Scrum of Scrums

Scaling Up Agile to Create Efficiencies, Reduce Redundancies

Maj Stephanie "Jill" Raps, USAF

I n the complex world of medical logistics, the innovative team at the Joint Medical Logistics Functional Development Center (JMLFDC) recently adopted a new collaborative approach for managing the Defense Medical Logistics Standard System (DMLSS). The JMLFDC team drew inspiration from the Web design and programming worlds and implemented the Scrum process, a strategy of implementing the iterative and incremental Agile project management philosophy.

The activity, a component of the Solution Delivery Division (SDD) within the Defense Health Agency (DHA), has six teams that hold daily Scrum meetings focused on their area of the DMLSS application. Their weekly Scrum of Scrums meeting provides context for short updates that help the leadership track several complex projects and enables co-workers to collaborate more easily.

DMLSS is an information technology system within the Defense Medical Logistics— Enterprise Solution (DML-ES) portfolio. The DML-ES portfolio provides a continuum of medical logistics support for the Department of Defense. DMLSS delivers an integrated information system that allows customers to order medical supplies for the best value, implement just-in-time logistics, and helps hospitals and clinics manage facilities and maintain medical equipment.

What Is Scrum?

Scrum was first developed in the early 1990s in the Information Technology (IT) sector in response to failures of traditional project management techniques to factor in the complexity and unknowns that many knowledge creation fields such as IT have at their core. Scrum is part of the Agile movement and borrows many principles from lean manufacturing philosophy. Agile doesn't provide concrete steps that an organization can implement, but Scrum provides the concrete tactics necessary to successfully put into practice the Agile Methodology.

"Development was based on empirical 'inspect and adapt' feedback loops to cope with complexity and risk. Scrum emphasizes decision making from real-world results rather than speculation," explained Michael James, a Scrum expert who coaches companies on implementing Scrum methodology in his publication, *The Scrum Reference Card*. He

Raps *is chief of the Stakeholder Engagement Branch of the Solution Delivery Division within the Defense Health Agency's Health Information Technology Directorate.*

34
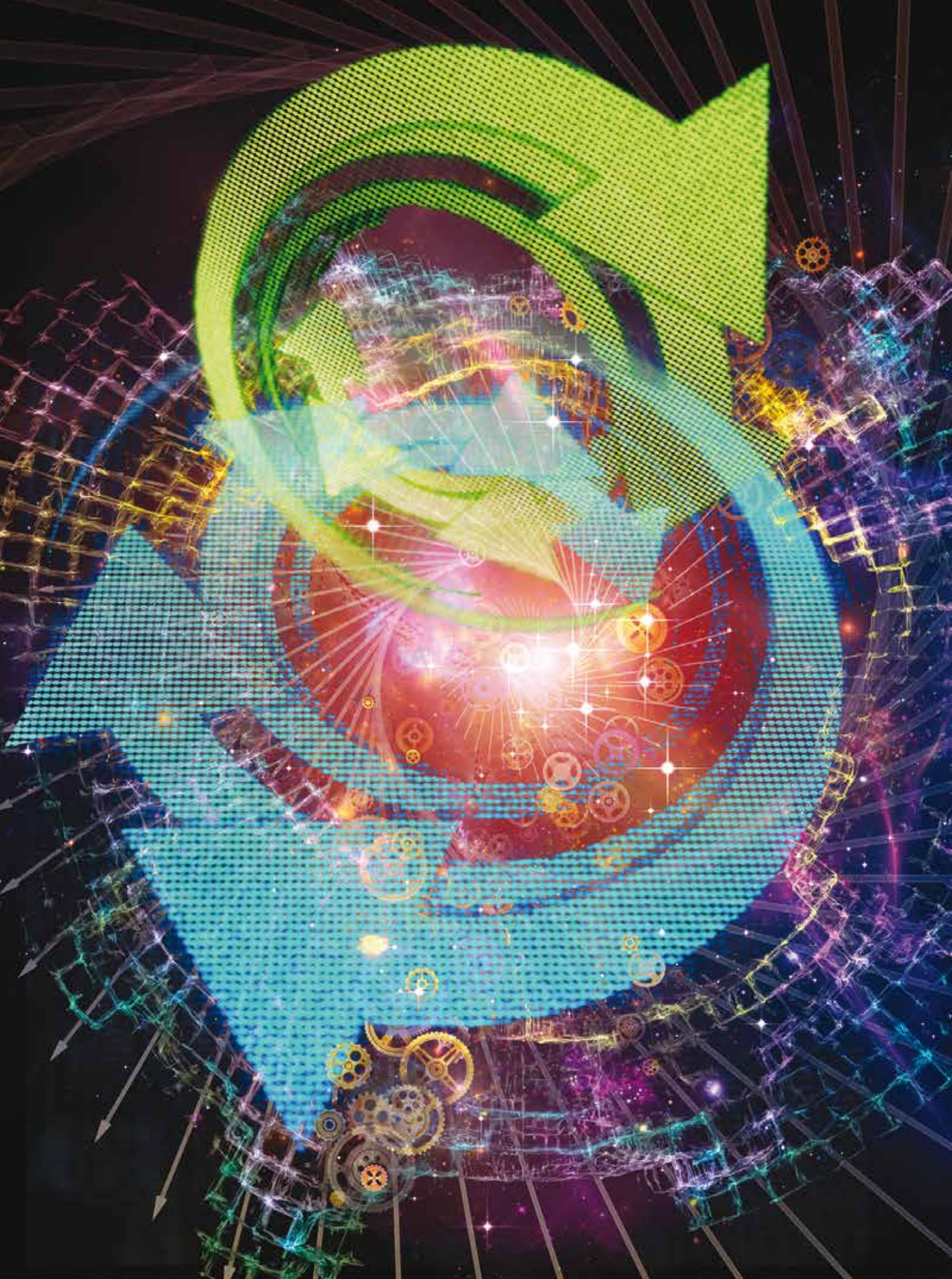
said that traditional project managers have known assumptions and production goals outlined in advance. But in a knowledge-creation field any uncertainties render constant assessments and modifications far more effective as management moves forward.

