Connect OpenVMS Bootcamp, 13-17 September 2010, Nashua NH

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A report of my experiences at this year's Connect OpenVMS Bootcamp and some thoughts on the state of OpenVMS.

Introduction

Most years this century I have headed over to the USA to attend an event with significant OpenVMS content. Since 2004 my event of choice has been the "OpenVMS Bootcamp", a week-long series of intensive seminars all about OpenVMS and run much like the DECUS Symposia used to be.

HP cancelled the Bootcamp last year because of the financial crisis. which also coincided with the relocation of their engineering HQ to India. So when it was announced that there would be a Bootcamp in 2010, staged by Connect rather than HP, I was interested. (Connect is the organisation that grew out of several HP user groups including the old DECUS.)

The Bootcamp was always at the Radisson Nashua, a hotel near "ZKO" (the former home of OpenVMS Engineering). Holding it there had the advantage that most senior engineering staff could easily take part in the Bootcamp with minimum disruption to their day-to-day work activities and minimal additional expense to HP. This year's event was also held there because of the large number of ex-OpenVMS engineers still in the area and still having useful information to offer.

(That said, about half the attendees are international and quite a few of us offered opinions on holding the event elsewhere. The hotel in Nashua is good but getting there is awkward without a car, and there's very little to do nearby.)

A benefit of having Connect run the event rather than HP would be that "user papers" would be much more readily accepted and speakers got a hefty discount on the registration fee, reducing it from USD1599 to USD799. Armed with this information and determined to secure my discount, I submitted my abstract and registered for the event.

Once I got there I found no significant difference between this year and previous years. Even many of the presenters were the same, although of course now their presentations and business cards had different corporate logos. (By and large it seems that many of the ex-HP people have found work either at 3rd party consulting firms or for large OpenVMS customer sites; I didn't hear many reports of people who hadn't found a new job.)

Sessions I Attended

All the action takes place in the hotel and most meals are provided. There is Wi-Fi access from all conference rooms and free internet access throughout the hotel.

Each day begins with a "housekeeping" update at 7:45am (sharp!) followed by a 1-hour keynote address at 8am. There's an afternoon keynote at 4pm followed on some days by a planned social activity.

I'll now list the sessions I attended each day, followed by some general thoughts on the event overall.

Day 1 - Monday 13th September

Keynote address: "**OpenVMS Directions, Strategy, Futures**", HP Engineering.

    A review of where OpenVMS is at. See comments later.

Hands-on Lab: "**Virtualising Alpha Systems for High Availability**", Camiel Vanderhoeven & Barry Kierstein, Migration Specialities.

    We installed an Alpha emulator product onto Windows PCs and then clustered them.

Lecture: "**IPsec and other Communication Security Measures**", Richard Whalen, Process Software.

    A discussion of various security features in TCP/IP, including the implementation of IPsec in MultiNet.

Lecture: "**Modernising Your In-House Applications with VMS Web Servers**", Alan Winston, Stanford Linear Accelerator Centre.

    Reviewed web servers available for OpenVMS (Apache, WASD & OSU), outlining the strengths & weaknesses of each, together with some discussion of related software such as scripting languages. It was also a lesson in the perils of attempting to "modernise" an application when the group doing the work don't fully appreciate the scale of the task!

Lecture: "**Implementing Cluster-Wide Services Using $ICC**", Jeremy Begg, VSM Software Services Pty Ltd.

    My talk describes how to use the SYS$ICC_xxx routines to implement client/server applications which require minimal configuration for maximum reliability.
        http://ftp.vsm.com.au/icc_presentation.zip   (9.5M)
        http://ftp.vsm.com.au/icc_demo.zip   (27K)

Keynote: "**OpenVMS V8.4 Features — Overview**", HP OpenVMS Engineering.

    A description of what's new in OpenVMS. (I'd have to say I recommend this upgrade, unless you have reason to believe your application will break.)

Evening session: "**OpenVMS Bedtime Stories**", various speakers.

> An evening of story-telling with prizes for all, plus a trophy for the best story (as judged by a panel of OpenVMS luminaries). I don't recall who won, or what his story was! Meal consisted of bar snacks plus beer/wine/soft drinks.

Day 2 - Tuesday 14th September

Keynote: "**Life in the trenches with OpenVMS - Helping Save Lives, One Test at a Time**", QUEST Diagnostics.

> A description of the use of OpenVMS within QUEST Diagnostics (a major US medical pathology business).

Sales Presentation: "**Extreme Heritage Solutions for VAX and Alpha**", Nemonix Engineering.

> Very much a sales presentation but it was interesting nonetheless. The CEO described her company's products and services for keeping old hardware alive and supported. They have a range of disks using modern SATA & FLASH drives with custom-engineered SCSI interfaces to suit all DEC, Compaq, HP and Sun servers. Plus assorted ethernet interfaces, fans and other items. Also an interesting cryptographic interface for secure storage, backup and networking.

