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Event

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Sticker shock awaits office tenants that landed some great Class A space at bargain prices in the Great Recession.

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Cables for the USS Carl Vinson's new CANES computer network snake above the heads of Lt. Cmdr. Clifton Jackson, left, and Cmdr. Brent Lapp. Jackson is on the Vinson's information technology staff. Lapp is assistant program manager for the CANES program in San Diego.

UNIFORM APPROACH

DEFENSE: Navy's New CANES Network Brings IT Versatility and Unity

■ By BRAD GRAVES

The USS Carl Vinson is 1,092 feet long, weighs 97,000 tons and serves as a floating airport.

Big and imposing as it is, however, the aircraft carrier moored at North Island for a long maintenance period is a small example of a much bigger information technology project.

Among the upgraded gear going into the Carl Vinson this fall is a new central computer network. The flattop is among more than 150 U.S. Navy ships scheduled to receive similar networks through 2024, under a program called CANES. The price tag for CANES — or Consolidated Afloat Networks and Enterprise Services — is $2.53 billion.

➡ *CANES page 63*

New Novatel Leader To Decide on Direction

TECH: Recent Acquisitions, SaaS Options And Hardware Challenges on Plate

■ By BRAD GRAVES

After a tumultuous couple of years, **Novatel Wireless Inc.** is still trying to find its identity.

By now it's clear that **Sue Swenson** will be the person shaping it.

Board members installed Swenson, their chairwoman, as CEO on Oct. 27 after firing CEO **Alex Mashinsky**, who served in the job for 16 months.

The transition came on the eve of the company's quarterly financial results conference call, when investors told Swenson they would be watching her closely. The company has not been profitable since 2009.

Novatel Wireless is the company that

➡ *Novatel page 62*

Co. Takes the Measure Of Sponsored Athletes

DATA: Brand Mentions, Fan Interaction Tabulated

■ By MICHAEL LIPKIN

Houston Rockets star shooting guard **James Harden** inked a $200 million deal this summer to promote **Adidas** sneakers for the next 13 years. **Nike**, Harden's former sponsor, declined to match Adidas' offer for the three-time all star. Did one of the shoe companies make a huge mistake?

Sports analytics firm **Hookit** is closing in on technology that could answer that question. Hookit crunches data on pro players'

➡ *Hookit page 60*

Amplyx Takes Aim At Antifungals

PHARMA: Puts Big Series B, Experienced Team Into Fight

■ By BRITTANY MEILING

Mike Grey

Biotech investors seeking big returns don't usually gravitate toward drugs that treat fungal infections. But increasingly, serial entrepreneurs (and their financial backers) see antifungals as a decent business opportunity. The latest infusion of cash against superbug strains goes to San Diego's **Amplyx Pharmaceuticals.**

➡ *Amplyx page 61*

Boffo Experience Drives High-End Niche

HOSPITALITY: Companies Furiously Updating Theaters

■ By LOU HIRSH

Fresh out of college in 1993, **Adolfo Fastlicht** joined with three friends in Mexico City to form **Cinemex**, taking on several longer-established Mexican theater chains to eventually offer a more upscale, luxury version of moviegoing.

Now he's joining the fray in what's become an extremely competitive San Diego County market for cinephiles willing to pay more at the box office, in exchange for plush reclining seats, the latest high-tech sound and video enhancements, and food that goes beyond the

➡ *Backlot page 61*

The only source of knowledge is experience.

— Albert Einstein

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Stephen Whalen

Petty Officer 3rd Class Brandon King looks over one of the new rack enclosures aboard the aircraft carrier USS Carl Vinson.

CANES:

from page 1

Northrop Grumman Corp. designed CANES. The business performed the initial phase of the program under a contract worth more than $600 million.

The customer is nearby in Old Town: it's **SPAWAR**, the Space and Naval Warfare Systems Command, which buys the Navy's information technology gear.

Now that the project is in full production, the Navy is splitting the work of installing computer systems on its ships, submarines and shore stations among seven vendors, who are competing for task orders on the mammoth project (see adjacent box).

Serco Inc. is the prime contractor for the installation on the Carl Vinson.

Serco does $140 million in shipboard modifications per year, with 60 percent of that CANES, said **Kent Brown**, the locally based vice president of the company's C4ISR business unit. The acronym stands for command, control, communications, computers, intelligence, surveillance and reconnaissance.

Systems for other ships are going together at Serco's Balboa Avenue office, Brown said, and the company is hoping to get the contract for San Diego's newest carrier, the USS Theodore Roosevelt. Serco is a subsidiary of **Serco Group PLC**, based in the United Kingdom.

