Emerging Partnership Strategy at Sandia National Laboratories

JEFFREY W. AMOS, PH.D.
IC² Institute, The University of Texas at Austin
2815 San Gabriel
Austin, Texas 78705
jeff@icc.utexas.edu

Abstract
Research has linked the ability to partner and use alliances as a competitive tool as a critical component of agility. Companies that are able to quickly couple and uncouple themselves with other entities as needed demonstrate agile characteristics of reconfigurability, modularity and scalability. The case presented demonstrates these agile characteristics as well as methods employed to reach the stated objective of "strategic partnering."

Sandia National Labs demonstrates a pervasive commitment to partnering. Internally, Sandia has redesigned many of its processes to make them more efficient as well as to gain agility and the ability to partner more effectively. This can especially be seen in certain human resource activities including visioning, staffing and the use of augmented or contingent workers.

1. Introduction
In order to survive and thrive in a marketplace environment of unexpected change, some companies are trying to create a core competency of agility [1]. Research has linked the ability to partner and use alliances as a competitive tool as a critical component of agility. Companies that are able to quickly couple and uncouple themselves with other entities as needed demonstrate the agile characteristics of reconfigurability, modularity and scalability [2]. The case presented in this paper demonstrates these agile characteristics as well as methods employed to reach the stated objective of "strategic partnering."

Sandia National Laboratories (SNL) began in 1945 on Sandia Base in Albuquerque, New Mexico, as Z Division, part of what’s now Los Alamos National Lab (LANL). Both labs were born out of America’s World War II atomic bomb development effort -- the Manhattan Project. After 44 years of largely hands-off bureaucratic management by AT&T, on Oct. 1, 1993, the Department of Energy awarded the Sandia management contract to the Martin Marietta Corp., now Lockheed Martin. Today, Sandia has two primary facilities, a large laboratory and headquarters in Albuquerque (6,660 employees) and a smaller laboratory in Livermore, California (890 employees). Sandia is part of Lockheed Martin's Energy & Environment Sector, headquartered in Albuquerque. Sandia is a government-owned/contractor-operated (GOCO) facility.

The mission of Sandia emphasizes national security, primarily the design and development of US nuclear weapons. In addition to the nuclear weapons responsibility, Sandia focuses on the safety, security and reliability of energy supplies, natural resources; information systems; environmental technology and other critical infrastructures. Sandia serves as a systems integrator in safety, security and use control. The Lab brings its expertise in the area of arms control to verification, non-proliferation and counter-proliferation. The extensive computer capabilities of the lab are used to simulate advanced weapons manufacturing development. Finally, due to the increasing international nature of Sandia’s environment, the Lab also conducts its own foreign technology assessments.

2. The Changing Environment
Sandia remains a technical research powerhouse with the maintenance of the nation’s nuclear arsenal a central role. The Lab no longer has only one customer (the US government), today it has many varied customers from both government
and commercial industry. The proliferation of nuclear, chemical and biological weapons has signaled a new and challenging role for Sandia. Emerging threat areas from terrorism, intrusion or sabotage of U.S. information systems, and proliferation of weapons of mass destruction demand continuously updated approaches of bringing together the expertise of the lab to face these issues. The ability to quickly link areas such as robotics, explosives, advanced manufacturing, energy and the environment will mark the lab's ability to meet the challenges of its increasingly less predictable "marketplace."

Understanding that the marketplace is becoming less predictable and that scenario planning has only limited effectiveness, Sandia decided that it could not maintain the organizational status quo. SNL determined to reinvent the organization and learn new ways to provide its core mission in the world's changing political and technological environment. After significant review, Sandia's leadership team decided that the "unknown" future could be faced most effectively by the ability to strategically partner when needed and as needed. It is in collaboration with partners in industry, academia and other government institutions that Sandia will continue to render "exceptional service in the national interest" in the broad context of national security as well as in stockpile stewardship [3].

