

Our institutional overview, anticipated goal and contribution in joining PRAGMA

Prapaporn Rattanatamrong



Thammasat University



- The second oldest university, established in 1934 as the University of Moral and Political Sciences.
- Guiding philosophy: to teach students to love and cherish democracy
- Offering more than 240 programs in 23 different faculties on 4 campuses (Tha Phrachan-Bangkok, Rangsit-Pathum Thani, Lampang, and Pattaya)





- Founded in 1984
- Undergraduate programs with tracks on Computer Science, Software Engineering and Computer Graphics
- Graduate programs in Thai and English
- Specialization laboratories in Virtualization, Parallel Processing, AI, Networking, Human-Computer Interaction and Image processing, Graphics, and Software Engineering



Participating Faculty Members

- Kasidit Chanchio, Ph.D.
 - Research areas: distributed systems, virtualization technology, cloud computing
 - Sushi-Cloud Openstack
 - Public Cloud platform based on Openstack to facilitate advanced studies and analysis of Cloud computing
 - Virtual machine Migration and Checkpointing (VMiCh) system
 - Thread-based Live Migration and Checkpointing for VMs with multiple VCPUs and large memory size
 - Virtual Cluster-based Coordinated checkpointing Protocol (VCCP)
 - Coordinated checkpointing for virtual clusters



Participating Faculty Members

- Worawan Marungsith Diaz Carballo, Ph.D.
 - Research areas: GPU computing, Parallel Discrete Event Simulation, performance evaluation
 - Agent-Based Simulation (ABS) to study dynamic phenomena, e.g., disaster response, social network analysis and traffic control system
- Prapaporn Rattanatamrong, Ph.D.
 - Research areas: distributed computing, middleware, real-time and ensemble systems, mathematical optimization
 - Enabling the continuity of IT services and infrastructures during flood and other disasters (funded by THNiC/TRF in collaboration with an NSF-RAPID project at UF)



Expected Goals and Contributions

- To exchange our expertise and experience in virtualization and related cloud-computing technologies with other members
 - Remotely and during PRAGMA workshops
- To participate in multi-site cloud testbed experiments
- To promote internationalization of our institution's education and research in corresponding to Thailand preparation for the Asean Economic Community (AEC)



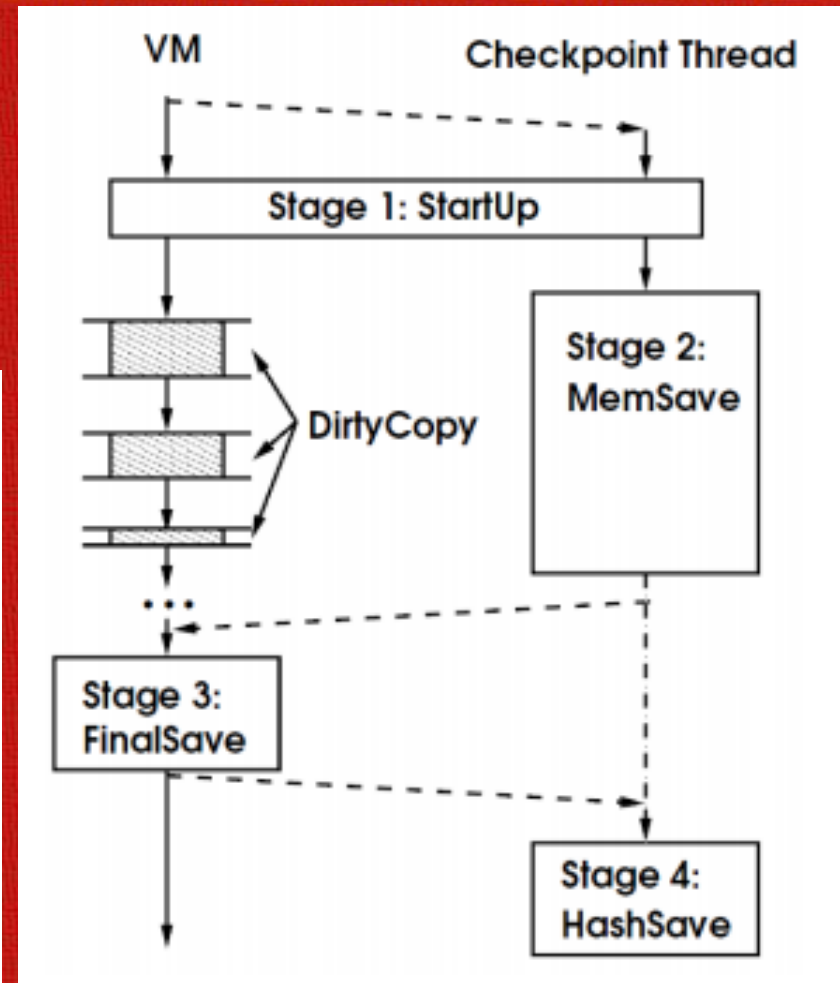
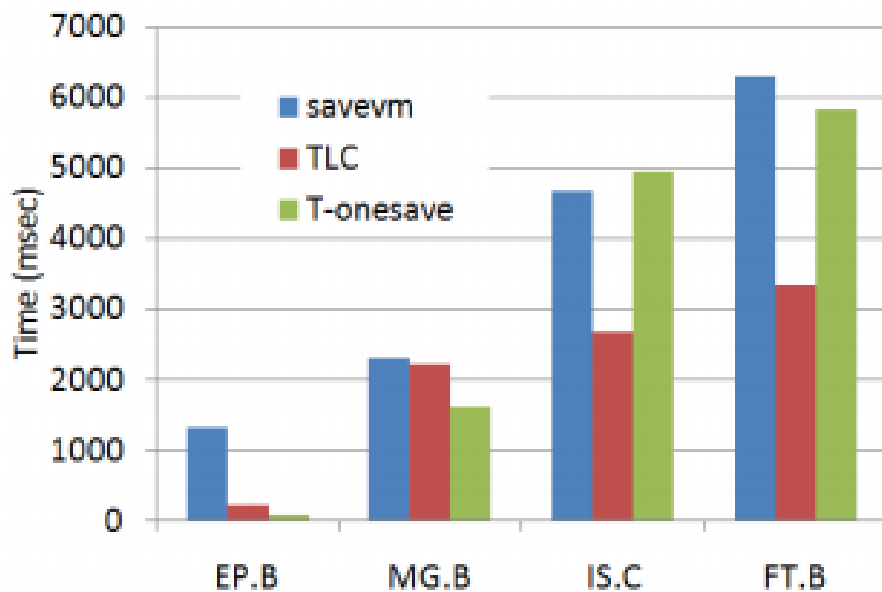
In case of curiosity

