# DIDO RA 3.0 (Full Version)


- Reference Architecture (RA)
- Front Matter
- a. Cover Page
- OMG Discussion Paper Disclaimer
- b. Change Log
- c. Abstract
- d. Copyright Notice
- f. Preface
- 1 Introduction
- 1.1 Problem
- 1.2 Purpose
- 1.3 Content Organization
- 2 Architectural Views
- 2.1 Stakeholder Views
- 2.1.1 Platform View
- 2.1.2 Domain View
- 2.1.3 Ecosystem View
- 2.1.4 Ecosphere View
- 2.1.5 Exchange View
- 2.1.6 Enterprise View
- 2.1.7 Relevant Community Standards
- 2.2 Technical Views
- 2.2.1 Fundamental Views
- 2.2.1.1 Interfaces
- 2.2.1.1.1 Platform Interface
- 2.2.1.1.2 Software Interfaces
- 2.2.1.1.3 Human Interfaces
- 2.2.1.2 Tools
- 2.2.1.2.1 Logging
- 2.2.1.2.2 Semantic Web
- 2.2.1.2.3 Open Source Communities
- 2.2.1.3 Case Management
- 2.2.1.4 System of Systems (SoS)
- 2.2.1.5 Quality
- 2.2.1.6 Open Source Paradigm
- 2.2.1.7 Assurance
- 2.2.2 Node Network View
- 2.2.2.1 Network View
- 2.2.2.1.1 Secure Messaging
- 2.2.2.1.2 Transport
- 2.2.2.1.3 Security
- 2.2.2.1.4 Protocol
- 2.2.2.1.5 Distribution Software
- 2.2.2.2 Node View

- 2.2.2.2.1 Operating System (OS)
- 2.2.2.2.2 Operating Environment
- 2.2.2.2.3 DIDO Platform
- 2.2.2.2.4 Distributed Applications
- 2.2.2.3 Node Architecture
- 2.2.2.3.1 Immutable Data Objects
- 2.2.2.3.1.1 Ledger
- 2.2.2.3.1.2 Transactions
- 2.2.2.3.1.3 Identities
- 2.2.2.3.1.4 Wallets
- 2.2.2.3.2 Ancillary Data
- 2.2.2.3.2.1 Journal
- 2.2.2.3.2.2 Transforms
- 2.2.2.3.2.3 Distributed Applications
- 2.2.2.3.2.4 Web Applications
- 2.2.2.3.2.5 Exchanges
- 2.2.2.3.3 Semantic Web
- 2.2.2.3.4 Software
- 2.2.2.4 Messaging View
- 2.2.3 Decentralized Finance (DeFi) Layers
- 2.3 Taxonomic Views
- 1_topologies
- 2.3.1.1 Centralized Network Topology
- 2.3.1.2 Decentralized Network Topology
- 2.3.1.3 Distributed Network Topology
- 2.3.1.4 Relevant Networking Standards
- 2_network_access_ctrll
- 2.3.2.1 Permissionless Networks
- 2.3.2.2 Permissioned Networks
- 2.3.2.3 Public Networks
- 2.3.2.4 Private Networks
- 2.3.2.5 Hybrid Networks
- 3_node_tax
- 2.3.3.1 Full Node
- 2.3.3.1.1 Pruned Node
- 2.3.3.1.2 Archival Node
- 2.3.3.1.2.1 Authority Node
- 2.3.3.1.2.2 Staking Node
- 2.3.3.1.2.3 Mining Node
- 2.3.3.1.2.4 Masternode
- 2.3.3.2 Lightweight Node (Wallet)
- 2.3.3.3 Lightning Node
- 2.3.3.4 Permanode
- 4_data_tax
- 2.3.4.3.1 Ledger Data
- 2.3.4.3.2 Ancillary Data

- 2.3.4.3.3 External Data
- 3 Governance
- 3.1 DIDO Communities
- 3.1.1 Stakeholder Communities
- 3.1.2 Software Communities
- 3.2 Legal Documents
- 3.2.1 Charter
- 3.2.2 Bylaws
- 3.2.3 Policies and Procedures (P&P)
- 3.3 Guides
- 4 Requirements
- 4.1 About Requirements
- 4.1.1 Governance Requirements Model
- 4.1.2 Cognitive Requirements Model
- 4.1.3 Governing Roles - Combined Requirements Model
- 4.1.4 Example of a Using the Combined Requirements Model
- 4.1.5 The Current State of DIDO Requirements
- 4.1.6 One Degree of Freedom Rule
- 4.1.7 Specifying Requirements
- 4.2 Functional Requirements
- 4.2.1 Platforms
- 4.2.1.1 Hardware Platform
- 4.2.1.2 Operating System Platform
- 4.2.1.3 Runtime Platforms
- 4.2.1.4 Network Platforms
- 4.2.1.5 Virtualized Nodes
- 4.2.2 Access Control
- 4.3 Non-Functional Requirements
- 4.3.1 Portability
- 4.3.1.1 Adaptability
- 4.3.1.2 Installability
- 4.3.1.3 Replaceability
- 4.3.2 Reliability
- 4.3.2.1 Maturity
- 4.3.2.2 Availability
- 4.3.2.3 Fault Tolerance
- 4.3.2.4 Recoverability
- 4.3.3 Maintainability
- 4.3.3.1 Modularity
- 4.3.3.2 Reusability
- 4.3.3.3 Analysability
- 4.3.3.4 Modifiability
- 4.3.3.5 Testability
- 4.3.4 Securability
- 4.3.4.1 Confidentiality
- 4.3.4.2 Data Integrity
- 4.3.4.3 Non-Repudiation
- 4.3.4.4 Authenticity

