VMS Software

Application Services Overview (short version)

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Agenda

- Introduction
- Application migration service
- Modernization
- Other application services
- Summary
- Questions

Application services

- A set of inter-related services to help customers get the most from their OpenVMS application environments…
  - Migration to OpenVMS x86-64
  - Integration
  - Modernization
  - Application maintenance and support
  - Reviews/workshops
  - …

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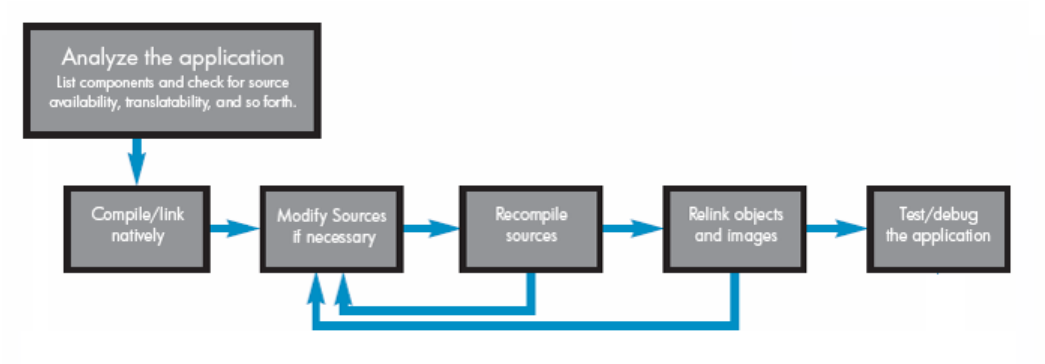
Migrating applications to x86-64

- Porting applications to OpenVMS x86-64 is easy... you just…
  - Recompile
  - Relink
  - Test and deploy

- Sure ☺
  - This will be true in a good number of cases, but certainly not for all
  - Sometimes a bit more work might be required…
  - Start thinking about it now!

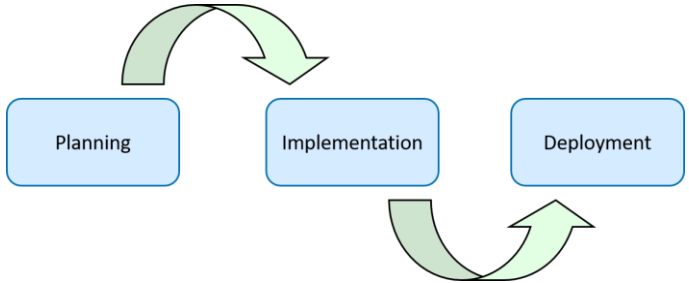


VSI Application Migration Service

- Comprehensive service to help customers move their applications from Alpha and Itanium to OpenVMS x86-64
- Phased approach to minimize risk and to deliver a successful outcome
  - Discovery phase (migration assessment)
  - Elaboration
  - Pilot
  - Migration
  - Deployment

- Tailored to address the unique requirements of each project
- Predicated on helping customers preserve and enhance their investment in OpenVMS technology

Migration projects to OpenVMS x86-64 will range in scale from a few days of effort to many months of effort, depending on scale, complexity, and various other factors. For smaller projects, a rigorous methodology is generally not required; however, for the larger projects a more formal and methodical approach will typically be essential to ensuring a successful result.



Case study (in progress)

A medium-complexity x86-64 migration project for an industrial customer. The core application running on OpenVMS comprises some 300,000 lines of complex code written in a variety of languages (C, C++, and Fortran), interacting with a Sybase database hosted on a Windows platform, with communication between the OpenVMS-based application and the Sybase database being achieved via the Sybase OpenClient API binary-translated from Alpha. In order to migrate the application to x86-64 and provide a supportable solution going forward the unsupported Sybase client API was replaced by the open-source FreeTDS API and an embedded SQL pre-processor was provided that could be used in conjunction with FreeTDS in place of the Sybase embedded SQL pre-processor.

- Custom application environment comprises roughly 300,000 lines of code
  - Mixture of C, C++ and Fortran code
  - Remote Sybase database
  - All database access via C++ with embedded SQL (some 1200 SQL statements)
  - Integrity environment using binary-translated Sybase client
  - Moderate use of OpenVMS system services and RTL functions
  - Numerous DCL scripts

- Relatively simple two-node cluster configuration
  - Few layered products
  - No database on OpenVMS, although some use of RMS for data storage
  - Interfaces to external systems

Case study – scope

Operating system and layered products:

- Design (hardware, VM configuration, ...)
- Planning of upgrade strategy
- Implementation
- Assistance during deployment
- Networking configured
- Migration of user accounts and application data
- Verification of clustering functionality
- Tuning
- As-built documentation
- ...

