

# TeleSoft

THIRD QUARTER 2004

## NEWS

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#### Save the Date

**OCTOBER 28-30, 2004**

**TeleSoft Partners' Annual  
VC Ecosystem Meeting**

The Ritz Carlton  
Half Moon Bay, California

#### TENTATIVE KEYNOTE SPEAKERS AT TELESOFT'S 2004 ECOSYSTEM MEETING

##### IT SPENDING & ARCHITECTURE

Curt Nichols, Intel  
Stephen Minton, IDC

##### SERVICE PROVIDER TRENDS

Carl Russo, Calix  
Hossein Eslambolchi, AT&T  
James Collier, Ciena  
Jeff Fox & Philip Junker,  
ALLTEL  
Kevin O'Hara, Level3  
Rajesh Vashist, Ikanos  
Thomas Kuehr & Heinrich  
Arnold, Deutsche Telekom

##### ENTERPRISE IT TRENDS

Danny Shader, Good  
Technology  
Dennis Grant, CreekPath  
Don Liedtke, ACS  
John Schwarz, Symantec

##### INDIVIDUAL-CENTRIC MARKETS

Atiq Raza, ex-AMD COO  
David Nagel, PalmSource  
Don Listwin, Openwave  
George Fink, Tele Atlas

##### CAPITAL MARKETS

Mike Danaher, WSGR  
Robert Abbe, Broadview  
Robert Buxton, CIBC

#### A WORD FROM THE FIRM

Congratulations to Ikanos for filing its S-1 for an initial public offering with underwriters Citigroup, Lehman, UBS, and Wachovia Securities. Congratulations also to LogLogic, Sierra Design, and Xambala for closing new financings—all three of which were up rounds from the previous financings. In addition to participation from existing investors, Xambala added new investor Jafco Ventures in its \$12 million round, Sierra Design added Evercore Ventures in its \$8 million round, and LogLogic added Worldview Technology Partners in its \$11 million round. TeleSoft is also delighted to announce a new investment in VoiceObjects, with Deutsche Telekom, a software voice applications server company in Germany. SAP recently announced an agreement to embed VoiceObjects in its products.

We welcome new team member Tracey Miles and welcome George Schmitt in a new role. Tracey joined TeleSoft after working as the facilities and administration manager at

Woodside Fund. We are delighted to have George join us to work on new and existing investments. George is the ex-CEO of Omnipoint Communications and of PCS PrimeCo. He also held leadership positions at Pacific Telesis and AirTouch Communications. Congratulations also to Amos Ben-Meir, who has joined Xambala as the acting vice president of engineering.

Please be sure to visit TeleSoft Partners' new Website ([www.telesoftvc.com](http://www.telesoftvc.com)). See you at TeleSoft's Annual VC Ecosystem Meeting on October 28-30 at the Ritz Carlton at Half Moon Bay!

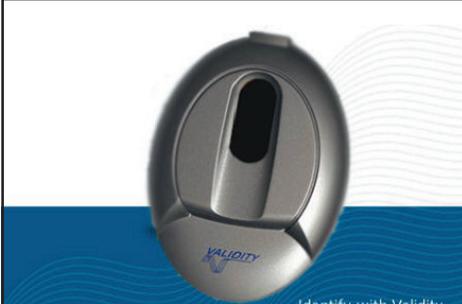
**Arjun Gupta**

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#### PORTFOLIO NEWS

The Validity VFS101 2D Swipe Sensor™ has the highest reliability of any low-cost fingerprint sensor. For more news on our portfolio companies and their products, see page 7.

Identify with Validity

# From the Front Lines

## Storage for Portable Consumer Devices Comes of Age

BY DAN STEERE

Designers and marketers of consumer electronic devices don't have an easy task. Exciting new opportunities are continually reshaping the industry landscape. Innovation in products such as digital cameras, music players, portable game decks, and multimedia cellular handsets are driving dramatic change and growth. At the same time, cost-sensitive consumers create cutthroat competition that drives aggressive price erosion in these new product categories even as they begin to enter mainstream use.

Key component technologies such as color screens, high-performance embedded CPUs, and other electronics inside the device are all fighting for a share of the bill-of-materials budget. Perhaps more than any other component, the selection of a data storage technology affects the character of the entire consumer device. A thorough understanding of these options is critical if the leading manufacturers are to achieve the right mix of features and budget to deliver a product that is fun, durable, and price competitive.

The incentive and importance to finding this balance is evident when examining the market opportunities for these highly desirable new gadgets. Digital cameras, for example, have grown from sales of approximately

5 million units in 1999 to an estimated 81 million units in 2004, while flash memory cards for storing digital photos are projected to reach 261 million units and \$7.5 billion in 2004 (Semico Research Corp., July 2004). Shipments of portable digital audio players hit 24 million units in 2003, representing revenues of more than \$3 billion, with both unit shipments and revenues of these devices enjoying growth rates of more than 200 percent (In-Stat/MDR, April 2004).

“**P**ortable data storage options aiming for their share of these opportunities are: magnetic drives, optical drives, and solid-state memories. Each offers manufacturers a different mix of durability, capacity, physical size, battery usage, and data transfer speed.”

In the so-called “convergence” category, cellular handsets with memory card slots are expected to account for as many as 100 million handsets in 2004 and become the basis for a rich array of multimedia services. By January 2004, about 60 percent of mobile phones in Japan were camera phones, with the market penetration expected to reach almost 100 percent by 2005 (Information Gatekeepers, January 2004). On a worldwide basis, camera phone sales are anticipated to rise from 84 million last year to 488 million by 2008 or 72 percent of all handsets

(*Electronic Business*, July 2004). And, of course, the market potential for portable video is just beginning, with support by Microsoft and ongoing introductions by other companies demonstrating the early interest.

Portable data storage options aiming for their share of these opportunities are: magnetic drives, optical drives, and solid-state memories. Each offers manufacturers a different mix of durability, capacity, physical size, battery usage, and data transfer speed. Innova-

tion in these storage types has been active in the past several years. Of these options, semiconductor memories have shown the most dramatic growth over the last five years, driven primarily by digital imaging.

