



Success of virtualized operating system increases supercomputer flexibility

Opening up supercomputers to a broader range of applications and users

By Neal Singer

Supercomputers have sprung up across the world landscape like the statues on Easter Island — separate, huge, and impenetrable to the average person. They perform hundreds of trillion calculations per second, a figure almost ungraspable by a species that may have entered mathematics by first counting on its fingers.

But new work on Sandia's Red Storm supercomputer — the 17th fastest in the world — is helping to make supercomputers more accessible, in effect removing them from the solitary confinement of their specialized operating systems.

Sandia researchers, working hand in hand with researchers from Northwestern University and the University of New Mexico, socialized 4,096 of Red Storm's total 12,960 computer nodes into accepting a virtual external operating system — a leap of at least two orders of magnitude over previous such efforts.

SANDIA'S SHAOLIN MONK? — Testing his personal flexibility, researcher Kevin Pedretti uses his laptop to inspect a virtual machine experiment running on a Red Storm test system.

(Photo by Randy Montoya)

"The goal is to create a more flexible environment for all users," says Kevin Pedretti (1423), who led Sandia researchers in adapting and optimizing a Northwestern program called Palacios for the Red Storm environment. Sandia researchers directed the testing effort.

Exploring the frontiers of science

Built by Sandia as part of the NNSA program to ensure the safety, security, and effectiveness of the nation's nuclear stockpile without testing, Red Storm's advanced computational capabilities have been utilized in unclassified modes to explore the frontiers of science in other areas. In addition to simulating extremely complex events for nuclear stockpile stewardship, Sandia's advanced supercomputing capabilities are contributing to global efforts to understand climate change, evaluate dangers from possible asteroid strikes, and help solve other problems of national interest.

So, says Peter Dinda, professor of electrical engineering and computer science at Northwestern's McCormick School of Engineering, "If we can virtualize supercomputers without performance compromises we will make them easier to use and easier to manage, generally

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SAFETY

Where we are now. Where we need to be. And how we'll get there.

In a wide-ranging Q&A, Sid Gutierrez, Sandia's new Chief of Safety, offers his assessment on pages 6-7.

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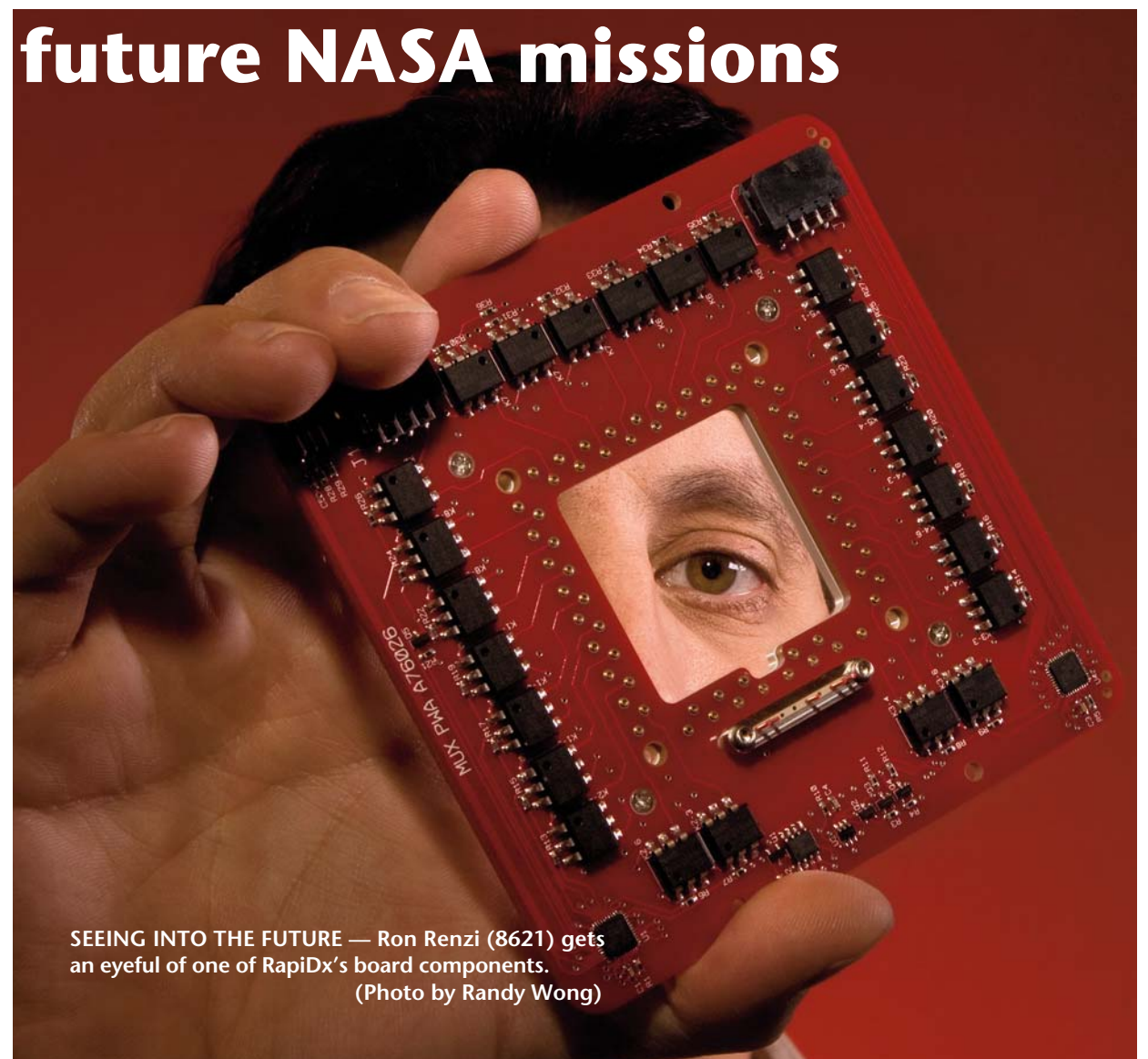
RapiDx may join future NASA missions

By Patti Koning

RapiDx, Sandia's rapid, automated, point-of-care diagnostic system, may soon find its way into the hands of astronauts, forensic scientists, and first responders. By next summer, the RapiDx diagnostic platform could begin initial field testing at collaborating research institutions.

RapiDx uses Sandia's lab-on-a-chip technology to capture the essential capabilities of a scientific lab on an area the size of a computer chip, requiring only

(Continued on page 4)



SEEING INTO THE FUTURE — Ron Renzi (8621) gets an eyeful of one of RapiDx's board components. (Photo by Randy Wong)



Coming in 2010

Upgrading HR information solutions and business processes

<http://upgrade.sandia.gov>

Seven things to know about the upcoming upgrade to PeopleSoft v.9. See page 5 for details.



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That's that

Came across an interesting document the other day, "Sandia in Numbers." It's put together by Ernie Limon and his team in Corporate Financial Reporting and Analysis Dept. 10546, and is, as the title suggests, chock full of interesting numbers about the Labs. One thing that caught my eye was the entry that shows the average age of Sandians. In FY08, the average age here in New Mexico was 47; in FY09 it was 48. So right now, it's creeping up. (These things happen, as my shoulder doctor reminds me.) In California, by the way, the average ages in FY08 and FY09 were 46 and 47 respectively. I always figured our California colleagues seemed a bit younger at heart than us grizzled New Mexicans. The numbers bear out my intuition.

I understand the Labs expects a larger than average number of folks to retire this year; as that occurs and as we hire new folks to backfill, that average age number will likely come down a bit. Not that I will be any help in the matter. When January 2011 rolls around, I intend to be a full year older than I am now. (It is, as the saying goes, much better than the alternative.)

* * *

How about some more numbers? The document has some data on years of service at the Labs. Turns out we have almost 2,700 Sandians with 20 or more years of service, nearly 700 of whom have more than 30 years. And did you know that at Sandia, you're eligible to attend a monthly new-hire breakfast right up through your first five years. Heck, in a lot of jobs, five years is an eternity.

My friend and mentor Rod Geer and I were talking about this the other day, about how long it takes Sandians to outgrow the "newbie" label. Rod, as usual, put the whole thing in some perspective. A few weeks back, he recounts, a couple of young men came to his door. Out front was one of those trucks that drives around neighborhoods selling frozen meats and such. Anyway, when Rod opens the door, one of the young men takes the lead and says, "Good morning sir; I'm Roscoe Gottlieb and I've been with Acme Quality Meats for a full month now. Today, I'm training Joaquin to be our representative for your neighborhood." Roscoe was the old hand - with his one month of service!

I've had jobs like that, but I don't think it'd fly at Sandia.

* * *

Now that I think of it, Maine is more like Sandia than like the Acme Quality Meat Company. (One would hope so, right?) When my wife and I were first married, we both worked on newspapers in Maine and in the course of our jobs were always out and about in the communities, talking to people of all stripes. One of the recurring issues we both found was the attitude of lifetime Mainers about people who moved to the state at some later point in their life.

I vividly recall talking to one old-timer about a neighbor, a guy who was running to be a town selectman (that what the small towns in Maine called their town councilors). Here's what it came down to: The candidate was an okay guy, moved to town in his 20s (he was 60-something now), seemed to be a straight-shooter, ran a good and honest business, had always been active in the community, but . . . and here there was a little awkward pause and a certain hesitancy or reservation. "But, you know, he's from away." Forty years in town and "he's from away." And *that's* what I like about the West. See you next time.