Hardware to run the virtualized OpenVMS x86-64 environment was discussed and confirmed (and purchased) prior to the start of the project. Virtualization software (VMware in this case) and version were likewise confirmed and agreed by VSI as being fit for purpose and constituting a supported configuration.

Case study – scope

Porting of custom application components:

- Review and analyse the application code and documentation
  - Check code for completeness
  - Analyse and validate build procedures
  - Identify issues (and solutions)
  - Document findings

- Port code
  - Establish development environment in VSI lab (if possible/permissible)
  - Establish build environment
  - Enhance pre-existing embedded SQL pre-processor
  - Compile and link code on x86-64
  - Address compilation and linking errors and warnings
  - Address identified code portability issues

- Testing
  - Joint effort
  - Basic testing done by VSI to validate that programs at least appear to run
  - Most testing done by customer (we don’t know their business)
  - Issues identified and resolved

Case study – deliverables

- Working OpenVMS x86-64 environment
- Ported application code
- Enhanced embedded SQL pre-processor and associated API components
- Release notes for the ported code
- As-built documentation for the new VSI OpenVMS x86-64 systems
- …

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Drivers for modernization

- Preservation of valued business assets

- Reduce risk and liability
  - Hardware availability and support issues (not such a problem with x86-64)
  - Software support issues
  - Availability of technical skills
  - Functional knowledge
  - Security and compliance

- Increase revenue
  - Reduce time-to-market for new products and services
  - Improve customer/user satisfaction
  - Enhance operational efficiency
  - Create new revenue streams

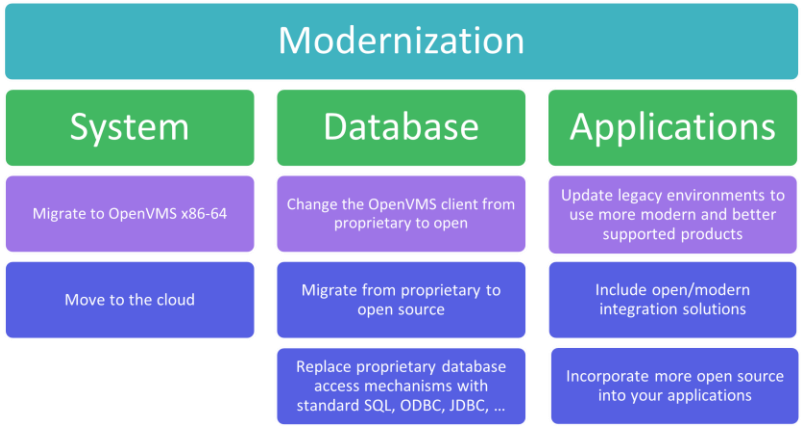
- Reduce costs, IT strategy, …
  - Licenses, maintenance, support, …
  - Labour costs
  - Infrastructure

- …

https://twitter.com/johncrickett/status/1746199424177463558

Common scenarios

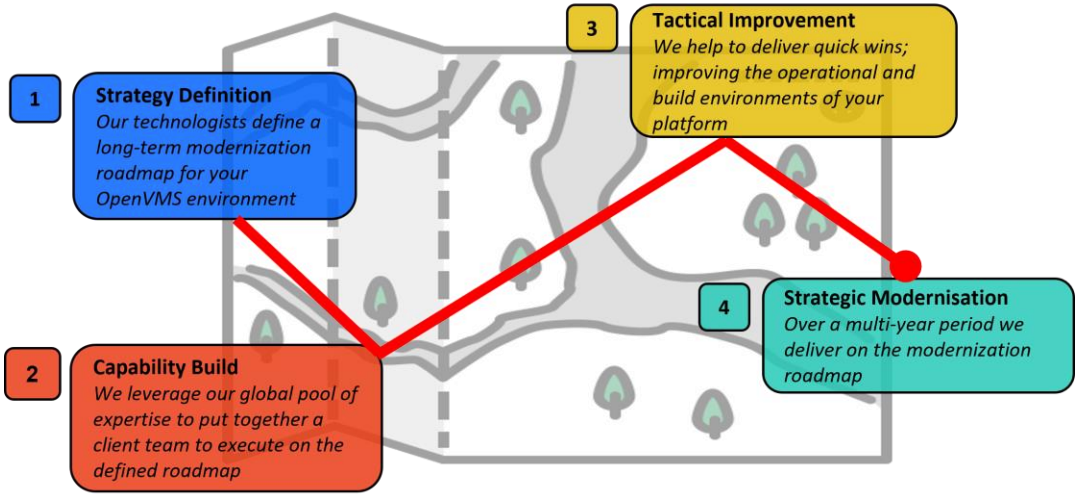
- Platform migrations (VAX to Alpha, Alpha to Integrity, Integrity to x86-64)
- Replace green screens with web interface or rich GUI
- Replace unsupported software components
- Integration
- Increased adoption of open-source technologies (support for open standards, reduce license costs, …)
- External authentication, single sign-on
- Database migrations
- Programming language conversions



