

RTI Connex DDS

Core Libraries

**Custom Support for
VxWorks 6.9.3 Platforms**

Version 5.2.3



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Chapter 1 Supported Platforms

This document supplements the [Release Notes](#) and [Platform Notes](#). It provides information specifically for the platforms listed in [Custom Supported VxWorks 6.9.4 Platforms](#).

Consult the [Platform Notes](#) for other information regarding VxWorks platforms, such as thread configuration.

Custom Supported VxWorks 6.9.4 Platforms

Operating System	CPU	Compiler	RTI Architecture Abbreviation
VxWorks 6.9.3	ARMv7	gcc 4.3.3	For Kernel Modules: armv7aVx6.9gcc4.3.3 For Real-Time Processes: armv7aVx6.9gcc4.3.3_rtp
	PPC (e500v2)		For Kernel Modules: ppce500v2Vx6.9gcc4.3.3 For Real-Time Processes: ppce500v2Vx6.9gcc4.3.3_rtp
	MIPS		For Kernel Modules: mips32r2sfbeVx6.9gcc4.3.3 For Real-Time Processes: mips32r2sfbeVx6.9gcc4.3.3_rtp

Chapter 2 Transports

These transports are supported:

- Shared memory: Supported and enabled by default
- UDPv4: Supported and enabled by default. See [Features \(Section Chapter 3 on page 3\)](#).

These transports are not supported:

- UDPv6
- TCP/IPv4
- RTI Secure WAN Transport

Chapter 3 Features

These features are supported, see the [Platform Notes](#) for more information:

- Modern C++ API
- Request-Reply communication pattern
- Monotonic clock
- Distributed Logger

These features are not supported:

- Multicast
- Control of CPU core affinity for RTI threads
- Durable Writer History and Durable Reader State

Chapter 4 Compiling and Running

[Building Instructions](#) lists the libraries you will need to link into your application and the required compiler flags.

Note: Dynamic libraries are not available for mips32r2sfbeVx6.9gcc4.3.3_rtp.

Building Instructions

API	Library Format	Required RTI Libraries ^{a b}	Required Kernel Components	Required Compiler Flags
C++ (Traditional and Modern APIs)	Static Release	libnddscppz.a or libnddscpp2z.a libnddscz.a libnddscorez.a librticonnextmsgcppz.a	INCLUDE_ TIMESTAMP INCLUDE_POSIX_ CLOCKS	-DRTI_ VXWORKS
	Static Debug	libnddscppzd.a or libnddscpp2zd.a libnddsczd.a libnddscorezd.a librticonnextmsgcppzd.a		
	Dynamic Release	libnddscpp2.so (for RTP mode) libnddscpp2.lo (for kernel mode) librticonnextmsgcpp.so (for RTP mode) librticonnextmsgcpp.lo (for kernel mode) libnddsc.so libnddscore.so libnddscpp.so		

^aThe `[[[Undefined variable VxWorks6_9_3.Core_Italics]]]` DDS C/C++ libraries are in `<NDDSHOME>/lib/<architecture>` (where `<NDDSHOME>` is where `[[[Undefined variable VxWorks6_9_3.Core_Italics]]]` DDS is installed, such as `/home/your user name/rti_connex_dds-5.x.y`)

^bThe `*rticonnextmsg*` library only applies if you have the *Connex DDS* Professional, Evaluation, or Basic package type. It is not provided with the *Connex DDS* Core package type.

Building Instructions

API	Library Format	Required RTI Libraries ^{a b}	Required Kernel Components	Required Compiler Flags
	Dynamic Debug	libnddscepp2d.so (for RTP mode) libnddscepp2d.lo (for kernel mode) librticonnextmsgcppd.so (for RTP mode) librticonnextmsgcppd.lo (for kernel mode) libnddscd.so libnddscored.so libnddscppd.so		
C	Static Release	libnddscz.a libnddscorez.a librticonnextmsgcz.a	INCLUDE_TIMESTAMP INCLUDE_POSIX_CLOCKS	-DRTI_VXWORKS
	Static Debug	libnddsczd.a libnddscorezd.a librticonnextmsgczd.a		
	Dynamic Release	libnddsc.so libnddscore.so librticonnextmsgc.so		
	Dynamic Debug	libnddscd.so libnddscored.so librticonnextmsgcd.so		

Compiling a [\[\[\[Undefined variable VxWorks6_9_3.Core_Italics\]\]\]](#) DDS application for VxWorks depends on the development platform. For more information, such as specific compiler flags, see the *VxWorks Programmer's Guide*. [Library-Creation Details](#) provides details on how the VxWorks libraries were built. We recommend that you use similar settings.

