



RHINO

Test Report

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# Execute summary

## Overview: Project Background and Scope

Rhino is the software to help owners of small businesses easily manage their work with:

* Clients’ contacts
* Sales proposals
* Projects
* Tasks
* Invoices
* Payment
* Administrative configurations like user management, project types, expense types, system settings, system appearance, etc.

Supported sectors in this application include:

* Construction
* Professional, Scientific & Technical Services:
* Administration & Support Services

## Scope

| Groups | Functions | Percentage (%) |
| --- | --- | --- |
| Normal users | Home | 80% |
| Login |
| Add contact |
| Add sale proposal |
| Add Timesheet |
| Add Expense |
| Add reminder |
| Add note |
| Admin users | Home | 20% |
| Login |
| Add invoice for contact |
| Add invoice for Sale proposal |
| Add invoice for Empty project |
| Add invoice for Project with Task |
| Add invoice for Project with Timesheet and Expense |
| Approve Timesheet |
| Approve Expense |

# Execution and Analysis

## Performance Test Results and Analysis

We are using scripts to simulate user behaviour for up to 2500 virtual users, to measure response times of the system under various load conditions to identify the application’s breaking point, assuming that the breaking point occurs below the peak load condition.

Each load test was executed with 2500 virtual users. Each request should achieve an acceptable response time while processing.

**Performance Requirement**

* Response time for each user’s click must be less than or equal 3 seconds, except Invoice function it will be 10 seconds because this function take more time to collect data and calculating.

## Test Run 1 – Baseline Two Hour Load Test

* Duration: 1 hour, 51 minutes
* Started: Mar 16, 2017, 2:25:45 PM
* Ended: Mar 16, 2017, 4:22:36 PM

**Observations**

### Request Statistics

This report shows statistics for each request (also known as element label) in the test

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Element Label** | **# Samples** | **Avg. Response Time (ms)** | **90% line (ms)** | **95% line (ms)** | **99% line (ms)** | **Min Response Time (ms)** | **Max Response Time (ms)** | **Error Percentage** |
| Back\_to\_Project | 585 | 155.3 | 367 | 494 | 956 | 3 | 1933 | 0% |
| Click\_Add\_Contact | 3225 | 204.79 | 474.47 | 772.01 | 1963.54 | 3 | 5360 | 0% |
| Click\_Add\_Expense | 2197 | 67.61 | 201.02 | 352.74 | 734.53 | 1 | 1234 | 0% |
| Click\_Add\_Invoice | 1540 | 184.65 | 447 | 713 | 1377 | 3 | 3030 | 0% |
| Click\_Add\_Note | 6081 | 176.68 | 397.64 | 593.74 | 1791.23 | 3 | 6004 | 0% |
| Click\_Add\_Project | 811 | 140.01 | 313 | 425 | 899 | 3 | 3367 | 0% |
| Click\_Add\_Reminder | 5884 | 175.34 | 412.59 | 602.1 | 1573.81 | 3 | 5487 | 0% |
| Click\_Add\_Sale | 2874 | 52.19 | 158.95 | 267.33 | 519.14 | 1 | 1414 | 0% |
| Click\_Add\_Task | 217 | 134.65 | 340 | 441 | 707 | 3 | 1155 | 0% |
| Click\_Add\_Timesheet | 2281 | 60.17 | 169.82 | 307.45 | 611.24 | 1 | 1412 | 0.04% |
| Click\_Delete\_button | 327 | 145481.36 | 280319 | 284927 | 294399 | 572 | 295170 | 0% |
| Click\_Edit\_Task | 360 | 135.37 | 341 | 430 | 752 | 3 | 1065 | 0% |
| Click\_Invoice\_icon | 1553 | 279.13 | 661 | 1022 | 1879 | 1 | 3864 | 0% |
| Click\_Login | 3489 | 121525.76 | 294179 | 356258.8 | 438474.8 | 45 | 538202 | 0% |
| Click\_Note\_icon | 6085 | 166.85 | 381.71 | 548.02 | 1610.95 | 1 | 5546 | 0% |
| Click\_Reminder\_icon | 5885 | 173.9 | 412.16 | 589.64 | 1579.04 | 1 | 6188 | 0% |
| Click\_Save\_Contact | 3216 | 132895.54 | 299190.3 | 368376.8 | 425806.5 | 81 | 574657 | 0% |
| Click\_Save\_Expense | 1733 | 320766.91 | 519961.3 | 562910.4 | 610911.6 | 23991 | 760735 | 21.47% |
| Click\_Save\_expense | 57 | 204381 | 305407 | 313343 | 314623 | 92169 | 315208 | 0% |
| Click\_Save\_Invoice | 1000 | 123748.17 | 197887 | 225663 | 296447 | 96 | 308931 | 0.20% |
| Click\_Save\_Invoice01 | 264 | 142235.86 | 216191 | 292863 | 299519 | 20244 | 310393 | 0% |
| Click\_Save\_Invoice02 | 155 | 159992.64 | 253055 | 294143 | 296703 | 44765 | 300298 | 0% |
| Click\_Save\_Invoice03 | 38 | 180646.24 | 208255 | 256767 | 309247 | 139485 | 309160 | 0% |
| Click\_Save\_Note | 6071 | 166725.85 | 311199.2 | 413584.2 | 489688.3 | 51 | 586785 | 0.03% |
| Click\_Save\_Project | 301 | 281288.44 | 405503 | 500223 | 517119 | 35281 | 520872 | 0% |
| Click\_Save\_Project01 | 398 | 145524.13 | 237823 | 294655 | 308991 | 215 | 311488 | 0% |
| Click\_Save\_Reminder | 5883 | 168071.1 | 291708.6 | 385042.8 | 469093.3 | 52 | 588061 | 0.03% |
| Click\_Save\_Sale | 500 | 120108.51 | 189823 | 195583 | 217727 | 70 | 225401 | 0% |
| Click\_Save\_SaleProposal | 2337 | 160271.68 | 294014.2 | 324882.1 | 466912.2 | 63 | 568203 | 0% |
| Click\_Save\_Task | 202 | 153708.1 | 234879 | 291583 | 309503 | 20845 | 310109 | 0% |
| Click\_Save\_Timesheet | 71 | 182921.42 | 295167 | 297727 | 304383 | 90661 | 304961 | 0% |
| Click\_Save\_TimeSheet | 2138 | 287459.95 | 484599.3 | 521531.9 | 564084.3 | 2198 | 634313 | 11.88% |
| Click\_Tasks\_button | 616 | 124.73 | 306 | 413 | 652 | 3 | 1236 | 0% |
| DEL Default Project Task 02 | 1 | 294764 | 294911 | 294911 | 294911 | 294764 | 294764 | 0% |
| DEL Empty project | 4 | 261933.3 | 292607 | 292607 | 292607 | 188357 | 292437 | 0% |
| DELETE CompanyContact | 1165 | 272673.4 | 444343.6 | 469997 | 518508.4 | 30512 | 552405 | 0% |
| DELETE Expenses | 884 | 254735.4 | 435684.1 | 462352.1 | 517522.4 | 0 | 564748 | 0.68% |
| DELETE Invoice for Contact | 35 | 186324.9 | 275967 | 284159 | 295679 | 141563 | 295563 | 0% |
| DELETE Invoice for Empty project | 18 | 198177.6 | 211199 | 238079 | 296703 | 162491 | 296687 | 0% |
| DELETE Invoice for Project 02 | 1 | 205441 | 205567 | 205567 | 205567 | 205441 | 205441 | 0% |
| DELETE Invoice for Sale | 31 | 197245.1 | 275199 | 276223 | 285695 | 143190 | 285490 | 0% |
| DELETE Note for a Sale | 2243 | 169899.9 | 262039.8 | 284862.9 | 444103.8 | 52 | 543711 | 0% |
| DELETE Note for an expense | 1042 | 223294.4 | 414520.3 | 440876.5 | 509182.3 | 23869 | 574147 | 0.19% |
| DELETE Reminder for a Sale | 2237 | 158861.8 | 248926.2 | 282047.1 | 443119 | 52 | 513968 | 0% |
| Get\_CompanyContactSalesLifeCycle Id | 2874 | 155949.59 | 275252.4 | 304043 | 435209.2 | 46 | 566217 | 0% |
| Get\_Expense\_information | 106 | 164595.26 | 292095 | 296447 | 300287 | 44644 | 304006 | 0% |
| Get\_Expense\_Type\_ID | 2129 | 277912.59 | 452537.5 | 481261.8 | 530807.4 | 115 | 582959 | 0.05% |
| Get\_ExpenseTypeId | 106 | 164595.26 | 292095 | 296447 | 300287 | 44644 | 304006 | 0% |
| Get\_ProjectBasicInformation | 454 | 148964.54 | 274687 | 300543 | 312319 | 276 | 318979 | 0% |
| Get\_ProjectTaskInformation | 1956 | 264880.16 | 460475.9 | 489337.8 | 541943.4 | 16732 | 578499 | 0.05% |
| Get\_userCostAmtId Default | 123 | 153518.94 | 272127 | 283647 | 284927 | 35241 | 289893 | 0% |
| Get\_userCostCodeId Default | 138 | 151017.49 | 253951 | 284671 | 291327 | 41835 | 291721 | 0% |
| Get\_UserProfiles | 2784 | 148247.73 | 385107.4 | 457320.1 | 525820.7 | 55 | 620243 | 0% |
| Login\_authentication | 3390 | 135280.25 | 315004.3 | 406936.8 | 467230.2 | 60 | 564087 | 0% |
| Open\_Default\_Task\_Detail | 361 | 136.15 | 330 | 512 | 811 | 3 | 2276 | 0% |
| Select\_Project02 | 185 | 163887.31 | 292863 | 298495 | 308991 | 36239 | 309404 | 0% |
| Select\_Project03 | 43 | 171252.93 | 211071 | 279295 | 297215 | 108980 | 297044 | 0% |
| Visit\_Contact\_page | 3225 | 6322.23 | 21392.5 | 52306.62 | 59579.24 | 88 | 66272 | 0% |
| Visit\_Expense\_page | 2198 | 2461.97 | 2673.93 | 4962.98 | 48623.42 | 90 | 65051 | 0% |
| Visit\_Homepage | 2999 | 8260.65 | 30448.84 | 52372.16 | 60349.94 | 89 | 66863 | 0% |
| Visit\_Login\_page | 2999 | 7031.46 | 23820.24 | 47529.41 | 58790.53 | 65 | 65617 | 0% |
| Visit\_Project\_page | 823 | 6090.89 | 22879 | 50815 | 58655 | 3 | 66310 | 0% |
| Visit\_SaleProposal\_page | 2874 | 5804.39 | 21269.87 | 44660.83 | 58907.13 | 90 | 66740 | 0% |
| Visit\_Timesheet page | 2281 | 2576.1 | 3504.43 | 9810.39 | 37824.91 | 89 | 65745 | 0% |

