

Linux at 1&1



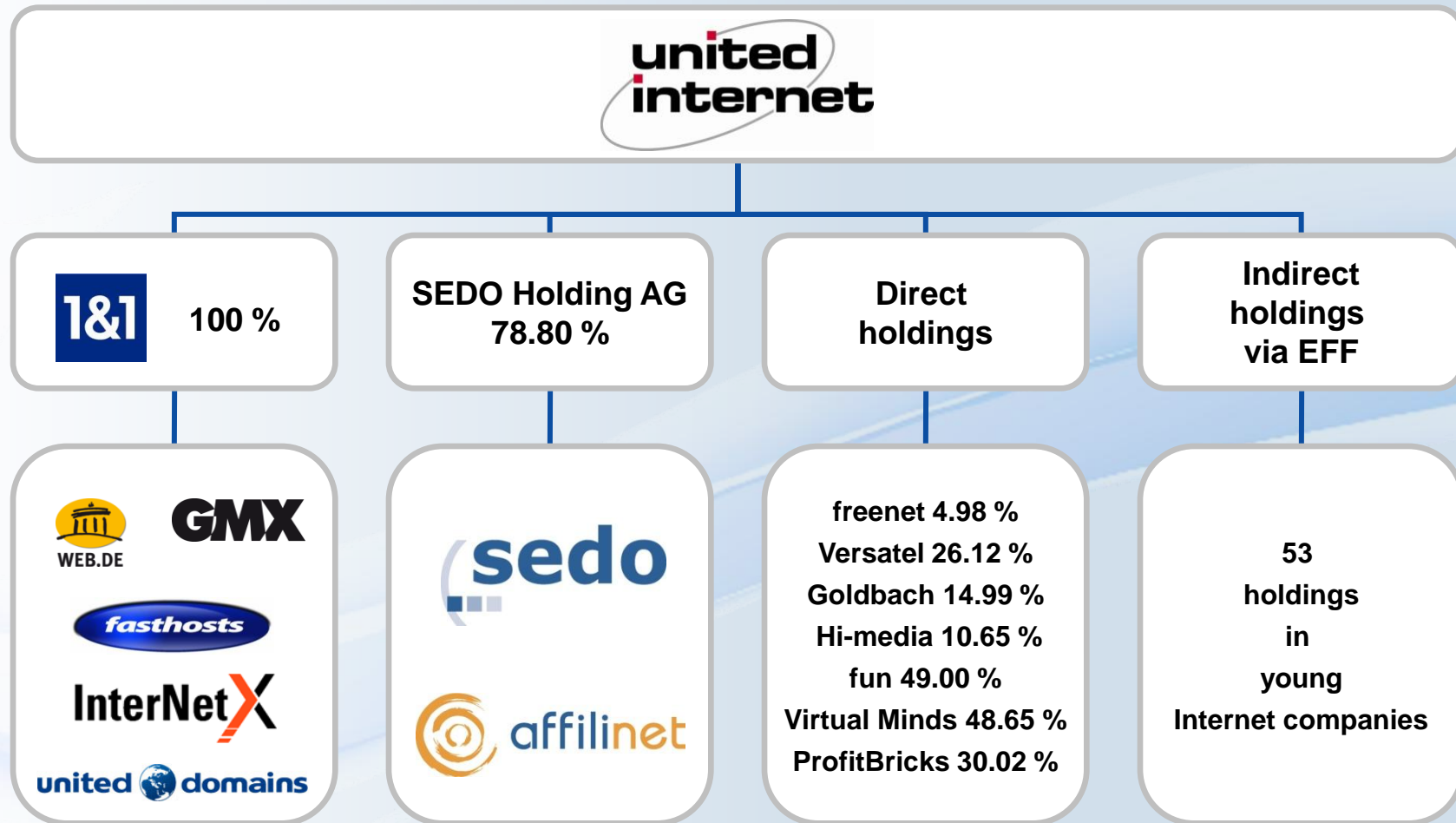
Linux Tag Berlin 11.05.2011
Henning Westerholt

