

## Empirical Analysis

Table 1 and Table 2 show the HuffMark analysis for compressing text files and binary files, respectively. Using BurrowsWheeler, the files can be compressed into much smaller files comparing with the original SimpleHuff compression, although the time lengths for compression increase. The BurrowsWheeler is much more effective in compression of the binary files.

Table 1

Text files in Calgary	from	Original SimpleHuffProcessor			BurrowsWheeler SimpleHuffProcessor		
		to	time	to/from	to	time	to/from
bib	111261	73791	0.215	0.66	42467	0.533	0.38
book1	768771	439405	0.89	0.57	343299	2.376	0.45
book2	610856	369331	0.688	0.60	240476	0.9	0.39
geo	102400	73588	0.194	0.72	74752	0.242	0.73
news	377109	247424	0.483	0.66	169595	0.587	0.45
obj1	21504	17081	0.08	0.79	12475	0.107	0.58
obj2	246814	195127	0.366	0.79	99893	0.369	0.40
paper1	53161	34367	0.113	0.65	21228	0.119	0.40
paper2	82199	48645	0.093	0.59	33492	0.122	0.41
paper3	46526	28305	0.104	0.61	20034	0.07	0.43
paper4	13286	8890	0.017	0.67	6364	0.019	0.48
paper5	11954	8461	0.018	0.71	5931	0.018	0.50
paper6	38105	25053	0.057	0.66	15564	0.054	0.41
pic	513216	107582	0.233	0.21	116451	13.759	0.23
progc	39611	26944	0.097	0.68	16025	0.101	0.40
progl	71646	44013	0.107	0.61	22430	0.112	0.31
progp	49379	31244	0.09	0.63	15300	0.084	0.31
trans	93695	66248	0.127	0.71	28960	0.153	0.31
total bytes read:		3251493			3251493		
total compressed bytes		1845499			1282304		
total percent compression		43.241			60.563		
compression time:		3.972			19.725		

Table 2

binary files in Waterloo	from	Original SimpleHuffProcessor			BurrowsWheeler SimpleHuffProcessor		
		to	time	to/from	to	time	to/from
clegg.tif	2149096	2034591	3.839	0.95	967115	21.109	0.45
frymire.tif	3706306	2188589	4.37	0.59	720455	35.899	0.19
lena.tif	786568	766142	1.429	0.97	665511	1.941	0.85
monarch.tif	1179784	1109969	2.076	0.94	862550	2.357	0.73
peppers.tif	786568	756964	1.443	0.96	652441	1.843	0.83
sail.tif	1179784	1085497	2.072	0.92	931162	2.436	0.79
serrano.tif	1498414	1127641	2.162	0.75	286581	4.634	0.19
tulips.tif	1179784	1135857	2.102	0.96	998964	2.636	0.85
total bytes read:		12466304			12466304		
total compressed bytes		10205250			6082347		
total percent compression		18.137			51.210		
compression time:		19.493			72.855		