AWS re:Invent

NOV. 29 – DEC. 3, 2021 | LAS VEGAS, NV

COP224

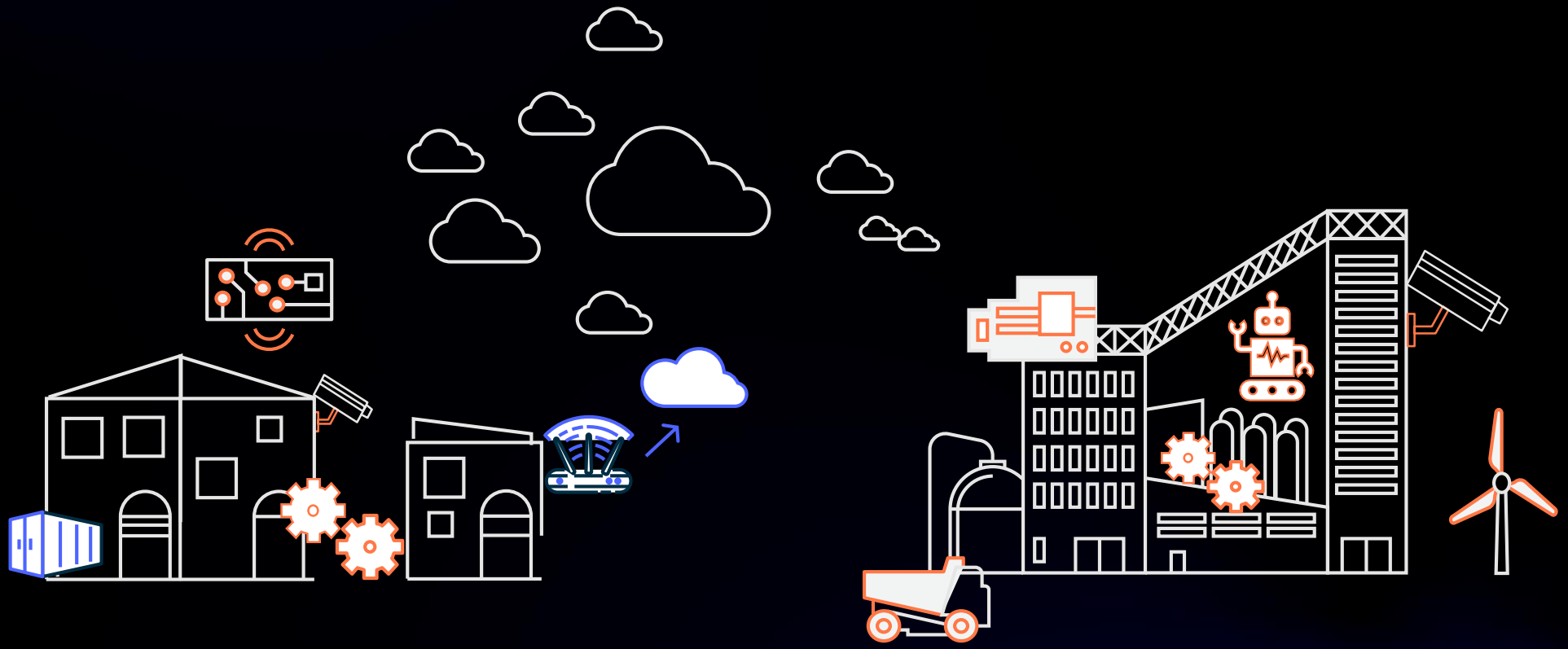
Operate applications in cloud & hybrid environments using Systems Manager

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How do I operationalize edge devices using AWS?