- 4.3.4.5 Accountability
- 4.3.5 Manageability
- 4.3.5.1 Types of Manageability Functions
- 4.3.5.2 Manageability Costs
- 4.3.5.3 System Manageability Issues
- 4.3.5.4 Software Manageability Issues
- 4.3.6 Usability
- 4.3.6.1 Effectiveness Metrics
- 4.3.6.2 Efficiency Metrics
- 4.3.6.3 Attitude / Satisfaction Metrics
- 4.3.7 Performance
- 4.3.7.1 Platform Performance
- 4.3.7.2 Application Performance
- 4.3.7.3 Network Performance
- 4.3.8 Interoperability
- 4.3.9 Elasticity
- 4.3.10 Scalability
- 4.4.2.1 How to Use the Non-Functional Requirements Boilerplate
- 4.4 Assessing Requirements
- 4.4.1 Functional Requirements Assessment
- 4.4.2 Non-functional Requirements Assessment
- Appendices
- Appendix A: Glossary of Terms Related to DIDO
- Glossary !-* Terms
- Glossary 0-9 Terms
- 16-Bit
- 32-Bit
- 64-Bit
- Glossary A Terms
- Acceptance Testing
- Access Control
- Access Control Function
- Access Control List (ACL)
- Accessibility
- Accountability
- Adaptability
- Address Resolution Protocol (ARP)
- Address Resolution Protocol (ARP) Spoofing
- After Action Review (AAR)
- Aggregation Layer
- Agile Model
- American National Standards Institute (ANSI)
- American Standard for Information Interchange (ASCII)
- Analysability
- Application
- Application Container

- Application Layer
- Application Performance
- Application Programming Interface (API)
- Application Security
- Application Specific Integrated Circuit (ASIC)
- Appropriateness Recognizability
- Architecture Adaptability
- Argument
- Assurance
- Authentication
- Authenticity
- Authorization
- Automation Pyramid
- Availability
- Glossary B Terms
- Backus–Naur Form (BNF)
- Bandwidth
- Big-Endian
- Bill of Lading (BL or BoL)
- Biometrics
- Bitcoin Wallet
- Bit Error
- Black Box Testing
- blkchn
- Blockchain Network
- Block Producers
- Block Validators
- Bluetooth
- Bootstrap
- Bridge
- Brownfield
- Bylaws
- Byzantine Fault Tolerance (BFT)
- Byzantine Generals Problem
- Glossary C Terms
- Cable Subscriber Protection
- California Consumer Privacy Act (CCPA)
- Capability Maturity Model Integration (CMMI)
- Category 5 (Cat-5)
- Category 6 (Cat-6)
- Category 7 (Cat-7)
- Category 8 (Cat-8)
- Central Processing Unit (CPU)
- Charter
- Children's Online Privacy Protection Act (COPPA)
- Claim
- Class
- Client

- Client-Server
- Cloud Elasticity
- Coins
- Comma Separated Values (CSV)
- Command Line Interface (CLI)
- Command Shell
- Commercial Off-The-Shelf (COTS)
- Common Intermediate Language (CIL)
- Common Language Runtime (CLR)
- Common Object Request Broker Architecture (CORBA)
- Communication Protocol
- Communications Model
- Community of Interest (CoI)
- Compiler
- Complex Instruction Set Computer (CISC)
- Computer Architecture
- Computing Platform
- Conceptual Schema
- Condition
- Confidentiality
- Confidentiality Agreement
- Configuration Management (CM)
- Conformance Specification
- Consensus Algorithm
- Container
- Container Engine
- Container Host
- Container OS
- Control Level
- Copyleft
- Copyright
- Cryptocurrency
- CyberSecurity Culture (CSC)
- Glossary D Terms
- Daemon
- Data-Centric
- Data-Centric Publish-Subscribe (DCPS)
- Data as a Service (DaaS)
- Data-at-Rest
- Database Driver
- DataBase Management System (DBMS)
- Data Definition Language (DDL)
- Data Distribution Service (DDS)
- Data-in-Motion
- Data Integrity
- Data-in-Use

- Data Link Layer (DLL)
- Data Logging
- Data Manipulation Language (DML)
- Data Model (DM)
- Data Object (DO)
- Data Protection
- Data Protection Act 2018
- Data Quality
- Data Reader
- Data Security
- Datastore
- Data Structure
- Data Writer
- DDS Domain
- Decentralized Finance (DeFi)
- de facto Standard
- Delegated Byzantine Fault Tolerant (dBFT)
- Delegated Proof of Stake (DPoS)
- Department of Defense (DoD)
- Dependent Event
- DevOps
- DIDO Domain Community
- DIDO Ecosphere Community
- DIDO Ecosystem Community
- DIDO Platform
- Digital Rights
- Digital Rights Management (DRM)
- Directed Acyclic Graph (DAG)
- Disconnected, Intermittent and Limited (DIL)
- Discovery
- Disk Image
- Distributed Application (ĐApp or DApp)
- Distributed Denial-of-Service (DDoS)
- Distributed Immutable Data Objects (DIDO)
- Distributed Ledger Technology (DLT)
- Distributed System
- Docker
- Domain Integrity
- Domain Knowledge
- Domain Name System (DNS)
- Domain Participant
- Download Speed
- Downtime
- Driver's Privacy Protection Act of 1994 (DPPA)
- Duck Typing
- Durability
- Dynamic Host Configuration Protocol (DHCP)
- Dynamic Link Library (.dll)

