

# Save Up to 260 Tonnes of Co2e per Petabyte with the WEKA DATA Platform

#### **Derek Burke**

Data Storage Specialist, WekalO UK Ltd.



Founded in 2014, HQ in Silicon Valley, California

Manufacturer of the WEKA Data Platform, software-defined, high-performance, parallel file system

Hundreds of customers worldwide including 8 USA Fortune 50 companies

69 Patents Granted, 75 Patents Pending **Gartner MQ Visionary** 

Backed By Industry Leaders:















## generation\_\_\_

#### Announcing our \$135M Series D, led by Generation Investment Management.

# Today, the world's data centers consume roughly 3% of the global energy supply

Source: Association for Computing Machinery | November 2021



# Without intervention, it will grow to 8% by 2025

for Computing Machinery | November 2021 Source: Associatio



Titans of Al 23

# ChatGPT-3 took 1.3 gigawatthours electricity to train, costing \$4.6M.

# ChatGPT-4 took >100M\$ of electricity to train.

Source: The Economist, April 2023



# By 2025, without sustainable Al practices

# Al will consume more energy than the human workforce,

significantly offsetting carbon-zero gains.

Source: Press Release - Gartner Unveils Top Predictions for IT Organizations and Users in 2023 and Beyond, October 18, 2022

# HOW DOES WEKA ADDRESS THE SUSTAINABILITY CHALLENGE?



## WEKA Sustainability Drivers

### Faster Performance

- Fastest Single Client Performance
- Super low latency
- Highest aggregate storage
  cluster performance density
  - Throughput
  - IOPS
  - Fully distributed & scalable metadata

