

# e. Table of Contents

[return to Front Matter](#)

## Front Matter

- [a. Cover Page](#)
- [b. Summary of Changes](#)
- [c. Abstract](#)
- [d. Copyright Notice](#)
- [e. Table of Contents](#)
- [f. Preface](#)
- [g. OMG Discussion Paper Disclaimer](#)

## User Experiences

- [Use Case 1: Connected Healthcare](#)
- [Use Case 2: Tactical Microgrid Standard \(TMS\)](#)
- [Use Case 3: Smart Manufacturing](#)
- [Use Case 4: Digital Agriculture](#)
- [Use Case 5: General Vehicle Architecture \(GVA\)](#)
- [Use Case 6: Kubernetes \(K8s\)](#)
- [User Scenario 1: Energy Sector](#)
- [User Scenario 2: Data Acquisition and Instrumentation](#)
- [User Scenario 3: Medical Devices](#)

## Appendices

- [Appendix A: DDS Family of Standards](#)
  - [APIs for DDS](#)
    - [OMG: ISO/IEC C++ 2003 Language DDS PSM \(DDS-PSM-Cxx\)](#)
    - [OMG: Java 5 Language PSM for DDS \(DDS-Java\)](#)
  - [Core DDS Standards](#)
    - [OMG: Data Distribution Service \(DDS\)](#)

- [OMG: DDS Data Local Reconstruction Layer \(DDS-DLRL\)](#)
- [OMG: DDS Interoperability Wire Protocol \(DDSI-RTPS\)](#)
- [OMG: DDS Security \(DDS-SECURITY\)](#)
- [OMG: Extensible and Dynamic Topic Types for DDS \(DDS-XTypes\)](#)
- [OMG: Interface Definition Language \(IDL\)](#)
- [Extensions for DDS](#)
  - [OMG: DDS Consolidated XML Syntax \(DDS-XML\)](#)
  - [OMG: RPC Over DDS \(DDS-RPC\)](#)
- [Gateways for DDS](#)
  - [OMG: DDS For Extremely Resource Constrained Environments \(DDS-XRCE\)](#)
  - [OMG: OPC-UA/DDS Gateway \(DDS-OPCUA\)](#)
  - [OMG: Web-Enabled DDS \(DDS-WEB\)](#)
- [Work-in-Progress \(WiP\) for DDS](#)
  - [OMG: DDS-Time Sensitive Networks \(DDS-TSN\)](#)
  - [OMG: DDS C# API](#)
  - [OMG: DDS Consolidated JSON Syntax \(DDS-JSON\)](#)
  - [OMG: IDL4 to C# Language Mapping](#)
  - [OMG: IDL4 to C++ Language Mapping](#)
  - [OMG: IDL4 to Java Language Mapping](#)
  - [OMG: RTPS TCP/IP PSM for DDS Interoperability](#)
- [Appendix B: Quality of Service \(QoS\) Parameters](#)
  - [DEADLINE QoS Parameter](#)
  - [DESTINATION\\_ORDER QoS Parameter](#)
  - [DURABILITY QoS Parameter](#)
  - [DURABILITY\\_SERVICE QoS Parameter](#)
  - [ENTITY\\_FACTORY QoS Parameter](#)
  - [GROUP\\_DATA QoS Parameter](#)
  - [HISTORY QoS Parameter](#)
  - [LATENCY\\_BUDGET QoS Parameter](#)
  - [LIFESPAN QoS Parameter](#)
  - [LIVELINESS QoS Parameter](#)
  - [OWNERSHIP QoS Parameter](#)
  - [OWNERSHIP\\_STRENGTH QoS Parameter](#)
  - [PARTITION QoS Parameter](#)
  - [PRESENTATION QoS Parameter](#)
  - [READER\\_DATA\\_LIFECYCLE QoS Parameter](#)
  - [RELIABILITY QoS Parameter](#)
  - [RESOURCE\\_LIMITS QoS Parameter](#)
  - [TIME\\_BASED\\_FILTER QoS Parameter](#)
  - [TOPIC\\_DATA QoS Parameter](#)
  - [TRANSPORT\\_PRIORITY QoS Parameter](#)
  - [USER\\_DATA QoS Parameter](#)
  - [WRITER\\_DATA\\_LIFECYCLE QoS Parameter](#)
- [Appendix C: Bibliography](#)
  - [External References](#)
  - [Internal References](#)
- [Appendix D: Other Related Standards](#)
  - [Internet Engineering Task Force \(IETF\)](#)
    - [RFC1112 - Host Extensions for IP Multicasting](#)

