Compaq OpenVMS Times

In This Issue...

OpenVMS—Stronger than ever

By Richard Marcello, Vice President, OpenVMS Group

With this edition of *OpenVMS Times*, I wanted to bring you up-to-date on the positive state of the *Compaq OpenVMS* business.

Compaq OpenVMS is a multi-billion dollar, highly profitable business for Compaq. As Compaq drives its *Compaq NonStop*™ eBusiness strategy, *OpenVMS* solutions play an important role by providing business-critical solutions for you today, as they have for over 20 years. *OpenVMS* is a key asset in Compaq's enterprise computing strategy and key contributor to Compaq's success around the world.

You, our loyal customers, have enabled us to experience several significant achievements with Compaq *OpenVMS*, including:

- There are over 450,000 *OpenVMS* systems installed—and that number continues to grow
- The *OpenVMS* on *AlphaServer* platform is ranked #1* among users for:
  - System reliability
  - System software robustness
  - Ease of use/ease of installation
  - Lowest application software costs

- *OpenVMS* leads in the following markets:
  - #1 in healthcare
  - 90% of the manufacturing of the world's CPU chips
  - 50%+ of the cell phones billed in the world
  - 66% of the world's funds transfers
  - 80%+ of the world's automated lottery systems

- *OpenVMS* shares Compaq's dominance of the world's exchanges with a major presence in:
  - 5 of the top 10 stock exchanges
  - 3 of the top 4 derivatives exchanges
  - 47 exchanges and clearing houses

Compaq is committed to the continued development of *OpenVMS* on *Alpha* systems and continued support of *OpenVMS*. The rolling *OpenVMS* 5-year strategy gives you and our partners valuable visibility into the future of *OpenVMS*, and contains three key elements:

COMPAQ
NonStop ™
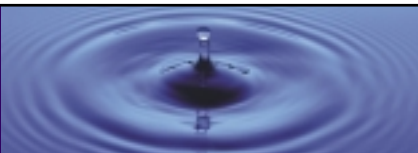
- We will continue to serve our customers and maintain the highest level of customer satisfaction.
- We will continue to focus on solutions for customers in leadership markets with ongoing enhancements of our customer's application development, database, and system management environments occurring across all industries.
- We will continue to invest in *OpenVMS* in the areas of business critical capabilities and software that enable *Compaq NonStop*™ eBusiness solutions by:

  – Releasing new versions of the *OpenVMS* operating system every 12 to 18 months

  – Supporting new *AlphaServer* systems on *OpenVMS*

  – Continuing to enhance our award-winning *OpenVMS Galaxy* software

  – Providing Web-enabling software for full access to applications and data through the Web

  – Providing tools and services to seamlessly integrate *OpenVMS* with *Compaq Tru64*™ *UNIX*® and Windows NT®

Looking forward, Compaq has a solid commitment to continue to meet the needs of *OpenVMS* customers requiring 24x365 highly available, scalable, reliable, and secure systems. These characteristics all contribute to reducing business risk— whether for deploying new applications, or rapidly extending the capacity of existing ones—and have become more important than ever when using the Internet or your own intranet to run some, or all, of a business. *OpenVMS* solutions play a vital role in Compaq's enterprise computing strategy, providing the server technology for *Compaq NonStop*™ eBusiness solutions. ❖

*Source: Gartner Group's Datapro Information Services, 1998 User Ratings Survey of Midrange Systems

OpenVMS support for *Professional XP Workstations* expands!

In June 1999, the *AlphaStation* XP900 running *OpenVMS* was announced at DECUS. This is the newest entry level *Alpha* 21264-based workstation targeted towards the technical user who demands the highest performance CPU at a low cost.

We are also pleased to announce that *OpenVMS* is supported on the *Compaq Professional Workstation* XP1000. This *Alpha*-powered workstation incorporates the latest *Alpha* processor technology and delivers award-winning performance on *OpenVMS*.

This announcement continues to demonstrate Compaq's ongoing commitment to invest in *OpenVMS*, by offering support for the entire line of *Extreme Performance* (XP) workstations. Compaq is also planning to support *OpenVMS* on all future *Professional XP Workstations*, delivering to our customers the scalability and performance that they require for their most demanding workstation applications.

The *Professional XP Workstations* also support *Tru64 UNIX*®, as well as Linux, offering customers unparalleled performance and operating system flexibility.

For more information on the XP1000 *Professional Workstation* please visit: **http://www.digital.com/alphaserver/ workstations/xp1000/index.html** ❖

New Release of *Compaq C* V6.2 for *OpenVMS* on *Alpha* and *VAX* now available

Compaq is now shipping a new release of *Compaq C* for *OpenVMS Alpha* and *VAX* platforms (formerly known as *DEC C for OpenVMS Alpha/VAX*). Version 6.2 is based on the ANSI/ISO C9X international standard. It has been designed to optimize performance at the highest level of quality.

Compaq C V6.2 for *OpenVMS* on *Alpha* and *VAX* delivers more performance and improved quality with the following:

- Hardware tuning on Compaq's EV6 *Alpha* processor
- Faster code generation
- New features from the C9X international standard
- New features from GNU C (GCC)

C application developers can:

- Develop applications with the *Compaq C* compiler, which supports procedural programming and is the most popular compiler for *VAX* and *Alpha* systems worldwide.
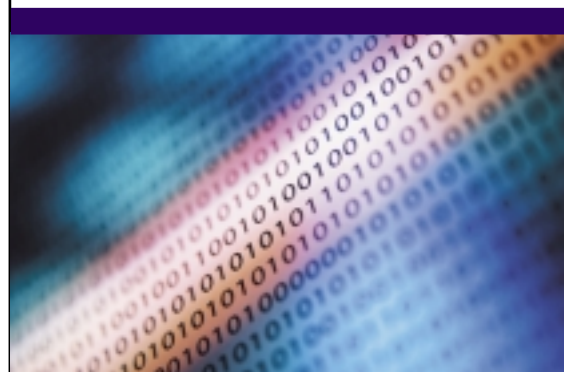
- Deploy *OpenVMS* applications running at peak performance on a variety of *Alpha* 64-bit processors.