How we can help

- Architectural workshops
- Assessment of your current environment
- Introduction of new technologies
- Platform migration

We follow a general approach to modernization that has worked well for many of our customers…



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Other application services

Integration:
Design and implementation of interfaces between OpenVMS application environments and other systems, leveraging both commercial and open-source technologies.

Application modernization:
Enhance and modernize OpenVMS-based legacy applications through th[illegible]duction of new software technologies (including replacement of unsupported third-party solutions).

Application maintenance and support:
Many OpenVMS users with large custom-written applications no longer have sufficient expertise in-house to maintain and support these applications and can find it difficult or expensive to find suitably skilled developers or service providers.

Application reviews:
Regardless of whether you are considering moving to OpenVMS on x86-64 in the future or staying with your existing VAX, Alpha, or Itanium platforms, it is important to have a top-to-bottom understanding of your application environment and what you can do with it.

VSI can provide cost-effective specialist application maintenance and support services for custom-written OpenVMS-based software applications and is able to tailor such services to meet your specific requirements.

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Summary

- VSI has deep technical knowledge and understanding of the OpenVMS environment
  - People, skills, resources
  - … and we also have a pretty good understanding of a few other things ☺
- VSI is uniquely positioned to deliver application services that…
  - Add business value
  - Protect your considerable investment in OpenVMS
  - Will help you save money and time
- VSI's application services portfolio covers...
  - Migration and porting
  - Integration
  - Modernization
  - Application maintenance and support
  - Development
  - Reviews and workshops
- Services are tailored to each unique customer situation

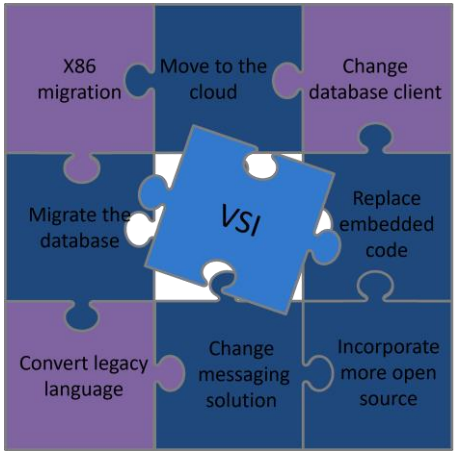
Summary

OpenVMS users tend to have four common technology challenges that drive broader business concerns…

1. Uncertain future of OpenVMS	***SOLVED:*** *VSI operating system roadmap including the x86-64 port provides a certain path forward for OpenVMS*
2. Lack of technology expertise	***SOLVED:*** *VSI has a global network of clients and resources in this technology domain*
3. Platform (inter)operability	***SOLVED:*** *Manage operational uncertainty using newly developed toolsets and solutions that provide a more transparent operational future*
4. Very old application software	***SOLVED:*** *Follow the lead of other OpenVMS users who, working with VSI, have successfully mapped, simplified, and modernized their application environments in a cost-effective and low-risk manner*

Summary

"VMS Software Inc. appreciates that there are many OpenVMS customers running large, complex, business-critical custom written software applications. Whilst these applications continue to serve the business very well, many of them now need to interoperate and exchange data with external systems and applications running on other operating systems. The options available are to replace the existing OpenVMS-based system or to modernize it in some way so that it can continue to operate in a modern heterogeneous computing environment."



... VSI is the central piece of the jigsaw!


Questions?