Debug printing library

This library provides a lightweight printf function that can be enabled or disabled via configuration defines. Code can be declared to be within a "debug unit" (usually a library or application source base) and prints can be enabled/disabled per debug unit.

Features

- Low memory usage
- Ability to enable or disable printing via compile options
- Ability to enable or disable printing for sets of source files

Software version and dependencies

This document pertains to version 2.0.0 of this library. It is known to work on version 14.1.1 of the xTIMEcomposer tools suite, it may work on other versions.

The library does not have any dependencies (i.e. it does not rely on any other libraries).

1 API

To use this module, include `lib_logging` in the application's USED_MODULES list and include the `debug_print.h` header file.

1.1 Debug printf

Function	debug_printf
Description	A limited functionality version of printf that is low memory. This function works like C-standard printf except that it only accepts d, x, s, u and c format specifiers with no conversions. The function uses the functions from `print.h` to do the underlying printing. Unlike printf this function has no return value. Whether the function does any output can be controlled via defines such as DEBUG_PRINT_ENABLE or DEBUG_PRINT_ENABLE_[debug unit name] in the application's debug_conf.h
Type	`void debug_printf(char fmt[], ...)`

1.2 Debug Units

A source file can be added to a debug unit by defining the DEBUG_UNIT macro before inclusion of debug_print.h. For example:

```
#define DEBUG_UNIT ETHERNET_MODULE
#include "debug_print.h"
```

To include all source files in a module in a particular debug unit, it is convenient to do it in the `module_build_info` file of the module e.g.:

```
MODULE_XCC_FLAGS = $(XCC_FLAGS) -DDEBUG_UNIT=ETHERNET_MODULE
```

If no DEBUG_UNIT is defined then the default debug unit is APPLICATION.

1.3 Enabling Printing

By default, debug printing is turned *off*. To enable printing you need to pass the correct command line option to compilation. The following defines can be set by using the -D option to the compiler. For example, the following in your application Makefile will enable debug printing:

```
XCC_FLAGS = ... -DDEBUG_PRINT_ENABLE=1
```

The following defines can be set:

DEBUG_PRINT_ENABLE Setting this define to 1 or 0 will control whether debug prints are output.
DEBUG_PRINT_ENABLE_[debug unit] Enabling this define will cause printing to be enabled for a specific debug unit. If set to 1, this will override the default set by DEBUG_PRINT_ENABLE.
DEBUG_PRINT_DISABLE_[debug unit] Enabling this define will cause printing to be disabled for a specific debug unit. If set to 1, this will override the default set by DEBUG_PRINT_ENABLE.

APPENDIX A - Known Issues

There are no known issues with this library.

APPENDIX B - Logging change log

B.1 2.0.0

- Restructured library