A/E-Led Integrated Project Delivery

Mark Friedlander
Partner | +1 312.820.3407 | mcfriedlander@venable.com

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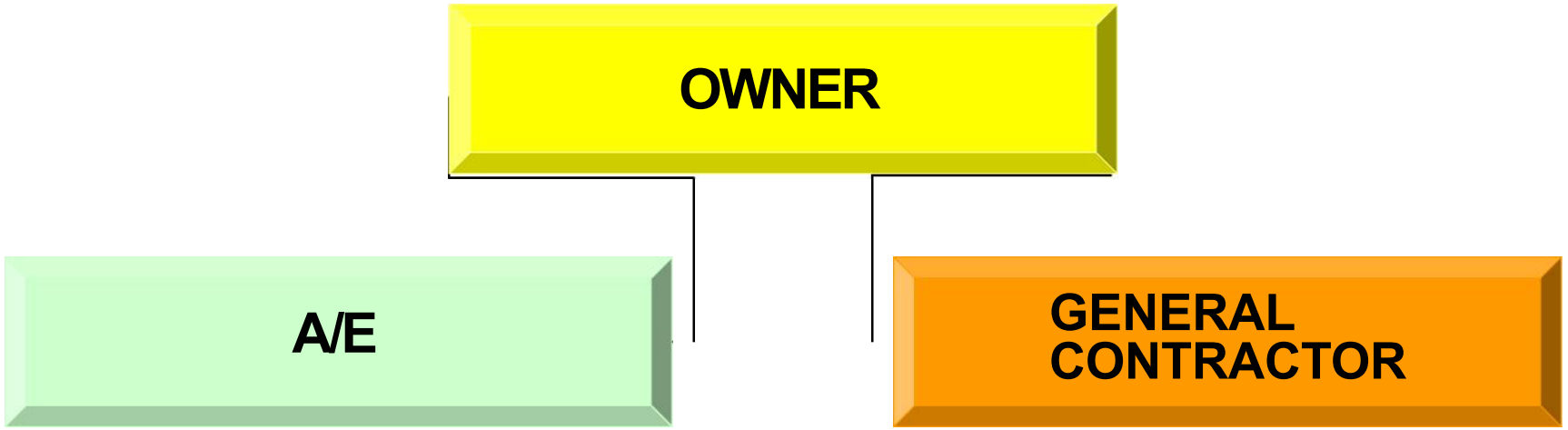
Traditional Tri-Partite Construction



-Must have been designed by a lawyer

-Sets A/E & Contractor against each other as adversaries

-Maximizes likelihood of disputes and litigation -

Minimizes A/E's scope: no control of construction -

Minimizes A/E's profits: no profits from construction

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Integrated Project Delivery ("IPD")

-More efficient

-Faster

-Better

(Reasons and details to follow)

But what exactly is IPD?

What project structure does it employ?

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TEAMING STRUCTURES FOR INTEGRATED PROJECT DELIVERY

- There is no single (or even most common) teaming structure for IPD
- Some teaming structures include the Owner (e.g., AIA Document C195), and some do not (e.g., AIA Document A195).
- The following structures have all been used for IPD:

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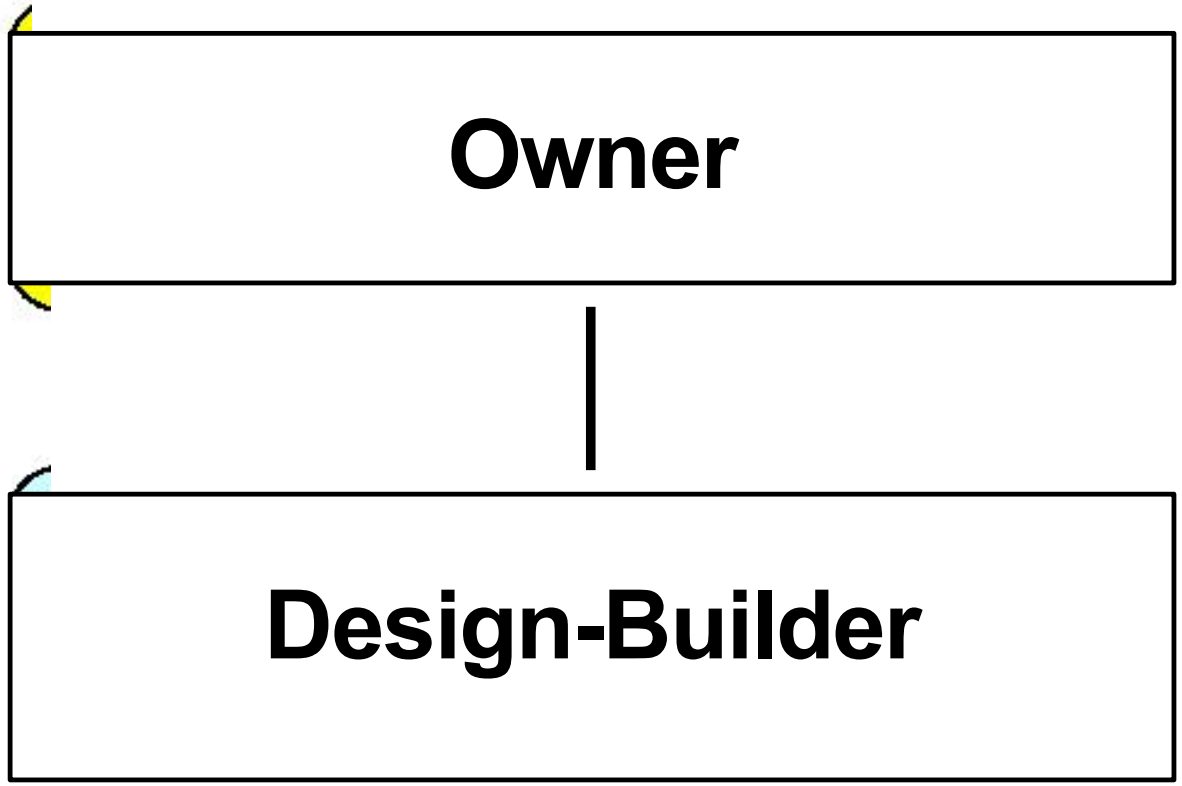
Single Integrated Company



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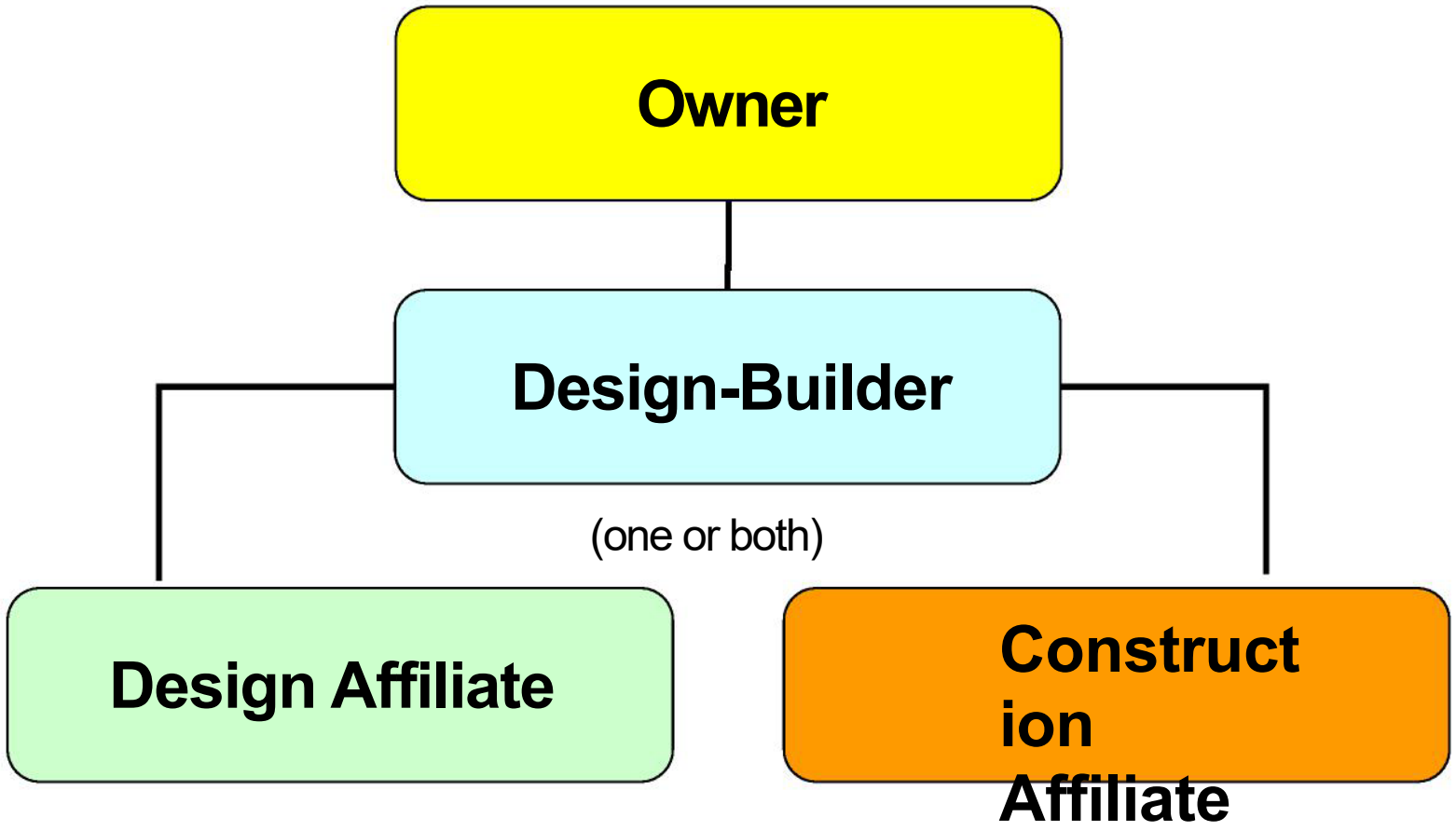
Multiple Integrated Company



