KanseiGenie:

GENI-fying and Federating

Autonomous Kansei Wireless Sensor Networks

Spiral 2 – Quarter 1 Report

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1. <u>Major accomplishments</u>

- Opened KanseiGenie to allow access from remote KanseiGenie researcher portal/ORCA service manager

- Finished initial definition of KanseiGenie RSpec

- Demonstrated the integration of KanseiGenie researcher portal and site managers with the KanseiGenie broker deployed at RENCI

- Finished extending KanseiGenie researcher portal to support workflow management

- Worked with cluster D and GPO to identify a plan for VLAN connectivity between Cluster D projects

2. <u>Milestones achieved</u>

- KANSEI: S2.a Remote access

  o Done

- KANSEI: S2.b Cluster plan for VLANs between testbeds

  o Done

- KANSEI: S2.c Extend researcher portal to support workflow management

  o Done

- KANSEI: S2.d Extend researcher portal for use with Kansei and Neteye (Due 03/16/10)

  o Work in progress

- KANSEI: S2.e Bring up NetEye testbed at WSU (Due 03/16/10)

  o Work in progress

- KANSEI: S2.f Connections from Kansei and NetEye to Internet2 (Due 03/16/10)

  o Work in progress

- KANSEI: S2.g Import extended ORCA v2.1 (Due 07/20/10)

- KANSEI: S2.h Demo experiment using Kansei and NetEye (Due 07/20/10)

- KANSEI: S2.i Collaborate with GMOC (Due 08/31/10)

- KANSEI: S2.j POC to GENI response team

  o Done

- KANSEI: S2.k POC to GENI security team

    o Done

- KANSEI: S2.l Contribution to GENI outreach (Due 08/31/10)

    o Work in progress

3. Deliverables made

- Version 1.0 of KanseiGenie RSpec

  http://sites.google.com/site/siefastgeni/documents-1/Kansei-RSpec.doc?attredirects=0&d=1

- KanseiGenie systems with the new workflow management component:

  http://kansei.cse.ohio-state.edu/KanseiGenie/

- KanseiGenie spiral 2 roadmap:

  http://sites.google.com/site/siefastgeni/spiral2-roadmap

- Refined KanseiGenie installer package 1.0

  http://kansei.cse.ohio-state.edu/KanseiGenie/downloads/index.php

4. Description of work performed during last quarter

- Summary of accomplishments related to KanseiGenie site/aggregate managers and researcher portal:

    o Incorporated wireless sensor network specific concepts into a NDL-based ontology model

    o Enabled start/stop of experiments through the researcher portal

    o Finalized the KanseiGenie roadmap for spiral 2 with the focus on live experiments

    o Refined KasneiGenie installer package 1.0, including providing developer documentations

- Summary of accomplishments related to KanseiGenie clearinghouse/broker and Kansei cloning at NetEye:

    o Configured the KanseiGenie broker and deployed it to a self-maintained jail machine in RENCI

- Moved the KanseiGenie broker to RENCI's clearinghouse and finished the peer-to-peer communication test among the distributed actors

- Updated the certificates and UUIDs of the KanseiGenie site authority and service manager for security issues, finished the peer-to-peer communication test with the new self-signed public keys

- Finalized the KanseiGenie roadmap for spiral 2 with the special focus on the KanseiGenie cloning in Neteye, KanseiGenie testbed federation and fine-grained resources allocation strategies by using ORCA control framework

- Setup the running environment for installing the KanseiGenie package;

  Complied the KanseiGenie installation package in Neteye server;

  Implemented the Neteye compatible webservice to incorporate the different substrates;

  Traced the installation bugs and presented the specific resolutions to related problems.

- Discussed the KanseiGenie cloning issues with the Oklahoma folks and helped them build the KanseiGenie-compatible system

5. <u>Activities and findings</u>

The following tasks are ongoing:

- Extend researcher portal for use with Kansei and Neteye

- Bring up NetEye testbed at WSU

- Connections from Kansei and NetEye to Internet2

6. <u>Project participants</u>

Investigators:

Anish Arora

Rajiv Ramnath

Hongwei Zhang

Vipul Gupta

Sami Ayyorgun

Staff:

Mukundan Sridharan

Wenjie Zeng

Xi Ju

7. **Publications (individual and organizational)**

A paper on KanseiGenie has been submitted to TridentComm'10.

8. **Outreach activities**

- Presented KanseiGenie and NetEye to visitors from GM Research, October 2009 (Wayne State University)

- o Presented KanseiGenie and NetEye to visitors from Ford Research, December 2009 (Wayne State University)

9. **Collaborations**

- o Collaborate with Cluster-D projects to identify VLAN connectivity within the cluster

- o Help the team from Oklahoma State University to port KanseiGenie software package to their testbed

10. **Other Contributions**

- o Collaborate with Oarnet for connecting to get the VLAN connections from OSU to Internet2