### Storage Choices Offer Design Opportunities and Challenges

When design teams dream up the latest cool toy or must-have portable media player, the choice of which storage technology to incorporate has a significant effect on the ultimate form and price point that product takes. Principally, these storage options are hard disk drives, optical drives, or solid-state memories, each of which offers a set of advantages and compromises. These choices influence the product's physical size and feature set, its lon-

**Dan Steere**, vice president of sales and marketing at Matrix Semiconductor in Santa Clara, CA, contributed his company's perspective to this quarter's edition of “From The Front Lines.” To quote noted futurist Watts Wacker, Steere not only gives us a look into “what happens after what comes next” in consumer electronic design, but he also offers insight into the promise of super-high-volume markets that the semiconductor industry is ready to shake up—and even create.

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# From the Front Lines

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gevity, and final cost to the consumer.

While the temptation is to always design a product that runs faster or stores more than competitors' products do, all consumer electronic manufacturers are actually competing against two immutable truths:

- Consumers want their consumer electronic products to last and withstand the rigors of daily use.
- Unlike early adopters, mass-market consumers are highly price conscious.

In addition, the storage technology option selected dictates very different concepts for how the consumer will use the product. For example, Sony's Mavica digital camera line became a big early hit product in 1997 by storing pictures on floppy disks. Though the camera was bulkier than early competitors, consumers liked the simplicity of the floppy disk—inexpensive, easy to purchase, and easy to use—for

transferring files to a PC and for storing originals on the disks. The popularity of the Mavica vaulted Sony to the leading spot in digital cameras. Sony later abandoned floppy disks in favor of its innovative Memory Stick memory cards due to the need for higher-capacity, more compact storage. The company remains the digital camera market leader.

Figure 1 compares the three primary storage options in consumer electronics against five key design vectors. Generally speaking, drive-based technologies, with all of their tiny moving parts tend to 1) draw more power from a battery, 2) contribute to a device's bulk, and 3) create the risk of low durability due to the wear of the components and mechanical susceptibility to shock. As a trade-off, these drives have typically exhibited greater storage capacity per unit and the lowest cost per bit of storage, which contributes to their popularity and continued

use in consumer electronics. Solid-state memories, on the other hand, offer the highest level of durability, power efficiency, and space-saving, though they have traditionally offered lower capacities and a higher cost per bit.

Designers must also consider the minimum cost to implement the storage technology, which is the cost of the media as well as the means to read and write to it. Any kind of drive-based device requires expensive mechanics in order for the optical or magnetic media to work. Using a disk drive adds \$60 to \$150 to the cost of the device and, in turn, tacks \$100 to \$200 onto the retail price of the drive. Solid-state memory has the benefit of negligible device cost, a simple connector, and the ability to buy additional memory over time in less expensive chunks. Today, you can't buy a \$20 disk drive, but you *can* buy a

*continued on page 4*

**FIGURE 1**

This table compares the feature sets of the three primary storage options available to designers of consumer electronic devices. While drive-based technologies offer large amounts of storage, they fall well short in terms of three key requirements for portables: durability, battery efficiency, and small physical size. Another issue is the higher purchase cost for the consumer device that incorporates a disk-based technology due to the cost of the mechanical drive. (Key: Green = "Optimal"; Yellow = "Average"; Red = "Mediocre.")

|                    | Durability | Minimum Implementation Cost | Battery Efficiency | Small Physical Size | High Capacity |
|--------------------|------------|-----------------------------|--------------------|---------------------|---------------|
| Hard Disk Drive    | Red        | Red                         | Yellow             | Yellow              | Green         |
| Optical Disk Drive | Red        | Red                         | Red                | Yellow              | Green         |
| Solid-State Memory | Green      | Green                       | Green              | Green               | Yellow        |

# From the Front Lines

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\$20 memory card.

With the field of consumer electronic design thus described, we can examine how storage has quite literally affected the shape of these devices. This will yield a glimpse into what is to come in this exciting field.

### A Tale of Two Consoles

The 2004 Electronic Entertainment Expo (E3) placed two different portable electronic design philosophies in focus. During that week in May, Nintendo and Sony each debuted new portable gaming consoles: the Nintendo Dual-Screen (DS) and the PlayStation Portable (PSP), respectively. Expo attendees eager to become among the first to try these new, exciting devices stood in hour-long lines.

On one side of the aisle in the Los Angeles Convention Center's West Hall was digital entertainment colossus Sony, which was heralding its entry into portable gaming with the PSP. Upon the PSP introduction, it was clear that Sony was targeting the higher end of the portable gaming market, taking as much of the full PlayStation experience as possible and putting it in the consumer's hand.

The most striking feature of the PSP was its large 16:9 wide-screen display, which gave a miniaturized cinematic feel to game play. Of course, all of this cinematic-quality content needed large amounts of storage, so Sony conceived of the Universal Memory Disc or "UMD" cartridge, a proprietary optical disk technology that relies on an on-board drive to spin the media and load or play up to 1.8 gigabytes worth of content.

In aiming for the very high end of

the portable gaming market, Sony opted for an overall design approach that brought an unusually performance-packed game experience at the expense of achieving low cost and, arguably, durability. Incorporating a drive with which to insert, spin, and read the UMD also contributed to the PSP size and weight.

On the other side of the E3 aisle—exhibiting an entirely different design philosophy—was Nintendo, which became the preemptive metaphor for portable gaming with the introduction of the first Game Boy in 1989. Instead of sticking with a conventional single screen design, Nintendo DS showcased an innovative dual-screen approach. Two screens—one of them touch-sensitive—on the inside of the DS's clamshell casing offered the user two different views of the same game. For

example, a racecar game could feature simultaneous bird's-eye *and* dashboard views of a racetrack.

In keeping with the company's history of design choices for the Game Boy platform, Nintendo opted to use solid-state media for the Nintendo DS game cartridges. The company's intimate familiarity with consumer usage models was a likely factor in its decision not to use more expensive and fragile storage solutions that offered higher capacity.

