



Linux in the City of Munich (AKA LiMux)

A 2015 status update

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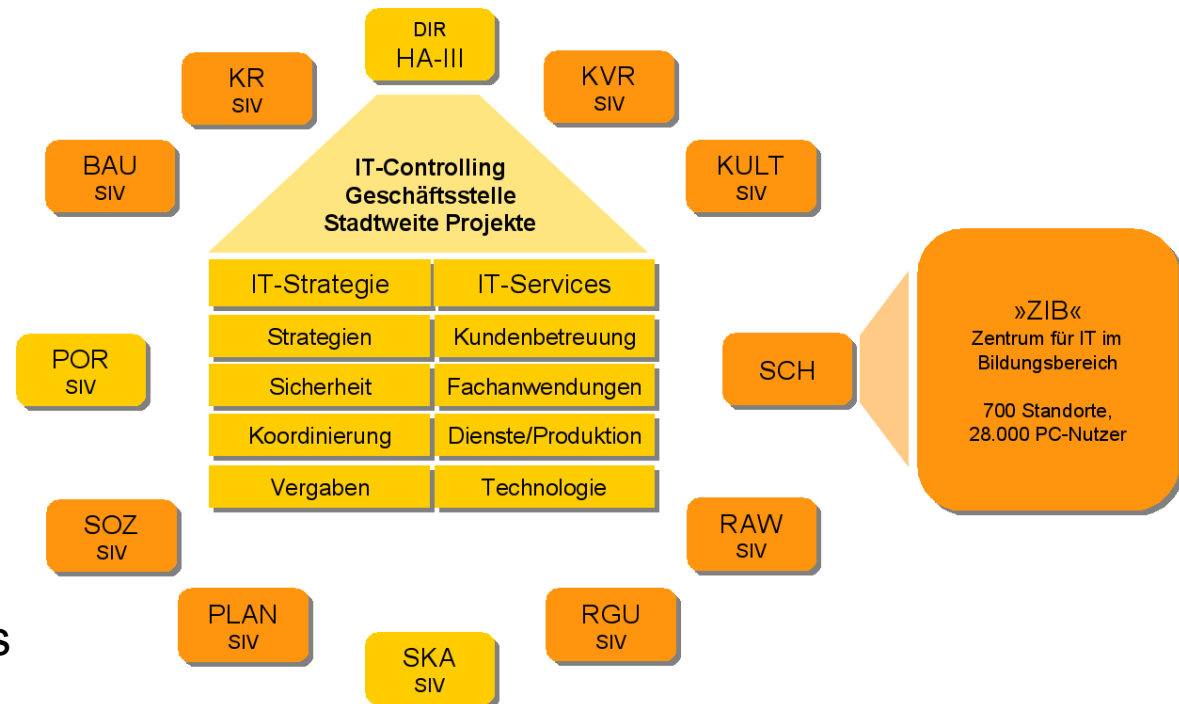
DebConf 15, Heidelberg, 15. August 2015



City facts



- 1.5 million residents
- 3rd largest city in Germany, 12th in Europe
- ~ 33 000 employees
 - ~ 1 000 IT personal support + admins + devs
- ~ 24 000 PC workstations
- ~ 50 operating locations
- 22 independant IT departments
 - heterogeneous infrastructure



2012: all IT employees were moved into an owner-operated municipal enterprise (it@M).
2015: most staff and services were centralized and moved to new building.

Brief history



2001	IT internal migration discussions
2003	IT: We have to migrate from Windows NT 4 (EOL). City council: What options do we have?
2004- 2005	City council: We'll migrate to Linux! Project goal: migrate 80% to Linux (~12 000 of 15 000 PCs) Tender for migration support, Linux Client Team formed
2006	First Linux Client beta released, first PC migrated
2010	Open Office and WollMux rollout finished Office migration and template consolidation
2011	Half of the expected PCs are migrated
2013	LiMux project finished , ~ 15 000 PCs migrated
2015-08	Linux is still growing in city-wide use, ~ 18 000 PCs migrated



Tech facts – LiMux release

- Current Release: 5.0
frozen in DAK @ 2014-11-27
- Based on Kubuntu 12.04 with KDE 4.12 from PPA
big thanks to the Kubuntu community for the backport!
- Firefox and Thunderbird ESR (patched for KDE4)
- LibreOffice 4.1+ (plus = 300+ patches) + WollMux

269 changed source packages (patched or backports)

3950 binary packages (not all installed)

