



RFC 59: Service Filtering Changes in R4

Confidential, Draft

6 Pages

Abstract

This RFC describes a simple change to the service filtering mechanism to support object types that do not implement the `Comparable` interface but do provide a constructor taking a single `String` argument.

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0.2 Status

This document specifies a proposed enhancement for the Open Services Gateway Initiative, and requests discussion and suggestions for improvements. Distribution of this document is unlimited within OSGi.

0.3 Acknowledgement

None.

0.4 Terminology and Document Conventions

The key words "MUST", "MUST NOT", "REQUIRED", "SHALL", "SHALL NOT", "SHOULD", "SHOULD NOT", "RECOMMENDED", "NOT RECOMMENDED", "MAY" and "OPTIONAL" in this document are to be interpreted as described in [1].

Source code is shown in this typeface.

0.5 Revision History

The last named individual in this history is currently responsible for this document.

Revision	Date	Comments
Initial	Jan 28 2003	Kevin Riff

1 Introduction

The OSGi Service Platform defines a way to filter the available services based on an LDAP-style syntax. The first release supported a limited set of object types covering all the basic Java types. The third release added support for objects which implement the `java.lang.Comparable` interface and define a special constructor. This RFC will further extend the set of supported types to include all objects that define the special constructor, regardless of whether they implement `Comparable` or not.

2 Application Domain

This RFC addresses a feature request that is being tracked in the issue tracker as Issue #164 [3].

3 Problem Description

All objects in Java support basic equality comparisons via the `equals(Object)` method but there is no way to exploit this fact in a service filter.

4 Requirements

The changes proposed in this RFC must be backwards compatible with previous releases of the OSGi Service Platform.

5 Technical Solution

If the framework encounters an object of an unrecognized class when processing a filter, it should check for a constructor with the following signature:

```
public Type(String)
```

If a matching constructor is found then an instance of the object is created by invoking the constructor and passing it the value from the filter expression. This instance can then be compared against the value from the service's properties.

If the object implements the `java.lang.Comparable` interface then comparisons are performed using the `compareTo(Object)` method.

Otherwise, the operators `=`, `~=`, `<=` and `>=` will return true only if the objects are equal to each other as determined by the `equals(Object)` method. There is no notion of "less than" or "greater than" if the object does not implement the `Comparable` interface.

If the object's class does not define a compatible constructor then all comparisons return false.

6 Considered Alternatives

None.

7 Security Considerations

None.

8 Document Support

8.1 References

- [1]. Bradner, S., Key words for use in RFCs to Indicate Requirement Levels, RFC2119, March 1997.
- [2]. Software Requirements & Specifications. Michael Jackson. ISBN 0-201-87712-0
- [3]. Issue #164, http://membercvs.osgi.org/rt/rt.cgi?serial_num=164&display=History

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8.3 Acronyms and Abbreviations

8.4 End of Document