S KD's Top Ten Digital Headlines for 1998

It's that time again. For the fourth year in a row, *SKD* assembled its world-class team of insightful analysts, clairvoyant canines, and defrocked weather-guessers to compile our New Year's list of the Top Ten Digital Predictions. As the old saying goes, "it's difficult to predict, especially the future." Given the rapidity of product churn at DEC, the sheer number of new products in the pipeline, and the impact of organizational changes—not to mention the application of probability factors and guesswork—selecting this year's Top Ten finalists was a difficult undertaking.

Nevertheless, the votes are in, and we're pleased to present *SKD's* Fearless Prognostications for 1998. We can't guarantee our predictions, and we advise customers to obtain proprietary information disclosures from DEC prior to making purchasing decisions. On the other hand, we're confident that this year's predictions will reflect *SKD's* usual levels of accuracy.

Fearless Prognostications:
SKD's Top Ten 1998 Headlines

10) Digital AlphaServers get a Graphic Outlook

9) Two Heads are Better Than One: Ultimate WS

8) Artistic Workstation Sighted in Parker St. Studio

7) Alpha CPU Gets a Lobotomy for Windows NT

6) DEC Double-Teams with the Blues and Whites

5) DEC WNT Apps Turn Wolfpack into Big Dog

4) Galaxy Transformed from Nebulosity to Reality

3) TPC Tests Reveal Rawhide Server on Steroids

2) High-end Server Rumours Spread like WildFire

1) Digital UNIX Gets Some Respect

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10) Servers Get A Graphic Outlook

At last year's SIGGRAPH show, DEC disclosed initial details on a family of Hi-FIVE (High Fidelity Interactive Visual Environment) products designed to provide superior quality interactive graphics rendering at affordable prices. Hi-FIVE consists of single-pass algo-

rithms for full-scene polygon anti-aliasing, environment mapping, multiple layers of transparency, and shadow rendering. Processing is done in the background, so there is no impact on apps.

The result is superb visual quality and extremely high performance for price-sensitive MCAD, animation, visualization, and GIS applications. The first Hi-FIVE PowerStorm offering, a 19-chip deskside rendering behemoth, should debut shortly. Also at SIGGRAPH, DEC program-announced the availability of PowerStorm graphics on WNT and Digital UNIX-based AlphaServers. The firm is targeting high-performance technical computing users who want to visualize large data sets without the need for dedicated graphics hardware. The AlphaServer 1200, 4x00 and 8x00 are targeted for graphics support, as is the Ultimate Workstation (see below). Hate to wait? An AS8x00 with WNT Enterprise Edition will do 32-bit PCI graphics today.

9) Two Heads are Better Than One

DEC has long regarded multiprocessor workstations to be little more than vanity products. Despite the paucity of parallelized apps that can exploit SMP, dual-CPU Intel desktops warrant an Alpha response. Accordingly, more than a decade after introducing the ill-fated VAXstation 35x0, DEC will rejoin the SMP workstation fray with the Digital Ultimate Workstation Models 533a2 and 533au2. The "Grandson of Tombstone" dual-CPU workstation is a repackaged AlphaServer 4000 that houses two 533MHz EV56 chips in a wide tower enclosure. Available with Digital UNIX or WNT, a base system includes two CPUs, 512MB of memory, and a 4.3GB disk. The enclosure supports 2GB of memory, six I/O slots, Integrated Fast Narrow Single-ended SCSI, a KZPBA-CA UltraSCSI adapter, two 420W power supplies, and ten storage slots consisting of one diskette drive slot, one CD-ROM slot, an additional removable media slot, and seven StorageWorks wide and/or narrow slots. Although not yet announced due to the delayed availability in the "Road Warrior" graphics subsystem, the "Da Vinci" workstation is available now.

8) An Artistic Alpha Workstation

Aiming to cater to workstation customers who eschew SMP but feel the need for speed, DEC will debut "Monet," an EV6 (and later, EV67) desktop. The

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In This *6-Page* Issue

S*KD's* DECwatch

As *SKD* enters its fifth year of publication, DEC finds itself, per usual, living in interesting times. While we tried to cover the key trends that will impact Team Maynard during the coming year in our Top Ten List, there undoubtedly will be other developments that warrant some attention. Here are a few issues to keep an eye on in the months ahead:

Alpha, Acquisitions, Ads, Alliances

Its debut may be a day—several quarters, actually—late, but the third-generation Alpha EV6 microprocessor will be anything but a dollar short when it comes to performance. EV6-based systems are in external field test now, leading us to expect first revenue shipments in 1HCY98.