**Explanation:**

For example: request ‘Click\_Login’,

#Samples: 3489 samples

Average Response Time (ms) = ~121s

90% line (ms): 90% samples has response time less than or equal 294s

95% line (ms): 95% samples has response time less than or equal 356s

99% line (ms): 95% samples has response time less than or equal 438s

Min Response Time (ms): 45ms

Max Response Time (ms): 538202ms ~538s

### Errors Report

This report displays all errors received during the test run, categorized by error types.

|  |  |  |
| --- | --- | --- |
| **Response Code** | **Response Message** | **Percentage**  **(% Errors/ Total #samples)** |
| 500 | Internal Server Error | 0.95 |
| Non HTTP response code: java.net.SocketException | Non HTTP response message: Connection reset |

Explanation:

* The 500 Internal Server Error is a very general HTTP status code that means something has gone wrong on the website's server, but the server could not be more specific on what the exact problem is.
* The java.net.SocketException: Connection reset. This exception appears when the remote connection is unexpectedly and forcefully closed due to various reasons like application crash, system reboot, and hard close of remote host.
* The 503 Service Unavailable error is an [HTTP status code](https://www.lifewire.com/http-status-codes-2625907) that means the web site's server is simply not available right now.

## Test Run 2 – Baseline Two Hour Load Test

* Duration: 1 hour, 51 minutes

**Observations**

### Request Statistics

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Element Label** | **# Samples** | **Avg. Response Time (ms)** | **90% line (ms)** | **95% line (ms)** | **99% line (ms)** | **Min Response Time (ms)** | **Max Response Time (ms)** | **Error Percentage** |
| Back\_to\_Project | 574 | 174.52 | 441 | 597 | 864 | 2 | 1057 | 0% |
| Click\_Add\_Contact | 2975 | 213.45 | 497.04 | 776.83 | 1719.5 | 2 | 16383 | 0% |
| Click\_Add\_Expense | 1684 | 179.07 | 351.27 | 670.03 | 2896.7 | 0 | 5974 | 0% |
| Click\_Add\_Invoice | 1533 | 208.84 | 530 | 770 | 1387 | 1 | 2509 | 0% |
| Click\_Add\_Note | 5686 | 268.06 | 583.17 | 904.87 | 2497.67 | 1 | 20688 | 0% |
| Click\_Add\_Project | 814 | 179.91 | 434 | 580 | 933 | 1 | 1316 | 0% |
| Click\_Add\_Reminder | 5336 | 313.02 | 565.02 | 894.11 | 5069.84 | 1 | 25008 | 0% |
| Click\_Add\_Sale | 2732 | 63.74 | 180.42 | 309.84 | 677.27 | 0 | 4837 | 0% |
| Click\_Add\_Task | 227 | 178.21 | 463 | 593 | 910 | 2 | 1026 | 0% |
| Click\_Add\_Timesheet | 2237 | 160.15 | 312.17 | 707.8 | 2406.57 | 0 | 7998 | 0% |
| Click\_Delete\_button | 323 | 126880.09 | 193663 | 199679 | 254719 | 1030 | 268555 | 0% |
| Click\_Edit\_Task | 355 | 175.71 | 402 | 576 | 1065 | 2 | 1204 | 0% |
| Click\_Invoice\_icon | 1537 | 363.52 | 942 | 1233 | 2089 | 1 | 3333 | 0% |
| Click\_Login | 3294 | 149263.91 | 208115.3 | 247228.1 | 478995.1 | 1 | 1559666 | 2.52% |
| Click\_Note\_icon | 5686 | 523.01 | 658.02 | 1190.87 | 14319.99 | 1 | 28934 | 0% |
| Click\_Reminder\_icon | 5336 | 684.46 | 662.24 | 1226.38 | 16255.77 | 0 | 31392 | 0% |
| Click\_Save\_Contact | 2975 | 169968.81 | 164838.1 | 449693.5 | 640667.4 | 0 | 1587755 | 0.50% |
| Click\_Save\_Expense | 1091 | 648472.08 | 708574.6 | 857083.7 | 982903.4 | 23152 | 1952275 | 24.29% |
| Click\_Save\_expense | 52 | 187133.87 | 245375 | 270079 | 279551 | 94196 | 288064 | 0% |
| Click\_Save\_Invoice | 992 | 114622.9 | 185727 | 211327 | 250751 | 105 | 276653 | 0% |
| Click\_Save\_Invoice01 | 288 | 141893.34 | 205823 | 218879 | 267519 | 6234 | 280586 | 0% |
| Click\_Save\_Invoice02 | 146 | 148512.71 | 204927 | 210047 | 265215 | 40649 | 269948 | 0% |
| Click\_Save\_Invoice03 | 36 | 186662.33 | 233215 | 264191 | 279551 | 127577 | 279536 | 0% |
| Click\_Save\_Note | 5684 | 218794.11 | 305100.6 | 362032.4 | 883551 | 2 | 1606225 | 10.01% |
| Click\_Save\_Project | 310 | 277443.94 | 388607 | 440319 | 462847 | 25594 | 474535 | 0% |
| Click\_Save\_Project01 | 398 | 136043.65 | 206207 | 224895 | 269311 | 657 | 274528 | 0% |
| Click\_Save\_Reminder | 5336 | 170039.82 | 336051.7 | 391354.8 | 509588.4 | 2 | 1560215 | 15.24% |
| Click\_Save\_Sale | 500 | 116324.15 | 184703 | 198911 | 206207 | 71 | 219288 | 0% |
| Click\_Save\_SaleProposal | 2227 | 168673.08 | 278888.1 | 342681 | 453065.3 | 5 | 1583619 | 2.29% |
| Click\_Save\_Task | 204 | 150297.8 | 209791 | 259839 | 267519 | 32328 | 269519 | 0% |
| Click\_Save\_Timesheet | 63 | 170842.29 | 218879 | 235647 | 268799 | 88034 | 277561 | 0% |
| Click\_Save\_TimeSheet | 1072 | 385083.69 | 420492.4 | 504757.5 | 822867.8 | 2585 | 1859449 | 21.08% |
| Click\_Tasks\_button | 627 | 173.44 | 428 | 610 | 995 | 2 | 1292 | 0% |
| DEL Default Project Task 02 | 1 | 196285 | 196351 | 196351 | 196351 | 196285 | 196285 | 0% |
| DEL Empty project | 6 | 218839.83 | 239103 | 253951 | 253951 | 170695 | 253870 | 0% |
| DELETE CompanyContact | 803 | 373788.04 | 493985.6 | 735067.8 | 937698.6 | 2 | 1557568 | 8.10% |
| DELETE Expenses | 630 | 137901.74 | 263572.1 | 333617.4 | 471568.1 | 0 | 1557137 | 31.27% |
| DELETE Invoice for Contact | 26 | 173476.5 | 222463 | 256255 | 258175 | 106517 | 258096 | 0% |
| DELETE Invoice for Empty project | 11 | 188778.27 | 248319 | 248319 | 258559 | 151065 | 258528 | 0% |
| DELETE Invoice for Project 02 | 1 | 181228 | 181247 | 181247 | 181247 | 181228 | 181228 | 0% |
| DELETE Invoice for Sale | 21 | 177002.14 | 199039 | 245503 | 254463 | 129326 | 254341 | 0% |
| DELETE Note for a Sale | 2143 | 180900.12 | 325313.7 | 360504.2 | 480814 | 3 | 1552325 | 14.14% |
| DELETE Note for an expense | 916 | 333027.02 | 687930.3 | 728249.1 | 829460.8 | 2 | 1567856 | 53.28% |
| DELETE Reminder for a Sale | 2115 | 171630.24 | 320275.2 | 367425.8 | 454476.6 | 2 | 1553165 | 24.44% |
| DELETE Reminder for an expense | 912 | 595230.18 | 339591.7 | 396071.1 | 519153.8 | 2 | 1551394 | 58.77% |
| DELETE SaleProposal | 2130 | 176840.28 | 327761.8 | 382581.2 | 483532.3 | 2 | 1441155 | 14.23% |
| DELETE\_Note\_for\_a \_Contact | 2227 | 135894.37 | 212197 | 245118.7 | 292787.9 | 3 | 1561529 | 1.39% |
| DELETE\_Reminder\_for\_a\_Contact | 2227 | 119992.12 | 192315.7 | 204246.7 | 366304.5 | 6 | 672703 | 1.89% |
| EDIT Empty Project | 8 | 714 | 951 | 1275 | 1275 | 381 | 1275 | 0% |
| Get\_CompanyContactSalesLifeCycle Id | 2732 | 145021.79 | 238384.5 | 252191.8 | 326944.4 | 2 | 1543234 | 0.73% |
| Get\_Expense\_information | 96 | 151910.07 | 205311 | 259327 | 274431 | 63751 | 276957 | 0% |
| Get\_Expense\_Type\_ID | 1623 | 216404.53 | 432039.5 | 480361 | 728789.8 | 0 | 1535644 | 19.41% |
| Get\_ExpenseTypeId | 96 | 151910.07 | 205311 | 259327 | 274431 | 63751 | 276957 | 0% |
| Get\_ProjectBasicInformation | 442 | 136615.17 | 222719 | 239487 | 281855 | 296 | 291639 | 0% |
| Get\_ProjectTaskInformation | 1599 | 387541.6 | 442242.6 | 500145.7 | 636213.6 | 5 | 1822264 | 8.01% |
| Get\_userCostAmtId Default | 115 | 144006.25 | 201343 | 219775 | 260479 | 44235 | 260755 | 0% |
| Get\_userCostCodeId Default | 136 | 147968.96 | 223103 | 250495 | 255871 | 44339 | 265556 | 0% |
| Get\_UserProfiles | 2532 | 162182.71 | 298401.5 | 415084 | 658665.6 | 53 | 1590861 | 0.59% |
| Login\_authentication | 3126 | 149884.59 | 220281.2 | 266937.2 | 691646 | 60 | 1585958 | 0.38% |
| Open\_Default\_Task\_Detail | 357 | 168.28 | 401 | 490 | 833 | 2 | 1273 | 0% |
| SELECT Empty Project | 8 | 207276.75 | 253055 | 264959 | 264959 | 153867 | 264953 | 0% |
| Select\_Default\_Task | 716 | 126269.77 | 194559 | 220543 | 256383 | 76 | 258808 | 0% |
| Select\_Project02 | 176 | 149105.22 | 209663 | 243455 | 272895 | 29499 | 281181 | 0% |
| Select\_Project03 | 41 | 162740.68 | 196607 | 241023 | 253567 | 108527 | 253553 | 0% |
| Visit\_Contact\_page | 2976 | 1355.36 | 2811.05 | 4166.56 | 8354.98 | 83 | 31312 | 0% |
| Visit\_Expense\_page | 1685 | 5155 | 22255.05 | 27014.19 | 31445.95 | 87 | 34009 | 0% |
| Visit\_Homepage | 2794 | 2086.94 | 3928.92 | 6109.12 | 30789.47 | 72 | 34766 | 0% |
| Visit\_Login\_page | 2794 | 1685.03 | 3280.64 | 6090.79 | 22919.03 | 61 | 31842 | 0% |
| Visit\_Project\_page | 823 | 908.43 | 2131 | 2651 | 4139 | 2 | 4778 | 0% |
| Visit\_SaleProposal\_page | 2732 | 1422.17 | 2625.38 | 3479.23 | 7563.61 | 82 | 33150 | 0% |
| Visit\_Timesheet page | 2238 | 3752.1 | 7959.54 | 23868.65 | 29984.65 | 82 | 33774 | 0% |

