

ATM Testbed Modeling



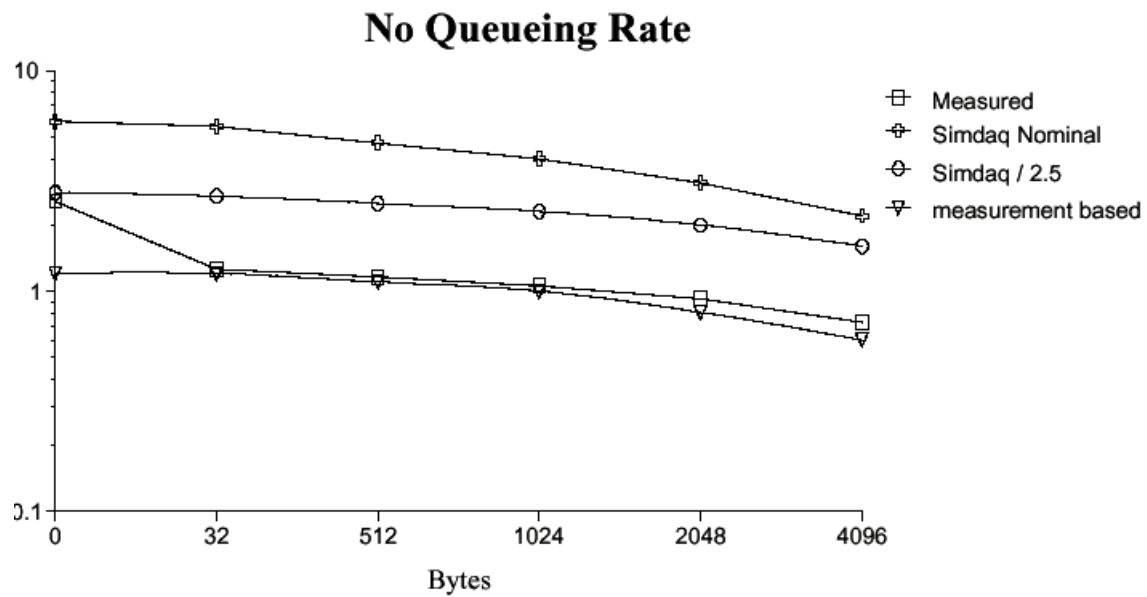
- Simdaq results
- Ptolemy differences
 - what they are
 - does it really matter (yet)

SIMDAQ ATM testbed parameters

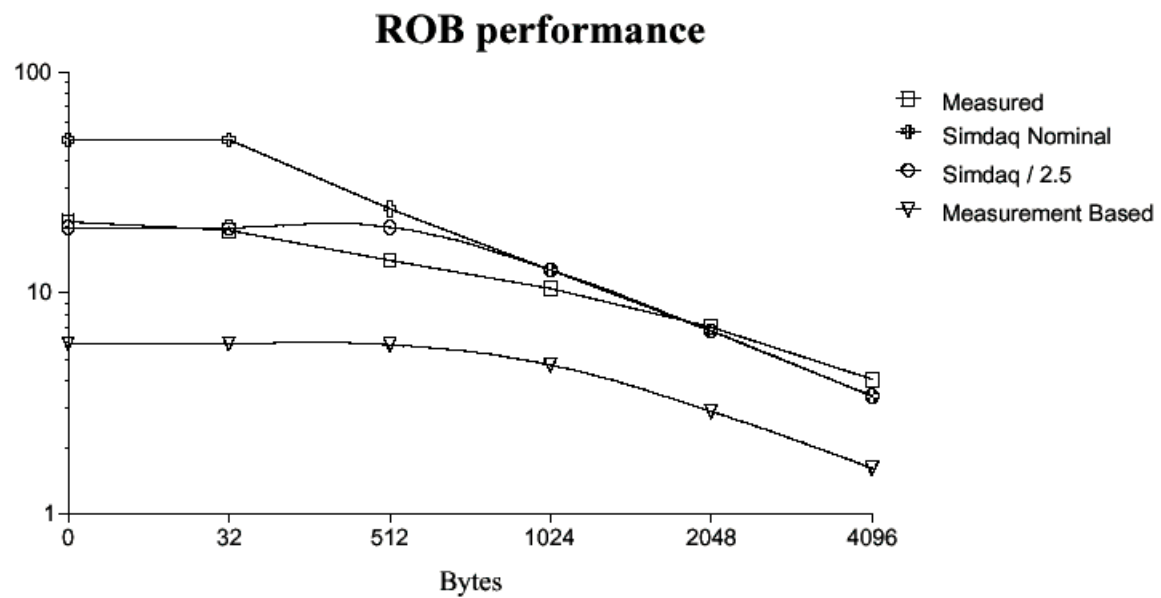


<i>Parameter</i>	<i>Description</i>	<i>Nominal</i>	<i>X 2.5</i>	<i>Measurement Based</i>
LinkSpeed	The time in microseconds required to transmit one byte through the various network interfaces	0.06667	0.06452	0.14493
ScheduleExecuteTime	Number of microseconds required to create (and tear down) a processing thread	5.0	12.5	42.64
Global Time	Time in microseconds required to process the global decision	55.55	138.9	226.
RoIProcessTime	Time in microseconds an RoI Processor (in the Supervisor) takes to process an RoI	8.0	20.0	6.6
DecisionBlockHandlingTime	Time required by ROB to handle a decision block	55.55	13.875	5.55