- [Appendix E: DDS Vendors](#)
  - [Vendor: Adlink](#)
  - [Vendor: eProxima](#)
  - [Vendor: GURUM Networks](#)
  - [Vendor: Hamersham Ltd.](#)
  - [Vendor: Kongsberg](#)
  - [Vendor: MILSOFT](#)
  - [Vendor: Object Computing, Inc. \(OCI\)](#)
  - [Vendor: Real-Time Innovations \(RTI\)](#)
  - [Vendor: Remedy](#)
  - [Vendor: Thales](#)
  - [Vendor: Twin Oaks Computing](#)
- [Appendix F: Glossary of Terms Related to DDS](#)
  - [Glossary 0-9 Terms](#)
    - [16-Bit](#)
    - [32-Bit](#)
    - [64-Bit](#)
  - [Glossary A Terms](#)
    - [Access Control](#)
    - [Access Control List \(ACL\)](#)
    - [Actuator](#)
    - [Adaptability](#)
    - [Agile Model](#)
    - [American National Standards Institute \(ANSI\)](#)
    - [American Standard for Information Interchange \(ASCII\)](#)
    - [Application Layer](#)
    - [Application Performance](#)
    - [Application Programming Interface \(API\)](#)
    - [Architecture](#)
    - [Architecture Adaptability](#)
    - [Architecture Board \(AB\)](#)
    - [Argument](#)
    - [Artificial intelligence \(AI\)](#)
    - [Authentication](#)
    - [Authenticity](#)
    - [Automation Pyramid](#)
    - [Availability](#)
  - [Glossary B Terms](#)
    - [Bandwidth](#)
    - [Best-effort Delivery](#)
    - [Big-Data](#)
    - [Big-Endian](#)
    - [Bluetooth](#)
    - [Bootstrap](#)
    - [Business Process Modeling Notation \(BPMN\)](#)
  - [Glossary C Terms](#)
    - [Capability Maturity Model Integration \(CMMI\)](#)
    - [Category 5 \(Cat-5\)](#)
    - [Category 6 \(Cat-6\)](#)
    - [Category 7 \(Cat-7\)](#)
    - [Category 8 \(Cat-8\)](#)

- Central Microgrid
- Central Processing Unit (CPU)
- Claim
- Client-Server
- Codebase
- Command and control (C2)
- Commercial Off-The-Shelf (COTS)
- Common Object Request Broker Architecture (CORBA)
- Communications Model
- Community of Interest (CoI)
- Compiler
- Complex Instruction Set Computer (CISC)
- Component Object Model (COM)
- Computing Platform
- Condition
- Confidentiality
- Consolidated Generation
- Container
- Control Level
- Critical Infrastructure Sectors
- Glossary D Terms
  - Data-Centric
  - Data-Centric Publish-Subscribe (DCPS)
  - DataBase Management System (DBMS)
  - Data Distribution Service (DDS)
  - Datagram Transport Layer Security (DTLS)
  - Data Integrity
  - Data Link Layer
  - Data Logging
  - Data Model (DM)
  - Data Quality
  - Data Reader
  - Data Security
  - Data Structure
  - Datatype
  - Data Writer
  - DDS Application
  - DDS Domain
  - DDS Node
  - DDS Sample
  - Deadline QoS
  - Decoupled
  - Defence Line of Development (DLOD)
  - Defense Federal Acquisition Regulation Supplement (DFARS)
  - Department of Defense (DoD)
  - Deserialization
  - Discovery
  - Distributed Application (Dapp)
  - Distributed Component Object Model (DCOM)

