

Next-Generation Cyber-Physical Experimentation

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GOALS

Elevate the testbed operations of today to support the broad CREDC mission. Bringing in flexibility, usability, remote management, enhanced provisioning, new EDS capabilities, and federation to advance the science of cyber-physical experimentation.

PROJECTS

Composable Infrastructure Mid-Term Effort **Benefits** Goals Summary Lower the barrier to Implement a base Base infrastructure framework for experiments by infrastructure creating infrastructure provisionable framework for virtual and representative infrastructure architectures for composed systems Reference

experiments to

for V&V

decrease spin-up costs

Physical Asset Provisioning

Mid-Term Effort

Benefits Goals Summary Implement physical Base infrastructure Provide a framework

asset provisioning for testbed assets

for provisioning general and domainspecific assets in the testbed in both cyber and physical vectors

framework for physical provisionable infrastructure

architecture

libraries and

components

Experimentation resource for the EDS community

- Profiles for provisioning physical assets
- Experimentation resource for the EDS community

Remote Management Mid-Term Effort Benefits Summary Goals

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

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

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

Broader EDS Capabilities

Mid-Term Effort

Summary

Implement domainspecific capabilities to support and enable new research

Goals

Bring in capabilities for oil and gas experimentation and expand power grid capabilities as needed

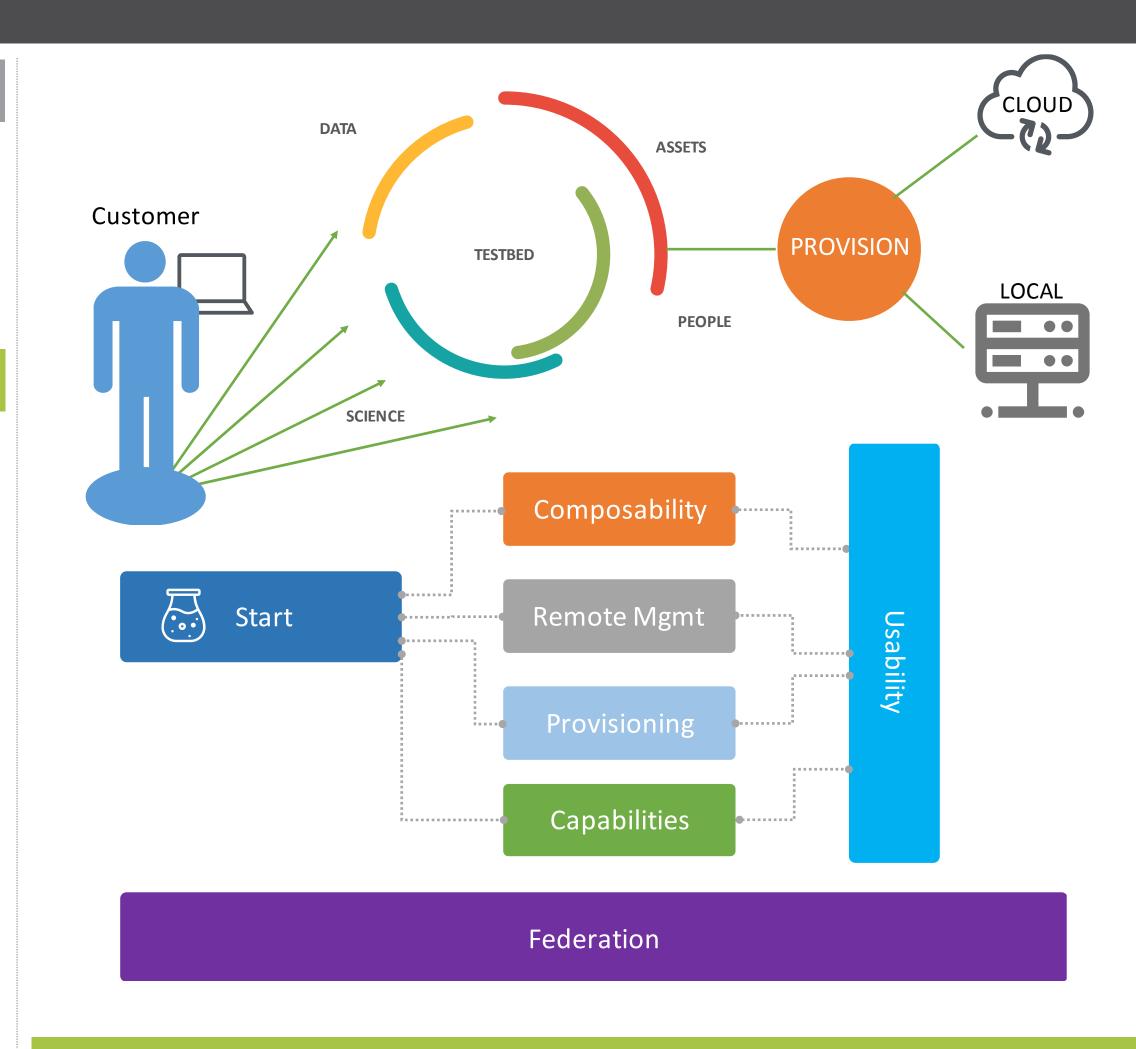
 Increased capabilities in the oil and gas domain

Benefits

Experimentation and resource knowledge base for the EDS community

STATUS

- Remote management enhancement started.
- Composability started.
- Broader EDS capabilities planning.
- Federation foundational work started.
- EDS domain training started.



PROJECTS, CONTINUED



leveraged for any

experiment

- increase rigor of verification and validation efforts
 - Experimentation knowledge base for the EDS community

assets and

Experimentation resource for the

leveraging for

experimentation

CPS community



physical processes

across geographic

separation

EDS Domain Mid-Term Effort Training Develop EDS Provide New EDS knowledge baseline EDS training base material for education to 2. Feeds into gap

address

education and

- Openly
- available