

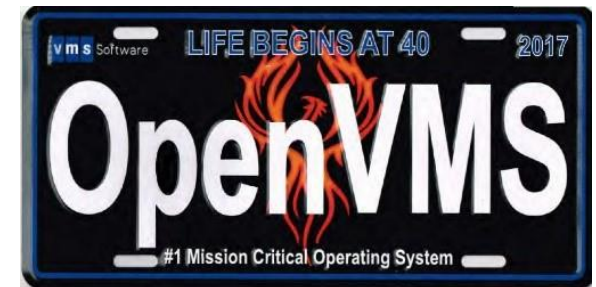
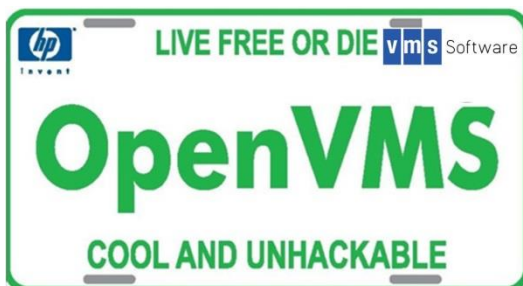


# BGS & OpenVMS



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Utrecht, 9 December 2019



# HPE Usergroup Interexperience

- In Netherlands we have Interexperience as follow-on of DECUS and NLCUG
- 2 SIGs:
  - NonStop
  - OpenVMS
- Currently change process from association to foundation. Purpose is not to have meetings, but to organize events
- HPE is smaller; no meeting facility in new building. So we have to think about where we will have our VMS-sig meetings

## About VMSConsultancy/BGS (1/2)

- VMSConsultancy/BGS is one of the first partners of VMSSoftware (VSI).
- We closely cooperate with VMSSoftware reselling their OpenVMS products (incl. the Alpha-kit) and support.
- BGS has several partners to address the EMEA market
  - European tenders
  - Framework contracts
  - System Integration
- BGS can help you find hw-support
- Customersupport with planning/migration/systems management. We do this our selves or with (local) partners.
- VMSSoftware authorized EMEA training partner

## About VMSConsultancy/BGS (2/2)

- For the OpenVMS-eco system we resell and implement
  - EuroVMS CockpitMgr [www.eurovms.com](http://www.eurovms.com) for active OpenVMS-ecosystem monitoring
  - AVTware [www.avtware.com](http://www.avtware.com) for VAX and Alpha emulation
  - PointSecure and NDC security-products
  - Rovisys SCADA-solutions
  - eCube <http://www.ecubesystems.com/> for modern cross-platform Eclipse-based remote development tools for C, C++, Cobol, Fortran, Pascal, Bliss, CDD, Rdb. DevOps and Middleware tooling. The NXTware platform is a Hybrid Infrastructure Platform (HIP) that works now.
  - Nemonix Engineering <https://www.nemonix.com/>
  - Perle terminalservers
  - SYSGEM for passwordmanagement

# BGS

- Systems Management
  - Ad hoc
  - 9x5 or 24/7
  - Proactive with tools like T4
  - EuroVMS CockpitMgr with latest Perle terminalservers
  - Application management
  - Security, sometimes using PointAudit
  - Migrations

# BGS

- Customers:
  - Banking/insurance
  - Government
  - Industry
  - Transport
- VMS ranging from VAX/VMS 5.5 to Integrity OpenVMS 8.4-2L1
- Experience with VMSSoftware Alpha VMS 8.4-2L2 (kind of turboversion) both on physical Alpha and AVTWare vtAlpha

# BGS – project example (1/2)

- migration of 7/24 environment with  
13 AlphaServers ES45 running OpenVMS 7.3-2 to  
13 VMWare ESX servers each running one AVTware vtAlpha-instance
- Downtime per node max. 30-60 minutes.
- New SAN – need for a fresh SAN-copy just before the migration
- New network-infra and IP-domain
- Challenge non-routable DECnet phase IV.  
All DECnet-connections just must be there for production using DMQ and  
Polycenter Watchdog
- Other challenge was the systartup-environment

# BGS – project example (2/2)

- No documentation of systartup-environment
  - Complex scripted DCL-coding; “same” for all machines. But when a system manager doesn’t understand the startup-procedure, he just applies a quick fix to get the machine working again. And that during many years by several system managers in a different way per machine.
  - Some startup-procedures were modified, but never tested because of 7/24 availability
  - So we needed (several) dry runs per machine to have the new startup and migration procedures tested plus an extra normal fresh startup after the migration
  - We had one pre-migration DCL-commandprocedure, and one after-migration DCL-commandprocedure for all machines to execute the migration in a uniform way and get the systartup-environment as similar as possible again (and documented)



# BGS - migration

- Migration in financial sector from Alpha to Integrity i6 and OpenVMS 8.4-2L1
- Complex software written in Bliss, Macro. Additions in C
- Heavy use of lib\$find\_image\_symbol
- Long (40 yrs) history of changes. Documentation ???
- Are all sources available? In this case for 95%
- So we made
  - Dummy executables with logging
  - DCL workarounds
- Floatingpoint differences between Alpha and IA64
- Lib\$wait; implementation different for Alpha and IA64
  - see next slides
- I/O-performance on Integrity was not great; after some tweaking problem was solved

# Lib\$wait and port to IA64 (1/3)

- Just read the manual...

