Enterprise Architecture Strategy for Water Utility Mobility

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EA Strategy Overview

- **Recommended SOW Items for EA Development**
- **CIO Executive Board Recommendation**
- **Why EA - What's its Value?**
  - **Capability Area Architecture (CAA)**
  - **Tool for requirements development…**

Insource EA to Reduce Cost and Risk

- **Use EA to deliver on the follow SOW requirements:**
  - **3.1.1.1 Prepare a detailed functional-requirement document for the Pilot Project**
  - **3.1.2.2 Integrate with the INFOR EAM system (i.e., show integration points)**
  - **3.1.2.3 Integrate with the INFOR Hansen system (i.e., show integration points)**
  - **3.1.2.4 Integrate with the Esri GIS system (i.e., show integration points)**
  - **3.1.6.1 Define and manage scope of work for the Mobile Project**
  - **3.1.6.2 Identify and communicate project risks, assumptions, and constraints**
  - **3.1.6.3 Define project completion criteria**
- **Define important interfaces**
  - **Identifiable interface responsibility (i.e., work breakdown)**

Good Requirements Reduce Risk and Cost

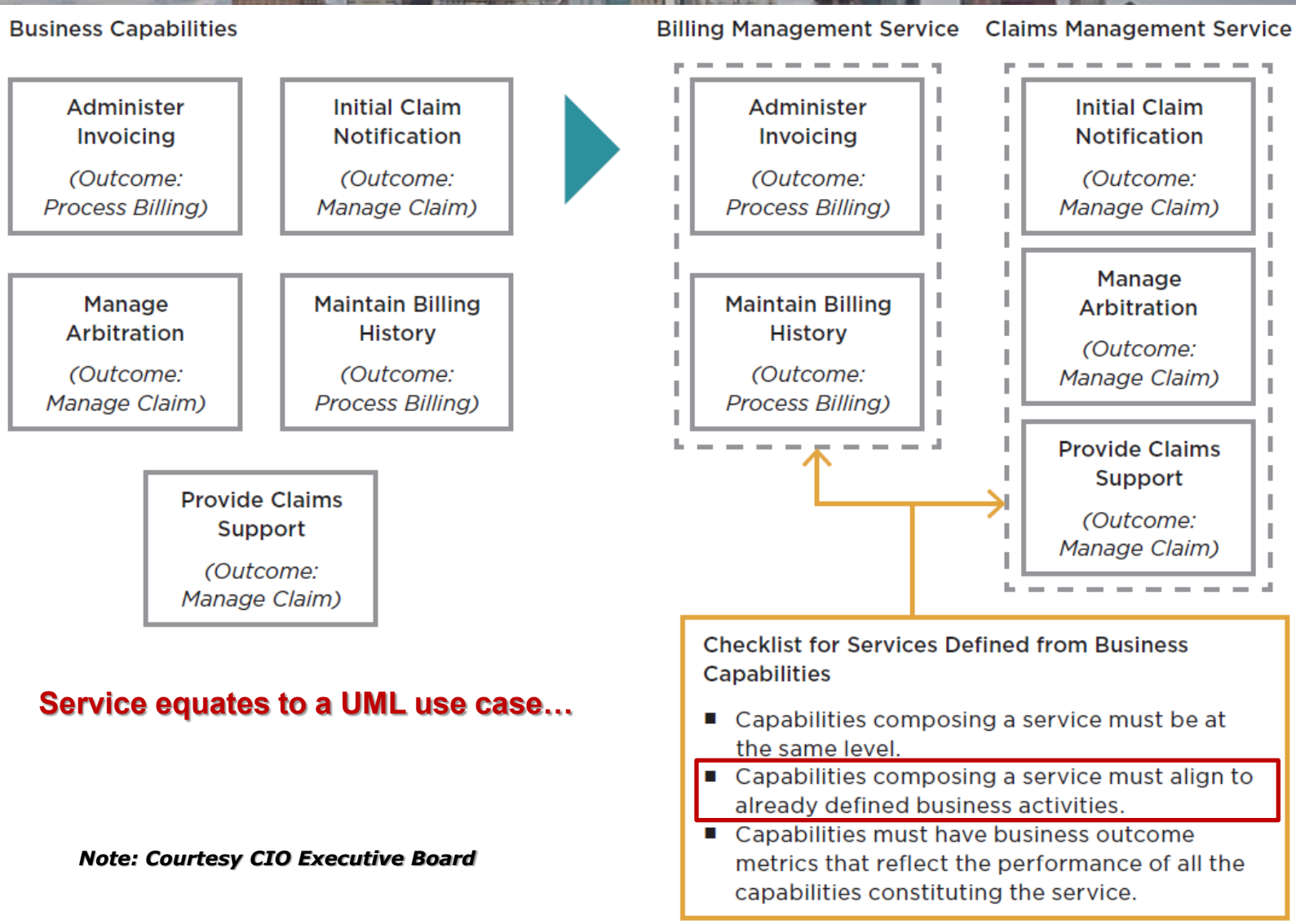
- By performing an internal analysis using architecture, we dramatically reduce the risk and cost associated with the SOW and system development
  - Architecture can aid in developing good SOW requirements
- Firm-fixed-price contracts place most of the risk on the contractor
- When a potential contractor receives clearly understood requirements, they view the contract as lower-risk and provide a more accurate and lower price
- We can reduce risk by developing an architecture that carefully lays out our business needs in an understandable way - reducing cost

See Enterprise Architecture as a Requirements Collection Tool

According to the CIO Executive Board…

- Use business capabilities as building blocks for services
- Recommend defining services by grouping business capabilities that are mutually important to achieve a key business outcome (in our case mobility)
- Service definitions should aggregate capabilities that are closely aligned to a distinct business activity
- Group capabilities needed to achieve a business outcome and use as a guiding principle to consistently and repeatedly define services