- Manage applications with Compaq's *DECset* suite of programming tools that supports coding, debugging, testing, and maintenance.

FEATURES and BENEFITS

Improved *Alpha* EV6 processor support–*Faster execution times*

Committed to industry standards including support for Microsoft C compatibility mode–*Compatibility and portability of code between Compaq C and other ANSI implementations*

Includes new features from C9X International standard and GNU C (GCC)–*Increases compatibility with C standards and dialects*

Problem report corrections–*Built-in quality*

Year 2000 ready: fully tested and certified–*Prepared for the new millennium*

Compaq C V6.2 for *OpenVMS* on *Alpha* and *VAX* is available on the December 1999 *OpenVMS* Layered Products CD-ROM Library offering.

To get more information on *Compaq C* V6.2 for *OpenVMS* on *Alpha* and *VAX*, visit the *OpenVMS* website and the *Compaq C* pages at:
http://www.openvms.digital.com/ commercial/c/c_index.html. ❖

Oracle and Compaq share *OpenVMS* commitment

By Richard Marcello, Vice President, OpenVMS Group

I am very pleased to share with you the following letter detailing the shared commitment to *OpenVMS* between Oracle and Compaq, which Jerry Robertson, VP of Oracle Corporation, and I wrote.

Dear Valued Customer,

Oracle and *OpenVMS* have enjoyed a long and prosperous relationship for over 15 years. Compaq's *AlphaServer* platforms running *OpenVMS* and Oracle have provided the foundation for many of the world's most critical database solutions. The combination of Oracle and *OpenVMS* has been successful in manufacturing, healthcare, finance, telecommunications, and government installations for many years.

The *OpenVMS* on *AlphaServer* platform continues to be a very strategic platform for Oracle. Just as Compaq values *OpenVMS* as a key part of the acquisition of Digital Equipment Corporation, so too does Oracle value *OpenVMS* as a means of satisfying customers' needs for highly available, scalable, and secure database solutions.

The commitment between *OpenVMS* and Oracle is open-ended: the shared plan is that Oracle products, including the data server and associated tools, will be available in all geographies for the known future. This commitment is reinforced at the highest levels of management in the two companies. Resources in the form of trained and dedicated personnel, system platforms, and freely exchanged technical and business information are continually shared between Oracle and Compaq.

We want to update you on our progress toward a commitment that we made several

months ago. We committed to put the people and resources in place to minimize the delay between the availability of Oracle products on UNIX® platforms and their availability on *OpenVMS*. As you are probably well aware, Oracle database products are developed on a UNIX platform and then ported to other platforms. In the past, this was basically a serialized process. Much of the effort expended for each platform was repeated for the next platform.

Since 1999, we have been working on a drastically new part of our infrastructure, called the Automated Porting Effort. Although the investment in this effort has been very significant, we believe it was well worthwhile. It enables us to do more work for multiple platforms in parallel. This decreases the apparent delay for product availability.

Last year, we committed to reducing this delay and we set a rather aggressive goal: to reduce the delay to 90 days or less as soon as possible. We are now seeing the fruits of the Automated Porting Effort. We are making good progress on Oracle database server version 8.1.6 for Compaq *OpenVMS*. We expect this product to be available in the April 2000 timeframe.

This will be between 90 and 100 days after version 8.1.6 was available on UNIX platforms. When we ship version 8.1.7 in the November 2000 timeframe, we expect this to meet our stated goal of 90 days or less.

It is also significant that these are the first implementations of Oracle8i on *OpenVMS*. Customers who have been loyal to the *OpenVMS* on *AlphaServer* platform will receive the benefits of the Java Virtual

Machine and Cache Fusion. The Internet File System has been moved to Release 8.1.7.

Our ability to meet this commitment has been made possible through close cooperation of Oracle's Compaq Platform Division and Compaq's *OpenVMS* System Software Group. There has been a steady flow of technical information in both directions. Software engineers have shown their dedication toward meeting this stated objective. A lot of hard work has paid off. We hope that by meeting this goal, we have reemphasized our commitment to work closely together in delivering high availability solutions to meet your mission critical needs.

Let us close by including a quote from Jerry Robertson: "Oracle database servers, including Oracle7, Oracle8 and Oracle Rdb, represent more than 80% of the databases running on *OpenVMS* systems. This large installed base continues to demand Oracle products, making *OpenVMS* one of our highest volume platforms. We are committed to these joint *OpenVMS* customers and we intend to provide these products in a timeframe consistent with other strategic platforms."

We hope that if Oracle and *OpenVMS* satisfy your current needs, you will continue to use this combination for your future needs. If we can be of any assistance in clarifying our shared commitment, do not hesitate to contact us through your Oracle or Compaq representative.

Sincerely,

Jerry Robertson, VP
Compaq Platform Solutions
Oracle Corporation

Richard Marcello, VP
OpenVMS System Software Group
Compaq Computer Corporation

This letter is available at:
http://www.openvms.digital.com/ solutions/oracle/oracle-letter.html ❖

OpenVMS application developers head to Munich in May for Compaq Technology Symposium

This year, more than 1500 technical professionals, including members of the Compaq Solutions Alliance and Accredited System Engineers (ASEs), are expected to attend the Compaq Technology Symposium (CTS) at the International Congress Centre in Munich, Germany, May 23-26. The four-day event is intended for a highly technical audience of application and system engineers developing and integrating applications that run on Compaq platforms.

With more than 170 sessions and 60 workshops, the symposium will provide a broad mix of platform-specific sessions covering the major platforms including *Compaq OpenVMS*, *Tru64* UNIX, Himalaya, Linux, and Windows NT. There will be an exhibit hall open during the whole event.

OpenVMS will be well represented by its engineers and consultants who will be presenting a number of technical

sessions and workshops on such topics as performance optimization, TCP/IP Services, Oracle8, *OpenVMS Galaxy*, clusters, and multi-threading. Consistent with the theme of the symposium, "Developing, Implementing and Driving *NonStop*™ eBusiness solutions," there will also be presentations on COM, Apache Server, application integration, and deploying Java.