Porting Applications from  
HP OpenVMS Alpha to HP  
OpenVMS Industry Standard 64  
for Integrity Servers

Order Number: BA442–90001

**January 2005**

# Lib\$wait and port to IA64 (2/3)

- **LIB\$WAIT Problem and Solution**

- The use of LIB\$WAIT in code ported to OpenVMS I64 can cause unexpected results. An example in C follows.

```
float wait_time = 2.0;
```

```
lib$wait(&wait_time);
```

- On OpenVMS I64 systems, this code sends an S\_FLOATING into LIB\$WAIT.
- LIB\$WAIT expects an F\_FLOATING, and gives a FLTINV exception.

# Lib\$wait and port to IA64 (3/3)

- Code example in C from the manual

- LIB\$WAIT can accept three arguments. The previous code sequence can be rewritten with LIB\$WAIT using three arguments to run correctly on both I64 and Alpha systems. The following revised code works correctly when compiled without the /FLOAT qualifier:

```
#ifdef __ia64
    int float_type = 4; /* use S_FLOAT for I64 */
#else
    int float_type = 0; /* use F_FLOAT for Alpha */
#endif
float wait_time = 2.0;
lib$wait(&wait_time,0,&float_type);
```

- A better coding method is to include LIBWAITDEF (from SYS\$STARLET\_C.TLB) in your application and then specify the floating point data types by name. This code can be maintained more easily. LIBWAITDEF includes the following symbols:

- LIB\$K\_VAX\_F
- LIB\$K\_VAX\_D
- LIB\$K\_VAX\_G
- LIB\$K\_VAX\_H
- LIB\$K\_IEEE\_S
- LIB\$K\_IEEE\_T

- The following example shows how to include libwaitdef.h in the code and how to specify the floating-point data type names. This example also assumes that the program is not compiled with /FLOAT.

```
#include <libwaitdef.h>
```

```
.
#ifdef __ia64
    Int float_type = LIB$K_IEEE_S; /* use S_FLOAT for IPF */
#else
    Int float_type = LIB$K_VAX_F; /* use F_FLOAT for Alpha */
#endif
float wait_time = 2.0;
lib$wait(&wait_time,0,&float_type);
```

# BGS



- BGS has tested PureStorage Flasharray with VSI OpenVMS running on Integrity and vtAlpha-emulator
- Test with Alpha is work-in-progress

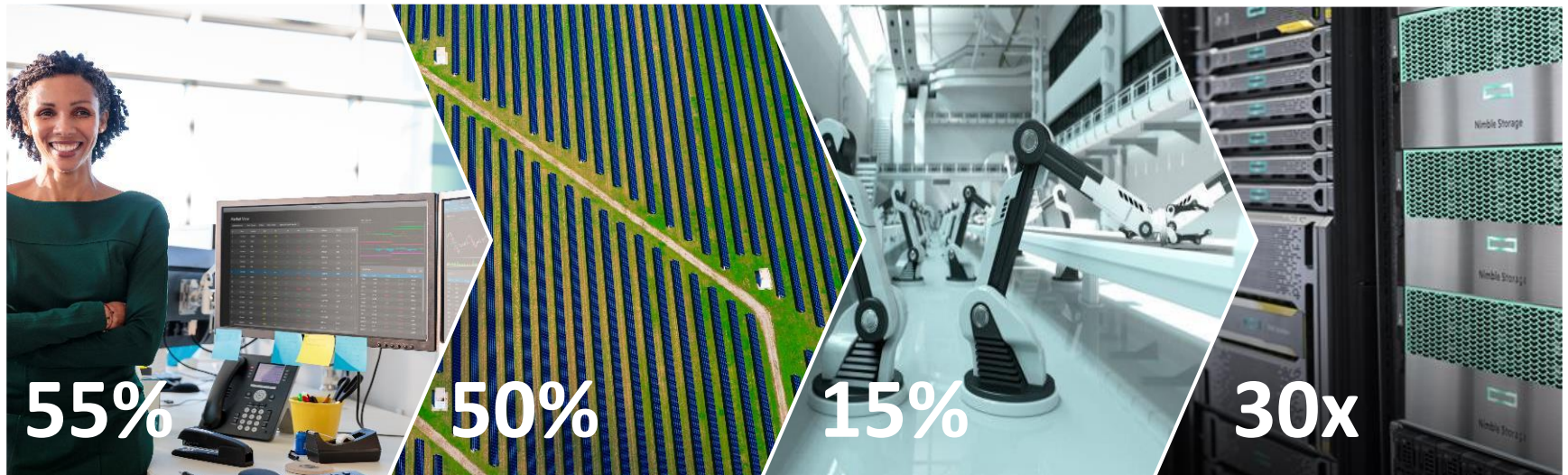
# Circular Economy & Sustainability

## Asset Life Cycle Solutions

- Interesting HPE presentation a couple of weeks ago at HPE Discover More
- Might be interesting in a world with AlphaServers, IntegrityServers moving towards X86, virtualization, etc.
- What about old and new/refurbished hw?

