

Annexure 1

Memory Management in Real-Time Operating System

Test Case: Existing and DmRT allocators allocate from Available Local Memory (SMP)

1. Execution time for all allocators 100 attempts (Best Case i.e. for 100 block requests)

Attempt No.	Dlmalloc	tcmalloc	TLSF	DmRT		Attempt No.	Dlmalloc	tcmalloc	TLSF	DmRT
1	288.34	327.13	275.49	231.27		51	289.77	328.06	270.68	233.84
2	289.16	336.33	265.7	238.33		52	285.85	335.79	261.53	233.5
3	292.92	328.88	264.89	239.29		53	291.96	326.5	270.75	234.93
4	285.29	334.04	261.84	236.12		54	291.94	327.84	265.29	239.12
5	291.48	320.52	261.24	239.85		55	287.37	327.7	272.98	230.96
6	285.73	335.15	267.12	236.18		56	282.93	333.73	267.21	235.21
7	287.63	338.47	272.78	231.99		57	288.97	325.8	268.35	233.59
8	285.57	320.71	271.64	234.12		58	282.58	320.62	263.46	234.85
9	286.49	333.16	264.94	239.77		59	283.79	337.87	273.47	238.13
10	286.43	329.69	266.34	230.24		60	286.38	331.07	269.38	239.96
11	291.08	337.47	273.02	230.46		61	293.61	321.46	267.83	236.49
12	291.01	324.02	267.05	233.09		62	287.2	326.52	267.48	233.67
13	281.44	333.49	274.97	232.36		63	285.5	323.78	266	230.95
14	295.63	330.52	273.73	237.13		64	286.23	336.86	269.75	232.1
15	287.06	326.78	268.04	239.8		65	285.02	320.96	267.59	231.99
16	290.61	337.58	274.18	234.11		66	292.54	321.07	263.14	231.39
17	281.8	329.6	268.5	237.29		67	292.64	333.84	274.95	230.03
18	282.87	331.05	270.25	237.53		68	284.27	338.76	270.38	230.69
19	291.95	327.18	272.76	239.59		69	284.69	328.31	270.8	232.81
20	281.59	335.69	261.9	232.91		70	281.48	334.41	275.86	234.16
21	290.12	330.43	264.25	230.07		71	294.31	338.43	264.16	234.49
22	282.69	338.22	271.37	237.42		72	295.56	330.57	272.03	237.3
23	289.04	324.71	269.34	236.77		73	288.71	333.98	273.09	232.77
24	292.46	326.83	272.38	238.59		74	288.99	330.2	274.09	232.82
25	293.08	322.17	264.39	233.3		75	283.37	337.07	267.4	232.04
26	293.08	339.94	274.92	234.35		76	286.13	339.43	270.46	234.69
27	291.16	327.97	267.82	233.7		77	289.02	331.14	266.73	233.45
28	281.04	321.36	273.77	231.89		78	282.06	327.4	263.22	233.08
29	291.63	327.77	267.6	232.21		79	287.85	328.09	274	236.8
30	281.13	325.23	265.26	230.51		80	282.75	322.18	272.95	230.1
31	283.89	339.45	262.56	239.03		81	294.2	333.64	261.57	232.91
32	287.46	329.42	269.51	232.19		82	295.5	335.93	263.92	232.33
33	286.55	336.05	264.04	234.11		83	287.34	338.39	265.11	231.55
34	291.21	335.4	263.75	236.46		84	288.27	323.44	272.95	234.15
35	287.82	339.22	271.3	236.34		85	285.54	337.76	274.82	238.8
36	281.34	324.31	270.33	233.65		86	295.64	327.96	275.84	234.57
37	288.73	325.84	272.03	239.23		87	295.79	337.34	267.75	231.32
38	282.3	322.63	268.98	237.75		88	283.2	337.3	265.52	235.06
39	284.46	329.03	270.31	235.98		89	285.1	323.73	271.11	230.33
40	294.86	336.09	272.66	235.88		90	290.62	331.34	263.94	236.78
41	289.09	336.21	261.76	231.3		91	289.47	332.27	261.69	231.68
42	282.52	327	275.62	231.46		92	282.41	326.5	268.4	236.64
43	286.26	324.56	266.74	236.26		93	294.65	337.95	262.97	232.21
44	286.96	326.64	271.73	236.15		94	287.78	333.28	270.06	233.64
45	282.08	325.29	266.24	239.03		95	286.32	336.87	264.48	235.75
46	286.43	337.94	268.35	230.66		96	288.23	323.57	267.28	233.82
47	285.4	330.81	267.84	236.58		97	284.98	328.17	268.52	235.31
48	290.98	322.01	264.14	239.51		98	292.21	332.23	273.12	232.36
49	287.91	325.74	275.92	237.77		99	293.84	323.48	269.54	235.29
50	284.57	333.34	262.49	231.44		100	290.92	320.37	262.42	239.85
Avg of 100 Attempts	287.8581	330.3003	268.598	234.6128						

Memory Management in Real-Time Operating System

Test Case: Existing and DmRT allocators allocate from Available Local Memory (SMP)

2. Fragmentation for all allocators 100 attempts (Best Case i.e. for 100 block requests)

Attempt No.	Dlmalloc	tcmalloc	TLSF	DmRT		Attempt No.	Dlmalloc	tcmalloc	TLSF	DmRT
1	41.77	30.84	24.68	15.36		51	44.28	27.69	21.51	16.51
2	44.22	30.98	24.67	17.26		52	45.37	28.91	22.57	18.92
3	45.53	29.38	22.96	16.4		53	45.37	28.76	23.24	16.84
4	45.81	28.85	24.26	18.18		54	44.31	31.41	20.26	18.8
5	44.69	30.43	22.58	15.25		55	41.11	30.06	23.52	16.51
6	43.99	31.81	21.1	17.4		56	41.45	27.49	20.77	16.95
7	41.13	27.42	24.48	15.74		57	42.38	30.15	24.56	19.1
8	42.35	28.91	23.56	19.7		58	45.95	30.78	20.63	19.69
9	43.26	31.68	23.15	19.21		59	42.57	30.85	21.1	19.35
10	44.29	28.4	24.11	18.08		60	42.81	29.35	23.71	19.65
11	43.68	29.12	24.59	15.03		61	44.42	30.75	21.04	16.95
12	41.21	29.72	21.86	18.84		62	45.57	30.6	23.32	18.88
13	42.37	31.04	20.47	16.14		63	45.87	30.19	22.68	16.95
14	44.76	27.74	20.87	17.14		64	41.11	28	21.94	18.45
15	43	30.53	20.53	18.62		65	45.93	28.58	24.12	17.89
16	44.79	28.03	23.13	19.87		66	45.71	31.31	20.9	15.04
17	45.3	29.78	24.56	19.17		67	44.65	29.73	22.3	15.64
18	41.65	28.46	21.61	15.11		68	41.32	30.65	22.47	15.83
19	41.55	27.92	22.31	16.96		69	43.55	31.93	21.7	19.35
20	44.3	28.91	23.34	16.92		70	41.66	28.71	22.92	15.78
21	44.37	30.26	22.54	18.18		71	45.15	27.41	20.67	19.24
22	41.19	27.7	20.66	15.24		72	43.06	31.38	23.81	18.42
23	43.4	30.59	24.89	17.19		73	44.88	31.54	24.22	16.11
24	41.73	30.97	21.64	16.56		74	44.44	27.41	21.43	18.6
25	42.99	28.55	21.9	18.16		75	43.67	30.13	21.62	15.34
26	45.67	28.12	22.33	19.85		76	45.29	30.94	21.6	17.21
27	44.07	31.14	22.29	17.44		77	41.58	27.13	24.44	15.71
28	45.84	27.82	21.1	16.02		78	41.93	30.34	21.52	19.81
29	41.98	31.34	20.72	15.43		79	41.32	27.19	20.37	17.42
30	42.19	31.85	23.19	15.06		80	45.58	31.05	20.06	17.89
31	42.19	30.92	20.12	15.46		81	45.05	31.59	24.01	17.87
32	42.24	27.08	24.19	17.84		82	45.38	27.6	23.77	18.27
33	44.19	30.81	23.95	19.22		83	45.19	27.01	22.48	18.94
34	42.39	31.85	20.26	16.38		84	44.96	30.56	24.31	18.99
35	43.26	29.85	20.79	18.03		85	42.5	27.36	21.31	17.19
36	43.96	31.81	21.63	18.34		86	44.84	28.98	22.83	16.1
37	45.53	29.38	24.42	16.54		87	43.64	31.21	21.89	19.22
38	43.42	29.78	22.81	16.61		88	44.31	29.2	22.09	16.94
39	43.33	29.73	23.65	17.84		89	41.56	31.7	23.68	18.14
40	45.24	27.53	22.28	16.33		90	44.44	30.48	20.91	18.34
41	42.16	30.64	23.04	15.23		91	44.59	28.15	21.99	19.52
42	45.6	27.09	20.86	19.13		92	42.96	29.2	21.83	17.58
43	43.07	27.59	20.06	19.56		93	45.5	31.29	24.87	18.74
44	41.02	30.2	24.09	15.32		94	44.13	28.73	21.04	18.01
45	45.22	31.13	23.07	17.55		95	44.38	30.1	22.27	15.19
46	44.88	31.97	23.82	19.47		96	43.96	31.56	22.88	15.01
47	42.85	29.5	21.15	17.64		97	43.42	29.59	23.03	19.17
48	42.69	31.81	21.84	16.91		98	43.32	29.7	24.96	17.92
49	43.71	28.52	21.92	18.48		99	42.35	28.47	23.21	19.71
50	43.07	31.69	22.65	16.38		100	42.85	28.33	22.87	16.86
Avg of 100 Attempts	43.65	29.68	22.48	17.50						

Memory Management in Real-Time Operating System

Test Case: Existing and DmRT allocators allocate from Available Local Memory (SMP)

3. No. of Request Satisfied for all allocators 100 attempts

(Best Case i.e. for 100 block requests)

Attempt No.	Dlmalloc	tcmalloc	TLSF	DmRT		Attempt No.	Dlmalloc	tcmalloc	TLSF	DmRT
1	57	62	83	88		51	56	62	81	89
2	59	63	84	88		52	56	63	84	88
3	56	61	84	89		53	59	61	83	88
4	56	61	81	86		54	59	63	84	86
5	55	65	83	87		55	57	61	84	88
6	59	62	83	87		56	57	64	79	89
7	55	60	83	87		57	57	60	84	86
8	57	62	83	86		58	56	61	81	85
9	57	65	83	86		59	55	64	82	86
10	54	62	80	88		60	59	65	84	86
11	57	62	81	89		61	56	64	81	87
12	54	61	83	90		62	56	65	81	90
13	56	64	79	89		63	58	64	81	88
14	55	65	82	90		64	54	61	83	86
15	55	63	83	86		65	54	60	79	90
16	58	62	80	88		66	55	61	81	89
17	54	63	83	88		67	57	65	81	88
18	57	60	82	89		68	55	61	81	87
19	56	61	82	86		69	58	64	81	86
20	58	64	82	86		70	55	64	80	87
21	58	64	80	86		71	57	64	81	89
22	58	64	82	87		72	56	64	79	87
23	59	62	82	89		73	57	61	82	89
24	57	63	82	87		74	56	62	82	86
25	55	61	80	87		75	56	63	79	90
26	54	65	80	87		76	56	65	80	85
27	57	65	82	90		77	57	64	84	86
28	54	62	80	89		78	55	62	81	88
29	58	64	84	87		79	57	65	81	88
30	56	61	80	90		80	58	65	80	87
31	56	60	80	87		81	58	61	80	88
32	59	61	79	85		82	58	60	83	90
33	55	62	82	85		83	54	65	82	85
34	58	64	83	89		84	58	61	81	90
35	58	60	80	88		85	55	63	82	87
36	55	65	82	89		86	55	64	82	86
37	57	60	83	90		87	57	63	82	85
38	57	60	83	87		88	57	64	81	85
39	55	62	82	86		89	59	61	82	86
40	55	65	83	89		90	56	65	84	89
41	58	65	83	89		91	58	62	79	85
42	57	64	80	87		92	56	61	81	90
43	55	61	81	88		93	57	61	80	90
44	58	64	83	87		94	58	61	82	87
45	55	62	79	87		95	58	62	79	88
46	58	62	81	90		96	59	63	82	86
47	56	61	82	90		97	56	65	79	85
48	58	65	84	89		98	55	61	79	87
49	56	65	81	90		99	58	63	84	88
50	59	65	81	89		100	56	60	82	89
Avg of 100 Attempts	56.62	62.59	81.57	87.62						

Memory Management in Real-Time Operating System

Test Case: Existing and DmRT allocators allocate from Available Local Memory (SMP)

1. Execution Time for all allocators 100 attempts (Average Case i.e. for 1000 block requests)

Attempt No.	Dlmalloc	tcmalloc	TLSF	DmRT		Attempt No.	Dlmalloc	tcmalloc	TLSF	DmRT
1	1995.11	2896.17	1381.19	1069.76		51	1811.2	2727.38	1303.27	1054.52
2	1953.73	3039.92	1528.14	1053.01		52	1946.9	2760.15	1392.28	1017.18
3	1888.73	3080.42	1442.76	1019.13		53	1816.12	2796.57	1405.25	1031.91
4	1958.15	2824.03	1355	1044.85		54	1934.69	3070.81	1529.98	1087.95
5	1956.2	2906.1	1480.57	1026.51		55	1881.33	2966.48	1315	1115.07
6	1959.53	2941.39	1596.21	1000.51		56	1930.68	3022.12	1363.43	1075.95
7	1988.52	2712.13	1595.66	1034.22		57	1870.43	2962.25	1585.3	1139.64
8	1829.79	3089.7	1551.09	1135.16		58	1845.94	2702.25	1395.17	1113.11
9	1805.38	3021.91	1461.34	1049.19		59	1840.65	3074.06	1466.05	1140.82
10	1851.57	2860.88	1569.23	1065.34		60	1802.44	2968.37	1598.24	1088.32
11	1930.61	2805.39	1599.12	1071.7		61	1932.84	2931.62	1466.73	1053.75
12	1876.48	3072.65	1420.21	1001.34		62	1911.69	3062.3	1300.16	1052.28
13	1974.12	2957.93	1411.22	1086.63		63	1914.45	3013.03	1563.26	1148.46
14	1942.79	2985.92	1529.92	1114.61		64	1857.34	2965.84	1524.52	1077.6
15	1817.58	3013.36	1542.16	1075.65		65	1927.82	2727.97	1383.42	1071.21
16	1900.92	2948.91	1463.55	1036.02		66	1888.69	2813.86	1370.16	1065.83
17	1878.87	2709.91	1513.39	1056.26		67	1911.72	2801.1	1554.77	1021.55
18	1891.06	2817.56	1568.9	1138.93		68	1855.03	2707.91	1341.36	1091.91
19	1904.82	3004.66	1306.4	1049.21		69	1813.26	3058.05	1441.57	1101.43
20	1969.05	3007.7	1319.69	1146.31		70	1894.75	2898.84	1411.8	1087.9
21	1961.37	3018.67	1470.13	1128.88		71	1883.13	2703.03	1560.01	1103.19
22	1830.67	2731.7	1305.94	1113.93		72	1875.85	2944.25	1469.16	1116.01
23	1820.36	2731.15	1495.77	1067.74		73	1993.35	2813.39	1505.27	1018.02
24	1870.7	2720.55	1523.33	1032.62		74	1957.18	2720.82	1465.04	1080.94
25	1810.63	2711.55	1361.48	1101.47		75	1984.11	3065.1	1357.22	1111.88
26	1999.34	2766.91	1334.5	1088.51		76	1976.01	3065.24	1403.71	1013.95
27	1973.38	3049.81	1491.79	1034.76		77	1954.28	2742.91	1496.27	1029.44
28	1906.19	3069.65	1397.96	1074.99		78	1909.58	2919.43	1520.11	1085.76
29	1938.14	3096.51	1494.62	1050.06		79	1849.94	2917.62	1558.36	1049.66
30	1999.41	2854.22	1555.52	1071.96		80	1866.62	2704.7	1528.08	1082.35
31	1859.86	2843	1481.35	1138.41		81	1929.85	2701.15	1435.14	1087.3
32	1873.52	3048.96	1460.99	1037.26		82	1867.71	2857.67	1509.87	1119.72
33	1842.11	2776.78	1578.97	1044.5		83	1804.62	3024.48	1312.1	1086.87
34	1861.19	2724.43	1559.84	1018.87		84	1866.55	3058.9	1544.04	1047.95
35	1894.88	2863.37	1485.12	1058.71		85	1936.87	3022.52	1562.53	1058.19
36	1991.32	2923.02	1387.88	1071.88		86	1936.04	3085.46	1546.61	1146.92
37	1919.07	2893.19	1426.67	1121.58		87	1851.38	2838.26	1535.43	1028.85
38	1931.5	2859.25	1588.76	1043.86		88	1929.94	3040.72	1421.71	1000.18
39	1970.13	2808.71	1414.1	1069.13		89	1889.24	2936.51	1300.53	1073.32
40	1999.5	3036.29	1327.59	1093.14		90	1971.91	2848.7	1434.42	1102.31
41	1830.07	2759.66	1419.04	1098.82		91	1933.4	2781.37	1468.95	1023.11
42	1946.29	2888.36	1596.32	1118.55		92	1803.17	3020.77	1581.79	1047.62
43	1950.17	3098.37	1540.46	1037.5		93	1984.22	2854.46	1437.52	1083.32
44	1840.35	2721.34	1594.53	1001.99		94	1832.09	2955.1	1402	1019
45	1948.38	2819.17	1462.7	1016.31		95	1820.91	2843.31	1398.96	1028.49
46	1927.67	2789.01	1308.31	1025.1		96	1990.4	2720.52	1332.16	1063.3
47	1883.99	2701.59	1515.8	1003.25		97	1883.18	3000.24	1396.45	1020.85
48	1960.71	2885.41	1545.37	1057.69		98	1979.95	2990.72	1398.64	1136.14
49	1909.35	2834.43	1479.62	1009.33		99	1881.92	2714.9	1507.85	1006.1
50	1950.94	2703.06	1399.54	1107.63		100	1877.03	2702.35	1385.83	1079.62
Avg of 100 Attempts	1904.826	2890.503	1461.272	1067.995						

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Test Case: Existing and DmRT allocators allocate from Available Local Memory (SMP)

2. Fragmentation for all allocators 100 attempts (Average Case i.e. for 1000 block requests)

Attempt No.	Dlmalloc	tcmalloc	TLSF	DmRT		Attempt No.	Dlmalloc	tcmalloc	TLSF	DmRT
1	51.24	36.11	27.46	20.9		51	53.31	36.95	26.38	23.43
2	54.84	36.21	26.67	22.72		52	51.11	33.82	26.89	22.62
3	51.44	34.45	27.8	22.85		53	53.75	36.85	28.86	21.36
4	53.81	35.26	26.45	21.11		54	50.62	34.74	27.18	22.64
5	53.39	35.41	27.98	20.67		55	52.54	34.07	28.53	22.15
6	50.02	33.35	27.22	22.73		56	50.31	33.9	28.75	22.55
7	53.12	35.77	25.56	23.43		57	53.41	33.22	28.53	22.7
8	52.67	36.49	25.35	21.1		58	52.28	33.07	26.9	21.34
9	52.58	34.75	28.87	20.07		59	51.42	35.51	27.76	22.22
10	52.14	36.08	25.52	23.39		60	50.66	36.09	25.29	21.39
11	54.24	36.41	27.71	22.71		61	50.06	35.94	28.36	20.6
12	51.13	35.4	28.26	21.11		62	52.94	33.2	25.36	23.88
13	51.86	35.38	28.06	21.17		63	52.66	35.85	25.29	22.18
14	52.19	35.38	25.26	22.52		64	51.41	36.48	25.44	23.49
15	54.07	36.64	25.28	21.38		65	54.2	33.73	27.11	21.27
16	54.62	35.94	25.06	21.41		66	51.3	36.52	27.36	23.84
17	54.59	36.45	27.29	23.69		67	50.72	35.26	28.34	20.78
18	51.11	36.08	27	20.8		68	51.74	33.51	27.08	22.79
19	50.21	36.76	25.4	20.86		69	52.45	35.48	27.9	22.45
20	53.73	35.82	26.11	21.54		70	51.25	36.3	26	22.45
21	52.11	35.66	28.59	21.74		71	54.15	35.84	25.66	23.06
22	50.92	33.4	28	22.96		72	51.25	33.72	28.17	21.03
23	51.23	33.81	26.48	23.03		73	54	34.62	27.63	22.44
24	51.77	36.2	28.84	23.6		74	51.3	35.93	28	22.53
25	52.39	36.27	27.56	20.95		75	53.63	34.88	27.02	23.42
26	54.85	35.67	27.41	20.87		76	53.06	34.98	27.05	21.83
27	50.13	34.2	28.98	23.07		77	54.4	35.12	26.27	21.4
28	50.39	33.13	27.3	21.27		78	53.54	33.2	27.92	23.51
29	51.25	33.74	27.1	22.31		79	52.81	34.55	25.57	21.08
30	50.4	33.63	28.17	23.18		80	53.79	33.31	26.3	21.92
31	53.15	36.79	28.91	23.93		81	52.3	35.02	25.73	21.07
32	51.87	34.61	27.38	23.31		82	53.46	35.53	26.11	21.82
33	53.56	34.84	28.47	23.04		83	52.47	35.6	25.92	21.88
34	53.27	33.21	27.46	20.7		84	53.87	35.78	27.91	22.57
35	54.21	34.65	28.46	23.82		85	54.98	36.55	25.14	21.17
36	50.99	36.97	25.45	21.56		86	53.85	34.76	28.4	20.46
37	50.14	35.37	27.99	23.35		87	51.98	35.29	26.89	20.78
38	51.58	36.67	25.42	20.86		88	52.41	36.72	28.95	23.67
39	51.32	34.61	27.3	22.07		89	54.24	34.19	26.2	20.71
40	50.8	34.89	25.12	22.35		90	54.25	36.55	27.68	20.53
41	53.52	36.83	25.55	20.38		91	53.71	33.7	25.16	20.43
42	51.57	33.67	25.27	23.09		92	53.68	35.12	26.04	21.43
43	50.44	36.35	26.99	21.57		93	50.11	35.28	27.88	23.64
44	54.02	35.51	26.71	20.69		94	51.1	35.01	27.84	23.88
45	50.77	34.86	26.78	23.37		95	50.2	34.83	26.2	23.3
46	54.34	34.79	28.25	20.4		96	50.24	35.53	28.46	22.07
47	52.74	33.12	27.57	20.15		97	54.39	35.04	26.37	21.5
48	51.91	36.82	26.97	22.3		98	50.82	34.13	26.09	23.51
49	53.31	35.26	27.4	20.91		99	53.23	35.35	26.51	23.79
50	52.44	33.78	25.51	22.5		100	53.51	35.63	27.97	22.97
Avg of 100 Attempts	52.3926	35.157	27.0205	22.0902						

Memory Management in Real-Time Operating System

Test Case: Existing and DmRT allocators allocate from Available Local Memory (SMP)

3. No. of request Satisfied for all allocators 100 attempts (Average Case i.e. for 1000 block requests)

Attempt No.	Dlmalloc	tcmalloc	TLSF	DmRT		Attempt No.	Dlmalloc	tcmalloc	TLSF	DmRT
1	44.1	57.7	74.6	81.1		51	44.1	58.8	76.2	84.1
2	43.7	57.3	74.3	83.6		52	47.7	58.4	76.7	82.9
3	47.0	58.4	74.5	82.5		53	43.4	58.0	76.9	84.2
4	46.7	56.2	75.7	84.6		54	45.1	58.0	76.4	84.3
5	47.1	58.2	76.5	82.1		55	46.3	58.6	73.8	84.7
6	43.6	56.7	76.7	83.1		56	47.5	57.8	74.6	83.3
7	44.1	59.0	76.3	82.3		57	47.5	58.0	73.6	83.7
8	46.9	58.0	73.1	82.0		58	43.9	57.1	74.5	83.5
9	43.9	57.4	73.0	84.2		59	43.9	58.9	76.3	82.3
10	46.7	56.2	74.4	84.4		60	45.6	57.4	75.5	83.5
11	47.4	57.3	74.8	84.4		61	47.9	56.1	74.1	84.6
12	44.3	56.1	76.9	84.9		62	45.3	58.7	76.3	83.2
13	46.5	58.2	76.7	82.3		63	45.1	57.8	73.8	83.0
14	46.8	56.1	74.7	83.1		64	46.1	57.3	76.8	82.4
15	43.4	57.2	76.3	81.9		65	43.8	57.1	73.7	84.9
16	46.4	58.2	76.0	81.4		66	43.1	58.1	75.7	82.7
17	46.4	57.7	73.6	82.4		67	46.0	59.0	73.4	84.2
18	46.2	57.7	73.8	84.8		68	46.4	56.6	73.6	84.1
19	47.5	56.6	76.5	83.9		69	46.0	58.0	73.7	82.8
20	44.1	56.8	75.1	81.8		70	47.4	57.0	74.8	84.8
21	46.8	58.8	76.1	82.3		71	45.2	58.6	73.9	82.5
22	47.4	56.6	75.7	83.9		72	44.1	56.2	75.3	81.7
23	45.7	58.4	75.2	84.0		73	43.6	56.2	73.5	83.7
24	43.3	56.9	73.7	82.2		74	44.4	57.0	76.4	81.1
25	46.5	56.2	74.5	84.4		75	44.6	56.4	76.9	82.7
26	43.1	56.0	76.8	82.2		76	45.8	58.3	76.9	82.8
27	45.1	58.7	75.1	82.4		77	43.8	59.0	73.1	83.3
28	46.9	56.1	73.9	82.7		78	46.3	56.7	73.1	82.8
29	45.8	58.3	75.4	82.7		79	44.5	58.3	75.3	84.5
30	47.5	56.9	74.2	81.7		80	45.7	57.3	74.3	81.1
31	43.3	58.8	73.4	84.3		81	47.3	56.0	76.5	84.9
32	43.9	56.4	73.3	83.7		82	43.3	57.1	76.6	83.4
33	44.8	58.8	73.2	82.6		83	44.4	58.8	74.3	83.9
34	44.0	58.0	75.6	84.5		84	47.0	57.2	74.7	82.1
35	46.9	57.6	76.4	81.0		85	45.8	58.7	73.5	83.7
36	47.7	56.7	76.2	83.9		86	43.2	57.3	75.1	83.5
37	47.0	56.4	74.5	81.9		87	45.6	58.2	75.9	83.6
38	47.4	57.9	75.2	84.4		88	44.3	56.5	75.3	83.0
39	46.3	57.0	73.1	82.8		89	47.9	57.5	74.4	81.1
40	46.5	58.4	73.9	84.7		90	44.7	56.3	75.9	82.7
41	45.2	58.5	77.0	83.0		91	44.3	58.0	74.0	81.7
42	44.0	58.1	73.2	84.5		92	47.6	58.0	75.8	82.7
43	45.4	56.8	76.0	82.2		93	45.7	57.7	76.0	81.3
44	43.4	58.1	75.1	83.8		94	47.6	56.1	73.7	81.5
45	44.0	56.3	74.1	84.3		95	46.4	56.2	73.2	81.1
46	47.2	56.1	73.0	84.1		96	46.3	56.2	76.9	84.6
47	44.2	57.4	73.4	82.2		97	46.8	58.2	73.7	84.2
48	45.0	56.0	76.2	81.6		98	43.2	56.7	76.0	82.0
49	44.1	57.5	75.8	83.1		99	44.3	58.9	76.3	84.0
50	43.3	57.7	74.0	82.6		100	46.4	57.7	75.6	82.2
Avg of 100 Attempts	45.458	57.4617	74.9894	83.109						

