

IEP Model

INTEGRATED ENERGY PROJECT

CSI RD&D Solicitation #1

Grantee Meeting

July 22nd, 2010

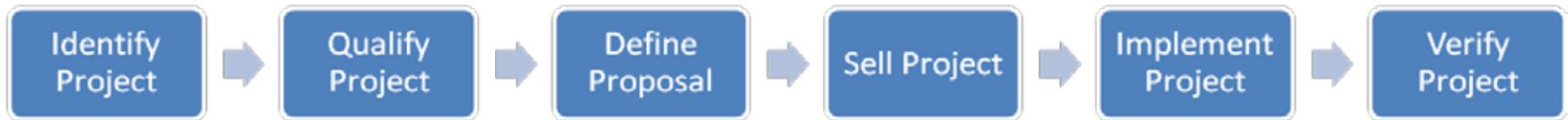
IEP Model - Team



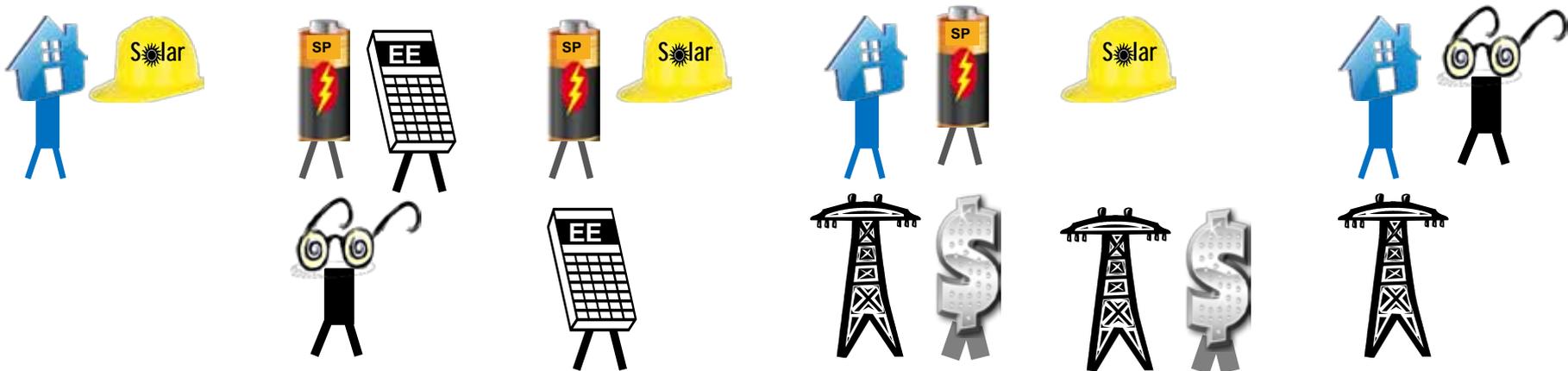
Overview

- Numerous software tools exist for evaluating energy efficiency (EE) and PV retrofit potential.
- Lack of tools for evaluating comprehensive projects integrating EE/DR+PV, or facilitating implementation.
- Interoperability between specialized tools will facilitate more integrated energy projects (IEP).
- Overall ROI on IEPs better than PV only creating potential for higher sales and deeper PV penetration.

“Life of an Energy Project”



Project data is collected and generated at each stage by various parties.