This demonstrates a key difference in the two companies' design philosophies and approaches to their target markets. Whereas the Sony PSP design incorporated a complex (and likely more expensive) drive mechanism in order to utilize the UMD optical me-

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**FIGURE 2**

This table indicates that, with nearly every other feature as more or less equal, the choice of storage and the difference in estimated unit retail price are the two biggest differences between the Sony PSP and the Nintendo DS. Matrix Semiconductor believes that this is no accident and that it demonstrates how inexpensive solid-state memories such as Matrix 3-D Memory can help deliver durable, fun, price-competitive consumer electronic products.

|                               | Sony PSP  | Nintendo DS                                    |
|-------------------------------|---|--|
| <b>Form Factor</b>            | Small tablet  | Clamshell design                               |
| <b>Display</b>                | 480 x 272   | 256 x 192 (2)                                  |
| <b>Storage</b>                | 1.8GB UMD removable cartridge, Memory Stick Duo Pro | 128MB (1024Mbit) solid-state memory            |
| <b>Communication</b>          | 802.11, USB   | 802.11, battery-optimized proprietary protocol |
| <b>CPUs</b>                   | MIPS R4000 (2)                                      | ARM7 and ARM9                                  |
| <b>Estimated Retail Price</b> | \$300   | \$150–\$200                                    |

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dia, Nintendo chose instead to use a simple socket and solid-state cartridge to store the game content providing high capacity storage in a smaller form factor at an estimated lower cost.

Figure 2 offers a succinct comparison of the two portable consoles.

At the time of this writing, the final retail prices for these two portable consoles remained a topic of rampant speculation, the gaming community being the fervent and perpetually information-hungry group that it is. Nevertheless, industry watchers have estimated the DS at around \$150 retail and the PSP at approximately twice the price. Taking the reasonable assumption that both devices are subsidized by their respective game sales at an equal ratio, this substantiates that one console is clearly designed and priced for the mass market, while the other is firmly targeted at the very high-end user.

The lesson learned: With the cost savings achieved for bill-of-materials due to its selection of a solid-state memory approach, Nintendo was able to invest in other features, such as a second color LCD and touch sensor. Nintendo also achieved the added benefit of greater durability—since the storage medium is solid-state, the only moving parts on the device that could possibly be prone to failure are the controls and the hinge that folds (and protects) the unit. Thus, Nintendo can deliver a unique and innovative gaming experience at a price point targeted for the mass market.

### Solid-State Memory to Take Us Back to the Future

The comparison of Sony and Nintendo's design approaches for their respective portable gaming platforms offers the industry a lens for examining all manner of portable consumer electronic devices, including portable video and music players. The latter provides another easily understood and contemporary example of how inexpensive silicon memories are poised to turn a specialty product into a true mass-market, built-to-last consumer item.

While the Apple iPod enjoys phenomenal mind-share in the portable digital music market, it still remains an expensive, high-end, niche product. Having been designed around various approaches to hard disk drive technol-

“**A**dvances in storage options for consumer electronics will increase the affordability, and broaden the market, for a wide variety of devices that conform to known usage models and easily withstand the long-term abuse of daily life.”

ogy, an iPod's price ranges from \$249 for the recently launched “Mini” to nearly \$400 for the 10,000-song high-end model. While shipping more than 3 million iPods in almost as many years makes for an impressive ramp, it is still a long way from the 10-million-unit mark that the Walkman achieved in its first five years, and even further from the 330 million units that have shipped since its introduction as the “Soundabout” in 1979.

Arguably, the success of the Sony Walkman is largely due to the broad availability of inexpensive, high-capacity, standards-friendly storage media in the form of tape cassettes. This

approach relied on consumable cartridge-like media to get content into and out of the player. Of course, this was the only real option at the time: The concept of docking a Walkman to an amber-screened leading edge “IBM-compatible” PC clone in order to transfer music would have probably seemed burdensome to the users of that day.

The cartridge-based approach held three key advantages for users that online music services and a PC-centric approach to digital music cannot yet approximate:

- Consumers felt they “owned” their content in a tangible, physical form.
- The content was simple to use in a truly plug-and-play basis between devices, since various other playback sources accepted the same media.
- Playback units were inexpensive enough that they were effectively decoupled from the music they contained, which was an advantage in case the device failed.

The reason why the cartridge-based usage model has no true analogue in today's world of portable digital consumer electronics is that to date there has been no real digital equivalent to the inexpensive, consumable cassette tape.

Similar to the forces that helped the cassette tape and compact disc, a standards-friendly infrastructure has

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already begun to coalesce thanks to the proliferation of standard memory card slots, such as those that accept MultiMediaCard (MMC) and its close cousin the Secure Digital (SD) card. According to a survey of analyst reports, industry publications, and Matrix Semiconductor's own field data, the number of cellular handsets and PDAs enabled with memory slots will double in the next two years to 200 million units, carried mostly by the handsets.

This increasing number of standards-based slots, coupled with advances in mobile CPUs and displays, means that the infrastructure that made the cassette tape and compact disc so successful is poised to take shape for solid-state memory on a wide variety of portable platforms. Now, anything from a single-purpose device (e.g., an MP3 player) to a multipurpose one (e.g., a mobile phone) can serve as a far more compelling and usable entertainment platform.

The critical element that remains is the media itself—solid-state memories that are inexpensive and capacious enough to be used as a publishing platform or even as a recordable blank. Fortunately, that market environment is emerging and, in fact, provides the basis for Matrix Semiconductor's market-driven innovations (See sidebar, "TeleSoft Portfolio Company Matrix Semiconductor Makes It Happen.")

With these variables in place, there is every expectation that a sub-\$50 MP3 player will be brought to market in 2005. With an embedded CPU, minimal LCD, and a plastic housing exposing a standard memory slot, such a player will be both affordable and durable. Content published or recorded onto low-cost memory cards not only could be played on this new class of mass-market player, but would be compatible with many existing ones such as slot-enabled units manufactured by the likes of Sony, Rio, and RCA. Consumers will purchase such cards as permanent, recordable blanks and be able to use them as they do today's CD-R.

Advances in storage options for consumer electronics will increase the affordability, and broaden the market, for a wide variety of devices that conform to known usage models and easily withstand the long-term abuse of daily

life. Solid-state memory, now a more attractive choice than ever before, is poised to bring these devices into the future by offering the digital advantage without an associated learning curve.

