

Migration to Hybrid Clouds

BME Thementag Cloud Computing

Köln, 27.9.2011



zumtobel group

We want to use light to create worlds of experience, make work easier and improve communications and safety, while remaining fully aware of our responsibility for the environment.

Contents at a Glance

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Overview Zumtobel Group



zumtobel group

A Portrait

The Zumtobel Group: a global player in the lighting industry

Brands: Thorn, Zumtobel, Tridonic and Ledon

22 production plants on four continents

Sales in over 100 countries

- European market leader in professional lighting
- World's No. 4 in the components business

€1,228.2 million in annual revenues*

€78.4 million in operating earnings (adjusted EBIT)*

7,814 employees**

- 1,840 of which at headquarters in Dornbirn (A)
- plus 150 apprentices

*FY 2010/11 **on balance sheet date 30.04.2011 / full-time equivalents incl. contract workers

From light source to lighting solution

Together our brands cover the entire value chain



Zumtobel

The innovation leader for integral lighting solutions

The brand

- International premium brand for integral lighting solutions
- Collaboration with prominent artists, designers and architects is a valuable innovation driver

Market and customers

- 50 company sales organisations and representatives in 70 countries
- Focus on project business, sales via networks
- Target group: property developers, architects, lighting designers, electrical designers, electricians

Products and application areas

- High quality luminaires and lighting control systems, outstanding product design and superior lighting technology
- For all key application areas in professional indoor and facade lighting



Zumtobel

References



Project: MAXXI Museum, Rome/ IT (2010)

Architect: Zaha Hadid / Patrik Schumacher, Rome

Lighting design: Equation Lighting, London/UK

Products: VIVO, TECTON, ARCOS, LUXMATE



Project: VHV office building, Hanover/ D (2010)

Architect: BKSP Grabau Leiber Obermann & Partner

Lighting design: public areas: Lumen3

Products: LINARIA, LIGHT FIELDS free-standing luminaires



Project: Spar climate care market, Murau/ AT (2010)

Architect: Veider Röthl Kaltenbrunner

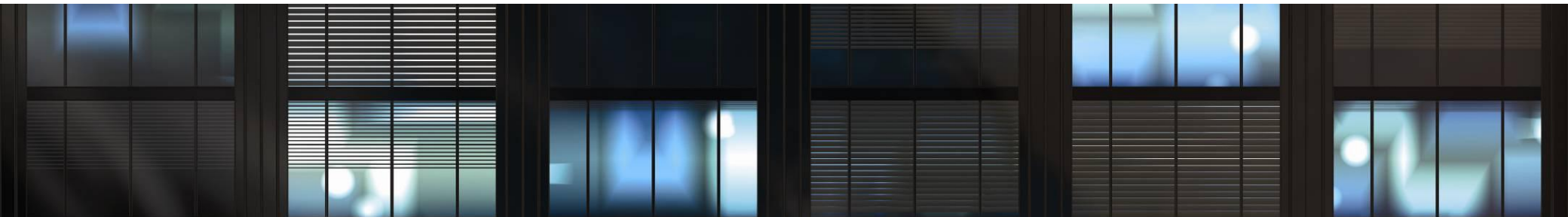
Electrical design: TB Mayr, Bruck a.d. Mur

Products: TECTON LED, SL 1000 LED, PANOS INFINITY

Growth driver: energy efficiency

Artificial lighting can make an enormous contribution to energy efficiency!

- Lighting consumes 19% of the world's electricity output
- 75% of office and industrial lighting systems in Europe are inefficient
- 30% of road lights use technology dating back to 1960



Growth driver: new markets

Above-average growth through greater market penetration

Growth markets

- China incl. Hong Kong
- Southeast Asia
- India
- Middle East
- Russia + Eastern Europe
- Southeast Europe incl. Turkey
- North America

