TABLE XI: Performance comparison of DLiSA against its variants (i.e., DLiSA-I and DLiSA-II) of over 100 run in system LRZIP. Statistically significant discrepancies are shown in bold ($\hat{A}_{12}$>0.56 and p value < 0.05), where green cells indicate that DLiSA performs better; or red cells otherwise.

Workload	Algorithm	Mean (Std)	$\hat{A}_{12}$ (p value)
W1	DLiSA	3.135 (0.035)	
	DLiSA-I	3.132 (0.029)	0.549 (p = 0.196)
	DLiSA-II	3.152 (0.071)	0.508 (p = 0.827)
W2	DLiSA	0.030 (0.000)	
	DLiSA-I	0.030 (0.000)	0.500 (p = 1.000)
	DLiSA-II	0.030 (0.001)	0.505 (p = 0.322)
W3	DLiSA	3.305 (0.014)	
	DLiSA-I	3.310 (0.020)	**0.586 (p = 0.015)**
	DLiSA-II	3.312 (0.022)	**0.611 (p = 0.002)**
W4	DLiSA	7.159 (0.032)	
	DLiSA-I	7.191 (0.120)	**0.572 (p = 0.017)**
	DLiSA-II	7.189 (0.123)	**0.579 (p = 0.014)**
W5	DLiSA	33.421 (0.150)	
	DLiSA-I	33.401 (0.020)	0.502 (p = 0.944)
	DLiSA-II	33.420 (0.155)	0.520 (p = 0.524)
W6	DLiSA	0.971 (0.003)	
	DLiSA-I	0.973 (0.006)	0.542 (p = 0.079)
	DLiSA-II	0.973 (0.008)	0.548 (p = 0.047)
W7	DLiSA	0.192 (0.004)	
	DLiSA-I	0.194 (0.005)	**0.570 (p = 0.030)**
	DLiSA-II	0.194 (0.006)	**0.598 (p = 0.003)**
W8	DLiSA	10.907 (0.020)	
	DLiSA-I	10.917 (0.033)	**0.574 (p = 0.016)**
	DLiSA-II	10.927 (0.070)	**0.581 (p = 0.009)**
W9	DLiSA	9.197 (0.314)	
	DLiSA-I	9.232 (0.323)	0.529 (p = 0.444)
	DLiSA-II	9.304 (0.452)	0.543 (p = 0.268)
W10	DLiSA	5.358 (0.228)	
	DLiSA-I	5.459 (0.326)	**0.589 (p = 0.006)**
	DLiSA-II	5.480 (0.343)	**0.595 (p = 0.003)**
W11	DLiSA	2.089 (0.022)	
	DLiSA-I	2.095 (0.029)	0.512 (p = 0.734)
	DLiSA-II	2.104 (0.041)	0.565 (p = 0.080)
W12	DLiSA	3.477 (0.065)	
	DLiSA-I	3.484 (0.073)	0.509 (p = 0.811)
	DLiSA-II	3.483 (0.077)	0.515 (p = 0.695)
W13	DLiSA	2.530 (0.018)	
	DLiSA-I	2.530 (0.018)	0.513 (p = 0.692)
	DLiSA-II	2.532 (0.019)	0.538 (p = 0.265)

TABLE VIII: Performance comparison of DLiSA against its variants (i.e., DLiSA-I and DLiSA-II) of over 100 run in system Z3. Statistically significant discrepancies are shown in bold ($\hat{A}_{12}$>0.56 and p value < 0.05), where green cells indicate that DLiSA performs better; or red cells otherwise.

