

Charon

Real life examples

...the good, the hickups, and the maybe's,... 😊

Thomas Siebold



Contents

- Magistrat Wien
- „*River Elbe*“ customer
- UC4
- Plasser Theurer Austria
- Engel Austria
- „Anonymous“ customer
- ...more examples

„River Elbe“ customer

Status ante

- Business management system
- Organizational
- Hardware old
 - 2x DS25
 - 2x MSA1000
 - 2 FCA
- Software old
 - OpenVMS Cluster

Status now

- Hardware new
 - HP DL380 G7, Intel XEON x5687 @3.6 GHz (2x 4-core, HT disabled)
- Software new
 - Windows Server 2008 R2 Standard SP1 X64 German
 - CHARON-AXP/DS20 V4.2.14103

Challenges

- Standard configuration; done by Invenate before!
- Installation of software OK
- Usage of CHARON pass through driver
- Restore of VMS and data OK (via network)
- Connection of systems to MSA1000 not OK (fabric login failure)
- Lots of troubleshooting
 - 3 different FCA FW: FWalpha < FWinvenate < FWfcaproliant
 1. FCA Alpha, KGPSA-DA (Emulex LP9002, CS3.93A0), OK
 2. FCA Invenate: Emulex A8003A (FV2.72A2), fabric login ok; but no LUNs seen (ACLs), jetzt OK!
 3. FCA Proliant: Emulex A8003A (FV2.82A4), no fabric login (ok with Windows driver), OK after a while !?
 - Issue in CHARON pass through driver depending on FCA FW??

UC4

UC4 ONE Automation verkörpert den Trend zur Zusammenführung der IT-Prozessautomatisierung und deckt dabei das gesamte Spektrum der heutigen Automatisierungstechnologie besser ab als jeder andere Anbieter.

(Forrester 2011)

ONE Automation

UC4 Software ist der weltweit größte unabhängige Anbieter von Software zur IT-Prozessautomatisierung. Mit 25 Jahren Erfahrung automatisiert UC4 für mehr als 2.000 Kunden weltweit jeden Tag Operationen im zweistelligen Millionenbereich.



UC4 auf Platz eins vor BMC, CA, IBM und HP

FORRESTER

► **Download des Forrester-Berichts und sehen Sie UC4 CEO Jason Liu zum Thema IT Process Automation**



Workload Automation



Application Process Automation



Managed File Transfer



Virtualization Management



Application Release Automation



Run Book Automation



UC4 – some key figures

- + The largest pure automation software company**
- + More than 2000 customers in over 50 countries**
- + HQ Wolfsgraben (A), Bellevue (Wa, US)**

- + Great variety & diversity of operating systems and platforms**
- + UC4 usually is critical to production for the overwhelming majority of it's customers**
- + A lot of Customers in the banking, insurance and energy sector manage highly critical processes with UC4**
 - VMS is still widely spread in that specific sectors**

Technical Landscape

- + 1 VMS Alpha host**
 - DEC 3000 Model 400
 - OpenVMS Alpha Operating System, Version V7.3-1
- + 2 identical VMS VAX hosts**
 - VAXstation 4000/60
 - OpenVMS VAX Operating System, Version V7.3
- + 1 Tru64 UNIX host**
 - AlphaServer DS10
 - Digital UNIX V4.0F
- + Software development**
- + Building & deployment**
- + Quality assurance & testing**

Motivation behind the migration to CHARON

- + **Second-hand hardware no attractive option**
- + **Risky**
- + **Potentially time-consuming**
 - Obtaining specific hardware is getting more and more difficult
- + **Not sustainable**
 - Old hardware is bound to reach it's end of life.

VMS & Tru64 are crucial operating systems to UC4 and it's customers

- + **Support of UC4 on VMS & Tru64 is contractually guaranteed**
 - UC4 needs to run on VMS & Tru64 in the foreseeable future
 - Hence, porting VMS & Tru64 environments is not an option.
- + **Extensibility due to virtualization**
 - Integration of new systems into the CHARON environment is fairly easy
 - UC4 is able to quickly adapt to the needs of it's customers and the market
- + **Performance improvement**
 - Running CHARON on current hardware boosts performance
 - Compiling & building on VMS & Tru64 becomes less time-consuming

CHARON @ UC4 - Configuration

- + **4 instances of CHARON are running on 1 server**
 - HP ProLiant DL380, 2 x 6 cores, 12GB RAM, RAID controller
 - Windows Server 2008 R2
 - Network
 - 1 port per CHARON instance
 - 1 port for the CHARON server
- + **CHARON Configuration**
 - CHARON-AXP
 - 1 x OpenVMS Alpha Operating System, Version V7.3-1
 - 1 x Digital UNIX V4.0F
 - CHARON-VAX
 - 2 x OpenVMS VAX Operating System, Version V7.3

Migration process

Preparation & the actual migration were done by our partner, b.it.co IT Consulting GmbH.