### Errors Report

|  |  |  |
| --- | --- | --- |
| **Response Code** | **Response Message** | **Percentage**  **(% Errors/ Total #samples)** |
| 500 | Internal Server Error | 6.88 |
| 503 | Service Unavailable |
| Non HTTP response code: java.net.SocketException | Non HTTP response message: Connection reset |

* The 503 Service Unavailable error is an [HTTP status code](https://www.lifewire.com/http-status-codes-2625907) that means the web site's server is simply not available right now.

## Test Run 3 – Baseline Two Hour Load Test

* Duration: 1 hour, 51 minutes

**Observations**

### Request Statistics

This report shows statistics for each request (also known as element label) in the test

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Element Label** | **# Samples** | **Avg. Response Time (ms)** | **90% line (ms)** | **95% line (ms)** | **99% line (ms)** | **Min Response Time (ms)** | **Max Response Time (ms)** | **Error Percentage** |
|  |  |  |  |  |  |  |  |  |
| Back\_to\_Project | 491 | 131.51 | 315 | 431 | 725 | 3 | 985 | 0% |
| Click\_Add\_Contact | 2900 | 223.08 | 503.59 | 771.21 | 2156.77 | 3 | 6669 | 0% |
| Click\_Add\_Expense | 1454 | 148.79 | 393.6 | 613.28 | 1921.92 | 1 | 6781 | 0% |
| Click\_Add\_Invoice | 1457 | 175.29 | 435 | 630 | 1073 | 3 | 2211 | 0% |
| Click\_Add\_Note | 5176 | 250.86 | 532.44 | 962.57 | 2708.98 | 3 | 21083 | 0% |
| Click\_Add\_Project | 729 | 122.21 | 296 | 388 | 671 | 3 | 952 | 0% |
| Click\_Add\_Reminder | 4925 | 249.63 | 461.6 | 785.35 | 3343.46 | 3 | 21071 | 0% |
| Click\_Add\_Sale | 2704 | 63.63 | 160.03 | 265.76 | 707.84 | 1 | 6150 | 0% |
| Click\_Add\_Task | 194 | 128.25 | 282 | 378 | 829 | 3 | 1300 | 0% |
| Click\_Add\_Timesheet | 2180 | 147.04 | 328.03 | 592.46 | 1602.5 | 1 | 18710 | 0% |
| Click\_Delete\_button | 281 | 126589.6 | 192767 | 223615 | 228607 | 138 | 234204 | 0% |
| Click\_Edit\_Task | 321 | 126.72 | 327 | 393 | 628 | 3 | 797 | 0% |
| Click\_Invoice\_icon | 1468 | 282 | 675 | 952 | 1392 | 1 | 2246 | 0% |
| Click\_Login | 3104 | 146030.4 | 162265.8 | 261481.9 | 478092.2 | 1 | 1952359 | 1.29% |
| Click\_Note\_icon | 5176 | 404.28 | 580.44 | 1106.09 | 6798.06 | 1 | 26555 | 0% |
| Click\_Reminder\_icon | 4925 | 769.1 | 647.62 | 2498.85 | 18424.93 | 1 | 26198 | 0% |
| Click\_Save\_Contact | 2900 | 172996.9 | 171703.2 | 313843.4 | 583885.7 | 6 | 1861761 | 0.45% |
| Click\_Save\_expense | 44 | 177420 | 217343 | 237183 | 244991 | 106741 | 244908 | 0% |
| Click\_Save\_Expense | 1032 | 730432 | 804435.3 | 921189.7 | 1009292 | 20753 | 2235731 | 22.58% |
| Click\_Save\_Invoice | 947 | 118276.8 | 183039 | 203903 | 242559 | 113 | 248898 | 0.11% |
| Click\_Save\_Invoice01 | 254 | 142563.3 | 228863 | 236543 | 243583 | 9528 | 247674 | 0% |
| Click\_Save\_Invoice02 | 124 | 149598.7 | 231679 | 235647 | 242047 | 35297 | 242676 | 0% |
| Click\_Save\_Invoice03 | 29 | 182206.1 | 227327 | 241023 | 241279 | 120156 | 241278 | 0% |
| Click\_Save\_Note | 5176 | 253271.1 | 370706 | 513234.1 | 664539.3 | 3 | 2022596 | 9.02% |
| Click\_Save\_Project | 256 | 273761.7 | 413951 | 417279 | 429823 | 28392 | 436355 | 0% |
| Click\_Save\_Project01 | 358 | 136725.9 | 216319 | 235263 | 242559 | 251 | 250095 | 0% |
| Click\_Save\_Reminder | 4925 | 198011.6 | 422751.6 | 528497.7 | 633702.5 | 3 | 2009181 | 11.41% |
| Click\_Save\_Sale | 498 | 126774.1 | 203135 | 233343 | 241791 | 76 | 255328 | 0% |
| Click\_Save\_SaleProposal | 2201 | 233909.5 | 502103.8 | 613758.8 | 680332.8 | 68 | 2017326 | 9.13% |
| Click\_Save\_Task | 166 | 142036 | 204927 | 232575 | 241151 | 39586 | 243140 | 0% |
| Click\_Save\_Timesheet | 53 | 167012.3 | 232831 | 233727 | 241791 | 89697 | 244279 | 0% |
| Click\_Save\_TimeSheet | 926 | 574401.1 | 563739.8 | 655556.9 | 699036 | 4252 | 2166778 | 20.63% |
| Click\_Tasks\_button | 554 | 123.33 | 313 | 407 | 639 | 3 | 1529 | 0% |
| DEL Empty project | 2 | 188767 | 204543 | 204543 | 204543 | 173034 | 204500 | 0% |
| DELETE CompanyContact | 667 | 519663.2 | 630549.7 | 764566.2 | 942330.8 | 4 | 1993883 | 7.95% |
| DELETE Expenses | 503 | 177197.7 | 426626.8 | 562725.7 | 654628.2 | 0 | 1101700 | 26.64% |
| DELETE Invoice for Contact | 25 | 174783 | 225023 | 225151 | 225663 | 121368 | 225551 | 0% |
| DELETE Invoice for Empty project | 10 | 207740.3 | 228479 | 240895 | 240895 | 154468 | 240849 | 0% |
| DELETE Invoice for Project 02 | 2 | 224334 | 229759 | 229759 | 229759 | 219033 | 229635 | 0% |
| DELETE Invoice for Sale | 20 | 185597.3 | 221567 | 223359 | 229631 | 153711 | 229567 | 0% |
| DELETE Note for a Sale | 1966 | 232146.1 | 476632.1 | 572668.1 | 629473.6 | 3 | 2021921 | 19.48% |
| DELETE Note for an expense | 692 | 427116.5 | 897111.1 | 966008.3 | 985300.1 | 3 | 1719866 | 46.39% |
| DELETE Reminder for a Sale | 1934 | 215804.8 | 470334 | 575747 | 638728.3 | 3 | 1719895 | 24.46% |
| DELETE Reminder for an expense | 671 | 617734.6 | 551511.5 | 609000.5 | 721432.2 | 7 | 2002433 | 47.99% |
| DELETE SaleProposal | 1937 | 228973.4 | 485553.4 | 578480.8 | 763893.8 | 3 | 1992645 | 14.61% |
| DELETE\_Note\_for\_a \_Contact | 2210 | 167243.5 | 301495.2 | 368428.6 | 444704.5 | 5 | 1968477 | 1.90% |
| DELETE\_Reminder\_for\_a\_Contact | 2210 | 139039.6 | 225854.5 | 285561 | 557897.3 | 4 | 973708 | 1.67% |
| EDIT Empty Project | 3 | 255.33 | 528 | 528 | 528 | 57 | 528 | 0% |
| Get\_CompanyContactSalesLifeCycle Id | 2704 | 189631.1 | 400499.5 | 485465.3 | 575850.6 | 48 | 2019853 | 0.52% |
| Get\_Expense\_information | 85 | 153029.3 | 232063 | 237055 | 241535 | 64723 | 242535 | 0% |
| Get\_Expense\_Type\_ID | 1405 | 263233.7 | 540878.7 | 590800.7 | 731399.6 | 1 | 1522846 | 13.52% |
| Get\_ExpenseTypeId | 85 | 153029.3 | 232063 | 237055 | 241535 | 64723 | 242535 | 0% |
| Get\_ProjectBasicInformation | 403 | 136686.6 | 213631 | 243583 | 251391 | 366 | 254535 | 0% |
| Get\_ProjectTaskInformation | 1401 | 441615.3 | 584686.2 | 638456.1 | 727260.1 | 3 | 2040710 | 6.14% |
| Get\_userCostAmtId Default | 94 | 138191.8 | 199423 | 218623 | 224127 | 47151 | 232159 | 0% |
| Get\_userCostCodeId Default | 107 | 137928.7 | 207359 | 223231 | 226943 | 32777 | 228194 | 0% |
| Get\_UserProfiles | 2424 | 149089.3 | 220207.8 | 471892.9 | 601868.5 | 54 | 2005232 | 0.87% |
| Login\_authentication | 2966 | 129323.2 | 224318.7 | 284579.7 | 521166.8 | 59 | 2016851 | 0.30% |
| Open\_Default\_Task\_Detail | 322 | 130.39 | 322 | 426 | 674 | 3 | 1694 | 0% |
| SELECT Empty Project | 3 | 194731.7 | 233087 | 233087 | 233087 | 175156 | 233057 | 0% |
| Select\_Default\_Task | 644 | 128293.2 | 214143 | 223487 | 229375 | 89 | 246853 | 0% |
| Select\_Project02 | 150 | 149958.9 | 229503 | 233471 | 242303 | 42125 | 244382 | 0% |
| Select\_Project03 | 39 | 173585 | 223487 | 223743 | 227583 | 101490 | 227527 | 0% |
| Visit\_Contact\_page | 2900 | 1803.19 | 4686.09 | 7612.22 | 13782.58 | 91 | 26381 | 0% |
| Visit\_Expense\_page | 1458 | 3787.65 | 12469.15 | 20079.4 | 25622.47 | 90 | 27942 | 0% |
| Visit\_Homepage | 2604 | 2277.41 | 5318.51 | 8909.09 | 20902.56 | 83 | 29817 | 0% |
| Visit\_Login\_page | 2604 | 1447.72 | 3875.9 | 6647.65 | 11121.19 | 65 | 16214 | 0% |
| Visit\_Project\_page | 741 | 779.45 | 1614 | 2231 | 7387 | 3 | 14302 | 0% |
| Visit\_SaleProposal\_page | 2704 | 1502.93 | 3106.52 | 5042.26 | 14621.49 | 89 | 27644 | 0% |
| Visit\_Timesheet page | 2182 | 4592.18 | 17383.16 | 22816.29 | 26579.34 | 94 | 28949 | 0% |

