

OAKWOOD

Powering Transformation. *Together.*

HPC Services & AMD Innovation Lab

Oakwood Systems Group, Inc. - St. Louis & Kansas City - Microsoft Solutions Partner

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Oakwood Introduction

As a Microsoft Solutions Partner, Oakwood is a leading provider of transformative Cloud & Infrastructure Services, Custom Application Development, Data & Analytics, and Managed IT Services.

We work with organizations to address business challenges and design unique solutions necessary for delivering results that transform the way they do business. We use the breadth and depth of our talented team, processes and technology to deliver powerful results.

We see a future where our clients' success, advanced by our solutions, is so profound that they become our most powerful advocate. Our team is driven to excel and is accountable to deliver quality results.



Infrastructure
Azure



Digital & App Innovation
Azure



Data & AI
Azure



Modern Work

AMD Azure HPC Innovation Lab - Overview

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Innovation Lab

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What is Innovation Lab?

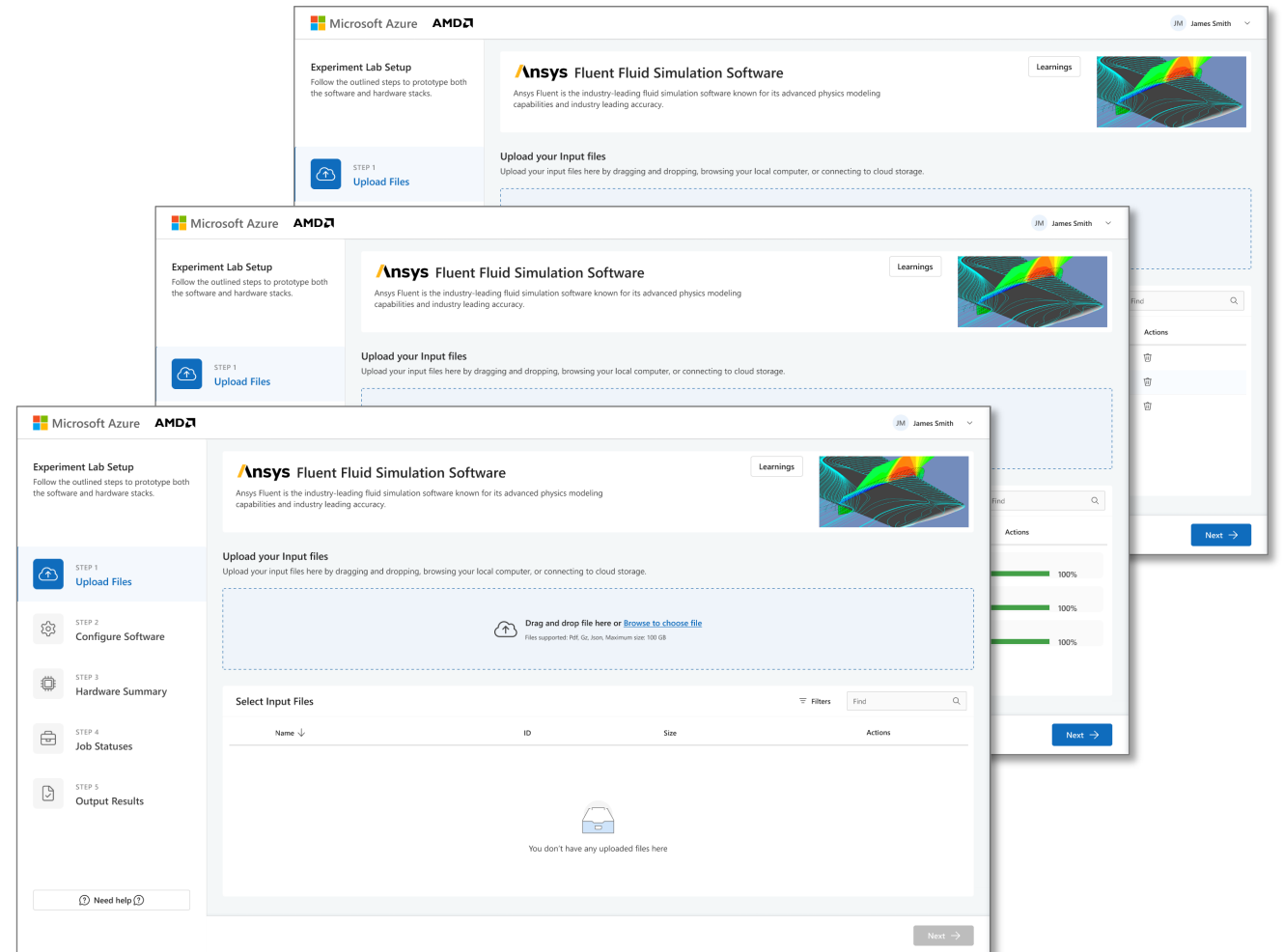
Innovation Lab is a free program that provides users short-term access to a large catalog of hands-on labs. Now enterprises and organizations can immediately tap into the necessary hardware and software stacks to experience end-to-end solution workflows in the areas of AI, and simulation, and more.