SNL feels that while it cannot provide "the answer" alone, it can find the answer by operating as a "black box" that reconfigures itself to link capabilities with other "black boxes" in order meet customer needs as required. John Crawford, Executive Vice President of Sandia says that this is not an organizational reconfiguration that requires reengineering, it is a nearly instantaneous re-wiring. The ability to reassign people, to use different funding sources, to tackle different aspects of technical problems and tasks should be done with a keystroke. This is not possible today, but it should be in the future. "Our future success will be dependent on our ability to partner," emphasizes Crawford. He continues, "we know we cannot be everything to every customer, but we can do a better job at everything though partnering." Sandia was seeking a type of organizational agility in which they could reconfigure teams quickly, scale up or scale down projects as warranted, and to create an "agile" mindset among its employees.

The challenge for Sandia was how to get to this agile position wherein they could "rewire" themselves easily. Creating the core competence of partnering demanded a number of steps that had never been identified. For Sandia, the first step was simply to assess its current status. At the outset of strategy planning sessions in the early 1990s, the Lab did not have a clear view of overhead, price distribution or its efficiency. Leaders decided early on that they could only fulfill their government missions by adopting appropriate business techniques employed by the private sector. They had to institute accounting systems that were modeled on the industrial sector. In addition, the unique capabilities of the lab had to be determined. Part of Sandia's charter is that they could not compete directly with industry. So while they needed to move into a competitive mindset, they had to remain conscious of overriding political issues. This competitive position implied that they would never be a price leader, but they must bring unique and clearly defined capabilities to alliance endeavors.

In 1989, Sandia's top management team started with the identification of the Lab's existing and desired values. They verified their concerns that the Lab was segmented with sometimes impenetrable barriers between functions. In an organization where divisions used to be literally separated by guard towers and barbed wire, changing values to facilitate the free flow of information that would enable quick change partnerships would be a challenge. Revamping values was only one aspect of the effort undertaken by Sandia. Furthermore, lab management clarified their mission and core competencies in 1993/1994. These various initiatives were all focused towards the same goal to interactively develop a strategic vision. This strategic work led in 1995/1996 to the "Line of Sight" deployment initiative that ultimately allowed the formulation of a 20 year strategic view for the Lab. This vision for the Lab was not about predicting the future for 20 years, but rather in determining how Sandia could arrange itself organizationally to meet the unexpected challenges.

All of the inputs and reviews from a multitude of sources over a number of years were culminated in an iterative "Plan/Do/Check" cycle. This cycle included representatives from all of Sandia's stakeholders. This strategic visioning processes
reinforced and more clearly focused four key operational objectives for Sandia:

- Excellence is our standard for attracting and retaining people at Sandia and for measuring the performance of teams & individuals.
- Advance the state of knowledge and apply these advances to the solution of our customers' technical problems.
- Create an infrastructure that is a competitive advantage for our strategic missions.
- Successfully use strategic partnerships in pursuing our missions.

The ultimate goal of Sandia's initiatives to create a "strategic partnering" environment is to help it achieve its mission of responding to unexpected events especially those impacting national security. Sandia is trying to create an "emergency room" response team that might be deployed anywhere in the world in the event of a security emergency. First, these linkages need to be fast. Second, there needs to be a sub-set of potential partners, pre-identified based upon shared values and complementary competencies. Third, there needs to be a cultural environment of quick communication and job function reconfigurability. And, finally, there needs to be an ability to get the right Sandian's or contingent workforce to the emergency location at the right time.

3. Moving from Strategic Vision to Shared Vision

The key challenge: how to get the Lab to a position to meet its objectives. More precisely, how to get all employees to understand how they had to work and behave differently in order for the Lab to meet its objectives. As mentioned, the issue of shared values had become an important priority in the Sandia mentality. Top management realized that all Sandians had to be comfortable in upcoming partnership arrangements.

In interviews with Sandia representatives, a 1995 example of a move of an established facility in Florida to Sandia's New Mexico location demonstrated the need to build shared culture and values. In this particular example, about 80 individuals from Florida as well as a number of individuals from commercial companies like Intel and DEC were relocated to New Mexico to institute a new production program. The challenge was in transferring an external production operation into a laboratory environment which had little production experience. About one half of the staff for the new facility consisted of these new "outside" employees and the other half consisted of traditional Sandia employees. Even with a logo of "many unique people," the early transition plan omitted any consideration of cultural issues. It soon became clear that a "we" versus "they" mentality was all but blocking progress. It was realized that further progress would not happen without developing a set of common values that would guide the groups. This difficulty forced Sandia management to realize that this example was only representative of a pervasive problem throughout the lab. They determined to learn how they could create shared values throughout the organization.

