AC_CACHE_LOAD — Replacement for autoconf cache load

Notes

Caching in autoconf is broken (through version 2.13). The problem is that the cache is read without any check for whether it makes any sense to read it. A common problem is a build on a shared file system; connecting to a different computer and then building within the same directory will lead to at best error messages from configure and at worse a build that is wrong but fails only at run time (e.g., wrong datatype sizes used). Later versions of autoconf do include some checks for changes in the environment that impact the choices, but still misses problems with multiple different systems.
This fixes that by requiring the user to explicitly enable caching before the cache file will be loaded.
To use this version of `AC_CACHE_LOAD`, you need to include `aclocal_cache.m4` in your `aclocal.m4` file. The sowing `aclocal.m4` file includes this file.
If no –enable-cache or –disable-cache option is selected, the command causes configure to keep track of the system being configured in a config.system file; if the current system matches the value stored in that file (or there is neither a config.cache nor config.system file), configure will enable caching. In order to ensure that the configure tests make sense, the values of CC, F77, F90, and CXX are also included in the config.system file.

Bugs

This does not work with the Cygnus configure because the enable arguments are processed *after* AC_CACHE_LOAD (!). To address this, we avoid changing the value of enable_cache, and use real_enable_cache, duplicating the "notgiven" value.

See Also

PAC_ARG_CACHING

AC_CONFIG_AUX_DIRS — Find the directory containing auxillery scripts for configure

Synopsis

```
AC_CONFIG_AUX_DIRS( [ directories to search ] )
```

Output Effect

Sets `ac_config_guess` to location of `config.guess`, `ac_config_sub` to location of `config.sub`, `ac_install_sh` to the location of `install-sh` or `install.sh`, and `ac_configure` to the location of a Cygnus-style `configure`. Only `install-sh` is guaranteed to exist, since the other scripts are needed only by some special macros.
The environment variable `CONFIG_AUX_DIR`, if set, overrides the directories listed. This is an extension to the `autoconf` version of this macro.

PAC_ARG_CACHING   **PAC_ARG_CACHING**

PAC_ARG_CACHING — Enable caching of results from a configure execution

Synopsis

```
PAC_ARG_CACHING
```

Output Effects

Adds `--enable-cache` and `--disable-cache` to the command line arguments accepted by `configure`.

See Also

AC_CACHE_LOAD

PAC_ARG_CC_G   **PAC_ARG_CC_G**

PAC_ARG_CC_G — Add debugging flags for the C compiler

Synopsis

```
PAC_ARG_CC_G
```

Output Effect

Adds `-g` to `COPTIONS` and exports `COPTIONS`. Sets and exports the variable `enable_g_simple` so that subsidiary `configure`s will not add another `-g`.

Notes

`--enable-g` should be used for all internal debugging modes if possible. Use the `enable_val` that `enable_g` is set to to pass particular values, and ignore any values that are not recognized (some other `configure` may have used them. Of course, if you need extra values, you must add code to extract values from `enable_g`.

For example, to look for a particular keyword, you could use

```
SaveIFS="$IFS"
IFS=","
for key in $enable_g ; do
    case $key in
        mem) # add code for memory debugging
        ;;
        *)   # ignore all other values
        ;;
    esac
done
IFS="$SaveIFS"
```

PAC_ARG_MPICH_BUILDING   **PAC_ARG_MPICH_BUILDING**

PAC_ARG_MPICH_BUILDING — Add configure command-line argument to indicated that MPICH is being built

Output Effect

Adds the command-line switch `--with-mpichbuilding` that may be used to indicate that MPICH is building. This allows a configure to work-around the fact that during a build of MPICH, certain commands, particularly the compilation commands such as `mpicc`, are not yet functional. The variable `pac_lib_mpi_is_building` is set to `yes` if in an MPICH build, `no` otherwise.

See Also

PAC_LIB_MPI

PAC_ARG_MPI_TYPES   **PAC_ARG_MPI_TYPES**

PAC_ARG_MPI_TYPES — Add command-line switches for different MPI environments

Synopsis

PAC_ARG_MPI_TYPES([default])

Output Effects

Adds the following command line options to configure
–with-mpich[=path]
> MPICH. `path` is the location of MPICH commands

–with-ibmmpi
> IBM MPI

–with-lammpi[=path]
> LAM/MPI

–with-sgimpi   SGI MPI If no type is selected, and a default ("mpich", "ibmmpi", or "sgimpi") is
> given, that type is used as if `--with-<default>` was given.

