STARWALL Benchmark

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STARWALL BENCHMARK: during maintenance 14th June

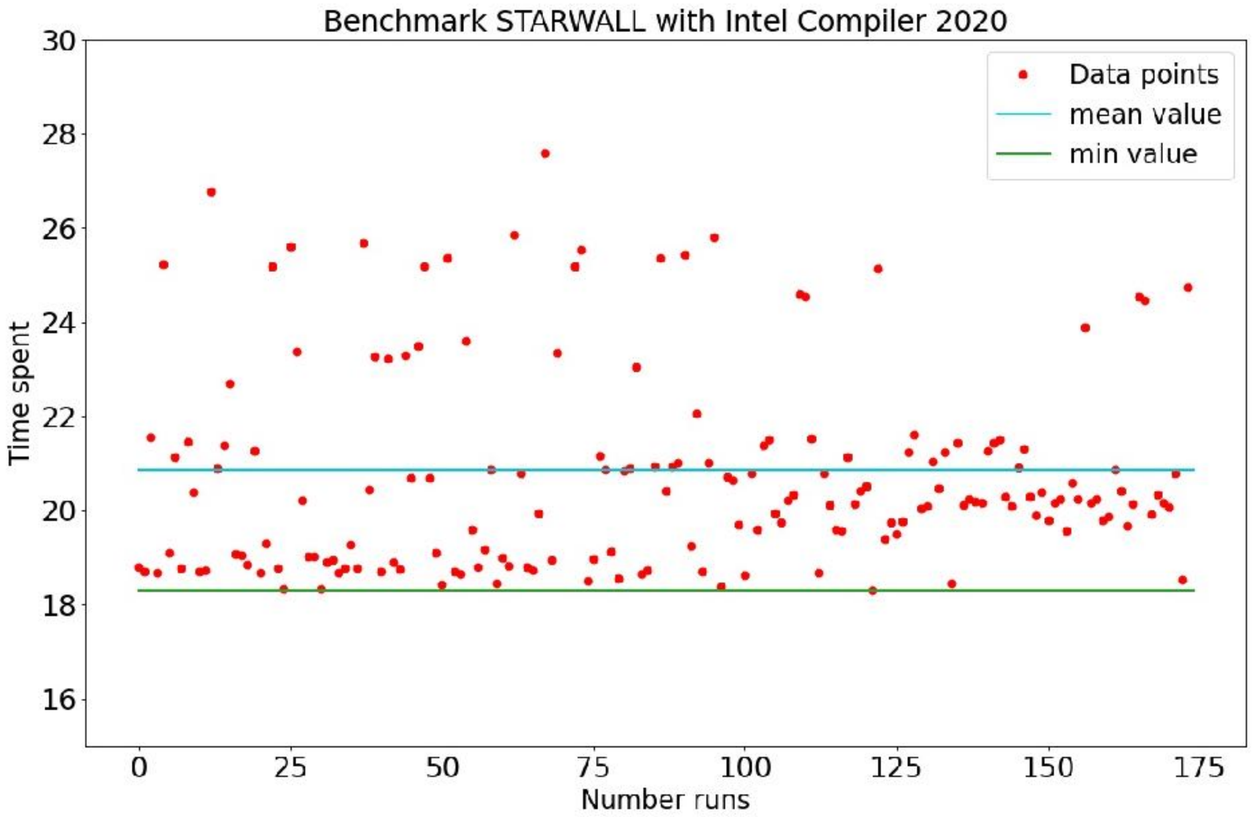
Methodology

Using Intel compiler 2020

# Nodes	= 16
Total # submitted job	= 175 (2800 nodes)

Estimated time (s) ~ 18,...

