be assigned for each meeting. For formal meetings and board meetings, this will be the VOICE Secretary. For committee meetings, the Chairman will appoint a member to record the events in a fashion acceptable to the VOICE Secretary.

Section F Restriction:

1. No member or guest of VOICE shall engage in employment recruiting and/or interviewing at and during any meeting.
2. Meetings of VOICE shall not be used as a vehicle for direct solicitation of business. To clarify, the Executive Board or a Committee Chairman may from time to time invite a vendor or consultant to a meeting to describe their product and/or service. In this event, the vendor/consultant can describe their product/service and pricing structure to the general membership in attendance, but must avoid direct solicitation for business from individual members during the meeting.

Section G Meetings:

The date and location of any meeting to be sponsored by VOICE or by any of its committees must be coordinated with the Vice President and/or Secretary before being formally scheduled or announced.

ARTICLE VII COMMITTEES

Section A Establishment of Committees:

1. A committee and its charter are established by the President with the approval of the Executive Board.
2. The Chairman is appointed by the President with the approval of the Executive Board.
3. The Chairman appoints the members of the committee. However, a committee may be as small as one (1) member.
4. The Chairman shall keep the Secretary informed, on a timely basis, of the membership and activities of the committee.
5. A committee may be dissolved, or its charter modified, or its chairman removed by the President with the approval of the Executive Board.

ARTICLE VIII COMMUNICATIONS

Section A Distribution:

The official distribution of information to the members shall be through the Secretary.

Section B Nature of Material:

Material sent to the Secretary for distribution is considered non-proprietary and unclassified. Material is unequivocally subject by the Secretary and VOICE.

Section C Library:

A library of material will be maintained by the Secretary in a manner to be determined by the Executive Board.

Section D Communication with the Vendor:

All official communications between VOICE and the OS/2 vendor, IBM, about matters of VOICE business must be conducted through the VOICE President, or through such individual(s) as he/she may designate.

ARTICLE IX PARLIAMENTARY AUTHORITY

Section A

"Robert's Rules of Order" shall prevail except that where they conflict with these bylaws, the bylaws shall govern.

ARTICLE X AMENDMENT OF THE BYLAWS

Section A Proposals:

Amendments to the bylaws may be processed by action of the Executive Board or by a petition to the Secretary of five (5) or more members. Notice of a proposed amendment must be distributed to the membership at least one week prior to the formal meeting at which discussion is expected.

Section B Voting Procedure:

Amendments to the by-laws shall be voted on at formal meetings. A majority of the votes is required to carry the proposed amendment.

Section C Restriction:

The VOICE Secretary or other members of the Executive Board may not edit proposals for bylaw amendment.

Code of Ethics

Code of Ethics

The objective of the Code of Ethics is to declare and set forth the means to enforce the minimum ethical conduct expected of all members as professionals. They are the absolute minimum level of conduct required of every member.

Be courteous and respectful to every person I [we] come in contact with when representing VOICE.

Perform my professional activities with honesty and in a way that will enhance my [our] reputation and the reputation of VOICE.

Not knowingly misrepresent VOICE nor will I [we] engage in dishonest or illegal practices.

Build confidence and good will with the public by poise, self-restraint and constructive cooperation.

Not misrepresent my [our] membership, nor assert or imply that VOICE membership is evidence of accreditation or endorsement.

Not write, speak, or act in such a way as to lead another to believe that I [we] officially represent VOICE, unless duly authorized to do so by the officers, or Bylaws of VOICE.

I [we] have read, understand and accept the Code of Ethics as stated.

Name: _____ Date: _____

Download the [Code of Ethics and Application for Membership](#). Please enclose a signed copy of the Code of Ethics with your check and Application for Membership.

Thank you for supporting VOICE

Sponsors

Sponsors

We would like to thank the following companies for their support:

Name	Homepage	Description
BMT Micro	www.bmtmicro.com	BMT Micro is a leading reseller of OS/2 software and provides the OS/2 community with a wide selection of software for any purpose.
Mensys B.V.	www.mensys.nl	Mensys is an eComStation distributor and closely involved with its development. It is also a leading reseller of OS/2 software and provides the OS/2 community with a wide selection of software for any purpose.

