NASATEAM.COM & PROJECT MANAGEMENT 2.0

NASA and 21st Century Management

NASA GLENN RESEARCH CENTER

Advanced Capabilities Office /
Dust Management Project

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BACKGROUND

NASA is world-renowned for assembling and managing great teams that accomplish amazing things. Today, NASA's managers face new challenges.

Their teams are more complex than ever before – often including matrixed fragments of globally dispersed employees and contractors from multiple disciplines… they are harder to motivate, coordinate, and hold accountable.

Ironically, these same managers are required to monitor performance *more* closely, as trends continue toward scattering people, work and documents – a daunting challenge. The question then becomes, "How are NASA's managers coping with all this new complexity and responsibility?"

Surprisingly, many are not! Many managers struggle with overdue teams and projects. Rather than focusing on leadership, they may spend hours each month weeding through old emails to prepare monthly reports.

This document describes how Mark Hyatt, an Engineering Project Manager at NASA Glenn Research Center, implemented TeamLeader™ to manage a nationally dispersed engineering team for Lunar Dust Management. As a result, Mark saves considerable time each month, while managing his teams and projects more effectively.

The Dust Management implementation demonstrates ways to cope with complex teams and projects as federal reporting becomes more demanding. When collaborative management is properly implemented, managers can leverage the best engineering talents from remote locations to achieve even greater things.

That's what NASA is all about!

INTRODUCTION

Mark Hyatt, an Engineering Project Manager at NASA Glenn Research Center, oversees a virtual team of 30 employees and contractors at eight NASA field centers throughout the United States. The team supports a complex scientific project for Lunar Dust Management.

The project involves the coordination, integration and implementation of dust risk reduction activities throughout NASA. The project team is responsible for developing system requirements associated with dust exposure, as well as: characterizing dust exposure, understanding the effects of dust exposure to humans and equipment, and establishing effective dust management procedures for NASA programs.

The Before System

Prior to May 2008, Mark faced all the normal responsibilities of managing an engineering project. He maintained schedules, communicated complex requirements to team members and supported federal reporting requirements.

As the manager of a *virtual* team, all of his normal challenges were magnified. For example, all of Mark's team members were indirect reports, with competing responsibilities on other projects. They worked different hours at remote locations that used different technologies. In short, his teams were more complex.

The added complexity made it especially difficult to keep track of who was doing what and when. As a result, Mark was often in the dark about progress, and challenged to hold team members accountable for performance. He manually maintained the project schedule to reflect date slippages and other changes. The schedule would occasionally fall out of sync with the actual progress.

The tracking process was tedious and time consuming. To address the inherent challenges, Mark implemented a methodology of team progress meetings, emails, and spreadsheets to track progress against major milestones.

Information from the emails and spreadsheets were periodically rolled into more formal reports, such as for monthlies and earned value management reporting.

The reporting process was manually intensive as well, often consisting of "email digging", phone inquiries and memory recall.

The legacy Dust Milestone Tracking table is shown in Figure 1.

The After System

On May 15, 2008, Mark Hyatt and Cary Landis (CEO, Virtual Global, Inc.) initiated a pilot of TeamLeader™ to support the Lunar Dust Management Project. The pilot is hosted at **www.nasateam.com**.

Whereas, TeamLeader is a collaborative management Software as a Service (SaaS) engineered with the support of NASA Glenn Research Center, for managing complex project teams. TeamLeader is built on top the TeamHost™ cloud computing platform.

The goals of the pilot were as follows:

- Save time for Mark and team members
- Minimize upfront investments needed
- Demonstrate that TeamLeader works

Dust Milestone Tracking Table

WBS or Milestone ID	Milestone Title	Scheduled completion Date	Status
1.1	**Project Management**		
	Monthly report	Monthly, 15th	Completed
1.2	**SE&I**		
1.2-1	Refine Cradle Schema and Initial Project Data	1/30/08	Completed
1.2-2*	Baseline R & T Portfolio Mapped to Requirements – update pending TIM and project technical assessment	~~4/30/08~~ 5/28/08	Completed
1.4	**Engineering Design Environments**		
1.4.1	Regolith Characterization		
RC-1	Physical Properties Downselect		
RC-2	Physical Properties Protocols		
RC-3*	Progress Report		
1.4.2	Environment Characterization		
1.4.2.1	Dusty Plasma Exosphere Modeling		
EC-1	Progress Report	9/30/08	On schedule
1.4.2.2	Best Practices for Avoidance of Dusty Plasma Electrical Hazards		
EC-2	Progress Report	9/30/08	On schedule
1.4.3	Simulant Characterization, Definition, and Requirements		

Many managers track tasks with spreadsheets. The process is time consuming for managers.

Figure 1: The Dust Milestone tracking table was centrally "rolled up" based on feedback from emails, phone calls, and other spreadsheets.