The entry by HP, Dell, and Gateway into the portable consumer electronics market was hailed in 2003 and 2004 as the sign of a new digital boom in the segment. These companies, well known for their PC businesses, began to offer cameras, digital audio players, and other portable devices, hoping to capture a piece of the new high-volume opportunities that they observed. With the new-yet-known business and consumer models discussed in this issue's "Front Lines," Matrix believes 2005 and 2006 promise to bring additional growth in innovation that will drive truly portable digital entertainment into the hands of mass-market consumers.

### TELESOFT PORTFOLIO COMPANY MATRIX SEMICONDUCTOR MAKES IT HAPPEN

Owing to a brainstorm that Matrix Semiconductor's founders had in 1998—building semiconductor memories in three dimensions to achieve the lowest possible cost—Matrix Semiconductor makes the inexpensive, standard digital cartridge possible.

Like the cassette tape and the CD, Matrix 3-D Memory® (3DM) can serve as a publishing platform for pre-recorded content, as well as a recordable blank medium. The three-dimensional design of Matrix 3DM allows the company to serve these applications more effectively and inexpensively than conventional technologies such as flash memory or mask ROM.

As a programmable, solid-state, permanent memory device, Matrix 3DM combines the best parts of old and new: It joins the familiar cartridge-based usage model with the advantages of using the latest formats for portable digital entertainment, such as MultiMediaCard.

Since the infrastructure is already in place, with the number of slot-enabled portable devices to reach into the hundreds-of-millions, Matrix 3DM is an ideal content distribution vehicle for portable devices, much like the multimedia CDs that made PCs the powerful business and entertainment devices that they are today.

## Aarohi Communications

[www.aarohi-inc.com](http://www.aarohi-inc.com)

■ Aarohi names Chris McBride as its new vice president of sales. His experience includes: five years at McDATA, most recently as vice president of sales, Americas; four years at CompuCom Systems; and eight years in various sales and marketing positions at IBM (8/17/04).

■ Aarohi India moves to an expanded new facility in Bangalore (8/1/04).

## AmberWave Systems

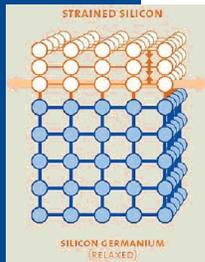
[www.amberwave.com](http://www.amberwave.com)

■ AmberWave raises \$21 million in a Series D round of financing. The lead investor was 3i, joined by previous investors Adams Capital Management, Arch Ventures, TeleSoft Partners, and The Hillman Companies (6/2/04).

## BayPackets

[www.BayPackets.com](http://www.BayPackets.com)

■ Growthink Research has named BayPackets one of its “Top Emerging Companies” in the telecommunications applications/software sector. The Growthink Research award honors the top private companies with the greatest potential for future success. Growthink Research evaluated more than 2,000 companies on criteria that included experience of management team, uniqueness of company’s technology or business model, the company’s track record of raising capital, and likelihood for future success (7/16/04).



**Illustration of AmberWave’s strained silicon crystal lattice conforming to SiGe layer. The strained Si layer is stretched in orthogonal directions in plane.**

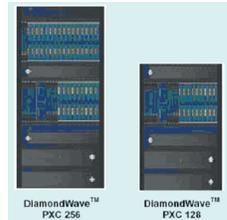
■ BayPackets appoints Michael Flynn to its board of directors. He is a retired executive of ALLTEL Corporation, which he joined in 1994 as president of the telephone group and later became president of communications operations, CIO, and special assistant to the CEO (7/15/04).

■ BayPackets joins IBM’s PartnerWorld Telecommunications Industry Network for ISVs (independent software vendors) to provide next-generation IP-based services to carriers worldwide. BayPackets’ Agility Network Services Platform (NSP) and Agility applications run on IBM Linux-based servers. By joining the company’s partner network, BayPackets will team with IBM to deliver on-demand VoIP solutions to telecom service providers globally (6/22/04).

## Calient Networks

[www.calient.net](http://www.calient.net)

■ Calient introduces two new feature sets for use with its flagship DiamondWave™ PXC and PX switching systems: the GMPLS Controller and the “zero loss” integrated Optical Amplifier Module (OAO Module). Calient’s GMPLS Controller is an add-on controller module that enables carriers to extend GMPLS intelligence and optical control plane technology to the network edge, for use not only with the PXC and PX, but also with complementary transport elements from core to edge (6/21/04).



**The Calient DiamondWave PXC is a fully redundant and carrier-class system with hot-swappable switch matrices and interface cards. Two sizes are offered to address the need in both metro and long-haul network environment: 128 x 128 or 256 x 256.**

■ KDDI, a Japanese global telecommunications company, has begun deploying the Calient DiamondWave PXC photonic switch as the core optical switch element in the new R&D Testbed Network JGN II for the National Institute of Information and Communications Technology (NICT) in Japan. JGN II, or Japan Gigabit Network II, has been designed and deployed to provide high-speed IP and Ethernet services to NICT's research centers as well as to universities and government research centers throughout Japan. Calient's DiamondWave PXC switching systems will provide fully transparent optical switching and GMPLS-powered networking for bandwidth on demand to all served sites (6/21/04).

■ Sorrento Networks integrates Calient's DiamondWave PX photonic switch and GMPLS control plane into Sorrento's GigaMux GM 6400 DWDM transport system. For carriers, the "Powered by Calient™" switching solution enables Sorrento to offer an optical switching and transport solution for on-demand, any-to-any wavelength connectivity, automated end-to-end circuit provisioning across a multi-vendor network, and a smooth migration path for existing static networks. For multi-service cable operators, Sorrento will also be able to support video on demand, video distribution and multicasting, and other cable applications requiring reconfigurable bandwidth (6/14/04).

## Calix

[www.calix.com](http://www.calix.com)

■ Calix begins volume delivery of new ADSL2+ interfaces on the Calix C7 platform. In addition to being one of the first access network elements to make ADSL2+ generally available, the Calix C7 ultra-broadband loop carrier (UBLC) is the only such platform with the capacity to drive all ADSL2+ ports at peak line rates on a sustained basis. With 200 Gbps of capacity in a compact form factor, the packet-based Calix C7 supports 2,400 ADSL2+ ports in a single seven-foot rack and as many as 1,920 ADSL2+ ports from its line of patented outdoor cabinets (7/27/04).