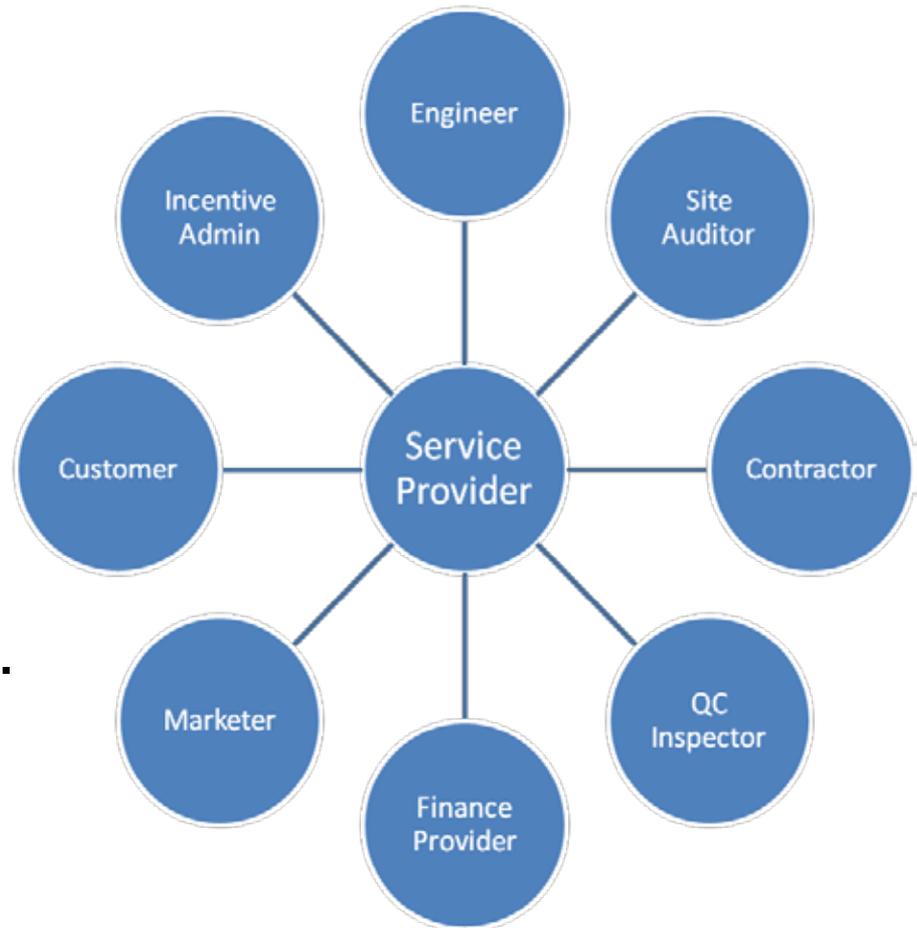


IEP Actors

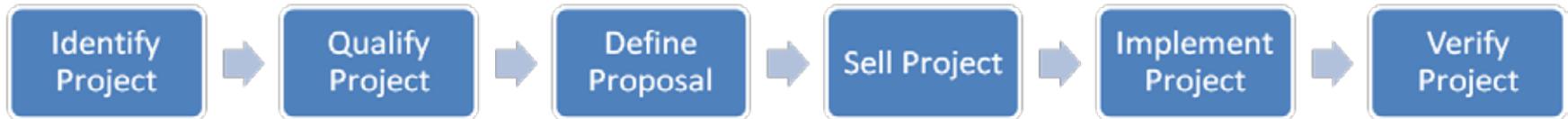
Integrated Energy Project (IEP): **EE/DR+PV**

- energy efficiency (EE),
- demand response (DR),
- solar PV

Many interactions
between many parties that
all need
overlapping information.



The Problem



Administrative responsibilities are repeated at each step of a project.

Communication between parties may be limited, meaning that each party may be doing the same step.

Time and money are wasted by multiple requests for data and repeated data entry.

Solution: The IEP Model

Introduces an XML schema that will be a comprehensive, standardized definition of:

- An EE/DR+PV project
- How stakeholders communicate between each other

Provide a means for passing electronic information among the parties through various software and web-based applications.



IEP Value to California

- **Support CA GHG** reduction and **RPS** goals.
- **Educate CA building owners** of the value of integrated EE/DR+PV projects.
- **Leverage PV installers as channel for EE installs** increasing overall energy impacts.



IEP Value to Service Providers

- **Improve ROI and penetration rate** of PV projects by integrating EE.
- **Increase the number and value** of residential and small commercial service providers offering integrated EE/DR+PV projects.
- **Reducing the time** spent in evaluating, specifying, purchasing, and implementing EE/DR+PV projects



IEP Value to Customers

- **Reduce required follow-up work** caused by existing online energy efficiency audit tools.
- **Reducing the time** spent in initiating and implementing EE/DR+PV projects

IEP Model - Objectives

- **Describe the components** required for the model
- **Document standard interchange formats** required for communication between consumer-facing and vendor-facing systems
- **Implement a test version** of the model
- **Deploy test implementation**, monitor and report on results, lessons learned, and best practices

