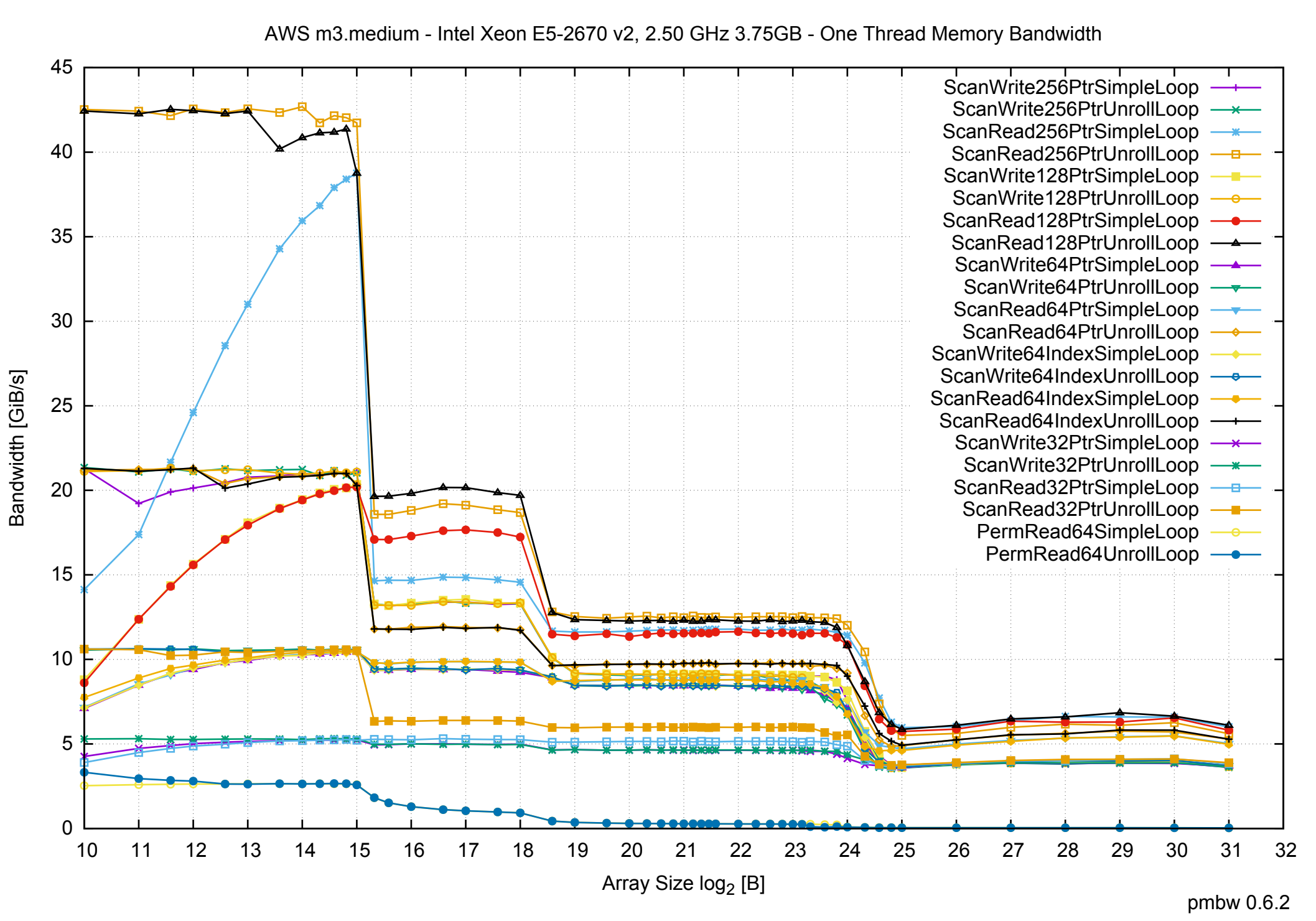
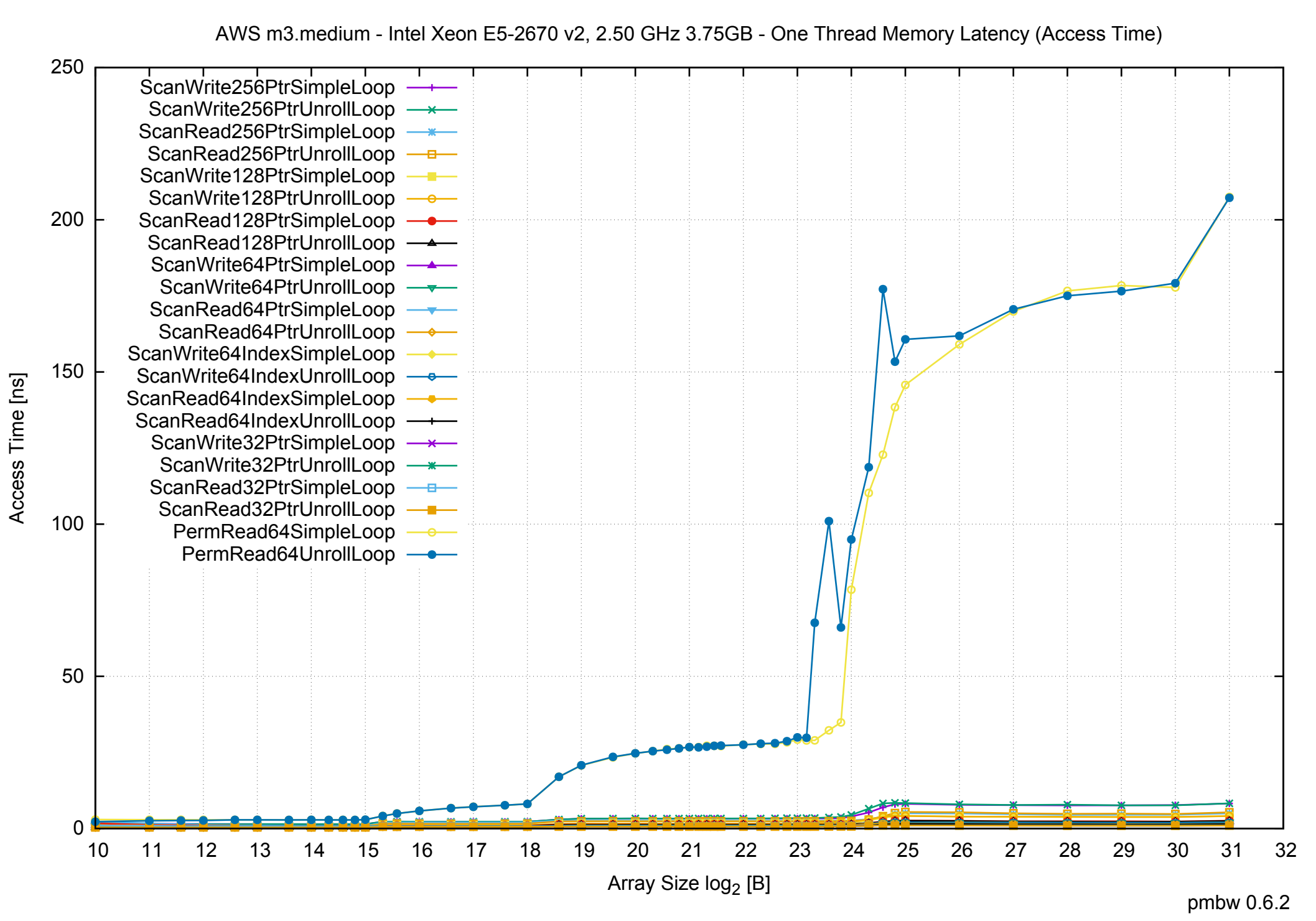
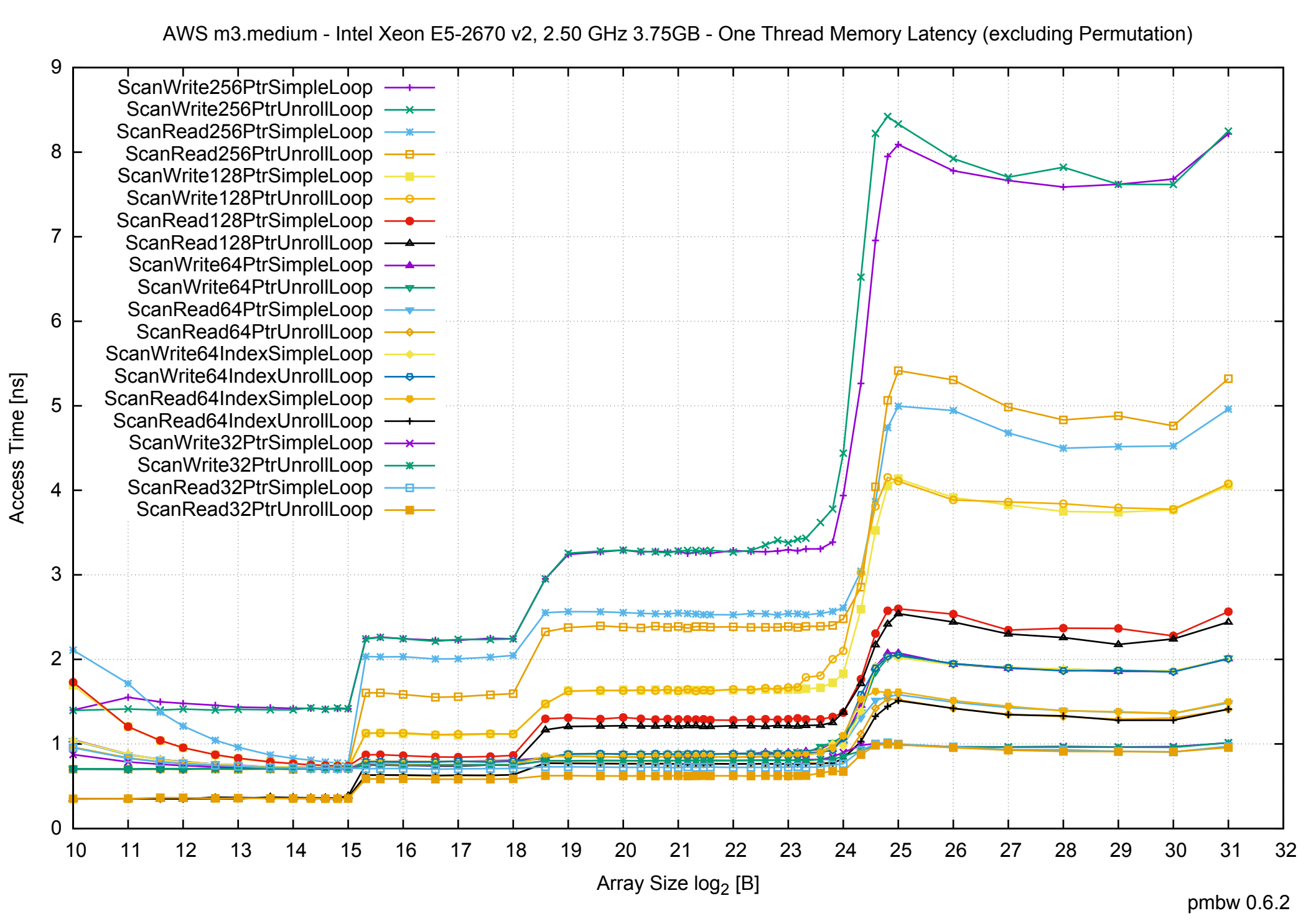
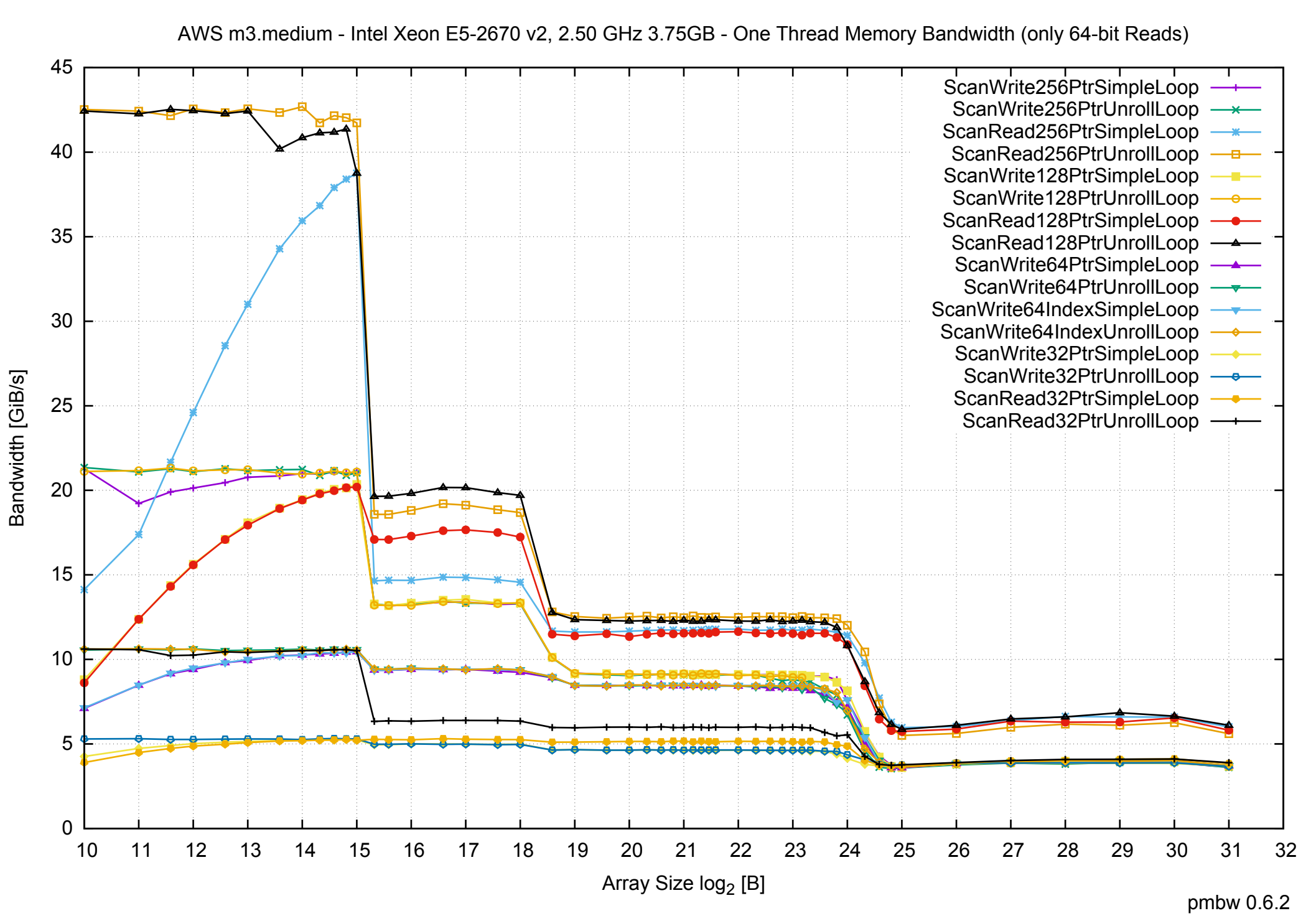
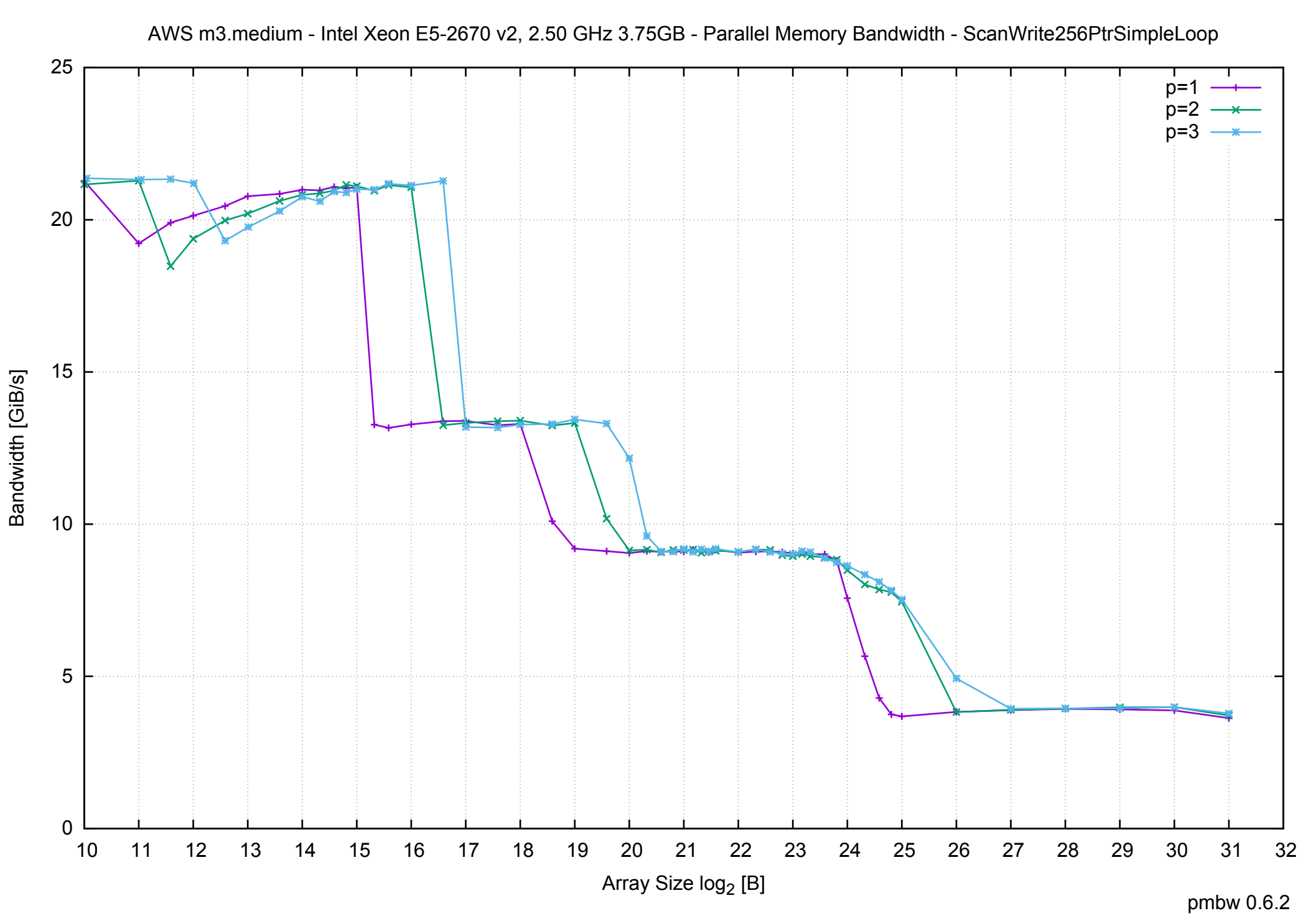
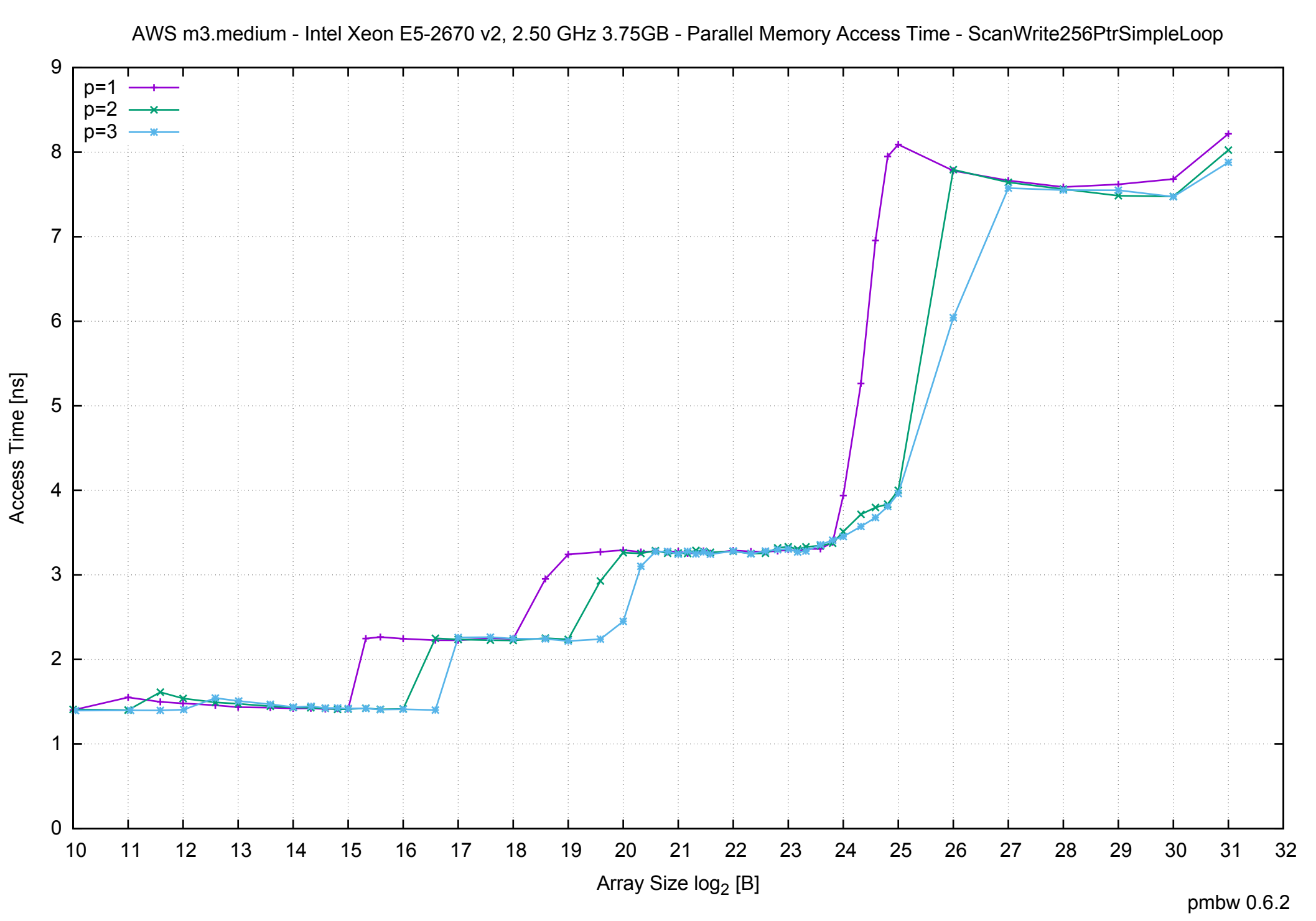

AWS m3.medium - Intel Xeon E5-2670 v2, 2.50 GHz 3.75GB - One Thread Memory Bandwidth
Bandwidth [GiB/s]
Array Size log2 [B]
ScanWrite256PtrSimpleLoop
ScanWrite256PtrUnrollLoop
ScanRead256PtrSimpleLoop
ScanRead256PtrUnrollLoop
ScanWrite128PtrSimpleLoop
ScanWrite128PtrUnrollLoop
ScanRead128PtrSimpleLoop
ScanRead128PtrUnrollLoop
ScanWrite64PtrSimpleLoop
ScanWrite64PtrUnrollLoop
ScanRead64PtrSimpleLoop
ScanRead64PtrUnrollLoop
ScanWrite64IndexSimpleLoop
ScanWrite64IndexUnrollLoop
ScanRead64IndexSimpleLoop
ScanRead64IndexUnrollLoop
ScanWrite32PtrSimpleLoop
ScanWrite32PtrUnrollLoop
ScanRead32PtrSimpleLoop
ScanRead32PtrUnrollLoop
PermRead64SimpleLoop
PermRead64UnrollLoop
pmbw 0.6.2

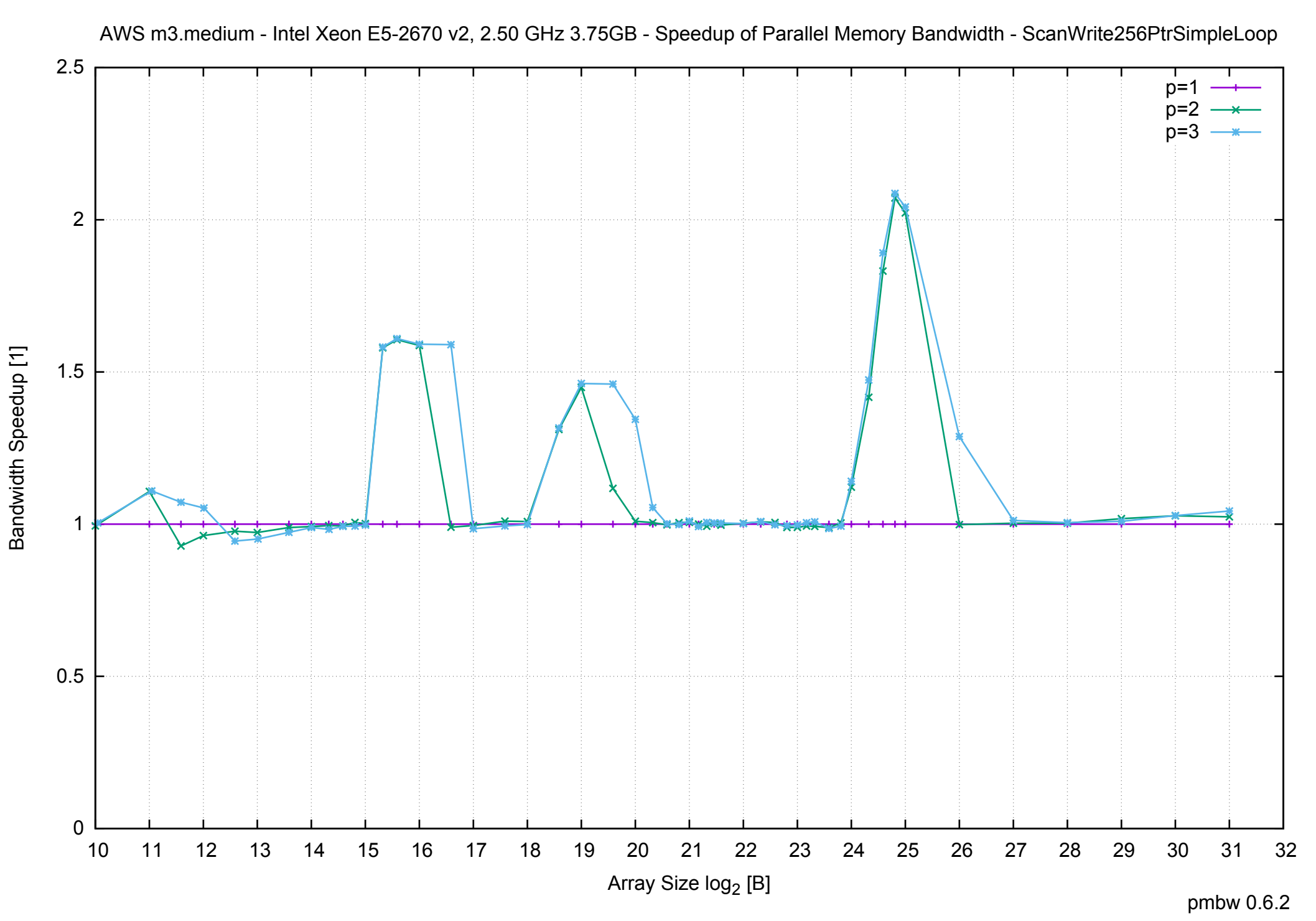

AWS m3.medium - Intel Xeon E5-2670 v2, 2.50 GHz 3.75GB - One Thread Memory Latency (Access Time)
ScanWrite256PtrSimpleLoop
ScanWrite256PtrUnrollLoop
ScanRead256PtrSimpleLoop
ScanRead256PtrUnrollLoop
ScanWrite128PtrSimpleLoop
ScanWrite128PtrUnrollLoop
ScanRead128PtrSimpleLoop
ScanRead128PtrUnrollLoop
ScanWrite64PtrSimpleLoop
ScanWrite64PtrUnrollLoop
ScanRead64PtrSimpleLoop
ScanRead64PtrUnrollLoop
ScanWrite64IndexSimpleLoop
ScanWrite64IndexUnrollLoop
ScanRead64IndexSimpleLoop
ScanRead64IndexUnrollLoop
ScanWrite32PtrSimpleLoop
ScanWrite32PtrUnrollLoop
ScanRead32PtrSimpleLoop
ScanRead32PtrUnrollLoop
PermRead64SimpleLoop
PermRead64UnrollLoop
Access Time [ns]
0
50
100
150
200
250
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
Array Size log2 [B]
pmbw 0.6.2

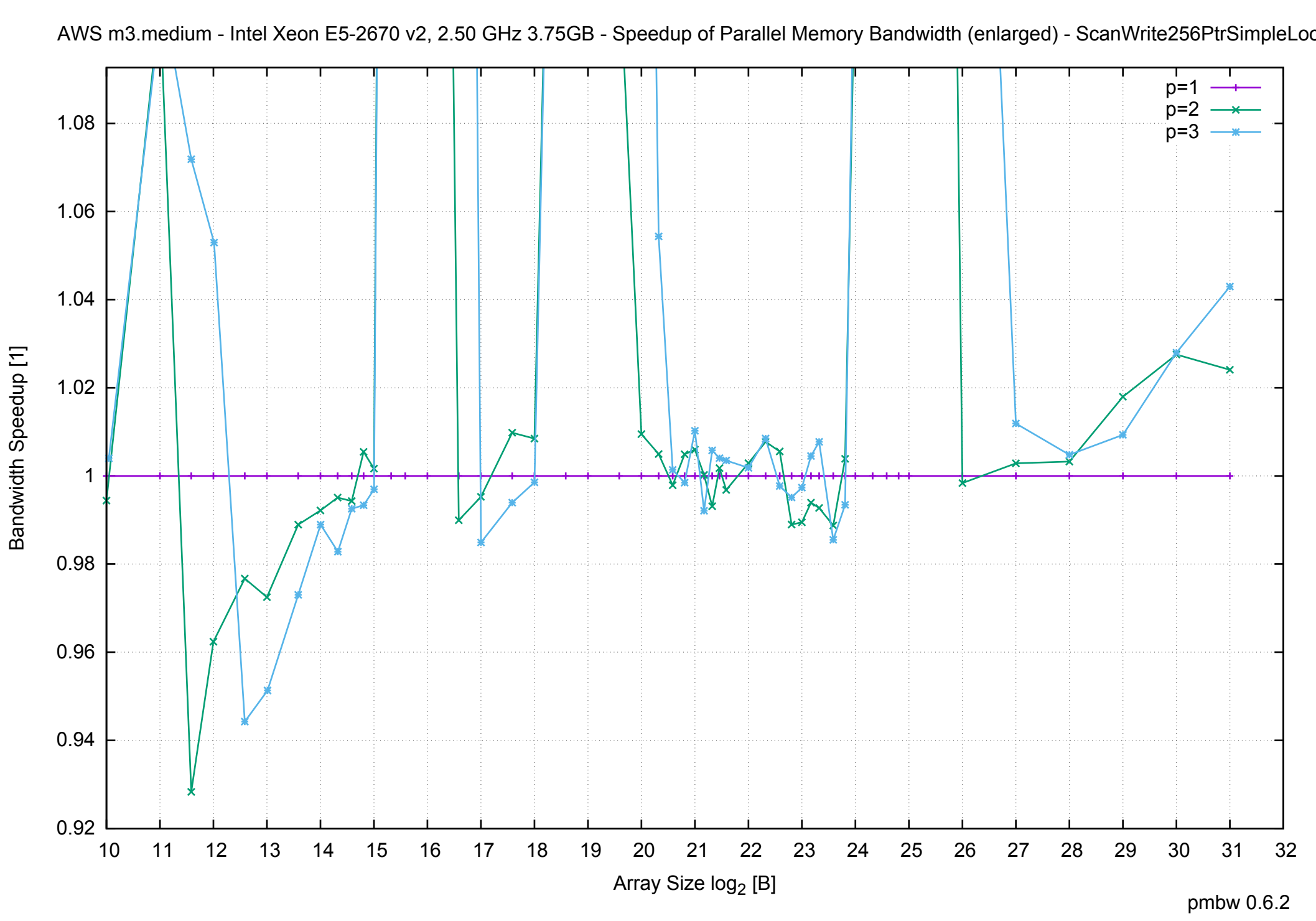

AWS m3.medium - Intel Xeon E5-2670 v2, 2.50 GHz 3.75GB - One Thread Memory Latency (excluding Permutation)
ScanWrite256PtrSimpleLoop
ScanWrite256PtrUnrollLoop
ScanRead256PtrSimpleLoop
ScanRead256PtrUnrollLoop
ScanWrite128PtrSimpleLoop
ScanWrite128PtrUnrollLoop
ScanRead128PtrSimpleLoop
ScanRead128PtrUnrollLoop
ScanWrite64PtrSimpleLoop
ScanWrite64PtrUnrollLoop
ScanRead64PtrSimpleLoop
ScanRead64PtrUnrollLoop
ScanWrite64IndexSimpleLoop
ScanWrite64IndexUnrollLoop
ScanRead64IndexSimpleLoop
ScanRead64IndexUnrollLoop
ScanWrite32PtrSimpleLoop
ScanWrite32PtrUnrollLoop
ScanRead32PtrSimpleLoop
ScanRead32PtrUnrollLoop
Access Time [ns]
Array Size log2 [B]
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
pmbw 0.6.2

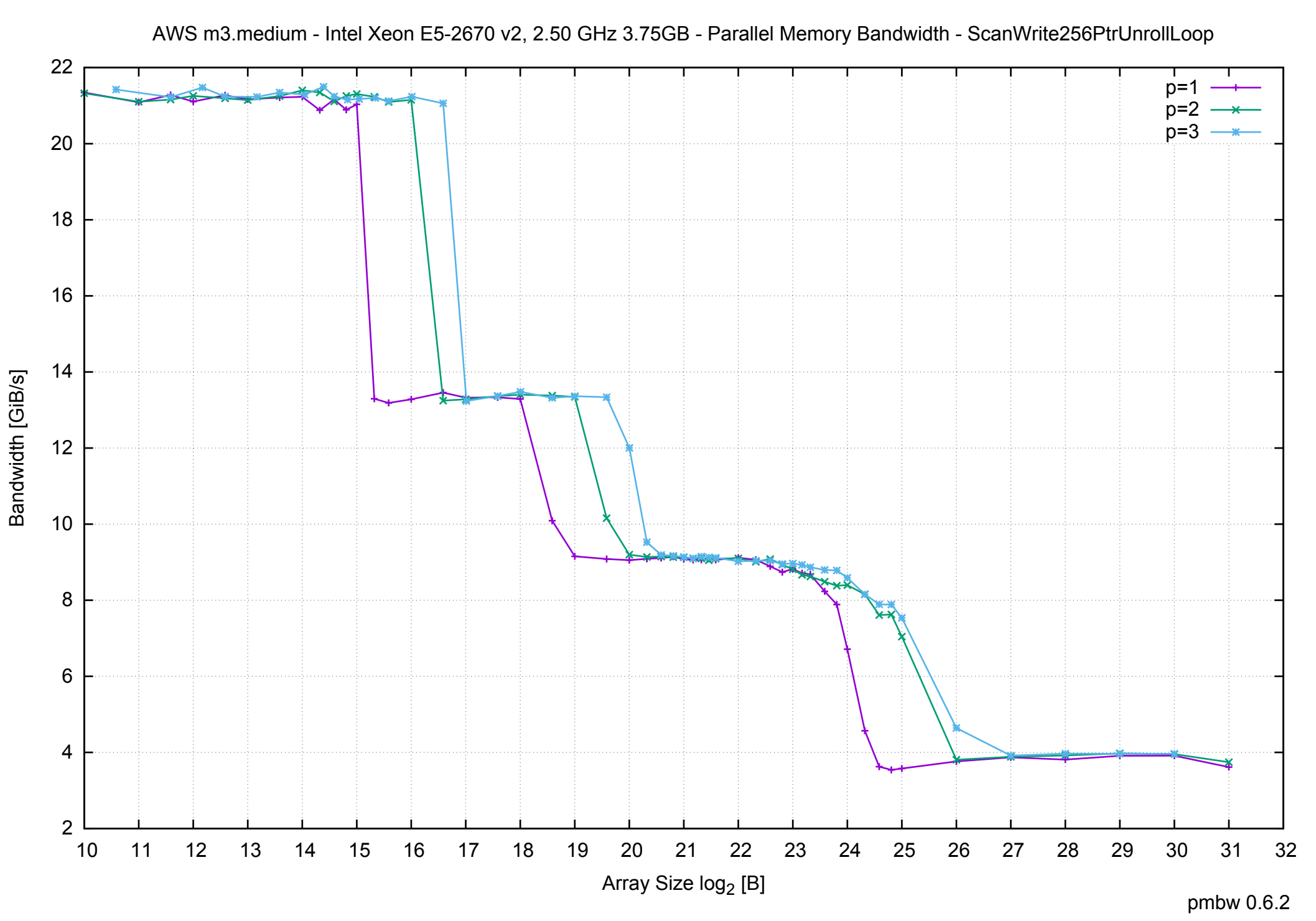

AWS m3.medium - Intel Xeon E5-2670 v2, 2.50 GHz 3.75GB - One Thread Memory Bandwidth (only 64-bit Reads)
Bandwidth [GiB/s]
Array Size log2 [B]
ScanWrite256PtrSimpleLoop
ScanWrite256PtrUnrollLoop
ScanRead256PtrSimpleLoop
ScanRead256PtrUnrollLoop
ScanWrite128PtrSimpleLoop
ScanWrite128PtrUnrollLoop
ScanRead128PtrSimpleLoop
ScanRead128PtrUnrollLoop
ScanWrite64PtrSimpleLoop
ScanWrite64PtrUnrollLoop
ScanWrite64IndexSimpleLoop
ScanWrite64IndexUnrollLoop
ScanWrite32PtrSimpleLoop
ScanWrite32PtrUnrollLoop
ScanRead32PtrSimpleLoop
ScanRead32PtrUnrollLoop
pmbw 0.6.2

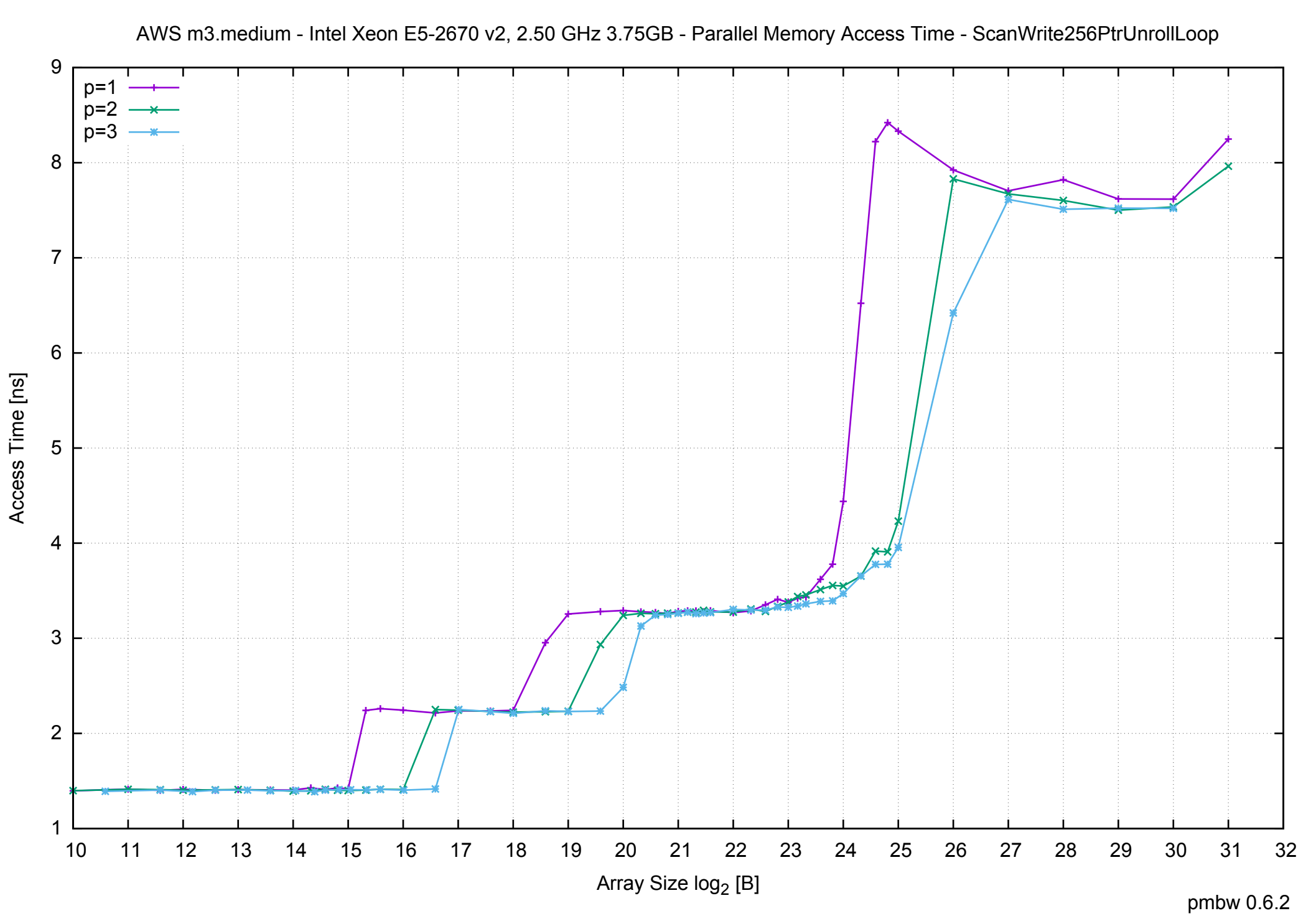

AWS m3.medium - Intel Xeon E5-2670 v2, 2.50 GHz 3.75GB - Parallel Memory Bandwidth - ScanWrite256PtrSimpleLoop
p=1
p=2
p=3
Bandwidth [GiB/s]
Array Size log2 [B]
0
5
10
15
20
25
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
pmbw 0.6.2

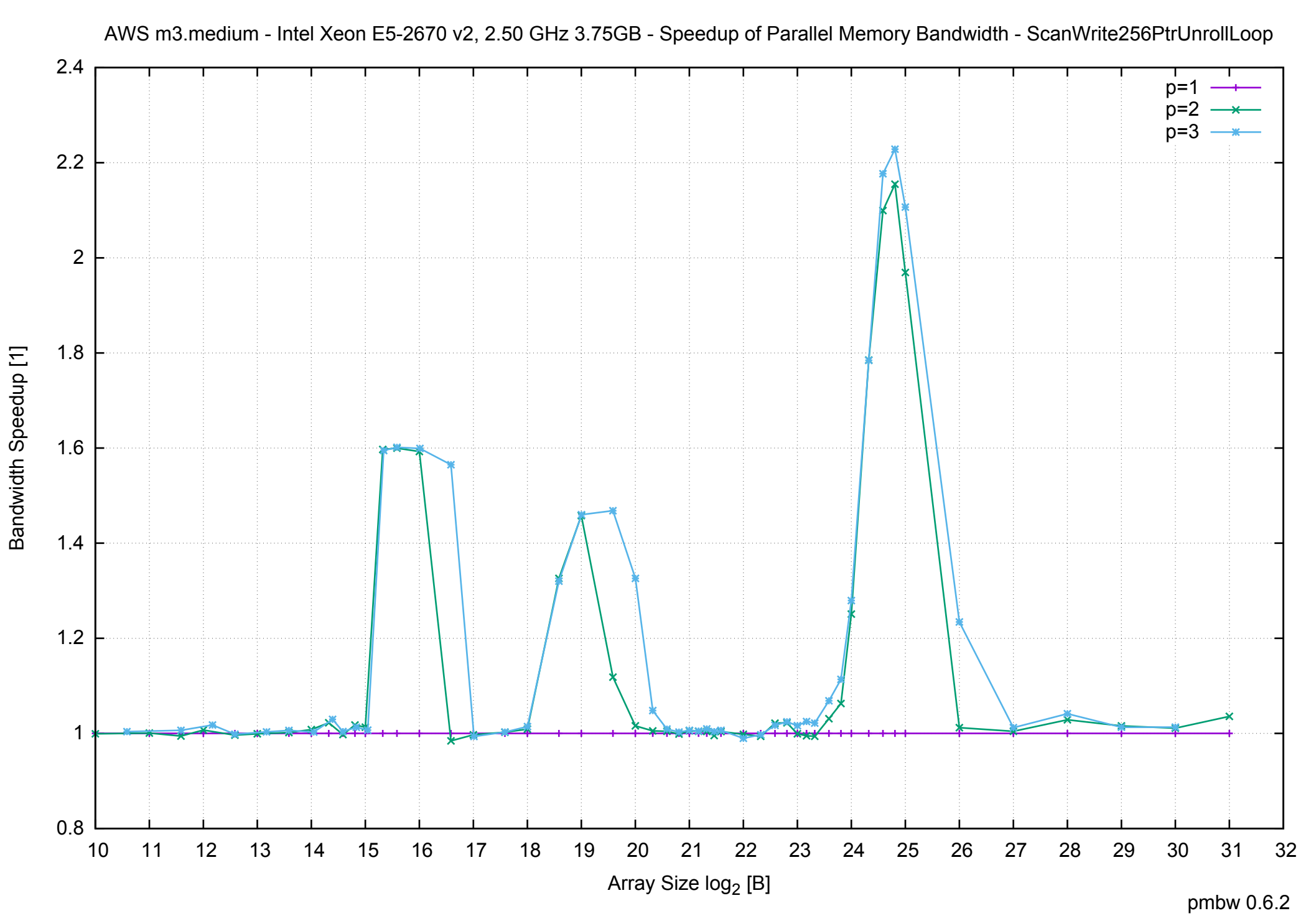

AWS m3.medium - Intel Xeon E5-2670 v2, 2.50 GHz 3.75GB - Parallel Memory Access Time - ScanWrite256PtrSimpleLoop
p=1
p=2
p=3
Access Time [ns]
Array Size log2 [B]
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
pmbw 0.6.2