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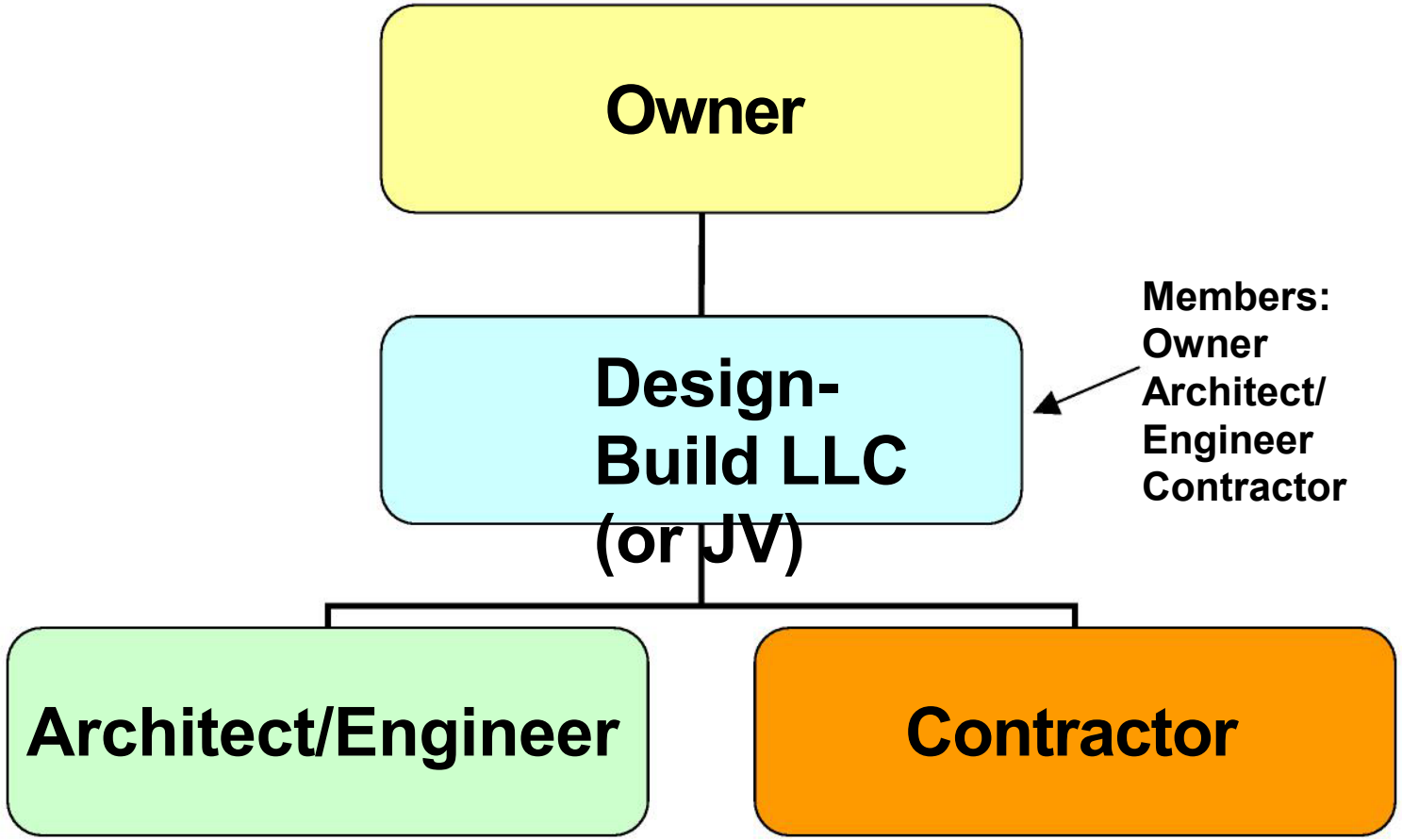
Joint Business Venture (With Owner)



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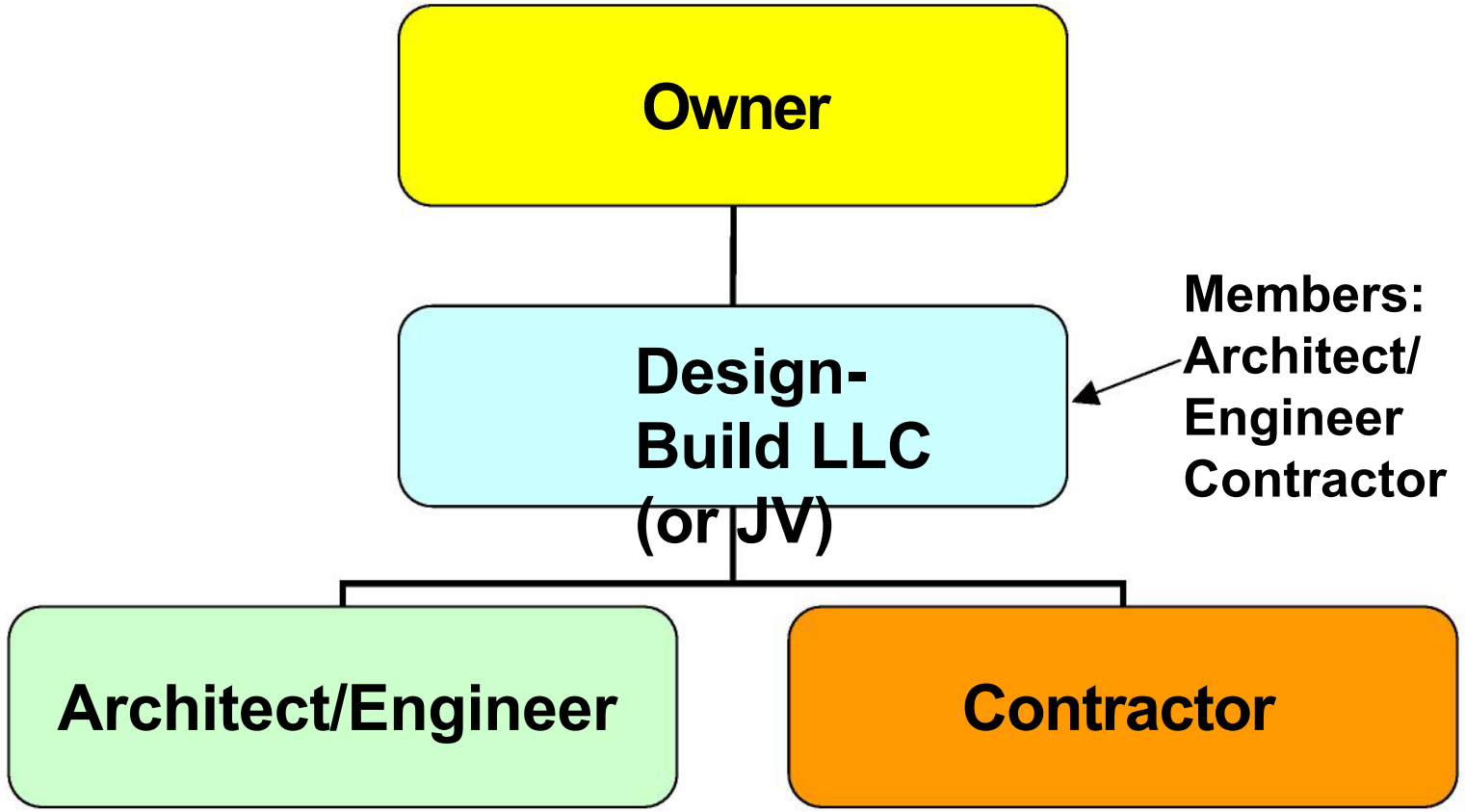
Joint Business Venture (Without Owner)