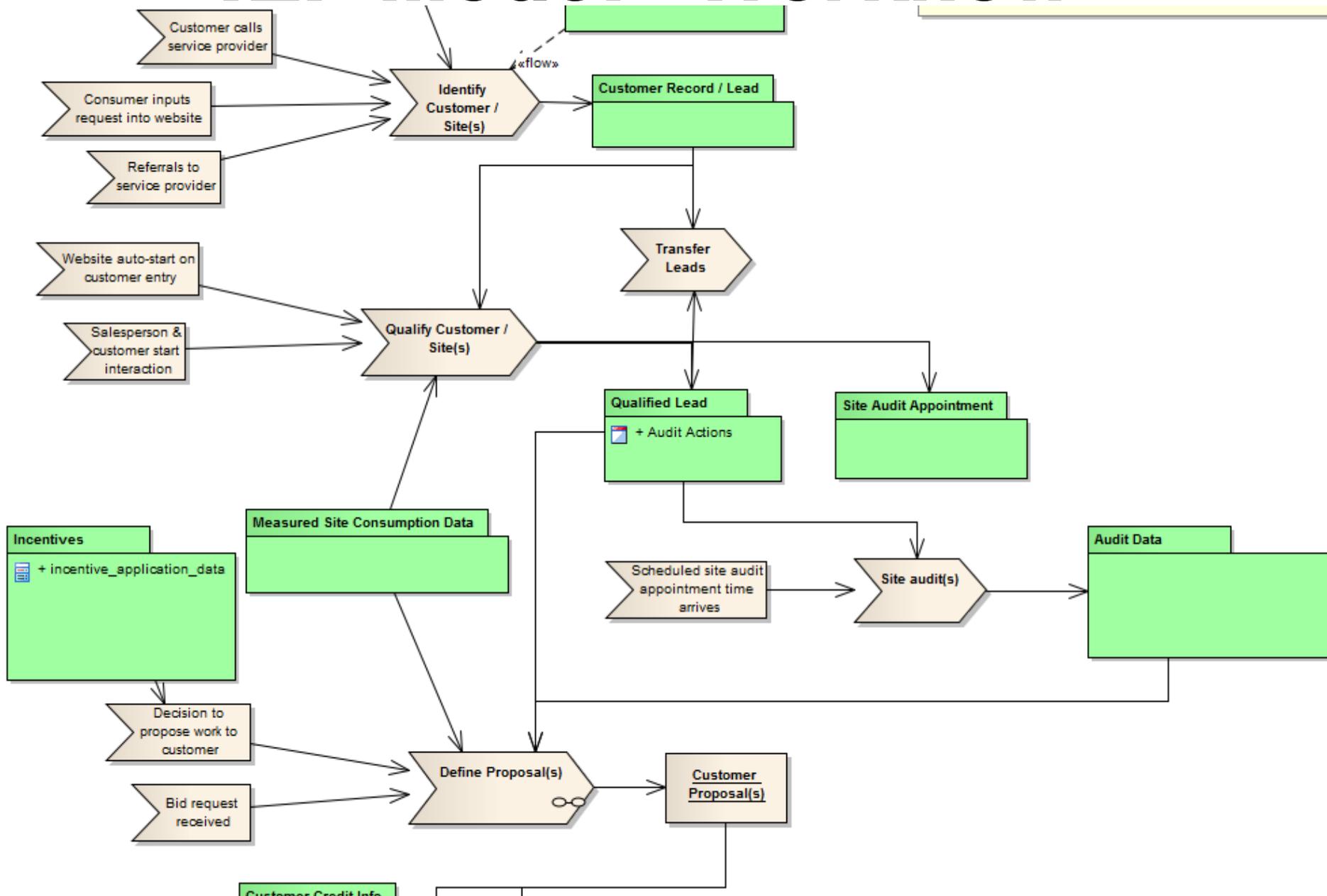
IEP Model - Guiding Principles

1. **Standards Incorporation** – The IEP Model should incorporate or complement existing standardization efforts around energy project data.
2. **Comprehensive Commercial Relevance** – The IEP Model should support all energy measures that hold current commercial relevance and provide for future extensibility.
3. **Multi-Party Usability** – The IEP Model should appropriately structure data so that multiple parties can effectively collaborate on defining and implementing any energy project which can include one or more energy measures.
4. **IT Independence** – The IEP Model should be independent of any specific information technologies, which may include operating systems, databases, languages, etc.
5. **Business Model Independence** – The IEP Model should be designed to be independent of any particular business model.