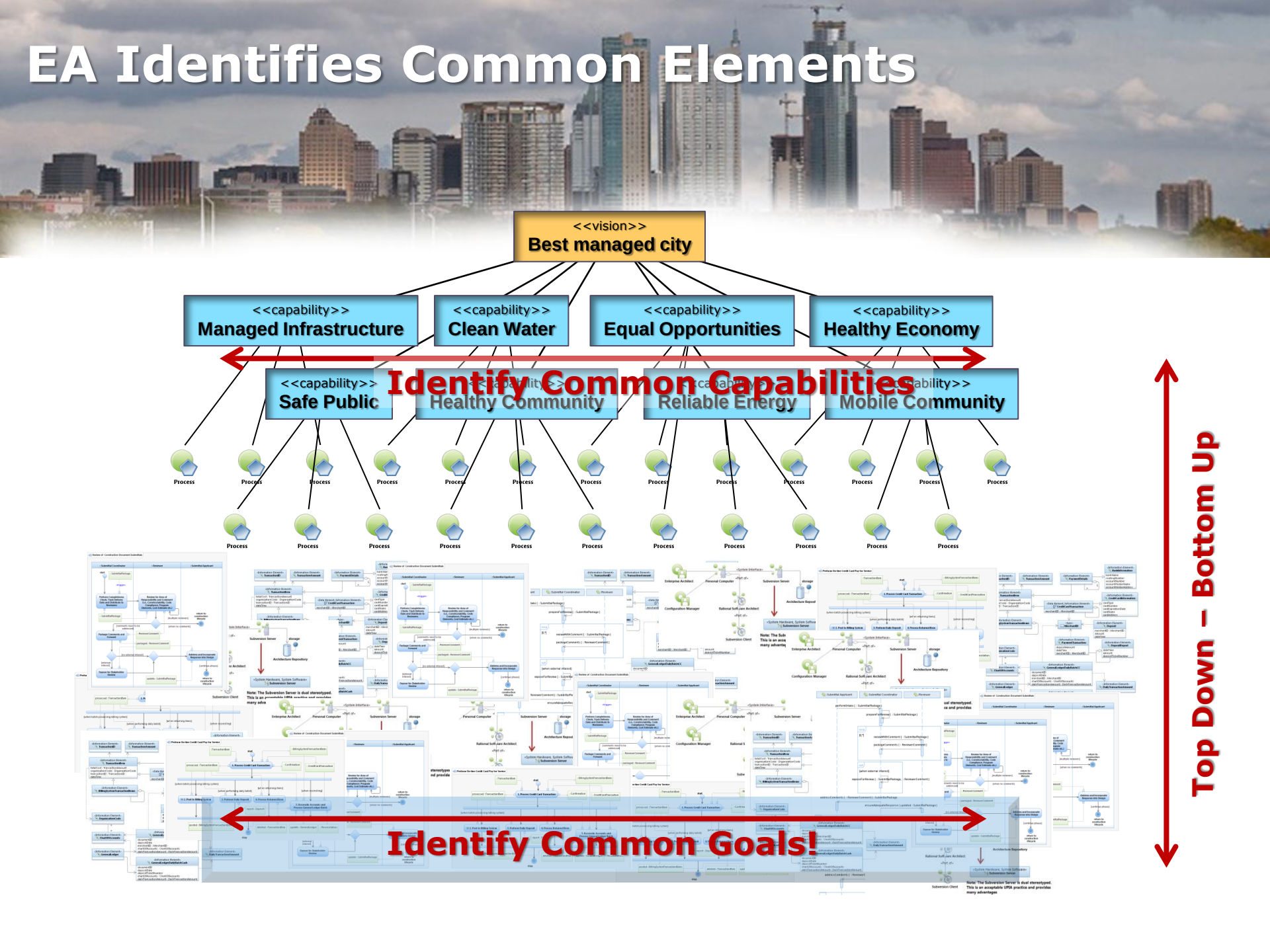
Create Outcome (Capability) Model



Service equates to a UML use case…

Note: Courtesy CIO Executive Board

EA Identifies Common Elements



Connecting Business Needs to IT Solutions
continued…

Monday, Nov. 26th Executive Team Staff Meeting:

Staffing Plan Criteria

EUM: language from attribute definitiions in Effective Utility Management Prime

1	**Operational Optimization** Managing a growing system; New facilities; Maintaining basic operations; Repor
2	**Su**
3	**Employee Leadership and Developme** Succession planning; Program manager concept; Supervis development • (EUM) Recruits and retains a workforce that is com safe-working. Establishes a participatory, collaborat continual learning and improvement. Ensures empl retained and improved upon over time. Provides a f opportunities for professional and leadership develc integrated and well-coordinated senior leadership tea • Identifies positions associated with key organization succession risks.
4	**Innovation** • (EUM) Maintains awareness of information and operational technology developments to anticipate and support timely adoption of improvements.
5	**Industry Best Practices** Support (For example: Finance, PIO, Audit staffing) • (EUM) Operational Resiliency: Ensures utility leadership and staff work together to anticipate and avoid problems. Proactively identifies, assesses, establishes tolerance levels for, and effectively manages a full range of business risks (including legal, regulatory, financial, environmental, safety, security, and natural disaster-related) in a proactive way consistent with industry trends and system reliability goals. Regulatory Initiatives (for example TCEQ) • (EUM) Product Quality: Produces potable water, treated effluent, and process residuals in full compliance with regulatory and reliability requirements and consistent with customer, public health, and ecological needs. Water Resource Adequacy • (EUM) Ensures water availability consistent with current and future customer needs through long-term resource supply and demand analysis, conservation, and public education. Explicitly considers its role in water availability and manages operations to provide for long-term aquifer and surface water sustainability and replenishment. Stakeholder Understanding and Support • (EUM) Engenders understanding and support from oversight bodies, community and watershed interests, and regulatory bodies for service levels, rate structures, operating budgets, capital improvement programs, and risk management decisions. Actively involves stakeholders in the decisions that will affect them.
6	**Revenue Generating; Cost Offset Positions** • Positions that enhance existing revenue streams. (For example: Improved large meter maintenance to recover water and wastewater revenues.) • Cost offset: for example, budgeted contracted services or temporary positions made permanent positions.

3	**Employee Leadership and Development** Succession planning; Program manager concept; Supervisor training; Organization development • (EUM) Recruits and retains a workforce that is competent, motivated, adaptive, and safe-working. Establishes a participatory, collaborative organization dedicated to continual learning and improvement. Ensures employee institutional knowledge is retained and improved upon over time. Provides a focus on and emphasizes opportunities for professional and leadership development and strives to create an integrated and well-coordinated senior leadership team. • Identifies positions associated with key organization succession risks.

The Architect's Viewpoint

«Capability»
Plan Succession

Recruit and maintain a competent, motivated, adaptive, and safe workforce. Establish participatory, collaborative organization dedicated to learning and process improvement. Ensure institutionalization of retained knowledge. Emphasis professional and leadership development and integrate a well-coordinated leadership team.

