

# AWS Well-Architected: Build Better Architecture, Better Business

# Meet the Speakers



**Matt Yanchyshyn**

Director, Solutions Architecture



**JT Giri**

CEO & Founder



**John Ray**

Director, Solutions Engineering





Amazon Web Services (AWS) is the world's most comprehensive and broadly adopted cloud platform, offering over 175 fully featured services from data centers globally.

Millions of customers—including the fastest-growing startups, largest enterprises, and leading government agencies—are using AWS to lower costs, become more agile, and innovate faster.



nOps is a SaaS cloud management platform designed to help rapid-growth companies build, monitor, and run a well-architected AWS infrastructure that is secure, cost-optimized, reliable, efficient, and operationally excellent. And, to help you keep it that way.



# Supporting AWS Consulting Partners



# Agenda



## Are You Well-Architected?

The AWS Well-Architected Framework, Customer Results



## Cloud Financial Management

Key Updates to the AWS Well-Architected Framework



## Making Well-Architected Actionable

nOps Demo & Audience Q&A



# Are You Well-Architected?



Matt Yanchyshyn  
Director, Architecture Best Practices  
Amazon Web Services

**When you look at the systems you or your customers are building, can you answer the question:**

**“Are you Well-Architected?”**

# Why does Well-Architected exist?

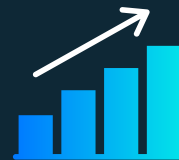
*To drive better outcomes for customers who build and operate workloads in the cloud*



Learn



Measure



Improve



# Why AWS Well-Architected Framework?



Build and deploy faster

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Lower or mitigate risks

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Make informed decisions

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Learn AWS best practices

# What is the AWS Well-Architected Framework?



Pillars



Design principles



Questions

# Pillars of AWS Well-Architected



Operational  
Excellence



Security



Reliability



Performance  
Efficiency



Cost  
Optimization

# Design principles



General  
design principles



Pillar-specific  
design principles

**Automate responses to security events:** Monitor and automatically trigger responses to event-driven, or condition-driven, alerts

# Questions

## Failure management

### REL 7 How does your system withstand component failures?

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*If your workloads have a requirement, implicit or explicit, for high availability and low mean time to recovery (MTTR), architect your workloads for resiliency and distribute your workloads to withstand outages.*

Best practices:

- **Monitoring is done at all layers of the workload to detect failures:** Continuously monitor the health of your system and report degradation as well as complete failure.
- **Deployed to multiple Availability Zones; Multiple AWS Regions if required:** Distribute workload load across multiple Availability Zones and AWS Regions (for example, DNS, ELB, Application Load Balancer, API Gateway).
- **Has loosely coupled dependencies:** Dependencies such as queuing systems, streaming systems, workflows, and load balancers are loosely coupled.
- **Has implemented graceful degradation:** When a component's dependencies are unhealthy, the component itself does not report as unhealthy. It can continue to serve requests in a degraded manner.
- **Automated healing implemented on all layers:** Use automated capabilities upon detection of failure to perform an action to remediate.
- **Notifications are sent upon availability impacting events:** Notifications are sent upon detection of any significant events, even if it was automatically healed.

Pillar area

Question

Context

Best practices

# Are you Well-Architected?



Operational  
Excellence



Security



Reliability



Performance  
Efficiency



Cost  
Optimization



Review  
process



Consistent



Technology  
portfolio

# Review choice

Your team technical  
and business leads

AWS  
WA tool

AWS  
APN partner

AWS Solutions  
Architect

Self-service



Partner



AWS SA



# Thousands of customers are using AWS Well-Architected



“The Well-Architected Review process helped us see where we were on track and enabled us to check off what worked. But, more importantly, it gave us critical feedback to improve our platform since we’re always looking at how to serve our customers better.”

– *Raja Nadar, Principal Software Engineer, Expedia*



“Developers don't have to find an expert to say, is this good enough? We can build patterns that are directly related to the best practices from the Serverless Lens of the Well-Architected Framework.”

– *Matt Coulter, Technical Architect, Liberty Mutual*



“There have been a couple of different benefits. One is certainly using a data-driven approach to drive the evolution of our architectures. Then, there’s the engagement we've had with our teams. We’re bringing visibility to the great work that our teams are doing, and also uncovering some opportunities for us to make improvements around modernization or simplification, reducing technical debt.”

