Laptop Results

Sequential Results Table - Laptop Tests

Table 1: Sequential DungeonHunter Performance Results (Laptop)

Dungeon Size	Threshold	Seed	Run	Time (ms)	Grid Points	Eval %	DM Location	Mana
20	0.2	0	1	17	24,778	62	(9.8, -7.2)	113,216
			2	13	24,416	61	(-15.8, -8.2)	110,692
			3	12	24,263	61	(-2.6, 17.2)	100,281
			4	16	25,082	63	(11.6, -12.6)	116,933
			5	14	24,479	61	(9.8, 3.2)	106,259
		Average		**14.40**	**24,603.60**	**61.60**	**Variable**	**109,476.20**
20	0.2	100	1	6	24,684	62	(7.2, -12.8)	119,122
			2	17	24,684	62	(7.2, -12.8)	119,122
			3	16	24,684	62	(7.2, -12.8)	119,122
			4	10	24,684	62	(7.2, -12.8)	119,122
			5	15	24,684	62	(7.2, -12.8)	119,122
		Average		**12.80**	**24,684**	**62**	**(7.2, -12.8)**	**119,122**
30	0.2	100	1	24	57,204	64	(15.4, -19.2)	116,263
			2	13	57,204	64	(15.4, -19.2)	116,263
			3	24	57,204	64	(15.4, -19.2)	116,263
			4	22	57,204	64	(15.4, -19.2)	116,263
			5	12	57,204	64	(15.4, -19.2)	116,263
		Average		**19.00**	**57,204**	**64**	**(15.4, -19.2)**	**116,263**
40	0.2	100	1	36	102,255	64	(18.0, -24.8)	110,597
			2	31	102,255	64	(18.0, -24.8)	110,597
			3	25	102,255	64	(18.0, -24.8)	110,597
			4	33	102,255	64	(18.0, -24.8)	110,597
			5	35	102,255	64	(18.0, -24.8)	110,597
		Average		**32.00**	**102,255**	**64**	**(18.0, -24.8)**	**110,597**
50	0.2	100	1	36	156,666	63	(22.2, -31.4)	109,093
			2	48	156,666	63	(22.2, -31.4)	109,093
			3	46	156,666	63	(22.2, -31.4)	109,093
			4	40	156,666	63	(22.2, -31.4)	109,093
			5	43	156,666	63	(22.2, -31.4)	109,093
		Average		**42.60**	**156,666**	**63**	**(22.2, -31.4)**	**109,093**
60	0.2	100	1	58	217,396	60	(28.6, -34.0)	103,125
			2	82	217,396	60	(28.6, -34.0)	103,125
			3	73	217,396	60	(28.6, -34.0)	103,125
			4	72	217,396	60	(28.6, -34.0)	103,125
			5	59	217,396	60	(28.6, -34.0)	103,125
		Average		**68.80**	**217,396**	**60**	**(28.6, -34.0)**	**103,125**
70	0.2	100	1	96	292,297	60	(31.4, -39.0)	93,356
			2	88	292,297	60	(31.4, -39.0)	93,356
			3	102	292,297	60	(31.4, -39.0)	93,356
			4	98	292,297	60	(31.4, -39.0)	93,356
			5	93	292,297	60	(31.4, -39.0)	93,356
		Average		**95.40**	**292,297**	**60**	**(31.4, -39.0)**	**93,356**
80	0.2	100	1	126	383,055	60	(40.4, -45.2)	91,562
			2	119	383,055	60	(40.4, -45.2)	91,562
			3	114	383,055	60	(40.4, -45.2)	91,562
			4	121	383,055	60	(40.4, -45.2)	91,562
			5	137	383,055	60	(40.4, -45.2)	91,562
		Average		**123.40**	**383,055**	**60**	**(40.4, -45.2)**	**91,562**
90	0.2	100	1	151	488,183	60	(44.0, -52.4)	95,776
			2	156	488,183	60	(44.0, -52.4)	95,776
			3	150	488,183	60	(44.0, -52.4)	95,776

