Micriµm

Empowering Embedded Systems

µC/OS-II

µC/Probe

and the
NXP LPC2378 Processor
(Using the IAR LPC2378-SK Evaluation Board)

Read Me

www.Micrium.com

About Micriµm

Micriµm provides high-quality embedded software components in the industry by way of engineer-friendly source code, unsurpassed documentation, and customer support. The company's world-renowned real-time operating system, the Micriµm **µC/OS-II**, features the highest-quality source code available for today's embedded market. Micriµm delivers to the embedded marketplace a full portfolio of embedded software components that complement **µC/OS-II**. A TCP/IP stack, USB stack, CAN stack, File System (FS), Graphical User Interface (GUI), as well as many other high quality embedded components. Micriµm's products consistently shorten time-to-market throughout all product development cycles. For additional information on Micriµm, please visit www.micrium.com.

About µC/OS-II

Thank you for your interest in **µC/OS-II**. **µC/OS-II** is a preemptive, real-time, multitasking kernel. **µC/OS-II** has been ported to over 45 different CPU architectures and now, has been ported to the LPC2378 CPU available from NXP.

µC/OS-II is small yet provides all the services you'd expect from an RTOS: task management, time and timer management, semaphore and mutex, message mailboxes and queues, event flags an much more.

You will find that **µC/OS-II** delivers on all your expectations and you will be pleased by its ease of use.

Licensing

µC/OS-II is provided in source form for **FREE** evaluation, for educational use or for peaceful research. If you plan on using **µC/OS-II** in a commercial product you need to contact Micriµm to properly license its use in your product. We provide **ALL** the source code with this application note for your convenience and to help you experience **µC/OS-II**. The fact that the source is provided **DOES NOT** mean that you can use it without paying a licensing fee. Please help us continue to provide the Embedded community with the finest software available. Your honesty is greatly appreciated.

About µC/Probe

µC/Probe is a Windows application that allows a user to display the value (at run-time) of virtually any variable or memory location on a connected embedded target. The user simply populates µC/Probe's graphical environment with gauges, tables, graphs, and other components, and associates each of these with a variable or memory location. Once the application is loaded onto the target, the user can begin µC/Probe's data collection, which will update the screen with variable values fetched from the target.

µC/Probe retrieves the values of global variables from a connected embedded target and displays the values in a engineer-friendly format. The supported data-types are: booleans, integers, floats, and ASCII strings.

µC/Probe can have any number of 'data screens' where these variables are displayed. This allows to logically group different 'views' into a product.

A 30-day trial version of µC/Probe is available on the Micriµm website:
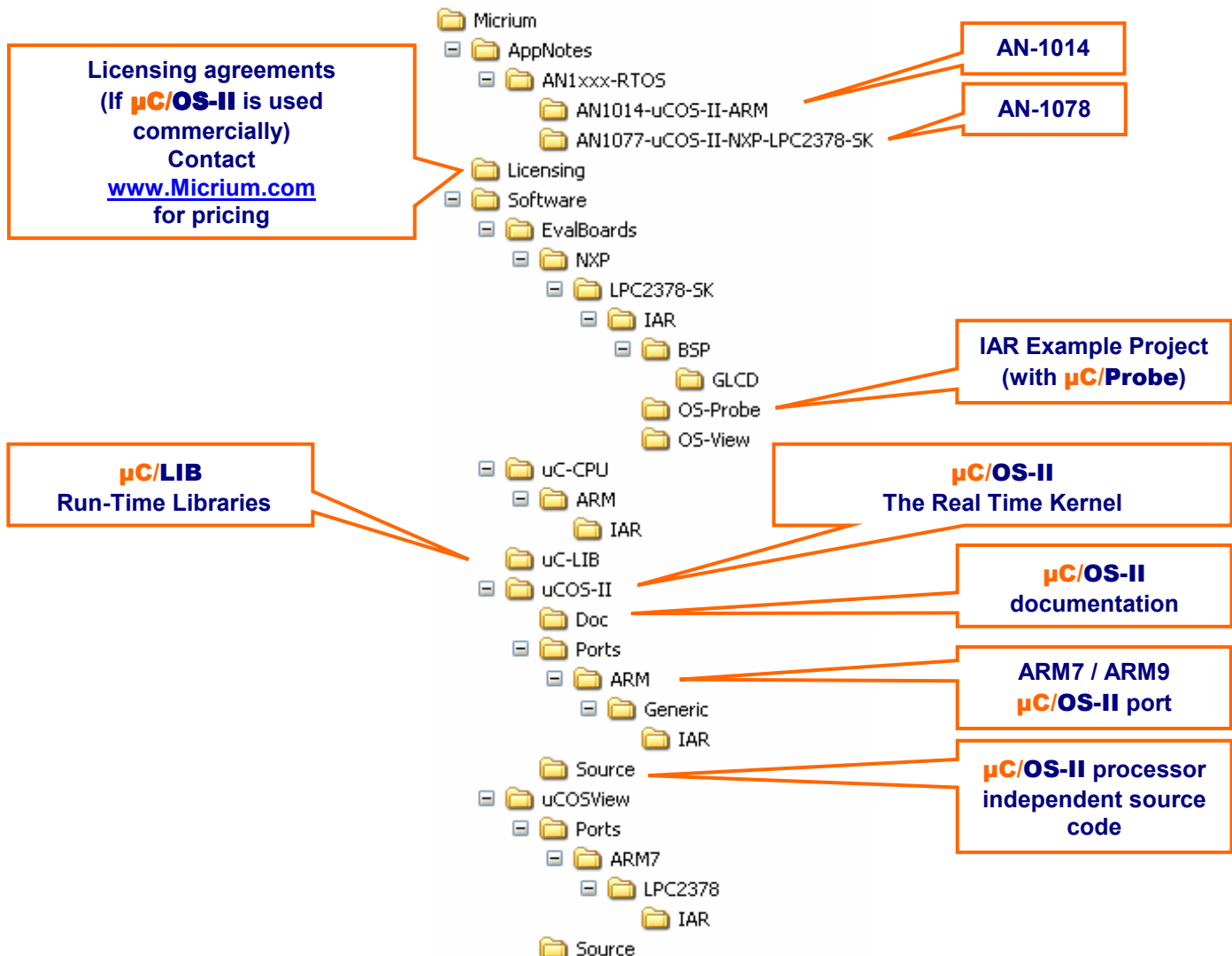
http://www.micrium.com/products/probe/probe.html