Attendees will have a chance to hear strategy and direction from Compaq executives at the general sessions and can meet with senior technical development staff. They'll also have the opportunity to receive information not currently in the public domain on our product plans. For this reason, each delegate will be required to sign a Non-Disclosure Agreement as a prerequisite for admittance to the symposium.

For information about the Compaq Technology Symposium, including online registration and hotel reservations, visit: **http://www.compaq.com/emea/ cts2000**. ❖

Did You Know?

The mail in Israel is delivered courtesy of *OpenVMS*.

Compaq *PATHWORKS* Version 6.0C shipping

Compaq PATHWORKS V6.0C for *OpenVMS* (Compaq Advanced Server) kits are now available for *AlphaServer* and *VAX* systems. PATHWORKS V6.0C adds support for *OpenVMS* V6.2 on *AlphaServer* and *VAX* systems.

This new release provides Windows NT Server networking features for *OpenVMS* through a port of the Advanced Server for UNIX OEM product, as well as enhancements specifically for *OpenVMS*, which include:

• Support for LAN Manager V3.0 technology

• Support for *OpenVMS* Version 6.2 (*Alpha* & *VAX* systems)

• Support for *OpenVMS* Version 7.1 (*Alpha* & *VAX* systems)

• Support for *OpenVMS* Version 7.2 (*Alpha* & *VAX* systems)

• Full browser support

• Windows NT management APIs

• Comprehensive ADMINISTER command line interface

• Password synchronization between *OpenVMS* and *Advanced Server*

• Wide Area Domain supports WINS integration over TCP/IP

• Trusted Domain support

• *OpenVMS* cluster support

• Support for *OpenVMS* V7.2 ODS-5 devices as ODS-2 devices

• Support for the PWLMXXXCA07.02 license (PW V6.0B only requires the PWLMXXXCA06.00 license)

Information about the *PATHWORKS Advanced Server* V6 and *Advanced Server* V7.2 products is available at: **http://www.openvms.digital.com: 8000/#pathworks**. ❖

Compaq ACMS for *OpenVMS*, Version 4.3, with Remote Systems Management (RSM) now available

Compaq ACMS (Application Control and Management System) for *OpenVMS* is a transaction processing (TP) monitor designed for *OpenVMS*. *ACMS* works with other commercial application software products to provide users with a complete and customizable development and run-time environment for transaction processing applications such as order tracking, accounting and billing, banking, shop floor control, and claims processing.

The Remote Systems Management capabilities, which ship as part of *ACMS* V4.3, provide users with the ability to communicate with the *ACMS* management server, using one of the supported interfaces, from either the *ACMS* node or a different node, over a TCP/IP network.

The SNMP interface provides network access to *ACMS* management information using the industry-standard SNMP protocol. Eight comprehensive and customizable BMC Patrol Knowledge Modules have been developed by *ACMS* Engineering and are available for monitoring *ACMS* systems. The command line utility provides command line access to management information, along with the control of the Remote System Management (RSM) process. The RPC interface provides local or remote access to *ACMS* management information, and is used by user-written programs to access *ACMS* management information.

New features:

• User-selectable software management tools and networking protocols

• Minimal user training required—the same management tools can be used to manage the *ACMS* environment as the rest of the user's environment

• Remote access to *ACMS* runtime information

• SNMP support (access *ACMS* information from Patrol, Tivoli, etc.)
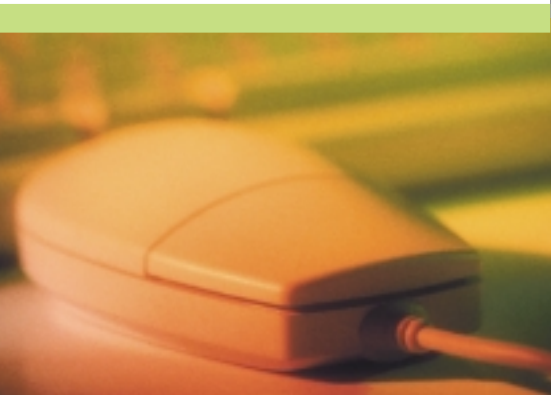
- More management information is available than before—including Maximum Users, Total Tasks, Total Concurrent Tasks, Maximum/Minimum pool usage, etc.

Benefits include:

- Minimized IT costs—by utilizing existing infrastructure and existing third-party software to manage *ACMS* environments
- Real-time insight into the *ACMS* runtime environment.

For further information, please visit: **http://www.openvms.digital. com/commercial/acms** ❖

AlphaServers running OpenVMS have lowest total cost of ownership

Hot off the press is a research report completed by TechWise Research, Inc. on the total cost of ownership (TCO) of RISC-based cluster solutions. The study included RISC-based clusters from IBM, Sun, Hewlett Packard, and Compaq.

OpenVMS clusters took all of the honors:

- Lowest in total cost of ownership
- Lowest incidence of cluster downtime
- Lowest in Reliability-Adjusted TCO™

This information was distributed at the Integrated Compaq User Symposium (DECUS) by TechWise Research, Inc. You can locate it on the

Web at: **http://www.digital.com/ alphaserver/whitepapers.html**.

The study concludes:

"Total Cost of Ownership is an important factor when purchasing RISC clusters. This study shows that for robust clusters built around current models of department-level servers, *Compaq AlphaServers* running *OpenVMS* clusters have the lowest overall TCO. *Compaq AlphaServers* running *OpenVMS* are $41,000, $116,000, and $311,000 less costly than IBM, Sun, and HP, respectively, over a three-year period.
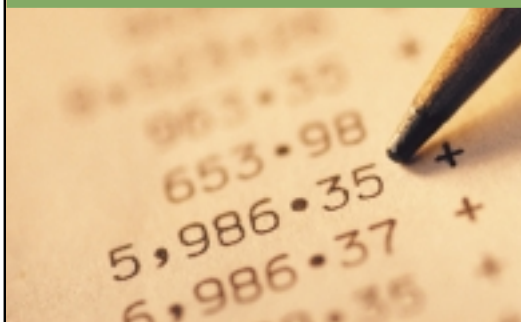
Traditional methods for measuring the TCO of clustered servers may be misleading because they ignore the cost of cluster downtime. When these costs are factored into the TCO equation, the actual acquisition cost represents less than half the cluster's TCO over a three-year period. Both Compaq and HP clusters provide better than average reliability. Depending on each customer's unique situation and their associated cost of downtime, this finding may be more important than all the remaining TCO components combined. When the average cost of cluster downtime is taken into consideration, *Compaq AlphaServers* running *OpenVMS* clusters have the lowest

Reliability-Adjusted TCO™. Specifically, *Compaq AlphaServers* running *OpenVMS* are $281,000, $311,000, and $371,000 less costly than IBM, Sun, and HP, respectively, over a three-year period.

