GpENI and GpENI-MMO Quarterly Report

June 2010

[fully hyperlinked wiki version online at
https://wiki.ittc.ku.edu/gpeni/Quarterly_Reports#June_2010]

MAJOR ACCOMPLISHMENTS

Milestones Achieved

- no milestones due this quarter

Deliverables Made

- no deliverables due this quarter

DESCRIPTION OF WORK PERFORMED DURING LAST QUARTER

Activities and Findings

- **PlanetLab sub-aggregate:** SFA updated to 0.9-10. Many additional node clusters added to PlanetLab sub-aggregate as they joined GpENI. Collaborating with PlanetLab–DCN aggregate integration.

- **Routing and topology sub-aggregate:** XORP/Quagga integration completed and running virtual topologies in a slice. Working on GUI for VINI topology creation similar to GpENI PlanetLab path slice creation demo.

- **DCN sub-aggregate:** Initial VLAN connectivity and tests conducted between UNL, UMKC, and KSU for DCN deployment in the Midwest GpENI core network.

- **OpenFlow:** UMKC and KU have acquired NetFPGA boxes to begin experimenting with OpenFlow to determine if it can be reasonably incorporated as a sub-aggregate. KSU intern at BBN is exploring GpENI-OpenFlow integration.

- **Physical infrastructure:** The physical infrastructure is in place and relatively stable, with activities this quarter consisting of adding L2TPv3 tunnels and VLANs to support GpENI infrastructure build to new GpENI nodes: UPC Barcelona, Kaiserslautern G-Lab, Simula, Karlstad, and TU-München

Project Participants

- KU: James P.G. Sterbenz (lead PI); Rick McMullen, Joseph B. Evans (co-Is); Ronqing Hui, Gary Minden (faculty), Egemen Çetinkaya, Justin P. Rohrer (GRAs); Michael Hulet, Wesley Mason (network infrastructure)

- KSU: Caterina Scoglio, Don Gruenbacher (co-PIs); Ali Sydney, Yunzhao Li 李云钊 (GRAs); Sam Hays, Richard Becker (network infrastructure)

- UMKC: Deep Medhi (co-PI); Baek-Young Choi 최백영 (Co-I); Cory Beard, Khosrow Sohraby (faculty); Ramkumar Cherukuri, Can Kanlı, Xuan Liu 刘璇, Juluri Parikshit, Haiyang Qian 钱海洋, Tim Sylvester (GRAs); Jim Schonemann (network infrastructure)

- UNL: Byrav Ramamurthy (co-PI); Pragatheeswaran Angu, Mukesh Subedee (GRAs); Kent G. Christensen (network infrastructure)

- IIT: Tricha Anjali (co-PI)

- Lancaster University (UK): David Hutchison (co-PI); Andrew Scott (co-I)

- ETH Zürich (Switzerland): Bernhard Plattner (co-PI)

- Universität Bern (Switzerland): Torsten Braun (co-I)

- Simula Research Laboratory (Norway): Olav Lysne, Amund Kvalbein (Co-Is)

- GPN: Greg Monaco (co-PI)

- Ciena: Jeff Verrant (co-PI); Jim Archuleta (co-I); John Lankford (network infrastructure)

- KanREN: Cort Buffington (co-PI); Brad Fleming (network infrastructure)

- MOREnet: Hank Niederhelm, PJ Clayton, Rex Peterson, Shannon Spurling (network infrastructure)

Full information on all project participants is available on the People and Institutions section of the GpENI wiki.

Presentations and Publications (individual and organizational)

James P.G. Sterbenz, Deep Medhi, Byrav Ramamurthy, Caterina Scoglio, David Hutchison, Bernhard Plattner, Tricha Anjali, Andrew Scott, Cort Buffington, Gregory E. Monaco, Don Gruenbacher, Rick McMullen, Justin P. Rohrer, John Sherrell, Pragatheeswaran Angu, Ramkumar Cherukuri, Haiyang Qian, Nidhi Tare,
"The Great Plains Environment for Network Innovation (GpENI): A Programmable Testbed for Future Internet Architecture Research",
Proceedings of the 6th International Conference on Testbeds and Research Infrastructures for the Development of Networks & Communities (TridentCom),
Berlin, Germany, 18–20 May 2010 (paper presented)

James P.G. Sterbenz, Deep Medhi, Byrav Ramamurthy, Caterina Scoglio, Cort Buffington, Gregory E. Monaco, Rick McMullen
"GpENI: Great Plains Environment for Network Innovation – A Programmable Testbed for Future Internet Research",
panel at *GPN 2010 Annual Meeting* (James P.G. Sterbenz moderator),
Kansas City, MO, 04 June 2010

James P.G. Sterbenz, Deep Medhi, Byrav Ramamurthy, Caterina Scoglio, David Hutchison, Bernhard Plattner, Tricha Anjali, Andrew Scott, James Archuleta, Cort Buffington, Gregory E. Monaco, Baek-Young Choi 최백영, Joseph B. Evans, Don Gruenbacher, Rick McMullen, Jeff Verrant,
"GpENI: Great Plains Environment for Network Innovation",
GPN 2010 Annual Meeting,
Kansas City, MO, 04 June 2010

Outreach Activities

- James P.G. Sterbenz, Rick McMullen, Justin P. Rohrer, Egemen Çetinkaya, Mahmood A. Hameed, Chaitanya Cherakupally (KU); Caterina Scoglio, Yunzhao Li 李云钊 Mina Youssef (KSU); Deep Medhi, Ramkumar Cherukuri, Xuan Liu 刘璇, Juluri Parikshit, (UMKC); and Byrav Ramamurthy, Mukesh Subedee attended *GPN 2010 Annual Meeting*, Kansas City, MO, 04 June 2010. GpENI was demonstrated by the students and accompanied by the GpENI poster, lead by Justin P. Rohrer who won a GPN student poster award, and a student poster award was also won by Mukesh Subedee.

- James P.G. Sterbenz and Rick McMullen attended the OpenFlow CIO meeting in Stanford CA on 22 June 2010.

- James P.G. Sterbenz and Justin P. Rohrer attended the [NSF GEW (GENI Experimenters Workshop)], 29–30 June 2010 in Pinceton NJ.

- Justin P. Rohrer and Egemen Çetinkaya presented the GpENI poster at the University of Kansas ITT Industrial Advisory Board meeting in Lawrence KS on 10 June 2010.

Collaborations

- KSU and UMKC continue to collaborate with Princeton for PlanetLab and VINI matters
UNL continues to collaborate with MAX on DCN matters
   KU continues to collaborate with Stanford on OpenFlow matters

Other Contributions

No other contributions to report.