Innovation Labs helps developers, designers, and IT professionals speed up the creation and deployment of modern, data-intensive applications. After quick testing and prototyping, the same complete stack can be deployed for production workflows, so more confident software and infrastructure decisions can be made.

AMD Azure HPC Innovation Lab

Microsoft & AMD approached Oakwood to develop an application to showcase the exceptional performance of running HPC workloads using AMD processors within Azure.

The purpose of this application was to automate the complexity of spinning up an HPC environment by offering a sandbox environment to HPC customers as a 'Try before they buy' approach. This no-cost approach offers no risk for the user(s) to experience the power of running HPC workloads in an AMD powered Azure environment.



Oakwood's Azure Infrastructure Services for HPC

Cloud Infrastructure

Oakwood's HPC Team will take ownership of the strategic design and deployment of Azure's vast infrastructure offerings. Whether our clients seek virtualized compute resources with Azure VMs, scalable storage solutions via Azure Blob Storage, or low-latency networking through Azure ExpressRoute, Oakwood is primed to deliver.

Cluster Management

By leveraging tools like Azure CycleCloud and Azure Batch, Oakwood enables organizations to dynamically provision, manage, and scale clusters to meet fluctuating computational demands. Our expertise extends beyond mere deployment to encompass optimal configuration, ensuring clusters are fine-tuned to deliver peak performance for specific HPC workloads.

Storage Solutions

Recognizing data as the backbone of digital businesses, Oakwood expertly navigates Azure's storage options to design and implement tailored solutions. Whether using Azure Blob Storage for unstructured data, Azure Files for shared storage, or Azure Disk Storage for high-performance needs, we ensure optimal configuration and deployment.



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Oakwood's App Dev & Modernization Services for HPC

Cloud-Native App Dev

Recognizing the transformative power of the cloud, Oakwood specializes in designing and constructing HPC applications that are intrinsically built for cloud environments, particularly harnessing the robust infrastructure and tools offered by Azure. Our approach prioritizes scalability, flexibility, and performance.

Parallel Programming

Parallel programming stands as a cornerstone of Oakwood's application development services, particularly in the realm of High-Performance Computing (HPC). Understanding the importance of efficient and faster computations in today's data-driven world, we have honed our expertise in crafting applications that distribute tasks across multiple processors simultaneously.

Application Optimization

Oakwood's approach to application optimization is holistic, starting from the ground up, analyzing code structures, algorithms, and data flows. We identify bottlenecks, areas of latency, and potential inefficiencies, then meticulously rework them to achieve faster processing times and improved responsiveness.



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Oakwood's Data & Analytics Services for HPC

Data Management & Curation

Oakwood's HPC Team offers a robust suite of solutions to address the intricate challenges posed by massive computational datasets. At the forefront of our services is the design and implementation of comprehensive data governance strategies, utilizing tools such as Microsoft Purview to track data lineage, cataloging, and discoverability.

Data Security

Oakwood's expertise encompasses the entire data security lifecycle, from data creation to disposal, ensuring rigorous protection at every touchpoint. Leveraging tools such as Azure Security Center, we offer real-time monitoring and threat detection, enabling proactive responses to potential security breaches.

Data Visualization

Oakwood excels in translating intricate computational outputs into clear, interactive visual narratives. Harnessing the power of tools like Power BI, we enable organizations to craft dynamic dashboards and reports, seamlessly integrated with Azure's diverse data sources such as Azure Data Lake Storage and Azure SQL Data Warehouse.



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