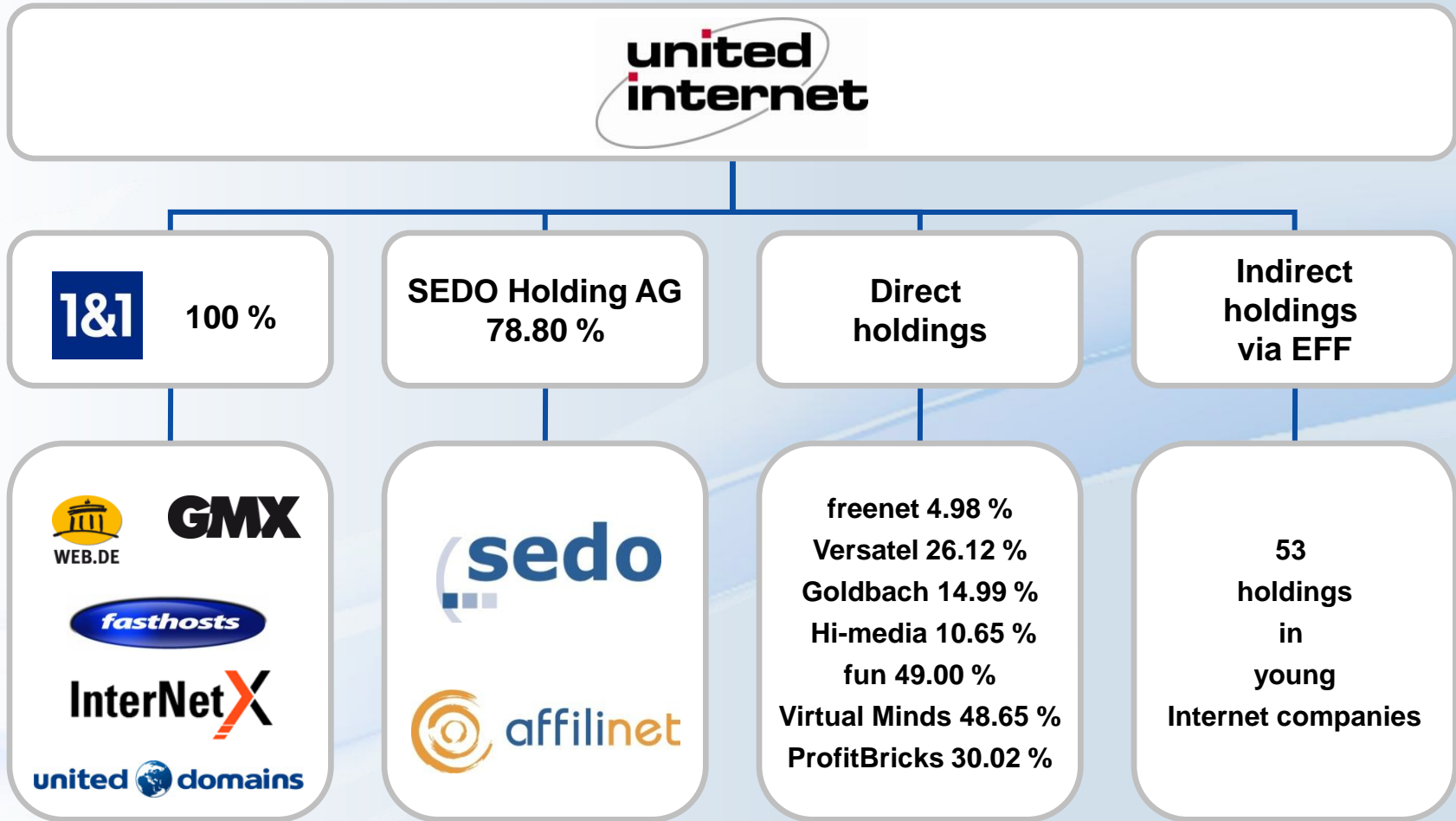


Linux at 1&1



Linux Tag Berlin 11.05.2011
Verena Amann, Henning Westerholt

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



Access

Applications

Networks

User
Equipment

Motivated Team

- more than 4,500 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

Content

Standard
Software

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1&1 Locations



5 high-performance data centers on 2 continents

■ 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

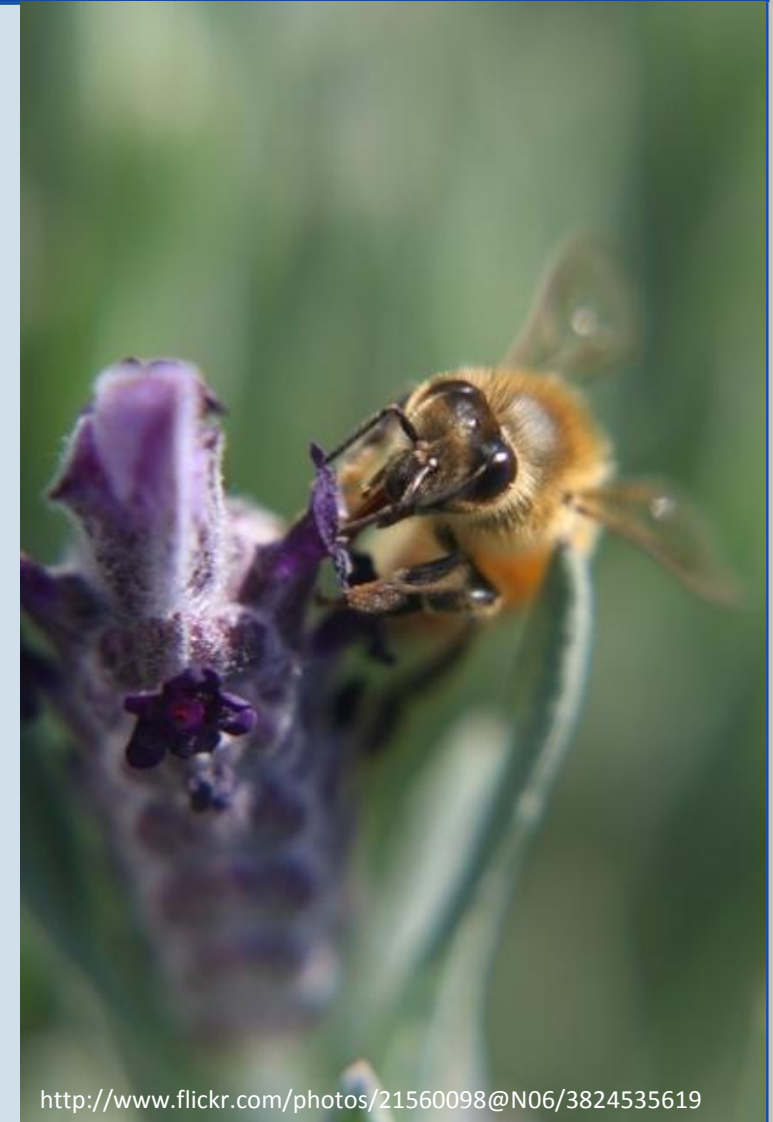
■ Operated with green energy



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- 1&1 Internet AG
 - Since 2006/2007 with software development
 - Now with IT Operation
 - Located in Karlsruhe, Germany
- Kamailio 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

- 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

The screenshot shows the GMX webmail interface. The browser address bar displays the URL: `http://service.gmx.net/de/cgi/g.fcgi/application/navigator?CUSTOM`. The page title is "GMX - E-Mail, FreeMail, Themen- & Sh...". The left sidebar contains a menu of services including "E-Mail", "E-Mail schreiben", "Posteingang", "Virenschutz", "SMS-Alarm", "Filterregeln", "Options", "Mail Info Service", "GMX Mobile", "Instant Messaging", "SMS und MMS", "Fax und Voice", "Adressbuch", "Organizer", "MediaCenter", "Mein Account", "Sonstige Optionen", "FreePhone", "Internet-Zugang", "Sicherheitspaket", "BrandsToGo", "MailDomain", "GMX Premium", and "GMX Tools". The main content area is titled "E-MAIL SCHREIBEN" and includes fields for "Von:", "An:", "Betreff:", and "Priorität: normal". There is a "senden" button and a "Text-Editor" option. Below the fields is a rich text editor with various formatting tools. At the bottom, there is a section for "Dateianhänge zur E-Mail" with a "Datei:" field and "Durchsuchen..." and "Datei hinzufügen" buttons.