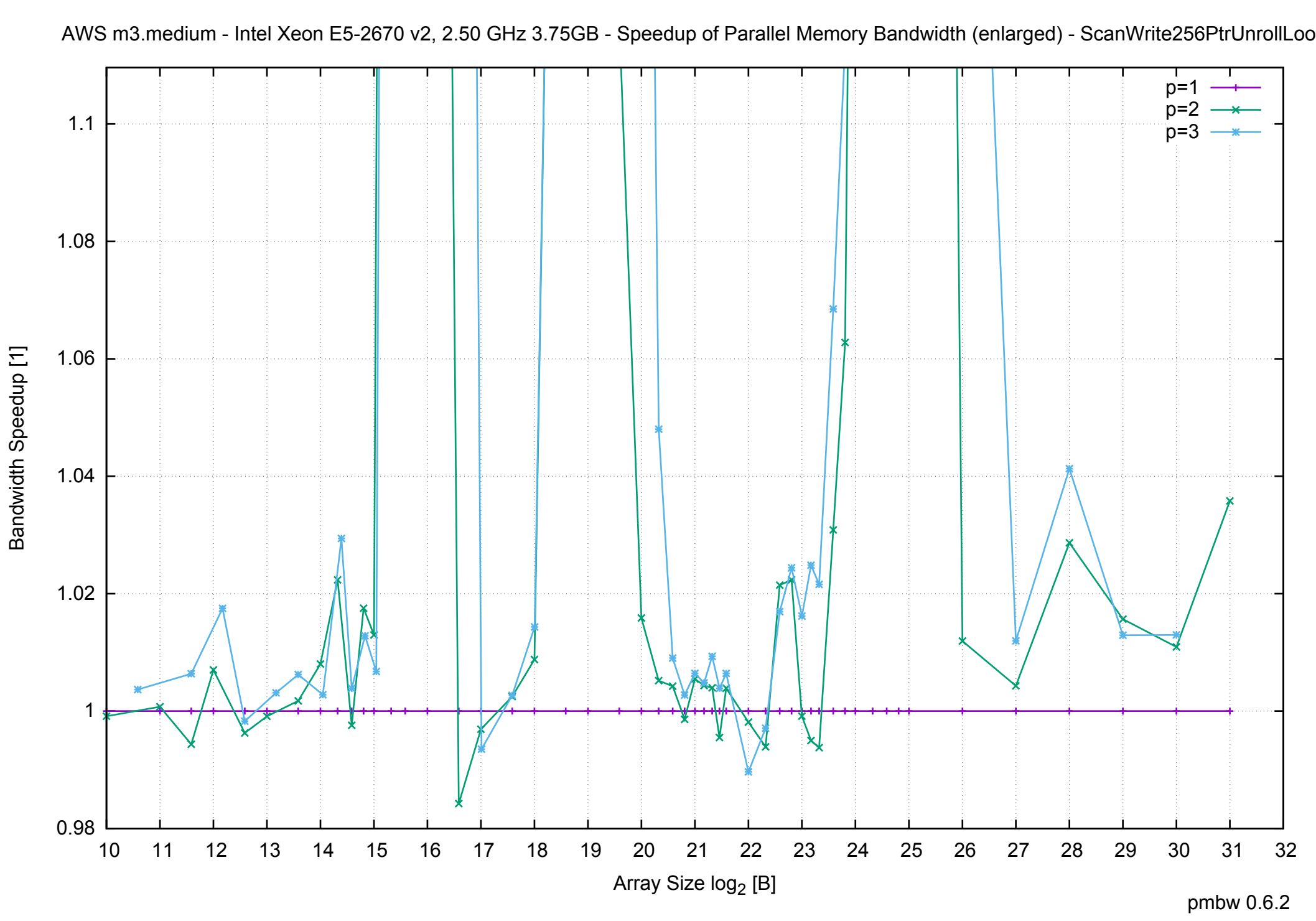

AWS m3.medium - Intel Xeon E5-2670 v2, 2.50 GHz 3.75GB - Speedup of Parallel Memory Bandwidth - ScanWrite256PtrSimpleLoop
p=1
p=2
p=3
Bandwidth Speedup [1]
Array Size log2 [B]
pmbw 0.6.2

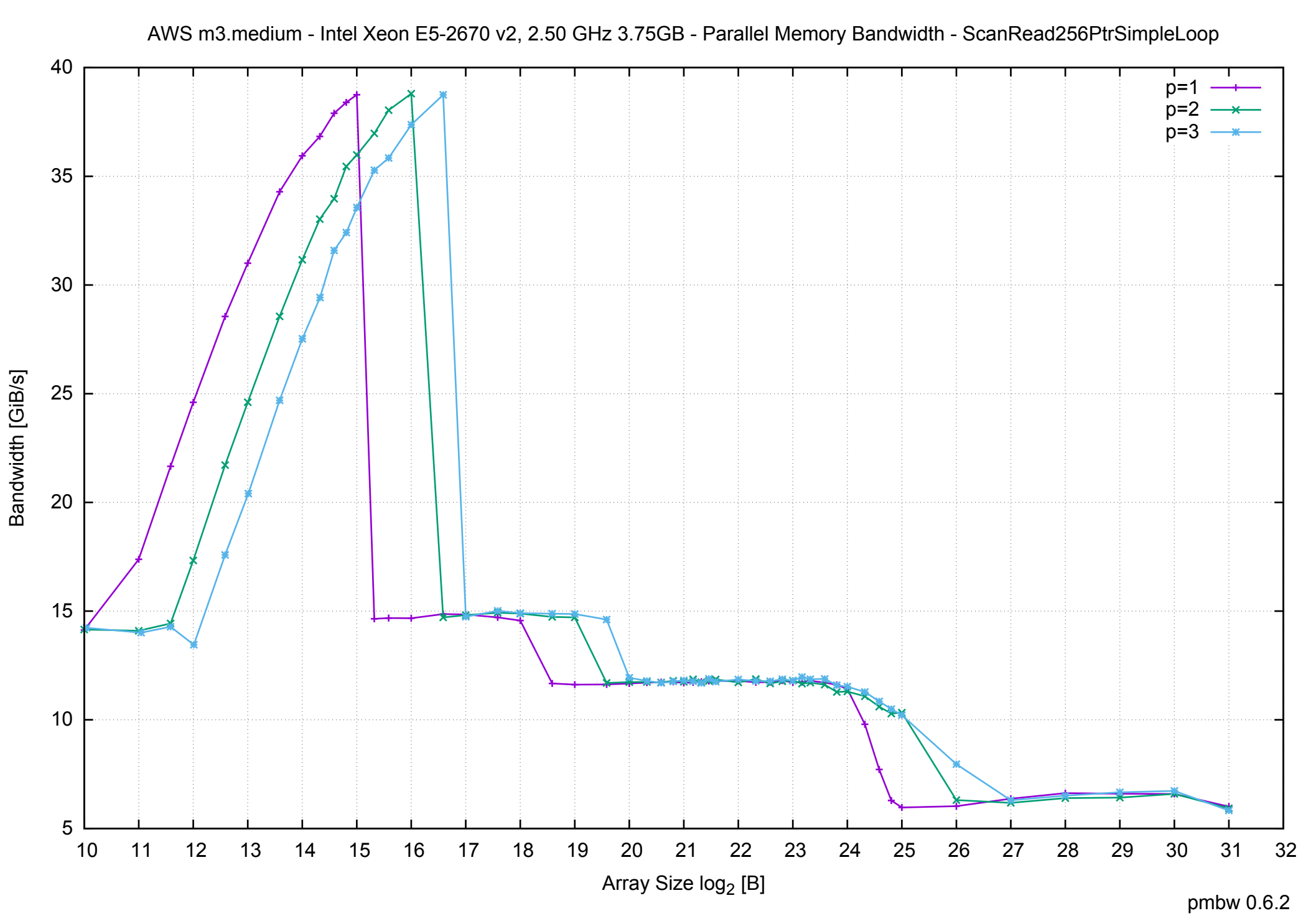

AWS m3.medium - Intel Xeon E5-2670 v2, 2.50 GHz 3.75GB - Speedup of Parallel Memory Bandwidth (enlarged) - ScanWrite256PtrSimpleLoo
p=1
p=2
p=3
Bandwidth Speedup [1]
1.08
1.06
1.04
1.02
1
0.98
0.96
0.94
0.92
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
Array Size log2 [B]
pmbw 0.6.2

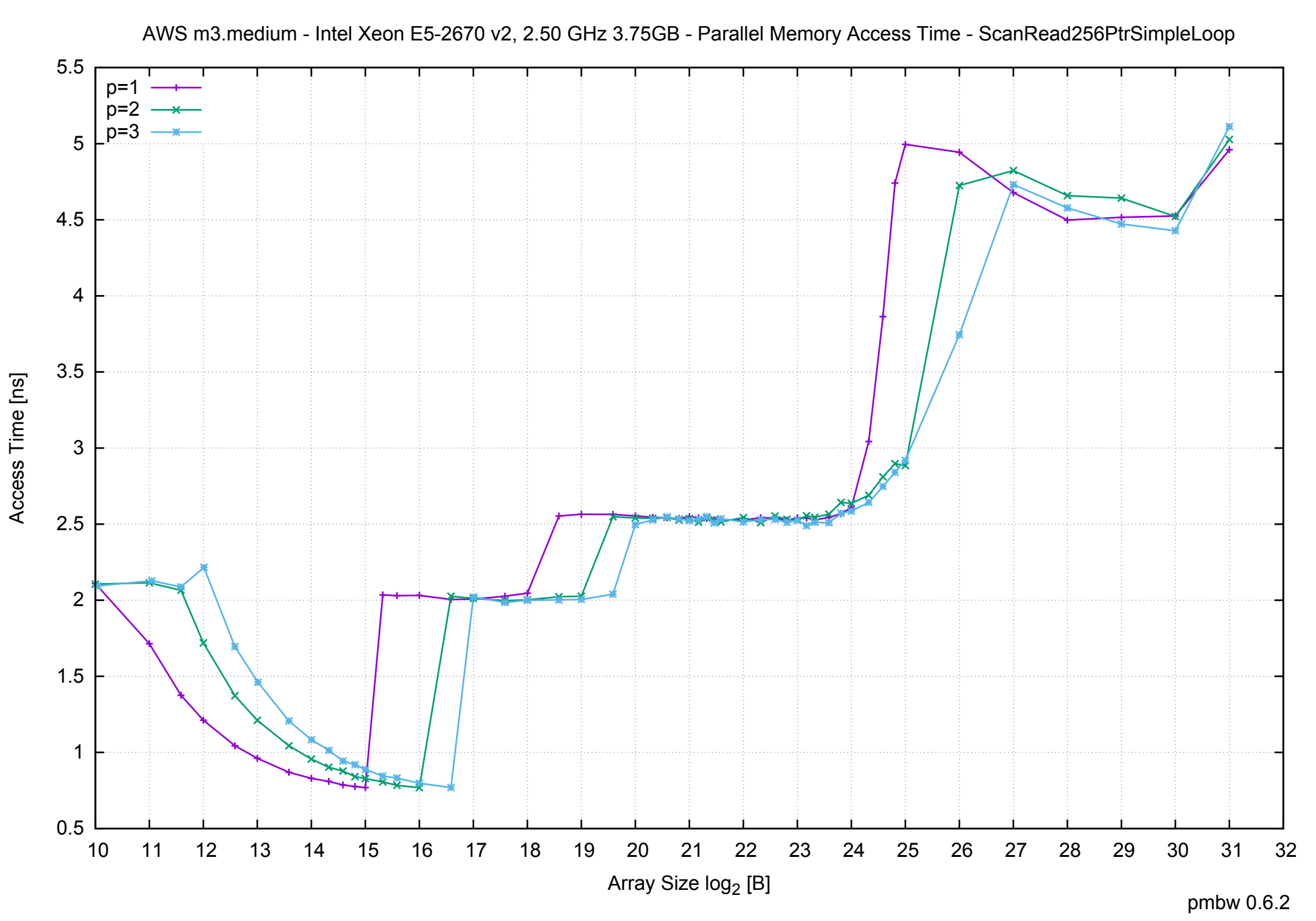

AWS m3.medium - Intel Xeon E5-2670 v2, 2.50 GHz 3.75GB - Parallel Memory Bandwidth - ScanWrite256PtrUnrollLoop
p=1
p=2
p=3
Bandwidth [GiB/s]
Array Size log2 [B]
pmbw 0.6.2

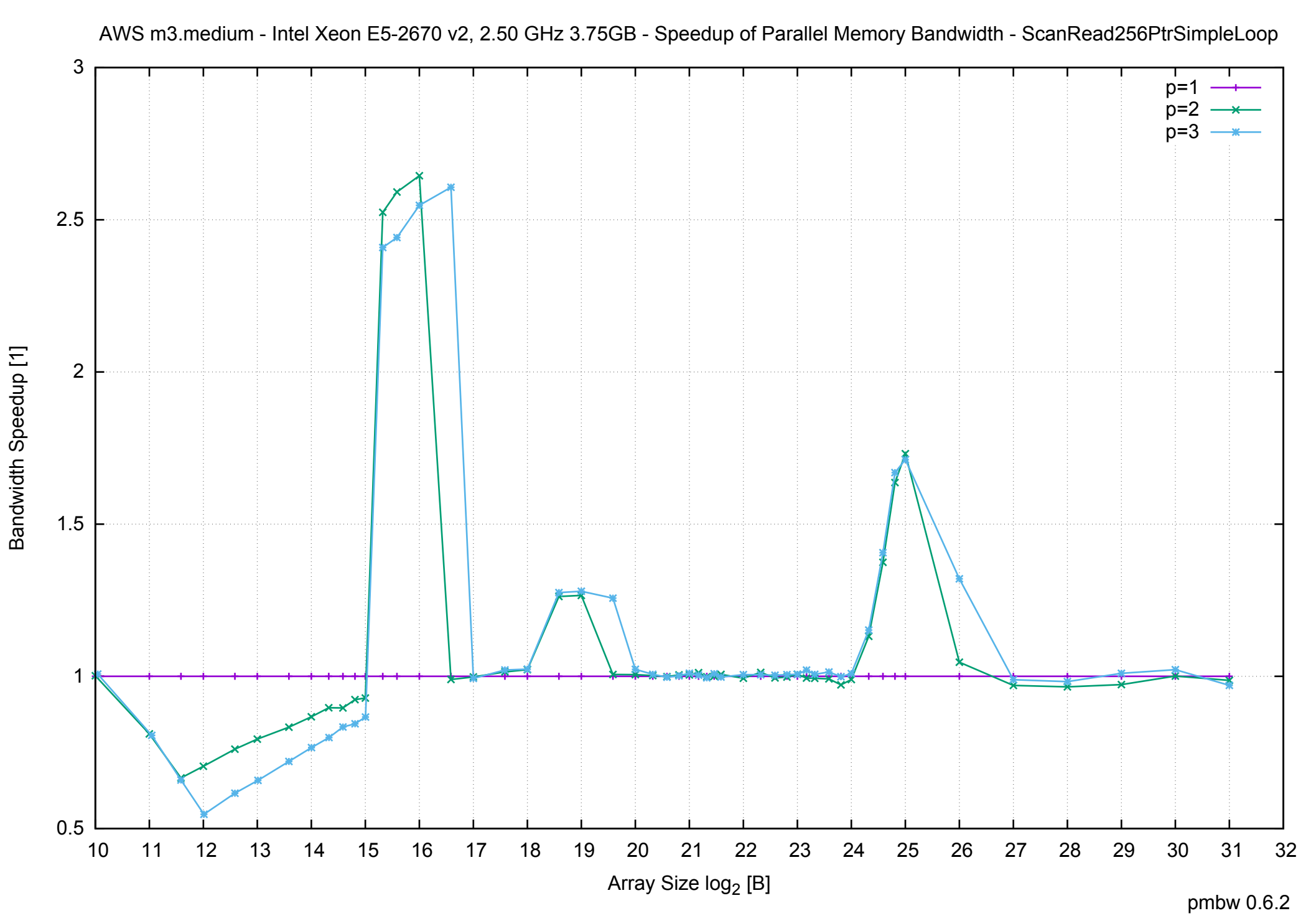

AWS m3.medium - Intel Xeon E5-2670 v2, 2.50 GHz 3.75GB - Parallel Memory Access Time - ScanWrite256PtrUnrollLoop
p=1
p=2
p=3
Access Time [ns]
Array Size log2 [B]
pmbw 0.6.2

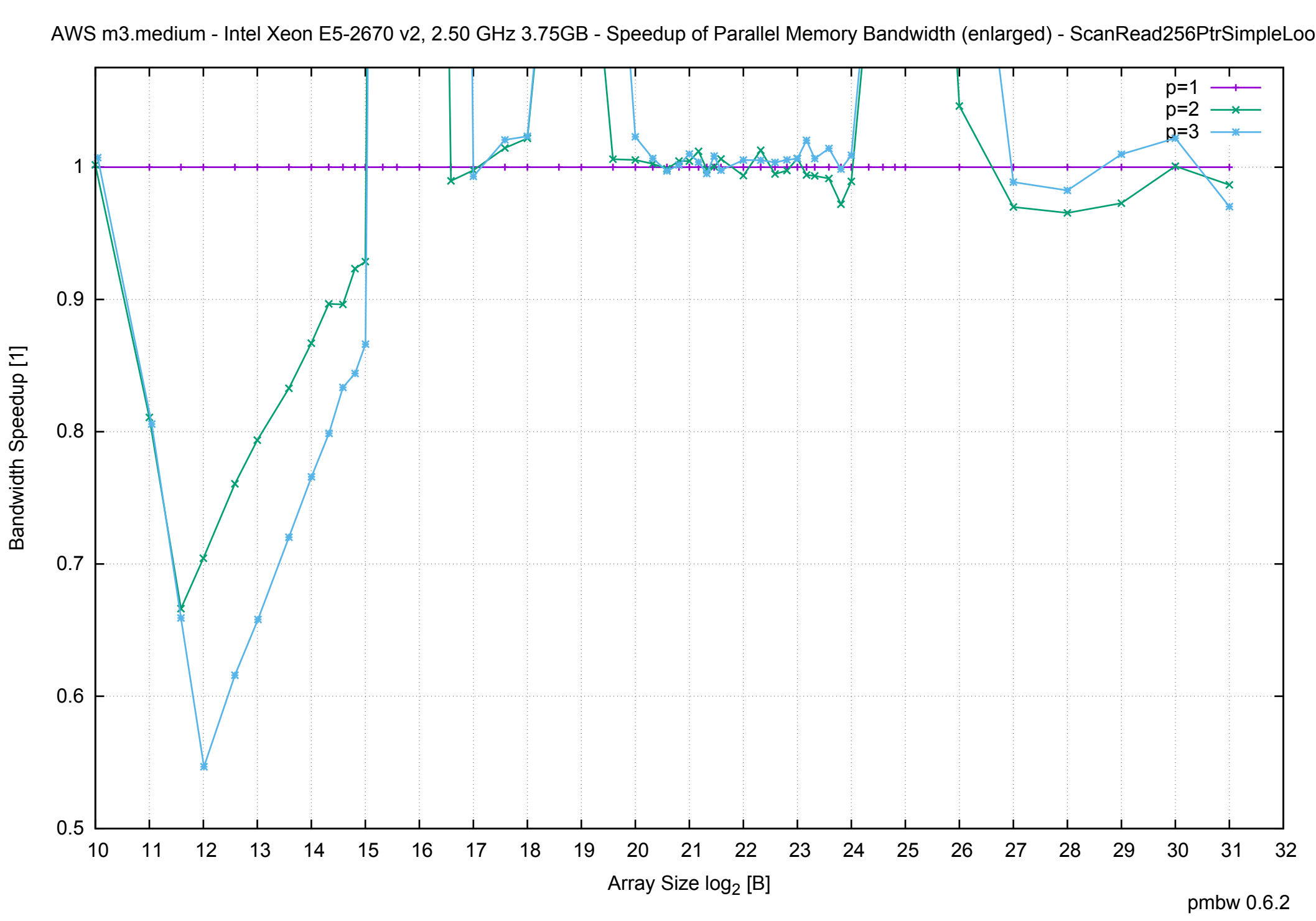

AWS m3.medium - Intel Xeon E5-2670 v2, 2.50 GHz 3.75GB - Speedup of Parallel Memory Bandwidth - ScanWrite256PtrUnrollLoop
p=1
p=2
p=3
Bandwidth Speedup [1]
Array Size log2 [B]
2.4
2.2
2
1.8
1.6
1.4
1.2
1
0.8
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
pmbw 0.6.2

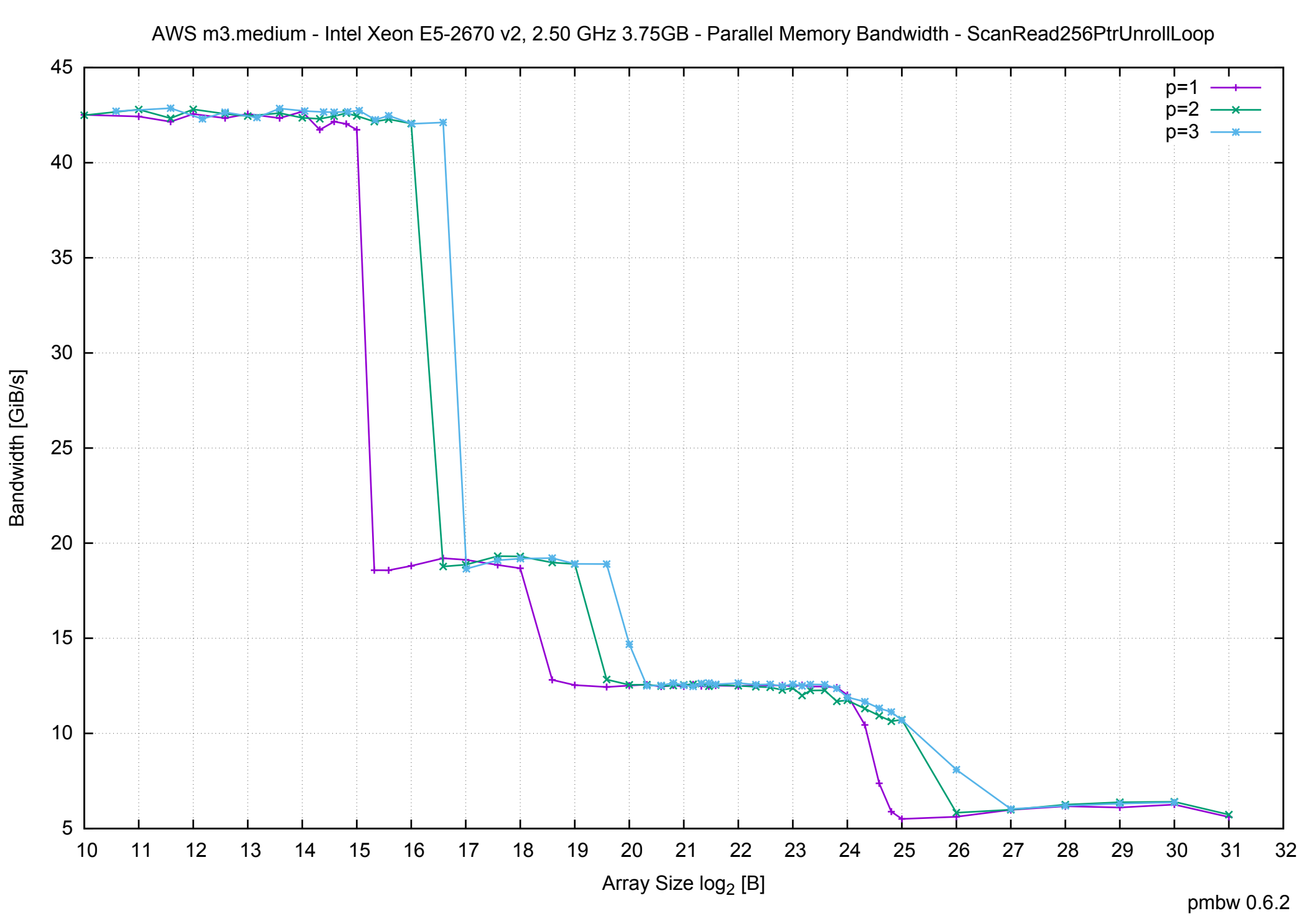

AWS m3.medium - Intel Xeon E5-2670 v2, 2.50 GHz 3.75GB - Speedup of Parallel Memory Bandwidth (enlarged) - ScanWrite256PtrUnrollLoo
p=1
p=2
p=3
Bandwidth Speedup [1]
1.1
1.08
1.06
1.04
1.02
1
0.98
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
Array Size log2 [B]
pmbw 0.6.2

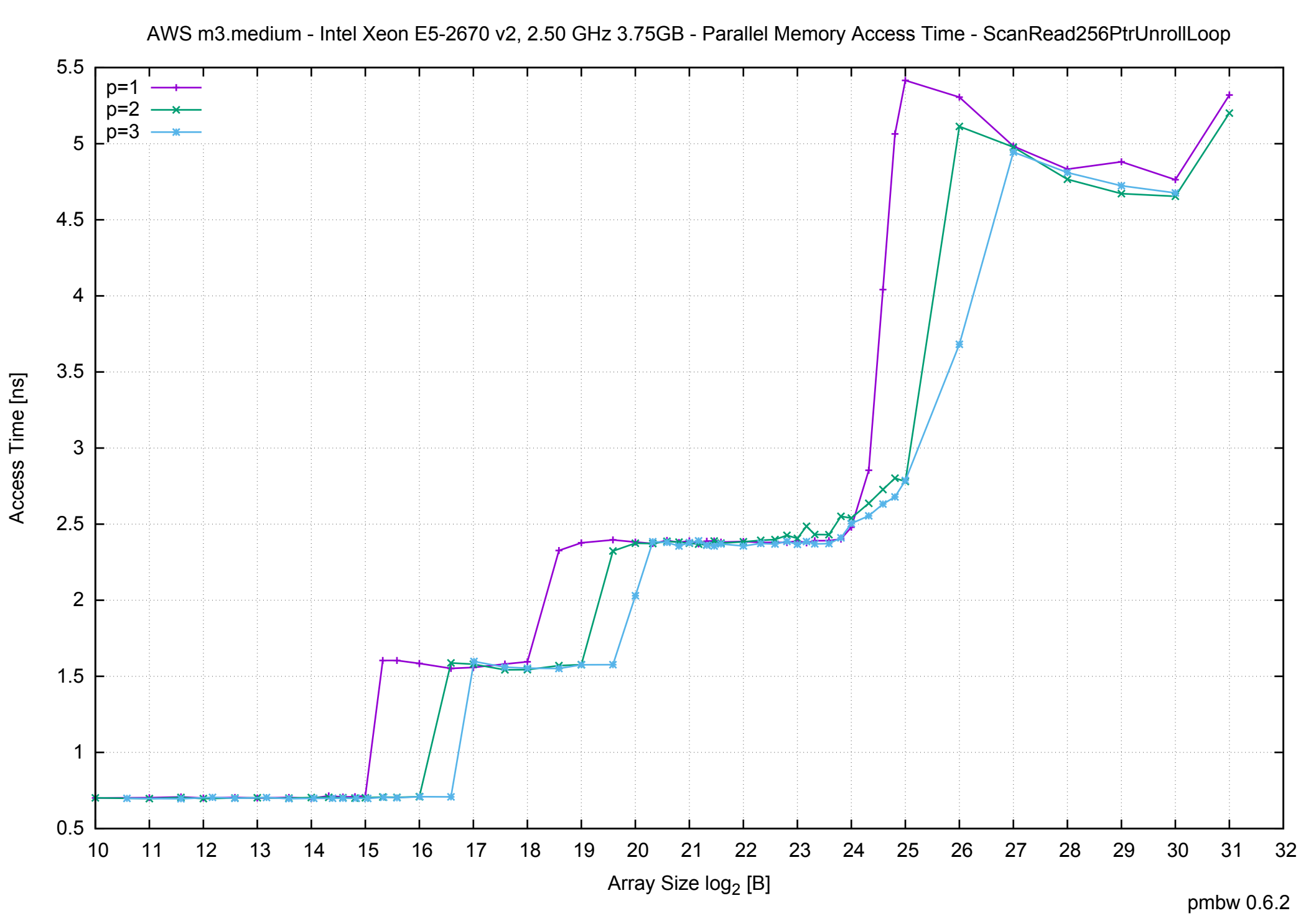

AWS m3.medium - Intel Xeon E5-2670 v2, 2.50 GHz 3.75GB - Parallel Memory Bandwidth - ScanRead256PtrSimpleLoop
p=1
p=2
p=3
Bandwidth [GiB/s]
Array Size log2 [B]
40
35
30
25
20
15
10
5
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
pmbw 0.6.2

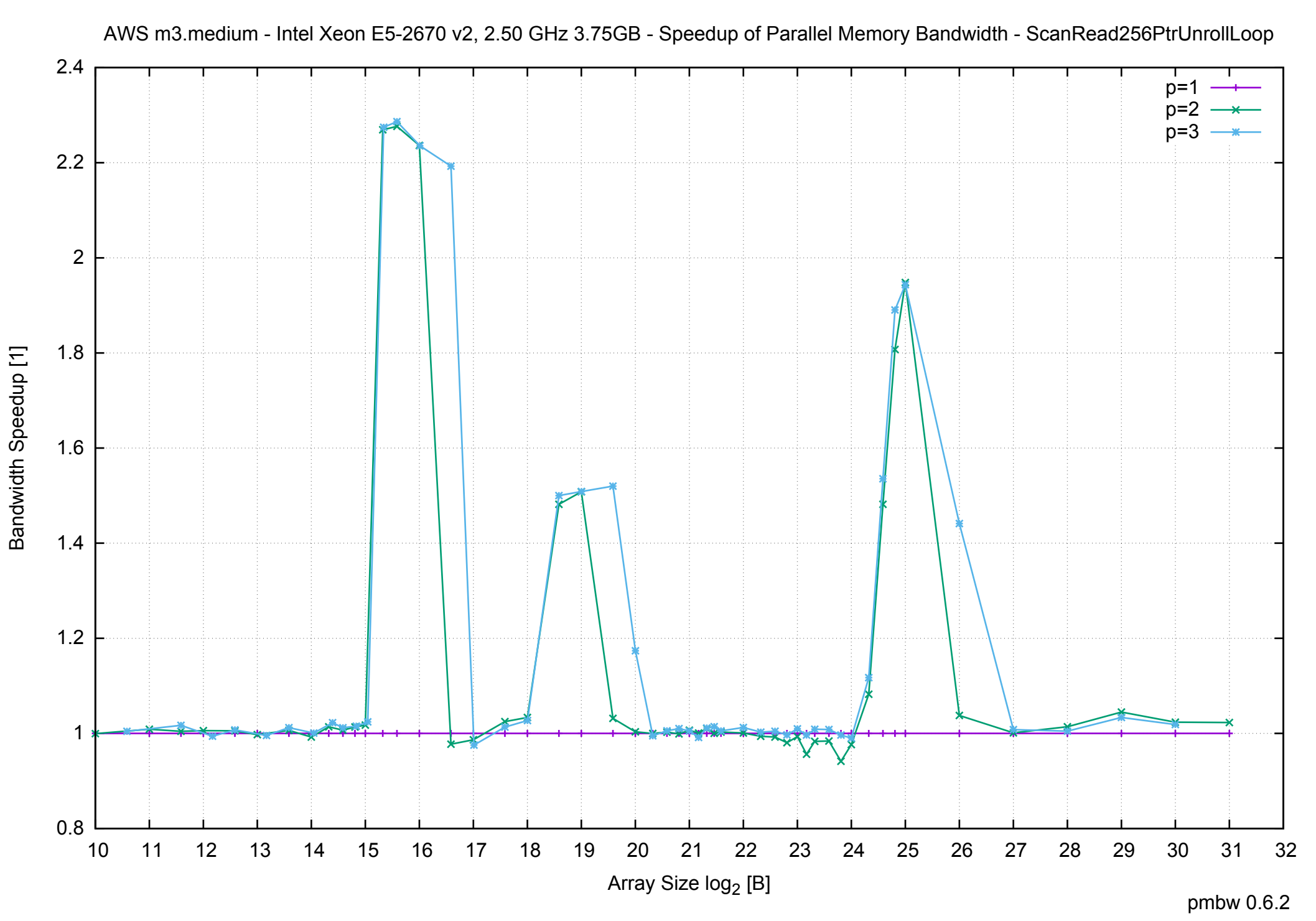

AWS m3.medium - Intel Xeon E5-2670 v2, 2.50 GHz 3.75GB - Parallel Memory Access Time - ScanRead256PtrSimpleLoop
p=1
p=2
p=3
Access Time [ns]
Array Size log2 [B]
pmbw 0.6.2

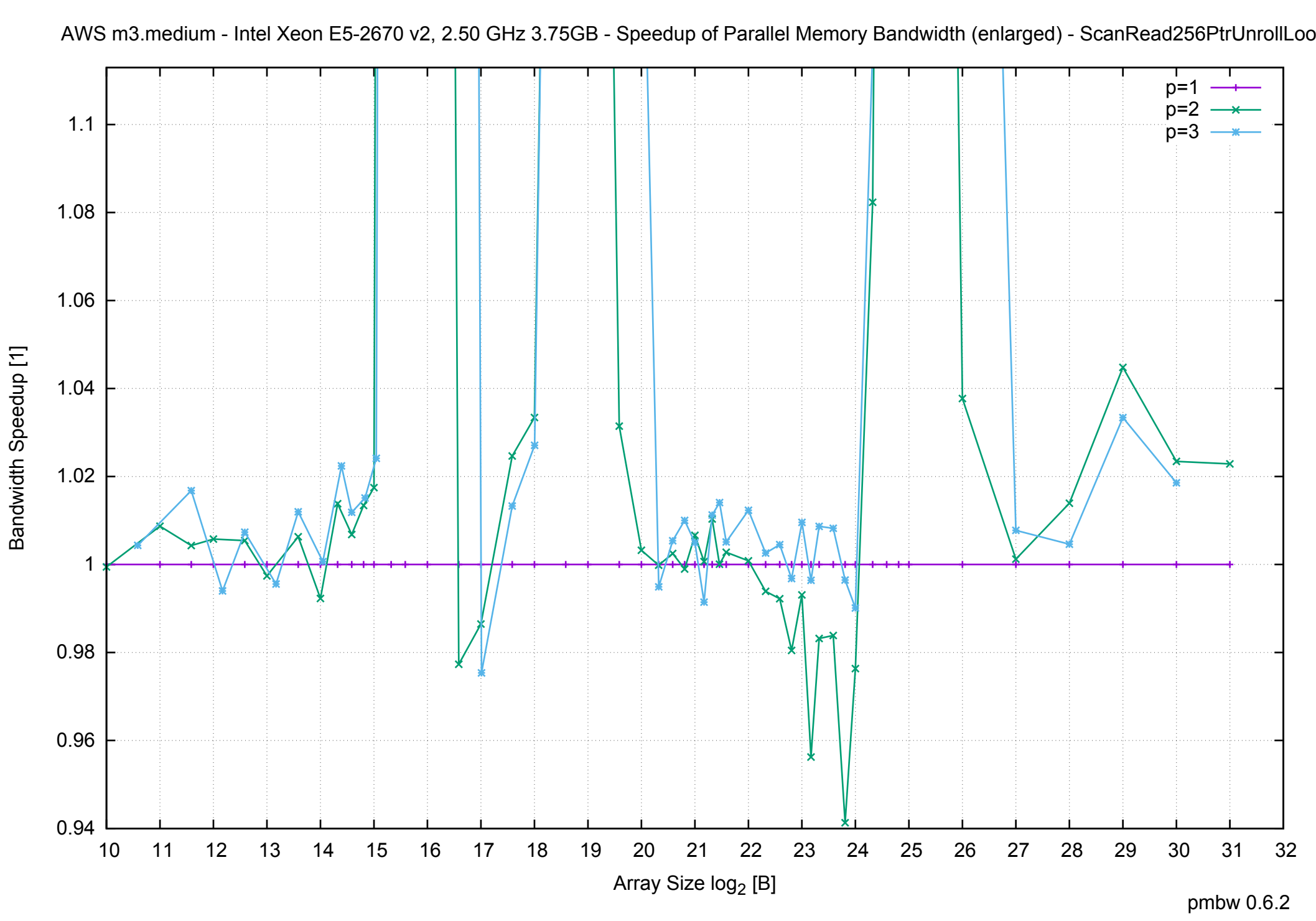

AWS m3.medium - Intel Xeon E5-2670 v2, 2.50 GHz 3.75GB - Speedup of Parallel Memory Bandwidth - ScanRead256PtrSimpleLoop
p=1
p=2
p=3
Bandwidth Speedup [1]
Array Size log2 [B]
pmbw 0.6.2

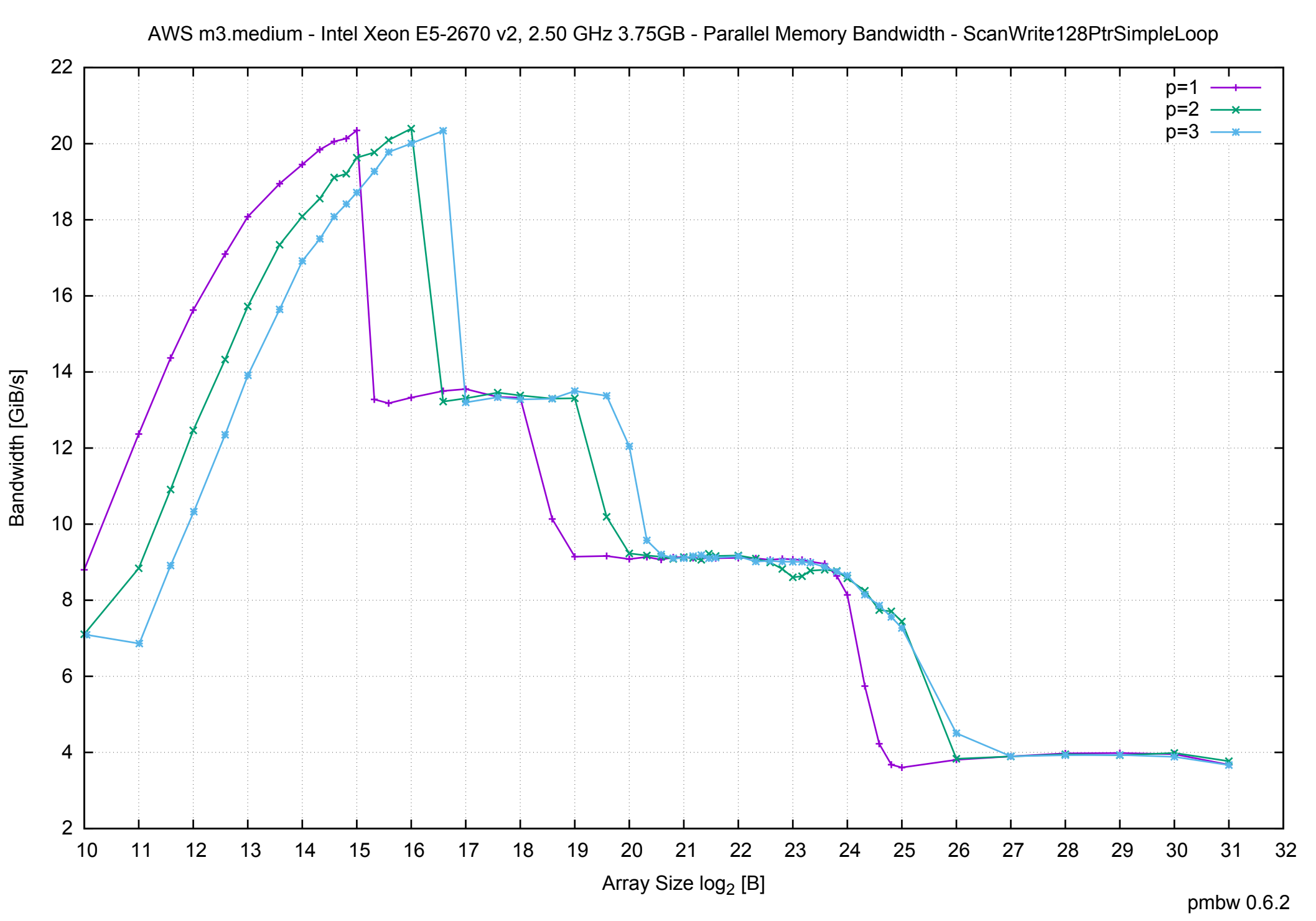

AWS m3.medium - Intel Xeon E5-2670 v2, 2.50 GHz 3.75GB - Speedup of Parallel Memory Bandwidth (enlarged) - ScanRead256PtrSimpleLoo
p=1
p=2
p=3
Bandwidth Speedup [1]
1
0.9
0.8
0.7
0.6
0.5
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
Array Size log2 [B]
pmbw 0.6.2

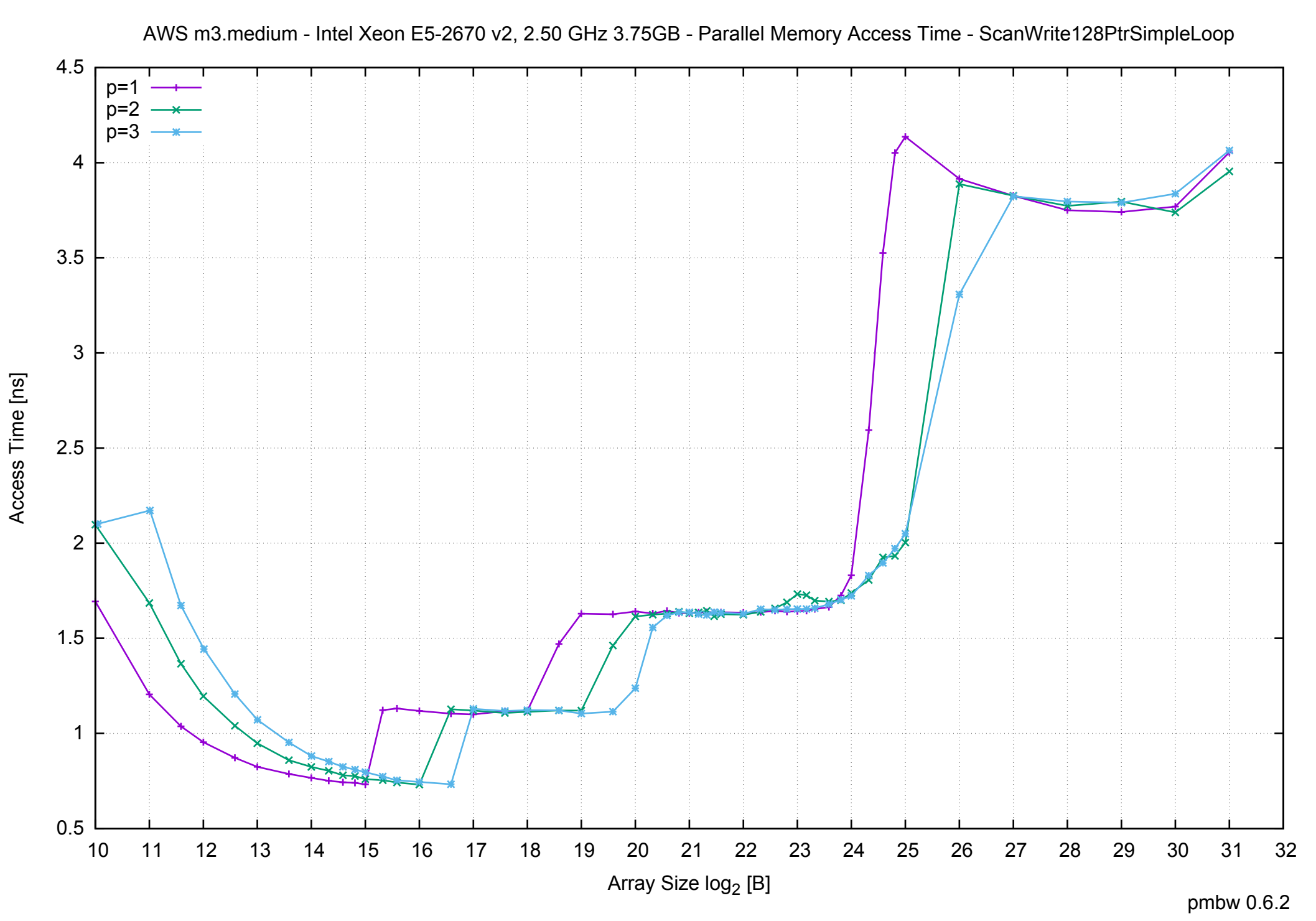

AWS m3.medium - Intel Xeon E5-2670 v2, 2.50 GHz 3.75GB - Parallel Memory Bandwidth - ScanRead256PtrUnrollLoop
p=1
p=2
p=3
Bandwidth [GiB/s]
Array Size log2 [B]
45
40
35
30
25
20
15
10
5
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
pmbw 0.6.2

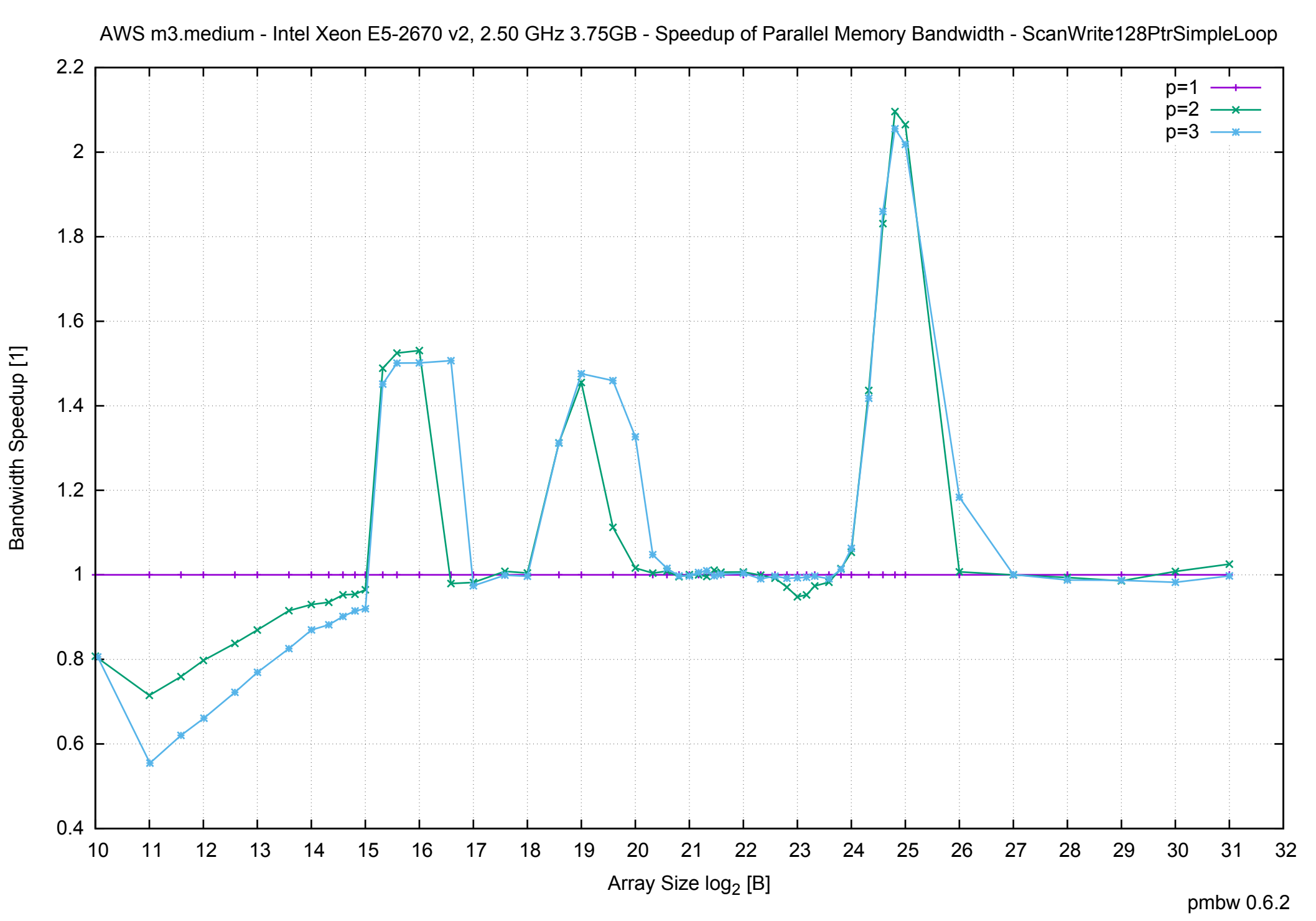

AWS m3.medium - Intel Xeon E5-2670 v2, 2.50 GHz 3.75GB - Parallel Memory Access Time - ScanRead256PtrUnrollLoop
p=1
p=2
p=3
Access Time [ns]
Array Size log2 [B]
pmbw 0.6.2