IEP Work To Date

- Outlined overall IEP Model business workflow
- Documented actors, use cases, and business cases
- Roughed out object model and high level attributes
- Identified existing related data standards and compared against our rough object model

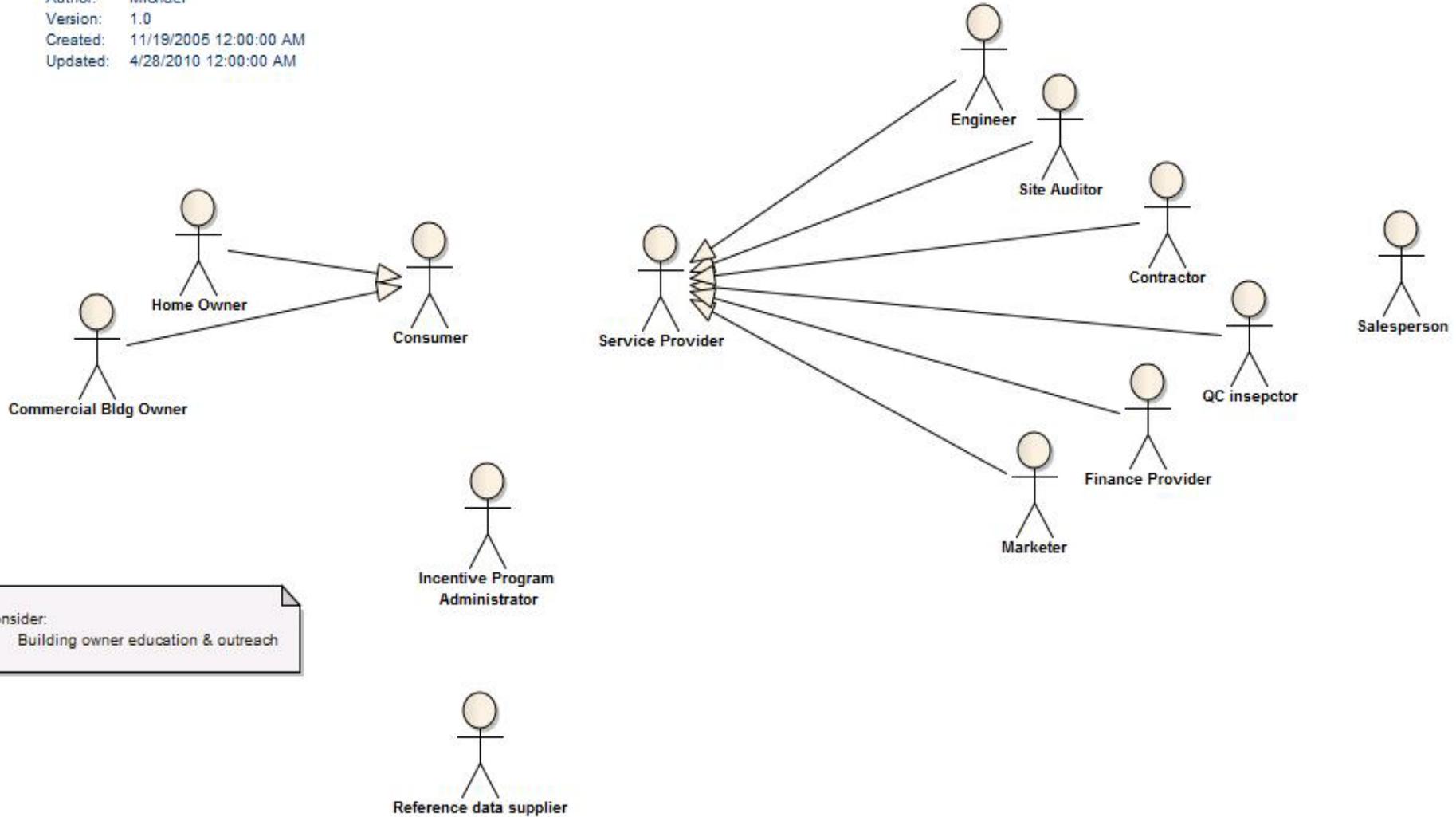
IEP Model - Workflow