### Errors Report

This report displays all errors received during the test run, categorized by labels (pages) and error types.

|  |  |  |
| --- | --- | --- |
| **Response Code** | **Response Message** | **Percentage**  **(% Errors/ Total #samples)** |
| 500 | Internal Server Error | 6.42 |
| 503 | Service Unavailable |
| Non HTTP response code: java.net.SocketException | Non HTTP response message: Connection reset |

## Test Run 4 – Baseline Two Hour Load Test

* Duration: 1 hour, 51 minutes

**Observations**

### Request Statistics

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Element Label** | **# Samples** | **Avg. Response Time (ms)** | **Avg. Hits/s** | **90% line (ms)** | **95% line (ms)** | **99% line (ms)** | **Min Response Time (ms)** | **Max Response Time (ms)** | **Error Percentage** |
| Back\_to\_Project | 402 | 1548.57 | 0.07 | 1854 | 13935 | 22415 | 4 | 31575 | 0% |
| Click\_Add\_Contact | 2687 | 333.85 | 0.42 | 742.67 | 1107.33 | 3258.19 | 3 | 14035 | 0% |
| Click\_Add\_Expense | 1009 | 253.87 | 0.16 | 466.78 | 932.08 | 3039.68 | 1 | 28586 | 0% |
| Click\_Add\_Invoice | 1249 | 486.82 | 0.22 | 1158 | 1749 | 4287 | 3 | 14627 | 0% |
| Click\_Add\_Note | 3677 | 334.87 | 0.57 | 798.34 | 1256.01 | 3019.68 | 3 | 29892 | 0% |
| Click\_Add\_Project | 822 | 592.46 | 0.15 | 1020 | 1784 | 13591 | 3 | 16655 | 0% |
| Click\_Add\_Reminder | 3667 | 858.84 | 0.57 | 1161.57 | 2679 | 19210.54 | 3 | 27911 | 0% |
| Click\_Add\_Sale | 2631 | 161.69 | 0.41 | 307.2 | 495.16 | 2111.07 | 1 | 28585 | 0.04% |
| Click\_Add\_Task | 157 | 590.85 | 0.03 | 1266 | 1748 | 3439 | 4 | 14680 | 0% |
| Click\_Add\_Timesheet | 1559 | 210.22 | 0.25 | 429.36 | 828.89 | 2476.93 | 1 | 15080 | 0% |
| Click\_Delete\_button | 215 | 341874.22 | 0.05 | 670207 | 680959 | 750079 | 8 | 862085 | 13.49% |
| Click\_Edit\_Task | 280 | 334.25 | 0.05 | 783 | 1150 | 2989 | 4 | 5045 | 0% |
| Click\_Invoice\_icon | 1252 | 1011.5 | 0.22 | 1833 | 3161 | 18543 | 1 | 26947 | 0% |
| Click\_Login | 2965 | 229720.11 | 0.45 | 531841.5 | 548092 | 572744.8 | 1 | 1166116 | 4.42% |
| Click\_Note\_icon | 3677 | 393.15 | 0.57 | 796.6 | 1320.18 | 3453.69 | 1 | 28773 | 0% |
| Click\_Reminder\_icon | 3667 | 4613.73 | 0.57 | 20854.69 | 25823.74 | 29701.98 | 1 | 34292 | 0% |
| Click\_Save\_Contact | 2687 | 356825.55 | 0.42 | 668790.3 | 690488.3 | 719790 | 7 | 1190199 | 11.35% |
| Click\_Save\_Expense | 492 | 598792.8 | 0.08 | 872199.3 | 925019.6 | 992497.5 | 19858 | 1435924 | 24.19% |
| Click\_Save\_expense | 22 | 484477.55 | 0.01 | 747519 | 768511 | 778239 | 198718 | 777840 | 22.73% |
| Click\_Save\_Invoice | 883 | 367722.23 | 0.2 | 688127 | 734719 | 797695 | 119 | 825252 | 14.95% |
| Click\_Save\_Invoice01 | 169 | 301816.87 | 0.04 | 583167 | 634367 | 725503 | 20 | 816273 | 12.43% |
| Click\_Save\_Invoice02 | 99 | 363999.54 | 0.03 | 579583 | 671231 | 770559 | 81 | 813602 | 10.10% |
| Click\_Save\_Invoice03 | 15 | 402617.8 | 0.01 | 589311 | 589311 | 680959 | 118868 | 680932 | 13.33% |
| Click\_Save\_Note | 3677 | 356163.59 | 0.57 | 646116.1 | 714878.7 | 983886.7 | 7 | 1194466 | 25.81% |
| Click\_Save\_Project | 345 | 648339.19 | 0.09 | 963071 | 991743 | 1018367 | 14 | 1259090 | 40.29% |
| Click\_Save\_Project01 | 388 | 310183.05 | 0.09 | 534015 | 584703 | 739839 | 724 | 799300 | 27.06% |
| Click\_Save\_Reminder | 3667 | 282378.99 | 0.57 | 593855.3 | 720959.1 | 980421.8 | 3 | 1192244 | 27.49% |
| Click\_Save\_Sale | 500 | 270494.46 | 0.13 | 521727 | 570879 | 729087 | 14 | 810491 | 23.40% |
| Click\_Save\_SaleProposal | 2069 | 408191.63 | 0.32 | 648057.6 | 708868.6 | 833579.3 | 4 | 1226544 | 34.32% |
| Click\_Save\_Task | 143 | 387148.28 | 0.03 | 697343 | 728063 | 924159 | 34759 | 929447 | 16.08% |
| Click\_Save\_Timesheet | 60 | 535960.47 | 0.02 | 693759 | 750079 | 811007 | 100544 | 861984 | 58.33% |
| Click\_Save\_TimeSheet | 499 | 354102.75 | 0.08 | 606062.3 | 734886.3 | 976192.2 | 4318 | 1333653 | 41.68% |
| Click\_Tasks\_button | 440 | 1097.13 | 0.08 | 1193 | 2817 | 25359 | 3 | 32817 | 0% |
| Debug Sampler | 467 | 9.85 | 0.08 | 31.7 | 43.76 | 88.11 | 0 | 210 | 0% |
| DEL Default Project Task 02 | 1 | 571944 | 1 | 572415 | 572415 | 572415 | 571944 | 571944 | 0% |
