



REPORT:

TermAppJSONFT: Orkhestra Cross Test Performance Summary

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```
## Loading required package: lattice
##
## Attaching package: 'BSDA'
##
## The following object is masked from 'package:datasets':
##
##     Orange
##
##   : starts: Mon Jan 24 09:20:44 2022
##
## The following files in ../Test_Summary_Comparisons/csv match pattern "*Performance"
##   File = Test_Performance_Summary_D20201207.csv
##   File = Test_Performance_Summary_D20201208.csv
##   File = Test_Performance_Summary_D20201209_2.csv
##   File = Test_Performance_Summary_D20201209.csv
##   File = Test_Performance_Summary_D20201216.csv
##   File = Test_Performance_Summary_D20210115.csv
##   File = Test_Performance_Summary_D20210510.csv
##   File = Test_Performance_Summary_D20210520.csv
##   File = Test_Performance_Summary_D20210628.csv
##   File = Test_Performance_Summary_D20210629.csv
##   File = Test_Performance_Summary_D20210716.csv
##   File = Test_Performance_Summary_D20210719.csv
##   File = Test_Performance_Summary_D20210722.csv
##   File = Test_Performance_Summary_D20210723.csv
##   File = Test_Performance_Summary_D20210727.csv
##   File = Test_Performance_Summary_D20210728.csv
##   File = Test_Performance_Summary_D20210802.csv
##   File = Test_Performance_Summary_D20210803.csv
##   File = Test_Performance_Summary_D20211020.csv
##   File = Test_Performance_Summary_D20211101.csv
##   File = Test_Performance_Summary_D20211103.csv
##   File = Test_Performance_Summary_D20220105.csv
##   File = Test_Performance_Summary_D20220121.csv
##   File = Test_Performance_Summary_D20220122.csv
##   File = Test_Performance_Summary_D20201207.csv with 3 rows added to total making 1
##   File = Test_Performance_Summary_D20201208.csv with 3 rows added to total making 1
##   File = Test_Performance_Summary_D20201209_2.csv with 5 rows added to total making 1
##   File = Test_Performance_Summary_D20201209.csv with 3 rows added to total making 1
##   File = Test_Performance_Summary_D20201216.csv with 15 rows added to total making 1
##   File = Test_Performance_Summary_D20210115.csv with 3 rows added to total making 1
##   File = Test_Performance_Summary_D20210510.csv with 4 rows added to total making 1
##   File = Test_Performance_Summary_D20210520.csv with 4 rows added to total making 1
##   File = Test_Performance_Summary_D20210628.csv with 5 rows added to total making 1
##   File = Test_Performance_Summary_D20210629.csv with 3 rows added to total making 1
##   File = Test_Performance_Summary_D20210716.csv with 3 rows added to total making 1
##   File = Test_Performance_Summary_D20210719.csv with 3 rows added to total making 1
##   File = Test_Performance_Summary_D20210722.csv with 5 rows added to total making 1
##   File = Test_Performance_Summary_D20210723.csv with 6 rows added to total making 1
##   File = Test_Performance_Summary_D20210727.csv with 3 rows added to total making 1
```

```
##     File = Test_Performance_Summary_D20210728.csv with 3 rows added to total making 1000
##     File = Test_Performance_Summary_D20210802.csv with 3 rows added to total making 1000
##     File = Test_Performance_Summary_D20210803.csv with 3 rows added to total making 1000
##     File = Test_Performance_Summary_D20211020.csv with 3 rows added to total making 1000
##     File = Test_Performance_Summary_D20211101.csv with 3 rows added to total making 1000
##     File = Test_Performance_Summary_D20211103.csv with 3 rows added to total making 1000
##     File = Test_Performance_Summary_D20220105.csv with 3 rows added to total making 1000
##     File = Test_Performance_Summary_D20220121.csv with 3 rows added to total making 1000
##     File = Test_Performance_Summary_D20220122.csv with 2 rows added to total making 1000
```

1 Introduction

There are three elements to this cross-test performance summary report. The first shows a summary of the percentage success of each function/operation/call. The second element compares the performance of the latest test(s) to the pooled performance of previous tests for each of the functions/operations/calls and outcomes. And the third element of this report compares the performance by function/operation/call by the outcome across multiple NFT result sets.

The percentage successful outcomes are presented as a summary for the latest test(s). This summary is ranked in increasing order of the percentage of good outcomes of that scenario against all attempts of that scenario in the test.

As a summary and for ranking the performance of the last tests results against previous test results, for each function/operation/call and outcome, the tests in the last test session are compared against the tests in previous sessions. This is accomplished by pooling the sample mean of the response times and pooling the sample standard deviations of response times across all prior tests, and then comparing the latest test(s) with the previous tests using `tsum.test`. The results are by ranked by the corresponding *p*-values in increasing order and tabulated. For each function/operation/call request, three comparison tests are made: The first determines a measure of the difference between the respective response time distributions; the second determines a measure of those response times that could be considered worse in the latest test(s) as compared to the pooled previous test; and the third determines a measure of those response times that could be considered better in the latest test(s) as compared to the pooled previous tests.

In addition to tabulating the response time means and standard deviations against function/operation/call and outcomes across the tests, box-plots are produced to visually compare the performance/outcomes over the various tests. In each case, the box-plots show up the 15 most extreme functions/operations/calls that are most different to the historic response time distributions, and then a box-plot each showing those that have response times greatest increase and decrease in their response times when compared to their respective historic counterparts.

The last section of the report compares the performance by function/operation/call by the outcome across multiple NFT result sets. The summary results have been taken from the application performance sections of the individual NFT sessions. The `Resp` value is the sample mean of the response times in seconds and the `StdDevis` the corresponding sample standard deviation. In each case only those values where the customer or business function arrival rate did not materially exceed the peak observed/production target are included in the calculation.