"In order to maximize return on investment, managers should factor both TCO and reliability into their cluster purchase decisions. Of course, other factors such as software features, application availability, and quality of service and support offered also contribute to the overall value of a cluster and should not be ignored."

TechWise Research is a primary market research firm that specializes in the computer industry. If you have any questions regarding this research, please contact: **ClusterTCO@TechWise-Research.com**. ❖

Announcing the availability of Compaq DECforms for OpenVMS Version 3.1, and Compaq DECforms Web Connector Version 2.0

Compaq DECforms for OpenVMS is a software product for the development and deployment of forms-based user interfaces for interactive applications running on *OpenVMS* systems. This layered software product provides transparent web access to interactive applications running on *OpenVMS*
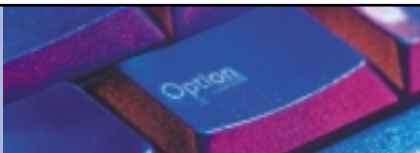
systems, where *Compaq DECforms for OpenVMS* was used to implement the forms-based user interface.

DECforms Web Connector operates in a three-tier networked environment consisting of an *OpenVMS* back-end application system, a Windows NT or *OpenVMS Alpha* web server middle-tier, and a web browser interactive user tier. *DECforms Web Connector* provides:

- Web access to existing character-cell terminal-based applications with minimal programming or application modifications

- Transparent web access to applications running on *OpenVMS* systems, including *ACMS*-based applications

- A cost-effective method to preserve application system investments and extend the life of existing applications

- The preservation and enhancement of the look and feel of the existing user interface

- Concurrent operation with existing character-cell, terminal-based applications

- Transparent usage of existing character-cell terminal

- Independent Form Description Language (IFDL) layouts, no matter how large

- The usage of generic Windows® graphical user interface features such as push buttons, scrolling, mouse clicks, and navigation

- Changes in the user interface transparently and immediately

- Watchdog processes to ensure access to applications on *OpenVMS* systems

- Encryption for all user-entered passwords

- Optional (controlled by user or system administrator) security using encryption with a 40-bit key

- Load balancing and failover to alternate *OpenVMS* nodes when starting an application

- Logging capabilities and auditing and record keeping

For further information, please visit:
http://www.openvms.digital.com/commercial/webconnector ❖

Now available! COM Version 1.1-A for *OpenVMS*

COM (Component Object Model) is a technology from Microsoft® that allows developers to create distributed network objects. Digital Equipment Corporation and Microsoft jointly developed the COM specification. First released as NetOLE (Network Object Linking and Embedding) and then renamed DCOM (Distributed COM), the COM specification now includes network objects. COM for *OpenVMS* is a port of the Microsoft code that implements the COM and DCOM draft standards.

COM V1.1-A for *OpenVMS* is available for download at:
http://www.openvms.digital.com/openvms/products/dcom/ ❖

Now on a website near you—*Compaq Availability Manager* Version 1.3!

Released in early March 2000, the *Compaq Availability Manager* Version 1.3 is a unique software application that is invaluable for *OpenVMS* system managers—especially those with the challenging task of maintaining high availability across large data centers.

What's the *Availability Manager*?
The *Availability Manager* is a real-time monitoring and diagnostic software application that is free to all users of *OpenVMS*. By using this tool on either an *OpenVMS* or Windows NT® system, you can examine data for multiple *OpenVMS* systems simultaneously. And those of you already familiar with the *DECamds* product for *OpenVMS* will find the next generation of this tool even simpler to use!

The *Availability Manager* not only collects data but also analyzes that data, signaling any potential problems that it detects. You can then drill down by selecting a specific node or even a particular process for detailed analysis. Often you can use the *Availability Manager* to correct performance problems as soon as they occur!

An important advantage of the *Availability Manager* is that it uses its own network protocol. Unlike most performance monitors, it does not rely on TCP/IP or any other standard protocol. Therefore, even if a standard protocol is unavailable for some reason, the *Availability Manager* can continue to operate. It also executes in kernel mode on the target system and is usually able to collect and report data as well as fix problems on an otherwise unresponsive system.

New Features

The latest version of the *Availability Manager* provides many new features, including:

- More consistent look and feel using Java® Swing GUI components
- Improved performance, both in the responsiveness of the GUI and the number of nodes that you can monitor effectively
- Preliminary hardware support for Compaq *AlphaServer* GS series systems
- Key bug fixes (in particular, cleanup on application termination)

For more information, please visit the *Availability Manager* website:
http://www.openvms.digital.com/ openvms/products/availman/ ❖
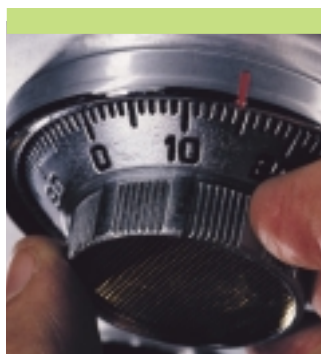
Compaq *OpenVMS* grows 62% in Europe

In a press release distributed on February 2, 2000, Compaq quoted a report from IDC (International Data Corp) which stated:

"Compaq's OpenVMS *sales were up by 62% in the sector. The sharpest decline in the non-UNIX segments was recorded by IBM's AS/400 (down 45%) and S/390 (down 46%) systems, further illustrating the extent of Compaq's success in the third quarter of last year with* OpenVMS." ❖

Compaq and SSH Communications team up to bring Internet security to the enterprise

Internet security toolkit to be integrated into *OpenVMS*

SSH Communications Security, Inc. recently announced an agreement through which Compaq Computer Corporation will incorporate SSH's IPSEC Express™ Toolkit into its enterprise-leading server operating systems– *OpenVMS* and *Tru64 UNIX*. Integration of SSH's IPSEC technologies will enable Compaq to provide its customers

with an effective and cost-efficient security solution which incorporates strong cryptographic security features and fast, easy configuration.

