IPC Install Guide BIOS

Contents

Introduction

Inter/Intra Processor Communication (IPC) is a product designed to enable communication between processors in a multi-processor environment. Features of IPC include message passing, multi-processor gates, shared memory primitives, and more.

IPC is designed for use with processors running SYS/BIOS applications. This is typically an ARM or DSP. IPC includes support for High Level Operating Systems (HLOS) like Linux, as well as the SYS/BIOS RTOS. The breadth of IPC features supported in an HLOS environment is reduced in an effort to simplify the product.

Install

IPC is often distributed and installed within a larger SDK. In those cases, no installation is required.

Outside of an SDK, IPC can be downloaded here (http://software-dl.ti.com/dsps/dsps_public_sw/sdo_sb/targetcontent/ipc/index.html), and is released as a zip file. To install, simply extract the file.

```
buildhost$ unzip ipc_<version>.zip
```

This will extract the IPC product in a directory with its product name and version information (e.g. **c:/ti/ipc_<version>**)

> **NOTE**
>
> - This document assumes the IPC install path to be the user's home directory on a Linux host machine (**/home/<user>**) or the user's main drive on a Windows host machine (**C:**). The variable **IPC_INSTALL_DIR** will be used throughout the document. If IPC was installed at a different location, make appropriate changes to commands.
> - Some customers find value in archiving the released sources in a configuration management system. This can help in identifying any changes made to the original sources - often useful when updating to newer releases.

Build

The IPC product often comes with prebuilt libraries, so rebuilding them isn't necessary. The IPC product downloads contain prebuilt libraries, and when provided with an SDK, IPC is typically rebuilt to contain only libraries appropriate for the SDK.

However, if you want to rebuild its libraries, IPC provides GNU makefile(s) at the base of the product. This section describes the steps required to rebuild the IPC libraries.

> **NOTE**
>
> GNU make version 3.81 or greater is required. The XDC tools (provided with most SDKs and CCS distributions) includes a pre-compiled version of GNU make 3.81 in $(XDC_INSTALL_DIR)/gmake.

products.mak

IPC contains a **products.mak** file at the root of the product that specifies the necessary paths and options to build IPC for the various OS support.

Edit **products.mak** and set the following variables:

NOTE: Please make sure the complete path is specified. (e.g) Don't use ~ in the path specified.

- **XDC_INSTALL_DIR** - Path to TI's XDCTools installation
- **BIOS_INSTALL_DIR** - Path to TI's SYS/BIOS installation
- **ti.targets.<device target and file format>** - Path to TI toolchain for the device.
  - Set only the variables to the targets your device supports to minimize build time.
- **gnu.targets.arm.<device target and file format>** - Path to GNU toolchain for the device.
  - Set only the variables to the targets your device supports to minimize build time.
- **PLATFORM** - (Optional) platform for which to build executables
  - Introduced in IPC 3.10. Prior releases build executables for **all** platforms based on that targets/toolchains set above
  - If not set, only libraries will be built (not executables)

> **NOTE**
>
> The versions used during validation can be found in the IPC Release Notes provided in the product.

ipc-bios.mak

IPC is built with a GNU makefile. After editing **products.mak**, issue the following command:

```
<buildhost> make -f ipc-bios.mak all
```

Based on the number of targets you're building for, this may take some time.

Examples

The IPC product contains an examples/archive directory with device-specific examples. Once identifying your device, the examples can be unzipped anywhere on your build host. Typically once unzipped, the user edits the example's individual **products.mak** file and simply invokes **make**.

> **NOTE**
>
> A common place to unzip the examples is into the **IPC_INSTALL_DIR/examples/** directory. Each example's **products.mak** file is smart enough to look up two directories (in this case, into **IPC_INSTALL_DIR**) for a master **products.mak** file, and if found it uses those variables. This technique enables users to set the dependency variables in one place, namely **IPC_INSTALL_DIR/products.mak**.

Each example contains a **readme.txt** with example-specific details.

See Also

- IPC 3.x
- IPC Users Guide
- IPC 3.x FAQ
- IPC Install Guide Linux
- IPC Install Guide Android
- IPC Install Guide QNX

Keystone=

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  1. switchcategory:MultiCore=
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