■ Calix launches the CalixCompatible solutions assurance program, a rigorous certification process designed to ensure smooth deployability of multi-vendor solutions. The program requires participants to submit solution elements to the CalixCompatible Lab, a large-scale test facility located in Petaluma, CA. Calix lab personnel perform ongoing certification testing and conditionally make the results of this testing, including test scripts and system release levels, available to service providers via a secure Web portal (6/15/04).

■ Calix announces it has shipped platform capacity supporting more than 1 million ultra-broadband subscriber terminations to more than 120 U.S. incumbent local exchange carriers (ILECs). Each of the twenty universal service slots in the compact, packet-based Calix C7 ultra-broadband loop carrier (UBLC) supports up to 24 FTTP or DSL subscriber terminations. With more than 2,500 Calix C7 platforms and 400,000 active ports in service, this deployment footprint represents capacity for more than 1 million subscriber terminations (6/9/04).

■ Frontier selects the Calix C7 ultra-broadband loop carrier (UBLC) for deployment throughout its network infrastructure. The Calix C7 will enable Frontier to satisfy central office DSLAM, remote DSLAM, and broadband loop carrier applications in both inside and outside plant locations (6/8/04).

■ ALLTEL chooses the Calix C7 for deployment in select central office DSLAM applications. Already deployed in the ALLTEL outside plant, the Calix C7 is one of the only UBLCs also able to operate as a high-density, high-capacity central office DSLAM. Calix has been a supplier to ALLTEL, which operates 3.2 million access lines, since early 2002 (5/26/04).

## CoSine Communications

[www.cosinecom.com](http://www.cosinecom.com)

■ CoSine announces revenue for the quarter ended June 30, 2004, of \$2.6 million and a net loss of \$9.7 million, or \$0.96 per share. This compares to revenue of \$4.5 million and a net loss of \$7.4 million or \$0.74 per share for the quarter ended March 31, 2004, and revenue of \$6 million and a net loss of \$7.7 million or \$0.79 per share in the quarter ended June 30, 2003. The company ended the quarter with \$44.5 million in cash and short-term investments and no long-term debt (7/29/04).

■ CoSine signs a strategic reseller agreement with Fujitsu Network Communications. CoSine's IPSX™ Service Processing Switch with enhanced IP Service Generator (IPSG+™) technology will be available through Fujitsu's Flexible Architecture for Subscriber Service Termination (FASST™) service. The FASST initiative allows service providers to offer a portfolio of managed IP services and advanced "triple play" services, while preserving their multibillion dollar investments in OSS, SONET, Frame Relay, and IP/MPLS (6/7/04).

## CreekPath Systems

[www.creekpath.com](http://www.creekpath.com)

■ CreekPath announces the local and national charities that received donations from the first annual "CreekPath Storage World Series of Poker" held in Las Vegas, NV (7/28/04).

■ CreekPath welcomes new customers including Abbey, AOL, DHL, Lehman Brothers, and the Principal Financial Group (7/27/04).

## Ikanos Communications

[www.ikanos.com](http://www.ikanos.com)

■ Ikanos files with the U.S. Securities and Exchange Commission to raise up to \$85 million in an initial public offering of stock.

The underwriters for the offering are Citigroup, Lehman Brothers, UBS Investment Bank, and Wachovia Securities, the filing said. The company has applied for a NASDAQ listing under the symbol "IKAN" (6/25/04).

## Jungo Software Technologies

[www.jungo.com](http://www.jungo.com)

■ Jungo releases Go-HotSwap Version 6.22, a software infrastructure that adds the necessary software modules required to enable CompactPCI hot swapping, and provides the tools and development environment to develop hot swap aware drivers on the latest Windows 2000/XP/Server 2003 and Solaris 8,9 operating systems (8/10/04).

■ Schmid Telecom selects Jungo's OpenRG software platform to power its recently deployed Pegasus Integrated Access Device (IAD). The Pegasus IAD is an SHDSL access device for broadband data access and multi-channel voice transmission on one single copper wire pair. The IAD includes an integrated router to allow it to behave as a fully managed stand-alone small-medium-enterprise (SME) access device, delivering voice and data services. OpenRG adds routing and security functionality for carrier grade business access devices (7/28/04).

■ Jungo will provide its OpenRG software to Infineon Technologies. The OpenRG software enables semiconductor suppliers active in the telecommunications industry to offer a comprehensive VoIP solution for IP phones, Analog Telephone Adaptors (ATAs), and voice gateways. Infineon's single chip IP telephone, the INCA-IP, and advanced 2/4 channel ATA are cost-effective solutions for next-generation IP-based telephone networks. The combined software/hardware package enables OEMs and ODMs to develop a wide range of VoIP devices for the rapidly expanding IP telephony market (6/30/04).

■ Belkin selects Jungo's OpenRG software for its managed DSL home networking routers. The joint solution will be deployed by a major telecommunications ISP for delivering home-networked services to hundreds of thousands of DSL subscribers (6/23/04).

**Belkin's new ADSL modem with WiFi router powered by Jungo's software.**



■ Jungo's OpenRG software is being deployed in SMC's EZ Connect™ Wireless Cable Modem Router, SMC8013WG. The EZ Connect router recently received CableHome™ 1.1 certification from CableLabs® assuring customers with network reliability, interoperability, and security (6/16/04).

■ Jungo's WinDriver™ PCI/USB driver development tool now enables PowerPC based driver development for the Linux operating system. The PowerPC support is an enhancement of WinDriver for Linux, which already supports Intel's x86 line of microprocessors (6/1/04).

■ Gteko Ltd., a leading provider of support automation software solutions, and Jungo debut the RGSetup Wizard, a new PC-based setup wizard that simplifies initial configuration of home networks using routers and gateways powered by Jungo's OpenRG. The RGSetup Wizard is a fully automated wizard running on one of the LAN PCs, providing home users with a step-by-step mechanism to configure their PC and router and install a home network. The RGSetup Wizard supports major types of broadband and home networking devices including cable-routers, xDSL, and stand-alone routers (5/24/04).