SSH's IPSEC Express is a toolkit for implementing IPSEC security in TCP/IP products that need strong, cryptographic security. This Internet protocol is the predominant technology used in VPNs (Virtual Private Networks), and IPSEC will provide strong security for Compaq's server operating systems. IPSEC is an IETF (Internet Engineering Task Force) standard for protecting IP traffic using cryptography on the packet level. SSH's IPSEC technology adds scalable, strong security to IP without limiting its flexibility to enable new types of business opportunities, such as secure local and global communications between companies, e-commerce and e-banking.

"By integrating IPSEC into its flagship server operating systems, Compaq underscores the necessity for security as part of all computing activities," said George Adams, president and CEO, SSH. "With the growth of Internet usage and associated security breaches, designed-in security is an essential part of the end-product. We are pleased to join the leading supplier of computer systems in an effort to provide customers with the most secure *OpenVMS* and *Tru64 UNIX* enterprise operating systems on the market."

For more information on SSH Communications and IPSEC, go to **http://www.ipsec.com**. ❖

New paper explores *OpenVMS* high availability computing

A white paper on high availability computing is now available on the *OpenVMS* website: **http://www.openvms.digital.com**. This paper examines the capabilities that contribute to a high availability environment and explores the industry-leading availability features of the *Compaq OpenVMS* operating system.

While high availability is a business-critical requirement for computing environments in every industry, there are certain environments where availability is the top priority, such as healthcare, finance, manufacturing, telecommunications, and government. Because *OpenVMS* offers ultra-high availability, it has an outstanding presence in these industries through a broad range of high availability solutions, including products, services, and partnerships. ❖

Did You Know?

Much of the specialty steel that is processed in the United States is rolled using computers controlled by applications running *Compaq OpenVMS* on *VAX* and *AlphaServer* systems.

Customer Profiles:

International Securities Exchange (ISE)

Launching America's first all-electronic options exchange with Compaq *OpenVMS*

"An electronic exchange is viable only while it is up and running. OpenVMS provides the availability, scalability, and rock-solid reliability demanded by our business."

— Danny Friel, Chief Information Officer, International Securities Exchange

In a perfect world, a business would be able to create its IT environment from ground zero, without having to consider any existing systems or environment. Having just such freedom to select any platform in the industry, the International Securities Exchange (ISE) has chosen *Compaq OpenVMS* on *AlphaServer* systems to run its breakthrough operation.

ISE is making history as the first all-electronic options exchange in the United States—and as the first exchange to be approved by the Securities and Exchange Commission in 26 years. New York City-based ISE is also a new customer to *OpenVMS*, the trusted solution of financial and commodity exchanges worldwide.

Wall Street's latest brainchild
ISE is the result of collaboration among some of the best minds on Wall Street,

and the answer to a single question: How would it be possible to lower the costs involved in trading equity options?

Gary Katz, ISE Sr. VP of Marketing and Business Development, explains, "We believed that a totally electronic options market would be the answer because it would have a much lower cost basis than a floor-based model. In looking for an IT solution, we focused first on software.

The experience that Compaq had in terms of exchange exposure is second to none. And no software developer in the world has had more experience with an options market than Sweden-based OM Technology, which has successfully created options markets in over 10 countries—all of them on *OpenVMS*."

Rock-solid reliability
According to Danny Friel, CIO of ISE, "An electronic exchange is viable only while it is up and running. *OpenVMS* provides the availability, scalability, and rock-solid reliability demanded by our business. You can build similar strengths into other environments— but only with major investments of time, technology, and money."

ISE President and CEO David Krell explains, "In selecting a solution to run our business, we picked Compaq and Sweden-based OM Technology.

Our selection was based on their proven track record that can address our need for capacity headroom to respond immediately to fast and changing markets, absolute 24 x 365 reliability, and the ever-present pressure to do so in the most cost-effective manner."

The Compaq solution will enable ISE to maintain the unprecedented processing speeds and sustained high performance required by its operation. As a result, ISE will be able to offer a significantly higher level of efficiency and faster trading for their constituents than traditional floor-based exchanges.

Friel adds, "From the point of price/ performance, hardware performance, and reliability, there was no question that for a high-availability marketplace, going with *OpenVMS* was the right decision." ❖

Did You Know?

If you ride a train in Germany, France, Italy, Poland, or India, you're experiencing *OpenVMS* in motion!

Customer Profiles:

OM Technology

Capitalizing on *Compaq OpenVMS*

"Maximum uptime is vital for the success of an electronic exchange. It is critical that the electronic exchange's systems platform is stable and disaster tolerant. We run on OpenVMS Alpha *because it's very stable. With this platform, our exchanges can rely on 100% system software uptime."*

—Anne von Corswant, VP Market Research, Financial Products OM Technology

In a dynamic environment where computer systems are trusted to handle millions of dollars each second—24 hours a day, 365 days a year— *Compaq OpenVMS* on *AlphaServer* systems with *Compaq Reliable Transaction Router (RTR)* middleware is the platform of choice for OM and its global roster of customers. The industry's leading provider of technology for exchanges and clearinghouses, OM capitalizes on the unmatched stability, availability, security, and disaster tolerance of the *OpenVMS* on *AlphaServer* architecture.

OM derivatives trading technology has been readily accepted because market makers are constantly seeking ways to cut costs. Today, OM CLICK Exchange is the world's leading electronic derivatives exchange software—serving as the core electronic trading system at 16 exchanges in Asia, North America, and Europe. 15 of these installations, including the company's own OM Stockholm Exchange and OM London Exchange, run *Compaq OpenVMS* on *AlphaServer* systems. OM SECUR Clearing System is installed in 8 clearinghouses—all on *OpenVMS* on *AlphaServer* systems.