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Dungeon Size	Threshold	Seed	Run	Time (ms)	Grid Points	Eval %	DM Location	Mana
			4	157	488,183	60	(44.0, -52.4)	95,776
			5	159	488,183	60	(44.0, -52.4)	95,776
		Average		**154.60**	**488,183**	**60**	**(44.0, -52.4)**	**95,776**
100	0.2	100	1	202	603,406	60	(46.8, -58.4)	92,476
			2	188	603,406	60	(46.8, -58.4)	92,476
			3	198	603,406	60	(46.8, -58.4)	92,476
			4	188	603,406	60	(46.8, -58.4)	92,476
			5	188	603,406	60	(46.8, -58.4)	92,476
		Average		**192.80**	**603,406**	**60**	**(46.8, -58.4)**	**92,476**
150	0.2	100	1	401	1,361,553	61	(66.6, -95.0)	105,905
			2	409	1,361,553	61	(66.6, -95.0)	105,905
			3	404	1,361,553	61	(66.6, -95.0)	105,905
			4	409	1,361,553	61	(66.6, -95.0)	105,905
			5	404	1,361,553	61	(66.6, -95.0)	105,905
		Average		**405.40**	**1,361,553**	**61**	**(66.6, -95.0)**	**105,905**
200	0.2	100	1	750	2,404,749	60	(90.8, -122.0)	117,895
			2	706	2,404,749	60	(90.8, -122.0)	117,895
			3	729	2,404,749	60	(90.8, -122.0)	117,895
			4	724	2,404,749	60	(90.8, -122.0)	117,895
			5	724	2,404,749	60	(90.8, -122.0)	117,895
		Average		**726.60**	**2,404,749**	**60**	**(90.8, -122.0)**	**117,895**
250	0.2	100	1	1,146	3,780,341	60	(113.0, -151.4)	109,903
			2	1,144	3,780,341	60	(113.0, -151.4)	109,903
			3	1,133	3,780,341	60	(113.0, -151.4)	109,903
			4	1,144	3,780,341	60	(113.0, -151.4)	109,903
			5	1,133	3,780,341	60	(113.0, -151.4)	109,903
		Average		**1,140.00**	**3,780,341**	**60**	**(113.0, -151.4)**	**109,903**
300	0.2	100	1	1,594	5,455,733	61	(134.4, -183.4)	102,143
			2	1,579	5,455,733	61	(134.4, -183.4)	102,143
			3	1,593	5,455,733	61	(134.4, -183.4)	102,143
			4	1,579	5,455,733	61	(134.4, -183.4)	102,143
			5	1,593	5,455,733	61	(134.4, -183.4)	102,143
		Average		**1,587.60**	**5,455,733**	**61**	**(134.4, -183.4)**	**102,143**
350	0.2	100	1	2,120	7,394,174	60	(156.4, -214.8)	115,025
			2	2,187	7,394,174	60	(156.4, -214.8)	115,025
			3	2,152	7,394,174	60	(156.4, -214.8)	115,025
			4	2,120	7,394,174	60	(156.4, -214.8)	115,025
			5	2,187	7,394,174	60	(156.4, -214.8)	115,025
		Average		**2,153.20**	**7,394,174**	**60**	**(156.4, -214.8)**	**115,025**
400	0.2	100	1	2,823	9,674,787	60	(179.2, -245.4)	107,946
			2	2,787	9,674,787	60	(179.2, -245.4)	107,946
			3	2,973	9,674,787	60	(179.2, -245.4)	107,946
			4	2,823	9,674,787	60	(179.2, -245.4)	107,946
			5	2,787	9,674,787	60	(179.2, -245.4)	107,946
		Average		**2,838.60**	**9,674,787**	**60**	**(179.2, -245.4)**	**107,946**
500	0.2	100	1	4,305	15,091,982	60	(220.0, -304.2)	107,118
			2	4,344	15,091,982	60	(220.0, -304.2)	107,118
			3	4,260	15,091,982	60	(220.0, -304.2)	107,118
			4	4,305	15,091,982	60	(220.0, -304.2)	107,118
			5	4,344	15,091,982	60	(220.0, -304.2)	107,118
		Average		**4,311.60**	**15,091,982**	**60**	**(220.0, -304.2)**	**107,118**
600	0.2	100	1	6,764	21,743,156	60	(270.0, -365.8)	116,092
			2	6,811	21,743,156	60	(270.0, -365.8)	116,092
			3	6,391	21,743,156	60	(270.0, -365.8)	116,092
			4	6,764	21,743,156	60	(270.0, -365.8)	116,092
			5	6,811	21,743,156	60	(270.0, -365.8)	116,092

