

Smarter technology for all

Der Wasseranschluss im Rechenzentrum

AI/KI – mehr Leistung und ihre Folgen

Margarethe Andrich und Kilian Wammes / @ Infotech 19.11.2024

Lenovo

Was ist KI?



**Dort wo der Hype
aufhört, findet
sich der
Mehrwehrt!**



KI im praktischen Einsatz



Medizin

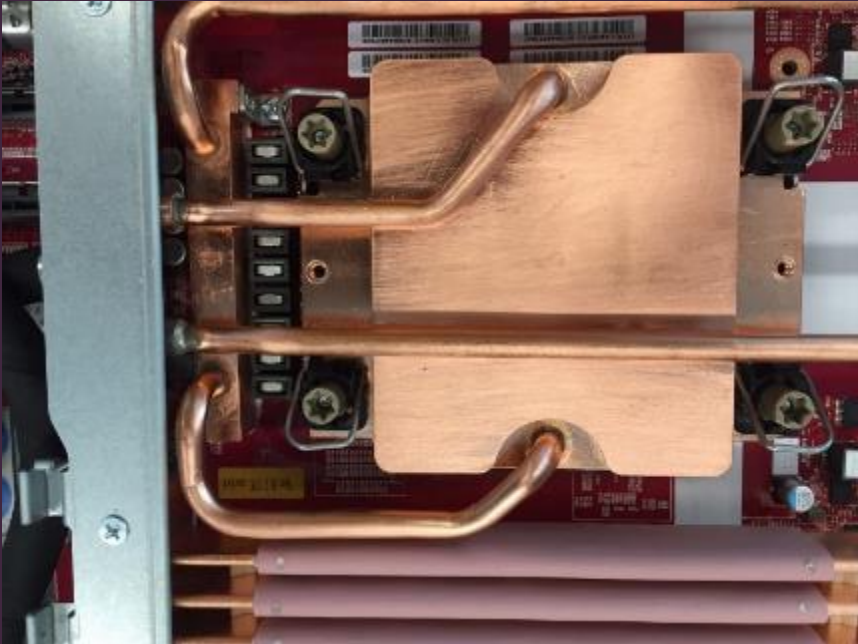


**Automatisierte
Mailbearbeitung**

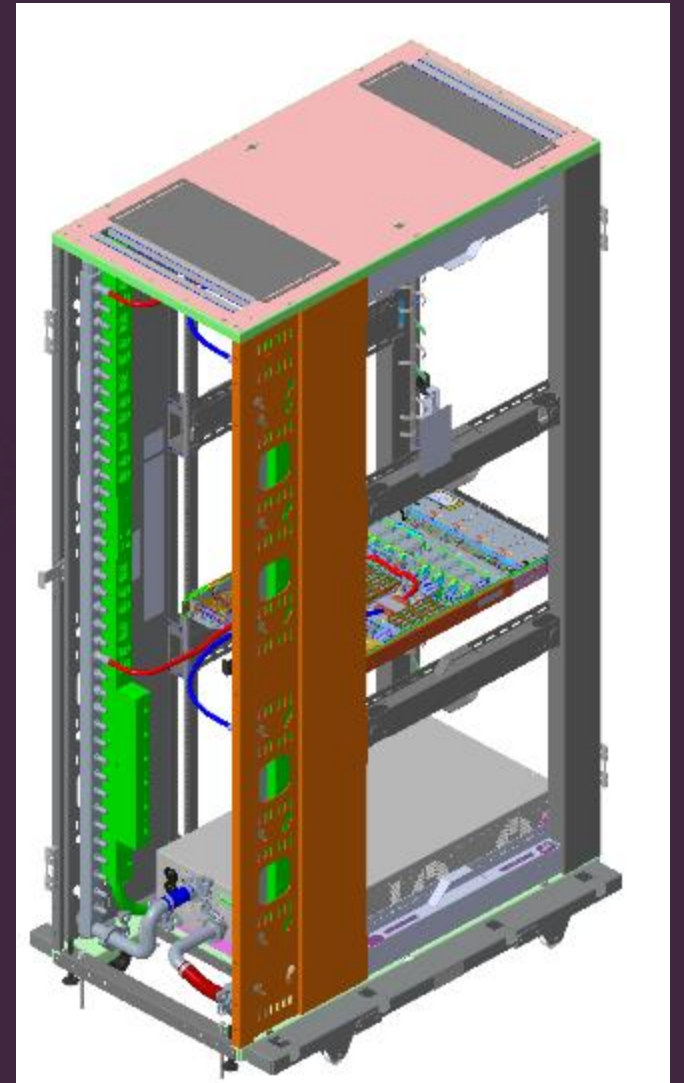
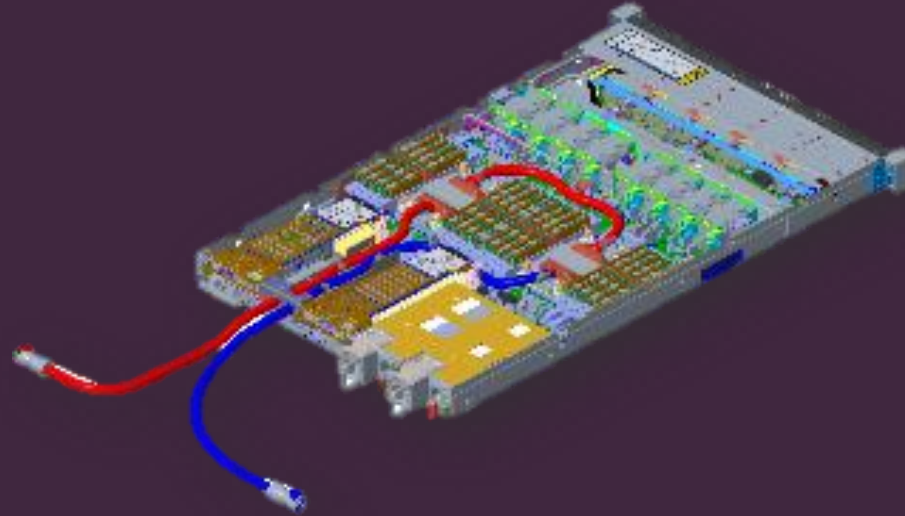


