Five reasons to run your CAE workloads on AWS.

1. Unleash unlimited and on-demand HPC
   - Learn more about HPC on AWS

2. Accelerate innovation
   - See more about HPC on AWS

3. Gain competitive advantage

4. Build confidence and grow

5. Unleash productivity

Results:

- Dr. Henry Bensler, Head of CAE Methods at Volkswagen Group Research
- Dr. Seiji Kawachiya, General Manager of Engineering and Innovation at Nissan
- Ken Ko, Vice President of Engineering at Western Digital
- Trish Sieber, Senior Director of HPC at Micron Technology

Solution:

- Seiji Kawachiya, General Manager of Engineering and Innovation at Nissan
- Ken Ko, Vice President of Engineering at Western Digital
- Trish Sieber, Senior Director of HPC at Micron Technology

Challenge:

- The challenges we faced at Nissan revolved around the need to leverage faster development cycles and save money by maintaining our HPC infrastructure.
- The engineers at Western Digital needed the freedom to test new simulations and ideas on a more dynamic cluster than their existing infrastructure offered.
- Micron's engineers needed more resource flexibility to meet the strict deadlines of product development.

Results:

- Nissan significantly improved their project cycle times and reduced overall costs.
- Western Digital was able to achieve better results with their simulations.
- Micron was able to decrease their operating costs by 20%.

Engineers require simulation tools to quickly and accurately analyze the performance of products and new features.

Gain competitive advantage

- Gain more insightful results by leveraging the latest technology tools.
- Access virtually unlimited cloud resources, available with the latest Intel® technologies.
- Let your CAE simulation dictate the architecture, not the other way around.

Results:

- TLG Aerospace conducts aerodynamics simulations on aircraft to predict the pressure and temperature distribution. TLG takes advantage of Amazon EC2 Spot instances, a way to use unused EC2 computing capacity at a discounted price. TLG also uses Amazon S3 buckets to store multiple terabytes of simulation data on the cloud and Amazon Elastic Block Store (Amazon EBS), which offers persistent block-level storage volumes.
- Western Digital enabled its engineers to run computational electromagnetic simulations to rapidly obtain results from a range of configurations—something that would've taken weeks on their on-premises hardware.
- Micron's engineers faced a spike in request rate.

Unleash productivity

- Avoid over-provisioning and wasting resources, while also exceeding your on-premises compute capacity limitations.
- Access controls for administering simulation users, projects, and continuously adopting the latest technologies.
- Confidently take on projects of larger and larger scope.

Results:

- TLG was able to unlock cost optimization by removing over-provisioned capacity.
- TLG saw a 75% reduction in computing cost by leveraging Amazon EC2 Spot instances.
- TLG also saw a 72% reduction in computing cost by using Amazon EC2 Spot instances.
- TLG was able to pass those savings along to its customers.

Unleash unlimited and on-demand HPC

- Unleash productivity
- Build confidence and grow

Results:

- TLG Aerospace saved on its computing cost by using Amazon EC2 Spot instances.
- Western Digital was able to decrease its operating costs by 20%.
- Micron's engineers were able to lower their HPC infrastructure capacity costs by 50%.

Accelerate innovation

- Gain competitive advantage
- Build confidence and grow

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Build confidence and grow

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- Accelerate innovation

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Unleash productivity

- Advance simulation integration with Amazon SageMaker, to aid in predicting the future performance of products and new features.
- Engineers can also leverage additional AWS services and the latest technology innovations needed to meet market demands.

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