2 Summary of successful outcomes for latest testing

2.1 Test 1 - TermAppISONFT - TermAppISO

The following table is a summary of the outcomes of test 1 (TermAppISONFT - TermAppISO), showing the percentage of functions/operations/calls considered successful. The scenarios are shown from worst percentage good outcomes to best:

StartTime	TestNumber	Label	Description	Basename	Outcome	Count	Percent	Resp	StdDev
2022-01-22 23:12:01	1	TermAppISONFT	TermAppISO	authorisation_request	AUTHORISATION_RESPONSE	110	100.0%	OK	0.012
2022-01-22 23:12:01	1	TermAppISONFT	TermAppISO	transaction_advice_respon	TRANSACTION_ADVICE_RESPONSE	3	33.3%	OK	0.010

3 Comparison of latest tests to pooled previous tests

The last test date in the summary data is used to delimit the prior tests from the tests in the last test session. This section compares the tests performed on `testdate` to the tests that ran in sessions prior to this date. Comparisons are made only for the successful outcomes, and only the performance data where the rate in each of the tests included in the comparison did not exceed the target rate is included in the comparison.

3.1 Differences in response time distributions

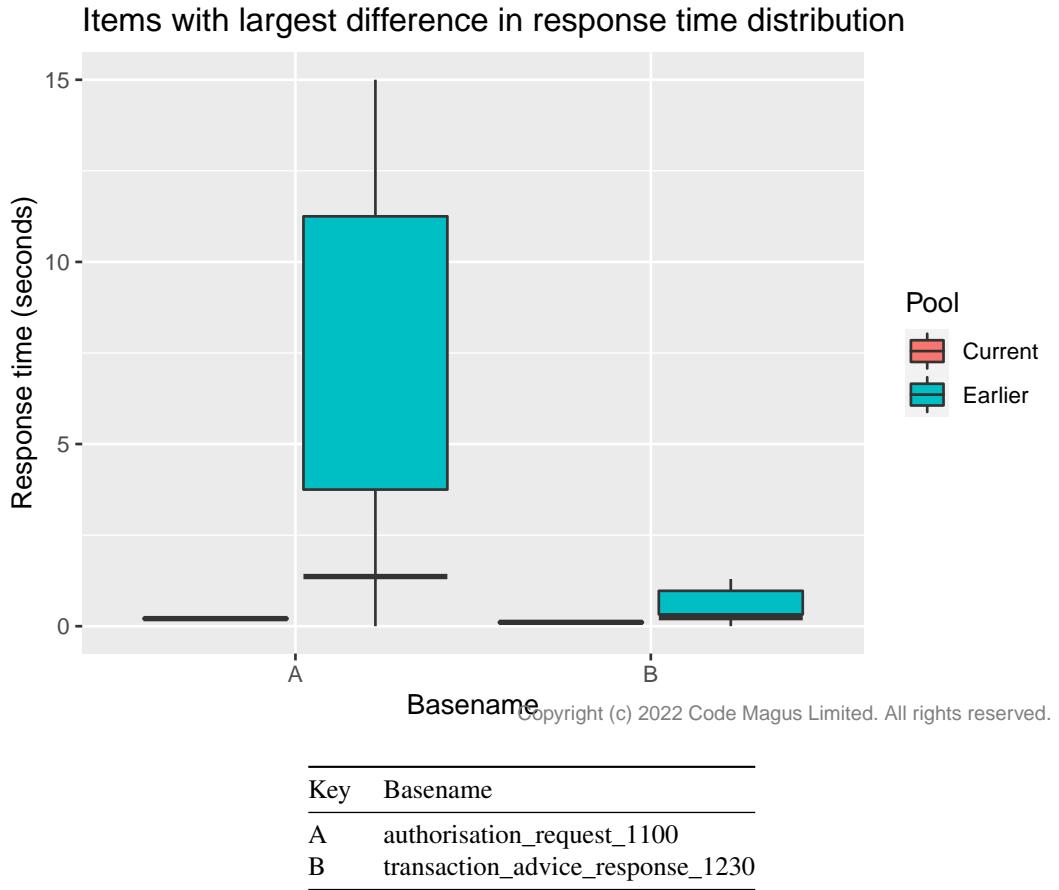
The following show the comparisons of the good outcomes of the tests performed on 2022-01-22 as compared to the tests performed before this date. The table is ranked in increasing order of the p -values from the corresponding Welch Modified Two-Sample t-Test (two.sided), starting from the function/operation/call where the response time distribution differences are the greatest. Results are only shown for which the p -value is less than or equal to the cutoff value ($\alpha = 0.05$).

3.1.1 Test 1 - TermAppISONFT - TermAppISO

The following compare the responses time differences from the test started at 2022-01-22 23:12:01 to the tests from previous test sessions.

Basename	Outcome	Count	Resp	StdDev	PrevCount	PrevMean	PrevStdDev	dvalue
authorisation_request_110	AUTHORISATION_RESPONSE	110	100.0%	0.012	353218	1.363	3.750	0
transaction_advice_respon	TRANSACTION_ADVICE_RESPONSE	3	33.3%	0.010	51284	0.234	0.324	0

```
#> ## Loading required package: grid
```



3.2 Increases in the response times

There were no significant response time increases when comparing the test(s) in the last test session to tests from earlier test sessions for any of the items.