- Glossary E Terms
- Economies of Scale
- Elastic Compute Cloud (EC2)
- Encryption
- End-of-life (EoL)
- End-to-End Solution (E2ES)
- End-to-End Testing (E2E Testing)
- Endianness
- Endpoint
- Enterprise Resource Planning (ERP)
- Entity
- Entity Integrity
- Environment Variables
- Ethereum Improvement Proposal (EIP)
- Ethereum Request for Comment (ERC)
- Ethernet
- Evidence
- Executable File
- Glossary F Terms
- Failover
- Fault Tolerance
- Federal Deposit Insurance Corporation (FDIC)
- Field Level
- Fifty-One Percent (51% Attack)
- FIGI Symbology
- Figure of Merit (FoM)
- File Transfer Protocol (FTP)
- Financial Instrument Global Identifier (FIGI)
- Firewall
- Five Nines
- Flowchart
- Full-Disk Encryption (FDE)
- Full Node
- Functional Language
- Functional Programming
- Functional Requirements
- Fungible
- Glossary G Terms
- Gateway
- General-Purpose Graphics Processing Unit (GPGPU)
- General Data Protection Regulation (GDPR)
- Goal
- Google Mobile Services (GMS)
- Government Off-The-Shelf (GOTS)
- Graphical User Interface (GUI)
- Graphics Processing Unit (GPU)

- Greenfield
- Glossary H Terms
- Hard Fork
- Hardware Firewall
- Health Insurance Portability and Accountability Act (HIPAA)
- History QoS
- Horizontal Scaling
- Hub
- Human-machine interface (HMI)
- Hybrid Network
- Hype-Cycle
- Hypertext Transfer Protocol (HTTP)
- Hypertext transfer protocol (HTTP) Request
- Hypertext transfer protocol (HTTP) Response
- Hypertext Transport Protocol Secure (HTTPS)
- Hypervisor
- Glossary I Terms
- Identification
- Identifier (ID)
- Immutable
- Independent Event
- Industrial Internet of Things (IIoT)
- Information Assurance (IA)
- Information Security (IS/InfoSec)
- Information Technology (IT)
- Infrared Wireless Networking
- Infrastructure-as-a-Service (IaaS)
- Initial Coin Offering (ICO)
- Installability
- Instance
- Institute of Electrical and Electronics Engineers (IEEE)
- Integration Testing
- Intellectual Property (IP)
- Interface
- Interface Testing
- International Organization for Standardization (ISO)
- Internet
- Internet of Things (IOT)
- Internet Protocol (IP)
- Internet Protocol Address (IP Address)
- Internet Service Provider (ISP)
- Interoperability
- Interoperability Testing
- ISO 9001
- ISO 15288
- ISO 90003-2018
- Glossary J Terms
- Java Database Connectivity(JDBC)

- JavaScript
- JavaScript Object Notation (JSON)
- Jitter
- Just-In-Time (JIT)
- Glossary K Terms
- Key
- Know Your Customer (KYC)
- Glossary L Terms
- Latency
- Learnability
- Ledger
- License Distribution
- License Linking
- License Modification
- License Patent Grant
- License Private Use
- Licensing Sublicensing
- Licensing Trademark Grant
- Lightning Network
- Light Node
- Listener
- Little-Endian
- Liveliness QoS
- Local Area Network (LAN)
- Logical Integrity
- Glossary M Terms
- Maintainability
- Maintainability Measure
- Manageability
- Management Level
- Manufacturing Execution System (MES)
- Massively Parallel Processing (MPP)
- Mean Active Maintenance Down Time (MAMDT)
- Mean Logistics Delay Time (MLDT)
- Mean Time Between Failure (MTBF)
- Mean Time To Failure (MTTF)
- Mean Time To Repair (MTTR)
- Media Access Control (MAC)
- Message-Oriented Middleware (MOM)
- Message Queue(MQ)
- Metadata
- Microcontroller
- Micropayment Channel
- Middleware
- Miner Node
- Mission Assurance (MA)

- Mission Critical System
- Modem
- Modifiability
- Modified Off-The-Shelf (MOTS)
- Modularity
- Module
- Monitoring Software
- Motherboard
- Multi-core Processor
- Multi-Signature (multisig)
- Must (Requirement)
- Glossary N Terms
- N-Tier Architecture
- NATO Off-The-Shelf (NOTS)
- Near-Field-Communication (NFC)
- Network Appliance
- Network Attached Storage (NAS)
- Network Cabling
- Network Device
- Network Interface Card (NIC)
- Network Layer
- Network Node
- Network Performance
- Network Security
- Network Topology
- Network Traffic Analyzer
- Node
- Node Network
- Non-Disclosure Agreement (NDA)
- Non-Functional Requirements
- Non-Repudiation
- Normalization
- NoSQL
- Glossary O Terms
- Object
- Object-Oriented Programming (OOP)
- Objective
- Object Management Group® (OMG®)
- One-Time PIN (OTP)
- Ontology
- Open Database Connectivity (ODBC)
- Open Source Software (OSS)
- Open Systems Interconnection (OSI) Model
- Operability
- Operating System (OS)
- Operational transformation (OT)
- Operator
- Oracle