"Scrum is a simple set of roles, responsibilities, and meetings that never change," James said. "By removing unnecessary unpredictability, we're better able to cope with the necessary unpredictability of continuous discovery and learning." Each Scrum team maintains a list of items to be addressed at a future date, he added. This list, often called the project backlog, includes every request from the client, changes that were suggested in past review meetings and any other action item that would distract from the current set of priorities but should be addressed at a later date.

"Most project backlog items initially need refinement because they are too large and poorly understood," James said. "While backlog refinement is not a required event, it is a required activity."

Maintaining the organization of that backlog is an essential part of the groundwork for future development. James suggested keeping the items force-ranked (prioritized) based on feedback from key stakeholders. The order should consistently be revisited to make sure priorities haven't changed. The list should be visible to all stakeholders, any stakeholder (including the team) should be able to add items, and the items at the top should require less investment of time than items at bottom.

Scrum also has its own work cadence. In Scrum, time is divided into short work bursts, known as sprints, typically one week or two weeks long. The product is kept in a "finalized" (properly integrated and tested) state at all times. After each sprint, the team gathers to assess the updated, shippable product increment and plan its next steps. Change requests, and other feedback to come out of these assessment meetings then get added to a task list for later digestion and prioritization.
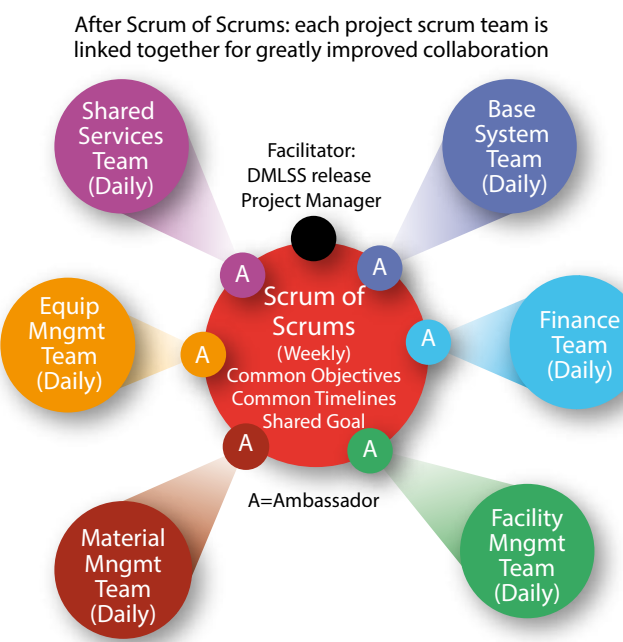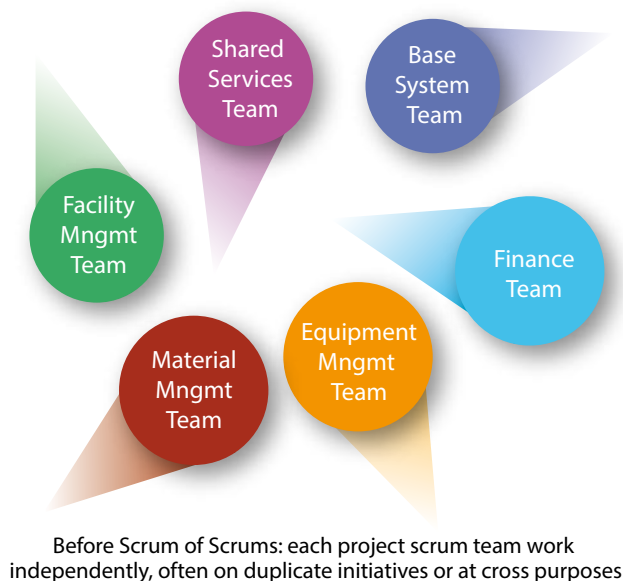
Scrum Adapted for the JMLFDC

One of the drawbacks of the Scrum format is that it works best with a limited number of participants. Ideally, a Scrum team would have between five and nine members. That limitation has traditionally meant it is difficult to scale Scrum meetings in larger organizations, and that is the challenge faced by the JMLFDC team.

DMLSS Service Operations Manager Brenda Norris accepted the challenge and immediately adapted the Scrum model to the 40-member DMLSS project team by forming a "Scrum of Scrums" meeting made up of representatives of each of the six smaller Scrum groups, which continue their usual cadence and daily stand-ups.

"The 'Scrum of Scrums' allows clusters of teams to discuss their work, focusing especially on areas of overlap and integra-
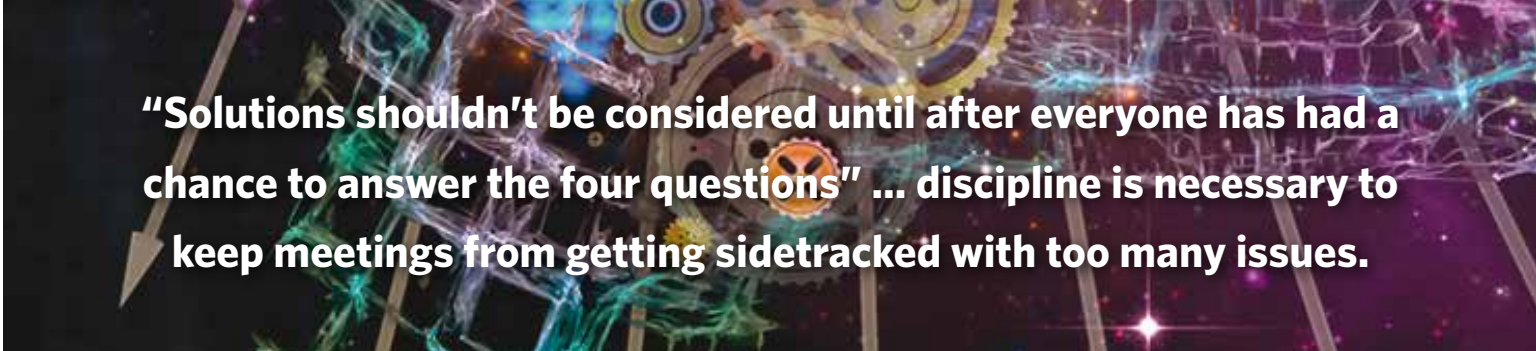
Figure 1. How Teams Work Before, After Scrums

Before Scrum of Scrums: each project scrum team work independently, often on duplicate initiatives or at cross purposes

After Scrum of Scrums: each project scrum team is linked together for greatly improved collaboration

Source: Defense Health Agency

tion," Norris explained. "Each Scrum team has one member who is an 'ambassador' who participates in a meeting with ambassadors from other teams." She said the representative setup maximizes the efficiency of meetings by limiting the number of voices but also allows each Scrum group to provide an update on their progress and collaboratively discuss any challenges they're facing.