**Straßen-
sanierung**

Neptun Server



SR650V3 und SR630V3 Liquid cooling Solution



Lenovo Sustainable Solutions



Lenovo Neptune™

Up to 40% reduction in power costs resulting from a 3.5x improvement in thermal efficiencies vs. air cooled



Lenovo TruScale

Avoids over-provisioning, reducing energy consumption for a lower carbon footprint



Factory Integrated Racks

Saving 3.5 million pounds of cardboard and 1.8 million pounds of plastic over 5 years



CO2 Offset Services

Carbon offset credits fund projects, including reforestation, renewable energy, and solar



More Sustainable Packaging

Including the use of 90%+ recycled foam and bags made from 30% ocean bound plastic



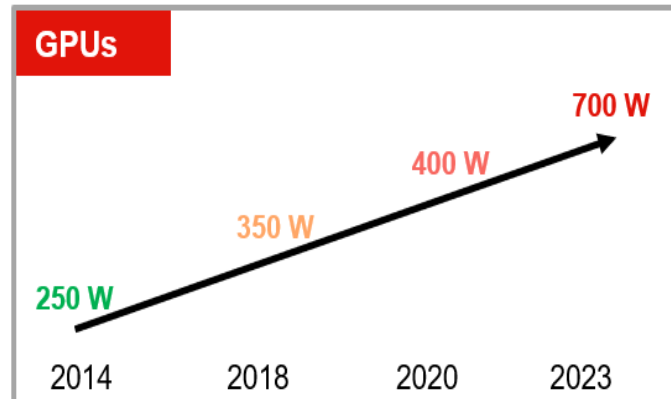
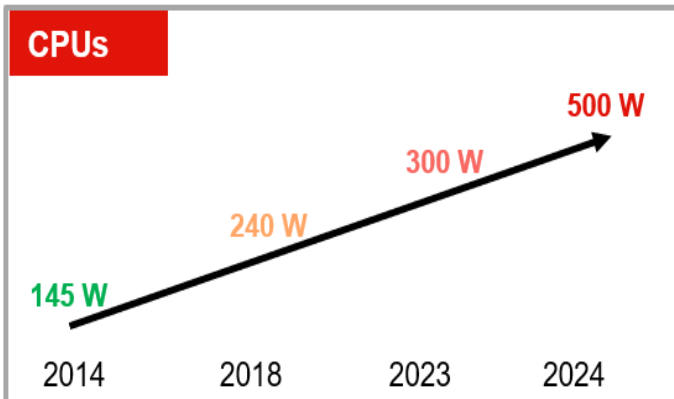
Lenovo Asset Recovery