Connecting Business Needs to IT Solutions
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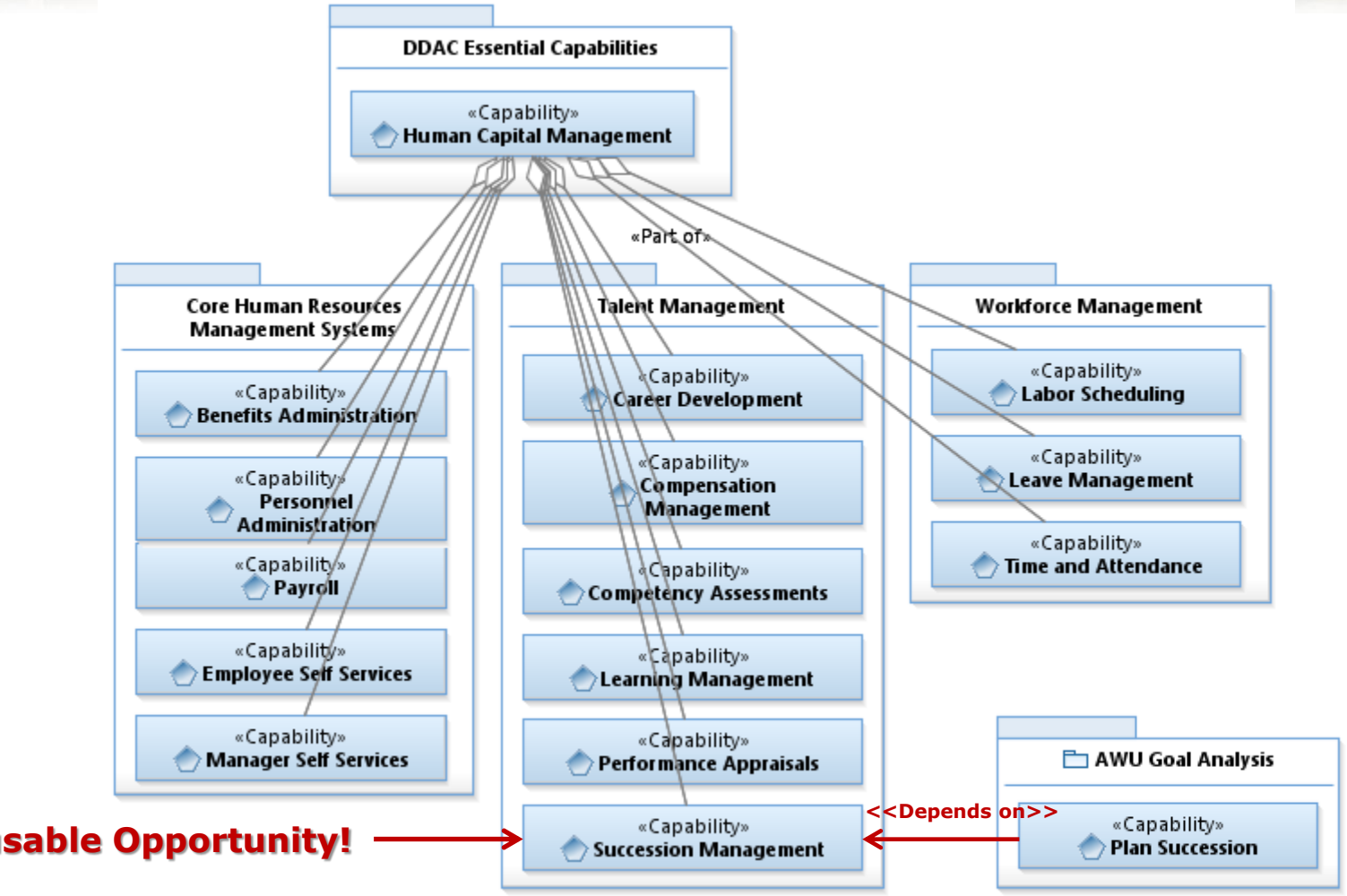

Connecting Business Needs to IT Solutions

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5	**Industry Best Practices**

The Architect's Viewpoint

«Goal»
Innovate Operational Technology

Employ innovative operational technology to support timely improvements.

Connecting Business Needs to IT Solutions
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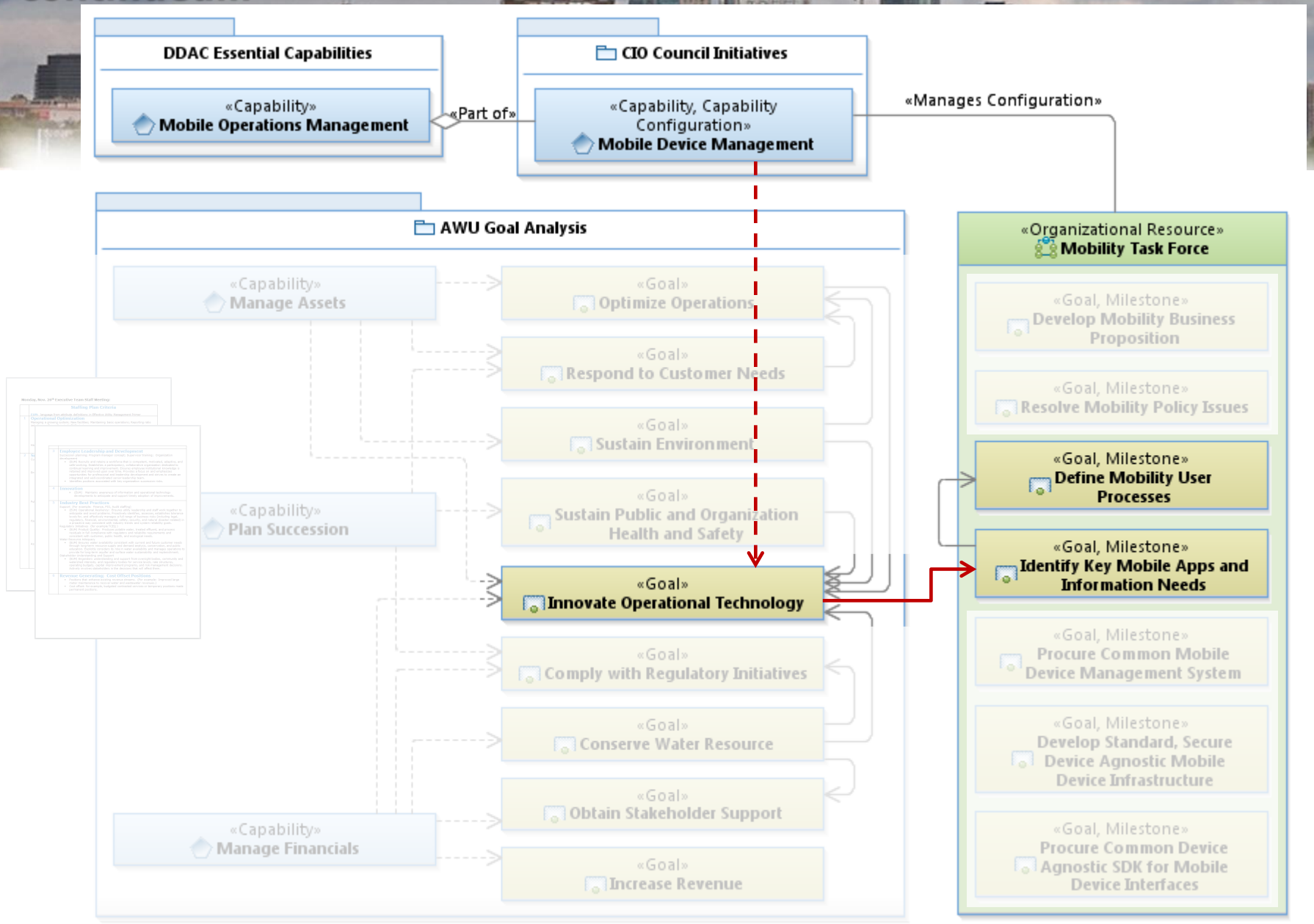

