

LentoidEnc vs x264 r2377 | Environment: Intel Xeon E5620 16-core, 64GB, Windows Server 2008 | 2013.11

Resolution (Test group)	Sequence				x264 (1 thread, best quality)				Lentoid (1 thread, best quality)				Lentoid / x264		
	Name	Frame rate	Frame number	QP	Bitrate (kbps)	Y-PSNR	Encoding Time(s)	Encoding FPS	Bitrate (kbps)	Y-PSNR	Encoding Time(s)	Encoding FPS	BD-rate (piecewise cubic)	BD-rate (cubic)	Speedup in FPS
2560x1600 (Class A)	<i>People OnStreet</i>	30	150	31	15404.21	35.86	288.46	0.52	10855.85	35.35	1778.30	0.084	-23.55%	-23.55%	0.17
				34	10911.68	34.23	258.62	0.58	7636.30	33.76	1578.35	0.095			
				37	7893.28	32.63	250.00	0.60	5402.74	32.14	1385.85	0.108			
				40	5710.79	30.98	223.88	0.67	3757.29	30.43	1198.05	0.125			
	<i>Traffic</i>	30	300	31	3955.97	36.90	319.15	0.94	2543.31	37.21	1321.57	0.227	-47.27%	-47.26%	0.27
				34	2652.14	35.30	288.46	1.04	1596.45	35.65	1119.14	0.268			
				37	1850.04	33.68	288.46	1.04	1032.73	34.05	946.66	0.317			
				40	1326.94	32.04	256.41	1.17	663.75	32.41	804.00	0.373			
1920x1080 (Class B)	<i>BasketBall Drive</i>	50	500	31	6260.09	36.25	427.35	1.17	3984.26	36.33	1802.70	0.277	-43.02%	-43.01%	0.25
				34	4301.78	35.07	370.37	1.35	2650.67	35.23	1578.26	0.317			
				37	3038.09	33.79	359.71	1.39	1809.40	34.02	1371.09	0.365			
				40	2169.85	32.40	314.47	1.59	1224.02	32.71	1178.94	0.424			
	<i>BQ Terrace</i>	60	600	31	4293.91	33.90	408.16	1.47	2947.65	34.33	1280.06	0.469	-54.48%	-54.39%	0.36
				34	2534.46	32.74	342.86	1.75	1581.02	33.31	1030.77	0.582			
				37	1634.24	31.45	338.98	1.77	899.42	32.09	845.02	0.710			
				40	1111.67	30.09	306.12	1.96	529.83	30.74	733.46	0.818			
	<i>Cactus</i>	50	500	31	4968.68	35.49	367.65	1.36	3293.11	35.50	1443.99	0.346	-37.98%	-37.97%	0.26
				34	3294.85	34.19	314.47	1.59	2148.42	34.28	1251.30	0.400			
				37	2246.65	32.80	306.75	1.63	1437.17	32.97	1098.63	0.455			
				40	1537.91	31.35	263.16	1.90	950.05	31.58	936.71	0.534			
	<i>ParkScene</i>	24	240	31	2312.47	38.11	181.82	1.32	1405.44	38.20	832.86	0.288	-42.97%	-42.97%	0.24
				34	1486.05	36.68	157.89	1.52	915.83	36.79	692.62	0.347			
				37	983.04	35.18	155.84	1.54	601.78	35.32	575.46	0.417			
				40	659.37	33.63	134.08	1.79	385.76	33.81	478.74	0.501			
	<i>Kimono</i>	24	240	31	2201.93	35.18	180.45	1.33	1705.57	35.53	636.16	0.377	-40.01%	-40.00%	0.31
				34	1497.94	33.59	152.87	1.57	1046.31	33.99	535.70	0.448			
				37	1043.43	32.04	150.94	1.59	649.42	32.50	448.80	0.535			
				40	733.55	30.55	132.60	1.81	394.05	31.03	382.26	0.628			
<i>BasketBall Drill</i>	50	500	31	1534.96	35.42	181.82	2.75	1077.87	35.23	416.21	1.201	-27.82%	-27.83%	0.47	
			34	1049.53	33.92	155.76	3.21	714.83	33.65	355.17	1.408				
			37	728.41	32.43	159.74	3.13	487.66	32.16	302.71	1.652				
			40	507.44	30.93	132.63	3.77	331.41	30.68	257.04	1.945				