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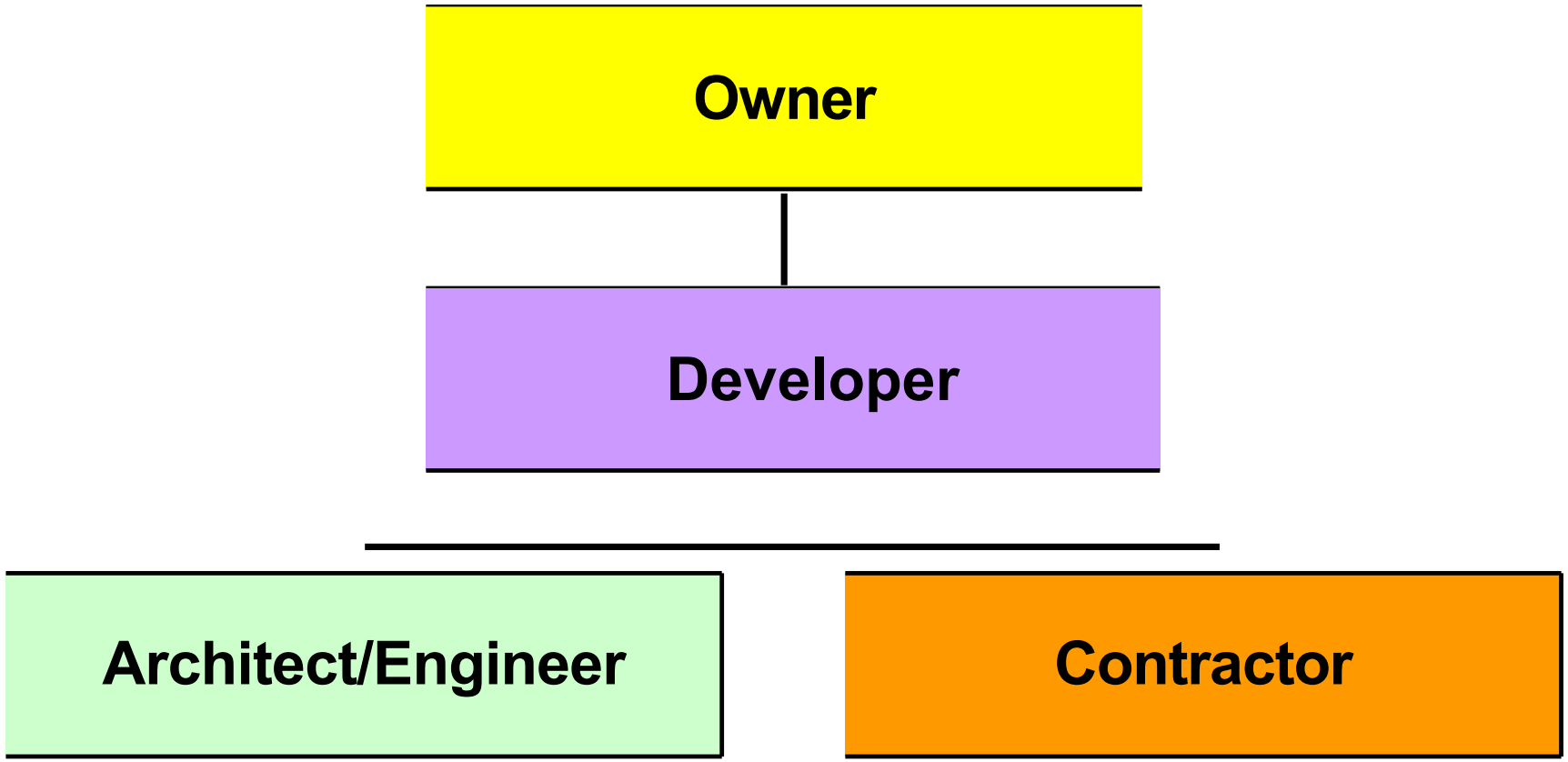
Developer Prime



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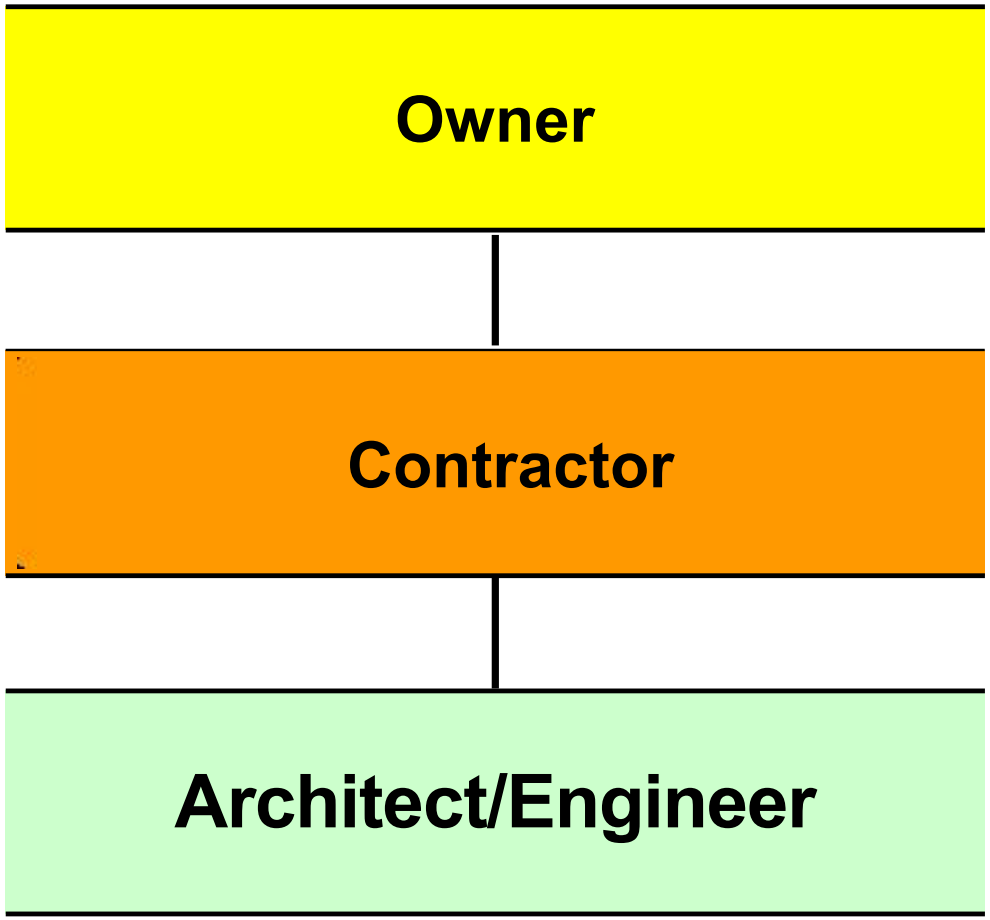
Contractor Prime



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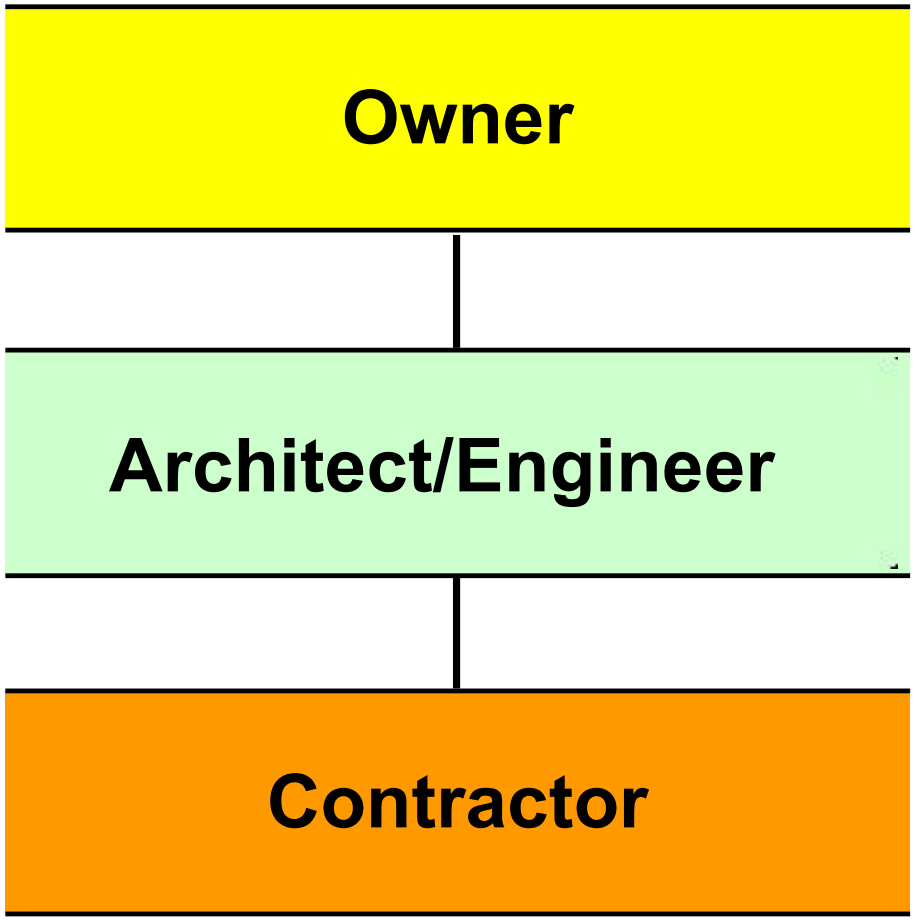
A/E Prime