Memory Management in Real-Time Operating System

Test Case: Existing and DmRT allocators allocate from Available Local Memory (SMP)

**1. Execution Time for all allocators 100 attempts
(Worst Case i.e. for 2000 block requests)**

Attempt No.	Dlmalloc	tcmalloc	TLSF	DmRT		Attempt No.	Dlmalloc	tcmalloc	TLSF	DmRT
1	3276.71	4315.49	2109.34	1890.63		51	3177.93	4368.19	2159.45	1899.71
2	3275.88	4353.08	2184.18	1898.78		52	3254.06	4350.76	2125.61	1830.11
3	3268.1	4389.03	2169.11	1834.24		53	3185.35	4318.69	2155.41	1844.93
4	3289.33	4344.61	2113.54	1818.87		54	3128.39	4398.84	2100.14	1818.87
5	3284.92	4379.25	2129.49	1816.27		55	3280.51	4361.88	2146.9	1841.38
6	3118.69	4396.33	2167.11	1893.64		56	3145.16	4354.37	2125.73	1853.83
7	3103.2	4378.69	2184.27	1896.43		57	3205.75	4333.98	2177.52	1810.07
8	3283.6	4332.45	2164.84	1836.82		58	3209.58	4354.4	2188.47	1868.83
9	3235.02	4331.49	2180.49	1823.41		59	3263.87	4371.79	2199.44	1828.36
10	3263.98	4396.53	2192.42	1899.32		60	3139.43	4342.74	2199.97	1868.61
11	3172.78	4310.35	2103.63	1850.54		61	3267.34	4351.84	2121.1	1883.72
12	3210.57	4301.67	2138.62	1863.42		62	3175.02	4356.97	2175.39	1872.98
13	3155.86	4334.07	2126.83	1808.34		63	3230.35	4393.29	2167.46	1898.93
14	3177.62	4367.34	2157.43	1861.08		64	3192.04	4358.69	2103.97	1880.26
15	3269.22	4391.81	2166.53	1807.01		65	3269.51	4302.87	2170.92	1878.34
16	3123.68	4361.65	2103.4	1869.43		66	3125.16	4300.09	2188.76	1857.67
17	3223.57	4394.17	2196.39	1852.73		67	3163.22	4338.51	2188.12	1821.96
18	3250.55	4303.31	2101.5	1817.74		68	3119.7	4373.88	2176.86	1847.27
19	3253.95	4330.31	2156.98	1844.41		69	3224.42	4338.46	2158.14	1893.14
20	3242.7	4321.22	2133.61	1875.82		70	3220.12	4325.65	2177.19	1891.69
21	3151.55	4365.14	2182.62	1818.2		71	3208.83	4379.87	2190.73	1862.22
22	3175.06	4367.06	2179.03	1809.47		72	3109.78	4351.16	2147.15	1822.29
23	3260.01	4369.44	2192.8	1863.69		73	3126.2	4367.34	2129.86	1878.66
24	3115.65	4373.07	2140.52	1814.06		74	3257.94	4342.19	2102.44	1898.1
25	3123.27	4392.62	2160.08	1819.96		75	3171.47	4316.58	2185.56	1881.33
26	3254.54	4385.27	2152.64	1823.8		76	3192.33	4379.47	2115.06	1829.28
27	3133.24	4335.38	2186.27	1867.02		77	3193.14	4300.69	2177.25	1809.62
28	3150.5	4323.37	2112.87	1824.31		78	3243.28	4311.72	2113.2	1820.64
29	3115.91	4362.32	2177.89	1862.85		79	3297.93	4308.18	2150.03	1832.43
30	3125.42	4374.97	2106.43	1844.88		80	3174.82	4381.34	2130.03	1838.44
31	3109.49	4373.28	2110.19	1842.88		81	3242.84	4364.16	2142.46	1875.43
32	3263.59	4343.79	2195.51	1855.29		82	3242.41	4339.35	2199.28	1825.93
33	3178.17	4308.26	2115.41	1812.37		83	3240.43	4372.19	2190.1	1841.81
34	3230.74	4390.03	2159.11	1816.02		84	3218.25	4338.03	2155.81	1839.66
35	3207.8	4365.64	2173.93	1893.4		85	3180.45	4363.49	2139.32	1828.59
36	3135.44	4392.74	2125.05	1867.53		86	3253.84	4358.85	2131.4	1842.14
37	3291.36	4329.02	2102.53	1817.37		87	3209.46	4335.69	2191.96	1895.5
38	3139.45	4384.42	2150.46	1864.29		88	3266.06	4394.99	2196.38	1860.24
39	3207.81	4380.71	2169.81	1815.51		89	3199.3	4345.75	2121.19	1869.7
40	3226.01	4338.18	2102.97	1811.3		90	3126.82	4339.71	2193.63	1877.93
41	3162.87	4378.76	2156.76	1814.23		91	3281.97	4314.74	2161.36	1831.09
42	3147.32	4357.11	2171.32	1838.24		92	3174.66	4368.71	2131.3	1812.6
43	3294.04	4361.68	2160.75	1849.51		93	3259.55	4365.71	2182.49	1887.11
44	3176.73	4386	2154.23	1804.72		94	3209	4327.26	2193.32	1831.89
45	3253.6	4392.84	2157.08	1818.34		95	3285.1	4303.76	2156.01	1810.33
46	3289.49	4308.49	2126.72	1847.9		96	3168.81	4334.19	2134.14	1832.92
47	3193.5	4310.83	2110.08	1821.42		97	3162.97	4334.73	2147.6	1821.62
48	3116.6	4343.97	2147.96	1816.07		98	3221.52	4322.51	2174.58	1823.21
49	3282.19	4390.25	2185.66	1868.9		99	3189.18	4386.38	2172.3	1882.13
50	3244.71	4315.76	2170.72	1847.07		100	3136.42	4335.37	2111.58	1832.2
Avg of 100 Attempts	3204.577	4352.133	2153.912	1847.152						

Memory Management in Real-Time Operating System

Test Case: Existing and DmRT allocators allocate from Available Local Memory (SMP)

2. Fragmentation for all allocators 100 attempts

(Worst Case i.e. for 2000 block requests)

Attempt No.	Dlmalloc	tcmalloc	TLSF	DmRT		Attempt No.	Dlmalloc	tcmalloc	TLSF	DmRT
1	58.43	44.2	33.41	28.03		51	59.35	41.44	30.62	26.82
2	59.85	42.7	31.61	27.04		52	59.73	43.73	33.98	25.65
3	60.44	45.83	30.81	25.71		53	58.47	42.3	32.58	25.38
4	59.91	45.83	33.78	27.76		54	61.31	44.82	33.64	27.34
5	59.62	41.2	30.65	25.51		55	61.05	43.08	30.6	25.4
6	60.02	45.57	32.78	28.89		56	61.18	41.95	31.12	28.36
7	60.17	41.77	33.64	28.2		57	62.29	45.88	33.9	27.59
8	61.65	44.97	31.7	27.64		58	58.2	45.51	31.95	25.18
9	62.64	43.44	33.83	25.96		59	58.54	46	31.57	25.3
10	61.13	43.09	30.05	27.1		60	58.75	45.17	30.12	28.14
11	60.73	43.57	33.51	28.86		61	58.91	42.19	31.6	27.74
12	61.39	45.48	33.86	26.16		62	60.23	45.97	33.52	25.38
13	59.43	43.9	32.47	26.56		63	62.21	45.52	32.29	25.02
14	60.52	41.42	32.46	27.99		64	58.53	42.74	30.38	27.82
15	60.13	42.54	32.51	28.43		65	61.95	44.14	33.31	28.85
16	61	44.06	31.06	25.11		66	61.38	44.39	30.94	28.03
17	62.51	44.28	31.19	27.44		67	61.72	42.93	31.65	26.27
18	59.51	43.07	33.03	27.34		68	61.62	43.98	32.35	28.95
19	58.96	43.65	31.11	25.3		69	60.33	41.59	31.19	26.5
20	62.55	41.47	30.85	28.75		70	60.41	43.04	30.82	27.71
21	62.24	43.68	33.71	28.57		71	60.4	45.12	31.26	26.14
22	58.25	44.1	30.9	25.45		72	61.63	43.07	30.64	27.68
23	59.19	45.81	31.89	26.51		73	60.75	42.48	33.88	27.66
24	59.42	41.22	33.16	27.77		74	59.87	41.03	32.29	26.88
25	60.17	44.77	30.1	28.36		75	61.47	42.55	30.48	27.95
26	58.17	42.07	33.01	27.94		76	60.55	43.38	33.07	28.32
27	62.03	42.62	30.19	27.97		77	59.69	45.91	33.88	26.88
28	59.14	43.22	32.23	26.48		78	58.38	45.1	31.43	28.99
29	61.8	44.35	30.61	27.52		79	61.12	42.84	33.55	28.6
30	58.67	42.86	33.95	27.38		80	62.14	43.66	30.64	28.84
31	61.41	41.63	33.52	25.94		81	62.9	44.65	30.24	25.57
32	58.87	44.94	30.16	27.77		82	59.61	43.12	32.71	26.88
33	62.55	43.7	30.46	26		83	61.84	45.67	30.52	27.12
34	62.54	44.02	32.1	27.38		84	58.51	42.89	32.77	25.23
35	60.48	43.25	33.15	27.31		85	59.38	45.56	33.59	26.76
36	59.03	42.39	32.41	25.84		86	59.5	45.38	33.13	28.45
37	61.69	42.38	32.18	27.48		87	58.36	44.91	33.95	26.42
38	59.75	44.03	32.55	25.68		88	62.92	44.44	31.81	27.45
39	62.15	44.33	31.53	25.99		89	61.84	42.06	30.72	25.14
40	62.99	43.38	32.98	28.88		90	62.23	43.36	31.58	26.06
41	59.44	43.94	32.7	26.75		91	59.54	43.17	32.94	25.44
42	58.51	41.12	31.35	27.93		92	60.99	45.64	33.61	28.62
43	60.46	41.88	32.15	26.51		93	60.19	44.55	31.87	27.48
44	62.8	45.43	32.82	25.33		94	59.46	44.03	31.13	25.76
45	62.17	42.64	31.7	26.28		95	60.92	43.23	33.54	28
46	60.69	41.77	31.83	25.42		96	61.7	45.26	32.82	27.08
47	58.41	44.78	33.53	28.13		97	59.16	44.86	30.41	26.2
48	60.98	43.91	32.19	25.17		98	58.37	42.13	30.58	25.55
49	59.17	42.98	30.92	25.18		99	58.44	44.71	30.61	28.46
50	61.39	42.52	30.3	28.26		100	60.72	44.3	31.96	25.48
Avg of 100 Attempts	60.4389	43.6719	32.0433	26.9948						

Memory Management in Real-Time Operating System

Test Case: Existing and DmRT allocators allocate from Available Local Memory (SMP)

3. No. of Request Satisfied for all allocators 100 attempts

(Worst Case i.e. for 2000 block requests)

Attempt No.	Dlmalloc	tcnmalloc	TLSF	DmRT		Attempt No.	Dlmalloc	tcnmalloc	TLSF	DmRT
1	33.80	50.35	70.00	76.95		51	34.55	51.40	71.70	77.10
2	36.35	51.35	69.50	78.05		52	33.50	50.55	70.00	76.35
3	34.10	54.95	71.85	78.85		53	35.35	54.70	71.45	78.30
4	35.85	50.60	71.20	78.80		54	34.75	50.30	71.30	77.35
5	33.95	52.75	69.10	76.35		55	33.40	53.00	72.00	75.10
6	35.55	52.85	71.05	78.45		56	36.25	50.25	69.90	78.15
7	36.75	54.70	70.45	78.15		57	35.25	53.65	71.05	76.00
8	35.95	52.20	69.30	78.00		58	37.00	53.20	69.10	79.55
9	36.00	50.25	71.90	75.50		59	36.65	53.70	71.20	76.15
10	35.20	54.60	70.85	77.15		60	36.15	54.40	69.05	78.00
11	33.00	50.15	70.30	75.00		61	36.30	54.20	70.45	75.45
12	36.75	53.45	71.05	75.85		62	33.65	53.35	71.15	78.10
13	35.55	53.55	71.85	76.15		63	34.30	53.75	71.00	76.35
14	36.90	52.15	69.65	79.75		64	34.35	55.00	69.90	77.55
15	36.35	53.45	69.75	77.15		65	33.90	50.45	71.80	78.20
16	36.45	54.55	69.35	77.30		66	35.25	53.90	70.40	75.65
17	33.75	50.85	71.90	79.90		67	33.30	53.25	69.45	79.55
18	36.60	52.60	71.85	76.15		68	35.35	51.10	71.05	77.00
19	33.10	53.40	71.90	77.90		69	36.90	53.45	71.05	79.90
20	34.05	50.20	69.35	78.55		70	33.65	52.75	69.60	75.30
21	33.65	51.75	71.85	77.35		71	33.00	54.75	71.65	77.30
22	34.35	51.75	71.75	78.55		72	35.10	50.10	71.80	77.95
23	34.05	53.65	71.20	78.35		73	34.15	52.20	69.00	76.05
24	36.45	50.05	70.05	77.25		74	34.80	54.05	69.20	78.20
25	33.95	52.95	71.90	77.00		75	35.10	52.35	70.85	78.55
26	36.60	52.00	69.20	76.65		76	34.90	50.95	69.25	76.00
27	36.05	51.00	69.55	78.65		77	35.95	52.00	70.00	77.45
28	33.10	54.55	71.85	78.85		78	34.60	54.20	70.35	78.35
29	34.35	51.00	69.00	78.95		79	36.90	53.35	70.75	78.25
30	36.75	53.45	70.45	79.70		80	35.85	52.70	70.45	77.00
31	36.50	51.70	69.40	79.05		81	35.15	53.40	70.65	75.30
32	33.95	53.60	71.90	79.80		82	34.90	50.50	70.05	76.75
33	35.55	50.95	71.85	76.70		83	36.30	54.05	71.25	76.70
34	33.10	54.45	71.15	78.15		84	36.75	50.70	69.45	76.65
35	35.80	54.30	70.85	77.75		85	34.85	54.55	69.30	77.65
36	35.65	53.00	70.40	76.50		86	34.65	50.70	69.45	77.05
37	33.45	52.05	70.20	76.65		87	35.00	50.85	69.60	79.45
38	35.70	50.20	70.90	77.30		88	34.20	53.00	69.85	76.20
39	35.30	52.25	71.50	78.75		89	34.15	53.60	69.85	78.20
40	36.15	54.90	71.40	75.10		90	33.95	53.20	69.50	76.65
41	35.65	53.60	70.10	77.10		91	35.60	51.45	69.05	78.20
42	34.25	51.50	70.00	78.30		92	35.40	51.55	70.70	78.95
43	34.40	54.90	71.40	75.20		93	36.70	53.90	70.70	75.40
44	36.80	51.05	71.10	76.25		94	37.00	54.65	71.00	77.50
45	34.15	53.50	70.30	76.00		95	33.70	50.35	71.95	75.70
46	35.40	54.25	70.35	79.40		96	34.55	50.50	69.65	78.75
47	33.25	51.15	69.80	79.75		97	33.60	54.00	71.95	79.60
48	34.30	50.80	71.65	75.55		98	33.80	54.35	69.30	77.30
49	35.25	51.35	70.35	79.30		99	35.90	54.30	71.85	77.80
50	36.25	51.50	71.80	77.40		100	36.00	51.05	70.50	75.75
Avg of 100 Attempts	35.0845	52.5575	70.5685	77.47						

Memory Management in Real-Time Operating System

Case 1: Existing from Local and DmRT follows Local -> Shared -> Ideal

1. Execution Time for all allocators 100 attempts (Best Case i.e. for 100 block requests)

Attempt No.	Dlmalloc	tcmalloc	TLSF	DmRT		Attempt No.	Dlmalloc	tcmalloc	TLSF	DmRT
1	341.96	406.69	298.27	393.29		51	330.87	419.99	281.97	374.71
2	311.37	415.58	295	368.32		52	339.8	417.45	290.82	351.28
3	329.7	414.63	286.39	353.85		53	336.01	419.33	286.52	367.52
4	320.77	411.41	291.08	353.35		54	343.85	405.68	296.31	387.9
5	323.16	416.49	286.24	375.69		55	313.29	411.02	281.41	393.93
6	338.61	414.21	290.74	385.19		56	321.12	406.5	290.32	372.9
7	311.72	419.85	285.79	389.9		57	300.78	410.47	281.89	358
8	325.4	402.63	284.36	362.24		58	302.81	408.62	293.62	388.93
9	306.24	408.78	289.99	370.56		59	323.8	404.87	286.69	353.48
10	318.2	404.29	298.98	352.12		60	323.13	417.92	284.99	388.35
11	337.47	402.31	294.83	365.16		61	333.12	409.18	292.88	368.34
12	327.68	418.88	293.87	382.04		62	338.16	411.05	283.57	376.08
13	332.1	404.16	286.78	362.41		63	303.07	408.05	295.32	378.36
14	312.31	417.95	283.74	391.11		64	345.93	405.54	291.41	368.1
15	341.61	404.96	293.83	360.22		65	300.86	416.9	280.97	381.08
16	301.82	414.45	289.57	377.06		66	348.62	416.19	281.43	354.78
17	338.64	412.14	285.16	357.39		67	325.49	407.03	289.68	357.04
18	344.43	413.11	296.76	391.91		68	323.29	410.17	296.34	369.04
19	335.31	412.84	296.78	366.81		69	315.12	408.85	282.05	381.27
20	348.84	403.64	289.18	372.45		70	331.37	416.52	288.22	356.52
21	339.61	403.47	296.95	372.78		71	332.99	416.02	297.28	367
22	310.64	403.3	297.99	356.21		72	322.69	412.1	283.01	381.65
23	303.29	406.44	295.08	387.05		73	336.8	417.18	282.5	398.04
24	302.4	404.96	283.35	357.9		74	305.66	408.64	294.43	394.97
25	334.78	404.92	285.51	359.67		75	330.99	413.99	281.65	399.86
26	325.03	406.83	295.64	399.54		76	301.4	416.85	294.6	391.38
27	328.94	410.59	283.47	387.55		77	317.01	416.76	284.54	368.35
28	328.54	416.2	282.46	396.18		78	312.23	409.93	294.78	379.25
29	319.83	409.39	291.99	374.12		79	339.81	409.98	299.08	383.12
30	302.38	404.83	297.09	369.08		80	316.81	413.24	295.93	352.96
31	347.89	417.47	290.65	361.39		81	311.88	409.04	294.34	362.16
32	319.99	414.09	282.86	394.41		82	330.68	406.56	283.98	367.18
33	302.16	409.9	288.15	378.78		83	340.27	417.09	296.59	355.61
34	340.06	407.65	295.44	358.62		84	303.7	413.33	289.34	379.02
35	346.16	411.34	287.71	392.85		85	334.53	416.1	282.96	355.12
36	322.15	411.47	285.06	362.14		86	333.77	411.05	299.71	367.15
37	336.01	407.54	289.59	393.89		87	343.9	416.63	296.81	371.2
38	326.59	409.21	288.26	367.34		88	334.47	402.39	292.62	379.85
39	305.84	413.71	283.42	352.24		89	324.72	419.95	290.6	371.29
40	340.14	419.24	285.27	371.75		90	331.86	417.96	290.45	351.38
41	345.22	409.42	296.07	395.72		91	347.19	400.96	280.1	379.28
42	347.25	410.08	296.65	385.65		92	303.29	411.52	293.76	399.85
43	344.13	405.19	289.71	361.31		93	345.61	411.57	299.05	379.93
44	317.02	403.89	291.78	383.18		94	342.28	403.67	280.39	359.26
45	310.09	410.76	284.38	354.37		95	332.24	417.7	292.03	386.28
46	324.21	416.37	289.21	373.66		96	305.35	403.27	296.67	380.55
47	311.48	408.61	292.76	397.43		97	338.29	400.32	293.92	377.38
48	324.89	412.97	295.23	361.43		98	336.74	410.65	295.38	395.46
49	327.07	418.16	297.83	389.65		99	344.37	406.43	294.77	393.25
50	310.41	404.05	284.51	360.83		100	330.7	407.42	291.17	395.83
Avg of 100 Attempts	326.2426	410.8068	290.2026	374.3901						

Memory Management in Real-Time Operating System

Case 1: Existing from Local and DmRT follows Local -> Shared -> Ideal

2. Fragmentation for all allocators 100 attempts

(Best Case i.e. for 100 block requests)

Attempt No.	Dlmalloc	tcmalloc	TLSF	DmRT		Attempt No.	Dlmalloc	tcmalloc	TLSF	DmRT
1	44.5	37.07	23.97	9.66		51	41.31	38.12	19.51	10.34
2	45.53	34.36	21.77	11.08		52	41.3	37.46	22.99	11.4
3	42.27	36.11	22.99	11.64		53	43.33	36.73	19.28	9.36
4	44.87	37.75	21.6	12.89		54	42.27	38.08	20.44	8.81
5	44.67	34.09	21.85	10.87		55	45.24	36.1	21.1	9.91
6	41.83	35.05	22.22	11.07		56	45.54	38.7	22.51	9.38
7	41.37	34.54	19.85	8.71		57	45.37	34.48	20.48	8.07
8	43.37	36.81	21.89	12.22		58	42.69	38.3	21.72	10.37
9	42.67	34.19	21.7	12.77		59	45.09	36.19	23.45	11.78
10	44.49	34.49	23.82	10.29		60	44.81	37.9	23.1	8.11
11	42.13	36.52	22.01	13		61	44.68	38.01	19.42	8.64
12	42	37.7	22.21	11.86		62	45.74	37.84	22.07	12.81
13	45.13	34.44	19.95	10.62		63	45.17	35.94	20.96	12.89
14	41.71	34.85	22.71	12.38		64	41.32	34.63	22.4	12.22
15	42.2	36.33	20.21	11.84		65	43.83	37.91	22.84	8.34
16	43.19	37.75	20.41	10.45		66	44.73	34.75	20.13	12.16
17	42.97	37.1	21.24	10.54		67	43.21	38.44	19.95	12.33
18	43.33	35.18	23.92	12.89		68	44.58	37.31	22.3	11.19
19	41.3	38.79	20.61	8.6		69	42.07	37.91	21.48	10.22
20	41.47	36.02	19.25	8.22		70	42.43	38.51	23.75	8.74
21	43.3	38.9	22.72	12.26		71	44.51	36.45	23.52	10.42
22	44.6	38.62	21.61	12.83		72	41.52	38.57	21.06	12.03
23	41.34	38.24	23.55	10.69		73	42.13	37.47	19.71	9.01
24	44.17	36.87	23.09	9.5		74	44.72	35.22	19.85	8.51
25	45.37	38.17	23.64	10.66		75	43.91	37.23	22.3	9.59
26	41.44	38.81	22.81	10.48		76	45.34	36.02	21.97	8.06
27	43.9	36.6	19.84	10.87		77	43.75	36.67	22.48	9.51
28	43.09	38.81	19.26	11.45		78	45.15	35.03	23.09	9.09
29	44.76	34.57	21.93	10.02		79	45.04	37.46	22.15	10.27
30	42.04	34.02	21.03	10.55		80	42.47	36.52	22.18	8.66
31	44.01	38.57	20.5	10.18		81	45.23	35.9	23.48	10.13
32	42.6	36.99	19.94	9.88		82	43.03	38.08	22.95	10
33	44.7	34.08	22.15	12.43		83	42.67	37.1	21.11	10.31
34	45.15	37.69	21.04	11.36		84	42.31	36.02	20.09	9.83
35	43.31	35.29	21.23	9.14		85	44.33	36.5	21.62	10.47
36	43.67	38.78	20.22	10.65		86	43.23	37.05	23.16	9.59
37	41.47	34.82	22.55	11.95		87	42.36	38.7	23.39	9.26
38	42.82	35.23	20.81	9.81		88	43.21	36.58	23.2	12.47
39	42.43	36.27	23.51	9.36		89	45.81	35.28	19.8	9.79
40	41.85	38.95	20.23	11.79		90	41.13	36.35	22.36	10.95
41	42.33	38.76	20.55	9.49		91	43.5	36.48	22.22	8.94
42	44.61	35.81	23.77	12.63		92	42.16	34.41	19.43	10.47
43	44.6	38.88	20.22	10.75		93	44.37	38.07	19.06	8.67
44	41.08	38.95	20.64	8.26		94	42.16	36.16	21.93	8.66
45	44.83	36.88	19.89	9.05		95	42.17	36.26	23.58	12.53
46	44.7	34.26	21.66	10.45		96	43.63	34.01	21.81	10.11
47	45.31	37.29	20.28	8.79		97	44.88	35.18	20.02	12.55
48	41.96	37.04	23.02	12.65		98	44.27	35.98	20.08	11.88
49	45.45	35.74	19.21	12.77		99	45.04	35.28	22.54	8.39
50	45.79	38.76	20.17	11.54		100	43.95	37.36	23.47	10.35
Avg of 100 Attempts	43.50	36.68	21.59	10.51						

