Tigermeeting

Digital Signage without the Carbon Footprint:

The Sustainable Efficiency of Serverless Infrastructure

White Paper

Zoltan Arpadffy, CTO

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Introduction

Tigermeeting is the leading on-premises solution for meeting room management, digital signage and access control — fully decentralized, serverless, and built for extreme scalability.
Designed for enterprise-grade reliability, it offers a perpetual licensing model with no hidden costs or cloud dependencies.

How could we achieve this? The answer is simple: We listen to our customers.

We own the technology. We know the industry. We are passionate about what we do. We consider customer needs. We adjust our product and service roadmap accordingly. Our consistent Blue Ocean strategy and focus on the market earned us respect from both customers and competitors.

We see that our products are able to provide great and affordable service for schools, universities, offices and organizations with simple, functional, efficient and reliable meeting room management solution - that is already highly appreciated worldwide.

Executive Summary

As global enterprises accelerate their commitments to Net Zero emissions, Information Technology (IT) departments face increasing scrutiny. While sustainable building materials and renewable energy sources grab the headlines, the "digital layer" of the workplace—comprising servers, network switches, and always-on cloud connections—remains a significant, often hidden, source of carbon emissions.

For the modern Smart Office, meeting room management systems have historically forced a compromise: gain digital efficiency at the cost of increased energy consumption and electronic waste (e-waste). This white paper examines how Tigermeeting breaks this cycle. By utilizing a unique Serverless On-Premises architecture and a native Android foundation, Tigermeeting offers a path to "Digital Decarbonization." This document details how the solution eliminates server energy loads, extends hardware lifecycles by years, and enables a circular economy through the reuse of existing devices—delivering a sustainable solution that serves both the bottom line and the planet.

The Energy Equation: Eliminating the "Vampire Load"

The most direct environmental impact of any software is the hardware required to run it. Traditional meeting management solutions rely on a "hub-and-spoke" model that is inherently energy-intensive.

The Hidden Cost of the Server Room

In a standard on-premises deployment, organizations must provision dedicated servers to host the booking application and database. These servers do not operate in a vacuum; they create a "vampire load"—drawing power 24/7/365, regardless of whether the office is occupied.

- Direct Consumption: A typical 1U rack server consumes between 350W and 800W continuously.
- The PUE Multiplier: For every watt used by the server, additional energy is required for cooling, UPS (Uninterruptible Power Supply) losses, and power distribution. In many corporate server rooms, the Power Usage Effectiveness (PUE) ratio can be 2.0 or higher, effectively doubling the carbon footprint of every compute cycle.
- Cooling: Servers in a server room require cooling that consume considerably lots of power.

The "Serverless" Energy Advantage

Tigermeeting fundamentally alters this equation by removing the central server entirely. By utilizing a Distributed Database architecture, the application logic and storage reside on the endpoint devices (room panels) themselves.

- Zero Core Energy: There is no "master node" spinning hard drives and generating heat in the basement.
- Efficient Edge Computing: The energy consumption is strictly limited to the low-voltage display panels (like 5V USB, 12V power adapter or Power over Ethernet - PoE) that are already essential for the user interface. By eliminating the backend infrastructure, Tigermeeting reduces the total system energy profile by 40-60% compared to server-dependent alternatives.

The Anti-Obsolescence Architecture: Combating E-Waste

Electronic waste is the fastest-growing municipal waste stream globally, reaching over 50 million metric tons annually. A primary driver of corporate e-waste is "software bloat"—where increasingly heavy applications render perfectly functional hardware obsolete.

Breaking the 3-Year Refresh Cycle

Most modern room booking systems rely on browser-based architectures (web apps running in Kiosk Mode). Chrome and other browser engines are notoriously resource-heavy, consuming vast amounts of RAM and CPU cycles. This forces IT departments to retire tablets every 2-3 years as they become sluggish or incompatible with newer browser versions.

Tigermeeting is built as a highly optimized Native Android Application.