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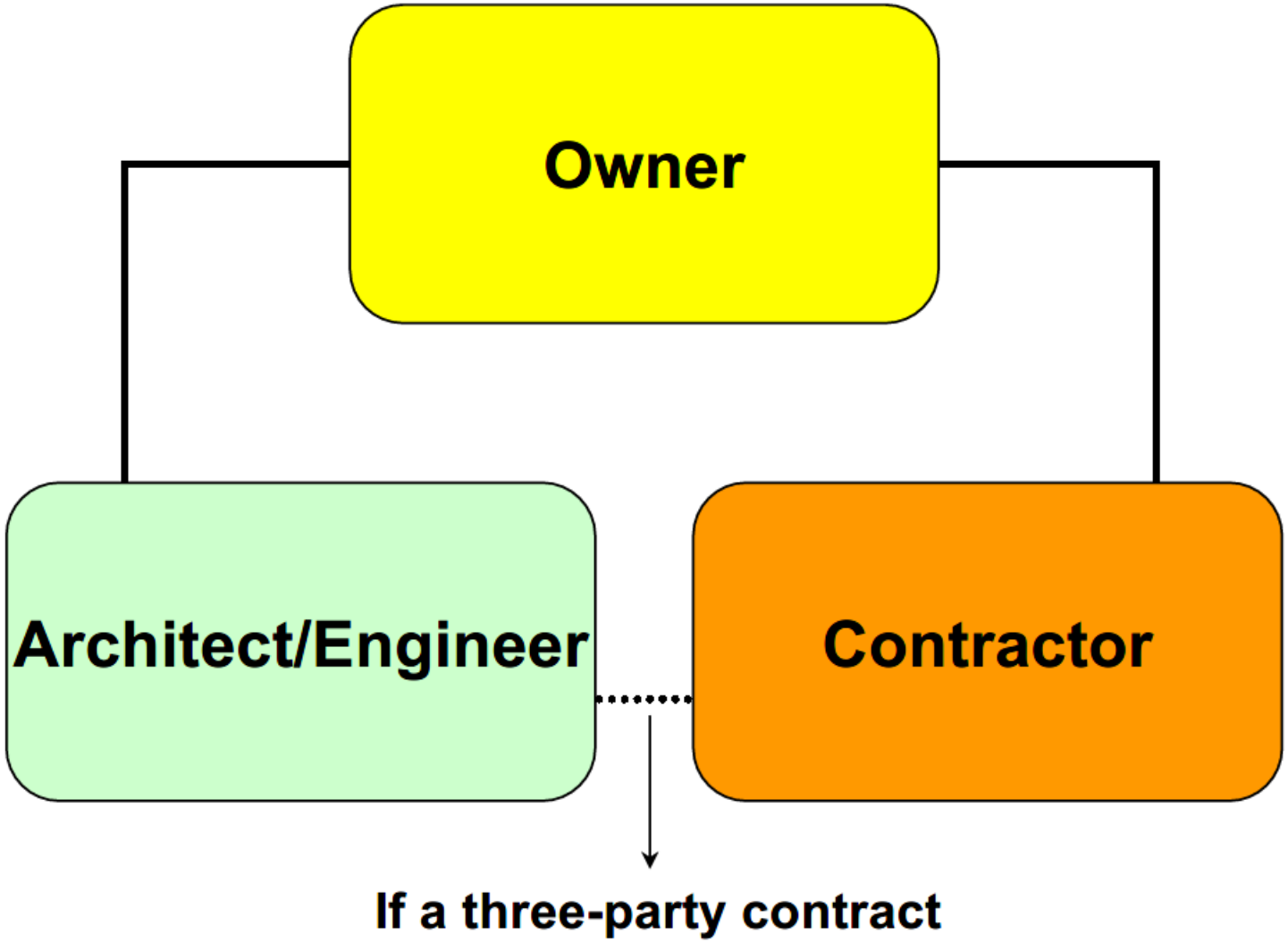
Integration by Contract Only



Other Variables in Structuring Integrated Projects

- Engineers and major trade contractors (or even vendors) may be prime participants
- Individual companies may be “subdivided” for insurance and liability purposes
- The degree of ownership participation may vary
- The number of permutations of various project structures is too large to categorize usefully.

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The Little-Known Truth About Project Structure

Project Structure isn't as important as:

- Attitude
- Behavior
- Incentives

Successful integrated teams always work together in pretty much the same ways – regardless of project structure.

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IPD Is Attitude and Behavior, Not Structure

- Structure is important primarily insofar as it creates incentives to cooperate closely.
- The key to integrated behavior: furthering teammates' interests as if they were your own.
- "Old Dogs" need to learn "New Tricks."

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Benefits to the Owner

- ***Quality:***
  - High quality design and construction because the A/E plays a major role and is responsible directly to the owner.
  - Direct contract and communication between owner and A/E regarding issues of quality and design.
  - Complete continuity regarding preferences and objectives throughout the design and construction process
  - A win-win process whose economics encourage participation by quality A/E and contractors.

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Benefits to the Owner

- ***Ease of Budgeting:***
  - Early determination of project costs in the design development stage.
  - Cost-effective design due to the designer's access to construction and pricing information during the design phase.
  - Delivery of project within budget (lump sum or GMP) with reduced likelihood of cost increases and overruns.

Benefits to the Owner

- ***Flexibility in Procurement:***
  - No need for a cumbersome bidding or RFP process, but typically “open book” for the trades.
  - The Owner can begin a project traditionally while maintaining the option to convert to integrated delivery later in the design phase.
- ***Fast Delivery:***
  - Shortened project duration from fast-tracking without loss of cost control.

Benefits to the Owner

Fewer Claims and Disputes:

- Avoidance of “lowball bidding” where the Contractor wins the project by bidding below actual cost, counting on change orders and claims to make a profit.

- Improved and more efficient administration of construction due to absence of adversity between the A/E and Contractor.

- Low incidence of claims or litigation seeking additional compensation.

- Single point responsibility for the project, with the project team accepting responsibility for functional problems without the Owner having to adjudicate finger-pointing among project participants.

Benefits to the Architect

- ***Additional Profits:***
  - Sharing in project savings.
  - More efficient design – less labor during Construction Documents phase.
  - Sharing in the construction revenue (profiting from increased efficiency).
  - IPD is more efficient: it minimizes waste.

Minimizing Waste

- Per project structuring expert James Young of Lillibridge:
- Almost 50% of the construction process is waste.
- 50% + of design process is waste.
- In IPD minimizing waste adds enormous value/return

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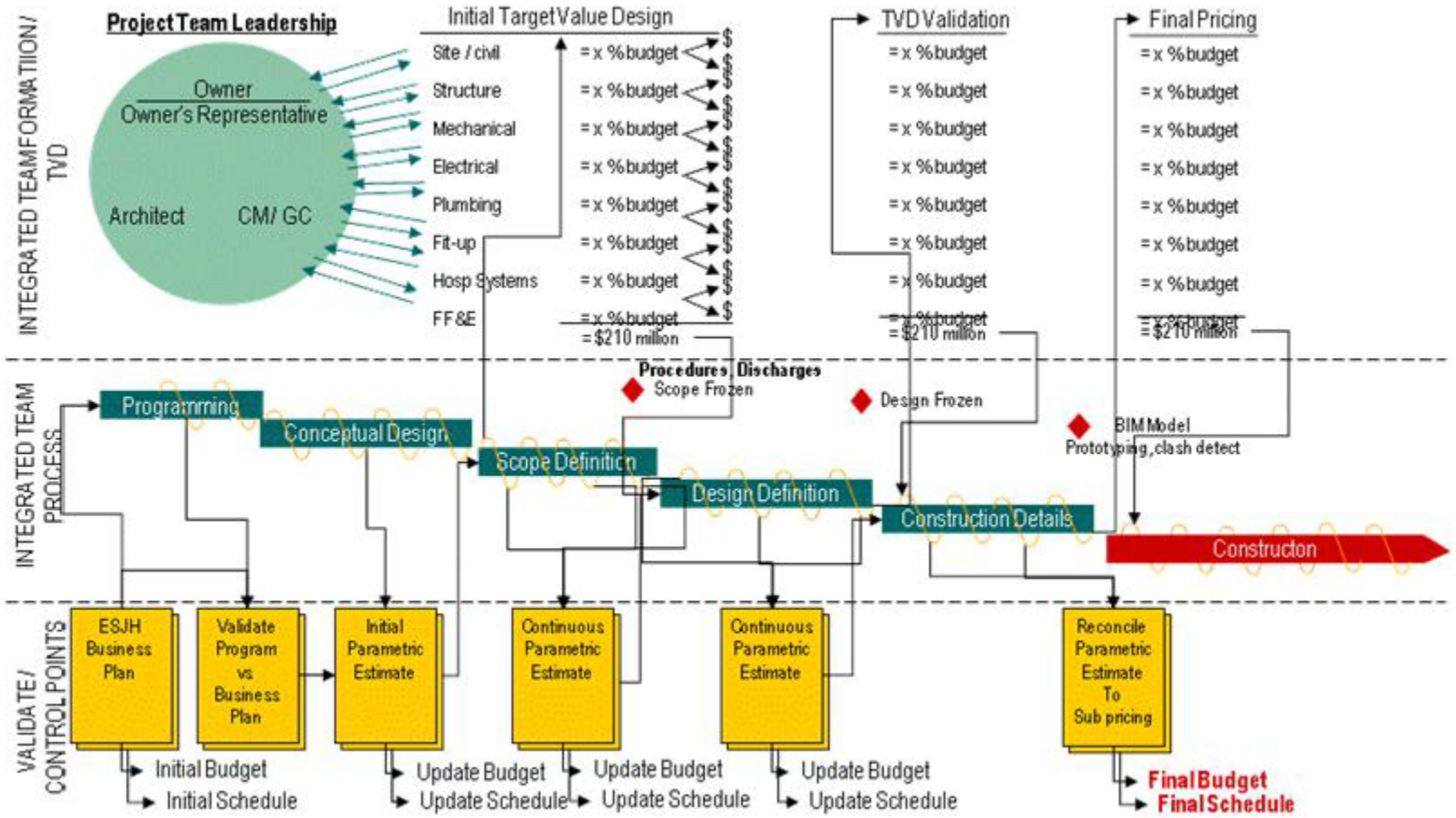
Manage Cost Efficiently