Security From the Get-Go

One goal of the CANES program is to put identical networks on every ship. Ships tend to have one-of-a-kind networks, a SPAWAR spokesman said.

The CANES system will serve tactical users — that is, the fighters — as well as users doing support and administrative tasks. It will carry voice, video and data.

A key component of CANES is built-in cybersecurity. "It's not a bolt-on afterthought," said Cmdr. **Brent Lapp**, an assistant program manager at SPAWAR. Lapp oversees network design and development, the purchase of CANES equipment and its installation. CANES is "more cybersecure than any (shipboard) network we've fielded before," he said.

So far, 25 ships have CANES networks.

Each CANES network replaces five existing shipboard computer networks, which don't necessarily have the same underlying software. Lapp compares it to an office with one network running Windows 7, another running Windows 8 and a third running Windows 10. The Navy has to provide documentation, training, parts and logistics to support all of them, Lapp said. CANES simplifies the task.

"It is infinitely easier to patch with one operating system," said Lt. Cmdr. **Clifton Jackson**, the Vinson's combat systems information officer.

The CANES program calls for regularly refreshing the software and hardware. "It's programmed into the budget," Lapp said.

James Ogletree of Northrop Grumman (NYSE: NOC) said one of the bigger issues on his desk is technology refresh. There is always something coming to the end of its life, said Ogletree, who is director of maritime command and control for Northrop Grumman in Herndon, Va.

"We're working with the Navy to stay ahead of it," he said. "It's a challenge."

Network 'Light Off'

The Vinson's public affairs staff spread the word that the ship's new computer infrastructure reached the "light off" stage on Oct. 16. The term basically means that all the racks had been set up and turned on. Following that is a lot of software installation. The process can take many weeks, Brown said.

On the topic of software, servers are virtualized, meaning that a single physical server — the metal box — can support more than one virtual server. **PC World** author **Kier Thomas** compared virtualization to "The Sorcerer's Apprentice" sequence in the Disney film "Fantasia," where Mickey Mouse chops a single magic broom into multiple brooms — or multiple workers who gang up to tackle the jobs at hand.

Work on the Carl Vinson was still proceeding Nov. 2, when visitors from the **San Diego Business Journal** got a rare look inside the ship. The hangar deck was crammed with construction materials. The smell of solvent and hot electrical equipment hung in the air.

In the automated data processing space a few levels below the flight deck, brown paper protected the floor and plastic shrouded the overhead lights.

In the adjacent compartment were rows of servers discreetly marked Northrop Grumman. Contractors with the name Serco on their clothes made their way through the cramped spaces or had their eyes on laptop computers.

Part of the job on the Carl Vinson is ripping out roughly 100 miles of copper cable and fiber optics, and installing 100 more miles. A single cable might need to travel through 30 compartments to get to its final destination.

"Over the river and through the woods," Lapp said. "The man-hours required to run a single cable is extraordinary."

The automated data processing compartment has a 1-foot-by-2-foot hole in the upper part of one wall, stuffed with fiber optic cables. Space is at a premium on an aircraft carrier, so a 2-square-foot hole is "pretty generous," Lapp said.

Twelve other ships in the fleet are getting their CANES networks right now and at least three are in the port of San Diego.

The Carl Vinson is the third aircraft carrier to get CANES.

It took 16 months to install the network on the USS John C. Stennis and eight months to install it on the USS Ronald Reagan.

The Navy's information technology team expects installation time on the Carl Vinson to be seven months.

"With each one, we get better at it," Lapp said.

THE BIDDERS

Seven companies bid for production work on the CANES system, and the U.S. Navy ended up awarding seven contracts. They are indefinite-delivery, indefinite-quantity deals. Contract winners are now competing against each other for task orders.

Businesses receiving contracts on Aug. 20, 2014, were:

BAE Systems Technology Solutions & Services Inc., Rockville, Md.

General Dynamics C4 Systems, Taunton, Mass.

Global Technical Systems, Virginia Beach, Va.

Northrop Grumman Systems Corp., Herndon, Va.

Serco Inc., Reston, Va.

Businesses receiving contracts on Jan. 8, 2015 were:

CGI Federal Inc., Fairfax, Va.

DRS Laurel Technologies, Johnstown, Pa.

Note: An indefinite-delivery, indefinite-quantity contract is a chance to bid on work. Some in the defense industry informally call an ID/IQ contract a "hunting license."

What the seven contractors "hunt" are individual task orders. The Navy says they need a contractor to work on aircraft carriers, and the contractors compete for that opportunity.

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