Paper PD04

Moving Cheese:
How to Lead Traditional Programmers on the Journey to a New World

Steve Noga, Rho®, Chapel Hill, North Carolina, US
Melissa Tanner, d-Wise, Morrisville, North Carolina, US
John Leveille, d-Wise, Morrisville, North Carolina, US

Abstract

How successful will your system implementation project be if your employees don't embrace it? Organizations implement innovative technologies for high-level business reasons but adoption of those technologies lies at the employee level.

Rho is a full-service contract research organization that was founded in 1984. Changing Rho's platform for statistical analysis and programming was a major undertaking for Rho, but making that switch easy for hundreds of programmers and statisticians was even more daunting. Easing the transition for employees requires a carefully planned and managed approach. Strategic planning and risk management empower an organization's leaders to address the issues that arise when change meets human nature.

We present a collection of observations and best practices from a project where over 200 programmers and statisticians moved from a workstation-based SAS® environment to a centralized server platform controlled by SAS Grid Manager. Our lessons learned will help you make strategic plans to manage the change of your next system implementation project.

And It Begins: Rho's Transformation

The Project

- What: After 30 years of only using a workstation-based SAS computing environment, Rho was poised to transition to a centralized SAS grid platform.
- Who: Rho employees included 200 SAS users such as programmers, statisticians, data managers, and project managers. The change would also impact their management and other stakeholders within the organization.
- When: A 12-month project, August 2014 – August 2015.
- Where: Rho, Inc. located in Chapel Hill, North Carolina.
- Why: As a result of Rho's growth, managing a workstation-based SAS environment had become unwieldy and risky in multiple ways.

Rho's leadership understood that changing its statistical analysis and programming platform would be a major undertaking for the organization. A project team was formed including Rho leadership, key Rho personnel, and consultants from d-Wise providing SAS server architecture and administration expertise.

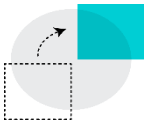
The project team was confident that it understood how to design, build, validate, and deploy the SAS Grid Manager software. However, minimizing the impact of this new software on hundreds of programmers and statisticians seemed daunting to the project team and Rho leadership. The looming question was how to reduce loss of efficiency that was likely to result as users and projects encountered this change.

Rho's reputation and high-level of repeat customer business spoke to the magnitude of risk if a poorly managed system rollout were to impact the special relationship between Rho and its clients. The project team knew that frustrating employees to the point of resistance, impacting project timelines, or impacting quality would not be acceptable.

How do we get where we want to be?

Organizations implement innovative technologies for high-level business reasons but adoption of technologies lies at the employee level. Strategic planning and risk management empower an organization's leaders to address the issues that arise when change meets human nature. Change management practices facilitate the buy-in of employees for the desired change and provide a life cycle whereby an initiative can bend without breaking and ultimately succeed.

To begin a change management initiative:

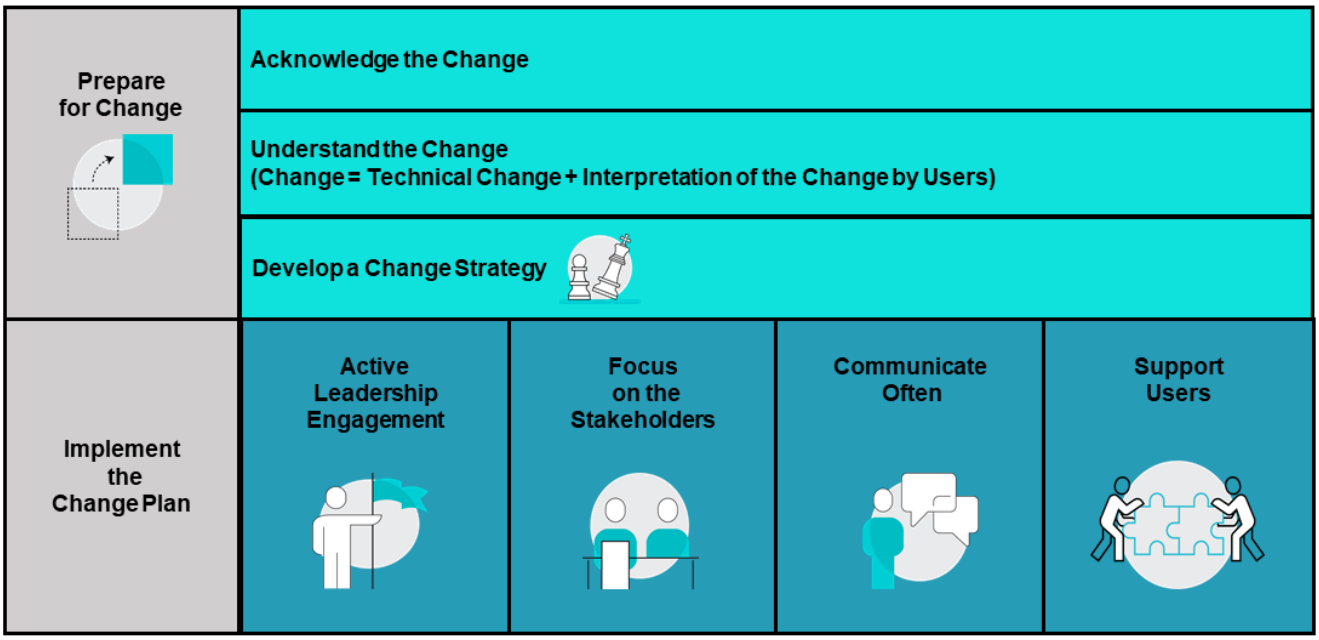


- Confirm leadership engagement and support for the change.
- Obtain change management expertise to lead your change initiative.
- Focus your strategy on employees from the outset of the project.
- Plan for sustained delivery of change management throughout the project.
- Budget appropriately.

Rho knew its SAS users but was unfamiliar with change management best practices. With the support of d-Wise, the project team was expanded to incorporate change management professionals who developed a change management plan that leveraged the willing support from Rho's leadership.

Change Management Framework

The project team settled on a strategy and plan for change management that aligned with Rho's corporate culture and the understanding of its employees. The strategy was constructed from four pillars: leadership engagement, a focus on the stakeholders, communication, and user support. Within each pillar, care was taken to leverage natural behaviors and paradigms existing in the Rho workplace, processes, and culture (i.e. a strong tendency to follow the lead of experienced programmers).



Preparing for the Change

Prepare for Change: Acknowledge the People Change

Before a change management plan can even be considered, leadership must acknowledge that a change is occurring. Many times, organizations address the technology change and the process change but they do not address the people change. In the case of Rho, leadership understood very well that employees must be guided on the journey to the new world. They will not go there on their own. Rho's strong employee-centric culture put people first when the decision to move to a SAS grid was made. Rho values its employees as intelligent and capable individuals, and the project team realized that the change management plan should echo these values.

Prepare for Change: Understand the Change

Rho and d-Wise worked together to find the best path through the change for Rho. d-Wise consultants learned about Rho's processes and current technology and spent time with a select groups of Rho employees to hear directly about their day-to-day work. These learnings were used to tailor the design for the new SAS grid environment, and they informed the change management and system rollout plans.

Change highlights included:

1. Replacement of Display Manager

The most daunting change for the user community was the programming interface to SAS. The majority of Rho's SAS users used Display Manager for writing SAS code. Since Display Manager was not going to be available with the SAS Grid Manager architecture, almost the entire user base was going to have to learn a new way to interact with SAS.

2. Adapting legacy programs

Rho had a large library of functioning legacy programs that needed to work on the SAS grid. It was understood that not all PC SAS code statements and integration points with other software would work on the SAS grid. The magnitude of this change needed to be measured by 1) identifying all non-functioning statements and/or interactions, 2) identifying the percentage of existing programs that would need to be modified to work on the SAS grid, and 3) creating an operationalization plan to identify, track, and modify these programs.

3. Transition of projects to the SAS grid

The project team would need to develop a comprehensive list of every project that was going to be transitioned to the SAS grid. Decisions about which projects to transition to the SAS grid were informed by details such as the current version of SAS that project was using, project contract terms obligating Rho to use a specific SAS version, and the active or archived status of the project.

