Where Our National Security Begins...
Requirements Practices to Match the Speed of Commercial Technology: Market Research & Prioritization

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Requirements Challenge: Prioritization & Market Research

- When government requirements and Industry capabilities diverge, best value suffers:
  - “Over Asking”: viable alternatives may not receive credible consideration, development risk increased
  - “Under Asking”: capabilities are “left on the table”, requirements risk increased
  - Distinction between commodity commercial item vs. tailored solutions procurements

- The government will receive the best overall value when:
  1. Requirements align to industry capabilities, be they commercial, open source, or developmental
  2. Requirements prioritization is reflected in RFP/RFQ (high to low; threshold-objective)

- Potential impacts due to misunderstanding industry base & commercial capabilities or failing to prioritize requirements in procurement:
  - Acquisition Delays
  - Acquisition Confusion
  - Developmental risk due to “Over Ask”
  - Requirements/Capabilities risk due to “Under Ask”
  - Loss of industry base
  - Loss of best value alternatives
The “Over Ask” vs the “Under Ask”

The “Over Ask”
- Occurs when government includes requirements outside standard industry capabilities or offerings, or would be considered exceptionally unique, difficult to develop, or only available through a single provider.
- Unintended Consequences:
  - Limits Competitive Field and Viable alternatives
  - Adds Developmental Risk to Program Execution
  - Diminishing Returns on Investment

The “Under Ask”
- Occurs when government includes requirements that due not fully leverage generally available industry capabilities and do not provide a vehicle for Industry to provide additional value.
- Unintended Consequences: By limiting requirements within a proposal/program, the government is creating several negative impacts to industry
  - Capability left on the proposal “table”
  - Widening the Silicon Valley Divide
  - Getting Less for Less - Best Value devolves to LPTA
Requirements prioritization within acquisitions is fundamental
- Clearly defines requirements that are mission critical vs. “nice to have” or objectives.
- Allows industry to respond with the most appropriate solutions
- Avoids “over-asking” habits that drive point solutions with higher development risk

Utilize Threshold and Objective Requirements in RFP/RFQ
- Numerous methods exist to evaluate and establish priority of requirements
  - Programmatic: Mission Need Analysis, Cost Analysis
  - Agile: Weighted Shortest Job Gap, Kano Method, Pareto Analysis
  - Cause & Effect Diagrams, Failure Mode Effects Analysis

Incentivize to exceed thresholds and disincentivize failure to meet thresholds
- Align RFP criteria to thresholds and objectives (e.g. USD AT&L’s “VATEC” approach)
- Provide criteria within L & M that allow Industry to present objective capabilities that come at no additional cost without fear of being plussed up in Most Probable Cost

*Industry Base State of Practice Must be Understood Before Requirements Can be Prioritized by Threshold/Objective*
Five Pillars of Market Research

Ensuring All Requirements are Met and the Best Value is Achieved

Five Pillars of Market Research supporting Acquisitions

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- **Self Assessment (Pillar 1)**
  - Understand the need, challenge or problem
  - Understand all requirements
  - Prioritize all requirements
  - Differentiate critical and non-critical requirements
  - Differentiate capability/functional requirements from performance requirements

- **Acquisition Framework (Pillar 2)**
  - Determine when the need must be fulfilled or the problem solved
  - Determine the acquisition schedule
  - Plan market research activities into the acquisition schedule
  - Determine the type of acquisition that may be used
  - Plan the market research that aligns to the acquisition type

- **Industry Analysis (Pillar 3)**
  - Research which markets provide solutions/services that may fulfill the need or solve the problem
  - Research which companies operate within that market
  - Research what products/services the market can and cannot provide
  - Research which terms and conditions may be associated with the solutions/services

- **Technology Analysis (Pillar 4)**
  - Research and understand differentiators or discriminators in solutions/services
  - Understand where the solution or service will integrate with the overall enterprise architecture
  - Research the performance specifications of the solution/service
  - Research the support and maintenance required for the various solutions/services

- **Competitive Analysis (Pillar 5)**
  - Identify which companies may be able to provide the necessary solution/service
  - Determine if the competitive field may necessitate a change in acquisition strategy
  - Determine if the competitive field is being narrowed unnecessarily and can be expanded
  - Ensure the competitive field understands the need, challenge or problem
Market Research: Challenges & Benefits

Challenge: Technology cycle times demand knowledge refresh on 6-month centers

Challenge: Market research takes time and proactive engagement
  - Requests for Information (RFI) do not constitute sufficient market research
  - Must be intentional, organized, diligent and rigorous (i.e. all program personnel have role)
  - Technical currency of Program SETA/FFRDC is critical

COTR/CO/PM Challenges:
  - Policy confusion: misperception that industry dialogs confer unfair advantage
  - Resource concerns: “we don’t have time for industry meetings that are just sales pitches”
  - Industry partners may lack mission knowledge or context to communicate

Benefits: market research can provide understanding of:
  - what products/services the market can or cannot provide
  - the current market price/cost of product/services
  - what market is planning to provide/release in the near and not so near future
  - which companies provide which competing products/services
  - differences/discriminators between various products and services
  - differences in terms and conditions associated with services/products
Market Research as a Program “Habit”

- Sustained, recurring Market Research as part of the program fabric is Key
  - The single best way for the government to understand the capabilities of industry
  - Must be intentional, organized, diligent and rigorous (i.e. it does take time & resources)
  - Every person in a program office can assist with market research

- Regular, recurring, 2-way technical engagement with industry is recommended
  - Recurring “Tech Days” allow a broad survey of Industry capabilities
  - Tech Summits allow for industry dialog around specific capabilities
  - Government participation in Industry Conferences and Expos expands the tech network
  - Keeping SETA/FFRDC and other third party technical experts current
  - Focused “topical” industry briefings (government site or industry site) with 2-way dialog
  - Open door policies and established Government POCs to receive Industry demonstrations and briefings related to the now, next and after next (roadmaps)
  - Market Research services (i.e. Gartner, consulting groups, trade journals)

Ongoing, day-to-day + procurement-specific market research helps customers articulate and organize their needs and requirements
Q&A
BACK UP CHARTS
Recommendations: Requirements Prioritization

- Prioritize the requirements within acquisitions
  - Allows Industry to quickly understand which government requirements are critical and which are lower in priority or tied to stretch objectives.
  - Helps ensure industry responds with the most appropriate solutions
  - Needs a strategy for adding or removing requirements
  - Fits the Agile Business Models

- A number of methods can be used by the government to evaluate and establish the priority of requirements
  - Mission Need Analysis – Abstract analysis that identifies what is necessary for the mission and what is merely beneficial
  - Weighted Shortest Job First – Identify capabilities that can be rapid delivered from those with long lead times
  - Gap Analysis - What capabilities exist as opposed to what capabilities do not exist
  - Kano Method - Distinguish the "expected" and "delighting" features
  - Pareto Analysis - Separate the vital few from the trivial many
  - Cost Analysis – Distinguish the expensive for the affordable, as well as the cost of delay
  - Cause & Effect Diagrams - Identify the causes of key problems
  - Failure Mode Effects Analysis - understand negative impacts of certain actions. Improve by fixing what's broken rather than by adding more features.