Installing the Micriµm Software

The source code for µC/OS-II is provided in source form along with IAR EW project files that allows you to run µC/OS-II on the IAR LPC2378-SK evaluation board. To install the software, simply run the self-extracting executable.
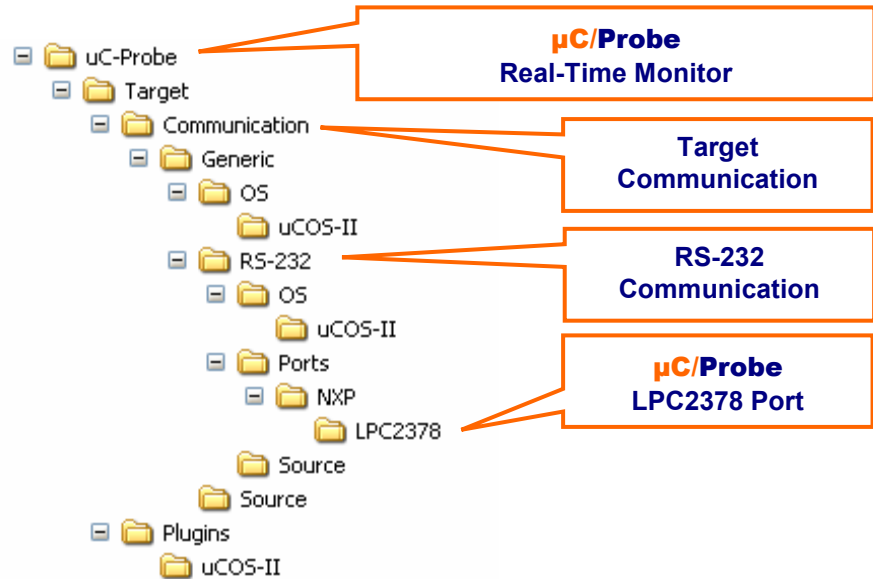
The self-extracting executable is called `Micrium-NXP-uCOS-II-LPC2378-SK.exe`.

You will be prompted to accept the simple terms of the licensing agreement. If you answer 'Yes', the software will be installed on your PC under the `\Micrium` directory from the root:

**Licensing agreements
(If µC/OS-II is used commercially)
Contact
www.Micrium.com
for pricing**

AN-1014

AN-1078

**IAR Example Project
(with µC/Probe)**

**µC/LIB
Run-Time Libraries**

**µC/OS-II
The Real Time Kernel**

**µC/OS-II
documentation**

**ARM7 / ARM9
µC/OS-II port**

**µC/OS-II processor
independent source
code**

Micrium
  AppNotes
    AN1xxx-RTOS
      AN1014-uCOS-II-ARM
      AN1077-uCOS-II-NXP-LPC2378-SK
  Licensing
  Software
    EvalBoards
      NXP
        LPC2378-SK
          IAR
            BSP
              GLCD
            OS-Probe
            OS-View
    uC-CPU
      ARM
        IAR
    uC-LIB
    uCOS-II
      Doc
      Ports
        ARM
          Generic
            IAR
      Source
    uCOSView
      Ports
        ARM7
          LPC2378
            IAR
      Source