Both partner and customer

OM not only develops business-critical applications for others, but they also bet their business on their own products and *OpenVMS* on *AlphaServer* systems. OM is uniquely positioned in the market because they have direct experience in running exchanges and clearinghouses—and therefore know what to engineer into their products.

"A key advantage of *OpenVMS* is scalability, which makes it easy to do testing. It's a very strong advantage that it's so easy to move around between small and big systems—which is not the case with all operating systems. Our marketplace systems tie into a lot of Windows NT boxes because most of the user applications in an exchange run on NT. Another advantage of *OpenVMS* is that it is very easy to integrate with NT," says von Corswant.

"*Alpha* is a very strong platform. By moving from *AlphaServer* 4000s to the new DS20s, we are seeing a ten-fold performance increase in benchmark tests—from 60 or 70 transactions-per-second to 700."

Big operations on small, flexible systems

"We are currently upgrading to *AlphaServer* DS20 systems," says von Corswant. "These new systems are so powerful that we can run the Stockholm exchange on just two systems—one here and one at the disaster site—configured as *OpenVMS* dual-site clusters. We run the same configuration for the clearinghouse."

Indeed, OM's *OpenVMS*-based exchanges are very efficient—usually running on small to mid-range *AlphaServer* systems built on *Compaq Reliable Transaction Router* middleware to provide disaster tolerance, flexibility, and geographic reach. With the *OpenVMS* on *AlphaServer* platform, a small exchange can start with just a couple of entry-level systems, such as the *AlphaServer* DS20 systems—and if their volume goes up they simply add more boxes without interruption. The platform provides a low entrance cost for a new exchange or clearinghouse.

A future for *OpenVMS*

OM has always been a forward-thinking company, and intends to remain so. According to Richard Dour, VP Financial Systems Exchange & Clearing, "As the exchange industry moves from being floor-based to screen-based, we believe there is a need for a new platform that simplifies trade across borders, improves functionality, and makes costs much lower. Our goal is to create the world's most efficient market solutions. *OpenVMS Alpha* will continue to be part of our solution." ❖

Customer Profiles:

FactSet Research Systems

Instantaneous financial information key factor to success

"OpenVMS Alpha has given us a viable upgrade path. When we went from VAX to Alpha, our clients noticed the increased speed."

—Glenn Zorn, Vice President of Data Center Services, FactSet Research Systems, Inc.

In an industry where timing is critical, FactSet Research Systems Inc. offers instantaneous access to financial information. FactSet is the world's premier online investment research service, providing integrated database services to the global financial community and turning raw information into usable intelligence 24 hours a day, 365 days a year.

According to Zorn, "With a 25% annual growth in business, we've had to double our system capacity every year. Compaq's *OpenVMS Alpha* platform enables us to stay ahead of this growth curve and meet our strategic objectives."

To ensure unfailing reliability, FactSet maintains duplicate data systems in New York City and Greenwich, Conn., providing its worldwide client base with dependable, uninterrupted access to information. Each center is powered by six *Compaq AlphaServer* GS140/525 systems with 8 CPUs and

16 Gbytes of main memory each running the *OpenVMS* V7.1-2 operating system, a well-optimized I/O storage-sub-system comprising 12 CI adapters per system, and a *Compaq StorageWorks* system.

Zorn explains, "Both are hot sites, designed to operate at less than 50% of capacity, so that in the event of a shutdown at one data center, the full client load can be easily handled by the other. A wide area network using frame relay technology provides high-speed virtual direct linkage between FactSet and the client. Because all applications software and data are maintained centrally at our data centers, every database update or software enhancement is instantly available to every user."

"*OpenVMS* clustering has played a large part in the success of our company. The clustering capabilities of *OpenVMS* give us the ability to add capacity, add nodes in live, and add in I/O. The 24 x 365 availability of *OpenVMS* cluster systems means that data and applications are always available. The fact that *OpenVMS* runs on both *VAX* and *Alpha* lets us bring an *Alpha* into the cluster and continue development while performing the conversion. This ability made the conversion much easier, and ensured that we just needed one source code module for both hardware platforms," explains Zorn.
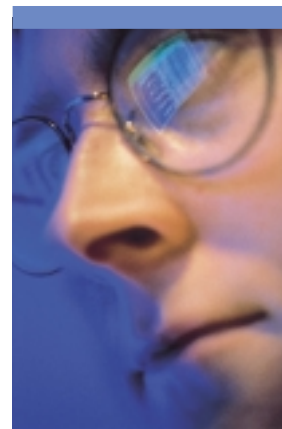
"*OpenVMS Alpha* has given us a viable upgrade path. When we went from *VAX* to *Alpha*, our clients noticed the increased speed. They would call and say things like, 'It only took two hours to answer a query that used to take six. Is something wrong?'"

Performance exceeds expectations:
"Upgrading from the 21164 *Alpha* processor to the 21264 *Alpha* processor, and from *OpenVMS* V6.2 to V7.1-2, reduced in half the CPU cycles consumed by some of the jobs without having to rebuild any code. Available capacity increased greatly, since an apparent CPU bottleneck disappeared without any effort by our staff. "We were pleasantly surprised with the upgrade," says Zorn. "We saw decreases of 25% to 50% in terms of application runtimes and a 40% to 50% jump in overall system performance."

The security features of the *OpenVMS* operating system are also critical to FactSet. "We depend on the security of *OpenVMS* to keep the system secure, which is a necessity for our client base," adds Zorn. "The 1.5 Terabytes of data are rolled out to tape on a nightly basis."

"Over the years, Compaq has worked well with us and helped us resolve issues. We have formed a very strong relationship with Compaq's hardware and software engineering groups, and rely on Compaq's Performance Services Group for analysis to back-check us. As for the future, we expect to see significant growth in business coming from Asia and Europe. And I see our main application continuing to grow on *OpenVMS*," concludes Zorn. ❖

OpenVMS goes to Joint European Conference in April

ITUG (International Tandem Users Group) and DECUS (Digital Equipment Corporation Users Society), Compaq's enterprise community user groups, are joining forces for an unprecedented educational event this spring—the 2000 ITUG/DECUS Joint European Conference. The combined resources of these two groups will produce a unique conference, packed with an unparalleled array of options for learning and sharing.