Connecting Business Needs to IT Driven Solutions
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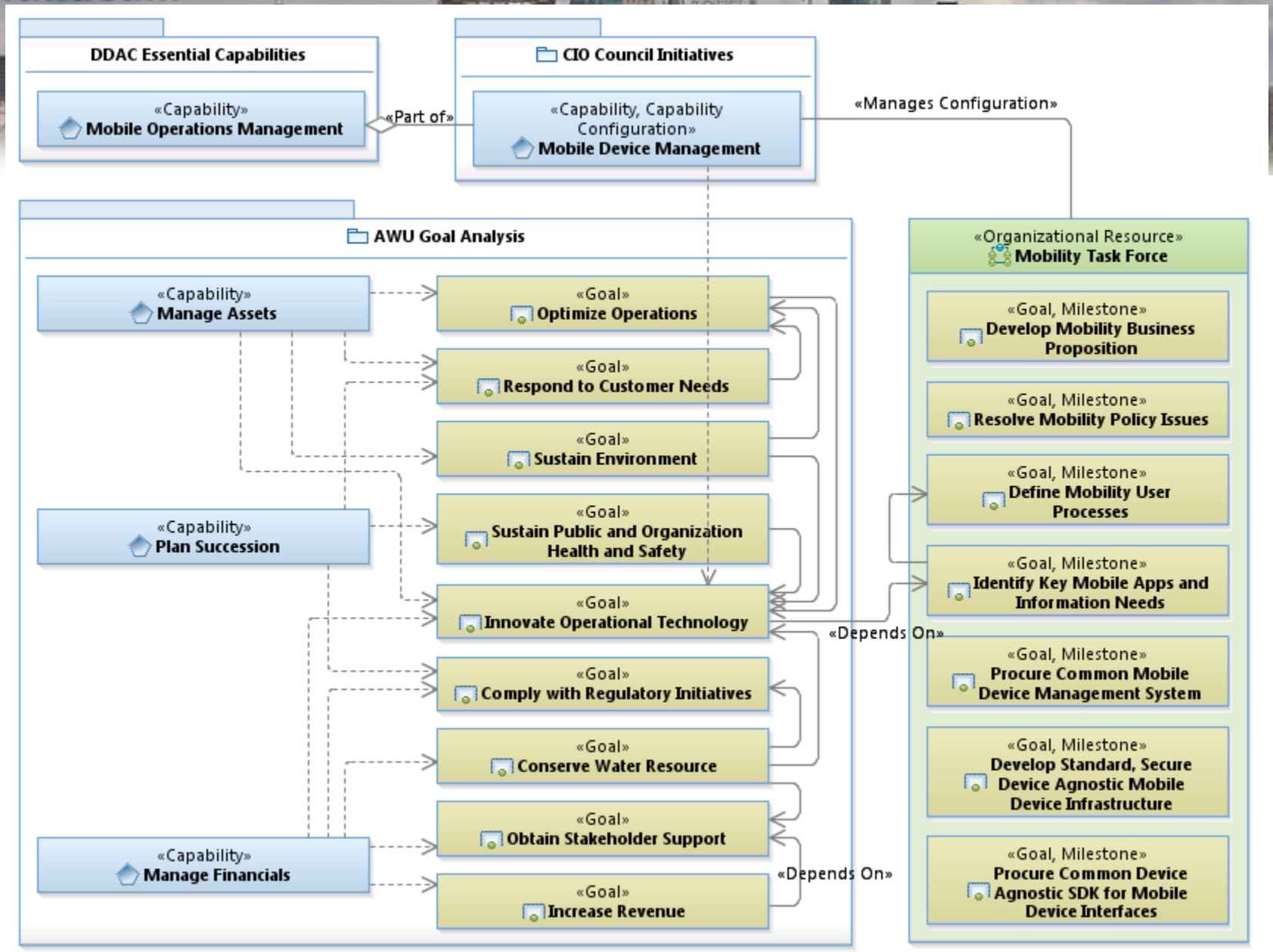
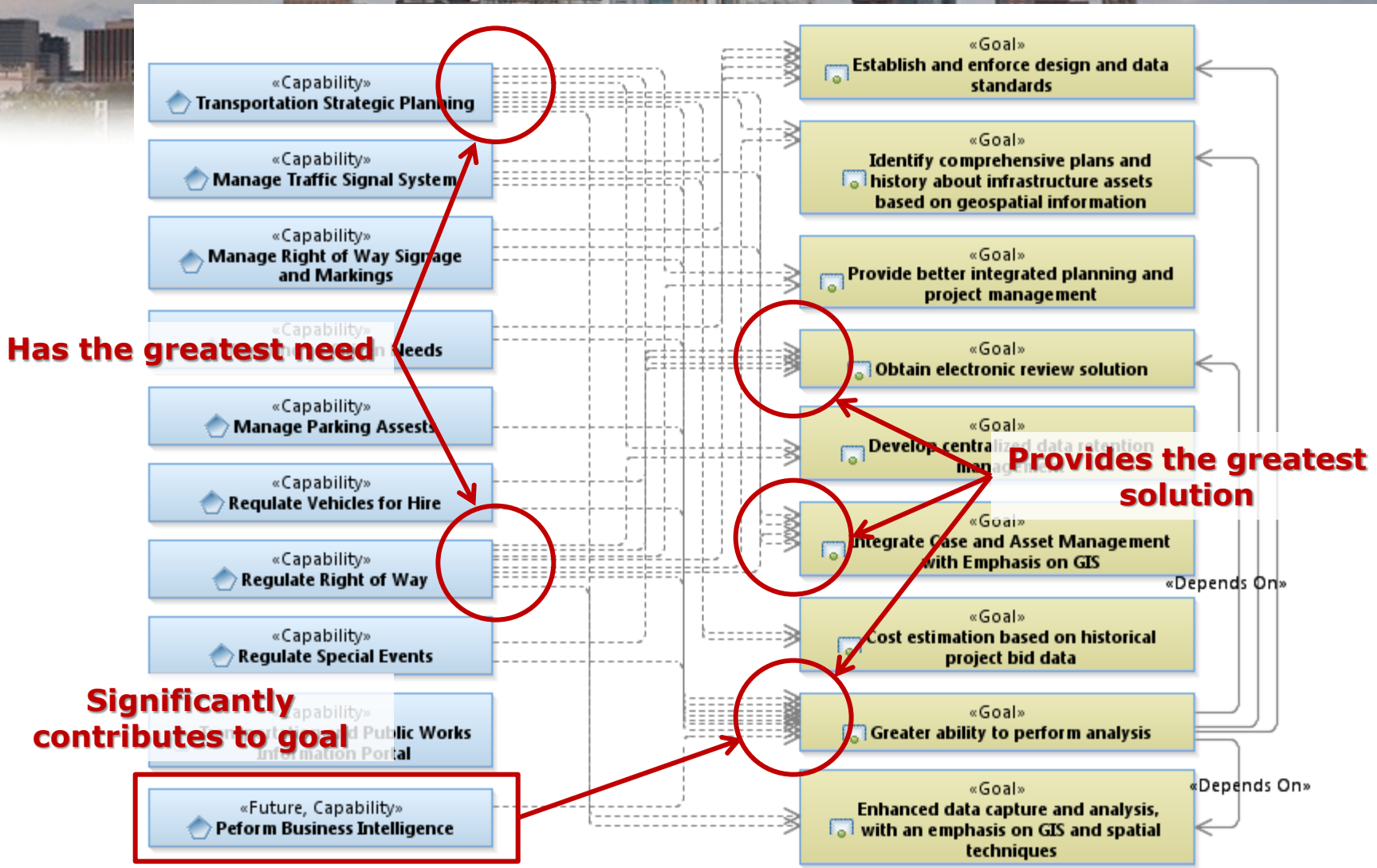
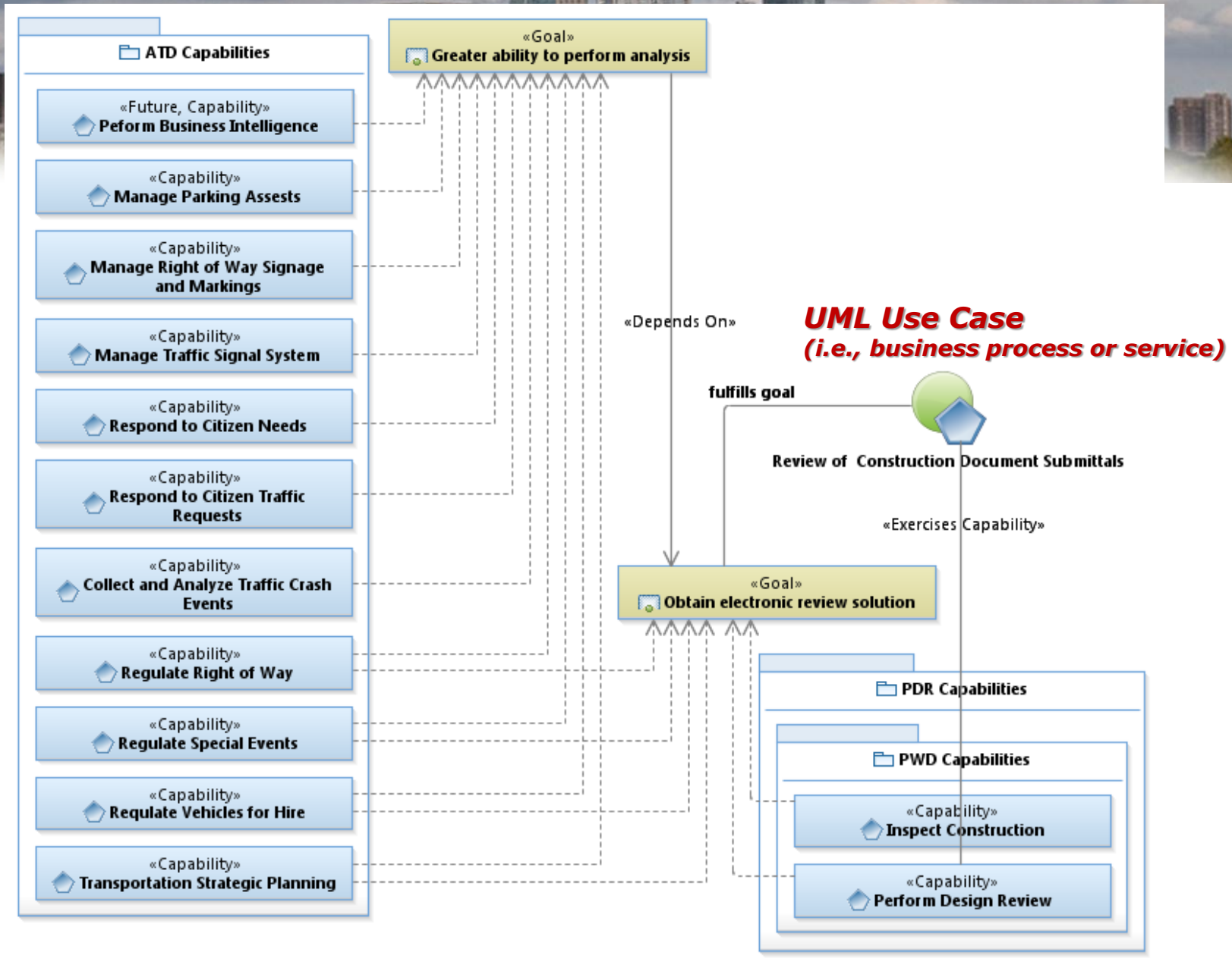