THE PILOT – NASATEAM.COM

For the pilot, Virtual Global created a TeamLeader environment for the Dust Management project at **NasaTeam.com**.

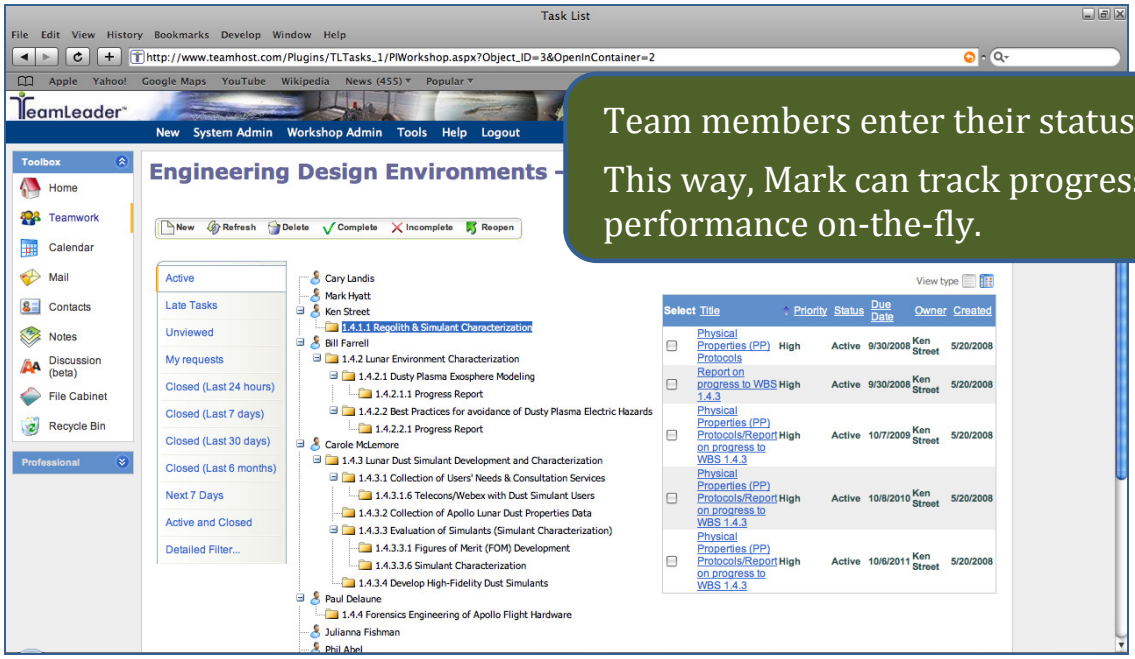
Here, all available information related to the project was consolidated into a knowledgebase. Then, the MS Project schedule was imported to populate initial task assignments, and the details were updated to reflect the current Milestone Tracking spreadsheet. This process required approximately two weeks effort. Team members were oriented to the new system and the TeamLeader pilot was initiated.

The Automated Follow-up service was started, a feature that automatically sends emails to team members who have late or upcoming activities. Team members began receiving emails about tasks that were overdue and upcoming, and quickly became more engaged in the project. This prompted the team members to update their tasks as needed and coordinate with Mark as needed about changes and/or issues. The pilot continued to run for several weeks, and was eventually shifted into production. The following pages show the results and benefits.