On the other hand, Alpha remains a low-observable architecture, thanks almost entirely to Digital's abysmal marketing. Based on the firm's track record, we'd be foolish to predict any positive changes, "AlphaPowered" or otherwise.

Even after completing its FY98 stock repurchase plan, DEC will have plenty of

cash in the bank. What to do with all this *dinero*? Service and Internet-related acquisitions seem very likely.

The FY97 "DECchimp" ad campaign caused great consternation among the rank and file at Digital, but it appears that the FY98 "Liftoff" initiative is going over like a ton of, well, bricks. Not only does the new-for-'98 campaign cost two and a half times as much as did the much-maligned spokes-simians, the "Brick" ads aren't generating much in the way of new revenue. Look for some near-term changes on the corporate branding and messaging front.

According to several reports in the trade press, the Alliance for Enterprise Computing is slated for an imminent facelift. Given HP's success in gaining mindshare as the service and WNT/Unix integration partner that Bill Gates "likes best," a DEC response is all but certain. Service and support is a logical focus if and DEC and Microsoft renew their vows. The recent workstation initiative (see "Digital Visualizes High-Volume WNT Workstation Sales," *SKD* V4N24, December 10, 1997) and forthcoming WNT-only AlphaServers are equally likely to play a role in an Alliance for Enterprise Computing, Part Deux.

Certification, Consolidation, Cuts

Ease of doing business (or lack thereof), and lax channel policing have long been concerns of Digital's business partners. Look for significantly stricter sales and technical certification requirements, and better enforcement of territorial and product accreditation regulations.

The merger of the PCBU and SBU into a unified organization is running behind schedule, but strong near-term emphasis will be placed on this issue. Cost cutting and workforce reduction are inevitable by-products of the initiative.

Diminished Differentiation

Since April 1995, DEC has owned—and failed to aggressively exploit—the 64-bit computing marketplace. This may come back to haunt the firm as rivals such as Sun, HP, SGI, *et al* start to deliver

complete 64-bit solutions. Moreover, interminable delays in the availability of WNT V5.0 have frustrated DEC's efforts to differentiate Alpha from IA32. Given the disparity between real time and Microsoft Standard Time, WNT V5.0 may end being a circa-1999 product, debuting in the Merced or Amost-Merced era.

In the interim, IA32 vendors can exploit VLM on 32-bit platforms via Oracle8. Oracle engineers expanded the data buffers within the database code to utilize the available memory above 2GB. The only products that currently can exploit this capability are the Digital AS8x00 and AS4x00 systems that support more than 2GB of memory. Significantly, the technology is applicable to Intel or other systems with more than 2GB of memory. The emerging crop of 8-way Wintel superservers are good candidates for "VLM Lite" with Oracle8.

DECline or Dandy Deal?

Investors are incensed at Digital's financial performance, and with good reason: while the S&P index has doubled, and the stock values of rival IT vendors have quadrupled, DEC's stock value today is essentially unchanged from its value at the beginning of the Palmer Era.

Nevertheless, it's our belief that Digital stock is tremendously undervalued. That said, DEC's 2FQ98 results won't tell the entire story. Between financial woes in Asia—where Digital derives more than 20 percent of its revenues—and customer uncertainty about the divestment of Digital Semiconductor to Intel, and the NPBU to Cabletron, the firm's 2FQ results won't be anything to write home about. On the other hand, the ever-popular DEC acquisition rumours generally cite the buy-out price in the $70 to $80 range, and the firm's break-up value is estimated to be in the vicinity of $65 per share. Consequently, the purchase of DEC stock at the $36 to $38 range in which it's been trading lately would seem to be a no-brainer decision.

Terry C. Shannon

Workstation Formerly Known as Tsunami is a single board design that supports synchronous or dual-data synchronous SRAM, or Klamath-style RAM. Monet will come with a 400W power supply plus the usual PCI bridges; serial, floppy and parallel ports; ISA and USB ports, and 10/100BaseT Ethernet. Monet's in field test now, and should ship in 2H98.