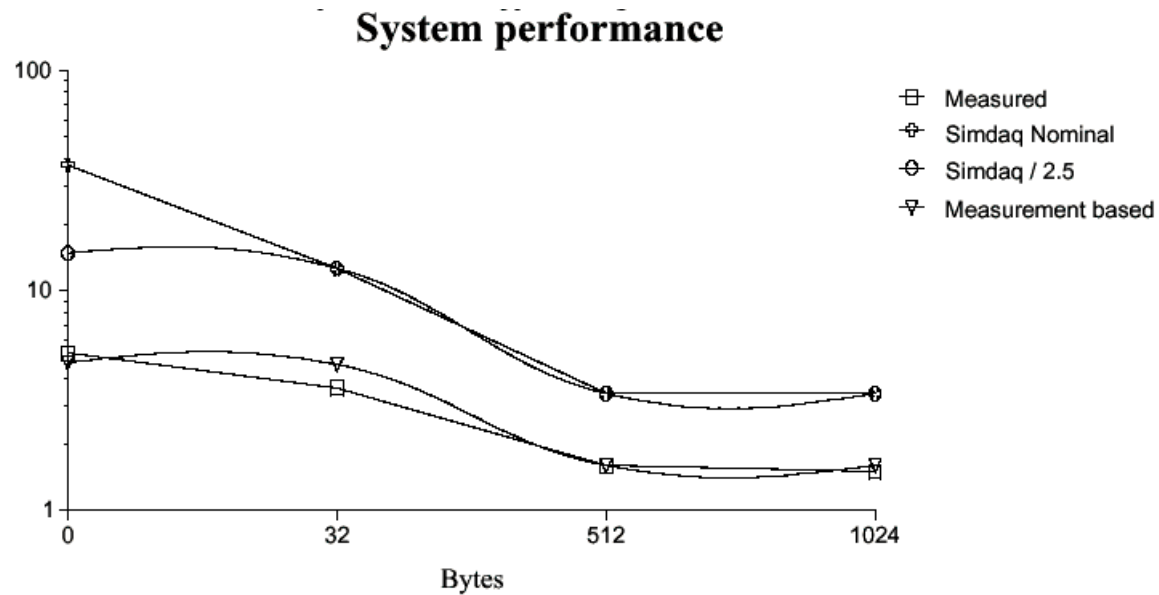
Round trip time (no queue)



ROB performance



“Full System” Performance



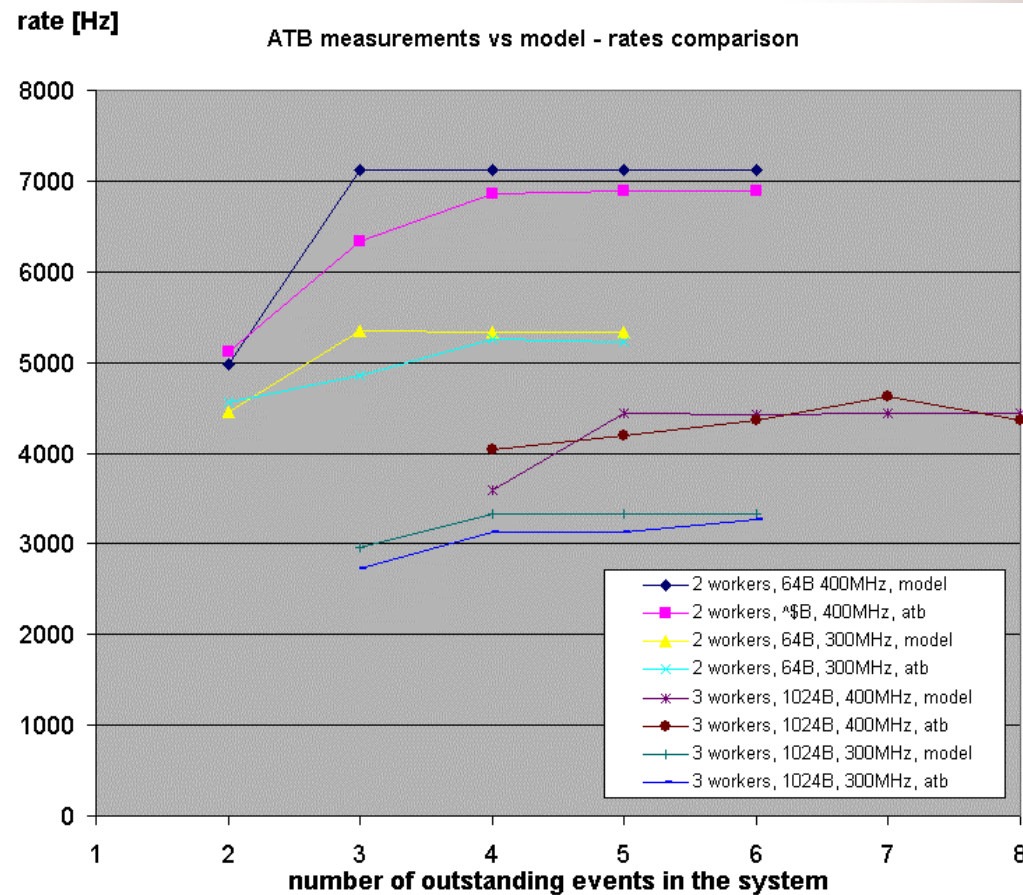
14 ROB's X 14 Steering X 3 Supervisors

Conclusions from comparisons



- Rough correspondence
- Tuning not really done in any careful way
 - Ptolemy group have done this much better
 - Ptolemy group have better aligned the model itself with the Reference Software as it is now

Ptolemy - Ethernet tuned



Network less significant than Reference Software



- Need more careful comparison
 - From the rates it is more likely that the ref. Software details (like # worker threads) dominate
 - Simple switch added to Ptolemy would be sufficient to demonstrate “understanding of parameters”
 - Some modification of SIMDAQ needed to accommodate the sequencing details + parameters better adjusted (maybe taken from current Ptolemy + a little ATM adjustment)