|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Wf name,task count | 60 % reliability | | | | | |
| GA | GA+HEFT | GA+HEFT-ReX | GA vsGA+ HEFT, % | GA+HEFT vs GA+HEFT-ReX, % | GA vs GA+HEFT-ReX, % |
| CyberShake, 30 | 727.92 | 520.59 | 241.03 | 28.48 | 53.69 | 66.88 |
| CyberShake, 50 | 1305.75 | 899.69 | 432.55 | 31.09 | 51.92 | 66.87 |
| CyberShake, 75 | 1518.47 | 1167.59 | 562.35 | 23.10 | 51.83 | 62.96 |
| CyberShake, 100 | 2488.90 | 1808.22 | 851.89 | 27.34 | 52.88 | 65.77 |
| Montage, 25 | 605.78 | 252.31 | 109.02 | 58.34 | 56.79 | 82.00 |
| Montage, 50 | 1004.09 | 538.87 | 229.15 | 46.33 | 57.47 | 77.17 |
| Montage, 75 | 1362.07 | 783.86 | 352.61 | 42.45 | 55.01 | 74.11 |
| Montage, 100 | 1855.26 | 1097.18 | 499.40 | 40.86 | 54.48 | 73.08 |
| Epigenomics, 24 | 9865.87 | 9365.82 | 4878.80 | 5.06 | 47.90 | 50.54 |
| Epigenomics, 46 | 19918.06 | 17379.25 | 9038.99 | 12.74 | 47.98 | 54.61 |
| Epigenomics, 72 | 113083.83 | 97883.57 | 49140.92 | 13.44 | 49.79 | 56.54 |
| Epigenomics, 100 | 173390.08 | 147798.18 | 81779.83 | 14.75 | 44.66 | 52.83 |
| LIGO, 30 | 3528.76 | 2847.02 | 1589.26 | 19.31 | 44.17 | 54.96 |
| LIGO, 50 | 5684.58 | 4749.32 | 2657.60 | 16.45 | 44.04 | 53.24 |
| LIGO, 72 | 6711.83 | 5535.92 | 2971.43 | 17.52 | 46.32 | 55.72 |
| LIGO, 100 | 9428.58 | 7839.59 | 4405.80 | 16.85 | 43.80 | 53.27 |
| SIPHT, 30 | 4482.32 | 4241.60 | 2923.17 | 5.37 | 31.08 | 34.78 |
| SIPHT, 60 | 6678.17 | 5673.71 | 3419.73 | 15.04 | 39.72 | 48.79 |
| SIPHT, 73 | 7987.03 | 6773.64 | 3907.21 | 15.19 | 42.31 | 51.08 |
| SIPHT, 100 | 8942.89 | 7341.67 | 4252.48 | 17.90 | 42.07 | 52.44 |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Wf name,task count | 75 % reliability | | | | | |
| GA | GA+HEFT | GA+HEFT-ReX | GA vs GA+HEFT, % | GA+HEFT vs GA+HEFT-ReX, % | GA vs GA+HEFT-ReX, % |
| CyberShake, 30 | 501.65 | 360.73 | 215.97 | 28.09 | 40.12 | 56.94 |
| CyberShake, 50 | 897.08 | 639.88 | 382.39 | 28.67 | 40.23 | 57.37 |
| CyberShake, 75 | 1047.60 | 845.13 | 494.95 | 19.32 | 41.43 | 52.75 |
| CyberShake, 100 | 1761.70 | 1299.87 | 771.98 | 26.21 | 40.61 | 56.17 |
| Montage, 25 | 368.41 | 165.46 | 94.27 | 55.08 | 43.02 | 74.40 |
| Montage, 50 | 601.524 | 347.85 | 183.59 | 42.17 | 47.22 | 69.47 |
| Montage, 75 | 822.46 | 520.67 | 282.54 | 36.69 | 45.73 | 65.64 |
| Montage, 100 | 1067.80 | 705.28 | 380.90 | 33.94 | 45.99 | 64.32 |