7) Alpha Gets a Lobotomy for WNT

Alpha may have started its life as a Universal Platform, but divergence, not convergence, is the watchword for Digital's 64-bit architecture this year. In an effort to field WNT/Alpha-based products that achieve or approach price parity with Wintel alternatives, while effectively protecting the juicy margins associated with OpenVMS or DUNIX-based iron, Digital will swallow its pride—not to mention a heaping helping of Universal Platform crow—by debuting separate and unequal Alpha chip variants.

The new WNT-only processors will be lobotomized to disable the firmware needed to boot the Digital UNIX and OpenVMS SRM console. The remaining ARC firmware supports only the WNT OS, thus ensuring that crafty customers will be unable to alleviate OS-based pricing disparities by purchasing *el cheapo* WNT Alpha systems only to replace the Microsoft OS with the contents of an OpenVMS or Digital UNIX CDROM that might be hanging around.

Digital's elective microprocessor brain surgery is rendered necessary by ever-faster Pentium II chips and ever-larger Wintel SMP superservers. While Alpha continues to outpace IA32 performance, DEC's 64-bit price/performance advantage is being rapidly eroded. The firm has seen the light, the surgical team has been assembled, and Alpha will go under the knife any day now. Expect an after-action report and a detailed prognosis in February '98 issue of *SKD*.

6) Dual-Architecture Double-Teaming

The success or failure of the WNT-on-Alpha Volume Strategy hinges largely on product positioning, marketing, and delivery strategies. *SKD* expects big changes on all three fronts as early as this month. Here's a preview of the anticipated "Blue and White" launch.

As we reported last month, Digital will adopt a "coat of many colors" marketing strategy in which Intel and WNT-only Alpha wares will be outfitted in Frost White enclosures. OpenVMS and Digital UNIX-based Alpha boxes will feature Top Gun Blue cabinetry. The changes are more than cosmetic: WNT platforms will be sold by the former PCBU, reincarnated as the White—or Volume—Team. OpenVMS and DUNIX systems will be sold through the born-again SBU, which will be referred to as the Blue—or Value—Team. Unique channels, margins, and terms and conditions will apply to each team and its products.

Aggressive pricing will rule on the White Team. In an effort to generate volume WNT-on-Alpha sales, the entry price of a WNT-based AlphaServer will be slashed to the bone. Indeed, an entry WNT system could cost as little as one third as much as a comparable OpenVMS or Digital UNIX-based system. (Such pricing would result in a ~10 percent delta between entry Wintel and Alpha offerings.) The price differential should decline to about 50 percent in the midrange. Margins will be impacted accordingly: channel partners who distribute WNT-based Alphas may be in for an unpleasant surprise. Similarly, hefty price premiums on OVMS and DUNIX products may cause an outbreak of the blues on the Blue Team.

The final element of the strategy is yet another Alpha product naming convention. WNT-only Alphas are likely to conform to DEC's new Wintel naming scheme. Under this plan, an entry Intel server might be called a Digital 3100. The equivalent entry WNT Alpha server would be a Digital 3300. The relabeling should apply to low-end and midrange WNT-based AlphaServers; it's uncertain whether the AS8x00 will be impacted.

Carefully implemented, the Value & Volume strategy might work. Improperly implemented, the Blue and White Teams—and DEC itself—are likely to end up black-and-blue. Stay tuned.

5) WNT Becomes Big Dog

Microsoft may well have borrowed liberally from DEC's architecture-independent Mica OS development effort to produce an "OpenVMS for the Rest of the World" (WNT, in Redmond-speak), but the Maynard firm may yet capitalize on Mister Bill's Excellent OS Adventure. Indeed, DEC's Commercial Software Group has mounted an effort to fortify WNT with "enterprise-oriented web-enabled applications." These add-on apps—some of which borrow heavily from OpenVMS technology—are designed to render WNT a secure, disaster-tolerant, 64-bit, 24x365, massively scalable OS by the end of 1998. This program bodes well for WNT's acceptance in the enterprise, not to mention DEC's role as a "beyond-the-base" purveyor of WNT solutions. Moreover, the effort sheds light on Digital's reasons for choosing to relegate OpenVMS to the small but profitable high end market.