In response, input data was taken in a 3 day off-site management team meeting including finance, procurement and other functional areas. The management team first determined what was critical to business and then determined a set of values and behaviors that would support those business objectives. In that first meeting there was insufficient time to identify particular valued behaviors. Therefore, there was another full day meeting of 200 people in early 1996 in which each person put down particular values and associated behaviors. There were 10 different exercises and a long brainstorming session. Each person identified what was most important for his/her success.

From the initial hundreds of behaviors, the group finally narrowed them down to 20. These desired values and behaviors included items such as teamwork, integrity, quality, leadership, respect for the individual, and overall mission success. New programs were initiated to embed these values in the organization. Data is taken quarterly which measures specific behaviors. Employees from all departments gather data which include ratings of leadership. There has been some movement in providing rewards and recognition for "desired" behaviors, but Sandians acknowledge room for improvement.

The Florida production example highlighted the need for a consistent set of values as a way to convert an adversarial relationship into a mutually beneficial and productive one. Sandians now recognize their need for improved
teamwork. Progress to date in the new production operation has been substantial and the involved personnel relate that there is now no "we" versus "they" attitude and substantial positive changes are finally taking place.

Sandians realize that further challenges lie ahead. Even after all of Sandia's employees embrace the teaming and partnering mentality, the cultures and values of potential partner companies must mesh as well or these companies will make poor alliance choices. Sandia also had to be clear on the level at which partnership will occur. Sandia has been and will remain in the business of sharing technology. If potential partners look to connect at the product level, alliances are less likely to work out.

4. Implementing Strategy to Enable Strategic Partnering

At the same time that the organization was working on improving its shared values, it was working on how to connect the corporate objectives for all employees. As part of Sandia's strong strategic initiative, corporate goals were cascaded down into divisions and center plans. They were carefully linked with individual performance goals. The establishment of "line of sight" from individual performance goals to the Strategic Plan was a significant step in helping Sandia align its multi-talented resources with their current and future missions.

Sandia had to continue to remove the functional barriers between research disciplines. Scientists were too ready to focus on their particular research area without spending the time it took to understand other areas in order to begin to innately have a "big picture" view. Changes in staffing programs, reward systems and education programs are methods being used by Sandia to reach their strategic partnering objective. Sandia has instituted a host of sweeping changes [4]. These were not focused on one particular area, but allowed flexing and changing of all impacted areas. The remainder of this paper focuses on two key projects that have been implemented in the "people" area of Sandia in order to help it meet its overall corporate objectives including building a core competence in partnering.

4.1. The Strategic Human Resources Planning Committee (SHRP)

To help accomplish its daunting strategic task, Sandia created the Strategic Human Resources Planning Committee (SHRP) in order to evaluate and accomplish what needed to be done in the "people" area. It was considered that the strategy to partner more effectively required special focus on the people components of the organization. Therefore, the SHRP committee was championed by HR, but included multiple direct links to the line.

The SHRP committee was first assembled in 1992 to provide input and guidance to HR on corporate "change strategy for managing Human Resources in the future." That is, the SHRP was developed to represent the line organization's interests in the strategic human resources issues and in implementation matters. The committee was tasked to accomplish this mission by: 1) encouraging initiatives that improve employees' ability to achieve their potential and execute their responsibilities, 2) being an advisory board to Sandia's top executive council for strategic decisions affecting the human resources of the Laboratories, 3) representing the needs of managers by being the line organizations' advocate regarding the implementation of strategic human resources decisions, and 4) being a communication link to the line organizations regarding the implementation of strategic human resource decisions.