Target Value Design



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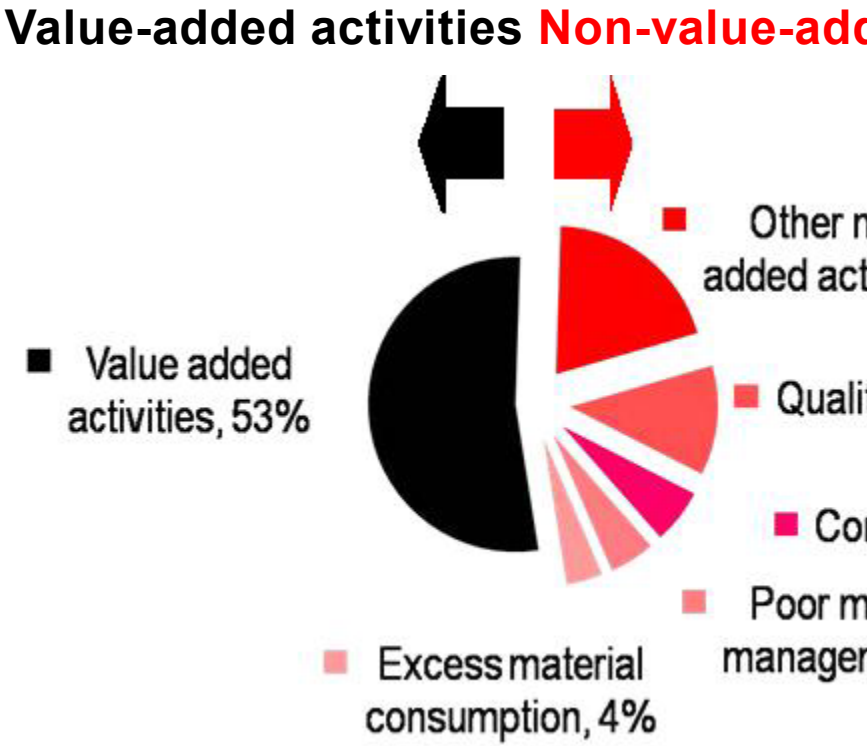
The Construction Dollar - Waste and Value in Typical Construction Projects



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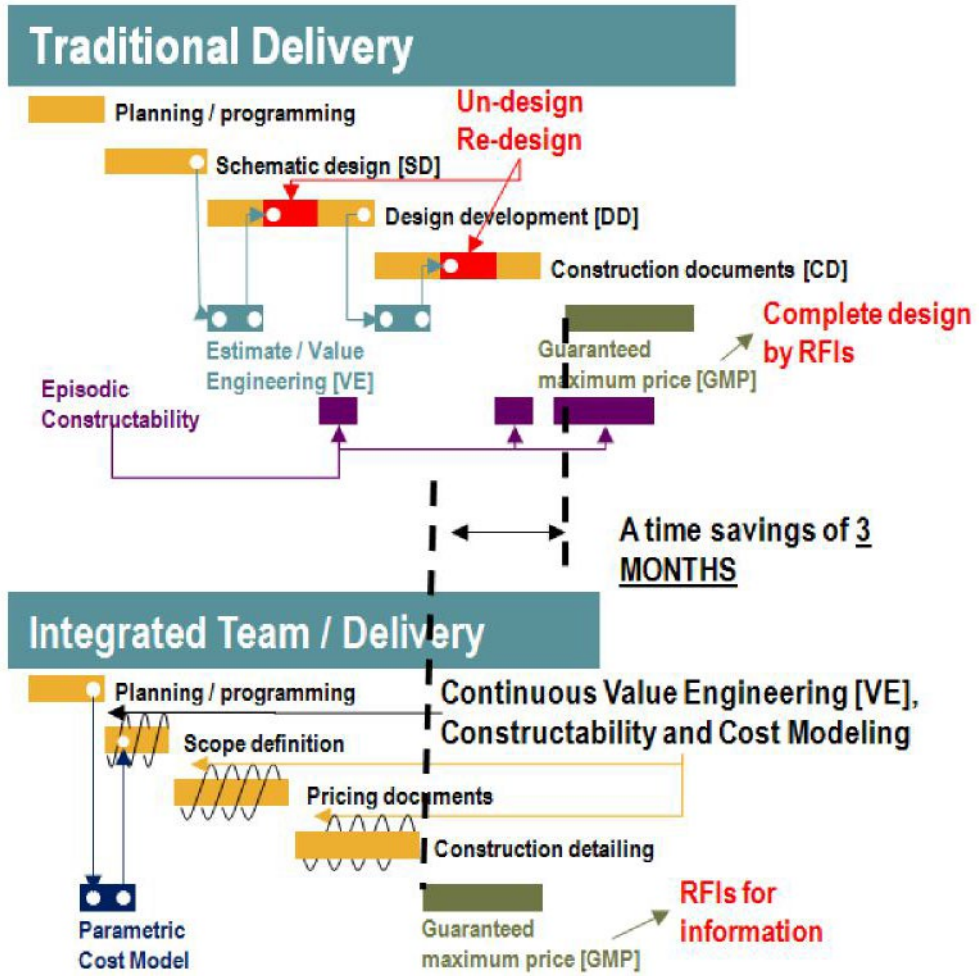
Waste and Value...

A wasteful cycle of design, over-budget, propose changes, return to users, un-design, re-design, repeat

IPD team saves time, money, achieves higher quality design documents, better built quality through a conversational process



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Contractor's Design Phase Services in an Integrated Project

- Costing, estimating value engineering
- Assistance in analyzing owner-provided information
- Constructability analysis
- Preliminary scheduling
- Checking design to anticipate problems
- Acquisition of long-lead items
- Procuring subcontractor participation and quotes
- Negotiation with subcontractors/vendors

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Architect's Design Phase Services in an Integrated Project

- System-by-system design, with "looping" feedback from trade contractors
- Informal communications rather than "defensive detailing"
- Greater number of alternative designs
- MEP design only schematic, completed by trade contractors
- Acceptance of greater-than usual price constraints
- Out-of-sequence provision of design details, bid packages
- Heavier reliance on performance specifications

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Construction Phase Services in an Integrated Project

- **<u>By the Contractor</u>:**
  - Anticipation and avoiding or minimizing the consequences of design problems
  - Fast-tracking the construction
- **<u>By the Architect/Engineer</u>:**
  - Informal provision of supplemental design information
  - Cooperative approval of substitutions
  - Cooperative trouble-shooting and problem-solving

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Benefits to the Architect/Engineer

- ***Marketing Advantages:***
  - Ability to guarantee price and schedule.
  - Offering Owner the option of delaying the project structuring decision.
  - Cultivating contractors as a source of work.
  - Ability to promise maximum efficiency.

Benefits to the Architect/Engineer

- ***Control Over Construction:***
  - Avoiding unwise design changes.
  - Minimizing bad publicity from design problems.
  - Increased satisfaction from accepting responsibility for entire project.

Benefits to the Architect/Engineer

- ***Reduced Liability:***
  - Minimizing claims due to cooperative rather than adversarial administration.
  - No claims from obvious design omissions.
  - Construction accidents insured by Contractor.

Benefits to the Contractor

- Projects often developed by A/E and presented to Contractor “on a silver platter.”
- Negotiated pricing rather than competitive bidding.
- Enhanced relationships with Subcontractors/Suppliers.
- Reduced likelihood of claims/litigation.
- Increased profits from reduced overhead (see next slide).

