

Instrumentation and Measurement in GENI

Year 1 review/Year 2 planning

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Our team

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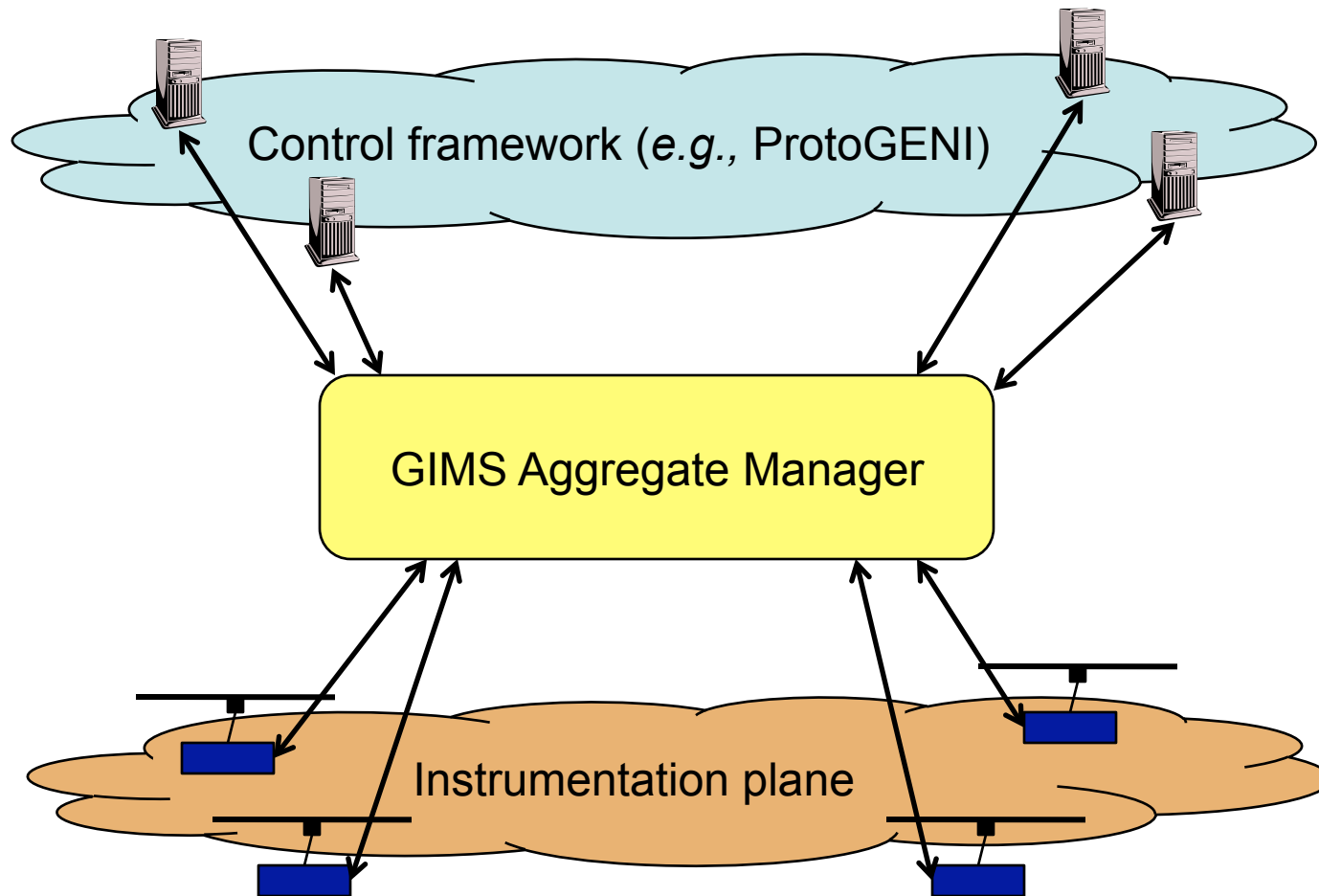


Key objectives

- **Identify and document key requirements for measurement infrastructure**
 - Focus on “what” and “how” to measure
- **Develop measurement protocols and systems that support a broad set of experiment**
 - Subset of possible measurements
 - Available to multiple control frameworks
- **Develop a measurement system test and evaluation infrastructure**
- **Deploy an initial set of measurement systems on GENI substrate**



System design



Year 1 milestones

- **Develop specifications for measurement systems**
 - Interface - complete
 - Sensors - complete
 - Repository – complete
- **Develop test suite**
 - Harpoon based suite - complete
- **Develop prototype that can be deployed and demonstrated in WAIL**
 - Complete – see demo at GEC5



Other year 1 activities

- **GEC attendance and participation**
 - Talks given at GEC1 and GEC4
- **GENI Measurement Workshop**
 - June 26, '09, Madison, WI
 - Report in August



Challenges in year 1

- **Annual funding cut by 65%**
 - Inadequate resources for personnel, equipment and travel
- **HMO + LPO = NP hard**
- **Uncertainty in GENI program**
 - We didn't receive funding until end of October
- **Fluid and complex GENI architecture**
 - What is fixed? What will survive?
- **Redesign of GIMS architecture**
- **Redesign of GIMS sensor architecture**



ProtoGENI integration status

- **WAIL upgrade to ProtoGENI – complete**
 - Enables WAIL users access to GIMS
 - Enables WAIL users access to GENI
 - Enables GENI users access to WAIL
- **GIMS UI extension for ProtoGENI underway**
 - Prototype demo at GEC5



WAN connections

- **None to date**
- **NLR will support GIMS deployment**
- **Have not officially solicited I2**



Plans for “outside” experiments

- **None to date**
- **Possibilities include**
 - **GENI management systems**
 - **Other control frameworks**
 - **??**



Stated milestones for year 2

- **Expand measurement test suite (Jan '10)**
- **Move from prototype to v1.0**
 - **Implement GIMS in WAIL (June '10)**
 - **Improve packet sensor system (June '10)**
 - **(Define and implement security model)**
 - **(Implement pub/sub resource management)**
- **Initial GIMS deployment in GENI (Oct '10)**
 - **Minimal scope**