- Owner
- Ownership QoS
- Glossary P Terms
- Package Manager
- Packet Loss
- Packet Switched Network (PSN)
- Parallel Processing
- Parliamentary Authority
- Partition
- Payment Channel
- Pedigree
- Peer-to-Peer (P2P)
- Performance
- Performance Efficiency Measure
- Performance or Functional Specifications
- Permissioned Networks
- Permissionless Networks
- Permissive Open Source Software
- Personal Identifiable Information (PII)
- Physical Integrity
- Physical Layer
- Physical Security
- Planning Level
- Platform
- Platform-as-a-Service (PaaS)
- Platform Independent Model (PIM)
- Platform Security
- Platform Specific Model (PSM)
- Plug In
- Point-to-Point
- Policies and Procedures (P&P)
- Policy
- Portability
- Portable Operating System Interface (POSIX)
- Port Number
- Presentation Layer
- Principle
- principles
- Private Network
- Privileges
- Procedural Language
- Procedure
- Processor
- Programming Language
- Project Management Software
- Proof of Authority (PoA)

- Proof of Stake (PoS)
- Proof of Work (PoW)
- Protocol
- Protocol Layer
- Provenance
- Public Key Infrastructure (PKI)
- Public Network
- Publish-Subscribe
- Publisher
- Glossary Q Terms
- Quality of Service (QoS) Policies
- Glossary R Terms
- Radio Frequency Identification (RFID)
- Read-Only Memory (ROM)
- Reboot the World Problem
- reCAPTCHA
- Recoverability
- Reduced Instruction Set Computer (RISC)
- Reference Architecture (RA)
- Referential Integrity
- Registered Agent
- Regression Testing
- Relational DataBase Management System (RDBMS)
- Reliability, Maintainability, and Availability (RAM)
- Reliability Measure
- Relocatable Object
- Repairability
- Repeater
- Replaceability
- Representational State Transfer (REST)
- Request For Comment (RFC)
- Request For Information (RFI)
- Request For Proposal (RFP)
- Requirement
- RESTful API
- Reusability
- Rich Site Summary (RSS)
- Risk
- Roundoff Error
- Router
- Glossary S Terms
- Safety-Critical System (SCS)
- Safety Assurance (SfA)
- Salami Slicing
- Sample
- Sanity Testing
- Sarbanes-Oxley Act (SOX)
- Scalability

- Scaling Out
- Scaling Up
- Script
- Secure Shell (SSH)
- Secure Sockets Layer (SSL)
- Security Measure
- Semantics
- Semantic Web
- Sensor
- Sequence
- Server
- Servicability
- Session Layer
- Settlement Layer
- Shall (Requirement)
- Shared Library
- Shared Object (.so)
- Shielding
- Should (Requirement)
- Sidechain
- Simple Payment Verification (SPV)
- Single-Factor Authentication (SFA)
- Six Sigma (6Sigma)
- Smart Card
- smart_contracts
- Smoke Testing
- Snapshot
- Soft Fork
- Software Adaptability
- Software as a Service (SaaS)
- Software Assurance (SwA)
- Software Firewall
- Software Library
- Software Stack
- Source Code
- Special Interest Group (SIG)
- Special Rules
- Sprint
- Stakeholder
- Standards Developing Organization (SDO)
- Standards Organization
- standards_organization
- Standing Rules
- Static Library
- Statute
- Storage Device

- Straight-through Processing (StP)
- Structured Query Language (SQL)
- Sub-Claim
- Subject Matter Expert (SME)
- Subscriber
- Subscriber Identity Module (SIM)
- Supervisory Control and Data Acquisition (SCADA)
- Supervisory Level
- Supply Chain
- Switch
- Symmetric Multiprocessing (SMP)
- Syntax
- System Assurance (SysA)
- System Lifecycle
- Systems and software Quality Requirements and Evaluation (SQuaRE)
- Glossary T Terms
- Tangle
- Taxonomy
- Technical Standard
- Testability
- Throughput
- Tokens
- Topic
- Total Cost of Ownership (TCO)
- Transmission Control Protocol (TCP)
- Transport Layer
- Transport layer security (TLS)
- Two-Factor Authentication (2FA)
- Glossary U Terms
- Unicode Transformation Format (UTF)
- Unified Modeling Language (UML)
- Uninterruptible Power Supply (UPS)
- Unique Identifier (UID)
- Unit Testing
- Universally Unique IDentifier (UUID)
- Universal Serial Bus (USB)
- UNIX
- Upload Speed
- Usability
- Use-Case
- User Datagram Protocol (UDP)
- User Defined Integrity
- User Error Protection
- User Interface Aesthetics
- User Scenario
- Glossary V Terms
- Validation
- Value Chain

