

THE Best Defense

A new program management discipline is helping a team at Northrop Grumman Corporation take the offense in increasing customer satisfaction and improving shareholder value.

BY CHERYL D. KRIVDA
PHOTOGRAPHY BY DANNY TURNER

Defense and technology companies succeed by developing innovative systems and solutions that address customer needs. By delivering a panoply of tactical, operational, and strategic technologies, companies such as Northrop Grumman Corporation help nations ensure their security and provide organizations with the information systems needed to serve their constituents.

Yet developing this hardware and software requires more than just deep high-tech knowledge or advanced IT capabilities. Critical “soft” skills – such as effective program management and project scheduling capabilities – are essential to satisfying customers and staying ahead of the competition.

Based in Los Angeles, the \$32 billion corporation employs 120,000 people at sites around the globe. One of the world’s largest defense contractors and the leading shipbuilder, Northrop Grumman provides





Seanna Garrett, operations scheduling manager,
Essex Business Unit, Mission Systems, Northrop Grumman

information and services, electronics, aerospace systems, and shipbuilding services to government and commercial customers in a variety of industries.

The company's Mission Systems sector is an integrator of complex, mission-critical systems focused on command and control, communications, computers, intelligence, surveillance and reconnaissance. This organization provides deep legacy and domain expertise to the U.S. Department of Defense and the international intelligence community.

Northrop Grumman strives to deliver best-in-class products and services, providing value that consistently meets or exceeds customer expecta-

tions. In recent years, meeting this goal has become even more important. In the U.S.,

“By providing schedule management as a value-added component of our overall program management, we can help all functions to work together seamlessly toward our goal of achieving mission success for our customers.”

— SEANNA GARRETT, OPERATIONS SCHEDULING
MANAGER, ESSEX BUSINESS UNIT, MISSION
SYSTEMS, NORTHROP GRUMMAN

strained military resources, terrorism, and tense international relations have combined with the softening economy to intensify the customer satisfaction challenge. Finding new ways to verify accurate and timely service delivery has become a critical priority for Northrop Grumman's Mission Systems sector.

A NEW MISSION BEGINS

Optimizing customer satisfaction in Northrop Grumman's complex work environment called for some new approaches in the project management arena. Because the company serves so many customers, tracking a huge array of projects and resources is extremely complex. Furthermore, serving customers in various industries means that program deliverables can range from software to manufactured components, products or services.



As many as 25 to 500 personnel work on each project; these resources may be Northrop Grumman employees, external workers, or customer personnel. Resources are frequently shared across projects and even programs. As a result, managing program schedules and tasks is difficult – yet essential to ensure that projects are delivered on time, within budget, and with high quality.

To address these challenges, a team within the Essex business unit of the Mission Systems sector launched a new program management and project scheduling initiative. “We consider scheduling to be an intrinsic, indispensable part of program management,” explains Seanna Garrett, operations scheduling manager for the business unit. “By providing schedule management as a value-added component of our overall program management, we can help all functions to work together seamlessly toward our goal of achieving mission success for our customers.”

Charged with leading a new program management and scheduling initiative for the business unit, Garrett began by identifying a technology platform. She sought software solutions that could provide critical path methodologies, handle multiple critical paths, and allow resource utilization to be specified in hourly increments. The organization also needed a solution that could provide Earned Value Management (EVM) capabilities, integrate well with other management software, and offer easy-to-access reporting and analytics functionality.

INTELLIGENCE BRIEFING: THE CASE FOR SCHEDULING TECHNOLOGY

Company management expected the new scheduling environment to deliver several benefits. By providing timely access to strategic and operational decision support

Primavera Community of Practice: Leading through Shared Expertise

One initiative that is helping Northrop Grumman maximize its learning is the cross-sector Primavera Community of Practice. Created over the last year, this community offers about 30 employees a way to share Primavera scheduling management tips, techniques and expertise. It is designed to provide scheduling professionals with a forum – both online and in person – for collaborating and exchanging Primavera-related master planning and scheduling knowledge across the sectors.

According to Seanna Garrett, operations scheduling manager for the Essex business unit of Northrop Grumman’s Mission Systems sector, a colleague in another sector first noticed the need for a Community of Practice for Primavera. She invited Garrett to join the community as co-facilitator after the two started exchanging e-mails, and found that they both were working in the same capacity to identify, research and analyze the Primavera software. As they worked across the organization to understand user requirements and collected information about scheduling tools, they found that others had their own knowledge from past initiatives. These users gathered their information and shared it through the Community of Practice website.

Today the information repository is a worldwide platform for other groups to use as they investigate project management capabilities and solutions. The site also provides a venue for project management professionals to share their passions and experiences. From this site, they can schedule Web-based meetings, talk to subject matter experts, and develop and train new professional planners. Members from different company sectors also use the community to collaborate on standardizing their Primavera scheduling and resource planning processes.