3.3 Decreases in the response times

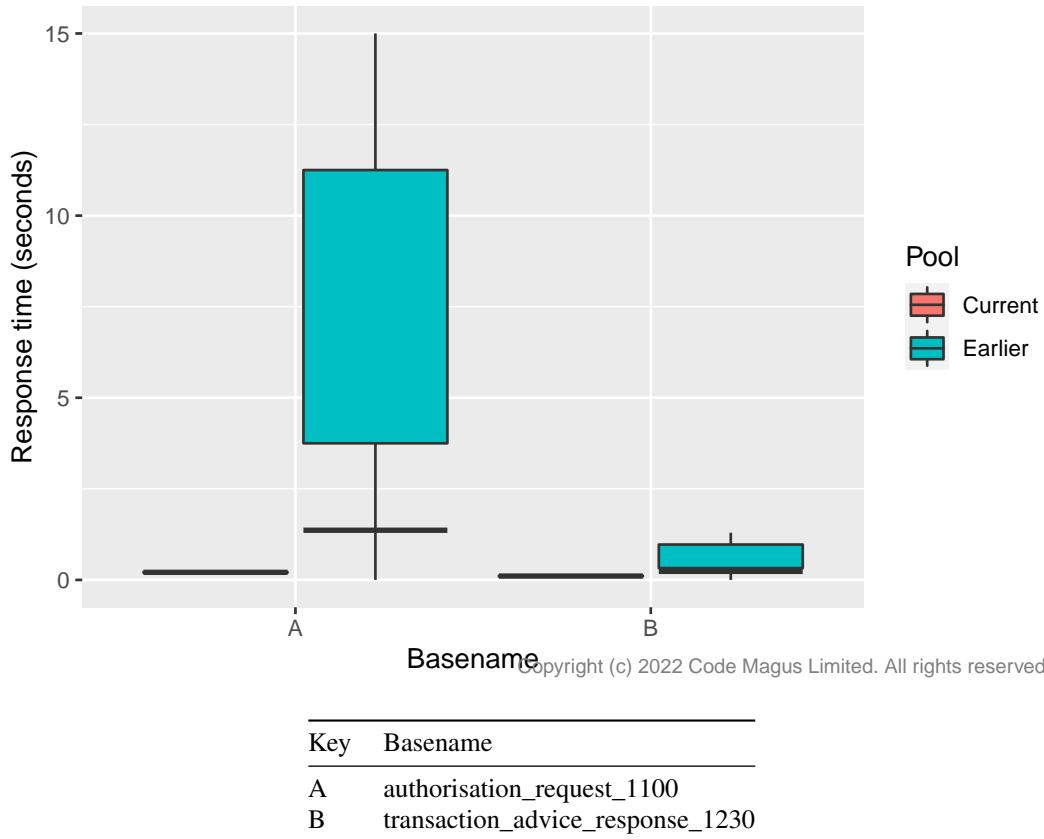
The following show the comparisons of the good outcomes of the tests performed on 2022-01-22 as compared to the tests performed before this date. The table is ranked in increasing order of the p -values from the corresponding Welch Modified Two-Sample t-Test (less), starting from the function/operation/call where the response time decreases are the greatest. Results are only shown for which the p -value is less than or equal to the cutoff value ($\alpha = 0.05$).

3.3.1 Test 1 - TermAppJSONFT - TermAppISO

The following compare the responses time decreases from the test started at 2022-01-22 23:12:01 to the tests from previous test sessions.

Basename	Outcome	Count	Resp	StdDev	PrevCount	PrevMean	PrevStdDev	value.1
authorisation_request_1100	AUTHORISATION_RESPONSE	99	10.20801	0.012	353218	1.363	3.750	0
transaction_advice_response_1230	TRANSACTION_ADVICE_RESPONSE	1202	OK	51284	0.234	0.324	0	0

Items with largest decrease in response times



4 Comparison across all tests individually

This section compares the performance between the NFT tests to date for each of the functions/operations/calls included in the corresponding test.

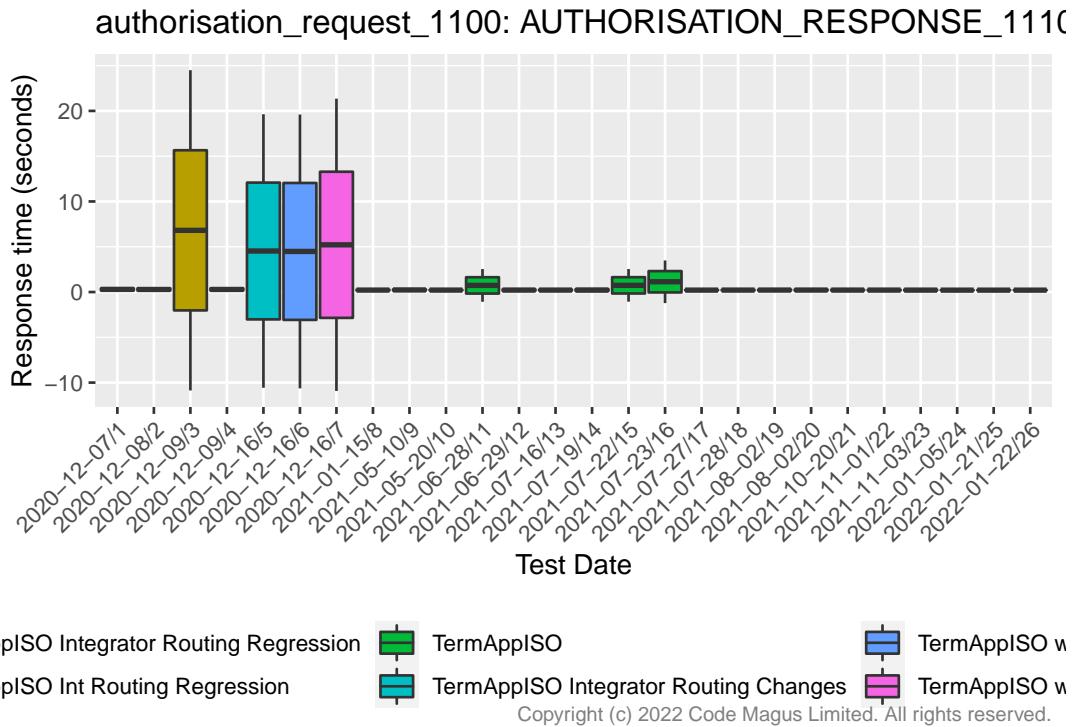
In the box-plots that follow, in each case, the centre is the sample mean response time value in seconds for that particular function/operation/call qualified by the outcome of that function/operation/call. The lower edge of the box is the corresponding sample mean response time value less the sample standard deviation, and the upper edge of the box is the corresponding sample mean response time value plus the standard deviation. The minimum and maximum values are calculated by taking two times the standard deviation in a similar manner.

