Arrowhead System Registry Core Service 4.1.3 Release Notes

In Arrowhead version 4.1.3, the whole codebase of the Arrowhead framework has been rewritten using Spring Boot technology. We believe the new version is better both in code quality, performance and robustness. It is easier to use, maintain and improve.

However, this means that Arrowhead version 4.1.3 is NOT compatible with providers and consumers written for version 4.1.2 because the changes affect not just the backend but the public interface of the core services, too.

This document describes the new public API of the Arrowhead System Registry Core Service 4.1.3 and shows the key differences between the new interface and the old one.

Client Services

These services can be used by providers and consumers of the Arrowhead Cloud. All date fields contain the text representation of a UTC timestamp.

Uri: /systemregistry/echo
Type: GET

Returns a "Got it" message with the purpose of testing the core service availability.

4.1.2 version: GET /systemregistry

Uri: / systemregistry/query
Type: POST

Returns System Registry data that fits the input specification.

Input JSON structure:

```
{
  "deviceNameRequirements": "string",
  "maxVersionRequirement": 0,
  "metadataRequirements": {
    "additionalProp1": "string",
    "additionalProp2": "string",
    "additionalProp3": "string"
  },
  "minVersionRequirement": 0,
  "pingProviders": true,
  "systemNameRequirements": "string",
  "versionRequirement": 0
}
```

Mandatory fields: "systemNameRequirements"

Returned JSON structure:

```
{
  "systemQueryData": [
    {
      "createdAt": "string",
      "endOfValidity": "string",
      "id": 0,
      "metadata": {
        "additionalProp1": "string",
        "additionalProp2": "string",
        "additionalProp3": "string"
      },
      "provider": {
        "address": "string",
        "authenticationInfo": "string",
        "createdAt": "string",
        "deviceName": "string",
        "id": 0,
        "macAddress": "string",
        "updatedAt": "string"
      },
      "system": {
        "address": "string",
        "authenticationInfo": "string",
        "createdAt": "string",
        "id": 0,
        "port": 0,
        "systemName": "string",
        "updatedAt": "string"
      },
      "updatedAt": "string",
      "version": 0
    }
  ],
  "unfilteredHits": 0
}
```

Uri: /systemregistry/register
Type: POST

Registers a service. A provider is allowed to register only its own services. It means that provider system name and certificate common name must match for successful registration.

Input JSON structure:

```
{
  "endOfValidity": "string",
  "metadata": {
    "additionalProp1": "string",
    "additionalProp2": "string",
    "additionalProp3": "string"
  },
  "provider": {
    "address": "string",
    "authenticationInfo": "string",
    "deviceName": "string",
    "macAddress": "string"
  },
  "system": {
    "address": "string",
    "authenticationInfo": "string",
    "port": 0,
```

```
    "systemName": "string"
  },
  "version": 0
}
```

Mandatory fields: "provider", "system"

Returned JSON structure:

```
{
  "createdAt": "string",
  "endOfValidity": "string",
  "id": 0,
  "metadata": {
    "additionalProp1": "string",
    "additionalProp2": "string",
    "additionalProp3": "string"
  },
  "provider": {
    "address": "string",
    "authenticationInfo": "string",
    "createdAt": "string",
    "deviceName": "string",
    "id": 0,
    "macAddress": "string",
    "updatedAt": "string"
  },
  "system": {
    "address": "string",
    "authenticationInfo": "string",
    "createdAt": "string",
    "id": 0,
    "port": 0,
    "systemName": "string",
    "updatedAt": "string"
  },
  "updatedAt": "string",
  "version": 0
}
```

Uri: /systemregistry/unregister
Type: DELETE
Query params:
- *system_name* – name of provider
- *address* – address where the service was available from
- *port* – port where the service was available from

Removes a registered service. A provider is allowed to unregister only its own services. It means that provider system name and certificate common name must match for successful unregistration.

Management Services

These services can only be used by the system operator of the local cloud. All date fields contain the text representation of a UTC timestamp.