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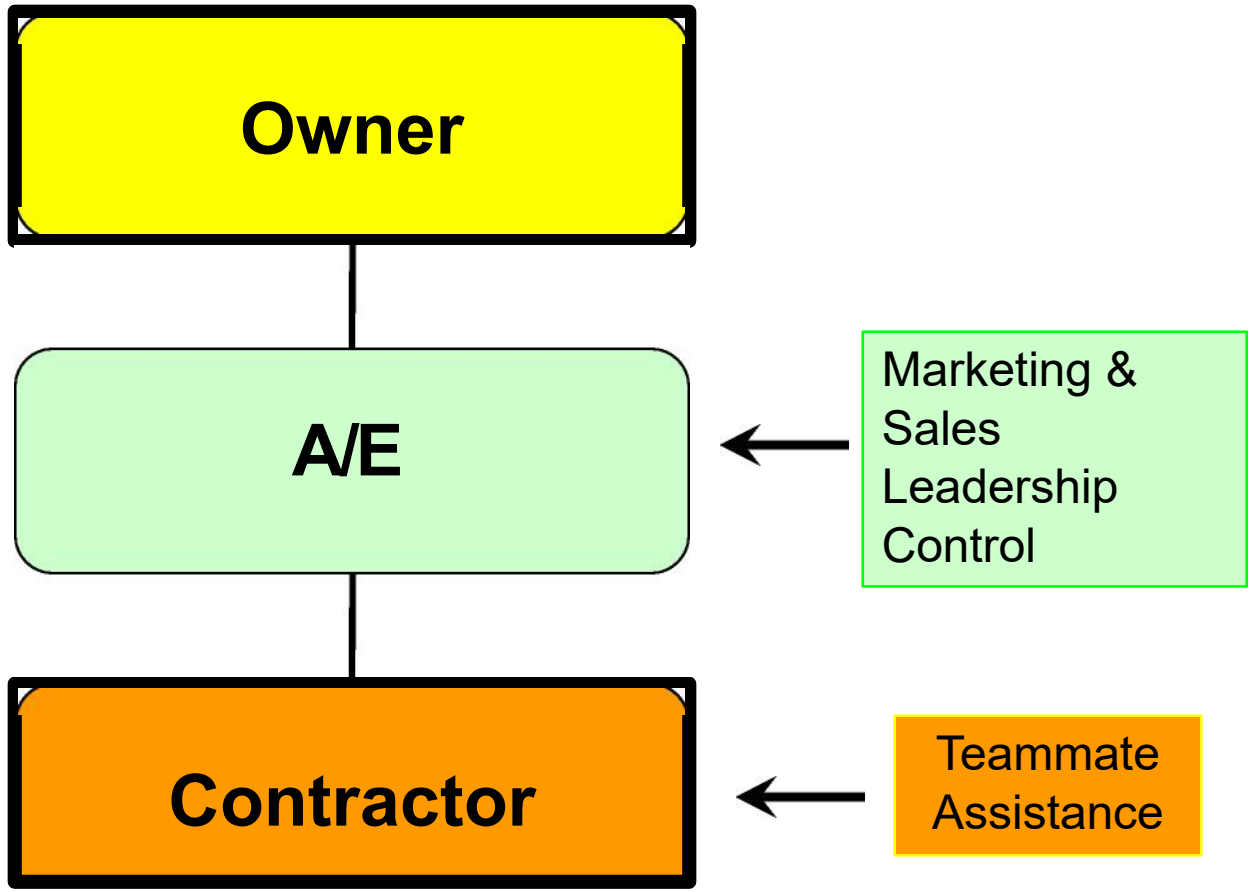
•Increased Profits for Contractor

- Little or no marketing overhead for the project.
- Cost analysis virtually certain to result in winning the project or being compensated.
- Minimal contingency for bidding errors/oversights.
- No contingency for adversarial administration.

A/E-Led Design-Build as Integrated Project Delivery



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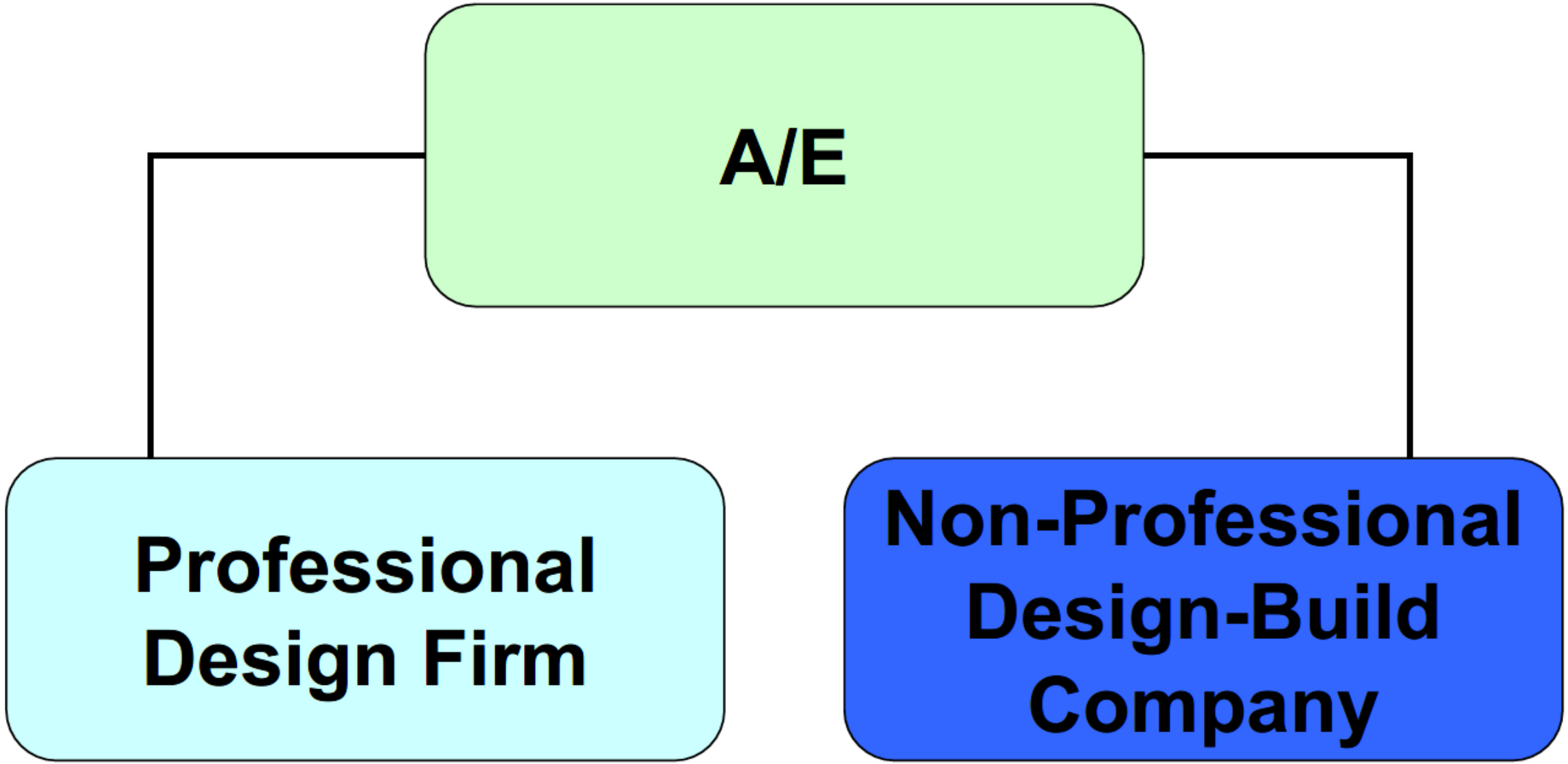
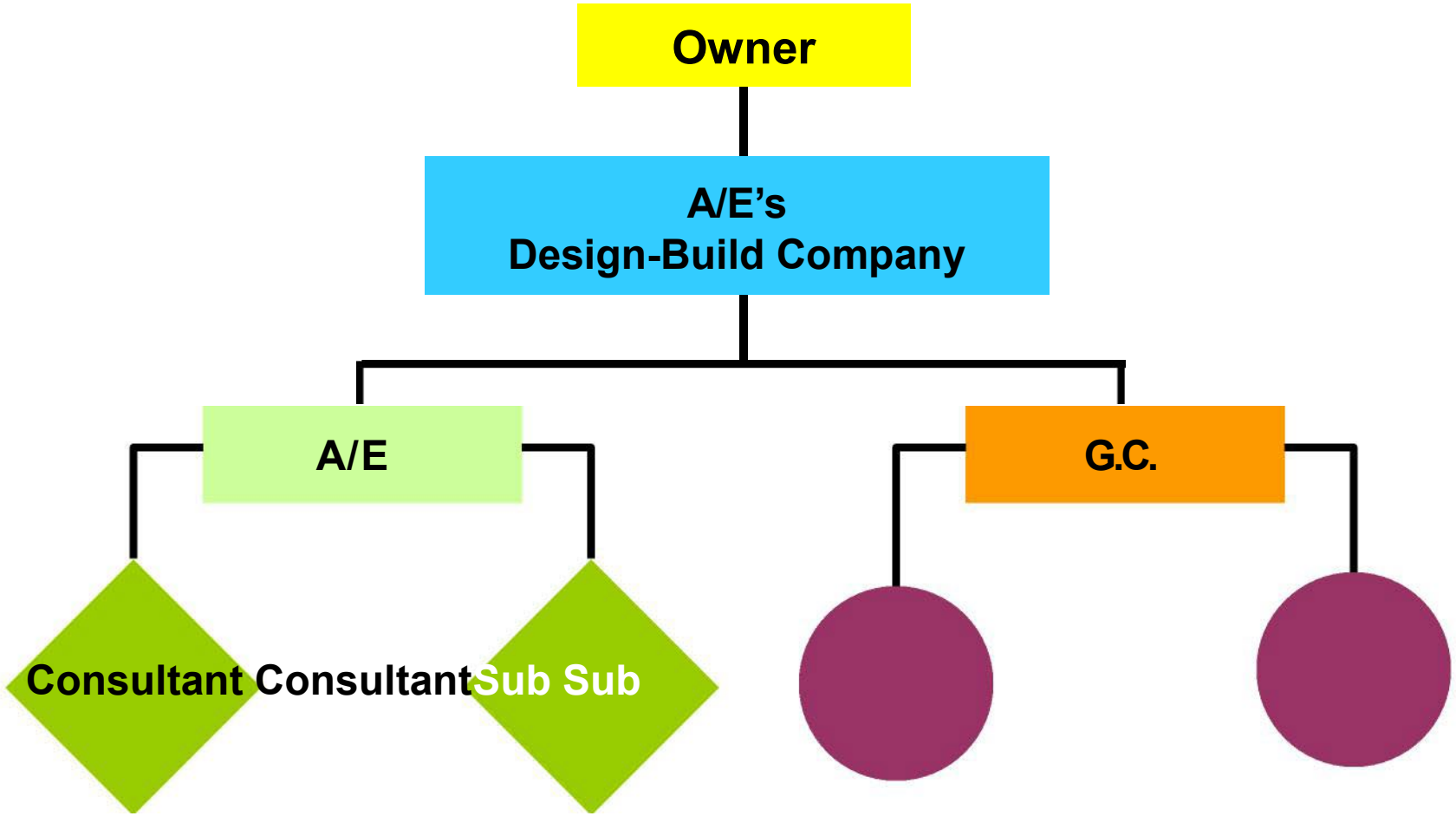
Create the A/E's Design-Build Company