15 years experience in asset recycling and more than 1M+ assets properly disposed

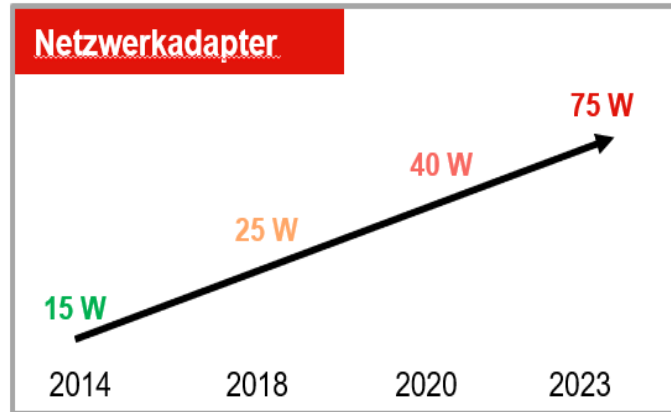
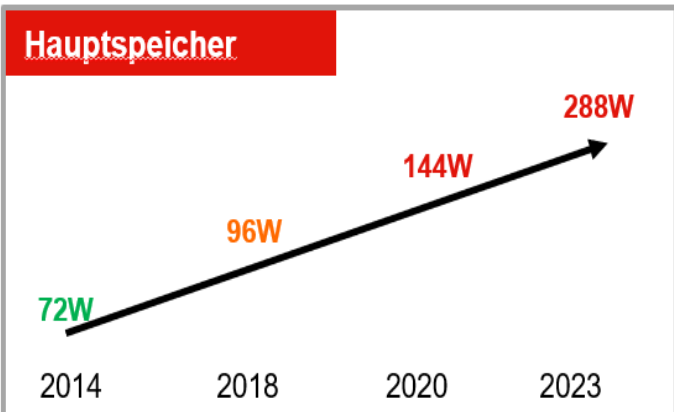
Vom Wasseranschluß im Rechenzentrum weiter zur KI im Client Bereich