IEP Model - Actors

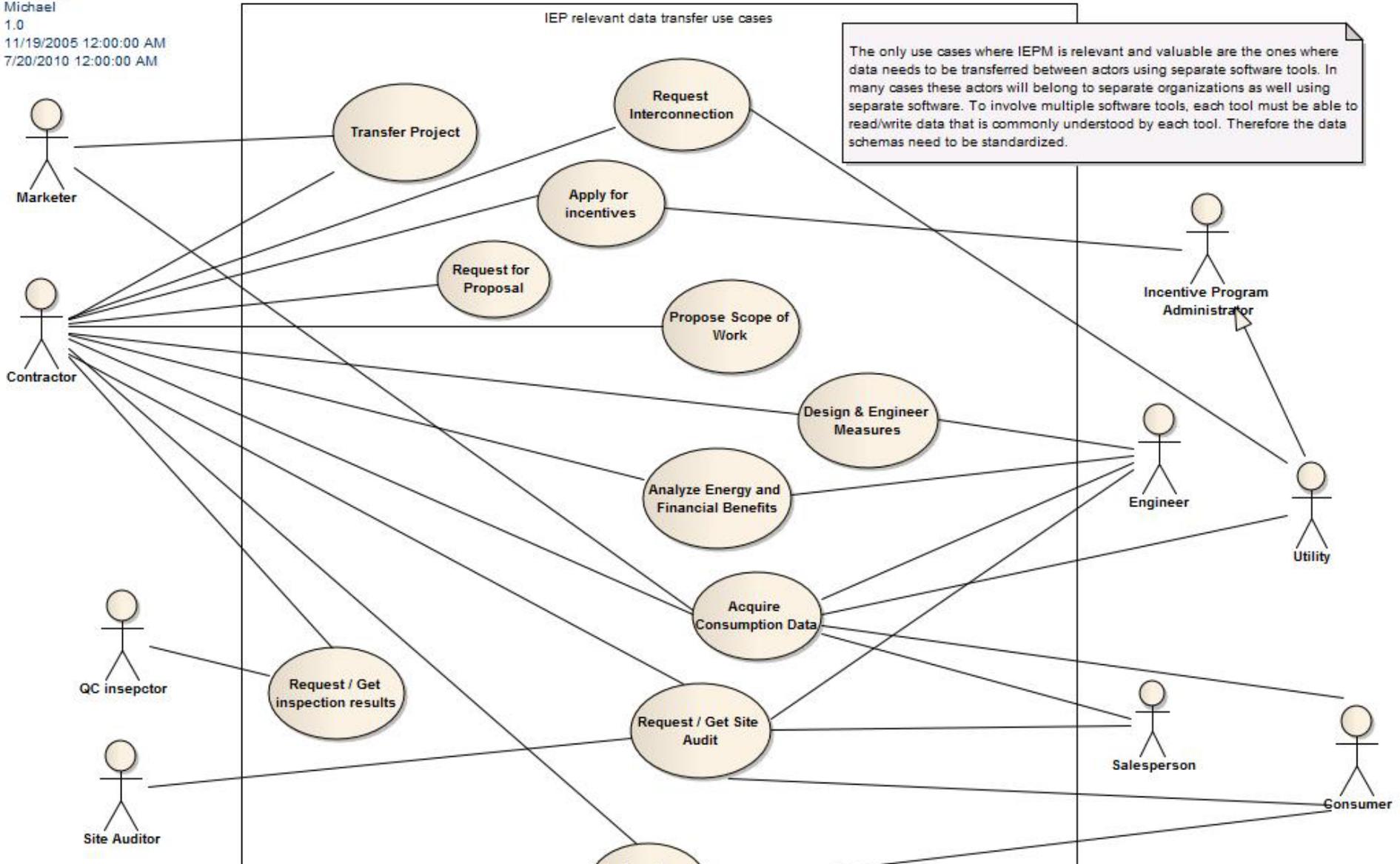
uc Actors

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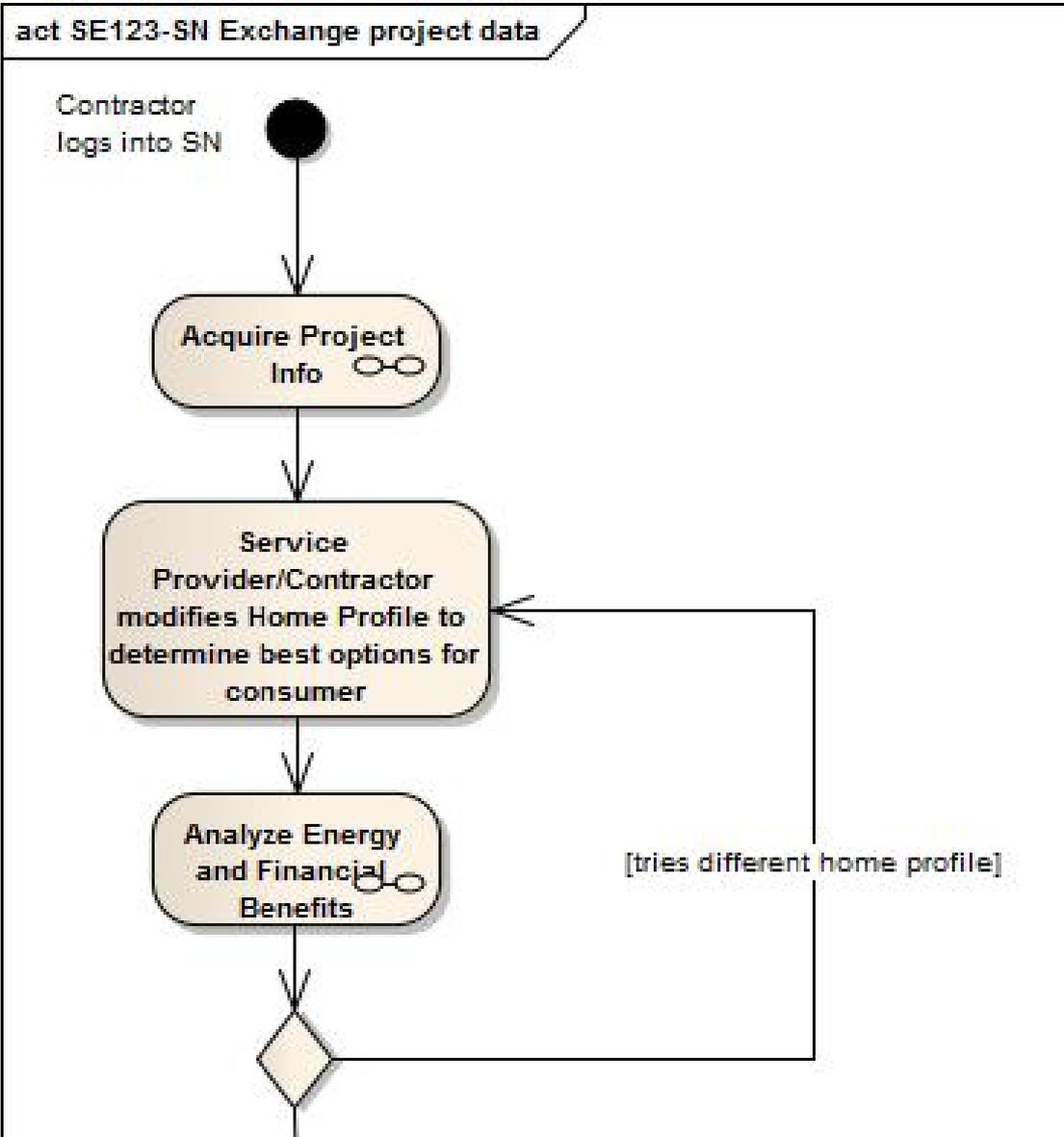


