THE NEES DATA FLOW TESTBED

Student: Gaby Ou

PI(s): Shirley Dyke, Ayhan Irfanoglu, Santiago Pujol and Julio Ramirez

Sponsor: National Science Foundation

BOWEN LABORATORY

PURDUE UNIVERSITY Discovery Park

PURDUE UNIVERSITY

Research Objectives

- To support user requested developments on NEEShub , which is sponsored under **NEES** (**The George E. Brown, Jr. Network for Earthquake Engineering Simulation**). NEEScomm has developed a simplified testbed revolving around the typical “Data Flow” used by NEES researchers. The testbed facilitates building apartnership between IT and the earthquake engineers.

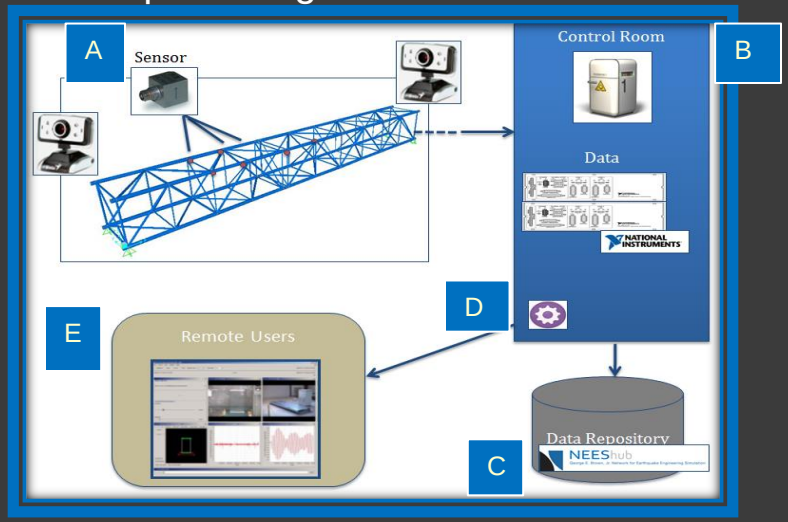

Fig 1. Schematic of Testbed Configuration

Hardware components:

A. Specimen with sensors and camera mounted

B. System for data acquisition, display and storing, and stream through Data Turbine server

C. NEEShub data repository (nees.org)

D. RBNB server to stream data

E. Remote user with RDV client server, enabling remote clients to view video and data

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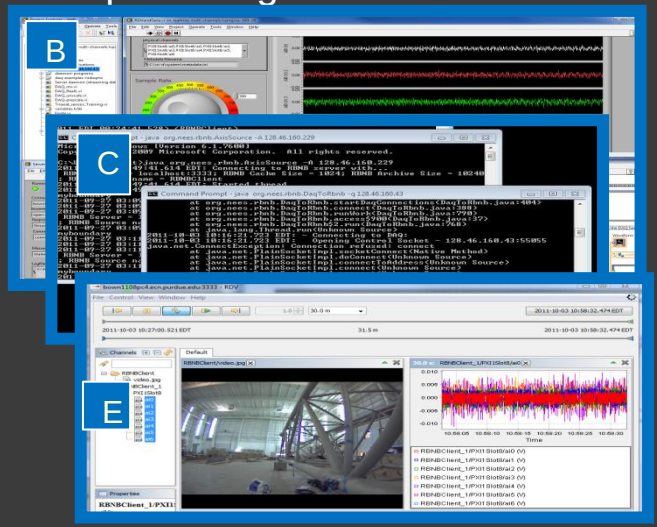

Fig 2. Data Flow Testbed Components

Software coding and programs relate to hardwires:

B. LabVIEW program for data acquisition, local display, recording and data stream to a web server

D. Java code for web server (Data Turbine) to stream video and test data

E. NEES-developed Real time Data Visualization (RDV) client for remote users

Research Tasks

Fig 3. Training with the Testbed

NEEScomm team members have used the testbed to better understand the complete end-to-end process to follow to complete a NEES experiment.

Steps made possible:
- Setup DAQ system
- Setup RDV client side for data visualization
- RUN RDV program
- Format data files
- Upload project to NEEShub

Fig 4. Implementation of Testbed