4.1 Performance of authorisation_request_1100 with outcome: AUTHORISATION_RESPONSE_1110_OK

The following table shows the performance descriptive statistics for authorisation_request_1100 when the outcomes are AUTHORISATION_RESPONSE_1110_OK.

TestDate	Description	Basename	Outcome	Count	Percent	Resp	StdDev
2020-12-07	TermAppISO Integrator Routing Regression	authorisation_requestAUTHORISATION_RESPONSE_00000_0K	OK	0.123			
2020-12-08	TermAppISO Integrator Routing Regression	authorisation_requestAUTHORISATION_RESPONSE_00000_0K	OK	0.124			
2020-12-09	TermAppISO Int Routing Regression	authorisation_requestAUTHORISATION_RESPONSE_182106_0K	OK	8.841			
2020-12-09	TermAppISO	authorisation_requestAUTHORISATION_RESPONSE_00000_0K	OK	0.122			
2020-12-16	TermAppISO Integrator Routing Changes	authorisation_requestAUTHORISATION_RESPONSE_954104_0K	OK	7.550			
2020-12-16	TermAppISO with 40 provider threads	authorisation_requestAUTHORISATION_RESPONSE_974104_0K	OK	7.560			
2020-12-16	TermAppISO with 80 provider threads	authorisation_requestAUTHORISATION_RESPONSE_94B105_0K	OK	8.069			
2021-01-15	TermAppISO	authorisation_requestAUTHORISATION_RESPONSE_00000_0K	OK	0.049			
2021-05-10	TermAppISO	authorisation_requestAUTHORISATION_RESPONSE_000100_0K	OK	0.074			
2021-05-20	TermAppISO	authorisation_requestAUTHORISATION_RESPONSE_021100_0K	OK	0.028			
2021-06-28	TermAppISO	authorisation_requestAUTHORISATION_RESPONSE_075100_0K	OK	0.903			
2021-06-29	TermAppISO	authorisation_requestAUTHORISATION_RESPONSE_00000_0K	OK	0.079			
2021-07-16	TermAppISO	authorisation_requestAUTHORISATION_RESPONSE_00000_0K	OK	0.062			
2021-07-19	TermAppISO	authorisation_requestAUTHORISATION_RESPONSE_00000_0K	OK	0.100			
2021-07-22	TermAppISO	authorisation_requestAUTHORISATION_RESPONSE_694100_0K	OK	0.901			
2021-07-23	TermAppISO	authorisation_requestAUTHORISATION_RESPONSE_697100_0K	OK	1.177			
2021-07-27	TermAppISO	authorisation_requestAUTHORISATION_RESPONSE_00000_0K	OK	0.030			
2021-07-28	TermAppISO	authorisation_requestAUTHORISATION_RESPONSE_00000_0K	OK	0.035			
2021-08-02	TermAppISO	authorisation_requestAUTHORISATION_RESPONSE_00000_0K	OK	0.061			
2021-08-02	TermAppISO	authorisation_requestAUTHORISATION_RESPONSE_00000_0K	OK	0.068			
2021-10-20	TermAppISO	authorisation_requestAUTHORISATION_RESPONSE_00000_0K	OK	0.047			

TestDate	Description	Basename	Outcome	Count	Percent	Resp	StdDev
2021-11-01	TermAppISO	authorisation_request_1100	AUTHORISATION_RESPONSE_OK	100000	100.000	OK	0.039
2021-11-03	TermAppISO	authorisation_request_1100	AUTHORISATION_RESPONSE_OK	100000	100.000	OK	0.054
2022-01-05	TermAppISO	authorisation_request_1100	AUTHORISATION_RESPONSE_OK	100000	100.000	OK	0.013
2022-01-21	TermAppISO	authorisation_request_1100	AUTHORISATION_RESPONSE_OK	100000	100.000	OK	0.013
2022-01-22	TermAppISO	authorisation_request_1100	AUTHORISATION_RESPONSE_OK	100000	100.000	OK	0.012



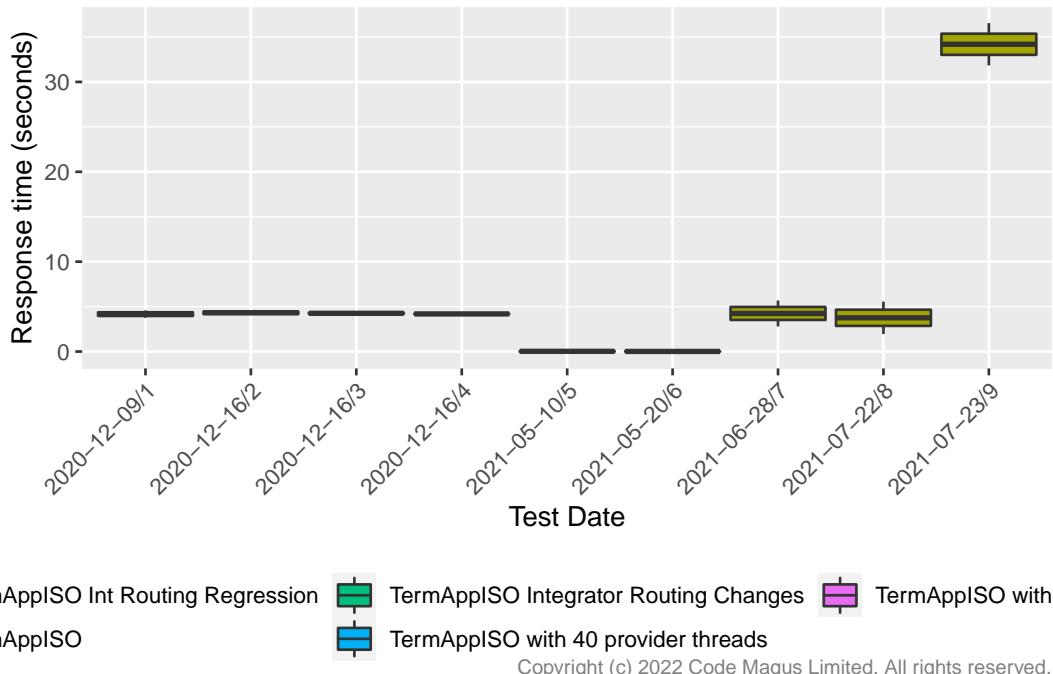
4.2 Performance of authorisation_request_1100 with outcome: disconnect

The following table shows the performance descriptive statistics for authorisation_request_1100 when the outcomes are disconnect.