- Vendor Lock-In
- Vertical Scaling
- Video Privacy Protection Act (VPPA)
- Virtual Disk Image (VDI)
- Virtual Machine (VM)
- Virtual Machine Images
- Glossary W Terms
- WaitSet
- Waterfall Model
- Web Application (Web App)
- Weight of Network
- White Box Testing
- Wide Area Network (WAN)
- Will (Requirement)
- Windows Registry
- Wired Network
- Wireless Fidelity (Wi-Fi)
- Wireless Network
- Wire Protocol
- Wizard
- Glossary X Terms
- eXtensible Markup Language (XML)
- XML Information Set (XML Infoset)
- XML Schema Definition (XSD)
- Glossary Y Terms
- Glossary Z Terms
- ZigBee
- Appendix B: Standards Organizations
- Technical Standards Bodies
- asf
- apa_2.0
- ECMA International
- ECMA: Standard ECMA-262 - ECMAScript® 2018 Language Specification (Javascript)
- ECMA: Standard ECMA-334 - C# Language Specification
- ECMA: Standard ECMA-335 - Common Language Infrastructure (CLI)
- ECMA: Technical Report TR/84 - Common Language Infrastructure (CLI) - Information Derived from Partition IV XML File
- ECMA: Technical Report TR/89 - Common Language Infrastructure (CLI) - Common Generics
- Institute of Electrical and Electronics Engineers (IEEE)
- posix
- Internet Engineering Task Force (IETF)
- RFC0147 - The Definition of a Socket
- RFC0768 - User Datagram Protocol (UDP)
- RFC0791 - Internet Protocol (IPv4)
- RFC0793 - Transmission Control Protocol
- RFC1034 - Domain Names - Concepts and Facilities

- RFC1035 - Domain Names - Implementation and Specification
- RFC1112 - Host Extensions for IP Multicasting
- RFC1831 - Remote Procedure Call Protocol Specification Version 2 (RPC)
- RFC2026 - The Internet Standards Process
- RFC2104 - Keyed-Hashing for Message Authentication (HMAC)
- RFC2246 - The TLS Protocol
- RFC2315 - Cryptographic Message Syntax
- RFC2426 - vCard MIME Directory Profile
- RFC2460 - Internet Protocol, Version 6 (IPv6) Specification
- RFC2818 - HTTP Over TLS (HTTPS)
- RFC3339 - Date and Time on the Internet: Timestamps
- RFC3447 - PKCS #1: RSA Cryptography Specifications
- RFC3596 - DNS Extension to support IP Version 6
- RFC4122 - A Universally Unique IDentifier (UUID) URN Namespace
- RFC5011 - Automated Updates of DNS Security (DNSSEC) Trust Anchors
- RFC5234 - Augmented BNF for Syntax Specifications: ABNF
- RFC5424 - The Syslog Protocol (SYSLOG)
- RFC6101 - The Secure Sockets Layer (SSL) Protocol Version 3.0
- RFC6376 - DomainKeys Identified Mail (DKIM) Signatures
- RFC6455 - The WebSocket Protocol
- RFC6749 - The OAuth 2.0 Authorization Framework
- RFC6750 - The OAuth 2.0 Authorization Framework: Bearer Token Usage
- RFC6891 - Extension Mechanisms for DNS (EDNS(0))
- RFC6979 - Deterministic Usage of the Digital Signature Algorithm (DSA) and Elliptic Curve Digital Signature Algorithm (ECDSA)
- RFC7061 - eXtensible Access Control Markup Language (XACML) XML Media Type
- RFC7235 - Hypertext Transfer Protocol (HTTP/1.1): Authentication
- RFC7405 - Case-Sensitive String Support in ABNF
- RFC8259 - The JavaScript Object Notation (JSON) Data Interchange Format
- International Organization for Standardization (ISO)
- ISO/IEC 19506:2012 Architecture-Driven Modernization (ADM) -- Knowledge Discovery Meta-Model (KDM)
- ISO/IEC 23360-1:2006 Linux Standard Base (LSB) core specification 3.1 -- Part 1: Generic specification
- ISO 9001:2015 Quality management
- ISO/IEC 9075-01:2016 Database languages — SQL — Part 1: Framework (SQL/Framework)
- ISO/IEC 9075-02:2016 Database languages — SQL — Part 2: Foundation (SQL/Foundation)
- ISO/IEC 9075-03:2016 Database languages — SQL — Part 3: Call-Level Interface (SQL/CLI)
- ISO/IEC 9075-04:2016 Database languages — SQL — Part 4: Persistent stored modules (SQL/PSM)
- ISO/IEC 9075-09:2016 Database languages — SQL — Part 9: Management of External Data (SQL/MED)
- ISO/IEC 9075-10:2016 Database languages — SQL — Part 10: Object language bindings (SQL/OLB)
- ISO/IEC 9075-11:2016 Database languages — SQL — Part 11: Information and definition schemas (SQL/Schemata)
- ISO/IEC 9075-13:2016 Database languages — SQL — Part 13: SQL Routines and types using the Java TM programming language (SQL/JRT)
- ISO/IEC 9075-14:2016 Database languages — SQL — Part 14: XML-Related Specifications (SQL/XML)