Workload	Algorithm	Mean (Std)	$\hat{A}_{12}$ (p value)
W1	DLiSA	5.856 (0.011)	
	DLiSA-I	5.856 (0.011)	0.519 (p = 0.582)
	DLiSA-II	5.858 (0.012)	0.558 (p = 0.095)
W2	DLiSA	2.254 (0.608)	
	DLiSA-I	2.120 (0.510)	0.555 (p = 0.132)
	DLiSA-II	1.998 (0.435)	**0.619 (p <0.001)**
W3	DLiSA	0.364 (0.660)	
	DLiSA-I	0.302 (0.617)	0.506 (p = 0.861)
	DLiSA-II	0.354 (0.627)	0.511 (p = 0.770)
W4	DLiSA	2.324 (0.150)	
	DLiSA-I	2.313 (0.130)	0.503 (p = 0.933)
	DLiSA-II	2.303 (0.107)	0.508 (p = 0.826)
W5	DLiSA	3.150 (0.111)	
	DLiSA-I	3.173 (0.237)	0.532 (p = 0.385)
	DLiSA-II	3.170 (0.097)	**0.629 (p < 0.001)**
W6	DLiSA	1.322 (0.130)	
	DLiSA-I	1.313 (0.085)	0.513 (p = 0.618)
	DLiSA-II	1.387 (0.245)	**0.585 (p = 0.006)**
W7	DLiSA	0.292 (0.458)	
	DLiSA-I	0.221 (0.004)	0.532 (p = 0.102)
	DLiSA-II	0.249 (0.152)	0.522 (p = 0.365)
W8	DLiSA	8.746 (0.005)	
	DLiSA-I	8.746 (0.005)	0.508 (p = 0.823)
	DLiSA-II	8.806 (0.590)	0.520 (p = 0.570)
W9	DLiSA	3.181 (0.003)	
	DLiSA-I	3.181 (0.003)	0.515 (p = 0.491)
	DLiSA-II	3.182 (0.004)	0.530 (p = 0.237)
W10	DLiSA	6.816 (0.236)	
	DLiSA-I	6.804 (0.222)	0.502 (p = 0.953)
	DLiSA-II	6.817 (0.246)	0.513 (p = 0.746)
W11	DLiSA	7.948 (0.654)	
	DLiSA-I	7.940 (0.499)	0.504 (p = 0.919)
	DLiSA-II	7.940 (0.506)	0.517 (p = 0.677)
W12	DLiSA	3.878 (0.009)	
	DLiSA-I	3.878 (0.008)	0.507 (p = 0.846)
	DLiSA-II	3.900 (0.148)	**0.595 (p = 0.014)**

TABLE XVI: Performance comparison of DLiSA against its variants (i.e., DLiSA-I and DLiSA-II) of over 100 run in system BATLIK. Statistically significant discrepancies are shown in bold ($\hat{A}_{12}$>0.56 and p value < 0.05), where green cells indicate that DLiSA performs better; or red cells otherwise.

Workload	Algorithm	Mean (Std)	$\hat{A}_{12}$ (p value)
W1	DLiSA	0.907 (0.014)	
	DLiSA-I	0.914 (0.029)	**0.605 (p = 0.004)**
	DLiSA-II	0.925 (0.043)	**0.631 (p < 0.001)**
W2	DLiSA	1.338 (0.019)	
	DLiSA-I	1.342 (0.021)	**0.581 (p = 0.023)**
	DLiSA-II	1.348 (0.026)	**0.617 (p = 0.001)**
W3	DLiSA	4.196 (0.056)	
	DLiSA-I	4.209 (0.071)	**0.612 (p = 0.004)**
	DLiSA-II	4.247 (0.123)	**0.691 (p < 0.001)**
W4	DLiSA	1.193 (0.026)	
	DLiSA-I	1.197 (0.022)	0.556 (p = 0.140)
	DLiSA-II	1.204 (0.027)	**0.624 (p = 0.001)**
W5	DLiSA	2.404 (0.036)	
	DLiSA-I	2.411 (0.037)	**0.581 (p = 0.023)**
	DLiSA-II	2.432 (0.057)	**0.662 (p < 0.001)**
W6	DLiSA	3.152 (0.042)	
	DLiSA-I	3.160 (0.052)	0.545 (p = 0.224)
	DLiSA-II	3.182 (0.081)	**0.615 (p = 0.002)**
W7	DLiSA	1.137 (0.016)	
	DLiSA-I	1.139 (0.022)	0.532 (p = 0.350)
	DLiSA-II	1.146 (0.027)	**0.626 (p = 0.001)**
W8	DLiSA	7.076 (0.077)	
	DLiSA-I	7.090 (0.111)	0.547 (p = 0.217)
	DLiSA-II	7.151 (0.193)	**0.648 (p < 0.001)**
W9	DLiSA	1.051 (0.014)	
	DLiSA-I	1.050 (0.013)	0.513 (p = 0.730)
	DLiSA-II	1.057 (0.018)	**0.625 (p = 0.001)**
W10	DLiSA	1.117 (0.017)	
	DLiSA-I	1.117 (0.012)	0.530 (p = 0.360)
	DLiSA-II	1.120 (0.017)	0.553 (p = 0.110)
W11	DLiSA	1.628 (0.038)	
	DLiSA-I	1.640 (0.049)	**0.600 (p = 0.006)**
	DLiSA-II	1.650 (0.052)	**0.632 (p < 0.001)**

