REMOTE MANAGEMENT OF EDS EXPERIMENTS

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Cyber-Physical Experimentation

Customer

TESTBED

DATA

ASSETS

PEOPLE

PROVISION

CLOUD

LOCAL

(testbed operation support)

SCIENCE
People

- Ashwini
- Prosper
- Steve
- Jeremy
- Richard
- Tim
- Ziping
Testbed Research Efforts

Start

Composability

Remote Mgmt

Provisioning

Capabilities

Usability

Federation
Remote Management

Summary

Implement a remote access and management strategy that supports full testbed accessibility

Goals

Lower the barrier for external members to spin up experiments in the testbed environments

Benefits

1. Remote management of both cyber and physical aspects of an experiment
2. Experimentation resource for the EDS community

Mid-Term Effort
Accessing what is available to those that need it TODAY?
Getting Access To The Testbed

• The Testbed Portal (https://testbed.iti.illinois.edu)
CEER Testbed Portal

• Account Onboarding
• Account Maintenance
• Project Access Approvals
• FAQ
• Basic Help Queries

• Continuous development
  • More features coming
Project Members

- Update Account Information
- List Project Membership
- Change password
- View non-authenticated and authenticated KB
- Request new projects
Project Managers

• Everything a Project Member can do
• Approve account requests
  • Only projects they manage
• View and remove project members
• View basic details of project members
• Invite new project members
Getting Help

Knowledge Base

- Basic FAQ-type questions and answers
- Updated regularly as new services and queries arise
- 3-tier access
  - Anonymous
  - Authenticated
  - Developer
  - *additional tiers are being developed
- Categorization is being developed

- How Can We Help?
  - Chat at https://testbed.iti.illinois.edu
  - Goes direct to a slack support channel
  - Help available during regular working hours
  - Please include name and alternative contact in case we need continue work at later time or through different means.
The Vision

Overall, we seek to…

• Advance the state of art for cyber experimentation
• Increase usability through tailored tools and seamless integration
• Focus on development and integration of modular re-usable pieces
• Drive models and their conditions from real telemetry
• Incorporate and extend the work done by other researchers
• Document and package experiments

• Drive research with reproducible, releasable, and recreate-able experiments
• Develop environments that aid learning, research understanding, and translate to operational advancement
Composability and Provisioning

- LAYOUTS
- CONFIG
- ASSETS
Future Provisioning Powered by SimSpace
Future Capability Tasks

• Event/Impact libraries
• Multi-axis converged modeling
• Historical data extrapolation for modeled data
• Seamless coherency between cyber and physical
• Detailed sandbox environment
• More true-to-reality utility architectures
• Enhanced data generation, injection, and correlation tools
• Experiment data analysis collection and processing tools
Testbed Research Efforts

- Composability
- Remote Mgmt
- Provisioning
- Capabilities

Usability

Federation
THANK YOU

The Whole Testbed Team at Illinois

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