What’s New in Oracle API Gateway 11.1.2.2.0

We are pleased to announce the launch and general availability (GA) of Oracle API Gateway 11.1.2.2.0. With this release we continue to enhance the capabilities of the API Gateway to deliver API management and enterprise gateway solutions.

API Gateway 11.1.2.2.0 delivers new and improved value around these themes:

- Simplifying the promotion of the API Gateway configuration between environments.
- Strengthening the Key Property Store (KPS) to improve the development and deployment of solutions requiring dynamic policy behavior.
- Improving the OAuth capabilities with support for the finalized specification and the provision a highly distributed token store.

New Features in API Gateway 11.1.2.2.0

Enterprise-class configuration management

1. **Simplified configuration promotion** – API Gateway 11.1.2.2.0 simplifies the promotion of configurations between environments from development through to production, enabling interoperation with existing promotion processes and tools such as configuration management repositories.

   Configurations to promote are now split into policy and environment packages:
   - The policy package contains the non-environment-specific configuration and can be promoted unchanged from the development environment.
   - The environment package contains all environment-specific information.

   Both packages contain meta-data describing their contents and version, and can be stored in configuration management repositories. The new Configuration Studio provides a simple tool for upstream administrators to prepare environment packages, eliminating the need for detailed knowledge of API Gateway and the policies being promoted. Comprehensive documentation describes the promotion tooling and process.

2. **Configuration diff and merge** – A configuration diff and merge tool has been introduced that allows a developer to compare policies and other configuration information contained within two different deployment packages. This allows a team of developers to work separately on policies and then merge their individual changes into a single configuration for deployment and promotion.
Streamlined deployment

3. **Simplified KPS developer experience** – The Key Property Store (KPS) was introduced in API Gateway 11.1.2.1.0 to enable dynamic policy behavior driven by externalized metadata. This release further simplifies the development of dynamic metadata-driven policies and typed KPS data structures with the introduction of an easy to use graphical editor.

4. **Apache Cassandra embedded as KPS backing store and OAuth token store** – API Gateway 11.1.2.2.0 enables the deployment of highly distributed solutions while eliminating the dependency on the use of an external RDBMS.

   Apache Cassandra is a scalable and highly available distributed database ([http://cassandra.apache.org/](http://cassandra.apache.org/)). API Gateway 11.1.2.2.0 embeds Cassandra to provide additional options for both the KPS backing store and OAuth token store. For both stores, Cassandra ensures the data is replicated across all distributed API Servers. Management tooling is provided for the easy administration of the distributed Cassandra cluster within the API Server deployment.

Expanded identity management integrations and support

5. **Support for finalized OAuth 2.0 specification** – This version enables enterprises to deploy fully compliant OAuth 2.0 solutions.

   The OAuth 2.0 specification was finalized in October 2012. API Server 7.1 provided support for draft 27. (Draft 31 was the last draft before being finalized.) With API Server 7.2, support for OAuth 2.0 is brought up to the level of the finalized specification.

6. **Simplified LDAP authorization** – Enterprises can use their existing LDAP user repositories for group-based authorization.

   A new filter simplifies LDAP authorization in policies by checking whether the authenticated user is a member of the specific LDAP group.

Monitoring and Logging

7. **Traffic Monitoring speed improvements** – the transaction monitoring data output format has changed so that it is written to a very small set of files in the /conf/opsdb.d, reducing the number of directory operations and disk writes significantly. The embedded SQLite database has been removed from the API Server. The Traffic Monitor REST API remains the same as previous releases. The the transaction data file is now in JSON format. The web interface for browsing and viewing transaction history remains the same. The purge of the transaction monitoring data is no longer based on age of date but rather the number of
transactions or size of the monitoring data files on disk.

8. **Domain Audit Log** – the transaction monitoring data output format has changed so that it is written to a very small set of files in the `/conf/opsdb.d/`, reducing the number of directory operations and disk writes significantly. The embedded SQLite database has been removed from the API Server. The Traffic Monitor REST API remains the same as previous releases. The transaction data file is now in JSON format. The web interface for browsing and viewing transaction history remains the same. The purge of the transaction monitoring data is no longer based on age of date but rather the number of transactions or size of the monitoring data files on disk.