– *Gene Mohan, Director of Architecture, Cox Automotive*



# Cloud Financial Management



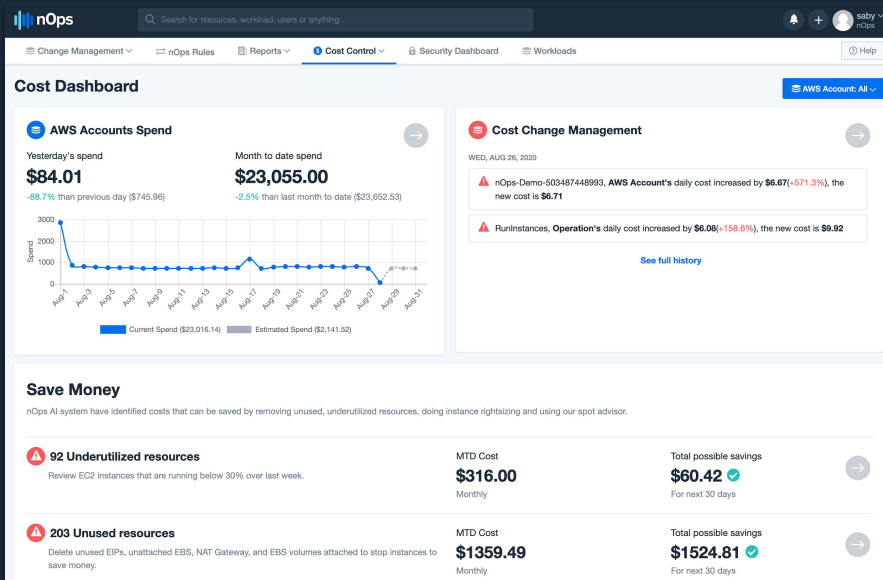
**John Ray**  
Director, Solutions Engineering  
nOps



# Cloud Financial Management

Cloud Financial Management (CFM) enables organizations to realize business value and financial success as they optimize their cost and usage and scale on AWS.

- Functional Ownership
- Finance and Technology Partnership
- Cloud Budgets and Forecasts
- Cost-Aware Processes
- Cost-Aware Culture
- Quantify Business Value Delivered Through Cost Optimization



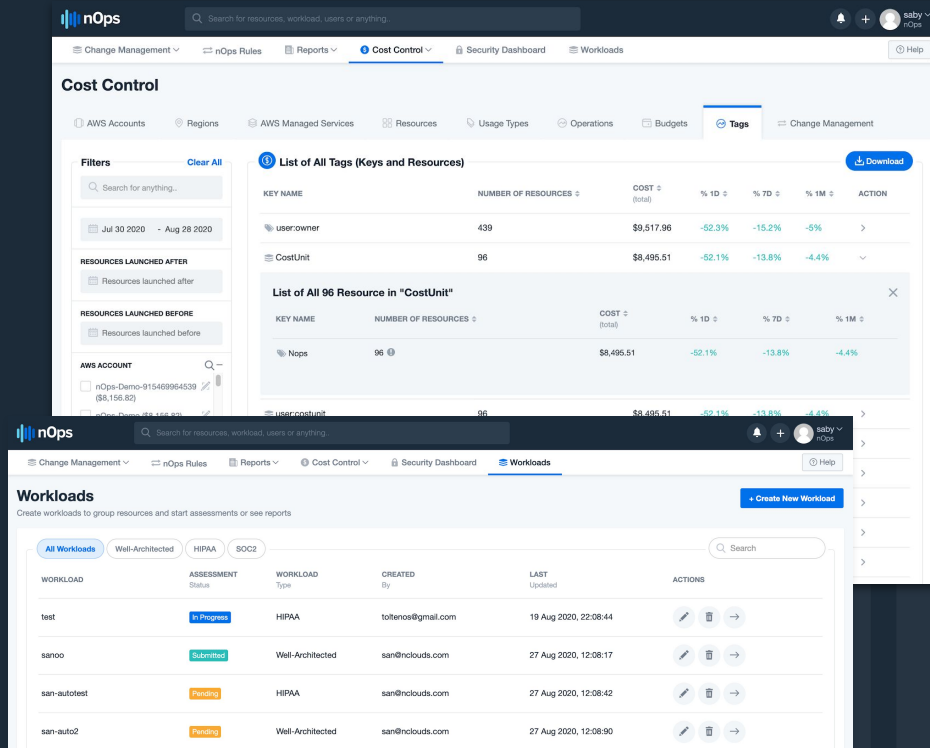
# Functional ownership

## Cost Optimization Function

“Person, team, or currently existing group, who is/are given the responsibility and authority to drive a culture of cost optimization within your organization.”