4) Galaxy: No Longer A Nebulosity

Since receiving its first in-depth public coverage in *SKD* (see "The Future of OpenVMS: It's Gonna Be Galactic," *SKD* V4N11, June 1, 1998), Digital's OpenVMS Galaxy Software Architecture has attracted a great deal of attention among high-end OpenVMS users, rival vendors, and potential technology adopters alike. Conceived as a "midnight project" by OpenVMS development about two years ago, Galaxy progressed from theory to prototype to roadshow attraction in less than a year's time.

Originally designed to debut in conjunction with the WildFire enterprise server, Galaxy is likely to appear well ahead of the TurboLaser followon. *SKD* wouldn't be surprised to Galaxy announced in mid-1998 together with OVMS V7.2. Such an announcement would feature Galaxy on TurboLaser, a platform which is sufficiently large to exploit some of the benefits inherent in shared-everything APMP—and a platform upon which Galaxy has been successfully tested and demonstrated. *SKD* also expects to see DEC announce a Galaxy Development Environment that will be supported on low-end Alpha servers and workstations.

Digital will pitch Galaxy's Adaptive Partitioned Multiprocessing (AMPM) computing model as a route to heretofore impossible levels of scaling, flexibility and adaptivity, as well as an environment well suited to consolidation and reduced COO. While Galaxy's current focus is OVMS, the architecture is OS-neutral and can be adapted to other platforms. In fact, we believe there's a better than 50-50 chance that Microsoft soon will hop onto the Galaxy bandwagon in an effort to render WNT a viable choice for enterprise-class computing.

3) A Midrange Server on Steroids

The AlphaServer 4100 Rawhide has been the recipient of two performance enhancements since its introduction in May 1996, and Digital is likely to celebrate the AS4100's third anniversary with a 600MHz EV56 processor upgrade. Don't expect the announcement to be accompanied by audited TPC benchmarks: DEC's performance characterization engineers have elected to defer Rawhide— and TurboLaser—time trials until EV6 processor support is extended to the platforms. TurboLaser is slated for an EV6 upgrade in mid-98, but EV6-inside Rawhides probably won't be available until several quarters later.

During the coming year, DEC's long-term server vision will begin to materialize. The firm plans to offer AlphaServers in four categories, including 1-2 processor workgroup servers, 1-4 processor low-midrange servers, 1-8 processor high-midrange servers, and 8-32 processor enterprise servers. These categories are exemplified by incumbent AS1200 and AS4x00 systems, and by future 8-processor AS4100 followons as well as the 32-CPU WildFire enterprise server.

2) Rumours Spread Like WildFire

The AlphaServer 8x00 TurboLaser is approaching its third birthday, rendering the circa-1995 server dated by computer industry standards. The system's support for a maximum of 14 processors enables rival vendors to brand Digital as a purveyor of a CPU-challenged enterprise server. Although TurboLaser is slated for

an EV6 performance kicker by midyear, Sun's 64-processor UE10K Starfire wins in the CPU census department. NUMA boxes from DG, Sequent, *et al* lend additional legitimacy to large SMP configurations. And HP isn't standing still.

Nor is Digital. In a recent presentation, DEC Corporate Consulting Engineer and VP Jesse Lipcon discussed a "high-end SMP platform" that features a two-level CPU-memory switch structure, EV6 processors, and initial support for up to 32 CPUs. According to Lipcon, the platform architecture and "NUMA done right" approach to multiprocessing ensure that memory, bandwidth, and I/O will scale with CPUs, thereby enabling DEC to offer a truly balanced system.

Code named WildFire, the system exists in prototype form today and should ship within about a year. In its initial release, a 32-CPU WildFire could support as much as 128GB of memory and up to 64 PCI buses, or as much as 16GB/sec of I/O bandwidth. The basic WildFire building block is a module containing 8 EV6 CPUs and up to 32GB of memory connected via a crossbar switch. A single cabinet could be populated with up to four such modules, linked by peer-to-peer crossbar switches. The two-tier crossbar architecture will, over time, enable DEC to field WildFire complexes consisting of more than 100 CPUs. In the interim, WildFire will blow the UE10K, *et al*, right out of the water.