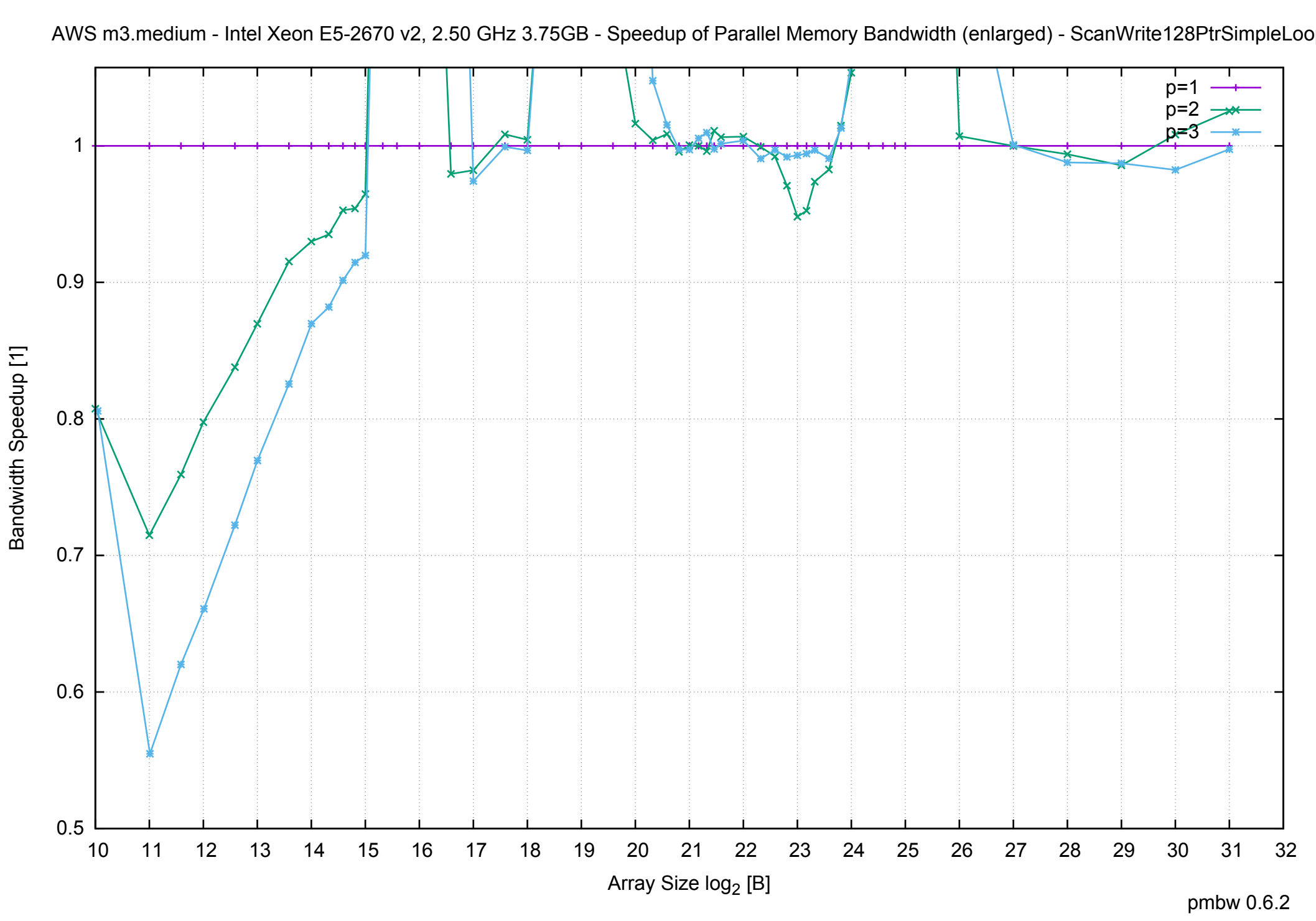

AWS m3.medium - Intel Xeon E5-2670 v2, 2.50 GHz 3.75GB - Speedup of Parallel Memory Bandwidth - ScanRead256PtrUnrollLoop
p=1
p=2
p=3
Bandwidth Speedup [1]
Array Size log2 [B]
2.4
2.2
2
1.8
1.6
1.4
1.2
1
0.8
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
pmbw 0.6.2

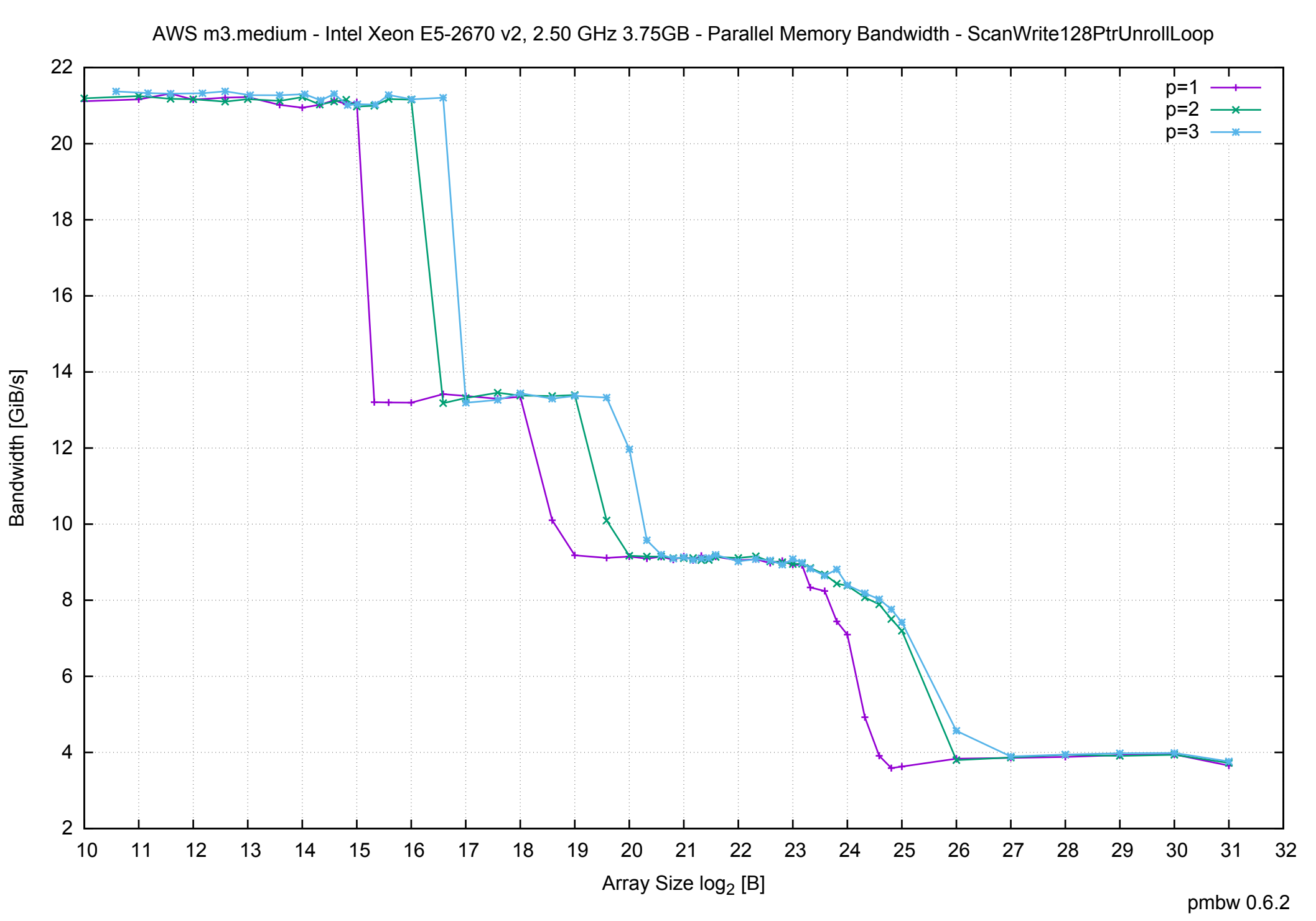

AWS m3.medium - Intel Xeon E5-2670 v2, 2.50 GHz 3.75GB - Speedup of Parallel Memory Bandwidth (enlarged) - ScanRead256PtrUnrollLoo
p=1
p=2
p=3
Bandwidth Speedup [1]
1.1
1.08
1.06
1.04
1.02
1
0.98
0.96
0.94
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
Array Size log2 [B]
pmbw 0.6.2

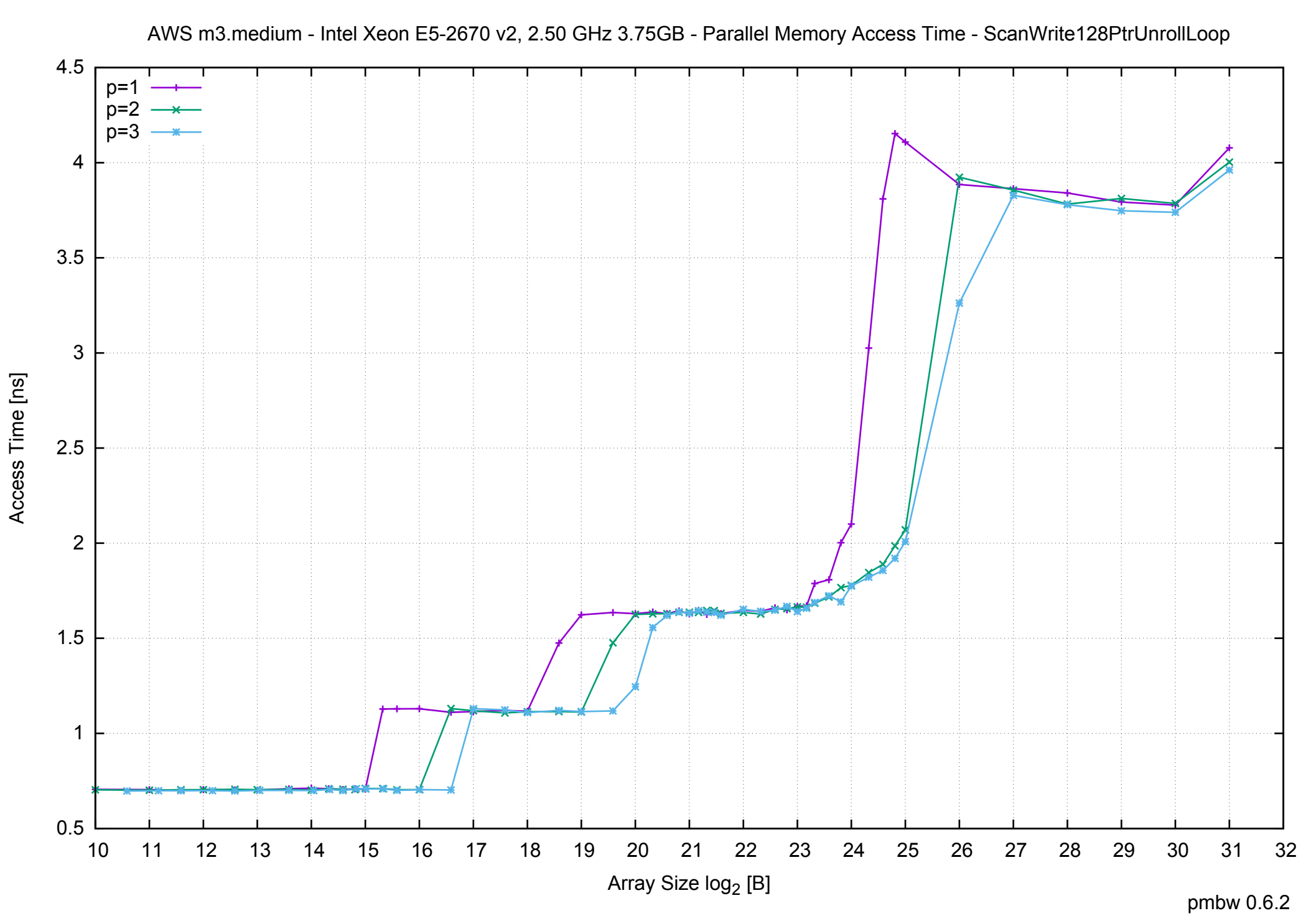

AWS m3.medium - Intel Xeon E5-2670 v2, 2.50 GHz 3.75GB - Parallel Memory Bandwidth - ScanWrite128PtrSimpleLoop
p=1
p=2
p=3
Bandwidth [GiB/s]
Array Size log2 [B]
pmbw 0.6.2

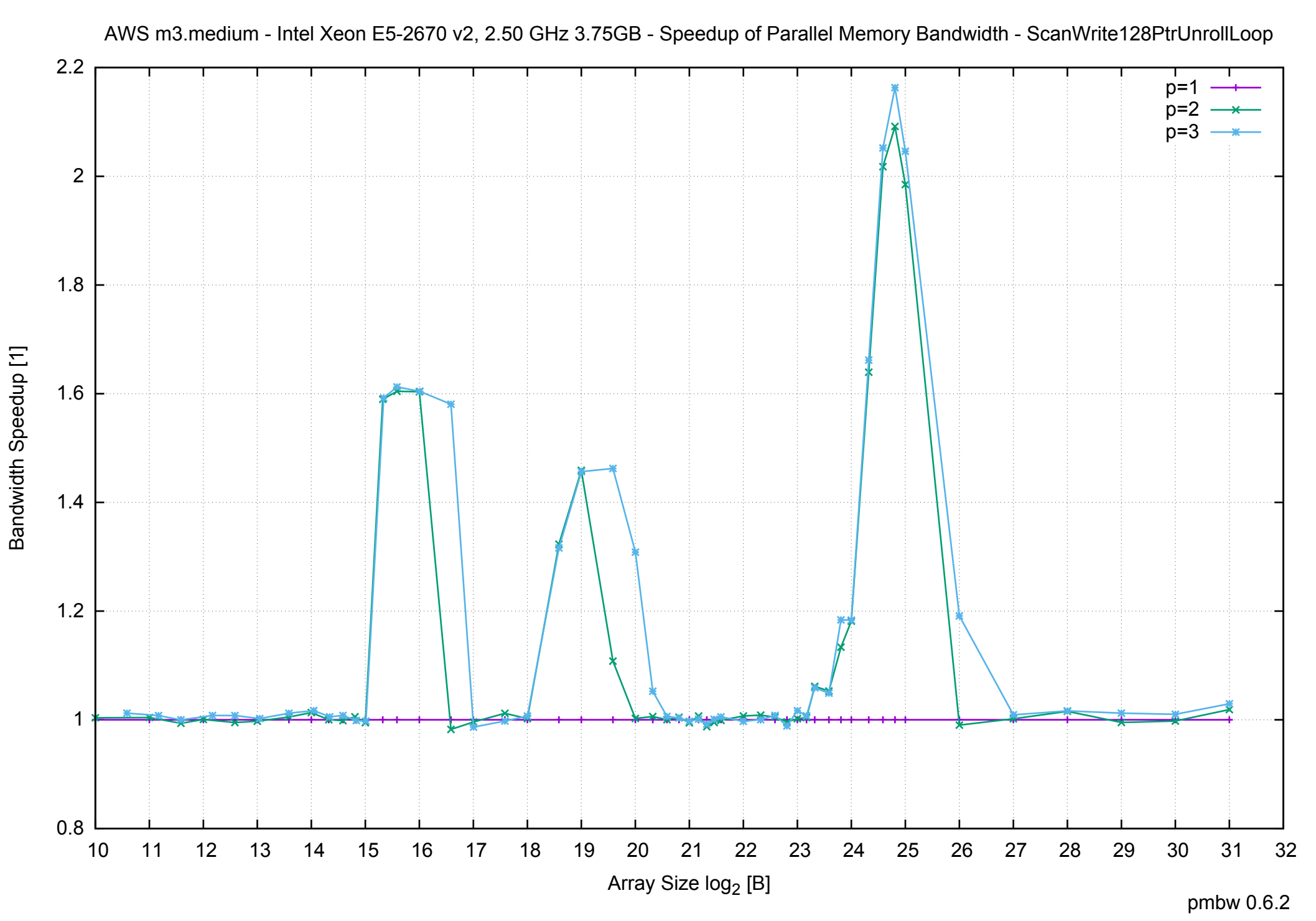

AWS m3.medium - Intel Xeon E5-2670 v2, 2.50 GHz 3.75GB - Parallel Memory Access Time - ScanWrite128PtrSimpleLoop
p=1
p=2
p=3
Access Time [ns]
Array Size log2 [B]
pmbw 0.6.2

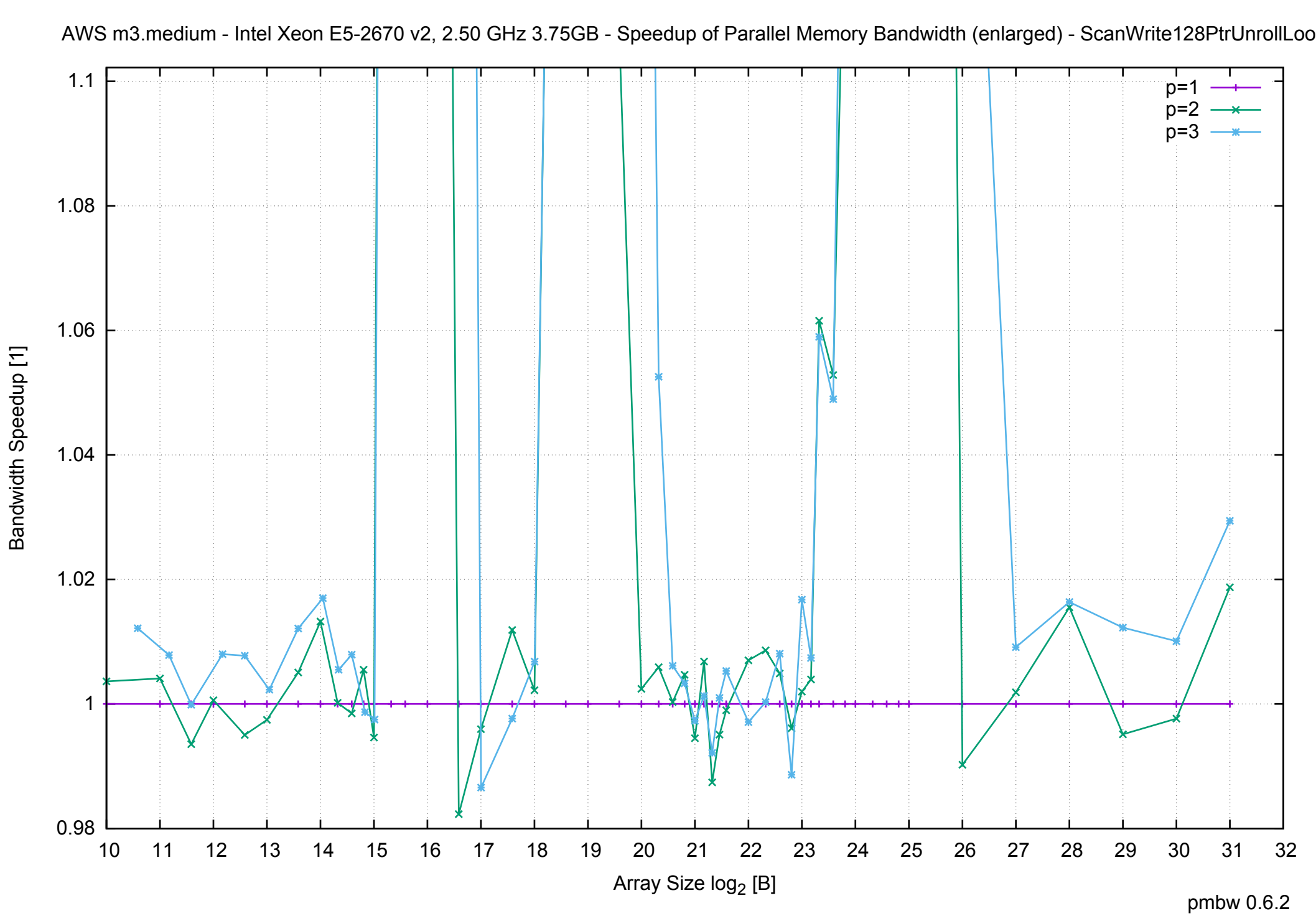

AWS m3.medium - Intel Xeon E5-2670 v2, 2.50 GHz 3.75GB - Speedup of Parallel Memory Bandwidth - ScanWrite128PtrSimpleLoop
p=1
p=2
p=3
Bandwidth Speedup [1]
Array Size log2 [B]
2.2
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
pmbw 0.6.2

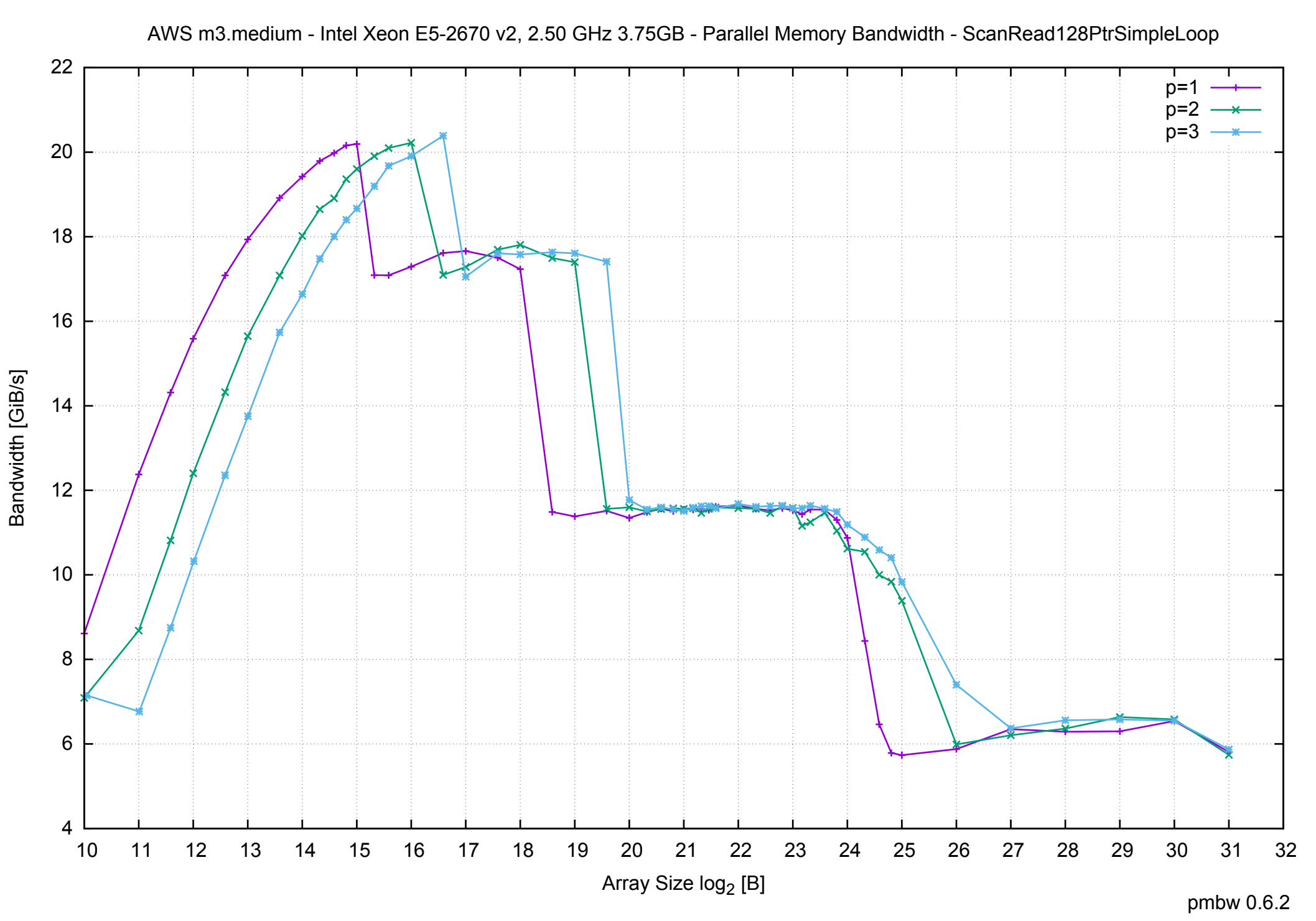

AWS m3.medium - Intel Xeon E5-2670 v2, 2.50 GHz 3.75GB - Speedup of Parallel Memory Bandwidth (enlarged) - ScanWrite128PtrSimpleLoo
p=1
p=2
p=3
Bandwidth Speedup [1]
1
0.9
0.8
0.7
0.6
0.5
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
Array Size log2 [B]
pmbw 0.6.2

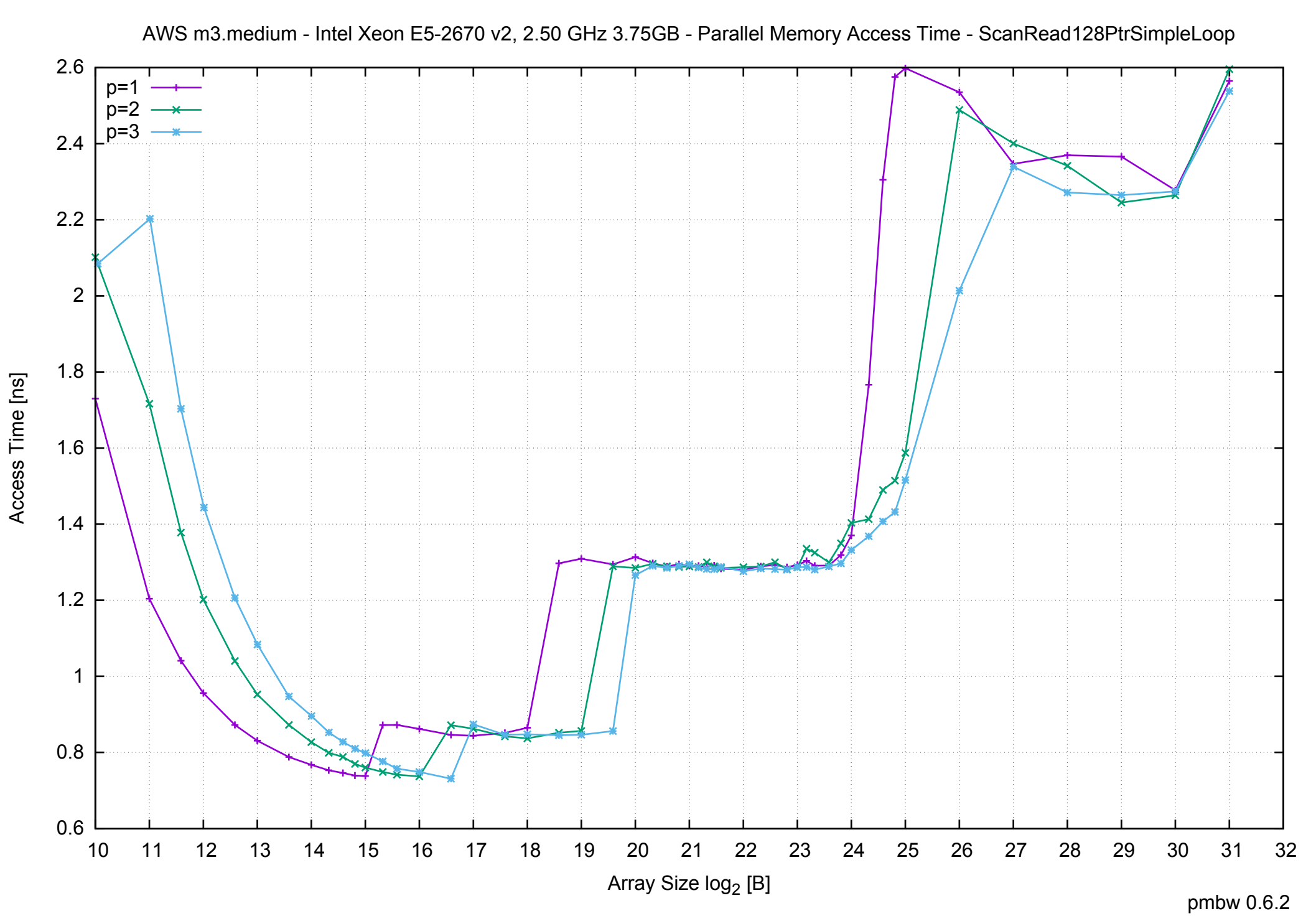

AWS m3.medium - Intel Xeon E5-2670 v2, 2.50 GHz 3.75GB - Parallel Memory Bandwidth - ScanWrite128PtrUnrollLoop
p=1
p=2
p=3
Bandwidth [GiB/s]
Array Size log2 [B]
pmbw 0.6.2

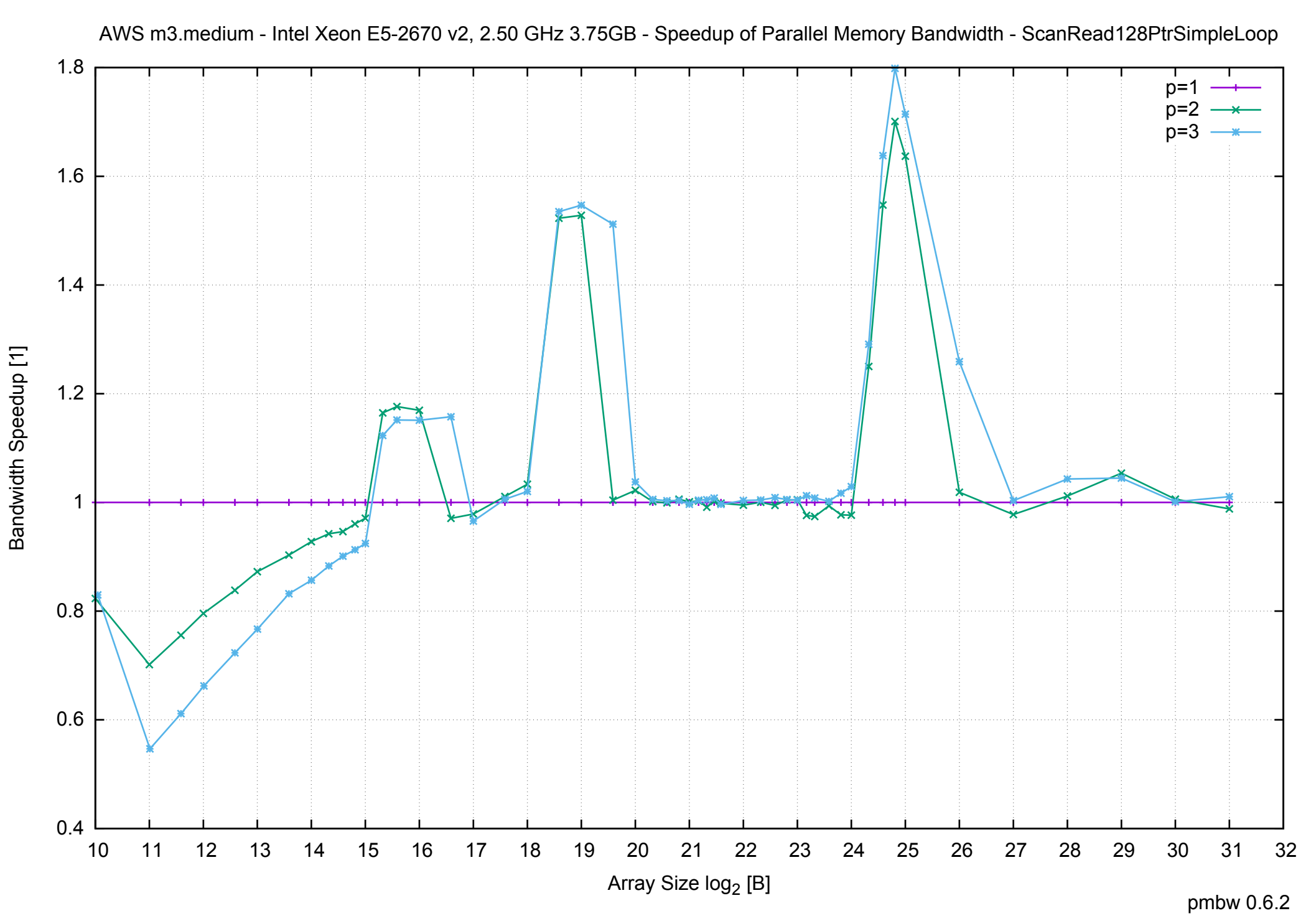

AWS m3.medium - Intel Xeon E5-2670 v2, 2.50 GHz 3.75GB - Parallel Memory Access Time - ScanWrite128PtrUnrollLoop
p=1
p=2
p=3
Access Time [ns]
Array Size log2 [B]
pmbw 0.6.2

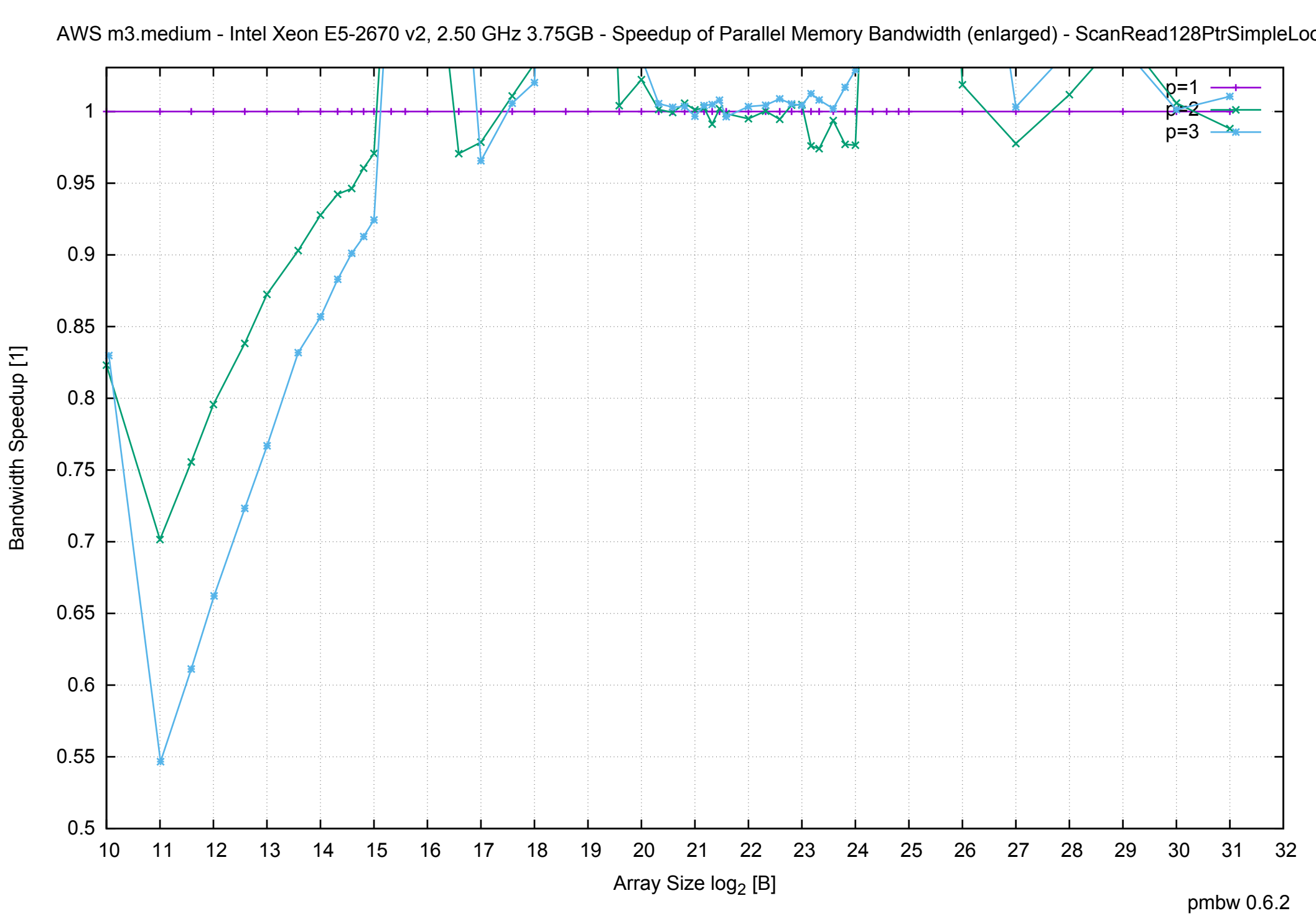

AWS m3.medium - Intel Xeon E5-2670 v2, 2.50 GHz 3.75GB - Speedup of Parallel Memory Bandwidth - ScanWrite128PtrUnrollLoop
p=1
p=2
p=3
Bandwidth Speedup [1]
Array Size log2 [B]
2.2
2
1.8
1.6
1.4
1.2
1
0.8
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
pmbw 0.6.2

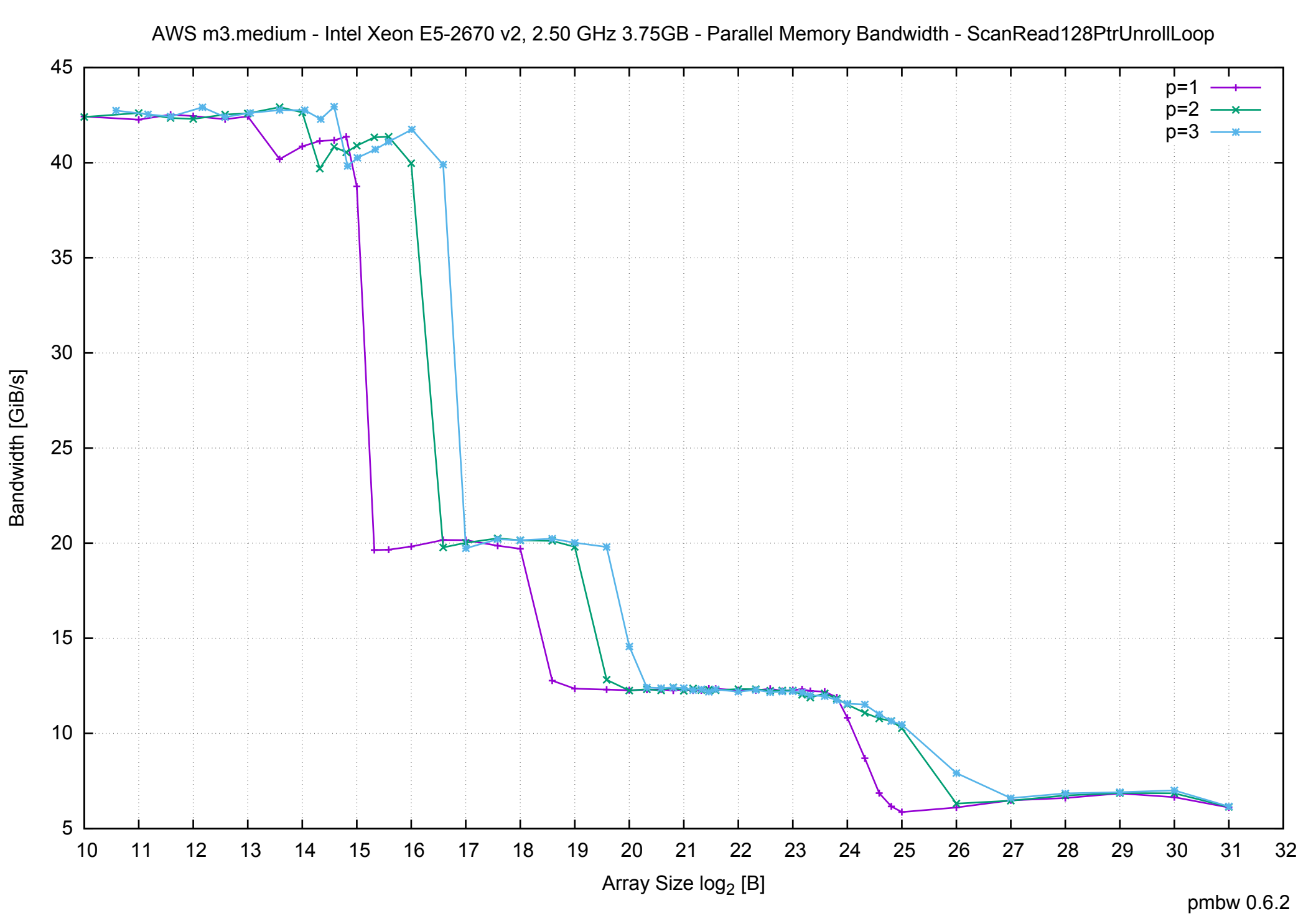

AWS m3.medium - Intel Xeon E5-2670 v2, 2.50 GHz 3.75GB - Speedup of Parallel Memory Bandwidth (enlarged) - ScanWrite128PtrUnrollLoo
p=1
p=2
p=3
Bandwidth Speedup [1]
1.1
1.08
1.06
1.04
1.02
1
0.98
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
Array Size log2 [B]
pmbw 0.6.2

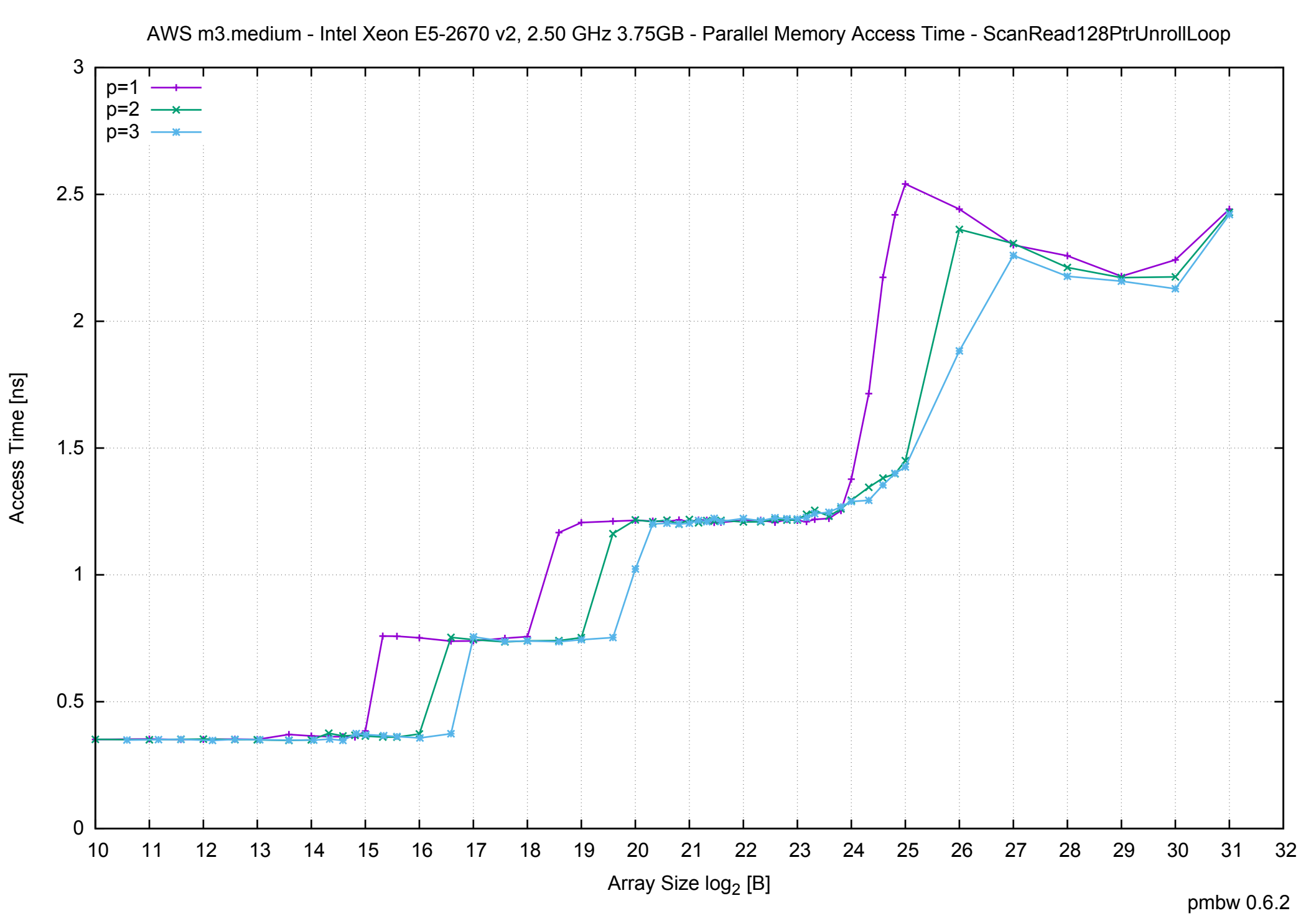

AWS m3.medium - Intel Xeon E5-2670 v2, 2.50 GHz 3.75GB - Parallel Memory Bandwidth - ScanRead128PtrSimpleLoop
p=1
p=2
p=3
Bandwidth [GiB/s]
Array Size log2 [B]
pmbw 0.6.2

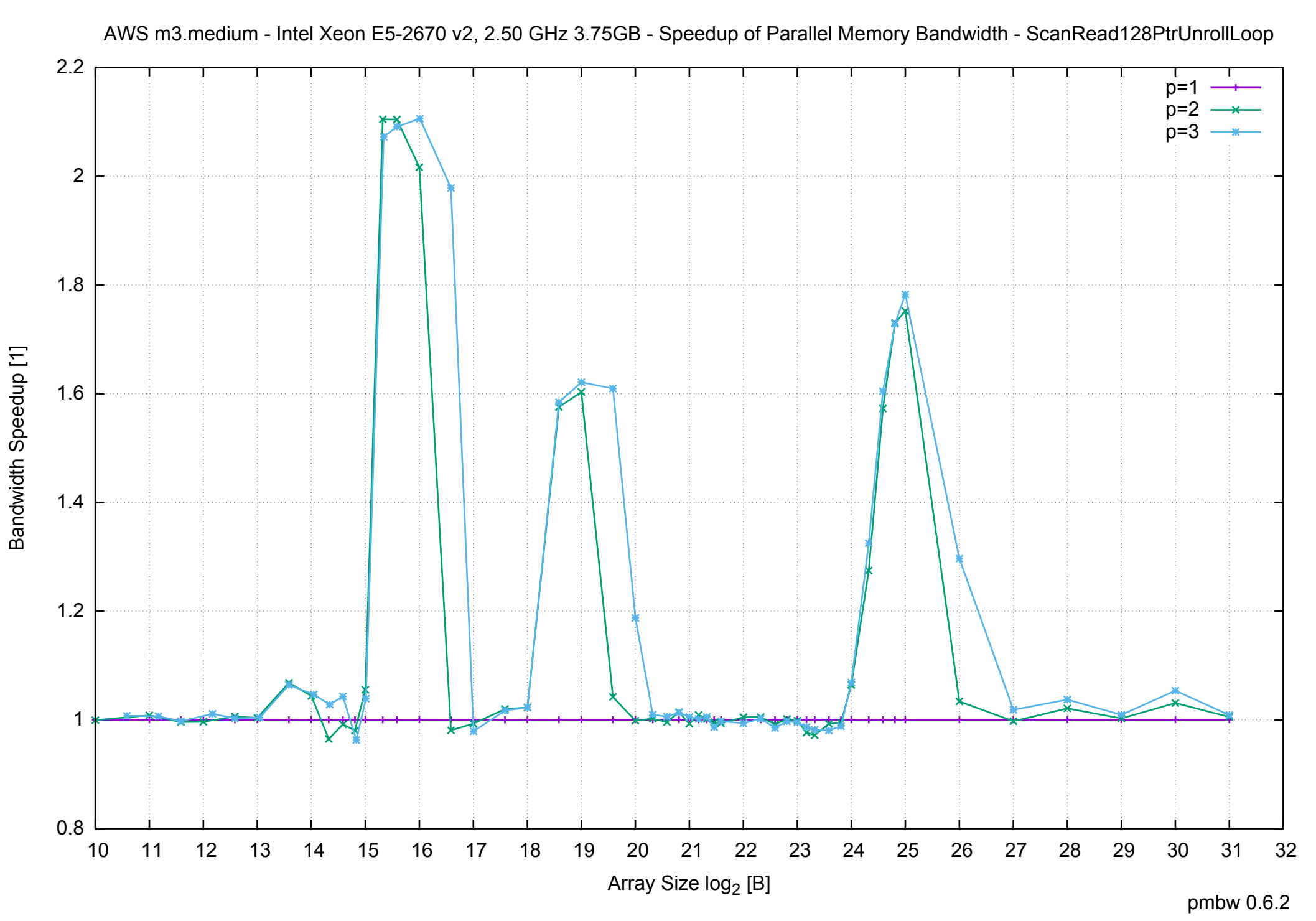

AWS m3.medium - Intel Xeon E5-2670 v2, 2.50 GHz 3.75GB - Parallel Memory Access Time - ScanRead128PtrSimpleLoop
p=1
p=2
p=3
Access Time [ns]
Array Size log2 [B]
pmbw 0.6.2