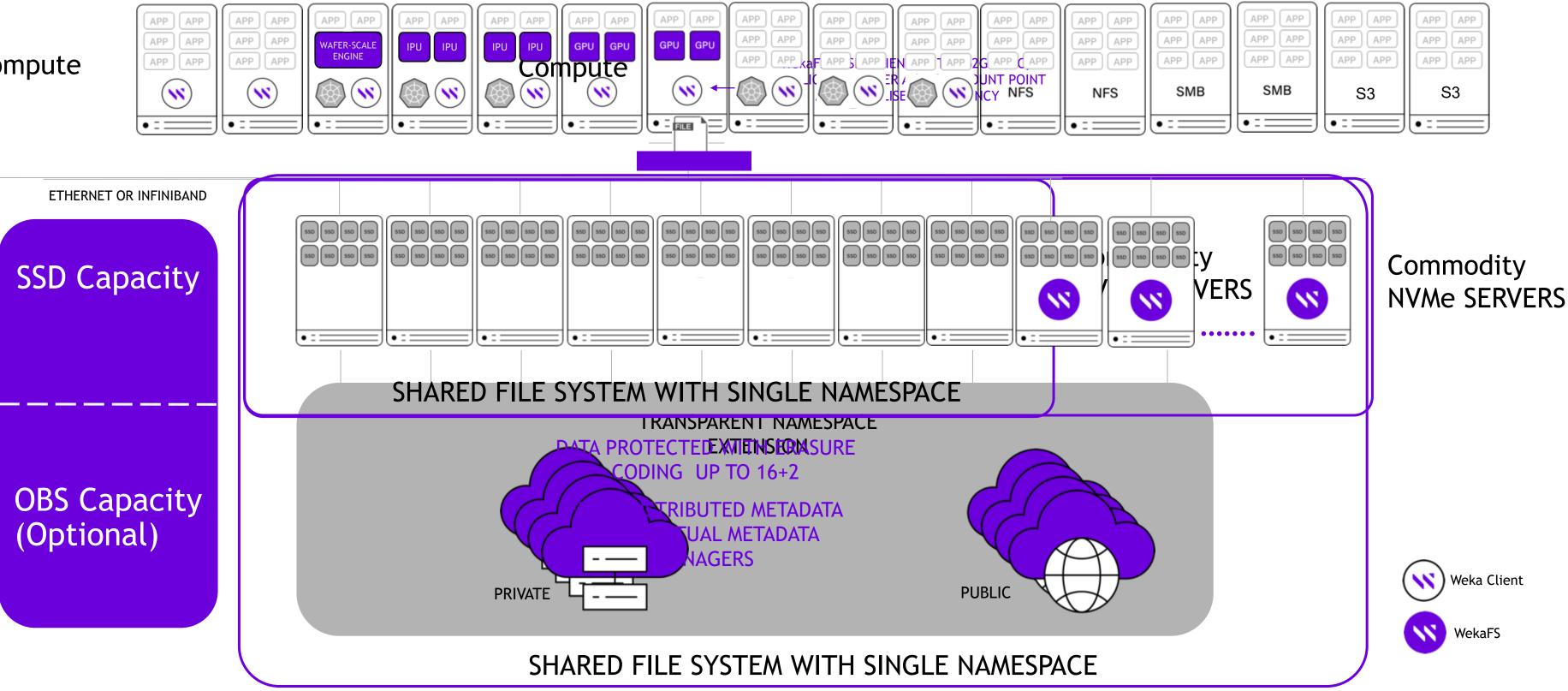
## **Smaller Footprint**

- Zero-copy architecture
- No need to oversize for performance
- Data reduction
- Leverage public cloud (bursting, back-up, disaster recovery)
- Autoscaling in the cloud (scaling up and down on demand)



## THE WEKA FILE SYSTEM IN A PRODUCTION ENVIRONMENT

Compute

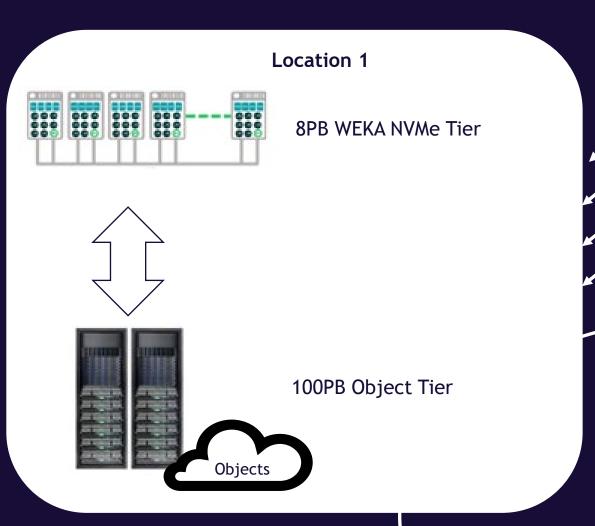




WEKA<sup>®</sup> proprietary and confidential | 2020

# Sample WEKA Customer Deployment

- Serving 2,500 users
- Mix of bare metal HPC, Openstack & on-prem & offprem clients
- WEKA presents a single
  108PB shared namespace
- Object storage across three sites with geo-distributed erasure coding