1) Digital UNIX Gets Some Respect

Our Number One 1998 Prognostication involves Digital's renewed emphasis on Unix. As *SKD* reported last year, (see "Digital UNIX V4.0D: New, Improved, and Still Going Strong," *SKD* V4N19, October 6, 1997), Digital UNIX no longer is the crazy aunt in DEC's OS basement. With well over 4K apps and a run rate of better than 10K servers per quarter (and growing), DUNIX drives more than 50 percent of Alpha sales.
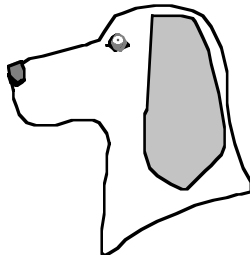
DEC's "October Surprise" announcement of its intentions to port its Unix to the IA64 architecture (see "Digital and Intel 'Just Say No Lawyers' By Settling Dispute, *SKD* V4N21, October 27, 1997) has potentially far-reaching impli-

cations. The firm has successfully ported DUNIX to IA32 in a proof-of-concept demonstration, and the common endianness of the Alpha and IA64 architectures might render DUNIX-on-IA64 attractive to Unix hardware purveyors. As discussed, DEC's common code base and "write-once, compile-twice" strategy will allow ISVs to write apps once to run on Alpha and IA64. This should resolve the longstanding Digital UNIX apps availability issue once and for all.

It's too soon to tell if the initiative will advance Digital UNIX above the Number Four marketshare slot, or lead to consolidation among the myriad Unix variants extant today, but such are DEC's aspirations. VP Tim Yeaton noted that Digital not only is willing to license the OS to other vendors, but will actively promote its widespread adoption on an *a la carte* or soups-to-nuts basis. Potential OEMs will be able to license source code and binaries for the base OS, as well as value-added features such as the Advanced File System. Details are sketchy, but DEC reportedly is in negotiations with a number of prospective partners.

Finally, a code freeze is in place for Digital UNIX V5.0. Due out in mid-98, the new release (see "Digital UNIX V5.0: The OS of Steel," *SKD* V4N23, December 1, 1997) will offer ease of use and manageability improvements while focusing on continuous computing, database application server, and Internet server design centers. DUNIX V5 will incorporate hardware support for EV6 processors and next-generation low end, midrange, and enterprise-class systems.

The SMP facility will scale to support 32 CPUs on WildFire, and will also include NUMA-related enhancements such as closer alignment of CPUs and memory and I/O resources, replication of system components on multiple CPUs, and support for "memory holes." The OS will incorporate design tweaks that reduce SMP overhead, reduce lock contention, and allow interrupts to be distributed across multiple CPUs. V5 is also slated for a cluster file system, full cluster aliasing, single logon support, and disaster tolerance. Collectively, these features ensure that DEC will remain a serious player in the Unix market. ∎

Digital Dog

Yes. The scourge of political correctness continues to prevail over common sense. Last year, members of the West Palm Beach, FL, Pit Bull Terrier Club received notices that some insurance companies would not renew their homeowner policies because that breed of dog was responsible for an increasing number of liability claims. Club officer Linda Kender termed such insurance company stereotyping "dog racism." Now that he's finished laughing at this exercise in frivolity, the CMOS Canine begs to differ with Ms. Kender's labeling: dog "breedism," not "racism," is the bone of contention here! Join the politically incorrect but ever-prescient Digital Dog as he digs up a New Year's batch of DEC-market kibble that's sure to appeal to all and sundry, regardless of race, creed, breed, gender, or planetary origin.

DEC alliance partner and customer MCI has begun deploying a network management platform based on the internationally recognized Telecommunications Management Network standard. MCI's Integrated Management Platform for Advanced Communications Technologies (IMPACT) uses shrink-wrapped components supplied by DEC, Sun, and, IBM. **IMPACT will have a major positive impact on DEC**, since key parts of the system were developed with the Maynard vendor's TeMIP infrastructure. Not yet widely known in the US, TeMIP is a key contributor to the nearly $1B in annual revenues that DEC derives from the telecom market in Europe.

DEC's doing quite well for itself in the WNT market, but *SKD* neighbor Data General is going gangbusters. According to recently released 1996 shipment revenue figures from market researcher IDC, DG has become the world-wide marketshare leader in WNT systems selling for between $50K and $100K, and is second in systems selling for between $100K and $250K.