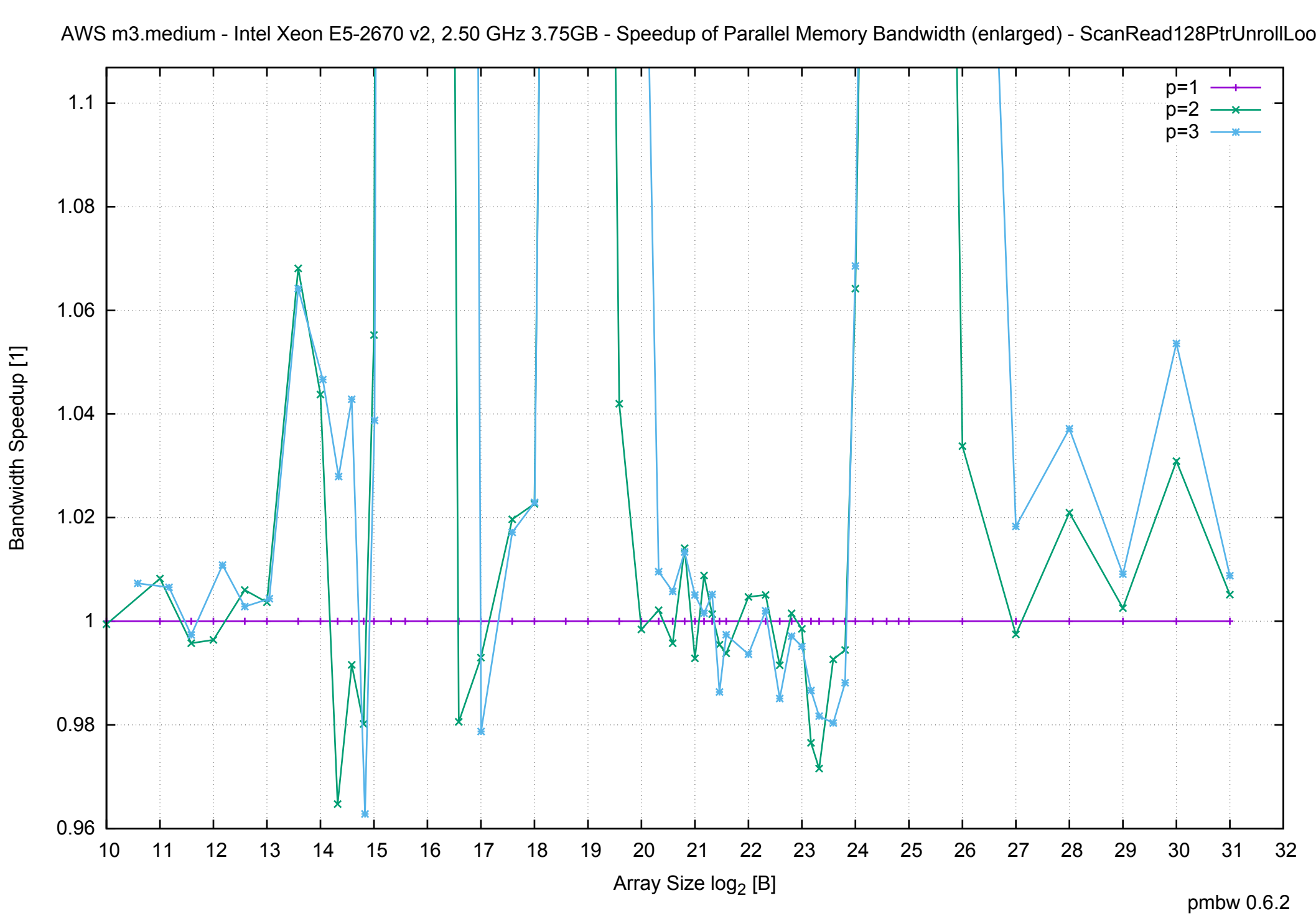

AWS m3.medium - Intel Xeon E5-2670 v2, 2.50 GHz 3.75GB - Speedup of Parallel Memory Bandwidth - ScanRead128PtrSimpleLoop
p=1
p=2
p=3
Bandwidth Speedup [1]
Array Size log2 [B]
pmbw 0.6.2

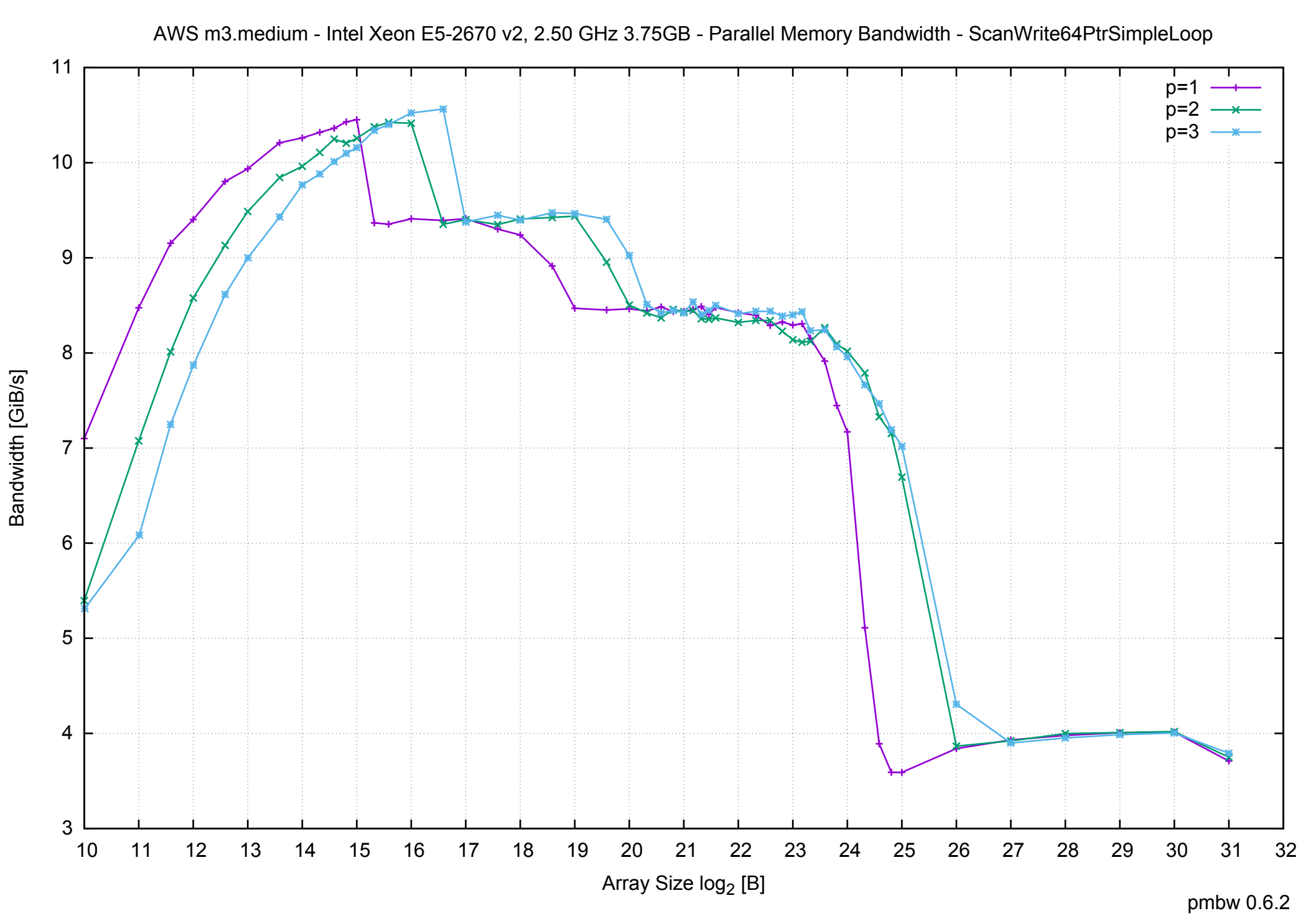

AWS m3.medium - Intel Xeon E5-2670 v2, 2.50 GHz 3.75GB - Speedup of Parallel Memory Bandwidth (enlarged) - ScanRead128PtrSimpleLoo
p=1
p=2
p=3
Bandwidth Speedup [1]
1
0.95
0.9
0.85
0.8
0.75
0.7
0.65
0.6
0.55
0.5
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
Array Size log2 [B]
pmbw 0.6.2

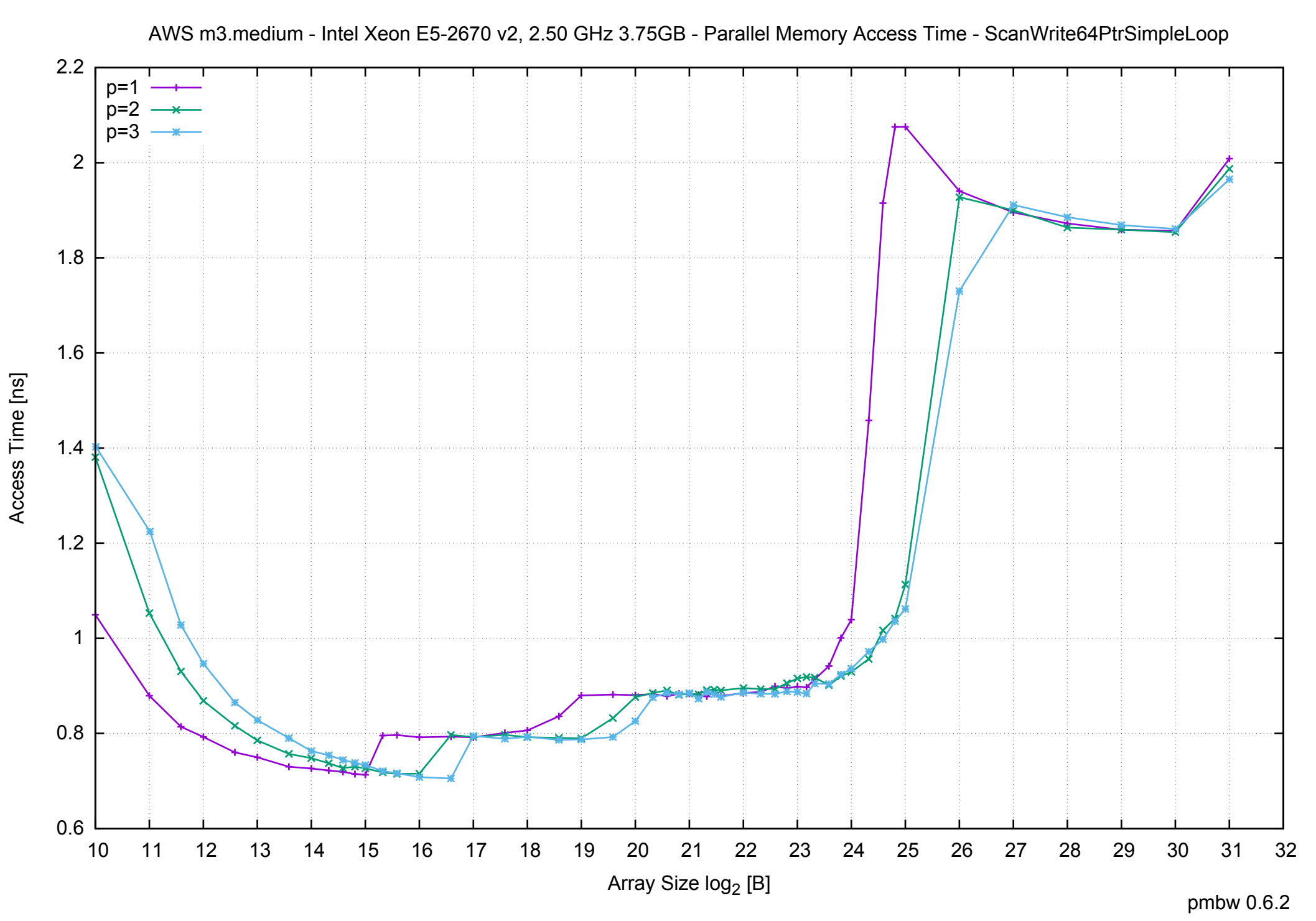

AWS m3.medium - Intel Xeon E5-2670 v2, 2.50 GHz 3.75GB - Parallel Memory Bandwidth - ScanRead128PtrUnrollLoop
p=1
p=2
p=3
Bandwidth [GiB/s]
Array Size log2 [B]
pmbw 0.6.2

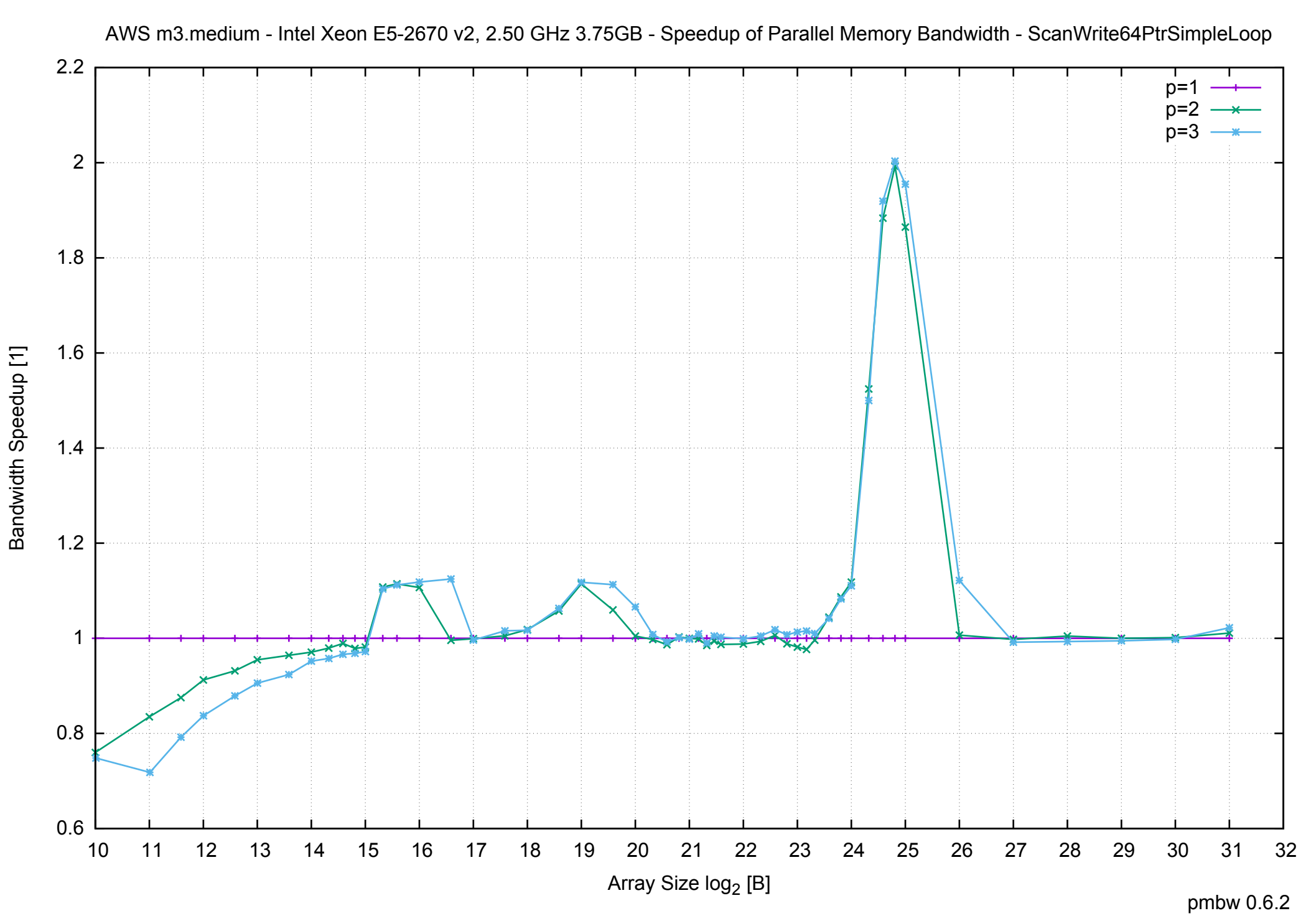

AWS m3.medium - Intel Xeon E5-2670 v2, 2.50 GHz 3.75GB - Parallel Memory Access Time - ScanRead128PtrUnrollLoop
p=1
p=2
p=3
Access Time [ns]
Array Size log2 [B]
0
0.5
1
1.5
2
2.5
3
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
pmbw 0.6.2

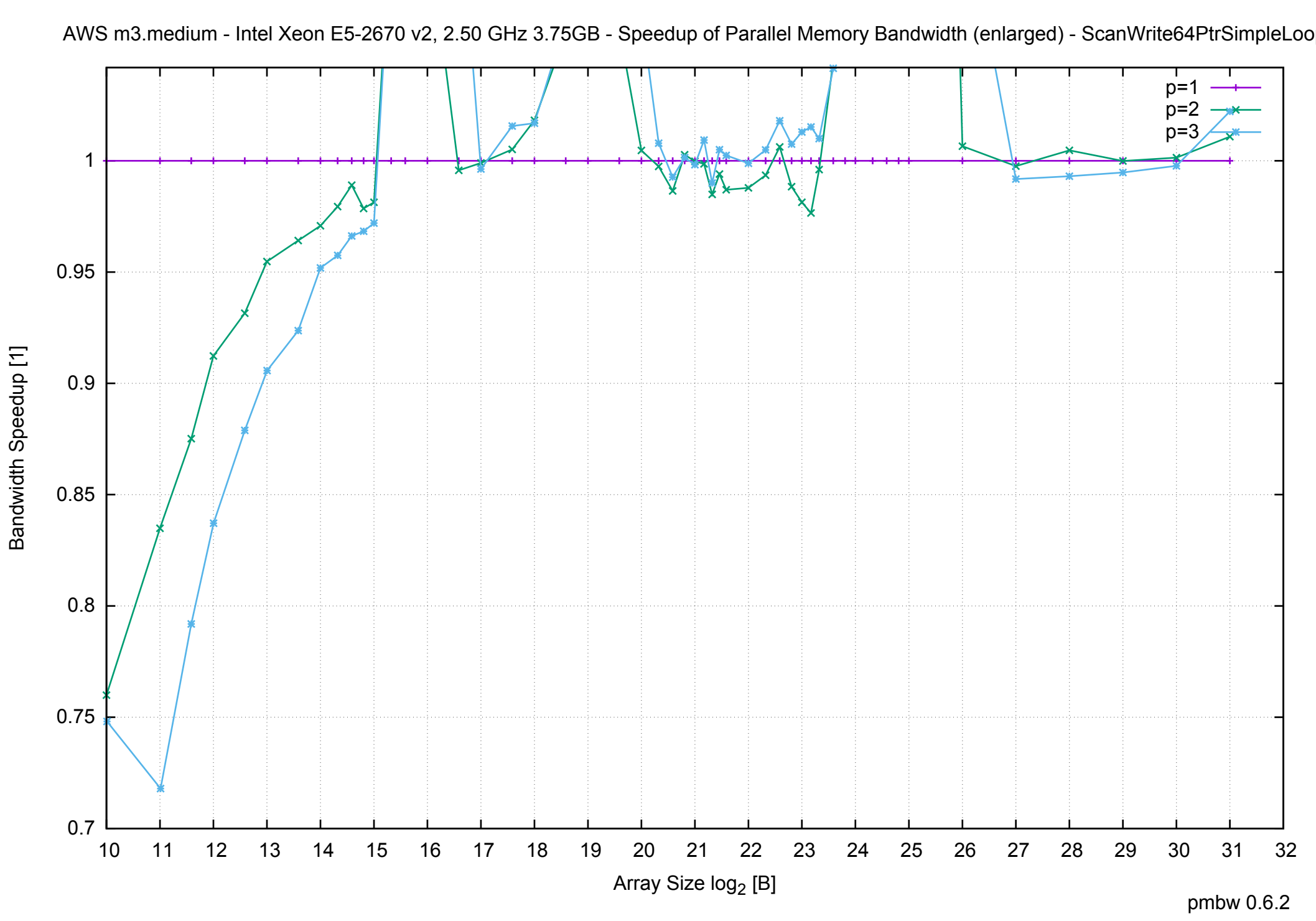

AWS m3.medium - Intel Xeon E5-2670 v2, 2.50 GHz 3.75GB - Speedup of Parallel Memory Bandwidth - ScanRead128PtrUnrollLoop
p=1
p=2
p=3
Bandwidth Speedup [1]
Array Size log2 [B]
2.2
2
1.8
1.6
1.4
1.2
1
0.8
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
pmbw 0.6.2

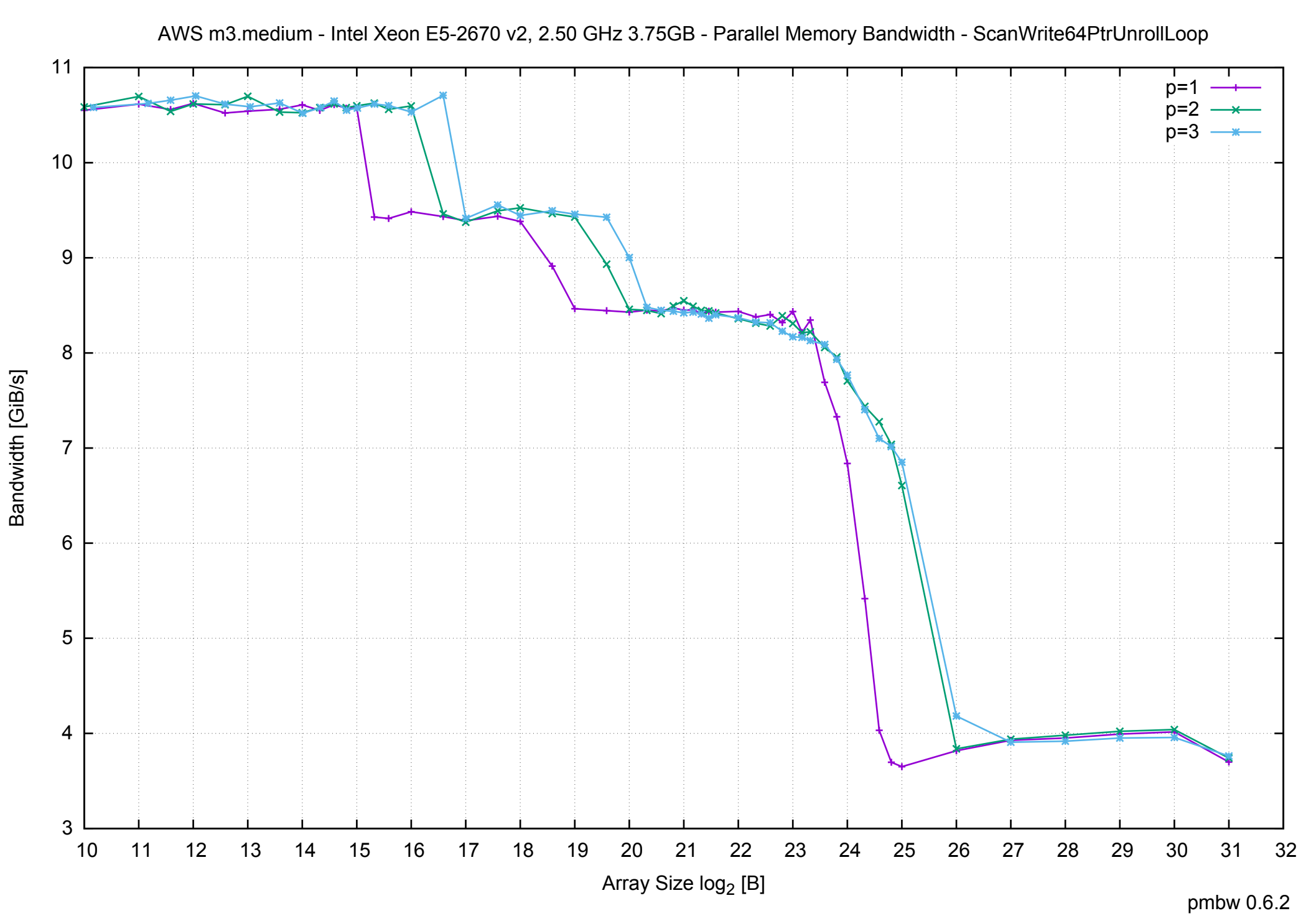

AWS m3.medium - Intel Xeon E5-2670 v2, 2.50 GHz 3.75GB - Speedup of Parallel Memory Bandwidth (enlarged) - ScanRead128PtrUnrollLoo
p=1
p=2
p=3
Bandwidth Speedup [1]
1.1
1.08
1.06
1.04
1.02
1
0.98
0.96
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
Array Size log2 [B]
pmbw 0.6.2

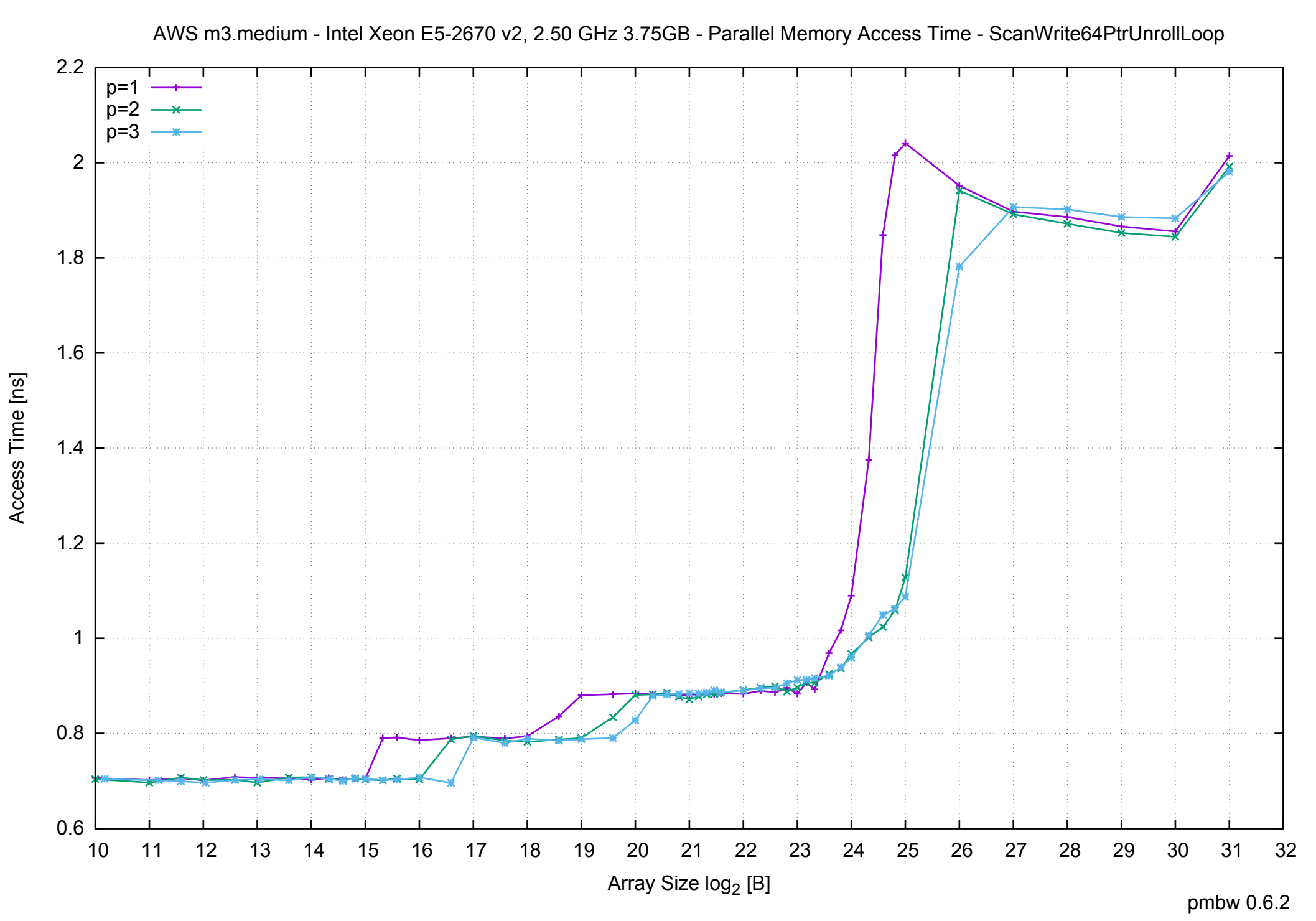

AWS m3.medium - Intel Xeon E5-2670 v2, 2.50 GHz 3.75GB - Parallel Memory Bandwidth - ScanWrite64PtrSimpleLoop
p=1
p=2
p=3
Bandwidth [GiB/s]
Array Size log2 [B]
pmbw 0.6.2

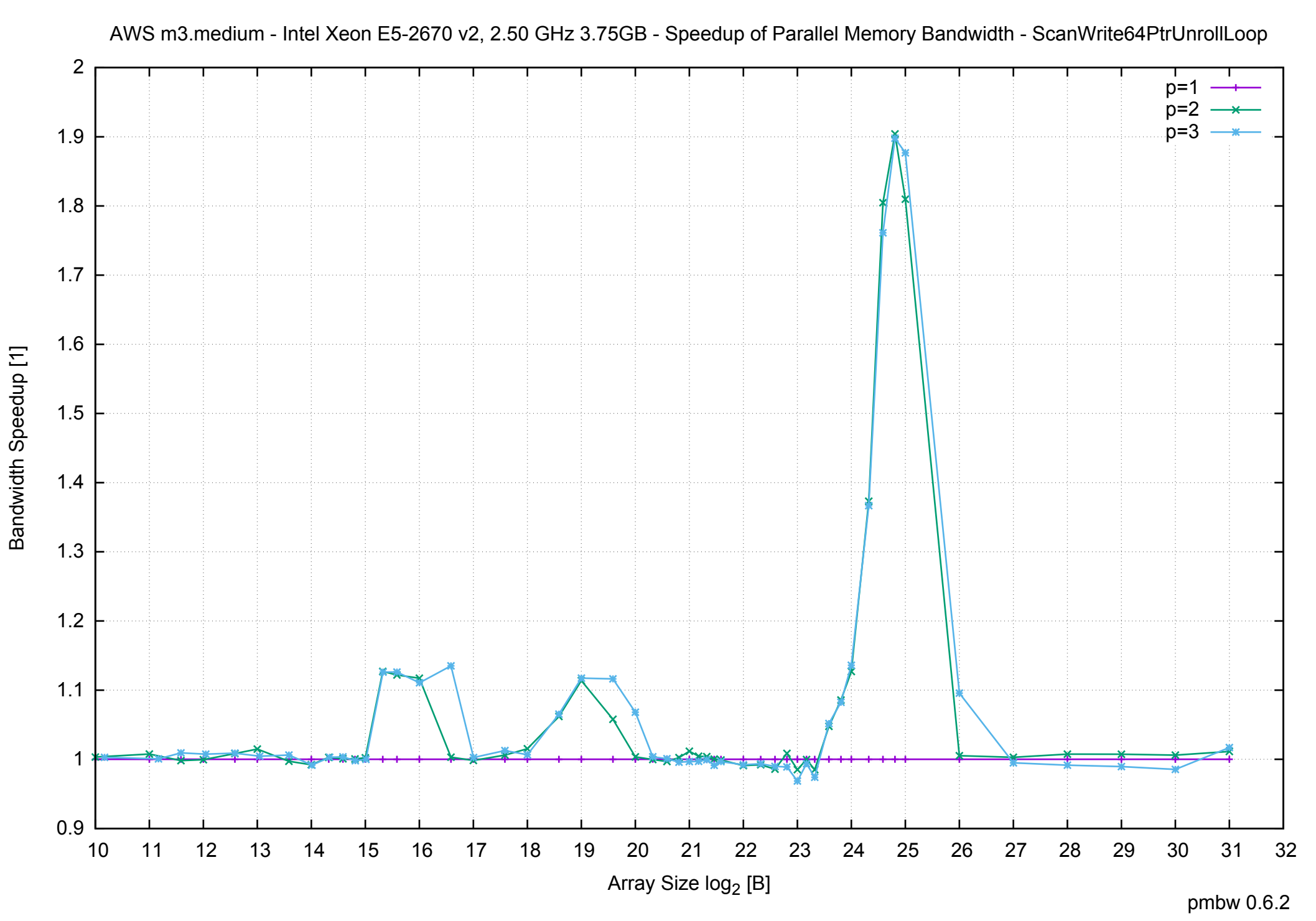

AWS m3.medium - Intel Xeon E5-2670 v2, 2.50 GHz 3.75GB - Parallel Memory Access Time - ScanWrite64PtrSimpleLoop
p=1
p=2
p=3
Access Time [ns]
Array Size log2 [B]
pmbw 0.6.2

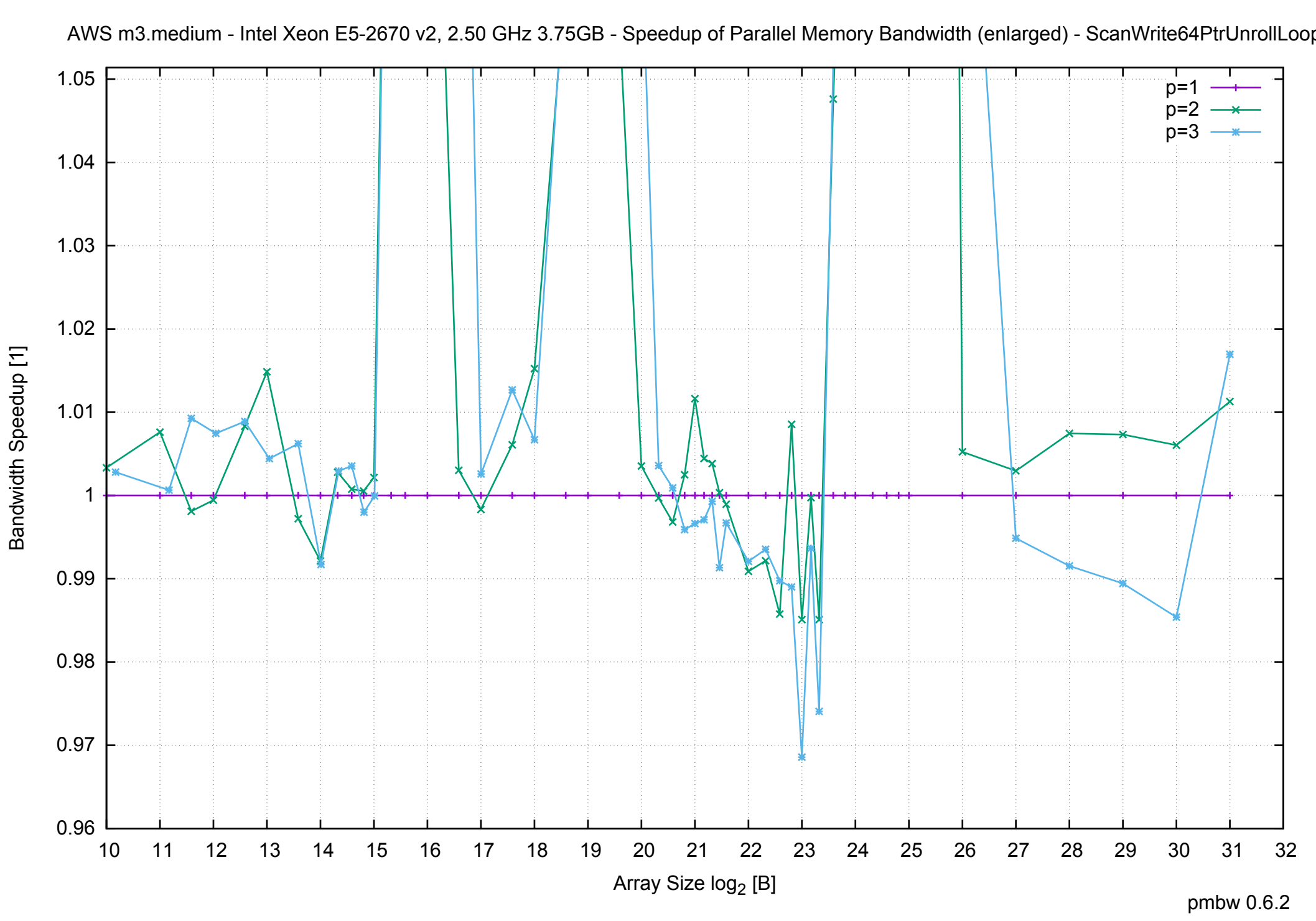

AWS m3.medium - Intel Xeon E5-2670 v2, 2.50 GHz 3.75GB - Speedup of Parallel Memory Bandwidth - ScanWrite64PtrSimpleLoop
p=1
p=2
p=3
Bandwidth Speedup [1]
Array Size log2 [B]
2.2
2
1.8
1.6
1.4
1.2
1
0.8
0.6
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
pmbw 0.6.2

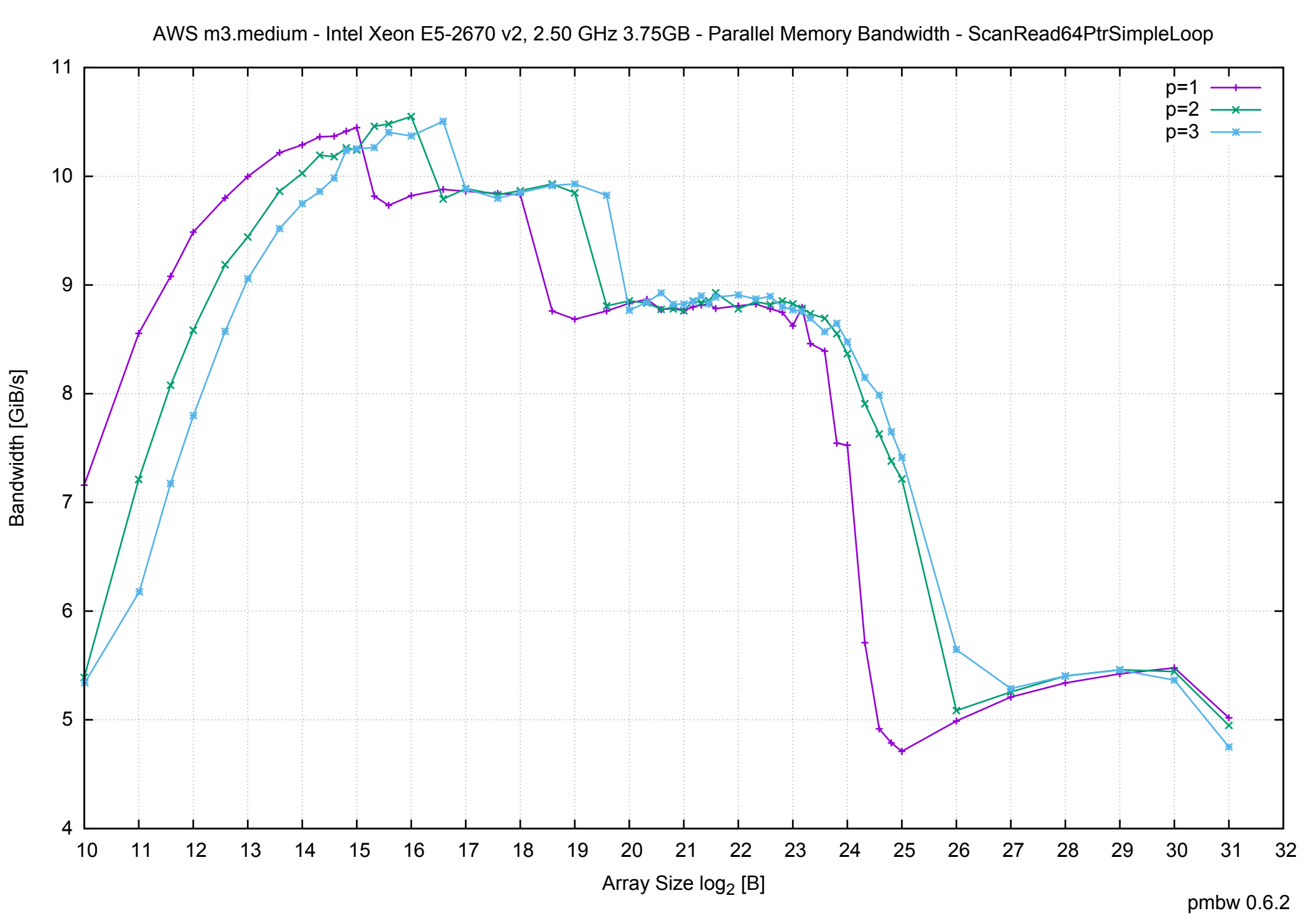

AWS m3.medium - Intel Xeon E5-2670 v2, 2.50 GHz 3.75GB - Speedup of Parallel Memory Bandwidth (enlarged) - ScanWrite64PtrSimpleLoo
p=1
p=2
p=3
Bandwidth Speedup [1]
1
0.95
0.9
0.85
0.8
0.75
0.7
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
Array Size log2 [B]
pmbw 0.6.2

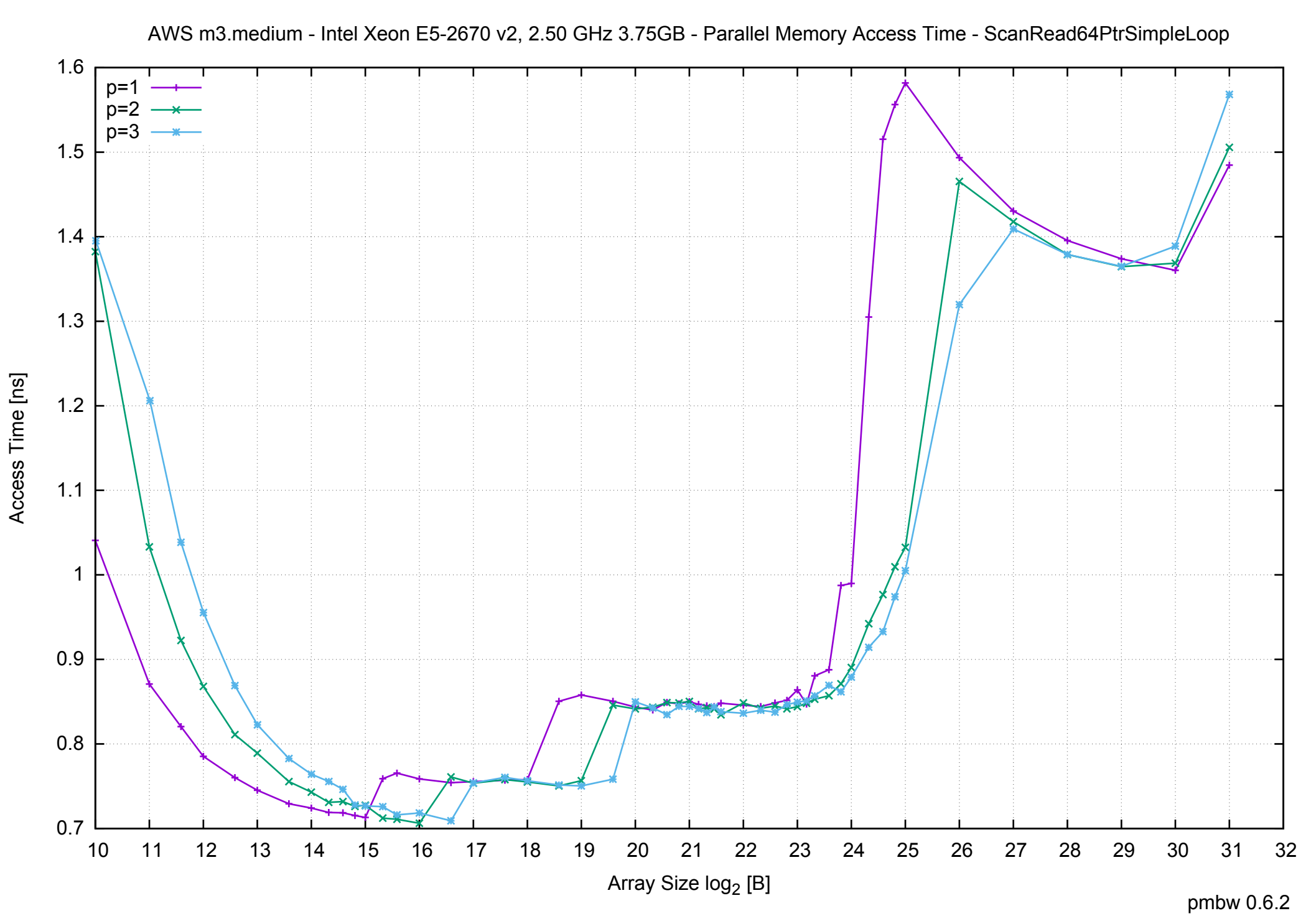

AWS m3.medium - Intel Xeon E5-2670 v2, 2.50 GHz 3.75GB - Parallel Memory Bandwidth - ScanWrite64PtrUnrollLoop
p=1
p=2
p=3
Bandwidth [GiB/s]
Array Size log2 [B]
pmbw 0.6.2

