NAME

perlos400 - Perl version 5 on OS/400

This document needs to be updated, but we don't know what it should say. Please submit comments to <https://github.com/Perl/perl5/issues>.

DESCRIPTION

This document describes various features of IBM's OS/400 operating system that will affect how Perl version 5 (hereafter just Perl) is compiled and/or runs.

By far the easiest way to build Perl for OS/400 is to use the PASE (Portable Application Solutions Environment), for more information see <http://www.iseries.ibm.com/developer/factory/pase/index.html> This environment allows one to use AIX APIs while programming, and it provides a runtime that allows AIX binaries to execute directly on the PowerPC iSeries.

Compiling Perl for OS/400 PASE

The recommended way to build Perl for the OS/400 PASE is to build the Perl 5 source code (release 5.8.1 or later) under AIX.

The trick is to give a special parameter to the Configure shell script when running it on AIX:

```
sh Configure -DPASE ...
```

The default installation directory of Perl under PASE is /QOpenSys/perl. This can be modified if needed with Configure parameter -Dprefix=/some/dir.

Starting from OS/400 V5R2 the IBM Visual Age compiler is supported on OS/400 PASE, so it is possible to build Perl natively on OS/400. The easier way, however, is to compile in AIX, as just described.

If you don't want to install the compiled Perl in AIX into /QOpenSys (for packaging it before copying it to PASE), you can use a Configure parameter: -Dinstallprefix=/tmp/QOpenSys/perl. This will cause the "make install" to install everything into that directory, while the installed files still think they are (will be) in /QOpenSys/perl.

If building natively on PASE, please do the build under the /QOpenSys directory, since Perl is happier when built on a case sensitive filesystem.

Installing Perl in OS/400 PASE

If you are compiling on AIX, simply do a "make install" on the AIX box. Once the install finishes, tar up the /QOpenSys/perl directory. Transfer the tarball to the OS/400 using FTP with the following commands:

```
> binary
> site namefmt 1
> put perl.tar /QOpenSys
```

Once you have it on, simply bring up a PASE shell and extract the tarball.

If you are compiling in PASE, then "make install" is the only thing you will need to do.

The default path for perl binary is /QOpenSys/perl/bin/perl. You'll want to symlink /QOpenSys/usr/bin/perl to this file so you don't have to modify your path.

Using Perl in OS/400 PASE

Perl in PASE may be used in the same manner as you would use Perl on AIX.

Scripts starting with #!/usr/bin/perl should work if you have /QOpenSys/usr/bin/perl symlinked to your perl binary. This will not work if you've done a setuid/setgid or have environment variable PASE_EXEC_QOPENSYS="N". If you have V5R1, you'll need to get the latest PTFs to have this feature. Scripts starting with #!/QOpenSys/perl/bin/perl should always work.

Known Problems

When compiling in PASE, there is no "oslevel" command. Therefore, you may want to create a script called "oslevel" that echoes the level of AIX that your version of PASE runtime supports. If you're unsure, consult your documentation or use "4.3.3.0".

If you have test cases that fail, check for the existence of spool files. The test case may be trying to use a syscall that is not implemented in PASE. To avoid the SIGILL, try setting the PASE_SYSCALL_NOSIGILL environment variable or have a handler for the SIGILL. If you can compile programs for PASE, run the config script and edit config.sh when it gives you the option. If you want to remove **fchdir**(), which isn't implement in V5R1, simply change the line that says:

d_fchdir='define'

to

d_fchdir='undef'

and then compile Perl. The places where **fchdir()** is used have alternatives for systems that do not have **fchdir()** available.

Perl on ILE

There exists a port of Perl to the ILE environment. This port, however, is based quite an old release of Perl, Perl 5.00502 (August 1998). (As of July 2002 the latest release of Perl is 5.8.0, and even 5.6.1 has been out since April 2001.) If you need to run Perl on ILE, though, you may need this older port: <http://www.cpan.org/ports/#os400> Note that any Perl release later than 5.00502 has not been ported to ILE.

If you need to use Perl in the ILE environment, you may want to consider using **Qp2RunPase()** to call the PASE version of Perl.

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