DETAILS ON OUR WORK



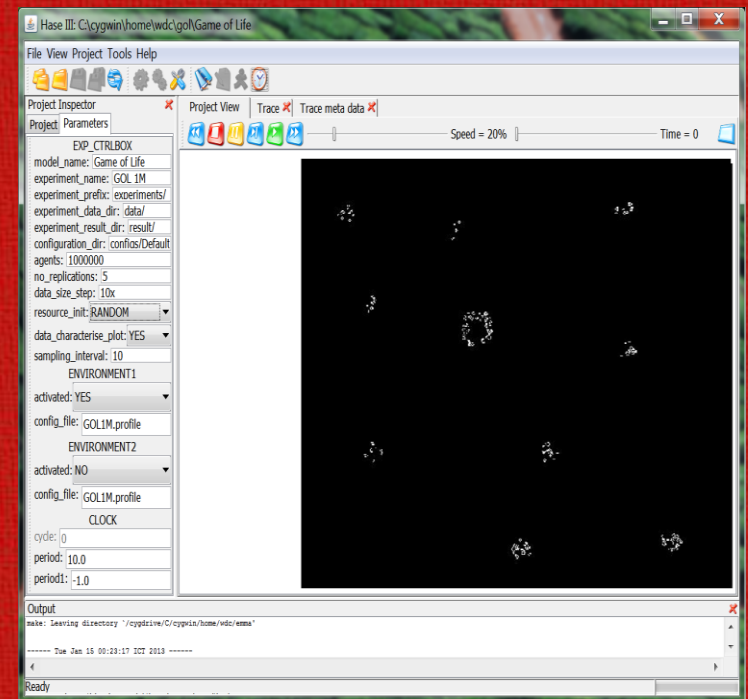
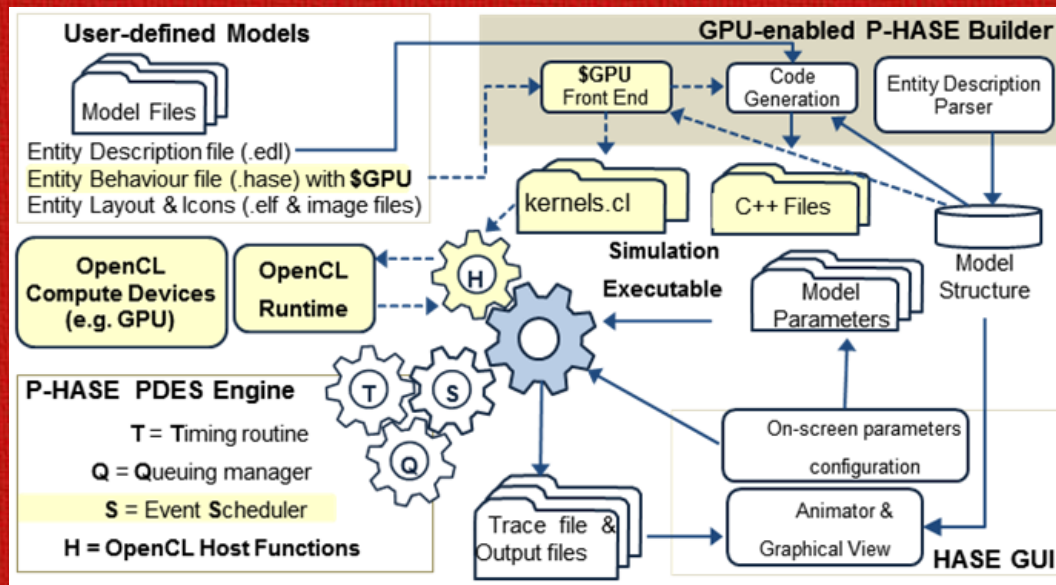
Thread-based Live Checkpointing (TLC)

- Pre-copy live migration
- Checkpoint Thread
- VM Thread



GPU-enabled agent-based simulations

- Using a PDES tool as a framework for creating a GPU-based ABS models using OpenCL C++



Resource scheduling and optimization