The SHRP committee reports directly to the Vice President of Human Resources and provides status reports to each of their respective home divisions. Committee membership must be composed of a director from each of the divisions as well as all directors from HR. Committee members must 1) be specially assigned by a division vice president, 2) must have interest in and knowledge of HR issues and processes, 3) must have leadership skills in promoting HR initiatives within their division and 4) must keep their divisions informed of committee progress. The leadership of the committee must consist of a chairperson and a vice-chair. In an effort to avoid a static committee, after serving one year as chairperson the vice-chair will assume the leadership role and duties the following year. Other committee members serve two year staggered terms to ensure continuity of committee programs.
From 1992 through 1995 there were three corporate strategic HR plans developed by the SHRP committee. These plans over the three years were not complete redesigns but different stages in the strategic "people" implementation required to meet the Lab's overall operational objectives. Even with these improvements, in 1996 it became clear that line employees still had insufficient understanding of how they fit into Sandia's strategy.

In 1996 the team was reformed with "the line of sight issue as the basic theme of the SHRP committee," according to the Director of the Center for Nuclear Security Systems, one of the many of non-HR related committee members in the 1996 SHRP team. To accomplish their task, SHRP worked closely with their process flow that guided them through from laboratory requirements to strategy formulation to changes in management practices and Human Resource functions and finally through implementation and evaluation. The SHRP created a continuous feedback loop wherein plans were adjusted and readjusted as required. The plans were led by HR with directed line input. HR interviewed customers and evaluated feedback to determine gaps and strategies. The SHRP committee reviewed and commented upon the HR recommendations.

There were several questions asked at each stage in the process:
- Was their line buy in and line leadership?
- Was HR listening?
- Was HR responsive to line issues?
- Was SHRP strategic and reflecting Sandia's overall strategy
- Is everyone on the SHRP committee working as partners?
- How was the committee adding value?

The committee, consisting of 20-23 people, worked diligently to help people see how they fit into particular objectives. Detail oriented monthly meetings, consistently attended by 16 or more, were established as well as spin off sub-committee groups. The new committee membership was adjusted to ensure line ownership with the two technically based and well respected line co-chairs. The committee developed its mission and purpose, setting an aggressive agenda and creating an environment of unity and high team performance. Executive management tasked the SHRP to identify corporate areas for improvement based upon employee feedback in the 1996 Sandians' Perspective Survey. This important employee survey instrument is used by Sandia to measure line of sight, management credibility, people management effectiveness and personal accountability. The vision of linking the line closer with the strategic leadership and the growing feeling the line has an active input into strategy development has been working; and, as evidence, while only 47% of employees completed the Sandians' Perspective in 1993, over 60% returned the survey in 1996.

Based upon such line involvement, the SHRP team identified several areas for improvement and led the development of division initiatives to improve the workplace environment. The committee was focused on providing feedback and guidance in a number of initiatives including: the new Integrated Job Structure implementation, the senior manager selection criteria, the DMTS selection process, feedback on the vacation donation process and new performance management programs linking pay to performance. The committee also worked on the operational plan for HR in the 3-5 year strategic "people" goals and strategies. This operational plan is described in the following section.

4.2. Redesigning Work for Reconfigurability

In 1994, in the midst of Sandia's strategic visioning process, a "Red Team" was established dedicated to reviewing activities in the Human Resources Department. The team created a report comparing Sandia with accepted commercial best practices. At the end of a 6 week review, this Red Team, consisting of 15 suppliers, customers and other "outsiders," came up with 17 specific recommendations. In particular, Sandia needed to build a value-partner relationship with the line. Also, the organization needed a clean slate review in order to redesign the core HR products and services. Finally, they needed to identify new processes and technology to help them better meet business objectives through a more cost-effective HR.

One of the first items tackled from the various recommendations was the clean slate review. This provided some concrete programs that allowed a clear focus: integrated job restructure, external hiring and job augmentation, internal movement, performance management, training
integration and the implementation of PeopleSoft as a partnership tool.

The Red Team was not the only source of input for the Human Resources Department, in an effort to better define their changing role at Sandia. They also utilized measures from Department of Energy's performance metrics, the laboratory's overall goals and input from the SHRP committee. This work led to a redefinition of HR competencies, a renewal of goals, strategies and metrics as well as a new budgeting philosophy.