IEP Model - Use Cases

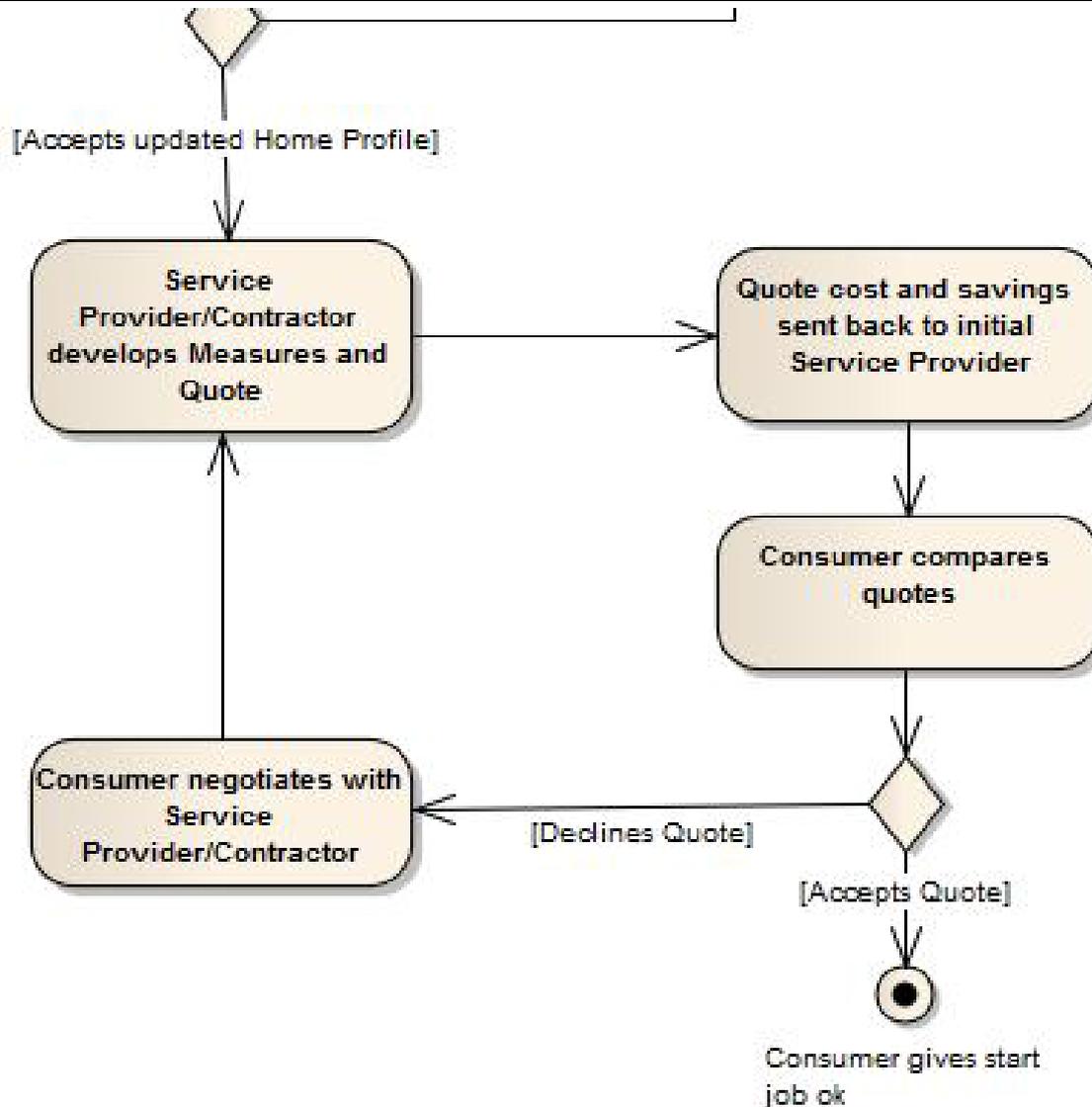
Use Cases
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IEP Model - Business Case



IEP Model - Business Case



Existing Related Standards

- PowerClerk Application Upload API
- EnergyStar Portfolio Manager
 - Energy Star Exchange Services (ESES)
 - Automated Benchmarking Services (ABS)
- Architecture, Engineering and Construction (aecXML)
 - Green Building XML (gbXML)
 - Industry Foundation Classes (ifcXML)
 - Associated General Contractors of America (agcXML)
- Home Performance (HPXML)

Stakeholder Involvement

- To ensure that we correctly capture data requirements for the IEP Model we are asking for stakeholder advisory input.
- Stakeholder advisors will review and comments on drafts of the IEP Model specification.

IEP Model - Work Plan

- **Research** similar existing standards, tools, and practices of EE and PV implementers. (in progress)
- **Identify key stakeholders** to help shape the specification of the IEP Model. (in progress)
- **Publish draft specification** of the IEP model with input from key stakeholders. (Fall '10)
- **Deploy test implementation**, in SolarNexus and SaveEnergy123 tools. (Q4 '10 – Q4 '11)
- **Publish summary report**, including lessons learned and implementation best practices. (Spring '12)

Thank You

For more information visit

<http://iepmodel.net>