832x480 (Class C)	<i>BQMall</i>	60	600	31	1553.28	35.48	200.67	2.99	1120.90	35.61	390.48	1.537	-33.75%	-33.75%	0.58
				34	1056.5	33.78	181.27	3.31	744.88	33.96	336.02	1.786			
				37	730.65	32.07	182.93	3.28	500.27	32.28	292.35	2.052			
				40	513.16	30.40	167.13	3.59	330.61	30.59	250.07	2.399			
	<i>PartyScene</i>	50	500	31	2660.32	32.07	224.22	2.23	1916.40	32.42	425.06	1.176	-37.87%	-37.86%	0.60
				34	1661.1	30.09	196.85	2.54	1185.73	30.57	349.59	1.430			
				37	1028.58	28.24	192.31	2.60	722.42	28.76	294.12	1.700			
				40	626.12	26.56	171.23	2.92	423.47	27.00	232.32	2.152			
	<i>Race Horses</i>	30	300	31	1805.53	34.54	155.44	1.93	1313.93	34.01	372.86	0.805	-23.34%	-23.35%	0.46
				34	1161.97	32.74	138.89	2.16	836.76	32.38	322.18	0.931			
				37	759.8	30.98	135.75	2.21	538.84	30.76	278.93	1.076			
				40	500.42	29.30	118.11	2.54	338.95	29.18	230.05	1.304			
1280x720 (Class E)	<i>FourPeople</i>	60	600	31	758.32	38.71	149.63	4.01	550.39	38.86	365.67	1.641	-33.11%	-33.11%	0.41
				34	533.25	37.15	129.59	4.63	374.92	37.28	332.59	1.804			
				37	380.46	35.48	133.93	4.48	259.51	35.63	303.98	1.974			
				40	273.87	33.71	116.73	5.14	177.06	33.84	285.89	2.099			
	<i>Johnny</i>	60	600	31	385.08	39.54	144.23	4.16	245.61	40.09	296.91	2.021	-50.12%	-50.08%	0.46
				34	271.95	38.19	117.65	5.10	161.47	38.83	271.68	2.209			
				37	194.08	36.76	119.05	5.04	112.09	37.42	256.53	2.339			
				40	144.22	35.24	103.27	5.81	78.11	35.88	236.90	2.533			
	<i>KristenAndSara</i>	60	600	31	622.36	39.64	155.44	3.86	405.96	39.87	363.15	1.652	-43.27%	-43.26%	0.43
				34	433.89	38.18	131.87	4.55	270.40	38.43	320.27	1.873			
				37	313.53	36.60	132.45	4.53	185.87	36.91	295.15	2.033			
				40	233.46	34.89	116.96	5.13	128.77	35.25	274.64	2.185			
<b>Average</b>												<b>-38.47%</b>	<b>-38.46%</b>	<b>0.38</b>	