+ Preparation

- On-site inventory analysis
- Customized hardware suggestions

+ Migration

- The migration of all 4 hosts to CHARON took only 1 business day

Results & experiences

- + **All 4 systems are running without any trouble since the day of the migration**
- + **Maintenance became much easier**
 - All 4 instances located on 1 physical host
- + **Performance even better than expected**
 - Duration of builds on VAX decreased by more than 50%
 - Duration of builds on Alpha decreased by almost 30%
- + **We want more!**
 - 2 more Alpha hosts to be migrated
 - Migration of all VMS hosts located in UC4's United States office (Seattle area) is currently being evaluated.
 - UC4 is evaluating the migration of it's HP3000 system

Plasser & Theurer Austria



Plasser & Theurer

- Founded 1953
- Main design & production plant in Linz (A)
- 1650 employees
- Product portfolio:
 - Machinery and vehicles for construction, renovation and maintenance of rail tracks and trolley wire
- Until 2012 delivered more than 14800 machines in 106 countries
- More than 2000 patents



Status ante

- 5 node OpenVMS cluster (V7.3-2)
 - AlphaServer DS20e, DS10, 2 * DS15
 - AlphaStation 400 („quorum node“)
- SAN with 2 storage systems
- Distributed across two locations (a few 100 m apart)
- Used for CAD maintenance of older products
- Reason for migration:
 - SAN was to be replaced
 - No support for OpenVMS V7.3-2 on current SAN products



Status new

- 3 node cluster
 - 2 CHARON-AXP /DS10 nodes
 - 1 physical DS15 as quorum node
- Replaced SAN with new storage solution
- Easy migration:
 - Shut down one DS15, boot CHARON-AXP from ist root
 - CHARON-AXP connected to old and new SAN
 - Add new SAN LUNs to existing shadow sets
 - let HBVS take care of copy operation
 - During normal operation; users did not realize it
 - Application was available all the time!
 - One morning, users logged into CHARON-AXP without even knowing.



Engel Austria



Engel Austria

- Founded 1945
- Home plant: Schwertberg (A)
 - 8 locations (A, CZ, US, China, Korea)
- Family-owned enterprise
- Die casting machinery (Spritzguss Maschinen)
- 3900 employees
- Export ratio: ca. 95 %

Status ante

- 3 MicroVAXen 4000 /105A, /108
 - Spread across three different plants
 - Driving NC machinery
 - OpenVMS V6.2
- Reason for migration:
 - Hardware support was discontinued

Status new

- All 3 CHARON-VAX instances in main plant
- 2 ProLiant Blades BL460c
 - Xeon X5650 (6 core)
 - 24 GB memory
 - One per computer room
 - Each capable of running all three instances
- Move HSD50 and local storage to existing EVAs
- In case of a ProLiant failure:
 - Present LUNs to other ProLiant
 - Restart CHARON service(s) from failed node there



Special Issues

- In one plant, NC machinery is connected to a DECserver (serial link)
 - DECserver was booted via MOP
 - MOP does not work across sites (not routable)
 - Reconfigured the VAX to boot the DECserver via TFTP
 - Application talked to DECserver ports via LAT (LTAnn: devices)
 - LAT does not work across sites (not routable)
 - Configured IP on DECserver, replaced LTAnn: devices with TNAnn: devices
- On one node, Oracle database produced spurious errors
 - Reconfigured Oracle to run as multithreaded server

Other examples

- Cargologic
 - Air cargo & logistics
 - Zurich, Basel, Bern, Lugano, Frankfurt
 - replaced a 2-CPU 1GHz ES45 True64 Unix
 - Charon-AXP/ES40
 - Challenge: replace grown, hardcoded scripts



Other examples, ...cont'd

- SIX Group
 - infrastructure for Swiss financial center (exchange, payment services,...)
 - Replace a 2x ES40 cluster
 - Reasons for not adopting Charon
 - Oracle licensing scheme (cost)
 - Only marginal performance gains
 - ‚politics‘



Other examples, ...cont'd

- EUMETSAT
 - European Organisation for the Exploitation of Meteorological Satellites
 - Multiple small Alphas
 - Customized Decwindows session manager
 - Reason for not adopting Charon
 - Cost
 - Length of project (only 3 more years)



Other examples, ...cont'd

- Americas
 - Fidelity National Financial
 - 60 Vax -> 35 Charon instances
 - Oracle
- Asiapac
 - Raffles Medical (Singapore)
 - Wellington City Council (New Zealand)
- <http://www.stromasys.ch/stromasyscustomers/customers/>

Other examples, ...cont'd

- VAX
 - 6x VAX 8660 cluster -> 2xVAX 6660
 - Mobile phone ucode
 - 18hrs built time -> 3hrs
- Alpha
 - GS320, 24CPUs, Telecom XYZcountry (being implemented)

For more information

[Stromasys SA](#)

www.stromasys.com

P.O. Box 156
1228 Plan-les-Ouates
Switzerland
Tel. +41 22 794 1070
Fax +41 22 794 1073

Product descriptions
Application notes
Documentation
Utility downloads
Partner pages

info@stromasys.com



Questions