A/E-Led Design-Build: The Single Contract Approach



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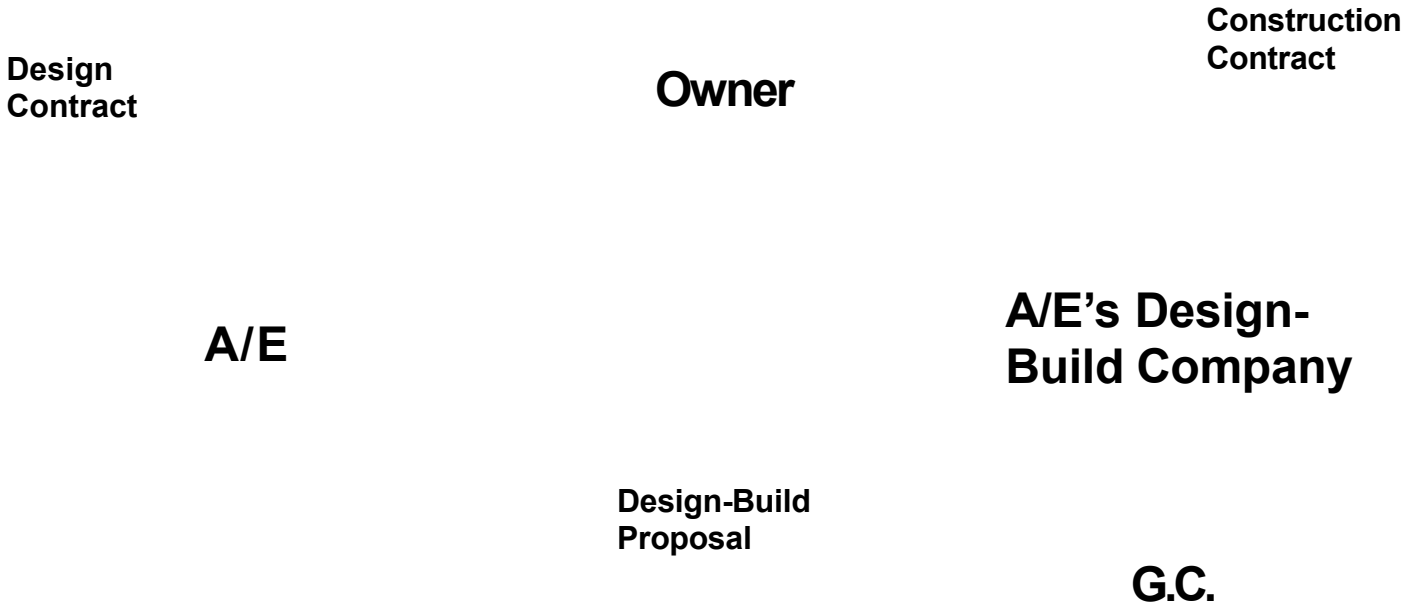
“Sequential” Design-Build: Structure of the Relationship (Private Sector)



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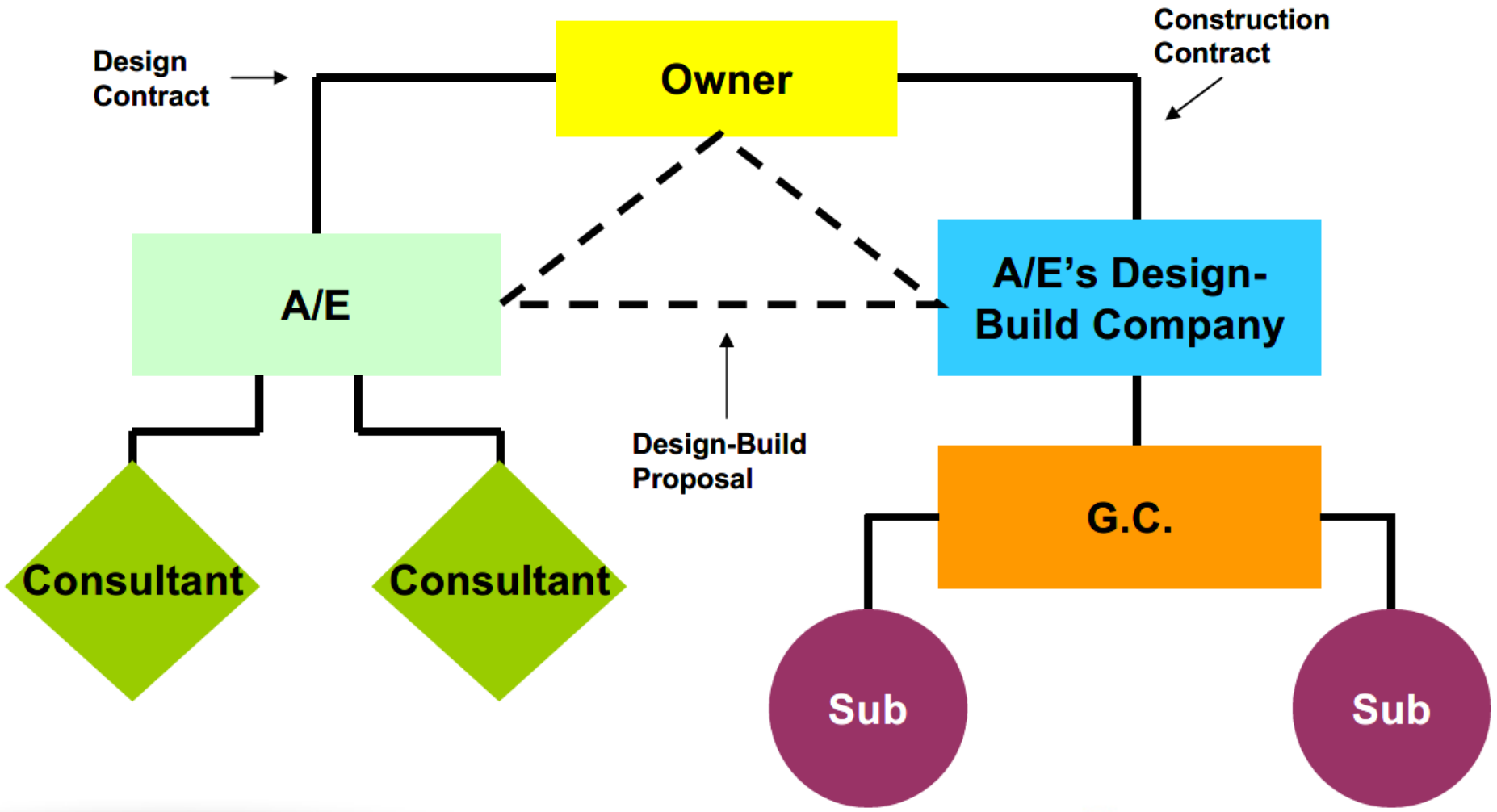
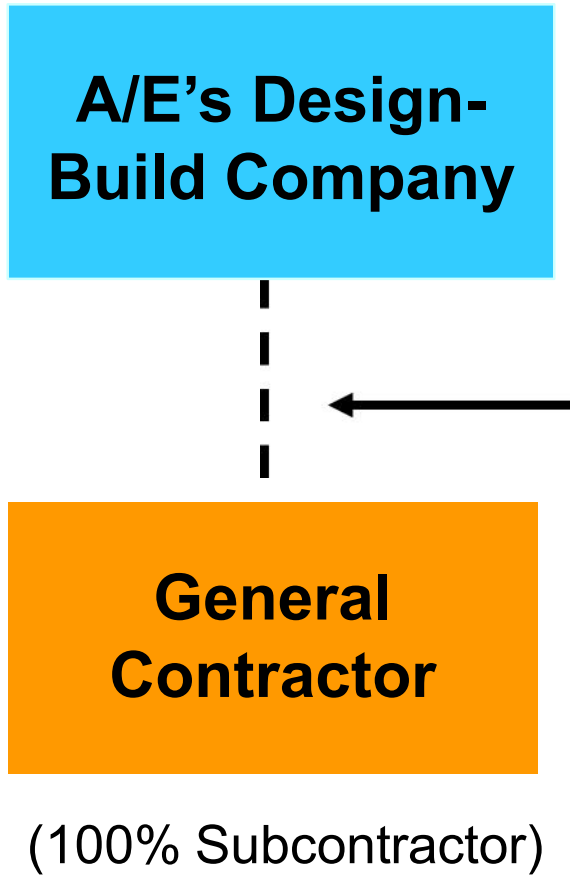