The Human Resources department was moving away from its transactional based activities, becoming more cost effective and focusing on its growing strategic role as the link between the line and the organizational strategy. It was determined that services would be provided through a group of 5 core employees. These senior HR managers would serve as customer service managers and link all line partners. These functional areas included: benefits and medical services, HR customer service, diversity leadership and education, HR information systems and California HR for employees at the Livermore location. HR's new role was to insure the line of sight starting with Sandia's strategic plan down to the Lab's corporate goals through HR's operational plan and on to the departmental goals with firm connection to individual performance.

As an effective guinea pig of organizational change, it was up to HR to utilize its multitude of inputs and create an effective example of the vision, mission, guiding principles and values that meshed well with Sandia's overall corporate strategic objectives. As the "people" champion of the corporate strategic objectives, HR provides support to all other strategic objectives. An extensive series of processes and linkages were created to implement these changes. An early area of work was the extension of corporate values into the relevant divisional vision, mission and guiding principles. A set of HR goals was identified for key work areas: changing culture, competencies, agile systems, work environment, well being, future leadership, scientific literacy, and customer accessibility [5]. These HR goals were then linked to specific operational objectives which were turned into a set of objectives with specified timelines and owners. It was then the responsibility of those objective owners to further define the objectives down to the line.

These programs have proven successful in the Human Resources department. There has been a 31% reduction in HR indirect dollars from 1994 through 1997. Procedural updates and improvements have also allowed the department to work "leaner" with about 25% less staff in 1997 than in 1994.

4.3. Redesigning Staffing to Enhance Modularity

When talking about making the transition to a "partnership mentality" where all employees have a clear understanding of their customers, John Crawford (Executive VP of Sandia) noted that, "we have found it boils down to person to person levels. [Those] that are really successful … have the deep feeling and understanding of the customer." The organization needed to create a broad and flexible workforce with distributed expertise filled with people who understood customer needs. This distributed expertise can then be accessed modularly and fit appropriately where needed.

For Sandia it became clear that their staffing methods of the past were no longer viable. Gone were the days when they could hire the "best" Ph.D. in the country who would continue the work of their dissertation throughout their career. Sandia had tended to hire an excellent researcher and then went looking for what that person could do in the Lab. SNL now needed to assess essential skills and search for that skill set. Also, the changing global environment makes it increasingly unlikely that staff will only be located domestically. It was estimated that up to 2,000 Sandia personnel may have an international assignment in 5 years. In fact, in order to partner effectively, external personnel would be required either from other organizations in collaborative agreements with Sandia and/or a type of "contingent" workforce. This outside workforce might have to be brought in quickly to respond to several emergency situations.

Staff internal and external to Sandia must continue to reflect the latest competencies coming out of universities. These individual cannot only be technically superior, they must also have complementary "soft" attributes and skills like effective communication, teaming and
continuous learning. People with these attributes are difficult to identify and select in the hiring process. Furthermore, the competition for these types of people is intense and the internal lab environment needed to be attractive to keep such individuals.

Sandia had realized that they needed to be much more calculating on the way to spend the "silver bullets" in terms of people. No longer could the workforce be considered only in terms of permanent people. An organization that had partnership as a key core competence needed the "people" ability to flex and move quickly in given situations. Sandia identified three types of workforce members that they needed to cultivate, Figure 1. Regular employees would be longer term investments. Temporary employees consisting primarily of students and interns would serve as a pool of future talent. Some of the temporary employees would also bring specialized niche skills for infrequent activities. Finally the contractors would be an augmentation to Sandia staff. In an effort to address these identified concerns and challenges, Sandia initiated two key efforts described in the following sections: Strategic Staffing and Staff Augmentation.

The strategic staffing initiative was a fairly recent effort out of the customer service area of HR. The team first created a formalized list of principles for strategic staffing that were necessary given the goal of creating an agile workforce. These principles included: individual ownership, consistent values, well understood business objectives, cognizance of preferred source, regular hiring targeted at critical skills, realignment when needed, "no promises," efficiency and agility, legally and contractually sound work. The team identified two key ways to embed these principles: creation of two people plans (1 year focus and 5 year focus) and the creation of an implementation process of these people plans. The criteria for success would be a resulting staffing process that was flexible enough to handle changing situations and people needs.

