



CHARON News Update

DEC Alpha, VAX & PDP Emulation Newsletter

Salem Automation
Incorporated

Volume V March 2007

University of San Diego CHARON Conversion a Success!

University of San Diego had a problem. Their 17 year old reliable DEC VAX computer system hardware was beginning to concern the staff it may have an unplanned failure. After some research, USD identified that the CHARON-VAX emulation was a way to achieve their main objective which was to provide a stable and repairable platform for their legacy applications. Initially, they had been looking to replace the aging VAX with slightly newer, but used, VAX equipment. The other alternative, moving to a newer system, would have required many months of



re-programming to bring all of the old applications and databases up-to-date. Since USD's VAX was viewed as a legacy system, the investment of time and labor were not justified. The CHARON software strategy is to "preserve your software investment across hardware generations" which is exactly what USD was looking for in this situation. USD needed new hardware to run their old software programs (as-is) for a finite period of time. USD staff investigated both the CHARON software and the delivery company, Salem Automation, finding them both a match to USD's needs and CHARON-VAX a cost effective solution. USD was using (2) VAX 6330 systems with 256MB of memory in each in a VAX CI Cluster environment. The USD VAX applications can run on 1 VAX with a few exceptions. Currently all users and printers are now accessing the VAX CI Cluster system through the network by Telnet LAT and Terminal Servers. Salem Automation provided a solution that replaces the current VAX CI Cluster system with a CHARON-VAX XK PLUS running on an HP ProLiant server. The CHARON-VAX XK Plus product emulates a VAX 3100-98/4000-108 with 256 MB of RAM and has a VUP rating of up to 120 on the latest HP ProLiant servers. As one USD staffer stated:

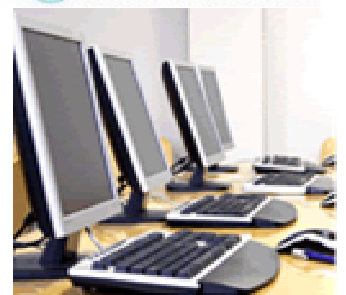
"Working with Praxa this morning has been ideal. The reports are completed at the blink of an eye thanks to the updated system."



Special points of interest:

- University of San Diego Success Story
- Upcoming Events 2007
- New Products
- New Hires
- Other Salem Automation services

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New Products: CHARON AXP Alpha 1000, 3000, 4000, CHARON AlphaStation and CHARON VAX-Station



The CHARON-AXP family of products are Alpha server computer replacement systems, running as a software package that creates a hardware abstraction layer (HAL) on industry standard HP servers. The HAL provides to OpenVMS Alpha software an exact copy of an Alpha hardware system. This permits the user to run unmodified OpenVMS OS, its layered software and user applications. The compatibility is so exact that we run the Alpha CPU verification software and some of the original Alpha hardware diagnostics during testing.

CHARON EMULATION BENEFITS:

- ✓ Proven and robust CHARON emulation architecture and technology for an accurate and stable virtualization of the hardware
- ✓ Rapid implementation on industry standard hardware with increased performance & memory!
- ✓ Replaces old hardware and reduces cost of ownership
- ✓ Preserves the current application investments
- ✓ No change required in current and proven business processes or operational skills

Users have adopted and installed CHARON Alpha already with great success. Contact Salem Automation sales at CHARON_Sales@salemautomation for pricing.

NuPDP Product Released and now Available:

The NuPDP replaces the PDP-11 chassis, CPU, memory, mass storage, and Unibus controllers. Your current PDP-11 disk images can be transferred onto a modern NuPDP system. DEC I/O controllers can be replaced with option modules, new PCI controllers that are software and hardware compatible with DEC Bus interfaces such as DR11-W, DR11-C, IEU11, DELUA and DHU. The option modules connect to your existing external equipment without software configuration changes. The NuPDP is a rack-mounted system supporting up to five IP option modules. Proprietary controllers can optionally be retained in an external chassis.

ELIMINATE :

- Obsolete disks and tapes*
- High Maintenance costs*
- Unreliable Equipment*

PRESERVE :

- Existing applications*
- Specialized I/O Interfaces*
- Existing I/O cables*

IMPROVE :

- Significant performance increase*
- New equipment, new warranty*
- High performance disk*