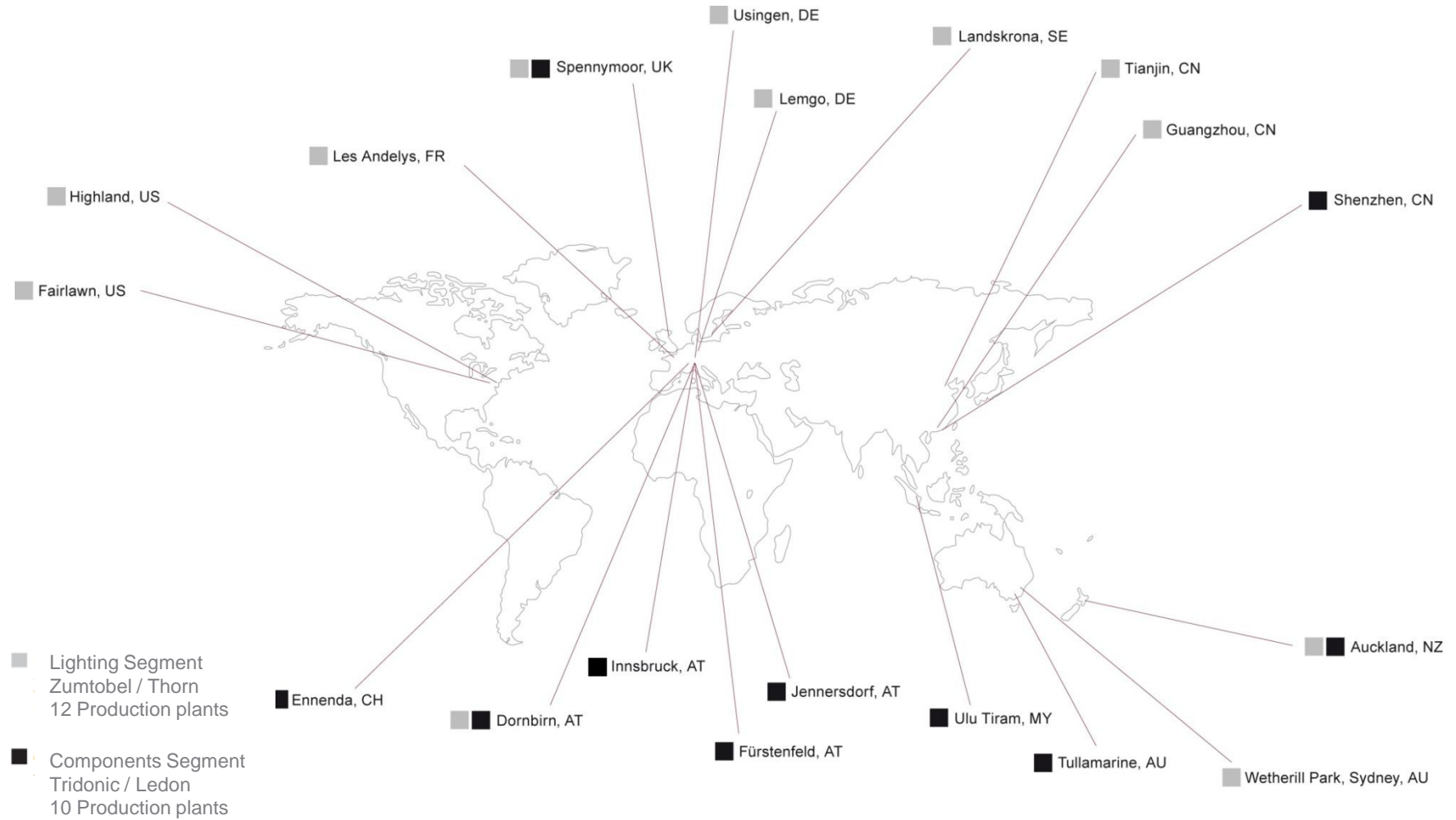
Measures

- Investment in brand communications
- Regionalised product portfolio
- Expansion of sales organisation and increased local presence
- Market proximity and flexible supply chain