Sets `CC`, `F77`, `TESTCC`, `TESTF77`, and `MPILIBNAME`. Does *not* perform an AC_SUBST for these values. Also sets `MPIBOOT` and `MPIUNBOOT`. These are used to specify programs that may need to be run before and after running MPI programs. For example, `MPIBOOT` may start demons necessary to run MPI programs and `MPIUNBOOT` will stop those demons.

See also

PAC_LANG_PUSH_COMPILERS, PAC_LIB_MPI

PAC_ARG_SHAREDLIBS   **PAC_ARG_SHAREDLIBS**

PAC_ARG_SHAREDLIBS — Add –enable-sharedlibs=kind to configure.

Synopsis

```
PAC_ARG_SHAREDLIBS
```

Output effects

Adds `--enable-sharedlibs=kind` to the command line. If this is enabled, then based on the value of `kind`, programs are selected for the names `CC_SHL` and `CC_LINK_SHL` that configure will substitute for in `Makefile.in`s. These symbols are generated by `simplemake` when shared library support is selected. Supported values of `kind` include :

gcc   Use gcc to create both shared objects and libraries
none   The same as `--disable-sharedlibs`

Others will be added as experience dictates. Likely names are + libtool - For general GNU libtool . linux-pgcc - For Portland group under Linux - solaris-cc - For Solaris C compiler

Notes

Shared libraries are only partially implemented. Additional symbols will probably be defined, including symbols to specify how shared library search paths are specified and how shared library names are set.

PAC_ARG_STRICT

PAC_ARG_STRICT — Add –enable-strict to configure.

Synopsis

```
PAC_ARG_STRICT
\par
\subhead{Output effects}
Adds {\tt --enable-strict} to the command line.  If this is enabled, then
if no compiler has been set, set {\tt CC} to {\tt gcc}.
If the compiler is {\tt gcc}, {\tt COPTIONS} is set to include

    -O -Wall -Wstrict-prototypes -Wmissing-prototypes -DGCC_WALL
```

If the value `all` is given to `--enable-strict`, additional warning options are included. These are

```
 -Wunused -Wshadow -Wmissing-declarations -Wno-long-long -Wpointer-arith
```

This only works where `gcc` is available. In addition, it exports the variable `enable_strict_done`. This ensures that subsidiary `configure`s do not add the above flags to `COPTIONS` once the top level `configure` sees `--enable-strict`. To ensure this, `COPTIONS` is also exported.
Not yet available: options when using other compilers. However, here are some possible choices Solaris cc -fd -v -Xc IRIX -ansi -DEBUG:trap_uninitialized=ON:varargs_interface_check=ON:verbose_runtime=ON

PAC_ARG_WWW

PAC_ARG_WWW — Add support for wwwdir to the configure command line

Output Effects

Sets the variable `wwwdir` to the specified directory; if no directory is given, it uses `${prefix}/www`.

PAC_CHECK_SIZEOF_DERIVED

PAC_CHECK_SIZEOF_DERIVED — Get the size of a user-defined type, such as a struct
PAC_CHECK_SIZEOF_DERIVED(shortname,definition,defaultsize) Like AC_CHECK_SIZEOF, but

handles arbitrary types. Unlike AC_CHECK_SIZEOF, does not define SIZEOF_xxx (because autoheader can't handle this case)

PAC_C_CHECK_COMPILER_OPTION

PAC_C_CHECK_COMPILER_OPTION — Check that a compiler option is accepted without warning messages

Synopsis

PAC_C_CHECK_COMPILER_OPTION(`optionname`,`action-if-ok`,`action-if-fail`)

Output Effects

If no actions are specified, a working value is added to `COPTIONS`

Notes

This is now careful to check that the output is different, since some compilers are noisy.
We are extra careful to prototype the functions in case compiler options that complain about poor code are in effect.
Because this is a long script, we have ensured that you can pass a variable containing the option name as the first argument.