^aThe [\[\[\[Undefined variable VxWorks6_9_3.Core_Italics\]\]\]](#) DDS C/C++ libraries are in `<NDDSHOME>/lib/<architecture>` (where `<NDDSHOME>` is where [\[\[\[Undefined variable VxWorks6_9_3.Core_Italics\]\]\]](#) DDS is installed, such as `/home/your user name/rti_connex_dds-5.x.y`)

^bThe `*rticonnextmsg*` library only applies if you have the *Connex DDS Professional*, *Evaluation*, or *Basic* package type. It is not provided with the *Connex DDS Core* package type.

Library-Creation Details

RTI Architecture	Library Format	Compiler Flags Used by RTI
armv7aVx6.9gcc4.3.3	Static or Dynamic Release	ccarm -t7 -mfpv=vfp -mfloat-abi=softfp -ansi -fno-zero-initialized-in-bss -fno-builtin -fvolatile -mlong-calls -mapcs-frame -DCPU=ARMARCH7 -DTOOL_FAMILY=gnu -DTOOL=gnu -DARM_USE_VFP -DRTI_VFP_TASK -D_WRS_KERNEL -D__PROTOTYPE_5_0 -O -DVXWORKS_MAJOR_VERSION=6 -DVXWORKS_MINOR_VERSION=9 -Wall -Wno-unknown-pragmas -DRTS_VXWORKS -DPtrIntType=long -DCSREAL_IS_FLOAT -DNDEBUG -Wp,-MD
	Static or Dynamic Debug	ccarm -t7 -mfpv=vfp -mfloat-abi=softfp -ansi -fno-zero-initialized-in-bss -fno-builtin -fvolatile -mlong-calls -mapcs-frame -DCPU=ARMARCH7 -DTOOL_FAMILY=gnu -DTOOL=gnu -DARM_USE_VFP -DRTI_VFP_TASK -D_WRS_KERNEL -D__PROTOTYPE_5_0 -O -DVXWORKS_MAJOR_VERSION=6 -DVXWORKS_MINOR_VERSION=9 -Wall -Wno-unknown-pragmas -DRTS_VXWORKS -DPtrIntType=long -DCSREAL_IS_FLOAT -Wp,-MD
armv7aVx6.9gcc4.3.3_rtp	Static or Dynamic Release	ccarm -t7 -mfpv=vfp -mfloat-abi=softfp -ansi -fno-zero-initialized-in-bss -fno-builtin -fvolatile -mlong-calls -mapcs-frame -DCPU=ARMARCH7 -DTOOL_FAMILY=gnu -DTOOL=gnu -mrtp -DARM_USE_VFP -DRTI_VFP_TASK -D_WRS_KERNEL -D__PROTOTYPE_5_0 -O -DVXWORKS_MAJOR_VERSION=6 -DVXWORKS_MINOR_VERSION=9 -Wall -Wno-unknown-pragmas -DRTS_VXWORKS -DPtrIntType=long -DCSREAL_IS_FLOAT -DNDEBUG -Wp,-MD
	Static or Dynamic Debug	ccarm -t7 -mfpv=vfp -mfloat-abi=softfp -ansi -fno-zero-initialized-in-bss -fno-builtin -fvolatile -mlong-calls -mapcs-frame -DCPU=ARMARCH7 -DTOOL_FAMILY=gnu -DTOOL=gnu -mrtp -DARM_USE_VFP -DRTI_VFP_TASK -D_WRS_KERNEL -D__PROTOTYPE_5_0 -O -DVXWORKS_MAJOR_VERSION=6 -DVXWORKS_MINOR_VERSION=9 -Wall -Wno-unknown-pragmas -DRTS_VXWORKS -DPtrIntType=long -DCSREAL_IS_FLOAT -Wp,-MD
mips32r2sfbeVx6.9gcc4.3.3	Static or Dynamic Release	ccmips -G 0 -mno-branch-likely -mips32r2 -mfp32 -EB -msoft-float -DCPU=MIPS32R2 -DTOOL_FAMILY=gnu -DTOOL=sfgnu -mlong-calls -D_WRS_KERNEL -D__PROTOTYPE_5_0 -DVXWORKS_MAJOR_VERSION=6 -DVXWORKS_MINOR_VERSION=9 -Wall -Wno-unknown-pragmas -DRTS_VXWORKS -DPtrIntType=long -DCSREAL_IS_FLOAT -DNDEBUG -Wp,-MD
	Static or Dynamic Debug	ccmips -G 0 -mno-branch-likely -mips32r2 -mfp32 -EB -msoft-float -DCPU=MIPS32R2 -DTOOL_FAMILY=gnu -DTOOL=sfgnu -mlong-calls -D_WRS_KERNEL -D__PROTOTYPE_5_0 -g -DVXWORKS_MAJOR_VERSION=6 -DVXWORKS_MINOR_VERSION=9 -Wall -Wno-unknown-pragmas -DRTS_VXWORKS -DPtrIntType=long -DCSREAL_IS_FLOAT -Wp,-MD

