Mimer

Information Technology

Mimer SQL on OpenVMS
Stefan Eck
Product Management Director
Mimer Information Technology AB

Mimer Information Technology AB

- **HQ in Uppsala, Sweden**
  - **Mimer Taiwan (subsidiary)**
  - **Partners in China, Japan, Korea and USA**
- **World class experts in relational database technology**
- **Developer of the Mimer SQL product family**
  - **Enterprise Solutions**
  - **Industrial/Embedded Solutions**
  - **Mobile Solutions**
- **Mimer SQL used in mission critical systems world wide since the 1970s**

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Mimer SQL background

- Roots at the Uppsala University, Sweden

- 30+ years on VMS! First port 1980 (VAX/780)

- OpenVMS main development platform since 1982
  (VAX $\Rightarrow$ Alpha $\Rightarrow$ Integrity)

- Close co-operation with OpenVMS Engineering

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Why use Mimer SQL on OpenVMS?

- Proven technology for mission critical systems

- Open standards preserves investments for the future

- High performance and scalability

- Zero maintenance

- Firm commitment to OpenVMS & Integrity

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Proven technology for mission critical systems:
Some Mimer SQL Customers

give blood **NHS Blood & Transplant**

DOFASCO™

DJ Galvanizing TELIA **Swedish Telecom**

VOLTDELTA CONNECTING PEOPLE & INFORMATION **Volt Delta** VOLVO

A top-5 hand-set manufacturer

Volvo Cars

Alexander Forbes **Alexander Forbes**

Chinese smart-phone manufacturer

Blue colour = OpenVMS!

PHILIPS

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Mimer SQL in Life-Critical System

- World's largest centralized blood supply management system

- NHS Blood and Transplant

  - Blood products to hospitals in England and Wales
  - System controls 2.5 million donations annually
  - 3,500+ active users
  - Database of 1 billion records
        +8 million / week
  - *"Our experience is that
    Mimer SQL rarely gives us
    a problem and has a very
    low maintenance overhead,
    so there's no need for any
    expensive database
    administrators to run the system."*
    Ian Henderson,
    Pulse Director at Savant,
    the developer of PULSE

Stock Level on 08 Jul 2011

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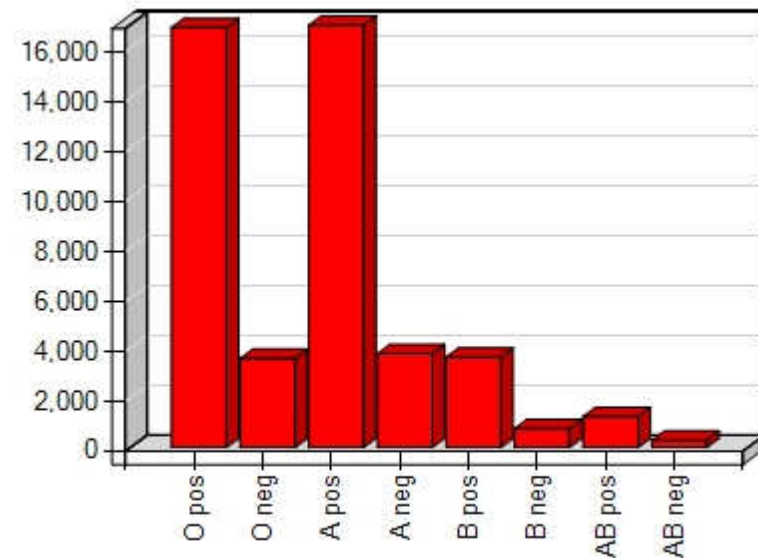
UK National Health Service – Blood & Transplant Builds World's Largest Centralised Blood Supply Management System on HP Integrity Servers and HP OpenVMS

'We've built the biggest centralised blood management system in the world, and we now have great visibility into our end-to-end supply chain. It was a challenge moving to a national system, and we are grateful to HP and our other partners involved for mitigating the risk and making the project a success.' – Neil Hogg, general manager of IT, NHSBT

- Maintained 99.9% uptime
- Reduced data centre footprint
- Maintained exceptional reliability
- Built disaster-tolerant solution

NHS Blood and Transplant

HP customer case study: NHSBT UK National Health Service – Blood & Transplant (NHSBT)

Industry: health services

Objectives
- Provide a better experience to donors
- Increase visibility of blood supply and improve contingency plans
- Consolidate and simplify the central system with minimal business disruption
- Ensure high uptime
- Reduce costs and improve efficiency

Approach
- Implement HP Integrity servers in OpenVMS cluster configuration at two separate data centres with multiple layers of redundancy
- Move from three regional centres with isolated databases to one national system

IT improvements
- Maintained 99.9% uptime
- Reduced data centre footprint
- Maintained exceptional reliability
- Built disaster-tolerant solution

Business benefits
- Enhanced donor relationships
- Improved blood stock management through visibility across entire country
- Improved disaster and emergency planning and capabilities
- Provided better health support services to the public while reducing costs
- Increased visibility into blood supply chain nationwide

**Lifesaving services, reliant on technology**
Every country's population is vitally dependent on a consistent and safe supply of blood, organs, plasma and tissues – and a solid base of blood and organ donors. As part of the UK's National Health Service, NHS Blood & Transplant (NHSBT) is responsible for optimising the supply of blood, organs, plasma and tissues and raising the quality, effectiveness and efficiency of blood and transplant services. NHSBT manages the supply of blood to hospitals throughout England and North Wales, tracking it from when it is first donated, through its testing and separation into various products and, finally, to its dispatch to hospitals.