Traditioneller Kühlungsansatz kommt an kritische Grenzen

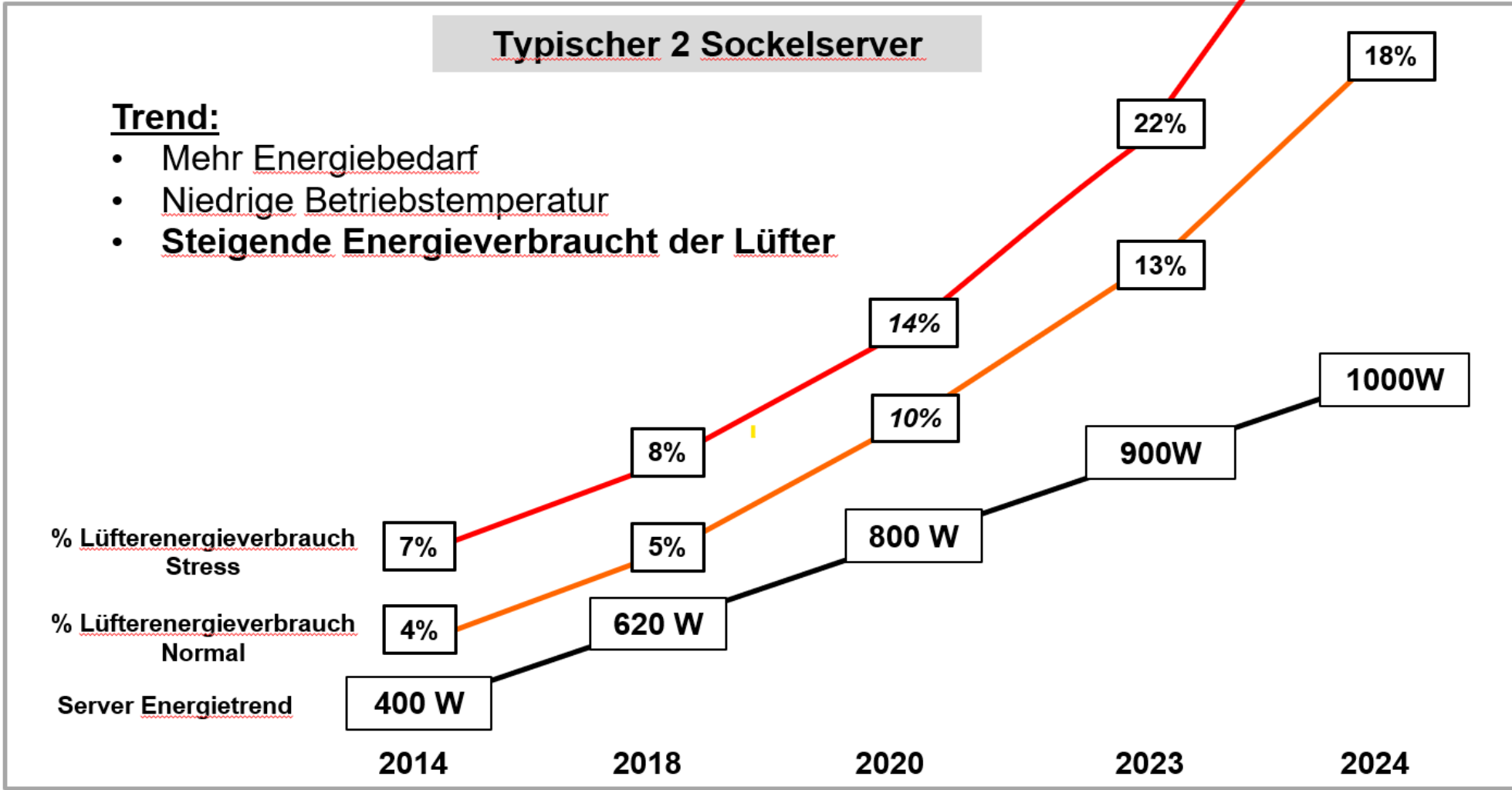


- benötigen**
- Höheren Luftdurchsatz = mehr Lüfter, höherer Geschwindigkeiten (25k Uupm)
 - Leistungsfähiger Kühlkörper (flüssig)
 - Steigert den Umsatz ber Klimaanlage
 - Hochleistungsnetzteile



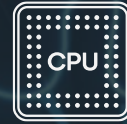
Mehr Energie
+
Von kleineren Teilen
+
Mit höherer Packungsdichte
+
Bei reduzierten Maximaltemperatur
=
Nichts Positives

„Lüfter zählen nicht...“



New Processor Component to drive AI Model Utilization

Fast Response –
ideal for low-
latency
workloads



CPU



NPU



GPU

High Throughput -
Ideal for digital
content creation /
consumption

Low Power – Ideal for sustained AI workloads, capable for handling multiple operations in real time and able to lead based on accumulated data.

Performance of NPU chip is measured in “TOPS” (Trillion Operations per Second) – it tells how many computing operations an AI chip can handle in one second

3M Dual Brightness Enhancement Film (DBEF5)

Improving Experience with **higher brightness** and **lower energy!**

- Adding to all 14" WUXGA (1920x1200) Base panels:
 - **16%** lower power
 - **20%** longer battery life
 - **33%** increased brightness: 300nit → 400nit

T14 Gen2 Benchmark With Panel Backlight	2023	2024 DBEF5
Brightness	300nit	400nit (33% brighter)
Power Consumption (Idle mode)	~7W	~5.8W
Power Consumption @ 250nit (MM25 benchmark)	Baseline	16.2% lower
MM25 Battery Life (hrs)	8:15	9:51 (20% better)
UX Evaluation (In all conducted user research brightness is always mentioned as the most important requirement)	+	++

CoPilot + PC – ThinkPad T14s Gen6



Key Initiatives for Product Concept

- MSFT **CoPilot + PC** Certified
- **High Performance** with low power
- **24hrs+** battery life
- **Lowest Carbon** footprint in Portfolio



MSFT CoPilot + PC

Double your productivity



All-day+ Battery Life

Best On-the-Go Companion



Versatility w/ Full I/O

No Sacrifice on productivity



Enterprise Performance

18W TDP full power support , ThinkShield



Key Spec

Platform	Snapdragon X Elite
Design	14" Recycled Mg on C cover
Screen	14" WUXGA Touch
	14" WUXGA Low Power LCD
	14" 2.8K OLED
Battery	58wh
Thermal	18W
Connectivity	Wi-Fi 7, 5G sub 6 (Optional)
I/O ports	2x USB-A, 2x USB-C, 1x HDMI

thanks.

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technology
for all**

Lenovo