- Bill Murphy, (505-845-0845, MS0165, wtmurph@sandia.gov)

Employee death

Pat Nitschke had her priorities straight, and her outlook on life was spot on

Pat Nitschke (10265) died Jan. 19. She was 64 years old and had been at Sandia more than 16 years.

"Pat was an outstanding employee," says her boss, Mark Crawford (10265). "She was a certified nuclear weapons financial analyst who had worked throughout the Labs. Most recently she worked in Logistics and Fleet Management. She was a role model to everyone she worked with."



PAT NITSCHKE

"My friend Pat was a wonderful, caring person," says Nancy Clise (12820). "She was always joking and had a story to tell. We used to joke about her being related to Ray Nitschke, a Green Bay Hall of Fame football player."

"Once Pat accidentally locked herself out of her house. She was able to force the front door open, but caused some damage to the door frame and lock in the process. She told me about the incident and added that perhaps she was related to Ray Nitschke because of the way she had tackled the door."

Sarah Renfro (12410) says Pat was full of joy, love, and happiness. "Even after she became ill, she maintained a positive outlook on life," says Sarah. "She had a beautiful smile and contagious enthusiasm. Pat was a blessing to her friends, her colleagues, and her family. Pat was a wonderful person who loved her grandchildren and her sons more than life itself."

Daniel Statler (10265) says, "After her cancer was discovered she told everyone to 'go get your hiney checked.' She would joke about removing her wig to scare us if we were annoying her. She had a wonderful sense of humor."

Merri Lewis says Pat had an amazingly analytical mind. "She was instrumental in setting up our service center and kept it all on track," says Merri.

"One time, she told me about spending time with Jenny when we talked about food. I figured she was a friend who shared meals with her, or maybe a roommate I had not heard about. She finally told me it was Jenny Craig, and laughed about my assumption."

"I first met Pat when I worked in travel and she audited the travel program," says Elizabeth Carson (10265). "I was fortunate to work with her again in Fleet Services. One of the exercises in the Logistics Drive Home Safely campaign was to complete a card about their driving inspiration to get home. She filled the card out with a recent picture of herself with her two grandchildren."

"Pat was young at heart," says Clare Stanopiewicz (10611). "She had great stories of her life, her sons, and her grandkids. When I first saw her, I thought we were from different generations. She was old enough to be my mother. An audit trip I took with Pat and a young colleague changed that. Pat was game for everything. She was thrilled to be travelling and seeing new places."

"Pat didn't judge. She made me feel better about myself and life in general. Under the laughter and smiles was a powerful strength and desire to move forward."

"She spent virtually all of her vacation and probably money going back to Pennsylvania to visit her family. She never apologized for not being here; she knew work and friends would wait for her to return. She had her priorities straight, and her outlook on life was spot on."

Her office administrative assistant, Janet Clarke (10260), says Pat was a wonderful and happy person. "We always talked about sneaking out for an hour to go have breakfast," says Janet.

"Pat made Contract Audit a better place to work by just being there," says Cynthia Burns (10507). "Her quick smile and laugh always resulted in uplifting your mood."

"She had such grace and dignity, unlike anyone I have ever known," says Sue Williams (10265). "Her mantra was - go get your hiney checked."

"Pat showed us the love that she would show her family," says Charles Carroll (10265). "Sharing nine hours a day together at work, I felt like I was part of her family. I will miss her big smile and her positive attitude."

"Pat handled her illness with grace and quiet dignity," adds Daniel. "Her strength was an inspiration to all who knew her. It was my personal honor and privilege to know and work with this beautiful lady."

"I will miss her bravery and courage," adds Elizabeth. "She was my hero."

- Iris Aboytes

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Bill Murphy, Editor 505/845-0845
Randy Montoya, Photographer 505/844-5605
Mike Janes, California site contact 925/294-2447
Michael Lanigan, Production 505/844-2297

Contributors: Neal Singer (845-7078), Iris Aboytes (844-2282), Patti Koning (925-294-4911), Stephanie Holinka (284-9227), Julie Hall (284-7761), Darrick Hurst (844-8009), Stephanie Hobby (844-0948), Michelle Fleming (Ads, Milepost photos, 844-4902), Dept. 3651 Manager: Chris Miller (844-0587)

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Joint operations with LLNL underway

Changes expected to have minimal impact on Sandia/LLNL workforce and customers

By Mike Janes

The long anticipated joint operations between Sandia/California and Lawrence Livermore National Laboratory (LLNL) have kicked off, the first phase of which will be implemented beginning Feb. 1.

The sharing of certain operational functions between the neighboring labs is part of NNSA's Complex Transformation — a vision for a smaller, safer, more secure, and less expensive nuclear weapons complex that leverages the scientific and technical capabilities of the workforce and meets national security requirements.

Minor impact to the Sandia workforce and customers are expected in the first phase — in the areas of mail delivery, shipping, receiving, communications products, and bicycle repair.

Mail service

With unclassified mail pickup and delivery, Sandia staff will see no changes to mailstop numbers or Sandia pickup/drop-off locations, says Sandia's Craig Taylor, manager of project engineering and operations (8514). An additional mailbox will also be placed on site, allowing staff to drop off mail as late as 2 p.m. each

day. The additional drop-off location is still undetermined; more information will be provided in the near future. Mail will continue to be picked up at mailstop locations by roughly 11 a.m. each morning.

"We're committed to providing the same level of service to Sandia/California that employees there have been accustomed to receiving," says LLNL's Stu Jossey, business services division leader in the supply chain management department.

The unclassified mail service window at LLNL will now also be available to Sandia members of the workforce with a federal credential badge. The window is on LLNL premises (Bldg. 411), just off East Avenue. Members of the Sandia workforce who do not have a federal credential should use the Sandia drop-off locations described above.

Sandia personnel with questions about mail service should contact LLNL Mail Customer Service (925-423-3946).



LLNL EMPLOYEE Art Grajeda (left) logs an outgoing package from Sandia with assistance from Sandia's Nate Trujillo (middle) and Gustavo Nungaray. Sandia material handlers like Nate and Gustavo will now make trips to LLNL's building 411 twice a day to deliver Sandia material in preparation for outbound shipping. (Photo by Randy Wong)

Shipping Service

The Sandia workforce will continue to use the current "web shipper" form available online. There will be three options for items to be delivered to LLNL (Bldg. 411) for packaging and shipping service. Sandia personnel may deliver packages directly to Sandia Bldg. 928; deliver items directly to the LLNL shipping area (with an appropriate federal credential); or, as is currently the case for heavy/bulky items, may request Sandia material pickup service.

Sandia material handlers will make trips to LLNL twice a day to deliver Sandia material in preparation for outbound shipping.

Classified documents for Federal Express overnight service will continue to be packaged by Sandia Document Control. However, they will be processed for carrier pickup by the LLNL shipping service. A change for Sandia is that classified documents and classified mater-

(Continued on next page)

Sandia California News

During California site visit, Congressman John Garamendi shares his passion for science, technology, education

By Patti Koning

On Tuesday, Jan. 5, US Rep. John Garamendi paid his first visit to Sandia/California as the Democratic representative for California's 10th District. He was elected in a special election last November to fill the seat vacated by Ellen Tauscher when she became Undersecretary of State for Arms Control and International Security.

"It's an extreme pleasure to have Congressman John Garamendi here with us to kick off the new year," said Div. 8000 VP Rick Stulen. "He brings to Washington 34 years of public service, ranging from the Peace Corps to deputy secretary of the Department of the Interior. Of particular interest to us, he's a member of the House Science and Technology Committee, which has oversight of R&D programs for the Department of Energy and elsewhere. Science and technology is something we care deeply about so it is just extraordinary to have a friend and advocate in that position."

Speaking to a standing-room-only crowd in the Combustion Research Facility auditorium, Garamendi invited the audience to share their knowledge with him.

"To have the opportunity to represent these laboratories is really exciting," he said. "I want to understand in greater detail the work being done here and to

understand the relevance of that work — not just to national security and nuclear issues, but to everything in our life today. That is what I find exciting. I love science and technology and its potential to solve all sorts of problems."

Garamendi spent most of the time taking questions from the audience on the direction of the country's nuclear posture, the priorities of the Science and Technology Committee, economic development, the likelihood of a climate bill, energy security, traffic on Interstate 580, the need for increased



US REP. JOHN GARAMENDI answered questions on a variety of topics including energy security, nuclear posture, and science and technology education at a visit to Sandia/California on Jan. 5. (Photo by Randy Wong)

science and technology education, and health care reform. (Garamendi also sits on the House Transportation and Infrastructure Committee.)

As a former regent of the University of California and trustee for the California State University system, Garamendi was especially passionate about cuts to higher education funding and the consequences for the nation.

"In 1990, the state funded the University of California at \$15,000 per student; this year, it is \$9,000 per student. The cost to students next fall will be over \$10,000 per student at the undergraduate level and in the professions, including engineering, it will cost \$30,000 to \$40,000 for an advanced degree," he said. "Where will we get the scientists, the engineers? The answer is, we won't. Of all the things we do, higher education is among the most important. The pipeline for highly educated men and women is being constricted in California and in most other states."

