OS2CSM Idea

Veit Kannegieser wrote a program, called os2csm. It was inspired by some DOS program, which modifies config.sys in memory. Os2csm installs itself in place of os2ldr, and renames os2ldr to os2ldr.bin. Os2csm hooks onto int 13h interrupt handler and analyzes the information read through int 13 routine. The config.sys file contains directives, analogous to C preprocessor directives, and each 512 bytes of config.sys file (each disk sector of config.sys) has a special comment with a special signature in it. The procedure, which hooks onto int 13h interrupt handler, checks each sector for these signatures, and if it finds them, it assumes that the config.sys file is being read. So, it substitutes preprocessor defines and patches config.sys on the fly.

The config.sys preprocessor is useful to substitute some parts of config.sys by some variables (aka preprocessor symbols). These variables can be obtained from menus, which are presented to user by os2csm. The os2csm then loads os2ldr from the file os2ldr.bin; the loader starts the kernel. When the kernel reads config.sys, os2csm changes it on the ly, and substitutes variables. So, settings set by user substitute variables in config.sys. This way, the set of parameters is passed to the kernel through config.sys preprocessor.

OS2CSM is now used in eCS (in eCS demo disk and in eCS installation disk). You can download the demo disk from http://ecomstation.com/.

We can use this idea in our bootloader, so, we may implement a simple preprocessor with syntax similiar to the C preprocessor (or, even, PPWizard syntax). I propose to embed this preprocessor into loader and instead of hooking onto int 13 routines, we can hook onto blackbox routines. The configs are read through blackbox (not minifsd, like in present OS/2!). I suggest to explicitly mark a number of files as configs in the loader config. So, the signatures in each config.sys file sector are not needed. And also we can use more attractive and beautiful looking syntax instead of ugly os2csm syntax.

The preprocessor directives may include analogues to ”#define”, ”#include”, ”#ifdef” etc., so, it will be possible to define symbols, include one config file to another, and to conditionally include files or define symbols. So, the resulting config file can be flexibly constructed from parts and variables can be substituted in it.

The preprocessor idea complements the GRUB idea of passing command lines to a kernel and modules. That is, we suggest to use passing parameters to the kernel as multiboot command lines, as well as through substituting variables in config files. So, we combine these two approaches.

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Last update: **2014/05/21 21:13**