



Phoenix Integration AFRL MSTC Collaboration

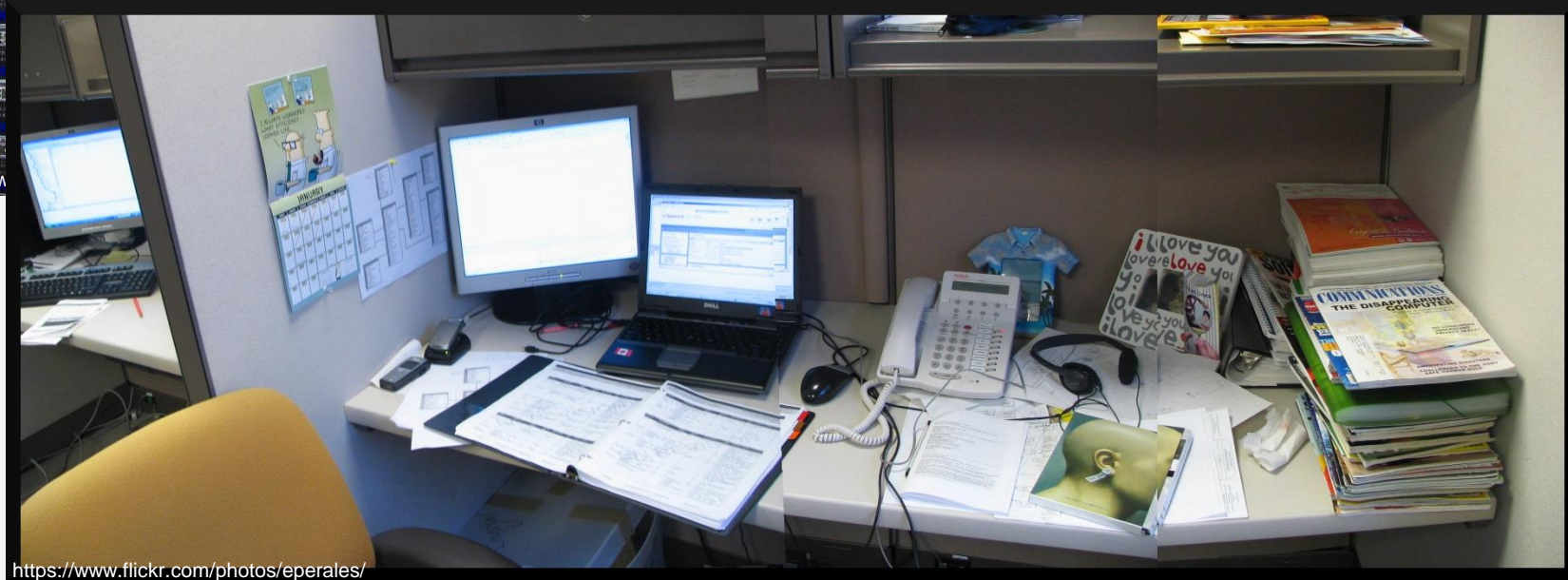


But first, who am I?

PHX & AFRL

- PHX has been working with Ray Kolonay's group at AFRL to apply MSTC to ModelCenter
 - PHX have had a number of meetings with Ray
 - Working with MSTC developers
 - Actively investigating ways to integrate MSTC technology into MC
- The investigation & relationship are ongoing—this presentation is just a progress report

Why does PHX like MSTC?