Requires executive sponsorship and knowledge across domains

- Project management
- Data science
- Financial analysis
- Software/infrastructure development



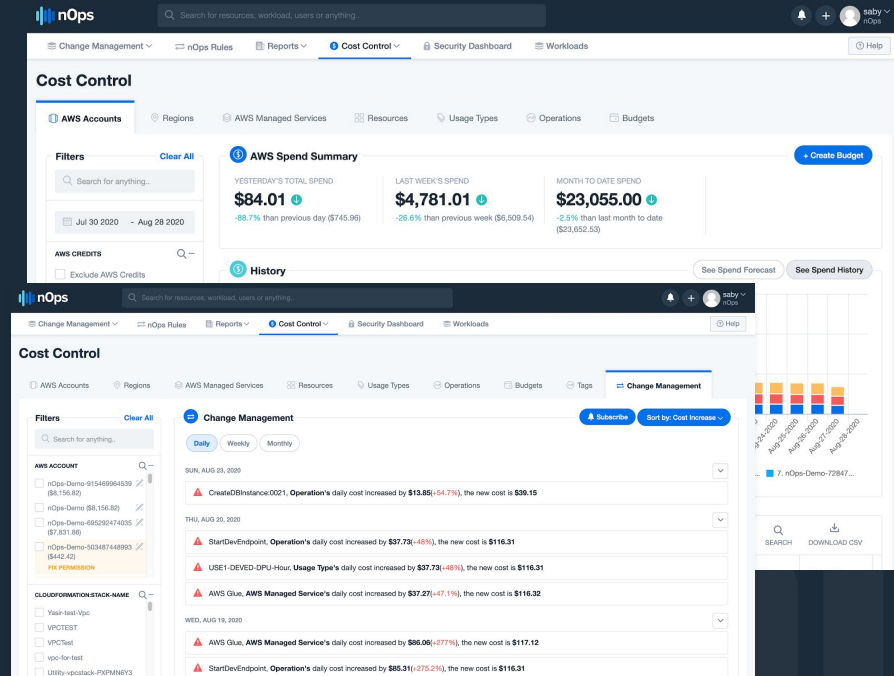
The image shows two screenshots of the nOps web application interface. The top screenshot displays the 'Cost Control' section, which includes a search bar, navigation tabs (AWS Accounts, Regions, AWS Managed Services, Resources, Usage Types, Operations, Budgets, Tags), and a table titled 'List of All Tags (Keys and Resources)'. The table lists resources with columns for Key Name, Number of Resources, Cost (total), and percentage changes. A modal window titled 'List of All 96 Resource in "CostUnit"' is also visible, showing a detailed view of resources for a specific unit.

The bottom screenshot displays the 'Workloads' section, which includes a search bar and a table listing workloads. The table has columns for Workload, Assessment Status, Workload Type, Created By, Last Updated, and Actions. The workloads listed are 'test', 'san00', 'san-autotest', and 'san-auto2', each with a different assessment status (In Progress, Submitted, Pending).

# Partnership

Technology and financial leaders MUST work together to achieve the shared goals of the business.