TestDate	Description	Basename	Outcome	Count	Percent	Resp	StdDev
2020-12-09	TermAppISO Int Routing Regression	authorisation_request_1100	disconnect	304	1.602	4.166	0.205
2020-12-16	TermAppISO Integrator Routing Changes	authorisation_request_1100	disconnect	3	0.015	4.318	0.124

TestDate	Description	Basename	Outcome	Count	Percent	Resp	StdDev
2020-12-16	TermAppISO with 40 provider threads	authorisation_request_1100	connect	2	0.010	4.258	0.060
2020-12-16	TermAppISO with 80 provider threads	authorisation_request_1100	connect	5	0.026	4.191	0.021
2021-05-10	TermAppISO	authorisation_request_1100	connect	7173	50.000	0.027	0.037
2021-05-20	TermAppISO	authorisation_request_1100	connect	7089	49.979	0.016	0.024
2021-06-28	TermAppISO	authorisation_request_1100	connect	467	2.142	4.241	0.721
2021-07-22	TermAppISO	authorisation_request_1100	connect	568	2.579	3.758	0.901
2021-07-23	TermAppISO	authorisation_request_1100	connect	177	1.257	34.187	1.177

authorisation_request_1100: disconnect



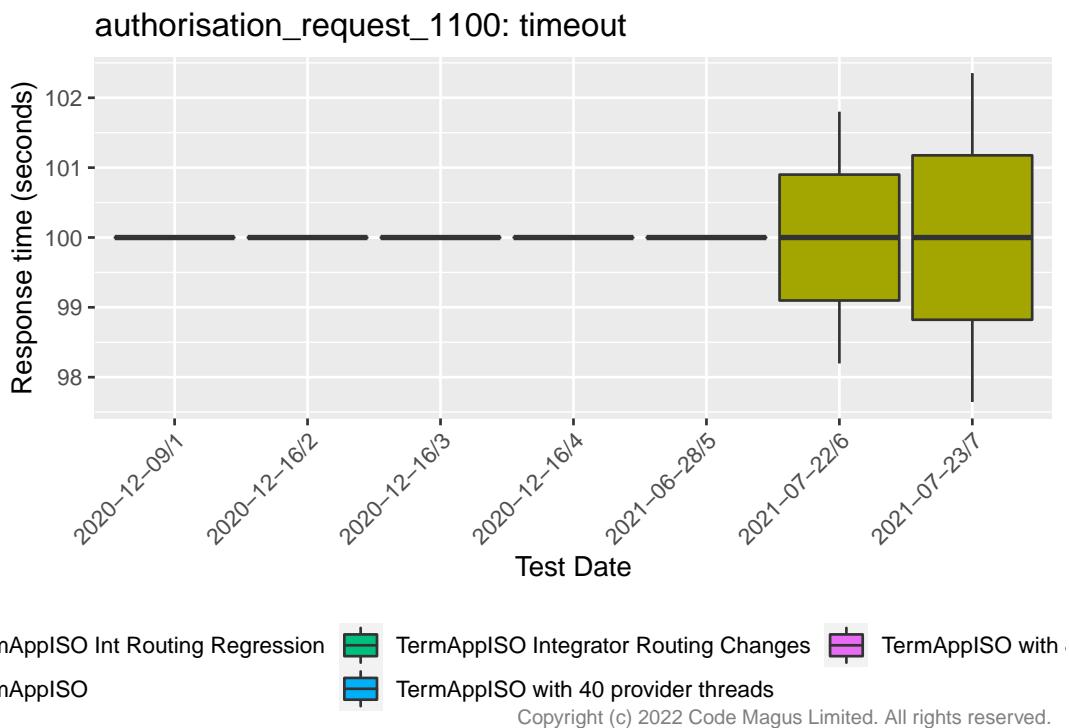
█ 1AppISO Int Routing Regression
 █ TermAppISO Integrator Routing Changes
 █ TermAppISO with 8 provider threads
█ 1AppISO
 █ TermAppISO with 40 provider threads

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4.3 Performance of authorisation_request_1100 with outcome: timeout

The following table shows the performance descriptive statistics for authorisation_request_1100 when the outcomes are timeout.