NuPDP Model PDU-3200

Choose the I/O solutions that best meet your requirements





Support for Oracle Rdb on CHARON-VAX Emulators

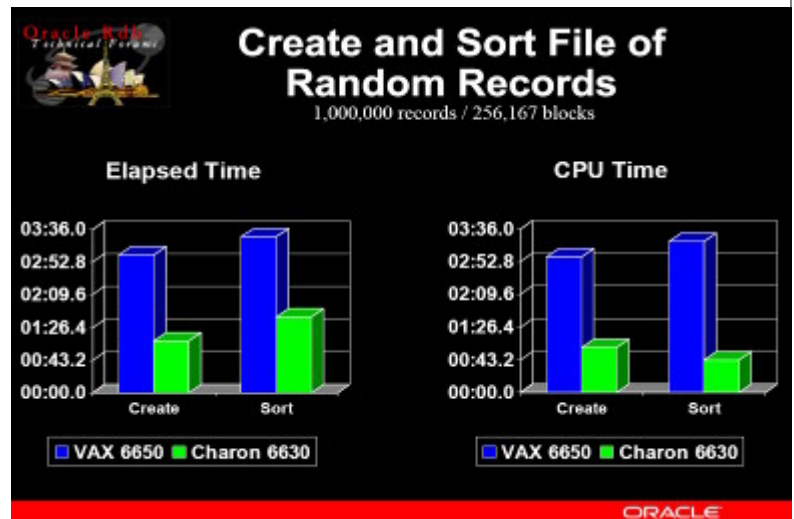
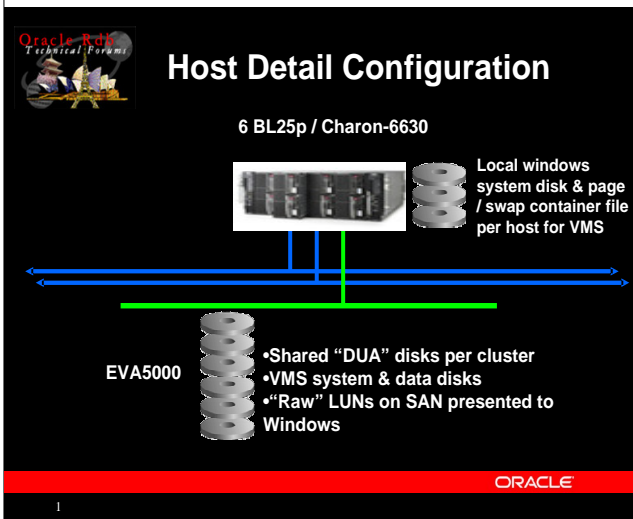


Support for Oracle Rdb on CHARON-VAX and CHARON-AXP Emulators:

Software Resources International (SRI) has developed a range of VAX emulator products that prolong the use of HP OpenVMS VAX applications. CHARON-VAX products emulate complete VAX systems on OpenVMS Alpha, Linux, or Windows platforms, allowing applications, layered products, tools, and middleware to run unmodified.

Oracle Corporation supports VAX versions of Oracle Rdb and Oracle CODASYL DBMS and their related products running on CHARON-VAX provided that any problems reported can be reproduced by Oracle Support on an actual VAX. In most cases, Oracle license and service agreements are transferred to the same number of CHARON-VAX processors at no charge.

- ✓ Single CHARON-6630 roughly 3 times faster than hardware 6650 – On our host, Charon-6630 CPU runs around 3 to 6 times faster than hardware 6650 CPU
- ✓ Less CPUs should result in less inter-processor contention (ie. MPSYNCH time)
- ✓ First Rdb regression test suite run time reduced from about 12 hours to about 8



CHARON VAX Performance way up!

Quote from Jean Brunache, Director of Technology, at Salem Automation Inc.:

"With the new generation of Intel processors and increases in the throughput of L2 cache we are actually getting results of up to 120 VUP's on the CHARON VAX Plus product line. These results were seen on the new Dual Core Intel 5160 processors with 1333 Front Side Bus and 4 MB cache. Existing CHARON customers under software support can refresh their servers and receive a 50 to 200% performance boost just from refreshing their servers."



Salem Automation, Inc. Tradeshow 2007 Events

Upcoming Tradeshows for clients to view the latest and greatest products that Salem Automation has to offer.

MRO 2007 Conference & Exhibition Atlanta, GA

http://www.aviationnow.com/conferences/mro_t1.htm

April 17 - 19, 2007 Cobb Galleria Centre

HP World / HP Technology Forum & Expo 2007 Las Vegas, NV

<http://www.hptechnologyforum.com>

June 18 — 21, 2007 Mandalay Bay

AUTOTESTCON 2007 Baltimore, MD

<http://www.autotestcon.com/2007/2007.htm>

September 17—20 2007 Baltimore Convention Center.