| DEL Empty project | 3 | 554803.33 | 0 | 684031 | 684031 | 684031 | 310738 | 683735 | 0% |
| DELETE CompanyContact | 399 | 354692.31 | 0.07 | 611819.8 | 711636.7 | 850664.6 | 3 | 1161720 | 22.06% |
| DELETE Expenses | 307 | 226525.21 | 0.05 | 503292.5 | 595440 | 647839.1 | 0 | 814250 | 35.83% |
| DELETE Invoice for Contact | 23 | 289959.65 | 0.01 | 368383 | 475391 | 816127 | 20 | 815733 | 17.39% |
| DELETE Invoice for Empty project | 10 | 477578.7 | 0.01 | 641535 | 889855 | 889855 | 8 | 889365 | 10% |
| DELETE Invoice for Project 02 | 1 | 328981 | 1 | 329215 | 329215 | 329215 | 328981 | 328981 | 0% |
| DELETE Invoice for Sale | 22 | 314388.36 | 0.03 | 452863 | 467455 | 524799 | 13 | 524408 | 13.64% |
| DELETE Note for a Sale | 1300 | 320096.05 | 0.2 | 656754 | 769272.7 | 929030.1 | 4 | 1190765 | 41.69% |
| DELETE Note for an expense | 401 | 308350.11 | 0.06 | 849027.8 | 954862.4 | 1003690 | 7 | 1167827 | 53.37% |
| DELETE Reminder for a Sale | 1143 | 203183.47 | 0.18 | 491134.4 | 524417.1 | 679878.1 | 4 | 1109391 | 39.11% |
| DELETE Reminder for an expense | 355 | 331307.29 | 0.06 | 633784.3 | 731045.6 | 807092.7 | 6 | 1152296 | 54.93% |
| DELETE SaleProposal | 903 | 216196.28 | 0.14 | 528422.1 | 640005.8 | 718290.8 | 3 | 906147 | 25.14% |
| DELETE\_Note\_for\_a \_Contact | 1831 | 261610.65 | 0.29 | 525074.2 | 601130.1 | 712472.6 | 3 | 1182377 | 33.70% |
| DELETE\_Reminder\_for\_a\_Contact | 1848 | 231128.34 | 0.28 | 512045.1 | 556651.3 | 739076 | 3 | 761640 | 27.65% |
| EDIT Empty Project | 4 | 959.5 | 0 | 1635 | 1635 | 1635 | 44 | 1635 | 0% |
| Get\_CompanyContactSalesLifeCycle Id | 2631 | 323804.84 | 0.41 | 599397.7 | 683043 | 970612.3 | 3 | 1224317 | 9.65% |
| Get\_Expense\_information | 119 | 395767.24 | 0.03 | 707071 | 735743 | 889343 | 3 | 921833 | 22.69% |
| Get\_Expense\_Type\_ID | 976 | 184674.44 | 0.15 | 458438.3 | 540948 | 584167.9 | 1 | 1062220 | 39.14% |
| Get\_ExpenseTypeId | 119 | 395767.24 | 0.03 | 707071 | 735743 | 889343 | 3 | 921833 | 22.69% |
| Get\_ProjectBasicInformation | 433 | 320702.11 | 0.09 | 682495 | 780799 | 911871 | 8 | 941225 | 16.86% |
| Get\_ProjectTaskInformation | 885 | 357417.47 | 0.14 | 538485.3 | 575563.4 | 642316 | 28 | 1227616 | 1.81% |
| Get\_userCostAmtId Default | 125 | 303492.84 | 0.03 | 558591 | 650751 | 751103 | 11 | 752465 | 28% |
| Get\_userCostCodeId Default | 208 | 457413.73 | 0.05 | 813567 | 816127 | 862207 | 10 | 903684 | 13.46% |
| Get\_UserProfiles | 2187 | 303601.28 | 0.35 | 530175.4 | 546196 | 613435.4 | 54 | 1215977 | 1.28% |
| Login\_authentication | 2730 | 268591.76 | 0.42 | 528581.8 | 542344.5 | 610147.5 | 59 | 1268788 | 1.43% |
| Open\_Default\_Task\_Detail | 280 | 1400.33 | 0.05 | 1277 | 14703 | 24975 | 3 | 29015 | 0% |
| SELECT Empty Project | 4 | 390272 | 0.01 | 589823 | 589823 | 589823 | 149687 | 589356 | 0% |
| Select\_Default\_Task | 560 | 380927.9 | 0.12 | 667135 | 686591 | 828415 | 86 | 901455 | 7.14% |
| Select\_Project02 | 123 | 405415.4 | 0.03 | 744447 | 780287 | 923647 | 12 | 928047 | 13.82% |
| Select\_Project03 | 31 | 584590.45 | 0.01 | 892927 | 892927 | 905727 | 121712 | 905624 | 19.36% |
| Visit\_Contact\_page | 2687 | 1968.5 | 0.42 | 3815.82 | 5601.94 | 19858.59 | 89 | 33788 | 0% |
| Visit\_Expense\_page | 1009 | 11323.74 | 0.16 | 32793.59 | 34179.29 | 35391.31 | 106 | 36805 | 0% |
| Visit\_Homepage | 2467 | 4159.07 | 0.37 | 8263.01 | 20745.34 | 35754.1 | 109 | 38337 | 0% |
| Visit\_Login\_page | 2467 | 2985.6 | 0.37 | 6339.98 | 9802.74 | 31090.58 | 65 | 36732 | 0% |
| Visit\_Project\_page | 826 | 4318.9 | 0.15 | 17519 | 25231 | 32559 | 3 | 34559 | 0% |
| Visit\_SaleProposal\_page | 2631 | 7720.4 | 0.41 | 29795.41 | 32629.87 | 34999.22 | 89 | 36521 | 0% |
| Visit\_Timesheet page | 1559 | 8971.4 | 0.25 | 30339.15 | 32630.61 | 34931.22 | 88 | 37567 | 0% |

### Errors Report

|  |  |  |
| --- | --- | --- |
| **Response Code** | **Response Message** | **Percentage**  **(% Errors/ Total #samples)** |
| 500 | Internal Server Error | 13.97 |
| 503 | Service Unavailable |
| Non HTTP response code: java.net.SocketException | Non HTTP response message: Connection reset |