Tech facts – Client management

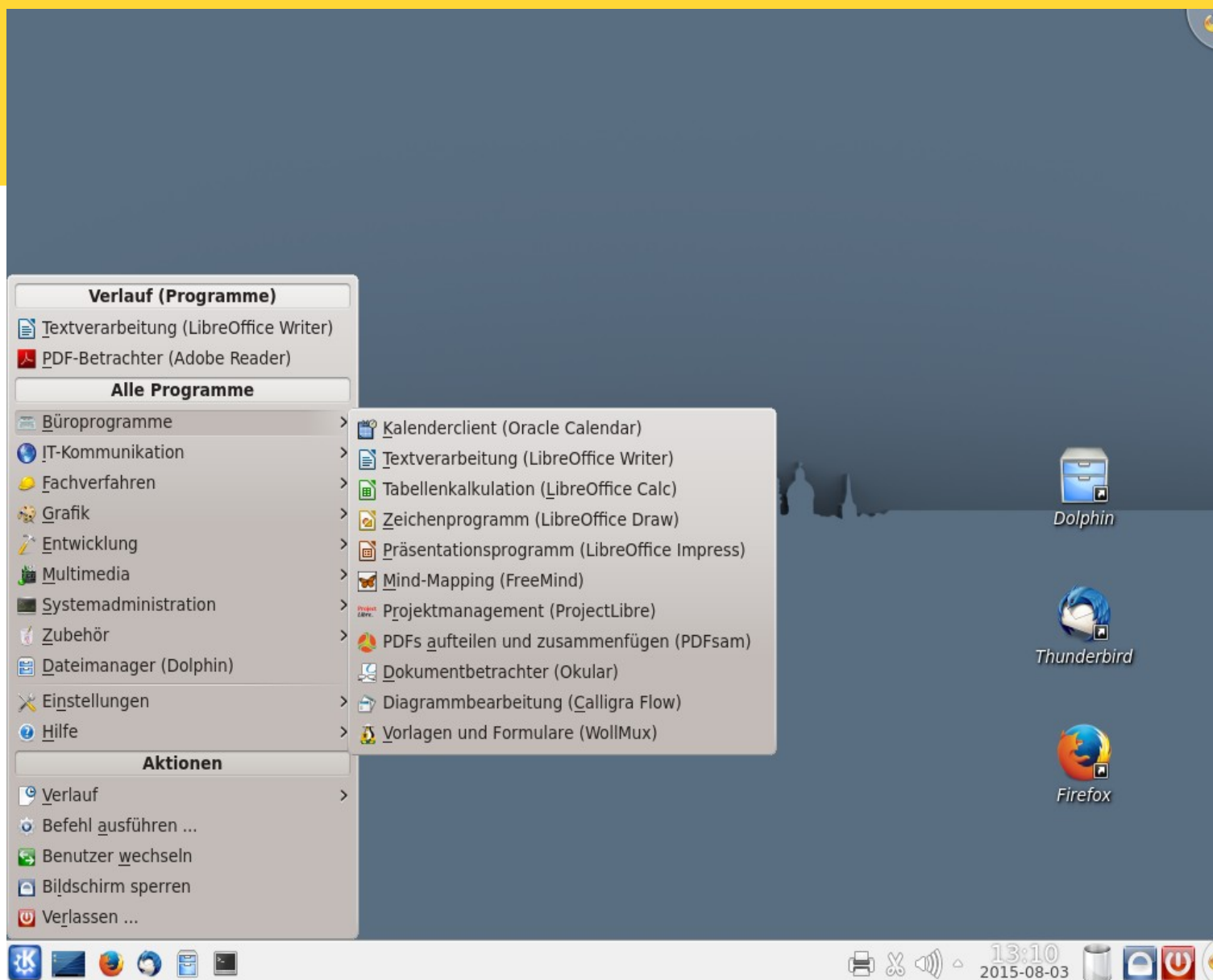


- GOsa² – LDAP management tool (github: credativ/limux-gosa)
Manages host and user configuration and triggers installations
- FAI (github: ihm-limux/fai)
Fully Automated Installation based on GOsa² LDAP data
- Client and user configuration management infrastructure
 - application preconfiguration, KDE menu generation, host settings, FAI integration, network share mounting (CIFS, Novell), printers, sudoers, roaming profile sync, Xorg configuration, USB storage devices
 - Finally (almost) completely Python 2 based
 - Reads / caches configuration from GOsa² managed LDAP
 - Please poke city to release sources as Free Software!



Release primary install targets

- **Basisclient**
Normal user workstation, fully managed. Has almost all software installed. Menu is configured on login based on GOsa² data.
- **Notebook**
Almost as the normal client, but with some additional config. Just useable in the citys intranet (backbone) or offline, fully managed.
- **Outback client**
Almost standard Kubuntu release with LiMux look and feel and some additional packages. Used for external jobs, not managed. Not useable in the citys intranet.
- **Verteilserver**
Cascadable FAI install server with local GOsa² and SW repositories but central LDAP. Used to distribute load for installations.