- ISO/IEC 9241-210:2019 Ergonomics of human-system interaction
- ISO/IEC/IEEE 90003:2018 Software engineering – Guidelines for the application of ISO 9001:2015 to computer software
- ISO/IEC/IEEE 25000:2014 SQuaRE -- Guide to SQuaRE
- ISO/IEC 25001:2014 SQuaRE -- Planning and Management
- ISO/IEC 25010:2011 SQuaRE -- System and Software Quality Models
- ISO/IEC 25012:2008 SQuaRE -- Data Quality Model
- ISO/IEC 25020:2007 SQuaRE -- Measurement Reference Model and Guide
- ISO/IEC 25021:2012 SQuaRE -- Quality Measure Elements
- ISO/IEC 25022:2016 SQuaRE -- Measurement of Quality in Use
- ISO/IEC 25023:2016 SQuaRE -- Measurement of System and Software Product Quality
- ISO/IEC 25024:2015 SQuaRE -- Measurement of Data Quality
- ISO/IEC 25030:2007 SQuaRE -- Quality Requirements
- ISO/IEC 25040:2011 SQuaRE -- Evaluation Process
- ISO/IEC 25041:2012 SQuaRE -- Evaluation Guide for Developers, Acquirers and Independent Evaluators
- ISO/IEC 25045:2010 SQuaRE -- Evaluation Module for Recoverability
- ISO/IEC 9899:2018 Programming languages -- C
- ISO/IEC 14882:2017 Programming languages -- C++
- ISO/IEC 22275:2018 Programming Languages - ECMAScript Specification Suite
- ISO 8601-1:2019 Date and time -- Representations for information interchange -- Part 1: Basic rules
- ISO 8601-2:2019 Date and time -- Representations for information interchange -- Part 2: Extensions: Basic rules
- ISO/IEC/IEEE 15288:2015 Systems and software engineering -- System life cycle processes
- ISO/IEC 9834-8:2014 Information technology -- Procedures for the operation of object identifier registration authorities -- Part 8: Generation of universally unique identifiers (UUIDs) and their use in object identifiers
- ISO 10001:2018 Quality management — Customer satisfaction — Guidelines for codes of conduct for organizations
- ISO 10002:2018 Quality management — Customer satisfaction — Guidelines for complaints handling in organizations
- ISO 10003:2018 Quality management — Customer satisfaction — Guidelines for dispute resolution external to organizations
- ISO 10004:2018 Quality management — Customer satisfaction — Guidelines for monitoring and measuring
- International Telecommunications Union (ITU)
- ITU-T Y.2060 - Overview of the Internet of things
- National Institute of Standards and Technology (NIST)
- NIST: FIPS PUB 186-4: Digital Signature Standard (DSS)
- NIST: SP 800-89: Recommendation for Obtaining Assurances for Digital Signature Applications
- NIST: SP 800-126: The Technical Specification for the Security Content Automation Protocol (SCAP)
- Organization for the Advancement of Structured Information Standards (OASIS)
- OASIS: Assertions and Protocols for the OASIS Security Assertion Markup Language (SAML)
- OASIS: eXtensible Access Control Markup Language (XACML)
- Object Management Group (OMG)
- OMG: Automated Source Code CISQ Maintainability Measure (ASCMM)

- OMG: Automated Source Code CISQ Measures (ASCQM)
- OMG: Automated Source Code CISQ Security Measure (ASCSM)
- OMG: Automated Source Code CISQ Performance Efficiency Measure (ASCPEM)
- OMG: Automated Source Code CISQ Reliability Measure (ASCRM)
- OMG: CISQ Automated Enhancement Points (AEP)
- OMG: CISQ Automated Function Points (AFP)
- OMG: CISQ Automated Technical Debt Measure (ATDM)
- OMG: Case Management Model and Notation (CMMN)
- OMG: Data Distribution Service (DDS)
- OMG: DDS Interoperability Wire Protocol (DDSI-RTPS)
- OMG: ISO/IEC C++ 2003 Language DDS PSM (DDS-PSM-Cxx)
- OMG: Java 5 Language PSM for DDS (DDS-Java)
- OMG: OPC-UA/DDS Gateway (DDS-OPCUA)
- OMG: RPC Over DDS (DDS-RPC)
- OMG: DDS Security (DDS-SECURITY)
- OMG: Web-Enabled DDS (DDS-WEB)
- OMG: DDS Consolidated XML Syntax (DDS-XML)
- OMG: DDS For Extremely Resource Constrained Environments (DDS-XRCE)
- OMG: Extensible and Dynamic Topic Types for DDS (DDS-XTypes)
- OMG: Interface Definition Language (IDL)
- OMG: Ontology Definition Metamodel (ODM)
- OMG: Semantics Of Business Vocabulary and Rules (SBVR)
- OMG: Structured Assurance Case Metamodel (SACM)
- OMG: Structured Metrics Metamodel (SMM)
- OMG: Systems Modeling Language (SysML)
- OMG: Unified Architecture Framework (UAF)
- Open Source Initiative (OSI)
- OSI: The 2-Clause BSD License (BSD-2-Clause)
- OSI: The 3-Clause BSD License (BSD-3-Clause)
- OSI: GNU Library General Public License version 2 (LGPL-2.0)
- OSI: GNU Lesser General Public License version 2.1 (LGPL-2.1)
- OSI: GNU General Public License version 3 (GPL-3.0)
- OSI: The MIT License (MIT)
- OSI: Common Public License, Version 1.0 (CPL-1.0)
- OSI: Eclipse Public License Version 2.0 (EPL-2.0)
- OSI: Mozilla Public License (MPL-2.0)
- World Wide Web Consortium (W3C)
- W3C: Cascading Style Sheets Level 2 Revision 2 (CSS 2.2) Specification
- W3C: Decentralized Identifiers (DIDs) 1.0
- W3C: Document Object Model (DOM) Level 3 Core Specification
- W3C: HTML5 (HTML5)
- W3C: OWL 2 Web Ontology Language - Structural Specification and Functional-Style Syntax (second Edition)
- W3C: RDF 1.1 Concepts and Abstract Syntax (RDF)
- W3C: RDF 1.1 Terse RDF Triple Language (Turtle)
- W3C: SPARQL 1.1 Overview (SPARQL)
- W3C: Extensible Markup Language (XML) 1.0 (Fifth Edition)
- W3C: XML Schema Definition Language (XSD) 1.1 Part 1: Structures