- uC-Probe
  - Target
    - Communication
      - Generic
        - OS
          - uCOS-II
        - RS-232
          - OS
            - uCOS-II
          - Ports
            - NXP
              - LPC2378
        - Source
      - Source
  - Plugins
    - uCOS-II

µC/Probe
Real-Time Monitor

Target Communication

RS-232 Communication

µC/Probe
LPC2378 Port

Using the Micriµm IAR Example Project

You should open AN-1077, which describes how the example code works, and read AN-1014 if you are interested in further information about the port for ARM processors.

To view the example project, start an instance of IAR Embedded Workbench, and open the project file **LPC2378-SK-OS-Probe.ewp**, located in the directory marked "IAR Example Project" in the tree above. To do this, use the *Add Existing Project...* menu command under the *Project* menu:
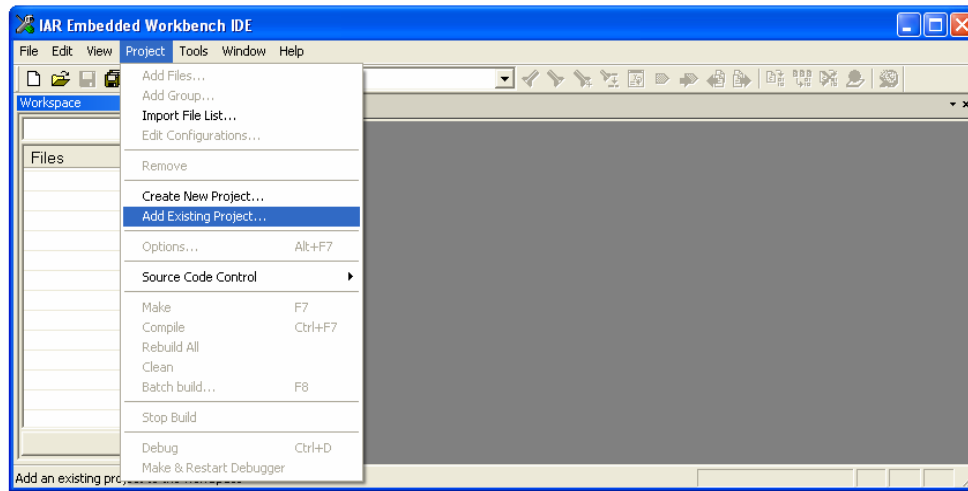
The µC/OS-II Kernel Awareness plugin will allow you to examine information about system objects while using the C-Spy debugger. To gain access to this feature, enable the plug-in by right-clicking on the project name in the work space browser and choosing *Options…*   Then, select the "Debugger" entry in the list box, and the "Plugins" tab pane. Find the µC/OS-II entry in the list and, finally, select the check box beside the entry.
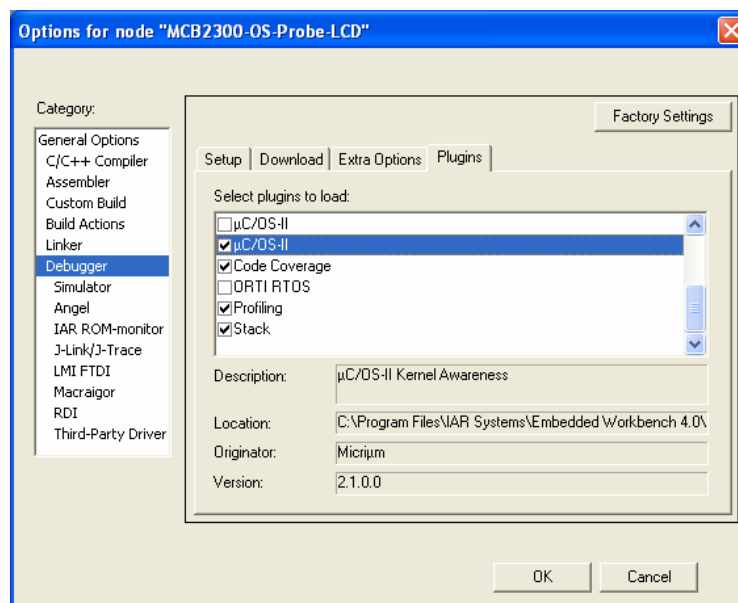
Erratas

If you find any errors in the documentation or code provided, please send those corrections to **Support@Micrium.com**. Be sure to specify the processor, version of **µC/OS-II** and any other pertinent information about the error being reported.

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