



OBJECT
COMPUTING

OpenDDS Secure IIoT Demo



WHAT IS OpenDDS?



OpenDDS is a widely adopted, open source, standards-based, real-time publish/subscribe solution for distributed systems.

- opendds.org
- [GitHub: https://github.com/objectcomputing/OpenDDS](https://github.com/objectcomputing/OpenDDS)

DEVELOPING APPLICATIONS WITH OpenDDS



Developers use OpenDDS as a framework for enabling C++ and Java applications to distribute data over the network using a publish/subscribe architecture.

Unlike low-level transport protocols, OpenDDS middleware is aware of the schema and semantics of the data. OpenDDS helps shield application developers from the inherent complexities of distributed computing.

OpenDDS and OMG DDS



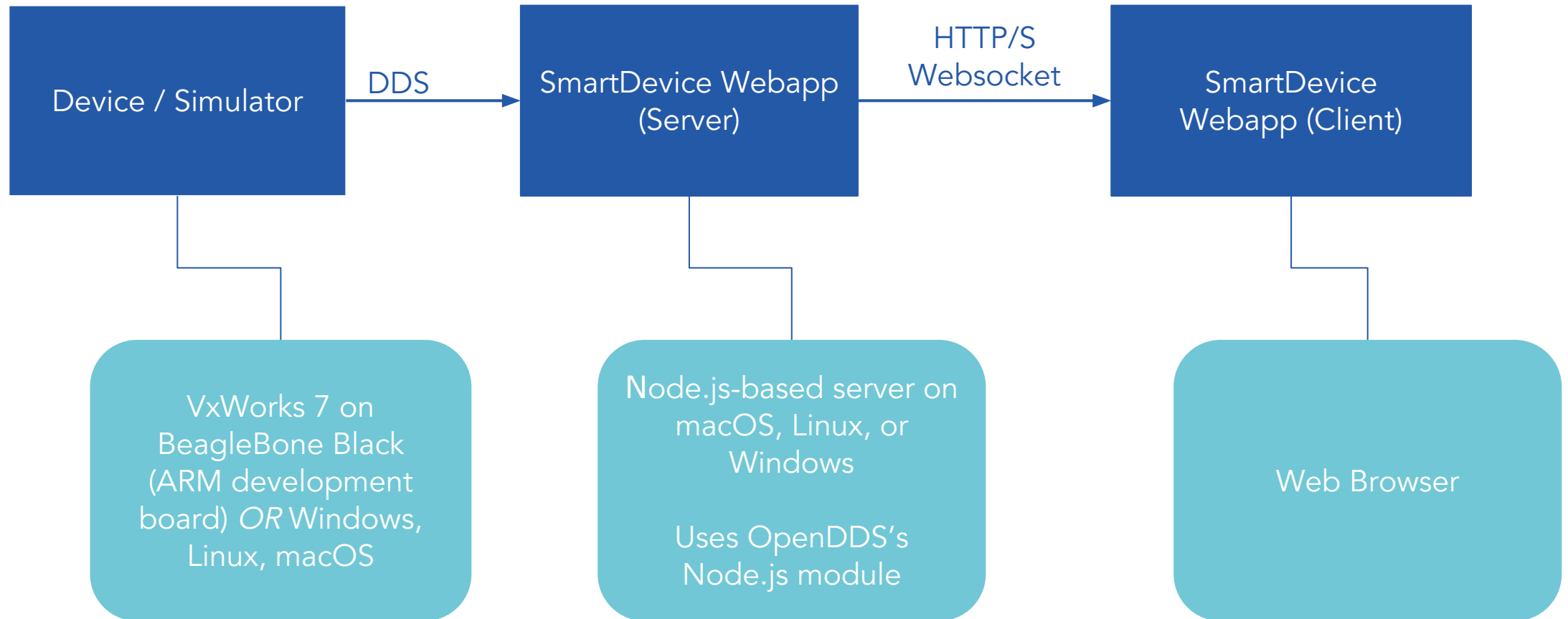
OpenDDS is OCI's implementation of the Object Management Group's standard Data Distribution Service (DDS).

OpenDDS interoperates with other DDS products.