TABLE X: Performance comparison of DLiSA against its variants (i.e., DLiSA-I and DLiSA-II) of over 100 run in system X264. Statistically significant discrepancies are shown in bold ($\hat{A}_{12}$>0.56 and p value < 0.05), where green cells indicate that DLiSA performs better; or red cells otherwise.

Workload	Algorithm	Mean (Std)	$\hat{A}_{12}$ (p value)
W1	DLiSA	0.890 (0.140)	
	DLiSA-I	1.070 (0.963)	**0.648 (p <0.001)**
	DLiSA-II	0.954 (0.228)	0.567 (p = 0.100)
W2	DLiSA	3.590 (0.567)	
	DLiSA-I	4.130 (1.004)	**0.660 (p <0.001)**
	DLiSA-II	3.731 (0.789)	0.524 (p = 0.562)
W3	DLiSA	1.286 (0.248)	
	DLiSA-I	1.466 (0.365)	**0.656 (p <0.001)**
	DLiSA-II	1.344 (0.338)	0.544 (p = 0.278)
W4	DLiSA	1.586 (0.236)	
	DLiSA-I	1.935 (1.281)	**0.666 (p <0.001)**
	DLiSA-II	1.649 (0.364)	0.516 (p = 0.702)
W5	DLiSA	3.222 (0.514)	
	DLiSA-I	3.670 (0.939)	**0.659 (p <0.001)**
	DLiSA-II	3.442 (0.895)	0.550 (p = 0.218)
W6	DLiSA	0.100 (0.013)	
	DLiSA-I	0.115 (0.049)	**0.687 (p <0.001)**
	DLiSA-II	0.104 (0.015)	0.573 (p = 0.065)
W7	DLiSA	0.572 (0.110)	
	DLiSA-I	0.668 (0.201)	**0.656 (p <0.001)**
	DLiSA-II	0.583 (0.131)	0.513 (p = 0.75)
W8	DLiSA	0.133 (0.019)	
	DLiSA-I	0.166 (0.133)	**0.658 (p <0.001)**
	DLiSA-II	0.138 (0.022)	0.567 (p = 0.091)
W9	DLiSA	0.240 (0.031)	
	DLiSA-I	0.258 (0.042)	**0.657 (p <0.001)**
	DLiSA-II	0.243 (0.030)	0.535 (p = 0.383)

TABLE XIII: Performance comparison of DLiSA against its variants (i.e., DLiSA-I and DLiSA-II) of over 100 run in system JUMP3R. Statistically significant discrepancies are shown in bold ($\hat{A}_{12}$>0.56 and p value < 0.05), where green cells indicate that DLiSA performs better; or red cells otherwise.