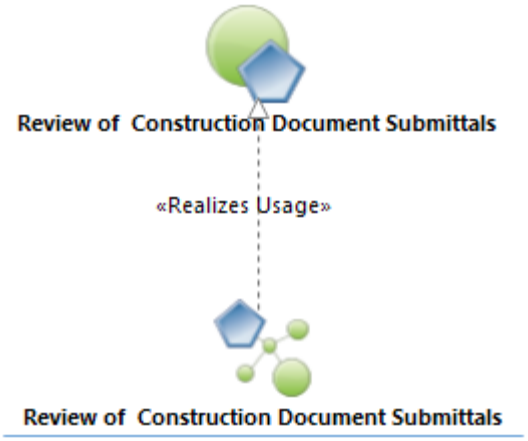
Goal setting…
Concentration and Dependency Analysis



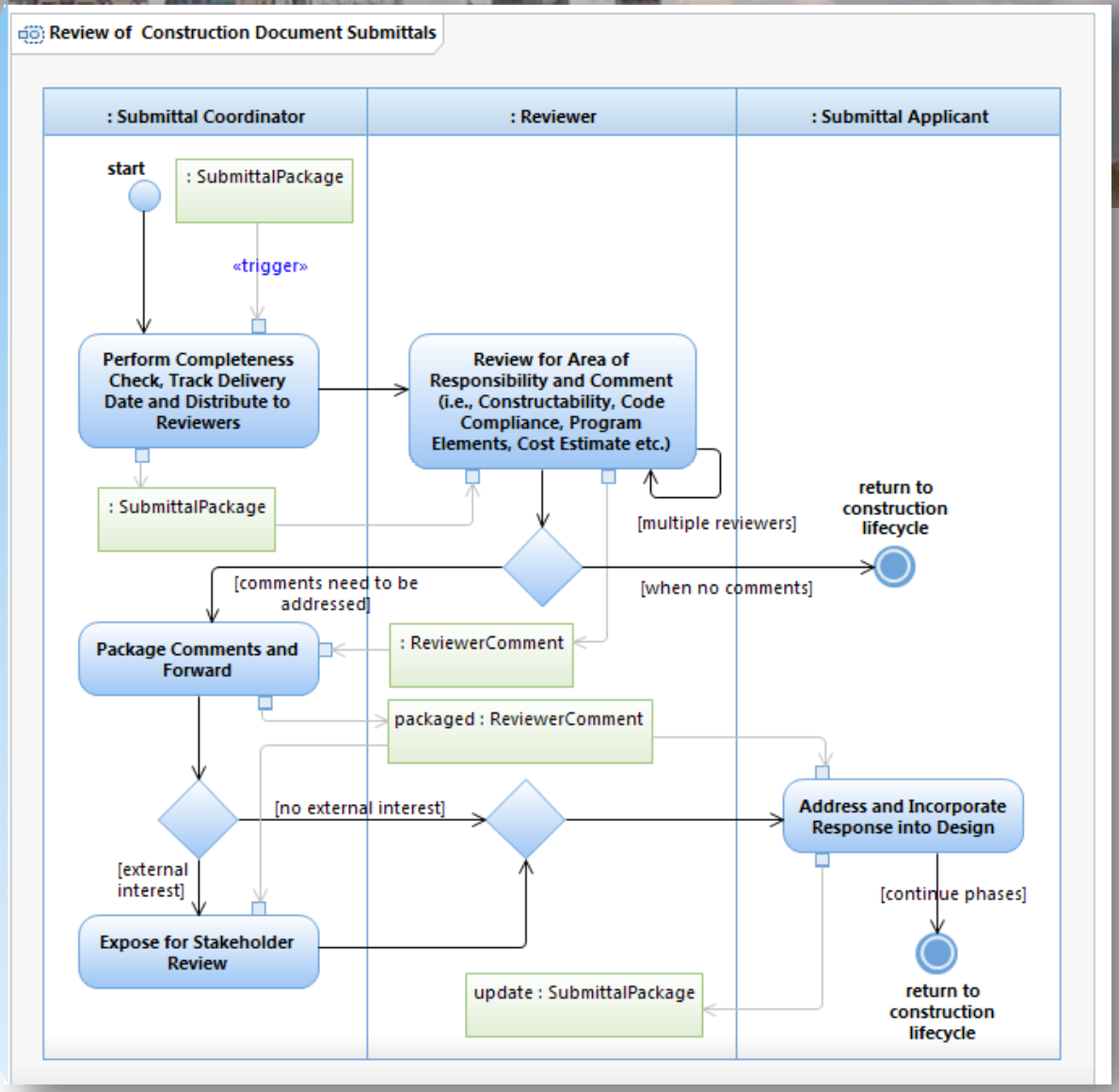
Example Engineering Management CAA



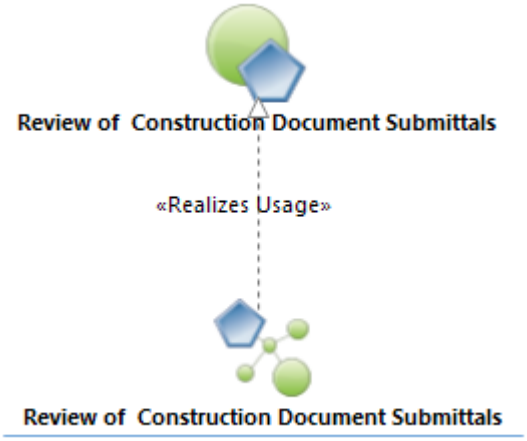
Use Case Realization