PAC_C_CPP_CONCAT

PAC_C_CPP_CONCAT — Check whether the C compiler accepts ISO CPP string concatenation

Synopsis

PAC_C_CPP_CONCAT(`[true-action]`,`[false-action]`)

Output Effects

Invokes the true or false action

PAC_C_DEPENDS

PAC_C_DEPENDS — Determine how to use the C compiler to generate dependency information

Synopsis

```
PAC_C_DEPENDS
```

Output Effects

Sets the following shell variables and call AC_SUBST for them

C_DEPEND_OPT
> Compiler options needed to create dependencies

C_DEPEND_OUT
> Shell redirection for dependency file (may be empty)

C_DEPEND_PREFIX
> Empty (null) or true; this is used to handle systems that do not provide
> dependency information

C_DEPEND_MV
> Command to move created dependency file Also creates a Depends file in the top
> directory (!).

In addition, the variable `C_DEPEND_DIR` must be set to indicate the directory in which the dependency files should live.

Notes

A typical Make rule that exploits this macro is

```
#
# Dependency processing
.SUFFIXES: .dep
DEP_SOURCES = ${SOURCES:%.c=.dep/%.dep}
C_DEPEND_DIR = .dep
Depends: ${DEP_SOURCES}
        @-rm -f Depends
        cat .dep/*.dep >Depends
.dep/%.dep:%.c
        @if [ ! -d .dep ] ; then mkdir .dep ; fi
        @@C_DEPEND_PREFIX@ ${C_COMPILE} @C_DEPEND_OPT@ $< @C_DEPEND_OUT@
        @@C_DEPEND_MV@

depends-clean:
        @-rm -f *.dep ${srcdir}/*.dep Depends ${srcdir}/Depends
        @-touch Depends
```

For each file `foo.c`, this creates a file `foo.dep` and creates a file `Depends` that contains all of the `*.dep` files. For your convenience, the autoconf variable `C_DO_DEPENDS` names a file that may contain this code (you must have *dependsrule* or *dependsrule.in* in the same directory as the other auxillery configure scripts (set

with dnl `AC_CONFIG_AUX_DIR`). If you use *dependsrule.in*, you must have *dependsrule* in `AC_OUTPUT` before this *Makefile*.

PAC_C_INLINE   PAC_C_INLINE

PAC_C_INLINE — Check if C supports inline

Synopsis

PAC_C_INLINE

Output Effect

Defines `inline` as empty if inline is not available.

PAC_C_OPTIMIZATION   PAC_C_OPTIMIZATION

PAC_C_OPTIMIZATION — Determine C options for producing optimized code Synopsis PAC_C_OPTIMIZATION([action if found])

Output Effect

Adds options to `COPTIONS` if no other action is specified

Notes

This is a temporary standin for compiler optimization. It should try to match known systems to known compilers (checking, of course), and then falling back to some common defaults. Note that many compilers will complain about -g and aggressive optimization.

PAC_C_PROTOTYPES   PAC_C_PROTOTYPES

PAC_C_PROTOTYPES — Check that the compiler accepts ANSI prototypes.

Synopsis

PAC_C_PROTOTYPES([action if true],[action if false])

PAC_C_RESTRICT — Check if C supports restrict

Synopsis

PAC_C_RESTRICT

Output Effect

Defines `restrict` if some version of restrict is supported; otherwise defines `restrict` as empty. This allows you to include `restrict` in declarations in the same way that `AC_C_CONST` allows you to use `const` in declarations even when the C compiler does not support `const`
Note that some compilers accept restrict only with additional options. DEC/Compaq/HP Alpha Unix (Tru64 etc.) -accept restrict_keyword

PAC_C_TRY_COMPILE_CLEAN — Try to compile a program, separating success with no warnings from success with warnings.

Synopsis

PAC_C_TRY_COMPILE_CLEAN(header,program,flagvar)

Output Effect

The `flagvar` is set to 0 (clean), 1 (dirty but success ok), or 2 (failed).

PAC_C_VOLATILE — Check if C supports volatile

Synopsis

PAC_C_VOLATILE

Output Effect

Defines `volatile` as empty if volatile is not available.

PAC_F77_CHECK_COMPILER_OPTION PAC_F77_CHECK_COMPILER_OPTION

PAC_F77_CHECK_COMPILER_OPTION — Check that a compiler option is accepted without warning messages

Synopsis

```
PAC_F77_CHECK_COMPILER_OPTION(optionname,action-if-ok,action-if-fail)
```

Output Effects

If no actions are specified, a working value is added to `FOPTIONS`

Notes

This is now careful to check that the output is different, since some compilers are noisy.
We are extra careful to prototype the functions in case compiler options that complain about poor code are in effect.
Because this is a long script, we have ensured that you can pass a variable containing the option name as the first argument.