Community of Practice members first met face-to-face at the 2007 Primavera 24th Annual Conference, and they communicate daily through the website. The Community has also hosted two recent teleconferences to discuss lessons learned from the upgrade to Primavera P6. The Community offers resources for those who want to become certified scheduling professionals. In addition, members can share project management information with customers and business partners.

Looking forward, Garrett hopes that her work in establishing both the new scheduling platform and continued participation in the Primavera Community of Practice will help expand her company’s project management expertise. “The Community of Practice is helping us to establish a discipline for project management within Northrop Grumman,” explains Garrett. “The concept of professional scheduling expertise is becoming an integral part of our ability to provide value and to satisfy our customers.” — CK

information, the tools would enhance planning, decision making and responsiveness. Having a full view of the program and all available resources could help program managers accomplish more work with fewer resources, including personnel, information systems and business processes. Increased customer satisfaction and enhanced efficiency, in turn, would improve shareholder value, another corporate priority.

Garrett spent three months researching products and solutions, comparing benefits, reviewing functionality, and under-

standing technical requirements and limitations. She looked for products that offered compre-

The enterprisewide integrated system handles costs, schedules and scope management, while providing role-based access to data.

hensive controls and labor planning features that would help program managers keep track of project progress and resource utilization. Powerful analytics were needed to support decision making by highlighting critical paths, anticipating conflicts and pinpointing scheduling problems.

“Managing a project is a difficult job,” Garrett says. “The more information that can be provided to the project manager via a schedule management process, the more successful our project delivery is likely to be. In addition, scheduling professionals must be fully integrated into the program development processes – from the proposal process through the program award. Once schedulers understand the goals of a project or mission, they can serve as an integral part of the program, working with the team to create meaningful schedules and make sure deliverables are provided in a timely manner.”

In June, 2007, Garrett’s team selected Primavera P5 as the major scheduling management platform for the Essex unit. After training more than 60 users, the organization rolled out the software for use with its first external customer. Since then, the team has upgraded to Primavera P6 and is in the process of deploying Primavera Cost Manager for Earned

Command and Control

Northrop Grumman’s new scheduling platform has become a powerful tool for optimizing labor planning. Program managers and technology leaders use the system to understand where resource hours are being spent and whether adjustments are needed.

For example, a team within the Mission Systems sector recently began a new software development program that involved multiple software engineers. Attacking the project linearly, most of the engineers were assigned to work on the first software module. After creating a baseline schedule, program managers saw efficiencies in assigning some engineers to work on two related modules at the same time.

“Now the team is ahead of schedule and we are working with the software to calculate the related cost savings,” says Northrop Grumman’s Seanna Garrett. “What’s more, we are re-evaluating the schedule to see whether any additional resources can be shared.”

— CK

Value tracking and analysis as well as Primavera Pertmaster for risk management.

ZEROING IN ON VALUE

With the new schedule management platform, the organization is able to provide secure cross-program and cross-project scheduling, resource management and planning. The enterprisewide integrated system handles costs, schedules and scope management, while providing role-based access to data.

Although it is too early to calculate benefits metrics for the new system, Garrett says that its value has definitely been noticed by program managers. “What catches their attention first are the reporting capabilities,” she says. “Now we can provide data in a clear, concise format. Users also can analyze metrics information to determine whether their teams are performing as scheduled, and identify any shortfalls as well as successes.”

The software can be configured to scan for issues and identify possible risk situations. It can also send communications to the teams when deadlines are missed or project deliveries are in jeopardy, which means that managers spend less time asking for status updates and checking on progress. Instead, they can concentrate on strategic issues that could impact customer satisfaction.

The availability of project information to all users enhances organizational communication and efficiency. “Managers don’t spend their time massaging the schedule,” says Garrett. “Their team meetings are more efficient and they can manage by exception. Having an interactive, real-time scheduling environment makes it easy for workers and managers to make sure they get the information they need, and to ensure that

everyone is collaborating on the same page.”

For some projects, the scheduling platform can be integrated with costing systems to automatically provide Earned Value Management reporting – offering insight into contract performance by providing statistical data analysis of technical, cost and schedule performance.

“Once the cost data is integrated into the system, the software translates the data into the EVM metrics,” says Garrett. “This is a huge time saver, and gives us a reliable platform for monthly performance tracking and analysis.”

With the old system, conflicts were often identified only after a deadline was missed. The analytic capabilities of the new platform help program managers to flag problems earlier and solve issues as they arise. “Now we have more

For some projects, the scheduling platform can be integrated with costing systems to automatically provide Earned Value Management reporting ...

timely analysis, which helps users make adjustments to address areas of concern,” says Garrett.

A WORK IN PROGRESS

Northrop Grumman is continually working on improvements to the scheduling management platform. “There are so many things we’re still discovering,” Garrett explains. “Once we lay out a schedule, we can see where we can hire additional personnel or save money by reallocating resources, for example. We can make adjustments and see how changes will benefit the program.” •

Cheryl D. Krivda is a technology journalist specializing in IT topics. Contact her at ckrivda@cmkcom.com.