Prepare for Change: Develop a Change Strategy

After the change is understood, a strategy can be developed for addressing the change, decreasing the impact of the change, and reducing business risk related to the change.

Rho's change management strategy reflected these change management themes:

1. Eat the elephant one bite at a time

The total portfolio of projects at Rho was quite large and divided into different industry sectors. After meeting with sector leaders, considering the differences in each sector's needs, and contemplating the risk of a one-time move of all projects to the SAS grid, it was decided that projects would be grouped into releases called cohorts. The cohorts generally consisted of subsets of the sectors that naturally divided up the total Rho project portfolio.

2. Leverage organizational strengths

Rho's strengths lie within their employee-centric corporate culture and strong leadership involvement. Rho's project delivery and change management plan remained true to the values and strengths of the organization.

3. Change management drives the project timeline

The project team anticipated learning from users' experiences under real world conditions so the cohort release schedule was built with change management in mind. The projected project timeline included the delivery of the change management plan and allowed for flexibility to adjust when issues were encountered.

4. Communicate with transparency

There is some user resistance with any change. The project team understood there would be some user resistance. To directly address possible resistance and to provide awareness to all stakeholders throughout the project, the project team was committing to communicating as transparently as possible during the transition.

5. Limit users' ability to create workarounds or to rely on previous ways of working

The project team understood there would be some natural desire to do things the old way. The change management strategy included preventing the use of PC SAS on each machine starting a few weeks after the cohort's transition date. As a safety net to protect against the unknown technical issues, the change management plan included a method of special request and approval to continue the use of PC SAS for special circumstances.

6. Allow for flexibility and adapt the change management plan

The project team expected to learn and understand more about the change with each cohort roll-out. They expected to adjust the change management plan based on additional information including information about technical issues, user resistance, and stakeholder concerns.

Implementing the Change Plan

Once the change management strategy is defined, it is time to create a detailed change management plan and implement the change. The project team created a change management plan document containing the details and timelines for specific activities revolving around the four pillars of Rho's change strategy. This plan was integrated with the overall project plan to ensure that the change management effort was integrated with the system build project plan.

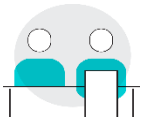
Implement the Change Plan: Active Leadership Engagement

It isn't always easy to achieve a strong level of leadership engagement, but it is extremely impactful and valuable to the overall success of most change management efforts. Rho's leadership realized the first pillar of the change strategy easily by enthusiastically supporting the change management process. Early on, they declared change management a priority within the SAS grid project, they provided financial support, and they were active and willing participants in the project.

A high-level of involvement was evident at multiple points in the project:

1. Leadership was present and visible during project milestone meetings.
2. Leadership was a voice of communications about the project.
3. Leadership participated in business decisions such as the decision to transition to the SAS grid in a phased roll-out.
4. Leadership was involved in issue management and listened to the concerns of employees.

Implement the Change Plan: Focus on the Stakeholders



Engaging stakeholders is important because it can uncover a wide range of valuable information about the project, the people, and the context for change. Honest and open interaction with stakeholders is the first step in building relationships that can become assets in managing change throughout the project. Engaging with stakeholders provides the project team the opportunity to define success through the eyes of their stakeholders and thereby understand potential areas of resistance and needs for support.

When engaging with stakeholders, consider these principles:

- Getting to the root of stakeholders' needs can be difficult.
- The request for stakeholder feedback should be genuine and low-risk for the stakeholder.
- Obtaining feedback may need to be a repeated process to obtain stakeholder's true concerns.
- Stakeholders should feel free to ask questions and have a forum to do so.

Rho's first tactic for focusing on stakeholders was conducting feedback sessions with SAS users. These feedback sessions were conducted by the project's change management consultant. The goal of the sessions was to hear concerns and suggestions from users as well as communicate the relevant information that was available at the time. These sessions were received with a mixed level of appreciation by Rho SAS users. As expected, some users were exhibiting early change resistance.

