Protecting a SAP cloud with Bacula at Swisscom IT Services

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Agenda

- Short Introduction
- Platform Overview
- Bacula Usage
- Experiences
- Future Enhancements
- Wishlist
- Q&A

Short Introduction

Swisscom IT Services AG is a subsidiary of Swisscom

Core business
- Large-scale IT projects
- IT infrastructure management
- SAP consulting, solutions and operation
- Business Process Outsourcing (BPO)

Core competencies
- Management of complex IT infrastructure
- SAP
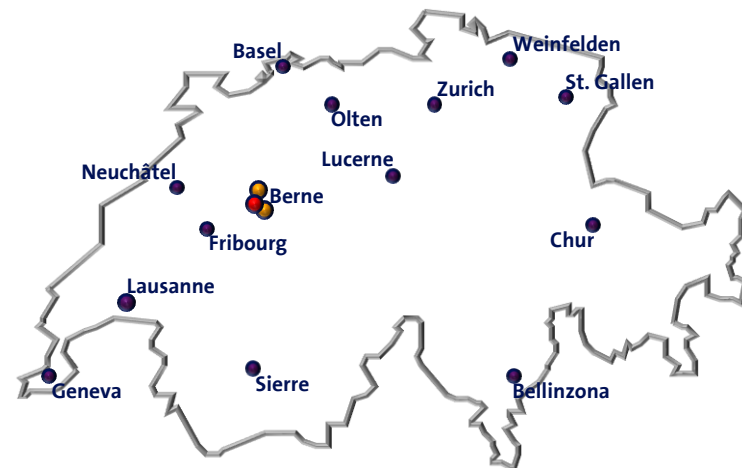- BPO for the financial sector
- End user services

Swisscom IT Services Group – who we are

Facts & Figures

- Headquarters in Berne ●
- Revenues
  - 2009: CHF 841 million / CHF 435 million*
  - Q2/2010: CHF 240 million* (+30.4% compared with previous year)
- 300 customers
- 16 additional Swiss locations ●
- 3,300 employees**

Data centres

- 2 locations ●
- 8 petabytes of storage capacity
- 10,000 servers
- 2 mainframes with about 5,000 MIPS

Basel • Weinfelden • Zurich • St. Gallen • Olten • Lucerne • Neuchâtel • Berne • Fribourg • Chur • Lausanne • Geneva • Sierre • Bellinzona

* Revenue from external customers/ ** of which 500 are external employees

Platform Overview

- We built a so called „Private Cloud" based on a HP BladeMatrix infrastructure

- Provides template-based services to several customers

- We focus solely on SAP Services

- Only standardized offers

- Pay-per-use model (performance and storage)

Platform Overview

- HP BladeMatrix is only the base for deployments, so we had to add:
  1. A Hypervisor,
  2. A backup software,
  3. A monitoring and reporting tool,
  4. A Change Management tool.

Platform Overview

- Requirements for the backup software
  - Windows and Linux client support
  - Virtual and physical servers
  - Scalable
  - Integration with Nagios available
  - Easily adaptible
  - Simple license model
  - Disaster recovery
  - Database-Integration possible (pre- and post-tasks)

Bacula Usage

- Bacula Advantages:
    - No license cost involved
    - No vendor lock-in
    - Easily adaptible
    - Well documented
    - Business-class support
    - Knowledge available

Bacula Usage

- Version 3.0.3
- Director and Storage Daemon on SuSE SLES 10
- Director and Storage HP Blade 2x QC with 12 GB
- File Daemon on SuSE SLES 10, Windows 2003 x64 and Windows 2008 x64
- Only backup-to-disk
- Disaster Recovery by replication to another location

Experiences

- It was nearly finished before it began…

Experiences II

- Today we save more or less daily:
    - Filesystems Linux and Windows
    - Database Logfiles
    - Databases 100 to 400 GB each

- 3 OS x 4 Databases (MySQL*, DB2, MaxDB, Oracle, MS SQL*) we need to cover

- 2 major SAP installation types (ABAP and JAVA) and many different SAP products

Experiences III

- Database backup:
  - The easy one: Dump and backup (e.g. MySQL)
  - The basic one: Shutdown and backup
  - The normal one: Tell the database its backuped and backup (copy it) online (e.g. Oracle)
  - The preferred one: Backup the database with the database utility to a pipe and get it from there (e.g. MaxDB, DB2)

Experiences IV

–The ultimate one: Tell the database its backuped, snapshot it, release the database lock, mount the snapshot somewhere and backup without involving the db server (called split-mirror backup, easily combined with so-called system copies)

Experiences V

- Out experiences so far:
  - +Very stable environment
  - +High performance achievable
  - +Client directly integrated into the templates
  - +Easily adaptible to the database backups
  - +Fantastic support

  - –Calculating volumes, generations and retentions is not so easy
  - –I am missing a nice GUI on Windows (TS)

Future Enhancements

- Soon update to Enterprise Edition 4.0
  - A big decrease in used storage is expected because of Base Jobs

- Improve alarming
  - Tighter integration with Groundworks/Nagios

- Backup full VM images
  - Easier Disaster Recovery

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Future Enhancements

- Integration of a remote site
  - Replace rsync with a second storage daemon

- Prepare split-mirror backups
  - Scripting with HP RSM

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Wishlist

- Deduplication (block-level)
  - Best case: on the client
  - Also useful: on the server

- SAP Integration
  - SAP-readable Logfile
  - May be using SAP scheduler (we dont really want that)

Wishlist II

- Reporting
  - Non-IT people keep asking the same questions over and over (SAS70, Service Manager before going to the customer etc.)
    - How often do you backup?
    - When do you backup?
    - How long do you store it?
    - When was the last successful restore?

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Q & A

- Questions anyone?