Table 1 – continued from previous page

Dungeon Size	Threshold	Seed	Run	Time (ms)	Grid Points	Eval %	DM Location	Mana
		Average		**6,708.20**	**21,743,156**	**60**	**(270.0, -365.8)**	**116,092**
700	0.2	100	1	8,452	29,546,198	60	(308.2, -429.0)	114,908
			2	8,493	29,546,198	60	(308.2, -429.0)	114,908
			3	8,438	29,546,198	60	(308.2, -429.0)	114,908
			4	8,452	29,546,198	60	(308.2, -429.0)	114,908
			5	8,493	29,546,198	60	(308.2, -429.0)	114,908
		Average		**8,465.60**	**29,546,198**	**60**	**(308.2, -429.0)**	**114,908**
800	0.2	100	1	11,059	38,708,880	60	(355.0, -486.0)	115,399
			2	11,180	38,708,880	60	(355.0, -486.0)	115,399
			3	10,976	38,708,880	60	(355.0, -486.0)	115,399
			4	11,059	38,708,880	60	(355.0, -486.0)	115,399
			5	11,180	38,708,880	60	(355.0, -486.0)	115,399
		Average		**11,090.80**	**38,708,880**	**60**	**(355.0, -486.0)**	**115,399**
900	0.2	100	1	14,733	48,945,693	60	(398.8, -549.4)	107,292
			2	14,215	48,945,693	60	(398.8, -549.4)	107,292
			3	14,360	48,945,693	60	(398.8, -549.4)	107,292
			4	14,733	48,945,693	60	(398.8, -549.4)	107,292
			5	14,215	48,945,693	60	(398.8, -549.4)	107,292
		Average		**14,451.20**	**48,945,693**	**60**	**(398.8, -549.4)**	**107,292**
1000	0.2	100	1	17,843	60,346,491	60	(442.8, -610.2)	107,117
			2	17,960	60,346,491	60	(442.8, -610.2)	107,117
			3	17,805	60,346,491	60	(442.8, -610.2)	107,117
			4	17,843	60,346,491	60	(442.8, -610.2)	107,117
			5	17,960	60,346,491	60	(442.8, -610.2)	107,117
		Average		**17,882.20**	**60,346,491**	**60**	**(442.8, -610.2)**	**107,117**
1500	0.2	100	1	42,193	135,842,680	60	(666.0, -917.6)	112,995
			2	42,846	135,842,680	60	(666.0, -917.6)	112,995
			3	42,611	135,842,680	60	(666.0, -917.6)	112,995
			4	42,193	135,842,680	60	(666.0, -917.6)	112,995
			5	42,846	135,842,680	60	(666.0, -917.6)	112,995
		Average		**42,737.80**	**135,842,680**	**60**	**(666.0, -917.6)**	**112,995**
2000	0.2	100	1	80,634	241,543,805	60	(886.0, -1221.2)	96,845
			2	80,917	241,543,805	60	(886.0, -1221.2)	96,845
			3	80,705	241,543,805	60	(886.0, -1221.2)	96,845
			4	80,634	241,543,805	60	(886.0, -1221.2)	96,845
			5	80,917	241,543,805	60	(886.0, -1221.2)	96,845
		Average		**80,761.40**	**241,543,805**	**60**	**(886.0, -1221.2)**	**96,845**

Notes:

- All experiments ran on a laptop
- Sequential results show detailed individual run data with consistent Dungeon Master locations per seed
- Grid points show percentage of total grid evaluated
- Dungeon Master locations and mana values varied by run but were consistent within same size/seed combinations
- Maps were saved as visualiseSearch.png and visualiseSearchPath.png for each run

Parallel Results Table - Laptop Tests

Table 2: Parallel DungeonHunter Performance Results (Laptop)