International production network

Production close to the customer in core markets



Corporate IT



Technical Facts

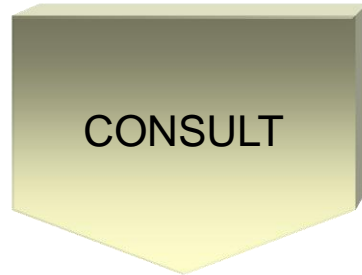
Technical Services

- 28 SAP-installations 10 productive
- 3.500 SAP-Users / 23 countries
- 35 TB data in SAP
- 2 Datacenters as disaster recovery SAP environment
- eServices-Landscape: 85 virtual on 9 physical servers

Infrastructure

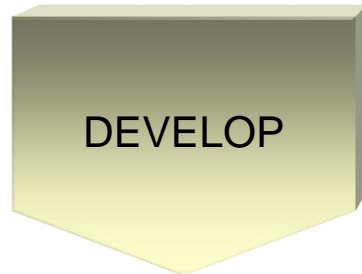
- 5500 PC Users, 1000 Printers, 300 System Servers
- 4500 PC operated by Atos Origin
- 120 Connected offices
- 1500 mobile users (VPN Token)

CIT is partner for all company processes across the whole value chain



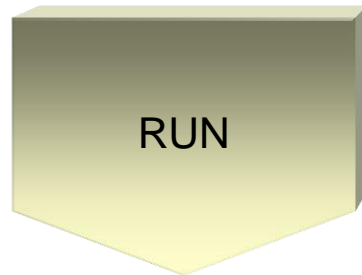
Consulting

- Understand the business and their challenges
 - Identify potentials in the business processes
- Classify business demands and deliver cost estimations
 - Standardise processes with harmonised solutions
- Integrate company processes with the appropriate technologies



Development, Enhancement and Rollout

- Service business projects with project management skills
 - Specify process & IT solutions
- Develop and enhance process & IT solutions
 - Coordinate suppliers and IT partners
- Launch and rollout process & IT solutions

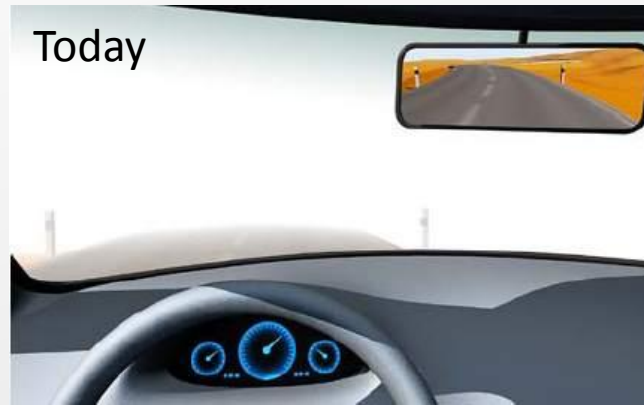


Support, Maintenance and Operation

- Run IT solutions
- Manage and fulfill agreed Service Levels
 - Provide help & support for IT solutions
- Select appropriate suppliers and IT partners
 - Manage suppliers and IT partners

Value of Corporate I.T.

Where intelligent information can enhance business performance



Challenge E-Business



E-Business Services

Corporate eBusiness

- Public & Private Customer Portal, Newsletter, Web Analyzing, Content management
- Cross media & Product information management (PDB, ePrint, eCatalogues, special marketing tools)
- Lighting Design Tools (best in lighting industry)
- Intranet (Collaboration Portal Lightweb, Document. WSS, Application platform MYNET, eLearning platform ILIAS)

eBusiness Services

- Lighting Business: approx. 1100, Tridonic: approx. 300 users in Marketing, Sales, Service
- Zumtobel: 21 websites in 12 languages (1.5 Mio visitors per year (increasing)
3.500 customers registered for private portal, 10.000 registr. for newsletters)
- Thorn: 19 websites in 12 languages, Tridonic: 3 websites in 2 languages
- Intranet: 4.800 Users