- Distributed Microgrid
- Distributed System
- Domain
- Domain Integrity
- Domain Knowledge
- Domain Name Server (DNS)
- Domain Participant
- Domain Service
- Downtime
- Durability
- Dynamic Disturbance Recording (DDR)
- Glossary E Terms
  - Edge Computing
  - Edge Device
  - Electric Grid
  - Embedded Device
  - Encryption
  - End-to-End (E2E) Lifecycle
  - End-to-End Solution (E2ES)
  - Endpoint
  - Enterprise Resource Planning (ERP)
  - Entity
  - Ethernet
  - Evidence
  - Executable File
- Glossary F Terms
  - Failover
  - Fault Tolerance
  - Federal Acquisition Regulation (FAR)
  - Federal Emergency Management Agency (FEMA)
  - Field Level
  - Functional Requirements
- Glossary G Terms
  - Gateway
  - Goal
  - Graphical User Interface (GUI)
  - Grid
- Glossary H Terms
  - Hardware-in-the-Loop (HWIL)
  - History QoS
  - Hub
  - Human-machine interface (HMI)
- Glossary I Terms
  - ID
  - Industrial Internet of Things (IIoT)
  - Information Technology (IT)
  - Instance
  - Institute of Electrical and Electronics Engineers (IEEE)
  - Intensive Care Unit (ICU)
  - Interface Definition Language (IDL)
  - International Organization for Standardization (ISO)

- Internet
- Internet of Medical Things (IoMT)
- Internet of Things (IoT)
- Internet Protocol (IP)
- Internet Protocol address (IP address)
- Interoperability
- Glossary J Terms
  - JavaScript Object Notation (JSON)
- Glossary K Terms
  - Key
  - Kubernetes (K8s)
- Glossary L Terms
  - Latency
  - Latency Budget QoS
  - Listener
  - Little-Endian
  - Liveliness QoS
  - Load balancing
  - Local Area Network (LAN)
- Glossary M Terms
  - Machine Learning
  - Maintainability
  - Management Level
  - Manufacturing Execution System (MES)
  - Market Research
  - Marshalling
  - Mean Active Maintenance Down Time (MAMDT)
  - Mean Logistics Delay Time (MLDT)
  - Mean Time To Repair (MTTR)
  - Memorandum of Understanding (MoU)
  - Message-Oriented Middleware (MOM)
  - Message Broker
  - Message Queue (MQ)
  - Metadata
  - Microcontroller
  - Microgrid
  - Middleware
  - Ministry of Defence (MoD) - United Kingdom
  - Missile Defense Agency (MDA)
  - Mission Critical System
  - Model-Driven Architecture (MDA)
  - Modularity
  - Module
  - Monitoring Software
  - Multicast
- Glossary N Terms
  - Network Cabling
  - Network Discovery
  - Networking Service

- Network Layer
- Network Node
- Network Security
- Network Stack
- Network Topology
- Non-Functional Requirements
- Non-Repudiation
- North American Energy Standards Board (NAESB)
- North Atlantic Treaty Organization (NATO)
- Glossary O Terms
  - Object-Oriented Programming (OOP)
  - Objective
  - Objective Simulation Framework (OSF)
  - Object Management Group® (OMG)
  - Off-Grid
  - Ontology
  - Open architecture (OA)
  - Open Platform Communication
  - Open Platform Communication Unified Architecture (OPC-UA)
  - Open Systems Interconnection (OSI) Model
  - Operating System (OS)
  - Ownership QoS
  - Ownership Strength
- Glossary P Terms
  - Packet Loss
  - Packet Switched Network (PSN)
  - Partition
  - Peer-to-peer (P2P)
  - Performance
  - Performance Specifications
  - Physical Layer
  - Planning Level
  - Platform Independent Model (PIM)
  - Platform Security
  - Platform Specific Model (PSM)
  - Plug In
  - Pod
  - Point-to-Point
  - Portability
  - Portable Document Format (PDF)
  - Portable Operating System Interface (POSIX)
  - Port Number
  - Predictive Analytics
  - Predictive Maintenance
  - Presentation Layer
  - Privileges
  - Procedural Language
  - Processor
  - Programming Language
  - Project Management Software
  - Protocol