Memory Management in Real-Time Operating System

Case 1: Existing from Local and DmRT follows Local -> Shared -> Ideal

3. No. of Request Satisfied for all allocators 100 attempts
(Best Case i.e. for 100 block requests)

Attempt No.	Dlmalloc	tcmalloc	TLSF	DmRT		Attempt No.	Dlmalloc	tcmalloc	TLSF	DmRT
1	56	63	75	95		51	60	63	78	95
2	56	62	76	95		52	56	61	75	96
3	60	62	78	97		53	60	62	77	95
4	56	64	76	95		54	57	64	79	95
5	57	61	75	94		55	58	62	77	96
6	58	62	76	93		56	56	61	78	94
7	60	62	77	97		57	56	65	78	95
8	56	62	75	93		58	57	61	78	95
9	57	61	77	95		59	60	63	75	96
10	58	64	76	93		60	57	63	76	95
11	57	61	79	95		61	58	63	77	94
12	59	60	74	94		62	59	60	74	92
13	59	64	79	95		63	57	62	78	96
14	55	62	78	96		64	58	64	75	93
15	56	64	78	95		65	60	64	79	92
16	59	62	78	93		66	56	62	77	95
17	57	61	76	94		67	60	61	74	92
18	58	62	79	95		68	56	65	75	93
19	55	61	79	94		69	59	64	79	96
20	55	63	75	95		70	55	65	76	94
21	59	64	79	96		71	60	62	75	95
22	56	61	77	97		72	59	63	75	93
23	60	64	77	96		73	57	62	79	94
24	56	61	78	92		74	57	62	76	93
25	56	61	75	93		75	60	60	75	97
26	56	60	77	96		76	58	64	78	95
27	60	64	77	92		77	57	62	75	92
28	60	64	78	93		78	60	61	78	95
29	55	62	77	97		79	58	60	78	94
30	59	61	77	96		80	58	61	78	95
31	58	63	76	95		81	58	64	74	97
32	58	60	78	94		82	58	60	79	97
33	55	61	75	95		83	60	63	76	94
34	57	64	74	93		84	58	61	75	95
35	55	64	79	97		85	55	64	74	94
36	60	64	76	92		86	58	61	74	97
37	56	62	76	95		87	57	63	77	96
38	60	62	79	97		88	55	65	76	96
39	58	60	77	95		89	56	64	75	95
40	60	63	76	94		90	57	60	74	94
41	59	64	79	96		91	56	61	76	96
42	59	62	77	92		92	55	64	79	96
43	55	61	75	93		93	58	63	77	97
44	57	62	76	97		94	58	65	77	95
45	57	61	79	95		95	59	61	77	93
46	57	64	77	92		96	59	60	77	93
47	56	64	76	96		97	56	62	78	94
48	58	61	76	93		98	59	62	76	93
49	58	65	75	96		99	56	64	76	94
50	57	64	78	95		100	57	62	74	97
Avg of 100 Attempts	57.5068	62.3301	76.6088	94.6614						

Memory Management in Real-Time Operating System

Case 1: Existing from Local and DmRT follows Local -> Shared -> Ideal

1. Execution Time for all allocators 100 attempts (Average Case i.e. for 1000 block requests)

Attempt No.	Dlmalloc	tcmalloc	TLSF	DmRT		Attempt No.	Dlmalloc	tcmalloc	TLSF	DmRT
1	2019.94	2919.8	1449.83	2380.93		51	2041.16	2830.52	1672.48	2372.22
2	1975.91	2834.86	1360.55	2344.18		52	1958.95	2931.8	1687.8	2379.66
3	1986.51	2975.02	1593.76	2367.7		53	2075.66	2932.15	1638.35	2355.73
4	1973.94	2858.23	1575.51	2237.03		54	2038.4	3200.18	1431.11	2213.1
5	2038.76	2911.8	1451.6	2271.93		55	1914.82	2940.16	1649.61	2320.75
6	1997.75	3064.49	1562.78	2289.13		56	1901.82	3023.58	1488.49	2289.57
7	2096.33	3071.17	1478.77	2363.4		57	2066.87	2975.69	1565.68	2281.19
8	1968.31	3012.5	1610.85	2395.72		58	2062.56	2948.25	1685.75	2385.87
9	1929.27	3006.98	1674.03	2255.17		59	2039.23	3039.59	1503.78	2349.4
10	2045.43	3187.03	1626.12	2304.1		60	1997.83	2873.6	1434.89	2365.57
11	2036.7	2801.17	1329.42	2226.66		61	2015.15	2903.04	1662.25	2380.33
12	1995.62	2901.72	1456.22	2392.09		62	2064.3	2819.16	1683.41	2333.87
13	2034.2	3099.26	1443.55	2209.67		63	2032.04	3179.02	1459.28	2256.83
14	2099.23	2854.39	1555.85	2344.81		64	1990.31	2817.53	1678.85	2230.97
15	2024.05	2838.6	1516.28	2215.67		65	1943.89	3046.49	1342.02	2287.3
16	1905.85	2855.63	1509.04	2396.89		66	2053.12	2972.21	1639.21	2377.04
17	2041.47	3153.95	1455.8	2295.03		67	1967.89	3070.85	1567.45	2306.31
18	2093.23	3176.76	1481.94	2385.01		68	2042.65	2920.36	1304.75	2222.75
19	2097.8	2911.72	1655.32	2373.83		69	2087.2	2898.03	1398.1	2368
20	2098.24	3130.28	1331.57	2283.23		70	1957.56	3067.95	1656.7	2323.73
21	1938.53	2862.16	1432.54	2221.01		71	2097.01	2947.05	1565.04	2270.54
22	1905.65	2959.85	1656.91	2298.6		72	1954.36	3185.68	1348.55	2293.53
23	2072.92	3062.53	1531.29	2379.02		73	2013.68	2896.72	1438.95	2379.64
24	2040.81	2883.03	1680.37	2208.67		74	1965.36	2808.31	1594.17	2224.02
25	1921.97	2968.58	1590.6	2397.92		75	2017.03	2921.88	1663.72	2346.04
26	1917.47	2992.48	1690.79	2206.38		76	2029.53	3114.97	1363.06	2263.31
27	1909.26	3111.65	1643.18	2306.16		77	2062.55	3152.32	1412.02	2245.39
28	2087.72	2920.66	1657.57	2251.92		78	1977.78	3085.65	1576.51	2249.53
29	2084.11	3062.95	1390.97	2297.59		79	1930.2	2910.07	1446.57	2250.94
30	1962.65	2820.28	1446.21	2283.97		80	1969.53	3197.37	1312.21	2381.78
31	2062.94	2920.02	1508.89	2341.84		81	1942.94	3200.33	1693.6	2374.24
32	2052.23	3041.17	1510.61	2353.43		82	1944.25	3058.63	1458.36	2255.21
33	2043.27	3061.96	1483.94	2322.38		83	2077.44	2804.44	1681.17	2247.64
34	1921.06	3058.09	1500.58	2215.02		84	2051.76	2900.44	1342.41	2243.17
35	2065.77	3043.57	1404.67	2268.31		85	2043.75	3182.87	1325.95	2227.22
36	2097.64	3059.21	1391.71	2265.42		86	2096.35	2929.11	1588.45	2254.57
37	2015.11	3059.98	1373.26	2309.62		87	2037.23	2814.88	1518.92	2373.61
38	2072.48	2801.31	1572.04	2337.35		88	1978.55	3129.56	1640.97	2228.97
39	2054.11	2919.8	1663.08	2249.21		89	2032.7	2856.09	1597.51	2357.61
40	2035.35	3198.27	1314.32	2375.7		90	1900.15	3100.59	1639.01	2216.77
41	2003.86	2972.94	1511.87	2322.55		91	2023.28	3158.37	1680.49	2239.46
42	2025.24	2967.1	1353.6	2358.79		92	2003.29	2960.95	1482.71	2340.29
43	2011.26	2847.86	1500.46	2332.3		93	2084.67	2984.85	1682.22	2367.11
44	2056.55	2903.24	1546.86	2322.88		94	1991.23	2947.53	1446.71	2216.28
45	1947.07	3156.75	1478.09	2335.24		95	2080.85	3013.36	1572.69	2281.67
46	1910.66	3013.83	1466.53	2282.45		96	2084	3110.5	1584.79	2337.14
47	2000.15	2995.95	1581.43	2225.56		97	2077.76	3158.51	1532.53	2249.99
48	2024.15	2953.36	1518.77	2219.97		98	1919.09	2822.33	1628.95	2376.34
49	1992.44	2848.45	1447.51	2224.4		99	2001.72	3051.42	1557.47	2371.25
50	2060.66	3075.21	1300.37	2393.14		100	1941.34	2944.89	1440.06	2218.76
Avg of 100 Attempts	2013.324	2988.474	1522.335	2303.212						

Memory Management in Real-Time Operating System

Case 1: Existing from Local and DmRT follows Local -> Shared -> Ideal

2. Fragmentation for all allocators 100 attempts (Average Case i.e. for 1000 block requests)

Attempt No.	Dlmalloc	tcmmalloc	TLSF	DmRT		Attempt No.	Dlmalloc	tcmmalloc	TLSF	DmRT
1	54.71	42.68	28.49	14.22		51	52.46	42.72	27.44	16.22
2	51.41	45.77	31.39	14.43		52	51.84	43.2	31.57	14.28
3	50.61	42.81	27.14	16.74		53	53.29	43.41	29.75	14.94
4	52.43	45.21	29.89	16.46		54	50.28	46.23	27.31	13.16
5	54.96	44.88	30.1	17.01		55	53.52	42.61	28.76	15.22
6	53.52	46.66	31.97	15.85		56	54.79	46.62	28.35	14.73
7	52.86	45.27	31	14.54		57	52.04	46.51	28	16.33
8	50.77	42	28.21	16.37		58	54.27	44.25	30.94	17.86
9	52.29	46.27	31.57	13.52		59	53.33	44.38	28.73	16.34
10	51.53	45.93	29.39	13.74		60	52.85	44.84	27.01	15.73
11	52.06	42.4	30.08	17.3		61	52.62	46.16	29.32	13.54
12	54.03	42.43	28.82	14.28		62	52.28	45.59	31.71	17.69
13	52.35	46.97	29.08	14.59		63	51.2	42.26	28.1	16.76
14	50.73	42.51	30.12	17.08		64	53.73	46.8	30.86	16.67
15	52.83	45.11	29.68	15.73		65	53.7	43.65	28.54	16.59
16	50.12	42.17	29.08	15.01		66	50.98	45.34	30.46	16.87
17	51.4	46.12	29.07	15.49		67	52.16	44.69	30.53	13.81
18	54.57	43.36	31.74	16.65		68	53.28	44.27	30.75	13.33
19	52.24	43.92	30.98	17.7		69	52.86	44.6	27.91	14.03
20	53.76	43.62	31.73	13.64		70	51.01	42.89	30.04	13.23
21	51.91	43.45	29.31	17.62		71	52.61	44.05	30.99	16.57
22	54.11	44.48	27.92	14.15		72	54.9	46.09	27.54	15.34
23	54.7	45.51	27.95	17.3		73	51.52	44.23	27.27	17.7
24	51.96	43.57	30.49	17.77		74	52.6	42.3	28.92	13.95
25	53.29	46.06	31.55	14.77		75	52.6	45.48	27.67	14.3
26	52.22	42.99	29.01	16.47		76	50.67	46.06	31.38	16.89
27	52.77	46.35	30.87	16.24		77	52.63	45.5	29	14.42
28	52.54	45.77	29.67	17.72		78	53.77	46.05	30.13	15.47
29	50.92	42.88	31.28	14.92		79	54.17	44.9	30.27	15.72
30	52.17	46.6	28.53	15.35		80	53.44	46.64	28.69	17.93
31	53.63	43.59	31.51	14.89		81	50.21	44.96	32	15.24
32	52.81	42.62	31.09	17.42		82	52.09	43.57	27.39	17.97
33	51.42	44.5	28.01	15.68		83	54.26	42.42	27.69	13.48
34	51.49	44.84	31.97	16.86		84	50.63	43.77	29.42	17.13
35	50.78	46.54	30.01	13.01		85	50.77	46.73	30.36	14.73
36	53.52	44.03	30.39	13.03		86	53.19	42.76	27.37	13.91
37	52.5	43.41	31.64	14.01		87	54.72	44.95	27.89	17.78
38	54.55	46.4	27.24	15.89		88	54.91	43.43	28.83	15.56
39	50.46	42.29	28.95	16.3		89	54.51	43.24	31.28	13.48
40	51.77	43.68	28.1	15.75		90	52.72	44.48	30.69	13.19
41	51.4	45.44	27.91	17.36		91	51.45	42.98	30.55	15.66
42	51.62	43.29	30.78	17.59		92	53.45	44.51	30.79	13.52
43	53.91	46.04	30.77	15.95		93	51.16	45.57	30.63	15.04
44	53.44	46.82	31.79	17.93		94	50.09	42.13	28.27	17.19
45	50.3	45.89	27.89	16.94		95	53.7	45.84	29.38	14.24
46	53.24	42.37	30.15	16.99		96	54.5	46.15	29.42	17.35
47	50.18	42.03	29.9	13.2		97	54.07	43.42	27.06	16.71
48	52.51	46.38	29.59	15.9		98	51.06	43.87	31.98	13.35
49	53.64	46.81	28.61	15.25		99	54.49	42.89	28.94	16.15
50	51.56	43.84	27.06	16.99		100	51.03	44.89	31.32	15.51
Avg of 100 Attempts	52.5491	44.4944	29.5867	15.6241						

Memory Management in Real-Time Operating System

Case 1: Existing from Local and DmRT follows Local -> Shared -> Ideal

3. No. of Request Satisfied for all allocators 100 attempts (Average Case i.e. for 1000 block requests)

Attempt No.	Dlmalloc	tcmmalloc	TLSF	DmRT		Attempt No.	Dlmalloc	tcmmalloc	TLSF	DmRT
1	46.1	52.1	63.4	88.5		51	46.9	54.2	67.7	86.2
2	46.6	52.5	67.5	85.6		52	46.9	53.0	64.6	87.9
3	44.2	52.6	64.4	88.6		53	46.5	55.9	63.7	85.5
4	45.1	55.7	67.7	86.4		54	47.2	54.4	67.2	86.5
5	43.2	56.9	67.9	89.4		55	44.2	53.6	63.5	86.4
6	43.1	55.3	63.6	87.2		56	46.2	52.7	66.0	88.2
7	44.4	55.0	67.6	89.9		57	46.4	56.9	65.9	87.8
8	46.7	52.9	64.5	87.3		58	44.4	54.2	66.2	86.4
9	44.5	52.4	65.1	86.3		59	44.6	52.1	65.2	88.0
10	45.1	56.0	63.1	87.9		60	45.4	53.4	64.3	90.0
11	46.0	54.4	65.8	88.2		61	47.0	52.0	66.3	89.4
12	43.8	53.3	66.5	87.1		62	43.5	54.1	63.1	85.7
13	46.7	53.1	64.4	85.7		63	47.5	55.8	65.7	89.1
14	47.8	53.5	65.5	89.8		64	45.0	53.6	67.5	85.5
15	43.6	53.2	63.5	87.4		65	43.5	52.8	65.7	88.2
16	45.7	53.8	66.8	88.3		66	44.3	52.4	67.6	87.9
17	44.4	52.8	66.3	85.6		67	45.1	55.3	66.0	85.3
18	43.6	55.4	67.9	85.7		68	47.8	54.0	63.0	88.7
19	47.9	52.1	66.7	85.1		69	43.5	54.6	63.7	85.7
20	43.6	56.6	64.7	85.2		70	43.1	52.6	63.2	87.8
21	44.3	56.1	67.6	86.0		71	44.9	53.8	65.3	88.9
22	46.7	54.8	67.4	88.3		72	43.5	53.1	65.2	89.3
23	43.7	56.1	67.1	89.1		73	45.4	52.6	65.8	87.0
24	44.8	53.2	65.9	85.8		74	46.7	54.2	67.5	85.4
25	47.7	52.9	67.7	88.8		75	43.2	54.7	67.7	87.5
26	43.3	53.0	65.1	89.7		76	46.0	56.2	65.0	86.0
27	47.3	55.5	67.4	85.6		77	43.9	55.2	66.7	86.7
28	45.1	54.1	66.0	85.4		78	46.7	56.9	65.5	89.2
29	45.5	54.1	64.2	89.9		79	45.0	56.2	66.8	86.5
30	43.1	52.3	63.8	85.2		80	43.9	56.2	64.3	85.3
31	43.1	56.8	67.2	89.9		81	45.3	55.8	67.2	88.3
32	43.2	56.2	64.2	85.4		82	43.5	54.2	64.5	85.1
33	46.3	53.0	67.7	89.9		83	46.7	56.3	66.9	88.9
34	46.5	52.2	64.1	89.1		84	45.0	52.1	64.4	86.5
35	45.5	55.8	66.6	87.3		85	43.7	52.7	67.3	88.3
36	45.4	55.1	67.6	86.0		86	45.8	52.3	63.4	89.8
37	45.6	54.4	67.6	89.6		87	43.1	55.0	64.8	86.4
38	47.0	52.3	65.1	86.7		88	46.4	56.3	64.4	87.5
39	43.7	52.2	67.3	87.2		89	43.6	54.7	63.5	88.2
40	43.5	56.4	63.1	86.1		90	44.8	54.9	67.3	89.9
41	46.7	56.5	63.5	86.6		91	47.7	55.5	66.8	85.5
42	48.0	53.5	64.4	85.8		92	43.4	56.6	63.3	88.2
43	46.9	56.1	64.2	87.5		93	44.5	54.5	65.3	89.4
44	45.0	52.4	67.5	89.0		94	43.5	55.7	65.1	85.3
45	46.9	55.5	67.6	88.2		95	47.4	52.5	63.9	87.8
46	44.2	53.0	66.8	85.4		96	45.6	53.3	66.0	89.9
47	43.4	52.3	63.6	88.8		97	45.2	53.7	63.7	88.3
48	47.4	55.3	66.0	85.1		98	47.1	56.6	67.3	86.3
49	44.9	53.3	63.4	86.3		99	46.3	54.9	64.9	89.0
50	46.9	54.5	65.6	87.7		100	44.3	53.0	67.4	89.4
Avg of 100 Attempts	45.2403	54.2546	65.6095	87.4181						

Memory Management in Real-Time Operating System

Case 1: Existing from Local and DmRT follows Local -> Shared -> Ideal

1. Execution Time for all allocators 100 attempts (Worst Case i.e. for 2000 block requests)

Attempt No.	Dlmalloc	tcmalloc	TLSF	DmRT		Attempt No.	Dlmalloc	tcmalloc	TLSF	DmRT
1	3176.23	4385.59	2087.63	3364.51		51	3121.89	4346.96	2046.34	3392.71
2	3292.47	4311.71	2008.64	3394.4		52	3197.17	4374.28	2037.07	3313.05
3	3213.74	4387.95	2049.54	3401.04		53	3176.07	4320.8	2051.85	3352.87
4	3109.66	4315.37	2015.25	3401.93		54	3126.23	4388.58	2039.8	3310.34
5	3167.11	4305.77	2005.98	3361.23		55	3294.46	4335.86	2078.6	3342.02
6	3251.2	4308.96	2064.08	3394.74		56	3101.62	4321.29	2079.64	3318.28
7	3290.37	4300.64	2070.61	3381.88		57	3200.58	4336.71	2017.82	3330.87
8	3185.84	4329.7	2027.06	3393.77		58	3187.92	4397.99	2089.64	3328.08
9	3274.74	4384.05	2073.55	3360.99		59	3147.32	4369.48	2009.38	3366.56
10	3273.34	4320.93	2067.71	3312.79		60	3187.43	4370.62	2093.44	3371.57
11	3128.32	4389.55	2059.49	3324.06		61	3259.99	4309.38	2086.67	3378.03
12	3140	4364.21	2068.59	3365.15		62	3168.57	4362.77	2067.56	3348.38
13	3157.82	4348.99	2022.13	3334.97		63	3234.69	4347.66	2043.79	3315.66
14	3214.77	4367.52	2003.55	3384.8		64	3251.81	4367.06	2029.28	3408.17
15	3150.68	4315.28	2043.58	3347.53		65	3219.44	4336.52	2099.17	3380.36
16	3175.95	4315.62	2030.93	3386.84		66	3137.28	4323.97	2082.45	3313.47
17	3260.03	4340.98	2058.03	3368.2		67	3290.07	4392.02	2010.59	3318.9
18	3266.39	4317.86	2036.98	3406.84		68	3151.65	4344.91	2054.92	3378.41
19	3184.64	4343.34	2042.24	3359.89		69	3269.75	4339.88	2084.33	3342.55
20	3157.01	4316.69	2041.32	3345.03		70	3285.53	4300.48	2074.68	3334.06
21	3176.03	4381.91	2089.18	3400.45		71	3284.41	4313.95	2053.9	3377.38
22	3249.59	4368.28	2077.05	3385.05		72	3281.57	4300.79	2025.26	3408.68
23	3270.38	4322.5	2023.37	3374.16		73	3290.3	4397.06	2044.39	3313.76
24	3203.52	4301.9	2071.02	3396.27		74	3137.6	4388.14	2096.52	3396.33
25	3185.22	4352.88	2012.48	3336.97		75	3264.47	4399.38	2019.64	3389.03
26	3213.01	4396.02	2038.21	3355.06		76	3171.32	4308.51	2003.29	3335.08
27	3164.43	4380.8	2084.14	3356.01		77	3145.61	4373.29	2026.19	3408.3
28	3209.21	4362.13	2049.29	3380.93		78	3213.3	4333.68	2098.23	3335.23
29	3166.85	4348.84	2017.91	3345.74		79	3271.54	4333.67	2050.02	3362.61
30	3273.98	4391.16	2041.43	3314.93		80	3241.86	4373.05	2059.45	3373.15
31	3217.06	4373.21	2084.04	3348.64		81	3174.56	4378.98	2087.66	3392.76
32	3206.49	4348.94	2001.58	3368.14		82	3225.02	4305.92	2046.95	3335.37
33	3228.37	4375.8	2001.11	3387.21		83	3175.72	4301.45	2000.95	3346.47
34	3197.17	4356.02	2054.38	3378.54		84	3217.33	4376.31	2057.68	3360.8
35	3299.68	4382.28	2015.19	3404.56		85	3183.03	4384.63	2096.63	3409.09
36	3283.28	4316.33	2044.84	3393.77		86	3102.08	4390.88	2063.62	3341.79
37	3191.31	4393.45	2029.38	3332.3		87	3179.44	4302.66	2000.74	3328.2
38	3294.87	4319.25	2044.37	3365.58		88	3107.02	4301.29	2002.06	3318.7
39	3175.16	4393.09	2087.26	3315.31		89	3213.61	4341.71	2073.82	3405.56
40	3217.49	4321.53	2054.53	3399.89		90	3100.69	4371.59	2010.72	3400.55
41	3174.76	4313.22	2058.09	3395.13		91	3102.35	4393.92	2003.87	3342.81
42	3149.51	4309.05	2016.67	3371.75		92	3100.05	4332.58	2053.47	3359.58
43	3269.6	4343.75	2080.03	3349.21		93	3147.87	4396.62	2017.93	3379.13
44	3266.63	4376.54	2014.22	3313.54		94	3190.26	4342.08	2061.32	3322.11
45	3150.6	4315.69	2026.3	3389.22		95	3163.59	4334.76	2097.64	3331.38
46	3251.65	4310.74	2097.45	3403.15		96	3276.68	4347.33	2056.51	3366.61
47	3128.59	4365.72	2002.36	3372.71		97	3284.56	4317.05	2095.26	3361.7
48	3225.69	4399.7	2097.02	3326.47		98	3182.2	4357.43	2082.36	3339.74
49	3244.15	4369.98	2000.78	3333.82		99	3153.98	4364.96	2063.71	3386.72
50	3150.81	4337.07	2064.44	3357.09		100	3159.17	4315.69	2020.7	3370.2
Avg of 100 Attempts	3202.561	4348.651	2049.025	3361.854						

Memory Management in Real-Time Operating System

Case 1: Existing from Local and DmRT follows Local -> Shared -> Ideal

2. Fragmentation for all allocators 100 attempts (Worst Case i.e. for 2000 block requests)

Attempt No.	Dlmalloc	tcmalloc	TLSF	DmRT		Attempt No.	Dlmalloc	tcmalloc	TLSF	DmRT
1	54.71	42.68	28.49	14.22		51	52.46	42.72	27.44	16.22
2	51.41	45.77	31.39	14.43		52	51.84	43.2	31.57	14.28
3	50.61	42.81	27.14	16.74		53	53.29	43.41	29.75	14.94
4	52.43	45.21	29.89	16.46		54	50.28	46.23	27.31	13.16
5	54.96	44.88	30.1	17.01		55	53.52	42.61	28.76	15.22
6	53.52	46.66	31.97	15.85		56	54.79	46.62	28.35	14.73
7	52.86	45.27	31	14.54		57	52.04	46.51	28	16.33
8	50.77	42	28.21	16.37		58	54.27	44.25	30.94	17.86
9	52.29	46.27	31.57	13.52		59	53.33	44.38	28.73	16.34
10	51.53	45.93	29.39	13.74		60	52.85	44.84	27.01	15.73
11	52.06	42.4	30.08	17.3		61	52.62	46.16	29.32	13.54
12	54.03	42.43	28.82	14.28		62	52.28	45.59	31.71	17.69
13	52.35	46.97	29.08	14.59		63	51.2	42.26	28.1	16.76
14	50.73	42.51	30.12	17.08		64	53.73	46.8	30.86	16.67
15	52.83	45.11	29.68	15.73		65	53.7	43.65	28.54	16.59
16	50.12	42.17	29.08	15.01		66	50.98	45.34	30.46	16.87
17	51.4	46.12	29.07	15.49		67	52.16	44.69	30.53	13.81
18	54.57	43.36	31.74	16.65		68	53.28	44.27	30.75	13.33
19	52.24	43.92	30.98	17.7		69	52.86	44.6	27.91	14.03
20	53.76	43.62	31.73	13.64		70	51.01	42.89	30.04	13.23
21	51.91	43.45	29.31	17.62		71	52.61	44.05	30.99	16.57
22	54.11	44.48	27.92	14.15		72	54.9	46.09	27.54	15.34
23	54.7	45.51	27.95	17.3		73	51.52	44.23	27.27	17.7
24	51.96	43.57	30.49	17.77		74	52.6	42.3	28.92	13.95
25	53.29	46.06	31.55	14.77		75	52.6	45.48	27.67	14.3
26	52.22	42.99	29.01	16.47		76	50.67	46.06	31.38	16.89
27	52.77	46.35	30.87	16.24		77	52.63	45.5	29	14.42
28	52.54	45.77	29.67	17.72		78	53.77	46.05	30.13	15.47
29	50.92	42.88	31.28	14.92		79	54.17	44.9	30.27	15.72
30	52.17	46.6	28.53	15.35		80	53.44	46.64	28.69	17.93
31	53.63	43.59	31.51	14.89		81	50.21	44.96	32	15.24
32	52.81	42.62	31.09	17.42		82	52.09	43.57	27.39	17.97
33	51.42	44.5	28.01	15.68		83	54.26	42.42	27.69	13.48
34	51.49	44.84	31.97	16.86		84	50.63	43.77	29.42	17.13
35	50.78	46.54	30.01	13.01		85	50.77	46.73	30.36	14.73
36	53.52	44.03	30.39	13.03		86	53.19	42.76	27.37	13.91
37	52.5	43.41	31.64	14.01		87	54.72	44.95	27.89	17.78
38	54.55	46.4	27.24	15.89		88	54.91	43.43	28.83	15.56
39	50.46	42.29	28.95	16.3		89	54.51	43.24	31.28	13.48
40	51.77	43.68	28.1	15.75		90	52.72	44.48	30.69	13.19
41	51.4	45.44	27.91	17.36		91	51.45	42.98	30.55	15.66
42	51.62	43.29	30.78	17.59		92	53.45	44.51	30.79	13.52
43	53.91	46.04	30.77	15.95		93	51.16	45.57	30.63	15.04
44	53.44	46.82	31.79	17.93		94	50.09	42.13	28.27	17.19
45	50.3	45.89	27.89	16.94		95	53.7	45.84	29.38	14.24
46	53.24	42.37	30.15	16.99		96	54.5	46.15	29.42	17.35
47	50.18	42.03	29.9	13.2		97	54.07	43.42	27.06	16.71
48	52.51	46.38	29.59	15.9		98	51.06	43.87	31.98	13.35
49	53.64	46.81	28.61	15.25		99	54.49	42.89	28.94	16.15
50	51.56	43.84	27.06	16.99		100	51.03	44.89	31.32	15.51
Avg of 100 Attempts	52.5491	44.4944	29.5867	15.6241						