**April 9-13 in Vienna, Austria.
Look what's happening!**
Nearly 100 educational sessions are on tap for the conference. Industry leaders, Compaq staff, executives, technical experts, and experienced users will present information and best practices in the following tracks:

• Business Solutions
• Business Critical Servers
• Enterprise Systems Management
• Internet-Enabled Enterprise
• Open Applications Development
• Operating Systems & Networks
• Security

OpenVMS product experts will be on hand to talk with you and deliver presentations on subjects including:

• *OpenVMS* Strategic Directions & Roadmap
• *OpenVMS* Technical Update
• *OpenVMS* Technical Futures
• *OpenVMS* and *Galaxy* on the New Generation *AlphaServer* systems
• Ultra-High Availability Solutions on *AlphaServer* systems
• Development Tool Update/Enterprise Toolkit for Visual Studio
• Web Enabling your *OpenVMS* Data & Applications
• And many more!

For more information:
http://www.itug.org/events/euro/ 2000/joint2k.cfm ❖

Did You Know?

If you use public transportation in Amsterdam, you're experiencing *OpenVMS* in action!

Desktop applications on *OpenVMS* from Legacy Technologies

While the industry in general looks to PC's for most desktop applications, many *OpenVMS* customers have large numbers of VT terminals and need to give their users access to applications such as word processing and a spread-sheet. An inexpensive option—one that is also very easy to deploy—is to run the desktop applications on the server, thereby giving all users access to them. This solution extends the useful-ness of *OpenVMS*, while being easy to maintain, upgrade, and manage because the applications and data all reside on the server.

Legacy Technologies provides Corel Corporation WordPerfect products and Lotus 1-2-3 for *OpenVMS*. They have more than 10 years experience in integrating WordPerfect with *ALL-IN-1*, which comes as welcome news to customers using the OfficeServer family of products.

According to Stephan Kösters (**stephank@legacytech.net**), United Kingdom spokesman for Legacy Technologies, "WordPerfect is the only word processor in the world that offers seamless file compatibility on multiple platforms, allowing clear and effective collaboration. It runs on *OpenVMS*, UNIX, Linux, Windows NT, Macintosh, Windows® 95, and Windows 98. This is an attractive solution for today's *OpenVMS* users."

Continuing proven solutions
Kösters continues, "WordPerfect's long history of stability and reliability, and customers' considerable investment in user training, keeps companies of all sizes–SMB (small and medium businesses) to Fortune 500–using WordPerfect as their main word processor. Examples of organizations using WordPerfect are electricity companies in the United Kingdom, police departments in the Netherlands, city governments in Finland, etc.
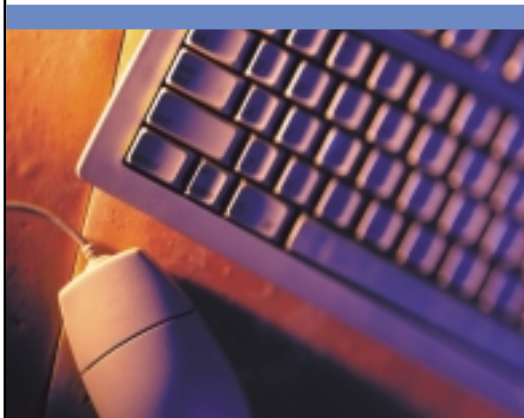
"Legacy Technologies will continue developing WordPerfect on *OpenVMS*. The new WordPerfect versions 5.3 and 7.1 are already ported to the latest *OpenVMS* version 7.2."

Legacy Technologies' commitment is an obvious plus for *OpenVMS* customers who could benefit from running word processing or spreadsheets from their servers. Such a solution keeps *OpenVMS* customers happy with their environment because they are getting more from it, and keeps them from turning to other solutions offered on non-Compaq platforms. ❖

Compaq invites field test of BASIC T1.4 for *OpenVMS* on *Alpha* systems

Compaq is announcing the beta test program for the release of Compaq BASIC, Version 1.4 for *OpenVMS* on *Alpha* systems. What's new in Version 1.4? This new version adds support for three IEEE floating-point data types (SFLOAT, TFLOAT, XFLOAT) and a QUAD integer data type.

If you are interested in becoming a field test site, you can learn more about the product and complete the Pre-field Test Questionnaire (PFTQ) from the following website: **http://www.openvms.digital.com/commercial/basic/ft_announce.html**. ❖

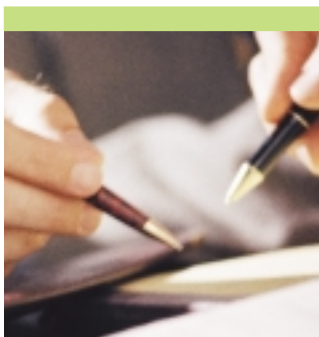# Want to field test *PATHWORKS* 32?

Compaq is announcing the beta test program for the new release of *Compaq PATHWORKS* 32, Version 7.2. *Compaq PATHWORKS* 32 V7.2 is an update to *PATHWORKS* 32 V7.1A. The major focus of this release is the addition of support for Windows 2000.

If you are interested in becoming a field test site, you can learn more about the product, and register and download the field test kit from the *OpenVMS PATHWORKS* 32 website: **http://www.openvms.digital.com/pathworks32**. ❖

Compaq, Digital India sign strategic agreement

A strategic business agreement has been signed between Compaq and Digital Equipment (India) Limited, a globally focused ISO 9001 certified software development and services export company. The agreement endorses Compaq's commitment to the growth of the software business and, more importantly, facilitates Digital India's ease of sourcing business across Compaq's global divisions and business units in over 100 countries.