## LogLogic

[www.loglogic.com](http://www.loglogic.com)

■ Christopher D. Brennan joins LogLogic as its new president and chief executive officer. Brennan came to LogLogic with 22 years of operating experience in both startups and large-scale multinational companies. Previously, he was president and CEO of Banter

and president, CEO, and member of the board of directors at Mobileum, Inc., now called Roamware (8/11/04).

■ LogLogic introduces the world's first Log Lifecycle Management solution. LogLogic's plug-and-play LX and ST appliances work together to make log data immediately accessible to IT organizations for fast analysis with customizable searches and flexible management reports, as well as secure long-term archival (7/26/04).

■ Interim HealthCare deploys LogLogic's end-to-end Log Lifecycle Management solution for faster network troubleshooting and better corporate compliance. By deploying LogLogic LX appliances, Interim HealthCare has made log data from its firewalls and other data center equipment immediately useful for troubleshooting and responses to network performance and security problems, while being able to better respond to inquiries related to the Health Insurance Portability and Accountability Act (HIPAA) (7/26/04).



**Purpose-built for real-time log data collection and analysis, LogLogic LX appliances slash response times to network security and utilization incidents, boosting IT productivity and reducing the corporate cost of security and performance event remediation**

## Matrix Semiconductor

[www.matrixsemi.com](http://www.matrixsemi.com)

■ Matrix's Matrix 3-D Memory® technology (3DM) has received the MultiMediaCard Association's first ROM (Read Only Memory) card certification. Matrix 3DM becomes the first programmable ROM technology that is certified as electrically compatible with the MultiMediaCard (MMC) standard and, therefore, ready-to-use for content distribution to MMC-enabled devices (8/30/04).

■ Matrix names Geoff Ribar as chief financial officer. Most recently, Ribar served as CFO for Asyst Technologies (8/26/04).

■ Matrix renews a mutual agreement with Cypress Semiconductor Corp. for the continued development of its three-dimensional semiconductor technology. Matrix will utilize Cypress's R&D services within its Silicon Valley Technology Center to develop and qualify advanced processes for manufacturing the next generation of Matrix 3-D Memory (3DM). Matrix 3DM is an inexpensive, high-capacity, permanent, nonvolatile memory and the first product based on Matrix's innovations (7/6/04).

## OnFiber Communications

[www.onfiber.com](http://www.onfiber.com)

■ OnFiber is selected to present at Silicon Valley Bank's Tech Investors Forum targeting emerging firms with high-growth potential (8/16/04).

■ OnFiber expands its service offerings into the Phoenix, AZ market. Following two recent acquisitions into the Boston and Portland metropolitan areas, the expansion into Phoenix makes OnFiber's AdaptiveBuild™ enterprise solution and managed transport services available in a total of 16 major metropolitan areas across the U.S. (8/3/04).

■ OnFiber acquires a majority of the assets and customer contracts of Portland General Broadband, which enables OnFiber to expand its network into the Portland, OR metropolitan area and provide local customers additional service offerings including the AdaptiveBuild enterprise solution (7/19/04).

■ OnFiber completes a \$12 million Series C private equity financing raised entirely from current investors, including Kleiner Perkins Caufield & Byers, Bear Stearns Merchant Banking, and TeleSoft Partners. These funds will be used to support the company's growth strategy through targeted asset acquisitions and network expansion related to the continued deployment of AdaptiveBuild custom network infrastructure solutions (7/6/04).

■ OnFiber is honored by the Telecommunications Industry Association (TIA) as a recipient of SUPERCOMM's seventh annual SUPERQuest Awards. OnFiber's AdaptiveBuild network infrastructure solution utilizing CIENA Corporation's ONLINE Metro™ Multiservice DWDM platform was recognized for its excellence in the category of Backbone/Core Networks or Services (6/22/04).

■ OnFiber acquires a majority of the assets and all customer contracts of C2C Fiber of Massachusetts, LLC, a competitive carrier operating in the Boston metropolitan area. With an all optical network serving enterprise and service provider locations, the C2C Fiber network covers approximately 350 route miles in over 25 cities and towns throughout the Boston area. The acquisition of C2C Fiber's assets significantly expands OnFiber's network footprint in the Boston market and enables local customers to leverage OnFiber's nationwide resources (6/18/04).

■ OnFiber receives this year's Red Herring 100 Top Private Companies award. Based on financial performance and subjective criteria, including management and business model, the Red Herring 100 recognizes private companies that embody innovation, technology, strategy, and promise (5/11/04).



OnFiber's team reaches the summit of Mount Sherman, one of Colorado's fifty-two 14,000+ foot mountains.

## **Provide Commerce**

[www.proflowers.com](http://www.proflowers.com)

■ Provide Commerce reports net sales of \$51.9 million for the fiscal fourth quarter, up 52% from \$34.2 million in the fourth quarter of fiscal 2003. Gross profit increased 56% to \$24.3 million compared to \$15.5 million in the prior year period, resulting in gross margin percentage of 46.8% versus 45.4% in the same period during fiscal 2003. GAAP net income for the quarter was \$4.2 million, or \$0.31 per diluted share, compared to \$4.5 million, or \$0.40 per diluted share, in the fourth quarter of fiscal 2003. GAAP net income for the fiscal fourth quarter includes a \$3.2 million provision for income taxes versus a \$0.3 million provision in the fourth quarter of 2003 (8/18/04).

■ Provide Commerce prices secondary common stock offering (1,981,019 shares) at a price of \$19.63 per share. Of these shares, certain shareholders offered 1,881,019 common shares (including 39,255 shares issuable upon exercise of a warrant to be purchased by the underwriters), and Provide Commerce offered 100,000 shares. Proceeds from the primary shares offered by Provide Commerce will be used for general corporate purposes, including paying expenses in connection with the offering. The underwriters and joint book-running managers of the offering were SG Cowen & Co., LLC and Deutsche Bank Securities Inc. Morgan Keegan & Company, Inc., Pacific Crest Securities Inc., and Roth Capital Partners, LLC acted as co-managers (6/30/04).

■ Provide Commerce files for common stock offering. It has filed a registration statement with the U.S. Securities and Exchange Commission relating to a proposed secondary stock offering of up to 2,223,469 of its common stock, including the over-allotment (6/4/04).