Memory Management in Real-Time Operating System

Case 1: Existing from Local and DmRT follows Local -> Shared -> Ideal

3. No. of Request Satisfied for all allocators 100 attempts

(Worst Case i.e. for 2000 block requests)

Attempt No.	Dlmalloc	tcmmalloc	TLSF	DmRT		Attempt No.	Dlmalloc	tcmmalloc	TLSF	DmRT
1	36.45	51.05	58.00	83.40		51	34.95	48.50	59.80	82.15
2	35.30	48.15	61.90	83.65		52	35.85	50.50	60.95	82.65
3	36.75	48.10	58.75	81.10		53	37.00	49.20	59.20	83.80
4	35.85	48.65	61.05	82.00		54	33.95	51.45	62.00	83.40
5	33.85	50.00	59.30	82.90		55	33.35	51.05	61.40	82.50
6	36.00	51.15	59.50	82.60		56	35.25	49.45	59.15	81.75
7	36.15	49.75	59.85	83.80		57	36.30	48.20	59.85	82.60
8	36.35	51.45	61.15	82.45		58	36.45	51.00	61.65	81.20
9	36.20	48.65	59.10	82.00		59	35.95	49.10	58.10	81.50
10	35.00	48.10	58.25	82.90		60	36.05	50.50	61.75	83.70
11	34.00	49.80	61.80	84.00		61	36.60	49.60	60.50	81.55
12	36.80	51.30	60.85	81.50		62	35.65	50.45	61.35	82.80
13	35.65	48.05	59.90	82.35		63	36.95	49.90	60.85	83.75
14	33.30	51.20	60.90	81.75		64	35.35	49.35	59.05	81.45
15	34.20	48.35	60.80	82.30		65	34.85	49.55	58.80	81.80
16	33.35	48.05	61.40	81.20		66	36.20	49.05	59.45	81.25
17	34.90	49.75	58.95	83.20		67	34.30	49.60	60.30	81.20
18	33.55	51.70	60.60	82.30		68	34.95	51.65	60.75	82.50
19	34.85	48.15	60.55	83.10		69	34.60	48.95	58.00	83.30
20	34.60	51.15	60.75	83.75		70	36.15	49.60	60.75	81.95
21	33.50	51.20	59.40	83.10		71	34.60	51.05	60.15	81.30
22	35.25	48.20	60.75	81.70		72	36.55	50.75	59.15	82.55
23	36.90	50.30	60.75	83.75		73	35.35	49.30	59.20	82.25
24	34.65	50.50	58.50	81.45		74	33.40	50.00	58.40	83.40
25	34.10	50.40	59.05	81.25		75	34.15	50.80	61.80	82.80
26	33.20	50.20	58.70	83.50		76	34.00	51.75	60.15	82.65
27	36.20	51.70	60.30	83.20		77	33.85	50.05	59.70	81.55
28	34.90	52.00	59.95	82.65		78	33.85	50.70	60.45	82.00
29	34.20	48.50	61.80	83.00		79	34.05	50.45	58.45	81.70
30	36.00	49.30	58.50	81.85		80	34.20	51.95	59.00	81.40
31	33.50	51.75	58.50	81.00		81	36.50	48.25	58.85	81.40
32	33.80	48.35	60.55	81.85		82	35.30	49.20	61.55	81.45
33	35.35	48.10	59.80	81.05		83	35.45	51.50	61.45	83.25
34	33.75	51.75	58.10	81.90		84	35.70	50.65	59.50	82.20
35	35.15	48.00	60.00	82.70		85	36.40	50.80	60.15	82.90
36	33.50	48.80	60.80	81.55		86	33.00	50.90	59.00	81.05
37	35.15	50.60	61.05	81.60		87	33.60	51.60	61.30	81.75
38	35.05	48.00	58.10	83.15		88	33.30	50.00	60.75	82.15
39	34.00	50.75	58.85	81.85		89	34.45	49.60	59.70	81.85
40	36.70	49.45	61.10	82.75		90	34.55	50.40	61.70	82.20
41	35.10	51.30	59.40	81.60		91	33.25	50.75	60.45	82.70
42	36.50	48.05	59.65	83.65		92	35.45	48.10	60.10	82.05
43	34.15	51.70	61.30	83.50		93	33.55	48.80	60.05	83.90
44	35.25	52.00	60.00	81.05		94	33.55	48.50	59.00	82.75
45	34.95	50.90	60.55	82.40		95	36.00	49.30	62.00	81.15
46	34.90	51.10	61.20	83.85		96	34.65	50.65	59.95	81.95
47	36.75	50.00	59.45	83.30		97	35.35	51.85	59.60	83.40
48	34.85	50.50	61.15	82.10		98	36.05	50.65	59.95	83.90
49	34.70	51.60	59.00	83.35		99	35.25	48.40	60.00	81.35
50	33.10	51.00	61.70	81.40		100	36.35	51.25	59.05	82.70
Avg of 100 Attempts	35.006	50.0315	60.055	82.3775						

Memory Management in Real-Time Operating System

Case 2: Existing From Local and DmRT From Ideal

1. Execution Time for all allocators 100 attempts (Best Case i.e. for 100 block requests)

Attempt No.	Dlmalloc	tcmalloc	TLSF	DmRT		Attempt No.	Dlmalloc	tcmalloc	TLSF	DmRT
1	316.01	419.58	302.59	252.17		51	361.08	413.82	295.59	240.96
2	327.94	412.49	301.01	239.84		52	357.85	411.65	302.84	239.97
3	346.73	425.31	302.83	253.82		53	344.25	423.04	288.39	236.63
4	317.13	413.39	288.35	251.54		54	320.03	418.78	300.77	248.93
5	341.09	422.73	298.06	255.48		55	361.64	416.69	288.83	237.8
6	314.34	412.53	286.67	248.18		56	347.84	423.46	291.15	236.62
7	337.02	429.84	298.32	240.68		57	318.17	423.86	304.1	236.05
8	356.95	419.09	286.85	243.93		58	341.33	420.37	297.62	248.92
9	337.34	411.59	294.28	245.08		59	331.38	426.01	304.22	240.7
10	316.41	416.94	289.48	237.8		60	323.33	427.18	304.42	240.66
11	333.38	421.75	290.41	238.7		61	341.58	423.74	304.06	243.96
12	327.5	419.9	296.91	243.33		62	336.87	420.53	293.32	244.71
13	322.04	430.22	294.65	251.85		63	320.72	418.17	303.51	242.75
14	345.32	425.79	301.68	253.1		64	334.14	412.35	291.43	237.42
15	349.9	423.25	286.32	248.87		65	328.99	426.08	303.11	249.31
16	343.91	419.54	289.34	241.2		66	357.89	414	291.4	243.69
17	341.02	419.44	292.9	255.26		67	357.54	425.41	303.27	250.81
18	341.88	429.54	290.78	252.86		68	319.74	414.31	303.54	235.75
19	357.45	425.01	293.06	252.62		69	356.43	430.06	302.73	243.14
20	328.49	417.94	304.91	246.16		70	360.55	411.77	301.31	238.68
21	360.97	416.57	303.19	249.31		71	352.48	430.71	287.64	248.35
22	358.36	416.51	304.85	244.2		72	338.2	413.29	299.23	251.95
23	316.49	424.02	304.24	243.13		73	341.2	412.86	297.07	235.75
24	331.35	428.26	299.44	243.43		74	328.97	416.16	304.33	237.6
25	321.1	422.04	301.92	241.53		75	343.01	420.17	288.67	255.1
26	334.53	421.05	287.93	246.42		76	344.03	418.53	290.47	253.05
27	352.02	415.35	297.02	245.12		77	333.85	418.89	299.25	238.75
28	316.74	429.73	298.08	246.17		78	362.6	430.9	295.09	250.77
29	359.03	413.64	304.58	238.46		79	362.27	412.84	291.6	237.46
30	343.95	415.75	295.65	254.42		80	352.45	414.38	298.29	255.46
31	324.26	422.73	295.91	251.59		81	341.77	414.59	303.96	242.3
32	351.77	421.03	302.35	242.27		82	325.34	419.33	293.96	237.08
33	318.33	414.65	291.4	249.7		83	323.73	430.11	305.21	246.5
34	316.89	419.62	304.07	254.44		84	356.19	417.66	302.96	249.99
35	338.41	418.92	287.28	254.24		85	314.55	426.02	302.24	250.08
36	320.84	422.08	302.32	247.86		86	333.16	424.42	293.77	250.35
37	361.55	418.45	300.68	243.41		87	336.48	419.61	288.88	241.22
38	345.94	426.5	297.54	235.66		88	323.59	423.75	290.74	251.33
39	321.15	413.04	295.41	238.02		89	347.12	414.05	291.83	237.49
40	349.65	424.8	296.97	251.59		90	321.83	424.71	288.47	249.51
41	346.6	430.78	290.07	245.57		91	356.85	427.3	292.46	236.59
42	347.95	429.98	298.87	245.46		92	320.52	430.47	293.09	251.9
43	362	414.45	298.33	242.18		93	337.61	419.99	299.85	244.18
44	352.91	427.24	295.4	245.27		94	330.42	419.83	304.4	238.28
45	330.21	420.67	287.97	246.56		95	346.82	424.56	302.7	239.05
46	330.68	426.57	299.99	249.54		96	359.85	417.03	302.68	254.43
47	314.64	426.78	289.38	241.48		97	348.1	428.4	302.81	254.52
48	319.46	413.59	287.14	244.72		98	331.74	411.88	288.03	242.69
49	316.57	415.79	292.29	243.5		99	324.52	411.93	295.35	254.62
50	337.04	416.59	287.83	244.25		100	342.05	413.32	286.04	250.05
Avg of 100 Attempts	338.0589	420.5202	296.4418	245.4583						

Memory Management in Real-Time Operating System

Case 2: Existing From Local and DmRT From Ideal

2. Fragmentation for all allocators 100 attempts (Best Case i.e. for 100 block requests)

Attempt No.	Dlmalloc	tcmalloc	TLSF	DmRT		Attempt No.	Dlmalloc	tcmalloc	TLSF	DmRT
1	44.44	33.95	22.81	13.41		51	45.85	32.65	23.52	13.94
2	45.7	33.52	23.27	15.09		52	46.37	35.1	22.39	15.29
3	43.6	32.44	23.54	17.27		53	45.08	33.31	24.98	15.65
4	45.42	33.77	23.68	14.15		54	46.74	33.29	22.44	15.02
5	44.11	32.36	26.18	15.44		55	45.88	35.61	23.38	16.31
6	43.37	35.43	24.55	14.39		56	46.48	35.14	22.33	17.37
7	43.34	35.19	26.06	17.36		57	46.77	32.9	25.68	14.5
8	46.38	33.33	23.06	16.71		58	44.1	35.11	26.19	15.53
9	46.91	32.92	25.6	14.88		59	46.55	34.24	26.06	14.44
10	43.83	33.25	23.55	13.69		60	44.35	34.37	24.78	16.88
11	44.08	34.84	24.24	13.68		61	45.61	33.31	22.61	17.24
12	47.24	32.06	22.51	14.31		62	44.18	31.74	23.28	17.12
13	44.58	35.18	24.4	16.48		63	44.79	34.29	22.56	14.9
14	46.92	32.38	22.74	15.4		64	44.02	33.68	23.86	17.2
15	44.53	33.13	22.47	16.8		65	46.19	32.39	23.39	15.51
16	47.13	32.21	23.22	15.17		66	43.92	35.56	25.9	16.32
17	45.38	32.8	23.25	16.9		67	45.91	35.19	24.47	15.91
18	44.93	34.36	23.17	14.31		68	45.16	34.6	23.05	14.61
19	44.19	34.64	24.8	13.53		69	43.47	34.96	23.6	15.91
20	44.43	34.83	24.4	13.98		70	45.17	32.74	25.45	16.17
21	46.68	34.6	24.52	15.26		71	45.41	33.49	23.96	15.56
22	43.69	34.23	25.64	14.87		72	44.34	33.56	22.44	16.57
23	43.87	32.56	23.83	14.94		73	46.78	32.53	22.69	16.52
24	46.55	32.06	22.44	15.95		74	44.94	33.34	24.97	14.86
25	47.09	34.8	22.8	14.02		75	46.95	33.04	22.59	14.92
26	46.07	34.78	23.24	14.92		76	46.68	32.36	24.31	17.21
27	45.14	31.73	26.12	14.36		77	43.89	33	22.57	17.13
28	46.64	33.99	23.06	17.21		78	43.6	32.87	23.76	14.26
29	43.61	33.95	22.88	13.68		79	46.22	32.92	25.06	13.92
30	44.07	33.01	24.47	17.18		80	44.66	33.03	25.43	15.48
31	46.39	32.85	22.85	14.95		81	47.27	35.65	25.85	16.16
32	44.45	31.98	23.8	15.27		82	46.27	35.21	23.77	15.86
33	44.13	34	24.65	14.75		83	45.06	33.88	26.1	16.66
34	46.58	34.29	22.46	14.35		84	43.38	34.41	25.27	16.17
35	46.14	35.59	26.05	14.21		85	46.97	33.83	22.78	13.84
36	43.69	34.8	22.64	16.76		86	45.24	31.83	22.34	15.44
37	46.77	35.57	22.23	13.96		87	47.3	34.51	22.71	15.96
38	45.46	35.67	24.03	17.13		88	47.11	31.97	23.08	15.45
39	45.95	33.08	25.96	13.58		89	43.74	32.12	23.64	16.97
40	45.76	32.24	24.19	15.19		90	46.42	33.82	23.53	15.65
41	47.27	33.59	25.6	15.02		91	44.27	33.12	23.48	16.19
42	47.02	32.17	25.92	15.67		92	44.06	33.28	24.84	16.93
43	45.76	32.52	24.02	17.03		93	43.41	32.67	22.69	16.29
44	44.27	34.25	24.07	15.17		94	43.5	33.99	26	15.95
45	46.73	32.17	23.5	16.05		95	45.85	34.58	26.07	15.08
46	43.59	33.11	23.23	14.58		96	43.61	32.57	25.07	15.39
47	43.45	33.87	25.16	14.78		97	45.24	35.62	24.69	16.34
48	45.43	33.06	25.36	14.19		98	47.02	33.1	23.79	16.28
49	46.9	33.38	25.82	14.51		99	44.87	35.39	23.2	15.72
50	43.43	33.2	22.62	14.96		100	43.89	31.7	25.11	14.94
Avg of 100 Attempts	45.2763	33.6326	24.0237	15.4697						

Memory Management in Real-Time Operating System

Case 2: Existing From Local and DmRT From Ideal

3. No. of Request Satisfied for all allocators 100 attempts (Best Case i.e. for 100 block requests)

Attempt No.	Dlmalloc	tcmalloc	TLSF	DmRT		Attempt No.	Dlmalloc	tcmalloc	TLSF	DmRT
1	56	65	78	88		51	59	62	76	92
2	56	66	77	92		52	57	66	76	89
3	56	66	77	92		53	59	63	78	91
4	56	65	75	90		54	58	62	77	90
5	60	67	75	88		55	57	65	78	91
6	59	66	79	89		56	58	64	76	92
7	59	65	76	88		57	58	65	77	89
8	56	66	77	91		58	59	65	77	90
9	59	63	76	90		59	57	63	77	89
10	57	63	77	90		60	56	66	79	90
11	59	64	78	88		61	59	67	77	91
12	60	64	76	91		62	56	64	76	89
13	58	63	75	90		63	59	64	76	88
14	56	64	78	92		64	58	64	79	91
15	57	63	76	88		65	57	63	75	90
16	59	65	78	92		66	59	64	77	91
17	57	64	78	88		67	58	62	75	88
18	59	64	77	88		68	56	63	76	88
19	56	62	76	88		69	56	64	79	90
20	59	64	79	90		70	60	62	75	88
21	58	63	75	89		71	56	66	75	91
22	57	62	76	90		72	56	65	77	90
23	58	64	76	88		73	58	63	75	89
24	59	64	75	91		74	57	62	75	92
25	58	63	75	91		75	57	62	75	89
26	60	66	76	90		76	56	66	78	89
27	57	62	76	89		77	59	66	78	89
28	59	63	78	91		78	59	66	79	90
29	56	66	76	92		79	58	65	78	92
30	58	65	76	88		80	60	65	78	91
31	58	64	76	90		81	56	64	76	92
32	56	66	79	89		82	57	66	78	92
33	59	66	77	92		83	58	66	76	89
34	57	65	79	91		84	58	66	75	91
35	59	64	79	90		85	57	64	78	91
36	57	63	78	92		86	59	63	78	89
37	56	66	78	92		87	59	65	77	90
38	57	66	76	88		88	56	66	77	91
39	58	63	78	91		89	59	64	77	89
40	59	64	75	92		90	58	63	78	92
41	58	66	76	89		91	56	65	77	92
42	59	62	77	88		92	57	62	79	91
43	60	63	77	90		93	59	62	79	90
44	59	65	78	89		94	58	62	76	92
45	58	63	78	89		95	58	63	77	89
46	59	66	78	89		96	56	65	79	88
47	58	66	78	90		97	60	66	78	89
48	58	62	76	92		98	59	65	77	88
49	57	65	77	89		99	58	64	77	92
50	58	63	76	92		100	57	64	76	88
Avg of 100 Attempts	57.7885	64.1904	76.9458	89.9526						

Memory Management in Real-Time Operating System

Case 2: Existing From Local and DmRT From Ideal

1. Execution Time for all allocators 100 attempts (Average Case i.e. for 1000 block requests)

Attempt No.	Dlmalloc	tcmalloc	TLSF	DmRT		Attempt No.	Dlmalloc	tcmalloc	TLSF	DmRT
1	2034.08	2837.04	1573.89	1292.72		51	2080.88	2945.05	1710.57	1116.58
2	2105.76	2960.93	1717.19	1019.08		52	2144.96	2784.9	1335.15	1293.72
3	2099.59	2907.37	1570.82	944.65		53	1994.37	3011.75	1414.54	1018.58
4	1975.47	3067.58	1616.78	1220.68		54	2028.7	3084.37	1710.51	1175.21
5	2151.33	2830.95	1473.22	1218.42		55	2110.09	3063.71	1518.31	1311
6	2095.93	3026.8	1341.88	1217.83		56	2016.76	2931.64	1717.01	979.79
7	2003.43	3168.71	1476.89	1023.53		57	2115.31	3012.86	1575.08	1286.22
8	2063.06	2792.16	1669.89	984.77		58	2033.97	2880.24	1570.91	1088.13
9	2046.45	3118.78	1346.07	1133.86		59	1989.38	3069.45	1511.59	1137.3
10	2068.58	2876.06	1399	1131.03		60	2145.94	2821.1	1549.85	1055.12
11	2111.69	3095.37	1378.8	1307.66		61	1978.49	3125.85	1687.72	1147.08
12	1981.19	2928.21	1676.52	1009.62		62	2117.38	2928.51	1381.35	963.19
13	2016.35	2810.95	1443.73	1270.75		63	1962.53	2832.29	1380.94	981.57
14	1962.69	3124.45	1561.12	932.85		64	2087.86	3048.67	1553.55	1054.98
15	2140.44	2975.11	1628.4	1040.23		65	2124.81	3131.21	1647.75	1179.78
16	1974.22	2850.11	1634.04	1281.55		66	2039.88	3168.31	1427.44	1075.71
17	1974.94	2918.26	1400.26	1092		67	2004.77	3104.71	1604.65	1129.58
18	2141.16	3019.76	1598.72	1146.27		68	1959.29	3105.97	1362.32	1080.79
19	2019.55	3065.15	1645.87	1221.45		69	2012.43	2822.78	1446.81	958.38
20	2101.17	3136.52	1459.03	921.8		70	1968.55	2968.75	1711.03	1070.36
21	2126.75	2925.68	1348.72	941.28		71	1994.35	2843.26	1431.77	1255.67
22	2126.93	3054.08	1494.78	1241.01		72	2120.16	3139.82	1496.54	1269.34
23	2151.17	3059.37	1560.72	1151.31		73	2083.44	3168.16	1672.22	1148.07
24	2011.95	3092.95	1384.99	1221.1		74	2021.52	3162.71	1707.96	1241.55
25	2119.87	2909.96	1669.09	1005.01		75	2149.62	3154.46	1361.51	1268.27
26	2119.66	3037.73	1448.63	958.24		76	2029.81	3041.18	1613.83	1271.86
27	1992.36	3156.59	1475.35	1155.52		77	2065.88	2852.38	1723.45	1008.51
28	2002.64	2858.47	1721.33	1084.5		78	2097.15	3000.02	1661.96	1029.79
29	1993.21	2985.28	1458.94	1057.57		79	2097.33	3158.28	1724.88	1196.29
30	2100.37	3119.48	1479.05	1026.35		80	2067.71	2979.32	1432.38	954.64
31	2074.15	3149.84	1606.93	1203.27		81	2067.99	3171.22	1701.01	1234.87
32	2063.4	2798.69	1455.65	1124.49		82	2036.37	2930.94	1387.09	1206.76
33	2104.05	3175.02	1657.86	998.01		83	2007.44	2795.91	1547.73	1146.34
34	1998.83	3119.09	1670.84	1103.87		84	2035.73	3163.22	1660.44	1261.7
35	1982.23	2884.99	1347.4	1216.7		85	2044.05	3077.15	1472.86	1085.21
36	1963.64	2928.73	1422.8	1040.11		86	2026.12	3023.76	1597.1	1193.02
37	2058.92	3164.37	1563.68	1284.92		87	2106.48	2924.72	1431.26	923.04
38	2102.61	2934.47	1409.61	999.14		88	2101.03	2910.67	1699.59	1268.15
39	2136.2	2942.26	1501.04	1152.65		89	2067.8	3052.8	1480.47	1236.96
40	2140.73	2986.9	1720.66	1041.49		90	2118.26	3028.26	1390.62	982.96
41	2018.03	3074.08	1633.94	928.5		91	2021.93	2959.66	1484.45	1028.94
42	2150.17	3097.53	1349.39	1154.97		92	1954.33	3090.69	1588.2	929.57
43	2091.89	2832.32	1536.98	1275.17		93	2017.28	2914.4	1653.52	925.69
44	2018.9	3169.29	1681.03	1154.68		94	1978.9	2882.22	1396.55	1259.08
45	2012.57	2788.23	1585.94	1087.98		95	2000.17	3064.21	1356.58	1019.42
46	2034.94	3066.52	1331.62	1142.73		96	2148.29	3015.91	1428.2	1099.98
47	2113.04	3089.18	1725.82	1221.59		97	1969.21	2802.11	1711.75	1005.09
48	2009.41	2911.7	1684.99	1101.12		98	2049.41	2876.28	1728.56	1011.43
49	2088.14	2795.25	1465.94	1101.08		99	2027.19	2992.55	1662.52	992.27
50	1996.83	3020.4	1609.9	1137.43		100	2079.62	2867.01	1358.53	1303.43
Avg of 100 Attempts	2054.716	2995.241	1539.964	1115.835						

Case 2: Existing From Local and DmRT From Ideal

2. Fragmentation for all allocators 100 attempts (Average Case i.e. for 1000 block requests)

Attempt No.	Dlmalloc	tcnmalloc	TLSF	DmRT		Attempt No.	Dlmalloc	tcnmalloc	TLSF	DmRT
1	52.44	46.62	28.9	20.19		51	52.69	43.34	31.24	20.69
2	54.45	43.28	29.18	18.52		52	53.9	45.49	29.31	19.83
3	53.39	45.51	31.63	21.15		53	53.07	46.4	30.55	19.2
4	55.5	45.36	30.69	17.57		54	53.86	44.61	30.47	19.68
5	54.03	45.81	31.35	19.11		55	54.35	46.75	31.97	20.65
6	53.91	46.23	30.23	19.96		56	53.19	44.07	29.35	19.94
7	53.92	42.85	29.14	20.47		57	52.32	44.67	28.6	18.83
8	55.36	45.74	28.28	18.35		58	55.74	43.77	30.12	21.01
9	54.81	44.34	29.82	17.69		59	51.57	45.7	29.79	19.63
10	54.12	44.04	31.3	20.07		60	55.48	43.43	29.31	20.79
11	53.95	45.95	30.82	20.31		61	51.76	45.7	30.86	18.01
12	53.27	45.07	31.76	19.79		62	54.3	43.92	31.05	18.92
13	52.83	44.25	30.71	20.23		63	51.67	46.3	30.74	21.34
14	52.99	44.47	30.85	18.61		64	54.71	46.59	29.86	17.84
15	54.69	43.07	31.93	18.48		65	55	46.45	28.83	19
16	53.69	43.35	29.84	21.37		66	54.26	45.28	31.92	20.67
17	53.25	46.36	31.89	20.77		67	53.08	43.72	28.9	20.45
18	52.36	43.73	29.45	18.16		68	52.8	43.34	30.99	17.61
19	54.23	46	28.55	19.73		69	53.43	44.13	32.19	20.44
20	53.35	44.78	30.49	17.86		70	52.85	44.33	28.41	19.7
21	54.96	45.19	30.07	20.89		71	55.68	45.62	31.37	20.88
22	53.74	46.51	28.5	20.45		72	52.71	43.53	31.89	18.82
23	55.49	46.51	28.55	18.72		73	53.87	46.07	29.56	18.07
24	51.84	46.12	31.5	20.39		74	51.94	46.33	32	18.78
25	53.67	42.84	28.97	20.89		75	53.76	44.42	29.08	20.69
26	55.18	43.54	30.92	20.53		76	53.73	46.78	29.66	18.42
27	53.45	45.01	31.34	19.83		77	52.11	46.28	30.42	20.22
28	55.21	46.56	30.2	20.32		78	53.85	44.08	29.37	20.12
29	56.46	43.84	30.07	21.11		79	52.03	46.39	30.6	21.08
30	53.1	43.28	31.38	19.86		80	53.77	43.14	29.54	18.02
31	52.42	43.72	30.08	21.04		81	54.26	45.68	31.18	19.49
32	54.74	45.67	28.54	19.73		82	56.07	43.11	29.17	20.37
33	51.7	45.5	31.09	18.13		83	56.4	42.98	30.85	20.25
34	55.79	46.68	32.05	18.99		84	56.31	45.15	31.7	20.09
35	54.72	45.5	29.79	18.52		85	54.72	44.35	30.17	19.89
36	55.7	45.73	31.18	18.68		86	53.48	45.35	32.05	17.84
37	51.75	44.59	29.66	20.95		87	51.93	46.5	29.8	20.04
38	52.93	46.27	28.37	17.55		88	53.29	45.83	31.08	21.03
39	55.21	42.88	28.87	18.43		89	53.6	45.6	30.05	17.79
40	53.2	43.17	30.42	18.14		90	53.85	46.68	32.12	17.67
41	54.02	44.03	30.7	17.89		91	53.16	42.87	30.27	20.68
42	52.25	43.21	30.84	18.3		92	54.21	44.83	30.84	20.22
43	51.89	44.13	29.35	17.73		93	55.4	46.07	30.85	19.81
44	51.95	46.38	29.95	20.18		94	56.43	46.09	30.85	20.42
45	52.71	43.05	31.41	19.01		95	52.2	45.29	31.02	19.27
46	54.63	44.26	29.98	18.36		96	54.13	46.12	30.73	19.27
47	56.31	46.39	31.66	18.62		97	52.08	46.16	29.15	20.35
48	53.55	45.42	28.41	19.5		98	54.23	44.84	28.23	21.19
49	55.86	43.1	30.75	20.99		99	51.99	43.25	29.22	18.56
50	52.97	44.47	29.75	18.6		100	56.37	42.93	31.11	17.98
Avg of 100 Attempts	53.8153	44.9067	30.2955	19.5226						