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Agenda

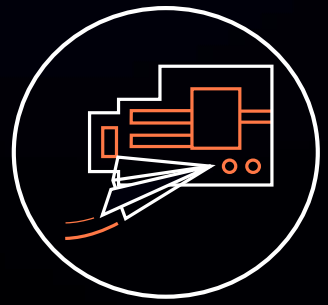
1. Why is secure remote management of edge devices challenging?
2. How AWS Systems Manager helps in managing edge devices
3. How to manage the entire software stack for edge devices
4. Demo

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What it takes to operationalize edge devices



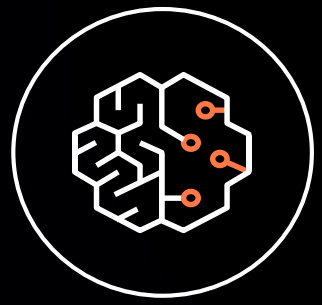
Provisioning and application configuration



OTA and OS updates



Application deployment management



ML model operation



Troubleshooting

Security

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Challenges in operationalizing edge devices

EXTEND IT OPERATIONAL POLICIES TO EDGE DEVICES

Keeping policies consistent is hard

IT asset ops policy

- Amazon EC2 instances
- Edge devices
- Outposts
- On premises

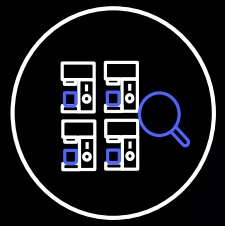
Multiple management toolkits

Edge device

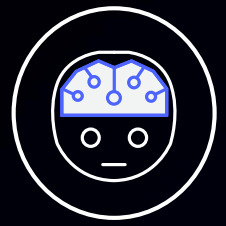
- User application
- Container
- System software
- Operating system

Troubleshooting is complex

- Truck rolls
- Bastion hosts
- Open ports
- Reverse SSH



Inefficient



Need technical expertise



Expensive

aws

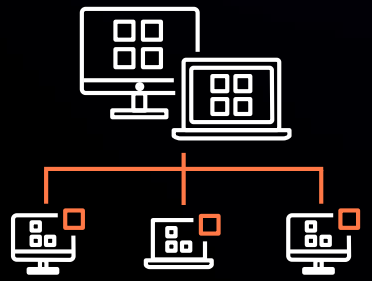
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Systems Manager now supports managing edge devices

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Manage edge devices securely using AWS Systems Manager