## Test Run 5 – Baseline Two Hour Load Test

* Duration: 1 hour, 51 minutes

**Observations**

### Request Statistics

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Element Label** | **# Samples** | **Avg. Response Time (ms)** | **90% line (ms)** | **95% line (ms)** | **99% line (ms)** | **Min Response Time (ms)** | **Max Response Time (ms)** | **Error Percentage** |
| Back\_to\_Project | 272 | 537.49 | 1290 | 2035 | 2897 | 5 | 5843 | 0% |
| Click\_Add\_Contact | 2585 | 657.42 | 1551.82 | 2311.72 | 4987.18 | 3 | 30089 | 0% |
| Click\_Add\_Expense | 626 | 682.26 | 2120.29 | 4205.38 | 6749.06 | 1 | 9111 | 0% |
| Click\_Add\_Invoice | 1247 | 804.3 | 1805 | 2919 | 5363 | 3 | 69110 | 0% |
| Click\_Add\_Note | 3388 | 393.52 | 892.54 | 1296.34 | 3115.13 | 3 | 51846 | 0% |
| Click\_Add\_Project | 569 | 497.92 | 1017 | 1604 | 4575 | 3 | 25272 | 0% |
| Click\_Add\_Reminder | 3370 | 548.86 | 1090.52 | 1670.33 | 7650.93 | 3 | 69943 | 0% |
| Click\_Add\_Sale | 2556 | 198.46 | 381.08 | 764.3 | 2958.12 | 1 | 9124 | 0% |
| Click\_Add\_Task | 101 | 824.6 | 2209 | 2687 | 5759 | 11 | 6592 | 0% |
| Click\_Add\_Timesheet | 1482 | 290.05 | 468.9 | 1024.37 | 4780.25 | 1 | 16830 | 0% |
| Click\_Delete\_button | 178 | 457580.85 | 628223 | 650239 | 673279 | 1146 | 674713 | 0% |
| Click\_Edit\_Task | 212 | 492.86 | 1181 | 1873 | 4799 | 5 | 7541 | 0% |
| Click\_Invoice\_icon | 1249 | 954.05 | 2161 | 3301 | 5919 | 1 | 50435 | 0% |
| Click\_Login | 2774 | 239377.2 | 459010.9 | 494871.7 | 595865.5 | 2 | 709974 | 2.70% |
| Click\_Note\_icon | 3389 | 515.17 | 988.25 | 1519.92 | 4198.72 | 1 | 66280 | 0% |
| Click\_Reminder\_icon | 3370 | 2044.13 | 2888.48 | 17609.17 | 28213.21 | 1 | 49485 | 0% |
| Click\_Save\_Contact | 2585 | 395720.82 | 581739.5 | 594289.2 | 614892.6 | 1 | 705579 | 0.81% |
| Click\_Save\_expense | 11 | 692067.55 | 746495 | 746495 | 790527 | 608736 | 790527 | 0% |
| Click\_Save\_Expense | 223 | 462855.8 | 680212.8 | 701285.2 | 718803.4 | 31181 | 748596 | 11.66% |
| Click\_Save\_Invoice | 1000 | 472748.05 | 637951 | 656383 | 697855 | 129 | 728203 | 0.60% |
| Click\_Save\_Invoice01 | 129 | 470427.43 | 666111 | 694271 | 702463 | 16095 | 711050 | 0% |
| Click\_Save\_Invoice02 | 59 | 542847.93 | 629759 | 634879 | 651263 | 147363 | 691732 | 0% |
| Click\_Save\_Invoice03 | 3 | 632228.33 | 669695 | 669695 | 669695 | 606488 | 669471 | 0% |
| Click\_Save\_Note | 3384 | 425722.01 | 650372.8 | 669694.4 | 705923.8 | 8 | 721283 | 10.08% |
| Click\_Save\_Project | 126 | 971451.82 | 950271 | 999423 | 1042943 | 38568 | 1248810 | 0% |
| Click\_Save\_Project01 | 341 | 524988.67 | 667647 | 674815 | 705535 | 988 | 712480 | 0% |
| Click\_Save\_Reminder | 3370 | 389009.64 | 619389.3 | 631803.1 | 667775.5 | 5 | 715158 | 15.22% |
| Click\_Save\_Sale | 500 | 508958.79 | 660991 | 691199 | 717311 | 81 | 724104 | 0% |
| Click\_Save\_SaleProposal | 2032 | 384291.78 | 673408.3 | 708735.8 | 763392.3 | 18 | 781161 | 44.78% |
| Click\_Save\_Task | 83 | 500022.55 | 635391 | 655359 | 662527 | 31423 | 670336 | 0% |
| Click\_Save\_TimeSheet | 271 | 368268.85 | 694743.3 | 728412.5 | 738758.3 | 3067 | 767610 | 18.45% |
| Click\_Save\_Timesheet | 19 | 670631.21 | 729087 | 735231 | 770047 | 593531 | 769713 | 0% |
| Click\_Tasks\_button | 442 | 468.77 | 1272 | 1968 | 3301 | 4 | 5416 | 0% |
| Debug Sampler | 276 | 7.61 | 30.55 | 36.44 | 44.57 | 1 | 62 | 0% |
| DELETE CompanyContact | 188 | 388124.32 | 605237.5 | 615510.2 | 651592.5 | 4 | 681983 | 29.26% |
| DELETE Expenses | 170 | 433262.15 | 611607.1 | 620205.7 | 690247.3 | 8 | 711913 | 14.71% |
| DELETE Invoice for Contact | 1 | 593979 | 594431 | 594431 | 594431 | 593979 | 593979 | 0% |
| DELETE Note for a Sale | 1056 | 232605.69 | 600208.9 | 627351.7 | 671481.2 | 3 | 712043 | 38.07% |
| DELETE Note for an expense | 201 | 400920.6 | 602085.5 | 609946.4 | 626814.4 | 20 | 660962 | 21.89% |
| DELETE Reminder for a Sale | 917 | 230481.49 | 603343.8 | 617388.9 | 642565.1 | 4 | 704824 | 47% |
| DELETE Reminder for an expense | 186 | 409278.05 | 579949.1 | 607798.1 | 658422.7 | 6 | 697061 | 21.51% |
| DELETE SaleProposal | 780 | 233733.19 | 589987.1 | 610822.9 | 666936.1 | 4 | 711916 | 28.08% |
| DELETE\_Note\_for\_a \_Contact | 2047 | 486821.52 | 633470.1 | 648058.2 | 670586.2 | 18 | 686499 | 1.37% |
| DELETE\_Reminder\_for\_a\_Contact | 2054 | 456484.09 | 604163 | 620929.4 | 658054.6 | 9 | 676013 | 1.80% |
| Get\_CompanyContactSalesLifeCycle Id | 2556 | 453583.67 | 642556.2 | 656270.4 | 703843.2 | 13 | 773202 | 23.51% |
| Get\_Expense\_information | 35 | 607223.94 | 695295 | 696319 | 716287 | 397041 | 715872 | 0% |
| Get\_Expense\_Type\_ID | 608 | 238197.89 | 595700.9 | 633639.4 | 645818 | 2 | 703360 | 14.97% |
| Get\_ExpenseTypeId | 35 | 607223.94 | 695295 | 696319 | 716287 | 397041 | 715872 | 0% |
| Get\_ProjectBasicInformation | 416 | 549070.26 | 701439 | 727551 | 745983 | 561 | 753070 | 0% |
| Get\_ProjectTaskInformation | 333 | 324841.73 | 620741.4 | 660583.6 | 696726.4 | 108 | 760451 | 5.11% |
| Get\_userCostAmtId Default | 45 | 550043.02 | 620543 | 621567 | 660479 | 283619 | 660424 | 0% |
| Get\_userCostCodeId Default | 52 | 530435.14 | 614399 | 627199 | 662015 | 236622 | 665994 | 0% |
| Get\_UserProfiles | 2087 | 384097.67 | 595839.2 | 611966.1 | 642825.2 | 54 | 781023 | 0.58% |
| Login\_authentication | 2630 | 337659.63 | 577554.1 | 581566.6 | 630731.8 | 60 | 783532 | 0.91% |
| Open\_Default\_Task\_Detail | 212 | 694.02 | 817 | 1438 | 6959 | 4 | 33014 | 0% |
| Select\_Default\_Task | 424 | 452728.56 | 628223 | 658943 | 672767 | 595 | 674718 | 0% |
| Select\_Project02 | 65 | 529517.52 | 662527 | 696319 | 716287 | 54195 | 717131 | 0% |
| Select\_Project03 | 7 | 568807.29 | 595967 | 600063 | 600063 | 508568 | 599695 | 0% |
| Visit\_Contact\_page | 2585 | 16783.27 | 25836.46 | 128286 | 265205.1 | 86 | 299411 | 0% |
| Visit\_Expense\_page | 648 | 9288.47 | 18487.63 | 25320.02 | 74037.99 | 146 | 213336 | 0% |
| Visit\_Homepage | 2276 | 36497.25 | 159308.5 | 215673.4 | 268949.5 | 128 | 307753 | 0% |
| Visit\_Login\_page | 2275 | 11928.86 | 15789.82 | 81250.58 | 213744.5 | 65 | 282255 | 0% |
| Visit\_Project\_page | 577 | 4086.13 | 4683 | 6723 | 83263 | 3 | 265924 | 0% |
| Visit\_SaleProposal\_page | 2557 | 5876.93 | 6731.48 | 9470.36 | 135135 | 88 | 296727 | 0% |
| Visit\_Timesheet page | 1501 | 9857.92 | 25940.93 | 30556.04 | 46774.49 | 93 | 279746 | 0% |

### Errors Report

|  |  |  |  |
| --- | --- | --- | --- |
| **Response Code** | **Response Message** | **Count** | **Percentage**  **(% Errors/ Total #samples)** |
| 500 | Internal Server Error | 178 | 7.66 |
| 503 | Service Unavailable | 314 |
| Non HTTP response code: java.net.SocketException | Non HTTP response message: Connection reset | 2 |