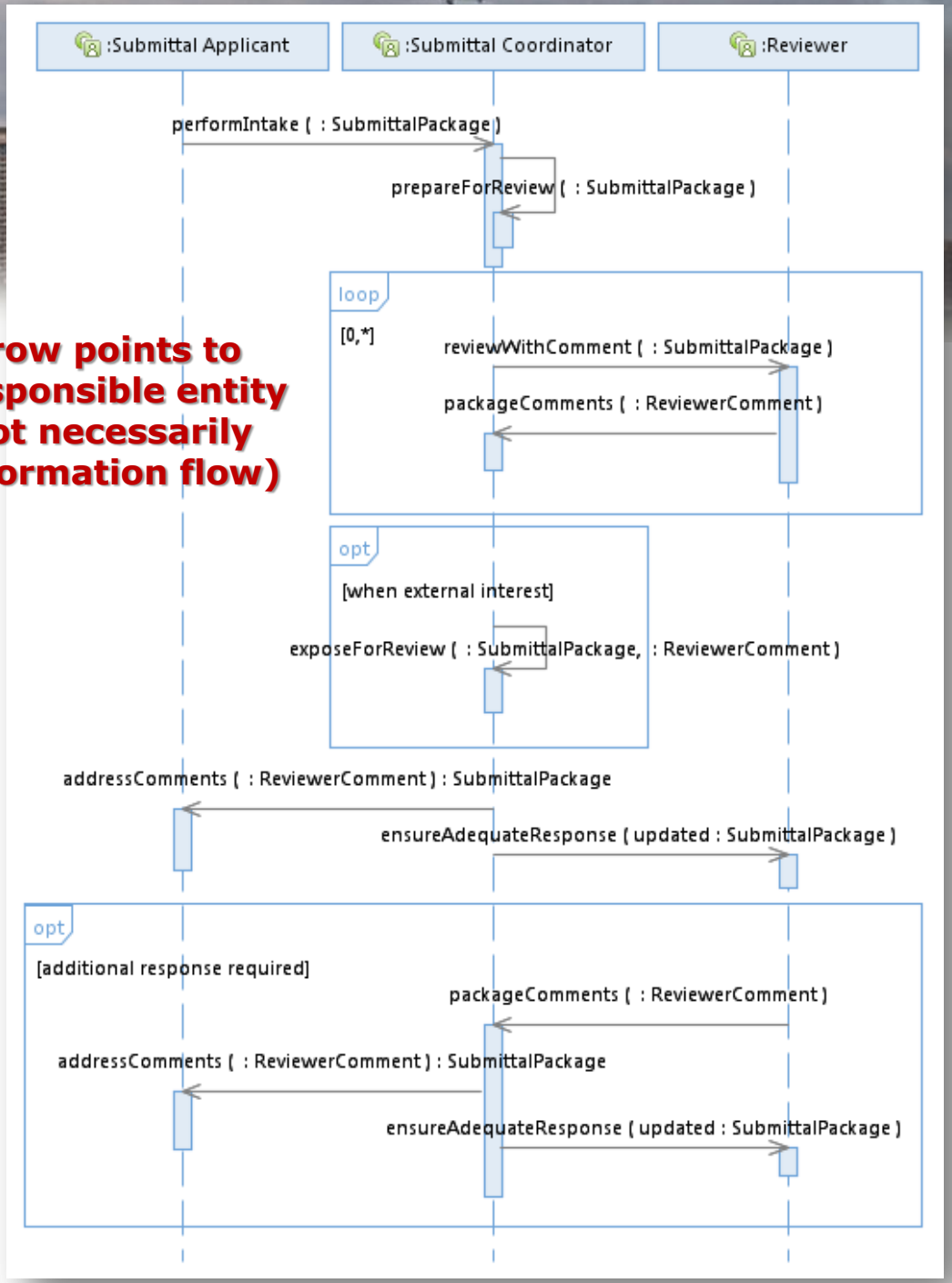
Defined Business Activity



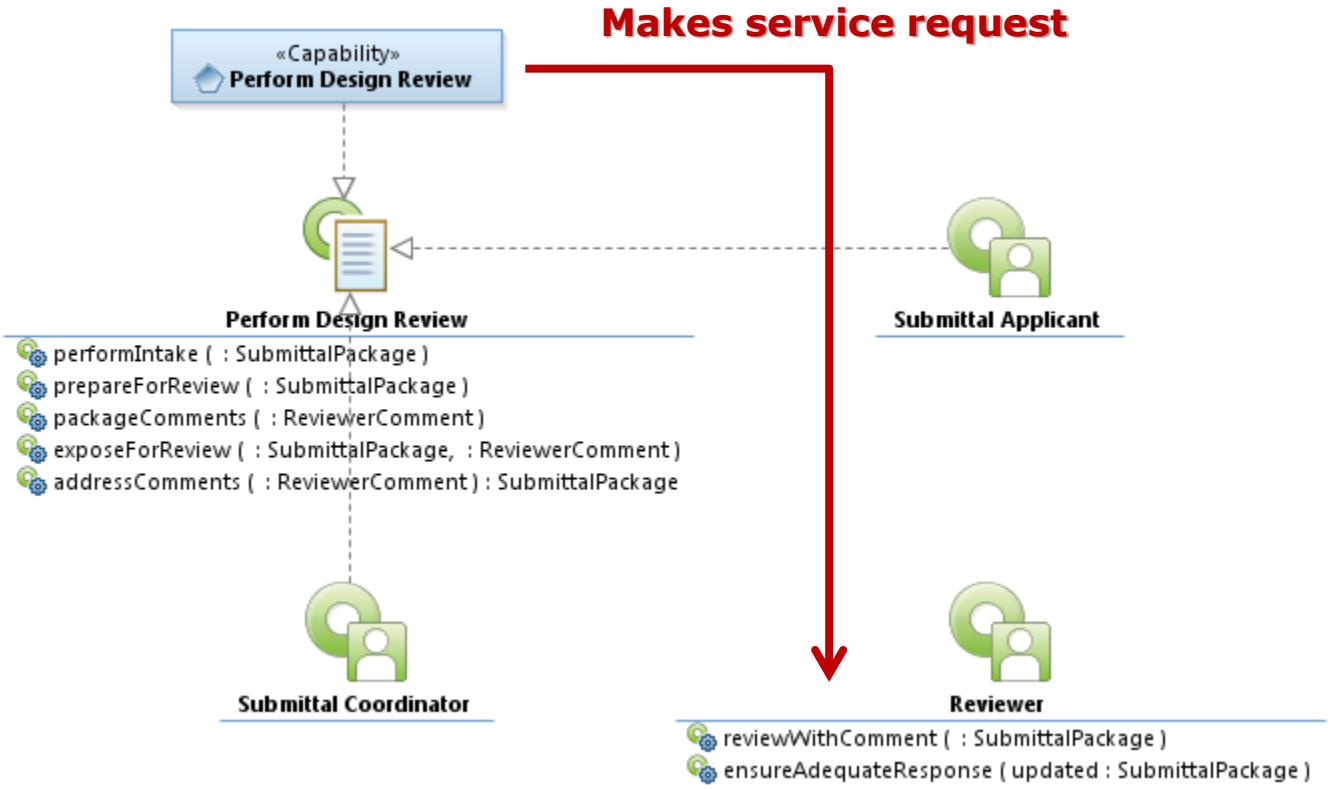
Interface Development



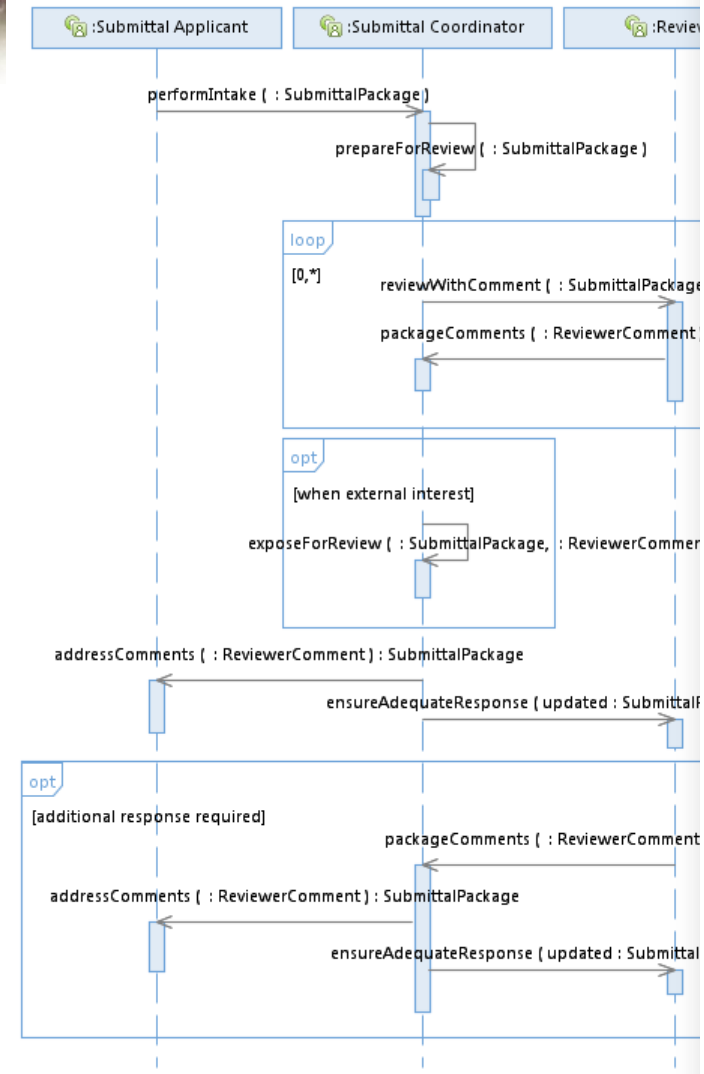
Arrow points to responsible entity (not necessarily information flow)