Garamendi said he and other members of Congress are looking into amending the Morrill Land Grant Act, which was signed into law by President Abraham Lincoln in 1862 to allow states to sell federal land to establish and fund educational institutions, including the University of California. The hope is to reinsert the federal government into direct funding of higher education and provide increased and more stable funding.

Prior to his conversation with employees, Garamendi was briefed by Rick, Executive VP Paul Hommert, and Lawrence Livermore National Laboratory executive leadership including Director George Miller. The briefings provided Garamendi with a broad overview of the two labs' missions.

The congressman was accompanied by his chief of staff, Scott Fay, district director Michele Gault, and legislative aide Josh Franco.



CONGRESSMAN JOHN GARAMENDI was briefed on Sandia by California site vice president Rick Stulen, right, and Paul Hommert, Sandia's executive vice president and deputy director for nuclear weapons. (Photo by Randy Wong)

RapiDx

(Continued from page 1)

minute amounts of material to perform automated biochemical analysis. RapiDx's first application was the National Institutes of Health-funded oral diagnostics project led by Anup Singh (8621) that analyzed saliva for markers of gum disease (see *Lab News*, April 13, 2007). Sandia researchers on several related projects are working to expand the RapiDx platform to assay for more than 20 different analytes measurable in a single drop of blood.

Anson Hatch (8621) is leading a collaboration with AM Biotechnologies, LLC, under a Small Business Innovation Research (SBIR) grant for NASA to develop RapiDx for use on space missions. The project recently received Phase 2 funding.

"NASA is interested in the combined solution — AM Biotech's stable reagents with RapiDx — as a way to monitor the health of astronauts in space," says Anson.

Phase 1 tested RapiDx's performance on biomarkers of bone loss; Phase 2 will examine an expanded panel of assays, including multiple biomarkers of bone loss and other markers of infection and disease, culminating in a demonstration at the Johnson Space Center. Follow-on phases of the project, says Anson, would likely involve engineering RapiDx to meet NASA's requirements for use in space.

Space is not the final frontier where RapiDx may be used in the near future. Sandia is in the third year of a five-year project funded by the National Institute of Allergy and Infectious Disease (NIAID), also led by Anup, to develop assays for toxin detection that could be used to more rapidly and effectively respond to a bioterror incident (see *Lab News*, Oct. 12, 2007).

Just a pinprick required

Rather than sending people who may have been exposed to a biotoxins — spectators at a sporting event who have been contaminated by a terrorist release, for example — to a medical facility where lab results could take a day or more, RapiDx could be used to analyze a pinprick of blood to make a rapid determination as to the degree of exposure.

Duane Lindner (8120), who manages Sandia's chemical and biological national security portfolio, says that in such a scenario hospitals would be overwhelmed by the so-called "worried well."

"RapiDx offers a means of isolating the one person out of 100 or more who actually has been exposed, enabling immediate treatment," he explains. "Toxins are often only present in the blood in trace amounts



WHILE SANDIA'S WORK to develop RapiDx is centered in the Biosystems Research and Development group, it involves researchers from many disciplines. Shown here are, standing: Mark Claudnic (8243-1), Dan Throckmorton (8621), Jim Van de Vreug (8136), Vinay Abhyankar (8621), Jim Brennan (8621), Anson Hatch (8621), Robert Meagher (8621), Dan Yee (8224), Greg Sommer (8621), Ying-Chih Wang (left Sandia recently), and Bob McCoy (8123); seated: Gabriela Chirica, Marci Markel, Ron Renzi, Anup Singh, and Jerry Inman (all 8621). (Photo by Randy Wong)

that disappear, by tissue uptake for example, so there is a limited window of time in which to detect them. Rapid detection offers a better prognosis for those exposed, as therapeutics are most effective within the first day or two after exposure."

A goal of the toxin diagnostics project is to demonstrate a device that can be commercialized. Prof. B.R. Singh at the University of Massachusetts at Dartmouth and Steve Binder at Bio-Rad Laboratories are advising Sandia on the project.

Simultaneous batteries of tests

"We are working to integrate many lab steps within a single microfluidic chip to make lab tests as automated and easy as possible," says Anson.

The RapiDx platform is designed to allow users to simply load a microfluidic cartridge and initiate tests with a touch-screen display, a feature that could allow emergency responders to quickly and easily initiate tests on a crowd of people. Current RapiDx designs

allow simultaneous batteries of tests for up to eight different samples using a rotary laser scanner.

"Automating lab steps on the chip and the device that operates and reads the chip also removes potential for human error to the extent possible," says Anson. "Possibilities for human error could impact the medical decision; therefore you must predict ways the equipment could be misused and engineer safeguards."

For example, researchers are engineering the RapiDx cartridges so they only fit into the device one way and magnetically snap into place. They also are building in acceptance criteria so the device can perform self-diagnostics for proper conductivity and other potential trouble spots. Within the device, the proteins are manipulated by high voltage, so poor conductivity signals a failure mode such as a misloaded cartridge or clogged fluid channel.

Anson is also leading a Laboratory Directed Research and Development (LDRD) project to support diagnostic research for dangerous pathogens that must be studied under high levels of biosafety containment.

Wireless control

"The protocols for diagnostic research can be very time-consuming and especially demanding inside a biosafety level 3 or 4 lab," he says. "This equipment would speed up the process and make tests safer and easier for the researcher. With an option for wireless control of the device, a researcher may eventually program an array of tests on RapiDx and monitor and adjust testing on the fly as needed while outside lab confinement."

Greg Sommer (8621) is leading a new LDRD to develop RapiDx to monitor radiation exposure in partnership with a leading expert at the Armed Forces Radiobiology Research Institute (AFRRI). Knowing the level of exposure is critical as it determines the appropriate therapy — using the wrong therapy can cause more harm than good — but existing tests are time-consuming and must be performed in a central lab.

Using animal models, AFRRI researchers have identified molecular signatures in blood that indicate levels of exposure. Developing tests for these molecular targets with RapiDx will enable efficient testing of persons potentially exposed to a radiological incident and facilitate effective treatment.

In addition to all of these applications, RapiDx could also be used as a research tool in labs. At a price of around \$5,000-\$10,000 were a product to be commercialized, a professor could afford to equip his or her lab for initial data mining, such as size separations, or develop more advanced tests such as customized immunoassays.

"We are working toward an initial prototype design freeze in the next six months," says Anson. "The goal is to get instruments into the labs of our partners so they can conduct usability and performance testing and compare the capabilities with standard methods. Those tests will also give us valuable information to continue to improve RapiDx. It's very exciting to see this device move from a proof of concept to potential real-world applications."

Joint ops

(Continued from preceding page)

ial will now be processed only Monday through Wednesday for shipment. Customers can contact LLNL Shipping Customer Service (925-424-4199). For emergency, mission-critical shipments on Thursdays, customers can contact Grace Miranda (925-294-3176).

Receiving

LLNL will physically receive all inbound shipments on behalf of Sandia and enter receipt details into the appropriate Sandia database. Sandia material handlers will make trips to LLNL twice a day to pick up Sandia material for delivery to Sandia recipients. Customers may contact LLNL Receiving Customer Service (925-423-0516) for questions regarding their inbound shipments.

Logistics Services support

On its website, Sandia Logistics Services has posted answers and guidance on frequently asked questions (FAQs) regarding mail, shipping, and receiving services. Send additional questions to Sandia's Jim Prestwood (8514-1) via email (jcprest@sandia.gov). Questions will be answered and included in the FAQ summary.

Bicycles

LLNL is now responsible for bicycle maintenance, collection, repairs, and redistribution. Sandia personnel, says Bob Clevenger, manager of the maintenance engineering department (8513), should not notice any changes in bicycle service.

Communications

Customers who use Sandia/California's communications services aren't expected to experience significant changes in how services are delivered.

Customers can contact Sandia's Danielle Fernandez (8529) at 925-294-3135 to initiate requests for communications products and services.

Some Sandia/California communications services, including graphic design, photography, video production, and publishing, are now also being shared between Sandia and LLNL.

Although the types of offered services are unchanged, says Sandia's Krystal Kelley (8525), procurement communications liaison, the ways they are administered are changing in the midst of other upcoming modifications in communications services at Sandia/California. For instance, Krystal points out that Sandia/California no longer maintains a service center, although Sandia/New Mexico retains this model and offers creative communication resources that the Sandia/California workforce may draw upon.

Additionally, Sandia can now use communications services offered at LLNL if those services are unavailable at Sandia.

The biggest changes in Sandia/California's communications services, says Krystal, are the anticipated contracts with two marketing/communications firms, which collectively will deliver a broad, diverse set of creative resources in areas such as graphics, video, and printing. Details on how Sandia will best utilize its new suite of resources, including Sandia/New Mexico's and LLNL's services, are still in development.

Additional services that might be shared between the two labs, says California and division mission partners senior manager Linda Houston (8530), have been submitted for approval to the Sandia and Lawrence Livermore NNSA site offices and could be implemented in the future. If these proposed joint operations services are approved, the Sandia and LLNL workforce will be informed of any future changes in services as they occur.

Seven things to know about the coming HR system upgrade

In summer 2010, Sandia will be performing a major upgrade to its human resources information system known as PeopleSoft. Employees interact with PeopleSoft on a weekly, and oftentimes daily basis. Participating in Benefits Open Enrollment, creating or bidding on job openings, viewing paycheck information or leave balance information, and applying for a job are just a few examples of the functions employees perform in PeopleSoft.