Memory Management in Real-Time Operating System

Case 2: Existing From Local and DmRT From Ideal

3. No. of Request Satisfied for all allocators 100 attempts (Average Case i.e. for 1000 block requests)

Attempt No.	Dlmalloc	tcmalloc	TLSF	DmRT		Attempt No.	Dlmalloc	tcmalloc	TLSF	DmRT
1	47.2	54.8	67.5	82.0		51	45.4	52.4	64.8	81.7
2	46.5	53.4	66.2	83.1		52	46.1	54.7	65.6	82.3
3	45.0	54.8	64.5	83.2		53	47.2	56.6	66.7	81.8
4	48.3	54.7	65.6	84.7		54	47.0	52.6	64.5	84.5
5	45.8	53.8	64.3	81.9		55	46.3	52.5	66.0	82.3
6	44.9	55.9	66.5	82.0		56	46.4	55.8	64.3	84.1
7	44.7	53.0	64.5	82.9		57	46.5	55.3	65.0	84.0
8	45.9	55.8	64.7	82.4		58	48.4	56.0	67.0	83.1
9	45.3	54.0	66.4	82.7		59	45.8	57.0	64.0	81.2
10	47.0	54.6	67.4	82.5		60	45.3	54.6	67.0	83.5
11	45.7	57.0	66.2	84.3		61	47.6	52.5	67.2	82.4
12	48.3	52.3	65.1	84.8		62	44.7	56.4	67.5	80.9
13	46.9	55.4	67.1	83.4		63	46.9	54.4	66.2	84.2
14	45.2	53.4	65.9	81.0		64	45.8	55.0	66.0	83.8
15	46.9	54.2	65.4	82.5		65	45.5	52.9	66.9	81.8
16	46.8	52.6	65.1	83.5		66	44.7	54.8	64.2	82.2
17	46.7	56.5	64.9	81.9		67	44.7	55.4	66.3	82.7
18	48.4	55.0	68.0	81.1		68	46.1	54.3	65.2	84.4
19	45.8	53.5	65.5	83.6		69	47.2	55.1	67.9	84.0
20	46.1	54.6	65.0	83.8		70	46.5	54.7	67.7	83.3
21	46.3	55.6	66.4	81.1		71	45.9	56.1	68.0	83.7
22	45.0	54.6	66.5	81.0		72	46.3	55.1	67.1	81.2
23	45.5	55.7	65.4	83.0		73	47.0	54.2	65.8	82.4
24	46.8	55.8	64.3	81.0		74	47.6	54.4	66.3	83.2
25	45.9	55.2	67.0	84.8		75	47.9	54.4	66.1	81.1
26	46.4	52.3	66.5	80.9		76	46.4	52.3	64.3	82.1
27	47.6	54.4	66.4	81.0		77	48.6	53.0	64.7	82.9
28	44.9	53.3	66.3	83.7		78	44.7	53.8	66.8	81.0
29	45.1	53.0	65.8	83.0		79	46.4	52.9	64.6	83.7
30	46.9	54.7	64.6	82.3		80	47.3	56.9	64.6	81.9
31	47.1	53.5	66.1	84.0		81	48.5	52.9	66.0	83.0
32	47.9	53.9	65.3	83.0		82	47.4	53.5	67.1	81.4
33	48.2	55.7	67.6	82.7		83	48.3	57.1	65.7	84.3
34	47.6	54.1	65.3	82.6		84	48.6	52.4	67.7	84.1
35	46.2	54.9	67.3	81.4		85	47.4	56.0	66.1	82.1
36	45.5	53.6	66.9	83.2		86	45.6	54.0	67.5	84.7
37	47.4	55.2	64.1	83.4		87	44.9	54.3	64.3	82.7
38	45.6	55.0	64.5	83.9		88	47.3	52.9	65.9	82.4
39	47.0	52.8	67.6	83.3		89	45.5	54.1	65.0	83.8
40	45.6	55.8	66.2	81.2		90	46.3	57.0	67.9	84.0
41	44.6	53.1	67.5	84.1		91	47.0	56.6	64.0	81.4
42	46.9	54.5	66.9	83.2		92	47.4	52.6	65.4	84.1
43	45.5	56.2	64.1	83.3		93	45.8	56.2	65.5	83.2
44	48.0	52.8	64.2	84.2		94	45.2	53.6	65.9	80.9
45	47.0	56.0	66.8	84.8		95	47.9	54.7	65.7	83.1
46	44.8	56.0	66.5	81.6		96	47.9	55.1	66.3	84.6
47	46.1	56.0	66.6	83.3		97	47.9	52.3	65.7	82.7
48	45.1	55.0	66.3	83.6		98	45.8	52.5	64.3	84.1
49	45.1	56.3	64.9	83.1		99	45.1	56.6	65.9	81.3
50	44.7	56.4	64.9	84.8		100	47.6	53.9	67.4	83.4
Avg of 100 Attempts	46.4232	54.5453	65.9168	82.8598						

Memory Management in Real-Time Operating System

Case 2: Existing From Local and DmRT From Ideal

1. Execution Time for all allocators 100 attempts (Worst Case i.e. for 2000 block requests)

Attempt No.	Dlmalloc	tcmalloc	TLSF	DmRT		Attempt No.	Dlmalloc	tcmalloc	TLSF	DmRT
1	3334.88	4296.69	2008.71	1826.66		51	3310.18	4281.08	2072.03	1781.93
2	3348.1	4273.13	2029.38	1917.11		52	3209.48	4289.26	2077.28	1915.79
3	3307.65	4309.9	2018.03	1755.12		53	3260.51	4314.82	2020.61	1953.94
4	3383.96	4262.54	2026.81	1706.17		54	3331.42	4276.39	2015.45	1739.1
5	3314.6	4319.76	2076.18	1858.65		55	3343.4	4331.95	2061.44	1768.22
6	3284.38	4328.03	2105.99	1771.25		56	3357.65	4282.77	2052.94	1847.38
7	3289.78	4323.03	2077.37	1675.4		57	3245	4275.56	2066.89	1661.94
8	3326.89	4337.93	2025.94	1659.82		58	3223.57	4296.32	2093.87	1678.93
9	3205.94	4297.77	2063.45	1719.04		59	3274.74	4312.93	2035.96	1748.5
10	3353.39	4280.25	2059.41	1888.6		60	3382.55	4322.3	2061.9	1945.1
11	3256.28	4311.83	2054.98	1706.01		61	3350.71	4296.8	2055.37	1812.41
12	3260.63	4284.13	2009.68	1706.16		62	3214.63	4328.3	2100.79	1665.6
13	3337.12	4320.12	2062.12	1760.85		63	3256	4267.95	2059.74	1928.89
14	3190.15	4252.14	2095.16	1721.36		64	3315.17	4312.11	2098.56	1822.93
15	3340.94	4258.98	2040.21	1712.57		65	3233.54	4330.77	2094.88	1727.87
16	3275.13	4266.2	2065.19	1701.57		66	3330.71	4263.56	2067.94	1687.79
17	3324.01	4283.26	2091.38	1739.77		67	3249.19	4311.37	2045.96	1683.7
18	3230.45	4259.64	2082.61	1655.9		68	3308.66	4294.35	2057.06	1668.52
19	3331.41	4333	2059.76	1952.93		69	3262.94	4276.54	2043.27	1826.65
20	3266.37	4271.27	2100.77	1951.09		70	3367.27	4246.39	2073.04	1901.62
21	3243.54	4311.16	2086.13	1655.23		71	3221.8	4247.48	2051.05	1844.74
22	3273.69	4276.76	2096.7	1720.16		72	3243.25	4255.59	2081.95	1805.63
23	3364.47	4285.09	2083.52	1804.29		73	3322.89	4265.51	2010.97	1855.94
24	3340.9	4280.4	2061.45	1745.74		74	3325.66	4319.97	2098.67	1689.72
25	3231.14	4294.25	2078.33	1657.31		75	3241.49	4320.19	2085.02	1691.5
26	3273.66	4242.08	2078.27	1948.1		76	3229.17	4254.22	2106.88	1828.78
27	3309.59	4321.14	2075.96	1749.35		77	3191.53	4262.42	2052.48	1890.44
28	3271.25	4285.48	2027.85	1745.51		78	3191.28	4324.09	2085.2	1879.6
29	3226.91	4331.14	2100.41	1688.59		79	3374.83	4318.02	2045.19	1770.55
30	3217	4285.35	2068.58	1817.2		80	3221.21	4280.75	2085.17	1699.04
31	3320.22	4272.02	2038.19	1740.48		81	3282.12	4247.46	2088.97	1790.58
32	3307.23	4263.67	2069.58	1850.82		82	3223.9	4261.56	2095.62	1891.09
33	3245.14	4315.9	2049	1918.77		83	3270.89	4248.93	2048.2	1897.51
34	3297.91	4338.06	2045.15	1667.92		84	3335.04	4300.19	2106.6	1767.92
35	3252.17	4247.66	2070.43	1655.61		85	3234.68	4298.45	2040.19	1724.9
36	3300.06	4325.43	2087.86	1770.21		86	3354.63	4297.44	2104.59	1747.78
37	3350.01	4245.1	2009.42	1925.88		87	3263.63	4250.87	2062.68	1885.1
38	3293.44	4326.69	2102.62	1683.16		88	3381.03	4314.19	2077.3	1937.87
39	3239.81	4262.67	2028.99	1762.36		89	3376.4	4280.06	2062.93	1946.44
40	3214.53	4246.55	2059.93	1863.37		90	3382.58	4291.31	2097.16	1716.68
41	3294.65	4259.34	2044.55	1865.75		91	3239.64	4252.75	2037.23	1732.81
42	3347.8	4335.89	2087.53	1693.73		92	3259.56	4261.93	2016.31	1695.89
43	3218.3	4261.06	2100.75	1751.66		93	3253.2	4264.48	2081.78	1767.43
44	3223.14	4302.14	2094.83	1674.66		94	3278.2	4244.8	2057.36	1933.36
45	3190.76	4293.32	2044.21	1766.8		95	3278.35	4334.1	2091.1	1829.44
46	3246.1	4281.31	2045.42	1731.6		96	3226.84	4252.4	2056.63	1825.72
47	3262.43	4297.99	2070.91	1758.56		97	3378.53	4297.4	2067.71	1741.57
48	3188.24	4326.73	2037.54	1909.39		98	3357.56	4260.6	2097.38	1949.69
49	3280.71	4266.85	2031	1660.87		99	3241.93	4310.85	2008.09	1786.87
50	3225.62	4266.48	2085.99	1819.36		100	3283.12	4269.02	2100.79	1887.77
Avg of 100 Attempts	3283.05	4288.16	2064.70	1785.68						

Memory Management in Real-Time Operating System

Case 2: Existing From Local and DmRT From Ideal

2. Fragmentation for all allocators 100 attempts (Worst Case i.e. for 2000 block requests)

Attempt No.	Dlmalloc	tcmmalloc	TLSF	DmRT		Attempt No.	Dlmalloc	tcmmalloc	TLSF	DmRT
1	60.34	54.97	36.12	26.38		51	60.89	51.91	37.13	24.62
2	61.51	52.37	38.45	28.31		52	63.08	55.1	35.37	25.34
3	61.84	53.84	35.23	23.81		53	62.83	52.73	39.24	24.47
4	62.29	55.08	39.75	26.14		54	60.4	51.85	37.9	27.13
5	59.86	54.11	39	23.6		55	62.46	55.12	37.17	28.29
6	60.56	54.82	37.87	25.25		56	60	53.54	39.37	24.98
7	62.71	52.88	36.6	23.93		57	60.2	51.93	36.63	24.37
8	63.1	54.87	36.86	26.93		58	61.27	54.52	35.96	27.26
9	60.08	54.44	38.88	24.52		59	61.12	53.52	38.27	28.01
10	60.55	51.9	37.26	23.5		60	61.31	53.21	36.69	24.43
11	63.07	53.07	37.06	25.25		61	62.89	52.02	37.22	24.15
12	61.62	54.68	37.89	23.71		62	63.06	52.7	39.94	24.46
13	60.03	52.02	36.76	26.43		63	62.03	53.86	35.56	27
14	60.11	53.11	37.7	25.76		64	61.74	53.08	36.35	25.02
15	61.32	52.91	37.76	25.65		65	61.17	53.05	36.61	28.24
16	60.39	54.17	37.58	23.54		66	62.28	53.01	37.46	26.56
17	59.18	53.47	36.74	27.99		67	62.21	53.69	36.66	25.37
18	62.66	52.11	39.07	28.09		68	60.39	51.27	39.73	28.29
19	60.3	54.09	36.42	24.02		69	62.01	51.49	37.06	27.23
20	61.12	53.83	37.89	26.19		70	59.19	51.76	39.03	28.35
21	62.64	54.72	38.45	26.49		71	60.91	51.64	38.36	27.87
22	62.79	51.29	39.41	27.82		72	60.81	53.76	40.18	26.46
23	62.81	52.15	35.81	25.15		73	59.44	53.33	35.89	28.13
24	61.94	52.11	40.01	24.44		74	59.18	51.31	36.17	23.46
25	62.11	53.77	35.68	26.26		75	62.22	51.76	39.38	28.28
26	60.29	51.51	37.53	25.14		76	59.29	54.21	39.79	27.86
27	59.33	51.27	39.64	28.21		77	61.36	55.06	37.58	25.94
28	60.46	51.71	36.59	27.2		78	62.16	54.64	37.66	27.38
29	61.91	52.07	35.33	28.16		79	60.13	54.51	38.77	23.67
30	62.74	54.63	36.78	28.28		80	59.81	51.99	36.17	28.34
31	60.96	53.21	39.95	23.5		81	59.56	54.02	39.39	26.23
32	60.98	51.82	35.39	27.42		82	59.85	53.4	37.24	26.63
33	62.59	52.98	39.83	24.91		83	60.91	52.86	38.54	25.18
34	62.92	53.83	40.04	25.28		84	60	53.8	39.16	26.87
35	61.96	52.65	38.85	24.98		85	61.44	53.55	36.83	23.54
36	62.96	52.13	39.79	25.86		86	61.69	52.91	35.64	27.47
37	62.57	51.53	38.97	24.74		87	60.47	51.88	39.9	25.74
38	60.86	54.53	37.32	24.9		88	59.34	53.72	36.47	26.75
39	60.7	53.05	35.87	23.79		89	61.37	52.22	39.7	26.25
40	60.88	54.18	35.47	24.34		90	60.45	54.66	36.94	27.6
41	60.82	51.28	39.89	27.14		91	61.29	52.77	35.92	24.72
42	60.52	55.08	36.5	26.58		92	61.46	53.3	38.63	25.26
43	60.73	53.74	39.22	28.04		93	59.69	52.51	39.92	27.76
44	59.72	52.84	40.17	27.2		94	59.44	52.13	38.54	25.87
45	62.73	54.17	37.33	27.08		95	61.65	54.77	36.96	27.2
46	60.8	53.32	36.65	25.71		96	59.76	52.45	39.92	26.9
47	60.66	51.75	37.5	26.83		97	62.37	51.55	38.47	28.39
48	61.73	52.44	35.4	24.81		98	59.38	51.64	37.55	25.59
49	60.27	52.44	36.31	23.48		99	60.03	53.26	40.03	25.84
50	59.66	51.8	35.58	25.5		100	59.42	51.48	38.79	27.16
Avg of 100 Attempts	61.1009	53.0719	37.7599	26.0615						

Memory Management in Real-Time Operating System

Case 2: Existing From Local and DmRT From Ideal

3. No. of Request Satisfied for all allocators 100 attempts (Worst Case i.e. for 2000 block requests)

Attempt No.	Dlmalloc	tcmalloc	TLSF	DmRT		Attempt No.	Dlmalloc	tcmalloc	TLSF	DmRT
1	36.25	48.85	58.30	75.70		51	36.65	48.75	59.50	73.45
2	34.80	51.55	61.00	73.70		52	36.85	51.85	59.65	74.00
3	34.35	48.85	60.85	75.75		53	34.15	51.45	58.15	73.15
4	33.95	48.75	59.00	72.25		54	34.85	50.70	61.65	72.75
5	33.10	50.05	60.90	75.50		55	34.20	51.70	58.20	75.85
6	35.15	49.15	59.40	73.00		56	36.45	48.10	59.10	72.50
7	35.45	50.45	58.50	75.85		57	34.45	50.75	58.85	75.00
8	34.85	48.90	60.90	72.10		58	34.00	51.00	59.80	75.05
9	35.60	50.30	61.90	74.00		59	36.05	48.25	61.60	72.75
10	33.00	50.90	60.00	74.30		60	34.15	48.40	58.55	74.50
11	34.75	48.20	61.35	75.65		61	33.10	51.65	61.50	75.05
12	35.00	51.10	61.30	73.55		62	36.30	49.00	58.20	73.25
13	36.20	50.75	61.60	72.10		63	34.40	48.90	59.00	72.05
14	33.55	48.25	60.80	73.95		64	36.95	51.45	61.20	75.00
15	33.05	51.45	60.30	73.55		65	34.65	50.05	58.05	75.30
16	34.75	48.90	60.90	74.30		66	34.60	51.80	59.90	74.60
17	36.80	49.10	60.00	73.15		67	33.55	49.70	58.65	75.25
18	35.60	50.50	58.75	72.15		68	34.25	48.00	59.00	75.90
19	33.20	48.55	61.25	75.85		69	36.75	50.75	60.15	72.00
20	35.35	51.05	60.15	74.35		70	35.85	49.40	58.05	74.05
21	33.50	49.55	61.30	72.25		71	36.95	49.80	60.95	74.15
22	36.05	51.30	59.00	74.30		72	36.70	48.30	60.45	74.70
23	37.00	50.40	61.80	74.85		73	34.45	48.70	60.90	75.15
24	36.45	50.80	58.60	74.60		74	34.30	49.10	58.15	75.95
25	33.35	49.30	58.00	74.00		75	35.15	49.25	59.45	74.45
26	34.50	48.45	59.95	74.20		76	35.00	51.70	59.10	72.60
27	36.25	49.20	60.50	72.60		77	35.55	51.65	60.35	74.05
28	34.05	50.55	59.70	74.25		78	34.05	50.85	59.70	72.80
29	34.60	50.75	59.00	75.40		79	34.65	51.75	61.50	75.45
30	33.55	50.55	60.30	75.45		80	36.55	51.75	58.60	73.00
31	36.10	49.30	61.40	73.35		81	33.20	48.05	59.90	73.80
32	35.45	49.15	59.20	73.10		82	35.15	48.00	59.35	75.00
33	34.05	48.10	58.25	74.50		83	34.00	51.55	59.00	75.80
34	36.35	50.25	60.40	72.40		84	33.50	51.40	59.85	73.70
35	35.40	51.05	61.95	72.05		85	33.20	49.65	61.70	72.40
36	34.95	50.55	58.80	75.90		86	35.65	48.20	59.40	75.65
37	33.40	49.50	60.75	73.20		87	33.25	49.05	60.05	73.75
38	33.55	51.75	59.70	74.60		88	34.65	50.50	60.55	74.05
39	35.85	51.50	58.55	73.05		89	34.10	49.00	58.65	72.25
40	36.30	49.70	61.30	74.35		90	33.75	49.40	59.10	74.65
41	33.70	49.10	58.75	75.65		91	36.00	49.30	60.25	72.55
42	34.55	49.00	61.95	75.15		92	36.40	49.65	58.20	72.85
43	35.70	49.50	59.60	73.00		93	33.25	51.40	59.20	75.55
44	34.20	48.50	58.25	73.70		94	37.00	50.65	61.40	74.85
45	34.65	50.15	58.65	74.10		95	36.65	49.85	60.20	73.90
46	33.30	51.50	61.70	74.65		96	34.15	49.55	60.10	74.75
47	34.10	49.10	58.15	75.40		97	35.35	48.50	60.10	73.65
48	33.20	48.70	60.70	74.85		98	34.50	50.90	60.60	73.50
49	36.25	51.30	61.50	75.70		99	36.65	50.95	60.65	74.95
50	33.05	51.25	59.05	74.25		100	36.95	50.75	58.65	75.00
Avg of 100 Attempts	34.9105	49.962	59.887	74.1195						

Memory Management in Real-Time Operating System

Case 3: Existing and DmRT Both from Ideal

1. Execution Time for all allocators 100 attempts (Best Case i.e. for 100 block requests)

Attempt No.	Dlmalloc	tcmalloc	TLSF	DmRT		Attempt No.	Dlmalloc	tcmalloc	TLSF	DmRT
1	353.77	431.32	311.98	245.41		51	351.01	431.04	326.33	257.07
2	385.41	440.73	314.82	251.2		52	380.98	440.19	312.9	250.72
3	393.82	454.92	304.59	247.47		53	356.83	442.66	305.45	241.66
4	388.45	458.95	335.99	240.09		54	369.79	452.61	319.48	259.44
5	365.02	454.27	333.68	240.62		55	381.35	454.94	308.97	253.43
6	371.13	438.78	331.64	248.7		56	350.67	440.42	312.98	241.08
7	391.62	439.24	315.72	244.27		57	376.48	432.81	313.4	246.26
8	355.12	452.83	309.69	257.23		58	377.1	450.86	326.97	253.7
9	359.71	459.21	319.62	251.38		59	390.34	436.74	330.11	254.6
10	399.55	444.82	320.94	252.64		60	387.17	438.24	335.82	246.23
11	367.75	456.28	313.82	256.18		61	370.12	450.69	315.11	249.67
12	368.88	446.37	334.49	245.89		62	369.3	445.3	331.79	242.52
13	375.72	441.17	323.05	241.73		63	373.67	437.04	311.41	242.46
14	357.06	433.88	313.36	241.64		64	359.17	455.56	329.94	258
15	365.69	445.51	320.17	240.95		65	384.36	449.79	327.36	240.06
16	351.04	432.11	331.12	250.51		66	368.76	448.73	332	252.46
17	386.08	432.5	325.97	243.61		67	385.19	432.28	311.91	258.61
18	371.31	454.89	301.81	247.38		68	380.96	450.16	328.4	250.21
19	375.39	433.52	325.72	242.4		69	370.26	434.54	310.35	256.91
20	367.61	437.94	319.13	243.85		70	376.95	440.97	328.02	241.71
21	352.9	443.51	302	258.57		71	359.29	434.6	333.79	250.65
22	397.6	459.72	333.71	255.28		72	390.1	453.82	310.64	242.58
23	394.75	439.02	333.52	250.6		73	394.3	454.28	316.46	257.27
24	359.24	445.79	318.82	257.97		74	397.55	433.47	325.17	244.65
25	379.98	435.09	304.22	251.86		75	389.29	458.31	305.57	243.96
26	358.95	452.96	339.11	252.58		76	381.3	439.23	302.17	251.13
27	360.62	457.91	338.01	246.65		77	386.4	451.81	310.3	259.66
28	367.61	437.46	321.51	248.37		78	383.52	455.36	321.14	257.54
29	384.66	439.91	302.56	246.32		79	395.43	447.8	310.67	259.51
30	365.32	457.28	313.22	256.73		80	353.1	444.45	339.55	252.5
31	379	457.23	305.05	242.99		81	377.76	458.44	321.26	247.76
32	366.55	436.04	338.44	249.77		82	398.99	435.67	324.37	245.6
33	380.35	443.33	316.29	248		83	385.76	437.71	305.89	248.36
34	363.05	448.34	303.05	252.28		84	371.28	441.72	310.67	243.5
35	359.34	430.07	306.97	255.69		85	353.96	450.92	324.6	242.33
36	387.48	459.98	320.96	255.45		86	374.41	437.27	325.6	242.29
37	396.67	438.39	309.96	251.83		87	357.57	433.52	333.9	250.49
38	379.8	436.02	317.99	248.39		88	356.87	433.72	324.62	258.4
39	357.23	458.02	311.67	247.18		89	373.22	456.92	332.31	258.87
40	383.34	454.33	313.46	252.42		90	370.05	445.29	338.23	258.47
41	391.63	436.64	304.7	243.91		91	393.88	457.85	312.4	258.89
42	390.95	436.27	334.3	256.04		92	386.04	440.74	332.16	245.42
43	382.76	440.97	313.97	242.41		93	364.99	437.28	323.37	244.6
44	365.23	459.36	327.35	252.82		94	359.94	451.31	324.71	254.32
45	397.37	459.67	311.92	251.78		95	353.64	433.86	309.07	254.76
46	372.89	456.97	300.03	243.29		96	388.66	436.25	333.53	259.56
47	352.17	440.56	306.93	242.82		97	376.44	444.72	310.78	242.67
48	376.38	432.03	335.76	240.25		98	384.33	444.6	330.85	249.53
49	380.58	438.51	303.51	258.64		99	356.68	434.74	320.07	247.54
50	389.1	433.59	302.39	249.51		100	386.88	453.61	338.24	243.44
Avg of 100 Attempts	374.8572	444.5905	319.6948	249.566						