The "people plan" links business goals with people skills. It provides a competitive advantage in recruiting high demand talent and empowers employees to prepare themselves for the future. The annual plan consists of gathering data which is taken and folded into an implementation strategy that is driven by that data. The data contains skills currently available in the lab and what skills are expected to be needed. Gaps are identified and used to craft strategies on how to fill those gaps. These strategies include requisitions for hiring, student program goals, internal realignment plans and staff augmentation contracting needs.

An important table is developed with the plans that list external job openings by department detailed with specific technical skills requirements. This table is coupled to a table that lists positions and functions that might be impacted over the plan timeline. Probabilities are assigned that estimate the likelihood of the impact.

The long term plan develops strategies for 1) attraction, 2) retention and 3) inspiration of employees and potential employees. Clearly defined attributes ensure knowledge driven
decisions in the areas of type of work, financial compensation, quality of work life and career development path. Some examples of strategies that are employed in "attraction" include special attention to university relations, definition of the desired employee/contractor mix, dedication to a "feeder system" to ensure the future availability of skills and attention to compensation including signing bonuses and competitive start rates. "Retention" strategies include the creation of desired attrition/retention metrics, dual career paths, alternate work schedules and benefit packages that are crafted to align with each of these strategies. The plan works to develop its "inspiration" strategy by including non-traditional reward and recognition programs, career development options and succession planning.

As noted, the plans alone were insufficient, they needed to be complemented by implementation methods. After determinations were made of the "right people," systems needed to be in place to get the people to the "right work" in a timely fashion. The need to create a "responsive staffing system" pushed Sandia to many reengineering activities affecting programs, people and processes in Human Resources as well throughout the Lab. A set of processes was created that allowed consistency with flexibility. The movement to an agile workforce focused on the development of new business processes enabled by appropriate technology.

The HR staff assumed the role of "consultants." The delivery of service was moved to the customer. It was recognized that hiring approvals had to be less bureaucratic and moved to the lowest possible levels. Today, when new projects come up, a staffing person is already "on the line" and included in all key meetings. Approval for filling certain identified skill needs is done up front and managers are free to make hiring decisions on the spot. There is no need for approval and verification.

As consultants, HR had to make all data as accessible as possible. This was accomplished in part by installing an on-line personnel information system that makes all data "just-in-time." Platforms and interface points had to be familiar to customers and intuitive enough not to be a barrier to use. Ultimately, all new installed technology had to be and must continue to be seen as a means and not as an end.

The reengineering efforts with the focus on agile attributes has been quite successful in meeting Sandia's staffing objectives. It has allowed the reduction of 780 positions over a two year period. Due to close attention to reallocation of skills, there were no layoffs, maintaining Sandia's record of 25 years with no layoffs. Acceptance rates have risen to 90% of all offers with significant progress to date with targeted university relationships. At this point, cycle time from requisition to offer has been reduced by 50% by a staffing organization that has (to date) been reduced by 27% and will ultimately be reduced by 40%.

The goal of reducing cycle time to obtain new partners was the objective in a university partnership redesign plan. Nine major universities have signed agreements with Sandia. Now Sandia can place "orders" for R&D services from these universities "as needed." Under the new strategic partner arrangement, activities can be underway within 15 days as opposed to the average 54 day period of past agreements.

The strategic staffing program continues to be an important and well recognized effort at Sandia who now has "one-stop" shopping for its people acquisition needs. Two bottom line facts were cited as the keys to success: 1) the constant focus on the "people" skills to enable mission success and 2) the creation of a program that is specifically designed to respond quickly to changing customer needs both internal and external.

4.3.2 Staff Augmentation
Not long ago, Sandia realized that they had a significant employment risk. They realized that strategic partnering required a level of speed and flexibility that SNL did not have. The Labs had historically filled this gap by hiring short term contractors. After reviewing this practice, managers realized that they were paying as much as 100% over internal rates. A determination was made that the administrative processes needed to be "faster, better, cheaper." Contract personnel utilized on a long term basis created a co-employment risk and needed to be avoided. It was also acknowledged that their process for acquiring contractor support did not follow national benchmarks.
Four teams were established to develop the goals for "staff augmentation." First they developed definitions to distinguish between staff augmentation and co-employment. A staff augmentation contractor was defined as a person employed by another company who is assigned at Sandia National Labs to supplement staff or project labor needs on a short-term basis and who works under the direction of Sandia employees. Co-employment was defined as a relationship between two or more employers in which each has actual or potential legal rights and duties with respect to an individual or group of employees.

