1. Component Overview

The Aggregator Framework is the software framework on which WS MDS services (currently, the Index, Trigger and Archive Services) are built. The Aggregator Framework collects data from an aggregator source and sends that data to an aggregator sink for processing. Aggregator sources distributed with the Globus Toolkit include modules that query service data, acquire data through subscription/notification, and execute programs to generate data. Aggregator sinks include modules that implement the Index, Trigger and Archive Services interfaces.

2. Feature summary

Features new in release GT 4.2.0

- The mds-servicegroup-add command no longer requires the -s or -e arguments
- The mds-set-multiple-termination-time command has been created to aid in lifetime management of service group entry resources created via mds-servicegroup-add

Other Supported Features

- Collects information from grid resources using pluggable aggregation sources which collect information by polling, subscription, and by execution of local scripts.
- Delivers collected information to pluggable information sinks.
- Management of individual aggregations is now performed over the wire through WS ServiceGroup APIs.
- The QueryAggregatorSource and SubscriptionAggregatorSource now attempt to detect when the data source EPR is local to the current container instance, and if so set the connection properties to use local transport.
• Added a service level configuration option for suppressing the publication of aggregator configuration elements in aggregator service group registry entries. In other words, the Service Group "Content" Resource Property will contain only the aggregated data.

3. Summary of Changes in WS MDS Aggregator Framework

The following changes have occurred for WS MDS Aggregator Framework since the last stable release, 4.0.x:

• The mds-servicegroup-add command no longer requires the dummy -s or -e arguments

• The mds-set-multiple-termination-time command has been added to aid in management of service group entry resources created via mds-servicegroup-add

• The QueryAggregatorSource and SubscriptionAggregatorSource now attempt to detect when the data source EPR is local to the current container instance and, if so, set the connection properties to use local transport.

• Added a service level configuration option for suppressing the publication of aggregator configuration elements in aggregator service group registry entries. In other words, the Service Group Entry Content Resource Property will contain only the aggregated data.

• Due to changes in the final version of the WS-ServiceGroup specification, the XML structure of a Service-GroupEntry's Content Resource Property is no longer directly mapped to the AggregatorContent type. Instead, the AggregatorContent type is now represented as a child element of the WS-SG Content element.

4. Bug Fixes

• Bug 2432: Aggregator sample config file should have tls-style urls

• Bug 2388: rejected add() leaves incomplete state behind which then upsets the sweeper

• Bug 2384: remove stack trace from execution source error

• Bug 2377: support multiple aggregator sources in one aggregator

• Bug 2157: Aggregator entries do not implement WS-Resource Lifetime resource properties

• Bug 2145: query source waits entire reg period before making first request

• Bug 2105: flatten schema in CVS

• Bug 2097: IndexDefaultWidgetTest registers same widget many times

• Bug 2087: getresourceproperty poll source does not tolerate whitespace in RP name

1 http://bugzilla.globus.org/globus/show_bug.cgi?id=2432
2 http://bugzilla.globus.org/globus/show_bug.cgi?id=2388
3 http://bugzilla.globus.org/globus/show_bug.cgi?id=2384
4 http://bugzilla.globus.org/globus/show_bug.cgi?id=2377
5 http://bugzilla.globus.org/globus/show_bug.cgi?id=2157
6 http://bugzilla.globus.org/globus/show_bug.cgi?id=2145
7 http://bugzilla.globus.org/globus/show_bug.cgi?id=2105
8 http://bugzilla.globus.org/globus/show_bug.cgi?id=2097
9 http://bugzilla.globus.org/globus/show_bug.cgi?id=2087
• 2082: index and aggregator stub generation is generating metrics stubs.

• 2191: AggregatingServiceGroupEntries do not implement Service Group EPR properly.

• All fixed Aggregator Framework bugs and enhancement requests.

• 2339: Registered services connection refused messages.

• 2398: index service does not appear to have wsrf-query support (any more).

• 2850: WS MDS logs to INFO when DEBUG should be used.

• 2958: WS-MDS Aggregator Junit test execution has no results.

• 2963: need to create libexec/aggrexec dir as part of MDS install.

5. Known Problems

The following problems and limitations are known to exist for WS MDS Aggregator Framework at the time of the 4.2.0 release:

5.1. Limitations

• [list limitations aside from bugs]

5.2. Outstanding bugs

• 2082: index and aggregator stub generation is generating metrics stubs.

• 2191: AggregatingServiceGroupEntries do not implement Service Group EPR properly.

• 2339: Registered services connection refused messages.

• 2398: index service does not appear to have wsrf-query support (any more).

• All open aggregator bug reports and enhancement requests.

• 2807: execution aggregator source junit test needs some work.

10 http://bugzilla.globus.org/globus/show_bug.cgi?id=2082
11 http://bugzilla.globus.org/globus/show_bug.cgi?id=2191
12 http://bugzilla.globus.org/globus/show_bug.cgi?id=2339
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22 http://bugzilla.globus.org/globus/show_bug.cgi?id=2958
23 http://bugzilla.globus.org/globus/show_bug.cgi?id=2963
3150: AggregatingServiceGroup* needs to provide Resource.Remove... 24
3177: AggregatingServiceGroup EntrySweeper interval needs to be... 25
All open aggregator bug reports and enhancement requests 26

6. Technology dependencies

Aggregator Framework depends on the following GT components:

- Java WS Core

Aggregator Framework depends on the following 3rd party software:

- None

7. Tested platforms

Tested Platforms for WS MDS Aggregator Framework

- Linux on i386
- Windows XP

8. Backward compatibility summary

Protocol changes since GT version 4.0.x

- The Aggregator Framework is affected by the Java WS Core protocol changes (see the Java WS Core Release Notes for details)

API changes since GT version 4.0.x

- None. Aggregator sources and execution information providers written for GT version 4.0.x should continue to work in this version.

Schema changes since GT version 4.0.x

- See the Java WS Core Release Notes.

9. Associated Standards

Associated standards for WS MDS Aggregator Framework:

- WS-ResourceProperties (WSRF-RP)

24 http://bugzilla.globus.org/globus/show_bug.cgi?id=3150
25 http://bugzilla.globus.org/globus/show_bug.cgi?id=3177
26 http://bugzilla.globus.org/globus/buglist.cgi?short_desc_type=allwordssubstr&short_desc=&product=MDS&component=wsrf_aggregat-or&long_desc_type=allwordssubstr&long_desc=&bug_file_loc_type=allwordssubstr&bug_file_loc=&bug_status=NEW&bug_status=ASSIGNED&bug_status=REOPENED&emailtype1=substring&email1=&emailtype2=substring&email2=&bugidtype=include&bug_id=&votes=&changedin=&chfieldfrom=&chfielddo=Now&chfieldvalue=&cmdtype=doit&newqueryname=&order=Reuse+same+sort+as+last+time&field0-0-0=noop&type0-0-0=noop&value0-0-0=4
• WS-ResourceLifetime (WSRF-RL)
• WS-ServiceGroup (WSRF-SG)
• WS-BaseNotification
• WS-Topics

10. For More Information

See Aggregator Framework for more information about this component.

Glossary

A

aggregator source

A Java class that implements an interface (defined as part of the Aggregator Framework) to collect XML-formatted data. WS MDS contains three aggregator sources: the query aggregator source, the subscription aggregator source, and the execution aggregator source.