Library-Creation Details

RTI Architecture	Library Format	Compiler Flags Used by RTI
mips32r2sfbeVx6.9gcc4.3.3_rtp	Static or Dynamic Release	ccmips -G 0 -mno-branch-likely -mips32r2 -mcp32 -mfp32 -EB -msoft-float -DRTI_GCC4 -D__PROTOOL=sfgnu -mxgot -mlong-calls -DCPU=MIPS32R2 -D__PROTOOL_FAMILY=gnu -mrtp -mips32r2 -D__PROTOOL_5_0 -Wall -Wno-unknown-pragmas -DRTS_VXWORKS -DVXWORKS_MAJOR_VERSION=6 -DVXWORKS_MINOR_VERSION=9 -DPtrIntType=long -DCSREAL_IS_FLOAT -DNDEBUG -Wp,-MD
	Static or Dynamic Debug	ccmips -G 0 -mno-branch-likely -mips32r2 -mcp32 -mfp32 -EB -msoft-float -DRTI_GCC4 -D__PROTOOL=sfgnu -mxgot -mlong-calls -DCPU=MIPS32R2 -D__PROTOOL_FAMILY=gnu -mrtp -mips32r2 -D__PROTOOL_5_0 -g -Wall -Wno-unknown-pragmas -DRTS_VXWORKS -DVXWORKS_MAJOR_VERSION=6 -DVXWORKS_MINOR_VERSION=9 -DPtrIntType=long -DCSREAL_IS_FLOAT -Wp,-MD
ppce500v2Vx6.9gcc4.3.3	Static or Dynamic Release	ccppe -m32 -mstrict-align -ansi -fno-builtin -mlongcall -DCPU=PPC32 -D__PROTOOL_FAMILY=gnu -D__PROTOOL=e500v2gnu -te500v2 -mcpu=8548 -mfloat-gprs=double -mspe=yes -mabi=spe -D_WRS_KERNEL -D__PROTOOL_5_0 -DVXWORKS_MAJOR_VERSION=6 -DVXWORKS_MINOR_VERSION=9 -O2 -fno-strict-aliasing -Wall -Wno-unknown-pragmas -DRTS_VXWORKS -DPtrIntType=long -DCSREAL_IS_FLOAT -DNDEBUG -Wp,-MD
	Static or Dynamic Debug	ccppe -m32 -mstrict-align -ansi -fno-builtin -mlongcall -DCPU=PPC32 -D__PROTOOL_FAMILY=gnu -D__PROTOOL=e500v2gnu -te500v2 -mcpu=8548 -mfloat-gprs=double -mspe=yes -mabi=spe -D_WRS_KERNEL -D__PROTOOL_5_0 -g -DVXWORKS_MAJOR_VERSION=6 -DVXWORKS_MINOR_VERSION=9 -Wall -Wno-unknown-pragmas -DRTS_VXWORKS -DPtrIntType=long -DCSREAL_IS_FLOAT -Wp,-MD
ppce500v2Vx6.9gcc4.3.3_rtp	Static or Dynamic Release	ccppe -mstrict-align -m32 -mregnames -ansi -mlongcall -DCPU=PPC32 -D__PROTOOL_FAMILY=gnu -D__PROTOOL=gnu -te500v2 -mcpu=8548 -mfloat-gprs=double -mspe=yes -mabi=spe -mrtp -D__PROTOOL_5_0 -O2 -fno-strict-aliasing -Wall -Wno-unknown-pragmas -DRTS_VXWORKS -DVXWORKS_MAJOR_VERSION=6 -DVXWORKS_MINOR_VERSION=9 -DPtrIntType=long -DCSREAL_IS_FLOAT -DNDEBUG -Wp,-MD
	Static or Dynamic Debug	ccppe -mstrict-align -m32 -mregnames -ansi -mlongcall -DCPU=PPC32 -D__PROTOOL_FAMILY=gnu -D__PROTOOL=gnu -te500v2 -mcpu=8548 -mfloat-gprs=double -mspe=yes -mabi=spe -mrtp -D__PROTOOL_5_0 -g -Wall -Wno-unknown-pragmas -DRTS_VXWORKS -DVXWORKS_MAJOR_VERSION=6 -DVXWORKS_MINOR_VERSION=9 -DPtrIntType=long -DCSREAL_IS_FLOAT -Wp,-MD