What's the difference between Windows 98 and Windows NT V5? Quite possibly the year in which the respective OSes are released. In a recent interview, Microsoft Big Dog Steve Ballmer was asked about a V5 ship date. Steve's response: *"Roughly, roughly a year from now. Roughly."* Apparently the gating factors are Zero Administration Windows, Microsoft's answer to the NC; and Intellimirror, which supposedly will allow users to save their files and replicate their entire desktop to a server.

Digital is putting the finishing touches on a dynamic duo of marketing events. The firm's annual Business Partners Conference will be held February 1-4 in Orlando, FL. Originally slated for last September, the firm's annual Analyst Briefing will be held February 8-11 at a resort close to Jacksonville, FL.

Digital got some ink last month in *Business Week*, and per usual, it wasn't anything to brag about. In the magazine's annual list of best and worst corporate boards of directors, DEC came in at Number 21 on the Worst 25 list. DEC was bracketed by Number 13 AMD and Number 23 Apple. The best boards? Compaq, Microsoft, and IBM took the third through fifth place titles; Intel, HP, and Sun Microsystems came in Numbers 8, 11, and 14 respectively.

In the **continuing saga of the embarassment of riches, VP style**, at Digital, word has it that Bruce Claflin changed the titles of all his direct reports from VP to Senior VP. With the abundance of vice presidents at DEC—160 at last count—there were so many VPs reporting to VPs that org charts and pecking orders had become incomprehensible.

Four months after debuting the Porsche of portables, **DEC upgraded the Hi-Note Ultra 2000** with a 233MHz Pentium MMX CPU, 4GB disk, 24X combo CD-ROM, and an additional 2MB of video RAM. The top-of-the-line Ultra 2000 retains its $5,999 price, but the 166MHz model now goes for $4,999, a $1K reduction. *But wait, there's more*: expect further price cuts when 266MHz Tillamook-based Ultra 2Ks take a bow.

Et tu, Sparc? Sun and Intel announced a technology cross-licensing agreement under which the firms will cooperate on the development of Solaris-on-IA64. No big surprise, given Sun's Solaris-on-IA32 offering, but it does raise questions about the future of the Sparc architecture. With Sun's OS—not to mention Digital UNIX—now on board the IA64 bandwagon, OpenVMS-on-Alpha appears to be the last alternative dog barking.

Spending some idle cycles browsing DEC's ECO database for recommended patches to OpenVMS V7.1, the CMOS Canine sniffed out a couple of interesting developments. First and foremost is **an OpenVMS patch for the as-yet unannounced av-Series Personal Workstation**. Even more intriguing are patches that allow the use of mixed EV5 and EV56 CPUs on Rawhide and TurboLaser servers. Want more evidence? Czech out the new SMPSTART_MIXEDCPU entry in the TurboLaser link file.

Not unexpectedly, **the involuntary redeployment of AlphaStation 255/233 and 255/300 workstations to the processor potter's field has been accelerated.** Due to material shortages, the last ship date for these golden oldies has been moved up to March 27, 1998.

In other retirement news, **Digital on November 30, 1997 announced the December 1 retirement of POSIX for OpenVMS.** Also known as VMS Integrated POSIX, the product was terminated consistent with Digital's efforts to "realign engineering resources with 'successful open standards' that have deliverable marketplace acceptance and provide OpenVMS customers interoperability with their standards of choice."
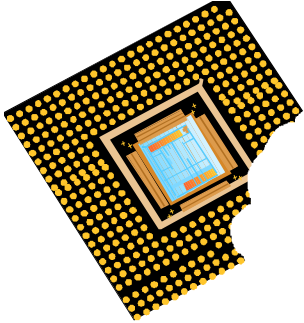
Where are they now? Some time ago *SKD* reported that former DEC VP Charlie Christ found a new home as a senior executive at Symbios Logic. But what of onetime DEC Number Two and heir apparent Neutron Ed Lucente? Mr. Lucente surfaced as president and CEO of Alabama-based printer purveyor QMS.

