

OMG: RPC Over DDS (DDS-RPC)

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Table 1: Data sheet for RPC Over DDS (DDS-RPC)

Title	RPC Over DDS
Acronym	DDS-RPC
Version	1.0
OMG Document Number	formal/17-04-01
Release Date	April 2017
About Specification	https://www.omg.org/spec/DDS-RPC/
Document	https://www.omg.org/spec/DDS-RPC/1.0/PDF

Note: The following is an excerpt from the actual document. It is provided here as a convenience and is not authoritative. Refer to the original document as the authoritative reference.

Scope

The [Data Distribution Service \(DDS\)](#) is widely used for [Data-Centric Publish-Subscribe \(DCPS\)](#) communication in real-time distributed systems. Large distributed systems often need more than one style of communication. For instance, data distribution works great for one-to-many dissemination of information. However, certain other styles of communication namely request/reply and remote method invocation are cumbersome to express using the basic building blocks of DDS. Using two or more [middleware](#) frameworks is often not practical due to complexity, cost, and maintenance overhead reasons. As a consequence, developing a standard mechanism for request/reply style bidirectional communication on top of DDS is highly desirable for portability and [interoperability](#). Such facility would allow commands to be naturally represented as remote method invocations. This presents a solution to this problem.

This specification defines a [RFC1831 - Remote Procedure Call Protocol Specification Version 2 \(RPC\)](#) framework using the basic building blocks of DDS, such as topics, types, DataReaders, and DataWriters to provide request/reply semantics. It defines distributed services, described using a service [interface](#), which serves as a shareable contract between service provider and a service consumer. It supports synchronous and asynchronous method invocation. Despite its similarity, it is not intended to be a replacement for [CORBA](#).

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