Memory Management in Real-Time Operating System

Case 3: Existing and DmRT Both from Ideal

2. Fragmentation for all allocators 100 attempts (Best Case i.e. for 100 block requests)

Attempt No.	Dlmalloc	tcmalloc	TLSF	DmRT		Attempt No.	Dlmalloc	tcmalloc	TLSF	DmRT
1	33.55	27.88	17.61	12.88		51	36.96	25.73	20.52	16.28
2	35.39	27.09	21.62	14.26		52	34.36	25.96	19.13	12.76
3	35.2	25.76	20.24	13.7		53	36.67	26.63	18.86	12.96
4	33.21	25.9	20.63	13.41		54	36.29	25.24	20.51	15.73
5	33.21	27.91	18.79	13.3		55	36.75	27.45	21.71	14.85
6	34.96	25.97	17.51	14.29		56	33.38	26.15	20.63	12.71
7	34.57	25.42	19.58	14.11		57	34.92	28.19	20.63	15.14
8	36.95	25.03	18.71	13.07		58	37.1	25.18	18.48	15.34
9	36.79	27.6	21.23	15.57		59	35.31	27	19.25	14.64
10	35.87	25.95	18.93	15.72		60	33.71	26.48	21.07	15.19
11	33.71	26.48	20.53	12.79		61	35.83	24.87	19.2	16.32
12	33.54	25.93	21.69	15.99		62	34.49	26.57	19.31	14.19
13	36.56	25.69	20.13	15.95		63	36.32	27.74	17.83	15.6
14	35.95	24.55	20.57	13.96		64	34.17	24.3	19.02	14.24
15	36.89	26.07	19.55	12.6		65	34.13	24.93	19.97	12.72
16	34.2	26.37	17.59	14.61		66	35.49	27.94	20.56	16.02
17	34.12	27.9	17.13	13.94		67	34.52	26.64	19.53	15.46
18	34.29	25.34	21.57	15.82		68	35.21	25.37	17.73	15.04
19	35.8	24.98	18.01	15.71		69	34.84	28.04	19.54	13.54
20	35.02	25.46	19.3	13.06		70	36.12	24.63	21.44	12.69
21	35.79	26.27	16.81	13.99		71	33.27	24.52	21.34	14.38
22	33.21	27.25	21.57	13.02		72	34.61	24.72	17.59	14.16
23	34.72	25.3	18.68	15.31		73	33.6	25.61	17.35	13.56
24	35.16	27.18	17.75	15.43		74	33.61	24.91	19.18	16.42
25	34.5	27.35	18.9	14.22		75	36.3	27.55	19.17	15.3
26	35.25	28.11	17.4	16.53		76	36.85	27.89	19.44	15.85
27	36.42	27.32	18.04	16.44		77	35.89	24.55	17.52	14.69
28	35.84	24.99	17.32	16.27		78	35.1	24.98	19.43	15.53
29	34.24	26.1	19.97	15.18		79	36.05	27.7	17.02	15.62
30	33.49	24.57	18.71	15.69		80	35.28	25.9	20.56	13.67
31	36.2	25.93	19.75	14.26		81	35.76	26.63	20.77	14.75
32	37	28.19	21.51	16.43		82	35.88	27.38	17.58	12.88
33	34.2	28.09	17.12	14.2		83	34.03	25.18	17.69	14.98
34	36.84	26.27	19.21	12.99		84	36.77	24.72	17.34	14.03
35	35.93	27.76	21.7	14.38		85	35.83	28.06	17.08	15.76
36	35.52	25.92	19.43	15		86	34.53	27.7	18.76	14.31
37	35.97	27.88	19.53	14.83		87	35.8	25.13	18.41	15.88
38	35.66	27.11	17.74	13.27		88	33.59	26.34	19.21	14.37
39	34.49	26.33	20.33	15.39		89	34.82	26.55	18.83	14.85
40	33.28	27.06	18.83	13.56		90	35.31	25.4	18.27	14.05
41	35	28.21	21.72	12.91		91	34.63	25.84	21.2	15.5
42	34.27	28.1	19.65	15.86		92	36.09	26.78	18.03	13.71
43	33.59	25.39	20.83	13.95		93	34.55	27.56	19.3	14.07
44	35.49	25.39	18.89	14.22		94	36.01	25.25	20.31	16.17
45	35.86	27.82	21.16	13.59		95	36.51	28.16	19.27	13.31
46	37.03	26.33	19.32	15.72		96	36.22	25.01	20.29	15.33
47	33.32	27.86	20.2	15.72		97	36.09	24.48	20.08	15.77
48	36.98	27.39	18.02	15.49		98	35.45	27.07	17.4	14.5
49	35.39	24.79	19.65	13.12		99	34.7	27.81	18.01	13.79
50	35.62	28.04	18.27	12.73		100	36.04	27.02	18.44	14.76
Avg of 100 Attempts	35.2178	26.3902	19.2872	14.5781						

Memory Management in Real-Time Operating System

Case 3: Existing and DmRT Both from Ideal

3. No. of Request Satisfied for all allocators 100 attempts (Best Case i.e. for 100 block requests)

Attempt No.	Dlmalloc	tcmalloc	TLSF	DmRT		Attempt No.	Dlmalloc	tcmalloc	TLSF	DmRT
1	67	72	84	89		51	69	72	83	87
2	67	72	81	91		52	69	73	82	88
3	67	72	81	91		53	68	72	83	88
4	69	71	85	89		54	66	71	83	90
5	69	72	82	90		55	69	70	85	88
6	68	70	82	88		56	66	70	85	87
7	67	70	82	89		57	66	74	82	91
8	69	72	83	90		58	69	71	81	92
9	66	74	83	88		59	68	74	81	90
10	68	74	85	90		60	68	72	84	90
11	69	70	84	91		61	66	73	83	90
12	68	74	81	88		62	69	71	85	90
13	66	71	85	88		63	66	72	84	89
14	68	74	82	88		64	69	74	83	88
15	67	74	85	90		65	67	72	83	89
16	67	72	83	91		66	69	71	85	87
17	66	73	81	89		67	69	70	82	89
18	69	74	81	90		68	69	74	85	88
19	69	74	82	90		69	66	73	85	91
20	69	74	81	92		70	68	70	84	92
21	68	72	82	89		71	69	74	84	91
22	68	72	82	92		72	68	71	83	90
23	67	71	85	91		73	67	74	83	88
24	69	73	82	87		74	67	74	83	89
25	67	73	84	90		75	69	70	82	89
26	66	70	82	87		76	66	71	82	89
27	66	72	84	89		77	66	72	83	92
28	68	74	83	87		78	67	70	82	89
29	66	72	82	91		79	68	70	83	91
30	68	72	85	89		80	67	73	81	90
31	66	72	82	91		81	67	73	83	88
32	67	71	83	91		82	68	71	83	90
33	66	73	83	87		83	66	73	85	87
34	66	74	85	90		84	69	71	82	88
35	66	70	82	91		85	68	74	85	91
36	68	75	83	89		86	67	71	83	87
37	66	72	81	89		87	66	70	84	87
38	66	73	83	89		88	67	71	83	90
39	67	72	83	89		89	67	70	82	90
40	69	72	84	87		90	66	74	84	90
41	69	73	84	88		91	69	74	85	87
42	69	72	84	87		92	67	74	82	88
43	67	73	84	89		93	68	74	84	88
44	66	73	84	87		94	67	73	82	89
45	68	75	82	88		95	69	72	83	91
46	69	73	84	87		96	68	70	83	89
47	69	74	85	90		97	66	70	84	89
48	66	72	83	89		98	69	73	85	91
49	69	71	82	91		99	68	70	83	89
50	66	72	83	88		100	66	74	84	92
Avg of 100 Attempts	67.5358	72.1999	83.1096	89.1851						

Memory Management in Real-Time Operating System

Case 3: Existing and DmRT Both from Ideal

1. Execution Time for all allocators 100 attempts (Average Case i.e. for 1000 block requests)

Attempt No.	Dlmalloc	tcmalloc	TLSF	DmRT		Attempt No.	Dlmalloc	tcmalloc	TLSF	DmRT
1	2015.03	3092.89	1572.91	1135.68		51	2178.11	3172.66	1430.46	1070.35
2	2128.48	3133.45	1549.06	1183.93		52	2103.63	3094.45	1602.11	1288.17
3	2028.96	3134.05	1456.74	988.15		53	2074.68	3246.39	1450.57	1079.19
4	2053.69	3388.73	1452.07	1250.64		54	2086.03	3130.27	1596.12	1166.11
5	2193.15	3102.83	1533.23	1135.34		55	2124.84	3219.63	1584.69	1090.88
6	2125.35	3319.15	1499.6	991.21		56	2026.05	3171.7	1613.73	1143.28
7	2167.34	3403.51	1618.58	951.79		57	2173.72	3358.35	1476.32	1166.5
8	2094.63	3273.89	1621.15	1203.41		58	2046.46	3240.79	1500.49	1113.24
9	2095.65	3262.5	1441.84	1071.09		59	2056.56	3357.17	1619.23	1325
10	2147.67	3374.85	1482.34	968.63		60	2016.47	3368.22	1452.48	1229.67
11	2022.36	3109.91	1605.21	1209.37		61	2151.52	3404.19	1587.57	1287.03
12	2092.23	3334.33	1425.02	1104.1		62	2108.84	3119.4	1610.07	1088.84
13	2174.06	3322.3	1544.48	1299.22		63	2169.37	3131.92	1538.74	1184.32
14	2086.68	3289.04	1446.31	1145.42		64	2134.23	3435.79	1541.04	1016.32
15	2081.32	3303.84	1433.66	1099.06		65	2083.54	3320.71	1616.94	1072.48
16	2118.33	3236.31	1565.61	1335.9		66	2023.14	3422.14	1596.82	1342.56
17	2191.39	3119.68	1560.79	1305.35		67	2150.61	3279.29	1617.99	1068.64
18	2108.18	3310.46	1520.14	1298.41		68	2140.2	3372.14	1510.67	1040.01
19	2209.23	3219.2	1620.64	1258.66		69	2182.6	3392.61	1601.02	1151.01
20	2102.71	3181.71	1483.39	1092.3		70	2126.96	3164.98	1535.41	1196.59
21	2067.05	3346.64	1507.67	1045.99		71	2062.02	3173.51	1511.81	1033.72
22	2167.86	3240.34	1616.29	994.53		72	2019.36	3042.3	1512.22	1234.18
23	2104.7	3318.71	1558.22	1191.16		73	2181.2	3111.12	1550.23	1290.57
24	2112.58	3234.93	1431.8	1221.25		74	2207.85	3302.35	1546.25	1056.61
25	2094.51	3053.92	1523.3	1302.21		75	2131.63	3091.72	1621.79	1174.28
26	2023.45	3431.74	1610.86	1230.46		76	2093.71	3095.76	1511.44	966.84
27	2185.7	3337.67	1510.72	1144.63		77	2059.39	3174.24	1544.21	1333.24
28	2082.04	3073.06	1615.95	1301.83		78	2092.72	3042.53	1499.2	961.78
29	2050.66	3192.04	1457.91	1049.8		79	2123.94	3204.16	1593.62	1134.1
30	2024.16	3045.46	1440.68	1246.93		80	2100.33	3286.6	1461.75	1128.14
31	2119.36	3103.75	1499.34	1070.49		81	2036.28	3290.47	1536.01	1336.69
32	2199.5	3260.19	1437.45	1036.37		82	2123.45	3281.01	1616.73	1144.03
33	2093.12	3229.73	1575.74	957.92		83	2147.09	3313.96	1527.3	1322.44
34	2130.33	3225.15	1527.89	1308.06		84	2192.15	3198.82	1553.54	1058.19
35	2157.03	3060.49	1465.66	1297.28		85	2193.6	3124.45	1423.56	1110
36	2072.57	3357.15	1430.76	1099.45		86	2070.99	3154.96	1512.87	1237.66
37	2205.85	3416.37	1607.7	1158.02		87	2208.57	3110.82	1539.7	1287.71
38	2202.83	3418.44	1429.59	1092.43		88	2024.71	3385.27	1511.66	1303.31
39	2033.25	3049.5	1544.26	966.95		89	2026.42	3093.9	1600.74	1219.4
40	2103.46	3293.52	1463.12	1292.07		90	2036.58	3107.81	1603.62	1096.86
41	2056.3	3380.53	1505.43	968.3		91	2193.56	3389.48	1604.03	1264.77
42	2110.12	3087.18	1588.98	1193.99		92	2175.84	3284.78	1452.42	1181.45
43	2106.55	3122.38	1621.77	1189.81		93	2051.34	3196.62	1437.74	1211.74
44	2173.87	3339.35	1601.47	995.17		94	2067.23	3329.8	1464.18	1068.27
45	2017.19	3291.11	1463.16	1118.34		95	2058.4	3352.63	1474.81	1165.18
46	2198.38	3329.49	1532.3	1105.41		96	2114.43	3231.44	1590.84	1029.21
47	2133.67	3432.5	1484.12	986.14		97	2193.69	3346.98	1516.6	1131.49
48	2119.68	3321.62	1551.89	1174.83		98	2094.89	3046.28	1583.43	1274.88
49	2135.77	3309.13	1537.01	1066.52		99	2035.67	3121.62	1540.06	962.54
50	2194.73	3430.26	1426.83	976.78		100	2070.72	3119.55	1502.27	1298.19
Avg of 100 Attempts	2110.58	3240.527	1530.277	1149.484						

Memory Management in Real-Time Operating System

Case 3: Existing and DmRT Both from Ideal

2. Fragmentation for all allocators 100 attempts (Average Case i.e. for 1000 block requests)

Attempt No.	Dlmalloc	tcmalloc	TLSF	DmRT		Attempt No.	Dlmalloc	tcmalloc	TLSF	DmRT
1	43.21	34.93	27.72	17.75		51	44.55	36.66	27.56	17.95
2	42.34	37.3	24.54	20.37		52	44.69	35.9	25.08	22.03
3	44.11	33.56	25.96	19.17		53	41.57	35.34	25.7	22.16
4	42.57	36.26	27.31	21.35		54	42.15	37.08	24.96	21.04
5	44.73	35.37	27.84	20.29		55	41	37.41	24.9	18.74
6	44.18	35.01	26.74	17.48		56	42.72	35.78	26.81	18.94
7	43.92	34.28	26.63	17.84		57	44.84	35.86	27.01	18.53
8	44.64	35.03	26.19	18.43		58	43.47	35.38	26.02	20.37
9	42.7	33.97	24.8	17.49		59	43.03	33.73	27.78	17.49
10	44.77	35.11	27.18	17.6		60	42.9	34.47	25.32	19.83
11	43.07	35.56	25.68	20.85		61	42.72	36.43	26.02	21.96
12	41.71	36.65	25.49	17.63		62	42.47	37.14	25.48	18.48
13	41.76	35.47	26.54	17.47		63	43.49	34.84	26.6	19.97
14	42.5	33.64	27.58	18.66		64	41.44	36.94	26.14	21.66
15	43.78	35.02	27.83	17.43		65	43.34	36.57	24.6	19.27
16	43.92	36.84	27.74	18.68		66	42.69	35.17	25.43	21.25
17	43.96	34	27.65	20.31		67	43.46	34.21	28.11	20.17
18	42.31	34.31	25.39	19.45		68	43.78	35.27	26.49	19.33
19	40.98	35.56	24.93	19.1		69	42.19	36.41	26.34	17.56
20	42.15	35.08	28.11	20.02		70	44.75	34.13	25.15	20.85
21	41.83	34.51	27.51	22.3		71	42.05	36.6	24.5	21.71
22	44.77	34.18	25.99	19.95		72	42.07	35.36	27.85	21.2
23	42.86	33.64	26.93	21.68		73	44.79	35.33	24.51	19.66
24	41.61	37.33	26.48	19.18		74	43.89	35.44	27.76	18.32
25	43.32	36.25	27.67	17.86		75	42.74	34.24	25.25	17.7
26	43.88	37.12	24.74	19.78		76	43.93	36.93	27.16	22.17
27	43.88	33.68	26.5	21.84		77	43.36	36.91	28.2	20.71
28	44.37	36.26	27.67	20.35		78	41.08	33.96	27.93	18.9
29	42.47	36.04	26.65	19.63		79	43.76	34.98	25.34	18.59
30	41.05	37.24	27.57	18.08		80	43.3	35.58	26.68	20.1
31	41.94	35.17	25.55	18.69		81	43.71	36.55	25.32	20.59
32	42.88	34.04	26.23	18.49		82	42.54	34.23	27.16	20.25
33	43.62	35.42	24.96	21.33		83	42.22	35.43	24.39	17.68
34	41.08	37.15	24.89	21.54		84	41.33	36.66	26.15	20.44
35	44.17	34.22	25.36	20.12		85	41.58	33.67	25.01	20.67
36	44.58	37.22	27.53	20.32		86	43.82	35.43	27.78	20.93
37	43.51	34.66	27.4	21.52		87	41.95	34.27	27.06	22.39
38	44.02	36.94	27.54	18.32		88	43.47	36.27	25.44	18.44
39	44.16	34.47	27.57	21.47		89	41.7	36.01	24.97	18.13
40	42.78	36.86	28.15	19.89		90	42.26	36.23	26.12	21.53
41	41.72	37.5	27.81	18.56		91	41.63	35.63	25.64	20.96
42	41.23	33.59	25.03	18.48		92	42.47	36.25	26.53	19.89
43	43.45	34.03	26.37	19.01		93	43.26	36.05	27	22.15
44	43.36	36.33	25.63	21.74		94	41.99	36.24	24.47	21.84
45	44.59	35.32	27.55	18.22		95	44.46	34.79	26.02	22
46	44.13	36.15	26	20.23		96	40.92	37.32	25.71	20.56
47	43.48	37.45	26.2	18.85		97	41.98	36.68	24.48	21.54
48	42.25	35.69	27.06	18.04		98	43.27	37.25	27.03	21.57
49	44.75	35.83	26.04	20.83		99	41.99	35.3	24.74	19.17
50	44.26	33.71	27.08	17.88		100	44.4	33.71	26.87	19.62
Avg of 100 Attempts	43.0248	35.5497	26.3408	19.7854						

Memory Management in Real-Time Operating System

Case 3: Existing and DmRT Both from Ideal

3. No. of Request Satisfied for all allocators 100 attempts

(Average Case i.e. for 1000 block requests)

Attempt No.	Dlmalloc	tcmalloc	TLSF	DmRT		Attempt No.	Dlmalloc	tcmalloc	TLSF	DmRT
1	55.5	63.5	72.0	80.3		51	53.3	62.3	73.5	82.0
2	54.2	64.4	73.1	80.0		52	57.5	63.9	75.0	81.9
3	55.2	65.0	72.2	82.3		53	56.7	63.8	73.1	80.9
4	54.3	63.7	71.7	80.5		54	54.3	66.7	73.0	83.1
5	55.4	64.4	71.8	81.4		55	57.5	62.7	74.3	79.2
6	58.1	66.5	75.3	81.4		56	53.8	62.9	73.6	79.6
7	55.8	62.7	74.0	79.4		57	54.7	64.3	74.2	81.2
8	54.8	63.8	71.6	82.7		58	55.4	62.5	75.0	80.7
9	55.5	65.7	72.0	79.4		59	57.6	65.9	72.8	81.1
10	53.7	66.6	71.6	82.0		60	53.6	66.5	75.2	82.3
11	55.9	66.0	75.0	82.2		61	58.2	65.9	71.4	79.5
12	53.8	63.6	71.9	82.6		62	54.4	65.1	75.2	80.9
13	55.4	65.4	72.1	80.6		63	55.3	64.2	75.3	80.2
14	55.8	62.8	72.3	82.6		64	55.9	67.2	72.8	79.3
15	55.0	63.6	73.8	82.0		65	57.9	65.6	74.0	81.2
16	55.0	63.7	71.5	81.1		66	54.0	66.4	72.3	81.4
17	55.9	62.7	71.3	80.1		67	53.7	64.4	75.3	81.9
18	55.9	64.6	72.8	79.4		68	55.6	67.3	72.5	83.2
19	55.3	67.3	74.0	81.8		69	56.2	65.6	74.1	80.0
20	56.2	66.1	74.1	80.5		70	55.8	66.1	73.0	81.6
21	54.6	66.8	71.8	81.6		71	56.6	62.6	73.5	82.8
22	58.2	64.0	72.3	82.7		72	55.0	63.7	73.0	79.3
23	53.8	62.9	71.6	82.8		73	54.0	66.1	74.5	81.6
24	57.4	62.5	74.8	81.3		74	56.9	63.3	74.1	80.6
25	56.7	62.8	74.0	81.7		75	54.4	64.0	72.0	80.9
26	53.5	62.8	72.3	81.6		76	55.0	65.5	74.7	81.6
27	54.5	65.0	72.6	80.2		77	54.1	62.6	72.6	79.3
28	57.9	65.1	74.8	79.9		78	54.0	64.3	74.5	81.3
29	55.6	66.5	75.1	79.9		79	58.0	65.1	74.7	79.5
30	57.2	66.8	71.5	81.6		80	56.8	65.9	74.9	79.4
31	53.3	65.4	73.6	80.8		81	54.6	66.7	75.0	82.3
32	57.9	64.5	73.5	81.5		82	54.2	64.8	72.9	81.9
33	55.5	62.8	74.4	81.1		83	55.1	66.7	71.7	81.6
34	57.4	63.6	75.1	80.2		84	58.2	66.1	73.1	81.8
35	57.6	66.4	73.6	82.4		85	53.3	62.8	74.2	80.5
36	53.5	66.3	71.8	81.7		86	53.6	63.4	71.4	80.0
37	55.6	62.4	74.3	79.8		87	53.4	63.7	74.9	79.8
38	56.4	65.1	73.7	82.2		88	54.7	63.9	73.8	82.2
39	57.9	62.7	72.6	81.8		89	56.3	64.9	71.4	83.2
40	56.6	66.6	71.7	80.2		90	53.3	65.2	73.6	81.0
41	57.9	67.3	72.2	82.1		91	54.5	65.7	75.2	83.1
42	57.0	66.7	71.6	82.7		92	53.3	64.5	71.7	80.7
43	54.7	66.6	74.8	82.1		93	57.7	64.9	74.7	79.7
44	58.2	67.2	71.8	80.6		94	57.6	62.9	74.8	81.5
45	57.0	66.8	71.5	82.7		95	55.4	65.2	73.0	82.7
46	53.9	62.9	75.0	80.5		96	56.2	66.7	71.4	81.7
47	56.7	63.4	71.8	82.9		97	53.5	62.4	75.0	82.4
48	54.8	66.2	75.2	81.3		98	54.5	63.8	72.7	79.6
49	57.4	67.1	73.2	81.0		99	57.1	63.3	75.3	81.0
50	56.6	62.5	72.0	79.9		100	55.2	62.5	74.7	80.6
Avg of 100 Attempts	55.5939	64.722	73.3219	81.1776						

Memory Management in Real-Time Operating System

Case 3: Existing and DmRT Both from Ideal

1. Execution Time for all allocators 100 attempts (Worst Case i.e. for 2000 block requests)

Attempt No.	Dlmalloc	tcmalloc	TLSF	DmRT		Attempt No.	Dlmalloc	tcmalloc	TLSF	DmRT
1	3231.3	4463.78	2125.59	1929.62		51	3204.49	4451.17	2164.38	1807.3
2	3215.27	4480.67	2169.75	1939.02		52	3199.52	4498.17	2178.71	1909.59
3	3335.99	4421.48	2161.43	1948.21		53	3261.08	4453.7	2130.85	1781.25
4	3327.79	4420.94	2185.11	1912.68		54	3345.39	4427.32	2162.95	1875.54
5	3308.11	4421.22	2204.64	1766.95		55	3339.68	4479.24	2205.61	1897.83
6	3210.39	4438.31	2173.1	1890.93		56	3186.74	4440.96	2160.18	1781.41
7	3202.77	4448.53	2161.78	1932.78		57	3260.89	4424.72	2192.64	1762.53
8	3196.96	4425	2131.69	1929.31		58	3342.69	4451.77	2164.36	1890.75
9	3268.49	4508.34	2144.1	1829.77		59	3201.57	4474.23	2195.2	1900.43
10	3344.73	4467.6	2177.05	1933.8		60	3238.13	4454.45	2170.37	1867.34
11	3342.48	4440.22	2204.36	1947.88		61	3294.7	4498.37	2145.87	1850.23
12	3191.04	4439.79	2124.74	1876.76		62	3312.65	4509.89	2195.14	1912.38
13	3309.29	4418.47	2180.72	1866.73		63	3340.73	4452.06	2213.74	1944.71
14	3289.21	4429.88	2141.18	1872		64	3235.1	4470.69	2178.16	1782.43
15	3297.9	4503.97	2170.56	1839.78		65	3365.46	4439.6	2203.67	1807.15
16	3366.61	4513.89	2176.34	1830.55		66	3317.04	4480.24	2156.16	1872.44
17	3263.85	4502.63	2159.76	1885.41		67	3256.58	4505.38	2163.02	1881.63
18	3245.33	4460.42	2129.95	1855.35		68	3247.58	4506.74	2164.38	1814.96
19	3247.46	4437.75	2164.92	1849.27		69	3190.99	4472.58	2200.78	1820.54
20	3191.04	4487.79	2140.91	1854.86		70	3306.06	4438.8	2149.77	1875.9
21	3360.15	4483.17	2183.19	1870.24		71	3280.21	4460.22	2141.1	1838.5
22	3343.22	4480.19	2142.26	1835.62		72	3330.77	4503.63	2170.63	1854.4
23	3233.99	4440.37	2151.02	1852.83		73	3367.83	4465.46	2209.96	1852.96
24	3340.42	4492.37	2152.53	1813.28		74	3221.09	4484.6	2220.25	1768.33
25	3256.72	4508.26	2148.08	1946.46		75	3276.72	4504.05	2144.79	1929.78
26	3325.96	4516.1	2197.07	1784.02		76	3261.01	4501.11	2172.32	1832.6
27	3303.63	4510.24	2126.43	1910.45		77	3333.67	4421.59	2134.79	1960.04
28	3245.08	4483.41	2152.02	1777.23		78	3254.87	4482.51	2200.27	1946.25
29	3288.39	4488.92	2168.6	1952.77		79	3194.3	4499.13	2178.69	1926.35
30	3317.64	4488.64	2130.59	1827.58		80	3179.96	4439.51	2216.96	1781.02
31	3358.54	4430.35	2160.52	1877.52		81	3276.72	4466.55	2152.4	1927.35
32	3189.63	4448.46	2187.06	1768.09		82	3317.29	4499.21	2164.54	1822.86
33	3340.58	4428.43	2205.14	1827.77		83	3317.4	4498.76	2209.07	1920
34	3340.36	4485.72	2131.41	1764.36		84	3288.6	4433.89	2203.29	1864.99
35	3283.04	4417.94	2190.51	1800.38		85	3371.41	4498.03	2206.38	1895.33
36	3319.23	4512.14	2213.78	1909.41		86	3341.53	4420.55	2161.37	1854.99
37	3197.56	4463.65	2138.41	1791.46		87	3194.33	4477.48	2160.8	1909.18
38	3206.05	4482.6	2221.25	1872.16		88	3350.29	4481.98	2165.71	1787.4
39	3202.65	4459.39	2153.12	1934.76		89	3208.21	4434.57	2145.02	1860.89
40	3357.95	4472.31	2202.73	1940.1		90	3190.39	4501.73	2216.22	1864.38
41	3374.05	4432.94	2169.96	1792.13		91	3290.15	4514.25	2163.85	1918.63
42	3366.26	4437.13	2177.77	1926.79		92	3278.1	4486.74	2215.75	1929.04
43	3190.24	4450.36	2202.84	1853.37		93	3335.91	4508.69	2218.92	1774.12
44	3293.69	4469.73	2165.7	1892.92		94	3224.46	4429.59	2196.54	1814.76
45	3237.79	4458.52	2175.46	1812.01		95	3341.31	4442.94	2187.55	1772.6
46	3208.17	4480.2	2195.58	1816.66		96	3241.8	4497.17	2180.79	1777.4
47	3258.85	4422.77	2188.5	1930.7		97	3207.57	4489.6	2219.02	1947.38
48	3234.45	4429.27	2152.1	1788.98		98	3355.91	4504.47	2171.56	1801.98
49	3275.33	4442.02	2128.65	1804.21		99	3265.33	4447.03	2189.3	1812.43
50	3326.1	4436.66	2173.42	1862.65		100	3236.85	4502.11	2138.65	1821.25
Avg of 100 Attempts	3277.428	4467.102	2172.658	1860.321						