Workload	Algorithm	Mean (Std)	$\hat{A}_{12}$ (p value)
W1	DLiSA	2.573 (0.828)	
	DLiSA-I	2.644 (0.629)	**0.593 (p = 0.023)**
	DLiSA-II	2.565 (0.624)	0.546 (p = 0.263)
W2	DLiSA	0.846 (0.197)	
	DLiSA-I	0.927 (0.252)	**0.606 (p = 0.009)**
	DLiSA-II	0.908 (0.226)	**0.592 (p = 0.025)**
W3	DLiSA	1.309 (0.368)	
	DLiSA-I	1.431 (0.384)	**0.611 (p = 0.007)**
	DLiSA-II	1.380 (0.365)	0.573 (p = 0.075)
W4	DLiSA	0.642 (0.076)	
	DLiSA-I	0.678 (0.136)	**0.582 (p = 0.045)**
	DLiSA-II	0.691 (0.141)	**0.594 (p = 0.021)**
W5	DLiSA	1.045 (0.246)	
	DLiSA-I	1.127 (0.281)	**0.642 (p = 0.001)**
	DLiSA-II	1.174 (0.378)	**0.631 (p = 0.001)**
W6	DLiSA	0.298 (0.018)	
	DLiSA-I	0.307 (0.028)	**0.622 (p = 0.002)**
	DLiSA-II	0.305 (0.033)	0.565 (p = 0.099)

TABLE IX: Performance comparison of DLiSA against its variants (i.e., DLiSA-I and DLiSA-II) of over 100 run in system XZ. Statistically significant discrepancies are shown in bold ($\hat{A}_{12}$>0.56 and p value < 0.05), where green cells indicate that DLiSA performs better; or red cells otherwise.

Workload	Algorithm	Mean (Std)	$\hat{A}_{12}$ (p value)
W1	DLiSA	3.813 (0.849)	
	DLiSA-I	5.871 (3.399)	**0.762 (p <0.001)**
	DLiSA-II	4.494 (1.316)	**0.674 (p <0.001)**
W2	DLiSA	0.011 (0.003)	
	DLiSA-I	0.018 (0.008)	**0.746 (p <0.001)**
	DLiSA-II	0.012 (0.004)	0.535 (p = 0.149)
W3	DLiSA	3.835 (0.966)	
	DLiSA-I	5.976 (3.116)	**0.790 (p <0.001)**
	DLiSA-II	3.998 (1.023)	**0.588 (p = 0.033)**
W4	DLiSA	11.102 (2.73)	
	DLiSA-I	21.186 (19.258)	**0.753 (p <0.001)**
	DLiSA-II	11.682 (3.294)	0.538 (p = 0.352)
W5	DLiSA	11.702 (3.297)	
	DLiSA-I	18.852 (11.245)	**0.782 (p <0.001)**
	DLiSA-II	12.161 (3.802)	0.522 (p = 0.583)
W6	DLiSA	1.638 (0.375)	
	DLiSA-I	2.622 (1.17)	**0.799 (p <0.001)**
	DLiSA-II	1.79 (0.492)	**0.586 (p = 0.036)**
W7	DLiSA	0.196 (0.015)	
	DLiSA-I	0.235 (0.052)	**0.810 (p <0.001)**
	DLiSA-II	0.199 (0.016)	0.567 (p = 0.088)
W8	DLiSA	23.789 (5.998)	
	DLiSA-I	37.162 (19.153)	**0.787 (p <0.001)**
	DLiSA-II	26.167 (7.82)	0.569 (p = 0.094)
W9	DLiSA	21.324 (5.188)	
	DLiSA-I	41.339 (34.657)	**0.831 (p <0.001)**
	DLiSA-II	23.112 (6.467)	0.578 (p = 0.058)
W10	DLiSA	10.605 (2.606)	
	DLiSA-I	18.148 (12.152)	**0.816 (p <0.001)**
	DLiSA-II	11.607 (2.975)	**0.596 (p = 0.019)**
W11	DLiSA	2.804 (0.775)	
	DLiSA-I	4.016 (1.902)	**0.751 (p <0.001)**
	DLiSA-II	3.051 (0.802)	**0.587 (p = 0.033)**
W12	DLiSA	5.341 (1.318)	
	DLiSA-I	8.681 (5.194)	**0.771 (p <0.001)**
	DLiSA-II	5.809 (1.667)	0.570 (p = 0.085)
W13	DLiSA	2.939 (0.721)	
	DLiSA-I	4.274 (1.697)	**0.790 (p <0.001)**
	DLiSA-II	3.163 (0.838)	0.573 (p = 0.073)