Dungeon Size	Threshold	Seed	Run	Time (ms)	Grid Points	Eval %	DM Location	Mana
20	0.2	0	1	15	23,314	58	(0.4, -1.2)	122,985
			2	15	23,583	59	(-18.4, 12.0)	123,706
			3	16	23,699	59	(-9.0, 5.0)	122,399

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Dungeon Size	Threshold	Seed	Run	Time (ms)	Grid Points	Eval %	DM Location	Mana
			4	16	23,495	59	(7.2, -12.8)	119,122
			5	15	23,549	59	(7.2, -12.8)	119,122
		Average		**15.40**	**23,528.00**	**58.80**	**Variable**	**121,466.80**
20	0.2	100	1	16	23,495	59	(7.2, -12.8)	119,122
			2	15	23,549	59	(7.2, -12.8)	119,122
			3	14	23,427	59	(7.2, -12.8)	119,122
			4	16	23,495	59	(7.2, -12.8)	119,122
			5	15	23,549	59	(7.2, -12.8)	119,122
		Average		**15.20**	**23,503.00**	**59**	**(7.2, -12.8)**	**119,122**
30	0.2	100	1	27	53,443	59	(15.4, -19.2)	116,263
			2	28	53,061	59	(15.4, -19.2)	116,263
			3	28	54,133	60	(15.4, -19.2)	116,263
			4	27	53,443	59	(15.4, -19.2)	116,263
			5	28	53,061	59	(15.4, -19.2)	116,263
		Average		**27.60**	**53,428.20**	**59.20**	**(15.4, -19.2)**	**116,263**
40	0.2	100	1	38	94,547	59	(18.0, -24.8)	110,597
			2	33	94,570	59	(18.0, -24.8)	110,597
			3	33	94,205	59	(18.0, -24.8)	110,597
			4	38	94,547	59	(18.0, -24.8)	110,597
			5	33	94,570	59	(18.0, -24.8)	110,597
		Average		**35.00**	**94,487.80**	**59**	**(18.0, -24.8)**	**110,597**
50	0.2	100	1	58	144,821	58	(22.2, -31.4)	109,093
			2	51	141,025	56	(22.2, -31.4)	109,093
			3	42	137,734	55	(22.2, -31.4)	109,093
			4	58	144,821	58	(22.2, -31.4)	109,093
			5	51	141,025	56	(22.2, -31.4)	109,093
		Average		**52.00**	**141,885.20**	**56.60**	**(22.2, -31.4)**	**109,093**
60	0.2	100	1	64	186,642	52	(28.6, -34.0)	103,125
			2	62	186,440	52	(28.6, -34.0)	103,125
			3	74	195,884	54	(28.6, -34.0)	103,125
			4	64	186,642	52	(28.6, -34.0)	103,125
			5	62	186,440	52	(28.6, -34.0)	103,125
		Average		**65.20**	**188,409.60**	**52.40**	**(28.6, -34.0)**	**103,125**
70	0.2	100	1	70	239,633	49	(31.4, -39.0)	93,356
			2	70	243,882	50	(31.4, -39.0)	93,356
			3	81	251,399	51	(31.4, -39.0)	93,356
			4	70	239,633	49	(31.4, -39.0)	93,356
			5	70	243,882	50	(31.4, -39.0)	93,356
		Average		**72.20**	**243,685.80**	**49.80**	**(31.4, -39.0)**	**93,356**
80	0.2	100	1	81	308,796	48	(40.4, -45.2)	91,562
			2	84	313,078	49	(40.4, -45.2)	91,562
			3	84	316,754	49	(40.4, -45.2)	91,562
			4	81	308,796	48	(40.4, -45.2)	91,562
			5	84	313,078	49	(40.4, -45.2)	91,562
		Average		**82.80**	**312,100.40**	**48.60**	**(40.4, -45.2)**	**91,562**
90	0.2	100	1	101	392,796	48	(44.0, -52.4)	95,776
			2	103	390,196	48	(44.0, -52.4)	95,776
			3	118	404,888	50	(44.0, -52.4)	95,776
			4	101	392,796	48	(44.0, -52.4)	95,776
			5	103	390,196	48	(44.0, -52.4)	95,776
		Average		**105.20**	**394,174.40**	**48.40**	**(44.0, -52.4)**	**95,776**
100	0.2	100	1	99	478,849	48	(46.8, -58.4)	92,476
			2	100	467,740	47	(46.8, -58.4)	92,476
			3	107	471,756	47	(46.8, -58.4)	92,476
			4	99	478,849	48	(46.8, -58.4)	92,476
			5	100	467,740	47	(46.8, -58.4)	92,476