For more information on VOICE sponsorship please refer to our sponsorship information page on the VOICE website - <http://www.os2voice.org/sponsorinfo.html>.

*. Footnotes section

Internet resources

Here you find all external references of this online book. Each of these links as a Unified Resource Locator (URL) to a specific place on the Internet. Double-click on a link to start Netscape with this URL.

<http://www.os2voice.org/>

Click on the below link to start Netscape with this URL:

<http://www.os2voice.org/>

<http://www.os2voice.org/transcripts.html>

Click on the below link to start Netscape with this URL:

<http://www.os2voice.org/transcripts.html>

<http://www.os2voice.org/calendar.html>

Click on the below link to start Netscape with this URL:

<http://www.os2voice.org/calendar.html>

<http://www.timezoneconverter.com/cgi-bin/tzc.tzc>

Click on the below link to start Netscape with this URL:

<http://www.timezoneconverter.com/cgi-bin/tzc.tzc>

<mailto:editor@os2voice.org>

Click on the below link to start Netscape with this URL:

<mailto:editor@os2voice.org>

<http://www.os2world.com/award/results.php>

Click on the below link to start Netscape with this URL:

<http://www.os2world.com/award/results.php>

<http://hobbes.nmsu.edu/>

Click on the below link to start Netscape with this URL:

<http://hobbes.nmsu.edu/>

<http://www.os2voice.org/searchnl.html>

Click on the below link to start Netscape with this URL:

<http://www.os2voice.org/searchnl.html>

mailto:submit@os2voice.org

Click on the below link to start Netscape with this URL:

<mailto:submit@os2voice.org>

<http://www.os2voice.org/fSubNews.html>

Click on the below link to start Netscape with this URL:

<http://www.os2voice.org/fSubNews.html>

mailto:christian.hennecke@os2voice.org

Click on the below link to start Netscape with this URL:

<mailto:christian.hennecke@os2voice.org>

mailto:jimoe@soehnen-moe.com

Click on the below link to start Netscape with this URL:

<mailto:jimoe@soehnen-moe.com>

<http://www.os2voice.org>

Click on the below link to start Netscape with this URL:

<http://www.os2voice.org>

<http://www.warpstock.org>

Click on the below link to start Netscape with this URL:

<http://www.warpstock.org>

mailto:edurrant@bigpond.net.au

Click on the below link to start Netscape with this URL:

<mailto:edurrant@bigpond.net.au>

<http://www.hutchison.com.au/>

Click on the below link to start Netscape with this URL:

<http://www.hutchison.com.au/>

<http://www.three.com.au/>

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<http://www.three.com.au/>

<://www.three.com.au/index.cfm?pid=2204&pageid=2932>

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<://www.three.com.au/index.cfm?pid=2204&pageid=2932>

<http://www.bluetooth.com/>

Click on the below link to start Netscape with this URL:

<http://www.bluetooth.com/>

<http://www.os2warp.be>

Click on the below link to start Netscape with this URL:

<http://www.os2warp.be>

<http://www.three.com.au>

Click on the below link to start Netscape with this URL:

<http://www.three.com.au>

<http://www.hutchison-whampoa.com/>

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<http://www.hutchison-whampoa.com/>

<http://www.fx.dk>

Click on the below link to start Netscape with this URL:

<http://www.fx.dk>

<mailto:ganchero@cox.net>

Click on the below link to start Netscape with this URL:

<mailto:ganchero@cox.net>

ftp://ftp.netlabs.org/pub/fat32/f32_0911.zip

Click on the below link to start Netscape with this URL:

ftp://ftp.netlabs.org/pub/fat32/f32_0911.zip

<ftp://ftp.netlabs.org/pub/fat32>

Click on the below link to start Netscape with this URL:

<ftp://ftp.netlabs.org/pub/fat32>

<http://www.dfsee.com/>

Click on the below link to start Netscape with this URL:

<http://www.dfsee.com/>

<http://hobbes.nmsu.edu/cgi-bin/h-search?key=DFSee&pushbutton=Search>

Click on the below link to start Netscape with this URL:

<http://hobbes.nmsu.edu/cgi-bin/h-search?key=DFSee&pushbutton=Search>

<http://hobbes.nmsu.edu/cgi-bin/h-search?key=USBcfg&pushbutton=Search>

Click on the below link to start Netscape with this URL:

<http://hobbes.nmsu.edu/cgi-bin/h-search?key=USBcfg&pushbutton=Search>

<http://www.iomega.com/>

Click on the below link to start Netscape with this URL:

<http://www.iomega.com/>

http://www.iomega.com/direct/products/family.jsp?FOLDER%3C%3Efolder_id=26891285&ASSORTMENT%3C%3EEast_id=63191&bmUID=114

Click on the below link to start Netscape with this URL:

http://www.iomega.com/direct/products/family.jsp?FOLDER%3C%3Efolder_id=26891285&ASSORTMENT%3C%3EEast_id=63191&bmUID=114

http://hobbes.nmsu.edu/pub/os2/util/disk/vfat2ea_v15.zip

Click on the below link to start Netscape with this URL:

http://hobbes.nmsu.edu/pub/os2/util/disk/vfat2ea_v15.zip

<http://hobbes.nmsu.edu/pub/os2/util/disk/VFATMon11.zip>

Click on the below link to start Netscape with this URL:

<http://hobbes.nmsu.edu/pub/os2/util/disk/VFATMon11.zip>

<ftp://ftp.netlabs.org/pub/fat32/>

Click on the below link to start Netscape with this URL:

<ftp://ftp.netlabs.org/pub/fat32/>

<mailto:peter@manglais.com>

Click on the below link to start Netscape with this URL:

<mailto:peter@manglais.com>

<mailto:peterDESPAM@DESPAMmanglais.com>

Click on the below link to start Netscape with this URL:

<mailto:peterDESPAM@DESPAMmanglais.com>

<http://www.manglais.com/>

Click on the below link to start Netscape with this URL:

<http://www.manglais.com/>

<http://en.wikipedia.org/>

Click on the below link to start Netscape with this URL:

<http://en.wikipedia.org/>

<http://en.wikipedia.org/wiki/Cardbus>

Click on the below link to start Netscape with this URL:

<http://en.wikipedia.org/wiki/Cardbus>

http://www.os2voice.org/VNL/past_issues/VNL0600H/vnewsf5.htm

Click on the below link to start Netscape with this URL:

http://www.os2voice.org/VNL/past_issues/VNL0600H/vnewsf5.htm

http://www.os2voice.org/VNL/past_issues/VNL1201H/vnewsf2.htm

Click on the below link to start Netscape with this URL:

http://www.os2voice.org/VNL/past_issues/VNL1201H/vnewsf2.htm

http://www.os2voice.org/VNL/past_issues/VNL0305H/vnewsf4.htm

Click on the below link to start Netscape with this URL:

http://www.os2voice.org/VNL/past_issues/VNL0305H/vnewsf4.htm

<http://www.os2warp.be/index2.php?name=genmac>

Click on the below link to start Netscape with this URL:

<http://www.os2warp.be/index2.php?name=genmac>

<ftp://ftp.netlabs.org/pub/genmac>

Click on the below link to start Netscape with this URL:

<ftp://ftp.netlabs.org/pub/genmac>

<http://www.os2warp.be/index2.php?name=wifidevs>

Click on the below link to start Netscape with this URL:

<http://www.os2warp.be/index2.php?name=wifidevs>

<http://wlan.netlabs.org/>

Click on the below link to start Netscape with this URL:

<http://wlan.netlabs.org/>

<mailto:os2voice@aisoft.xs4all.nl>

Click on the below link to start Netscape with this URL:

<mailto:os2voice@aisoft.xs4all.nl>

http://www.os2voice.org/VNL/past_issues/VNL0106H/feature_5.html

Click on the below link to start Netscape with this URL:

http://www.os2voice.org/VNL/past_issues/VNL0106H/feature_5.html

http://www.os2voice.org/VNL/past_issues/VNL0206H/feature_5.hi

Click on the below link to start Netscape with this URL:

http://www.os2voice.org/VNL/past_issues/VNL0206H/feature_5.html

http://www.os2voice.org/VNL/past_issues/VNL0406H/feature_6.hi

Click on the below link to start Netscape with this URL:

http://www.os2voice.org/VNL/past_issues/VNL0406H/feature_6.html

<mailto:tips@os2voice.org>

Click on the below link to start Netscape with this URL:

<mailto:tips@os2voice.org>

<http://www.os2voice.org/maillinglists.html>

Click on the below link to start Netscape with this URL:

<http://www.os2voice.org/maillinglists.html>

<http://www.os2bbs.com/os2news/Warpzilla.html>

Click on the below link to start Netscape with this URL:

<http://www.os2bbs.com/os2news/Warpzilla.html>

<http://en.ecomstation.ru/download/isj.exe>

Click on the below link to start Netscape with this URL:

<http://en.ecomstation.ru/download/isj.exe>

<http://hobbes.nmsu.edu/cgi-bin/h-search?key=rtl8029p.zip>

Click on the below link to start Netscape with this URL:

<http://hobbes.nmsu.edu/cgi-bin/h-search?key=rtl8029p.zip>

http://www.os2voice.org/VNL/past_issues/VNL0406H/feature_3.html

Click on the below link to start Netscape with this URL:

http://www.os2voice.org/VNL/past_issues/VNL0406H/feature_3.html

<http://hobbes.nmsu.edu/cgi-bin/h-search?key=projectx>

Click on the below link to start Netscape with this URL:

<http://hobbes.nmsu.edu/cgi-bin/h-search?key=projectx>

http://www.moon-scape.com/warp/irc_clients.html

Click on the below link to start Netscape with this URL:

http://www.moon-scape.com/warp/irc_clients.html

<mailto:rs@fyrelizard.com>

Click on the below link to start Netscape with this URL:

<mailto:rs@fyrelizard.com>

<mailto:president@os2voice.org>

Click on the below link to start Netscape with this URL:

<mailto:president@os2voice.org>

<mailto:vicepresident@os2voice.org>

Click on the below link to start Netscape with this URL:

<mailto:vicepresident@os2voice.org>

<mailto:treasurer@os2voice.org>

Click on the below link to start Netscape with this URL:

<mailto:treasurer@os2voice.org>

<mailto:secretary@os2voice.org>

Click on the below link to start Netscape with this URL:

<mailto:secretary@os2voice.org>

<mailto:liaison@os2voice.org>

Click on the below link to start Netscape with this URL:

<mailto:liaison@os2voice.org>

<mailto:sysadmin@os2voice.org>

Click on the below link to start Netscape with this URL:

<mailto:sysadmin@os2voice.org>

<mailto:madodel@ptdprolog.net>

Click on the below link to start Netscape with this URL:

<mailto:madodel@ptdprolog.net>

<mailto:marckus@web.de>

Click on the below link to start Netscape with this URL:

<mailto:marckus@web.de>

<mailto:jp.gaida@web.de>

Click on the below link to start Netscape with this URL:

<mailto:jp.gaida@web.de>

<mailto:fox@on-line.de>

Click on the below link to start Netscape with this URL:

<mailto:fox@on-line.de>

<mailto:gaby.d@bigpond.net.au>

Click on the below link to start Netscape with this URL:

<mailto:gaby.d@bigpond.net.au>

mailto:ines_schmitt@onlinehome.de

Click on the below link to start Netscape with this URL:

mailto:ines_schmitt@onlinehome.de

mailto:os2info@gmx.net

Click on the below link to start Netscape with this URL:

<mailto:os2info@gmx.net>

<http://www.bmtmicro.com/BMTCatalog/os2/voicememberships.htm>

Click on the below link to start Netscape with this URL:

<http://www.bmtmicro.com/BMTCatalog/os2/voicememberships.html>

https://shop.mensys.nl/cgi-bin/db2www/mns_art2.d2w/report?artname=VOICESUB

Click on the below link to start Netscape with this URL:

https://shop.mensys.nl/cgi-bin/db2www/mns_art2.d2w/report?artname=VOICESUB

<http://www.os2voice.org/application.html>

Click on the below link to start Netscape with this URL:

<http://www.os2voice.org/application.html>

<https://secure.falcon-net.net/BMT/order0308.html>

Click on the below link to start Netscape with this URL:

<https://secure.falcon-net.net/BMT/order0308.html>

<http://www.os2voice.org/sponsorinfo.html>

Click on the below link to start Netscape with this URL:

(No title)

Universal Serial Bus

(No title)

Operating System/2

(No title)

Internet Relay Chat

(No title)