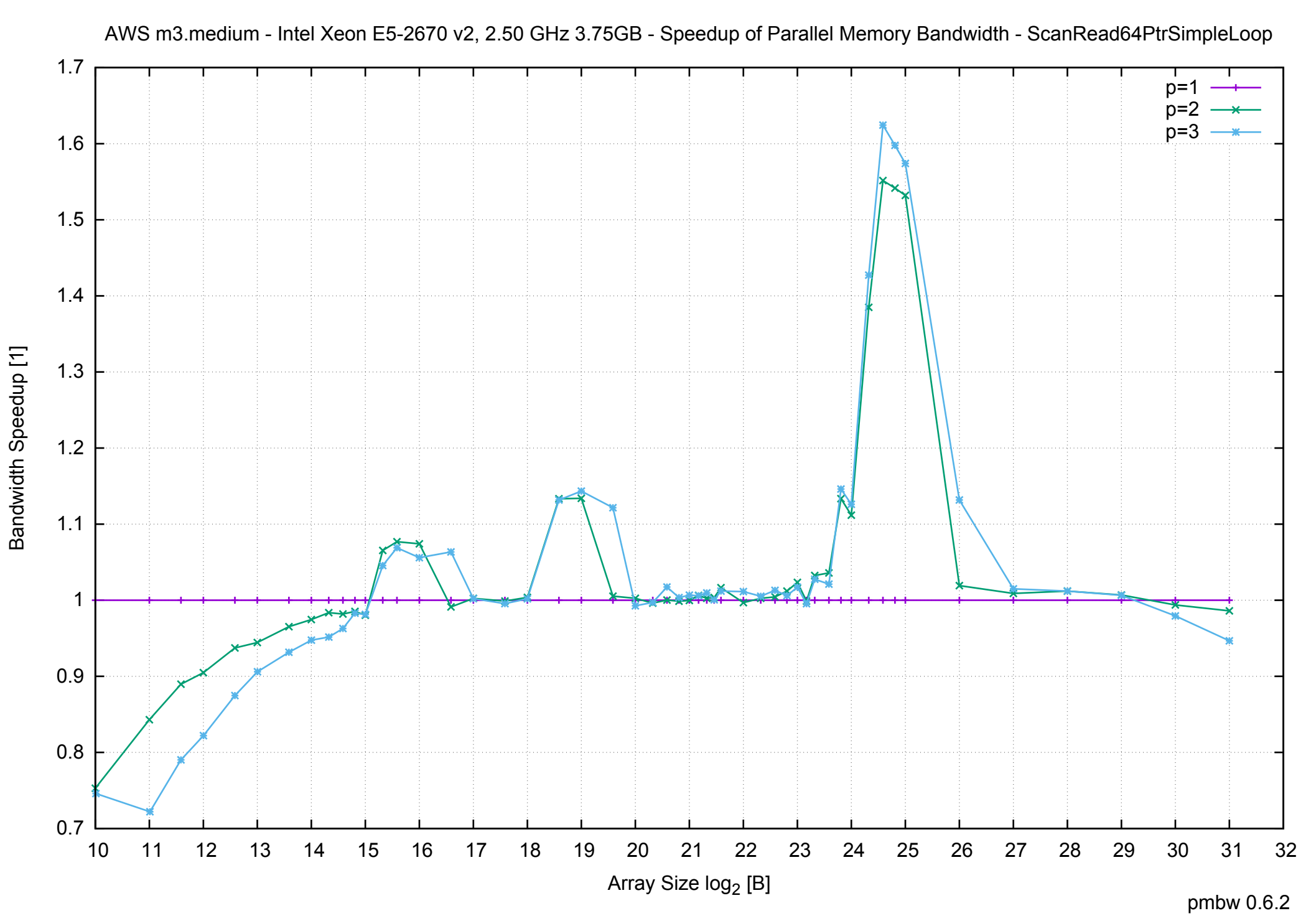

AWS m3.medium - Intel Xeon E5-2670 v2, 2.50 GHz 3.75GB - Parallel Memory Access Time - ScanWrite64PtrUnrollLoop
p=1
p=2
p=3
Access Time [ns]
Array Size log2 [B]
pmbw 0.6.2

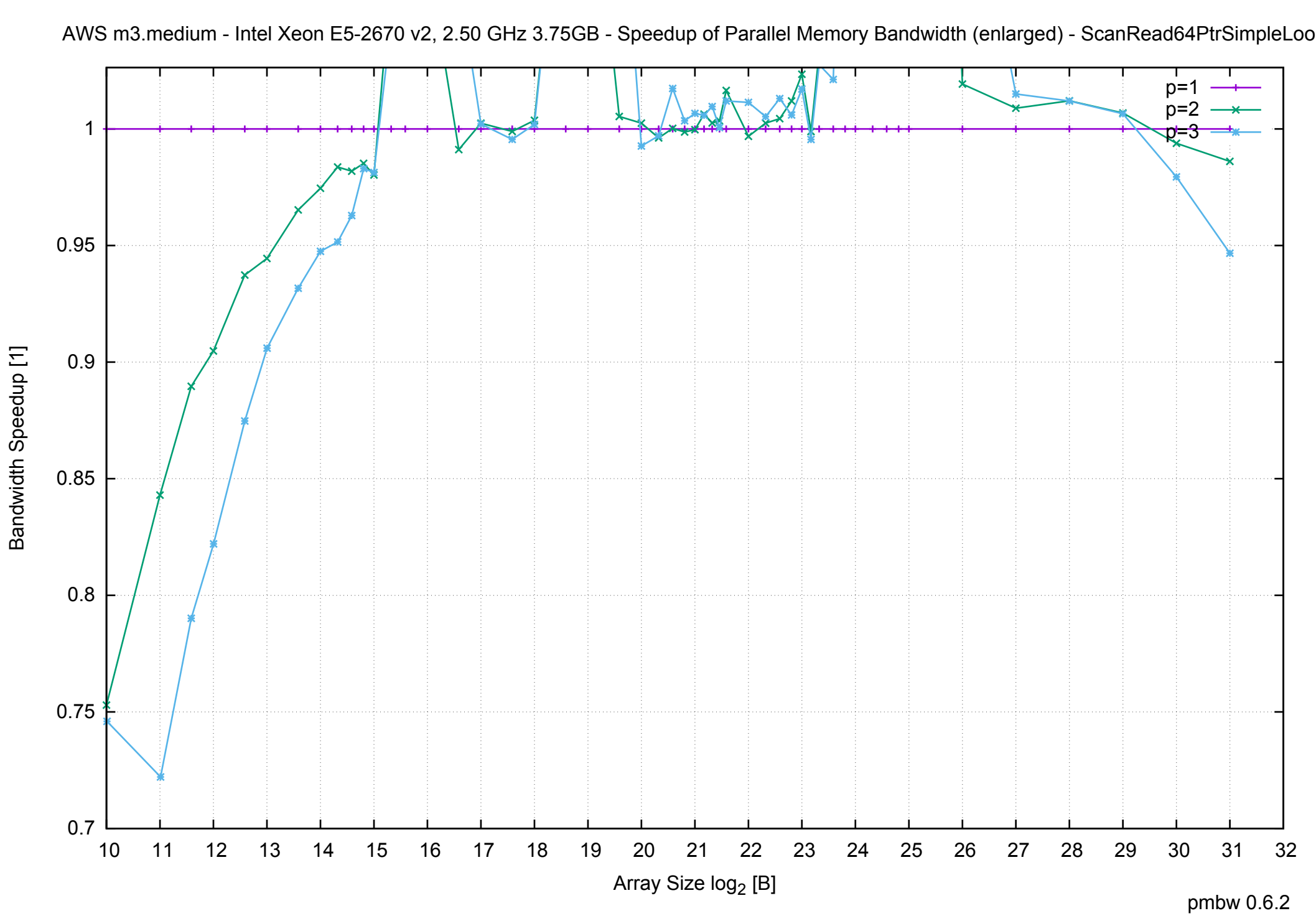

AWS m3.medium - Intel Xeon E5-2670 v2, 2.50 GHz 3.75GB - Speedup of Parallel Memory Bandwidth - ScanWrite64PtrUnrollLoop
p=1
p=2
p=3
Bandwidth Speedup [1]
Array Size log2 [B]
2
1.9
1.8
1.7
1.6
1.5
1.4
1.3
1.2
1.1
1
0.9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
pmbw 0.6.2

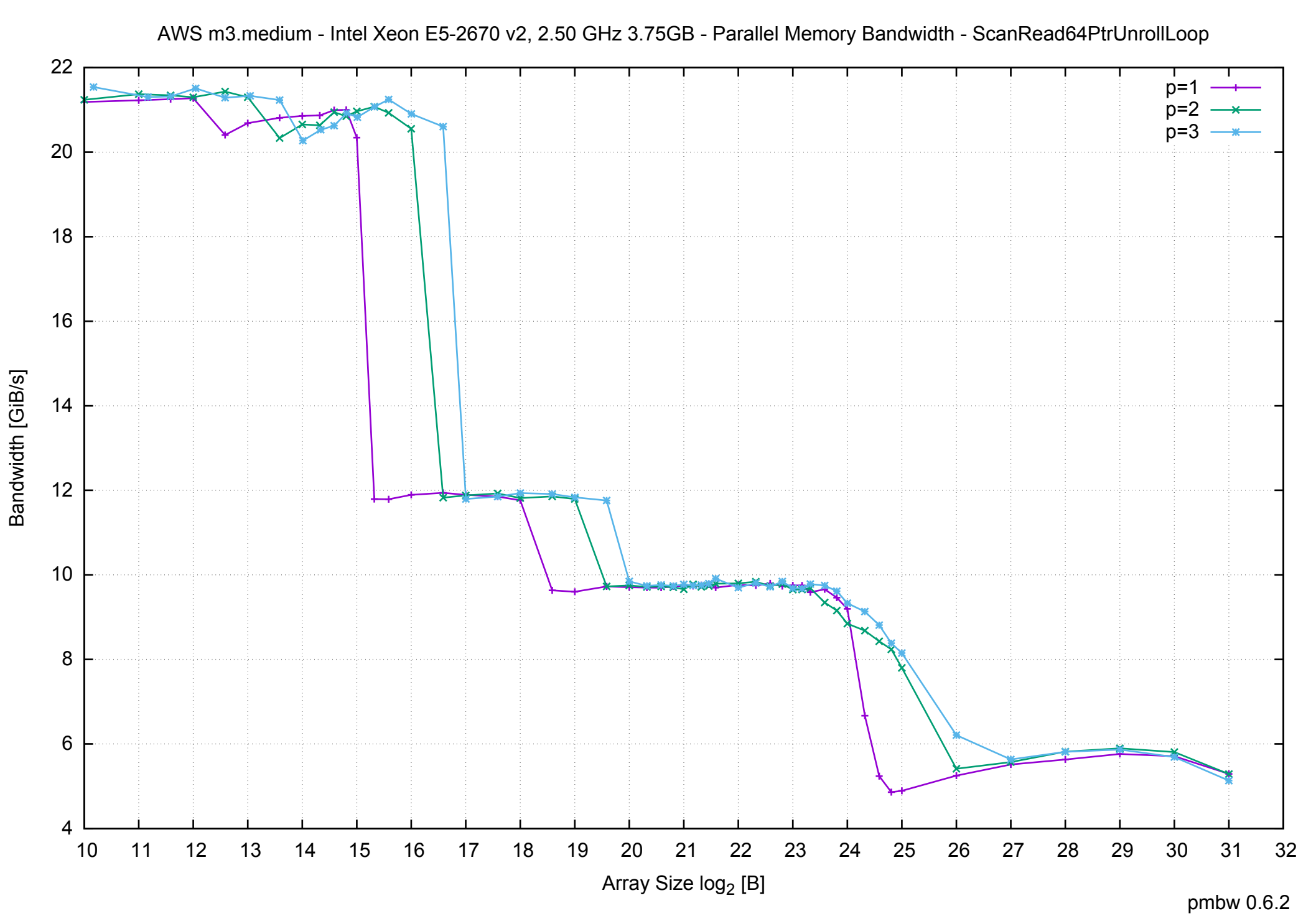

AWS m3.medium - Intel Xeon E5-2670 v2, 2.50 GHz 3.75GB - Speedup of Parallel Memory Bandwidth (enlarged) - ScanWrite64PtrUnrollLoop
p=1
p=2
p=3
Bandwidth Speedup [1]
1.05
1.04
1.03
1.02
1.01
1
0.99
0.98
0.97
0.96
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
Array Size log2 [B]
pmbw 0.6.2

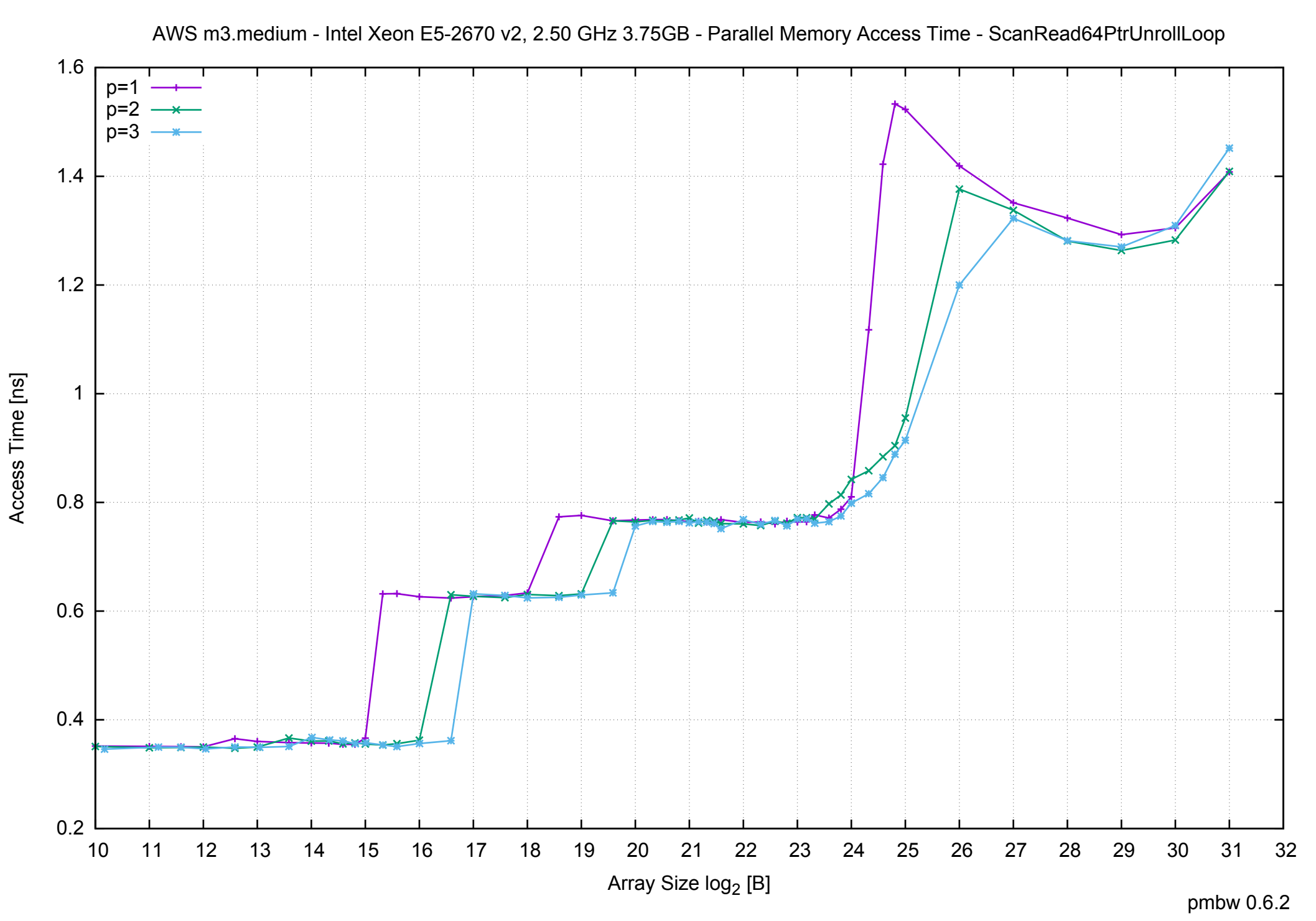

AWS m3.medium - Intel Xeon E5-2670 v2, 2.50 GHz 3.75GB - Parallel Memory Bandwidth - ScanRead64PtrSimpleLoop
p=1
p=2
p=3
Bandwidth [GiB/s]
Array Size log2 [B]
pmbw 0.6.2

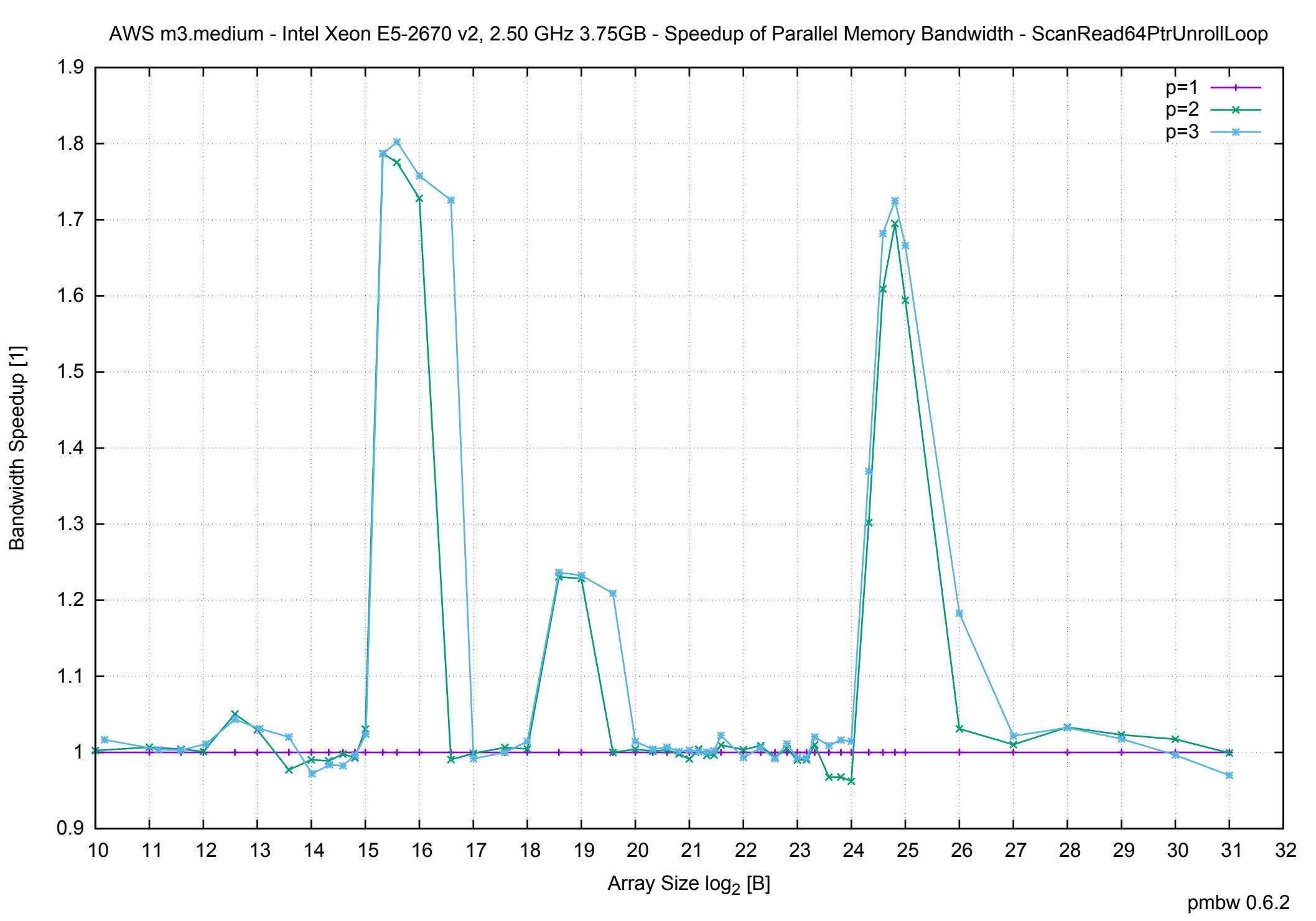

AWS m3.medium - Intel Xeon E5-2670 v2, 2.50 GHz 3.75GB - Parallel Memory Access Time - ScanRead64PtrSimpleLoop
p=1
p=2
p=3
Access Time [ns]
Array Size log2 [B]
pmbw 0.6.2

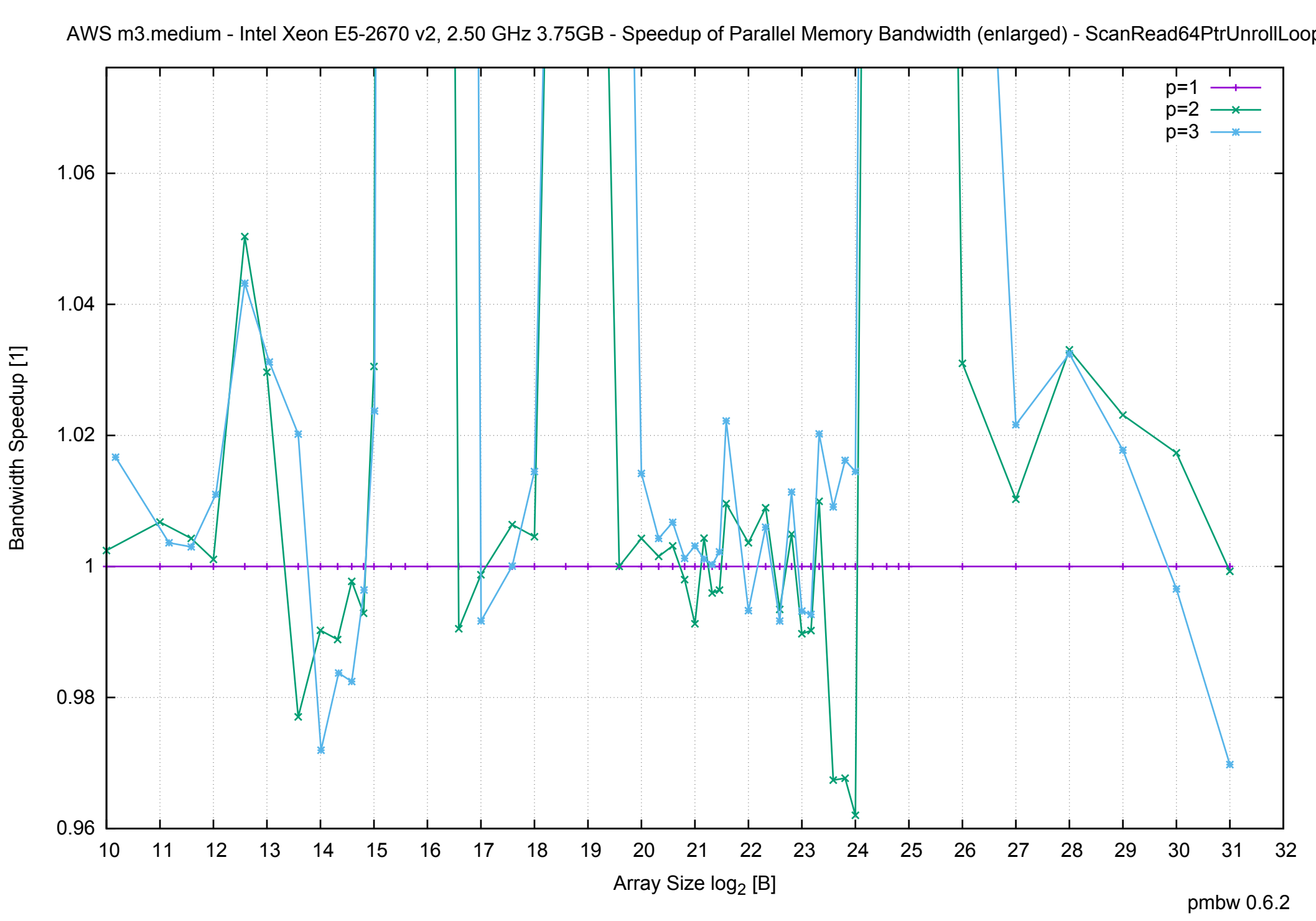

AWS m3.medium - Intel Xeon E5-2670 v2, 2.50 GHz 3.75GB - Speedup of Parallel Memory Bandwidth - ScanRead64PtrSimpleLoop
p=1
p=2
p=3
Bandwidth Speedup [1]
Array Size log2 [B]
1.7
1.6
1.5
1.4
1.3
1.2
1.1
1
0.9
0.8
0.7
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
pmbw 0.6.2

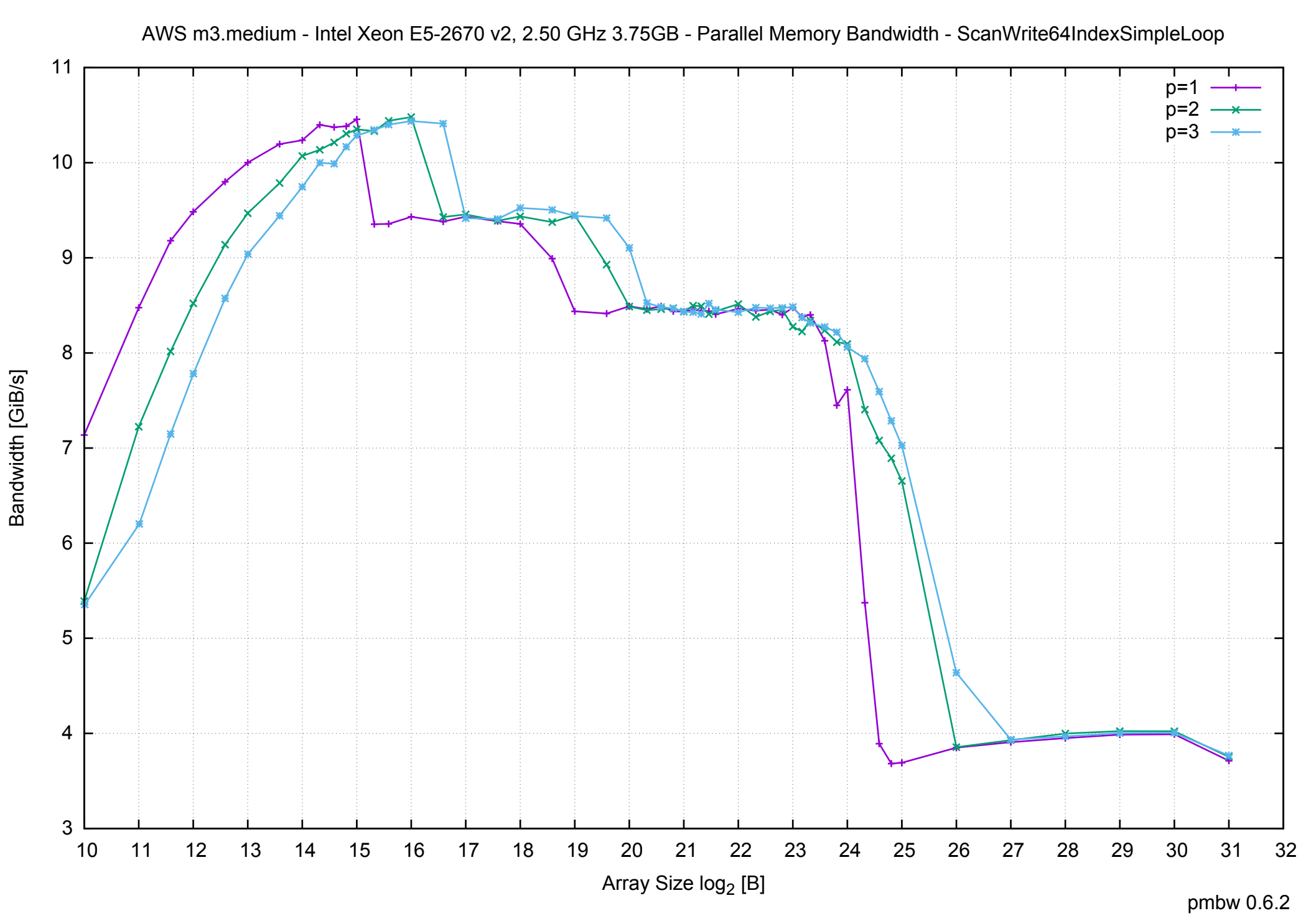

AWS m3.medium - Intel Xeon E5-2670 v2, 2.50 GHz 3.75GB - Speedup of Parallel Memory Bandwidth (enlarged) - ScanRead64PtrSimpleLoo
p=1
p=2
p=3
Bandwidth Speedup [1]
1
0.95
0.9
0.85
0.8
0.75
0.7
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
Array Size log2 [B]
pmbw 0.6.2

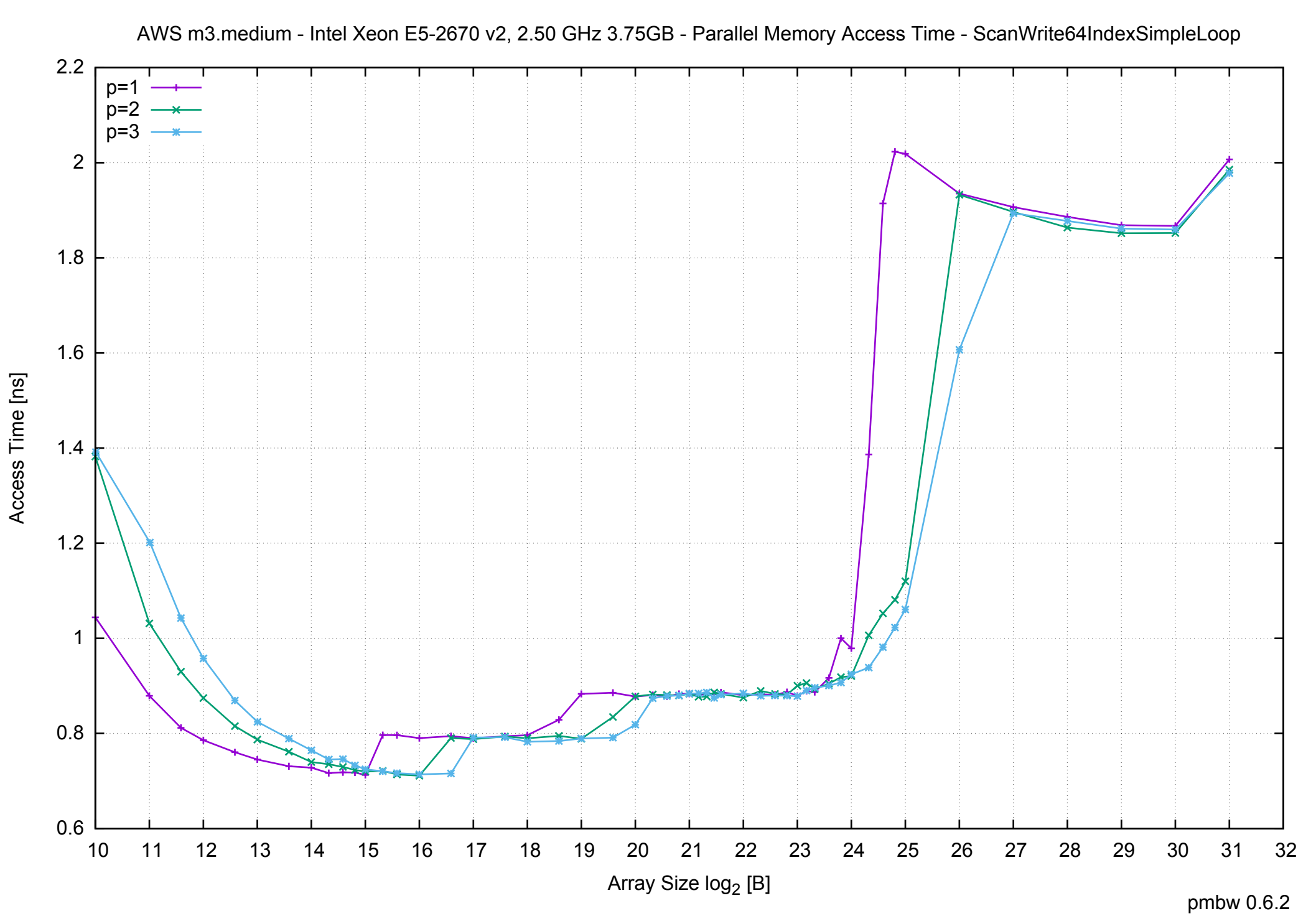

AWS m3.medium - Intel Xeon E5-2670 v2, 2.50 GHz 3.75GB - Parallel Memory Bandwidth - ScanRead64PtrUnrollLoop
p=1
p=2
p=3
Bandwidth [GiB/s]
Array Size log2 [B]
22
20
18
16
14
12
10
8
6
4
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
pmbw 0.6.2

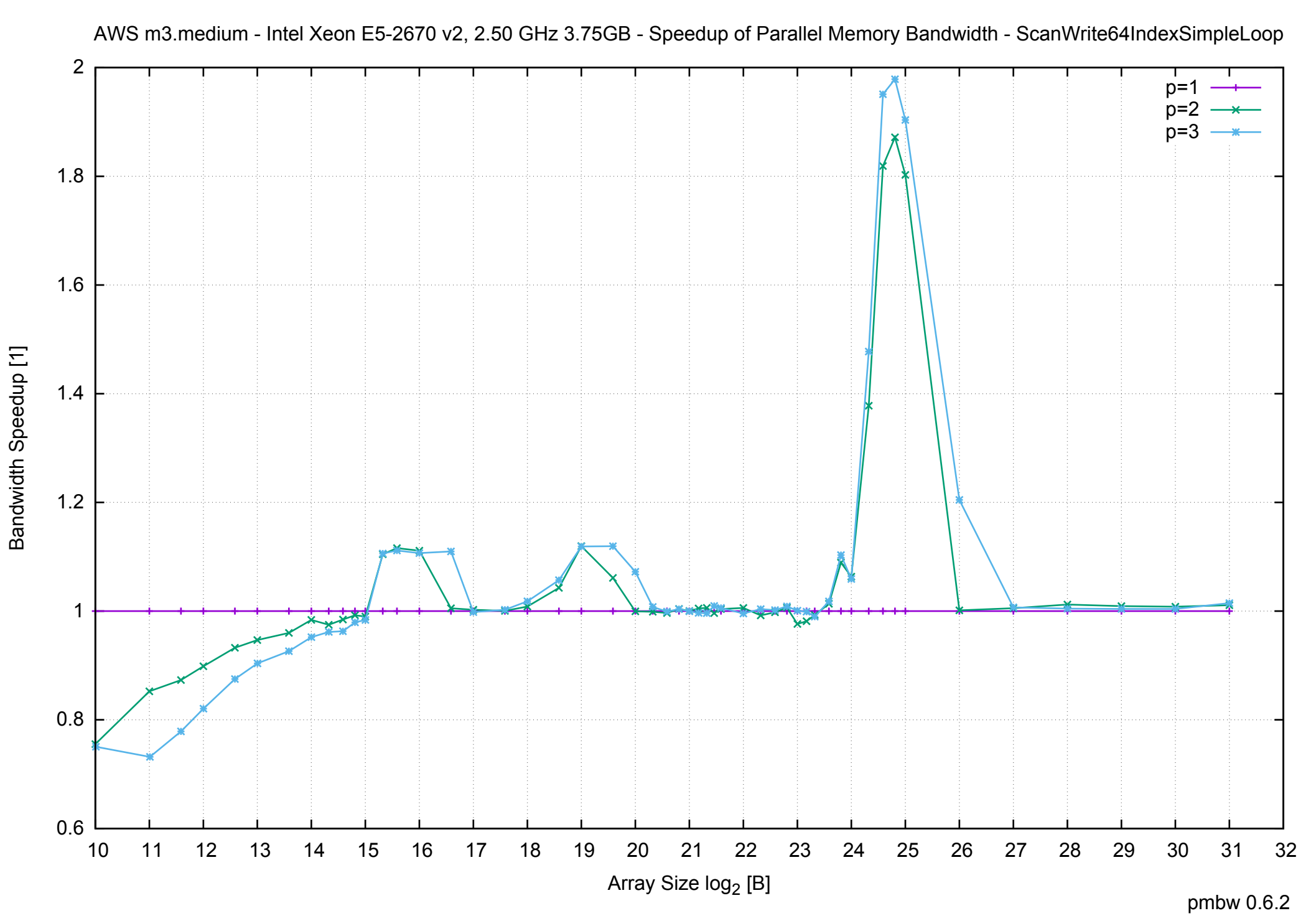

AWS m3.medium - Intel Xeon E5-2670 v2, 2.50 GHz 3.75GB - Parallel Memory Access Time - ScanRead64PtrUnrollLoop
p=1
p=2
p=3
Access Time [ns]
Array Size log2 [B]
pmbw 0.6.2

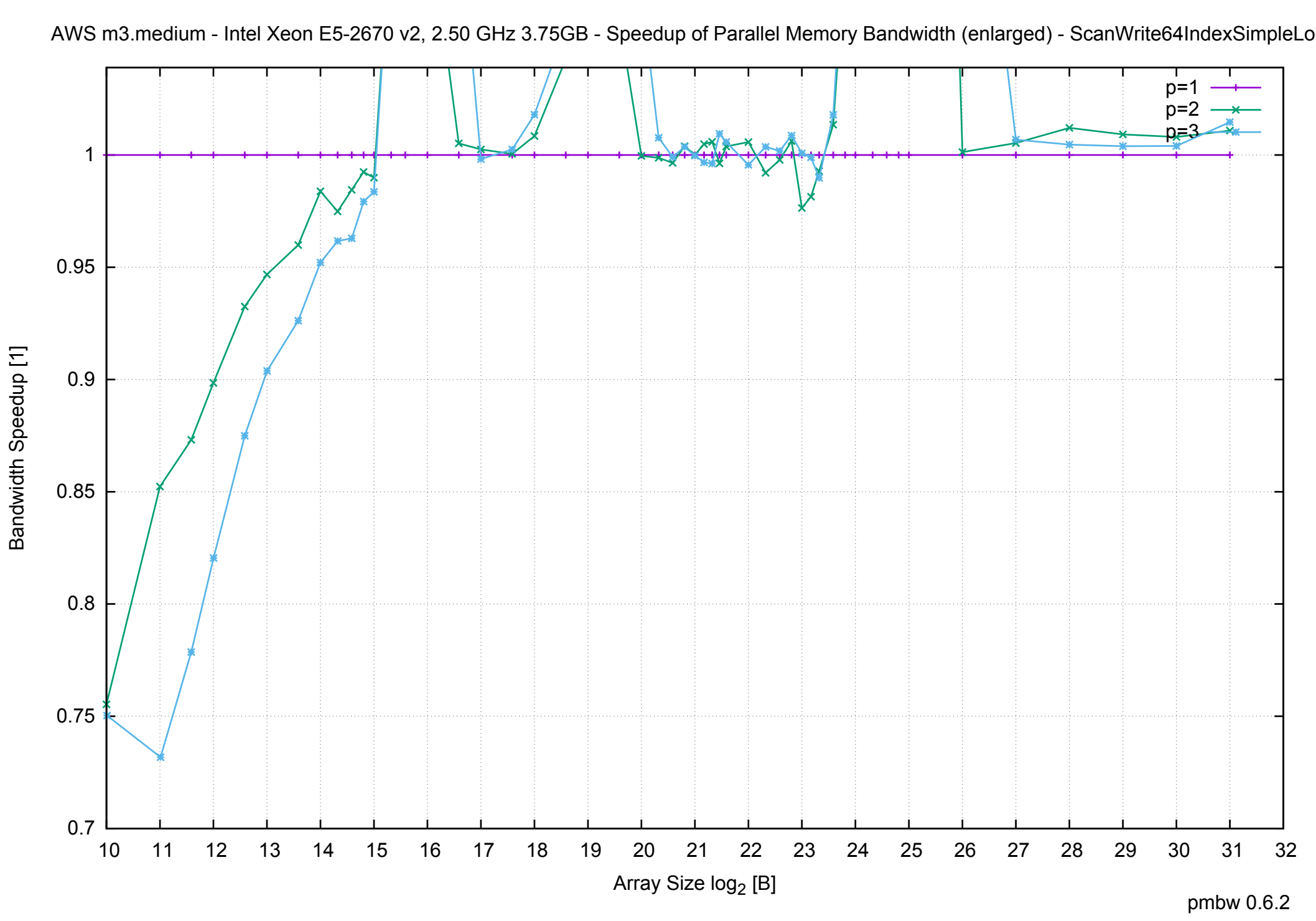

AWS m3.medium - Intel Xeon E5-2670 v2, 2.50 GHz 3.75GB - Speedup of Parallel Memory Bandwidth - ScanRead64PtrUnrollLoop
p=1
p=2
p=3
Bandwidth Speedup [1]
Array Size log2 [B]
pmbw 0.6.2

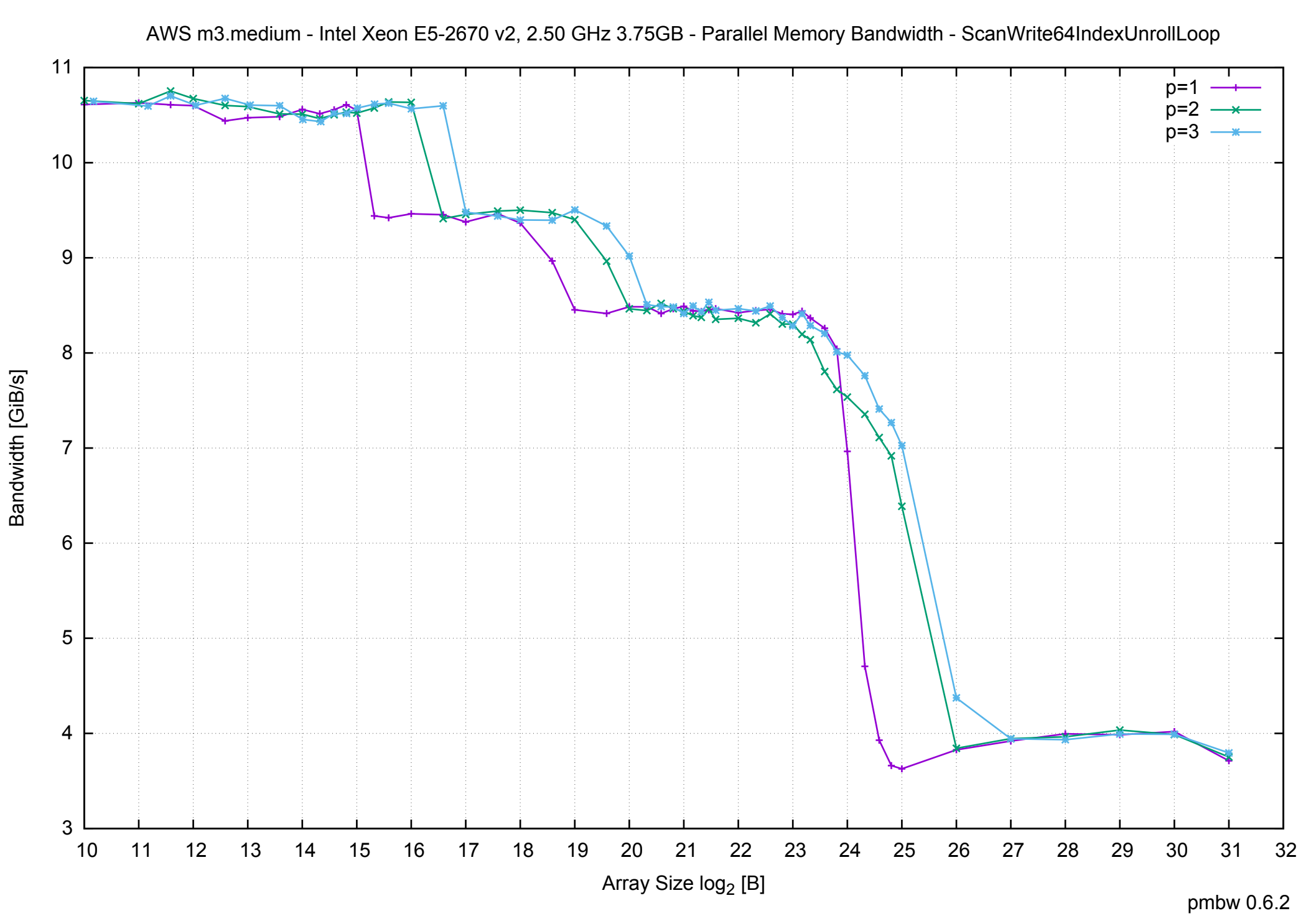

AWS m3.medium - Intel Xeon E5-2670 v2, 2.50 GHz 3.75GB - Speedup of Parallel Memory Bandwidth (enlarged) - ScanRead64PtrUnrollLoop
p=1
p=2
p=3
Bandwidth Speedup [1]
1.06
1.04
1.02
1
0.98
0.96
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
Array Size log2 [B]
pmbw 0.6.2

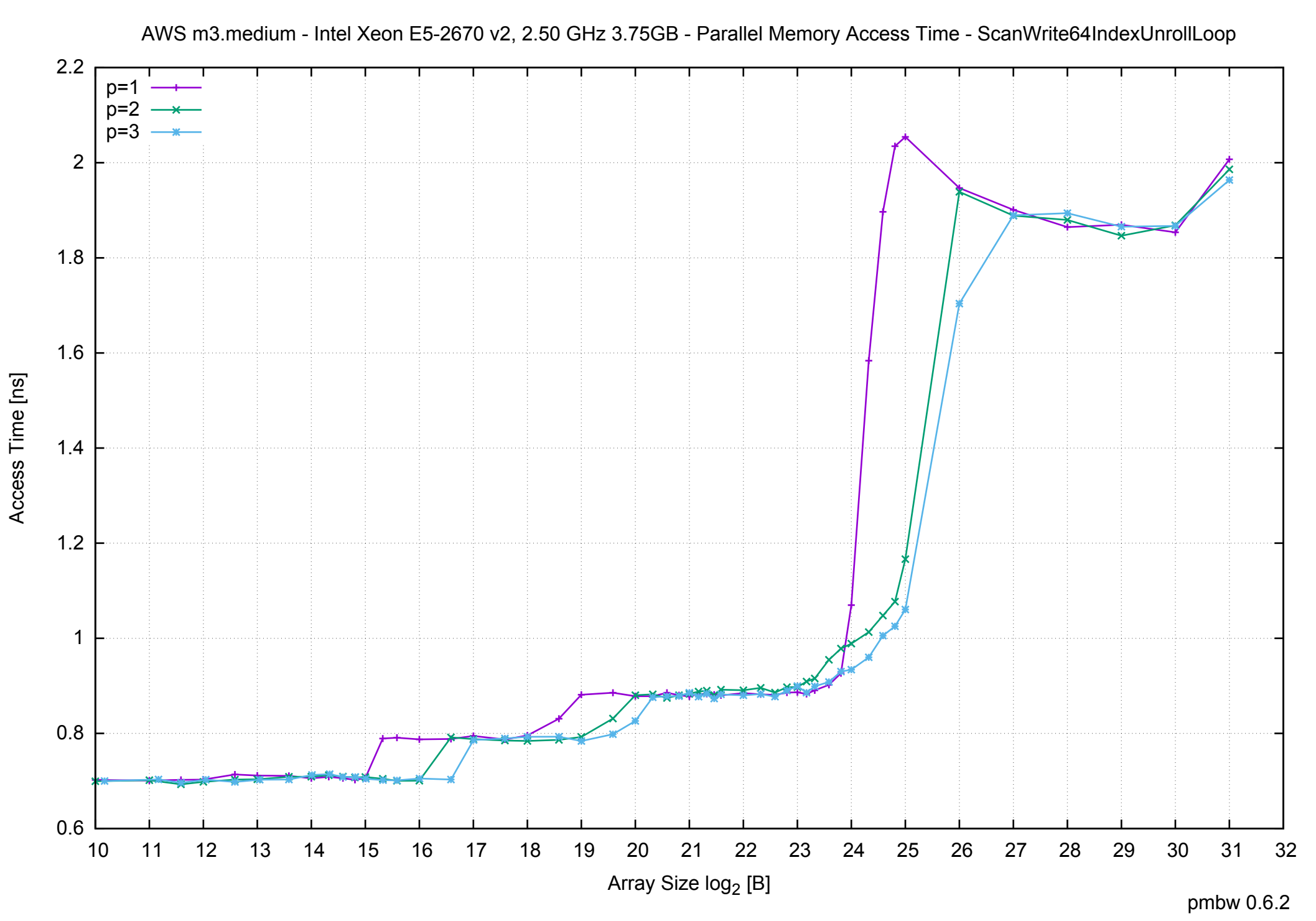

AWS m3.medium - Intel Xeon E5-2670 v2, 2.50 GHz 3.75GB - Parallel Memory Bandwidth - ScanWrite64IndexSimpleLoop
p=1
p=2
p=3
Bandwidth [GiB/s]
Array Size log2 [B]
pmbw 0.6.2

