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Industrial Control Design AS



UDPIOServer V1.6

Release Notes

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1. Overview

This document describes the UDPIOServer V1.6 release.

UDPIOServer V1.6 is tested and built with CDP 2.3.1.0. It can be delivered with source, and the source code version should therefore work with earlier CDP releases as well, with only small modifications (removing keyboard handler registration etc). The RTOS libraries delivered with the non-source version are built and tested with RTOS 5.12.

2. Change log

This chapter lists changes included in UDPIOServer V1.6 compared to previous releases.

2.1. Changes from UDPIOServerLib 1.5 to 1.6

Component/module	Description
UDPIOServer SignalTwoWayBit.xml	Added property XMLElementName.
UDPIOServer.h	Explicitly include required OSAPI Network headers.
UDPIOServer.h	Fix compiler warning about non-virtual destructor for UDPPacket.
UDPIOServer	Remove DCU signals that have been moved to Application.
UDPIOServer.h UDPIOServer.cpp	Model XML file for template SignalTwoWay<T> signals now opened correctly on Linux. (Fixed bug 1277)

Table 1 - Changes from UDPIOServer 1.5 to UDPIOServerLib 1.6

2.2. Changes from UDPIOServerLib 1.4 to 1.5

Component/module	Description
UDPIOServer	Support for specifying remote address as hostname, not just ip-address
UDPIOServer	Binds to the selected network interface, not just to INADDR_ANY.
UDPIOServer	Removed old code to support pre CDP 2.2.0.8 releases.
UDPIOServer	Improved debug messages. Set Debug=1 to see info about created packets during startup. Set to 6 to show info for each sent and received packet.

Table 2 - Changes from UDPIOServer 1.4 to UDPIOServerLib 1.5

2.3. Changes from UDPIOServerLib 1.3 to 1.4

Component/module	Description
Release Notes	Updated "Known Limitations" chapter in this document.
Release Notes	Translated "Changes from UDPIOServerLib 1.2 to 1.3" chapter from Norwegian to English
UDPIOServerLib.vcproj	Fix build settings in .vcproj file (to use \$(CDPBase))
UPIOServerLib.h	Changed version string from " Version 1.3" to " Version 1.4"

Table 3 - Changes from UDPIOServer 1.3 to UDPIOServerLib 1.4

2.4. Changes from UDPIOServerLib 1.2 to 1.3

Component/module	Description
UDPIOServer	Outpackets are now sent via a blocking socket, from a separate thread for each packet. Earlier sending was down from ProcessOnline() via non-blocking sockets. This would cause the UDPIOServer to consume a lot of DCUs on RTOS if the recipient was not present on the network. With this fix, sending of packets from the UDPIOServer will not consume more than one DCU for each recipient that is not present. THIS WAS THE ONLY FIX THAT WAS PROVEN TO HAVE ANY EFFECT, BUT A FEW OTHER FIXES WAS ALSO DONE BEFORE THIS WAS FOUND OUT.
UDPIOServer	Added signals that shows number of free DCU's in each of the DCU pools (on RTOS-32).
UDPIOServerLibBuilder	Added keyboard handler in UDPIOServerLibBuilder. Supports the following keys: U: Display UDPIOServer in- and out-packet status.\n"); R: Display routing table (RTOS-32 only).\n"); P: Display port list (RTOS-32 only).\n"); W/w: Enable/disable RTIP debug messages (WARNING: MAY CAUSE CRASH!!).\n"); Y/y: Enable(increase)/decrease(disable) max output queue size for interfaces.\n");
UDPIOServer	Overridden UdpSend class with class UdpSendWithDCULimit to get the possibility to set max number of DCUs that a socket is allowed to use during sending. However, it turned out that SO_MAX_UDP_QUE socket option only affected DCU usage during receive. The code is still present, but should probably be received since it does not have any effect.
UDPIOServer	Added code to set "xn_interface_opt(...IO_MAX_OUTPUT_QUE...)" to limit the number of DCUs that a network interface is allowed to queue in it's output buffers. Unfortunately, it does not seem to have any effect in our problem case (that is, when a socket is waiting for an ARP request to resolve or time out). The code to change this paramater is still present in UDPIOServerLibKeyboardHandler().
UDPIOServer	Added code to use connect() and send() instead of sendto(), but no notable difference.
UDPIOServer	Testing on IsSocketWriteReady(). Hoped that this would work if connect() was used on the send socket, but it did not. The code is still there, but it does not seem to matter if it is done one way or another.
UDPIOServerLib.vcproj	Fix build settings in .vcproj file (to use \$(CDPBase))
UPIOServerLib.h	Changed version string from " Version 1.2" to " Version 1.3"

Table 4: Changes from UDPIOServer 1.1 to UDPIOServerLib 1.2

2.5. Changes from UDPIOServerLib 1.1 to UDPIOServerLib 1.2

Component/module	Description
UDPIOServerLib	Rebuilt with CDP 2.2.0.5
UDPIOServerLib	Changed version string from " Version 1.1" to " Version 1.2" in UDPIOServerLib.h

Table 5 - Changes from UDPIOServer 1.1 to UDPIOServerLib 1.2

2.6. Changes from UDPIOServerLib 1.0 to UDPIOServerLib 1.1

Component/module	Description
UDPIOServer	- Uses globalTimeS global variable instead of Application::GlobalTimeS().
SignalTwoWayBit	- Removed declaration of Mask and MaskInverted, since these are now declared in base class DigitalChannel.
UDPIOServerLib	Added version string " Version 1.1" in UDPIOServerLib.h

Table 6 - Changes from UDPIOServer 1.0 to UDPIOServerLib 1.1

3. Files

The following files constitutes UDPIOServer:

Filename	Timestamp	Description
libs/UDPIOServerLib_Release.lib		Only in non-source version
libs/UDPIOServerLib_Debug.lib		Only in non-source version
libs/UDPIOServerLib_Release_RTOS.lib		Only in non-source version
libs/UDPIOServerLib_Debug_RTOS.lib		Only in non-source version
Doc/UDPIOServer.pdf		User manual
UDPIOServerLib.h		Main library include file
UDPIOServer/UDPIOServer.h		Model include file.
UDPIOServer/UDPIOServer.cpp		Model implementation (src ver)
UDPIOServerLibBuilder.h		Library factory class
UDPIOServerLibBuilder.cpp		Library factory class implementation (src ver.)
UDPIOServerLib Release Notes		This document

Table 7 - Files in UDPIOServer

4. Installation

See "UDPIOServerLib\Doc\UDPIOServer User Manual.pdf" following this distribution.

5. Known limitations

5.1. Known bugs

ICD Bug #	Description
Bug #727	Bug when setting routing. When setting routing on a signal of type bool (i.e. Bit), the routing is not saved to the xml file.
Bug #728	Transmission error alarm is never acked and set, it's either unack set or ok. If you ack the alarm it pops up as unack set again, which is wrong.
Bug #752	Bug when routing bits to non-bool signals. Note that signals from other applications are treated as doubles, so the same problem will apply to these.
Bug #990	Should not use INADDR_ANY when receiving packets.
Bug #1275	Invalid XML tags in UDPIOServer's model XML files.

Table 8: Known bugs

6. Technical Support

Your feedback is very important to us. To receive technical support for the products described in this document, please contact us at support@icd.no.

7. Copyright and legal information

As agreed during purchase.

8. References

Reference	Document	Description
Ref 1	UDPIOServerLib\Doc\UDPIOServer User Manual V1.6.pdf	User manual for UDPIOServer

Table 9 - References