

Integrating Software by Integrating People

Todd Little
Landmark Graphics
tlittle@lgc.com

Abstract

The mission of Landmark Graphics was clear – develop integrated technical software solutions for the oil and gas market. In short order it became obvious that in order to develop integrated solutions it would be necessary to integrate the software development teams. Several synergistic initiatives were undertaken to encourage cross team integration in order to support improved software integration. The results from the successful integration catapulted Landmark into a dominant market leading position that provided substantial revenue growth.

1.0 Introduction

By 1996, Landmark Graphics was already a leading provider of software applications in oil and gas exploration. It had grown from a startup just 15 years earlier. During this time Landmark had grown via acquisition resulting in a collection of corporate cultures separated by prior organization, geography, product line and business domain. At the time Landmark had six primary development centers in Houston, Austin, Denver, Tulsa, Calgary, and Aberdeen.

In most cases, the software acquired via the acquisition was already the market leader. While providing strong technical applications was valuable, the real value proposition to our customers would come from providing integrated solutions that would substantially improve our customer workflows.

The visionary leadership realized that the best way to create integrated solutions was by integrating the people, an excellent example of leading a collaborative environment.

To meet the challenge of producing integrated solutions, the leadership team took a multifaceted approach. They consistently emphasized two items: the vision of delivering the i^2 (integrated information) enterprise, and the importance of making Landmark “The Place to Work.” To introduce the workforce and

seed the corporate vision, all new employees throughout the world were brought to the Houston headquarters and inducted into a week long program called “Creating the Future.” It was soon recognized that seeding the vision was not enough--it needed to be fed.

To facilitate the spread of the vision through the integration of the people, several activities were introduced and initiated (see Table 1). On a weekly basis, the company held Fridays@4, company gathering events at each of its locations. These events provided refreshments and typically included a short talk by an employee to inform the others what was happening in their area. On a quarterly basis, all the product and project managers traveled to a central location to meet, discuss their successes and challenges, and coordinate their products and their schedules. And lastly, on an annual basis the entire development organization met for a week long World-Wide Developers’ Conference. This conference provided the glue which eventually enabled Landmark to build a dominant market position via integrated solutions.

Event	Frequency	Demographics
Creating the Future	Once upon joining	Everyone worldwide
Friday at Four	Weekly	Everyone at a local geographic office
Product Manager Meetings	Quarterly	Project Leaders
Developers’ Conference	Annual	Everyone in Development and Support

Table 1

2.0 The Vision

The starting point for the organization was to clearly articulate the vision. Landmark did what many companies did and formulated a mission statement:

“To lead in creating a new era of finding and managing oil and gas reservoirs through integrated information solutions that provide a dramatic business advantage for our customers.”

The problem is that many companies think they are done once the mission statement is written. For Landmark it was an important step to articulate the mission, but for them it was only the beginning. It was repeated constantly and served as a filter when project decisions needed to be made. Everyone in the company knew that Landmark was going to get its competitive advantage through integrated information solutions. All employees began to realize the company was serious about their mission.

One of the next steps was to produce a white paper to further spell out the mission. Here is an excerpt from the white paper written by Bob Peebler, the CEO at the time:

For years, the petroleum industry has been "informationalizing" many aspects of the business, investing hundreds of millions of dollars in computing technology. Many executives, however, haven't seen the productivity gains they had expected.

One reason is that most organizations have only applied information technology to specific tasks rather than whole processes. Instead of significantly changing the way they work, they have simply automated old methods.

Informationalization, therefore, is necessary but not sufficient to achieve dramatic improvements in productivity. Integration, on the other hand, requires whole new ways of working.

"Integration" simply means concurrently combining raw data and information from all parts of an organization and connecting different peoples' perspectives, expertise, and ideas to make better business decisions in less time

3.0 Seeding the Vision

A vision or mission is meaningless unless used as a filter to make all corporate decisions. This means that every employee fundamentally gets the mission in a manner that they can appreciate. Landmark chose to initiate the process by inducting each new hire, including those that came in via acquisition, into a weeklong program called "Creating the Future." During this program the employees from around the world were flown to the Houston headquarters and introduced into the organization and the mission. This program included several social events so that new hires got the opportunity to meet and get to know other new hires and seasoned employees. It was a bit like drinking from a fire hose, but exposure to the company and the culture was critical. The seeds were planted for employees to be able to deliver.

4.0 Feeding the Vision

There were two complimentary strong supporting components of the strategic vision: a declaration to make Landmark "The place to work," and the recognition that the best way to develop integrated software solutions is to integrate the people. Consistent with these philosophies, several structured events were held to foster collaboration, a key to integrating people.

4.1 Weekly Friday@4

One particular tradition that had been in place since the company's founding was the weekly Friday at Four social gatherings. Every Friday at 4pm all employees were encouraged to meet in the atrium of the building. These events were held at each of our geographic locations. To encourage participation, beverages and appetizers were provided. On most occasions a speaker from inside the company was arranged to talk briefly about what was happening in their area. Customers were welcome to attend the event and it was not unusual for customers to arrange meetings just before the event so they could join in the fun.