Before the development of the new processes, the "staffing" function was restricted to outside hire and internal movement of personnel. It was procurement processes that covered the acquisition of staff augmentation contract support personnel. There was little consistency between the two methods; however, both were inefficient. The procurement process required a full procurement cycle which took six to nine months to complete. At the outset of the Staff Augmentation program, there were approximately 1,200 individual contracts for 2,500 contact associates which involved nearly 150 vendor companies. These contracts paid average "wrap" rates of 100%.

Based in part on various Sandia strategic benchmarking programs at companies such as Chrysler, Motorola, Intel and Hewlett Packard, the Staff Augmentation Team set the goals to place staffing in partnership with procurement, to minimize the number of contacts issues, to provide flexibility in contract labor categories and reach average wrap rates of 1.5 or less. Linked with coordinated reengineering efforts around the Lab, an estimated $1.5 million was allocated to this key project. Sandia's executive council knew that it could not reach its goal of "emergency response" type activities if it could not efficiently create and break partnerships requiring the utilization of outside industry personnel.

The implementation of the Staff Augmentation plan began on October 1, 1996. The six month benchmark of their progress has shown encouraging results. They have reduced the number of vendor companies from 150 to 9 teams consisting of 22 companies including subcontractors. The identification of a select group of partner firms required maintaining some diversity in company selections. For example, of the selections, two are large firms, two are minority owned, two are out of state, etc. and each offer some unique capability or contribution to Sandia.

A limit on continuous service for contract employees was set at 3 years. After this point the contract employees had to be brought into the company as a regular employee or leave Sandia for at least one year before a new reassignment. At the six month point, 275 contract associates had been populated into contracts that were performance based and cost approximately $10,000 less per person annually than before the redesign. The cycle time in fulfilling a new requisition was reduced from its 6 to 9 month period to 14 days with 7 fewer people in procurement.

The greatest challenges in implementing this staffing augmentation plan was from line management who were fearful that any change in procedures would cause their contract associates to leave Sandia. They were also perhaps afraid of the repercussions to them if outside associates had contracts that were judged upon performance. The line personnel were reluctant to impose a three year limitation rule as well. These problems highlighted the fact that the line was loyal to the contract associate without necessarily thinking in terms of what is best for the overall organization. The project team was facing an interesting barrier at the six month point in that several line employees, contract associates and even vendors were denying that they new processes had been accepted and implemented. However, the hard facts of $1.2 million in hard dollar savings as well as $3 million in annualized savings has helped many to see that this new program is a better option.

5. Conclusions
Sandia's senior management team has spent considerable time and energy redefining Sandia's Strategic Plan and establishing specific tactical goals. A future challenge is to imbue the culture onto new employees even if they do not physically reside at the company. This challenge must be met if Sandia hopes to create interchangeable alliances and partnerships throughout the world. The goal is to create a structure to meet this new type of environment.
The physical location is only a 2nd order effect. The 1st order effect is what the employee knows.

In creating the strategic plan and determining its partnership strategy, Sandia was clearly changing its business practices. Early focus looked at the way critical components interrelated. The Labs determined a number of these interrelated components including people, processes, structure and technology. The Lab is demonstrating success with its iterative systems approach and in the belief that there are critical interrelated components that must be addressed uniformly and not left for later iterations or simply left to chance.

Internally, Sandia has over the past several years redesigned many of its processes to make them more efficient as well as to gain agility. This can especially be seen in such human resource processes as hiring, internal placement of people, and the use of contingent workers. The redesign work on these processes has been aimed at taking out cost and increasing efficiency, but also at creating flexibility and allowing the Lab to shift its resources more quickly as conditions change. This ability to shift or to be agile will ultimately allow Sandia to meet its vision of competing based on its ability to partner.

REFERENCES