unregister-system HTTP/TLS/JSON

Interface Design Description

Abstract
This document describes a HTTP protocol with TLS payload security and JSON payload encoding variant of the **unregister-system** service.

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1 Overview

This document describes the **unregister-system** service interface, which is enables autonomous system unregistration. It's implemented using protocol, encoding as stated in the following table:

Profile ype	Type	Version
Transfer protocol	HTTP	1.1
Data encryption	TLS	1.3
Encoding	URL	RFC 1738
Compression	N/A	-

Table 1: Communication and sematics details used for the **unregister-system** service interface

This document provides the Interface Design Description IDD to the *unregister-system – Service Description* document. For further details about how this service is meant to be used, please consult that document.

The rest of this document describes how to realize the unregister-system service HTTP/TLS/JSON interface in details.

2 Interface Description

The service responses with the status code `200 Ok` if called successfully. The error codes are, `400 Bad Request` if request is malformed, `401 Unauthorized` if improper client side certificate is provided, `500 Internal Server Error` if Service Registry is unavailable.

```
1 DELETE /serviceregistry/unregister-system?system_name={systemName}&address={address}&port={port}}
      HTTP/1.1
```

Listing 1: A unregister-system invocation.

3 Data Models

Here, all data objects that can be part of the service calls associated with this service are listed in alphabetic order. Note that each subsection, which describes one type of object, begins with the *struct* keyword, which is meant to denote a JSON Object that must contain certain fields, or names, with values conforming to explicitly named types. As a complement to the primary types defined in this section, there is also a list of secondary types in Section 3.2, which are used to represent things like hashes, identifiers and texts.

3.1 struct QueryParams

This structure is used to unregister a system from Service Registry.

Field	Type	Mandatory	Description
systemName	Name	yes	Identifier of the system.
address	Address	no	Network address.
port	PortNumber	yes	Port of the system.

3.2 Primitives

JSON Type	Description
Value	Any out of Object, Array, String, Number, Boolean or Null.
Object <A>	An unordered collection of [String: Value] pairs, where each Value conforms to type A.
Array <A>	An ordered collection of Value elements, where each element conforms to type A.
String	An arbitrary UTF-8 string.
Number	Any IEEE 754 binary64 floating point number [1], except for *+Inf*, *-Inf* and *NaN*.
Boolean	One out of `true` or `false`.
Null	Must be `null`.

With these primitives now available, we proceed to define all the types specified in the **uregister-system** SD document without a direct equivalent among the JSON types. Concretely, we define the **uregister-system** SD primitives either as *aliases* or *structs*. An *alias* is a renaming of an existing type, but with some further details about how it is intended to be used. Structs are described in the beginning of the parent section. The types are listed by name in alphabetical order.

3.2.1 alias Address = String

A string representation of a network address. An address can be a version 4 IP address (RFC 791), a version 6 IP address (RFC 2460) or a DNS name (RFC 1034).

3.2.2 alias Name = String

A String indentifier that is intended to be both human and machine-readable.

3.2.3 alias PortNumber = Number

Decimal Number in the range of 0-65535.

4 References

[1] M. Cowlishaw, “IEEE Standard for Floating-Point Arithmetic,” *IEEE Std 754-2019 (Revision of IEEE 754-2008)*, July 2019. [Online]. Available: https://doi.org/10.1109/IEEESTD.2019.8766229

5 Revision History

5.1 Amendments

No.	Date	Version	Subject of Amendments	Author
1	YYYY-MM-DD	4.6.0		Xxx Yyy

5.2 Quality Assurance

No.	Date	Version	Approved by
1	YYYY-MM-DD	4.6.0	Xxx Yyy