TABLE XV: Performance comparison of DLiSA against its variants (i.e., DLiSA-I and DLiSA-II) of over 100 run in system DCONVERT. Statistically significant discrepancies are shown in bold ($\hat{A}_{12}$>0.56 and p value < 0.05), where green cells indicate that DLiSA performs better; or red cells otherwise.

Workload	Algorithm	Mean (Std)	$\hat{A}_{12}$ (p value)
W1	DLiSA	1.849 (0.105)	
	DLiSA-I	1.881 (0.130)	**0.638 (p = 0.001)**
	DLiSA-II	1.881 (0.117)	**0.646 (p < 0.001)**
W2	DLiSA	1.115 (0.049)	
	DLiSA-I	1.128 (0.078)	0.524 (p = 0.552)
	DLiSA-II	1.132 (0.081)	0.544 (p = 0.280)
W3	DLiSA	0.375 (0.008)	
	DLiSA-I	0.376 (0.007)	0.548 (p = 0.182)
	DLiSA-II	0.377 (0.008)	**0.589 (p = 0.017)**
W4	DLiSA	1.605 (0.067)	
	DLiSA-I	1.611 (0.072)	0.549 (p = 0.223)
	DLiSA-II	1.618 (0.075)	0.576 (p = 0.059)
W5	DLiSA	0.503 (0.019)	
	DLiSA-I	0.505 (0.021)	0.541 (p = 0.304)
	DLiSA-II	0.509 (0.020)	**0.596 (p = 0.016)**
W6	DLiSA	0.376 (0.011)	
	DLiSA-I	0.379 (0.011)	**0.579 (p = 0.041)**
	DLiSA-II	0.383 (0.013)	**0.641 (p < 0.001)**
W7	DLiSA	17.366 (2.734)	
	DLiSA-I	17.582 (3.134)	0.566 (p = 0.103)
	DLiSA-II	17.754 (3.067)	0.565 (p = 0.109)
W8	DLiSA	1.032 (0.027)	
	DLiSA-I	1.040 (0.032)	0.570 (p = 0.081)
	DLiSA-II	1.044 (0.033)	**0.617 (p = 0.004)**
W9	DLiSA	0.473 (0.014)	
	DLiSA-I	0.476 (0.014)	0.566 (p = 0.098)
	DLiSA-II	0.475 (0.016)	0.555 (p = 0.170)
W10	DLiSA	1.438 (0.009)	
	DLiSA-I	1.440 (0.010)	0.554 (p = 0.165)
	DLiSA-II	1.440 (0.011)	0.532 (p = 0.403)
W11	DLiSA	1.444 (0.019)	
	DLiSA-I	1.447 (0.017)	0.555 (p = 0.171)
	DLiSA-II	1.447 (0.018)	0.533 (p = 0.415)
W12	DLiSA	0.487 (0.007)	
	DLiSA-I	0.488 (0.010)	0.522 (p = 0.561)
	DLiSA-II	0.488 (0.008)	0.559 (p = 0.118)

TABLE XII: Performance comparison of DLiSA against its variants (i.e., DLiSA-I and DLiSA-II) of over 100 run in system KANZI. Statistically significant discrepancies are shown in bold ($\hat{A}_{12}$>0.56 and p value < 0.05), where green cells indicate that DLiSA performs better; or red cells otherwise.

