

# Service Registry Core System

## System Description

### Abstract

This is the template for System Description (SysD document) according to the Eclipse Arrowhead documentation structure.

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# 1 Overview

This document describes the Service Registry Core System, which exists to enable service discovery in a Eclipse Arrowhead Local Cloud (LC). Examples of such interactions is a provider system offering some kind of Service for use by other systems in the LC. This mandatory Core System provides a database, which stores information related to the currently actively offered Services within the Local Cloud.

The rest of this document is organized as follows. In Section 1.1, we reference major prior art capabilities of the system. In Section 1.2, we the intended usage of the system. In Section 1.3, we describe fundamental properties provided by the system. In Section 1.4, we describe delimitations of capabilities of the system. In Section 2, we describe the abstract service functions consumed or produced by the system. In Section 3, we describe the security capabilities of the system.

## 1.1 Significant Prior Art

Describe significant prior art which provides the foundation for the system - May be omitted for simple services

## 1.2 How This System Is Meant to Be Used

Service Registry is a mandatory core system of Eclipse Arrowhead and is responsible for the fundamental service discovery functionality. Systems and services are being discoverable for other systems by consuming the services provided by Service Registry Core System.

An application or other core system is required to register itself and its services into Service Registry at its start-up and to unregister before shutdown or when it does not intend to continue to provide its services. Querying specified services directly from Service Registry is primarily permitted to Orchestrator Core System, but public core services - offered by supporting core systems - are also queryable for application systems.

## 1.3 System functionalities and properties

Describe system functionalities and properties like e.g.:

### 1.3.1 Functional properties of the system

### 1.3.2 Configuration of the system

Available parameters

### 1.3.3 Data stored by the system

Brief overview of data stored to achieve the functionality of the system.

### 1.3.4 Non functional properties

- security,
- safety,
- energy consumption,
- latency
- Power saving properties,

### 1.3.5 Stateful or stateless

- states preserved, functional and non-functional

## 1.4 Important Delimitations

Provide delimitations of the provided system. Describe what the system solve and what i does not solve.



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## 2 Services produced

### 2.1 service **echo**

This service is offered for both application and core systems too. **todo**

### 2.2 service **service-register**

This service is offered for both application and core systems too. **todo**

### 2.3 service **service-unregister**

This service is offered for both application and core systems too. **todo**

### 2.4 service **register-system**

This service is offered for both application and core systems too. **todo**

### 2.5 service **unregister-system**

This service is offered for both application and core systems too. **todo**

### 2.6 service **query**

This service is offered for both application and core systems too. **todo**

### 2.7 service **query-multi**

This service is offered only for specified core systems. **todo**

### 2.8 service **query-all**

This service is offered only for specified core systems. **todo**

### 2.9 service **query-by-system**

This service is offered only for specified core systems. **todo**



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## 2.10 service **query-by-system-id**

This service is offered only for specified core systems. **todo**

## 2.11 service **pull-system**

This service is offered only for specified core systems. **todo**

### 3 Security

- If the system can be started in un-secure and/or Arrowhead secure mode.
- Handling of Arrowhead compliant and non-compliant X.509 certificates.
- Implemented security model shall be described, protocol used, data protection used, system authentication capability, produced service authorisation checking, etc.

For Arrowhead certificate profile see [github.com/eclipse-arrowhead/documentation](https://github.com/eclipse-arrowhead/documentation)

### 4 References





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## 5 Revision History

### 5.1 Amendments

Revision history and Quality assurance as per examples below

No.	Date	Version	Subject of Amendments	Author
1	2020-12-05	4.4.0		Tanyi Szvetlin
2	2021-07-14	4.4.0	Minor updates	Jerker Delsing
3	2022-01-12	4.4.0	Minor updates	Jerker Delsing

### 5.2 Quality Assurance

No.	Date	Version	Approved by
1	2022-01-10	4.4.0	