TechNet Tradeshow 2006—Washington, DC & 2007 San Diego, CA

TechNet International is an annual event sponsored by AFCEA International. The 2-day event in Washington DC is one of the nation's largest C4I (Command Control Communications Computers Intelligence) conventions and exhibitions and features numerous professional development opportunities with tremendous networking opportunities! Former Secretary of State Colin Powell offered the keynote address on information systems in the military. Vice President of Sales & Marketing, Chuck Graham and Bob Gyles Northeast Regional VP of Sales were on-hand to show CHARON VAX & NuVAX emulation products. As a Military, Government or Industry leader it is imperative to stay on top of new and innovative technologies. The TechNet International Exposition is the place to start, with dynamic panel sessions in the TechTalk Theater to the leading companies and government agencies showcasing and demonstrating the latest breakthroughs.

Salem Automation, Inc. also participated at the AFCEA TechNet trade show in San Diego, CA. Salem Automation, Inc. had a booth showing the NuVAX real time VAX emulation software from the Logical Company. The Logical Company President Les Wellington was in attendance and met with numerous major defense contractors. Salem Automation, Western Regional Sales Manager, John Mercier and Vice President of Sales, Chuck Graham were on hand to review the emulation technologies with DOD customers. SAI also showed the latest SRI emulation products including the latest emulation of the DEC Alpha computer, and the CHARON Alpha running on a HP ProLiant Server. The CHARON-VAX product was shown emulating a VAX 4000 system on an HP workstation.





Successful NuVax Installation & Product Information

Salem Automation is partnered with The Logical Company to assist long-time PDP and VAX customers in updating their aging real-time systems. For over two decades DEC PDP and VAX/VMS systems were the platform of choice for real-time computer systems used in industrial process control, aerospace, and many military applications. Other real-time applications included radar systems and avionics test benches. Logical has developed real-time replacements called NuPDP and NuVAX, respectively. Salem Automation is chartered with the sales, system integration and ongoing support of these real-time emulation products, proving their viability in a real-time environment.



NuVAX



digital

NuVAX 1000

NuVAX 3000

The Navy's CASS Block I systems are an example of a widely deployed VAX real-time system. They were designed in the 1980s using a VAX 3900. While the avionics test programs remain vital to the Navy's mission, these aging CASS stations increase operational risk. Recently NAVAIR funded Salem Automation to utilize the NuVAX Model 1000 from The Logical Company to refresh a Block 1 station. The NuVAX VAX-on-a-board technology successfully replaced all VAX components, proving NuVAX' viability in a real-time environment. Salem Automation is pursuing many other opportunities for embedded VAX replacement with the NuVAX products.



Salem Automation to PARSEC Group Partnership

PARSEC Group is a US based company that offers an outstanding full range of Consulting, Support and Training services for HP's OpenVMS, Tru64 UNIX, and Itanium Systems and Linux as well as, Microsoft Systems and Networks worldwide. PARSEC is currently providing 24 x 7 Software Support to over 6,000 systems worldwide. PARSEC Trainers and Consultants are comprised of top world renowned experts, providing fast response, quality solutions and all at very competitive prices. Training classes are held in Denver, on-site at your location or at your site via e-Learning. We are offering one (1) introductory Telephone Support Call to try us out at no charge to you. This offer is valid through May 9, 2007. Calls will be responded to between 8:00 am and 5:00 pm Mountain Time, Monday through Friday (excluding holidays)



Salem Automation Offers:

Salem Automation, Inc. offers MS Windows-based application development using Visual BASIC, .Net framework and Visual Studio. We also offer Microsoft SQL server database design and implementation. Salem Automation, Inc. will develop an application using off the shelf, technologies custom-tailored to suit the user's requirements in a timely and cost effective manner. Call your local Salem Automation sales representative to define your requirements, schedule and costs for your specific application development.





CHARON-VAX UPSStat

Salem Automation Incorporated

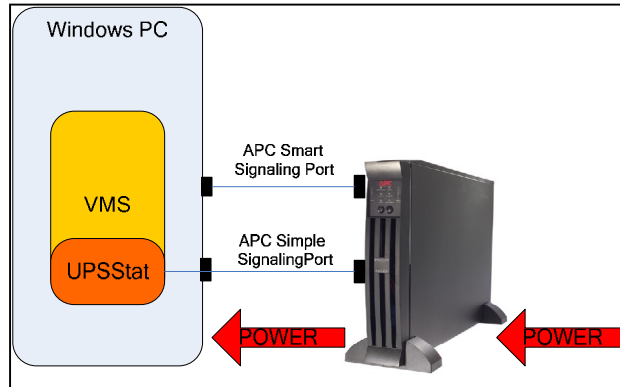
4500 Indiana Ave.
Suite 40
Winston-Salem, NC 27106

Phone: 336-661-0890
Fax: 336-661-9575
cwgraham@salemautomation.com

UPSStat Includes:

- ✓ UPSStat Software for CHARON-VAX
- ✓ APC Smart-UPS XL, 3000VA/2850W
- ✓ Input 120V/Output 120V
- ✓ (1) DB-9 RS-232 APC Smart Signaling Interface Port
- ✓ RJ-45 10/100 Base-T USB
- ✓ Extended runtime model
- ✓ Rack Height 2 U

* Alternatively, software can be purchased separately



UPSStat for CHARON-VAX is an **all-in-one UPS solution** which will allow your CHARON-VAX system to **shutdown safely** in the event of a power outage. In the event of a power outage, UPSStat detects the power left reaching a pre-defined level and initiates a safe shutdown process to ensure no loss of data and the fastest possible restart once power is restored. UPSStat is configured to shut down your CHARON-VAX emulator prior to the shutdown of the rest of your Windows processes. Without this protection CHARON-VAX users may face **corrupted files** and a **slower restart** when the system is restarted.

Features

- ◆ UPSStat CHARON-VAX Shutdown CD and Windows shutdown CD
- ◆ Installation guide
- ◆ Rack mounting brackets and rack mounting support rails
- ◆ APC Smart Signaling RS-232 cable (P/N 940-0024)
- ◆ APC Simple Signaling RS-232 cable (P/N 940-0020)
- ◆ USB cable
- ◆ User manual
- ◆ Web/SNMP management card
- ◆ Up to 4 hours of phone support for installation and configuration



Ordering information

SA-UPSSTAT-SW

SA-UPSSTAT-HWSW

4500 Indiana Ave
Suite 40
Winston Salem, NC 27106 (336) 661-0890 ext 106



Salem Automation Company Background Information:

Company Profile:

Incorporated in 1992. Offices in Winston-Salem, NC, Boston, MA, Phoenix, AZ, Humacao, PR & Charlotte, NC

Company Mission:

To provide high quality automation solutions and cost-effective engineering services to manufacturing companies via Win-Win business relationships.

Staff:

Staff members with backgrounds in Computer Science, engineering disciplines, consulting and Business Administration. Most all of our engineers have more than 15 years experience. Staff experience is extensive in the areas of application development, distributed process control programming, programmable controller programming and computer based process control. Industry experience in Defense, Pharmaceutical, Textile, Food, Tobacco, Chemical and Metals. Salem Automation has implemented many material handling projects in the area of legacy Automatic Storage & Retrieval Systems (ASRS), tracking, bar coding, scheduling and work-in-process (WIP) inventory system systems utilizing standard off-the-shelf, Microsoft Visual BASIC and SQL database.

New Hires: Salem Automation would like to Welcome, Amaris Medlin — Marketing Director, George Orfanedes — Proposal Manager and John Mercier — Western Regional Sales Manager to the team at Salem Automation

Partnerships:

Salem Automation has created partnerships with numerous organizations including:



VP - Sales & Marketing - Chuck Graham
Charlotte, NC Area
Office: 704-553-8952
HQ Office: 336-661-0890, ext. 106
Email: cwgraham@SalemAutomation.com



Western Regional Sales Manager - John Mercier
Phoenix, AZ Area
Office: 480-633-5739
Email: JMericer@SalemAutomation.com



Northeast Regional Sales Manager - Bob Gyles
Boston, MA Area
Office: 978-425-2582
Email: BGyles@SalemAutomation.com



Technical Support - Jean Brunache Winston, NC HQ
Winston-Salem, NC 27106
Fax: 336-661-9575
Phone: 336-661-0890, ext. 116
Email: JBrunache@sai-net.com





PS2DEC Keyboard & Mouse Converter

A common problem with aging DEC VAX-Station systems is the mechanical keyboard and mouse devices are failing. Salem Automation has developed an easy-to-implement solution to this problem. The PD2DEC converter allows direct interface of a standard PC 101 style keyboard and PC PS2 mouse to a DEC VAXStation. DEC keys that are unavailable on a standard 101 keyboard are remapped to the PC style keyboard to maintain DEC LK functionality. Please contact Salem Automation, Inc. at 336-681-0890 ext 106, for more information.



Sandia
National
Laboratories

CHARON VAX Install at Major DOD site a Success!

Congratulations to Salem Automation technical staff experts **Tim Cochrane** and **Greg Snider** for being two team members of the Sandia National Laboratories Safeguards Control and Communication System (SCCS) Modernization Team nominated for a 2007

Team Award.

Walter C. Smith is the team representative. The team was nominated by Roger L. Showalter who provided the following citation:

“The team addressed repeated findings with SCCS (Sandia’s Mission-Critical Intrusion Detection System) by designing and implementing a novel solution under budget and ahead of schedule.”
Celebration was March 20, 2007.



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4500 Indiana Ave., Suite 40
Winston-Salem, NC 27106