LowTech GMmBH Techincal Transformation Milestone 1

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Abstract In this report, we as consultants from *Awesome Cloud AG* present a technical transformation analysis aimed at modernizing the infrastructure of *LowTech GmbH*, a small to medium-sized enterprise specializing in wooden furniture production. The analysis includes a critical assessment of the current infrastructure, energy consumption calculation for the existing setup followed by a detailed transformation roadmap of future-ready modern infrastructure and explanations of enhancements in scalability, availability, and security compared to current infrastructure. This analysis will serve as a foundational step for subsequent project phases, ensuring that *LowTech GmbH* is well-equipped to meet future requirements and challenges.

This is where the introduction (the prologue or foreword) comes in. The introduction should also be short and concise. The reader should be prepared for the text that follows. Of course, the introduction should also be formulated in an interesting way.

1 Overview of the problem

2 Objectives of the technological transformation

3 Assessment of the current (As-is) infrastructure

According to NIST definition of cloud computing is given as “Cloud computing is a model for enabling ubiquitous, convenient, on-demand network access to a shared pool of configurable computing resources (e.g., networks, servers, storage, applications, and services) that can be rapidly provisioned and released with minimal management effort or service provider interaction” [2].

3.1 Current traffic and usage

3.2 Scalability, availability and security analysis

3.3 Energy consumption and approximate cost

Energy consumption calculation for the as-in infrastructure of Low Tech GmbH is as follows :

Departments	Server (Qty x Power)	Client (Qty x Power)	Laptop (Qty x Power)	Total Power Consumption	Annual Energy Consumption(KWh)
Finance	1 x 1000W	4 x 500W	-	3000W	26,280
HR	1 x 1000W	3 x 500W	-	2500W	21,900
Warehouse	1 x 1000W	10 x 500W	-	6000W	52,560
Sales	1 x 1000W 1 x 1200W	-	10 x 50W	2700W	23,652
Operations	1 x 1200W	-	4 x 50W	1400W	12,264
Customer Service	-	-	5 x 100W	500W	4,380
Webshop	1 x 1200W	-	-	1200W	10,512

Table 1. Power Consumption by Department and Device Type

Total Energy Consumption (Annual) : 151,548 KWh (151.548 MWh)

According to Eurostat published data of electricity prices for non-household consumers [1], Low Tech GmbH falls under the annual energy consumption band 'IB (20 MWh to 499 MWh)' with energy price 0.3244 € per KWh.

Total Cost for Energy Consumption (Annual) : 151,548 KWh x 0.3244 € = 49,162.17 €

4 Client Requirements

5 Assessment of potential technological components

5.1 Hardware

5.2 Virtualization technologies

5.3 Application components

5.4 Platforms

5.5 Security components

6 Migration to a private-cloud context

6.1 Selected technologies

6.2 Architecture

6.3 Roadmap

6.4 Operation considerations

References

1. Eurostat. (2023). *Electricity prices for non-household consumers - bi-annual data (from 2007 onwards).* Retrieved November 16, 2023, from `https://ec.europa.eu/eurostat/databrowser/view/nrg_pc_205__custom_13581723/default/table?lang=en`
2. Mell, P. and Grance, T. (2011). *The NIST definition of cloud computing.* National Institute of Standards and Technology, Special Publication 800-145, Gaithersburg, MD. `https://nvlpubs.nist.gov/nistpubs/Legacy/SP/nistspecialpublication800-145.pdf`