Head of IT Operations Internet Access & Communications

- **1&1 – Member of United Internet**
- Locations and Infrastructure
- Linux at 1&1
- Working at 1&1

- 1&1 Internet AG
 - Since 2006/2007 with software development
 - Now with IT Operation
 - Located in Karlsruhe, Germany
- Kmailio Open Source project
 - Core Developer
 - Member of management board
- Part of the much bigger group that design, build and also operate the services I'll present in this talk
- Interested in Open Source and Open Systems

1&1 – Member of United Internet AG



Access

Applications

Networks

Content

**User
Equipment**

**Standard
Software**

Motivated Team

- more than 5,100 employees, of which 1,100 in product management, development and data centres

Sales Strength

- 2 million new contracts p.a.
- 40,000 registrations for free services every day

Operational Excellence

- 37 million accounts in 9 countries
- 5 data centres
- 70,000 servers in Europe and USA

- ☐ 1&1 – Member of United Internet
- ☒ **Locations and Infrastructure**
- ☐ Linux at 1&1
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1&1 Locations

1&1



5 high-performance data centers on 2 continents

1&1

■ Statistics

- 70,000 server
- 9.76 million customer contracts
- 28 million free accounts
- Hosting of 11 million domains
- more than 5 billion E-Mail/month
- 9,000 terabyte/month data transfer

■ Almost 100% reliability for data centers

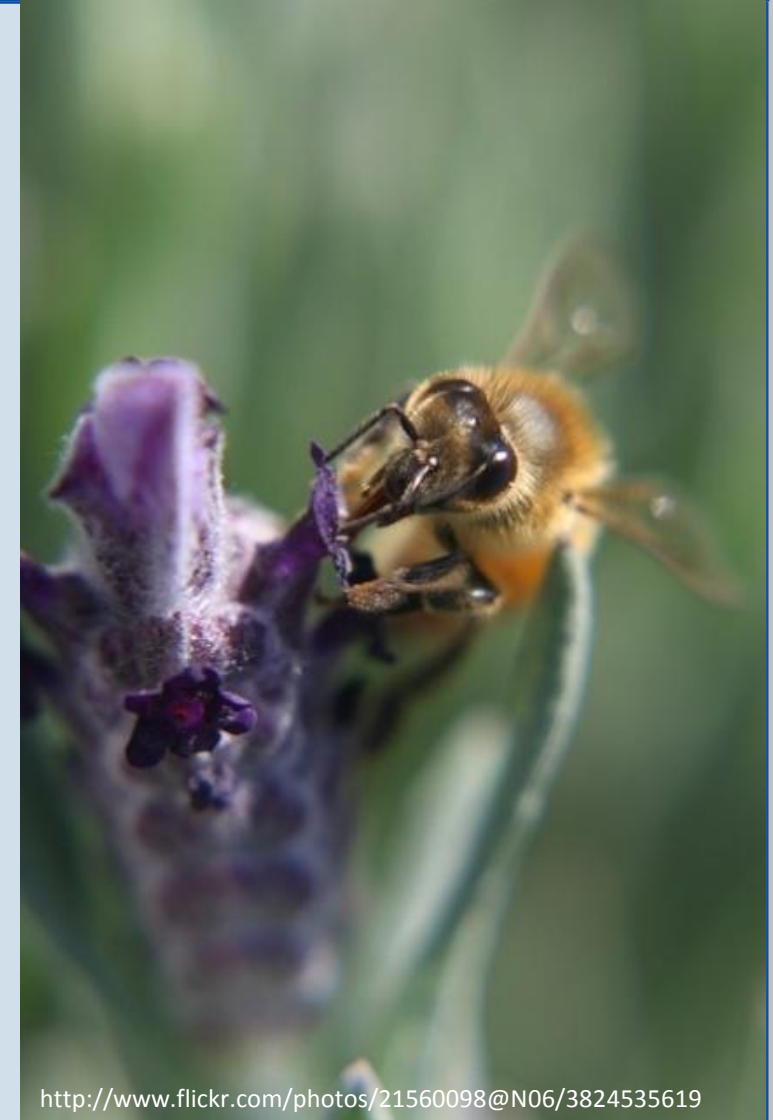
- Redundant infrastructure on several levels
- Maintained 24/7 from experienced specialists
- Own metro-networks on our locations
- More than 200Gbit/s global external bandwidth
- Peering with largest Internet-exchanges