Snapshot from a fresh installed LiMux client Release 5.0



Release cycle 5.0 – we're soo late

- Ubuntu release LTS 12.04 (Q2 2012)
- Waiting at least for the first point release (Q3 2012)
- Port initial SW distribution server and minimal client (Q4 2012)
- LiMux development started (Q1 2013)
- Original development plan almost realized (Q4 2013)
 - But LibreOffice 4.1.2 in has unacceptable shortcomings: KDE4 broken, mail merge broken and slow, API broken since OOo 3.2.1, Macros + WollMux need adaption, LO needs fixes
- Development finished – first Beta (Q2 2014)
- Testing finished start – first RC (Q4 2014)
- Final release – 2014-12



Major problem: HW support

- 18 000 PCs, max ½ year of HW in stock
- Ubuntu Hardware Enablement Stack (HWE)
 - Backported Kernel, DRM, Mesa, Xorg, xorg-drivers
 - Supplied every ½ year until next LTS (2 years)
 - Just original HWE and next LTS HWE supported
 - Interim HWE just supported until next LTS HWE appears
- Currently: 1 HWE per Release
 - Long test cycle, all HW needs re-tests
- Future: Hardware specific HWE, just new HW has to be tested



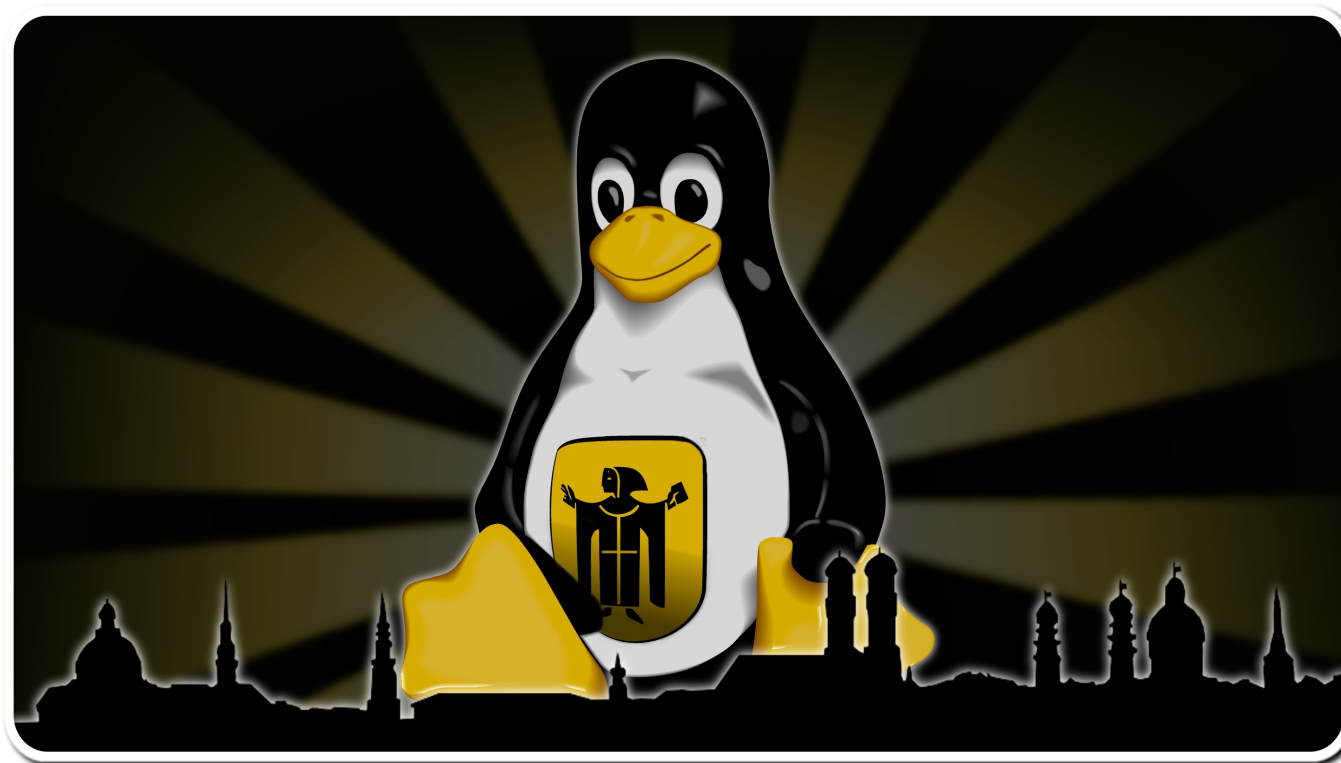
Future plans

- Current large IT projects affecting Linux
 - Internal LDAP reorganization
 - MigMak = Kolab rollout, 1st using Kontact on Windows in large
- Dist-upgrade 5.0 to 14.04 to get security updates until 19.04
- LiMux 6.0 based on Ubuntu LTS 18.04 (KDE5, systemd, 64bit)
- New Gosa 2.8 (github: mbenkmann/limux-gosa)
 - New infrastructure agent to handle linux systems (go-susi)
 - Download specific FAI config space as tar

Further information and contact



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<https://joinup.ec.europa.eu/elibrary/case/limux-it-evolution-open-source-success-story-never>