- W3C: XML Schema Definition Language (XSD) 1.1 Part 2: Datatypes
- W3C: XSL Transformations (XSLT) Version 3.0
- W3C: XML Path Language (XPath) 3.1
- de facto Standards Bodies
- amazon
- apache
- Apache: Log4cxx
- Apache: Log4j
- Apache: log4jscala
- Apache: log4net
- Apache: log4php
- apple
- Apple: Darwin
- Apple: iOS
- Apple: MacOS
- bitcoin
- Bitcoin: Bitcoin Improvement Proposals (BIPs)
- BIP 0011 - M-of-N Standard Transactions
- BIP 0013 - Address Format for pay-to-script-hash
- BIP 0014 - Protocol Version and User Agent
- BIP 0016 - Pay to Script Hash (soft fork)
- BIP 0021 - URI Scheme
- BIP 0022 - getblocktemplate - Fundamentals
- BIP 0023 - getblocktemplate - Pooled Mining
- BIP 0030 - Duplicate transactions (soft fork)
- BIP 0031 - Pong message
- BIP 0034 - Block v2, Height in Coinbase (soft fork)
- BIP 0035 - mempool message
- BIP 0037 - Connection Bloom filtering
- BIP 0042 - A finite monetary supply for Bitcoin (soft fork)
- BIP 0061 - Reject P2P message
- BIP 0065 - OP_CHECKLOCKTIMEVERIFY (soft fork)
- BIP 0068 - Relative lock-time using consensus-enforced sequence numbers (soft fork)
- BIP 0070 - Payment Protocol
- BIP 0071 - Payment Protocol MIME types
- BIP 0072 - bitcoin: uri extensions for Payment Protocol
- BIP 0073 - Use "Accept" header for response type negotiation with Payment Request URLs
- BIP 0091 - Reduced threshold Segwit MASF (soft fork)
- BIP 0112 - CHECKSEQUENCEVERIFY (soft fork)
- BIP 0113 - Median time-past as endpoint for lock-time calculations (soft fork)
- BIP 0137 - Signatures of Messages using Private Keys
- BIP 0141 - Segregated Witness (Consensus layer) (soft fork)
- BIP 0143 - Transaction Signature Verification for Version 0 Witness Program (soft fork)
- BIP 0144 - Segregated Witness (Peer Services)
- BIP 0145 - getblocktemplate Updates for Segregated Witness
- BIP 0147 - Dealing with dummy stack element malleability (soft fork)

- BIP 0148 - Mandatory activation of segwit deployment (soft fork)
- Bitcoin: Developer's Guidance
- Bitcoin: Guide 1 Blockchain
- Bitcoin: Guide 2 Transactions
- Bitcoin: Guide 3 Contracts
- Bitcoin: Guide 4 Wallets
- Bitcoin: Guide 5 Payment Processing Guide
- Bitcoin: Guide 6 Operating Modes
- Bitcoin: Guide 7 Peer-to-Peer Networks
- Bitcoin: Guide 8 Mining
- Bitcoin: Bitcoinj Developer's Documentation
- cisq
- ethereum
- ethereum_solidity
- ethereum_vm
- Ethereum: Ethereum Improvement Proposals (EIPs)
- EIP 20: ERC-20 Token Standard
- EIP 55: Mixed-case checksum address encoding
- EIP 137: Ethereum Domain Name Service - Specification
- EIP 141: Designated invalid EVM instruction
- EIP 155: Simple replay attack protection
- EIP 162: Initial ENS Hash Registrar
- EIP 165: ERC-165 Standard Interface Detection
- EIP 181: ENS support for reverse resolution of Ethereum addresses
- EIP 190: Ethereum Smart Contract Packaging Standard
- EIP 191: Signed Data Standard (DRAFT)
- EIP 211: New opcodes: RETURNDATASIZE and RETURNDATACOPY
- EIP 214: New opcode STATICCALL
- EIP 721: ERC-721 Non-Fungible Token Standard
- EIP 777: ERC-777 Token Standard
- EIP 1167: Minimal Proxy Contract
- EIP 1820: Pseudo-introspection Registry Contract
- EIP 107: safe "eth_sendTransaction" authorization via html popup (DRAFT)
- EIP 234: `blockHash` to JSON-RPC filter options (DRAFT)
- EIP 695: Create `eth_chainId` method for JSON-RPC (DRAFT)
- EIP 712: Ethereum typed structured data hashing and signing (DRAFT)
- EIP 758: ERC-NN Subscriptions and filters for completed transactions (DRAFT)
- EIP 1102: Opt-in account exposure (DRAFT)
- EIP 1186: RPC-Method to get Merkle Proofs - eth_getProof (DRAFT)
- EIP 1193: Ethereum Provider JavaScript API (DRAFT)
- EIP 1474: Remote Procedure Call (RPC) specification (DRAFT)
- EIP 1767: GraphQL interface to Ethereum node data (DRAFT)
- EIP 1803: ERC-NN Rename opcodes for clarity (DRAFT)
- EIP 1898: ERC-NN Add `blockHash` to JSON-RPC methods which accept a default block parameter (DRAFT)
- Ethereum: Clients
- Ethereum: cpp Project
- Ethereum: Ethereumh Project