Memory Management in Real-Time Operating System

Case 3: Existing and DmRT Both from Ideal

2. Fragmentation for all allocators 100 attempts (Worst Case i.e. for 2000 block requests)

Attempt No.	Dlmalloc	tcmalloc	TLSF	DmRT		Attempt No.	Dlmalloc	tcmalloc	TLSF	DmRT
1	52.25	43.22	35.76	24.91		51	54.64	44.2	34.28	22.84
2	53.37	45.19	34.09	22.91		52	53.87	43.77	36.46	26.41
3	51.11	42.88	36.9	23.34		53	52.27	45.27	34.94	27.13
4	50.9	44.45	37.24	23.99		54	50.96	42.12	36.67	23.91
5	51.32	42.91	35.03	26.76		55	54.54	43.34	37.95	24.76
6	51.09	44.93	36.81	27.03		56	51.62	45.55	36.4	23.43
7	52.52	45.06	36.41	26.9		57	52.04	42.84	35.85	25.73
8	52.88	44.2	36.1	25.84		58	50.7	42.64	34.42	23.09
9	53.91	43.5	35.55	25.09		59	51.01	45.21	37.68	26.17
10	51.1	44.76	35.57	23.82		60	52.27	43.66	37.66	27.25
11	51.47	42.71	34.41	26.4		61	50.96	43.9	34.75	23.24
12	51.75	44.68	37.58	23.27		62	53.79	43.69	34.32	26.15
13	51.87	42.47	37.37	24.08		63	53.96	43.08	37.51	27.39
14	53.63	45.42	37.55	23.42		64	53.63	45.27	34.52	26.21
15	51.65	44.5	34.46	26.75		65	51.5	41.93	36.62	27.22
16	52.39	43.77	37.86	23.52		66	52.15	44.9	35.41	24.4
17	53.91	43.66	35.87	24.65		67	50.82	43	35.8	26.91
18	52.02	42.3	35.37	23.82		68	52.27	44.12	35.75	24.38
19	51.51	45.33	37.2	24.29		69	53.13	42.82	36.72	24.47
20	52.73	44.91	34	24.79		70	50.93	45.18	34.97	26.86
21	50.99	45.4	36.45	25.87		71	53.86	43.5	37.77	25.1
22	51.77	45.53	34.67	24.21		72	51.74	41.88	37.13	27.19
23	51.82	42.06	34.75	25.84		73	53.57	43.26	34.42	25.71
24	53.72	43.68	35.74	23.75		74	52.5	44.17	36.51	23.07
25	53.6	42.46	35.13	24.87		75	52.2	44.52	35.69	23.01
26	53.19	42.8	36.82	24.42		76	54.03	44.45	35.19	25.92
27	51.95	43.68	35.56	23.34		77	54.62	45.2	36.32	27.66
28	51.64	43.32	35.4	26.92		78	53.6	43.84	37.92	23.08
29	51.07	41.88	34.49	23.58		79	54.4	44.04	37.14	25.37
30	54.13	41.72	37.78	24.95		80	52.19	42.55	37.12	27.45
31	52.63	44.03	37.44	24.79		81	52.7	43.87	36.2	23.43
32	51.59	43.29	35.57	26.9		82	53.72	44.09	36.54	26.58
33	52.08	43.41	37.93	27.69		83	52.37	41.62	35.68	22.84
34	52.1	42.72	36.85	26.17		84	54.29	43.45	34.5	24.32
35	52.26	44.98	35.81	25.68		85	51.07	43.48	37.38	25.48
36	53.8	43.99	34.32	26.05		86	51.95	41.78	35.77	23.24
37	54.62	42.78	35.33	25.2		87	54.41	43.23	35.38	22.89
38	53.12	45.09	37.55	25.89		88	51.72	42.48	34.23	23.79
39	53	44.77	34.38	24.27		89	51.45	42.8	34.25	25.19
40	52.07	45.15	36.88	23.44		90	52.83	41.98	36.38	27.19
41	51.37	42.45	34.81	26.38		91	54.28	45.2	34	24.24
42	54.24	42.23	36.87	26.5		92	53.4	44.69	36.66	24.34
43	54.54	42.57	36.76	23		93	54.37	41.71	36.39	24.32
44	51.85	45.27	35.22	26.93		94	51.61	43.37	34.94	26.23
45	54.13	44.78	36.68	26.23		95	52.65	45.27	35.18	25.56
46	53.41	42.23	37.06	23.8		96	52.96	42.81	35.26	24.74
47	50.94	44.72	35.38	25.22		97	52.6	42.37	35.3	27.08
48	51.47	42.1	37.76	26.38		98	52.09	43.92	34.38	22.75
49	53.61	44.49	35.92	27.34		99	53.56	42.79	36.11	24.09
50	51.99	44.33	37.48	25.14		100	54.27	42.45	35.13	25.98
Avg of 100 Attempts	52.6015	43.6602	35.9747	25.1212						

Memory Management in Real-Time Operating System

Case 3: Existing and DmRT Both from Ideal

3. No. of Request Satisfied for all allocators 100 attempts

(Worst Case i.e. for 2000 block requests)

Attempt No.	Dlmalloc	tcmmalloc	TLSF	DmRT		Attempt No.	Dlmalloc	tcmmalloc	TLSF	DmRT
1	46.50	54.80	63.05	73.40		51	45.25	54.75	65.25	74.20
2	45.95	51.55	62.55	75.65		52	44.25	53.65	63.75	75.20
3	45.55	52.05	65.45	73.35		53	45.10	51.25	63.60	74.75
4	45.75	51.95	66.65	74.15		54	44.40	53.25	63.25	73.45
5	43.10	53.30	63.35	72.25		55	43.70	51.35	62.05	75.35
6	46.40	53.60	62.95	72.55		56	45.95	51.15	62.55	74.85
7	43.20	52.00	64.60	73.65		57	46.00	52.30	65.60	74.45
8	46.30	53.55	65.10	74.85		58	46.85	52.95	65.95	74.85
9	45.05	53.30	64.15	75.60		59	46.55	51.70	65.00	75.15
10	45.15	53.30	63.05	75.15		60	44.60	54.35	62.05	75.75
11	44.20	54.35	65.05	74.00		61	45.75	52.90	66.45	75.65
12	43.10	51.60	66.25	75.75		62	45.45	53.10	63.20	75.55
13	44.40	53.00	64.80	72.20		63	46.00	53.25	65.20	75.60
14	43.95	51.50	65.55	75.55		64	44.60	54.65	63.30	75.70
15	44.35	54.25	66.25	72.40		65	45.30	54.65	66.95	73.10
16	45.80	52.10	65.90	72.75		66	43.65	52.25	66.55	74.10
17	43.10	51.95	62.10	74.60		67	44.10	53.55	64.55	74.10
18	46.10	51.00	62.80	74.45		68	43.30	54.75	66.70	74.35
19	43.00	53.05	65.00	73.00		69	46.35	51.35	64.30	74.95
20	46.35	51.50	65.70	72.30		70	45.00	53.35	66.35	73.95
21	44.75	52.15	64.00	75.25		71	45.40	51.75	62.20	75.80
22	44.90	51.00	63.50	72.75		72	43.10	53.80	63.20	72.00
23	43.05	54.00	62.05	73.30		73	44.35	52.45	62.60	73.55
24	46.40	53.65	64.85	74.30		74	43.20	53.65	64.35	75.05
25	46.10	52.10	63.55	74.65		75	46.60	54.55	64.20	73.00
26	45.60	52.50	62.75	72.20		76	43.80	51.35	66.00	72.20
27	46.55	52.20	65.00	74.05		77	43.20	53.50	64.05	73.70
28	46.60	53.20	65.00	72.05		78	45.75	54.90	63.00	75.40
29	45.55	52.00	63.50	74.80		79	44.80	51.10	63.90	72.50
30	44.55	54.10	62.15	73.30		80	46.00	51.70	62.15	74.50
31	44.25	53.35	65.60	72.35		81	46.20	51.45	64.30	72.65
32	44.60	52.45	65.00	74.55		82	45.70	53.45	62.60	72.80
33	45.15	53.20	65.80	74.10		83	43.35	53.65	63.10	73.00
34	45.40	53.30	65.20	75.05		84	44.25	51.00	65.40	75.80
35	46.05	54.05	66.65	73.00		85	43.45	52.25	66.15	73.60
36	43.60	51.00	62.75	75.00		86	43.70	54.50	65.10	75.50
37	45.00	52.75	64.25	75.85		87	43.40	53.00	66.90	75.35
38	43.20	51.90	62.25	72.05		88	43.25	53.25	66.75	72.75
39	43.80	51.80	64.05	75.70		89	45.45	53.75	66.60	72.50
40	46.70	51.95	66.00	72.80		90	45.40	51.45	66.00	72.90
41	43.85	53.20	63.95	75.85		91	46.90	54.70	62.65	72.90
42	44.15	53.85	64.70	75.40		92	47.00	52.55	62.70	74.90
43	46.65	54.55	66.30	74.80		93	43.10	52.25	65.75	72.40
44	43.05	53.75	65.70	72.75		94	46.30	51.95	63.60	73.70
45	44.15	54.90	64.90	72.35		95	44.20	51.65	64.65	72.65
46	43.00	51.25	66.40	74.50		96	44.60	52.15	66.60	73.85
47	44.90	53.15	65.75	75.80		97	46.00	51.55	65.00	75.90
48	44.55	53.00	62.15	74.80		98	43.10	52.35	62.55	74.30
49	44.30	53.70	65.15	75.95		99	43.35	51.30	65.25	72.50
50	44.30	52.40	63.55	72.10		100	44.35	53.75	64.25	73.60
Avg of 100 Attempts	44.834	52.813	64.469	74.053						

Memory Management in Real-Time Operating System

Case 4: Existing and DmRT follow Local -> Shared -> Ideal

1. Execution Time for all allocators 100 attempts (Best Case i.e. for 100 block requests)

Attempt No.	Dlmalloc	tcmalloc	TLSF	DmRT		Attempt No.	Dlmalloc	tcmalloc	TLSF	DmRT
1	533.79	622.34	473.01	402		51	534.51	627.87	483.67	371.61
2	529.31	643.69	468	373.58		52	542.74	623.75	480.8	389.6
3	530.88	646.64	486.83	401.61		53	522.61	628.28	487.47	397.18
4	521.11	646.23	477.77	384.02		54	537.58	627.41	483.74	386.63
5	535.38	639.43	493.33	364.95		55	528.33	638.93	470.75	382.04
6	516.67	633.83	472.52	399.13		56	522.63	641.18	467.32	381.48
7	512.54	638.71	495.78	364.45		57	531.9	645.93	487.21	392.35
8	515.22	637.29	466.43	371.61		58	530.02	631.7	493.86	370.24
9	543.81	633.16	473.06	405.93		59	538.14	635.1	468.38	378.09
10	536.7	629.68	482.71	399.23		60	534.74	631.34	490.26	403.26
11	535.62	632.98	473.26	394.77		61	545.71	651.77	475.21	381.44
12	525.84	636.29	476.52	398.21		62	538.38	625.72	466.36	396.66
13	535.69	630.72	481.72	406.94		63	514.61	651.22	492.46	367.44
14	511.25	649.26	492.89	396.85		64	542.26	643.22	487.57	380
15	538.72	636.02	476.65	371.44		65	540.4	648.96	489.55	357.7
16	518.05	651.21	468.54	367.48		66	531.36	636.3	474.04	405.57
17	523.49	644.25	482.71	397.74		67	525.18	622.55	482.11	404.29
18	544.47	650.6	481.08	402.12		68	524.14	627.56	477.16	405.44
19	532.89	639.14	475.4	403.61		69	513.67	640.13	486.61	393.71
20	524.48	629.23	466.25	357.69		70	535.34	624.27	483.48	382.03
21	517.56	645.53	484.94	397.72		71	536.95	646.45	480.29	370.29
22	519.93	633.67	485.07	394.76		72	531.77	636.9	469.05	382.09
23	514.77	646.63	467.72	402.17		73	534.72	629.43	491.62	400.7
24	532.04	631.06	486.51	404.53		74	531.69	636.26	470.96	381.36
25	515.79	630.91	492.21	400.63		75	508.84	649.55	492.78	362.65
26	519.59	635.62	485.78	401.4		76	540.28	637.06	468.99	390.55
27	537.43	629.63	474.45	376.98		77	544.66	630.69	470.21	387.05
28	540.09	633.74	484.45	384.58		78	520.8	644.05	487.85	375.78
29	530.1	626.31	489.17	405.04		79	517.8	625.43	488.54	402.08
30	509.99	649.28	488.28	392.58		80	544.85	637.09	479.49	371.2
31	520.19	631.13	469.11	370.28		81	536.95	631.79	482.03	402.19
32	527.83	631.1	483.94	401.61		82	517.84	646.16	486.79	384.56
33	531.14	633.84	466.65	375.82		83	537.93	624.03	471.47	371.77
34	547.87	639.52	494.58	390.05		84	530.5	623.97	488.29	370.16
35	536.26	633.39	484.83	381		85	523.02	633.32	492.23	370.63
36	523.66	649.06	474.32	383.48		86	543.19	633.23	483.32	379.18
37	531.47	630.97	484.29	397.77		87	525.46	635.19	466.26	371.29
38	514.23	641.16	469.88	394		88	547.06	627.88	480.72	389.58
39	517.94	648.75	490.4	400.49		89	537.17	642.36	476.13	379.3
40	526.45	630.08	486.77	383.31		90	537.63	642.44	468.87	383.91
41	518.69	630.36	492.9	362.2		91	537.61	640.13	473.2	384.94
42	510.32	648.08	490.5	363.53		92	530.58	636.46	469.98	383.96
43	521.44	631.62	477.5	392.42		93	510.82	643.78	488.77	400.78
44	541.38	639.06	467.18	367.54		94	534.86	642.9	475.14	404.7
45	529.31	625.48	475.62	370.35		95	544.69	634.97	492.01	360.76
46	527.47	624.92	477.12	396.28		96	523.84	647.68	482.22	395.01
47	513.27	625.89	484.16	383.19		97	520.77	651.15	490.74	382.41
48	526.61	636.11	486.45	366.27		98	539.11	638.29	495.31	367.81
49	509.31	649.42	494.27	373		99	523.5	634.6	473.66	372.66
50	511.43	628.85	475.22	404.68		100	513.43	627.43	490.83	397.79
Avg of 100 Attempts	528.5204	636.5573	480.8449	385.8492						

Memory Management in Real-Time Operating System

Case 4: Existing and DmRT follow Local -> Shared -> Ideal

2. Fragmentation for all allocators 100 attempts

(Best Case i.e. for 100 block requests)

Attempt No.	Dlmalloc	tcmalloc	TLSF	DmRT		Attempt No.	Dlmalloc	tcmalloc	TLSF	DmRT
1	29.32	22.4	15.44	12.14		51	33.16	22.66	18.08	9.57
2	31.8	23.61	18.42	11.66		52	32.91	22.32	16.97	9.71
3	31.8	22.68	16.81	9.63		53	29.56	23.49	15.87	12.11
4	29.87	24.96	18.33	11.29		54	33.25	25.18	18.45	11.53
5	30.38	21.93	17.18	10.26		55	29.59	23.9	17.08	8.45
6	30.14	25.6	18.36	10.02		56	32.84	25.77	16.87	8.45
7	31.05	22.91	18.23	10.62		57	31.72	25.36	15.42	9.06
8	32.04	22.94	17.78	12.04		58	32.38	22.98	17.5	9.87
9	31.58	24.32	16.89	12.11		59	33.22	24.29	19.01	10.29
10	31.56	22.43	18.96	12.22		60	30.81	22.51	19.1	11.97
11	31.37	24.34	15.97	10.25		61	31.29	22.57	16.79	12.25
12	31.08	23.62	17.33	12.04		62	30.39	24.02	16.13	8.8
13	32.05	23.5	16.26	12.26		63	29.5	22.59	18.01	10.09
14	31.87	24.48	16.82	10.99		64	31.93	25.78	19.24	9.74
15	29.96	24.33	15.71	8.74		65	29.8	23.25	18.91	8.51
16	31.12	23.14	18.36	9.63		66	32.72	24.53	17.45	10.86
17	32.55	25.05	18.14	12.05		67	32.46	23.06	18.56	9.05
18	32.61	25.32	15.3	11.83		68	33.18	25.53	17.62	9.27
19	31.29	22.55	17.78	10.88		69	32.24	25.84	17.34	9.78
20	31.27	24.2	15.43	9.62		70	32.99	24.3	17.13	11.06
21	32.88	23.92	19.26	8.54		71	29.33	24.39	17.39	12.2
22	32.95	25.77	16.4	9.84		72	32.85	25.09	17.21	8.31
23	32.44	23.32	16.47	8.83		73	31.47	24.13	18.85	11.8
24	32.8	21.91	17.36	12.15		74	30.29	24.63	17.45	10.1
25	32.52	25.28	17.94	11.55		75	32.56	24.17	16.29	11.11
26	30.73	22.59	18.73	11.8		76	32.57	24.79	15.96	8.75
27	31.12	24.79	16.98	8.47		77	29.81	25.74	17.59	9.96
28	30.21	23.82	16.81	10.07		78	32.43	24.53	16.85	9.02
29	31.36	23.52	16.27	12.06		79	31.16	23.24	19.11	9.53
30	29.43	22.55	16.05	10.85		80	33.11	23.34	18.51	9.37
31	30.77	22.1	18.66	9.77		81	32.54	22.73	17.02	10.04
32	29.31	24.26	16.54	10.52		82	31.91	22.11	18.12	8.99
33	30.63	24.22	17.96	8.87		83	30.99	24.29	19.01	9.22
34	29.91	22.36	17.64	8.94		84	32.82	25.21	16.17	11.54
35	30.29	23.24	16.91	11.61		85	33.1	21.94	16.49	10.27
36	33	24.85	18.57	8.97		86	29.34	24.87	18.88	9.59
37	30.06	24.67	16.55	10.3		87	30.66	22.72	19.27	8.42
38	31.95	22.68	17.98	11.51		88	30.08	22.43	17.22	11.84
39	31.73	25.37	19.14	9.13		89	30.81	24.06	16.18	12.17
40	30.29	22.24	18.21	10.86		90	32.13	24.82	17.61	11.51
41	31.53	23.51	19.29	10.04		91	32.84	23.37	19.3	10.77
42	29.38	22	17.2	11.87		92	32.28	24.8	17.13	10.89
43	31.01	23.78	18.01	11.2		93	33.21	25.77	18.75	10.25
44	33.14	23.67	18.59	11.94		94	30.82	23.2	16.18	9.65
45	30.21	24.64	17.2	11		95	32.26	23.72	15.92	10.52
46	32.94	25.33	18.24	8.97		96	30.84	25.47	17.75	10.07
47	32.69	22.91	18.3	11.68		97	31.98	24.58	18.95	10.4
48	30.95	25.21	18.89	12.21		98	32.69	23.76	17.9	11.07
49	31.84	25.61	15.75	11.54		99	32.17	22.25	16.47	9.27
50	31.3	24.94	19.19	9.63		100	30.41	22.19	17.91	9.14
Avg of 100 Attempts	31.4948	23.8764	17.5356	10.4119						

Memory Management in Real-Time Operating System

Case 4: Existing and DmRT follow Local -> Shared -> Ideal

3. No. of Request Satisfied for all allocators 100 attempts (Best Case i.e. for 100 block requests)

Attempt No.	Dlmalloc	tcmalloc	TLSF	DmRT		Attempt No.	Dlmalloc	tcmalloc	TLSF	DmRT
1	70	79	87	96		51	73	78	85	92
2	71	77	86	93		52	70	78	87	95
3	73	78	86	96		53	70	78	86	93
4	72	76	86	95		54	71	79	89	94
5	71	77	85	93		55	71	80	87	95
6	72	78	89	95		56	72	77	87	96
7	74	77	85	92		57	72	77	89	94
8	72	77	86	93		58	72	79	89	93
9	70	80	86	94		59	72	79	85	95
10	73	79	89	92		60	74	80	87	92
11	71	77	85	93		61	71	78	89	92
12	72	77	89	96		62	70	77	85	93
13	71	79	88	94		63	73	80	85	93
14	72	77	85	91		64	72	80	88	96
15	72	78	88	93		65	70	80	89	95
16	73	80	89	95		66	71	77	88	93
17	71	80	86	93		67	73	80	88	94
18	72	77	88	96		68	72	79	85	96
19	71	78	89	96		69	71	79	88	93
20	71	77	86	94		70	73	77	88	94
21	71	78	85	94		71	73	78	85	96
22	74	77	85	93		72	71	80	88	95
23	72	78	87	93		73	70	80	87	91
24	72	78	87	91		74	73	77	84	94
25	73	79	84	96		75	73	79	87	95
26	73	78	89	96		76	72	79	86	92
27	74	79	88	94		77	70	77	85	94
28	70	80	88	95		78	70	79	88	93
29	73	79	85	96		79	71	80	87	92
30	73	77	88	94		80	71	79	88	91
31	73	78	87	94		81	72	76	86	92
32	72	76	87	92		82	70	80	87	95
33	71	78	88	92		83	73	78	87	92
34	74	80	84	94		84	70	78	88	93
35	73	80	87	92		85	70	80	89	94
36	70	77	86	95		86	72	77	85	94
37	73	77	87	94		87	70	77	88	92
38	72	77	85	94		88	74	79	87	92
39	73	77	84	92		89	71	78	87	96
40	70	80	89	94		90	73	77	89	95
41	73	77	85	93		91	72	77	88	93
42	72	79	88	93		92	71	80	88	94
43	73	76	89	95		93	73	79	86	94
44	71	78	86	94		94	70	76	88	96
45	72	76	87	92		95	73	76	88	92
46	70	77	86	93		96	70	76	89	94
47	72	76	85	93		97	72	79	87	95
48	71	80	88	95		98	72	79	88	94
49	73	80	85	93		99	71	77	87	95
50	72	80	85	94		100	72	80	84	94
Avg of 100 Attempts	71.7431	78.1612	86.8777	93.7361						

Memory Management in Real-Time Operating System

Case 4: Existing and DmRT follow Local -> Shared -> Ideal

1. Execution Time for all allocators 100 attempts (Average Case i.e. for 1000 block requests)

Attempt No.	Dlmalloc	tcmalloc	TLSF	DmRT		Attempt No.	Dlmalloc	tcmalloc	TLSF	DmRT
1	2961.45	4135.01	2583.1	2331.78		51	2887.63	4163.1	2467.59	2174.54
2	2889.99	4154.99	2465.44	2299.77		52	2930.68	4182.98	2569.76	2352.54
3	2913.53	4203.54	2514.8	2335.41		53	2939.24	4141.21	2641.43	2295.25
4	2882.96	4115.25	2487.22	2289.62		54	2959.1	4153.78	2561.58	2308.57
5	2913.04	4125.67	2472.92	2218.57		55	2954.71	4174.39	2495.43	2289.16
6	2898.94	4210.49	2633.92	2302.17		56	2941.5	4179.98	2619.2	2161.35
7	2937.71	4161.86	2458.21	2318.37		57	2959.79	4150.84	2608.18	2304.92
8	2886.7	4138.92	2563.45	2250.51		58	2900.4	4194.15	2590.86	2213.18
9	2934.8	4153.37	2627.62	2345.19		59	2966.78	4185.15	2541.32	2168.88
10	2906.78	4168.5	2495.26	2210.59		60	2897.23	4165.26	2556.41	2258.5
11	2956	4144.37	2624.96	2293.06		61	2914	4148.59	2494.9	2315.91
12	2934.78	4183.37	2475.86	2164.7		62	2898.97	4196.36	2495.7	2183.77
13	2937.94	4140.56	2646.56	2289.34		63	2915.03	4189.14	2636.62	2232.08
14	2954.86	4136.36	2551.02	2215.26		64	2889.92	4191.11	2487.44	2225.15
15	2914.19	4159.54	2450.07	2342.94		65	2925.12	4125.93	2569.39	2338.21
16	2937.16	4176.98	2496.73	2272.53		66	2895.24	4212.57	2642.45	2207.25
17	2968.76	4131.19	2479.18	2254.62		67	2931.25	4180.28	2495.32	2179.58
18	2885.66	4199.61	2481.72	2220.33		68	2896.26	4167.46	2621.6	2157.75
19	2901.84	4177.22	2495.87	2202.42		69	2909.43	4138.78	2615.47	2286.72
20	2895.94	4153.11	2527.54	2188.32		70	2890.85	4157.15	2477.53	2295.4
21	2934.01	4177.1	2474.35	2182.76		71	2950.57	4161.83	2524.1	2296.89
22	2888.52	4129.06	2493.09	2208.18		72	2896.89	4156.71	2492.18	2185.07
23	2920.9	4202.05	2581.7	2196.49		73	2944.98	4188.13	2647.51	2300.35
24	2935.32	4114	2472.79	2334.14		74	2960.23	4178.97	2495.97	2239.77
25	2889.99	4143.28	2592.28	2231.4		75	2906.86	4148.38	2640.72	2326.99
26	2899.3	4125.24	2458.35	2309.09		76	2890.6	4208.92	2473.19	2185.96
27	2902.29	4194.87	2620.66	2254.32		77	2935.61	4148.12	2506.59	2325.16
28	2928.37	4145.61	2496.1	2224.87		78	2979.13	4204.71	2459.38	2307.7
29	2980.67	4116.61	2466.42	2160.13		79	2962.08	4176.23	2456.34	2228.87
30	2946.1	4162.41	2479.42	2276.1		80	2977.86	4198.88	2622.14	2203.27
31	2899.5	4192.49	2614.84	2175.53		81	2941.52	4213.06	2511.95	2235.99
32	2974.41	4133.71	2540.81	2210.05		82	2974.96	4152.72	2571.83	2338.76
33	2904.94	4161.68	2586.65	2256.11		83	2953.82	4208.11	2572.71	2209.15
34	2974.57	4182.19	2535.72	2169.14		84	2973.16	4196.87	2644.27	2262.08
35	2897.05	4155.72	2485.95	2284.79		85	2902.25	4182.53	2527.61	2209.83
36	2898.37	4174.92	2538.42	2166.94		86	2943.03	4196.76	2474.51	2195.47
37	2945.84	4117.74	2546.47	2276.62		87	2971.45	4134.51	2499.08	2296.32
38	2897.72	4156.42	2567.64	2331.04		88	2961.04	4211.51	2555.56	2278.57
39	2944.09	4145.33	2487.51	2338.44		89	2932.58	4162.93	2505.46	2233.49
40	2896.82	4188.25	2592.11	2234.26		90	2922.76	4162.65	2529.16	2195.34
41	2951.59	4190.69	2574.51	2206.84		91	2901.67	4144.21	2517.37	2224.91
42	2945.89	4144.44	2595.76	2337.79		92	2943.36	4206.59	2464.84	2294.68
43	2887.27	4129.62	2534.75	2248.86		93	2920.04	4173.1	2638.2	2194.31
44	2937.12	4188.54	2553.67	2175.45		94	2910.06	4154.79	2486.61	2222.01
45	2974.88	4180.92	2630.9	2230.14		95	2975.84	4192.28	2611.58	2283.28
46	2892	4135.78	2484.27	2308.94		96	2953.12	4174.58	2622.96	2342.64
47	2888.98	4130.62	2578.67	2261.04		97	2962.73	4193.44	2467.71	2330.84
48	2893.07	4178.7	2625.14	2214.3		98	2932.7	4198.18	2510.2	2281.54
49	2982.21	4206.46	2590.37	2186.95		99	2944.55	4139.52	2601.13	2252.52
50	2893.93	4135.25	2475.09	2246.07		100	2956.07	4166.89	2526.8	2189.1
Avg of 100 Attempts	2928.034	4166.439	2541.517	2252.019						