# Meeting the growing energy demands of the IT industry

HPE's climate goals for 2025



**reduction in operational GHG emissions** from 2016 levels, aligned with decarbonization goals of global Paris

of total electricity consumption in our operations **sourced from renewables**, with long-term target of achieving 100%.

reduction in supply chain **manufacturing-related emissions**, while enabling 80% of manufacturing suppliers to set science-based targets in their own operations

increase in the **energy performance of our product portfolio**, from 2015 levels

# Our Technology Renewal Centre

Erskine, Scotland

## Capabilities

- 450,000 square feet built for purpose processing facility, revamped 2011
- Capability to remarket, redeploy, reconfigure, recycle, pack, and transport
- Storage, Servers and Networking
- Full multivendor capability
- Fully accredited facility, consistent with the HMG IA Standard No. 5
- Appx 200 people currently employed... and still growing
- Sister site in Andover, MA



For more information: [Virtual tour and more](#)



# ASSET RECOVERY SERVICES

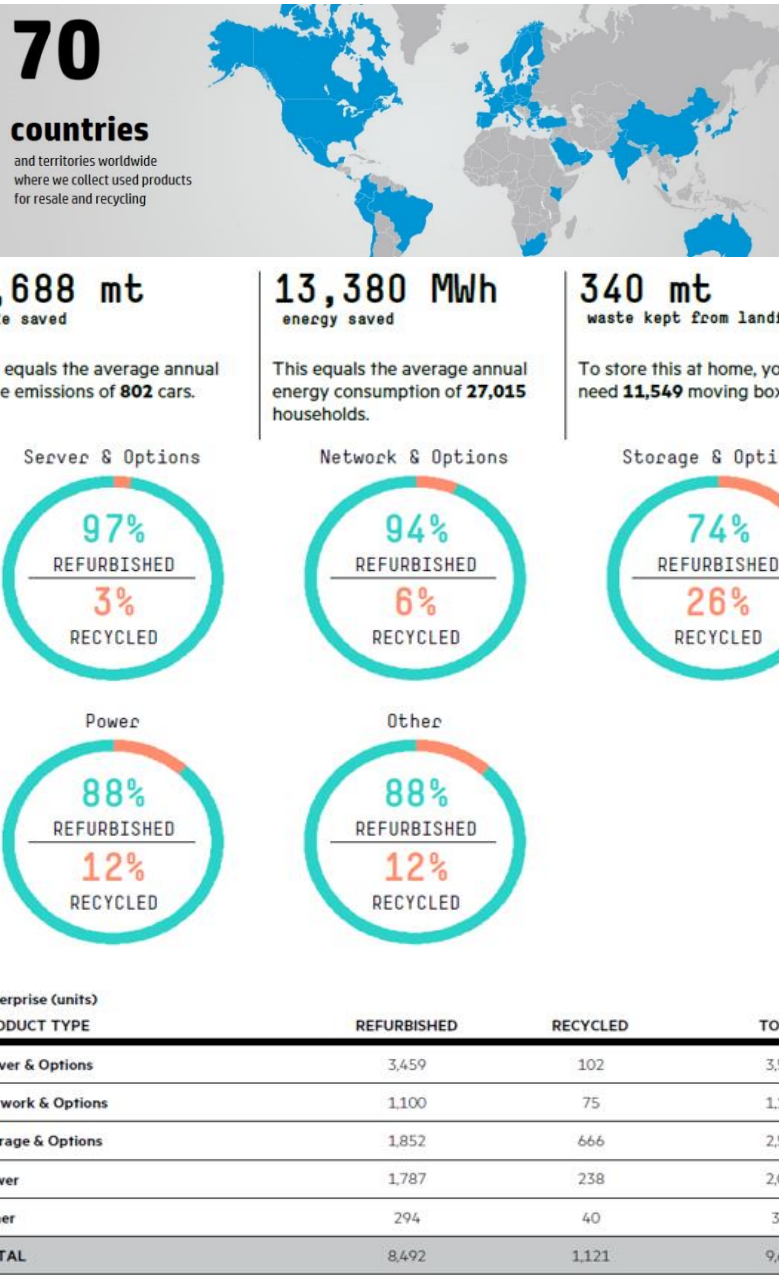
- Buyback of IT assets. Pricing based upon asset technology level and market demand
- Environmentally compliant recycling on a global scale for non-valued items
- Maximized product remarketing to ensure fair market value

## Included:

- HPE FS logistic services for shipping & packing
- Data erasure certificate / Disk wiping

## • Additional Services : 100% Compliant with environmental laws & Processes

- Disk and data wiping compliant with governmental standards
- 3d Party Sustainability Reports upon request



# BGS and VMSSoftware

- VMSSoftware OpenVMS training
  - Lecture/lab, onsite; quick starter or refresh
- VMSSoftware Partner Solution Alliance Member
  - Migrations / projects
- VMSSoftware EMEA reseller
  - We can also take care of hardware support
- 2020 Q4: X86 workshops?

For more information and questions:

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