Aware
&
Efficient

Dynamic & Adaptive

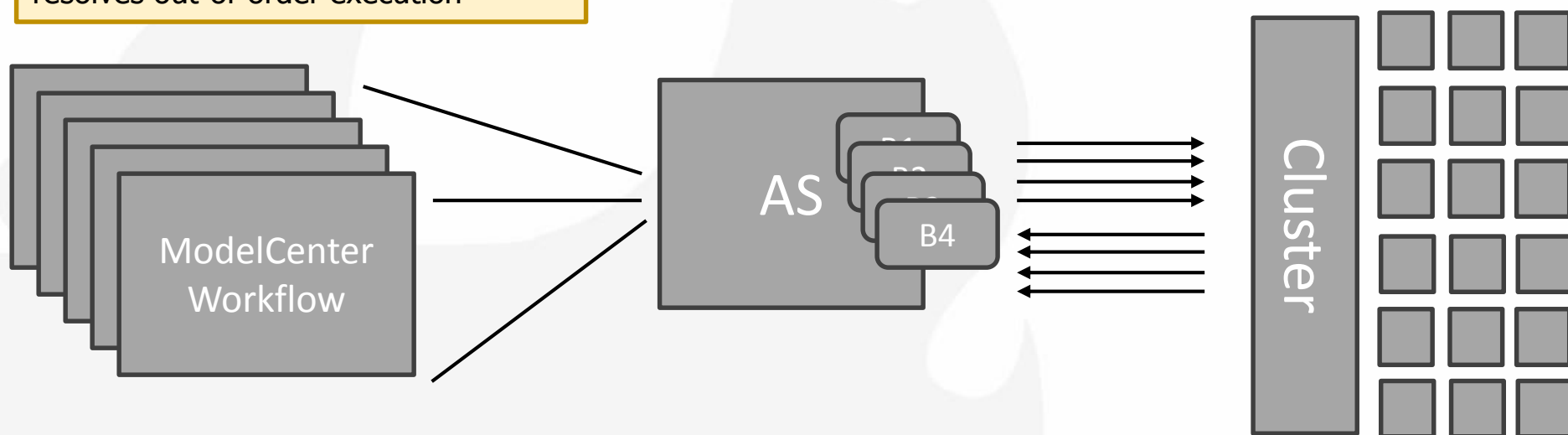


ModelCenter and MSTC

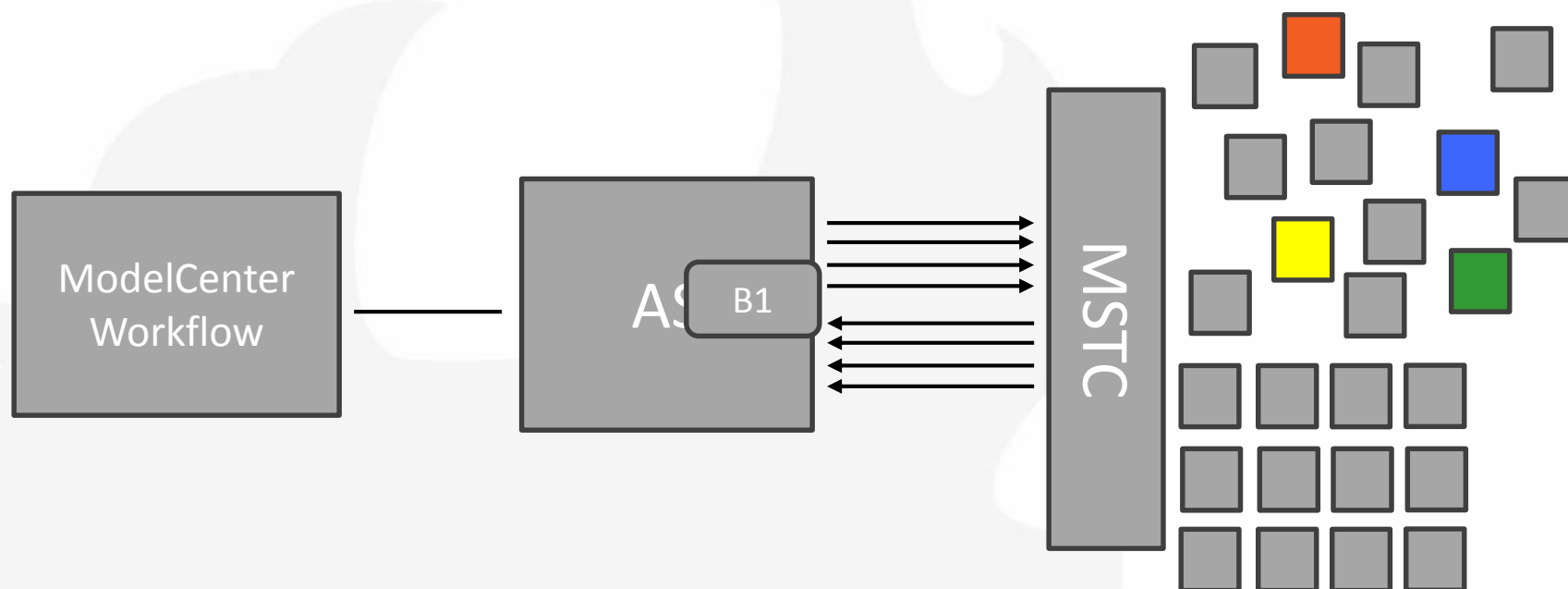
ModelCenter HPC Execution

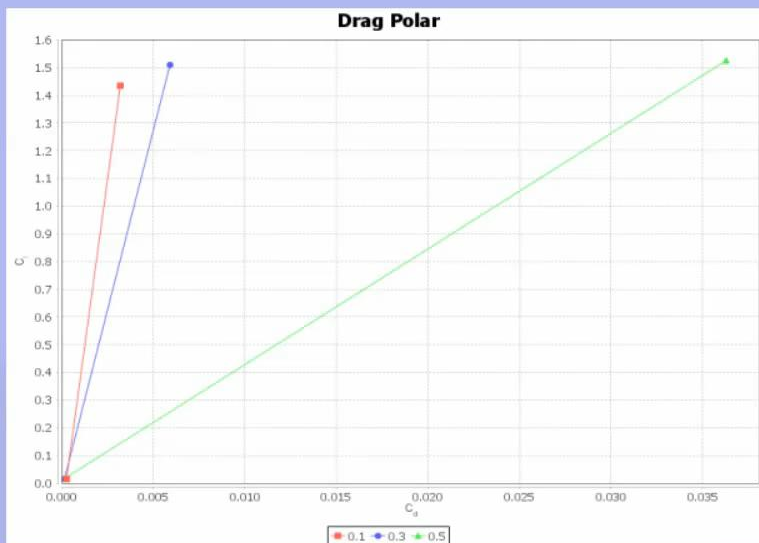
Job Manager

Trade studies and parallel loops in MC are run through Job Manager, which keeps track of multiple instance and resolves out-of-order execution

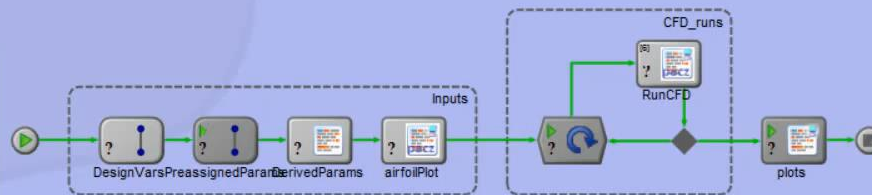


ModelCenter HPC with MSTC (prototype)