Min time	= 18.31
Max time	= 32.35
Mean time	= 20.85



STARWALL BENCHMARK: **NOT** during maintenance

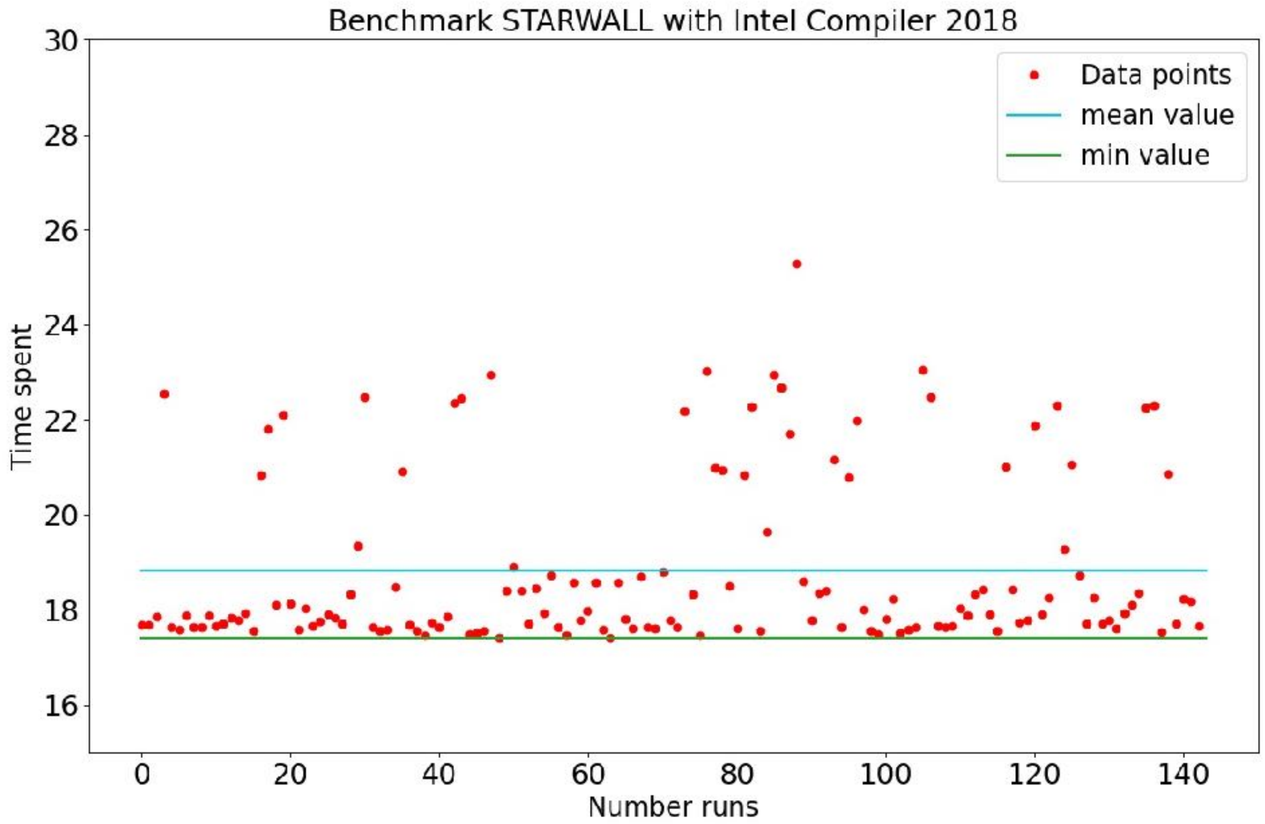
Methodology

Using Intel compiler 2018

# Nodes	= 16
Total # submitted job	= 140

Estimated time (s) ~ …

Min time	= 17.39
Max time	= 25.27
Mean time	= 18.8



STARWALL BENCHMARK: **NOT** during maintenance

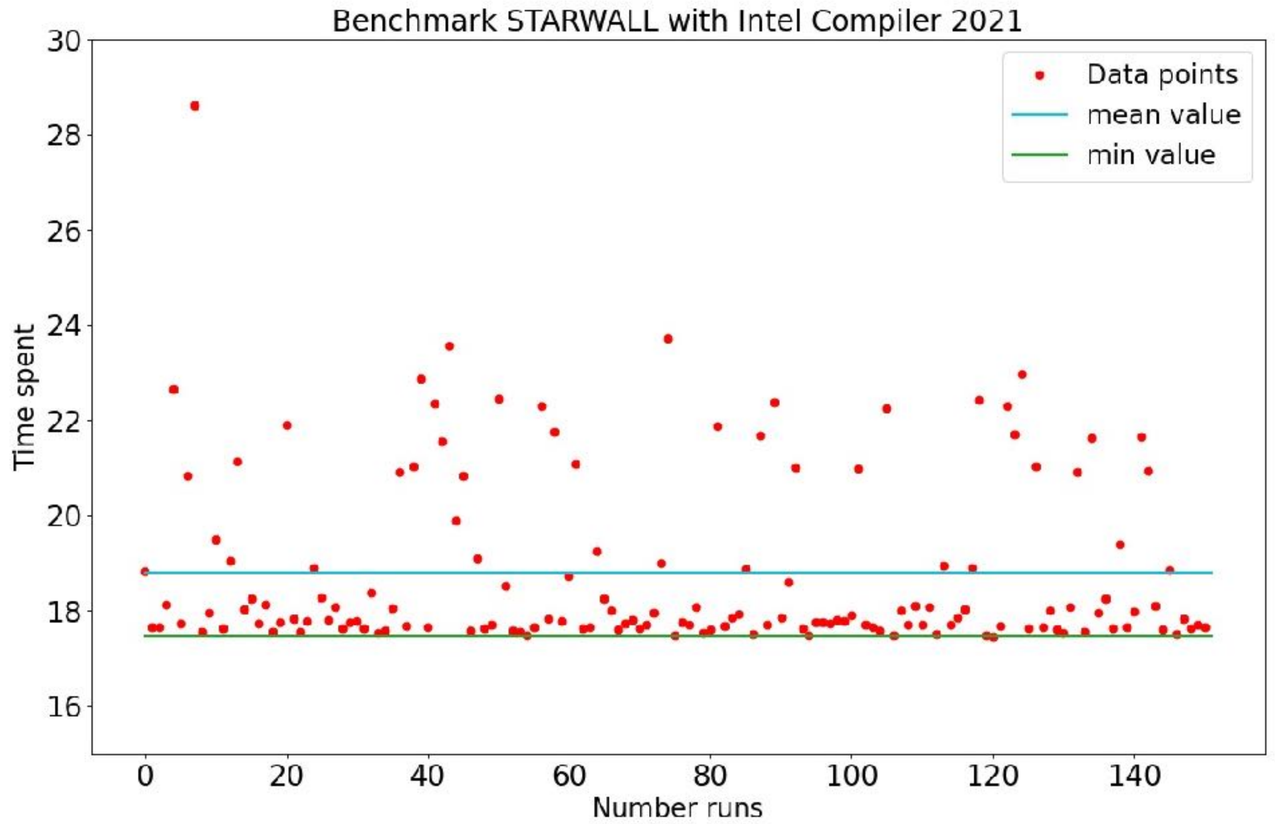
Methodology

Using Intel compiler 2021

# Nodes	= 16
Total # submitted job	= 140

Estimated time (s) ~ ...

Min time	= 17.39
Max time	= 25.27
Mean time	= 18.8



What we plan to do next …

- Launch STARWALL runs with intel 2018, 2021/22 during Sanity check
- Will dig into graveyard using SCOREP and in-built tools COUNTDOWN to get better insight
- We are specially curious to know what happened during the runtime when it performs poorly