aws





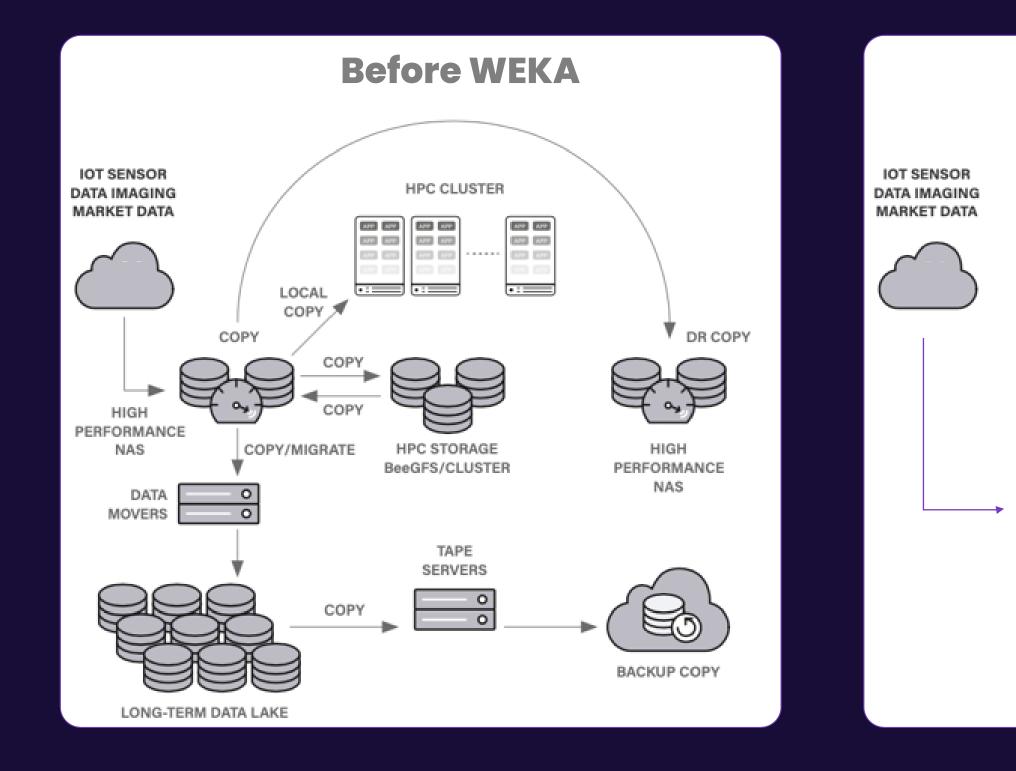
Disaster Recovery Business Continuity

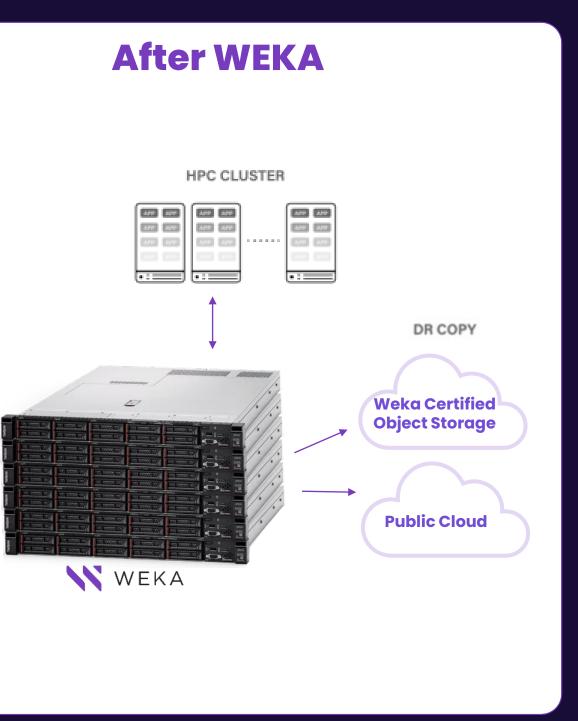
Small WEKA NVMe Cluster

Location 3



## WEKA Unified Data Platform







## One Data Platform That Does It All

#### I Point of Management

## ⊘ I Copy of Data



## Simply Serving All Your Data Pipeline

### On Your On-Prem or Cloud Platform of Choice



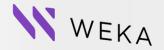
## **WEKA Delivers** Sustainable Al

4-7X lower footprint

# **260 tons**

of CO2e saved per PB annually

WEKA<sup>®</sup> Proprietary and Confidential. © 2023 14



## Save 260 tons of CO<sub>2</sub>e per PB with the WEKA Data Platform

#### Challenges

- Data centers consume more than 3% of global energy consumption which is projected to rise to 8% by 2030 if left unchecked
- Legacy data architectures have a greater environmental impact than contemporary, modern approaches, which can
- negate sustainability efforts

#### Solution

- The WEKA® Data Platform drives 10x-50x better AI/ML stack efficiency reducing annual GPU operating enerav
- WEKA also lowers the data infrastructure footprint by 4x-7x through data copy reduction and cloud elasticity.

#### **Benefits**

- Reduced energy consumption while also delivering faster results
- Over 260 tons of CO2e per petabyte saved compared to a traditional data architecture

The increased pressure on organizations to deliver data-driven insights and business outcomes has created an exponential demand for power in modern data centers, both on-premises and in the cloud, making them some of the world's biggest consumers of power. Evidence suggests that today, data centers account for roughly 3%1 of global energy consumption; left unchecked, that is projected to rise to 8% by 2030.