■ Provide Commerce has record Mother's Day shipments. Floral shipments for the Mother's Day shopping period were more than 550,000, compared to approximately 380,000 shipments in the Mother's Day period a year ago (5/11/04).

■ Provide Commerce hosts the NASDAQ market open, celebrating its December 17, 2003 initial public offering of 4.3 million shares (5/5/04).

## **Sierra Design Automation**

[www.sierra-da.com](http://www.sierra-da.com)

■ Sierra Design Automation announces Pinnacle, a physical-synthesis and prototyping tool that provides a five- to tenfold design closure speedup compared with existing physical-synthesis tools. The tool will handle a 10 million-gate flat design on a 32-bit workstation in an overnight run, whereas existing tools handle around 1 million gates flat. Pinnacle offers several breakthroughs: "netlist preconditioning," in which the tool eliminates the excessive area added by wire-load-based RTL synthesis tools; global bottleneck analysis, which identifies global-timing bottlenecks that need optimization; and an "analytical optimization" engine that computes the optimal configuration of gate selection and buffering (5/17/04).

## **SigmaTel**

[www.sigmatel.com](http://www.sigmatel.com)

■ SigmaTel announces its support for low-cost multi-level cell (MLC) flash memory technology for its D-Major™ audio controller products. With the release of version 2.520 of its software development kit (SDK), portable MP3 audio flash players developed using the SigmaTel solution can, for the first time, take advantage of the benefits of MLC flash from both Toshiba America Electronic Components (TAEC) and Renesas Technology Corp. (9/2/04).

■ SigmaTel unveils the STMP3502 MP3 audio decoder designed specifically for low-cost MP3 player solutions with FM capability. This newest addition to the D-Major STMP35xx family is being introduced as a proactive step to target potential Chinese and Far East customers that specialize in the cost-sensitive MP3 player market space (8/23/04).

■ SigmaTel licenses the 32-bit ARM9-based core for its next-generation multimedia controller chip solution for 2005 portable multimedia player designs (8/20/04).

■ Rio selects SigmaTel's D-Major MP3 audio controller to power its latest generation of MP3 players: the Rio Carbon, a 5GB(i) hard drive player, and three new flash-based players named Rio Forge (8/19/04).

■ SigmaTel's board of directors adopts a program to repurchase shares of the company's common stock. The board has approved up to \$30 million for this program. Repurchases will be made using the company's own cash resources (7/27/04).

■ SigmaTel announces second quarter results for the period ended June 30, 2004. Quarterly revenues were \$36.6 million, up 86 percent from revenues of \$19.7 million in the same period in the fiscal year 2003. Pro forma adjusted net income for the second quarter of 2004 was \$9.2 million, representing earnings of \$0.24 per diluted share, compared to \$1.6 million or \$0.05 per diluted share in the second quarter of 2003 (7/20/04).

■ SigmaTel and Xware Technology announce the availability of a software development kit (SDK) for hard disk drive MP3 players based on SigmaTel's STMP3500 product family (7/14/04).

■ SigmaTel and Perception Digital, which develops high-end digital audio consumer products, announce the availability of a software development kit (SDK) for hard disk drive MP3 players based on SigmaTel's STMP3500 product family (5/27/04).

■ SigmaTel has aligned with Musicmatch to provide the Musicmatch™ Jukebox audio player software to MP3 player manufacturers. The Jukebox software will be offered to manufacturers for free distribution with their audio players, providing a more complete digital audio solution for the end consumer (5/25/04).

■ SigmaTel appoints Phil Pompa to vice president of its Integrated Components Group. Pompa has held positions of vice president of marketing and systems engineering at Advanced Micro Devices, co-founder and vice president of marketing at Alchemy Semiconductor, and management positions with Motorola and IBM (5/18/04).

## Tele Atlas

[www.teleatlas.com](http://www.teleatlas.com)

■ Geographic Data Technology (GDT), recently acquired by Tele Atlas, announces an expanded partnership with Canadian e-commerce data vendor First Base Solutions to power Web-based index maps to help business users select spatial data for use in high precision mapping, municipal and utility applications (8/10/04).

■ With the close of its \$210 million financing, Tele Atlas finalizes its acquisition of Geographic Data Technologies (7/12/04).

■ Atlas N.V. announces that its North American subsidiary, Tele Atlas North America, Inc., has closed the financing proposal for \$210 million. This funding is from a consortium led by Oak Investment Partners and New Enterprise Associates, and includes TeleSoft Partners, Meritech Capital, and IAM (6/28/04).

■ Tele Atlas appoints George Fink as president and chief operating officer of the Tele Atlas group assuming responsibility for managing worldwide operations. Mike Gerling, current CEO of GDT, will become COO for North America, and Jack Reinelt, former chief executive of Adept London, will assume the position of COO for Europe. In addition, Hardie Morgan has been appointed as chief financial officer for the Tele Atlas group. Current chief financial officer Wolfgang Müller will leave Tele Atlas and rejoin the Bosch group (6/15/04).

■ Tele Atlas unveils its map voice data for the entire United States at Telematics Update 2004. PhonoMultiNet brings to the U.S. market a solution that combines Tele Atlas map data with its phoneme data to drive speech-enabled map data products. Tele Atlas provides the phonetically transcribed name data from its map and dynamic content-linked database. The company validates the phonetic data through native linguists and its national field data collection organization to generate relevant, local pronunciation variants of all the important names existing in the database. This creation process for phonetic data provides high quality name data with corresponding pronunciation variants, and is a cornerstone for building better products supporting highly accurate text-to-speech and speech-to-text output (5/26/04).

■ Tele Atlas and Metrocommute team up to expand Tele Atlas' speed and traffic flow data coverage to an industry-leading twenty-one major U.S. metropolitan areas. Tele Atlas will integrate feeds from Metrocommute to complement the sensor data market coverage it already offers. With the additional markets from Metrocommute, Tele Atlas' speed and flow data feed covers: Los Angeles; New York; Chicago; Dallas-Ft. Worth; San Francisco; Houston; Detroit; Washington, DC; Atlanta; Seattle-Tacoma; Phoenix; Minneapolis-St. Paul; San Diego; Long Island, NY; Milwaukee, WI; Baltimore; Sacramento; Riverside-San Bernardino, CA; San Jose, CA; Salt Lake City; and Hartford, CT (5/25/04).