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Mimer SQL in Production

- Controls flow of parts to the assembly lines at the Volvo car plant in Gothenburg

- Mission critical (unplanned database downtime very expensive)

- In production since 25+ years

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Mimer SQL Mobile is included in millions of mobile phones
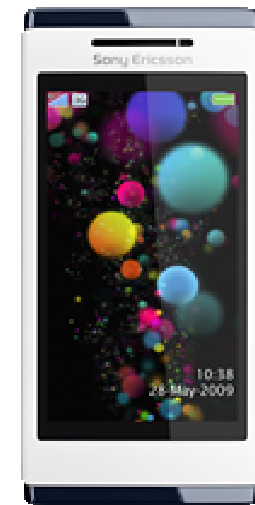
Some recent devices with Mimer Inside

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Open standards preserves investments for the future: Mimer SQL standard compliance

- X/Open SQL

- SQL99/Core 2003, including:

  - Persistent Stored Modules (PSM)

  - Triggers

- Unicode

- ODBC

- JDBC, J2ME (CDC, CLDC)

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Mimer SQL: Supported APIs on OpenVMS

- ODBC driver (native Mimer SQL)

- JDBC Type 4 driver (all Java)

- Embedded SQL

  - C

  - Cobol

  - Fortran

- X/Open XA (Distributed transactions)

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High performance and scalability: Mimer SQL at NHS BT Vital Statistics (Oct 19 2011)

- Live System
  - 1,219,964,838 records in 715 tables
  - Largest table (donation audit) is 130+ million records
- Archive System
  - For older, time expired records
  - 2,132,580,359 records
- 3,500+ active users
- More information
  - Availability Digest
    http://www.availabilitydigest.com/public_articles/0310/uknbs.pdf
  - HP customer case study
    http://www.xdelta.co.uk/news#nhsbtcasestudy

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Zero maintenance

- Non-locking concurrency control

  - Deadlock free

  - No locking overhead

  - Add more workload or new applications without risk for performance deterioration due to database locks

- Automatic database reorganziation

  - Database files always structured for optimal performance

  - No need for index rebuilds

- Very few tuning parameters

  - Cache size

  - Number of database request threads

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Firm commitment to OpenVMS

- Developed on OpenVMS for OpenVMS

- Not a Unix or Windows product ported to OpenVMS!

- Use the most efficient primitives on OpenVMS to get best possible performance and scalability

- Full function Mimer SQL 10.0 evaluation version available for free download at:

  http://developer.mimer.com/

- Licensing model corresponding to HP's (per socket, not core)

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Mimer at the OpenVMS Boot Camp September 2011

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Mimer and OpenVMS on Integrity

Mimer SQL and OpenVMS

Mimer SQL is the cost effective DBMS choice for the OpenVMS market

Long term commitment to OpenVMS Integrity
Utilize new HW and OpenVMS versions
- OpenVMS 8.4
- i2 servers

Mission critical systems world wide using Mimer SQL on OpenVMS
- NHS Blood&Transplant – Successful migration Alpha → Integrity
- Volvo car plant
- … and many more

Long and successful history on OpenVMS
… and OpenVMS is our main development platform

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Mimer participated as the only external party in HP's VP Worldwide Marketing and Strategy, BCS, Lorraine Bartlett's key-note speech. **Mimer**

Mimer at the OpenVMS Boot Camp September 2011

During the opening keynote on Monday, September 19th, Mimer CEO, Magnus Hedencrona said,

"22nd of March was not such a bad day for Mimer and hopefully, after a week of Mimer seminars and technical sessions, Oracle customers will realize that 22nd of March was not such a bad day for them either!"

From the blog of Nina Buik, former Connect president now Connect CMO
http://connect-community.site-ym.com/members/blog_view.asp?id=550209&tag=OpenVMS

That is why using Mimer SQL on OpenVMS!

