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	3.137 (0.041)	
	DLiSA-I	3.158 (0.077)	**0.616 (p = 0.003)**
	DLiSA-II	3.151 (0.064)	**0.626 (p = 0.001)**
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	3.308 (0.015)	
	DLiSA-I	3.315 (0.023)	**0.595 (p = 0.011)**
	DLiSA-II	3.318 (0.030)	**0.579 (p = 0.035)**
W4	DLiSA	7.131 (0.062)	
	DLiSA-I	7.145 (0.107)	0.530 (p = 0.409)
	DLiSA-II	7.155 (0.083)	**0.582 (p = 0.026)**
W5	DLiSA	33.412 (0.109)	
	DLiSA-I	33.507 (0.314)	0.560 (p = 0.088)
	DLiSA-II	33.496 (0.302)	0.524 (p = 0.486)
W6	DLiSA	0.973 (0.007)	
	DLiSA-I	0.974 (0.006)	0.525 (p = 0.421)
	DLiSA-II	0.974 (0.008)	0.512 (p = 0.706)
W7	DLiSA	0.196 (0.005)	
	DLiSA-I	0.197 (0.005)	0.532 (p = 0.350)
	DLiSA-II	0.196 (0.005)	0.505 (p = 0.887)
W8	DLiSA	10.919 (0.029)	
	DLiSA-I	10.921 (0.027)	0.541 (p = 0.269)
	DLiSA-II	10.918 (0.031)	0.512 (p = 0.741)
W9	DLiSA	9.152 (0.401)	
	DLiSA-I	9.250 (0.397)	**0.606 (p = 0.007)**
	DLiSA-II	9.215 (0.453)	0.532 (p = 0.419)
W10	DLiSA	5.321 (0.137)	
	DLiSA-I	5.333 (0.157)	0.525 (p = 0.461)
	DLiSA-II	5.399 (0.271)	0.546 (p = 0.170)
W11	DLiSA	2.113 (0.043)	
	DLiSA-I	2.122 (0.045)	0.572 (p = 0.072)
	DLiSA-II	2.120 (0.045)	0.548 (p = 0.222)
W12	DLiSA	3.495 (0.094)	
	DLiSA-I	3.515 (0.103)	0.536 (p = 0.307)
	DLiSA-II	3.529 (0.111)	**0.581 (p = 0.025)**
W13	DLiSA	2.532 (0.020)	
	DLiSA-I	2.537 (0.023)	0.564 (p = 0.068)
	DLiSA-II	2.541 (0.027)	**0.582 (p = 0.020)**

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	0.933 (0.152)	
	DLiSA-I	1.466 (1.755)	**0.697 (p < 0.001)**
	DLiSA-II	0.941 (0.219)	0.532 (p = 0.427)
W2	DLiSA	3.496 (0.501)	
	DLiSA-I	5.120 (6.379)	**0.702 (p < 0.001)**
	DLiSA-II	3.637 (0.640)	0.576 (p = 0.063)
W3	DLiSA	1.313 (0.313)	
	DLiSA-I	2.131 (2.990)	**0.616 (p = 0.004)**
	DLiSA-II	1.334 (0.275)	0.552 (p = 0.206)
W4	DLiSA	1.613 (0.373)	
	DLiSA-I	2.277 (2.193)	**0.699 (p < 0.001)**
	DLiSA-II	1.683 (0.389)	**0.589 (p = 0.03)**
W5	DLiSA	3.185 (0.424)	
	DLiSA-I	4.688 (5.025)	**0.668 (p < 0.001)**
	DLiSA-II	3.256 (0.529)	0.534 (p = 0.409)
W6	DLiSA	0.100 (0.016)	
	DLiSA-I	0.130 (0.105)	**0.678 (p < 0.001)**
	DLiSA-II	0.102 (0.015)	0.561 (p = 0.124)
W7	DLiSA	0.589 (0.151)	
	DLiSA-I	0.917 (1.191)	**0.626 (p = 0.002)**
	DLiSA-II	0.589 (0.125)	0.528 (p = 0.495)
W8	DLiSA	0.137 (0.022)	
	DLiSA-I	0.187 (0.188)	**0.656 (p < 0.001)**
	DLiSA-II	0.139 (0.024)	0.504 (p = 0.922)
W9	DLiSA	0.247 (0.034)	
	DLiSA-I	0.283 (0.195)	0.577 (p = 0.056)
	DLiSA-II	0.251 (0.039)	0.514 (p = 0.732)

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	3.693 (0.772)	
	DLiSA-I	5.958 (3.322)	**0.809 (p < 0.001)**
	DLiSA-II	3.954 (1.016)	**0.615 (p = 0.005)**
W2	DLiSA	0.012 (0.004)	
	DLiSA-I	0.017 (0.007)	**0.688 (p < 0.001)**
	DLiSA-II	0.012 (0.004)	0.525 (p = 0.374)
W3	DLiSA	3.582 (0.650)	
	DLiSA-I	5.619 (2.737)	**0.776 (p < 0.001)**
	DLiSA-II	3.786 (0.882)	0.576 (p = 0.063)
W4	DLiSA	11.001 (3.132)	
	DLiSA-I	18.954 (15.539)	**0.785 (p < 0.001)**
	DLiSA-II	11.113 (2.941)	0.528 (p = 0.500)
W5	DLiSA	10.406 (2.390)	
	DLiSA-I	16.746 (8.990)	**0.809 (p < 0.001)**
	DLiSA-II	11.480 (3.324)	**0.592 (p = 0.025)**
W6	DLiSA	1.552 (0.410)	
	DLiSA-I	2.749 (1.397)	**0.850 (p < 0.001)**
	DLiSA-II	1.750 (0.457)	**0.646 (p < 0.001)**
W7	DLiSA	0.193 (0.010)	
	DLiSA-I	0.230 (0.047)	**0.828 (p < 0.001)**
	DLiSA-II	0.201 (0.018)	**0.620 (p = 0.002)**
W8	DLiSA	22.957 (5.456)	
	DLiSA-I	34.327 (14.209)	**0.775 (p < 0.001)**
	DLiSA-II	24.631 (7.130)	0.556 (p = 0.174)
W9	DLiSA	20.050 (4.127)	
	DLiSA-I	35.576 (29.394)	**0.811 (p < 0.001)**
	DLiSA-II	21.464 (5.679)	0.572 (p = 0.079)
W10	DLiSA	10.280 (2.502)	
	DLiSA-I	16.846 (10.210)	**0.811 (p < 0.001)**
	DLiSA-II	10.978 (3.135)	0.566 (p = 0.109)
W11	DLiSA	2.604 (0.539)	
	DLiSA-I	3.957 (1.900)	**0.782 (p < 0.001)**
	DLiSA-II	2.858 (0.832)	**0.586 (p = 0.035)**
W12	DLiSA	5.132 (1.234)	
	DLiSA-I	9.175 (6.526)	**0.830 (p < 0.001)**
	DLiSA-II	5.678 (1.753)	**0.588 (p = 0.032)**
W13	DLiSA	2.840 (0.573)	
	DLiSA-I	4.112 (1.645)	**0.774 (p < 0.001)**
	DLiSA-II	3.123 (0.856)	**0.586 (p = 0.036)**

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)