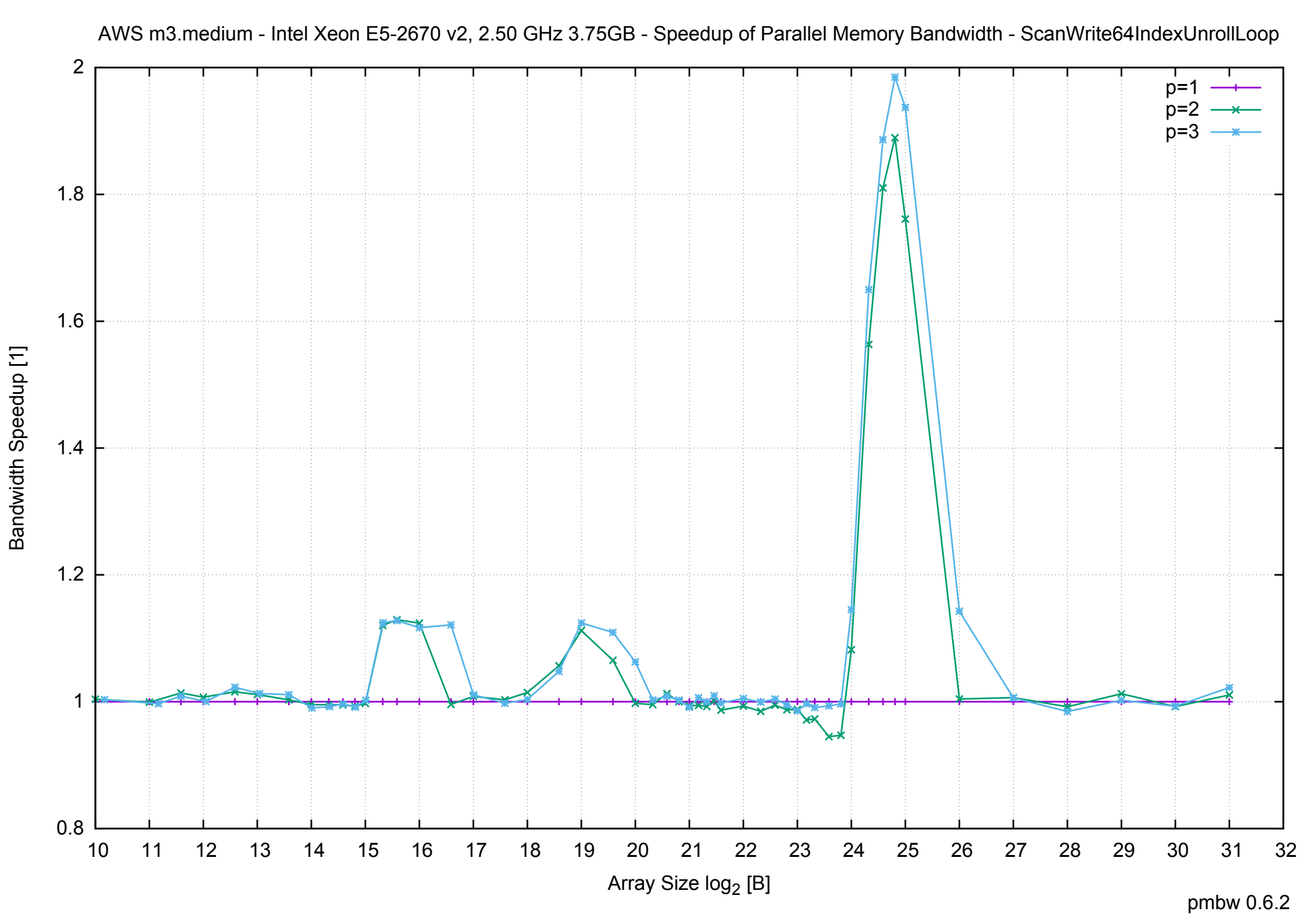

AWS m3.medium - Intel Xeon E5-2670 v2, 2.50 GHz 3.75GB - Parallel Memory Access Time - ScanWrite64IndexSimpleLoop
p=1
p=2
p=3
Access Time [ns]
Array Size log2 [B]
pmbw 0.6.2

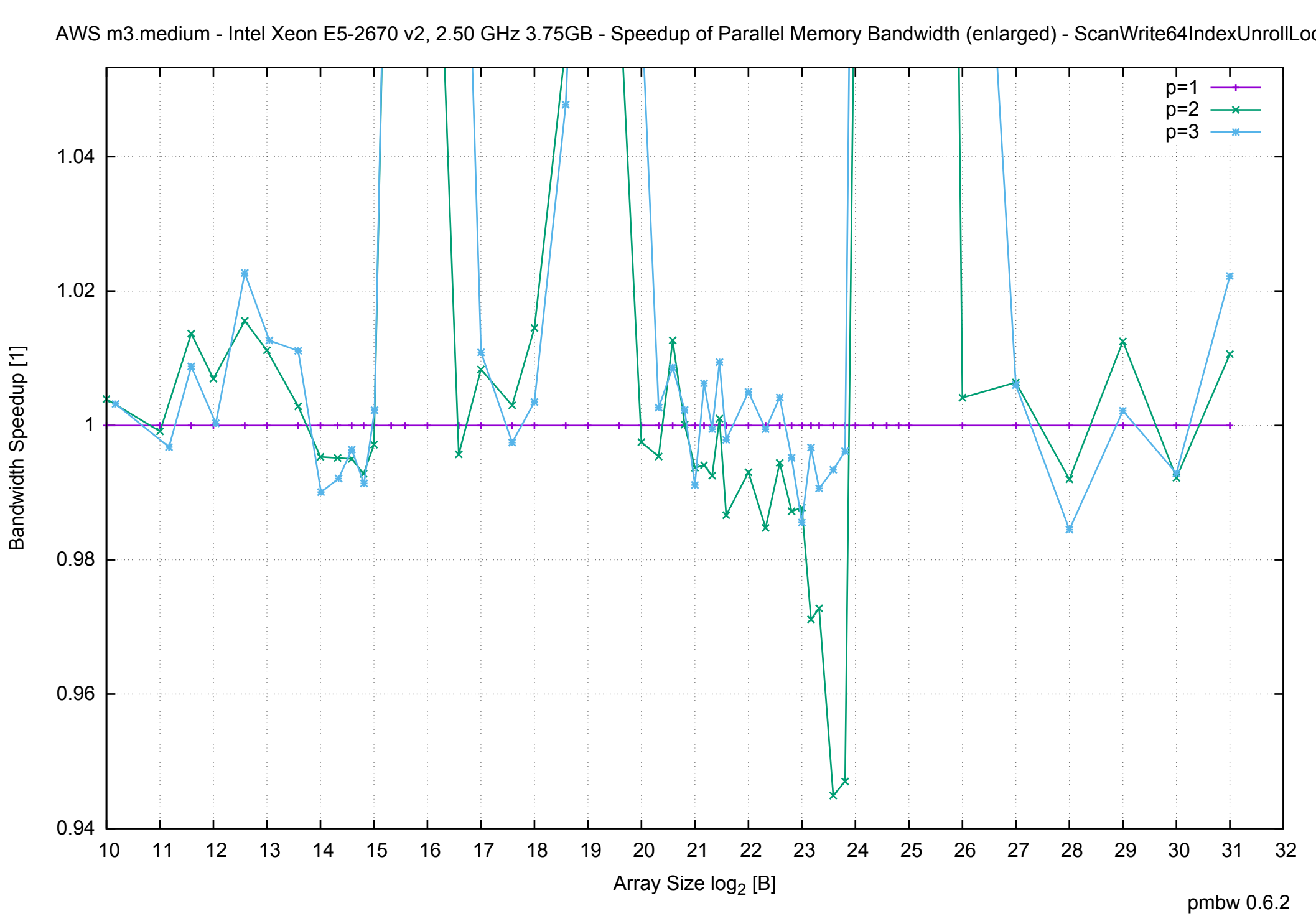

AWS m3.medium - Intel Xeon E5-2670 v2, 2.50 GHz 3.75GB - Speedup of Parallel Memory Bandwidth - ScanWrite64IndexSimpleLoop
p=1
p=2
p=3
Bandwidth Speedup [1]
Array Size log2 [B]
2
1.8
1.6
1.4
1.2
1
0.8
0.6
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
pmbw 0.6.2

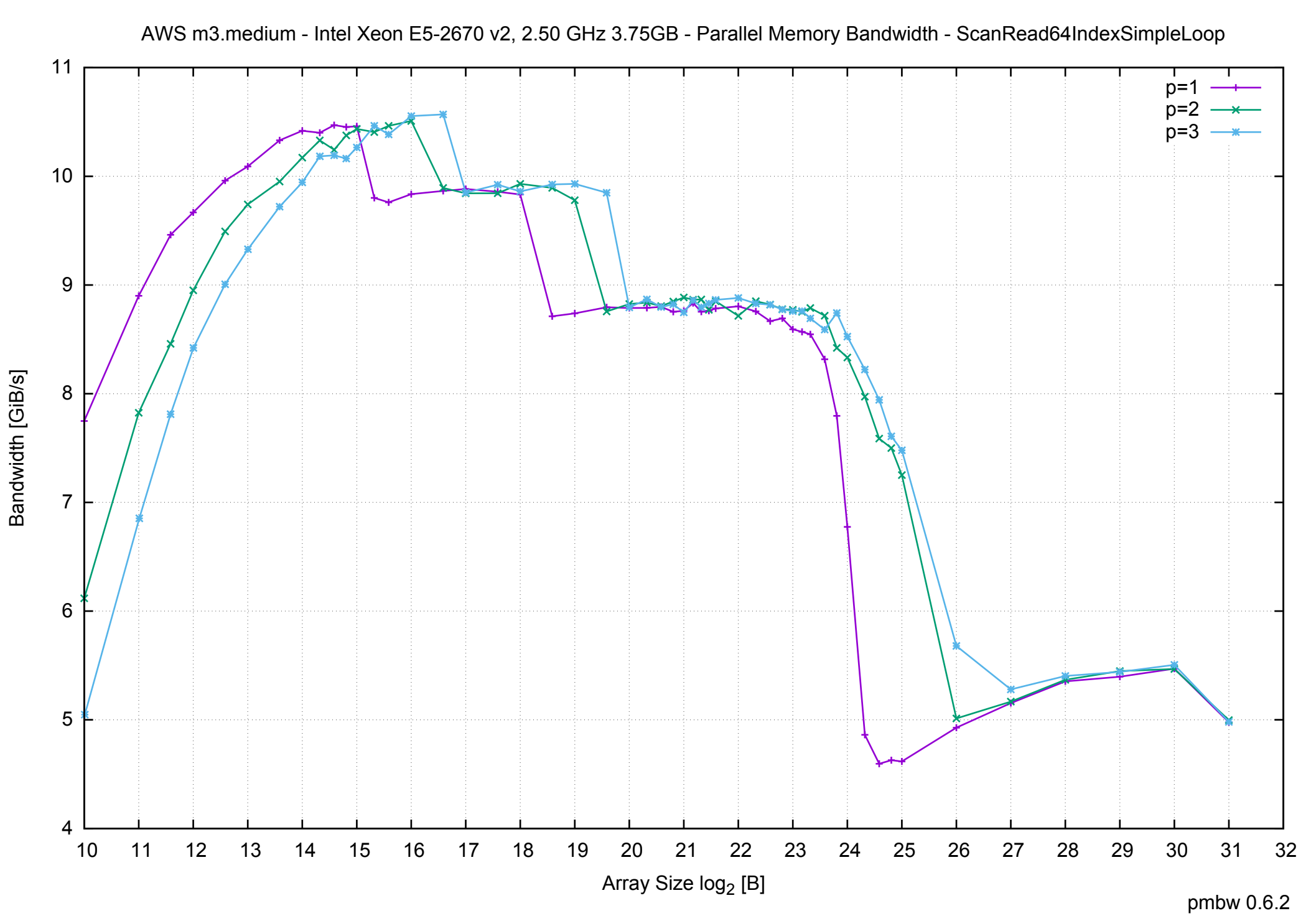

AWS m3.medium - Intel Xeon E5-2670 v2, 2.50 GHz 3.75GB - Speedup of Parallel Memory Bandwidth (enlarged) - ScanWrite64IndexSimpleLo
p=1
p=2
p=3
Bandwidth Speedup [1]
1
0.95
0.9
0.85
0.8
0.75
0.7
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
Array Size log2 [B]
pmbw 0.6.2

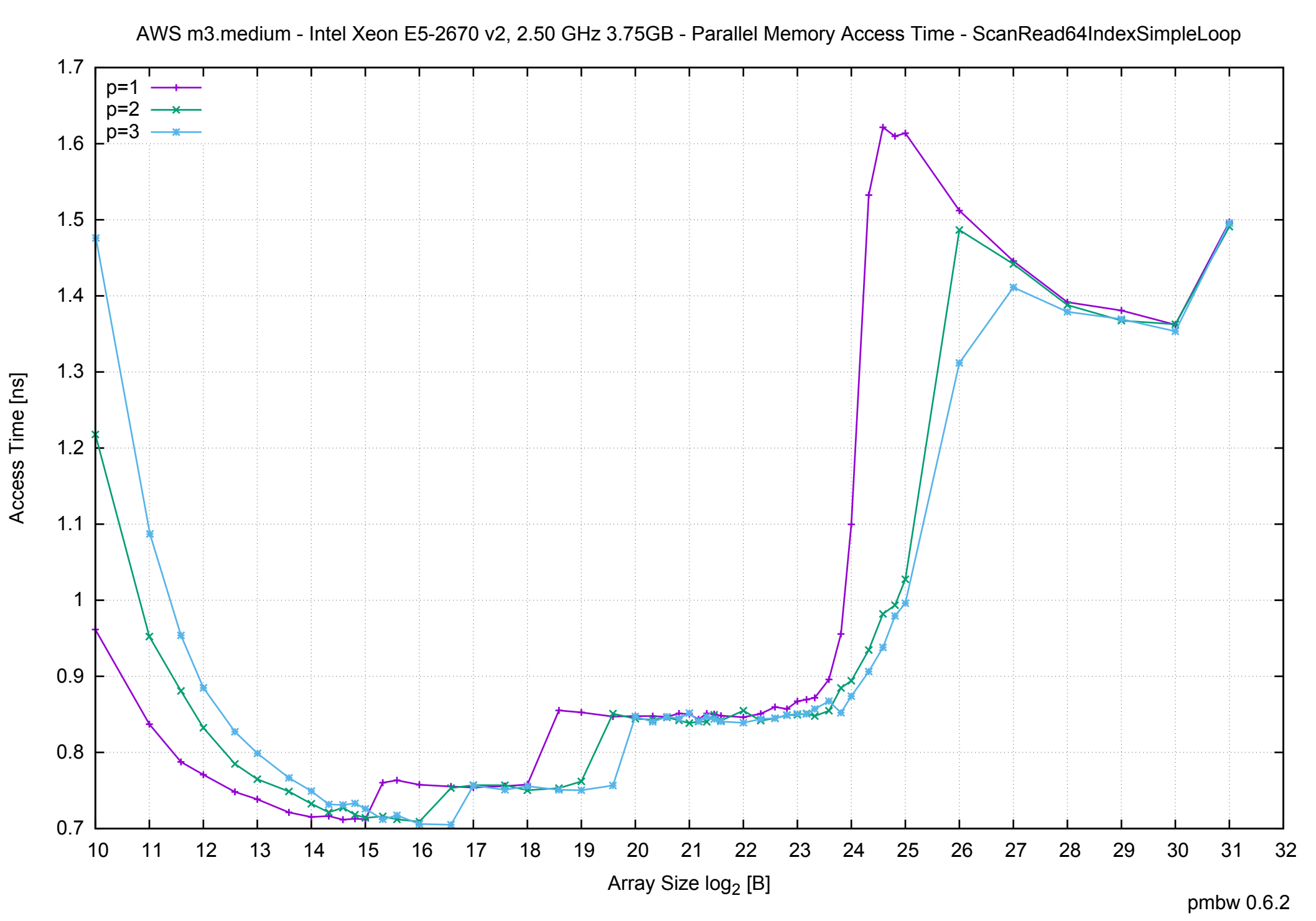

AWS m3.medium - Intel Xeon E5-2670 v2, 2.50 GHz 3.75GB - Parallel Memory Bandwidth - ScanWrite64IndexUnrollLoop
p=1
p=2
p=3
Bandwidth [GiB/s]
Array Size log2 [B]
11
10
9
8
7
6
5
4
3
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
pmbw 0.6.2

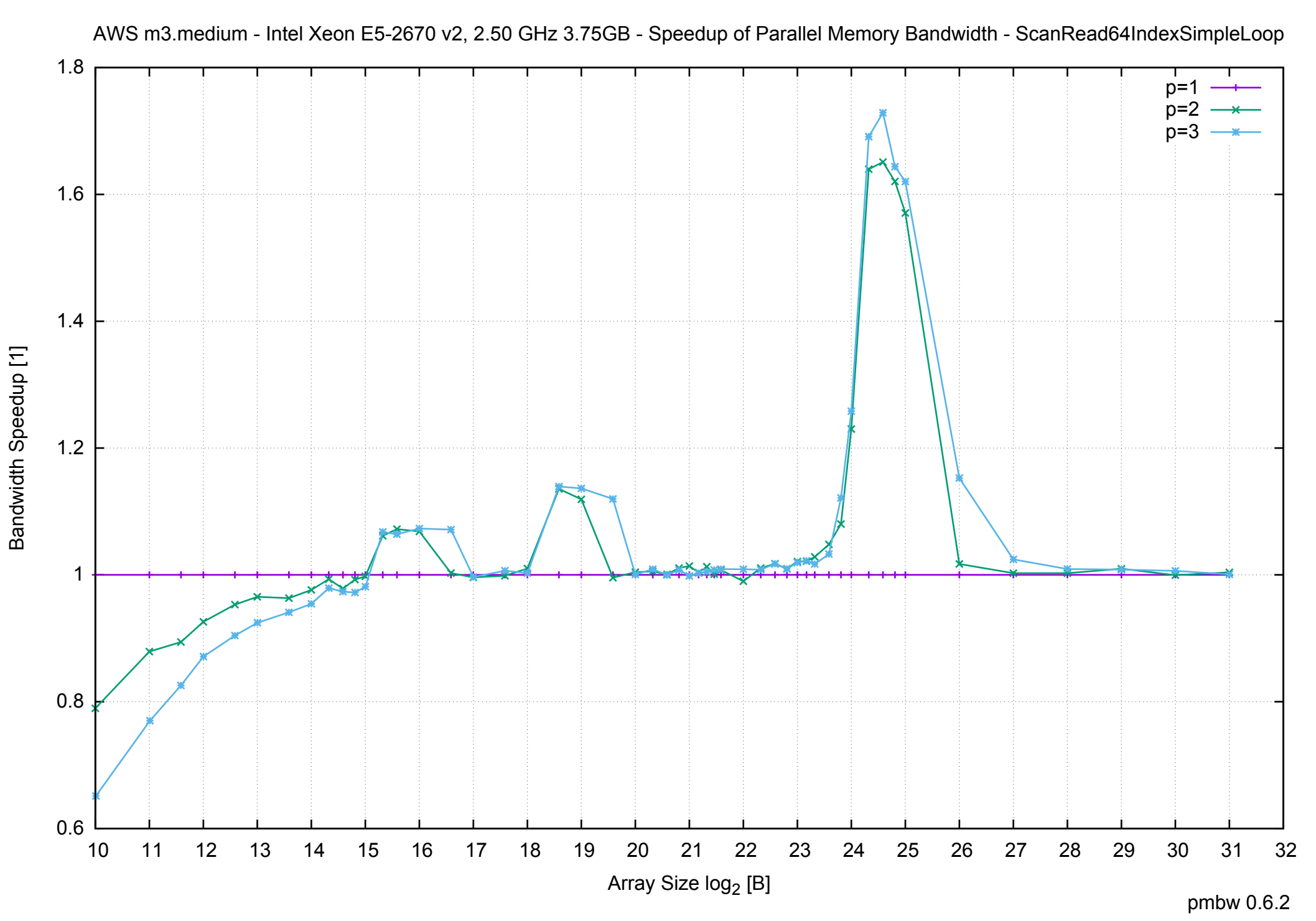

AWS m3.medium - Intel Xeon E5-2670 v2, 2.50 GHz 3.75GB - Parallel Memory Access Time - ScanWrite64IndexUnrollLoop
p=1
p=2
p=3
Access Time [ns]
Array Size log2 [B]
pmbw 0.6.2

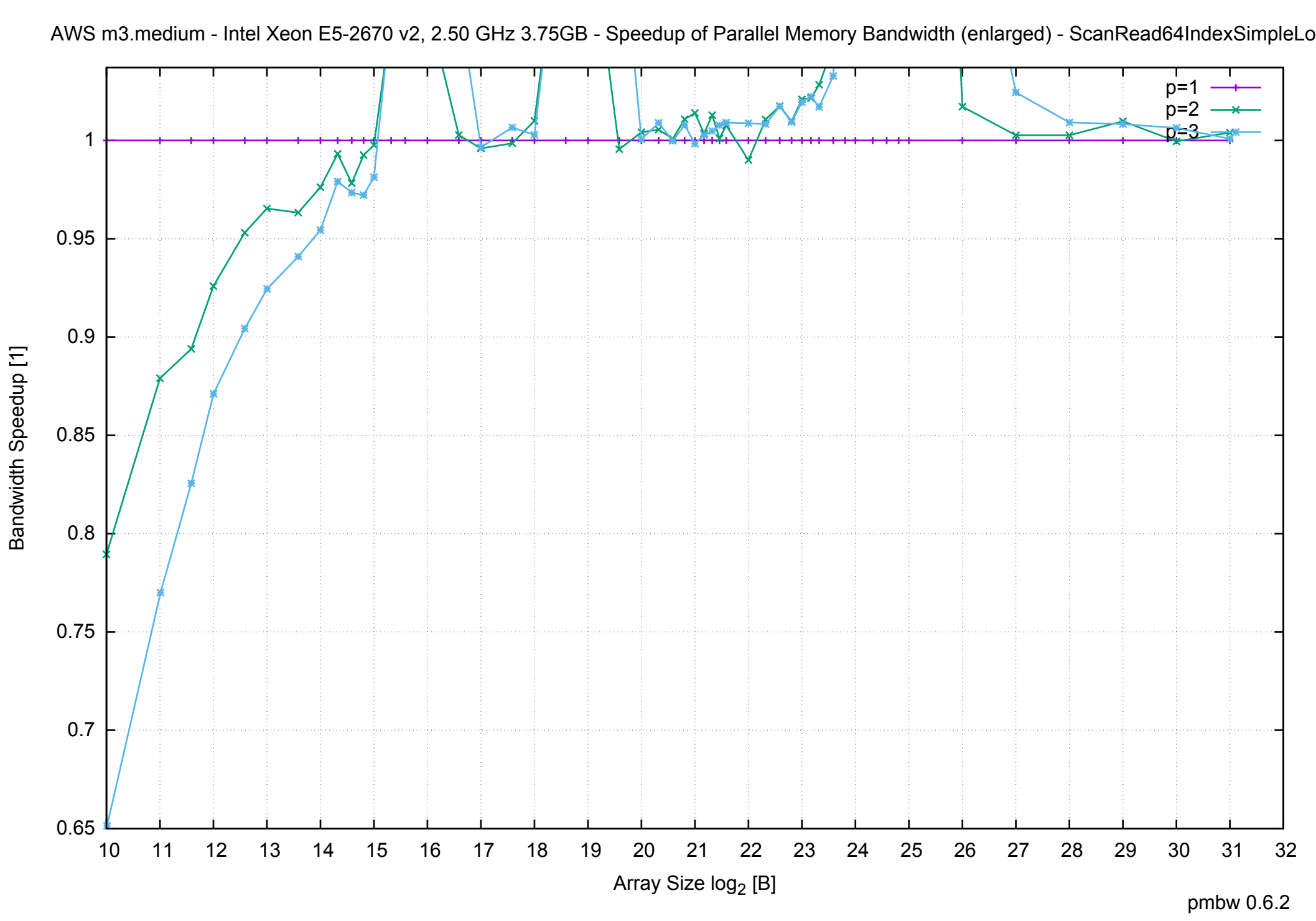

AWS m3.medium - Intel Xeon E5-2670 v2, 2.50 GHz 3.75GB - Speedup of Parallel Memory Bandwidth - ScanWrite64IndexUnrollLoop
p=1
p=2
p=3
Bandwidth Speedup [1]
Array Size log2 [B]
2
1.8
1.6
1.4
1.2
1
0.8
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
pmbw 0.6.2

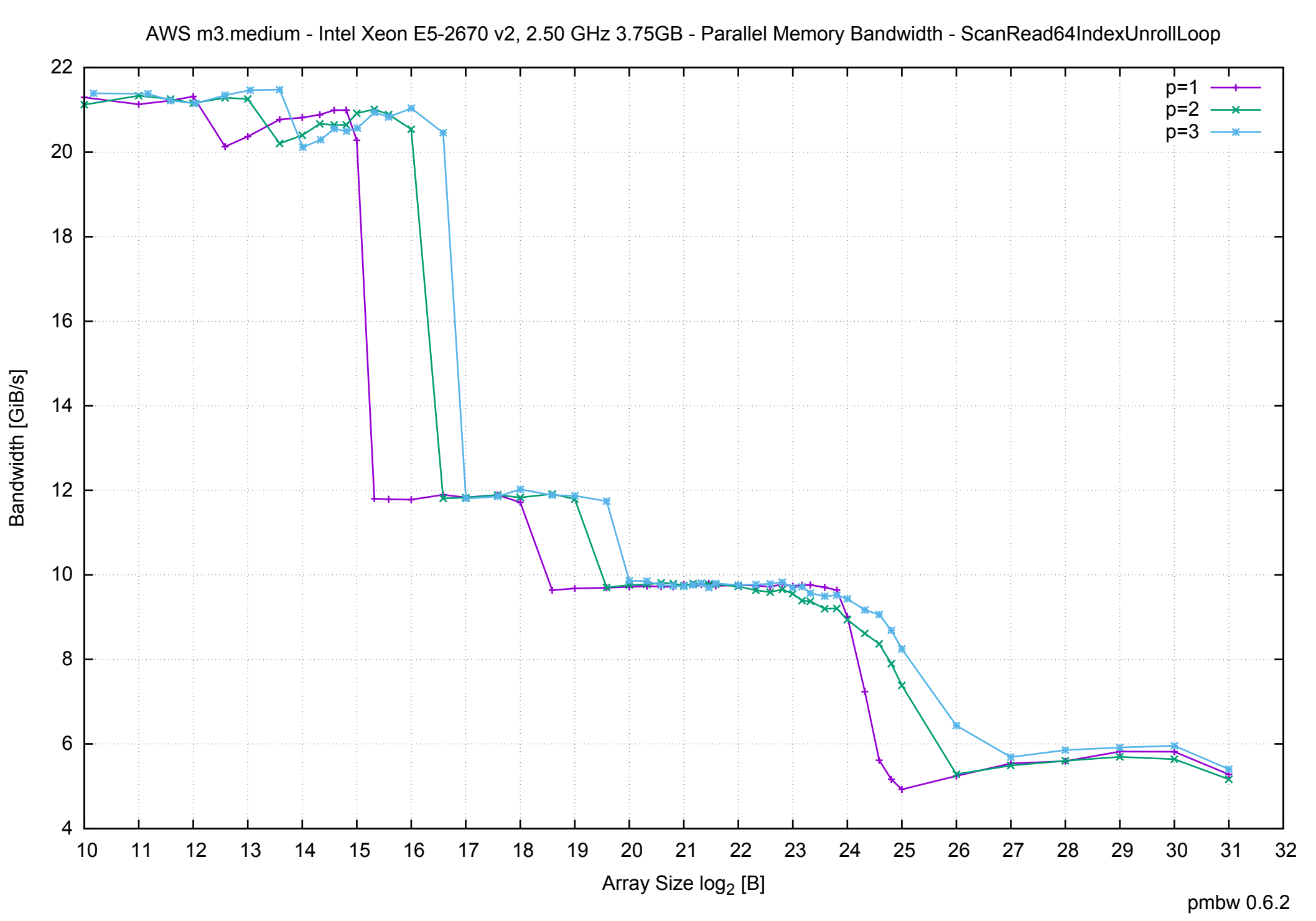

AWS m3.medium - Intel Xeon E5-2670 v2, 2.50 GHz 3.75GB - Speedup of Parallel Memory Bandwidth (enlarged) - ScanWrite64IndexUnrollLoo
p=1
p=2
p=3
1.04
1.02
1
0.98
0.96
0.94
Bandwidth Speedup [1]
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
Array Size log2 [B]
pmbw 0.6.2

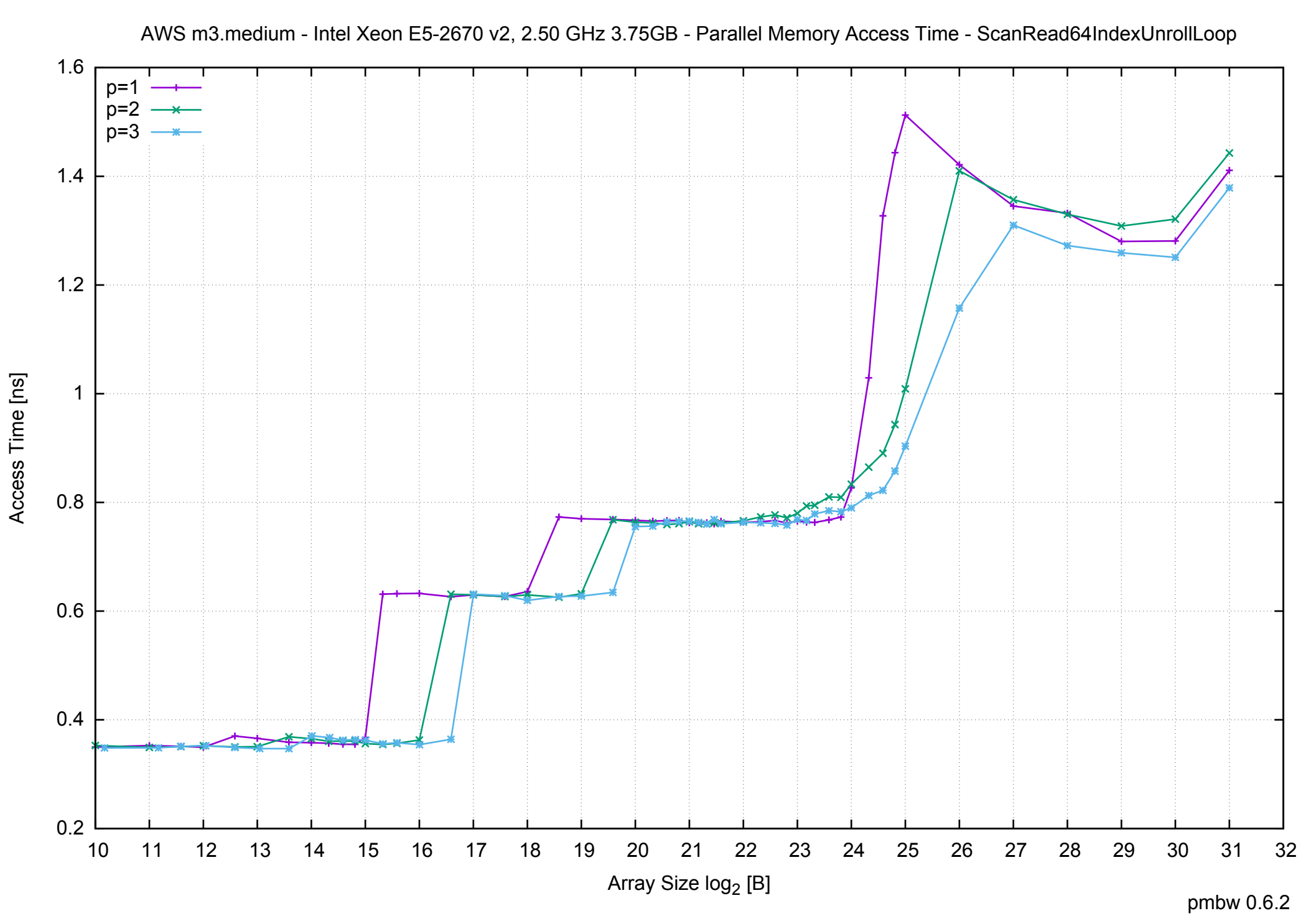

AWS m3.medium - Intel Xeon E5-2670 v2, 2.50 GHz 3.75GB - Parallel Memory Bandwidth - ScanRead64IndexSimpleLoop
p=1
p=2
p=3
Bandwidth [GiB/s]
Array Size log2 [B]
pmbw 0.6.2

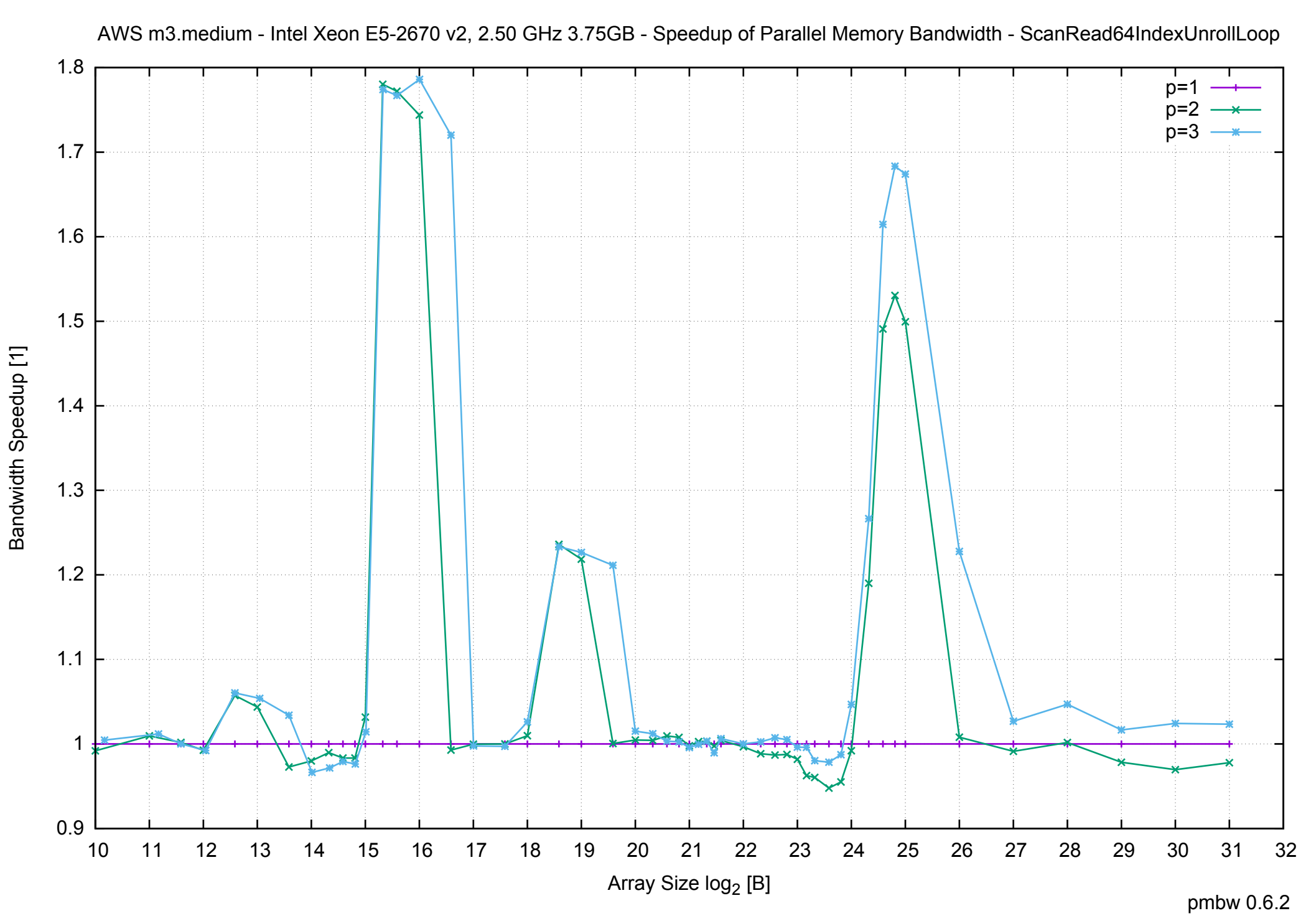

AWS m3.medium - Intel Xeon E5-2670 v2, 2.50 GHz 3.75GB - Parallel Memory Access Time - ScanRead64IndexSimpleLoop
p=1
p=2
p=3
Access Time [ns]
Array Size log2 [B]
pmbw 0.6.2

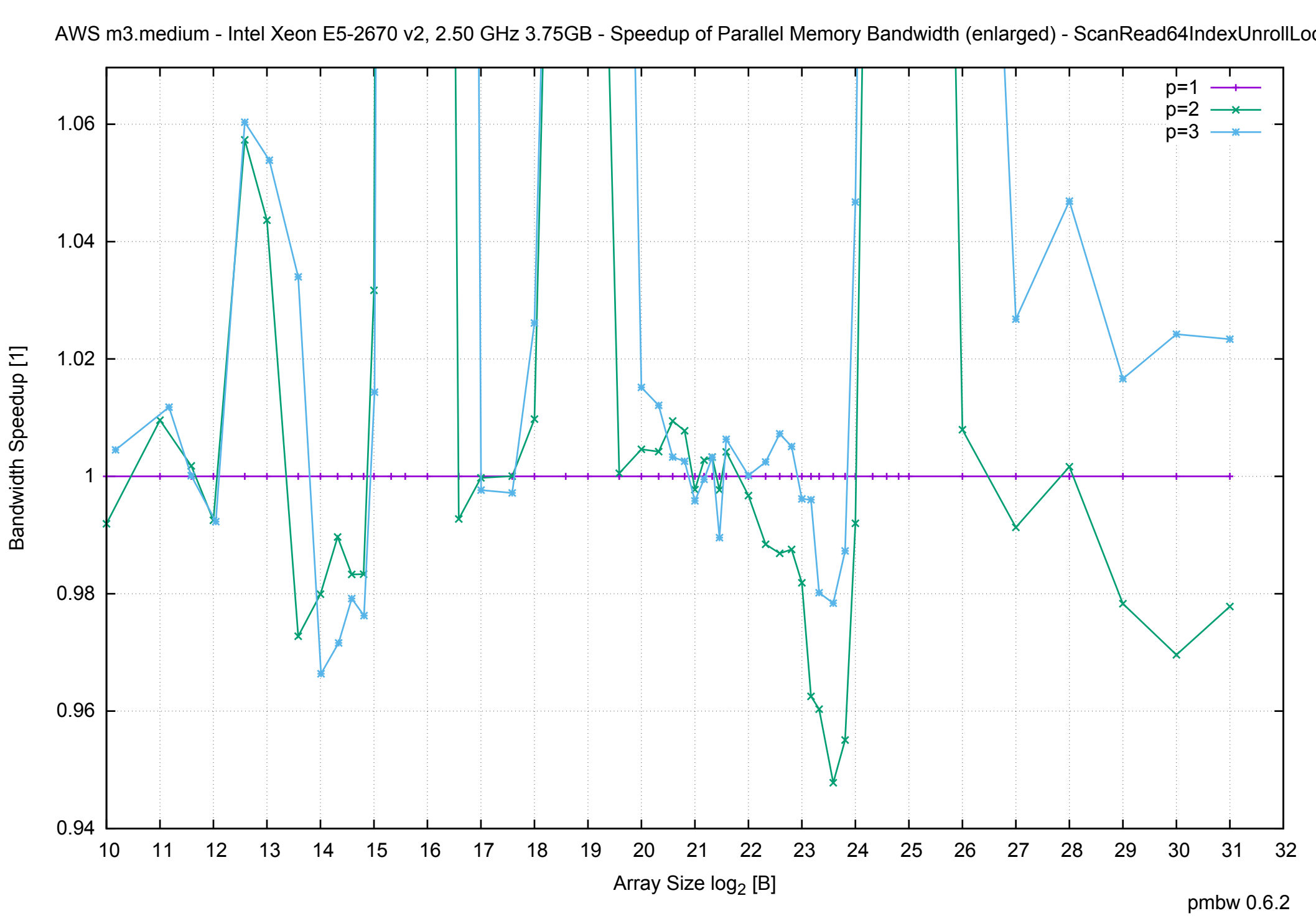

AWS m3.medium - Intel Xeon E5-2670 v2, 2.50 GHz 3.75GB - Speedup of Parallel Memory Bandwidth - ScanRead64IndexSimpleLoop
p=1
p=2
p=3
Bandwidth Speedup [1]
Array Size log2 [B]
1.8
1.6
1.4
1.2
1
0.8
0.6
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
pmbw 0.6.2

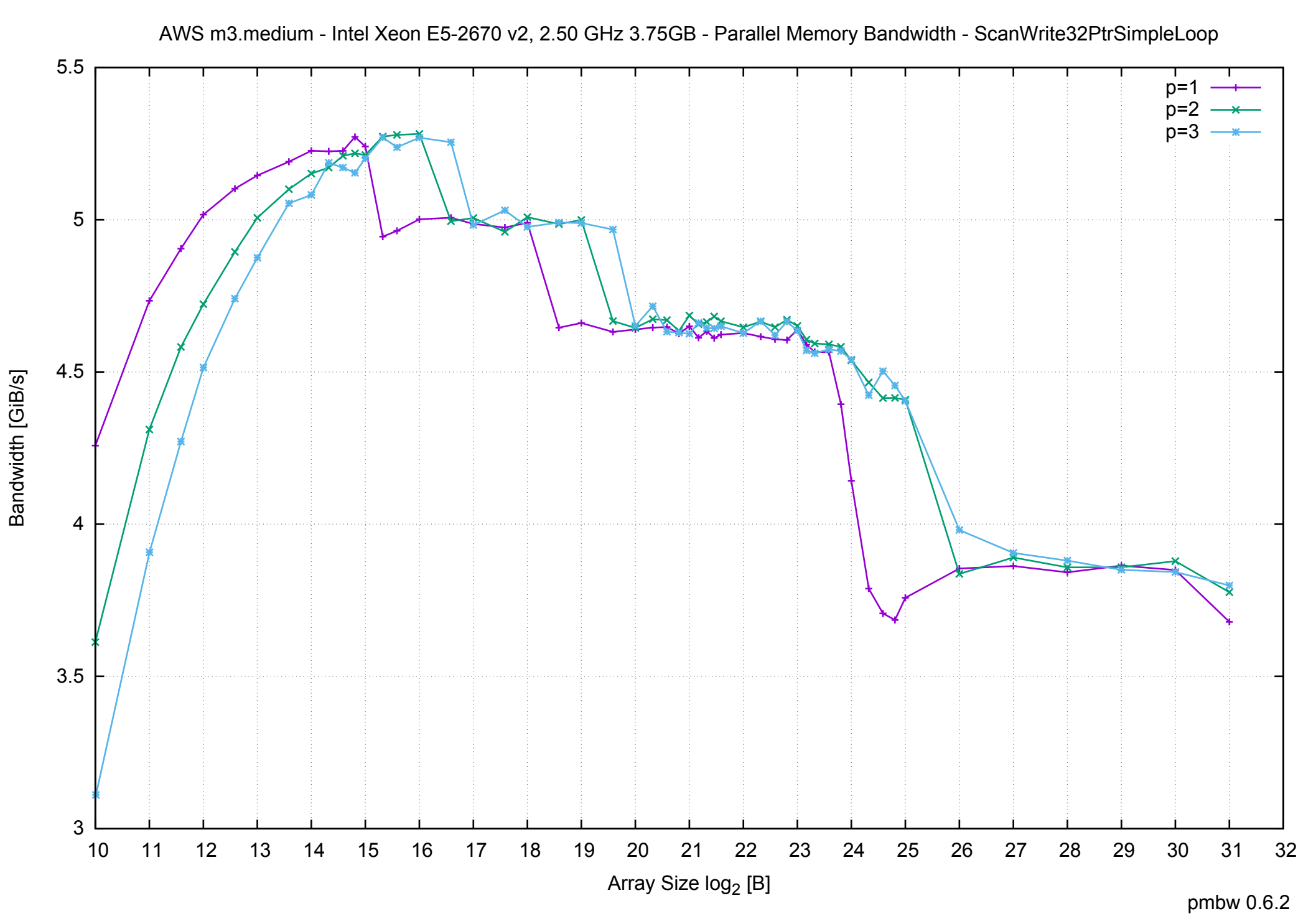

AWS m3.medium - Intel Xeon E5-2670 v2, 2.50 GHz 3.75GB - Speedup of Parallel Memory Bandwidth (enlarged) - ScanRead64IndexSimpleLo
p=1
p=2
p=3
Bandwidth Speedup [1]
1
0.95
0.9
0.85
0.8
0.75
0.7
0.65
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
Array Size log2 [B]
pmbw 0.6.2