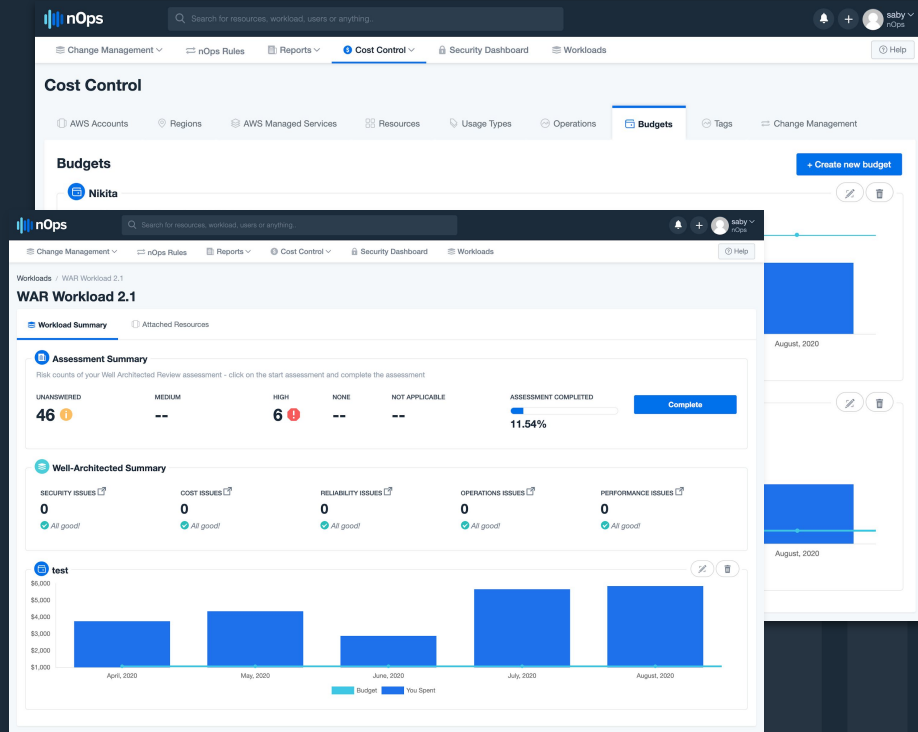
- Have near real-time visibility into cost and usage
- Establish a standard operating procedure to handle cloud spend variance.
- Act as strategic advisors with respect to how capital is used to purchase commitment discounts, and how the cloud is used to grow the organization.
- Existing processes are used and improved.
- Collaborate on forecasting future AWS cost and usage to align/build organizational budgets.
- Have a shared language, and common understanding of financial concepts



# Budgets

Cloud spend is extremely variable.

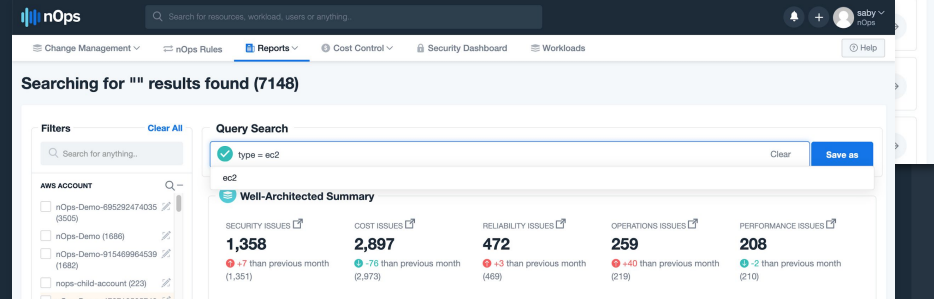
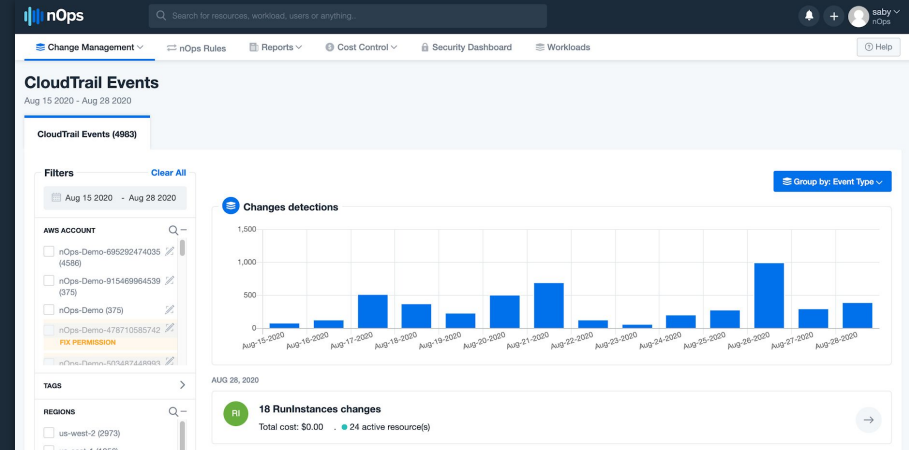
- Workloads scale, prices change, new services are released
- Existing budgeting processes aren't going to be able to handle that much volatility.
- Using a combination of historic trends and business drivers to actively keep track of your budgets.
- Set budgets for more than just overall spend.
  - Workloads
  - Services
  - Regions
  - Network traffic



# Cost-aware processes

Just like security, you must incorporate a cost component into your business process.