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- Open standards preserves investments for the future

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- Zero maintenance
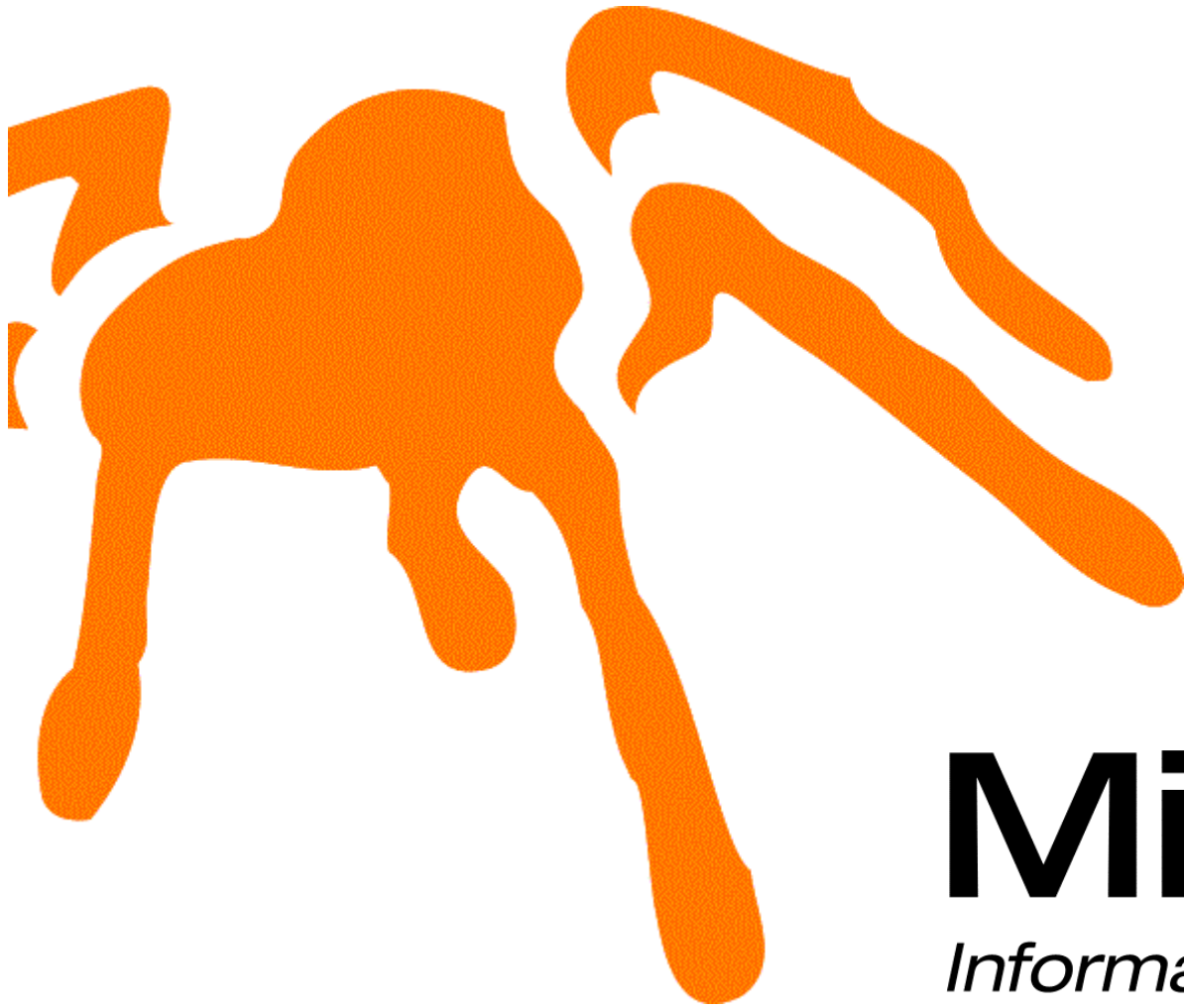
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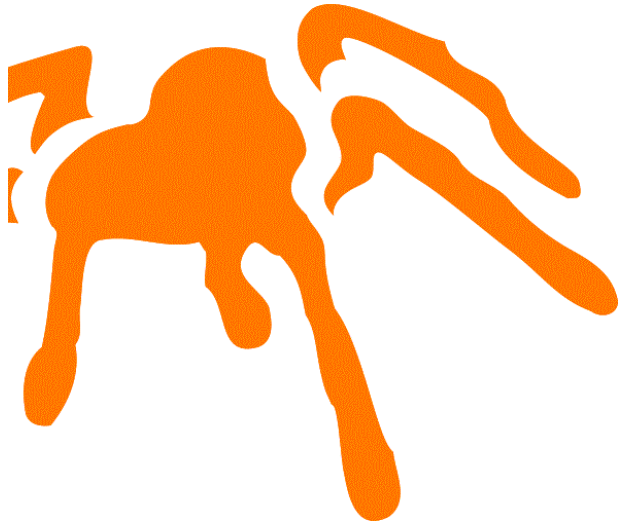
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Some Mimer SQL features not covered in this presentation

- Hard real-time support (Mimer SQL Real-Time)

- Multi lingual support (Unicode Collations)

- HPVM support

- Android support (Mimer SQL Mobile)

- Small footprint server (< 30 KB RAM)

- Migration from other DBMSes

Questions?

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E-mail questions to
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Visit www.mimer.com and
developer.mimer.com

Thank you!