One challenge with scaling Scrum meetings for a large organization is that keeping the group small means that the organization can't hear from those best able to address certain

topics that arise. This in turn means that it is crucial to have the right balance of technical expertise on the Scrum team. "When requirements are uncertain and technology risks are high, adding too many people to the situation makes things worse," James explained. "Grouping people by specialty also makes things worse. The most successful approach to this problem has been the creation of fully cross-functional 'feature teams,' able to operate at all layers of the architecture in order to deliver customer-centric features." (Figure 1.)

The Scrum of Scrums meetings are flexible and can bring the right voices to the table. According to Norris, "Attendees should change over the course of a typical project and should be in the best position to understand and comment on the issues most likely to arise at that time during a project."

The DMLSS Implementation

The DMLSS team's Scrum of Scrums is conducted weekly and usually lasts 30 to 60 minutes. The goal is to keep the meetings short and fast-paced. Meeting weekly allows issues to be discussed and resolved more consistently and helps keep the meetings short. Because the format is flexible, some teams choose to meet twice a week for 15 to 30 minutes.

During the meeting, one ambassador from each Scrum group provides updates and discusses areas of integration and overlap with other Scrum groups. "These meetings result in a more unified view of the product release," Norris said, "The Scrum of Scrums meetings eliminate the chance of redundant work being done in the same scope area."

Norris said during the first half of the meeting, each participant answers the following four questions:

- What has your team done since we last met?
- What will your team do before we meet again?
- Is anything slowing your team down or getting in its way?
- Are you about to put something in another team's way?

These questions usually spark discussions of problems and other points of friction, but "problems should be raised," Norris noted. "However, solutions shouldn't be considered until after everyone has had a chance to answer the four questions." She said discipline is necessary to keep meetings from getting sidetracked with too many issues.

After each ambassador has answered all four questions, Norris said the focus of the meeting shifts to resolve problems and discuss issues. Participants address any issues, problems or challenges raised during the initial discussion or previously identified and maintained on the master action item list.

Much like the daily meeting of the six project Scrum teams, the weekly Scrum of Scrums meeting also includes a list of items to be addressed at a later date, she added. These include any issues, problems or challenges not addressed during the meeting but managed and worked through a prioritized action item list.

Is Scrum Right for Your Organization?

James advised managers considering a Scrum approach to look seriously at the type of work their team does. "Scrum is intended for the kinds of work people have found unmanageable using traditional processes: uncertain requirements combined with unpredictable technology implementation," he said. He added that managers should emphasize that Scrum was not originally intended for established, repeatable types of production and services but rather for developing new paths through knowledge creation. He said managers should also "consider whether the underlying mechanisms are well-understood or whether the work depends on knowledge creation and collaboration."

Norris and the JMLFDC team found that scaling up Agile Scrum into a broader-view Scrum of Scrums proved to be an effective way of facilitating collaboration within a large team. She said the team has felt the positive impact of the Scrum method. "Since we implemented Scrum of Scrums, we were truly able to identify and eliminate redundant work and resolve interdependencies and/or roadblocks between product Scrum teams much earlier in the cycle," she explained. "Also, during each meeting we collectively discuss what 'done' means for the product as a whole, resulting in a more unified view of the product being released."

In situations of great uncertainty, Scrum is ideal, Norris suggested. Where new programs are being developed, or where knowledge is being created, she said Scrum's simple, flexible principles can be easily adapted for many different types of complex projects. Norris added that while many teams don't fully implement Scrum to its full extent and simply choose elements they like, their experience demonstrates that fully embracing the Scrum methodology can result in significantly greater clarity, collaboration and team cohesion in working toward a common goal.

The author can be contacted through **jason.cunningham@ehrts.com**.