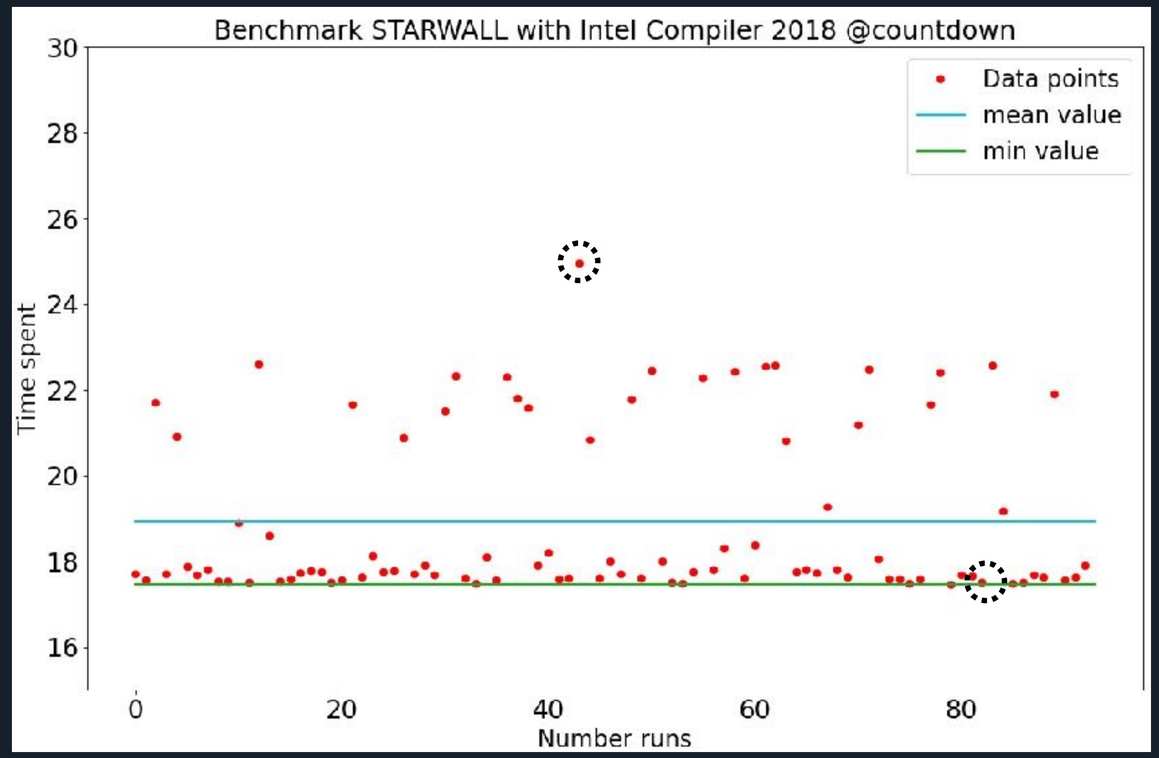
STARWALL BENCHMARK: analysis with **COUNTDOWN**

```
<  All Input=  5.514407157897949E-002   seconds
---
>  All Input=  4.592394828796387E-002   seconds

<  matrix_wp=   546.940740823746        seconds
---
>  matrix_wp=   305.299099922180        seconds

<  matrix_ww=   283.761758089066        seconds
---
>  matrix_ww=   272.149417877197        seconds


< APP time: 712724.133 sec (61.95%)
< MPI time: 437822.387 sec (38.05%)
< TOT time: 1150546.520 sec (100.00%)
---
> APP time: 712263.227 sec (88.46%)
> MPI time: 92900.847 sec (11.54%)
> TOT time: 805164.074 sec (100.00%)
```



STARWALL BENCHMARK: analysis with **COUNTDOWN**

```
< MPI_ALLGATHERV: 1474560 - 157237.002 Sec (35.91%) - SEND 421.88 GByte - RECV 421.88 GByte
< MPI_ALLREDUCE: 4145760 - 203559.857 Sec (46.49%) - SEND 617.70 TByte - RECV 617.70 TByte
< MPI_BARRIER: 3072 - 207.673 Sec (0.05%)
< MPI_BCAST: 77171429 - 26228.788 Sec (5.99%) - SEND 2.74 TByte - RECV 2.64 TByte
< MPI_COMM_COMPARE: 768 - 0.098 Sec (0.00%)
< MPI_COMM_CREATE: 6912 - 330.475 Sec (0.08%)
< MPI_COMM_DUP: 6834 - 16.177 Sec (0.00%)
---
> MPI_ALLGATHERV: 1474560 - 6045.030 Sec (6.51%) - SEND 421.88 GByte - RECV 421.88 GByte
> MPI_ALLREDUCE: 4145760 - 11286.909 Sec (12.15%) - SEND 617.70 TByte - RECV 617.70 TByte
> MPI_BARRIER: 3072 - 247.771 Sec (0.27%)
> MPI_BCAST: 77171429 - 25623.314 Sec (27.58%) - SEND 2.74 TByte - RECV 2.64 TByte
> MPI_COMM_COMPARE: 768 - 0.092 Sec (0.00%)
> MPI_COMM_CREATE: 6912 - 314.864 Sec (0.34%)
> MPI_COMM_DUP: 6834 - 11.837 Sec (0.01%)
```