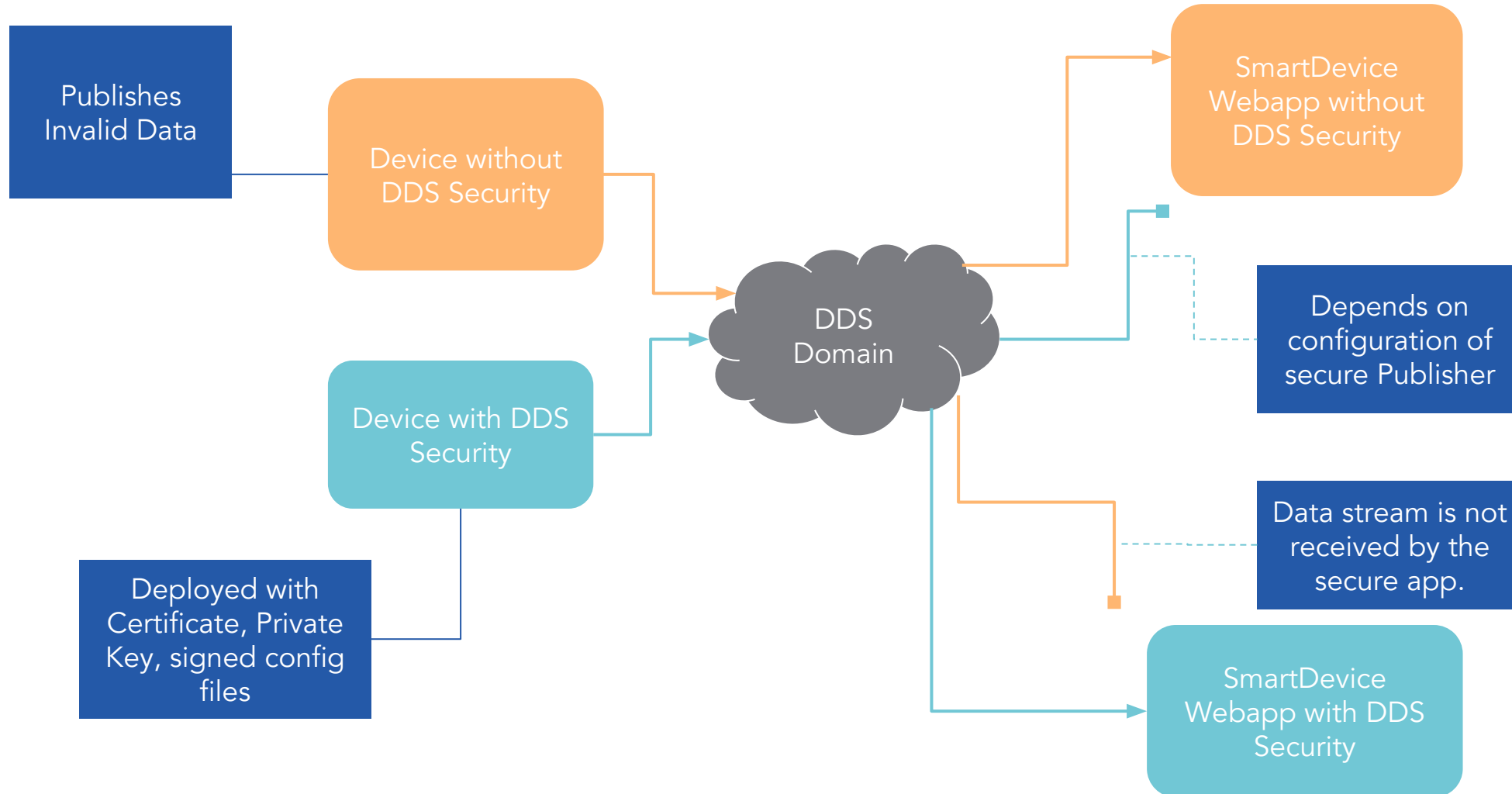
Object Management Group's specification for DDS Security includes:

- Authentication of Participating Applications
 - Application identities determined by certificates signed by a common CA
- Access Control by Topic
 - Configuration files (signed by CA) determine which applications have access (read/write/both) to which topics
- Data Protection via Encryption and/or Message Authentication
 - Topic-by-topic configuration determines whether to encrypt or only sign network messages
 - Scope of data protection is also configurable: payload only or including headers

DEMO SOFTWARE COMPONENTS



SECURE AND INSECURE PARTICIPANTS



FOR MORE INFORMATION



- OpenDDS project: opendds.org
- Source repo: github.com/objectcomputing/OpenDDS
- OCI support, training, consulting, development: objectcomputing.com/products/opendds
- On-demand webinar: Revolutionizing Data Distribution with an Open and Secure DDS
objectcomputing.com/resources/events/webinars/opendds-security
- On-demand webinar: Designing a Distributed Application using DDS QoS:
<https://www.brighttalk.com/webcast/12231/281491>