TEAMLEADER AT NASATEAM.COM

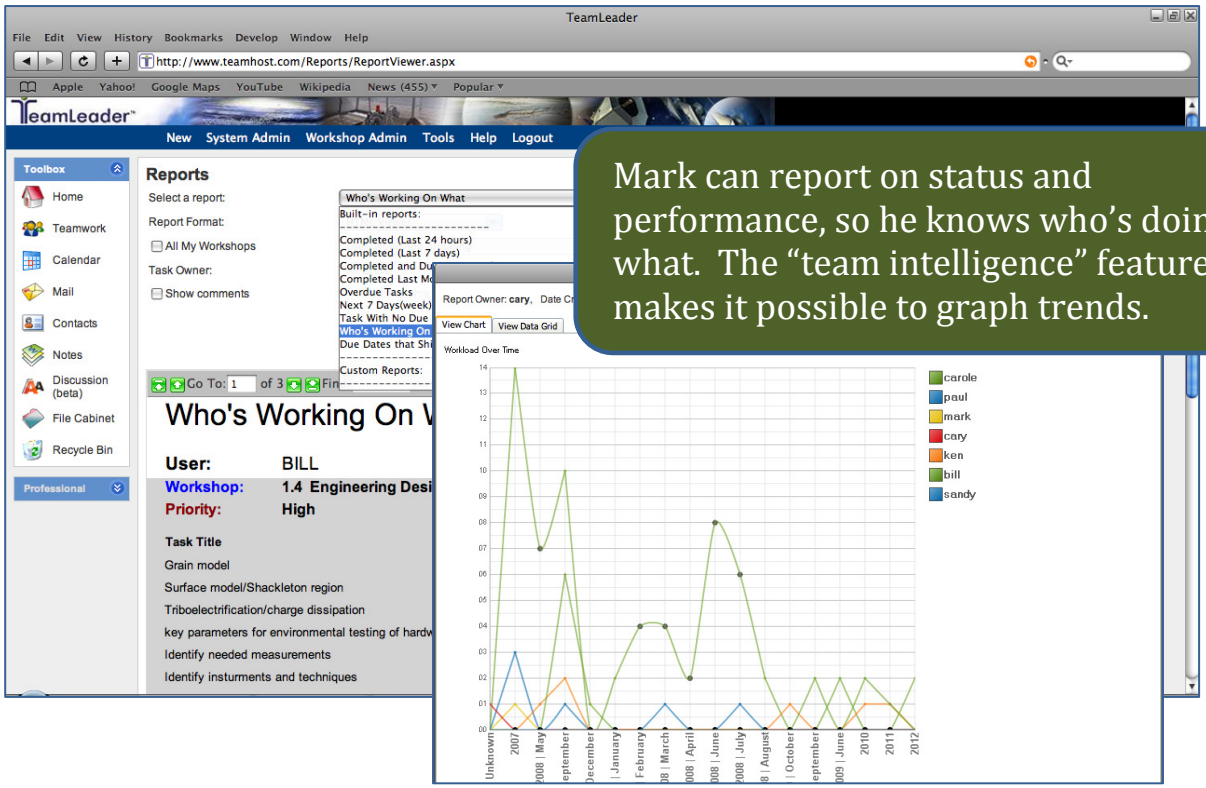
The following screenshots demonstrate new capabilities, which didn't previously exist:

1. Milestones, Progress and Performance



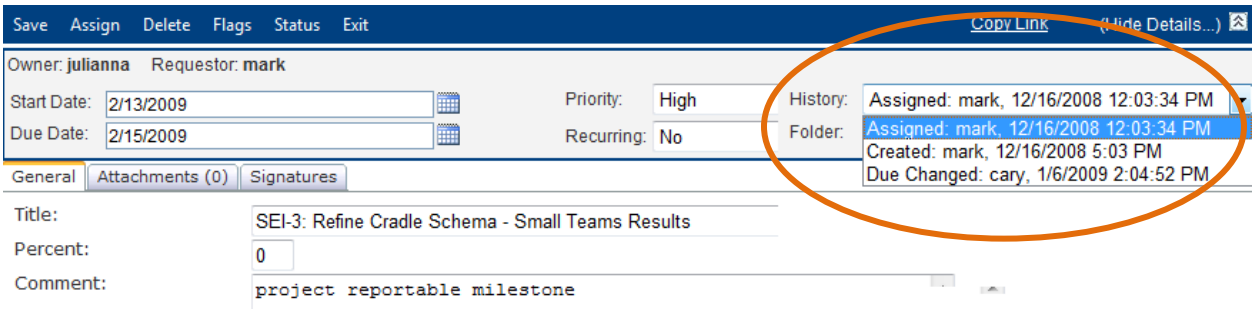
2. Performance Knowledgebase

3. Metrics, Reports, and Intelligence



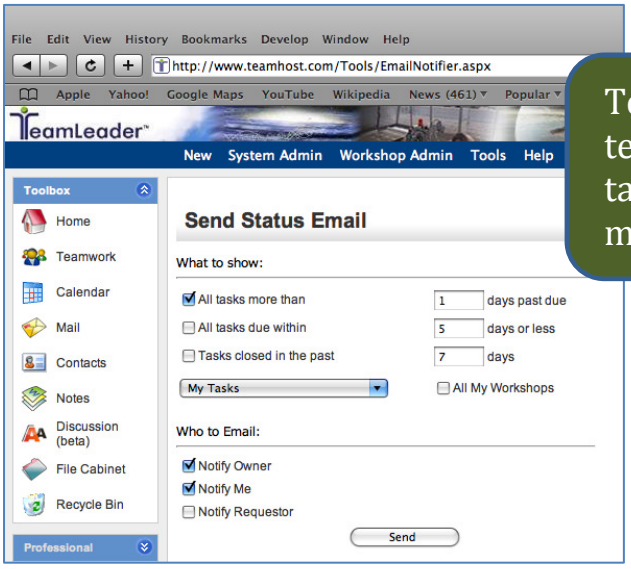
Mark can report on status and performance, so he knows who's doing what. The "team intelligence" feature makes it possible to graph trends.