Typical Zumtobel E-Business Application – Map of Light

The screenshot displays the 'Map of Light' application interface. The browser address bar shows 'www.zumtobel.de/de/de/map_of_light_f.htm'. The navigation menu includes 'Suche', 'Home', 'Länderauswahl', 'Kontakt', and 'Sitemap'. The main navigation bar features 'Deutschland', 'Das Unternehmen', 'News', 'Produkte', 'Lichtlösungen', 'Service-Center', and 'Presse'. The 'Lichtlösungen' section is active, showing a map of Europe with project locations marked by colored circles and numbers. A sidebar on the right contains a 'Map Overview' section with a search box and a list of 721 of 812 projects. The sidebar also includes a 'Lighting solutions' filter menu with the following options:

- Deselect All
- Industry and Engineering
- Offices and Communication
- Education and Science
- Presentation and Retail
- Hotel and Wellness
- Art and Culture
- Health and Care
- Sport and Leisure
- Transit Areas and Parking
- Orientation and Safety
- LED
- Lighting Management

The footer of the application includes links for 'Impressum', 'Datenschutz', 'Nutzungsbestimmungen', 'AGBs', 'Hilfe', 'Feedback', and '5 Jahre Garantie'.

Mobile E-Business – Map of Light iPhone/iPad App



From Private to Hybrid Cloud



Definition Private Cloud

„ Use of Cloud Computing Technology within the private datacenter“

- All the benefits of Virtualised Data Center plus „Cloud“ features (according to NIST)