For users, this upgrade will result in changes to both the system's appearance and functionality. An example of one change employees will experience in the upgraded system is that they will begin managing their timecard submissions in a new time and labor application within PeopleSoft, rather than the current Electronic Timekeeping System (ETK).

In anticipation of the upgrade and the coming changes, here are seven basic things every Sandian should know about the PeopleSoft upgrade:

1. This is a major upgrade

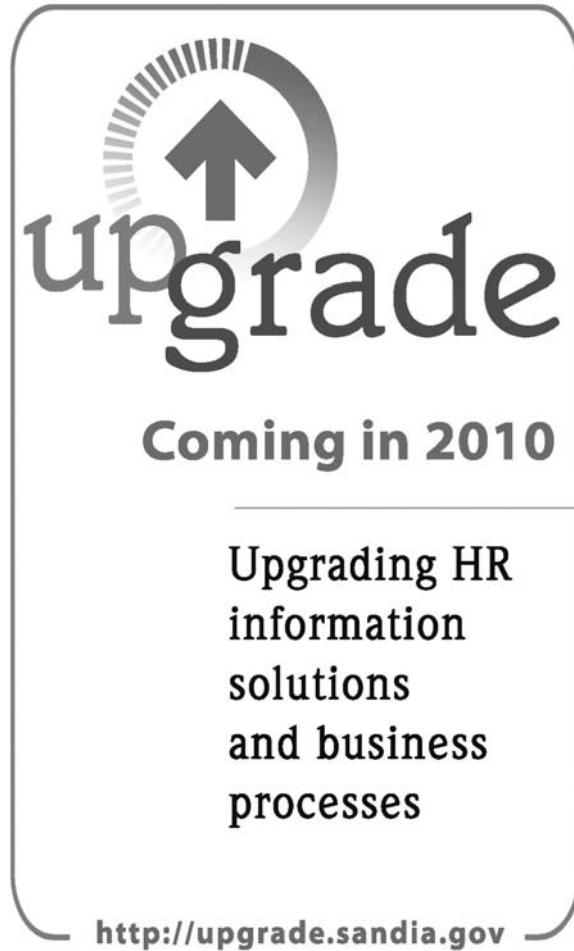
One of Sandia's key human resources information systems will undergo a major upgrade from the current PeopleSoft version 8.9 to version 9.0, going live in summer 2010.

2. This will streamline future system upgrades

The extensive customizations that were made to the current PeopleSoft system have resulted in a platform that is increasingly difficult and expensive to maintain and at risk of catastrophic failure because routine software patches cannot be applied. To enable future patches to be applied, PeopleSoft v9.0 will be implemented as "plain vanilla" as practically possible, meaning minimal customizations will be made to the system.

3. Core functionality will remain intact

PeopleSoft's core functionality will remain intact,



enabling Sandians to easily perform common HR tasks. A leading industry usability expert participated

on Sandia's PeopleSoft v9.0 development team. The recommendations this expert provided, as well as extensive usability testing and feedback across the laboratory, will enhance the usability of the system.

4. Look and feel will change

The look and feel of many applications within PeopleSoft will change. Most of the changes will be minor and will probably go unnoticed to the casual user. However, there will be some major interface and functionality changes to a few of the applications users work with today. In addition, some business policy and process changes have been made that will be implemented in the release of PeopleSoft v9.0. In each of these cases, further communications and training will be provided to appropriate members of the workforce prior to the release of PeopleSoft v9.0.

5. Open hiring processes will need to be closed

To facilitate a smooth transition from the current hiring system to PeopleSoft v9.0 Talent Acquisition module, there will be a short period of time prior to the launch date when all job openings will need to be closed and personnel actions processed. Then new job openings can be created in PeopleSoft v9.0. This "blackout" will occur in the two weeks prior to going live. Sandia's Staffing Dept. 3554 will provide managers with a hiring strategy to prepare for this blackout.

6. Training and help will be available

As the launch date approaches, numerous resources will be made available to answer your PeopleSoft v9.0 questions and help in making the transition. These resources will include job aids, training sessions, and a help desk.

7. Learn more at upgrade.sandia.gov

Resources and information about the upgrade will be made available at this site as the summer 2010 launch date approaches.

Sandia, University of Texas technical delegation explore opportunities for collaboration



DEFENSE SYSTEMS AND ASSESSMENTS VP Jerry McDowell (5000), center right, and Gordon Leifeste, manager of Z Diagnostics Dept. 1675, center left, discuss capabilities of Sandia's Z machine with a delegation of senior technical staff from the University of Texas at Austin. The UT delegation visited Sandia last week to get an overview of Sandia's technical program and to explore joint collaboration projects of mutual interest. In addition to a tour of the Z facility, the delegation visited the Center for Integrated Nanotechnologies (operated jointly by Sandia and Los Alamos National Laboratory) and received a briefing about Sandia's science, technology, and engineering (ST&E) capabilities from Div. 1000 VP Steve Rottler. Energy Systems Center 6200 Director Margie Tatro provided an overview of The Labs' interests and direction in energy research and Jerry led a discussion about issues around national security. Technical hosts for the visit were Engineering Sciences Center Director 1500 Art Ratzel and National Security Studies Dept. 0545 Manager Mark Ladd.

(Photo by Randy Montoya)

Christine Coverdale selected as IEEE Fellow

Christine Coverdale, a researcher in Systems Technologies Dept. 5935, has been named a Fellow of IEEE. According to the citation from the organization, Christine was honored "for contributions to the development of neutron sources"

In its letter to Christine, IEEE noted that "recognizing the achievements of its members is an important part of the mission of the IEEE. Each year, following a rigorous evaluation procedure, the IEEE Fellow Committee recommends a select group of recipients for one of the Institute's most prestigious honors, elevation to IEEE Fellow."

Christine received a B.S. degree in physics and mathematics from the University of Puget Sound in Tacoma, Wash., and an MS and PhD in plasma physics from the University of California, Davis. She joined Sandia in 1997 in the Radiation Effects program, where she worked until 2007, when she transferred to the System Technologies department.

During her time in Radiation Effects, her research encompassed z-pinch plasmas (in collaboration with the Pulsed Power Sciences Center), as well as radiation effects work and diagnostic development. She has been a principal investigator on many source development experiments, including long implosion time wire array z-pinches, high photon energy z-pinch sources, and deuterium gas puffs for neutron production. These experiments, and her collaborations outside Sandia with the Naval Research Lab and the University of Nevada, Reno, have led to many invited presentations and more than 80 peer-reviewed papers as an author or coauthor.

She is actively involved in IEEE, where, among other activities, she has served three terms on the executive committee of the IEEE Plasma Science and Applications Committee.

The IEEE grade of Fellow is conferred by the board of directors upon a person with an extraordinary record of accomplishments in any of the IEEE fields of interest.



CHRISTINE COVERDALE

SAFETY

Safety, mission execution go hand in hand

Rewarding safety behavior will change the culture, says new Chief of Safety Sid Gutierrez

Sid Gutierrez has served his nation as a US Air Force fighter pilot, a test pilot, and astronaut. He commanded one space shuttle mission and served as pilot on another. After retiring from the Air Force in 1994, Sid returned to his hometown of Albuquerque and took a job as a level-one manager at Sandia. Subsequently he served as a director in the satellite group, the intelligence group, international programs, and nuclear energy and waste repositories. Last year Sid was tapped to serve as director of ES&H and Emergency Management Center 4100. Sid says that over the years — because of activities he was involved in during his Air Force and NASA careers — he has developed a passion about safety. “I’ve seen the consequences of the failure to safely accomplish the mission, and I hope that here at Sandia we can take those lessons to heart and not repeat them.”

The Lab News had a chance to sit down with Sid recently to talk about his views on safety at Sandia — where it is now and what he believes we need to accomplish at the Labs.

Lab News: Thanks for joining us Sid. Let me begin with a straightforward question: Why is safety important?

Sid Gutierrez: Safety is important, first and foremost, because we want every individual to go home the same way they came to work. Let me give you a bit of background on my perspective here.

In my various positions with the Air Force and NASA, I was involved in a number of very high-risk activities. I have seen the consequences of safety failures. I not only participated in accident investigations, but also in what we refer to as casualty notification. In that role I had to explain to a mother why her son would be a quadriplegic for the rest of his life and that is something you just cannot explain. I’ve had to tell spouses and children why their loved ones will never come home again. The children are the most difficult of all; those are the memories that never go away. I’ve found that the costs to an organization are significant, but can usually be overcome with time. The impacts on individual families are absolutely devastating and they’re never overcome.

So the most important reason we want to work safely and protect the environment is because we want to protect and take care of the people we are working with, what I call the Sandia family.

The second reason is very interesting. I got interviewed by one of the Smithsonian magazines about a year ago asking about the two space shuttle accidents. One of the things I mentioned in that article was that nothing has been more devastating to NASA accomplishing its mission than the accidents.

The first accident [the *Challenger* accident in 1986], in addition to taking the lives of seven brave Americans, cost the nation \$12 billion to \$15 billion and set the program back at least three years. The second accident [the *Columbia* accident in 2003], in addition to taking the lives of seven wonderful human beings, cost us more than \$20 billion and effectively ended the shuttle program. The space shuttle will stop flying this year.