Virtual OS/2 International Consumer Education

(No title)

HyerText Markup Language

(No title)

third-generation technology

(No title)

Code division multiple access

(No title)

Video Graphics Array (640 by 480 pixels; 1.33:1 aspect ratio)

(No title)

Web portal, a kind of Content Management System Web site

(No title)

Kilo-bits per second

(No title)

Personal Computer

(No title)

Megabyte (binary)

(No title)

MOdulator/DEModulator

(No title)

Personal Digital Assistant (electronic handheld information device)

(No title)

Portable Document Format (Adobe Acrobat)

(No title)

Access Point Name

(No title)

United Kingdom

(No title)

Point-to-Point Protocol (Internet)

(No title)

eComStation

(No title)

Logical Volume Manager

(No title)

Mass Storage Device

(No title)

Extended Boot Record

(No title)

Master Boot Record

(No title)

Journalled File System

(No title)

Fixed Disk (disk partitioning utility)

(No title)

Workplace Shell

(No title)

GigaByte (binary)

(No title)

Compact Disk - Recordable

(No title)

Compact Disc - ReWritable

(No title)

Compact Disk

(No title)

Hard Disk Drive

(No title)

Personal Digital Assistant

(No title)

eComStation Maintenance Tool

(No title)

Media Refresh

(No title)

International Business Machines

(No title)

Peripheral Component Interconnect/Interface

(No title)

Universal Host Controller Interface

(No title)

Enhanced Host Controller Interface

(No title)

Open Host Controller Interface

(No title)

REMark - Made a comment

(No title)

MegaByte (binary)

(No title)

Integrated Device/Drive Electronics

(No title)

High Performance File System

(No title)

Extended Attribute

(No title)

New Technology File System [Microsoft]

(No title)

Basic Input/Output System

(No title)

Portable Document Format

(No title)

Vector graphics format used by the operating system

(No title)

The number used to represent a particular character

(No title)

Application Programming Interface

(No title)

MicroSoft

(No title)

Leap Over Logic starts with a zero

(No title)

Unicode Transformation Format

(No title)

Personal Computer Memory Card International Association

(No title)

Japan Electronic Industry Development Association

(No title)

Industry Standard Architecture

(No title)

MegaHertz

(No title)

Peripheral Component Interconnect

(No title)

Central Processing Unit

(No title)

Wireless Fidelity (IEEE 802.11 wireless networking)

(No title)

Local Area Network

(No title)

Mega bit per second

(No title)

Portable Computer Card

(No title)

Network Interface Card

(No title)

HardWare

(No title)

FirmWare

(No title)

Multi-Protocol Transport Services

(No title)

Transmission Control Protocol/Internet Protocol

(No title)

Virtual PC

(No title)

Wireless Local Area Network

(No title)

Service Set IDentification (IEEE 802.11 wireless networks)

(No title)

Internet Protocol

(No title)

Media Access Control

(No title)

Service Set Identifier

(No title)

Domain Name Server

(No title)

Dynamic Host Configuration Protocol

(No title)

Wireless Encryption Protocol

(No title)

Wi-Fi/Wireless Protected Access

(No title)

International Organization for Standardization

(No title)

Multiple Input, Multiple Output

(No title)

Digital Versatile Disc

(No title)

File Allocation Table (32 bit)

(No title)

File Allocation Table

(No title)

Direct Access Storage Device

(No title)

Advanced Technology Attachment

(No title)

User Interface

(No title)

High-Performance File System

(No title)

Small Computer Systems Interface

(No title)

Random Access Memory

(No title)

WorkPlace Shell

(No title)

Dynamic Link Library

(No title)

IBM's VisualAge C/C++ compiler

(No title)

Portable Network Graphics (graphic file standard/extension)

(No title)

Cascading Style Sheet

(No title)

Graphical User Interface

(No title)

HyperText Markup Language

(No title)

Cascading Style Sheets

(No title)

Restructured Extended Executor

(No title)

C Programming Language

(No title)

Independent Software Vendor

(No title)

Small Office/Home Office

(No title)

Disk Operating System

(No title)

Eastern Standard Time

(No title)

Greenwich Mean Time

(No title)

Operating System/2 [IBM]

(No title)

International Business Machines (Corporation)