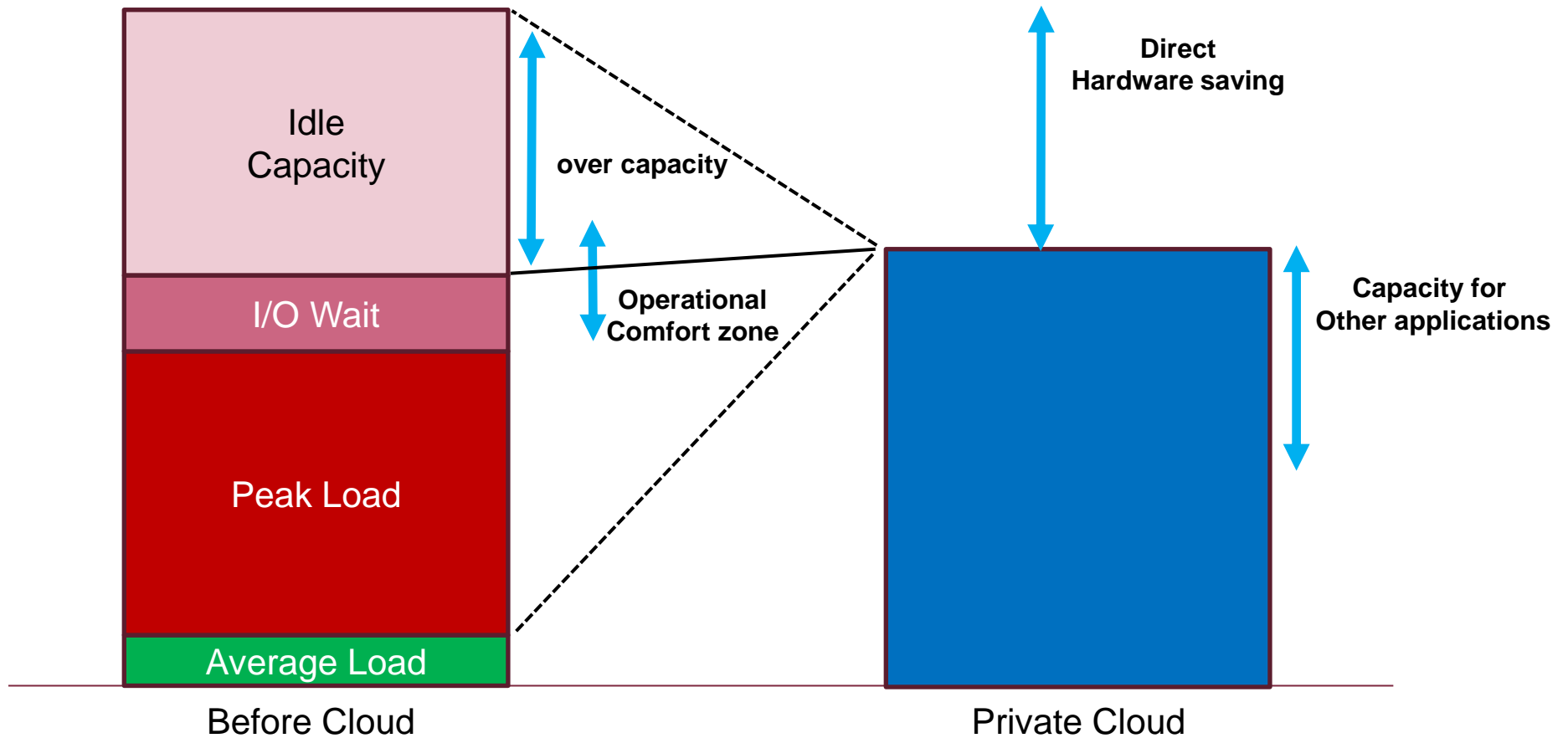


- Overall control resides at the Corporate IT Department

The Case for Private Clouds at Zumtobel

- migration to a private cloud environment
 - flexible and scalable
 - maximum usage of available resources (capacity management)
 - sustainable
 - in the future: on demand billing
- incentive to add applications into the ZUMTOBEL private cloud: further reduction of overall unit cost for application operation
- planned projects and resource pool ensure continuous improvement and knowledge transfer
- immediate reduction of monthly operational cost

CPU/Memory Sizing – Classic IT vs. Private Cloud



Hybrid Cloud

- **Definition (according to NIST)**

- *„A composition of two or more clouds e. g. private, community, public“ [..] bound together by standardized or proprietary technology that enables data and application portability“*