## Test Run 6 – Baseline Two Hour Load Test

* Duration: 1 hour, 51 minutes

**Observations**

### Request Statistics

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Element Label** | **# Samples** | **Avg. Response Time (ms)** | **90% line (ms)** | **95% line (ms)** | **99% line (ms)** | **Min Response Time (ms)** | **Max Response Time (ms)** | **Error Percentage** |
| Back\_to\_Project | 1012 | 258.75 | 555 | 968 | 2151 | 3 | 5401 | 0% |
| Click\_Add\_Contact | 2829 | 184.5 | 434.7 | 611.69 | 1716.12 | 3 | 5101 | 0% |
| Click\_Add\_Expense | 1306 | 123.42 | 304.03 | 560.62 | 1140.31 | 1 | 4801 | 0% |
| Click\_Add\_Invoice | 1954 | 279.91 | 618 | 1107 | 2711 | 3 | 6249 | 0% |
| Click\_Add\_Note | 5149 | 168.63 | 383.32 | 537.22 | 1502.88 | 3 | 5404 | 0% |
| Click\_Add\_Project | 1230 | 297.55 | 655 | 1198 | 2967 | 3 | 6766 | 0% |
| Click\_Add\_Reminder | 5034 | 186.32 | 433.29 | 619.66 | 1468.54 | 3 | 5157 | 0% |
| Click\_Add\_Sale | 2730 | 51.9 | 154.54 | 264.33 | 500.64 | 1 | 2669 | 0% |
| Click\_Add\_Task | 417 | 303.85 | 683 | 1197 | 2629 | 3 | 5175 | 0% |
| Click\_Add\_Timesheet | 2007 | 97.99 | 244.75 | 397.14 | 929.41 | 1 | 4248 | 0% |
| Click\_Delete\_button | 500 | 230034.66 | 328703 | 472831 | 908799 | 1180 | 1233584 | 0% |
| Click\_Edit\_Task | 500 | 214.47 | 428 | 635 | 1700 | 3 | 6441 | 0% |
| Click\_Invoice\_icon | 1954 | 379.78 | 900 | 1357 | 2615 | 1 | 5924 | 0% |
| Click\_Login | 2970 | 117327.03 | 142127.2 | 374484.9 | 830714.5 | 46 | 1231834 | 0% |
| Click\_Note\_icon | 5149 | 169.78 | 385.84 | 582.79 | 1370.8 | 1 | 5155 | 0% |
| Click\_Reminder\_icon | 5034 | 188.28 | 420.31 | 664.59 | 1687.56 | 1 | 7075 | 0% |
| Click\_Save\_Contact | 2828 | 111054.26 | 150213.4 | 179360.7 | 801563.8 | 61 | 1227495 | 0% |
| Click\_Save\_Expense | 918 | 496383.65 | 910863.2 | 986348 | 1037786 | 25281 | 1451742 | 22.66% |
| Click\_Save\_expense | 134 | 486417.26 | 620543 | 935935 | 1040895 | 92388 | 1449777 | 2.24% |
| Click\_Save\_Invoice | 1000 | 105200.13 | 168063 | 199167 | 212735 | 92 | 247132 | 0.60% |
| Click\_Save\_Invoice01 | 500 | 343620.03 | 452863 | 961023 | 1037311 | 14882 | 1295607 | 1.20% |
| Click\_Save\_Invoice02 | 341 | 423994.65 | 995327 | 1023487 | 1039359 | 34336 | 1272892 | 0% |
| Click\_Save\_Invoice03 | 111 | 481111.7 | 1004031 | 1014783 | 1026047 | 110148 | 1258850 | 0% |
| Click\_Save\_Note | 5148 | 182217.66 | 302730.9 | 536761.9 | 978085.5 | 49 | 1238849 | 0.04% |
| Click\_Save\_Project | 597 | 652342 | 539135 | 663039 | 927231 | 27624 | 2247613 | 0% |
| Click\_Save\_Project01 | 500 | 144605.6 | 230015 | 238847 | 338431 | 143 | 350506 | 0% |
| Click\_Save\_Reminder | 5033 | 218000.71 | 307170.8 | 592747.1 | 999997.9 | 51 | 1244042 | 0% |
| Click\_Save\_Sale | 500 | 105291.71 | 164095 | 171775 | 205695 | 69 | 216204 | 0% |
| Click\_Save\_SaleProposal | 2206 | 164377.27 | 235262.4 | 276606.9 | 953833 | 61 | 1242292 | 0% |
| Click\_Save\_Task | 416 | 410528.72 | 970239 | 1016319 | 1036799 | 34356 | 1296559 | 0% |
| Click\_Save\_Timesheet | 177 | 548467.85 | 969727 | 1011199 | 1047551 | 79546 | 1324402 | 0% |
| Click\_Save\_TimeSheet | 1257 | 439906.56 | 990971.1 | 1029520 | 1044993 | 2636 | 1380108 | 11.14% |
| Click\_Tasks\_button | 917 | 255.27 | 556 | 1014 | 2347 | 2 | 5854 | 0% |
| Debug Sampler | 470 | 2.69 | 7.6 | 10.91 | 26.27 | 0 | 69 | 0% |
| DEL Default Project Task 02 | 36 | 722147.14 | 985599 | 1002495 | 1019903 | 184770 | 1229202 | 0% |
| DEL Default Project Task 03 | 6 | 986210.83 | 1020927 | 1020927 | 1020927 | 936292 | 1085359 | 0% |
| DEL Empty project | 48 | 578274.19 | 971263 | 994815 | 1042431 | 136711 | 1230066 | 0% |
| DEL Project 02 | 25 | 787833.84 | 1019391 | 1033215 | 1037311 | 219588 | 1214574 | 0% |
| DEL Project 03 | 2 | 1024162.5 | 970751 | 970751 | 970751 | 970355 | 1077970 | 0% |
| DEL Project Task 02 | 30 | 713049.3 | 983039 | 985087 | 985087 | 195866 | 1232521 | 0% |
| DELETE | 1 | 6137688 | 0 | 0 | 0 | 6137688 | 6137688 | 0% |
| DELETE CompanyContact | 538 | 446229.18 | 972986.5 | 1006011 | 1026560 | 22990 | 1246045 | 0% |
| DELETE expense | 11 | 967917.55 | 983039 | 1034751 | 1034751 | 895196 | 1076716 | 0% |
| DELETE Expenses | 422 | 399170.94 | 946335.2 | 976080.9 | 996084.1 | 30231 | 1243957 | 8.77% |
| DELETE Invoice for Contact | 103 | 534245.61 | 957439 | 993279 | 1009663 | 101777 | 1246824 | 0% |
| DELETE Invoice for Empty project | 65 | 551944.57 | 982015 | 987135 | 993791 | 129820 | 1236219 | 4.62% |
| DELETE Invoice for Project 02 | 42 | 632992.48 | 1013759 | 1022463 | 1035775 | 135881 | 1232487 | 0% |
| DELETE Invoice for Project 03 | 15 | 806509.73 | 983039 | 983039 | 1020415 | 230071 | 1191214 | 0% |
| DELETE Invoice for Sale | 83 | 506428.59 | 980479 | 990207 | 1035263 | 95445 | 1223206 | 1.21% |
| DELETE Note for a Sale | 2161 | 319814.31 | 900621 | 949508.3 | 1008645 | 51 | 1259495 | 0.05% |
| DELETE Note for an expense | 539 | 424252.16 | 959424.3 | 984037.4 | 1032689 | 27597 | 1225338 | 0% |
| DELETE Reminder for a Sale | 2141 | 378890.07 | 938647.8 | 985597.6 | 1032069 | 51 | 1245094 | 0% |
| DELETE Reminder for an expense | 480 | 423951.26 | 959425.1 | 988011.8 | 1030836 | 27925 | 1224218 | 0% |
| DELETE SaleProposal | 2077 | 391998.27 | 951942.3 | 984130.3 | 1028732 | 62 | 1258788 | 0.05% |
| DELETE Timesheet | 12 | 1001171.17 | 1004543 | 1019391 | 1019391 | 316824 | 1229315 | 0% |
| DELETE\_Note\_for\_a \_Contact | 2244 | 136780.14 | 193566.7 | 212315.5 | 909828.7 | 39 | 1211591 | 0% |
| DELETE\_Reminder\_for\_a\_Contact | 2254 | 128079.3 | 183360 | 194846 | 911611.1 | 51 | 1231954 | 0% |
| EDIT Empty Project | 48 | 529.38 | 1267 | 1462 | 1543 | 5 | 1543 | 0% |
| Get\_CompanyContactSalesLifeCycle Id | 2730 | 146625.9 | 213583.4 | 219238.8 | 814207.3 | 47 | 1262420 | 0% |
| Get\_Expense\_information | 256 | 473271.13 | 999423 | 1017855 | 1033727 | 52869 | 1275638 | 0% |
| Get\_Expense\_Type\_ID | 1149 | 440153.51 | 971013 | 998043 | 1029382 | 3705 | 1288342 | 0% |
| Get\_ExpenseTypeId | 256 | 473271.13 | 999423 | 1017855 | 1033727 | 52869 | 1275638 | 0% |
| Get\_ProjectBasicInformation | 500 | 130010.35 | 211327 | 227839 | 236543 | 182 | 245748 | 0% |
| Get\_ProjectTaskInformation | 1034 | 469779.55 | 991689.5 | 1013793 | 1035692 | 14497 | 1294718 | 0.58% |
| Get\_userCostAmtId Default | 281 | 434969.54 | 942591 | 983551 | 1031167 | 44429 | 1225477 | 0% |
| Get\_userCostCodeId Default | 314 | 432766.89 | 967167 | 989695 | 1029119 | 30226 | 1255440 | 0% |
| Get\_UserProfiles | 2370 | 127880.11 | 152699.4 | 196556.6 | 973313.2 | 54 | 1269822 | 0% |
| Login\_authentication | 2930 | 124209.51 | 151258.3 | 501704.5 | 851466.2 | 59 | 1265602 | 0% |
| Open\_Default\_Task\_Detail | 500 | 199.01 | 439 | 701 | 1457 | 3 | 4341 | 0% |
| SELECT Empty Project | 56 | 565222.73 | 1016831 | 1023487 | 1025535 | 148080 | 1247291 | 0% |
| Select\_Default\_Task | 1000 | 160824.12 | 256639 | 326399 | 693247 | 66 | 1018140 | 16% |
| Select\_Project02 | 381 | 433095.39 | 987647 | 1009663 | 1033215 | 38391 | 1282311 | 0% |
| Select\_Project03 | 131 | 504817.04 | 984063 | 1013759 | 1044479 | 86558 | 1250125 | 0% |
| Visit\_Contact\_page | 2830 | 970.7 | 2099.81 | 2729.6 | 4767.13 | 89 | 9850 | 0% |
| Visit\_Expense\_page | 1307 | 1598.65 | 3629.18 | 4803.27 | 6814.91 | 94 | 12340 | 0% |
| Visit\_Homepage | 2470 | 1304.39 | 2602.11 | 3407.68 | 5411.46 | 97 | 9433 | 0% |
| Visit\_Login\_page | 2470 | 861.38 | 2012.35 | 2892.52 | 4456.74 | 64 | 11477 | 0% |
| Visit\_Project\_page | 1230 | 747.84 | 1800 | 2363 | 3975 | 3 | 5865 | 0% |
| Visit\_SaleProposal\_page | 2731 | 983.89 | 2058.25 | 2561.83 | 4158.42 | 89 | 10482 | 0% |
| Visit\_Timesheet page | 2007 | 1553.14 | 3606.23 | 4773.68 | 7544.42 | 94 | 15206 | 0% |

### Errors Report

|  |  |  |  |
| --- | --- | --- | --- |
| **Response Code** | **Response Message** | **Count** | **Percentage**  **(% Errors/ Total #samples)** |
| 500 | Internal Server Error | 489 | 0.89 |

Note: This run has less error than previous runs because I asked Nam to restore database before executing.