Lecture: "**Defensive and Secure Coding**", Stephen Hoffman Hoffman Labs.

> This ex-OpenVMS engineer gave us his thoughts on various programming practices and ideologies. Hoff's talks are renowned for their wide range and minimalist slides!

Lecture: "**Security Updates — ACME/LDAP — Future**", Prashanth KE, HP OpenVMS Engineering.

> A detailed description of how to implement the ACME mechanism to authenticate a user with Active Directory or other LDAP servers.

Evening: Dinner followed by "**Partner Roundhouse**".

> The Partner Roundhouse is an OpenVMS Trade Show featuring a number of providers of services, hardware and software (generally either system management tools or software development tools).

Day 3 - Wednesday 15th September

Keynote: "**Use of OpenVMS for Electronic Exchanges at Deutsche Börse Systems AG**", Deutsche Börse.

> By far the best keynote of the week, this included detailed descriptions of the Deutsche Börse OpenVMS setup (300+ servers) including hardware configuration and application design. I think everyone in the room wanted to work there after this talk!

Lecture: "**Open Source Strategy for OpenVMS**", Mandar Chitale, HP OpenVMS Engineering.

> Described the latest open source projects for OpenVMS at HP, including updates for GNV, reworking the management & distribution of the OpenVMS Freeware archive, and general strategy for simplifying the process for porting software to OpenVMS.

Lecture: "**OpenVMS File System FADs**", Greg Jordan, FactSet Research Systems.

FactSet is a major provider of stock trading information systems and relies upon large OpenVMS clusters for availability & performance. The talk described a tool for tracing performance issues caused by activity in the file system, i.e. searching for, opening & closing files. Looked like an interesting tool.

Lecture: "**File System Changes**", Tom Cafarella, HP OpenVMS Engineering.

A description of the latest changes in the filesystem, including the V8.4 enhancement to cater for 2TB disks, and changes to the way Unix- style symlinks are implemented.

Lecture: "**Troubleshooting with SDA Extensions**", James Mehlhop, PARSEC Group.

Introduced SDA "extensions" for those who didn't know much about them, and described a few of the more useful ones. Also had good tips about using SDA in general.

Lecture: "**Storage Update**", Rafiq Ahamed, HP OpenVMS Engineering.

Latest news on supported storage subsystems for OpenVMS. No significant changes.

Day 4 - Thursday 16th September

Keynote: "**BCS Futures**", Jennifer Miller, HP Business Critical Systems group.

Plans for the Business Critical Systems group at HP. Included information about the latest Integrity blades & servers (based on Intel's Tukwila chip). Also described the new Licensing changes with V8.4, which very much encourage the use of OpenVMS as a guest under the HP Virtual Machine environment.

Lecture: "**CHARON Overview**", Roger Bales, Stromasys.

General discussion on the CHARON VAX & Alpha emulator products.

Lecture: "**Using IP Networks as an OpenVMS Cluster Interconnect**", Keith Parris, HP OpenVMS (Colorado).

Detailed information about the implementation of "IPCI" (new with V8.4) and how to set it up in your environment. Ended with an invitation to form the world-wide Hobbyist VMScluster :-)

Lecture: "**Development Environments, Compilers, WSIT, Netbeans, etc**", Veena K, HP OpenVMS Engineering.

A general update on the state of software development tools and integration products for use with OpenVMS.

Lecture: "**Undocumented OpenVMS Features**", Wayne Sauer, PARSEC Group.

Everything you wanted to know about OpenVMS but didn't know to ask. (Much of this material appears on the PARSEC web site.)

Lecture: "**Unix Portability Changes**", Mandar Chitale & John Egolf, HP OpenVMS Engineering.

Described recent & proposed changes to the C RTL and other software for making it as easy as possible to port Unix programs to OpenVMS.

Lecture: "**Mixed Environments: VMS and Unix**", Stephen Hoffman.

Some tips for getting Unix programs to build & run on OpenVMS.

Lecture: "**Implementing Cluster-Wide Services Using $ICC**", Jeremy Begg, VSM Software Services Pty Ltd.

Yes me again. Each speaker was asked to give his or her presentation twice (except for keynotes). In my case, the second presentation was better because of feedback from the first.

Keynote: "**The Ultimate StorageWorks Overview**", Chet Jacobs, HP Storage Engineering.

A highly entertaining talk about current storage offerings and what the future holds. Did you know that in the next 12 years, humans will generate more "information" than in the entire previous history of our existence?

Dinner: "**OpenVMS Reunion**" — lots of ex-employees of HP.

Day 5 - Friday 17th September

Keynote: "**From Datatrieve to NimbusDB and Beyond …**", Jim Starkey.