- **Key Argument**

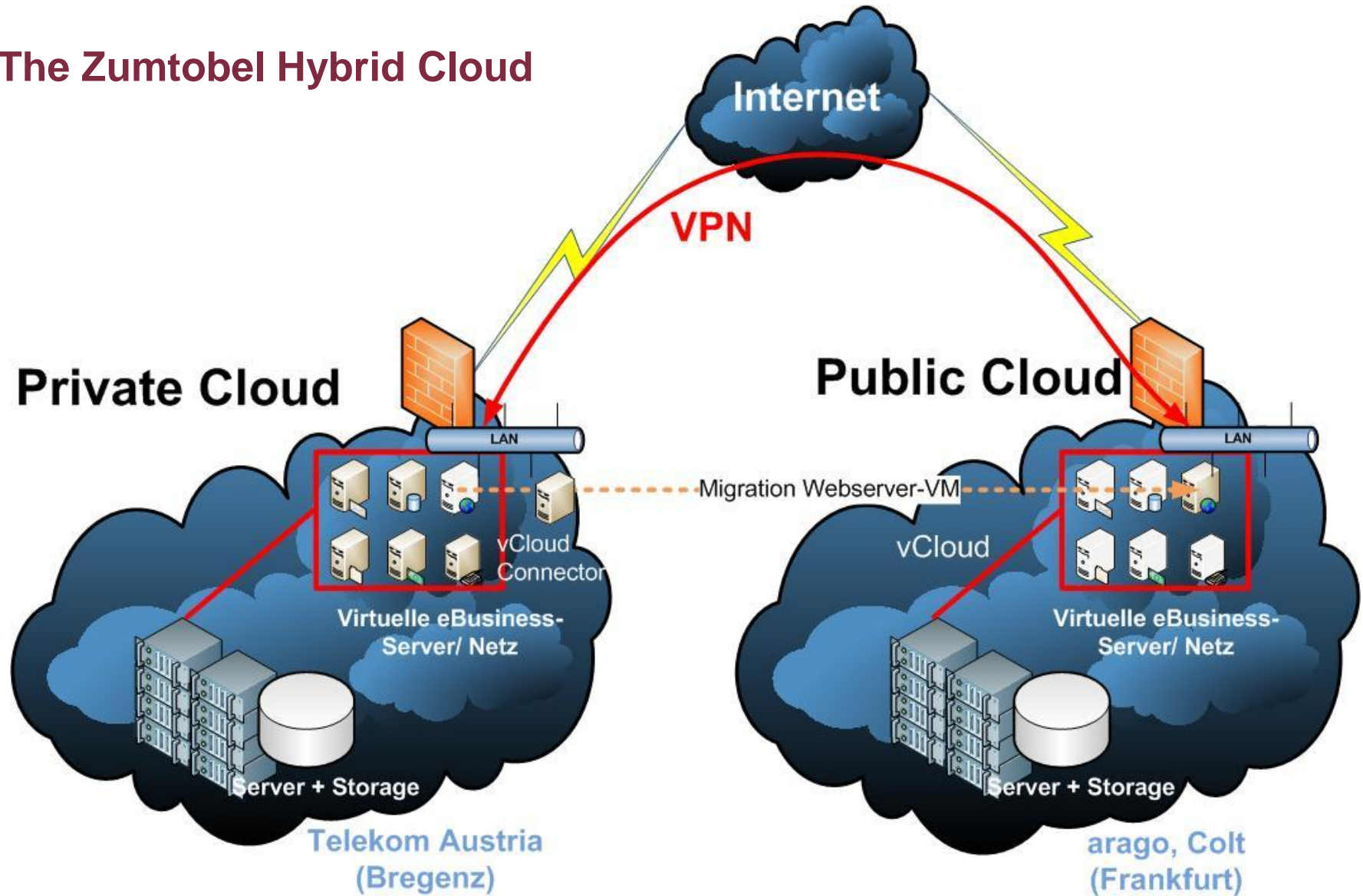
- “Breathing” Capacities

- add AND remove capacity dynamically following business demand
- multiple Cloud Providers available (arago, Colt)

- Sample Case at Zumtobel

- Live videostream at semi-annual results press conference

The Zumtobel Hybrid Cloud



No Cloud without Automation

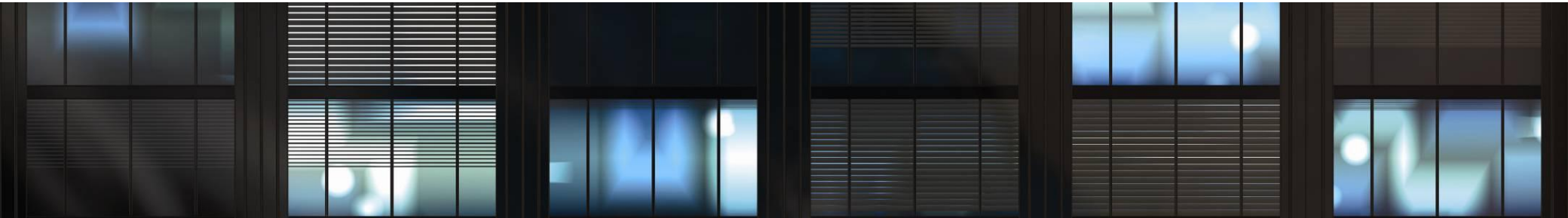
Cloud Computing adds complexity

- Because legacy landscape is migrated more complexity is added through cloud
- Additional tools for Cloud Management required
- Procurement efforts reduced but higher requirements for Operational processes

Key to Cloud Computing: Automated Operations

- *Key Automation tool: arago Autopilot for IT Operation*
- Dynamic Automation based on intelligent Algorithms
- Faster reactions in complex environments
- Compliance through detailed documentation

The Migration Project



Main Project Partners



Provides the worlds leading cloud infrastructure platform based on sophisticated virtualisation solutions.

Products used:

VMware vSphere

- Virtualisation platform

VMware vCenter

- Operations Management

VMware vADM

- Application Discovery Manager



The German specialists for Automated IT Operations, E-Business Portals and Cloud Computing are involved in operating the Zumtobel E-Business portals since 2006.

Products used:

arago WebFarm

- Managed Services

arago Autopilot for IT Operations

- Model and Knowledge based Automation

Project Facts

- 62 physical servers migrated to 9 physical servers as hosts for virtualized systems

- Project team
 - 10 Zumtobel operational experts involved
 - 15 external and Zumtobel developers involved
 - 6 arago operations and automation experts involved

- 6 months July to December 2010
 - Migration of whole environment took 8 weeks (Sept./Oct.)