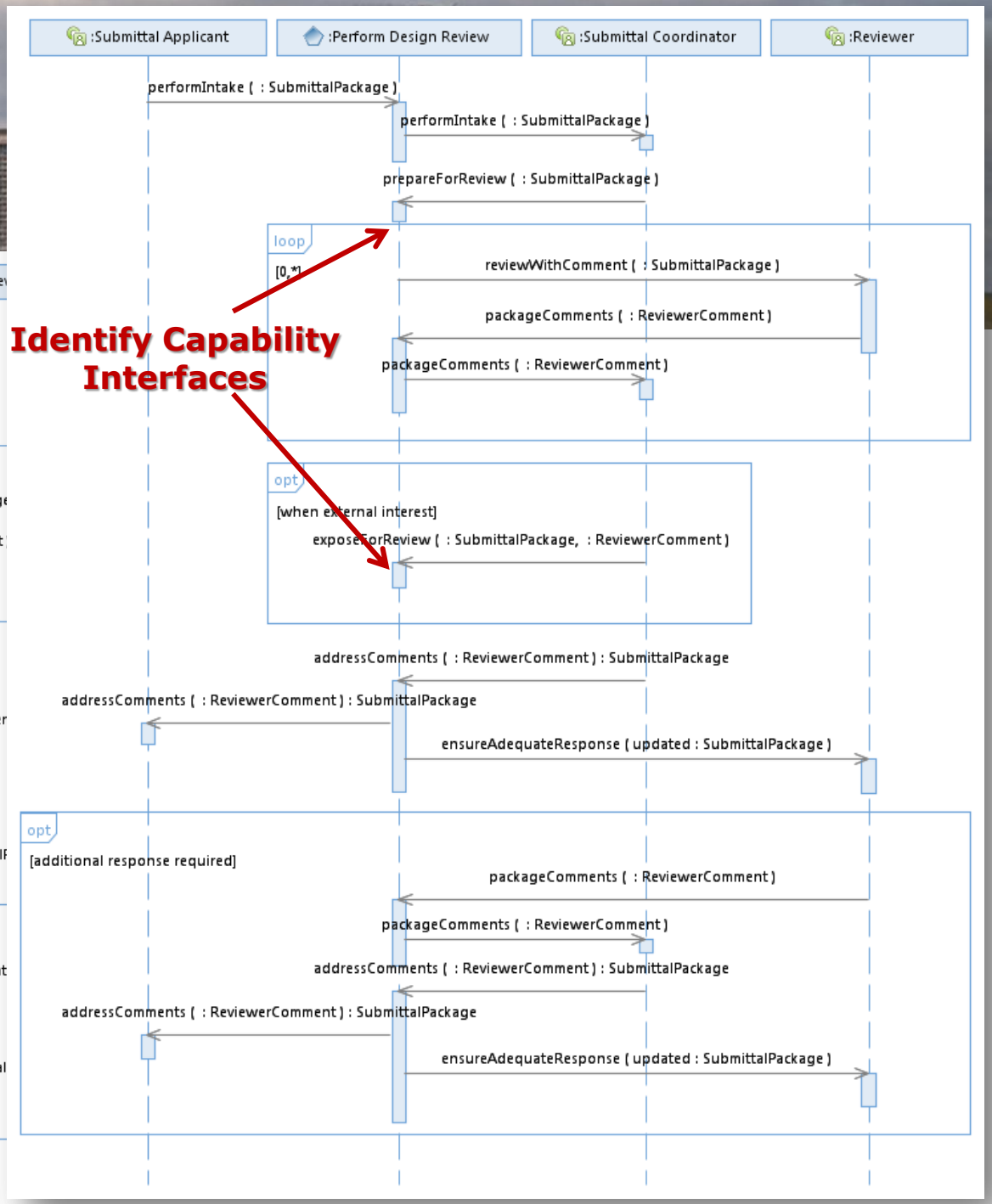
Interface Realization and Specification Development (example)



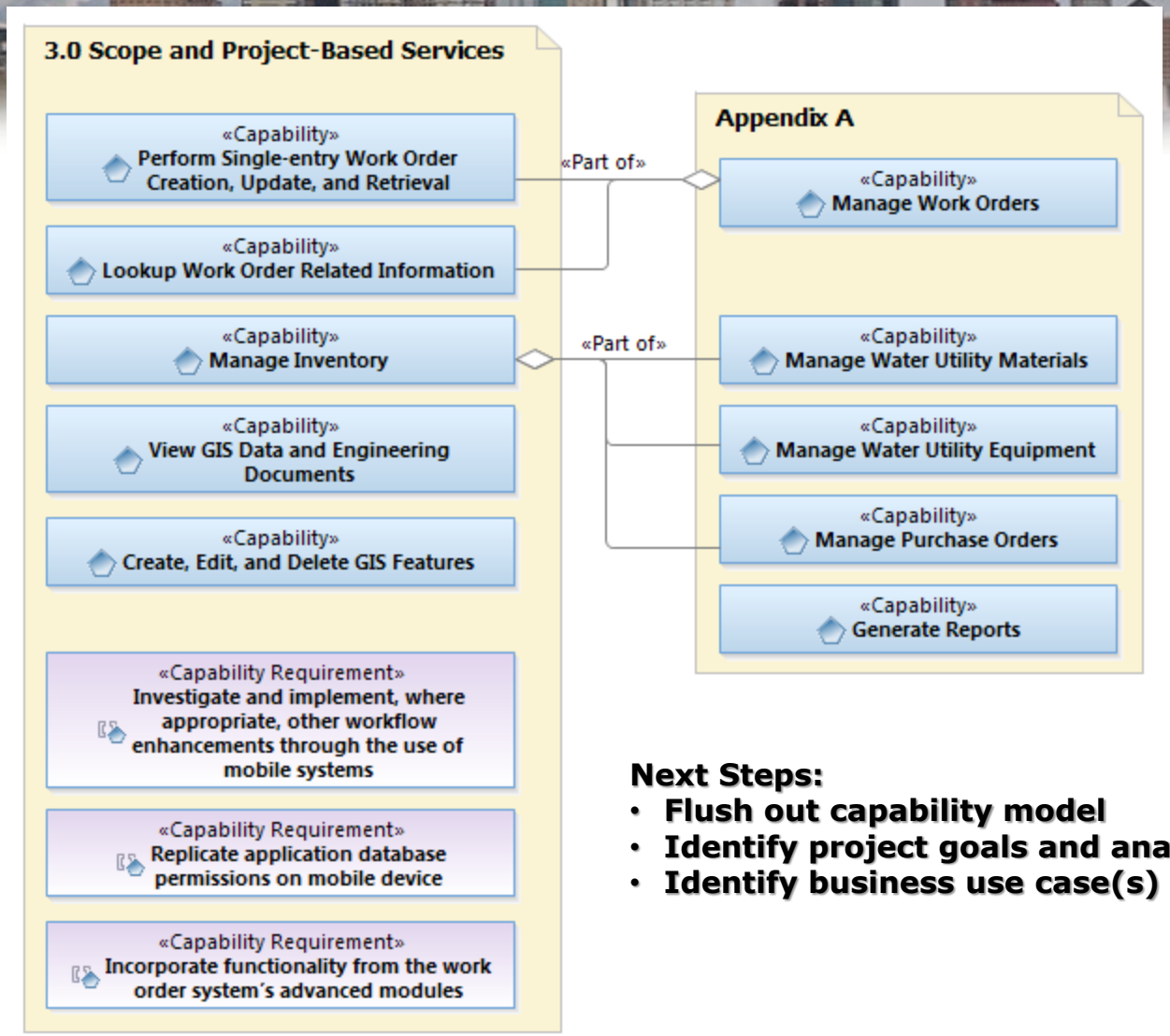
System Functional Requirements (example)



Identify Capability Interfaces



Current SOW Example



Next Steps:

- **Flush out capability model**
- **Identify project goals and analyze results**
- **Identify business use case(s) for pilot project**

EA Provides Critical Mass of Understanding!

- EA is an instrument to provide momentum
- EA facilitates measureable goals and milestones useful for project planning
- EA develops business requirements in an understandable way
- EA deals with complexity
- EA organizes information aligned with the business model to achieve business results