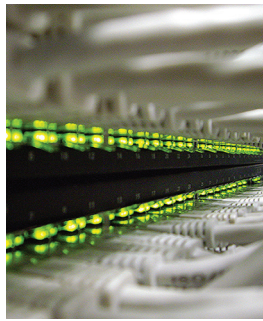# High Performance Computing

Fathom 4

Capabilities

The Fathom 4 Program Management team brings significant engineering and Navy operational experience that applies to any capability analysis, yielding cost savings and a clear course of action for the future for the client, standardizing cross-client planning processes and sub-processes, with specific focus on the technical capabilities expected to migrate from other organizations. Practical applications include analysis of High Performance Computing (HPC) requirements for numerical models transitioning from Navy R&D to Naval Operations, and coordinating these transitions within the client's Program Objective Memorandum (POM) cycle. This ensures the client has the appropriate HPC resources to support fleet operations of the future. Similar analysis is conducted for the HPC requirements associated with the ingest of Satellite data feeds as they are brought on-line by Navy, Air Force, and other US Government entities. The Fathom 4 team determines the most efficient course of action, with the highest probability of operational success, and presents that to the Navy customers.

Total Compute Requirements in TFLOP / Sec Per Quarter

Legend:
- Application 16
- Application 15
- Application 14
- Application 13
- Application 12
- Application 8
- Application 7
- Application 5
- Application 4
- Application 3
- Application 2
- Application 1
- Required Local
- Expected Local Size
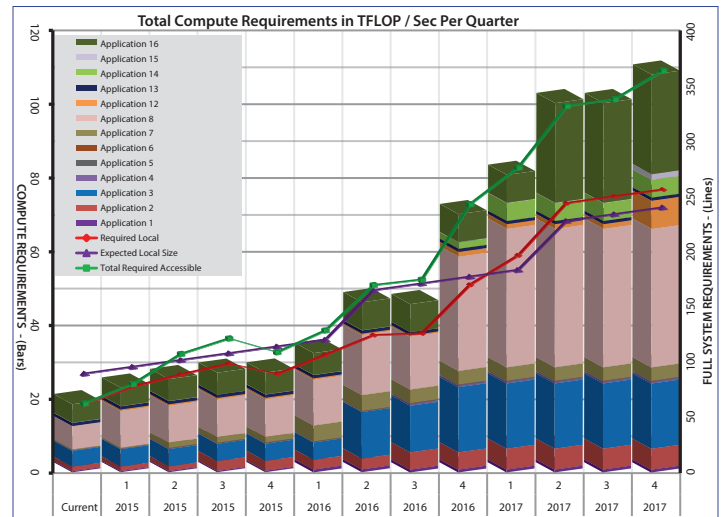- Total Required Accessible

Cost and Time Saving Benefits

Our on-site team integrates into the client team, carefully and deliberately conducting analysis of the enterprise objectives and the process by which to achieve them:

- Reduce prototype to operational implementation time-frame
- Reduce waste through targeted purchasing goals
- Track procurement and integration until operationally stable

Fathom 4 is the most professional, responsive, and capable small business I have encountered in 10 years of acquisition experience.
"US Navy Program Manager"

The Fathom 4 Team

Our capabilities analysis team consists of degreed engineers, senior Navy project managers and MBA graduates with over 30 years of Navy experience. In addition to the capabilities analysis team, Fathom 4 has more than 25 Years of Configuration Management technical expertise and is capable of conducting Configuration Management across the Hardware and Software spectrum of High Performance Computing. Our on-site team integrates into the client team and carefully and deliberately conducts analysis of the enterprise objectives and the process by which to achieve them. The Fathom 4 team:

- Is Dedicated, Experienced, and Independent
- Integrates into current processes
- Tracks and analyzes rapidly transitioning projects
- Determines overlaps and or shortfalls in current capabilities
- Compiles unbiased requirements based on system future capability
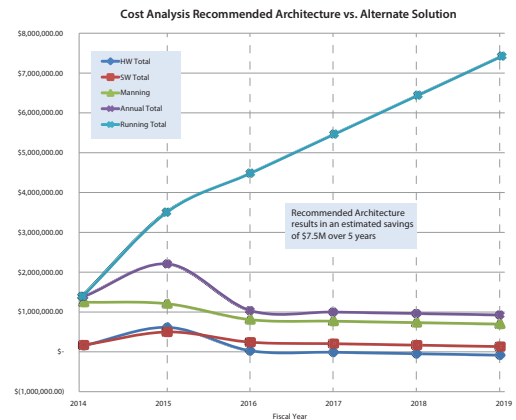- Bridges the R&D to Operations Gap