- Quantify the cost of change in your CM process.
- Make cost a core competency for your business.
- Learn to dive deep for Root Cost Analysis.
- Consider ROI when making technology decisions.
- Train for cost awareness.



# Cost-aware culture

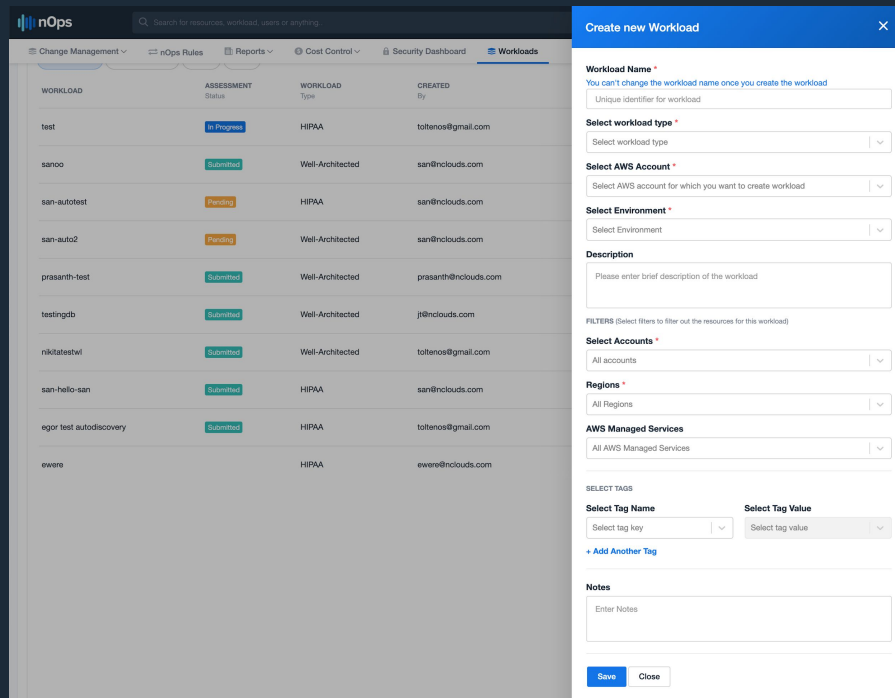
A cost aware culture allows your organization to move rapidly.

Cost doesn't need to become a roadblock to innovation.

Place enabling constraints on the system.

Creativity often comes from these constraints.

- Gamify
- Reward
- Adapt



The screenshot displays the nOps Workloads management interface. On the left, a table lists various workloads with their assessment status, type, and creator. On the right, a 'Create new Workload' modal form is open, allowing users to configure a new workload with fields for name, type, AWS account, environment, description, filters, accounts, regions, managed services, tags, and notes.

WORKLOAD	ASSESSMENT Status	WORKLOAD Type	CREATED By
test	In Progress	HIPAA	toltenos@gmail.com
sanoo	Submitted	Well-Architected	san@nclouds.com
san-autotest	Pending	HIPAA	san@nclouds.com
san-auto2	Pending	Well-Architected	san@nclouds.com
prasanth-test	Submitted	Well-Architected	prasanth@nclouds.com
testingdb	Submitted	Well-Architected	ji@nclouds.com
nikitatestef	Submitted	Well-Architected	toltenos@gmail.com
san-hello-san	Submitted	HIPAA	san@nclouds.com
egor-test-autodiscovery	Submitted	HIPAA	toltenos@gmail.com
ewere		HIPAA	ewere@nclouds.com