And where is DEC's stock value now?
Not where it was two months ago! Due to a widespread outbreak of the "Asian Flu" and various contributing factors, the firm's 2FQ98 earnings estimates have been downgraded. Stay tuned for the quarterly earnings report on January 15.

Not everyone at Digital Semiconductor is happy about the Intel settlement or the unit's abysmal Alpha marketing. The logo—and the *angst*-laden pages—of the *Digital Semiconductor Dis-Connection* offer ample proof. The "Sold Down the River Issue" parody of the *Digital Semiconductor Connection* employee newsletter is a laff riot. For obvious reasons, the perpetrator of this collector's item remains anonymous.

Looks like **the timing of the sale of the Network Products Business Unit to Cabletron was fortuitious** indeed—for Digital. Weeks after announcing its deal to acquire the NPBU, Cabletron issued a press release stating that it will fire 600 workers, close facilities, and cut expenses to position itself for "impressive growth well into the next century."

The fab lines of Intel and other semiconductor manufacturers may be VAX-inside today, but Digital and two of its partners are out to change the *status quo*. DEC, Pioneer-Standard Electronics, Inc., and Promise Systems Corp have joined forces to offer a VAX-to-Alpha migration program that targets semiconductor and precision electronics manufacturers. The turnkey solution combines DEC AlphaServers, Promis Manufacturing Execution Systems (MES) software, and Pioneer value-added services and technology support for PROMIS software. Fab owners can get more details by calling 1-800-657-0168. Call today, operators are standing by.

Alpha workstation owners who are overdrawn at the memory bank, listen up: Dense-Pac Microsystems, Inc. has qualified its 256MB synchronous DRAM module on Alpha systems. The Dense-Pac device is compatible with Alpha processors running at speeds beyond 600MHz, and enables VARs and OEMs to configure Alpha PC164LX motherboards with up to 1GB of memory, twice the capacity of alternative offerings.

Ever wonder where Digital came up with the FX!32 label for its code translator? According to a student who's studied the !Kung bushmen who dwell in the sands of the Kalihari, the "tick" sound they make (which you can reproduce by pulling your tongue off the roof of your mouth with a bit of pressure) is spelled "!" by anthropologists. The student envisions a group of DEC Semi marketeers sitting around swilling Jolt Cola and watching the Discovery Channel: *"FX(*tick*)32... that's the ticket!"* Entirely possible, surmises the Hound.

Lenexa, KA-based **DeskStation Technology jumped into the Alpha clustering arena** with its Ruffian/HA Server. Based on a pair of Samsung 533MHz Alpha 21164 boards, Qualix Octopus HA+ clustering software, a single RAID array with six hot-swappable 4GB drives as well as redundant power supplies, CDs and floppies, the Ruffian/HA "says no to Wolfpack" and is priced from a mere $29K. DeskStation's web site is at `www.deskstation.com.`

Looking for a freeware OS for your Alpha? You might want to **look beyond Linux and check out OpenBSD**, Version 2.2. The latest release of the coded-in-Canada UNIX-like OS runs on most Alpha machines and provides weak binary compatibility with OSF/1 binaries. Since Canada doesn't have a NSA to curtail the export of security software, OpenBSD is replete with cryptography, Kerberos, and an IPSEC framework. A 2 CDROM package, which supports Alpha plus eight more platforms, costs $30US. For ordering information, pay a visit to `www.OpenBSD.org/orders.html`

And speaking of security, a recent pact between Secure Computing Corp. and DEC extends the capabilities of Secure's SmartFilter URL filtering and monitoring software to Internet AlphaServer System Software customers. **SmartFilter is now included on the IASS CD** which ships with every Digital UNIX-based AlphaServer. The software permits administrators to control access to web, news, and ftp sites. Support is forthcoming on selected DEC WNT platforms.

The "L-word" may again rear its ugly head at DEC. Layoffs are a likely byproduct of the consolidation of the Units Formerly Known as the PCBU and the SBU. Now underway, the merger is certain to result in redundant positions. And lackluster 2FQ results all but ensure that positions will be eliminated.

The latest Sun Microsystems ad claims that wimpy PC servers may stunt your growth. There's no doubt that the Dog's growth can be stunted by a paucity of Digital data. Help the CMOS Canine reach his full potential by sending email to `digitaldog@technologist.com.` You'll be *really* glad you did! ◼