Uri: /systemregistry/mgmt

Type: GET
Query params:
- *page* – zero-based page index (optional),
- *item_per_page* – maximum number of items returned (optional),
- *sort_field* – sort field (optional, default: id, possible values: id, createdAt, updatedAt),
- *direction* – direction of sorting (optional, default: ASC, possible values: ASC or DESC)

Returns a page of service registry records. If page and item_per_page are not defined, returns all records.

Returned JSON structure:

```
{
  "count": 0,
  "data": [
    {
      "createdAt": "string",
      "endOfValidity": "string",
      "id": 0,
      "metadata": {
        "additionalProp1": "string",
        "additionalProp2": "string",
        "additionalProp3": "string"
      },
      "provider": {
        "address": "string",
        "authenticationInfo": "string",
        "createdAt": "string",
        "deviceName": "string",
        "id": 0,
        "macAddress": "string",
        "updatedAt": "string"
      },
      "system": {
        "address": "string",
        "authenticationInfo": "string",
        "createdAt": "string",
        "id": 0,
        "port": 0,
        "systemName": "string",
        "updatedAt": "string"
      },
      "updatedAt": "string",
      "version": 0
    }
  ]
}
```

Uri: /systemregistry/mgmt/{id}
Type: GET

Returns the service registry record specified by the id path parameter.

Returned JSON structure:

```
{
  "createdAt": "string",
  "endOfValidity": "string",
```

```
  "id": 0,
  "metadata": {
    "additionalProp1": "string",
    "additionalProp2": "string",
    "additionalProp3": "string"
  },
  "provider": {
    "address": "string",
    "authenticationInfo": "string",
    "createdAt": "string",
    "deviceName": "string",
    "id": 0,
    "macAddress": "string",
    "updatedAt": "string"
  },
  "system": {
    "address": "string",
    "authenticationInfo": "string",
    "createdAt": "string",
    "id": 0,
    "port": 0,
    "systemName": "string",
    "updatedAt": "string"
  },
  "updatedAt": "string",
  "version": 0
}
```

Uri: /systemregistry/mgmt/systemname/{systemName}
Type: GET
Query params:

- *page* – zero-based page index (optional),
- *item_per_page* – maximum number of items returned (optional),
- *sort_field* – sort field (optional, default: id, possible values: id, createdAt, updatedAt),
- *direction* – direction of sorting (optional, default: ASC, possible values: ASC or DESC)

Returns a page of service registry records specified by the systemName path parameter. If page and item_per_page are not defined, returns all records.

Returned JSON structure:

```
{
  "count": 0,
  "data": [
    {
      "createdAt": "string",
      "endOfValidity": "string",
      "id": 0,
      "metadata": {
        "additionalProp1": "string",
        "additionalProp2": "string",
        "additionalProp3": "string"
      },
      "provider": {
        "address": "string",
        "authenticationInfo": "string",
        "createdAt": "string",
        "deviceName": "string",
```

```
      "id": 0,
      "macAddress": "string",
      "updatedAt": "string"
    },
    "system": {
      "address": "string",
      "authenticationInfo": "string",
      "createdAt": "string",
      "id": 0,
      "port": 0,
      "systemName": "string",
      "updatedAt": "string"
    },
    "updatedAt": "string",
    "version": 0
  }
 ]
}
```

Uri: /systemregistry/mgmt
Type: POST

Creates service registry record and returns the newly created record.

Input JSON structure:

```
{
  "endOfValidity": "string",
  "metadata": {
    "additionalProp1": "string",
    "additionalProp2": "string",
    "additionalProp3": "string"
  },
  "provider": {
    "address": "string",
    "authenticationInfo": "string",
    "deviceName": "string",
    "macAddress": "string"
  },
  "system": {
    "address": "string",
    "authenticationInfo": "string",
    "port": 0,
    "systemName": "string"
  },
  "version": 0
}
```

Mandatory fields: "provider", "system"

Returned JSON structure:

```
{
  "createdAt": "string",
  "endOfValidity": "string",
  "id": 0,
  "metadata": {
    "additionalProp1": "string",
    "additionalProp2": "string",
    "additionalProp3": "string"
  },
```

```
  "provider": {
    "address": "string",
    "authenticationInfo": "string",
    "createdAt": "string",
    "deviceName": "string",
    "id": 0,
    "macAddress": "string",
    "updatedAt": "string"
  },
  "system": {
    "address": "string",
    "authenticationInfo": "string",
    "createdAt": "string",
    "id": 0,
    "port": 0,
    "systemName": "string",
    "updatedAt": "string"
  },
  "updatedAt": "string",
  "version": 0
}
```

Uri: /systemregistry/mgmt/{id}
Type: PUT

Updates and returns the modified service registry record specified by the id path parameter. Not defined fields are going to be updated to "null" value.

