# Eucalyptus: A Service-oriented Participatory Design Studio Supported by UCLP

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**Abstract**

While most service-oriented solutions are developed for gluing systems or data together, the Participatory Design Studio (PDS) is developed to manage and configure the resources needed by users engaging in a participatory design session: *e.g.* videoconference application, and visualization server. User-Controlled Lightpath Provisioning (UCLP) pioneers a user-centric approach for creating and managing a private end-to-end optical network dynamically. Harnessing the power of UCLP, the PDS strives to provide a set of upper layer services for non-technical users to provision devices and applications running on high-speed broadband networks.

Funded through CANARIE's Intelligent Infrastructure Program, this project investigates ways to build an agile Service-oriented Architecture (SoA) consisting of a set of fine-grained Web Services to manage and configure available resources. We also provide a workflow management service allowing users to orchestrate services to perform certain tasks. For example, a workflow for rendering allows a user to specify a set of files as input from his/her local machine, upload them to the file server through the file management service, then start a rendering task managed by the rending service; when the rending task is completed, the output will be processed by the visualization service, through which the output will be displayed to the user. In addition, we employ simple semantics to describe the dependencies of each resource and ensure that workflows adhere to these dependencies. The goal of the PDS is to construct a network of services that can support (building) architect teams distributed across different geographical areas to work in an effective collaborative environment.