## The Feedroom

[www.feedroom.com](http://www.feedroom.com)

■ Reuters.co.uk won the Media award for the Reuters Television service at the New Media Age Effectiveness Awards 2004 in London. The service, which is powered by the Feedroom, was praised for being built on a "sound commercial model" and for "shining an innovative new light on an established brand." From a standing start just over a year ago, Reuters Television has grown a significant audience and now delivers more than 2 million streams a month (5/14/04).

## Investment Bank Analysts

**Alcatel (ALA)**—Eiji Aono, Credit Suisse First Boston (44-20-7883-6884); Angela Dean, Deutsche Bank (44-20-7425-6614); Peter Dionisio, Merrill Lynch (44-20-7996-1600)

**CIENA (CIEN)**—Stephen Kamman, CIBC World Markets (212-667-8146); Todd Kaufman, Raymond James (727-567-5647); Hasan Imam, Thomas Weisel Partners (212-271-3698)

**Cosine (COSN)**—Joanna Makris, Adams Harkness & Hill (617-371-3748)

**Cisco (CSCO)**—Stephen Kamman, CIBC World Markets (212-667-8146); Raj Srikanth, Deutsche Bank (212-250-7667); Alkesh Shah, Morgan Stanley Dean Witter (212-761-6554)

**Cypress (CY)**—Ted Parmigiani, Lehman Brothers (415-274-5241); Jack Romaine, SG Cowen (212-278-4230)

**Dell (DELL)**—George Elling, Deutsche Bank (212-250-8620); Laura Conigliaro, Goldman Sachs (212-902-5926); Robert Anastasi, Raymond James (727-567-2286)

**Infineon (IFX)**—Ulrich Pelzer, Lehman Brothers (44-20-7260-1912); Andrew Griffin, Merrill Lynch (44-20-7996-1414); Stuart Adrian, Morgan Stanley Dean Witter (44-20-7425-3299)

**Intel (INTC)**—Ben Lynch, Deutsche Bank (212-250-0772); Mark Edelstone, Morgan Stanley Dean Witter (415-576-2381); Thomas Thornhill, UBS Warburg (415-352-5667)

**Nortel (NT)**—Stephen Kamman, CIBC World Markets (212-667-8146); Alkesh Shah, Morgan Stanley Dean Witter (212-761-6554); Hasan Imam, Thomas Weisel Partners (212-271-3698)

**Provide Commerce (PRVD)**—Richard Hoss, Roth Capital (949-720-7172); Lauren Cooks Levitan, SG Cowen (415-646-7200)

**SigmaTel (SGTL)**—Rick Schafer, CIBC World Markets (720-554-1119); Joseph Osha, Merrill Lynch (415-676-3510); Jason Pflaum, Thomas Weisel Partners (212-271-3583)

**Vitesse (VTSS)**—Allan Mishan, CIBC World Markets (212-667-7756); Arnab Chanda, Lehman Brothers (415-274-5370); Jeremy Bunting, Thomas Weisel Partners (415-364-2610)

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## Executive Recruiting

**Jungo (San Jose, CA)**

[www.jungo.com](http://www.jungo.com)

- Vice President, Marketing
- CFO

**LogLogic (Sunnyvale, CA)**

[www.loglogic.com](http://www.loglogic.com)

- Vice President, Sales

**Validity Semiconductor (Phoenix, AZ)**

[www.validityinc.com](http://www.validityinc.com)

- Vice President, Sales

**Xambala (San Jose, CA)**

[www.xambala.com](http://www.xambala.com)

- Vice President, Sales
- Vice President, Engineering

# Conference Calendar

## **SANS NETWORK SECURITY 2004**

September 29–October 4  
Riviera Hotel & Casino  
Las Vegas, NV  
*Participating: LogLogic*

## **INTERNET TELEPHONY**

October 4–7  
Los Angeles, CA  
*Participating: BayPackets*

## **INFORMATION SECURITY DECISIONS**

October 6–8  
Sheraton Chicago Hotel and Towers  
Chicago, IL  
*Participating: LogLogic*

## **USTA TELECOM '04**

October 9–13  
The Venetian Hotel  
Las Vegas, NV  
*Participating: BayPackets, Lynx-  
Phonic Networks*

## **CONVERGENCE 2004**

October 18–20  
Detroit, MI  
*Participating: Tele Atlas*

## **FALL 2004 VON CONFERENCE & EXPO**

October 18–21  
Hynes Convention Center  
Boston, MA  
*Participating: BayPackets, Jungo*

## **11TH WORLD CONGRESS ON ITS**

October 18–24  
Nagoya, Aichi, Japan  
*Participating: Tele Atlas*

## **ARM DEVELOPERS' CONFERENCE 2004**

October 19–21  
Santa Clara Convention Center  
Santa Clara, CA  
*Participating: Jungo*

## **CTIA WIRELESS I.T. & ENTERTAINMENT**

October 25–27  
San Francisco, CA  
*Participating: Tele Atlas*

## **STORAGE NETWORKING WORLD**

October 25–28  
Orlando, Florida  
*Participating: CreekPath*

## **BROADNETS 2004**

October 25–29  
San Jose, CA  
*Participating: Calient*

## **NEXT GENERATION NETWORKS**

November 1–5  
Boston, MA  
*Participating: BayPackets*

## **NETWORKING DECISIONS**

November 3–5  
Hyatt Regency Atlanta  
Atlanta, GA  
*Participating: LogLogic*

## **GLOBAL HOMELAND SECURITY**

November 22–23  
Hyatt Regency  
Crystal City, VA  
*Participating: Lynx-Phonic Networks*

## **OFC/NFOEC**

March 6–11, 2005  
Anaheim, CA  
*Participating: Calient*

## **IEEE MTT-S 2005 INTERNATIONAL MICROWAVE SYMPOSIUM**

June 12–17, 2005  
Long Beach, CA  
*Participating: Xpedion*

## **DESIGN AUTOMATION CONFERENCE**

June 13–17, 2005  
Anaheim, CA  
*Participating: Xpedion*