Digital Twin Application System

System Description

Abstract
This document provides system description for the **Digital Twin Application System**.

Contents

1 Overview

This document describes the Digital Twin Application System. The Digital Twin system is created on run-time by the create-digital-twin service that the digital twin hub provides. The digital twin system will be running on the same system as the digital twin hub, only on a different port. The digital twin system will provide its own services that is defined when the digital twin is created.

The rest of this document is organized as follows. In Section 1.1, we describe the intended usage of the system. In Section 1.2, we describe delimitations of capabilities of the system. In Section 2, we describe the abstract service operations produced by the system. In Section 3, we describe the security capabilities of the system.

1.1 How This System Is Meant to Be Used

The digital twin system should be used by another system that want to control or view sensor data for a physical twin. That system must orchestrate for the appropriate service and consume it as any other service provided by an application system.

1.2 Important Delimitations

No delimitations.

2 Services produced

All services produced by the digital twin are defined when they are created by the digital twin hubs service create-digital-twin.

2.1 service control

All control services provide a POST endpoint and can take a json body as control command.

2.2 service sensor

All sensor services provide a GET endpoint and returns the latest sensor data for the appropriate service.

3 Security

The security of Eclipse Arrowhead - and therefore the security of Digital Twin - is relying on X.509 certificate trust chains. The Arrowhead trust chain consists of three level:

- Master certificate: `arrowhead.eu`
- Cloud certificate: `my-cloud.my-company.arrowhead.eu`
- Client certificate: `my-client.my-cloud.my-company.arrowhead.eu`

For Arrowhead certificate profile see `https://github.com/eclipse-arrowhead/documentation`

4 References

5 Revision History

5.1 Amendments

No.	Date	Version	Subject of Amendments	Author
1	YYYY-MM-DD	4.6.1		Xxx Yyy

5.2 Quality Assurance

No.	Date	Version	Approved by
1	YYYY-MM-DD	4.6.1	