- 3 Phase migration
 1. Systems, that were already virtualised (copy)
 2. Systems, that could be migrated using standard VMware tools (minor manual efforts)
 3. Critical systems requiring complete reinstall

Benefits Primary Project Goals

Cost reduction

- Cost reduction by using available technical and operational resources
- Further cost reduction outlook for the future

Quality operation

- Minimum 99,5% availability for all major applications
- Performance view

Scalability

- Highly scalable technical and operational environment
- In time reaction to business activity without technical preinvest
- In the future: on demand pricing model for ZUMTOBEL business lines

Benefits/Secondary Goals

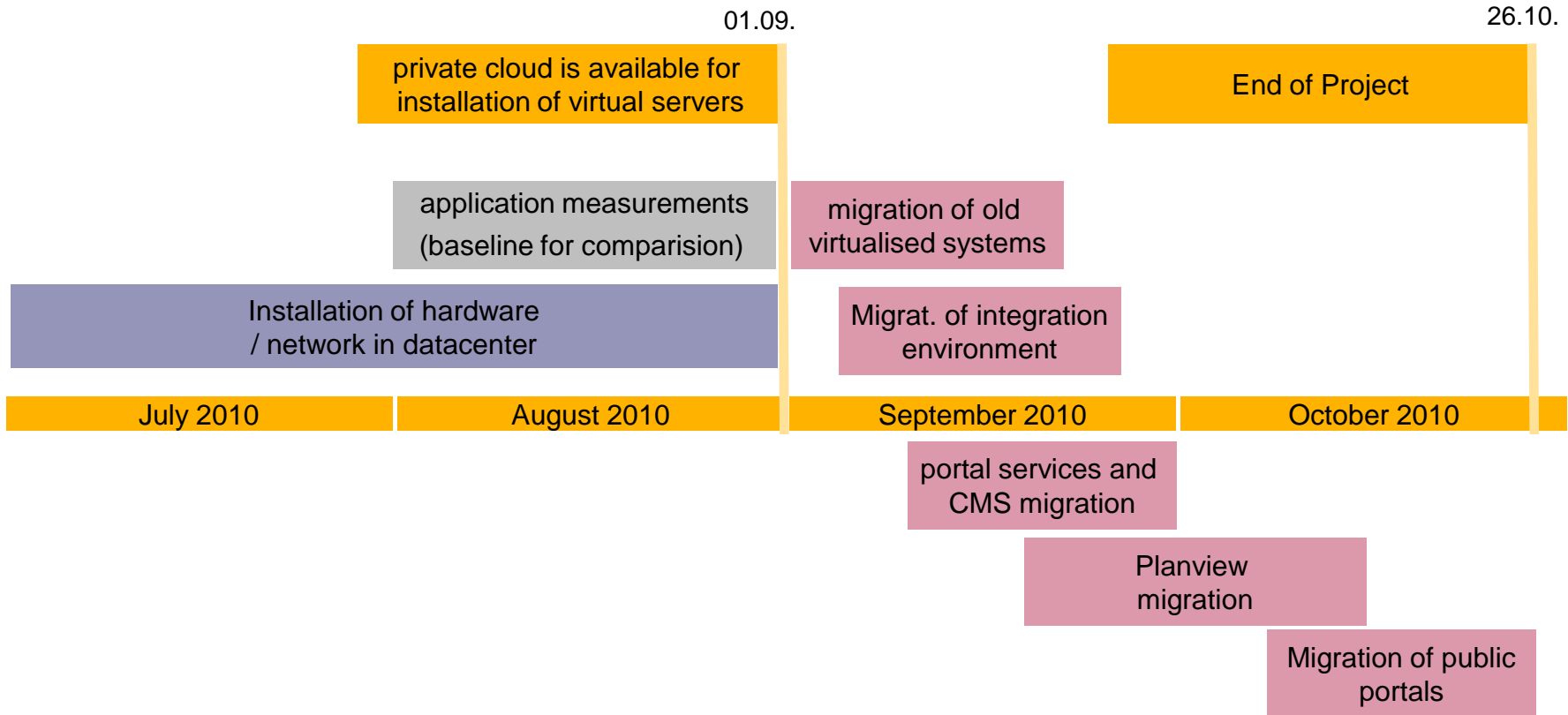
Reporting

- Quality of service reporting
- Capacity reporting
- Performance reporting

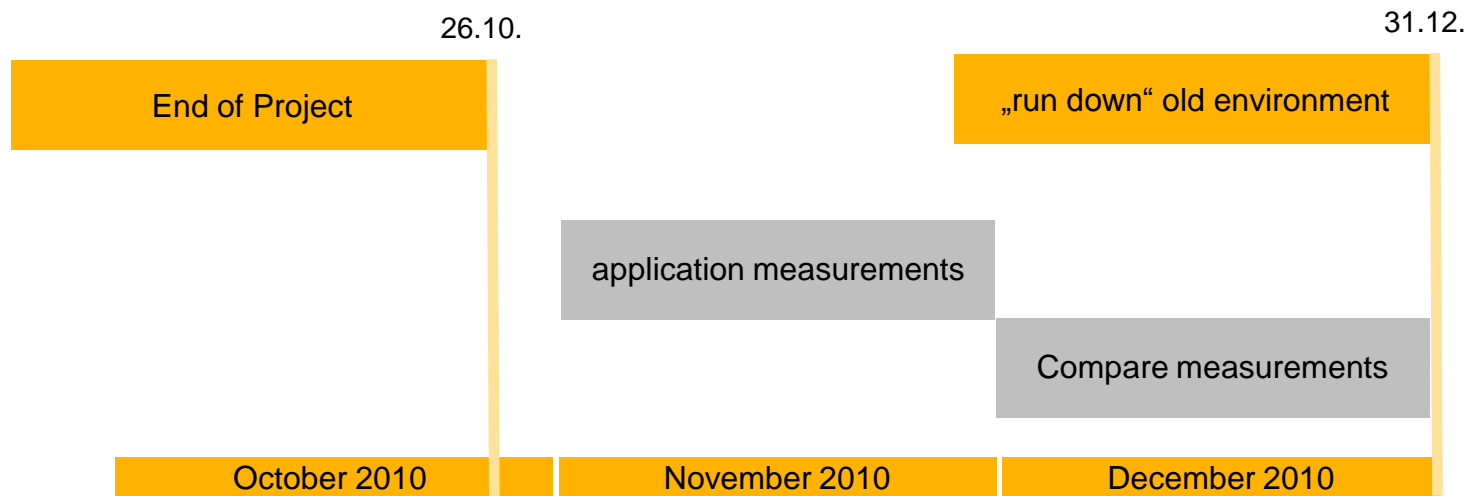
Continuous Improvement

- Regular architecture and infrastructure review
- Continuous knowledge transfer from Zumtobel development to arago operations
- Continuous knowledge transfer from arago operations to Zumtobel architects on platform performance and technical experiences
- IT operations is structured to enable adoption of current IT trends if they promise further reduction in cost or increase in service quality

Timeline Preparation and Migration



Timeline Fadeout of old Environment



Lessons learned

Executed as planned

Involved Business

- Keep Business users informed about time line and scheduled downtimes

Minimal Business impact

- Load-balanced public systems were migrated with zero downtime
- Optimized Downtimes (after European business times / weekends)

Sizing of the Private Cloud keeps up to promises

- 10 additional Systems deployed

Challenges faced

Monitoring and Reporting are more complex than expected and should be dealt with as a separate milestone

Zumtobel Group – Passion for Light

For further information, visit www.zumtobelgroup.com

Share chart and current financial information:

http://www.zumtobelgroup.com/en/investor_relations.htm

Vacancies and career entry:

<http://www.zumtobelgroup.com/en/careers.htm>

More about our commitment to sustainability:

<http://www.zumtobelgroup.com/en/1018.htm>

Thank You

Back up