| Epigenomics, 24 | 8430.17 | 8038.16 | 4901.86 | 4.65 | 39.01 | 41.85 |
| Epigenomics, 46 | 15793.54 | 14899.11 | 8726.56 | 5.66 | 41.42 | 44.74 |
| Epigenomics, 72 | 93319.58 | 83395.74 | 49540.36 | 10.63 | 40.59 | 46.91 |
| Epigenomics, 100 | 139814.56 | 128055.76 | 78902.54 | 8.41 | 38.38 | 43.56 |
| LIGO, 30 | 2595.40 | 2386.79 | 1533.78 | 8.03 | 35.73 | 40.90 |
| LIGO, 50 | 4435.61 | 3900.74 | 2495.99 | 12.05 | 36.01 | 43.72 |
| LIGO, 72 | 5331.15 | 4615.18 | 2838.68 | 13.43 | 38.49 | 46.75 |
| LIGO, 100 | 7674.43 | 6633.78 | 4060.68 | 13.55 | 38.78 | 47.08 |
| SIPHT, 30 | 3685.23 | 3665.70 | 2823.87 | 0.53 | 22.96 | 23.37 |
| SIPHT, 60 | 5174.39 | 4585.58 | 3243.99 | 11.37 | 29.25 | 37.30 |
| SIPHT, 73 | 6333.12 | 5510.98 | 3843.58 | 12.98 | 30.25 | 39.30 |
| SIPHT, 100 | 6864.62 | 6256.54 | 4159.87 | 8.85 | 33.51 | 39.40 |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Wf name,task count | 95 % reliability | | | | | |
| GA | GA+HEFT | GA+HEFT-ReX | GA vs GA+HEFT, % | GA+HEFT vs GA+HEFT-ReX, % | GAvs GA+HEFT-ReX, % |
| CyberShake, 30 | 290.74 | 244.68 | 196.52 | 15.84 | 19.68 | 32.40 |
| CyberShake, 50 | 557.13 | 475.84 | 341.23 | 14.59 | 28.28 | 38.75 |
| CyberShake, 75 | 617.16 | 540.03 | 419.57 | 12.49 | 22.30 | 32.01 |
| CyberShake, 100 | 1047.39 | 914.24 | 674.99 | 12.71 | 26.16 | 35.55 |
| Montage, 25 | 131.83 | 101.34 | 78.80 | 23.12 | 22.23 | 40.22 |
| Montage, 50 | 238.33 | 185.68 | 141.01 | 22.08 | 24.05 | 40.83 |
| Montage, 75 | 346.81 | 275.19 | 207.93 | 20.64 | 24.44 | 40.04 |
| Montage, 100 | 462.90 | 366.21 | 278.98 | 20.88 | 23.81 | 39.73 |
| Epigenomics, 24 | 6429.77 | 6250.80 | 5350.77 | 2.78 | 14.39 | 16.78 |
| Epigenomics, 46 | 12512.18 | 12503.45 | 9764.15 | 0.06 | 21.96 | 21.90 |
| Epigenomics, 72 | 75585.08 | 73028.06 | 55209.66 | 3.38 | 24.39 | 26.95 |
| Epigenomics, 100 | 115745.84 | 110471.42 | 83546.58 | 4.55 | 24.37 | 27.81 |
| LIGO, 30 | 2029.65 | 1992.93 | 1524.41 | 1.80 | 23.50 | 24.89 |
| LIGO, 50 | 3412.75 | 3296.33 | 2558.67 | 3.41 | 22.37 | 25.02 |
| LIGO, 72 | 4172.14 | 3855.90 | 2934.87 | 7.58 | 23.88 | 29.65 |
| LIGO, 100 | 5863.52 | 5560.52 | 4251.54 | 5.16 | 23.54 | 27.49 |
| SIPHT, 30 | 3068.64 | 3065.03 | 2859.76 | 0.11 | 6.80 | 6.69 |
| SIPHT, 60 | 3967.04 | 3897.01 | 3114.54 | 1.76 | 20.07 | 21.48 |
| SIPHT, 73 | 5077.01 | 4996.98 | 3725.41 | 1.57 | 25.44 | 26.62 |
| SIPHT, 100 | 5277.77 | 5235.90 | 4197.67 | 0.79 | 19.82 | 20.46 |