9. **Improved Documentation** – new user guides available for the API Server:
   - Concepts Guide
   - Promotion and Deployment Guide
   - Developer Guide
   - API Server REST API documentation

**Fixed Problems / Enhancements**

1. Additional Parameters with Access Token made available in "Access Token Information" filter

2. Return ContentLength in response to client as configured in Remote Host Validate OAuth Token Filter should not accept Tokens from disabled or deleted clients

3. After Validate OAuth Token function call `${accesstoken.getScope()}` should not be null

4. Resource Owner Password Credential Filter cannot handle different AuthN failure reason

5. OAuth Validate Token Filter cannot send separate error messages for "invalid_token" or "insufficient_scope"

6. OAuth Validate Token Filter aborts if access token is missing

7. Refresh token not valid after Access token is removed from memory

8. Crash with https proxy server

9. proxy server from external connections not working

10. Attribute substitution in script filter not thread safe
11. Node Management Deployments showing user "null" after switch to LDAP

12. Setting Traffic Monitor size and date settings format in GUI cause incorrect values to be displayed

13. Refreshed OAuth access tokens do not contain additional data

14. Communication between node managers during topology changes

15. OAuth: http responses customization and wrong "400 OK"

16. OAuth: only store necessary data from clients in DB

17. NPE(null pointer exception) when the ICAP filter is called.

18. WARNING SOAP version is not set for operation

19. Extract Path Parameters filter doesn't have a failure path

20. Reintroduce diff / merge tool in Policy Studio

21. Allow additional information be associated with AuthZ code

22. Ability to not add the XcorrelationId header to the request / response

23. ICAP filter basic test using the option /SYMCScanReqAV fails

24. APITester request settings dialog stalls with an invalid URL error once opened

25. Wrong labelling on the fields on PGP Encrypt and Sign filter screen

26. Incorrect schema file referenced for Audit Logging to database

27. Simple RBAC LDAP Authorization Filter

28. Rename existing RBAC filter

29. Change "policy package" to "policy assembly"

30. "No Authorization Header" printed out under INFO in client Node Manager trace

31. JMS message body consumed by traffic monitor

32. Managedomain update for adding additional hosts
33. Adding Certificate with private key stored in HSM won't be placed under Certificates with Keys

34. DBPurger requires password when running against db in analytics configuration

35. JMS Messages show failed status in Dashboard but are marked as Transaction Status = SUCCESS

36. Click through from Dashboard to Traffic Monitor does not generate correct result IF the message is JMS

37. Update of DBPurger instructions

38. Can't mix env variables with message attributes in set message filter

39. Install on 32bit Centos just hangs doesn't complete as permissions are needed by selinux

40. Retrieve from LDAP filter does not retrieve any attributes when none is specified

41. Remove ability to virtualize a Web Service in API Service Manager

42. VXP backup script is using the old gateway path

43. Adding 2nd JMS Session in 7.1.0 doesn't appear nothing happens

44. Traffic Monitor groups and servers selection display error

45. Cannot connect to *.fed file located in path containing spaces in Policy Studio

46. API Tester design mode can't use SOAP filters from "content filtering"

47. New 7.1 path resolver requires more detailed documentation

48. Migration utility to log changes to log file

49. If the Admin Node Manager can't communicate with a Node Manager, show a meaningful error

50. Missing filter options for JMS in Traffic Monitor

51. Alerting to Windows Event Viewer Contains error in regards to proper event logging
52. Deploying to a Group with not all NMs running

53. New Option under JMS Consumer not documented

54. When an access token is issued with additional attributes, the GW should persist them

55. Email alert filter subject can't take an attribute

56. Wrong title in the HTML page sent back when listing Static Content directory

57. Attribute/Get Cookie not failing when requested cookie not found

58. Include headers indicating remaining quota

59. All OAuth grant types should have the option of issuing refresh tokens except for where the specification says not to

60. ID: 12535 Gateway OEM Plugin does not provide a descriptive error message

61. Startinstance with no args should start the API Server if there is only one API server configured in the topology

62. Ability to make Topology changes if not all NMs running in the domain

63. Vordel Manager UI should display the current active configuration for each API Server

64. Directory Scanner Delete File Option

65. Analytics: reports generated in *.csv format

66. Change Vordel Manager / Events tab / Log subtab to Audit subtab

67. Directory scanner should support same options a File Load filter

68. Highlight patch update more explicity in documentation

69. Load file filter make output directory optional

70. FTP Error Messages not informative

71. Change Audit Log to Transaction Log in PS tooling and documentation

72. Gateway fails to start if configured JMS is not available
73. ftp filename attribute in autodropdown attribute list is incorrect

74. Database Read/Write Filter Enhancements

75. Ability to force a Relative Path to be an exact match

76. Enhancement Requests around Directory Scanner functionality

77. Document how to rollback to previous configuration versions in production

78. Add timestamp to trace/logs filenames on rotation.