This was a great time to meet up with people from other departments and have a mixture of social and business conversations. These events enabled and encouraged frequent conversations within a local geographic location. I can remember several scenarios where just seeing another individual reminded me that I had a question that they could probably answer. Invariably, either they had the answer or could lead me

down the path that saved significant time or effort. The official event lasted 30 minutes, but typically a significant group of people stayed around to talk for an hour or more.

4.2 Quarterly Product Managers Meetings

Upon declaring a need to drive towards improved integration solutions, in 1995 the company initiated a program to have face to face meetings of the Product and Project Managers on a quarterly basis. These events brought the team leaders together to discuss their integration and project coordination successes and challenges. They were usually two days in duration and were usually held offsite so that nearly everyone traveled to the event. A key to the effectiveness of these meetings was the social events held during the evening in between the two day meeting. It was during those evenings that people got to know what was going on at other sites in order to create a shared responsibility for the overall integration solutions.

4.3 Yearly World Wide Developers Conference

The boldest move was the establishment of a yearly World Wide Developers Conference. All employees involved in designing, developing, testing, and supporting the software solutions were required to attend this event. The four day conference was held at a resort hotel sufficiently far away from our office locations that all employees were expected to stay at the hotel. The first conference was held in 1997 at the conclusion of the first synchronous release integration solution. This made for both a celebration of the success and a great opportunity to re-establish the continuation of the mission. During day one of the event, senior leaders laid out the strategy and the immediate roadmap to reinforce the vision and mission. The remaining three days allowed employees to present their work in a manner that encouraged sharing and collaboration. Outside experts were brought in to present new ideas. One such outsider was Norm Kerth back in 1998. Norm wrote his experience of the conference (see Appendix: Take'n Care of Business) which captured the essence of the fun and the exploration that was fundamental to the conference experience. Multiple social events were scattered throughout the conference to ensure that there were opportunities to meet with people from around the globe. We held a number of sporting events such as volleyball, golf, and ping-pong. These sometimes created geographic or product line rivalries,

while at the same time introducing people that had not met before. The culmination of the event was a banquet followed by an awards ceremony. The awards were both serious and humorous. Because we wanted to recognize and honor our corporate culture, we created cultural awards to go along with top performance awards for both teams and individuals.

At the first conference that we held, people really didn't know what to expect. People got together, we had planned events, and there were a few spontaneous events that sprung up. In year two people were a bit better prepared. We had a web site with a simple bulletin board for people to post ideas. Ideas emerged. For example, a few people indicated that they would bring musical instruments. This group self organized and played outdoors during the evenings. By year three, people really started to look forward to all the extra events the conference enabled. There was also a better understanding of skills and a band started to form. Eventually it became a conference tradition.

5.0 Conclusion - Delivering Results

Figure 1 shows an overall framework that matches the approach used by Landmark. A corporate culture of collaboration played an integral part in allowing the organization to develop, articulate, disperse and deliver on a strategic vision.

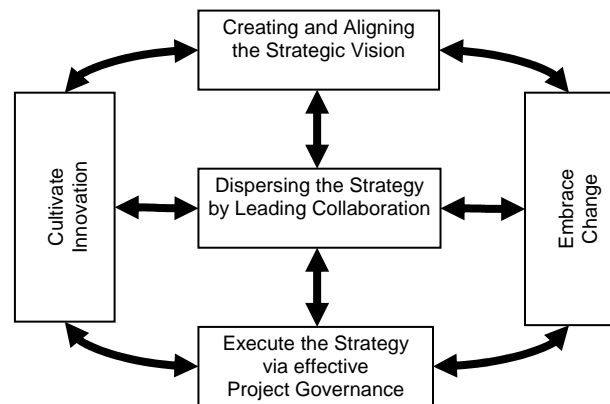


Figure 1

It is important to bring together the synergy of the purpose, the corporate culture, and the ability to deliver on that purpose. Without an aligned purpose, a culture of collaboration is not effective. Figure 2 shows the relationship between purpose and collaboration. An environment with low collaboration and unclear purpose leads to anarchy and chaos.

Collaboration without clear purpose can end up with a Kumbayah culture where people are more concerned with the health of the culture and with relationships for relationship sake than they are with the success of the organization. This is not a sustainable environment as the organization must be successful to enable the culture. A focus on purpose without a collaboration culture leads to command and control. This approach can be effective for limited scope and duration, but does not engage the entire organization when working with complex issues that require multiple points of view. Effective collaboration is only attained when there is organizational focus on the purpose and the structure and culture to support collaboration.