**Create new Workload**

**Workload Name \***  
You can't change the workload name once you create the workload  
Unique identifier for workload

**Select workload type \***  
Select workload type

**Select AWS Account \***  
Select AWS account for which you want to create workload

**Select Environment \***  
Select Environment

**Description**  
Please enter brief description of the workload

**FILTERS** (Select filters to filter out the resources for this workload)

**Select Accounts \***  
All accounts

**Regions \***  
All Regions

**AWS Managed Services**  
All AWS Managed Services

**SELECT TAGS**

**Select Tag Name**      **Select Tag Value**  
Select tag key      Select tag value

+ Add Another Tag

**Notes**  
Enter Notes

Save Close

# Quantify the value

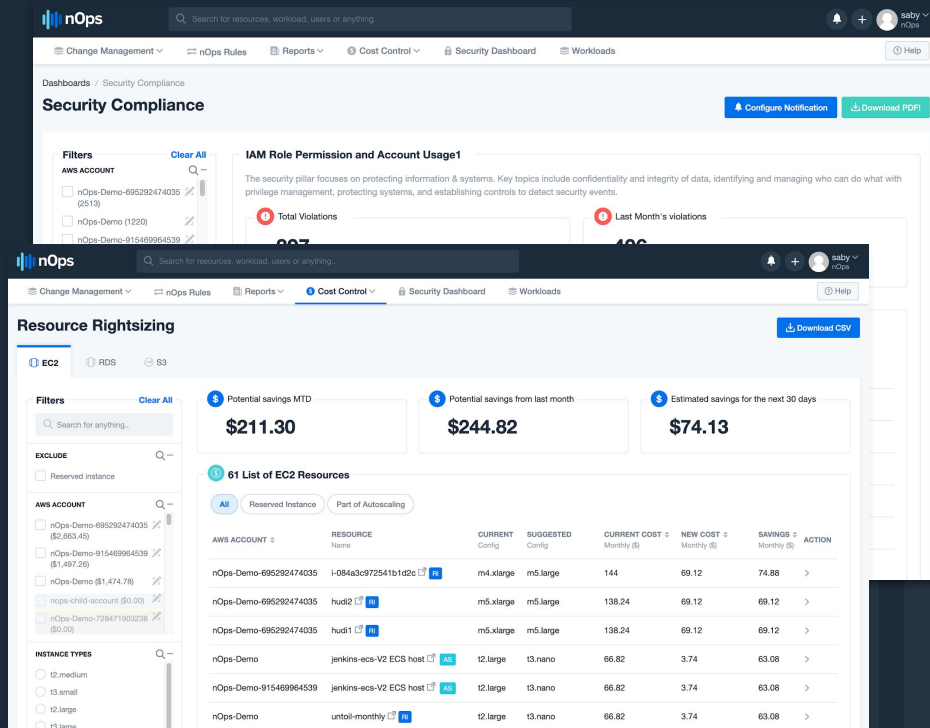
It's not enough to have all the data if that data has no meaning.

Quantify and make public your cost optimization practices and results.

Associate cost savings to efficiency metrics.

It's not always about savings.

- Savings in one place might mean you can hire a new developer.
- Automate a mundane process and free up time.



The top screenshot displays the 'Security Compliance' dashboard. It features a search bar, navigation tabs for Change Management, nOps Rules, Reports, Cost Control, Security Dashboard, and Workloads. The main content area includes a 'Filters' section for AWS ACCOUNT (nOps-Demo-695292474035, nOps-Demo-9154689964539, nOps-Demo-1220, nOps-Demo-9154689964539) and a 'IAM Role Permission and Account Usage' section with a 'Total Violations' indicator.

The bottom screenshot displays the 'Resource Rightsizing' dashboard. It features a search bar and navigation tabs. The main content area includes a 'Filters' section for EC2, RDS, and S3. It shows three potential savings metrics: Potential savings MTD (\$211.30), Potential savings from last month (\$244.82), and Estimated savings for the next 30 days (\$74.13). Below these metrics is a table titled '61 List of EC2 Resources' with columns for AWS ACCOUNT, RESOURCE Name, CURRENT Config, SUGGESTED Config, CURRENT COST Monthly (\$), NEW COST Monthly (\$), SAVINGS Monthly (\$), and ACTION.