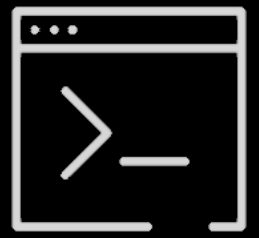
CONSISTENT AND SECURE REMOTE MANAGEMENT OF YOUR EDGE DEVICES



Integrated management



Prebuilt operational runbooks



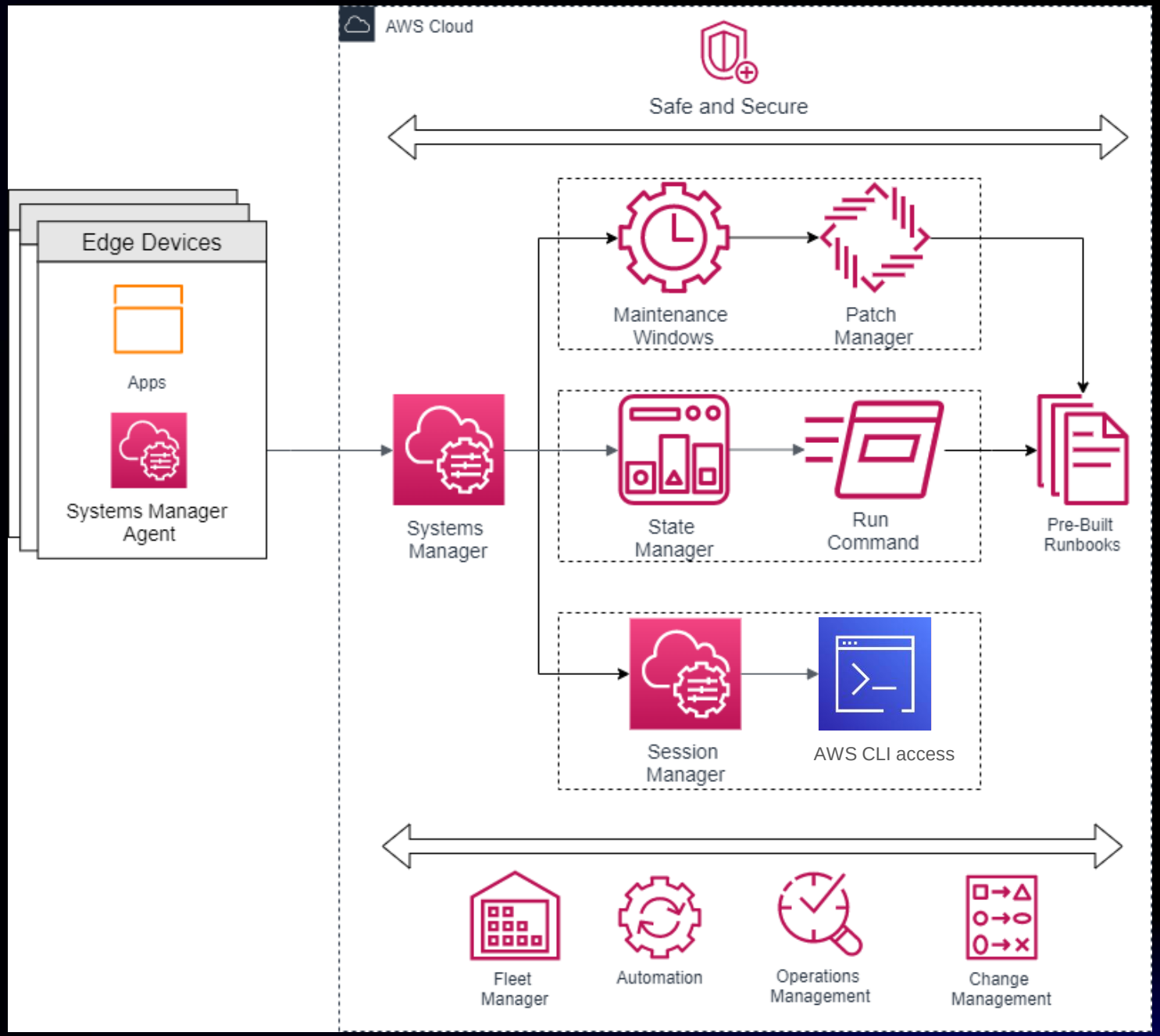
One-click AWS CLI access

Security and safety

aws

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Architecture

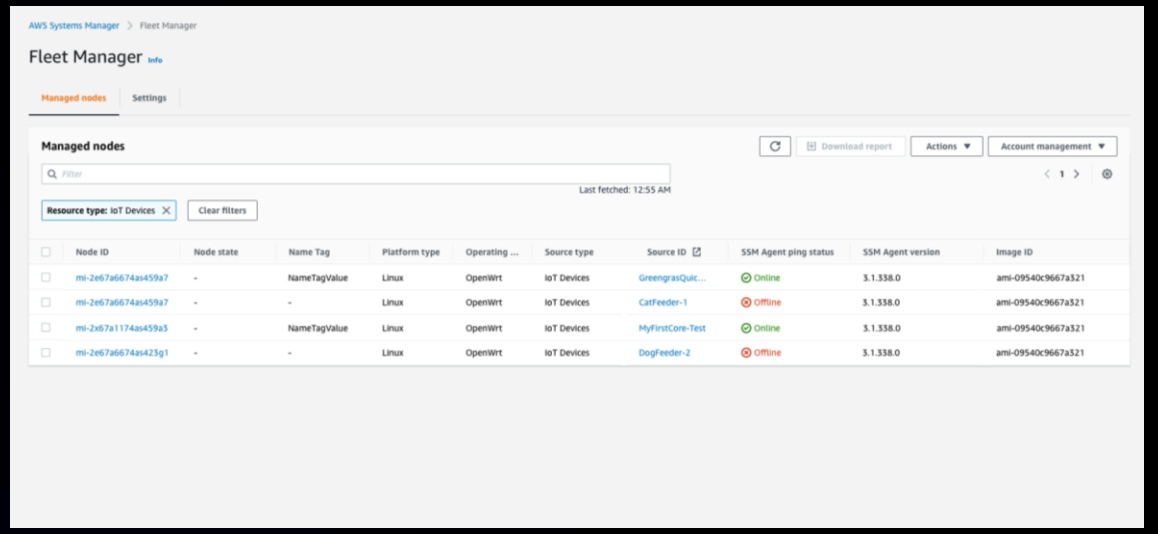


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Integrated management of IT assets and edge devices

