mew115 Mengqi Wu

cs1550 Project 3

Opt(bzip):

number of frames	Page Fault	Write to Disk
8	18251	7582
16	2427	845
32	1330	459
64	821	285

Opt(gcc)

number of frames	Page Fault	Write to Disk
8	118480	15032
16	80307	11318
32	55802	8275
64	38050	5734

Clock(bzip)

number of frames	Page Fault	Write to Disk
8	46164	17568
16	3468	1128
32	2203	734
64	1318	443

Clock(gcc)

number of frames	Page Fault	Write to Disk
8	181856	29401
16	121682	16376
32	87686	12293
64	61640	9346

Nru(bzip)

number of frames	Page Fault	Write to Disk	refresh
8	50062	1512	8
8	47955	2229	16
8	35818	5612	32
8	33210	8339	64
16	46956	835	8
16	26849	833	16
16	15908	842	32
16	11795	852	64
32	39780	4664	8
32	23097	494	16
32	13040	480	32
32	7967	494	64
64	37371	254	8
64	18181	276	16
64	11533	258	32
64	7786	245	64

Nru(gcc)

number of frames	Page Fault	Write to Disk	refresh
8	190805	16655	8
8	176246	17900	16
8	176847	19274	32
8	186056	18477	64
16	168622	10742	8
16	151161	10873	16
16	134416	11507	32
16	123351	12908	64
32	152554	7316	8
32	135954	7294	16
32	119704	7498	32
32	103501	7980	64
64	134853	4871	8
64	118779	4880	16
64	104003	4930	32
64	90889	5040	64

Work(bizp)

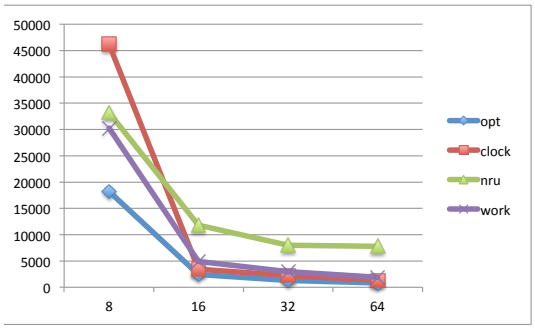
number of frames	Page Fault	Write to Disk	refresh	tau
8	72006	20075	8	8
8	72006	20075	8	16
8	72006	20075	8	32
8	72006	20075	8	64
8	44167	14476	16	8
8	47586	14900	16	16
8	47586	14900	16	32
8	47586	14900	16	64
8	30800	12836	32	8
8	29612	11726	32	16
8	33315	13525	32	32
8	33315	13525	32	64
8	30289	12064	64	8
8	30293	11946	64	16
8	30313	11061	64	32
8	29893	10384	64	64
16	97605	28584	8	8
16	97605	28584	8	16
16	97605	28584	8	32
16	97605	28584	8	64
16	37717	11497	16	8
16	71841	20709	16	16
16	71841	20709	16	32
16	71841	20709	16	64
16	11375	2087	32	8
16	12340	2522	32	16
16	34673	11807	32	32
16	34673	11807	32	64
16	6315	2871	64	8
16	4942	1745	64	16
16	4457	1308	64	32
16	14419	4973	64	64
32	77417	20815	8	8
32	77417	20815	8	16
32	77417	20815	8	32
32	77417	20815	8	64
32	12859	912	16	8
32	64470	19737	16	16
32	64470	19737	16	32
32	64470	19737	16	64
32	4834	810	32	8
32	10351	906	32	16
32	19263	3913	32	32
32	19263	3913	32	64
32	3105	942	64	8
32	3002	913	64	16
32	3173	941	64	32
32	13211	5430	64	64
64	79214	20449	8	8
64	79214	20449	8	16
64	79214	20449	8	32
64	79214	20449	8	64
64	11109	557	16	8
64	52591	15874	16	16
64	52591	15874	16	32
64	52591	15874	16	64
64	7856	606	32	8
64	9388	493	32	16
64	20790	5904	32	32
64	20790	5904	32	64
64	1817	581	64	8
64	1907	541	64	16
64	2070	559	64	32
64	17050	7642	64	64

work(gcc)(-r 64)(-t 16)

number of frames	Page Fault	Write to Disk	refresh	tau
8	172473	23759	64	16
16	122562	15667	64	16
32	99616	12909	64	16
64	77067	10185	64	16

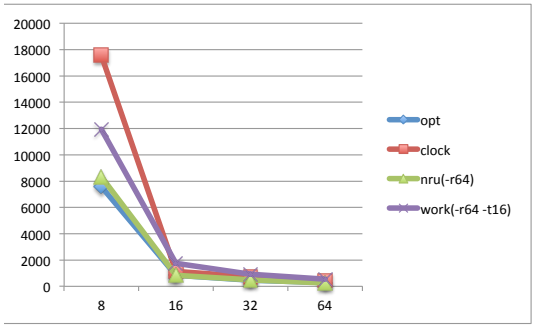
Page Fault(bzip)

Page Fault	8	16	32	64
opt	18251	2427	1330	821
clock	46164	3468	2203	1318
nru	33210	11795	7967	7786
work	30293	4942	3002	1907



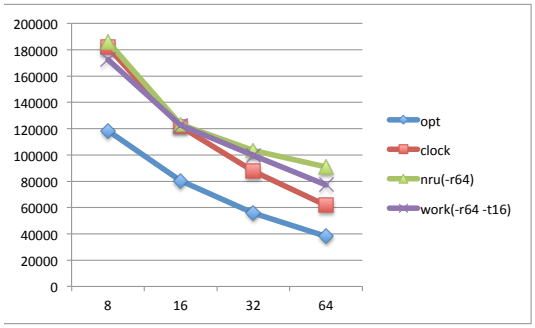
Write to Disk(bzip)

Write to Disk	8	16	32	64
opt	7582	845	459	285
clock	17568	1128	734	443
nru(-r64)	8339	852	494	245
work(-r64 -t16)	11946	1745	913	541



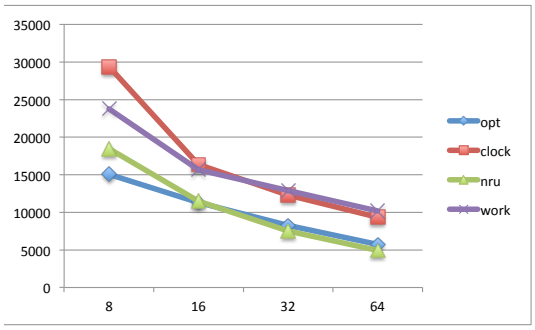
Page Fault(gcc)

Page Fault	8	16	32	64
opt	118480	80307	55802	38050
clock	181856	121682	87686	61640
nru(-r64)	186056	123351	103501	90889
work(-r64 -t16)	172473	122562	99616	77067



Write to Disk(gcc)

Write to Disk	8	16	32	64
opt	15032	11318	8275	5734
clock	29401	16376	12293	9346
nru	18477	11507	7498	4930
work	23759	15667	12909	10185



From the graphs, it's obvious that opt is the best one. However, in real life, we don't the knowledge of future. So, opt is too ideal for real life use. Then the frame number is 8, nru has a better behavior than others. But when frame number is larger than 8, clock and work are better than nru. Considering that work needs more memory than clock, I thin clock is the best.