■ Operated with green energy



- ☐ 1&1 – Member of United Internet
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- ☐ Working at 1&1

- Linux enables us to provide exciting, reliable and also cost efficient products
- Its high flexibility allows us to customize existing components all over the stack(s)
 - Portal
 - Web hosting
 - Access products
 - Application servers
 - Storage and databases
- Active support of Open Source projects
 - Founding
 - Upstream participation
 - Contribution of code, quality assurance..
- Development and operation knowledge
 - Dedicated kernel developers and experts
 - Core developers for important components



<http://www.flickr.com/photos/21560098@N06/3824535619>

- pronounced ['kuksdu:]
- Comprehensive and innovative framework for creating desktop-style web applications (e.g. rich internet applications)
- Object orientated Java Script, no HTML, CSS or DOM knowledge needed
- Used in important products
 - GMX free web mail service with more than 13 million members
 - Web.de SmartDrive GUI
 - customer shop system for hosting
- Founded from 1&1 in 2005
 - 9 core developers employed in Karlsruhe and Bucharest
 - Important participations also from other companies, more than 70 developers
- Dual license LPGL/ EPL
- Hosted on sourceforge.net
- More information: <http://qooxdoo.org/>

Showcase: qooxdoo

1&1

GMX - E-Mail, FreeMail, Themen- & Sh...

Meine Logins

Suchen mit Google

PRODUKTE

MEIN GMX

E-Mail

E-Mail schreiben

E-Mail schreiben

E-Mail schreiben

Posteingang

Ordnerwahl

Virenschutz

E-Mail-Adressen

Push E-Mail

IMAP

SMS-Alarm

Filterregeln

Optionen

Mail Info Service

GMX Mobile

Instant Messaging

SMS und MMS

Fax und Voice

Adressbuch

Organizer

MediaCenter

Mein Account

Sonstige Optionen

FreePhone **NEW**

Internet-Zugang

Sicherheitspaket

BrandsToGo

MailDomain

GMX Premium

GMX Tools

Sie sind hier: [GMX Homepage](#) → [Mein GMX](#) → [E-Mail](#) → [E-Mail schreiben](#)

E-MAIL SCHREIBEN

Von: Priorität: normal

An: [aus Adressbuch](#) [CC / BCC](#)

Betreff: [Text-Editor](#)

☐ Empfänger per SMS benachrichtigen (2)

senden

Schriftart: Schriftgröße: F K U AB T

Dateianhänge zur E-Mail

Wählen Sie eine Datei von Ihrem PC oder aus Ihrem [MediaCenter](#)

Datei: [Durchsuchen...](#) [Datei hinzufügen](#)

1&1 Dynamic Cloud Server

Alle 1&1 Produkte Service Beratung / Kontakt

Virtual Server **Dynamic Cloud Server** Dedicated Server

1&1 DYNAMIC CLOUD SERVER

Heute 10 und morgen 1.000 Kunden?

DIE INDIVIDUELLE SERVER-LÖSUNG!

Server-Konfiguration nach Bedarf ändern!
Jederzeit, während der gesamten Vertragslaufzeit!

- Eigene dedizierte Serverumgebung mit vollem Root-Zugriff.
- CPU-Anzahl, Festplattenspeicher und Arbeitsspeicher jederzeit flexibel nach Bedarf einstellbar.
- Linux- oder Windows-Betriebssystem, Parallels Plesk Panel 10 vorinstalliert.
- 24/7 Hotline und Support.