Input JSON structure:

```
{
  "endOfValidity": "string",
  "metadata": {
    "additionalProp1": "string",
    "additionalProp2": "string",
    "additionalProp3": "string"
  },
  "provider": {
    "address": "string",
    "authenticationInfo": "string",
    "deviceName": "string",
    "macAddress": "string"
  },
  "system": {
    "address": "string",
    "authenticationInfo": "string",
    "port": 0,
    "systemName": "string"
  },
  "version": 0
}
```

Mandatory fields: "system", "provider"

Returned JSON structure:

```
{
  "createdAt": "string",
  "endOfValidity": "string",
  "id": 0,
  "metadata": {
```

```
    "additionalProp1": "string",
    "additionalProp2": "string",
    "additionalProp3": "string"
  },
  "provider": {
    "address": "string",
    "authenticationInfo": "string",
    "createdAt": "string",
    "deviceName": "string",
    "id": 0,
    "macAddress": "string",
    "updatedAt": "string"
  },
  "system": {
    "address": "string",
    "authenticationInfo": "string",
    "createdAt": "string",
    "id": 0,
    "port": 0,
    "systemName": "string",
    "updatedAt": "string"
  },
  "updatedAt": "string",
  "version": 0
}
```

Uri: /systemregistry/mgmt/{id}
Type: PATCH

Updates and returns the modified service registry record specified by the id path parameter. Not defined fields are going to be NOT updated.

Input JSON structure:

```
{
  "endOfValidity": "string",
  "metadata": {
    "additionalProp1": "string",
    "additionalProp2": "string",
    "additionalProp3": "string"
  },
  "provider": {
    "address": "string",
    "authenticationInfo": "string",
    "deviceName": "string",
    "macAddress": "string"
  },
  "system": {
    "address": "string",
    "authenticationInfo": "string",
    "port": 0,
    "systemName": "string"
  },
  "version": 0
}
```

Returned JSON structure:

```
{
  "createdAt": "string",
```

```
    "endOfValidity": "string",
    "id": 0,
    "metadata": {
      "additionalProp1": "string",
      "additionalProp2": "string",
      "additionalProp3": "string"
    },
    "provider": {
      "address": "string",
      "authenticationInfo": "string",
      "createdAt": "string",
      "deviceName": "string",
      "id": 0,
      "macAddress": "string",
      "updatedAt": "string"
    },
    "system": {
      "address": "string",
      "authenticationInfo": "string",
      "createdAt": "string",
      "id": 0,
      "port": 0,
      "systemName": "string",
      "updatedAt": "string"
    },
    "updatedAt": "string",
    "version": 0
}
```

Uri: /systemregistry/mgmt/{id}
Type: DELETE

Remove the system registry record specified by the id path parameter.

Uri: /systemregistry/mgmt/devices
Type: GET
Query params:
- *page* – zero-based page index (optional),
- *item_per_page* – maximum number of items returned (optional),
- *sort_field* – sort field (optional, default: id, possible values: id, createdAt, updatedAt),
- *direction* – direction of sorting (optional, default: ASC, possible values: ASC or DESC)

Returns a page of service definition records. If page and item_per_page are not defined, returns all records.

Returned JSON structure:

```
{
  "count": 0,
  "data": [
    {
      "address": "string",
      "authenticationInfo": "string",
      "createdAt": "string",
      "deviceName": "string",
      "id": 0,
```

```
      "macAddress": "string",
      "updatedAt": "string"
    }
  ]
}
```

Uri: /ssytemregistry/mgmt/system/{id}
Type: GET

Returns the service definition record specified by the id path parameter.