4. Historical Reporting



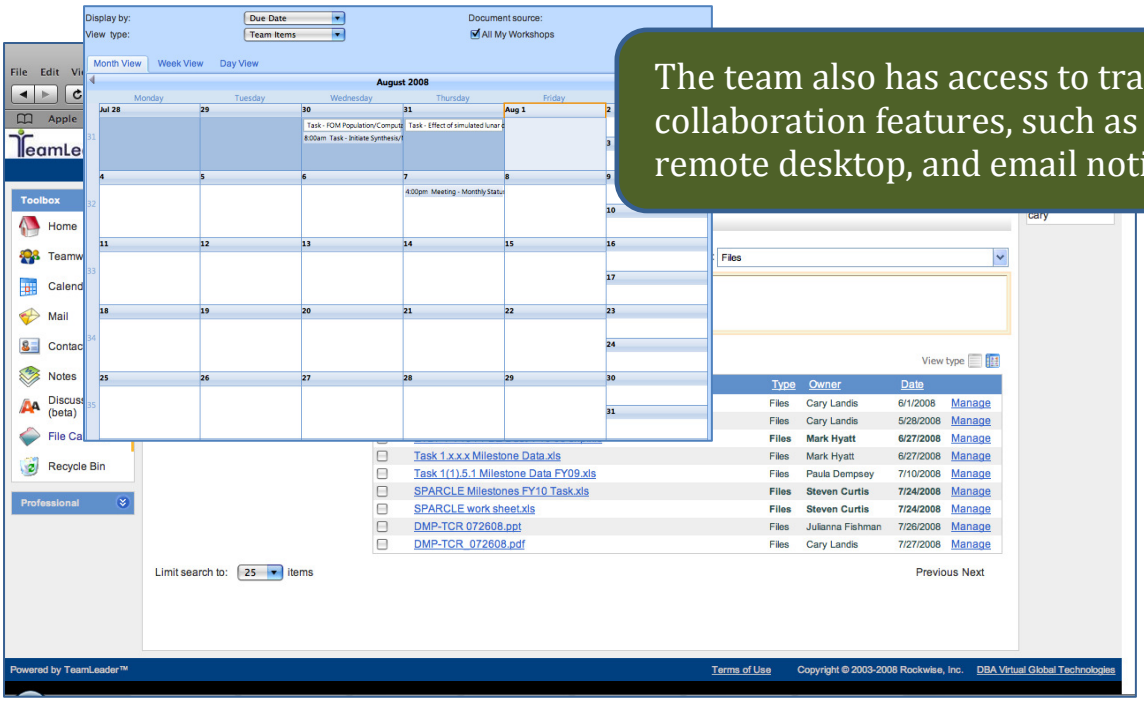
Mark can report on the history of who did what and when. This is useful for performance reviews or "what went wrong" reporting.

5. Automated Follow-ups



TeamLeader automatically sends emails to team members who have late or upcoming tasks. This was previously a tedious management activity.

6. Collaboration Support



The team also has access to traditional collaboration features, such as for mail, remote desktop, and email notifications.

SUMMARY (MISSION PERFORMANCE)

In today's complex workplace, NASA manager need more than social tools. They need ways to manage productivity, performance and results. The TeamLeader implementation for NASA Dust Management goes beyond social collaboration into the world of performance and results, yielding a variety of benefits:

1. **Save Time –** Managers can save considerable time rolling the emails into reports. Instead, team members were asked to mark their tasks as completed directly in TeamLeader rather than sending emails about what was done. Mark also saved time tracking down team members who were late, since TeamLeader auto-generated the reminders.
2. **Stay more in the loop –** Managers will stay more in the loop about day-to-day progress and issues, including completed, upcoming, and late tasks. This is largely due to email reminders, and also due to the task tracking and reporting capabilities.
3. **Improve Performance –** Team members frequently update their tasks to avoid overdue task notifications. As a result, they receive more notifications about completed tasks.
4. **New management capabilities** were made available, which previously did not exist:

New Capability	Email / Spreadsheet	TeamLeader™
Consolidated project knowledgebase		✓
On-the-fly team/performance tracking		✓
Calendar view of monthly activities		✓
Anytime/anywhere status reporting		✓
Consolidation of documents		✓
Automated email follow-ups		✓
Performance monitoring and graphing		✓

About Mark Hyatt:

Mark Hyatt is an Engineering Project Manager at Glenn Research Center, responsible for the Dust Management Technology Development Project, within the Exploration Technology Development Program. He is a member of the Advanced Capabilities Projects Office at the NASA Glenn Research Center in Cleveland Ohio, where he has been employed for 22 years. His prior work includes research and development of advanced ceramics and composite materials for application to aerospace propulsion systems, and 15 years experience in managing aerospace research and technology development projects.

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