NEU:
Jederzeit die Verfügbarkeit Ihres Servers im Blick – jederzeit Ihren Server mobil managen
Mobile Server Apps

Konfigurieren Sie Ihren 1&1 Dynamic Cloud Server

Betriebssystem: ☒ Linux ☐ Windows

CPU-Anzahl: 1 2 3 4

Festplattenspeicher (GB): 100 300 500 700

Arbeitsspeicher (GB): 1 5 10 15

Traffic (GB): 1000 10000 unlimited

AKTION: UNLIMITED

Konfigurations-Empfehlungen nach Verwendungszweck: [Eigene Einstellungen verwenden](#)

[Alle Features des 1&1 Dynamic Cloud Server anzeigen](#)

69,99 €/Mon.
Für 3 Monate
30,- €/Mon.
danach 69,99 €/Mon.

[auswählen](#)

Fertig

Showcase: Kamailio



- VoIP backend at 1&1 operated mainly with Open Source components
- One of the biggest deployments of its kind, started in 2005
- Data
 - Over three million customers on the platform
 - Interconnections to Telefonica, Vodafone and QSC
 - More then 1 billion minutes per Month to the PSTN
- Geographical redundant backend in a load-sharing setup
- Focus towards small businesses and home users
- Current interesting topics are IPv6 and LTE



<http://www.flickr.com/photos/21560098@N06/3831347566>

- High-performance and flexible SIP server for the development of medium to large voice over IP infrastructures
- Usable as routing engine and application server
- Main building block for our VoIP backend
- Project founded in 2001
 - 4 core developers employed in Karlsruhe and Bucharest
 - Development in a team with many other companies, more than 25 developers
- Contribution on many levels
 - Several modules and core parts
 - Upstream migration of most of our internal patch set
 - Participation at community events, also here at LinuxTag
- GPL license (some parts also BSD)
- Operate its own development infrastructure at sip-router.org
- More information: <http://kamailio.org>

Showcase: core system and infrastructure



- Provide a stable and high-performance core system for our products
- Own customized Linux distribution based on Debian
- Standard components, like
 - Linux kernel (obviously)
 - Java application server (Jboss)
 - Relational database engine (MySQL)
- Customized components where its necessary
 - Development of a dedicated file system event monitor
 - Apache modules for our hosting infrastructures
- Standard build infrastructure mini-buldd
 - Easy-to-setup Debian auto builder and repository
 - For add-ons to existing distributions with extensive package checking
- Founded and maintained from 1&1
- <http://packages.debian.org/squeeze/mini-buldd-bld>

- Linux enables us to provide exciting, reliable and cost efficient products
- Its high flexibility allows us to customize existing components
- Contributing back to the community in many cases
- Detailed technical expertise and knowledge
- Several successful company supported projects
 - Qooxdoo
 - Kmailio
 - Mini-build
- They are of course more, not covered in the talk, like
 - Stubbles PHP framework (<http://stubbles.net/>)
 - XP Web framework (<http://xp-framework.net/>)
 - DRBD Feature sponsoring (long range replication support in 8.3.10)
- Linux and Open Source contributed a lot to our success

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- ☐ Locations and Infrastructure
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- ☒ **Working at 1&1**

At 1&1 you can find a large number of fields of activities, such as

- Webhosting
- Internet Access, Mobile
- Portals, Information Management
- Online Media Marketing

In these fields we offer a wide selection of job profiles, for example in the technical or creative environment

- Software development and system administration
- (Technical) product management and project management
- Media sales
- Design and production
- Website management
- Finance / Accounting and Human Resources

Our offer

- Competitive and performance-related compensation
- Extensive additional benefit package
- A strong, successful and excellent team

The working environment

- Owner-managed company
- Flat hierarchies, fast decision-making processes
- Start-up culture combined with the security of an established, international 1&1
- Dynamic, performance-oriented colleagues

Products and technology

- Innovative products, work time-to-market
- Exciting challenges in the company and internal development
- High standards for solid, innovative and scalable technologies

Thanks for your attention!



Questions?

- Qooxdoo user and developer list
 - <http://qooxdoo.org/>
- Kamailio users and developers list
 - <http://www.kamailio.org/>
 - <http://www.sip-router.org/>
 - Booth 112 in hall 7.2b
- Henning Westerholt
 - henning.westerholt@1und1.de
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