- Ethereum: Ethereumjs-lib Project
- Ethereum: Ethereum_j Project
- Ethereum: Go-ethereum Project
- Ethereum: Parity Project
- Ethereum: Pyethapp Project
- Ethereum: Ruby-ethereum Project
- Ethereum: Clients
- Ethereum: cpp Project
- Ethereum: Ethereumh Project
- Ethereum: Ethereumjs-lib Project
- Ethereum: Ethereum_j Project
- Ethereum: Go-ethereum Project
- Ethereum: Parity Project
- Ethereum: Pyethapp Project
- Ethereum: Ruby-ethereum Project
- google
- Google: Android
- Google: Go (software language)
- Google: gRPC
- Google: Protocol Buffers
- iota
- linuxf
- Linux Foundation: Hyperledger
- Linux Foundation: OpenJS Foundation
- Kubernetes
- Node.js
- Linux Foundation: Open Middleware Agnostic Messaging API (OpenMAMA)
- Linux Foundation: Open Messaging
- ISO/IEC The Linux Standard Base 5 Specification Series (LSB 5)
- microsoft
- Microsoft: Windows API
- orcle
- Oracle: The Java® Language Specification SE 8 Edition
- Oracle: The Java® Virtual Machine Specification JVM
- Oracle: Java logger API
- todo
- TODO: How to create an open source program
- TODO: Measuring your open source program's success
- TODO: Tools for managing open source programs
- TODO: Using open source code
- TODO: Participating in open source communities
- TODO: Recruiting open source developers
- TODO: Starting an open source project
- TODO: Improve your open source development impact
- TODO: Shutting down an open source project
- TODO: Building leadership in an open source community

- TODO: Setting an Open Source Strategy
- git
- ipfs
- jenkins
- jira
- partosscommunity
- zeromq
- zmtp
- Appendix C: Hardware Architectures
- C.1 Embedded Systems
- C.1.1 Embedded Subsystem
- C.1.2 Standalone Embedded Systems
- C.1.3 Networked Embedded Systems
- C.2 Servers
- C.2.1 Software Servers
- C.2.2 Hardware Servers
- C.3 Desktops
- C.4 Handheld Computers
- C.5 Supercomputers
- C.6 Network Devices
- Appendix D: Operating Systems
- android
- apstra
- axure_rtos
- azure_sphere_os
- balenaos
- blackberry_qnx
- centos
- chromium_os
- cisco_dna_software
- cisco_ios
- cisco_ios_xr
- cisco_nx-os
- clearos
- cloudready
- extremexos
- freebsd
- freertos
- ibm_i
- ios
- junos_os
- lynxos
- nokia_x_software_platform
- open_network_linux
- openserver
- oracle_linux
- oracle_solaris
- rhel

- santricity_software
- sco_unixware
- suse_linux_ee
- truenas
- ubuntu_linux
- windows
- windows_iot
- windows_nt
- windows_server
- windows_xp
- Appendix E: Tools
- Tools: Archiving and Release Management
- Tools: Bug and Issue Tracking
- Tools: Code Reviews
- Tools: Contributor License Agreements (CLA)
- Tools: GitHub Management at Corporate Scale
- Tools: Logging Tools
- Tools: Network Traffic Analysis
- Tools: Open Source Paradigm
- Tools: Project Quality
- Tools: Source Code Scanning and License Compliance
- Tools: Tracking Project Health
- Appendix F: DDS Quality Of Service
- F.1 User Data
- F.2 Topic Data
- F.3 Group Data
- F.4 Durability
- F.5 Durability Service
- F.6 Presentation
- F.8 Latency Budget
- F.7 Deadline
- F.9 Ownership
- F.10 Ownership Strength
- F.11 Liveliness
- F.12 Time Based Filter
- F.13 Partition
- F.14 Reliability
- F.15 Transport Priority
- F.16 Lifespan
- F.17 Destination Order
- F.18 History
- F.19 Resource Limits
- F.20 Entity Factory
- F.21 Writer Data Lifecycle
- F.22 Reader Data Lifecycle
- Appendix G: Tests

- Appendix H: Acronyms
- Appendix I: Cognitive Model
- Appendix J: Governance Model



From:
https://omgwiki.org/dido/ - **DIDO Wiki**

Permanent link:
**https://omgwiki.org/dido/doku.php?id=wiki:ebook:dido_ra_3.0_full_version&rev=1633302215**

Last update: **2021/10/03 19:03**