



STAC Update for STAC-A2

Peter Lankford
Founder and Director, STAC

peter.lankford@STACresearch.com

- Non-trivial Monte Carlo
 - Heston-based Greeks for multi-asset, path-dependent options with early exercise
 - Metrics: Speed, capacity, quality, efficiency
- Numerous reports
 - Some public, some in the STAC Vault
- Premium STAC members get:
 - Reports in STAC Vault
 - Detailed config info on public and private reports
 - Code from vendor implementations of the benchmarks

www.STACresearch.com/a2

Intel KNL / Dell / Enhanced implementation

- In Oct 2016, we tested KNL on a Dell PowerEdge C6320p compute node
 - SUT ID INTC161016
- Recently tested nearly identical config with an improved STAC-A2 implementation from Intel
 - STAC-A2 Pack for Intel (Rev J)
 - Dell PowerEdge C6320p node
 - 192GB of DRAM
 - Intel® Xeon Phi™ 7290F (Knights Landing) Processor, 16GB of MCDRAM
 - RHEL 7.3

www.STACresearch.com/INTC170503

Intel KNL / Dell / Enhanced implementation

- Compared to all publicly released STAC-A2 results to date
 - Highest space efficiency to date (STAC-A2.β2.HPORTFOLIO.SPACE_EFF)
- Compared to all publicly released STAC-A2 results using a single CPU, GPU, or other co-processor:
 - Highest throughput (STAC-A2.β2.HPORTFOLIO.SPEED)
 - Fastest time in warm runs of the baseline Greeks benchmark (STAC-A2.β2.GREEKS.TIME)
- Compared to SUT ID INTC161016:
 - 47% faster time in warm runs of the baseline Greeks benchmark (STAC-A2.β2.GREEKS.TIME)
 - 39% higher throughput (STAC-A2.β2.HPORTFOLIO.SPEED)
 - 41% higher energy efficiency (STAC-A2.β2.HPORTFOLIO.ENERG_EFF)
 - 26% lower idle power consumption (STAC-A2.β2.IDLE.POWER)

SNEAK PEAK: NVIDIA Volta

- NVIDIA have provided a few benchmark results on pre-production Volta hardware
- Submitted to STAC Vault
- Config:
 - STAC-A2 Pack for CUDA (Rev C)
 - 1 x NVIDIA PG500 SKU200 ES (GV100) "Volta" GPU (pre-release version)
 - 1 x Intel Xeon E5-2690 v4 ("Broadwell") @ 3.5GHz
 - ASUSTeK Z10PE-D8 WS Server

www.STACresearch.com/NVDA170509