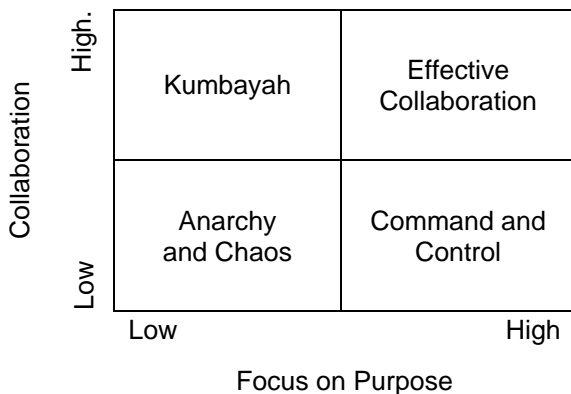


Figure 2

The bottom line is that Landmark was able to sustain double digit growth in revenue over the past ten years. Market share in integrated solutions grew significantly over this time. The investment in the annual conference was about 1% of the annual development budget. When looked at as an individual budget element it appears to be a substantial expense. However, when looked at from a value return that enabled significant growth in both revenue and market share it was a relatively small investment with a highly profitable return on that investment.

Appendix: Take'n care of business

A trip report by Norm Kerth, Keynote speaker at the Landmark Developer Conference in 1998.

Imagine sitting a room with all the software developers in your company -- 500 people from 13 locations from all over the world. Spotlights and roaming the room, the strobe lights are ready to flash, video cameras are ready to project someone's face on the dual giant screens. The sound system was booming "Take'n care of business."

You think "this isn't a technical meeting -- it's more like those boondoggles the sale group goes on, except we've been working hard."

You have spent the last three days attending technical sessions by your peers, and spending time with industry experts -- attending their special courses and chatting with them during meals and the free time.

Of course, your leg hurts a bit because you played a bit too much volleyball with a colleague from Singapore. It was good to finally meet her; you had been trading e-mail messages and sharing code for the past 12 months. Before this meeting, you thought she was this terse know-it-all who seemed to find fault with your work, and after a bit of reflection, she was always right.

Two days ago, she had become a friend. You discovered she had 25 years of experience and clearly knew something about programming that was deeper than what you would find in your Java handbook. During a walk on the golf course, she had explained strong cohesion and weak coupling -- a few ideas from the seventy's that don't seem to be discussed in the 90's.

Now a new way of approaching software design was wandering around in your mind. You knew her secrets, you were ready to rework your latest assignment and send it to her. You thought you might "spike the ball in her face" this time.

You and your thoughts are interrupted as your team, sitting around the banquet table, gives a brief cheer. You look up at the screens to see that your group has been nominated for the "Most Improved Software Development Process" award. Your manager had set this as a goal a year ago -- to focus the entire team on improving how you worked on software.

Every week he discussed "our process" in his status meeting, he wanted us to try some stuff from the books you were reading and you had to modify it a bit to fit your environment. Yes, you needed to spend more time in those boring meeting talking about requirements, when you'd rather be having fun coding, but you were finding ways to build simpler products and doing a better job of hitting the schedule. Maybe it was worth it. Anyway, your manager was excited about the nomination.

A group from the Denver office is also nominated. Tough competition. They had visited about five months ago to swap ideas. They had their act together on requirements -- they even had "users" on their team, but you were ahead of them on making code reviews happen. Your whole team is nervous as the vice-president opens the envelope -- and announces YOU'VE WON.

Your manager is jumping up and down yelling YES! YES! Your team is standing and congratulating themselves. You feel pats on the back and discover you are standing too. The strobe lights are flashing, you are in the spotlight, the theme from Rocky is playing and your manager is signaling for the whole team to come up on stage with him. A bit disoriented, you look around the room and everyone is giving you a standing ovation. As you walk by the Denver office table they give you "high-five's." You catch a glimpse of yourself on the giant screen as you walk on to the stage; vice presidents from all over the world surround you and shake your hand. As you walk past the president of the company, you discover he knows your name! You think, easy, my name tag, but you look and discover you left it in your room.

Back at the table your manager passes around the trophy, and you look at it and notice it was not cheap. The company spent some money on this award and you realize this is a big deal.

As the adrenaline starts to wear off, you wonder what award your team might try for next year -- Best Integration, Best Quality, Best Innovation. Maybe with the changing market place, the company will need a new focus and invent a new category.

Is this a fantasy? Not for the people at Landmark Graphics (<http://www.lgc.com>). I just spent a fascinating four days visiting with this special community. I watched them freely talk about the hard stuff they needed to work on: integrating products and

processes of newly acquired companies; learning to build software in teams distributed across the world; transitioning from UNIX to Windows NT; coping with the aftermath of a COM vs. Java battle.

I had a number of interesting discussions on using Myers-Briggs in the work place, but that was just the beginning of peopleware related interests. I watched a vice-president give a presentation on team building, by weaving concepts from transactional analysis into the work setting. I wish I'd had time to discuss Family Systems Theory with him, but I found I needed to spend most of my time talking about "how to change a company" with people at all levels of the company. Developers wanted to know how to improve their postmorta practice, their distributed architecture, software patterns, and how to take their ideas and sell them to management.

Had I left before the banquet, my impression would have been, "these people seem to be doing many things right. I wonder how they got to that stage." After sitting through the banquet, watching a milestone reached and the community's reaction, I can begin to imagine what happens every day at work. I suspect Landmark Graphics is a good place to work -- they have problems like every where, but here they are talking about the problems and doing something about them. My guess is that a year from now, there will be new problems to work on because today's problems have been dealt with.