

# IBM at HPC User Forum

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**John Unthank**    IBM US Federal Storage Sales - DOE, NASA

- **Team Introduction**
- **Perspective – AI**
- **Perspective - Sustainability**

# Introductions

- **Jim Bonfils.** IBM US Federal Storage Sales – DOE
- **Fred Vasofsky,** Manager, IBM US Federal Storage Sales - Civilian, Defense, Intelligence
- **Juanice Campbell** IBM US Federal, Technology Account Executive – DOE
- **Mike Dye.** IBM US Federal, Technology Solutions Executive - DOE

# AI

**IBM has a long-distinguished history of achievement in AI**

**Deep Blue – Chess Champion (1997)**

**IBM Watson – Jeopardy Champion (2011)**

**DOE Summit and Sierra Supercomputers – POWER/GPU Based System (2017)**

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**2001 Space Odyssey (1968) Heuristically programmed ALgorithmic computer HAL → IBM**

# Putting AI to Work

- Placing AI at the core of our business - ML/DL/ Generative AI
  - Digital Labor
  - IT Automation
  - Security
  - Sustainability
  - Application Modernization
- Extend IBM AI capabilities to clients and partners
  - Watsonx, HW/SW Product Enhancements, IBM Cloud, AWS, Consulting
- AI tools, foundation data models, governance
- Will provide IBM and other open and 3rd party AI models
  - Examples: Hugging face, Meta's Llama2

The platform  
for AI and data

**watsonx**

Scale and  
accelerate the  
impact of AI with  
trusted data.

On Premise  
In the Cloud  
Hybrid delivery

- **watsonx.ai**
- Train, validate, tune and deploy AI models

- A next generation enterprise studio for AI builders to train, validate, tune, and deploy both traditional machine learning and new generative AI capabilities **powered by foundation models**. It enables you to build AI applications in a fraction of the time with a fraction of the data.

- **watsonx.data**
- Scale AI workloads, for all your data, anywhere

- Fit-for-purpose data store optimized for governed data and AI workloads, supported by querying, governance and open data formats to access and share data.

- **watsonx.governance**
- Enable responsible, transparent and explainable
- data and AI workflows
- End-to-end toolkit encompassing both data and AI governance to enable responsible, transparent, and explainable AI workflows.

# AI Offerings - Putting AI to Work

- IBM Watsonx.data IBM Ceph and Storage Scale integration (coming soon!)
- IBM POWER10 Systems for inferencing engine optimization
- IBM Storage Scale Certification for Nvidia SuperPod Architecture
- IBM AI Research Center, Albany, New York
  - Enabling next-generation chips and systems
  - Partnership with State of New York

Meet with us at SC23, on-line or your location for more details.

# Sustainability.

<https://www.ibm.com/about/environment/energy-climate>

- IBM has been committed to addressing climate change through the company's energy conservation and climate protection programs for decades.
  - IBM was a founding partner of the U.S. Environmental Protection Agency launch ENERGY STAR in 1992.
  - IBM began disclosing its carbon dioxide (CO<sub>2</sub>) emissions in 1994 and set its first CO<sub>2</sub> emissions reduction goal in 2000.
  - IBM made its first purchase of renewable electricity in 2001.
  - The company published its policy position on climate change in 2007, long before today's acute focus
  - IBM became a founding member of the Climate Leadership Council in 2019
- In 2021, IBM established its third consecutive goal for the use of renewable electricity; its fifth consecutive goal to reduce greenhouse gas (GHG) emissions including new goals:
  - **to achieve net-zero GHG emissions by 2030; 90% energy consumption of renewables. (65% achieved)**
  - new goals for energy conservation, data center cooling efficiency,
  - individual fleet carbon intensity reduction targets with key carrier and shipment suppliers,
  - GHG emissions reductions for key suppliers in emissions-intensive business sectors, and more.
- IBM's global operations consumed approximately **2,448,000 megawatt-hours (MWh)** of energy across all commodities, of which 80% was electricity. IBM's energy use decreased by 1.5% in 2022 from 2021, adjusted for acquisitions and divestitures..



# Sustainability.

- **IBM Tririga Software Acquisition 2011 - monitoring utility costs and consumption, Carbon Value Analysis, Carbon Credits**
- **IBM publishes Product Carbon Footprint (PCF) reports for IBM Systems and Storage**
- **IBM “Future of Tape” Briefing, November 8-9, Tucson**