A detailed and interesting look at the history of database technology, presented by one of its pioneers. Covered DATATRIEVE, CODASYL DBMBSs, relational databases including Rdb/VMS and Rdb/ELN, and some thoughts about the next generation of database technologies.

Lecture: "**CIFS for Advanced Server Users**", Brad McCusker, Software Concepts International.

Brad used to be in the Advanced Server engineering group and in this presentation he compared CIFS to Advanced Server, with tips for moving from A/S to CIFS and general CIFS operational issues.

The Bootcamp concluded at midday. No closing address.

OpenVMS After the Bootcamp

So, was it worth going? It cost about $4000 to get there, over half of which was airfare, so it's not that easy a question to answer. I think it depends on your field of interest and expertise — and of course the choice of sessions makes a big difference. I don't think I'll recoup the cost immediately, but there was certainly a lot of information which might be put to use in the longer term.

OpenVMS Engineering in India

HP has had software engineering teams in India for many years and OpenVMS has long been part of that environment. However, many customers (particularly in the USA) had grave concerns about HP's decision to by-and-large shut down software development outside of India.

From an end-user perspective, the biggest impact of this change appears to be the loss of personal connections between different members of the OpenVMS community. In particular, OpenVMS support teams and ISVs have long relied on direct communication with assorted engineering team members. It looks like those links are slowly being established to the Indian team members. Of the several US-based HP and ex-HP people I spoke to, only one expressed any significant issues with the new OpenVMS engineering arrangements (and that seemed to be a personal issue, not a technical one).

The Focus is on Large Systems

It's very apparent - I think more so than ever before - that HP's efforts are squarely focussed on Large Systems. All engineering effort is devoted to blades, blade enclosures and blade management; there's only one new non-blade server (the entry-level rx2880), and they've been so busy with the blades they haven't yet released it.

Curiously, they have **not** qualified OpenVMS on Superdome because "no one has asked for it." Attendees pointed out that no one has asked for it because it's not available! So this might change, particularly as two customers at the Bootcamp said they'd be interested in having that option and it probably wouldn't be difficult for HP to do it.

For smaller users (such as my customers) the news is disappointing. It's not a case of "OpenVMS is going away" (it's not), rather that HP isn't putting any great effort into making low-end peripherals work with low-end OpenVMS servers. For example, there is no support for iSCSI so we can't use the P4000 ("Lefthand") SAN hardware which HP is encouraging all its resellers to push. Again, the reason cited was that "we haven't spoken to customers who want it" but in my experience this is hardly a surprise; HP tends not to have direct contact with smaller customers — we go through resellers, and they can only sell what HP is offering. The very high price of a VMScluster licence (compared with the base O/S) doesn't help.

Emulation & Virtualisation

If you have a need for more than two OpenVMS servers and your software can run on Integrity hardware which supports HPVM (i.e. all current models), the new licensing options look very attractive. If you buy an Integrity server and HPVM licence, and enough OpenVMS licence units to cover all the physical processors in the server (which might be only one licence unit for the new Tukwila servers), you can run as many OpenVMS virtual machines on that server as the server will cope with. Unfortunately this licensing model does not extend to emulated AlphaServers.

An interesting side-effect of the move of Alpha customers to virtual Alpha environments (using CHARON etc) was a request to HP to shelve any plans they might have for dropping OpenVMS

Alpha development. (Note that there was no suggestion this is about to happen.) The server might be a Proliant of some description, but the system is very much OpenVMS Alpha!

OpenVMS native on x86

There was some discussion about the benefits and risks of porting OpenVMS to 64-bit x86 processors such as the Xeon line. The HP people I spoke to indicated it's technically feasible and probably not that difficult, suggesting it could be done within two years if they decided to do it. The problem is the software: what would be the reaction of the ISV community? Many will balk at supporting four hardware architectures, particularly the larger vendors such as Oracle whose VMS customer base is only a small part of their revenue. Even the purported cost savings might not be that great: the bare server might be a bit cheaper, but there's no guarantee HP would begin to support the low-end storage options any more than they do now. (It was readily agreed that in hindsight the Integrity port was the wrong direction to take; but at the time the decision was made, the AMD64 processor was still on the drawing board and no one at Compaq expected the x86-64 chip variants to develop as quickly as they did.)

Final Thoughts

For me the biggest issue facing OpenVMS is not the cost of the systems, it's the lack of awareness in the wider I.T. community and the consequent lack of new applications for the platform. This isn't helped by HP's own corporate software strategy: HP doesn't sell applications. They have lots of software for managing & monitoring servers but they leave all the application development (tools & end products) to ISVs. Compare this to Oracle & IBM who can provide complete application servers, or at least all the building blocks. (I'm not including Microsoft here because they don't sell servers.)

Perhaps the future of OpenVMS is in the Cloud: a wide area VMScluster offering guaranteed security, stability and availability 24x7 :-)

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