AWS ACCOUNT	RESOURCE Name	CURRENT Config	SUGGESTED Config	CURRENT COST Monthly (\$)	NEW COST Monthly (\$)	SAVINGS Monthly (\$)	ACTION
nOps-Demo-695292474035	i-084a3c972541b1d2c	m4.xlarge	m5.large	144	69.12	74.88	>
nOps-Demo-695292474035	hud12	m5.xlarge	m5.large	138.24	69.12	69.12	>
nOps-Demo-695292474035	hud11	m5.xlarge	m5.large	138.24	69.12	69.12	>
nOps-Demo	jenkins-ecs-V2 ECS host	t2.large	t3.nano	66.82	3.74	63.08	>
nOps-Demo-9154689964539	jenkins-ecs-V2 ECS host	t2.large	t3.nano	66.82	3.74	63.08	>
nOps-Demo	untail-monthly	t2.large	t3.nano	66.82	3.74	63.08	>



# Making Well-Architected Actionable



**JT Giri**  
CEO & Founder  
nOps





**DEMO**



# Uber reduces cost, manages change to support the speed of business.



## Challenge

- Manage dynamic change in the AWS environment at Uber Advanced Technologies Group – without slowing high-velocity teams.
- Gain actionable insights into the impact of changes to cost, security, performance, reliability, and operational excellence.



## Outcome

- **Cost optimization** – Saved 15% in the first 30 days.
- **Chargebacks** – Allocate cloud infrastructure costs at a highly granular level of detail.
- **Anomaly detection** – Get automated, ML-driven alerts with the ability to drill down to the resource level.

**View On-Demand Webinar:**

[https://www.nops.io/resources/webinar\\_aws\\_cost\\_optimization\\_uber](https://www.nops.io/resources/webinar_aws_cost_optimization_uber)

The Uber logo, featuring the word 'Uber' in its characteristic white, rounded, sans-serif font.

# Typical 18-50% cost savings after hundreds of reviews

nOps case studies

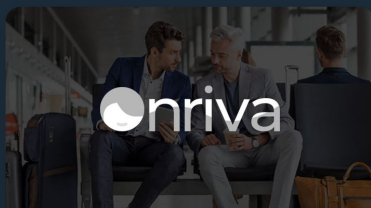


CLIENT STORY

## Revere Intelligence

How nOps helped Revere reduce cloud costs by 30%. Learn how nOps continuously optimizes costs and enhances security and compliance.

[READ CASE STUDY →](#)



CLIENT STORY

## Onriva

nOps helps innovative online travel service reduce AWS cloud costs by 35% while improving scalability to support rapid business growth.

[READ CASE STUDY →](#)



CLIENT STORY

## 6Connex

How nOps helped 6Connex reduce AWS cloud costs by 50%, and comply with security best practices to meet the ISO information security standard.

[READ CASE STUDY →](#)



## Next steps – AWS Well-Architected Review

- Identify high-risk issues (HRIs) immediately.
- Optimize AWS costs – typically 18-50% cost savings.
- Customer credits for Well-Architected issue remediation.\*

*\* From AWS, when you proceed with remediation within 30 days of an AWS Well-Architected Review.*

# Supporting AWS Consulting Partners







# nOps Resources



## nOps Free Trial

<https://www.nops.io/nops-partner-network>



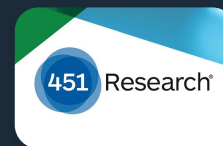
## How Uber Reduced AWS Costs 15% in 30 Days

<https://www.youtube.com/watch?v=I71v9vOUOnk&feature=youtu.be>



## nOps Case Studies

<https://www.nops.io/case-studies/>



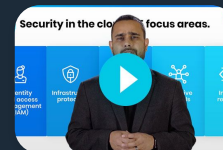
## 451 Research Report – nOps

[https://www.nops.io/resources/others/451-Research\\_Reprint\\_nOps.pdf](https://www.nops.io/resources/others/451-Research_Reprint_nOps.pdf)



## APN Blog Post – AWS Well-Architected, by JT Giri

<https://aws.amazon.com/blogs/apn/how-aws-well-architected-reviews-can-drive-a-customer-first-culture/>



## Video – Get Well-Architected for Continuous Compliance & DevSecOps

<https://youtu.be/XStg5kk0IsY>



# Q&A



# Q&A



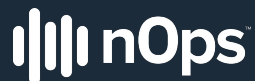
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