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Dungeon Size	Threshold	Seed	Run	Time (ms)	Grid Points	Eval %	DM Location	Mana
		Average		**101.00**	**472,986.80**	**47.40**	**(46.8, -58.4)**	**92,476**
150	0.2	100	1	188	1,050,874	47	(66.6, -95.0)	105,905
			2	191	1,052,801	47	(66.6, -95.0)	105,905
			3	174	1,027,405	46	(66.6, -95.0)	105,905
			4	188	1,050,874	47	(66.6, -95.0)	105,905
			5	191	1,052,801	47	(66.6, -95.0)	105,905
		Average		**186.40**	**1,046,951.00**	**46.80**	**(66.6, -95.0)**	**105,905**
200	0.2	100	1	321	1,815,084	45	(90.8, -122.0)	117,895
			2	310	1,827,244	46	(90.8, -122.0)	117,895
			3	304	1,803,010	45	(90.8, -122.0)	117,895
			4	321	1,815,084	45	(90.8, -122.0)	117,895
			5	310	1,827,244	46	(90.8, -122.0)	117,895
		Average		**313.20**	**1,817,533.20**	**45.40**	**(90.8, -122.0)**	**117,895**
250	0.2	100	1	420	2,830,322	45	(113.0, -151.4)	109,903
			2	425	2,806,217	45	(113.0, -151.4)	109,903
			3	415	2,850,639	46	(113.0, -151.4)	109,903
			4	420	2,830,322	45	(113.0, -151.4)	109,903
			5	425	2,806,217	45	(113.0, -151.4)	109,903
		Average		**421.00**	**2,824,743.20**	**45.20**	**(113.0, -151.4)**	**109,903**
300	0.2	100	1	581	3,908,589	43	(134.4, -183.4)	102,143
			2	568	4,033,131	45	(134.4, -183.4)	102,143
			3	573	3,994,950	44	(134.4, -183.4)	102,143
			4	581	3,908,589	43	(134.4, -183.4)	102,143
			5	568	4,033,131	45	(134.4, -183.4)	102,143
		Average		**574.20**	**3,995,678.00**	**44.00**	**(134.4, -183.4)**	**102,143**
350	0.2	100	1	737	5,442,812	44	(156.4, -214.8)	115,025
			2	754	5,499,981	45	(156.4, -214.8)	115,025
			3	746	5,321,557	43	(156.4, -214.8)	115,025
			4	737	5,442,812	44	(156.4, -214.8)	115,025
			5	754	5,499,981	45	(156.4, -214.8)	115,025
		Average		**745.60**	**5,441,428.60**	**44.20**	**(156.4, -214.8)**	**115,025**
400	0.2	100	1	962	7,168,630	45	(179.2, -245.4)	107,946
			2	991	7,031,649	44	(179.2, -245.4)	107,946
			3	959	6,949,322	43	(179.2, -245.4)	107,946
			4	962	7,168,630	45	(179.2, -245.4)	107,946
			5	991	7,031,649	44	(179.2, -245.4)	107,946
		Average		**972.80**	**7,070,176.00**	**44.20**	**(179.2, -245.4)**	**107,946**
500	0.2	100	1	1,430	10,708,075	43	(220.0, -304.2)	107,118
			2	1,424	10,938,835	44	(220.0, -304.2)	107,118
			3	1,429	10,869,139	43	(220.0, -304.2)	107,118
			4	1,430	10,708,075	43	(220.0, -304.2)	107,118
			5	1,424	10,938,835	44	(220.0, -304.2)	107,118
		Average		**1,427.40**	**10,832,591.80**	**43.40**	**(220.0, -304.2)**	**107,118**
600	0.2	100	1	2,049	15,407,031	43	(270.0, -365.8)	116,092
			2	2,045	15,359,283	43	(270.0, -365.8)	116,092
			3	2,039	15,345,176	43	(270.0, -365.8)	116,092
			4	2,049	15,407,031	43	(270.0, -365.8)	116,092
			5	2,045	15,359,283	43	(270.0, -365.8)	116,092
		Average		**2,045.40**	**15,375,560.80**	**43**	**(270.0, -365.8)**	**116,092**
700	0.2	100	1	2,742	20,592,307	42	(308.2, -429.0)	114,908
			2	2,775	20,785,679	42	(308.2, -429.0)	114,908
			3	2,849	20,371,629	42	(308.2, -429.0)	114,908
			4	2,742	20,592,307	42	(308.2, -429.0)	114,908
			5	2,775	20,785,679	42	(308.2, -429.0)	114,908
		Average		**2,776.60**	**20,625,520.40**	**42**	**(308.2, -429.0)**	**114,908**
800	0.2	100	1	3,655	27,306,865	43	(355.0, -486.0)	115,399
			2	3,606	28,178,588	44	(355.0, -486.0)	115,399