Digital India is a 51% subsidiary of Compaq Computer Corporation, U.S.A. but has an independent charter for growth and functioning. Prior to the merger, Digital India was rated as one of the top 10 companies in India with a proven track record as a service company for over 11 years, which helped it gain a worldwide network of distinguished customers. With over 370 software professionals, the company is the largest listed software services company in India, a country rich in software professionals with various skill sets.

The growth of the software industry in India over the last five years has shown a dramatic increase in the number of overseas projects shifting from onsite to offshore, leading to significant cost savings. This has been possible due to the strong support of the IT industry from the government of India.

Digital India's selected portfolio of service offerings is based on customer requirements and includes communication industry services, e-business, information infrastructure, migration, and system software.

E-business is one of the core focus areas for Digital India, which is set to become an e-centric company in the near future. Its vision in this area is to be the end-to-end e-business solution to its customers. Its exclusive experience in engineering products such as *Compaq DECEDI*, an EDI application used by many companies worldwide, and *Compaq Work Expediter*, a Knowledge Management product used extensively for workflow applications.

The management team is focused on working with Compaq customers to achieve the highest levels of operational efficiency and to ensure customer needs are met, or exceeded.

For more information, contact Digital India at murali@digital.com or visit **http://www.digitalindiasw.com**. ❖

Question to the editor...

Q: At DECUS and other events, we've heard a lot about Compaq *OpenVMS Galaxy* and how it can help with server consolidation and responding to changing workload requirements. Can you provide some concrete examples of how *OpenVMS Galaxy* has been utilized in the real world to solve real computing problems?

A: Compaq *OpenVMS Galaxy* allows you to run multiple instances of *OpenVMS* in a single *AlphaServer* system—providing an easy way to consolidate existing *AlphaServer* or *VAX* systems onto a single *AlphaServer* platform. Since *OpenVMS Galaxy* allows dynamic reallocation of CPUs, either manually or automatically, it provides a way to respond quickly to the changing computing requirements of today's applications, especially for e-business. Here are some ways that *OpenVMS Galaxy* has been used to solve customer problems:

Situation: A Stock Exchange was using dedicated servers for batch operations, mission-critical order matching/trade processing, and data mining operations. The problem was that the order/trade-matching system was running at full capacity, while the batch system was underutilized.

Solution: The exchange created three instances of *OpenVMS* on an existing *AlphaServer* GS140 system utilizing *OpenVMS Galaxy*. This allowed them to utilize each *OpenVMS* instance for
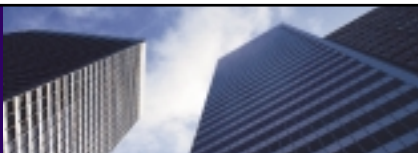
a designated application. When the stock trading application was fully utilizing CPU capacity, they simply reallocated CPUs from the *OpenVMS* instance running batch jobs to the instance running the stock trading application. This ability of *OpenVMS Galaxy* to dynamically reassign system resources allowed the stock exchange to map compute power to their critical applications when it was needed—without ever rebooting the *AlphaServer* system. Another benefit of this approach was that the exchange didn't have to buy a new *AlphaServer* to handle increased demand. They simply utilized their existing hardware more efficiently.

Situation: A large Internet Services Provider (ISP) needed to consolidate multiple web servers to just a few servers.

Solution: Utilizing *OpenVMS Galaxy*, the ISP consolidated six *AlphaServer* GS140 systems (with a total of 20 CPUs) to two *AlphaServer* GS140 systems (with a total of 20 CPUs). Each system was configured as three instances of *OpenVMS* with each instance acting as a web server. Through this consolidation, the ISP realized a 43% reduction in Total Cost of Ownership (TCO) as projected over a 5-year period. An added benefit was that by dynamically reallocating CPUs between instances, *OpenVMS Galaxy* allowed the ISP to move CPUs to the web servers that were the busiest. As a result, they better utilized their existing 20 CPUs, while consolidating their number of *AlphaServer* systems from six to two.

Situation: A medical research institution had a strategic application with two very diverse components. It:

- Received bursts of input from data feeds that were recording brain waves, then
- Performed number crunching analysis on that data

Because of the differing computing requirements of each component, the institution wasn't able to tune a single *AlphaServer* 4100 system for optimal performance for either application, and they couldn't afford to buy a second system.

Solution: The institution utilized *OpenVMS Galaxy* to configure the *AlphaServer* 4100 system into two instances of *OpenVMS*. The data feed and analysis operations were then run in the separate instances of *OpenVMS*. They were then able to individually tune each instance for the operation that it was running. This allowed them to dramatically improve performance—without purchasing additional hardware. ❖

Compaq OpenVMS and *Tru64 UNIX* 2000 training

Catalog features 16 *OpenVMS* courses

Compaq Training Services announces the availability of the *Compaq OpenVMS* and *Tru64 UNIX 2000* Catalog, which is designed for Compaq employees, partners, and customers. The catalog features two of Compaq's premier operating systems: *Compaq OpenVMS* and *Tru64 UNIX*—key components of the *Compaq NonStop*™ eBusiness solution offerings. The latest release of the Compaq Training Services Operating Systems Catalog features 16 *OpenVMS* courses for *OpenVMS* professionals.

OpenVMS Bootcamp

In addition, Compaq Training Services is announcing a ten-day *OpenVMS* Bootcamp to help prepare candidates for *OpenVMS* Accredited Systems Engineer (ASE) certification.

The ten-day Bootcamp is taught by the Parsec Group of Lakewood, Colorado.

Also delivering the 16 available courses for *OpenVMS* are the following three Authorized Independent Training Partners:

Bernstein & Associates
6375 Spalding Drive, Suite G
Norcross, GA 30092
Phone: (800) 511-5299
Fax: (770) 248-1949
www.b-and-a.com

Bruden Corporation
11632 W. 75th Circle
Arvada, CO 80005
Phone: (303) 424-5098
Fax: (303) 432-1276
www.bruden.com

The Parsec Group
405 Urban St., Suite # 100
Lakewood, CO 80228
Phone: (888) 472-7732
Fax: (303) 763-9909
www.parsec.com

For more information, please visit the Compaq Training Services website at:
http://www.compaq.com/training/cd-os.html ❖