PAC_FUNC_CRYPT PAC_FUNC_CRYPT

PAC_FUNC_CRYPT — Check that the function crypt is defined

Synopsis

```
PAC_FUNC_CRYPT
```

Output Effects

In Solaris, the crypt function is not defined in unistd unless _XOPEN_SOURCE is defines and _XOPEN_VERSION is 4 or greater. We test by looking for a missing crypt by defining our own incompatible one and trying to compile it. Defines NEED_CRYPT_PROTOTYPE if no prototype is found.

PAC_FUNC_GETTIMEOFDAY — Check whether gettimeofday takes 1 or 2 arguments Synopsis PAC_IS_GETTIMEOFDAY_OK(ok_action,failure_action)

Notes

One version of Solaris accepted only one argument.

PAC_FUNC_NEEDS_DECL — Set NEEDS_<funcname>_DECL if a declaration is needed

Synopsis

PAC_FUNC_NEEDS_DECL(`headerfiles,funcname`)

Output Effect

Sets `NEEDS_<funcname>_DECL` if `funcname` is not declared by the headerfiles.

PAC_FUNC_SEMCTL — Check for semctl and its argument types

Synopsis

PAC_FUNC_SEMCTL

Output Effects

Sets `HAVE_SEMCTL` if semctl is available. Sets `HAVE_UNION_SEMUN` if `union semun` is available. Sets `SEMCTL_NEEDS_SEMUN` if a `union semun` type must be passed as the fourth argument to `semctl`.

PAC_HAVE_ROMIO — make mpi.h include mpio.h if romio enabled

Output Effect

expands @HAVE_ROMIO@ in mpi.h into #include "mpio.h"

PAC_HEADER_STDARG PAC_HEADER_STDARG

PAC_HEADER_STDARG — Check whether standard args are defined and whether they are old style or new style

Synopsis

```
PAC_HEADER_STDARG(action if works, action if oldstyle, action if fails)
```

Output Effects

Defines HAVE_STDARG_H if the header exists. defines

Notes

It isnt `enough to check for stdarg. Even gcc doesn`t get it right; on some systems, the gcc version of stdio.h loads stdarg.h *with the wrong options* (causing it to choose the *old style* `va_start` etc).
The original test tried the two-arg version first; the old-style va_start took only a single arg. This turns out to be VERY tricky, because some compilers (e.g., Solaris) are quite happy to accept the *wrong* number of arguments to a macro! Instead, we try to find a clean compile version, using our special PAC_C_TRY_COMPILE_CLEAN command.

PAC_LANG_POP_COMPILERS PAC_LANG_POP_COMPILERS

PAC_LANG_POP_COMPILERS — Restore compilers that were displaced by PAC_LANG_PUSH_COMPILERS

Synopsis

```
PAC_LANG_POP_COMPILERS
```

Output Effects

The values of `CC`, `CXX`, `F77`, `F90`, and `CPP` are replaced with their original values from the outermost call to `PAC_LANG_PUSH_COMPILERS`.
Calls to this macro may be nested, but only the outer-most calls have any effect.

See also

PAC_LANG_PUSH_COMPILERS

PAC_LANG_PUSH_COMPILERS

PAC_LANG_PUSH_COMPILERS — Replace all compilers with test versions

Synopsis

`PAC_LANG_PUSH_COMPILERS`

Output Effects

The values of `CC`, `CXX`, `F77`, `F90`, and `CPP` are replaced with the values of `TESTCC` etc. The old values are saved (see `PAC_LANG_POP_COMPILERS`).
Calls to this macro may be nested, but only the outer-most calls have any effect.

See also

PAC_LANG_POP_COMPILERS

PAC_LIB_MPI

PAC_LIB_MPI — Check for MPI library

Synopsis

`PAC_LIB_MPI([action if found],[action if not found])`

Output Effect

Notes

Currently, only checks for lib mpi and mpi.h. Later, we will add MPI_Pcontrol prototype (const int or not?).
If PAC_ARG_MPICH_BUILDING is included, this will work correctly when MPICH is being built.

Prerequisites

autoconf version 2.13 (for AC_SEARCH_LIBS)

PAC_MPI_F2C **PAC_MPI_F2C**

PAC_MPI_F2C — Determine if MPI has the MPI-2 functions MPI_xxx_f2c and MPI_xxx_c2f

Output Effect

Define `HAVE_MPI_F2C` if the routines are found.