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Resolution (Test group)	Sequence				x264 (full threads, best quality)				Lentoid (full threads with wpp, best quality)				Lentoid / x264		
	Name	Frame rate	Frame number	QP	Bitrate (kbps)	Y-PSNR	Encoding Time(s)	Encoding FPS	Bitrate (kbps)	Y-PSNR	Encoding Time(s)	Encoding FPS	BD-rate (piecewise cubic)	BD-rate (cubic)	Speedup in FPS
2560x1600 (Class A)	<i>People OnStreet</i>	30	150	31	15404.21	35.86	46.44	3.23	10867.95	35.37	211.49	0.709	-23.20%	-23.20%	0.27
				34	10911.68	34.23	46.58	3.22	7706.23	33.76	189.31	0.792			
				37	7893.28	32.63	51.72	2.90	5415.02	32.13	168.92	0.888			
				40	5710.79	30.98	49.34	3.04	3759.72	30.42	147.89	1.014			
	<i>Traffic</i>	30	300	31	3955.97	36.90	75.00	4.00	2548.15	37.20	165.10	1.817	-46.81%	-46.80%	0.55
				34	2652.14	35.30	73.17	4.10	1605.31	35.64	141.94	2.114			
				37	1850.04	33.68	74.63	4.02	1041.08	34.03	123.60	2.427			
				40	1326.94	32.04	72.12	4.16	670.23	32.39	107.10	2.801			
1920x1080 (Class B)	<i>BasketBall Drive</i>	50	500	31	6260.09	36.25	103.31	4.84	4029.26	36.33	249.71	2.002	-41.78%	-41.77%	0.47
				34	4301.78	35.07	100.20	4.99	2686.77	35.22	224.26	2.230			
				37	3038.09	33.79	101.21	4.94	1837.92	34.00	201.42	2.482			
				40	2169.85	32.40	98.62	5.07	1249.74	32.68	179.63	2.783			
	<i>BQ Terrace</i>	60	600	31	4293.91	33.90	104.53	5.74	2965.36	34.32	176.06	3.408	-53.18%	-53.10%	0.74
				34	2534.46	32.74	101.18	5.93	1593.16	33.28	144.69	4.147			
				37	1634.24	31.45	103.45	5.80	915.43	32.04	123.59	4.855			
				40	1111.67	30.09	101.18	5.93	549.07	30.69	109.82	5.463			
	<i>Cactus</i>	50	500	31	4968.68	35.49	87.87	5.69	3338.88	35.50	196.70	2.542	-36.59%	-36.58%	0.50
				34	3294.85	34.19	85.76	5.83	2189.85	34.28	178.35	2.803			
				37	2246.65	32.80	86.66	5.77	1470.90	32.96	160.51	3.115			
				40	1537.91	31.35	83.89	5.96	977.34	31.57	147.38	3.393			
	<i>ParkScene</i>	24	240	31	2312.47	38.11	48.10	4.99	1417.17	38.19	113.82	2.109	-41.60%	-41.59%	0.51
				34	1486.05	36.68	46.24	5.19	927.53	36.78	98.70	2.432			
				37	983.04	35.18	47.52	5.05	612.35	35.30	84.76	2.832			
				40	659.37	33.63	45.89	5.23	395.33	33.79	74.50	3.222			
	<i>Kimono</i>	24	240	31	2201.93	35.18	46.33	5.18	1717.18	35.52	88.21	2.721	-39.14%	-39.13%	0.62
				34	1497.94	33.59	44.86	5.35	1057.20	33.99	76.95	3.119			
				37	1043.43	32.04	45.37	5.29	659.29	32.48	66.09	3.632			
				40	733.55	30.55	43.64	5.50	402.55	31.01	57.61	4.166			
<i>BasketBall Drill</i>	50	500	31	1534.96	35.42	50.76	9.85	1085.64	35.23	126.85	3.942	-27.49%	-27.49%	0.43	
			34	1049.53	33.92	47.62	10.50	721.19	33.66	112.55	4.442				
			37	728.41	32.43	43.18	11.58	500.85	32.25	98.65	5.068				
			40	507.44	30.93	40.36	12.39	332.73	30.67	87.26	5.730				

832x480 (Class C)	<i>BQMall</i>	60	600	31	1553.28	35.48	59.35	10.11	1133.66	35.60	133.54	4.493	-32.72%	-32.71%	0.49
				34	1056.5	33.78	55.50	10.81	756.55	33.95	119.83	5.007			
				37	730.65	32.07	54.40	11.03	511.28	32.28	105.54	5.685			
				40	513.16	30.40	52.40	11.45	341.08	30.57	91.69	6.544			
	<i>PartyScene</i>	50	500	31	2660.32	32.07	56.05	8.92	1920.02	32.41	128.95	3.877	-36.96%	-36.94%	0.49
				34	1661.1	30.09	53.19	9.40	1192.23	30.55	111.98	4.465			
				37	1028.58	28.24	50.05	9.99	728.98	28.73	96.45	5.184			
				40	626.12	26.56	46.77	10.69	430.54	26.97	81.30	6.150			
	<i>Race Horses</i>	30	300	31	1805.53	34.54	45.25	6.63	1320.17	34.02	97.33	3.082	-22.68%	-22.69%	0.50
				34	1161.97	32.74	43.29	6.93	836.99	32.38	90.59	3.312			
				37	759.8	30.98	40.54	7.40	546.62	30.74	80.78	3.714			
				40	500.42	29.30	38.66	7.76	345.92	29.16	70.05	4.283			
1280x720 (Class E)	<i>FourPeople</i>	60	600	31	758.32	38.71	45.98	13.05	560.05	38.86	121.67	4.931	-31.08%	-31.08%	0.45
				34	533.25	37.15	45.98	13.05	383.74	37.26	106.77	5.619			
				37	380.46	35.48	44.74	13.41	266.88	35.59	95.42	6.288			
				40	273.87	33.71	45.35	13.23	183.63	33.81	83.89	7.152			
	<i>Johnny</i>	60	600	31	385.08	39.54	45.35	13.23	249.60	40.05	69.39	8.647	-47.39%	-47.34%	0.77
				34	271.95	38.19	45.91	13.07	167.70	38.78	61.59	9.742			
				37	194.08	36.76	43.76	13.71	117.82	37.36	53.91	11.129			
				40	144.22	35.24	44.81	13.39	80.55	35.85	48.15	12.460			
	<i>KristenAndSara</i>	60	600	31	622.36	39.64	50.13	11.97	413.22	39.85	95.78	6.265	-41.33%	-41.32%	0.62
				34	433.89	38.18	49.92	12.02	276.47	38.41	83.06	7.223			
				37	313.53	36.60	48.08	12.48	192.30	36.88	72.31	8.298			
				40	233.46	34.89	48.47	12.38	134.04	35.23	64.05	9.368			
<b>Average</b>												<b>-37.28%</b>	<b>-37.27%</b>	<b>0.53</b>	