Organizations are implementing energy reduction, space consolidation, and green utility grids to mitigate this growth. However, there are still significant hurdles to data center sustainability efforts, and further improvements will be necessary to limit energy and emissions as new needs arise. The demand for high-performance computing continues to grow, requiring massive data infrastructure to support new data-intensive artificial intelligence (AI) and machine learning (ML) workloads and applications. As organizations respond to these demands, they are challenged by legacy data architectures that have a greater environmental impact than contemporary, modern approaches, which can negate their sustainability efforts. Siloed applications, excessive data movement, and the need to oversize an environment to meet performance goals all lead to greater energy consumption and, as a result, more carbon emissions.

#### Performance-Intensive Workloads **Create Energy Waste**

Data-driven innovation through modern workloads like AI, ML, and highperformance computing (HPC) is driving a move from periodic and slower batch processes to continuous high-speed data pipelines. These GPUaccelerated, data-intensive workloads consume data significantly faster

1 https://dl.acm.org/doi/pdf/10.1145/3483410



## The WEKA Data Platform

Software-Defined, Runs Industry-Standard Infrastructure, On-Prem, Public Cloud and Hybrid

#### Server & Object Storage Partners

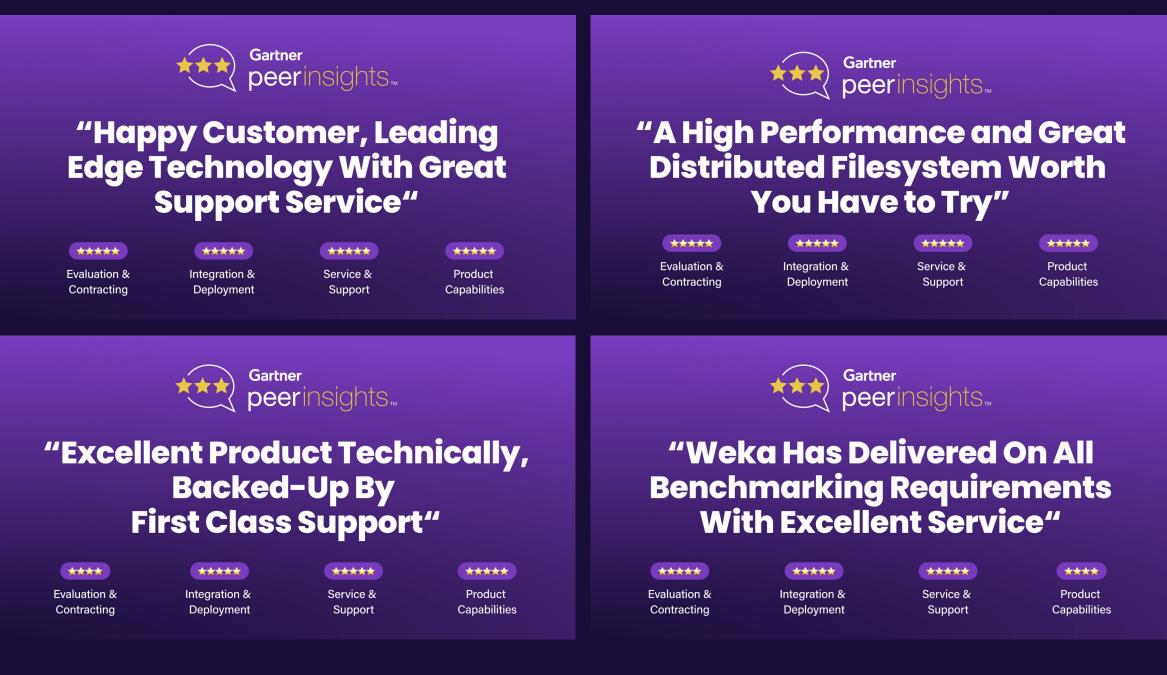






## WEKA Reliability, Easy Management & Great Support

#### WEKA is the Top Ranked Distributed Filesystem at Gartner Peer Insights



Gartner. Peer Insights...



#### WekaFS Reviews

by WEKA in Distributed File Systems and Object Storage

5.0 **\*\*\*\*\*** 65 Ratings



#### "The Ferrari of The Storage World"



Evaluation & Contracting



Deployment

\*\*\*\*\*

Service &

Support



Product Capabilities



#### "Excellent Product, Premium Storage With Excellent Performance!"



Integration & Deployment



Service & Support



**Product Capabilities** 