Notes

Looks only for `MPI_Request_c2f`.

PAC_PROG_CC **PAC_PROG_CC**

PAC_PROG_CC — Find a working C compiler

Synopsis

`PAC_PROG_CC`

Output Effect

Sets the variable CC if it is not already set

Notes

Unlike AC_PROG_CC, this does not prefer gcc and does not set CFLAGS. It does check that the compiler can compile a simple C program. It also sets the variable GCC to yes if the compiler is gcc. It does not yet check for some special options needed in particular for parallel computers, such as -Tcray-t3e, or special options to get full ANSI/ISO C, such as -Aa for HP.

PAC_PROG_C_UNALIGNED_DOUBLES **PAC_PROG_C_UNALIGNED_DOUBLES**

PAC_PROG_C_UNALIGNED_DOUBLES — Check that the C compiler allows unaligned doubles

Synopsis

```
PAC_PROG_C_UNALIGNED_DOUBLES(action-if-true,action-if-false,
action-if-unknown)
```

Notes

`action-if-unknown` is used in the case of cross-compilation.

PAC_PROG_C_WEAK_SYMBOLS

PAC_PROG_C_WEAK_SYMBOLS — Test whether C supports weak symbols. Synopsis
PAC_PROG_C_WEAK_SYMBOLS(action-if-true,action-if-false)

Output Effect

Defines one of the following if a weak symbol pragma is found

```
HAVE_PRAGMA_WEAK - #pragma weak
HAVE_PRAGMA_HP_SEC_DEF - #pragma _HP_SECONDARY_DEF
HAVE_PRAGMA_CRI_DUP  - #pragma _CRI duplicate x as y
```

May also define

```
HAVE_WEAK_ATTRIBUTE
```

if functions can be declared as `int foo(...)  __attribute__ ((weak));` sets the shell variable
`pac_cv_attr_weak` to yes.

PAC_PROG_F77_ALLOWS_UNUSED_EXTERNALS

PAC_PROG_F77_ALLOWS_UNUSED_EXTERNALS — Check whether the Fortran compiler
allows unused and undefined functions to be listed in an external statement

Syntax

PAC_PROG_F77_ALLOWS_UNUSED_EXTERNALS(action-if-true,action-if-false)

PAC_PROG_F77_CHECK_SIZEOF

PAC_PROG_F77_CHECK_SIZEOF — Determine the size in bytes of a Fortran type

Synopsis

`PAC_PROG_F77_CHECK_SIZEOF(type,[cross-size])`

Output Effect

Sets SIZEOF_F77_uctype to the size if bytes of type. If type is unknown, the size is set to 0. If cross-compiling, the value cross-size is used (it may be a variable) For example `PAC_PROG_F77_CHECK_SIZEOF(real)` defines `SIZEOF_F77_REAL` to 4 on most systems. The variable `pac_cv_sizeof_f77_<type>` (e.g., `pac_cv_sizeof_f77_real`) is also set to the size of the type. If the corresponding variable is already set, that value is used. If the name has an `*` in it (e.g., `integer*4`), the defined name replaces that with an underscore (e.g., `SIZEOF_F77_INTEGER_4`).

Notes

If the `cross-size` argument is not given, `autoconf` will issue an error message. You can use `0` to specify undetermined.

PAC_PROG_F77_CMDARGS **PAC_PROG_F77_CMDARGS**

PAC_PROG_F77_CMDARGS — Determine how to access the command line from Fortran 77

Output Effects

The following variables are set

```
F77_GETARG          - Statement to get an argument i into string s
F77_IARGC           - Routine to return the number of arguments
FXX_MODULE          - Module command when using Fortran 90 compiler
F77_GETARGDECL      - Declaration of routine used for F77_GETARG
F77_GETARG_FFLAGS   - Flags needed when compiling/linking
F77_GETARG_LDFLAGS  - Flags needed when linking
```

If `F77_GETARG` has a value, then that value and the values for these other symbols will be used instead. If no approach is found, all of these variables will have empty values. If no other approach works and a file `f77argdef` is in the directory, that file will be sourced for the values of the above four variables.
In most cases, you should add F77_GETARG_FFLAGS to the FFLAGS variable and
F77_GETARG_LDFLAGS to the LDFLAGS variable, to ensure that tests are performed on the compiler version that will be used.
`AC_SUBST` is called for all six variables.
One complication is that on systems with multiple Fortran compilers, some libraries used by one Fortran compiler may have been (mis)placed in a common location. We have had trouble with libg2c in particular. To work around this, we test whether iargc etc. work first. This will catch most systems and will speed up the tests.