User attitudes ranged from "just tell us what we have to do – we may not like it but we'll do it" to "we're grateful you're meeting with us" to "whatever". During these sessions, the change management consultant identified patterns and stakeholder needs. These patterns and needs were then incorporated into the communication plan and led to changes in the phased roll-out plan. Based on concerns heard during the feedback sessions, the project team shifted the order of the sectors, grouped people by their project assignments, and paid close attention to the schedule of project deliverables.

The project team also learned that individual needs can differ within stakeholder groups. As the earliest transitions occurred, issues arose. Users were faced with issues of some programs not being able to run on the SAS grid and issues with the SAS Display Manager replacement (Enterprise Guide and/or SAS Studio). As the project team worked to resolve issues, some users experienced high-levels of frustration. Looking more closely revealed that users without prior experience using one of the new SAS programming interfaces were experiencing the highest levels of frustration. In response to this observation, the project team created a 'war room' to allow users to interact with the programming interfaces. d-Wise consultants observed the user interactions, obtained feedback, and responded as questions and issues arose. This feedback was invaluable as it was used to inform the creation of training and support material and shape the definition of success for the project as a whole.

Implement the Change Plan: Communicate Often

Communication is a vital element of any change management plan. Successful change management depends upon managing stakeholders' expectations as they transition through the change. Communicating the right information at the right time will reassure people. Carefully crafted communication will impart a sense

of positive progress along with the reassurance that those who are leading the way are smoothing the path for others to follow.

Here are some communication principles to keep in mind:

- Communication should include what is known about the project and address what is still unknown. Stakeholders can be informed about what actions the project team is taking to address specific questions and the timing of when answers should be available.
- Communication should be provided often and by methods primarily used by stakeholders.
- Communication is best to come from leadership, direct managers, and the project team.
- Communication from leadership should address business reasons for the change.
- Communications from direct managers should address the "what's in it for me?" question, the personal impacts of the change, and how the job may change.
- Communication from the project team should address updates on project status and timeframes for the transition.

Once the decision to move away from PC SAS had been made, Rho leadership sent a communication to the entire company notifying them about the decision. This communication shared what was known and let the company know that more information would follow.

The project team used a variety of communication methods with emphasis on those methods preferred by stakeholders including "desk to desk" communication. This type of preferred communication method dove tailed with the successful use of peer-to-peer support post transition to the SAS grid.

One week before each cohort began its transition, the SAS grid project team met with all cohort members. This meeting was used as a review of the processes and procedures that were going to occur the next week. A checklist of to-do items was distributed along with identifying the different avenues available to the cohort for issue resolution. These meetings also offered the cohort to an open discussion time about their upcoming transition with the SAS grid project team.

Implement the Change Plan: Support Users

The fourth pillar of Rho's change management strategy was to provide user support. It may seem self-evident that any system implementation project would include user support. However, it is much more effective and impactful to users if training and support are planned within the context of an overall change management strategy. Approaching training and support in this manner elevates the focus from basic tool training and problem resolution to user effectiveness and overall system adoption. Plans become proactive rather than reactive and users experience support as a means of pain prevention rather than pain relief.

The project team created a simple, proactive plan for supporting the users comprised of the following four actions:

1. Training and tip sheets for SAS users.
2. An onsite help-desk manned by d-Wise SAS Grid Manager specialists and SAS programmers.
3. Identification of peer-to-peer support, "Power Users", who would be available to provide hands on help.
4. An email distribution list that contained the Power Users and every employee in the cohort to be transitioned.

Training and Tip Sheets:

As the early cohort transitioned occurred, a series of "Here's how you do it now and here's how you will do it on the grid" documents had been created which later became the foundation for the training materials for later cohorts. These documents assisted users with accessing and running programs on the SAS grid.

d-Wise provided an experienced SAS Grid Manager instructor who worked with the project team to develop a training course for Rho users. Rho made training attendance mandatory for all SAS users. The training covered the basics of SAS grid computing and how to access the SAS grid utilizing Enterprise Guide and SAS Studio. A videotaped version of the training was posted to the online library developed for this SAS grid project. The instructor also created a series of online how-to presentations and videos about SAS grid topics not covered in the training course. Those videos were made available to users in the online library.