The screenshot shows the 1&1 Dynamic Cloud Server configuration page. The browser address bar displays the URL: `http://www.1und1.info/km/order/CloudDynamicServer.jsessionid=377CD053B4F8D69E0A0CAA7CF018C`. The page title is "1&1 Dynamic Cloud Server". The navigation menu includes "Virtual Server", "Dynamic Cloud Server", and "Dedicated Server". The main heading is "1&1 DYNAMIC CLOUD SERVER" with the subtext "Heute 10 und morgen 1.000 Kunden?". The section "DIE INDIVIDUELLE SERVER-LÖSUNG!" features a "Server-Konfiguration nach Bedarf ändern! Jederzeit, während der gesamten Vertragslaufzeit!" and a list of benefits: "Eigene dedizierte Serverumgebung mit vollem Root-Zugriff", "CPU-Anzahl, Festplattenspeicher und Arbeitsspeicher jederzeit flexibel nach Bedarf einstellbar", "Linux- oder Windows-Betriebssystem, Paralleles Plesk Panel 10 vorinstalliert", and "24/7 Hotline und Support". A "NEU:" banner highlights "Jederzeit die Verfügbarkeit Ihres Servers im Blick - jederzeit Ihren Server mobil managen" and "Mobile Server Apps". The configuration section "Konfigurieren Sie Ihren 1&1 Dynamic Cloud Server" includes sliders for "CPU-Anzahl" (set to 2), "Festplattenspeicher (GB)" (set to 300), "Arbeitsspeicher (GB)" (set to 4), and "Traffic (GB)" (set to unlimited). A "Betriebssystem:" section has "Linux" selected. A "KONFIGURATIONSEMPFEHLUNG" section shows "Aktion: UNLIMITED" with a price of "30,- €/Monat" for 3 months, and "danach 69,99 €/Monat". An "auswählen" button is present. The footer includes "Fertig" and "Alle Features des 1&1 Dynamic Cloud Server anzeigen".

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 than 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



- 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-buildd
 - 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-buildd-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-buildd
- 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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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
- Jobs:
 - <http://www.united-internet.de/Jobs>
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