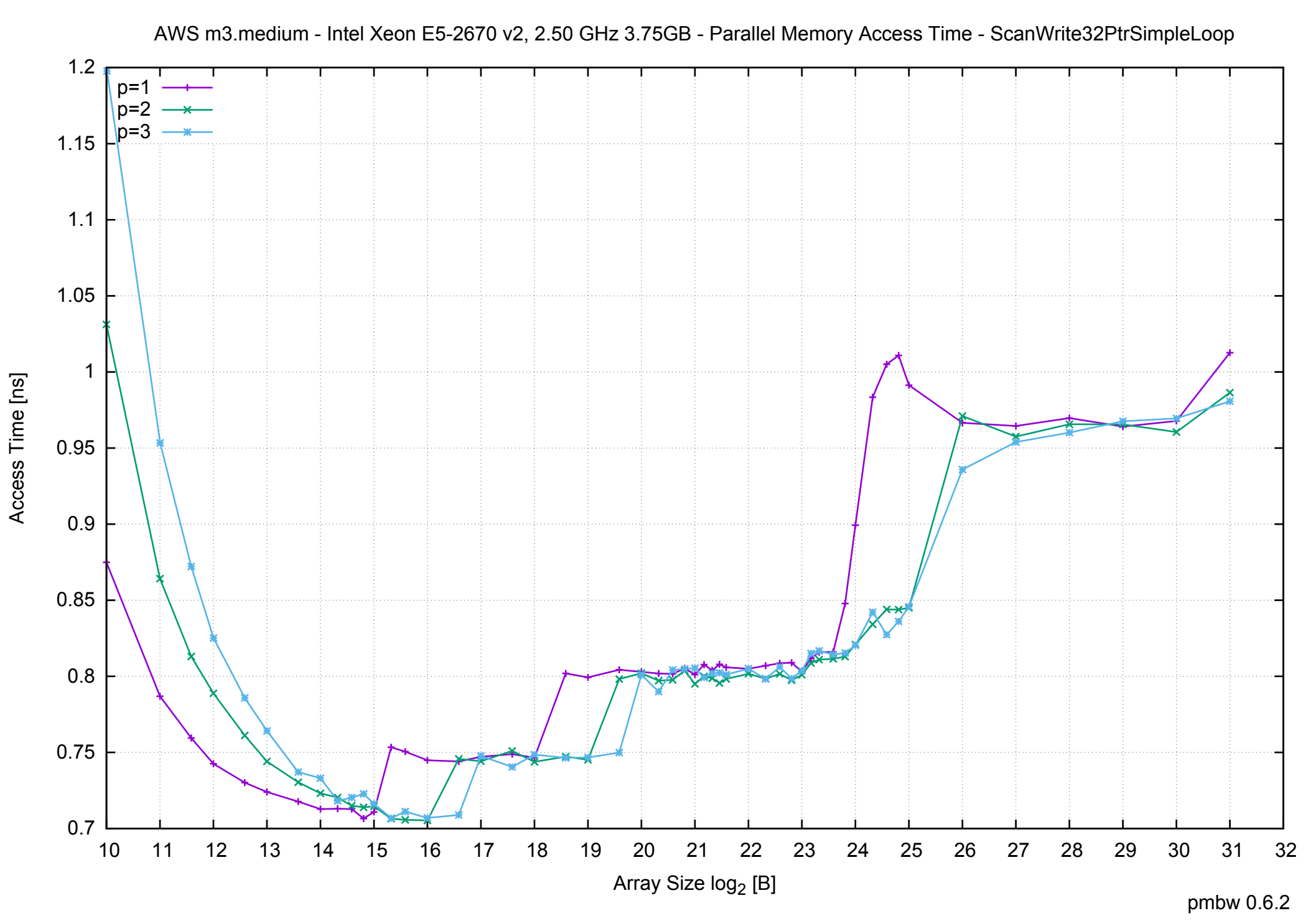

AWS m3.medium - Intel Xeon E5-2670 v2, 2.50 GHz 3.75GB - Parallel Memory Bandwidth - ScanRead64IndexUnrollLoop
p=1
p=2
p=3
Bandwidth [GiB/s]
Array Size log2 [B]
22
20
18
16
14
12
10
8
6
4
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
pmbw 0.6.2

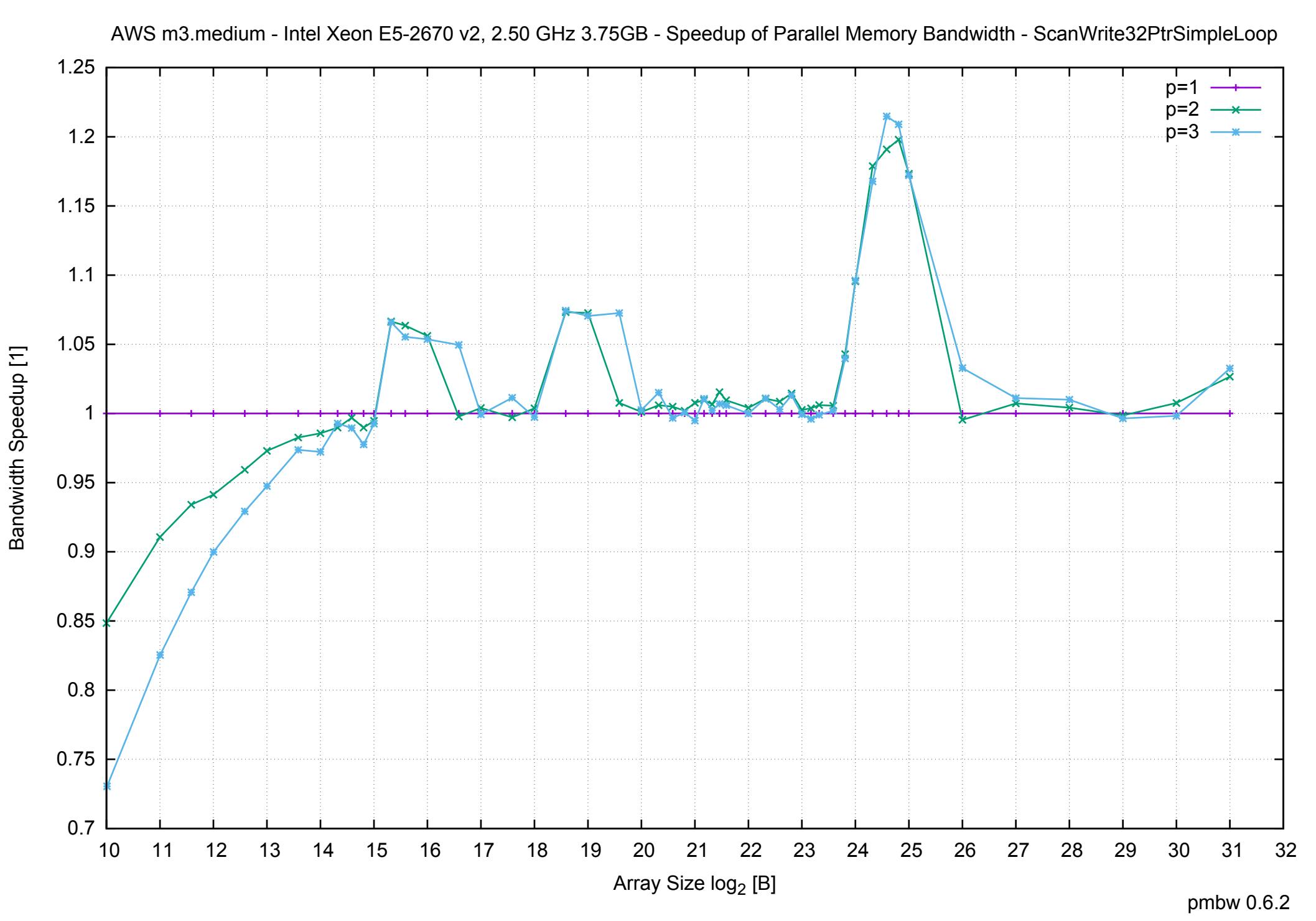

AWS m3.medium - Intel Xeon E5-2670 v2, 2.50 GHz 3.75GB - Parallel Memory Access Time - ScanRead64IndexUnrollLoop
p=1
p=2
p=3
Access Time [ns]
Array Size log2 [B]
pmbw 0.6.2

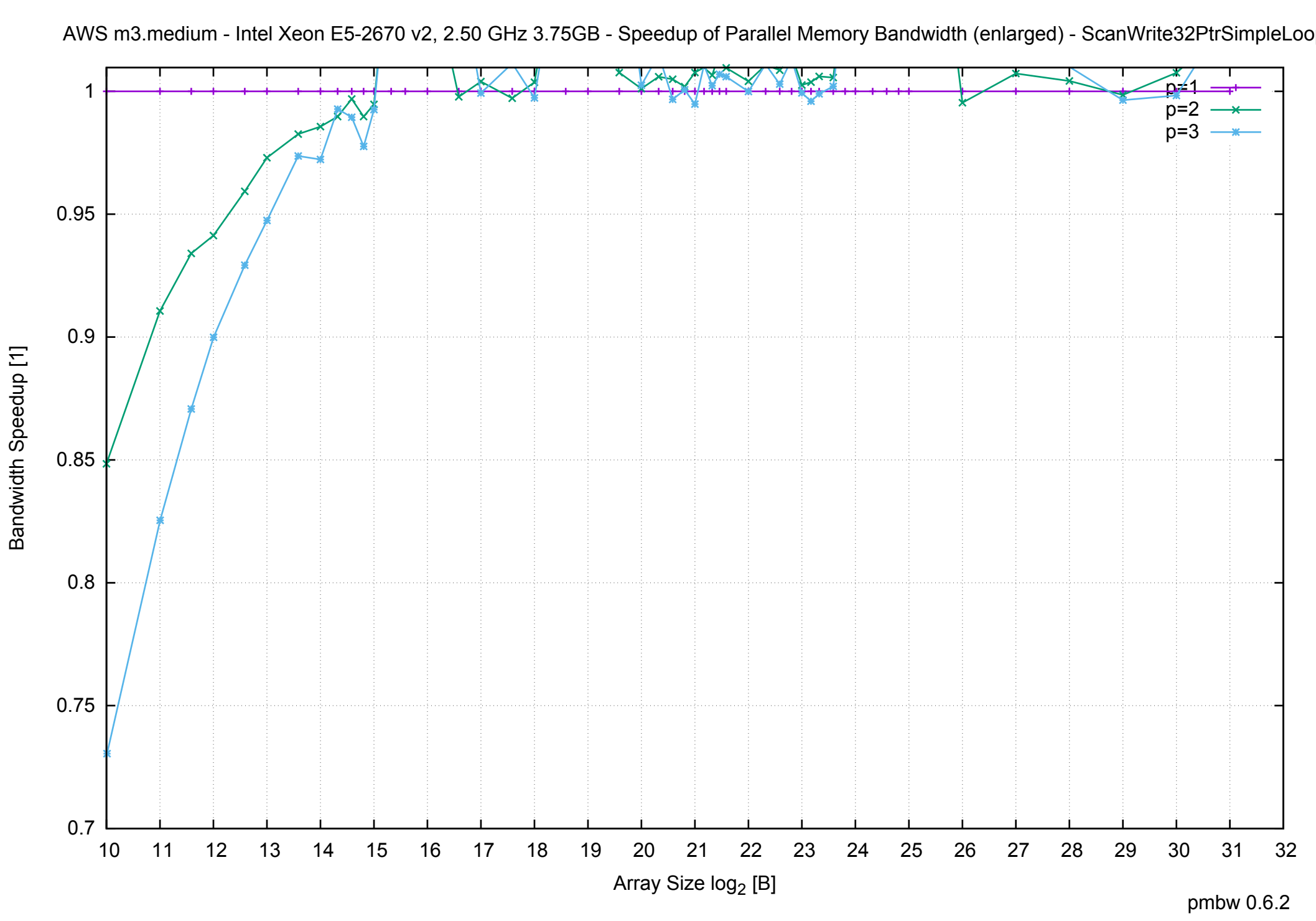

AWS m3.medium - Intel Xeon E5-2670 v2, 2.50 GHz 3.75GB - Speedup of Parallel Memory Bandwidth - ScanRead64IndexUnrollLoop
p=1
p=2
p=3
Bandwidth Speedup [1]
Array Size log2 [B]
pmbw 0.6.2

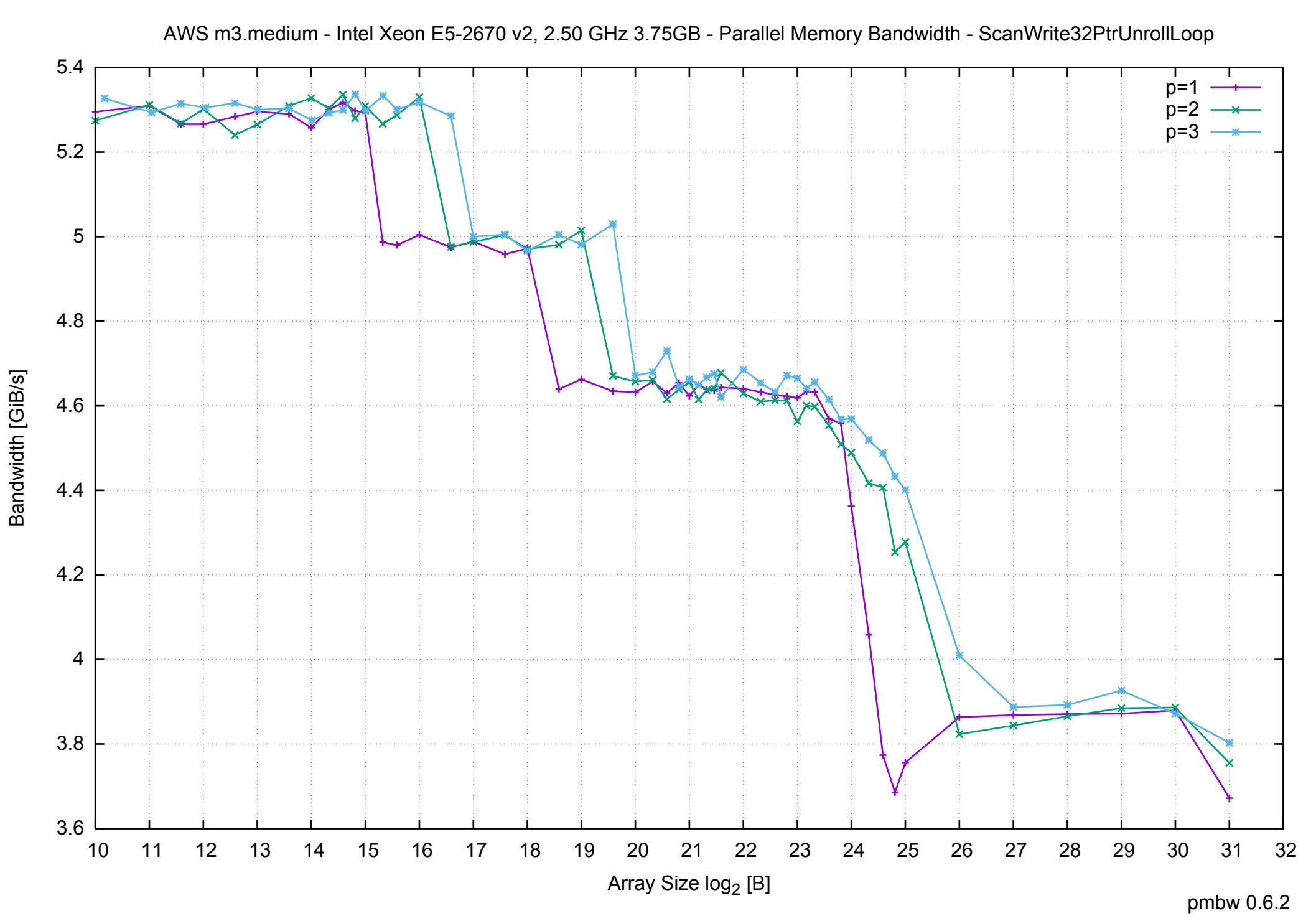

AWS m3.medium - Intel Xeon E5-2670 v2, 2.50 GHz 3.75GB - Speedup of Parallel Memory Bandwidth (enlarged) - ScanRead64IndexUnrollLoo
p=1
p=2
p=3
Bandwidth Speedup [1]
1.06
1.04
1.02
1
0.98
0.96
0.94
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
Array Size log2 [B]
pmbw 0.6.2

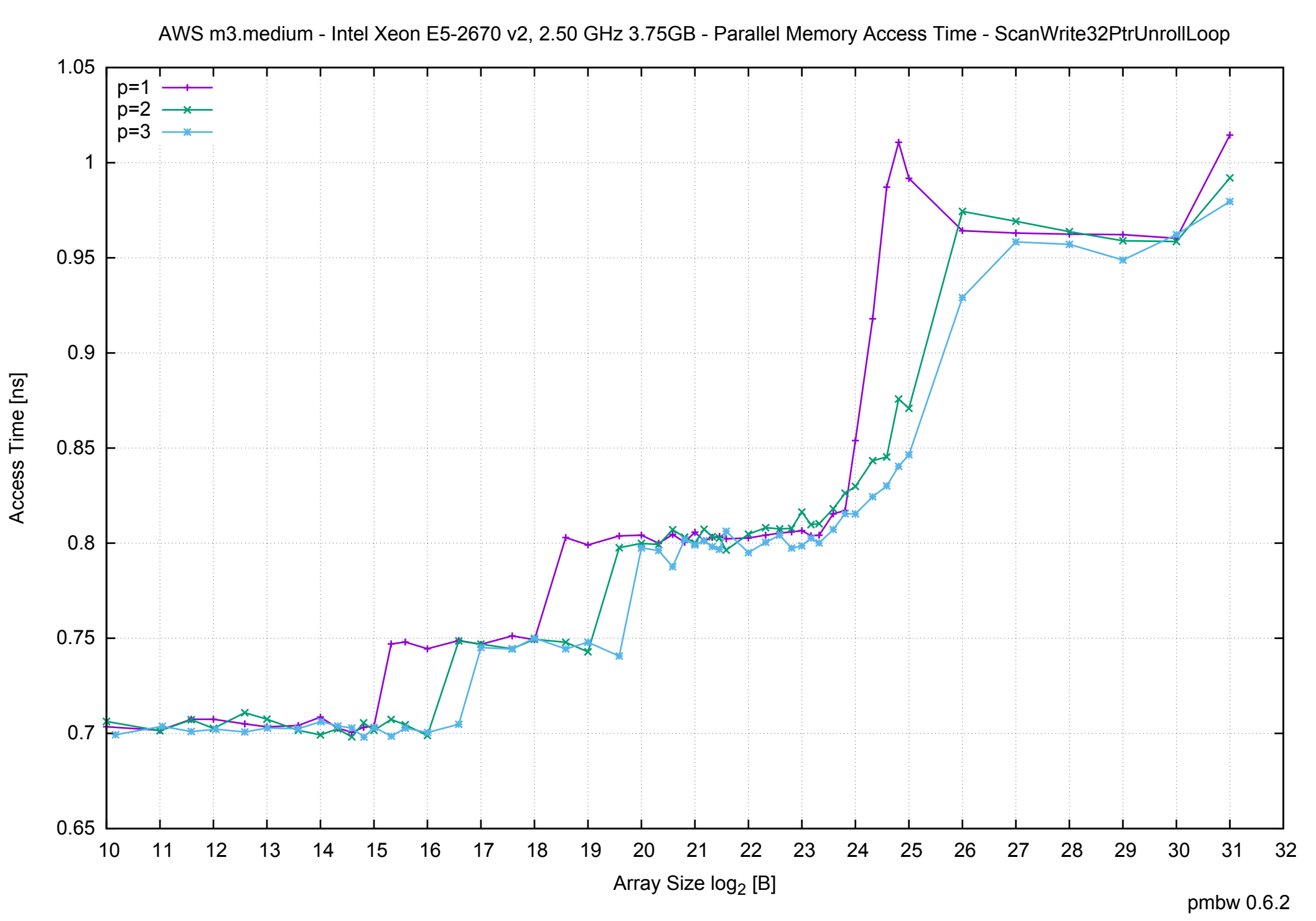

AWS m3.medium - Intel Xeon E5-2670 v2, 2.50 GHz 3.75GB - Parallel Memory Bandwidth - ScanWrite32PtrSimpleLoop
p=1
p=2
p=3
Bandwidth [GiB/s]
5.5
5
4.5
4
3.5
3
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
Array Size log2 [B]
pmbw 0.6.2

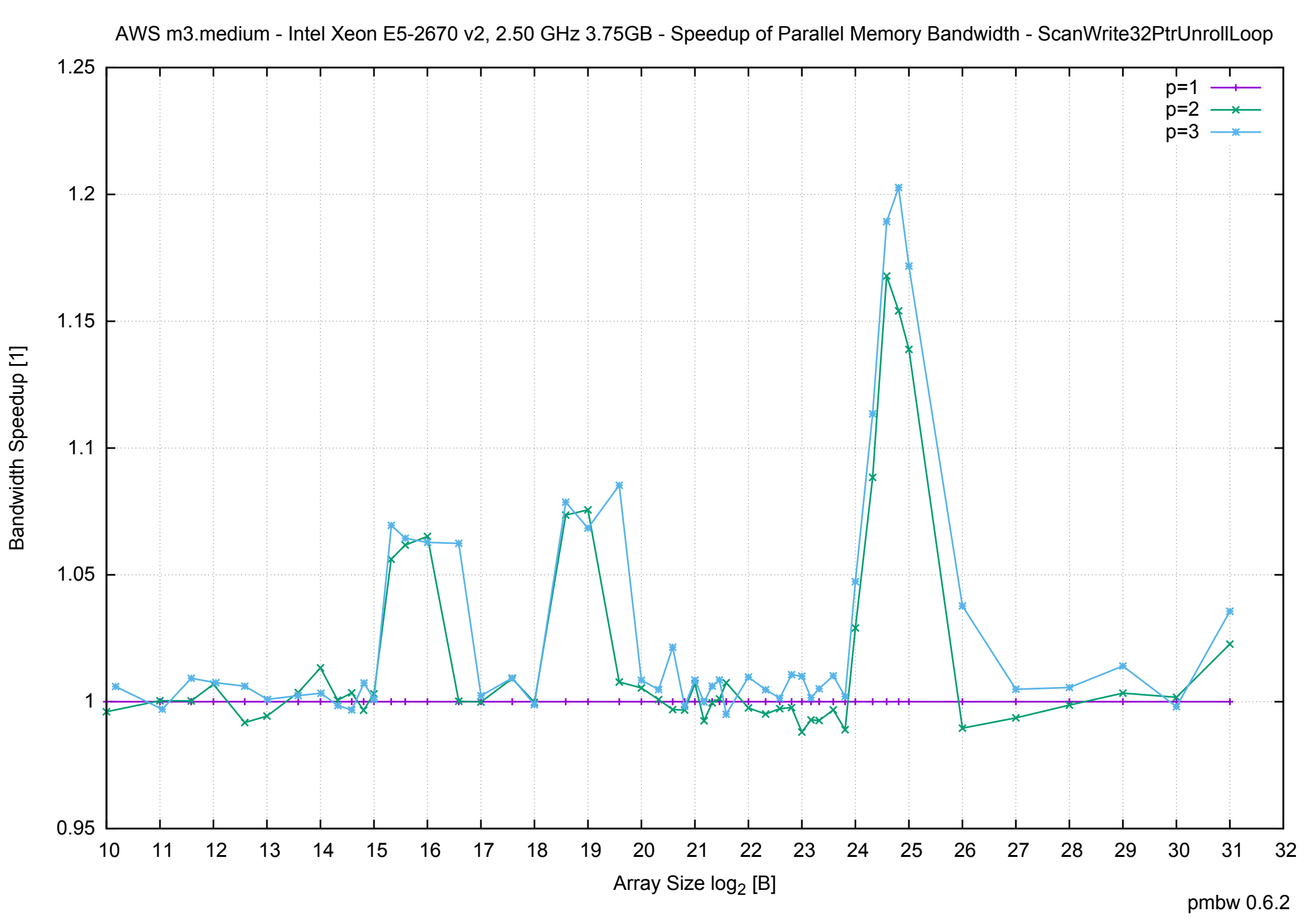

AWS m3.medium - Intel Xeon E5-2670 v2, 2.50 GHz 3.75GB - Parallel Memory Access Time - ScanWrite32PtrSimpleLoop
p=1
p=2
p=3
Access Time [ns]
Array Size log2 [B]
1.2
1.15
1.1
1.05
1
0.95
0.9
0.85
0.8
0.75
0.7
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
pmbw 0.6.2

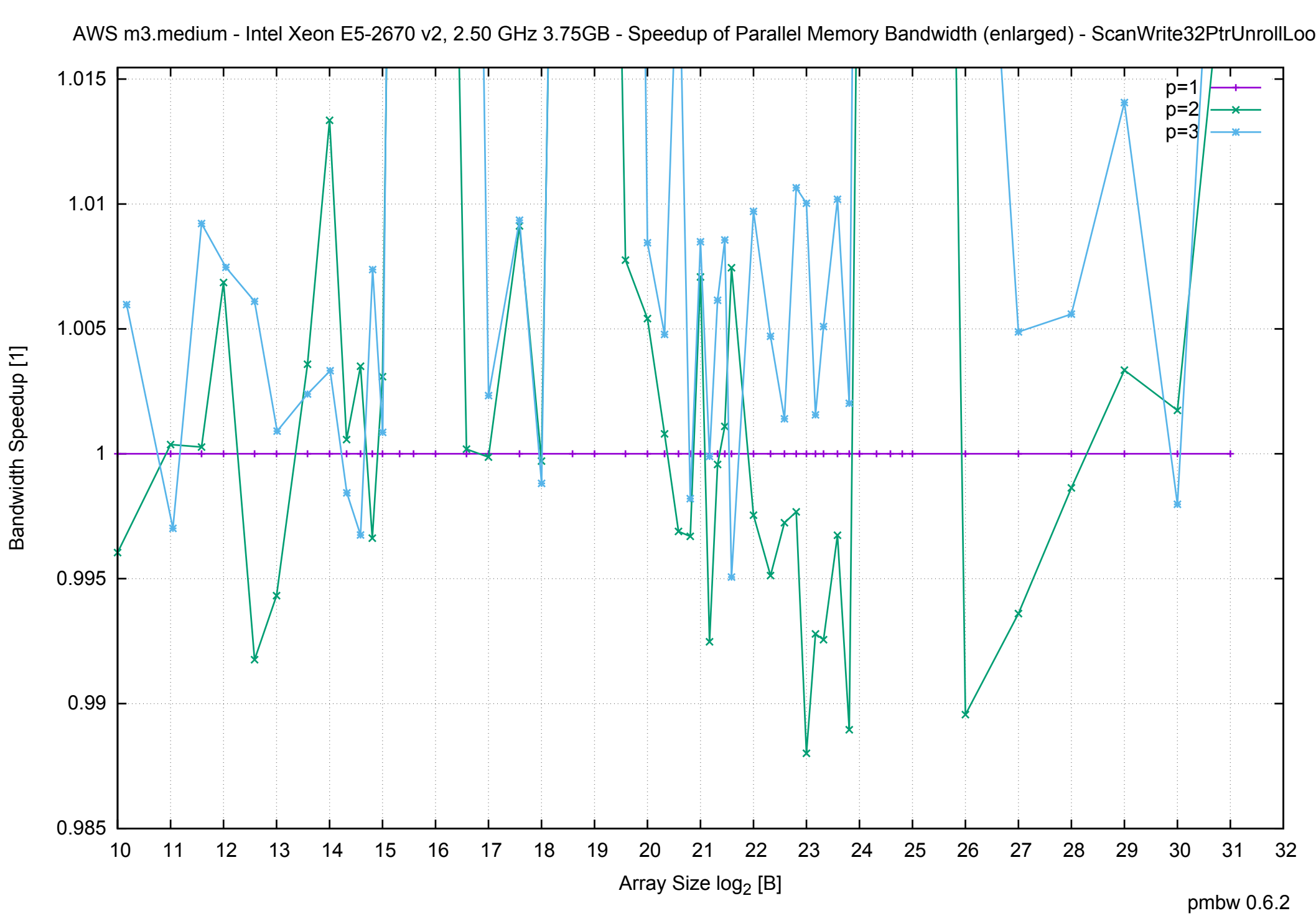

AWS m3.medium - Intel Xeon E5-2670 v2, 2.50 GHz 3.75GB - Speedup of Parallel Memory Bandwidth - ScanWrite32PtrSimpleLoop
p=1
p=2
p=3
Bandwidth Speedup [1]
1.25
1.2
1.15
1.1
1.05
1
0.95
0.9
0.85
0.8
0.75
0.7
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
Array Size log2 [B]
pmbw 0.6.2

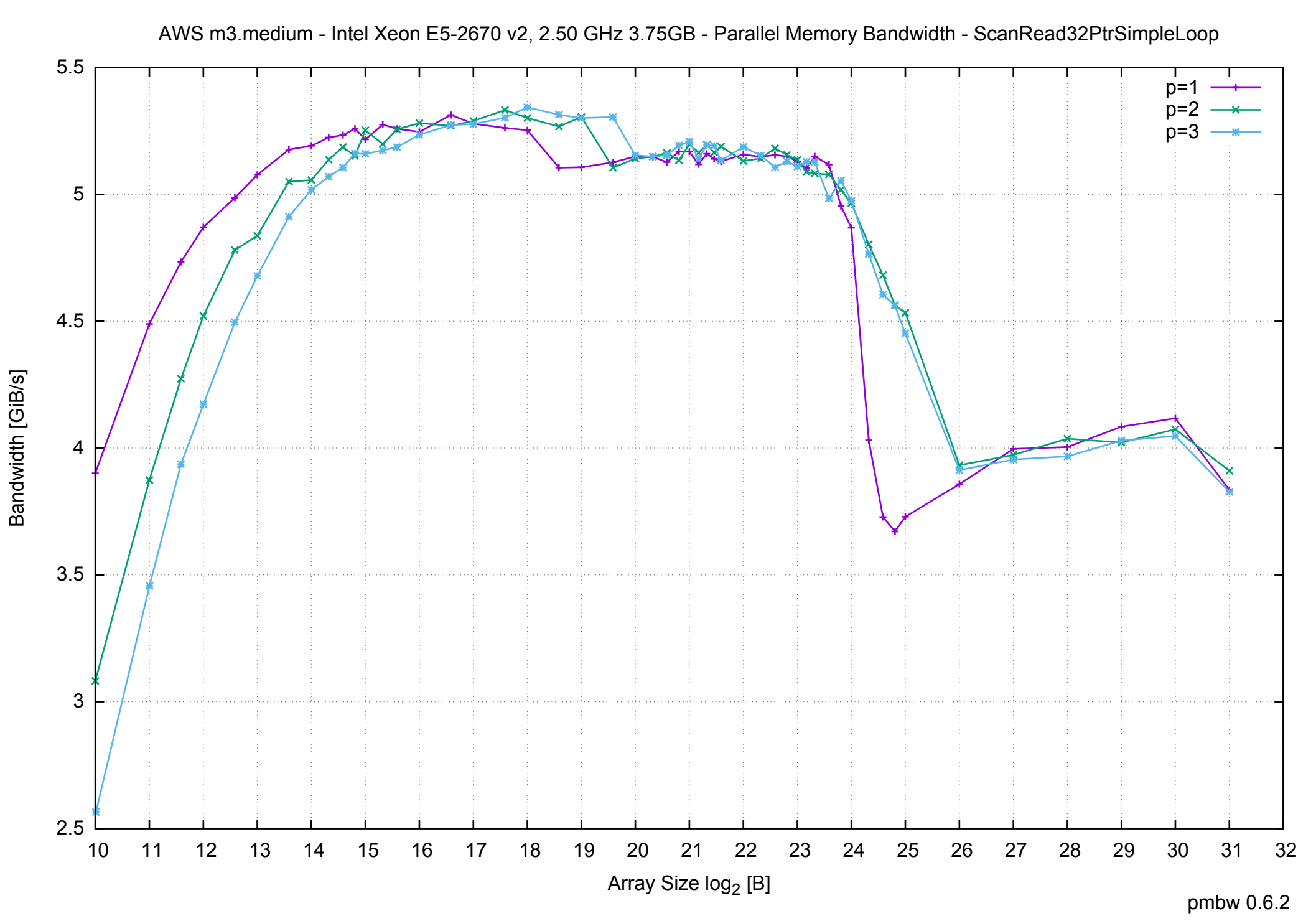

AWS m3.medium - Intel Xeon E5-2670 v2, 2.50 GHz 3.75GB - Speedup of Parallel Memory Bandwidth (enlarged) - ScanWrite32PtrSimpleLoo
p=1
p=2
p=3
Bandwidth Speedup [1]
1
0.95
0.9
0.85
0.8
0.75
0.7
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
Array Size log2 [B]
pmbw 0.6.2

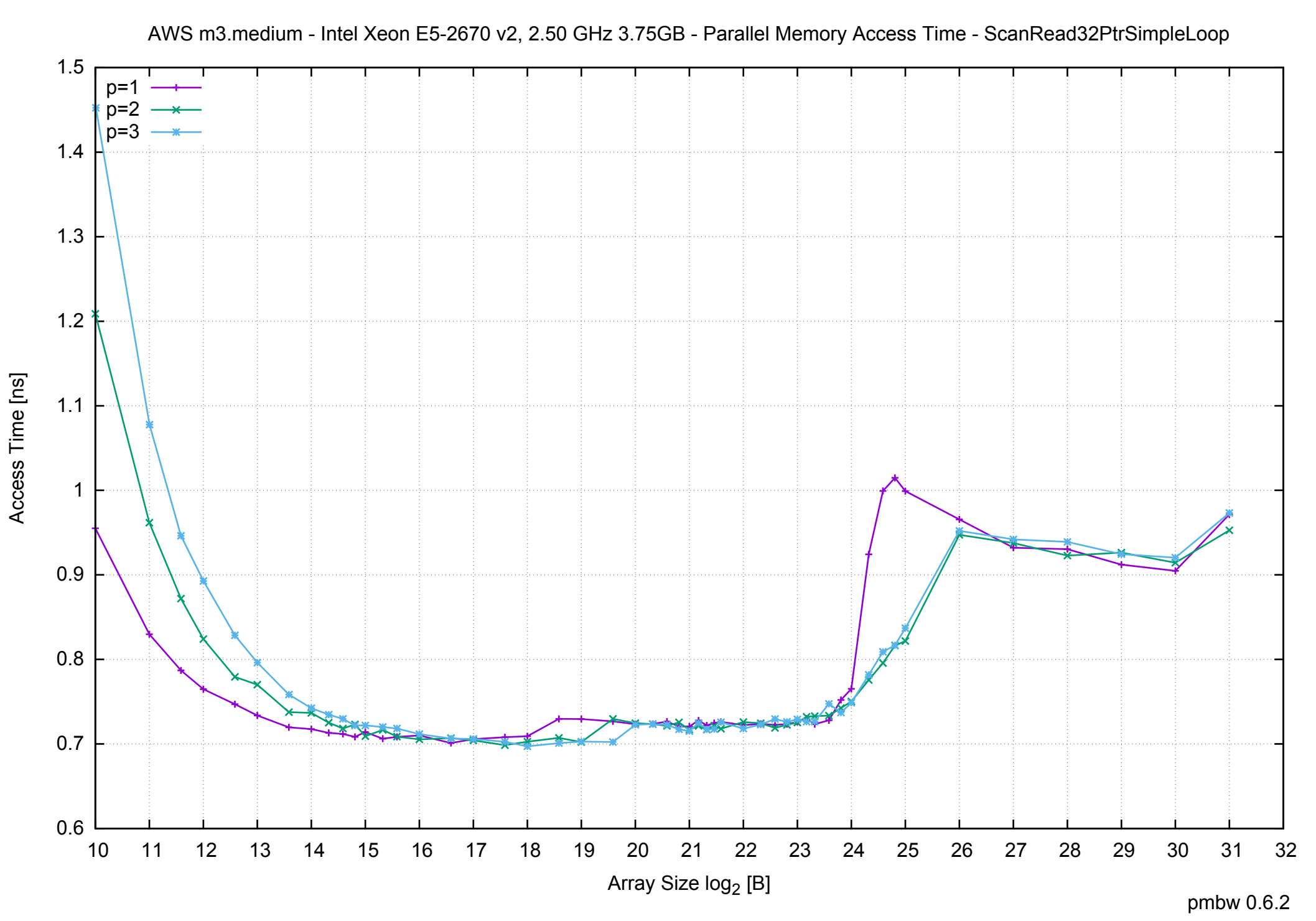

AWS m3.medium - Intel Xeon E5-2670 v2, 2.50 GHz 3.75GB - Parallel Memory Bandwidth - ScanWrite32PtrUnrollLoop
Bandwidth [GiB/s]
Array Size log2 [B]
p=1
p=2
p=3
5.4
5.2
5
4.8
4.6
4.4
4.2
4
3.8
3.6
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
pmbw 0.6.2

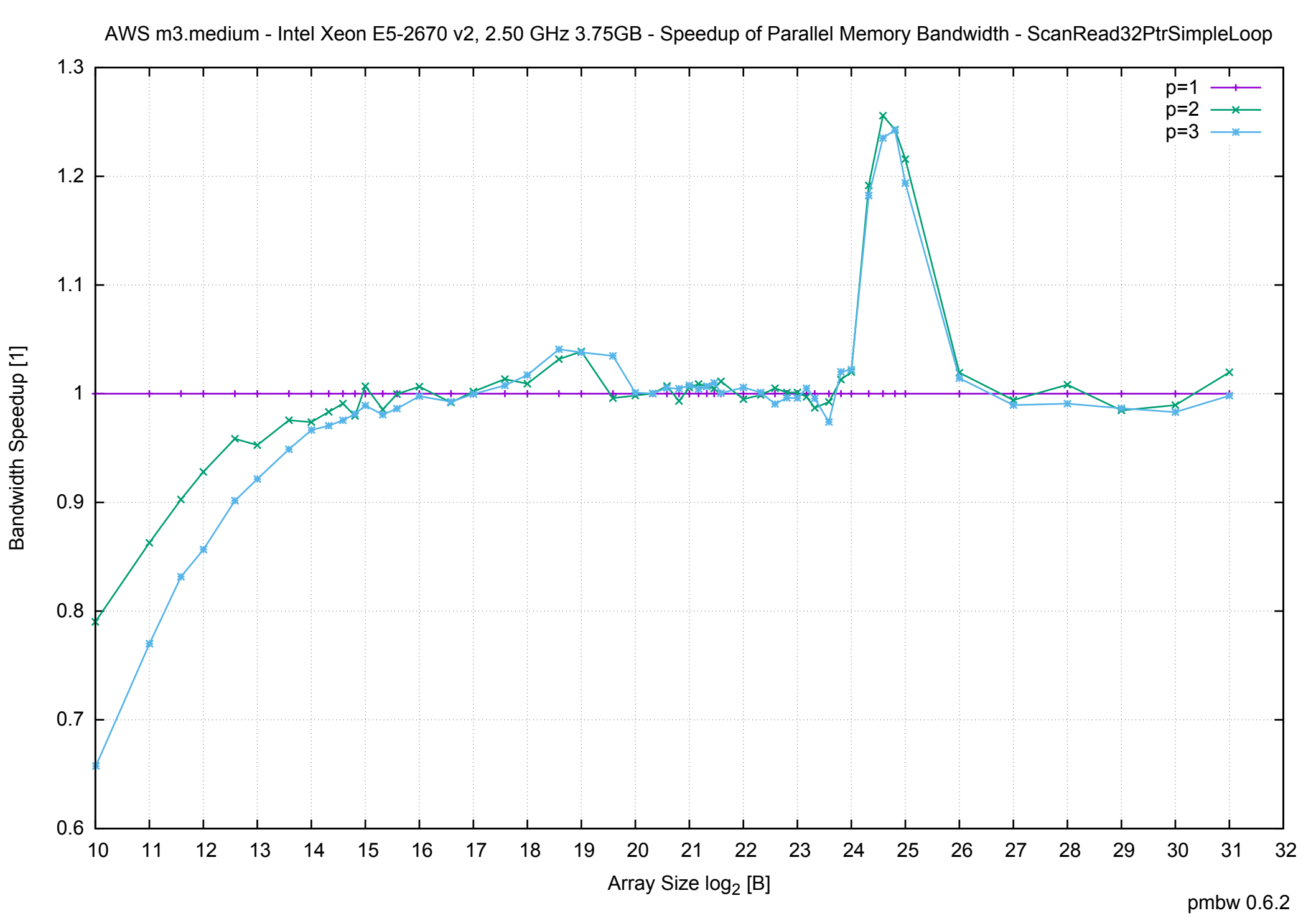

AWS m3.medium - Intel Xeon E5-2670 v2, 2.50 GHz 3.75GB - Parallel Memory Access Time - ScanWrite32PtrUnrollLoop
p=1
p=2
p=3
Access Time [ns]
1.05
1
0.95
0.9
0.85
0.8
0.75
0.7
0.65
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
Array Size log2 [B]
pmbw 0.6.2

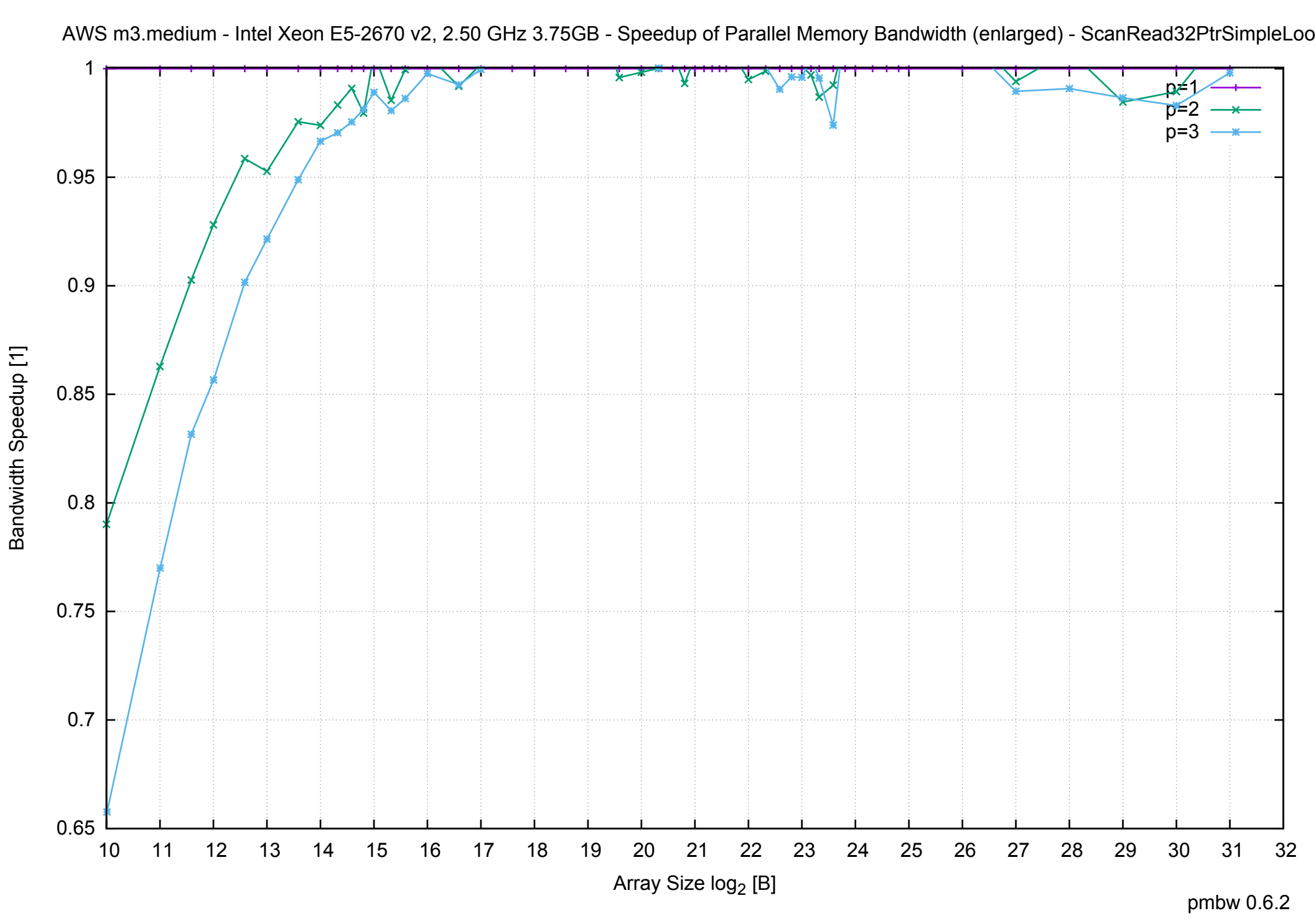

AWS m3.medium - Intel Xeon E5-2670 v2, 2.50 GHz 3.75GB - Speedup of Parallel Memory Bandwidth - ScanWrite32PtrUnrollLoop
p=1
p=2
p=3
Bandwidth Speedup [1]
1.25
1.2
1.15
1.1
1.05
1
0.95
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
Array Size log2 [B]
pmbw 0.6.2

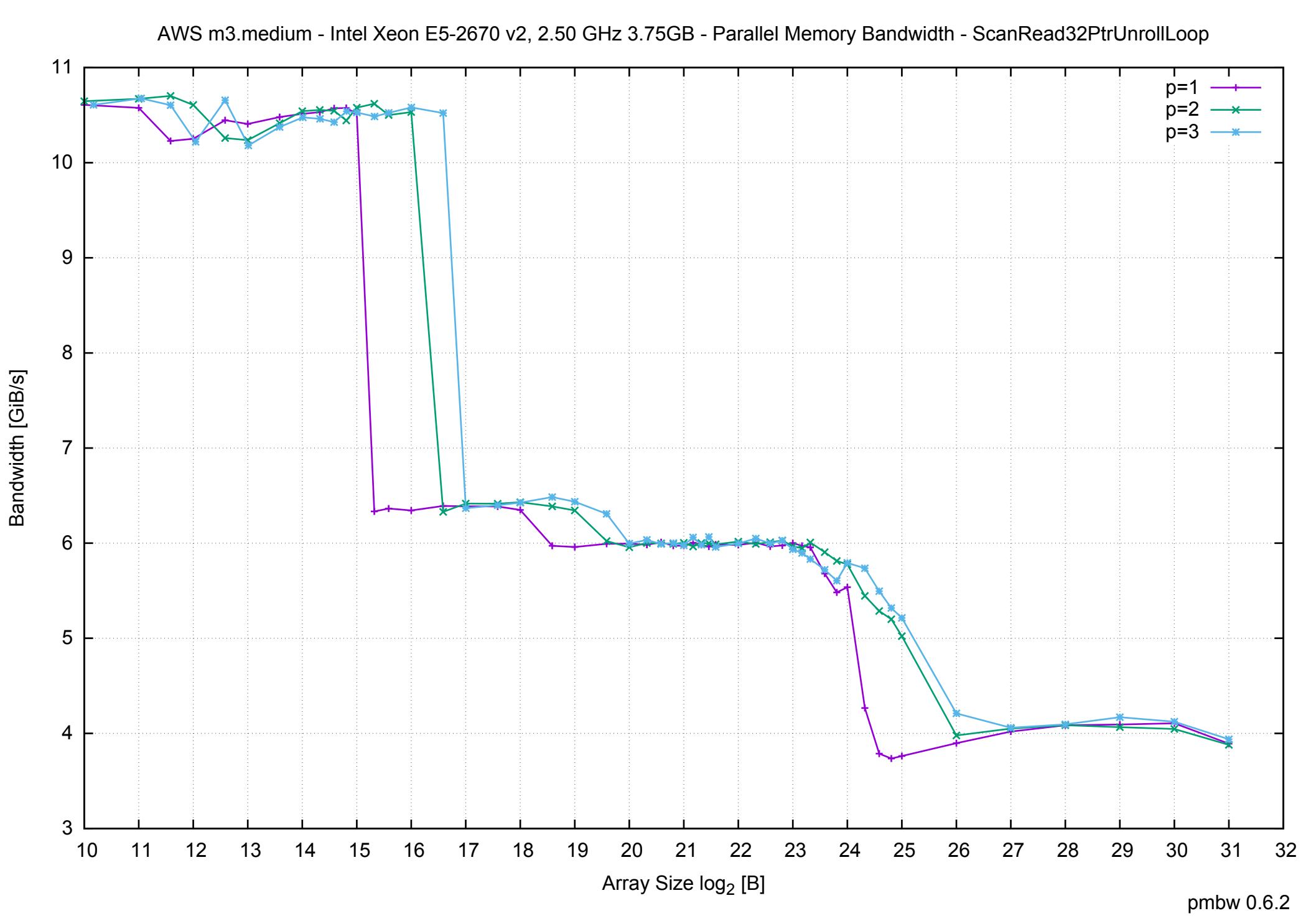

AWS m3.medium - Intel Xeon E5-2670 v2, 2.50 GHz 3.75GB - Speedup of Parallel Memory Bandwidth (enlarged) - ScanWrite32PtrUnrollLoo
p=1
p=2
p=3
Bandwidth Speedup [1]
1.015
1.01
1.005
1
0.995
0.99
0.985
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
Array Size log2 [B]
pmbw 0.6.2