Workload	Algorithm	Mean (Std)	$\hat{A}_{12}$ (p value)
W1	DLiSA	0.986 (0.866)	
	DLiSA-I	2.148 (3.514)	**0.682 (p < 0.001)**
	DLiSA-II	1.227 (1.142)	**0.587 (p = 0.034)**
W2	DLiSA	0.131 (0.032)	
	DLiSA-I	0.158 (0.049)	**0.680 (p < 0.001)**
	DLiSA-II	0.146 (0.039)	**0.618 (p = 0.003)**
W3	DLiSA	0.308 (0.129)	
	DLiSA-I	0.527 (0.94)	0.579 (p = 0.054)
	DLiSA-II	0.312 (0.208)	0.529 (p = 0.470)
W4	DLiSA	1.173 (0.697)	
	DLiSA-I	2.601 (3.114)	**0.702 (p < 0.001)**
	DLiSA-II	1.603 (1.173)	**0.619 (p = 0.004)**
W5	DLiSA	0.938 (0.604)	
	DLiSA-I	1.589 (1.446)	**0.708 (p < 0.001)**
	DLiSA-II	1.194 (0.881)	**0.593 (p = 0.023)**
W6	DLiSA	0.433 (0.263)	
	DLiSA-I	0.647 (0.536)	**0.644 (p < 0.001)**
	DLiSA-II	0.514 (0.402)	0.521 (p = 0.616)
W7	DLiSA	0.177 (0.078)	
	DLiSA-I	0.234 (0.155)	**0.637 (p = 0.001)**
	DLiSA-II	0.188 (0.075)	0.568 (p = 0.093)
W8	DLiSA	2.347 (2.228)	
	DLiSA-I	5.643 (9.41)	**0.690 (p < 0.001)**
	DLiSA-II	3.203 (3.692)	**0.593 (p = 0.024)**
W9	DLiSA	0.709 (0.585)	
	DLiSA-I	1.402 (2.631)	**0.670 (p < 0.001)**
	DLiSA-II	0.851 (0.621)	**0.595 (p = 0.021)**

TABLE XIV: Performance comparison of DLiSA against its variants (i.e., DLiSA-I and DLiSA-II) of over 100 run in system H2. Statistically significant discrepancies are shown in bold ($\hat{A}_{12}$>0.56 and p value < 0.05), where green cells indicate that DLiSA performs better; or red cells otherwise.

Workload	Algorithm	Mean (Std)	$\hat{A}_{12}$ (p value)
W1	DLiSA	26721.450 (705.601)	
	DLiSA-I	26489.732 (775.103)	**0.641 (p = 0.001)**
	DLiSA-II	26644.835 (654.267)	0.566 (p = 0.104)
W2	DLiSA	18972.982 (758.262)	
	DLiSA-I	18863.828 (809.835)	**0.599 (p = 0.015)**
	DLiSA-II	18931.037 (547.111)	0.559 (p = 0.150)
W3	DLiSA	948.344 (38.602)	
	DLiSA-I	943.536 (41.821)	0.541 (p = 0.315)
	DLiSA-II	938.459 (45.506)	0.567 (p = 0.100)
W4	DLiSA	1032.006 (45.261)	
	DLiSA-I	1013.514 (82.642)	0.578 (p = 0.057)
	DLiSA-II	1006.602 (88.074)	**0.602 (p = 0.013)**
W5	DLiSA	47835.194 (2491.758)	
	DLiSA-I	47999.853 (1876.084)	0.509 (p = 0.830)
	DLiSA-II	47763.929 (2437.681)	0.543 (p = 0.290)
W6	DLiSA	48335.083 (488.968)	
	DLiSA-I	48277.883 (559.910)	0.548 (p = 0.239)
	DLiSA-II	47866.219 (1882.315)	**0.638 (p = 0.001)**
W7	DLiSA	20037.040 (1584.735)	
	DLiSA-I	20103.313 (1244.099)	0.530 (p = 0.457)
	DLiSA-II	20124.243 (1258.559)	0.500 (p = 0.993)
W8	DLiSA	28129.890 (1669.565)	
	DLiSA-I	28033.752 (1665.729)	0.523 (p = 0.572)
	DLiSA-II	27691.456 (1923.862)	0.566 (p = 0.108)