So my conclusion is that nothing is a greater threat to mission success than an accident.

And NASA’s experiences are not unique. We’ve had similar examples here at Sandia. I’ve had extended con-

versations with [Center 1500 director] Art Ratzel regarding the accident that occurred over a year ago at the sled track. He tells me that nothing has had a greater negative impact on his ability to accomplish his mission than the sled track accident.

LN: We’ve all heard about the sled track. But was that an isolated incident? Have there been accidents that aren’t as high profile, perhaps, but that impact mission work the same way?

SG: Well, we had a pneumatic drilling accident where there was an explosion and shrapnel — fortunately nobody was injured. We had the 100 percent O₂ fire where a member of the workforce was burned, but it could have been much worse. We’ve had several lock-out/tagout [LOTO] incidents where people were dealing with very high voltage without having done proper LOTO, so we could have had somebody seriously injured. The fact is, if you have an accident anywhere at any level, it’s going to slow you down and have an impact on your mission.

But beyond that, if you’re operating in a safe manner, protecting the environment, and doing your work planning properly, then you’re operating efficiently and effectively. Everything goes together. The things you do to operate safely are the same things you’re going to be doing to operate effectively and efficiently.

Work Planning and Controls

LN: Are you talking here about Work Planning and Controls?

SG: Yes. Work Planning and Controls [WP&C] impact safety in that if you plan your work effectively you will identify the hazards and understand how to mitigate the risks. That’s why Work Planning and Controls are an integral part of safety. It’s the way organizations that are working effectively and efficiently do their work. With proper WP&C, the individuals doing the work are aware of the hazards, appropriate controls are in place, and the workers know that these are the methodologies by which we ensure safe and efficient work.

Work Planning and Controls are not an ES&H activity, per se — it’s broader than that — but the underlying policy was written by the ES&H organization and assistance teams have been provided by Center 4100 to help line organizations implement the policy.

The point is that you can’t separate safety from the way you do your work.

LN: Does the culture at Sandia foster safety?

SG: What an organization values is not reflected in what it says it values, but rather in what the organization rewards. At Sandia, what we value and reward is reflected in the prestige we bestow upon DMTSSs. That describes where our culture has been, a culture that values and rewards individual technical excellence above other things.

We need to expand that culture — create a culture that also values the health and well-being of our workforce, our people, our Sandia family — and therefore the behaviors that enable us to accomplish our mission safely.

So as we move forward, behaviors that promote safety, that protect the individual and the environment, will be rewarded. The people selected for promotion and recognition will be individuals who exhibit these behav-



HOW IT’S DONE — Sandia Chief of Safety Sid Gutierrez, right, and Yifeng Wang (6772) go over sound laboratory safety procedures. (Photo by Randy Montoya)

iors, who respect the health and well-being of the people they work with, and who behave in a manner that protects people and the environment while executing the mission.

LN: So if you change what you reward, or expand the definition of what you reward, the culture will follow?

SG: As we reward the behaviors that we expect, the culture will change to reflect that. For example, according to a report I just finished reading, in some leading-

Pole Line Road safety update

If you work in remote areas at Sandia/ New Mexico, chances are you’ve been getting to your worksite via the Pole Line Road detour established by KAFB. See story on page 8 for a safety update.

edge Japanese research organizations the individuals charged with the responsibility for safety in their laboratories are the equivalent of our DMTSSs: their finest, most highly respected, most well-educated individuals.

They’re the ones the organizations depend on to ensure that activities in their laboratories are accomplished in a safe manner. Let me give you an example of how this should work: In a previous organization where I served as the director, I had a possible safety problem that was identified last January during the stand down/department meetings that followed the sled track accident. The problem was related to an activity we had going on in another city. The first thing I did was to get my senior engineer on a plane to that location. I sent my top technical person there because he had the best expertise and outstanding judgment.

When I am speaking with the VPs and directors I ask them: “When you have a tough technical problem, who do you turn to? Your very best technical people. By the same token, if you have a safety problem, who do you



What is WP&C

From the WP&C website: Sandia executive management is committed to providing a rigorous methodology of planning and controlling work commensurate with the associated hazards and risks. This will ensure the structure is in place to perform work within the framework of established requirements, directives, guidance, and best practices. This is the way in which Sandia will do business, as work planning and controls provide a safer, more efficient environment in which we work.

turn to? You ought to turn to your very best technical people to help address the problem.” And along these same lines, I tell directors that when they are walking around doing their surveillances it’s important to have their ES&H coordinator there, but they should also have their DMTS(s) with them. If you’re walking around with your DMTS, if your DMTS is there helping you identify problems, that sends a big message.

I believe that if we really reward safety, we will change the culture. Sandians respond to positive rewards; they will figure it out and respond accordingly. But by the same token if we say we are going to reward the right behaviors and do not follow through, they will also figure that out. It is vital that we reward the best behaviors in everything we do, including VOCs [value of contribution], promotions, awards, and special appointments.

Facilitating change

LN: So Labs leadership has a big role. What would be your role in facilitating change?

SG: The role that I play is threefold.

First, to ensure that Sandians understand the reasons we want to work safely and protect the environment are for the health and well-being of people and mission success.

Second, I want to ensure that everybody understands that each and every Sandia manager and worker is responsible and accountable for working safely and protecting the environment.

And finally, I want to ensure that we all work together as an integrated, partnering team to achieve these objectives. Specifically within Center 4100, we’re working to develop tools that will make it easier for the line organizations, the people who are accomplishing the activity-level work, to do their work in a safe manner while protecting the environment. Some of the tools in development include: “TurboTax” for WP&C — a tool designed to make it easier to implement WP&C; “Wizard” — a tool designed to make it easier for Level One managers and others to access the ES&H policies, processes, and proce-

The rocket man and the champagne

Note: Sandia Chief Safety Officer Sid Gutierrez says the Labs needs to do a better job of encouraging people to report potential problems and concerns. To make the point, he recounts the following story as an object lesson about the value of reporting problems when they occur:

“There’s a famous example in the NASA community that is used to demonstrate why reporting is important and self-reporting should be rewarded.

“During the Apollo effort and the race to the moon, they had assembled a rocket motor for the Saturn V at Huntsville, Ala., and there was a problem. They were working on a tight deadline so they were scrambling to try to solve the problem.

“In the middle of it all, an engineer came forward and said he believed he knew what the problem was. Upon some introspective thinking, he thought he had installed a part incorrectly deep down in the bowels of the rocket motor.

“So they took the rocket motor apart and found, sure enough, deep down there in the rocket motor was a part that had been installed incorrectly.

“So they corrected it and put it back together and everybody in Huntsville thought, ‘Well this poor soul, the guy who had installed this part incorrectly, he’s really in big trouble.’ The next day, Wernher von Braun, who was the head of the Marshall Space Flight Center in Huntsville, called everybody together. He called this young engineer up there and presented a bottle of champagne to him. And he pointed out that the purpose was to reward self-reporting. He wanted to let everybody know that they should not be afraid to come forward when they’ve made a mistake, that he rewarded that kind of behavior. And

years later, decades later, you can still go to Marshall Space Flight Center and people will repeat that example to you, because they think that’s very important.”



PRESIDENT JOHN KENNEDY and Wernher Von Braun discuss the status of the rocket man’s Saturn V project. (NASA photo)

dures that they need; another tool designed to help Level One managers and others prepare for effective self-assessments; and a new ES&H communications website in the ES&H Policy Area in ILMS to provide timely information on current topics and access to lessons learned (See “New ES&H communications approach” below).

LN: Do you feel like you have senior management support in helping you realize that ambition?

SG: Definitely. Before I took this position I made sure that I had senior management support. I have the sup-

port not only of Tom and Al in the Executive Office and all the VPs, but also the support of the [Sandia Corp.] Board of Directors. And I’ve also spoken directly with the folks in the SSO [NNSA Sandia Site Office], including Patty [Wagner, SSO manager] and Kim [Davis, SSO deputy] and I know that I have their support.

Reporting concerns

LN: Do we do a good enough job at the Labs of encouraging people to report potential safety concerns?

SG: The most important thing that I believe we can do at Sandia to correct any problems we may have is to improve our reporting. In the aviation industry, there’s a system called the Aviation Safety Reporting System. If you fly or operate within the aviation system in the United States and you see a problem or you make a mistake, you have the opportunity, unless it’s an egregious mistake or results in an accident, to file an aviation safety report. And that report is essentially a get-out-of-jail-free card. The reason that immunity is granted to people by the FAA and by the US government is to encourage as much reporting as possible. The data from this reporting is studied and lessons learned are applied. As a result, the aviation industry has shown continuous improvement in safety over the years.

So I want to encourage as much reporting as possible at Sandia. It’s my feeling, my belief, my objective, that reporting be encouraged and rewarded. When somebody identifies a problem, I want to encourage him or her to report it and I’ll do everything I can to see to it that this behavior is encouraged and rewarded (see “The rocket man and the champagne” above).

LN: There’s a new policy area called Mission Execution and how does safety fit in with this policy area?

SG: Kathleen McCaughey is leading the new Mission Execution effort and we’re working closely with Kathleen to integrate safety and Work Planning and Controls into Mission Execution because these are not separate activities. They’re all part of how you get your work done. And as I mentioned earlier, one of the primary objectives of our Center is to create processes, procedures, and tools that enable the line to get their work done safely with less complexity and more efficiency.