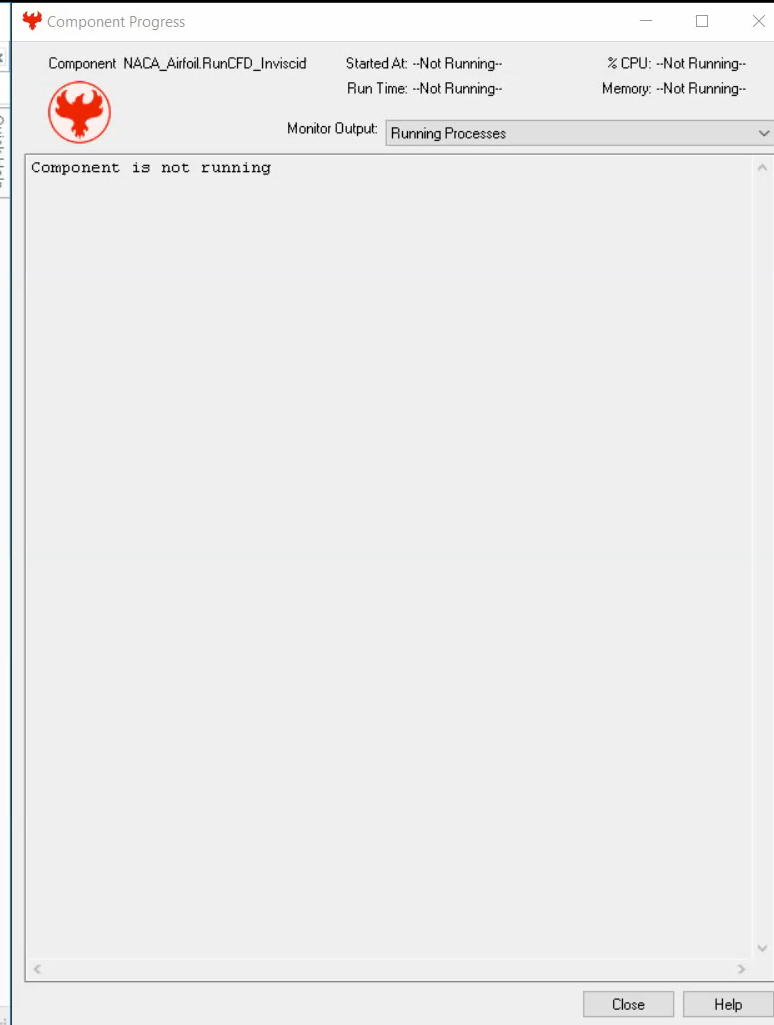
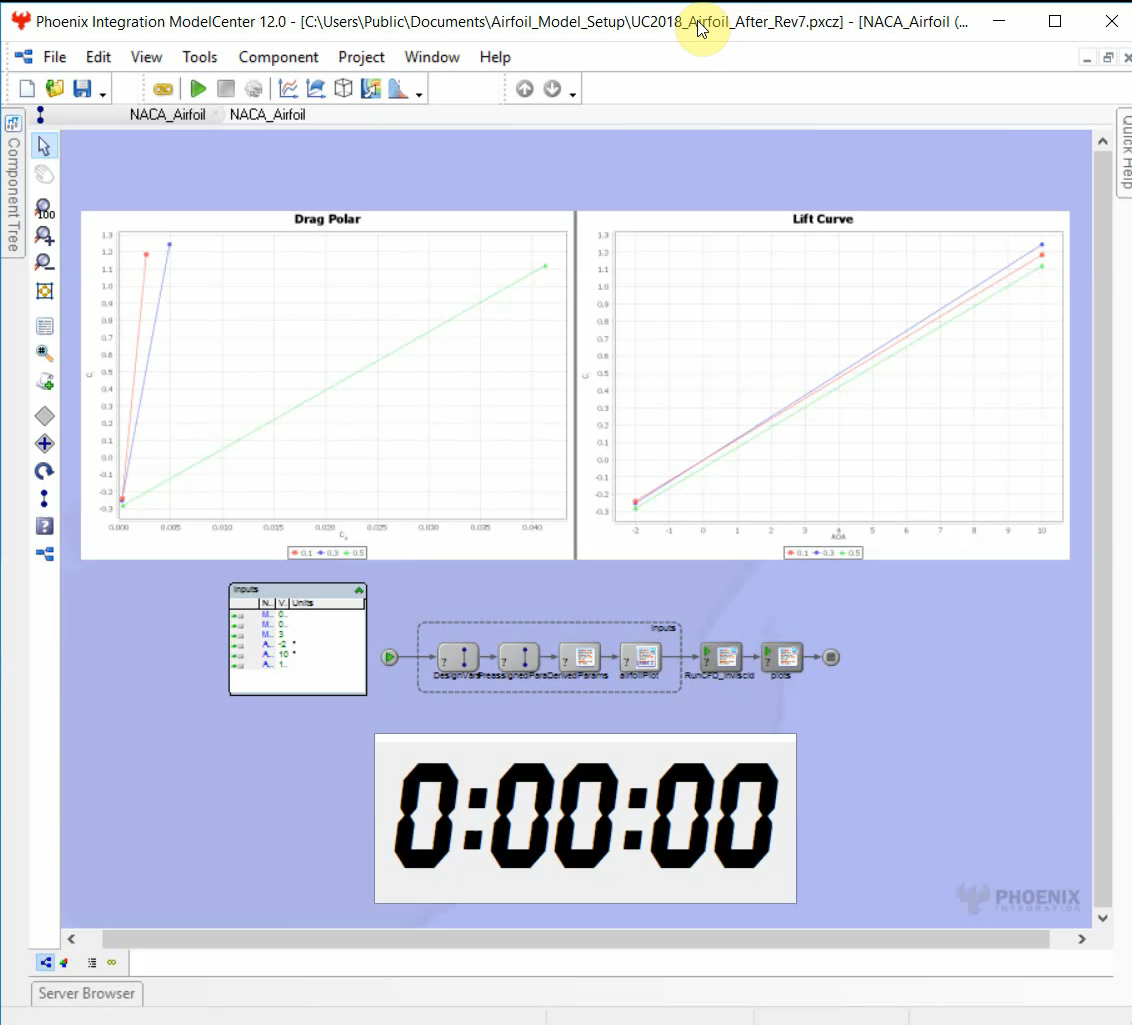




Inputs		
Name	Value	Units
MachMin	0.1	
MachMax	0.5	
MachSteps	3	
AOAMin	-2	°
AOAMax	10	°
AOASteps	150	



0:00:00



Next Steps: Applying MC + MSTC

- In-person meeting with AFRL MSTC team June timeframe
- Planning to try out on EXPEDITE program
 - Clif Davies will present more about this next
- PHX will use intelligence gathered from all these activities to understand and improve integration and distributed computing capabilities
- PHX is looking for feedback from industry partners



<https://www.flickr.com/photos/mugland/>



Photo by Jerome Lumley



Discussion

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Michael Haisma
April 18, 2018

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