Process

Capability Assessment

Observe current research and development programs and projects in order to ascertain completion time-frames, resource utilization, and anticipated operational usage

Track current resource utilization, with an emphasis on capacity trends, and ancillary system capabilities

Assist in the determination of infrastructure efficiency improvements and limitation

Conduct Analysis of existing Configuration Management processes and repositories to determine potential areas of improvement

Cost Analysis Recommended Architecture vs. Alternate Solution

Recommended Architecture results in an estimated savings of $7.5M over 5 years

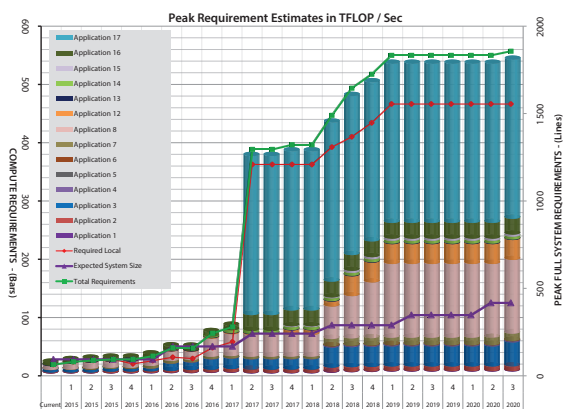Peak Requirement Estimates in TFLOP / Sec

Planning

Calculate required growth and milestones based on resource deficit and prototype transition dates

Evaluate cost of anticipated growth, and balance against budget constraints, the POM cycle, IT Procurement requests and existing system limitations

Design Configuration Management processes within existing systems to provide stable solutions for the client

Utilize Enterprise level requirements to help determine implementation and testing, strategies and time lines
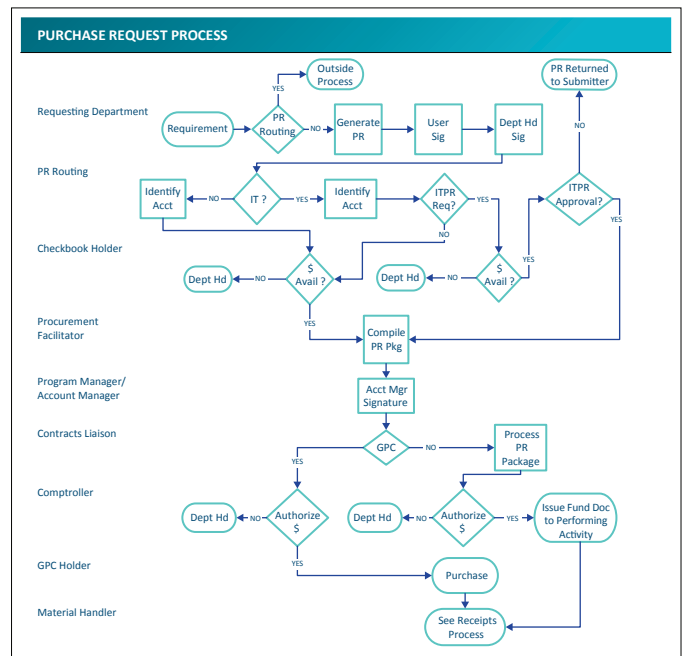
Execution

Collect requirements and estimated costs balanced against anticipated budget, into a customer executable list with integrated schedule milestones and constraints

Work with contracting specialists to address uncertainties and assist with technical justification throughout the IT procurement process

Integrate with existing personnel and processes to implement achievable Configuration Management solutions

Document and recommend improvements based on end-user feedback and potential efficiency gains for existing processes and work flows

Integrate with system administrators and installation personnel to provide feedback regarding details and time lines of equipment procurement, delivery and integration enabling faster time to system availability

PURCHASE REQUEST PROCESS

We Believe in People
Our Troops. Our Clients. Our Team.

Fathom 4 has a simple mission: **Engineering Freedom** - for our country, our clients, and our employees. We delight our DoD clients by providing the best value engineering services. Fathom 4 employees are critical members of the DoD programs we support, by being highly professional, competent, industrious, and ethical.

We are a service-disabled veteran-owned small business and an employee-centric company. Fathom 4 was founded on the belief that if we take care of our employees to the best of our ability, then they will do the same for our clients.

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   DUNS: 078459585   Cage: 6SG73   NAICS: 541330, 541990, 541512