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WHOIS OS2PG?

By Doug Hogarth

Have you ever wondered how the OS/2 JDA product turns into an OEM product like MS OS/2 as published by Compaq, or the MS OS/2 SDK? There are four big steps: JDA work, OPG work, documentation work, and work by the OEM. Everyone already knows about the JDA work, which forms the important base for the other steps.

OPG is the development arm of the MS OS/2 Product Group, headed by Eric Evans. OPG uses the JDA base (not including items like ABIOS support) and makes products like the MS OS/2 Binary Adaptation Kit (BAK) and SDK. The process of making the BAK involves locating the parts of the kernel (IBMDOS) which have dependencies on hardware, like the IBM AT. The most obvious example is any occurance of IN/ OUT instructions. These items are separated into a layer call DosHlps which we put in the IBMBIO file. IBMDOS is made to dispatch to that layer so that the "kernel" can be distributed in binary form. There are also some more generic changes made to the kernel to support such things as using mode-switching (not LOADALL) on AT architecture machines with 80386 processors, allowing an 80287 chip to be hooked up to an 80386, etc. BVS is another area of change - the OPG group makes changes to support a wider variety of EGA/VGA cards.

Dualboot hooks are also added, and this affects the installation process. Since there are a large number of changes to make at the "last minute," OPG has initiated a 1.2 DCR to begin implementing the DosHlp layer in JDA code.

Users of MS OS/2 need documentation, so the POW group led by Brad Hastings works to provide all types of manuals: end-user, programming, device driver development, and adaptation. Since documentation is not covered by the JDA, all MS OS/2 documentation created by POW is original. That's almost 4000 pages of original documentation to write, edit, and prepare for publication! When POW is done, the OEM customers like Compaq receive the end-user manuals to include in their product; Microsoft's Languages business unit receives the programming manuals to include in their MS OS/2 Programmer's Toolkit; and OEM, ISV, and IHV customers receive the device driver and adaptation manuals to use to develop new products for MS OS/2.

The BAK product ships with source code to the DosHlp layer and some other machine dependent code like bootstrap loaders & BVS, and even some programs like FDISK and MODE (both are common areas of changes/additions for OEMs). The BAK also contains source code to all device driv-

ers except VDISK. The list includes base drivers like DISK01 as well as Presentation Manager drivers like the display drivers for EGA/VGA. Finally, the BAK includes various tests, the tools necessary to build adapted portions of MS OS/2, and the binaries which are distributed unchanged.

We don't have control over the last step, but you can imagine that the OEM receives the BAK and starts adjusting the source code to work on their hardware. OEM hardware ranges from "100% compatibles" such as the Compaq to some machines that might only have the CPU (286/386) in common with IBM. There might be more or less than two PICs (8259s), different hard disk controllers, different ways of gating the A20 line or resetting. Some machines don't even have a compatible ROM BIOS (of course they can't expect a DOS Session to work).

Adrian King manages the entire os2pg group including Eric's and Brad's group as well as program and product managers. There are several activities which the group deals with in addition to delivering products like the BAK and documentation. We target key ISVs, IHVs, and OEMs to develop PM apps & drivers, and there is joint marketing with IBM as well as work with PSS/MSU. We will continue these efforts and extend them to focus directly on MS Windows, Macintosh, and UNIX developers in the future.

Next time you get asked about how your code works on non-IBM hardware or if you can review some documentation, I hope that this information is helpful. There is also an international aspect to this story, but that must be left for another article. Please feel free to contact me or others in the group if you have any questions or comments!

BEYOND HANA

Now you're getting into adventure. The first sign is that the road gets steadily worse after Hana. It begins to narrow, then the twists and turns begin again, and it's potholed. Signs

warn, "Caution: Pig Crossing." There are no phones, no gas, and only a fruit stand or two with one store that can be counted on only to be closed. The faint-hearted should turn back, but those with gumption are in for a treat. There're roadside waterfalls, cascading streams filling a series of pools, a hero's grave, and some forgotten towns. If you persevere all the way, you pop out at the Tedeschi Winery, where you can reward yourself with a glass of bubbly before returning to civilization.

Wailua Falls
About seven miles after leaving Hana, Wailua and Kanahualui Falls tumble over steep lava *pali*, filling the air with a watery mist and filling their pools below. They're just outside your car door, and a five-minute effort will take you to the mossy grotto at the base. There's plenty of room to park. If not for Oheo up ahead, this would be a great picnic spot, but wait! Sometimes roadside artists park here. An especially good one is Peggy Saunders, who calls her glass creations "Hawaiian Reflections." Her hanging stained glass is beautifully executed. In a few minutes you pass a little shrine cut into the mountain. This is the **Virgin By The Roadside**. It's usually draped with fresh *lei*.

BEYOND HANA

HALEAKALA NATIONAL PARK
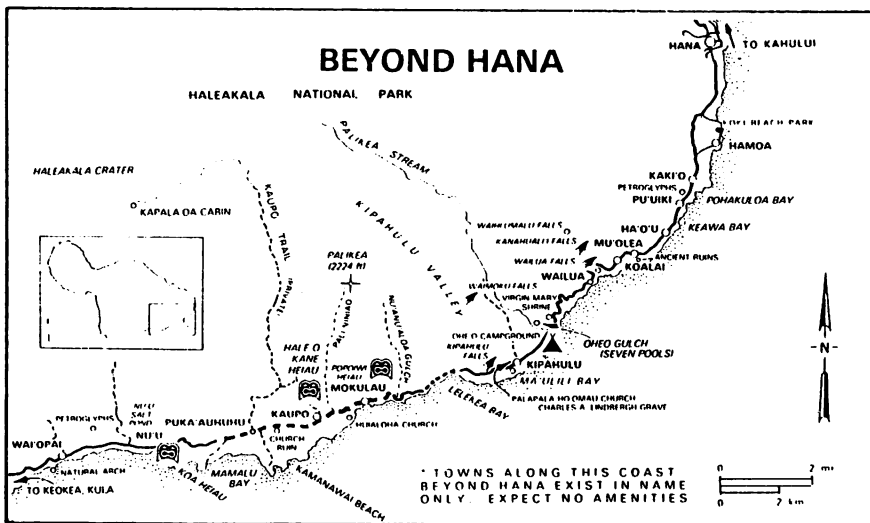
OHEO GULCH

This is where the enormous **Kipahulu Valley** meets the sea. Palikea Stream starts way up on Haleakala and steps its way through the valley, leaving footprints of waterfalls and pools until it spends itself in the sea. The area was named the **Seven Sacred Pools** by white men. They made a mistake, but an honest one. The area should have been held sacred, but it wasn't. Everything was right here. You can feel the tremendous power of nature: bubbling waters, Haleakala red and regal in the background, and the sea pounding away. Hawaiians lived here but the *heiau* that you would surely expect are missing. Besides that there aren't seven pools, there's more like 24!

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