LN: Sid, is there anything else that you want to mention?

SG: I just want to emphasize again how important it is that we get the reporting process right. We have to encourage reporting and reward people when they identify possible problems that could impact safety.

Also — and I can’t emphasize this enough — we must reward the best behaviors in everything we do. Not just results, but behaviors *plus* results.

New ES&H communications approach

In response to concerns raised by line organizations, Center 4100, policy area for Environment, Safety & Health (ES&H) and Emergency Management (EM), will be implementing a new communication methodology.

The input from line organizations is that there is too much noise and not enough signal from the Center in the form of emails or products such as posters, newsletters, and safety paraphernalia. The ES&H/EM organization listened to different audiences and conducted an informal usability study via one-on-one meetings and group discussions for enhanced feedback and insight as to how to enhance this ES&H/EM communications tool for different audiences. While the content of the communication is valid and is given to facilitate work at the Labs, the perception is that it is not helpful. ES&H/EM is changing the communication mechanism and streamlining all communication elements.

What does this mean? Center 4100 will use a website as a single repository and portal to all information from the Center, accessible through ILMS. The goals of using a central ES&H communication website include: reducing the amount of email from ES&H/EM to line organizations, presenting information that is more usable for line organizations, reducing complexity, and creating consistency.

Changes include the elimination of the Lab Director’s Bi-Weekly ES&H Report (all information found in this report will now be on the communications site), a reduction in the number of postings to the *Sandia Daily News*, and a reduction in the number of individual emails from ES&H.

How will you know when the communications site has new information? An email will be sent twice a month with all the current updates, which may include new articles, ES&H procedure changes, Corporate Requirements Clearing House changes (relating to ES&H), new lessons learned, safety and environmental tips, new newsletters, etc.

One topic in particular was how to change communications from being “ES&H-centric” to a format and content that is more helpful to line organizations. To achieve a less ES&H-centric methodology, Center 4100 needs to reduce complexity by increasing transparency. This site achieves transparency and reduces complexity in several ways:

- Everyone in Sandia will receive the email updates and everyone has access to the site (eliminating the problem of people who aren’t aware of an issue).

- A mirror of this site will be available on the external network (password-protected) for NNSA/Sandia Site Office personnel and the Lockheed Martin Board of Directors.

- Center 4100 will coordinate information before it is sent to the line. ES&H/EM is working diligently with a variety of efforts throughout the Labs, such as Mission Execution, Work Planning and Controls, and the Corporate Requirements Clearing House to ensure meaningful and timely ES&H/EM communications are promulgated that support Mission Execution.

The site will be available in February. Feedback is solicited and can be provided to Jennifer Jennings Carr at 505-284-7676 or jljenni@sandia.gov.

SAFETY

Virtualization

(Continued from page 1)

increasing the utility of these very large national infrastructure investments." Dinda led the development of Palacios with his student Jack Lange.

Because of the complex nature of the classified work performed on Red Storm in the service of stockpile stewardship, its operating system is functionally restrictive compared with a general-purpose operating system.

Leveraging virtualization hardware

Enter the technique called virtualization. A virtual machine in effect separates the hardware of a computer from its operating system.

"Our observation is that no single operating system will satisfy the needs of all potential users," says Kevin, "so we are attempting to leverage the virtualization hardware in modern processors to allow users to select the operating system best for them to use at run-time."

This could permit one machine to simultaneously run multiple operating systems, with the possibility of migrating these systems from one computer to another. To achieve this trick on Red Storm, a receptor operating system called Kitten has been developed primarily at Sandia, while a virtual machine monitoring program called Palacios was developed at Northwestern. Operating through the filter of this programming translation, a program not native to Red Storm can run on nodes of the machine.

The overlaid program was only 5 percent less effective than running Red Storm's native, fixed programming. That figure, called overhead, represents the additional expense in time and efficiency of running the program in a virtualized environment.

"We believe the results show that the benefits of virtualization can be brought to even the largest computers in the world without performance compromises," says Kevin.

This would mean that researchers around the world should one day be able to run their own simulations on huge machines at remote sites without having to reconfigure their software to the machine's specific hardware and software environment.

Supporting a broader range of applications

"Virtualization technology provides a path for supporting a broader range of supercomputer applications, both for traditional scientific computing and for national security purposes," says Kevin.

The virtualization market in general is reported by industry magazines to be billions of dollars.

The work was funded by Sandia through its Laboratory Directed Research and Development program. Northwestern and UNM work was funded by the National Science Foundation.

Virtualized operating system team

Dept. 9328: Bob Ballance, John Noe, Jason Repik (Cray, onsite), Barry Oliphant (Cray, onsite), Dick Dimock (Cray, onsite), Victor Kuhns (Cray, onsite), and Bob Purdy (Cray, onsite)

Dept. 9336: Curtis Keliiaa

Dept. 1423: Sue Kelly, Michael Levenhagen, Courtenay Vaughan, Kurt Ferreira, Ron Brightwell

Sandia's new Corporate Requirements Clearing House launching February 1

By Stephanie Hobby

Sandians will soon experience more time to do their jobs as they spend less time having to wade through a barrage of ever-changing work requirements. That's the outcome Sandia leadership hopes will result from the establishment on Feb. 1 of a new "Requirements Clearing House."

The Clearing House will review all new requirements before they can be implemented, with the intention of reducing what has come to be seen as an increasingly burdensome amount of requirements heaped on Sandians.

Beginning in February, policy area managers who wish to release requirements to more than one division and strategic management group will need to submit their request to the Requirements Clearing House. The Clearing House is made up of a committee of 20 people, mostly directors, who represent every policy area, division, and strategic management group across the Labs. To keep requests from getting bottlenecked, the committee will meet for three hours three or four times per month to decide which requirements are necessary and how to most efficiently and effectively manage them. The Clearing House is sponsored by Chief Operating Officer Al Romig, who will serve as an arbitrator if there is a disagreement between the Clearing House and the policy area manager who is requesting the new requirement.

Not unnecessarily burdensome

"The Clearing House is an approach that we're taking to try to make sure that requirements that we have, either those coming from outside the Labs or things that are developed within the Labs, are not unnecessarily burdensome," says Tom Blejwas (9700), director of Management Systems and Support and policy area manager for corporate governance policy.

Currently, policy area managers have the authority to implement requirements as they see fit with little oversight, which creates a lot of complexity across the Labs. "We have plenty of existing requirements, and we create a lot of new requirements, but we don't think about integrating those requirements, and we really don't manage them," says Clearing House Chair Kathleen McCaughey (2700), Mission Execution policy area manager and director of Responsive NG Product Deployment.

Not only do these requirements sometimes overlap and make work more complex, they can contribute to



ERICA LOPEZ-HAMBY and Doug Nordquist (both 10620) look over plans for the new Communications Clearing House, which will launch Feb. 1. (Photo by Randy Montoya)

safety hazards. An investigation following the sled track incident found that the volume of requirements was a key contributor to the accident. "It was determined that part of our problem is that we have too many instructions out there and too many requests that people have to follow, and as a result of that, it's impossible for people to keep up with all these different requirements," says Bonnie Apodaca (10600), director of Business Management Operations who oversees Administrative Operations in the Clearing House.

Organizers say this new system will allow members of the workforce to spend more time doing their jobs and less time wading through what leaders call "a barrage" of changing requirements, which is expected to result in tremendous cost savings across the Labs.

"You start seeing the potential for millions of dollars in savings," Bonnie says. "That also relates to several thousands of hours of savings, so you start giving people time back to do their core work."

With more streamlined requirements, Kathleen says, the Labs will see reduced complexity and greater efficiency. "People should understand that when a new requirement becomes effective, we've thought through it, we understand it, there's a reason for that new requirement, and that people like them have looked at it to make sure that it actually enables mission work," Kathleen says.

The procedure will be part of the Corporate Policy System, which is in ILMS, and is expected to be online at the end of January. If you have any questions, you are encouraged to call Erica Lopez-Hamby (10620) at emlopez@sandia.gov or visit the Change @ Sandia Site at http://info.sandia.gov/Change_Sandia.

Pole/Power Line Road safety update

Problem

As many know, Kirtland Air Force Base (KAFB) is conducting repair work on the bridge over the arroyo on Pennsylvania Avenue that has closed that portion of Pennsylvania Avenue to traffic. The alternate route is via the unpaved Pole/Power Line Road that is subject to varying conditions based on the weather. Many people have expressed concerns about the safety of using Pole/Power Line Road in inclement weather to Infrastructure Operations departments, which include Facilities, Traffic Engineering, Safety Engineering, and Emergency Management.