Next, the libraries are only added if they are needed to complete a link; they aren't added just because they exist.
f77argdef

PAC_PROG_F77_EXCLAIM_COMMENTS   **PAC_PROG_F77_EXCLAIM_COMMENTS**

PAC_PROG_F77_EXCLAIM_COMMENTS — nl Synopsis:
PAC_PROG_F77_EXCLAIM_COMMENTS([action-if-true],[action-if-false])

Notes

Check whether `!` may be used to begin comments in Fortran.
This macro requires a version of autoconf *after* 2.13; the `acgeneral.m4` file contains an error in the handling of Fortran programs in `AC_TRY_COMPILE` (fixed in our local version).

PAC_PROG_F77_EXCLAME_COMMENTS   **PAC_PROG_F77_EXCLAME_COMMENTS**

PAC_PROG_F77_EXCLAME_COMMENTS — nl Synopsis:
PAC_PROG_F77_EXCLAME_COMMENTS([action-if-true],[action-if-false])

Notes

Check whether `!` may be used to begin comments in Fortran.
This macro requires a version of autoconf *after* 2.13; the `acgeneral.m4` file contains an error in the handling of Fortran programs in `AC_TRY_COMPILE` (fixed in our local version).

PAC_PROG_F77_HAS_INCDIR   **PAC_PROG_F77_HAS_INCDIR**

PAC_PROG_F77_HAS_INCDIR — Check whether Fortran accepts -Idir flag

Syntax

PAC_PROG_F77_HAS_INCDIR(directory,action-if-true,action-if-false)

Output Effect

Sets `F77_INCDIR` to the flag used to choose the directory.

Notes

This refers to the handling of the common Fortran include extension, not to the use of `#include` with the C preprocessor. If directory does not exist, it will be created. In that case, the directory should be a direct descendant of the current directory.

PAC_PROG_F77_HAS_POINTER

PAC_PROG_F77_HAS_POINTER — Determine if Fortran allows pointer type

Synopsis

```
PAC_PROG_F77_HAS_POINTER(action-if-true,action-if-false)
```

PAC_PROG_F77_LIBRARY_DIR_FLAG

PAC_PROG_F77_LIBRARY_DIR_FLAG — Determine the flag used to indicate the directories to find libraries in

Notes

Many compilers accept `-Ldir` just like most C compilers. Unfortunately, some (such as some HPUX Fortran compilers) do not, and require instead either `-Wl,-L,dir` or something else. This command attempts to determine what is accepted. The flag is placed into `F77_LIBDIR_LEADER`.

PAC_PROG_F77_NAME_MANGLE

PAC_PROG_F77_NAME_MANGLE — Determine how the Fortran compiler mangles names

Synopsis

```
PAC_PROG_F77_NAME_MANGLE([action])
```

Output Effect

If no action is specified, one of the following names is defined

```
 If fortran names are mapped:
   lower -> lower              F77_NAME_LOWER
   lower -> lower_             F77_NAME_LOWER_USCORE
```

```
lower -> UPPER                    F77_NAME_UPPER
lower_lower -> lower__            F77_NAME_LOWER_2USCORE
mixed -> mixed                    F77_NAME_MIXED
mixed -> mixed_                   F77_NAME_MIXED_USCORE
```

If an action is specified, it is executed instead.

Notes

We assume that if lower -> lower (any underscore), upper -> upper with the same underscore behavior. Previous versions did this by compiling a Fortran program and running strings -a over it. Depending on strings is a bad idea, so instead we try compiling and linking with a C program, since that is why we are doing this anyway. A similar approach is used by FFTW, though without some of the cases we check (specifically, mixed name mangling)

PAC_PROG_F90_INT_KIND   **PAC_PROG_F90_INT_KIND**

PAC_PROG_F90_INT_KIND — Determine kind parameter for an integer with the specified number of bytes.

Synopsis

`PAC_PROG_F90_INT_KIND(variable-to-set,number-of-bytes,[cross-size])`

PAC_PROG_MAKE   **PAC_PROG_MAKE**

PAC_PROG_MAKE — Checks for the varieties of MAKE, including support for VPATH

Synopsis

`PAC_PROG_MAKE`

Output Effect

Sets `MAKE` to the make program to use if `MAKE` is not already set. Sets the variable `SET_CFLAGS` to `CFLAGS` = if make sets `CFLAGS`.