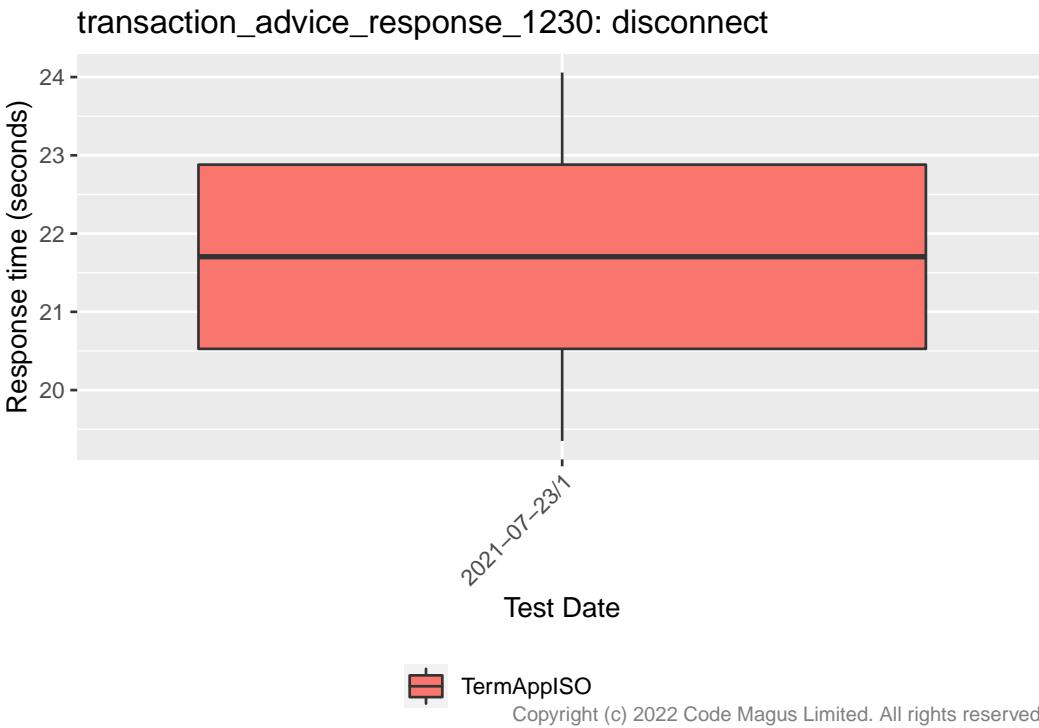
TestDate	Description	Basename	Outcome Count	Percent	Resp	StdDev
2020-12-09	TermAppISO Int Routing Regression	authorisation_request_1100timeout	41	0.216	99.999	0.000
2020-12-16	TermAppISO Integrator Routing Changes	authorisation_request_1100timeout	6	0.031	99.999	0.000
2020-12-16	TermAppISO with 40 provider threads	authorisation_request_1100timeout	3	0.015	99.999	0.000
2020-12-16	TermAppISO with 80 provider threads	authorisation_request_1100timeout	6	0.031	99.999	0.000
2021-06-28	TermAppISO	authorisation_request_1100timeout	17396	79.784	99.999	0.000
2021-07-22	TermAppISO	authorisation_request_1100timeout	17342	78.727	99.999	0.901
2021-07-23	TermAppISO	authorisation_request_1100timeout	1696	12.045	99.999	1.177



4.4 Performance of transaction_advice_response_1230 with outcome: disconnect

The following table shows the performance descriptive statistics for transaction_advice_response_1230 when the outcomes are disconnect.

TestDate	Description	Basename	Outcome	Count	Percent	Resp	StdDev
2021-07-23	TermAppISO	transaction_advice_response_1230disconnect		2	0.016	21.704	1.177

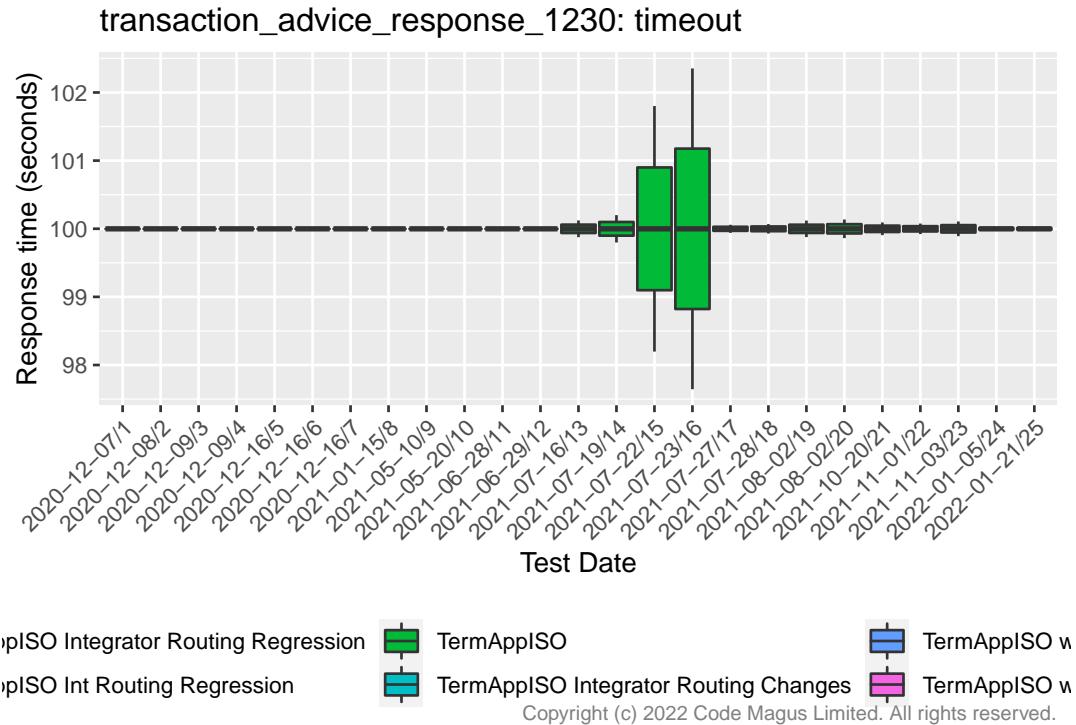


4.5 Performance of transaction_advice_response_1230 with outcome: timeout

The following table shows the performance descriptive statistics for transaction_advice_response_1230 when the outcomes are timeout.