Actions

There has been extensive dialogue among representatives of Sandia's Environment, Safety & Health (ES&H), Emergency Management (EM), and Facilities Management and Operations Center (FMOC) and the KAFB Fire Department prior to and after the recent snow/rain. Listed below are some actions taken by Sandia and the Air Force to mitigate the risks to using this road:

- Assess risk of traveling on Pole/Power Line Road (Traffic Engineering/Emergency Management)
- Grading activities (KAFB bridge contractor/KAFB

Maintenance Department, Chugach, Sandia Facilities Grounds Maintenance)

- Communicate information to members of the workforce on road conditions (posted three traffic safety warning signs at the entrance to each access point)
- Sandia emergency responders are staged during the week in Tech Area 3 and KAFB Fire Department Station Three; they can provide immediate response to Tech Area 2 and Tech Area 5 and the southern remote areas without delay



- An alternate route (not a public access road) has been determined for additional emergency response units to respond to the southern remote areas if Pole/Power Line Road is closed
- Sandia's Traffic Safety Committee met to discuss and coordinate notifications and to address safety concerns

Notification of Pole/Power Line Road conditions

- Email messages
- Sandia Information Line (dial 1-800-460-0601 or 845-6789. There will be a short pause before providing you menu choices, press 5 for adverse weather conditions)
- Radio Sandia: 1640 AM
- Traffic safety warning signs (at the entrance to each access point activated with a message when road conditions are impacted)
- Techweb banner on the SRN homepage

Safety tips

If you use Pole/Power Line Road, obey the speed limits, consider the weather conditions in your travel plans, and report any problems to Emergency Management. Follow any contingency plans you may have for these circumstances, including any telecommuting work arrangements made with your manager.



Feedback

Sandia Feedback program a fixture since 1973

Q: What is Feedback?

A: Sandia's Feedback Program, established in 1973, is designed to facilitate both upward and downward communication at the Labs. The program enables employees to question policies or procedures, and point out areas of discontent and frustration. Feedback allows management to answer difficult and sensitive questions, to learn what employees want or need, obtain suggestions for making improvements, and to determine if policies and procedures need changing. The submitter's identity remains confidential, known only by the Feedback program administrator unless the submitter specifically asks to be identified with the question.

Q: Who is eligible?

A: Member of the Workforce (MOW): Sandia employees and retirees and contract personnel who are subject to the Sandia Business Rules through the terms of their contract.

Q: How do I submit a question or comment?

A: On the Techweb Homepage, click on the Feedback link in the Around Sandia section and then Submit a Question. Complete and submit the electronic form. Questions can also be submitted via fax, by email directly to the administrator, or through internal mail. Unless otherwise requested, submitters' names will be kept confidential, known only by the Feedback administrator. Remember, if you do not include your name with your submission, there will be no response, which is otherwise guaranteed. Anonymous submissions will be forwarded to the appropriate director for their information only.

Q: How does the process work?

A: The administrator, acting as a neutral party between the questioner and responder, contacts the appropriate director, or subject-matter expert regarding a response. Once ownership of a question is established and assigned, a response is expected in 15 calendar days; however, questions requiring research often take longer. The administrator will then contact the submitter by e-mail; to verify receiving the question, notify them of the assigned case number, what director was assigned to respond, or possibly to clarify the question.

Q: Who answers the question?

A: Directors are responsible for replying or for obtaining answers from subject-matter experts in their centers. Directors then review and sign responses, ensuring

management awareness of problems and questions about their centers' services, policies, and products. Directors have the option and may request that their response not be published in the Lab News or posted on the Internal Web.

Q: Are there any questions that are inappropriate for Feedback?

A: Yes. The administrator will return to the sender questions that are not company-related or ones that deal narrowly with the employee's own job. The administrator will encourage the employee to discuss the latter with his or her line organization management.

Q: Will Feedback encourage people to "bypass the boss?"

A: No. It is clearly stated at the top of the Feedback form "your immediate supervisors are the best source of information about Sandia National Laboratories and your work." Feedback is set up to handle questions that supervisors, in all likelihood, are not equipped to answer authoritatively without considerable research.

Q: Why does Feedback promise confidentiality?

A: Confidentiality (only the Feedback Program Administrator has access to the names of individuals who submit questions) encourages employees to ask questions or make comments, including those that might be considered critical of management, without being thought a "troublemaker." Any breach of confidentiality would inhibit the free flow of two-way communication, which is the chief value of Feedback.

Q: What does Sandia hope to gain from Feedback?

A: Feedback has three basic purposes:

- To help clear the air on matters that concern employees
- To help management identify and address areas of concern
- To enable management to examine policies and practices of concern and either change them if appropriate, better explain them if that seems fitting, or restate them if they are unclear.

Q: Publishing/reports?

A: Questions/answers (submitters names are never published) of general interest may be published in the Lab News and/or posted on the Feedback website. A quarterly and a year-end report will be generated and e-mailed to all directors and above.

Recent Feedbacks: Reduced costs, pensions, retirement plans, compensation

Q: While developing project proposals for FY10, our budgeting tools used SLRs (labor rates) that were approximately 5% higher than for FY09. Yet, we're now told that the FY10 average raise, on an annualized basis, is closer to 0.5%. Is Sandia informing potential customers of the reduced costs that would occur with these lower labor costs? Especially for proposals not yet accepted, the lowered labor costs might turn a "rejection" into an "acceptance".

A: Your question provides the opportunity to elucidate the cost elements that are embodied in the 25 Standard Labor Rates (SLRs) that Sandia uses for budgeting and subsequent costing purposes. If the SLRs were only a reflection of employees salaries then the assertion in your feedback question would be absolutely correct. However, the SLRs embody the various cost elements of fringe as well as employee salaries. For example, some of the fringe elements that are typical of any company and of Sandia are payroll taxes that Sandia is legally bound to match such as FICA, the laboratories matching portion of savings plan, health care benefits and pension contributions to mention a few. The last two, health care and pension contributions are the contributing factors in the approximate growth of 5% in the SLRs over FY09. In this regard, Sandia is again typical of other companies who are faced with the same challenges of funding the rapid growth of health care costs and honoring the funding levels of pension plans.

— Philip Montoya (10508)

Q: I have begun to hear rumors that our pension might be frozen when the new contract is placed in FY12. Can you tell me the likelihood of this happening? If you are not able to comment for legal reasons, I'd appreciate knowing that as well.

A: DOE has not issued any formal specifications, including specifications on benefit plan provisions, concerning the contract placement in 2012. We have no basis on which to assess what, if any, changes DOE may seek to Sandia's pension plans. As you are probably aware, non-represented employees hired after 12/31/08, OPEIU-represented employees hired after 6/30/09, and both MTC-represented and SPA-represented employees hired after 6/30/10 are not eligible for Sandia's pension plans. While Sandia's Board of Directors approved those changes and reserves the right to amend the pension plans at any time, subject to any applicable collective bargaining agreements, there are no plans at this time to freeze the pension plans for employees hired before 1/1/09 (or before July 1, 2009 for OPEIU-represented employees or July 1, 2010 for employees represented by the MTC or SPA).

— Mark Biggs (10520)

"Sandia is again typical of other companies who are faced with the same challenges of funding the rapid growth of health care costs and honoring the funding levels of pension plans."

— Philip Montoya (10508)

Q: I was diagnosed with macular degeneration in both eyes about 10 years ago. I have noticed some deterioration in my night vision but can still see fine during the day. I hope to work another eight years at Sandia. Would Sandia accommodate my condition so that I can remain employed at the lab if my eyesight continues to worsen? That might include trimming my work hours during the winter months to avoid driving in the dark and low-vision reading devices.

A: Sandia is committed to providing an inclusive work environment that allows employees to fully contribute to mission success. Sandia endeavors to make reasonable accommodations to individuals with a disability as defined by the Americans with Disabilities Act, unless such accommodation would impose an undue hardship on the business operation of the Laboratories. Reasonable accommodation is determined on a case-by-case basis. Employees may, at their discretion, self-identify as a person with a disability, and request accommodations. The process for self-identifying as an individual with a disability and requesting an accommodation is described in Corporate Procedure HR100.5.6 – Affirmative Action for Persons with Disabilities and Covered Veterans and Procedure to Self-Identify Under Sandia's Affirmative Action Program. You may also contact your manager or medical staff in Health, Benefits & Employee Services (HBE) to request a workplace accommodation. In addition, Sandia's Job Accommodation Specialist in EEO & AA Services is available for consultation with regard to the accommodation process. Any information submitted through the process of self-identifying and requesting a workplace accommodation is confidential and will be handled in a manner to comply with applicable medical privacy laws and regulations. After a disability-related accommodation request has been made, Sandia will

use the information provided to engage in an interactive dialogue with you to identify reasonable accommodations/work modifications that would enable you to perform the essential job duties.

—Kim Maxwell (3552)

Q: Why is compensation and market comparison now focused on Total Cash Compensation received by Sandia employees rather than the base salary they receive as it has been in the past?

A: Sandia's compensation and market comparisons have always been focused on total cash with base and non-base being the components within the total cash compensation an employee receives. This is not a change from past practice but rather we are providing a stronger communications focus around our practice.

—Melissa Creange (3511)

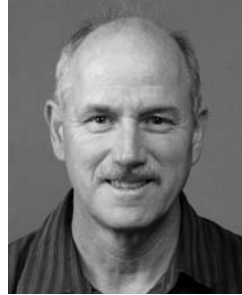
Q: Has there been a study of telecommuting as a cost-saving measure in regard to sickness absence costs? It seems staff often drag themselves into work sick to cope with workload, and presumably many are contagious. If a general telecommuting approval was available, multiple savings could be captured: staff well enough to be working online could stay home that day while contagious. The sick get better faster and don't infect others, so overhead charges to illness should be reduced all around. The current telecommuting approval process does not meet this need.