Notes

This macro uses `PAC_PROG_MAKE_ECHOS_DIR`, `PAC_PROG_MAKE_INCLUDE`, `PAC_PROG_MAKE_ALLOWS_COMMENTS`, `PAC_PROG_MAKE_VPATH`, and `PAC_PROG_MAKE_SET_CFLAGS`. See those commands for details about their actions.

It may call `AC_PROG_MAKE_SET`, which sets `SET_MAKE` to `MAKE = @MAKE@` if the make program does not set the value of make, otherwise `SET_MAKE` is set to empty; if the make program echos the directory name, then `SET_MAKE` is set to `MAKE = $MAKE`.

PAC_PROG_MAKE_ALLOWS_COMMENTS PAC_PROG_MAKE_ALLOWS_COMMENTS

PAC_PROG_MAKE_ALLOWS_COMMENTS — Check whether comments are allowed in shell commands in a makefile

Synopsis

```
PAC_PROG_MAKE_ALLOWS_COMMENTS([false text])
```

Output Effect

Issues a warning message if comments are not allowed in a makefile. Executes the argument if one is given.

Notes

Some versions of OSF V3 make do not all comments in action commands.

See Also

PAC_PROG_MAKE

PAC_PROG_MAKE_CLOCK_SKEW PAC_PROG_MAKE_CLOCK_SKEW

PAC_PROG_MAKE_CLOCK_SKEW — Check whether there is a problem with clock skew in suing make.

Effect

Sets the cache variable `pac_cv_prog_make_found_clock_skew` to yes or no

PAC_PROG_MAKE_ECHOS_DIR — Check whether make echos all directory changes

Synopsis

`PAC_PROG_MAKE_ECHOS_DIR`

Output Effect

If make echos directory changes, append `--no-print-directory` to the symbol `MAKE`. If `MAKE` is not set, chooses `make` for `MAKE`.

See also

PAC_PROG_MAKE

PAC_PROG_MAKE_HAS_PATTERN_RULES — Determine if the make program supports pattern rules

Synopsis

`PAC_PROG_MAKE_HAS_PATTERN_RULES([action if true],[action if false])`

Output Effect

Executes the first argument if patterns of the form

```
prefix%suffix: prefix%suffix
```

are supported by make (gnumake and Solaris make are known to support this form of target). If patterns are not supported, executes the second argument.

See Also

PAC_PROG_MAKE

PAC_PROG_MAKE_INCLUDE — Check whether make supports include

Synopsis

PAC_PROG_MAKE_INCLUDE([action if true],[action if false])

Output Effect

None

Notes

This checks for makes that do not support `include filename`. Some versions of BSD 4.4 make required `#include` instead; some versions of `pmake` have the same syntax.

See Also

PAC_PROG_MAKE

PAC_PROG_MAKE_SET_CFLAGS — Check whether make sets CFLAGS

Synopsis

PAC_PROG_MAKE_SET_CFLAGS([action if true],[action if false])

Output Effects

Executes the first argument if `CFLAGS` is set by `make`; executes the second argument if `CFLAGS` is not set by `make`.

Notes

If `CFLAGS` is set by make, you may wish to override that choice in your makefile.

See Also

PAC_PROG_MAKE

PAC_PROG_MAKE_VPATH

PAC_PROG_MAKE_VPATH — Check whether make supports source-code paths.

Synopsis

```
PAC_PROG_MAKE_VPATH
```

Output Effect

Sets the variable `VPATH` to either

```
 VPATH = .:${srcdir}
```

or

```
 .PATH: . ${srcdir}
```

Notes

The test checks that the path works with implicit targets (some makes support only explicit targets with `VPATH` or `PATH`).
NEED TO DO: Check that $< works on explicit targets.

See Also

PAC_PROG_MAKE

PAC_SUBDIR_CACHE

PAC_SUBDIR_CACHE — Create a cache file before ac_output for subdirectory configures.

Synopsis

```
PAC_SUBDIR_CACHE
```

Output Effects

Create a cache file before ac_output so that subdir configures dont `make mistakes.` `We can`t use OUTPUT_COMMANDS to remove the cache file, because those commands are executed *before* the subdir configures.