TestDate	Description	Basename	Outcome	Count	Percent	Resp	StdDev
2020-12-07	TermAppISO Integrator Routing Regression	transaction_advice_response_1230timeout		33	0.211	99.999	0.000
2020-12-08	TermAppISO Integrator Routing Regression	transaction_advice_response_1230timeout		16	0.101	99.999	0.000
2020-12-09	TermAppISO Int Routing Regression	transaction_advice_response_1230timeout		15	0.081	99.999	0.000
2020-12-09	TermAppISO	transaction_advice_response_1230timeout		35	0.214	99.999	0.000
2020-12-16	TermAppISO Integrator Routing Changes	transaction_advice_response_1230timeout		28	0.145	99.999	0.000

TestDate	Description	Basename	Outcome	Count	Percent	Resp	StdDev
2020-12-16	TermAppISO with 40 provider threads	transaction_advice_response in1230t	in1230t	16	0.082	99.999	0.000
2020-12-16	TermAppISO with 80 provider threads	transaction_advice_response in1230t	in1230t	57	0.296	99.999	0.000
2021-01-15	TermAppISO	transaction_advice_response in1230t	in1230t	20	0.122	99.999	0.000
2021-05-10	TermAppISO	transaction_advice_response in1230t	in1230t	14	0.196	99.999	0.000
2021-05-20	TermAppISO	transaction_advice_response in1230t	in1230t	13	0.184	99.999	0.000
2021-06-28	TermAppISO	transaction_advice_response in1230t	in1230t	14	0.357	99.999	0.000
2021-06-29	TermAppISO	transaction_advice_response in1230t	in1230t	17	0.122	99.999	0.000
2021-07-16	TermAppISO	transaction_advice_response in1230t	in1230t	23	0.156	99.999	0.062
2021-07-19	TermAppISO	transaction_advice_response in1230t	in1230t	32	0.205	99.999	0.100
2021-07-22	TermAppISO	transaction_advice_response in1230t	in1230t	18	0.439	99.999	0.901
2021-07-23	TermAppISO	transaction_advice_response in1230t	in1230t	17	0.140	99.999	1.177
2021-07-27	TermAppISO	transaction_advice_response in1230t	in1230t	16	0.103	99.999	0.030
2021-07-28	TermAppISO	transaction_advice_response in1230t	in1230t	15	0.095	99.999	0.035
2021-08-02	TermAppISO	transaction_advice_response in1230t	in1230t	28	0.191	99.999	0.061
2021-08-02	TermAppISO	transaction_advice_response in1230t	in1230t	35	0.252	99.999	0.068
2021-10-20	TermAppISO	transaction_advice_response in1230t	in1230t	12	0.087	99.999	0.047
2021-11-01	TermAppISO	transaction_advice_response in1230t	in1230t	20	0.128	99.999	0.039
2021-11-03	TermAppISO	transaction_advice_response in1230t	in1230t	35	0.253	99.999	0.054
2022-01-05	TermAppISO	transaction_advice_response in1230t	in1230t	28	0.203	99.999	0.013
2022-01-21	TermAppISO	transaction_advice_response in1230t	in1230t	30	0.194	99.999	0.013

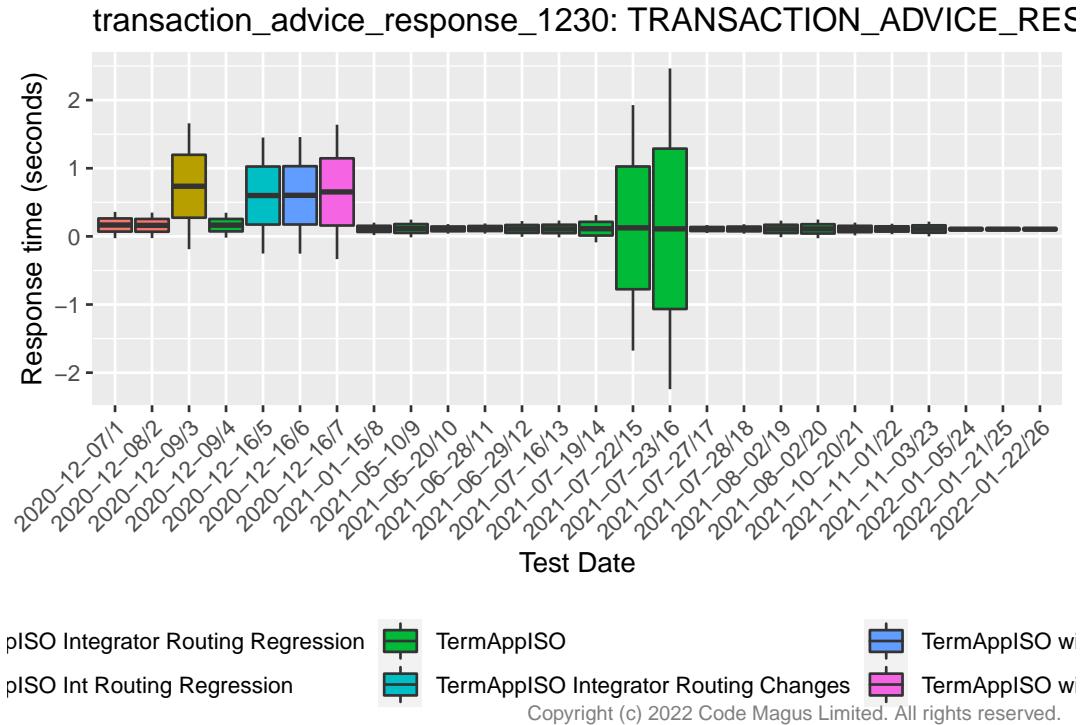


4.6 Performance of transaction_advice_response_1230 with outcome: TRANSACTION_ADVICE_RESPONSE_1230_OK

The following table shows the performance descriptive statistics for transaction_advice_response_1230 when the outcomes are TRANSACTION_ADVICE_RESPONSE_1230_OK.