- Resource Efficiency: Because native code runs directly on the OS without the overhead of a browser engine, it requires a fraction of the processing power.
- Legacy OS Support: Tigermeeting is engineered to run smoothly on Android 5.0 (Lollipop) and above. This allows organizations to deploy screens manufactured 6-8 years ago with the same reliability as brand-new hardware.
- Thermal Management: Efficient code generates less heat. By reducing CPU stress, Tigermeeting protects the device’s battery and internal components, extending the physical lifespan of the hardware significantly.

The Circular Economy: Reuse, Repurpose, Don't Replace

True sustainability is not just about buying "green" products; it is about maximizing the utility of what you already own. Tigermeeting’s architecture is explicitly designed to support Brownfield Deployments (using existing infrastructure) rather than demanding Greenfield (new) hardware.

Unlocking the Value of Decommissioned Hardware

Enterprises often have drawers full of "outdated" tablets—retired from field sales or employee use—that are perfectly functional but slightly too slow for modern productivity apps.

New Life for Old Tech: With Tigermeeting's low system requirements, these "waste" assets can be revitalized as effective meeting room panels. A 5-year-old Samsung tablet is more than powerful enough to run the Tigermeeting app, diverting it from the landfill and saving the carbon cost of manufacturing a new device.

Absorbing Competitor Infrastructure

One of the most wasteful practices in the AV industry is the "Rip and Replace." When an organization switches software vendors, they are often told they must also scrap their existing screens (Meetio, ViewSonic, or generic Android panels) because of hardware lock-in.

Universal Compatibility: Tigermeeting is hardware-agnostic. It can be installed on almost any Android-based purpose-built room panel. If you are dissatisfied with a competitor's software but own their screens, you can simply wipe the device and install Tigermeeting. This preserves the embodied carbon of your existing install base.

Strategic Decoupling: Freedom from Vendor Lock-in

Sustainability requires flexibility. When software is tightly coupled to specific hardware, procurement teams lose the ability to choose the most sustainable options available on the market.

The Open Market Advantage

Because Tigermeeting is a software-only solution that does not sell proprietary hardware:

- Best-in-Class Selection: You are free to purchase whichever screens currently offer the best energy rating, recycled material content, or durability. You are not forced to

buy a vendor's proprietary, energy-inefficient screen just to use their software.

- Future-Proofing: As display technology evolves (e.g., e-ink displays or low-power OLED), you can adopt these greener technologies immediately without waiting for a specific vendor to release a compatible model.

Seamless Migration

This decoupling also applies to the backend. Migrating your corporate calendar from Google Workspace to Microsoft Office 365 (or vice versa) is a simple configuration change within the Tigermeeting admin console.

No Hardware Impact: The screens on the wall do not need to be touched, re-imaged, or replaced. This "soft migration" capability ensures that strategic IT shifts do not generate physical waste.

Operational Sustainability: The "Zero-Truck-Roll" Standard

Scope 3 emissions include the transportation and logistics associated with maintaining a system. A system that requires frequent physical intervention is a high-carbon system.

Remote Management and Resilience

The "Serverless" model is inherently robust. In traditional systems, a server crash often requires an emergency site visit (a "truck roll") by a specialized technician to reboot or repair the physical server.

- Remote Healing: Tigermeeting's decentralized mesh is self-healing. If a device fails, it can often be reset remotely. If a replacement is needed, it can be swapped by local facilities staff without specialized IT travel.
- Reduced Transit: By enabling centralized management of updates and configurations without a central server, Tigermeeting minimizes the travel miles required to maintain the estate, directly reducing the operational carbon footprint.

Conclusion

In the quest for corporate sustainability, every watt and every gram of plastic counts.

Tigermeeting proves that enterprise-grade reliability does not require heavy infrastructure. By stripping away the central server, optimizing code to save aging hardware, and enabling the circular reuse of existing devices, it offers a blueprint for Sustainable Smart Offices.

Choosing Tigermeeting is not just a technical decision; it is a declaration that your organization values efficiency over excess, and longevity over obsolescence.

Contact information

Email: info@tigermeeting.app

Web: https://tigermeeting.app/en/contact

Customer Support: support@tigermeeting.app

More information can be obtained under “About” menu in the Admin Application.

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