Returned JSON structure:

```
{
  "address": "string",
  "authenticationInfo": "string",
  "createdAt": "string",
  "id": 0,
  "port": 0,
  "systemName": "string",
  "updatedAt": "string"
}
```

Uri: /systemregistry/mgmt/devices
Type: POST

Creates service definition record and returns the newly created record.
Input JSON structure:

```
{
  "address": "string",
  "authenticationInfo": "string",
  "deviceName": "string",
  "macAddress": "string"
}
```

Returned JSON structure:

```
{
  "address": "string",
  "authenticationInfo": "string",
  "createdAt": "string",
  "deviceName": "string",
  "id": 0,
  "macAddress": "string",
  "updatedAt": "string"
}
```

Uri: /systemregistry/mgmt/device/{id}
Type: PUT

Updates and returns the modified service definition record specified by the id path parameter.

Input JSON structure:

```
{
  "address": "string",
  "authenticationInfo": "string",
```

```
  "deviceName": "string",
  "macAddress": "string"
}
```

Returned JSON structure:

```
{
  "address": "string",
  "authenticationInfo": "string",
  "createdAt": "string",
  "deviceName": "string",
  "id": 0,
  "macAddress": "string",
  "updatedAt": "string"
}
```

Uri: /systemregistry/mgmt/device/{id}
Type: DELETE

Removes the device record specified by the id path parameter.

Uri: /systemregistry/mgmt/systems
Type: GET
Query params:
- *page* – zero-based page index (optional),
- *item_per_page* – maximum number of items returned (optional),
- *sort_field* – sort field (optional, default: id, possible values: id, systemName, address, port, createdAt, updatedAt),
- *direction* – direction of sorting (optional, default: ASC, possible values: ASC or DESC)

Returns a page of device records. If page and item_per_page are not defined, returns all records.

Returned JSON structure:

```
{
  "count": 0,
  "data": [
    {
      "address": "string",
      "authenticationInfo": "string",
      "createdAt": "string",
      "id": 0,
      "port": 0,
      "systemName": "string",
      "updatedAt": "string"
    }
  ]
}
```

Uri: /systemregistry/mgmt/systems/{id}
Type: GET

Returns the device record specified by the id path parameter.

Returned JSON structure:

```
{
  "address": "string",
  "authenticationInfo": "string",
  "createdAt": "string",
  "deviceName": "string",
  "id": 0,
  "macAddress": "string",
  "updatedAt": "string"
}
```

Uri: /systemregistry/mgmt/systems
Type: POST

Creates system record and returns the newly created record.

Input JSON structure:

```
{
  "address": "string",
  "authenticationInfo": "string",
  "port": 0,
  "systemName": "string"
}
```

Mandatory fields: "systemName", "address", "port"

Returned JSON structure:

```
{
  "address": "string",
  "authenticationInfo": "string",
  "createdAt": "string",
  "id": 0,
  "port": 0,
  "systemName": "string",
  "updatedAt": "string"
}
```

Uri: /systemregistry/mgmt/systems/{id}
Type: PUT

Updates and returns the modified system record specified by the id path parameter. Not defined fields are going to be updated to "null" value.

Input JSON structure:

```
{
  "address": "string",
  "authenticationInfo": "string",
  "port": 0,
  "systemName": "string"
}
```

Mandatory fields: "systemName", "address", "port"

Returned JSON structure:

```
{
```

```
  "address": "string",
  "authenticationInfo": "string",
  "createdAt": "string",
  "id": 0,
  "port": 0,
  "systemName": "string",
  "updatedAt": "string"
}
```

Uri: /systemregistry/mgmt/systems/{id}
Type: PATCH

Updates and returns the modified system record specified by the id path parameter. Not defined fields are going to be NOT updated.

Input JSON structure:

```
{
  "address": "string",
  "authenticationInfo": "string",
  "port": 0,
  "systemName": "string"
}
```

Returned JSON structure:

```
{
  "address": "string",
  "authenticationInfo": "string",
  "createdAt": "string",
  "id": 0,
  "port": 0,
  "systemName": "string",
  "updatedAt": "string"
}
```

Uri: /systemregistry/mgmt/systems/{id}
Type: DELETE

Removes the system record specified by the id path parameter.

Private Services

These services can only be used by other core services, therefore they are not part of the public API.