TestDate	Description	Basename	Outcome	Count	Percent	Resp	StdDev
2020-12-07	TermAppISO Integrator Routing Regression	transaction_advice_response_1230	TRANSACTION_ADVICE_RESPONSE_1230_OK	57	7.0%	100.00	0.00
2020-12-08	TermAppISO Integrator Routing Regression	transaction_advice_response_1230	TRANSACTION_ADVICE_RESPONSE_1230_OK	78	9.0%	100.00	0.00
2020-12-09	TermAppISO Int Routing Regression	transaction_advice_response_1230	TRANSACTION_ADVICE_RESPONSE_1230_OK	155	18.0%	100.00	0.00
2020-12-16	TermAppISO Integrator Routing Changes	transaction_advice_response_1230	TRANSACTION_ADVICE_RESPONSE_1230_OK	136	16.0%	100.00	0.00
2020-12-16	TermAppISO with 40 provider threads	transaction_advice_response_1230	TRANSACTION_ADVICE_RESPONSE_1230_OK	122	14.0%	100.00	0.00
2020-12-16	TermAppISO with 80 provider threads	transaction_advice_response_1230	TRANSACTION_ADVICE_RESPONSE_1230_OK	153	18.0%	100.00	0.00
2021-01-15	TermAppISO	transaction_advice_response_1230	TRANSACTION_ADVICE_RESPONSE_1230_OK	110	13.0%	100.00	0.00

TestDate	Description	Basename	Outcome	Count	Percent	Resp	StdDev
2021-05-10	TermAppISO	transaction_advice_respons	TRANSACTION_ADVICE_RESPONSES	1123006K			
2021-05-20	TermAppISO	transaction_advice_respons	TRANSACTION_ADVICE_RESPONSES	1123006K			
2021-06-28	TermAppISO	transaction_advice_respons	TRANSACTION_ADVICE_RESPONSES	1123006K			
2021-06-29	TermAppISO	transaction_advice_respons	TRANSACTION_ADVICE_RESPONSES	1123006K			
2021-07-16	TermAppISO	transaction_advice_respons	TRANSACTION_ADVICE_RESPONSES	1123006K			
2021-07-19	TermAppISO	transaction_advice_respons	TRANSACTION_ADVICE_RESPONSES	1123010K			
2021-07-22	TermAppISO	transaction_advice_respons	TRANSACTION_ADVICE_RESPONSES	1123090K			
2021-07-23	TermAppISO	transaction_advice_respons	TRANSACTION_ADVICE_RESPONSES	1123010K			
2021-07-27	TermAppISO	transaction_advice_respons	TRANSACTION_ADVICE_RESPONSES	1123006K			
2021-07-28	TermAppISO	transaction_advice_respons	TRANSACTION_ADVICE_RESPONSES	1123006K			
2021-08-02	TermAppISO	transaction_advice_respons	TRANSACTION_ADVICE_RESPONSES	1123006K			
2021-08-02	TermAppISO	transaction_advice_respons	TRANSACTION_ADVICE_RESPONSES	1123006K			
2021-10-20	TermAppISO	transaction_advice_respons	TRANSACTION_ADVICE_RESPONSES	1123006K			
2021-11-01	TermAppISO	transaction_advice_respons	TRANSACTION_ADVICE_RESPONSES	1123006K			
2021-11-03	TermAppISO	transaction_advice_respons	TRANSACTION_ADVICE_RESPONSES	1123006K			
2022-01-05	TermAppISO	transaction_advice_respons	TRANSACTION_ADVICE_RESPONSES	1123000K			
2022-01-21	TermAppISO	transaction_advice_respons	TRANSACTION_ADVICE_RESPONSES	1123000K			
2022-01-22	TermAppISO	transaction_advice_respons	TRANSACTION_ADVICE_RESPONSES	1123000K			



5 Session details

```
sessionInfo();
```

```
## R version 3.6.0 (2019-04-26)
## Platform: x86_64-redhat-linux-gnu (64-bit)
## Running under: CentOS Linux 7 (Core)
##
## Matrix products: default
## BLAS/LAPACK: /usr/lib64/R/lib/libRblas.so
##
## locale:
## [1] LC_CTYPE=en_US.UTF-8          LC_NUMERIC=C
## [3] LC_TIME=en_US.UTF-8          LC_COLLATE=en_US.UTF-8
## [5] LC_MONETARY=en_US.UTF-8       LC_MESSAGES=en_US.UTF-8
## [7] LC_PAPER=en_US.UTF-8          LC_NAME=C
## [9] LC_ADDRESS=C                  LC_TELEPHONE=C
## [11] LC_MEASUREMENT=en_US.UTF-8    LC_IDENTIFICATION=C
##
## attached base packages:
## [1] grid      stats     graphics grDevices utils     datasets  methods
## [8] base
```

```
## other attached packages:
## [1] pandoc_0.6.3      doBy_4.6.7       cmlrutils_1.19   XML_3.98-1.20
## [5] scales_1.1.1      ggplot2_3.3.2    BSDA_1.2.0       lattice_0.20-38
##
## loaded via a namespace (and not attached):
## [1] Rcpp_1.0.7        highr_0.8       pillar_1.4.6     compiler_3.6.0
## [5] class_7.3-15     tools_3.6.0     digest_0.6.25   evaluate_0.14
## [9] lifecycle_0.2.0   tibble_3.0.3    gtable_0.3.0     pkgconfig_2.0.3
## [13] rlang_0.4.7      Matrix_1.2-17   yaml_2.2.1      xfun_0.17
## [17] e1071_1.7-4     withr_2.2.0    stringr_1.4.0   dplyr_1.0.2
## [21] knitr_1.30       generics_0.0.2 vctrs_0.3.2     tidyselect_1.1.0
## [25] glue_1.4.1       R6_2.4.1       rmarkdown_2.6   farver_2.0.3
## [29] tidyverse_1.1.2   purrr_0.3.4    cmlbrandr_3.0   magrittr_1.5
## [33] backports_1.1.8  ellipsis_0.3.1 htmltools_0.5.0 MASS_7.3-51.4
## [37] colorspace_1.4-1 Deriv_4.0.1   labeling_0.3    stringi_1.5.3
## [41] munsell_0.5.0    broom_0.7.0    crayon_1.3.4
```