LinPAC Program Migration

- **Platform Comparison**
- **GCC Compiler Comparison**
- **Upgrading C-based programs**
- **Default Development Tools**



Written by Cindy Huang

Last Modified Date: Apr. 2019

Platform Comparison

The table below provides a summary of the supported Linux kernel version for developing PAC applications.

CPU	Models	Kernel Ver.	GCC Ver.	GLIBC Ver.	Real-Time
PXA270	LP-51xx LP-8x3x LP-8x4x	Linux kernel 2.6.x	4.0.0	2.3	NO
AM335x	LP-2241M LP-523x LP-8x2x LP-9x2x	Linux kernel 3.2.x	4.7.3	2.15	Yes
LX800	LP-8x8x	Linux kernel 2.6.x	4.4.4	2.11.2	Yes
ATOM Z520	LP-8x8x-Atom	Linux kernel 2.6.x	4.4.4	2.11.0	Yes
X86 Dual-core	LX-2031 LX-8x3x	Linux kernel 3.2.x	4.6.3	2.15	Yes
E3827 Dual-core	LX-9x7x	Linux kernel 4.4.x	5.4.0	2.23	Yes
E3845 Quad-core	LX-9x8x	Linux kernel 4.4.x	5.4.0	2.23	Yes

GCC Compiler Comparison

Ensure that the necessary tools and the corresponding PAC SDKs are installed in your computer. The table below provides a summary of the supported compile C program for developing PAC applications.

Models	Re-Compiler Kernel yourself	Compiler Toolchain	GCC cross platform
LP-51xx LP-8x3x LP-8x4x	No	arm-linux-gcc	① Linux-like environment for Windows ② Linux
LP-2241M LP-523x LP-8x2x LP-9x2x	No	arm-linux-gnueabihf-gcc	① Linux-like environment for Windows ② Linux
LP-8x8x	Yes	gcc	① Linux
LP-8x8x-Atom	Yes	gcc	① Linux
LX-2031 LX-8x3x	Yes	gcc	① Linux
LX-9x7x	Yes	gcc	① Linux
LX-9x8x	Yes	gcc	① Linux

Upgrading C-based programs

Compatibility provides a source-code level commonality which allows applications to be run on any LinPAC without changes beside recompilation.

For example, if you would like to migrate LinPAC from the LP-8x3x/8x4x/8x8x/8x8x-Atom/51xx to LP-22xx/8x2x/9x2x/523x or LX-2131/8x3x/9x7/9x8x, you will do the following:

1. Backup your demo code, program or project.
2. Uninstall old LinPAC SDK.
3. Download and install the latest LinPAC SDK from ICP DAS website:
   LP-22xx/52xx ➔ http://ftp.icpdas.com/pub/cd/linpac/napdos/lp-5000/lp-52xx/lp-5231/sdk/
   LP-8x2x/9x2x ➔ ftp://ftp.icpdas.com/pub/cd/linpac/napdos/lp-9x2x/sdk/
   LX-2031/8x3x/9x7x/9x8x ➔ http://ftp.icpdas.com/pub/cd/linpac/napdos/lx-series/sdk/
4. Re-compile demo source code with new LinPAC SDK.
5. Upload program to the new LinPAC controller.

Default Development Tools

Linux OS is a mature embedded operating system which supports rapid development. Standard development tools are list as follows which are highly integrated, with comprehensive support for developing applications of LinPAC.

- Scripts Language (shell script, perl, python and php)
- Standard C language and GNU gcc compiler