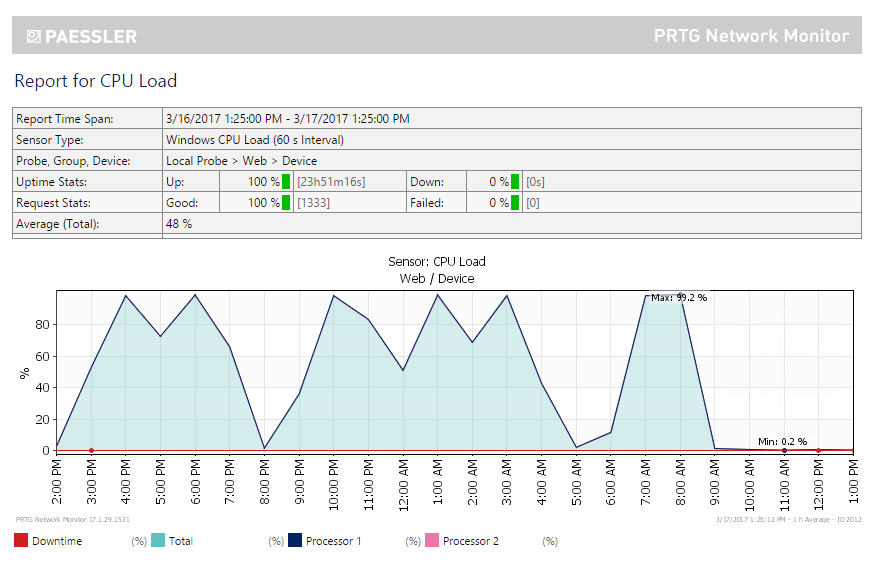
## Memory and CPU Utilisation Statistics for severs in 1 day during 6 load test runs

Start Time: 14:15 16 March

End Time: 9AM 17 March

### Web App Server:

#### CPU Load

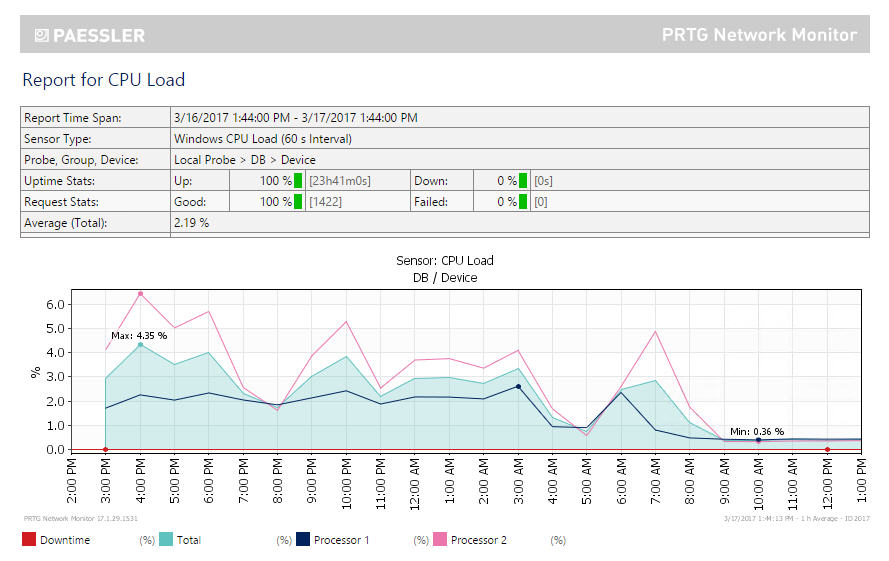


#### MemoryB:\SBA\apache-jmeter-3.1\bin\Rhino\17 Mar\Web\Memory.jpg

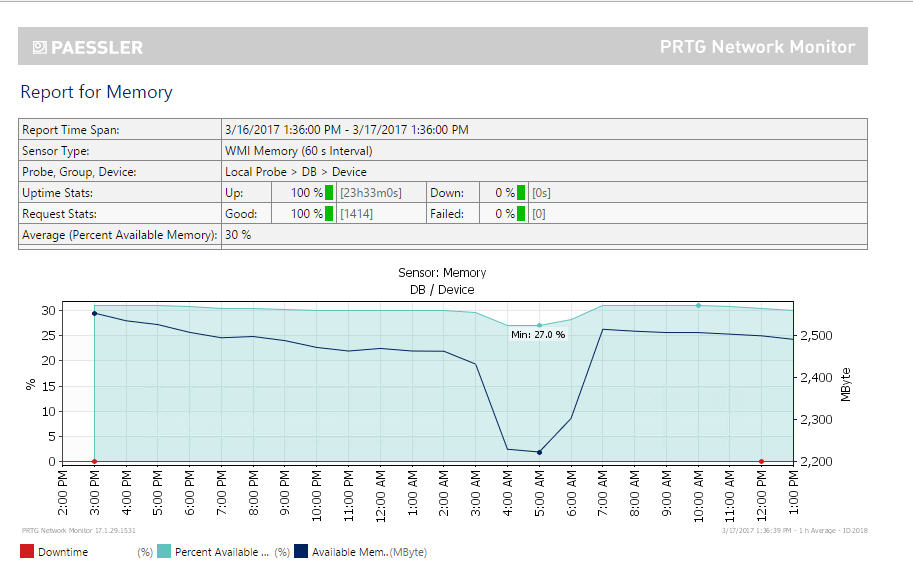
#### Network:B:\SBA\apache-jmeter-3.1\bin\Rhino\17 Mar\Web\Network.jpg

### Database Server:

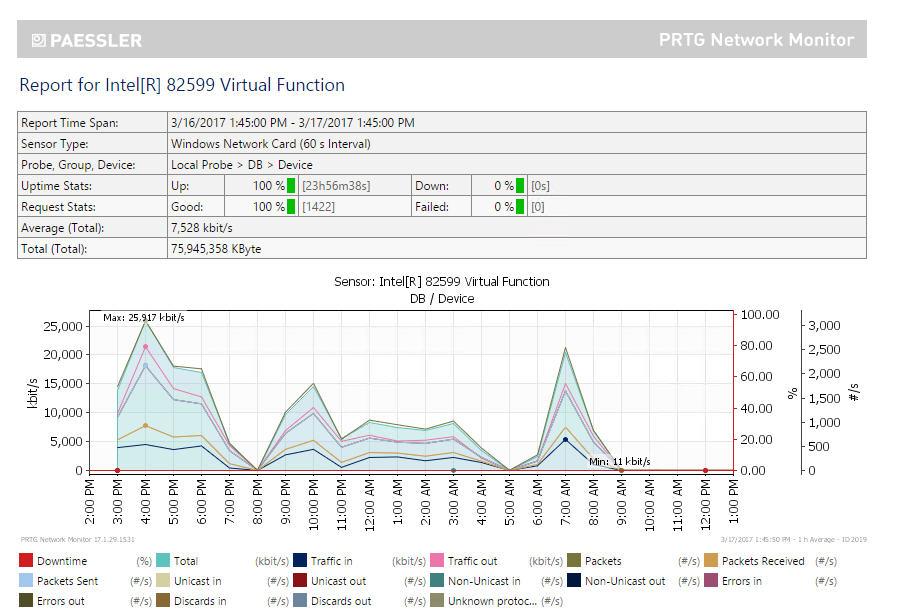
#### CPU Load



#### Memory

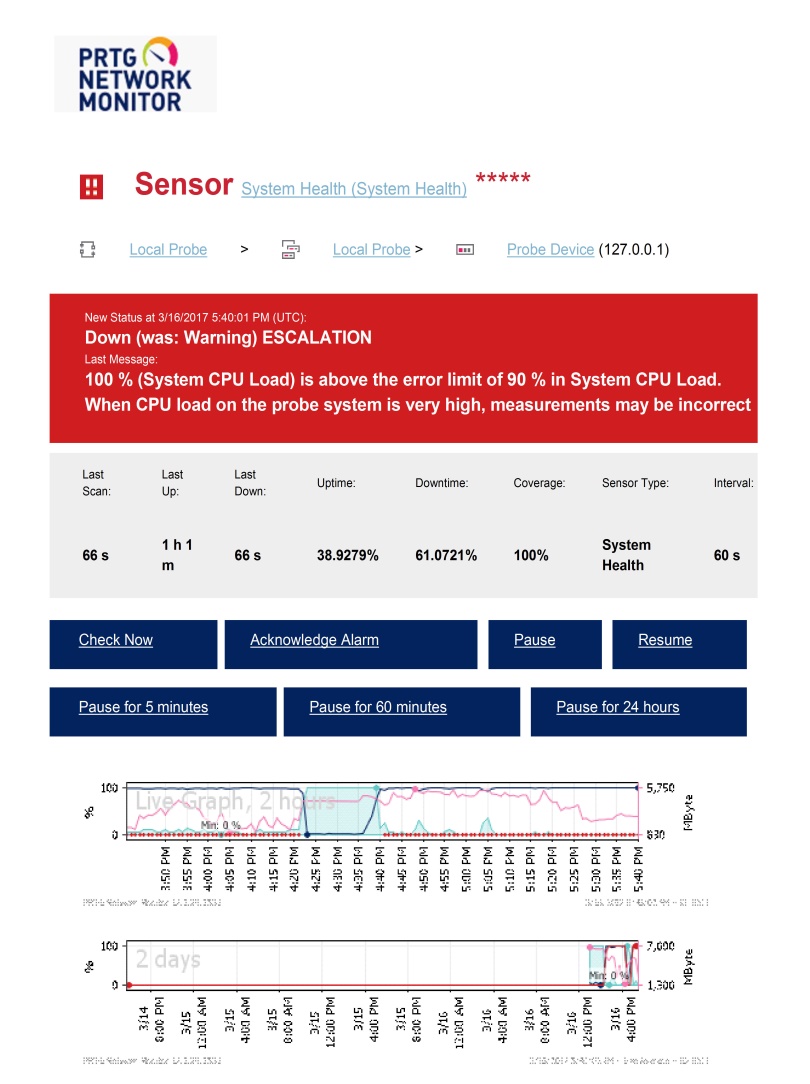


#### Network



During executing time of these tests, after about 5 minutes, the CPU activity of Web Application Server was very high (>90 – 100%) and many time raised alarms by PRTG Network Monitor tool.

Example – run 1:



## Analysis Summary

All 6 Load Test rounds have been failed during Performance Test execution.

All functions show many pages with response times that were much longer the expectation of 3s (or 10s for saving invoice). All requests to access a page or post/put data always have Slow Response Times.

The long response times appear to be because of system load.

A decision should be made to allocate more time for the fix to be developed and tested.