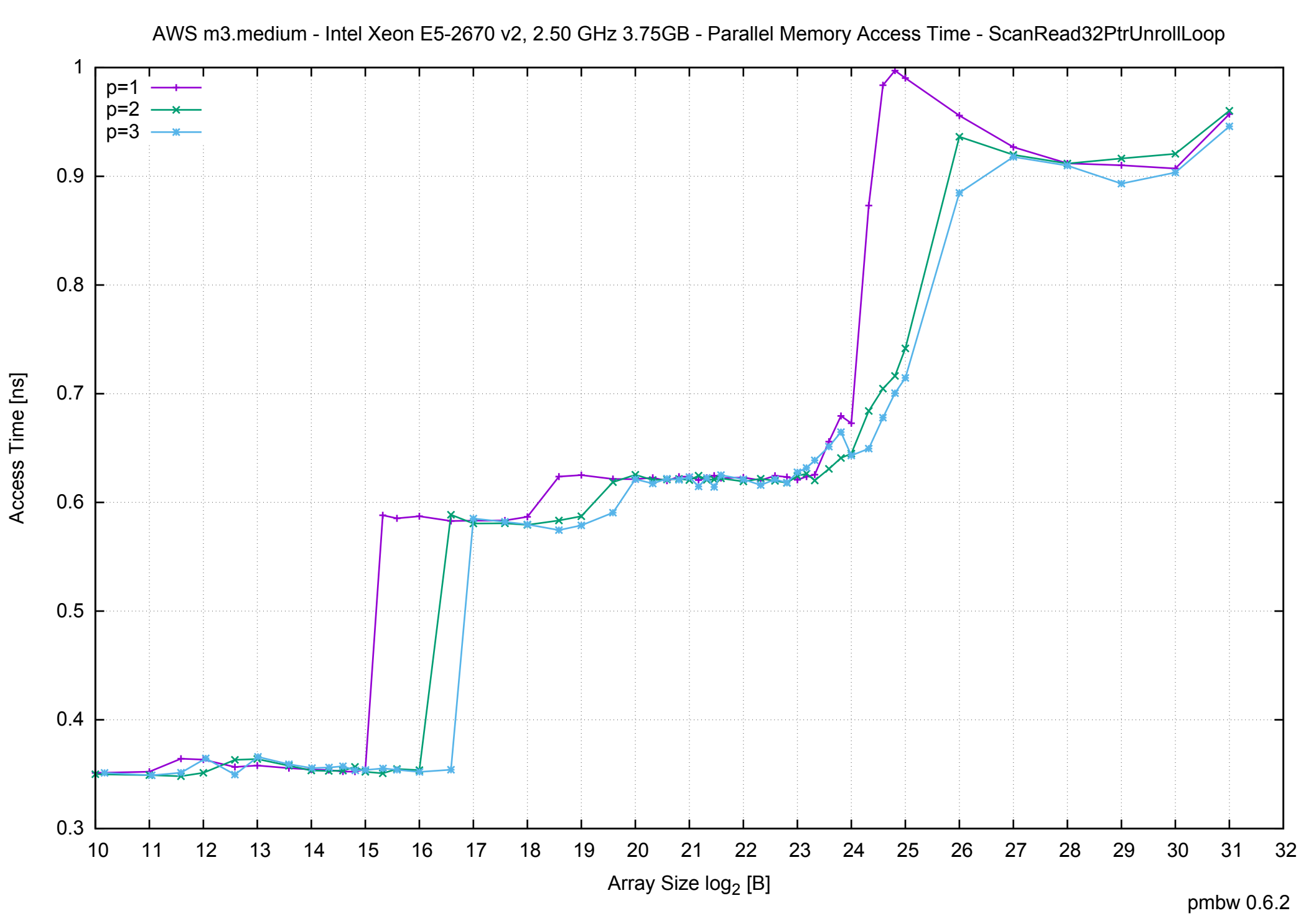

AWS m3.medium - Intel Xeon E5-2670 v2, 2.50 GHz 3.75GB - Parallel Memory Bandwidth - ScanRead32PtrSimpleLoop
p=1
p=2
p=3
Bandwidth [GiB/s]
Array Size log2 [B]
5.5
5
4.5
4
3.5
3
2.5
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
pmbw 0.6.2

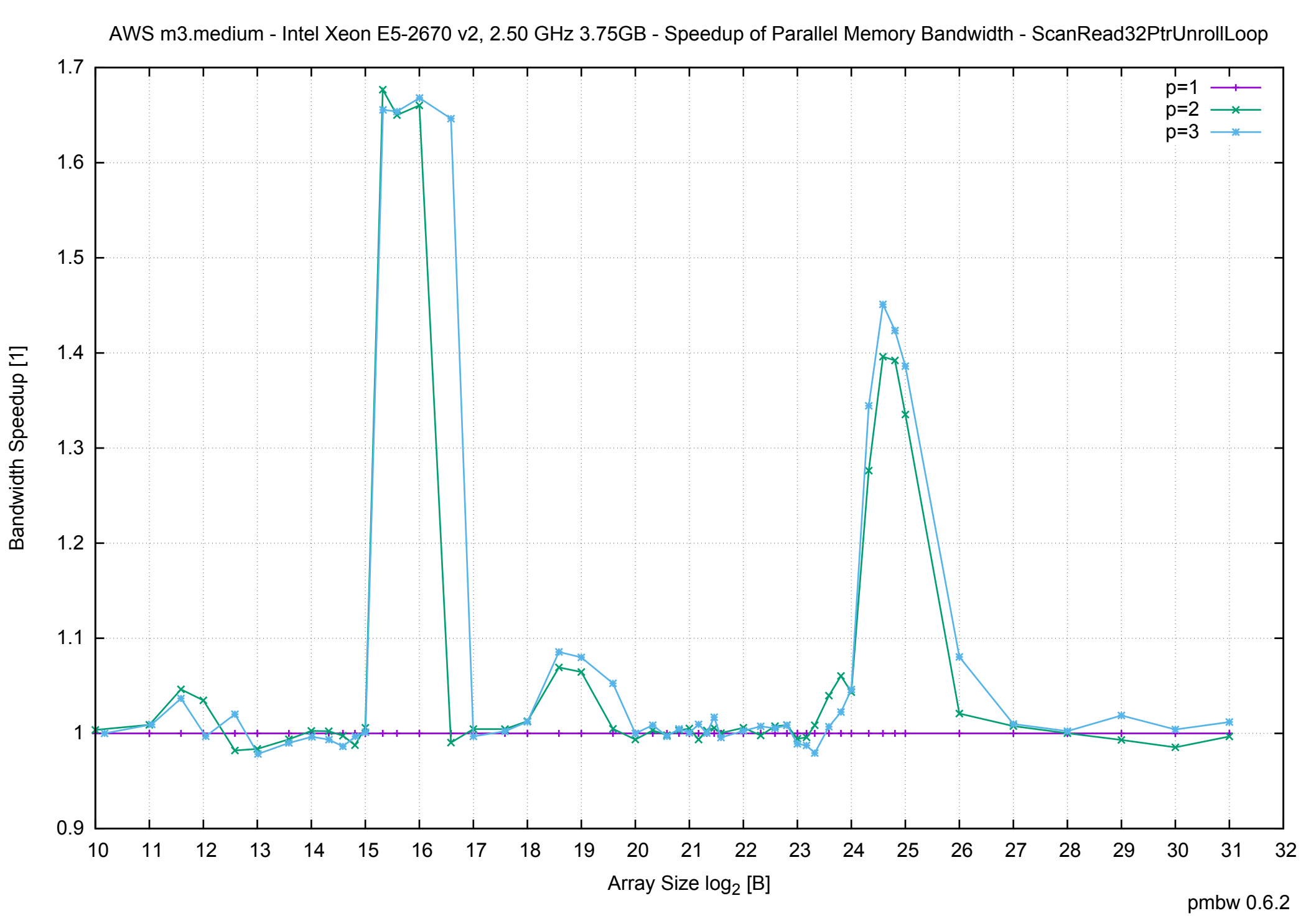

AWS m3.medium - Intel Xeon E5-2670 v2, 2.50 GHz 3.75GB - Parallel Memory Access Time - ScanRead32PtrSimpleLoop
p=1
p=2
p=3
Access Time [ns]
Array Size log2 [B]
pmbw 0.6.2

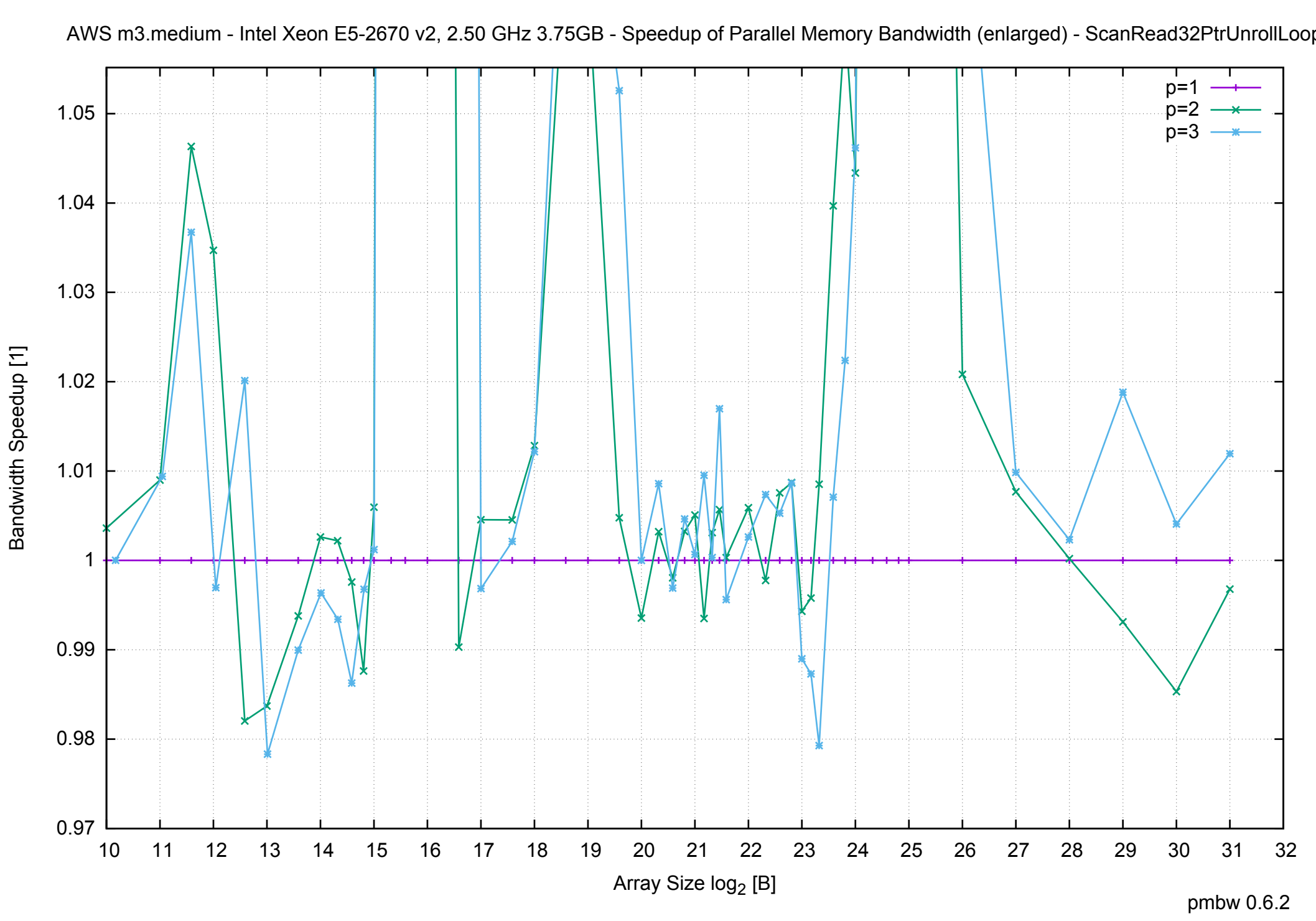

AWS m3.medium - Intel Xeon E5-2670 v2, 2.50 GHz 3.75GB - Speedup of Parallel Memory Bandwidth - ScanRead32PtrSimpleLoop
p=1
p=2
p=3
Bandwidth Speedup [1]
1.3
1.2
1.1
1
0.9
0.8
0.7
0.6
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
Array Size log2 [B]
pmbw 0.6.2

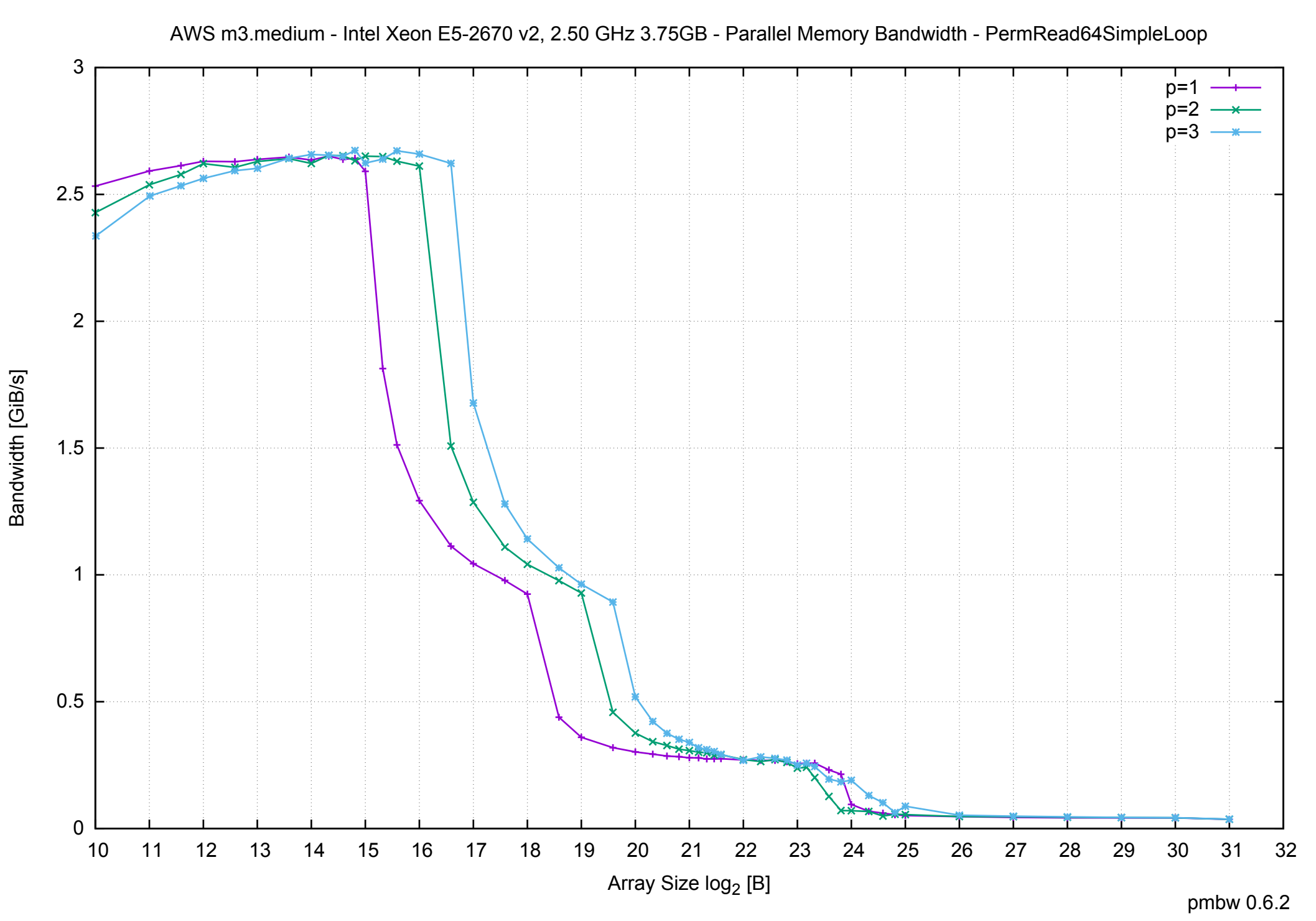

AWS m3.medium - Intel Xeon E5-2670 v2, 2.50 GHz 3.75GB - Speedup of Parallel Memory Bandwidth (enlarged) - ScanRead32PtrSimpleLoo
Bandwidth Speedup [1]
1
0.95
0.9
0.85
0.8
0.75
0.7
0.65
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
Array Size log2 [B]
p=1
p=2
p=3
pmbw 0.6.2

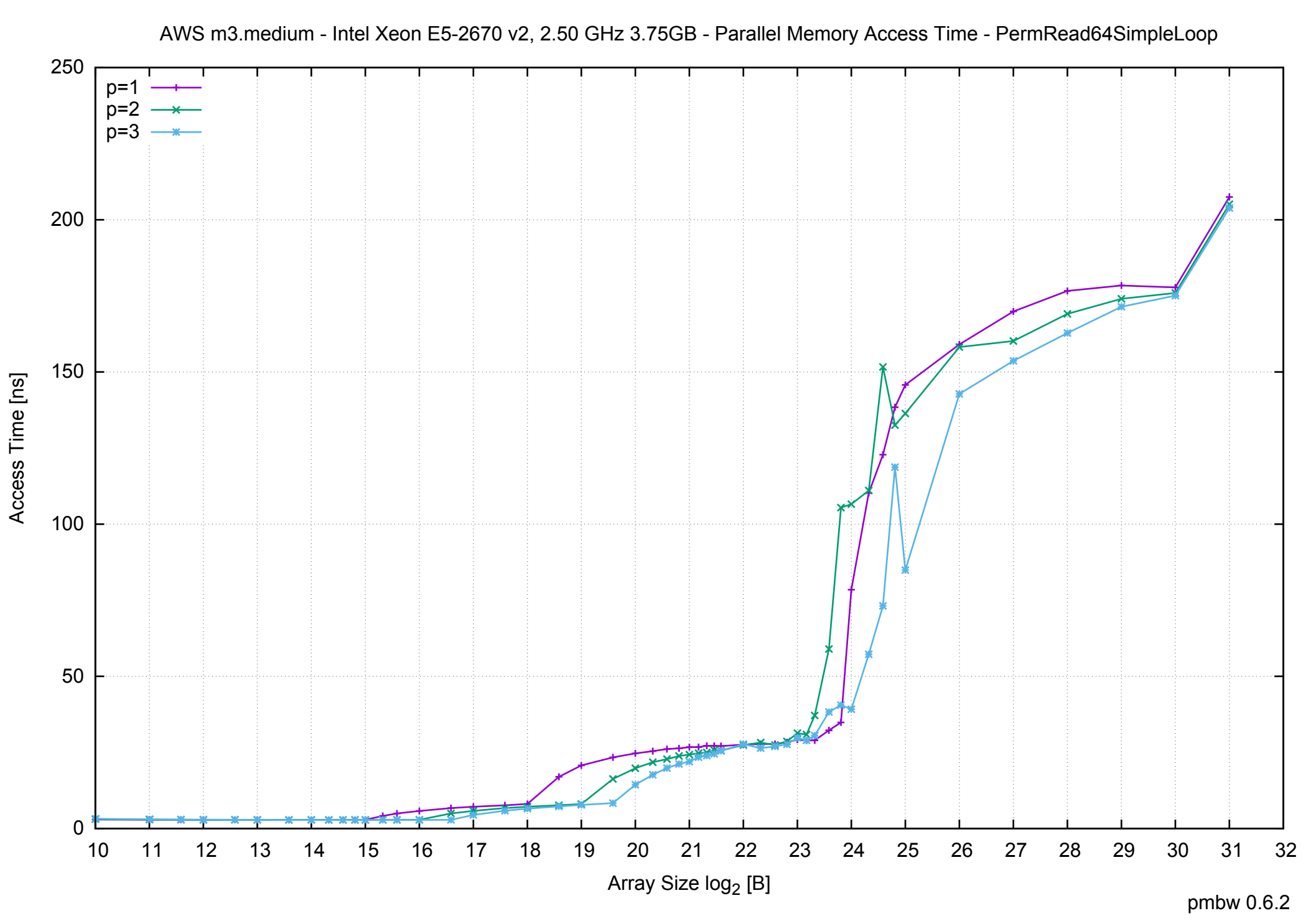

AWS m3.medium - Intel Xeon E5-2670 v2, 2.50 GHz 3.75GB - Parallel Memory Bandwidth - ScanRead32PtrUnrollLoop
p=1
p=2
p=3
Bandwidth [GiB/s]
Array Size log2 [B]
pmbw 0.6.2

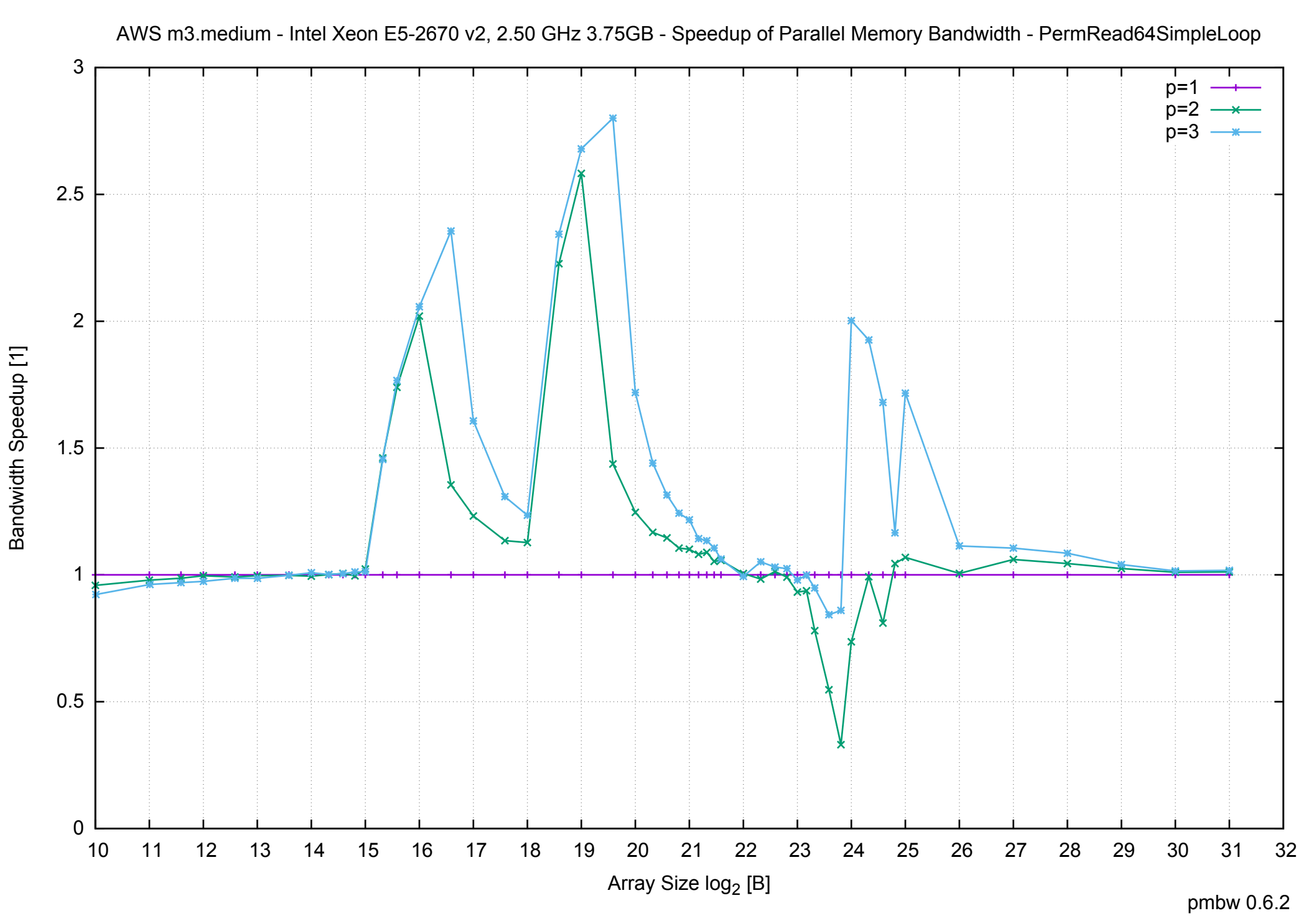

AWS m3.medium - Intel Xeon E5-2670 v2, 2.50 GHz 3.75GB - Parallel Memory Access Time - ScanRead32PtrUnrollLoop
p=1
p=2
p=3
Access Time [ns]
Array Size log2 [B]
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
pmbw 0.6.2

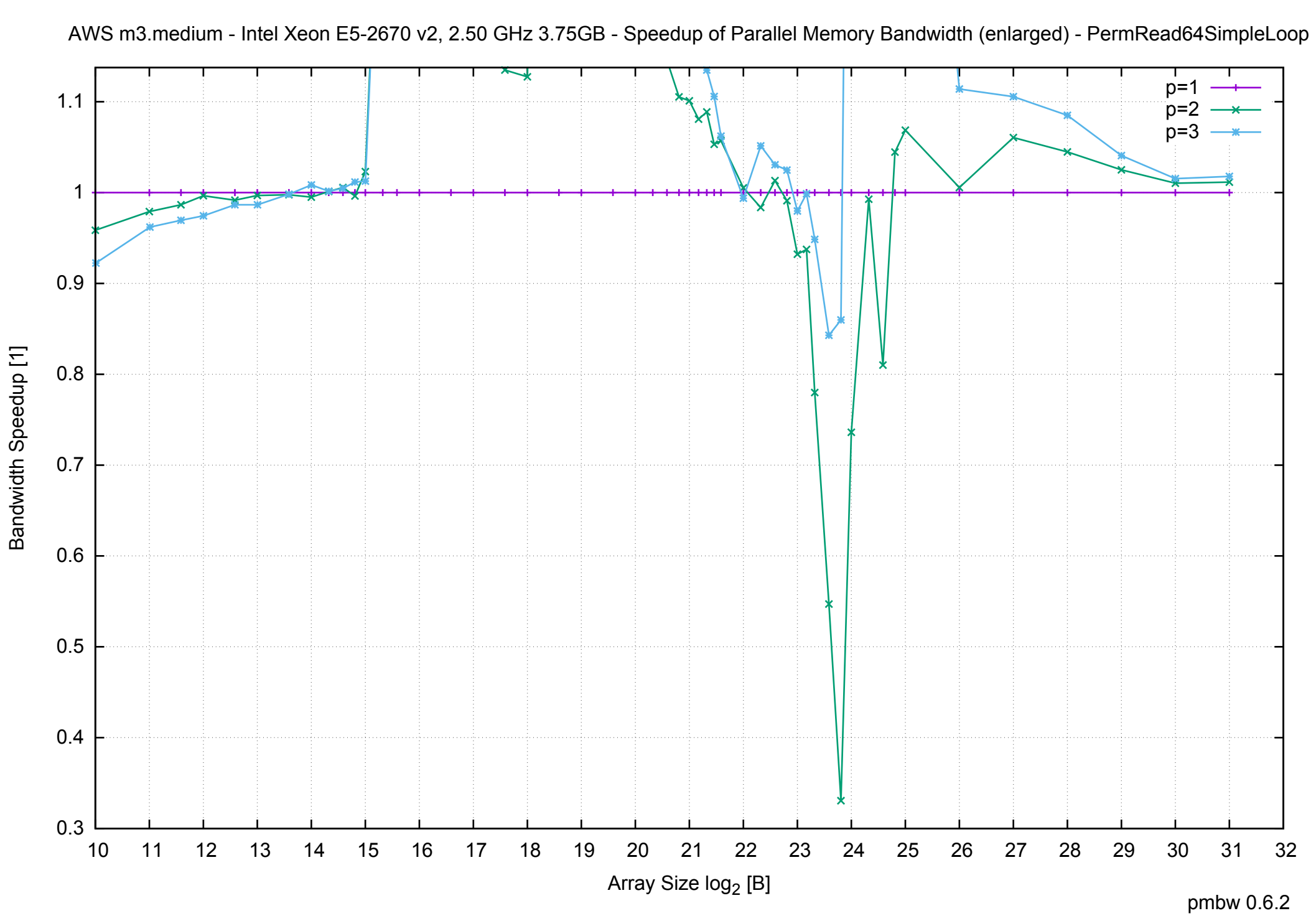

AWS m3.medium - Intel Xeon E5-2670 v2, 2.50 GHz 3.75GB - Speedup of Parallel Memory Bandwidth - ScanRead32PtrUnrollLoop
p=1
p=2
p=3
Bandwidth Speedup [1]
Array Size log2 [B]
pmbw 0.6.2

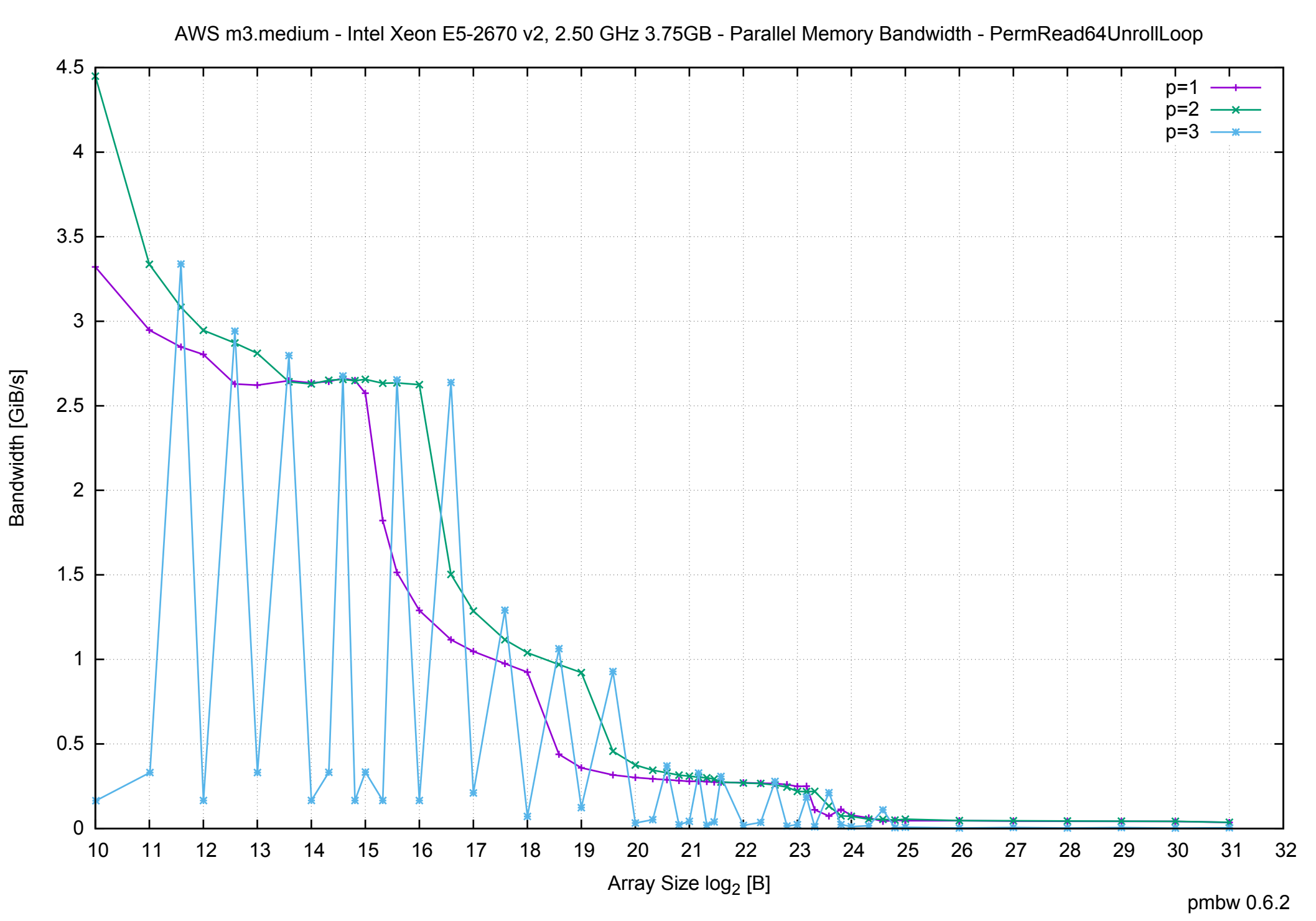

AWS m3.medium - Intel Xeon E5-2670 v2, 2.50 GHz 3.75GB - Speedup of Parallel Memory Bandwidth (enlarged) - ScanRead32PtrUnrollLoop
p=1
p=2
p=3
Bandwidth Speedup [1]
1.05
1.04
1.03
1.02
1.01
1
0.99
0.98
0.97
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
Array Size log2 [B]
pmbw 0.6.2

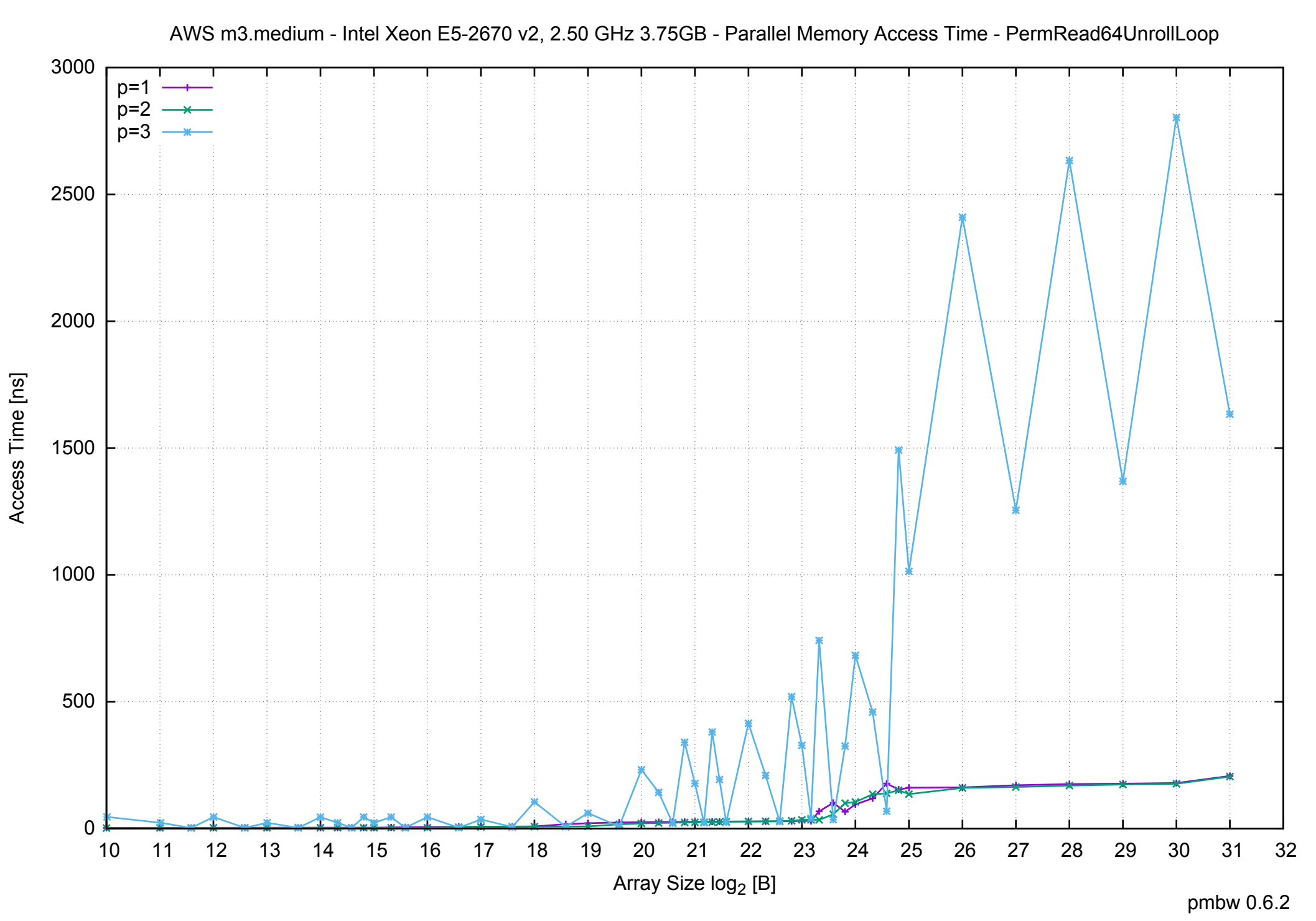

AWS m3.medium - Intel Xeon E5-2670 v2, 2.50 GHz 3.75GB - Parallel Memory Bandwidth - PermRead64SimpleLoop
p=1
p=2
p=3
Bandwidth [GiB/s]
Array Size log2 [B]
0
0.5
1
1.5
2
2.5
3
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
pmbw 0.6.2

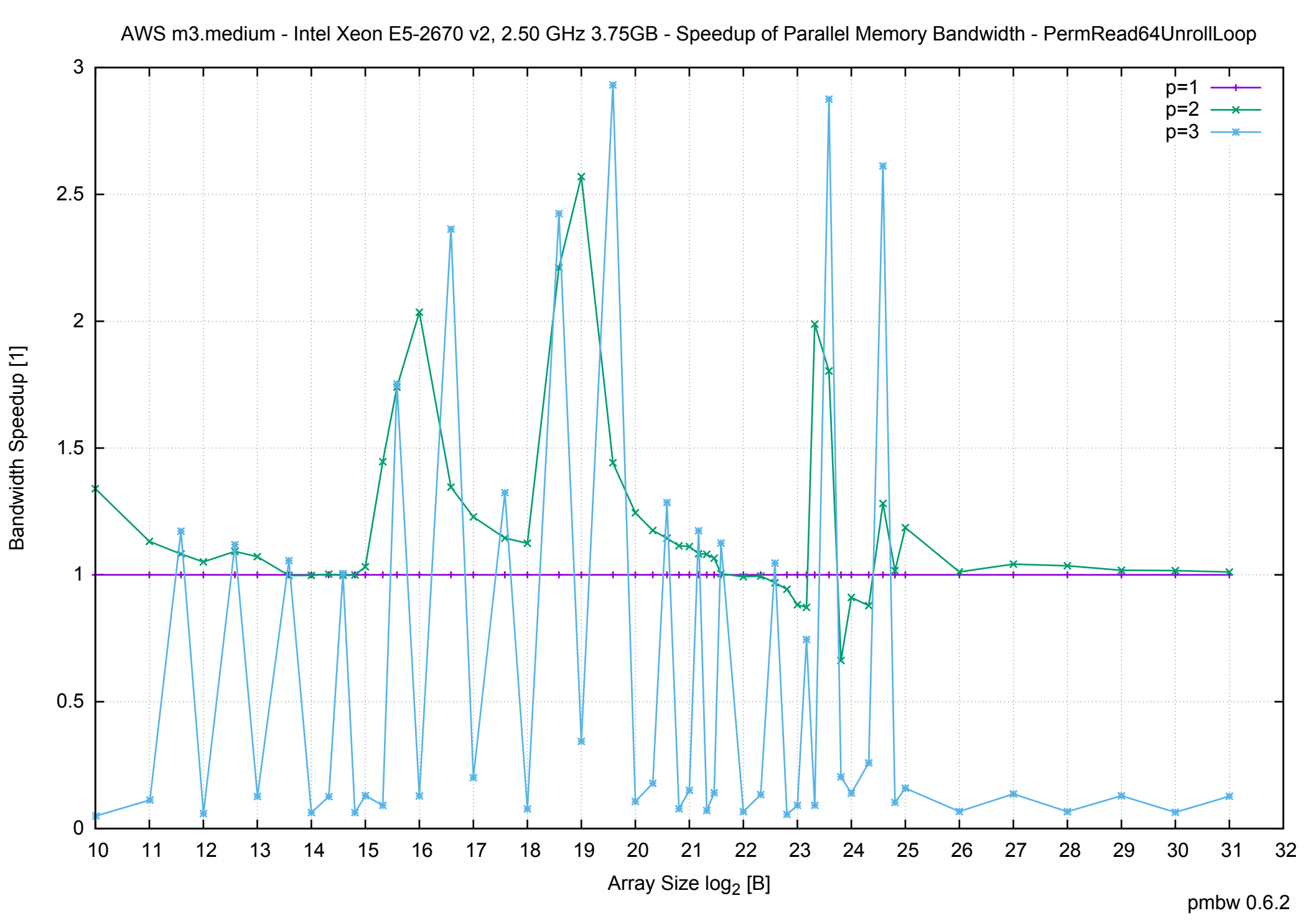

AWS m3.medium - Intel Xeon E5-2670 v2, 2.50 GHz 3.75GB - Parallel Memory Access Time - PermRead64SimpleLoop
p=1
p=2
p=3
Access Time [ns]
Array Size log2 [B]
0
50
100
150
200
250
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
pmbw 0.6.2

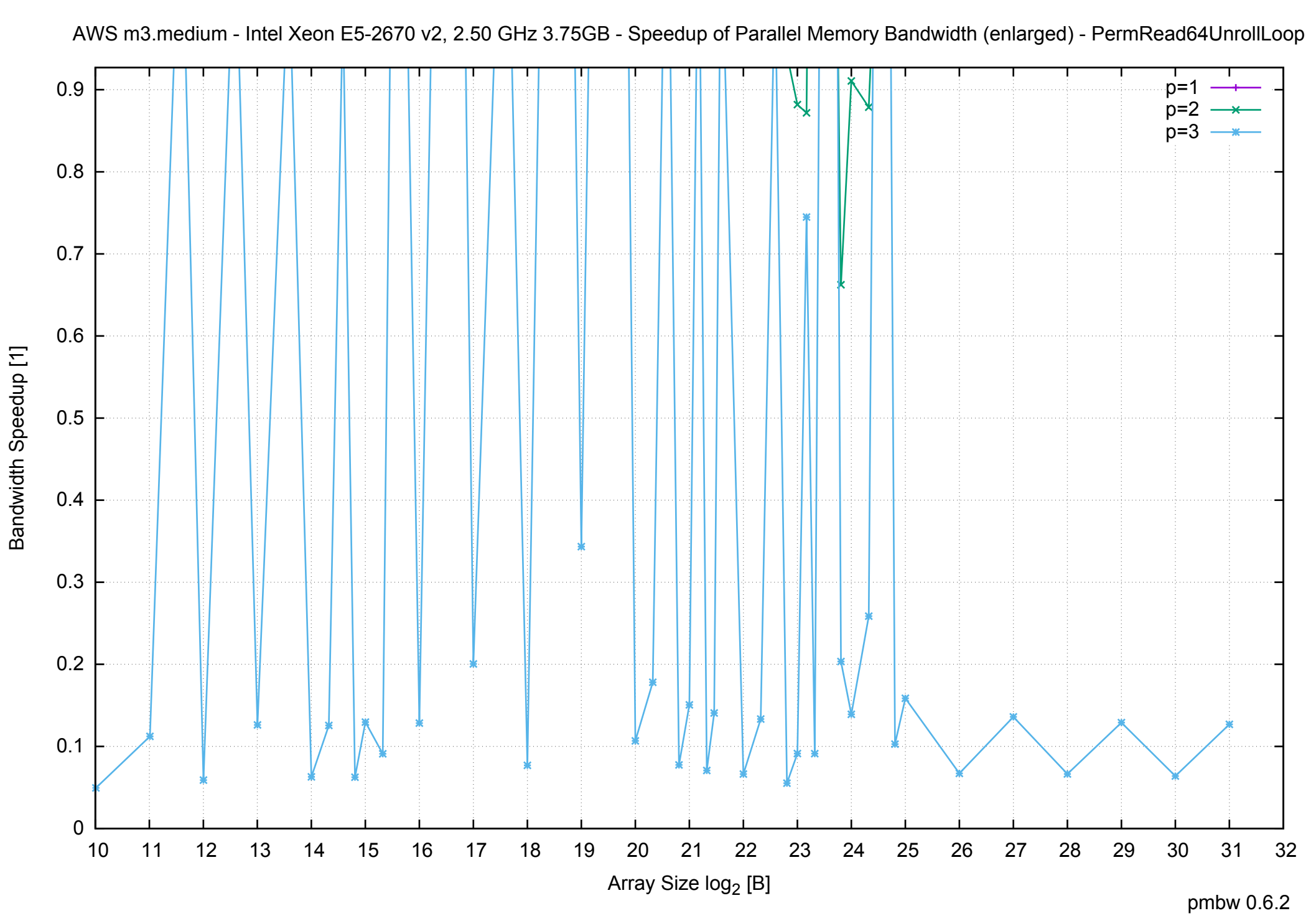

AWS m3.medium - Intel Xeon E5-2670 v2, 2.50 GHz 3.75GB - Speedup of Parallel Memory Bandwidth - PermRead64SimpleLoop
p=1
p=2
p=3
Bandwidth Speedup [1]
Array Size log2 [B]
0
0.5
1
1.5
2
2.5
3
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
pmbw 0.6.2


AWS m3.medium - Intel Xeon E5-2670 v2, 2.50 GHz 3.75GB - Speedup of Parallel Memory Bandwidth (enlarged) - PermRead64SimpleLoop
p=1
p=2
p=3
Bandwidth Speedup [1]
1.1
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
Array Size log2 [B]
pmbw 0.6.2


AWS m3.medium - Intel Xeon E5-2670 v2, 2.50 GHz 3.75GB - Parallel Memory Bandwidth - PermRead64UnrollLoop
p=1
p=2
p=3
Bandwidth [GiB/s]
Array Size log2 [B]
pmbw 0.6.2


AWS m3.medium - Intel Xeon E5-2670 v2, 2.50 GHz 3.75GB - Parallel Memory Access Time - PermRead64UnrollLoop
p=1
p=2
p=3
Access Time [ns]
0
500
1000
1500
2000
2500
3000
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
Array Size log2 [B]
pmbw 0.6.2


AWS m3.medium - Intel Xeon E5-2670 v2, 2.50 GHz 3.75GB - Speedup of Parallel Memory Bandwidth - PermRead64UnrollLoop
p=1
p=2
p=3
Bandwidth Speedup [1]
Array Size log2 [B]
pmbw 0.6.2


AWS m3.medium - Intel Xeon E5-2670 v2, 2.50 GHz 3.75GB - Speedup of Parallel Memory Bandwidth (enlarged) - PermRead64UnrollLoop
p=1
p=2
p=3
Bandwidth Speedup [1]
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
Array Size log2 [B]
pmbw 0.6.2