Help Desk:

A special project help desk was available to users during work hours to address issues with using the SAS grid, Enterprise Guide, and SAS Studio. The main Rho help desk was prepared for the likelihood of certain frequent questions based on d-Wise's experience with SAS Grid Manager implementations and the questions received from users during training at Rho.

The online knowledgebase began to grow with every new issue and resolution recorded. The project team found that the special project help desk was not being utilized as often by later cohorts as it was by the earlier ones, so the project help desk was dropped down to an as-needed basis.

Power Users:

Early in the project timeline, the project team identified a group of highly skilled SAS users from each of Rho's sectors and dubbed them the "Power Users". The individuals selected shared the similar characteristics and skills. They were longtime Rho SAS users, used SAS every day, were senior in their respective roles, and had a high frustration threshold. The project team introduced this group of SAS users to the SAS grid in a pilot environment and encouraged them to blaze a trail for their coworkers.

The Power User role was very successful as questions and issues were quickly raised then answered and resolved. The Power Users helped determine which issues should be routed to the main Rho help desk. Since the Power Users were peers of the other SAS users, they understood the needs of the larger community, and they could leverage their pilot environment experience to support the broader transition, enabling the early adopters and encouraging the reluctant, late adopters.

Email Distribution List:

As the project team phased out and Rho staff took over to complete the adoption of the SAS grid, Rho utilized an email distribution list to communicate. The email distribution list quickly disseminated issues and resolutions to all employees going through the SAS grid transition. The chatter on the email distribution list helped the users realize that the quickest way out of a problem was to toss the problem to the power users and their peer group. The distribution list provided a forum for asking questions and users quickly came to understand that there were that there were no stupid questions. This method of asking for help was new to Rho but it was very effective at leveraging the Rho team-focused culture. Many SAS users stepped up repeatedly to answer their coworkers' questions.

Conclusion

Organizational transformations are successful only when employees embrace the change they are being asked to make. If employees are helped through the change process, the organization is more likely to achieve the value expected from the change.

Effective change management is embodied in a solid change strategy and thoughtful planning. When change management focuses on leadership engagement, stakeholders, communication, and user support, the normal stress of the change process is reduced resulting in a better chance for project success. Rho's leadership understood this concept and wisely approved a full change management initiative to accompany the SAS grid implementation project.

The value of change management is found in both the value it brings to employees and ultimately the longer-term value it brings to the organization. By listening to the employees, Rho's project team could anticipate the hurdles that SAS users would face and provide SAS users the information and skills needed to perform successfully in the new environment. By smoothing the change process for employees, Rho recognized gains in increased proficiency, speed of adoption, and ease of use of new technology that ultimately lead to overall project success.

Postscript

Rho's cohort transitions remained on track as originally planned, even after additional time was spent on the pilot environment portion of the project. Barring any unseen event, the project team felt confident that the project would be completed on time.

The SAS grid had been running smoothly during the implementation phase, the users had become more proficient with the interfaces, and the bulk of non-grid compliant code in the legacy programs had been successfully converted. With a month remaining before the fully completed move to the SAS grid, the project team had one more decision to make.

Rho's customer focused culture emphasizes the delivery of Rho's values of quality and stability to its customers. Based on this strong organizational focus and the desire to ensure business continuity to its customers, the project team recommended that the organization renew its PC SAS license at its current allotment size for one more year. The additional year of licensing PC SAS, would allow the project team and SAS grid users time to become more comfortable with the performance and reliability of the SAS grid.

Rho's leadership approved this recommendation. In year one on the SAS grid, 85% of the PC SAS licenses sat unused but available in an emergency. In year two on the SAS grid, Rho reduced its PC SAS licenses to only what little were needed to run the remaining PC legacy projects and systems that would never transition to the SAS grid.

Contact Information

Steve Noga
Rho
Chief Strategist, Technology R&D
snoga@rhoworld.com

Melissa Tanner
d-Wise
Change Manager
Melissa.Tanner@d-wise.com

John Leveille
d-Wise
Solution Architect
John.Leveille@d-wise.com