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Namespace Considerations and Registries for GSS-API Extensions
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Abstract

This document describes the ways in which the GSS-API may be extended and directs the creation of IANA registries for various GSS-API namespaces.

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1. Conventions used in this document

The key words "MUST", "MUST NOT", "REQUIRED", "SHALL", "SHALL NOT", "SHOULD", "SHOULD NOT", "RECOMMENDED", "MAY", and "OPTIONAL" in this document are to be interpreted as described in [RFC2119].

2. Introduction

There is a need for generic and mechanism-specific extensions to the Generic Security Services Application Programming Interface (GSS-API). As such extensions are designed and standardized, both at the IETF and elsewhere, there is a non-trivial risk of namespace pollution and conflicts. To avoid this we set out guidelines for extending the GSS-API and create IANA registries of GSS-API namespaces.

Registrations of individual items and sub-namespaces are allowed. Each sub-namespace may provide different rules for registration, e.g., for mechanism-specific and private-use extensions. All Standards-Track uses of the GSS-API namespaces will be registered directly with the IANA subsequent to the create of the registries or when the document is published.

3. Extensions to the GSS-API

Extensions to the GSS-API can be categorized as follows:

- Abstract API extensions
- Implementation-specific
- Mechanism-specific
- Language binding-specific

Extensions to the GSS-API may be purely semantic, without effect on the GSS-API's namespaces. Or they may introduce new functions, constants, types, etc...; these clearly affect the GSS-API namespaces.

Extensions that affect the GSS-API namespaces should be registered with the IANA as described herein.

4. Generic GSS-API Namespaces

The abstract API namespaces for the GSS-API are:

- Type names
- Function names
- Constant names for each type

- Constant values for each type
- Name types (OID, type name and syntaxes)

Additionally we have namespaces associates with the OBJECT IDENTIFIER (OID) type:

- Mechanism OIDs
- Name Type OIDs

5. Language Binding-Specific GSS-API Namespaces

Language binding specific namespaces include:

- Header/interface module names
- Object classes and/or types
- Methods and/or functions
- Constant names
- Constant values

6. Extension-Specific GSS-API Namespaces

Extensions to the GSS-API may create additional namespaces. Instructions to the IANA should included for the handling of such namespaces.

7. Registration Form(s)

Registrations for GSS-API namespaces SHALL take the following form:

Registration Field	Possible Values	Description
Registration type	'Instance', 'Sub-Namespace'	Indicates whether this entry reserves a given symbol name or constant value or whether it reserves an entire sub-namespace (the name is a "prefix") or constant value range.
Bindings	'Generic', 'C-bindings', 'Java', 'C#', <programming language name>	Indicates the language bindings that this

		registration is for, or, if 'Generic', that this is an entry for the generic GSS-API, not specific to any programming language.
Object Type	'Data-Type', 'Function', 'Method', 'Integer', 'String', 'OID', 'Context Flag', 'Name Type'	Indicates the type of the object(s) whose symbolic name or constant value this entry registers.
Symbol Name/Prefix	<Symbol name or name prefix>	The name(s) of symbols or values being registered.
Binding of	<Name of abstract API element of which this object is a binding>	If the registration is for a specific language binding of the GSS-API, then this names the abstract API element of which it is a binding (OPTIONAL).
Constant Value/Range(s)	<Constant value> or <constant value range>	The value(s) registered (OPTIONAL).
Description	<Text>	Description of object(s) being registered.
Registration Rules	'Protocol Action', 'Expert Review', 'First-Come-First-Served', 'Closed-For-Registrations'	Describes the rules for allocation of items that fall in this sub-namespace, if this entry is for a sub-namespace (OPTIONAL).
Reference	<Reference>	Reference to

			document that describes the object(s) being registered.
Expert Reviewer(s)	<Name of expert reviewers, possibly WG names>		
Status	'Standards-Track', 'Informational', 'Experimental', 'Obsolete', 'Other'		Status of the registration.

The IANA should create a single GSS-API namespace registry, or multiple registries, one for symbolic names and one for constant values, or it may create a registry per-programming language, at its convenience.

Entries in these registries should consist of all the fields from their corresponding registration entries.

Entries should be sorted by object type, progamming language, symbol name.

<Add text on guidelines for IANA consideration of registration applications, particularly with respect to entries lacking normative references, "magic" entries (e.g., special values of 'time' types which indicate something other than absolute or relative time, such as GSS_C_INDEFINITE), expert review requirements (if any) for registrations lacking normative references, etc....>

8. Initial Namespace Registrations

<Add registration entries for namespaces (name prefixes) for RFC2743/RFC2744/RFC2853.>

<Add registration entries for private namespaces (name prefixes) for implementation- and/or platform-specific extensions.>

9. IANA Considerations

This document deals with IANA considerations throughout. Specifically it creates a single registry of various kinds of things, thought the IANA may instead create multiple registries each for one of those kinds of things. Of particular interest may be that IANA

will now be the registration authority for the GSS-API name type OID space.

10. Security Considerations

This document has no security considerations.

11. Normative References

[RFC2119] Bradner, S., "Key words for use in RFCs to Indicate Requirement Levels", BCP 14, RFC 2119, March 1997.

[RFC2743] Linn, J., "Generic Security Service Application Program Interface Version 2, Update 1", RFC 2743, January 2000.

[RFC2744] Wray, J., "Generic Security Service API Version 2 : C-bindings", RFC 2744, January 2000.

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