LentoidEnc vs x265 build 2013.10.28 | Environment: Intel Xeon E5620 16-core, 64GB, Windows Server 2008 | 2013.11

Resolution (Test group)	Sequence				x265 (1 thread with wpp, best quality)				Lentoid (1 thread with wpp, best quality)				Lentoid / x265	
	Name	Frame rate	Frame number	QP	Bitrate (kbps)	Y-PSNR	Encoding Time(s)	Encoding FPS	Bitrate (kbps)	Y-PSNR	Encoding Time(s)	Encoding FPS	BD-rate (piecewise cubic)	Speedup in FPS
1920x1080 (Class B)	<i>BasketBall Drive</i>	50	500	30	5183.98	36.46	10309.25	0.049	5312.59	36.91	898.06	0.557	-18.07%	10.38
				33	3310.95	35.16	8122.60	0.062	3504.89	35.86	801.09	0.624		
				36	2020.46	33.19	6372.29	0.078	2387.36	34.70	630.36	0.793		
				39	1666.82	32.26	5393.43	0.093	1639.60	33.41	550.57	0.908		
	<i>BQ Terrace</i>	60	600	30	4668.39	33.78	8585.63	0.070	5255.03	34.89	731.80	0.820	-43.40%	9.26
				33	2057.37	32.35	5259.25	0.114	2567.60	33.88	586.20	1.024		
				36	968.16	30.55	3567.30	0.168	1349.78	32.63	425.45	1.410		
				39	650.41	29.68	2870.10	0.209	768.08	31.25	361.47	1.660		
	<i>Cactus</i>	50	500	30	4313.47	35.63	8026.15	0.062	4492.15	36.11	772.11	0.648	-12.19%	9.94
				33	2597.31	34.24	6530.68	0.077	2891.96	34.94	669.40	0.747		
				36	1481.22	32.27	5197.79	0.096	1922.04	33.66	520.15	0.961		
				39	1187.34	31.25	4359.02	0.115	1280.03	32.28	453.18	1.103		
	<i>Kimono</i>	24	240	30	1843.1	38.66	4147.91	0.058	1850.19	38.93	380.75	0.630	-9.65%	9.93
				33	1169.83	37.16	3269.88	0.073	1216.28	37.58	328.93	0.730		
				36	675.4	34.99	2435.32	0.099	812.08	36.16	257.01	0.934		
				39	524.12	33.85	2066.49	0.116	536.10	34.68	219.88	1.091		
832x480 (Class C)	<i>BasketBall Drill</i>	50	500	30	1443.73	35.20	2406.45	0.208	1428.51	35.99	322.97	1.548	-18.03%	7.11
				33	932.61	33.51	1929.88	0.259	951.60	34.37	278.27	1.797		
				36	582.48	31.46	1438.95	0.347	650.77	32.84	210.55	2.375		
				39	511.12	30.41	1300.15	0.385	452.69	31.37	180.54	2.770		
	<i>PartyScene</i>	50	500	30	2860.43	32.20	3103.75	0.161	2686.94	33.45	349.47	1.431	-33.06%	7.85
				33	1586.59	29.68	2210.37	0.226	1678.95	31.49	293.13	1.706		
				36	810.82	26.93	1641.05	0.305	1034.41	29.57	208.97	2.393		
				39	583.29	25.88	1222.63	0.409	624.60	27.69	171.57	2.914		
	<i>Race Horses</i>	30	300	30	1734.1	34.52	2278.95	0.132	1769.49	35.02	252.69	1.187	-13.37%	8.47
				33	999.52	32.42	1823.12	0.165	1130.10	33.40	221.05	1.357		
				36	528.2	29.81	1324.78	0.226	727.39	31.75	166.87	1.798		
				39	437.18	28.83	1247.24	0.241	463.51	30.08	143.50	2.091		
<b>Average</b>												<b>-21.11%</b>	<b>8.99</b>	