A: Employees are generally encouraged by their managers to stay at home if they are ill or contagious. In many cases those same employees are logging in from home and dealing with work issues as they are able based on their illness. Assuming the work can be completed from an off-site location; this is an acceptable practice and does not require that a formal telecommuting agreement be put in place. In this instance, the manager is working with an employee on a one-time basis to support business needs while acknowledging the employee's illness over a limited period of time. In these situations, the employee should charge their time in accordance with normal time keeping practices, e.g., charge their time as worked. Telecommuting agreements should be used in cases where an employee will be working from a non-work location on a specified schedule for a specified time period on a recurring basis. The current telecommuting procedure does not specify a minimum period, however, it should be viewed as normally greater than 30 days. This context of time will be added to future revisions of the procedure.

—Karen Gillings (3550)

Mileposts

New Mexico photos by Michelle Fleming

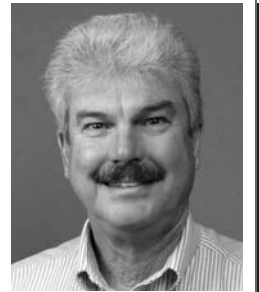


Jerry Boyd
30 5351



Edward Garavaglia
30 1534

Recent Retirees



Steve Richards
40 2622



Ron Kulju
30 5919



Mary Cook
25 2613



Randy Harrison
25 2132



Mike Neilsen
25 1526



Lyndon Pierson
34 5620



Jeff Quintenz
34 4800



Merri Lewis
32 10265



Arnel Oczon
25 5336



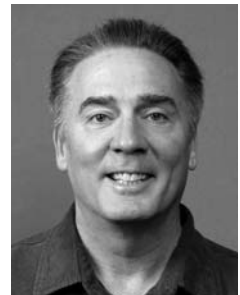
W.R. Chip Olson
25 5573



Stuart Van Deusen
25 1111



Rich Wickstrom
25 5535



Scott Joyce
29 9511



Virginia Clark
23 3330



Bryan Drennan
15 4122



Carl Axness
20 6784



Bob Huelskamp
20 5730



Timothy Petersen
20 6752



Ernest Vinsant
20 4133



Walter Huebner
15 5529



B. Kay Sedden
15 3331



Nicholas Winowich
20 6752



Larry Young
20 5422



John Aidun
15 1435



Emily Fuller
15 1384



Ronald Goeke
15 1832



Anita Reiser
15 4133



Jonathan Salton
15 6473

Museum launches first-ever National Nuclear Science Week



Photo by Randy Montoya

Principal Deputy Assistant Secretary of Energy Peter Lyons (in photo at left) was on hand in Albuquerque Monday to help launch the first-ever National Nuclear Science Week. Lyons was one of several speakers at a news conference at the National Museum of Nuclear Science and History, the host organization for the event, which was organized around the theme "Get to Know Nuclear."

Supporters of the week-long event include Sen. Jeff Bingaman, D-N.M., chairman of the Energy and Natural Resources Committee; retired Sen. Pete Domenici of the Bi-Partisan Policy Center; and industry and professional organizations including the Nuclear Energy Institute, the American Nuclear Society, AREVA; Arizona Public Service, Entergy Corp., Exelon, Louisiana Energy Services, Los Alamos National Labs, Sandia, the Society of Nuclear Medicine, US Women In Nuclear, North American Young Generation in Nuclear, and the American Society of Radiologic Technologists.

"It's time to step forward and get to know nuclear — it's a source of clean energy, helps save lives through the medical industry, and has pro-

vided great technology advancements for humankind," says museum director Jim Walther. "The contributions of nuclear science are many, and recognizing the importance of nuclear medicine, energy, and careers is very timely."

Here are some nuclear facts:

- 18 million nuclear medicine procedures are performed per year in the United States (www.world-nuclear.org)
- 104 operating nuclear reactors in the US employ an average of 700 people to operate them
- 31 states have nuclear power generating plants (www.nei.org)
- 20 percent of the nation's electricity is generated by nuclear power (www.nei.org)
- 436 nuclear power plants are operating in 30 countries, supplying 14 percent of the world's electricity
- Fifty-three new nuclear plants are under construction in 14 countries. (www.nei.org)

"We are proud to be a part of the effort to showcase the benefits that nuclear medicine and nuclear energy bring to our lives," Jim says. "The next generation deserves to understand how science creates vital changes to all aspects of human life."

Friends, family, and the SWAT to help build Larry Lane Habitat for Humanity house

By Iris Aboytes

What do Sandians do when they retire? Some go back to work. Some travel. A cadre of them builds Habitat for Humanity houses around the world. They don't call it work, they call it going on vacation.

Larry Lane was one of those retirees. Larry died recently and Betty, his wife, and friends have decided to celebrate his life by building a Larry Habitat for Humanity house.



LARRY LANE extends a helping hand during a Habitat for Humanity home-building trip to Guatemala. Larry's friends in Albuquerque are building a "Larry" Habitat for Humanity house in his memory.

With more than \$20,000 from the Lane family, the groundbreaking is scheduled for March 24. The remainder of the money to build the house is being raised by his many friends, family, and the local Habitat affiliate's SWAT, Special Work Assignment Team. The SWAT is made up mostly of retirees.

Larry signed up for his first Habitat for Humanity house in 1998 and got hooked. Some Habitat folks say he caught "Habititis," for which there is no known cure.

"Larry truly believed that Habitat changed people's lives," says Betty. "We helped build several homes in New Mexico and extended our travels to Guatemala and the Gulf."

Betty is a retired school teacher. When they were on a Guatemala Habitat build a few years ago, both Larry and Betty helped with the house building, but Betty would also take time to teach the children. "It is amazing what a few crayons can do for children," she says.

"Larry was a mathematician," says Betty. "I remember on one of our builds in the Gulf he counted the number of nails that would fit in a pocket of his carpenter belt and at the end of the day he could tell you how many nails he had hammered that day."

Retiree Irv Hall, who was in Vietnam building a Habitat House before the holidays, says, "Larry believed in giving a hand up, not a handout. Larry and Betty have been generous with their resources, time, and talent. I feel blessed to have known my friend Larry and to be able to help build a house in his honor. A needy family here in Albuquerque will have a better life



LARRY LANE'S "Habititis" motivated him to travel to Guatemala on a home-building trip.

because of the Larry House."

Sandia retirees have many times been the house captains on Sandia/Lockheed Martin homes. If you would like more information on the Larry House, contact the Greater Albuquerque Habitat for Humanity or Irv Hall at hall_irv@ix.netcom.com.

Former Sandia VP Frank Figueroa used to say that Sandia retirees are Sandia's secret weapons. What do you think?

Manny Valenzuela honored as firefighter of the year

By Iris Aboytes

Manny Valenzuela (4136) knew something was up, but he did not know what. He and his partner Julian Trujillo were encouraged several times to attend the annual Christmas Firefighters' Ball in December. He had not been encouraged to attend before. He was pleasantly surprised. Manny and Trujillo were honored as cofirefighters of the year.

In June 2009, Manny and Trujillo ran about one-half mile along the channel and rescued a 13-year-old boy.

"We were very fortunate," says Manny. "During rainy summer months, an arroyo can quickly be filled with raging water, taking unprepared people along with it. You get a sick feeling when it is beyond your control to rescue them. I want to always reach them."

Manny is a firefighter in Station No. 13. He works 48 hours on and 96 hours off. He is on Sandia's Emergency Response Team for 20 of his off hours.



BEHIND THE WHEEL of Engine 13, Manny feels at home as he works his shift with the Albuquerque Fire Department.

(Photo by Randy Montoya)



MANNY READIES himself to respond to a call.

(Photo by Randy Montoya)

Manny worked in Los Alamos for 11 years before coming to the Albuquerque Fire Department, where he has been for almost eight years. He is pleased to be in Albuquerque where he can help look out for his neighbors.

"I enjoyed working in Los Alamos," says Manny. "I am still in contact with a lot of the people. I was in Los Alamos during Cerro Grande [the fire that swept through Los Alamos in May 2000] and will never forget the destruction, the vengeance, and terror that it left in its path. That fire had its own agenda."

"I worry about Manuel's safety," says his wife Regina Valenzuela (10694). "But I'm very proud of him. He helps people in trouble. Manuel is the kind of rough-and-ready guy I would want around if I were in a bad situation. He was always very calm and rational during little emergencies with our kids. I would always be the one freaking out."

Manny first knew he wanted to be a firefighter when

he was a 17-year-old junior in high school.

"A family member was leaving, got into the car, and began to back out," says Manny. "What we did not know was that my three-year-old nephew had gone behind the car. He was immediately knocked down and went into shock. My sister, as upset as she was, carried my nephew, and I drove them to the hospital. He was not injured, but I will never forget how helpless I felt. I wanted to be able to help. I never want to feel like that again."

"It is hard to get into the fire department," says Manny. "I took classes that enabled me to be accepted into the fire academy while working in construction. I was very fortunate to be hired by the Los Alamos Fire Department."

Manny did not set out to be hired by Sandia. He was a contractor escort and met Sandians who encouraged him to apply for a job here. "I am glad they did," says Manny. "The volume is not as great and I get to work 10 hours each day and go home."

Manny believes the constant training keeps firefighters prepared to help people and make a difference. "How else could a man my age have helped the 13-year-old?" he says.

"It is a wonderful feeling when you feel you have made a difference," says Manny. "It is also very humbling. I feel proud that I helped a young man have many tomorrows."



MANNY VALENZUELA