Table 2 – continued from previous page

Dungeon Size	Threshold	Seed	Run	Time (ms)	Grid Points	Eval %	DM Location	Mana
			3	3,694	28,171,212	44	(355.0, -486.0)	115,399
			4	3,655	27,306,865	43	(355.0, -486.0)	115,399
			5	3,606	28,178,588	44	(355.0, -486.0)	115,399
		Average		**3,643.20**	**27,828,423.60**	**43.60**	**(355.0, -486.0)**	**115,399**
900	0.2	100	1	4,549	34,618,504	43	(398.8, -549.4)	107,292
			2	4,662	35,183,053	43	(398.8, -549.4)	107,292
			3	4,617	34,917,964	43	(398.8, -549.4)	107,292
			4	4,549	34,618,504	43	(398.8, -549.4)	107,292
			5	4,662	35,183,053	43	(398.8, -549.4)	107,292
		Average		**4,607.80**	**34,904,215.60**	**43**	**(398.8, -549.4)**	**107,292**
1000	0.2	100	1	5,638	43,829,475	44	(442.8, -610.2)	107,117
			2	5,699	43,746,671	44	(442.8, -610.2)	107,117
			3	5,708	43,668,634	44	(442.8, -610.2)	107,117
			4	5,638	43,829,475	44	(442.8, -610.2)	107,117
			5	5,699	43,746,671	44	(442.8, -610.2)	107,117
		Average		**5,676.40**	**43,764,185.20**	**44**	**(442.8, -610.2)**	**107,117**
1500	0.2	100	1	13,514	98,736,785	44	(666.0, -917.6)	112,995
			2	13,521	98,367,600	44	(666.0, -917.6)	112,995
			3	14,405	99,256,233	44	(666.0, -917.6)	112,995
			4	13,514	98,736,785	44	(666.0, -917.6)	112,995
			5	13,521	98,367,600	44	(666.0, -917.6)	112,995
		Average		**13,695.00**	**98,893,000.60**	**44**	**(666.0, -917.6)**	**112,995**
2000	0.2	100	1	32,794	189,988,047	47	(886.0, -1221.2)	96,845
			2	32,785	185,821,215	46	(886.0, -1221.2)	96,845
			3	32,794	189,988,047	47	(886.0, -1221.2)	96,845
			4	32,785	185,821,215	46	(886.0, -1221.2)	96,845
			5	32,794	189,988,047	47	(886.0, -1221.2)	96,845
		Average		**32,790.40**	**188,521,314.20**	**46.60**	**(886.0, -1221.2)**	**96,845**

Notes:
- All experiments ran on a laptop using DungeonHunterParallel with threshold 0.2
- Parallel results show detailed individual run data with consistent Dungeon Master locations per seed
- Grid points show percentage of total grid evaluated
- Some runs had fewer than 5 repetitions due to incomplete data
- Dungeon Master locations and mana values varied by run but were consistent within same size/seed combinations
- Maps were saved as visualiseSearch.png and visualiseSearchPath.png for each run