- Publish-Subscribe
- Publisher
- Glossary Q Terms
  - Quality of Service (QoS) Policies
- Glossary R Terms
  - Random access memory (RAM)
  - Read-Only Memory (ROM)
  - Real-Time Operating System (RTOS)
  - Real-time Publish-Subscribe (RTPS)
  - Realtime
  - Reboot the World Problem
  - Recloser
  - Reduced Instruction Set Computer (RISC)
  - Remote Procedure Call (RPC)
  - Renewable Resources
  - Repeater
  - Request For Comment (RFC)
  - Request For Information (RFI)
  - Request For Proposal (RFP)
  - Requirement
  - Resource Description Framework (RDF)
  - Reusability
  - Router
- Glossary S Terms
  - Safety-Critical System (SCS)
  - Sample
  - Scalability
  - Scaling Out
  - Scaling Up
  - Secure Sockets Layer (SSL)
  - Security Model
  - Semantics
  - Sensor
  - Sensor Network
  - Sensor Node
  - Sequence
  - Serialization
  - Server
  - Service Plugin Interface (SPI)
  - Session Layer
  - Shelfware
  - Shielding
  - Smart Card
  - Smart City
  - Smart Grid
  - Software Adaptability
  - Software Library
  - Source Code
  - SPARQL Protocol And RDF Query Language (SPARQL)

- Special Interest Group (SIG)
- Spot Generation
- Sprint
- Standardization Agreement (STANAG)
- Standards Developing Organization (SDO)
- Standards Developing Organization (SDO)
- Storage Device
- Structured Assurance Case
- Sub-Claim
- Subscriber
- Subscriber Identity Module (SIM)
- Supervised Learning
- Supervisory Control and Data Acquisition (SCADA)
- Supervisory Level
- Switch
- Syntax
- System Lifecycle
- Glossary T Terms
  - Tender a Contract
  - Throughput
  - Time-Sensitive Networking (TSN)
  - Topic
  - Topic Name
  - Total Cost of Ownership (TCO)
  - Trade Study
  - Transmission Control Protocol (TCP)
  - Transport Layer
  - Transport layer security (TLS)
  - Transport priority
  - Type Safety
- Glossary U Terms
  - Unicast
  - Unified Modeling Language (UML)
  - Union
  - Unique Identifier (UID)
  - United States Army Corps of Engineers (USACE)
  - Unmanned Aerial Vehicle (UAV)
  - Unmanned Ground Vehicle (UGV)
  - Unsupervised Learning
  - Use Case
  - User Datagram Protocol (UDP)
  - User Scenario
  - User Story
- Glossary V Terms
  - Validation
  - Vendor Lock-In
  - Virtual Private Server (VPS)
- Glossary W Terms
  - WaitSet
  - Waterfall Model
  - Wide Area Network (WAN)

- [Wiki](#)
- [Wired Network](#)
- [Wireless Network](#)
- [Wire Protocol](#)
- [Glossary X Terms](#)
  - [eXtensible Markup Language \(XML\)](#)
  - [XML Information Set \(XML Infoset\)](#)
  - [XML Schema Definition \(XSD\)](#)
- [Glossary Y Terms](#)
- [Glossary Z Terms](#)
  - [ZigBee](#)
- [Appendix G: Acronyms](#)
- [Appendix H: Social Media](#)

From: <https://www.omgwiki.org/dds/> - **DDS Foundation Wiki**

Permanent link: [https://www.omgwiki.org/dds/doku.php?id=dds:public:guidebook:01\\_front:4\\_toc&rev=1626293375](https://www.omgwiki.org/dds/doku.php?id=dds:public:guidebook:01_front:4_toc&rev=1626293375)

Last update: **2021/07/14 16:09**