The "Teaming" Agreement

Step 1



Teaming Agreement

- Preconstruction services
- Agreement to subcontract
  - "Purchase Order" form for a specific project

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Considerations in Selecting General Contractor Teammates

- **Mandatory Qualities Issues of Judgment**
  - Financial Security • Size
  - Professional Approach • Geography
  - Industry Niche

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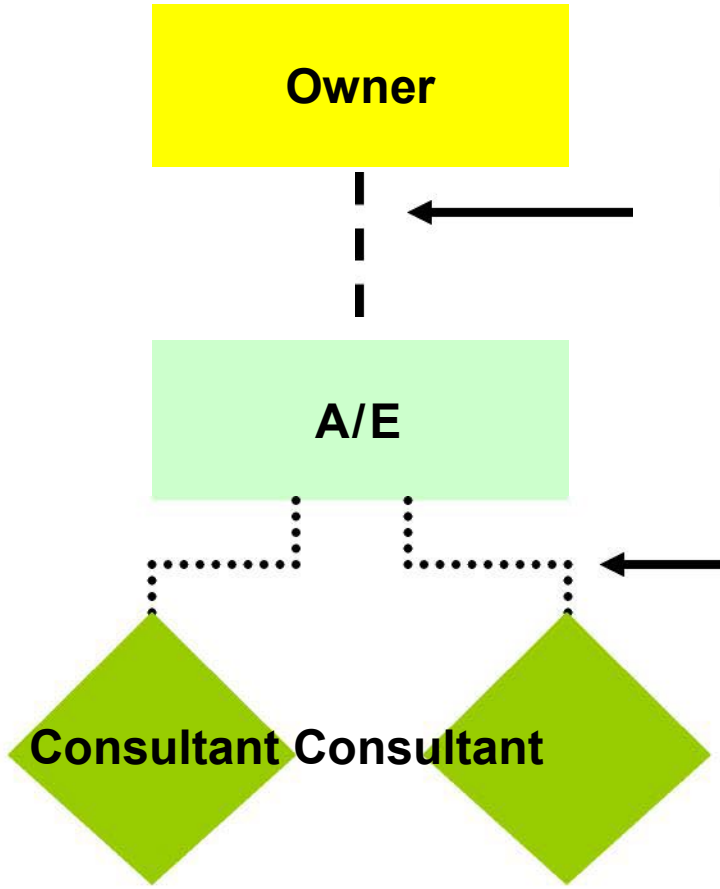
A/E's Contract

Step 2



Standard Architecture or Engineering Contract

E.g., AIA B101 form

Guarantee form is exhibit

Standard Consulting Agreement

- Assumption: trade contractors to finalize design of engineered systems

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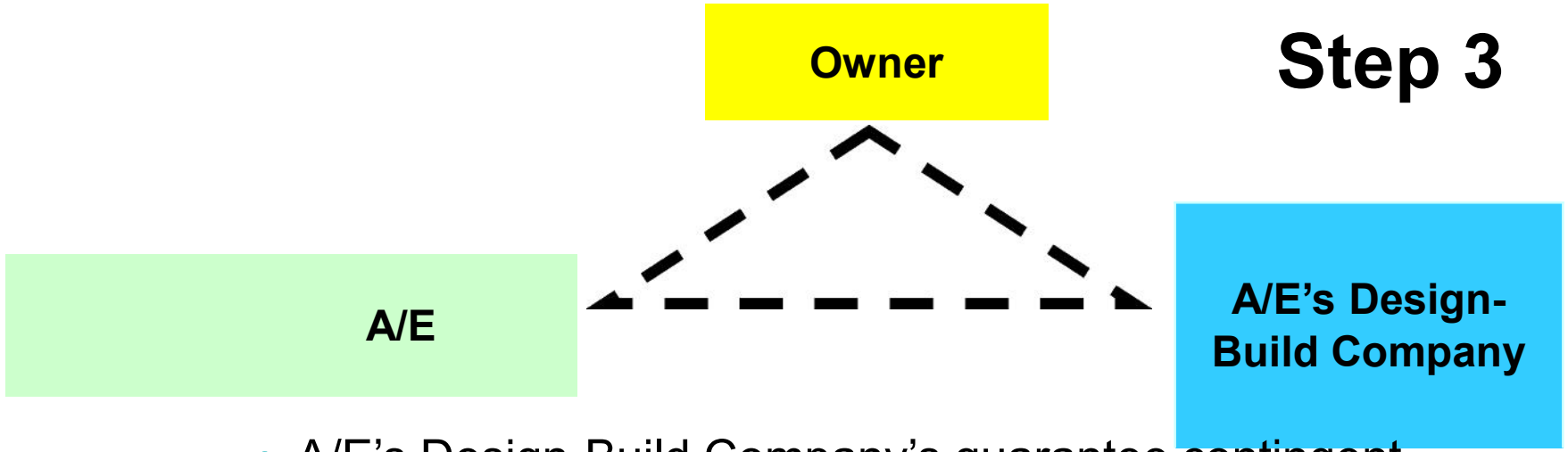
The Design-Build Proposal: "Price/Schedule Guarantee"



- A/E's Design-Build Company's guarantee contingent on building project
- A/E's Design-Build Company supplants A/E during construction phase
- Legal safeguards included re budget and estimating
- Construction Contract eventually supersedes Proposal

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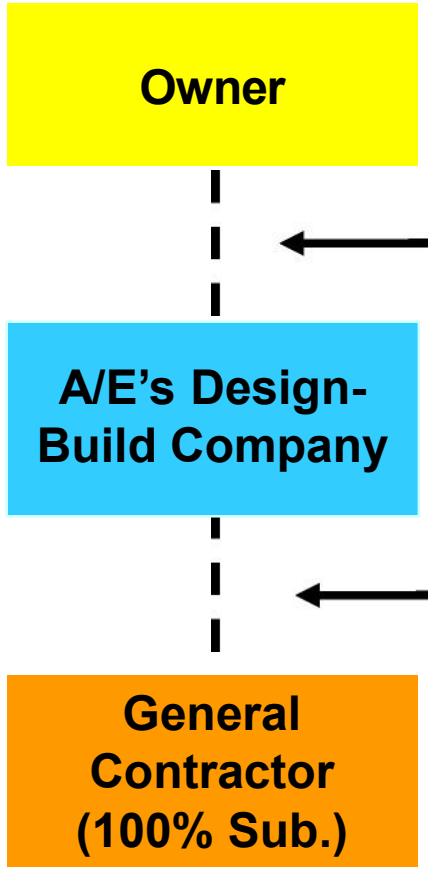
“Construction Agreements”



Step 4

Construction Contract

A/E’s functions during construction phase provided by A/E’s Design-Build Company

Subcontract for Particular Project

- “Purchase Order” from Teaming Agreement
- Attaches construction contract and subcontracts 100% of it

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For Questions or to Discuss These Issues Further, Contact:

Mark C. Friedlander
Venable LLP
227 West Monroe Street, Suite 3950
Chicago, IL 60606
(312) 820-3400

mcfriedlander@venable.com

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