Memory Management in Real-Time Operating System

Case 4: Existing and DmRT follow Local -> Shared -> Ideal

2. Fragmentation for all allocators 100 attempts (Average Case i.e. for 1000 block requests)

Attempt No.	Dlmalloc	tcmalloc	TLSF	DmRT		Attempt No.	Dlmalloc	tcmalloc	TLSF	DmRT
1	40.47	31.63	22.18	16.62		51	40.79	30.45	20.89	15.32
2	38.76	31.77	21.7	13.87		52	37.66	30.8	23.73	15.41
3	41.11	30.41	21.53	14.43		53	38.2	31.76	23.61	16.4
4	39.65	32.27	21.89	16.57		54	37.17	33.27	21.73	15.55
5	37.48	31.6	21.9	13.78		55	41.31	32.01	22.8	16.09
6	40.35	30.31	21.32	13.83		56	40.67	31.79	23.68	13.45
7	37.46	32.1	24.18	13.47		57	37.79	31.09	21.32	13.61
8	39.86	32.25	24.22	13.28		58	39.22	33.69	23.32	13.77
9	40.16	31.83	21.74	15.63		59	38.37	31.27	21.92	14.81
10	39.83	33.03	24.27	14.32		60	37.31	32.46	24	15.79
11	38.8	30.21	22.6	16.16		61	40.15	33.64	24.27	15.94
12	37.51	32.41	23.13	14.03		62	37.96	30.36	24.78	14.2
13	40.48	32.33	21	16.01		63	37.17	31.61	24.75	13.75
14	37.11	31.44	23.02	13.73		64	36.63	31.01	21.69	15.7
15	40.56	32.71	23.62	12.99		65	37.23	32.59	23.05	14.35
16	36.78	31.58	22.33	13.94		66	38.79	32.7	21.42	13.39
17	37.99	30.35	24.28	15.78		67	40.25	33.63	23.02	15.1
18	37.54	32.29	22.66	13.6		68	36.69	30.55	22.15	15.16
19	38.33	31.57	24.66	13.8		69	38.57	30.44	22.11	14.35
20	37.16	31.25	20.88	13.06		70	36.51	29.92	23.05	15.63
21	39.18	30.11	20.97	16.29		71	37.62	30.76	24.54	13.77
22	39.35	31.34	21.24	16.06		72	37.25	33.38	23.38	13.15
23	41.38	30.78	24.45	13.65		73	37.62	29.86	22.39	13.36
24	39.03	32.39	24.71	15.6		74	37.48	32.4	21.71	14.4
25	40.07	30	21.64	16.02		75	38.8	31.59	23.42	15.85
26	38.29	29.94	22.66	16.42		76	41.15	30.15	23.38	13.48
27	37.25	29.91	22.24	14.49		77	38.85	32.47	23.54	14.85
28	40.39	31.79	23.52	13.27		78	39.69	30.06	23.28	15.52
29	39.58	29.9	24.49	16.84		79	40.34	30.79	24.33	16.74
30	41.16	32.6	21.22	15.46		80	39.91	33.56	23.65	16.48
31	37.62	31.33	23.11	16.66		81	38.67	32.92	22.55	15.09
32	38.35	32.82	22.41	16.64		82	39.19	31.42	22.34	16.18
33	38.51	30.45	22.51	16.56		83	38.21	31.91	24.68	16.16
34	39.91	31.87	23.95	16.4		84	37.07	31.16	21.47	15.41
35	37.65	32.4	24.16	16.81		85	40.93	30.42	22.19	15.21
36	39.95	32.3	23.49	14.69		86	39.73	30.95	24.64	16.48
37	41.39	32.69	23.38	15.02		87	40.69	30.94	24.18	14.75
38	38.3	32.82	22.28	14.55		88	37.12	31.69	24.68	16.45
39	40.66	30.99	21.17	15.29		89	41.03	32.73	21.94	13.68
40	36.68	30.56	23.48	16.46		90	40.72	29.71	24.13	13.6
41	38.08	30.48	23.63	15		91	40.17	31.46	24.35	16.67
42	40.34	31.65	20.88	14.28		92	36.73	32.45	24.29	14.47
43	40.51	30.68	20.87	13.6		93	37.61	31.06	22.19	15.3
44	39.06	33.56	21.85	16.06		94	36.88	31.84	21.03	15.57
45	38.26	33.5	22.9	15.36		95	38.43	31.55	23.5	15.67
46	40.33	33.17	23.36	14.59		96	39.03	32.76	24.72	13.49
47	39.3	30.07	22.84	13.73		97	40.6	32.92	24.03	16.44
48	36.76	31.27	23.68	15.52		98	40.78	31.41	23.33	14.62
49	40.32	33.09	20.83	15.19		99	38.04	31.48	22.49	15.07
50	36.91	32.26	23.73	13.85		100	38.76	31.65	22.9	16.17
Avg of 100 Attempts	38.895	31.6255	22.913	15.0111						

Memory Management in Real-Time Operating System

Case 4: Existing and DmRT follow Local -> Shared -> Ideal

3. No. of Request Satisfied for all allocators 100 attempts (Average Case i.e. for 1000 block requests)

Attempt No.	Dlmalloc	tcmalloc	TLSF	DmRT		Attempt No.	Dlmalloc	tcmalloc	TLSF	DmRT
1	63.7	72.0	78.8	85.6		51	63.7	71.2	79.4	86.9
2	61.4	71.2	80.3	89.3		52	60.4	71.1	78.5	86.8
3	61.8	72.1	80.1	87.4		53	63.3	71.5	78.7	85.6
4	62.3	71.2	80.9	86.1		54	61.1	71.1	78.0	88.9
5	60.2	68.9	78.5	87.7		55	63.2	69.7	79.6	86.5
6	64.1	72.6	81.1	89.9		56	60.4	70.9	78.7	87.5
7	61.8	71.5	81.5	86.1		57	63.4	70.8	77.8	90.1
8	61.1	70.4	81.8	87.3		58	60.6	68.9	82.3	89.6
9	61.1	71.5	81.3	89.8		59	61.5	70.1	81.5	85.6
10	63.0	69.7	81.1	86.7		60	60.2	69.9	81.9	87.7
11	61.6	71.4	81.0	87.7		61	60.4	71.2	78.4	85.4
12	60.6	69.6	81.6	87.8		62	62.0	71.1	79.7	87.5
13	64.0	69.0	80.5	88.9		63	64.1	69.2	81.0	88.5
14	62.6	69.8	79.8	86.7		64	60.8	68.9	81.8	89.3
15	60.3	71.1	77.3	88.0		65	63.4	70.4	79.7	85.3
16	63.4	70.8	80.7	88.2		66	61.2	72.2	80.9	85.5
17	64.0	70.3	80.0	89.3		67	60.2	68.9	79.4	86.9
18	60.7	69.2	78.4	89.8		68	61.4	71.8	77.9	87.0
19	61.5	70.4	79.1	87.4		69	64.1	69.1	79.7	86.2
20	63.0	69.4	82.3	87.2		70	61.3	70.5	82.0	85.7
21	61.8	71.0	77.6	87.1		71	60.5	69.0	79.9	89.3
22	61.3	70.1	78.9	86.1		72	60.6	72.4	81.5	85.7
23	61.4	68.7	79.9	88.6		73	61.2	70.1	82.2	85.5
24	61.3	68.8	81.5	87.1		74	60.5	70.0	81.5	90.1
25	63.8	70.0	81.9	86.0		75	63.7	68.8	81.6	87.0
26	61.8	71.1	79.5	89.4		76	62.1	69.8	77.5	88.8
27	64.1	69.4	80.9	85.4		77	60.2	71.9	77.4	88.5
28	61.1	72.5	81.1	85.5		78	61.8	69.3	79.0	88.8
29	62.4	68.8	80.3	89.3		79	60.8	72.5	78.3	86.9
30	62.9	71.9	82.1	86.6		80	61.7	71.8	82.1	88.8
31	64.1	70.7	78.0	89.7		81	62.3	71.6	81.8	85.8
32	62.5	68.9	78.1	89.0		82	64.2	71.7	78.3	85.8
33	61.7	71.7	81.1	85.4		83	61.8	70.6	77.8	86.6
34	61.6	72.3	79.6	88.3		84	63.8	71.4	80.3	90.3
35	63.4	70.1	77.4	88.5		85	60.4	72.3	80.0	86.9
36	63.4	69.3	80.7	89.2		86	60.9	71.0	80.0	86.5
37	64.1	71.6	79.6	86.1		87	60.5	70.9	79.0	86.8
38	63.8	72.2	77.9	87.2		88	61.7	68.9	78.5	89.3
39	61.1	71.4	78.0	89.8		89	60.3	68.8	79.7	85.9
40	63.5	71.6	77.4	88.5		90	63.8	69.2	78.9	86.0
41	64.2	71.8	81.4	86.0		91	63.5	72.1	82.0	89.1
42	60.4	70.8	78.8	88.3		92	62.5	72.0	81.8	88.0
43	61.4	72.4	82.0	89.8		93	60.9	72.4	78.8	86.5
44	62.1	68.8	78.0	86.7		94	63.9	71.0	80.2	85.5
45	61.1	72.2	77.8	86.4		95	60.6	69.7	81.0	86.6
46	63.5	69.5	79.7	86.6		96	64.1	72.6	80.1	86.2
47	63.6	70.6	82.2	88.2		97	61.7	71.7	79.8	89.7
48	60.6	71.5	79.3	88.5		98	61.8	71.5	79.1	89.8
49	62.0	71.1	81.7	86.1		99	62.7	71.3	78.2	87.0
50	60.7	69.0	79.9	85.6		100	60.2	70.8	80.4	89.4
Avg of 100 Attempts	62.0389	70.6678	79.9134	87.5092						

Memory Management in Real-Time Operating System

Case 4: Existing and DmRT follow Local -> Shared -> Ideal

1. Execution Time for all allocators 100 attempts (Worst Case i.e. for 2000 block requests)

Attempt No.	Dlmalloc	tcmalloc	TLSF	DmRT		Attempt No.	Dlmalloc	tcmalloc	TLSF	DmRT
1	4232.74	5117.09	3680.29	3405.7		51	4229.8	5099.91	3670.06	3457.63
2	4181.59	5125.08	3657.81	3324.56		52	4229.32	5146.33	3731.19	3268.49
3	4220.87	5073.53	3679.32	3463.85		53	4187.97	5148.85	3663.21	3301.11
4	4199.61	5057.61	3665.91	3419.66		54	4209.36	5137.96	3656.52	3357.87
5	4242.11	5116.67	3647.92	3282.3		55	4264.7	5152.28	3687.14	3398.56
6	4189.44	5086.62	3665.97	3423.57		56	4257.23	5094.73	3642.52	3405.23
7	4251.88	5142.29	3681.81	3362.05		57	4231.28	5063.76	3704.74	3461.42
8	4203.87	5076.19	3719.67	3301.84		58	4216.26	5132.15	3663.71	3278.1
9	4230.35	5056.65	3720.06	3410.67		59	4224.88	5118.24	3678.59	3405.84
10	4236.27	5120.76	3670.91	3338.49		60	4258.67	5138.7	3669.01	3405.59
11	4204.89	5110.94	3717.61	3358.73		61	4206.96	5099.21	3648.92	3284.78
12	4261.7	5145.27	3698.36	3432.28		62	4191.36	5127.93	3698.02	3341.53
13	4278.28	5116.07	3714.68	3346.05		63	4262.57	5150.18	3660.87	3398.6
14	4271.28	5065.95	3641.32	3463.1		64	4193.68	5056.93	3713.92	3447.74
15	4272.41	5118.87	3732.49	3292.61		65	4244.09	5091.24	3661.98	3297.76
16	4279.31	5086.9	3651.06	3391.69		66	4229.08	5151.4	3665.04	3274.45
17	4262.04	5119.14	3666.23	3274.02		67	4241.62	5137.74	3639.4	3319.88
18	4225.45	5086.35	3694.73	3292		68	4244.49	5102.98	3656.59	3397.52
19	4268.08	5139.95	3709.34	3294.67		69	4262.23	5109.69	3664.93	3308.93
20	4200.22	5089.66	3707.1	3446.14		70	4233	5060.25	3689.11	3424.45
21	4273.61	5130.92	3663.88	3285.19		71	4265.1	5126.15	3735.1	3282.39
22	4181.77	5117.42	3704.02	3360.08		72	4181.62	5122.34	3724.57	3298.78
23	4239.51	5144.32	3656.88	3298.78		73	4276.54	5085.05	3676.82	3402.1
24	4224.66	5095.55	3709.63	3440.84		74	4265.49	5142.72	3640.49	3328.06
25	4239.86	5126.24	3668.95	3408.07		75	4272.81	5102.6	3723.01	3369.03
26	4223.69	5055.53	3680.54	3464.77		76	4208.67	5154.05	3701.51	3342.14
27	4228.43	5098.5	3651.85	3392.78		77	4182.51	5099.87	3677.55	3377.21
28	4267.32	5116.76	3720.07	3462.38		78	4229.98	5090.19	3682.08	3421.09
29	4213.49	5121.84	3662.31	3429.7		79	4246.72	5146.36	3723.52	3333.71
30	4182.7	5111.84	3637.68	3457.02		80	4193.56	5085.75	3652.28	3341.91
31	4256.96	5078.24	3712.67	3427.52		81	4198.22	5109.18	3660.65	3333.87
32	4217.41	5101.53	3640.86	3313.02		82	4221.67	5118.04	3662.16	3450.11
33	4220.49	5090.84	3687.5	3266.25		83	4225.99	5078.83	3645.36	3308.41
34	4185.54	5135.94	3722.04	3348.14		84	4227.09	5129.71	3710	3452.91
35	4260.37	5155.13	3651.97	3429.02		85	4279.09	5091.72	3723.38	3452.02
36	4195.93	5151.96	3672.5	3276.07		86	4218.42	5089.36	3651.83	3328.93
37	4271.51	5150.03	3732.13	3461.66		87	4199.35	5101.01	3643.3	3396.24
38	4277.83	5102.44	3705.19	3312.26		88	4260.2	5120.43	3688.69	3313.71
39	4186.76	5136.92	3673.34	3445.45		89	4188.83	5106.17	3652.42	3358.07
40	4249.39	5131.69	3665.02	3378.12		90	4214.22	5078.6	3678.53	3387.53
41	4242.62	5142	3675.93	3314.47		91	4275.2	5061.25	3694.67	3281.34
42	4194.54	5093.05	3717.78	3416.37		92	4207.14	5070.99	3697.53	3310.22
43	4180.25	5151.48	3707.03	3454.24		93	4257.6	5090.74	3722.34	3306.34
44	4248.28	5140.56	3712.81	3331.01		94	4247.3	5072.16	3655.5	3409.26
45	4228.28	5069.82	3653.4	3422.73		95	4213.38	5083.52	3722.9	3281.58
46	4220.3	5058.76	3705.69	3430.46		96	4192.57	5062.39	3736.7	3380.43
47	4249.25	5125.39	3643.59	3462.71		97	4260.51	5123.91	3730.57	3280.82
48	4230.05	5097.34	3707.54	3365.21		98	4275.94	5116.27	3724.59	3338.32
49	4245.49	5106.78	3731.02	3276.85		99	4221.53	5073.87	3701.04	3416.15
50	4213.58	5057.47	3652.56	3363.18		100	4267.39	5061.95	3695.96	3433.74
Avg of 100 Attempts	4231.555	5107.635	3684.495	3367.702						

Memory Management in Real-Time Operating System

Case 4: Existing and DmRT follow Local -> Shared -> Ideal

2. Fragmentation for all allocators 100 attempts (Worst Case i.e. for 2000 block requests)

Attempt No.	Dlmalloc	tcmmalloc	TLSF	DmRT		Attempt No.	Dlmalloc	tcmmalloc	TLSF	DmRT
1	47.32	37.38	31.82	20.85		51	48.82	37.65	30.44	20.35
2	48.98	36.99	32.48	17.98		52	46.22	37.09	30.7	17.58
3	47.55	38.6	30.16	20.68		53	47.14	39.41	31.76	17.77
4	47.63	39.17	29.38	18.69		54	47.59	38.28	32.53	17.29
5	49.08	37.5	29.53	18.59		55	47.27	38.84	32.32	20.25
6	46.9	37.09	30.09	18.4		56	45.9	37.2	31.62	20.95
7	47.29	37.37	30.76	17.55		57	48.47	38.38	29.68	18.25
8	45.84	39.23	29.2	19.52		58	47.1	39.54	30.81	17.45
9	47.26	40.02	32.23	20.93		59	47.06	39.64	29.9	19.82
10	46.32	36.15	29.24	19.39		60	48.78	38.68	29.1	17.16
11	48.63	38.03	32.13	17.83		61	45.74	39.81	31.92	20.14
12	49.08	39.02	30.71	18.09		62	46.23	38.35	30.45	18.84
13	46.92	37.17	31.09	17.22		63	46.07	37.32	30.95	18.92
14	45.74	38.23	28.92	18		64	48.35	37.45	30.86	20.68
15	48.03	39.39	30.93	20.13		65	45.51	39.6	31.99	19.95
16	49.2	38.07	29.89	18.52		66	47.72	38.15	32.37	17.91
17	47.19	36.35	29.65	19.42		67	49.01	37.72	32.55	18.47
18	46.78	38.42	31.33	17.18		68	46.25	39.66	31.96	17.3
19	47.51	38.77	29.22	18.58		69	47.94	39.2	32.41	20.32
20	46.46	39.72	31.25	20.24		70	48.48	37.52	30.57	19.55
21	49.38	37.83	29.82	19.09		71	49.15	38.44	31.21	17.4
22	49.36	38.01	31	20.33		72	46.18	36.71	31.29	18.94
23	46.1	39.46	30.94	19.27		73	45.56	37.78	29.09	17.69
24	48.73	36.62	30.08	20.67		74	47.07	36.72	32.42	19.91
25	48.17	37.83	31.36	17.5		75	45.91	38.02	30.96	20.06
26	45.72	36.28	29.24	17.87		76	48.01	37.39	30.42	19.72
27	46.81	38.52	30.77	20.66		77	45.6	37.05	30.79	17.12
28	45.47	39.15	31.53	20.72		78	47.04	38.3	29.83	17.62
29	45.74	38.47	31.86	20.2		79	48.59	39.21	29.22	18.42
30	45.91	38.31	29.14	18.57		80	46.51	39.51	32.04	20.65
31	49.35	37.98	32.78	17.61		81	47.55	38.74	31.33	19.15
32	47.98	37.21	30.99	20.53		82	47.35	39.7	31.34	20.62
33	46.96	36.5	31.38	19		83	48.54	37.3	31.5	20.63
34	47.72	38.61	30.23	20.85		84	45.65	39.32	31.07	20.98
35	49.33	39.67	29.17	20.22		85	47.38	38.37	31.3	18.34
36	48.48	38.56	29.71	20.21		86	46.78	38.06	31.66	17.86
37	46.67	39.38	30.23	18.6		87	47.04	38.72	31.22	20.4
38	46.69	36.56	29.72	20.92		88	49.29	39.39	29	17.4
39	48.78	38.8	29.71	18.26		89	48.7	39.24	31.99	17.87
40	48.16	36.7	32.35	20.19		90	47.54	39.98	31.03	17.86
41	46.48	37.52	31.77	17.78		91	48.29	37.59	32.71	19.12
42	47.55	38.81	31	20.04		92	46.43	38.2	29.42	19.75
43	45.67	37.57	29.74	21.01		93	45.98	39.42	30.53	18.15
44	48.11	38.11	31.64	20.3		94	45.43	39.23	31.11	18.33
45	46.9	37.33	31.22	18.2		95	46.52	37.02	31.59	19.14
46	48.81	38.89	29.89	18.35		96	48.8	37.67	31.74	20.93
47	48.78	40.02	30.66	20.93		97	47.18	38.41	31.05	18.93
48	48.61	36.54	29.25	19.05		98	47.7	39.4	31.19	21.09
49	47.79	36.42	29.5	18.45		99	46.67	40.02	32.84	17.22
50	48	39.31	29.72	20.21		100	46.34	37.94	32.53	19.51
Avg of 100 Attempts	47.3835	38.2598	30.8472	19.1314						

Memory Management in Real-Time Operating System

Case 4: Existing and DmRT follow Local -> Shared -> Ideal

3. No. of Request Satisfied for all allocators 100 attempts

(Worst Case i.e. for 2000 block requests)

Attempt No.	Dlmalloc	tcmalloc	TLSF	DmRT		Attempt No.	Dlmalloc	tcmalloc	TLSF	DmRT
1	49.20	59.00	73.65	82.30		51	49.05	61.00	72.10	82.40
2	49.55	60.85	72.30	83.35		52	49.05	58.95	73.65	83.60
3	51.55	58.40	72.35	81.80		53	50.20	61.30	72.25	81.45
4	49.90	58.50	74.00	81.85		54	51.40	59.65	74.65	81.40
5	52.15	58.75	73.00	82.50		55	50.40	58.75	75.80	82.50
6	49.05	58.55	75.50	82.70		56	51.70	61.65	74.60	83.70
7	49.20	59.85	75.00	83.90		57	49.35	61.65	72.35	83.90
8	50.85	61.65	73.25	82.45		58	49.30	58.65	72.20	83.10
9	52.20	60.00	74.90	81.20		59	49.10	61.00	74.55	83.55
10	50.00	61.00	74.00	83.95		60	52.45	59.00	72.80	81.85
11	50.60	58.45	74.70	84.00		61	51.80	59.55	74.40	81.25
12	52.60	59.85	74.55	81.05		62	49.60	60.90	74.50	82.15
13	51.00	61.00	75.20	81.00		63	50.55	59.80	74.60	82.45
14	49.10	59.15	73.35	83.95		64	51.00	60.60	72.80	82.50
15	52.75	60.10	72.45	83.60		65	50.90	61.85	73.25	83.50
16	51.95	58.45	74.70	82.20		66	52.05	60.10	75.85	81.85
17	49.80	58.70	74.25	81.60		67	50.25	58.35	73.55	83.40
18	49.25	60.70	75.15	83.10		68	49.45	61.75	74.85	82.25
19	49.40	58.45	75.10	82.15		69	52.80	58.10	75.75	81.00
20	51.75	58.25	75.05	83.45		70	49.80	60.75	75.10	82.30
21	52.75	58.95	72.10	82.40		71	52.70	59.55	72.55	81.05
22	51.20	61.35	75.25	83.15		72	49.60	60.85	72.10	82.10
23	52.65	60.55	75.15	83.20		73	49.60	59.40	74.35	81.70
24	52.50	61.75	72.25	83.90		74	50.10	59.95	74.40	83.10
25	52.75	60.30	75.45	83.75		75	50.25	60.55	75.05	82.15
26	49.65	60.05	74.45	83.40		76	50.40	61.55	73.60	81.55
27	50.40	60.20	72.00	82.25		77	51.95	61.65	74.30	82.35
28	49.95	58.40	75.50	81.60		78	50.20	58.25	74.70	81.70
29	50.55	59.95	72.15	83.30		79	51.45	61.85	74.10	81.30
30	50.80	60.30	76.00	83.60		80	49.10	61.00	72.30	81.55
31	51.15	59.45	73.90	81.55		81	49.10	60.75	72.95	83.20
32	50.80	58.25	72.00	84.00		82	49.80	59.25	73.30	83.55
33	51.90	59.90	75.00	82.00		83	51.15	61.75	72.35	83.95
34	52.95	59.80	74.25	83.85		84	52.05	59.75	75.40	81.85
35	49.65	60.10	74.00	82.65		85	50.45	60.55	74.40	83.55
36	49.15	60.80	73.25	82.70		86	50.65	58.25	75.45	81.85
37	49.15	60.95	75.80	83.05		87	52.65	62.00	72.55	84.00
38	52.20	60.00	72.75	82.55		88	51.95	61.95	75.05	81.65
39	51.50	58.30	73.25	83.25		89	51.00	59.90	72.55	82.70
40	50.95	60.35	73.50	83.35		90	51.20	59.35	75.15	83.10
41	49.60	61.50	74.00	82.15		91	51.65	58.00	73.80	82.75
42	49.10	61.35	72.25	81.85		92	49.65	58.85	72.70	83.95
43	51.95	59.60	75.35	81.55		93	50.60	61.50	73.05	83.70
44	51.40	60.10	74.50	81.15		94	51.50	60.25	72.55	84.00
45	52.95	59.90	72.45	82.50		95	52.55	58.10	72.20	83.30
46	52.05	59.60	75.55	83.05		96	51.00	58.40	73.85	83.10
47	50.45	59.25	72.90	83.50		97	52.45	58.95	72.60	82.45
48	49.70	62.00	74.55	82.00		98	51.15	61.15	73.55	84.00
49	49.75	59.45	72.15	82.35		99	49.45	60.50	75.90	82.40
50	51.85	59.20	72.75	83.00		100	52.15	61.00	75.00	83.80
Avg of 100 Attempts	50.8095	59.9945	73.883	82.662						