EXTEND IT OPERATIONAL POLICIES TO EDGE DEVICES

- Use Fleet Manager to get a holistic view of your entire fleet
- Use a common toolkit to enforce policies across IT assets and edge devices
- Increase efficiency, as integration with third-party tools is no longer required

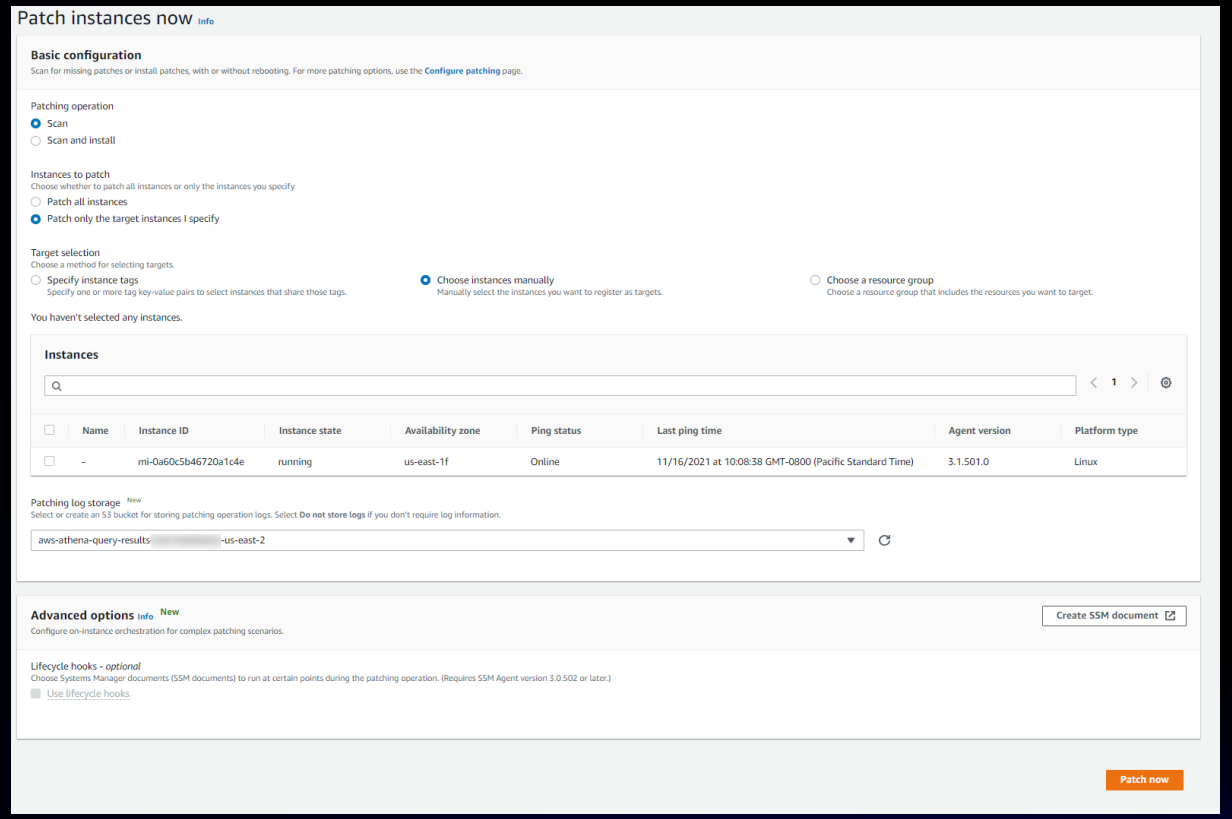


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Prebuilt runbooks based on AWS best practices

EASILY AUTOMATE REPETITIVE OPERATIONAL TASKS SUCH AS PATCHING AND PROVISIONING

- Improve efficiency by automating operational tasks such as provisioning and patching
- Simplify maintenance and deployment tasks using 100+ automated, prebuilt runbooks
- Use built-in safety controls to incrementally deploy changes and automatically halt deployments if errors occur

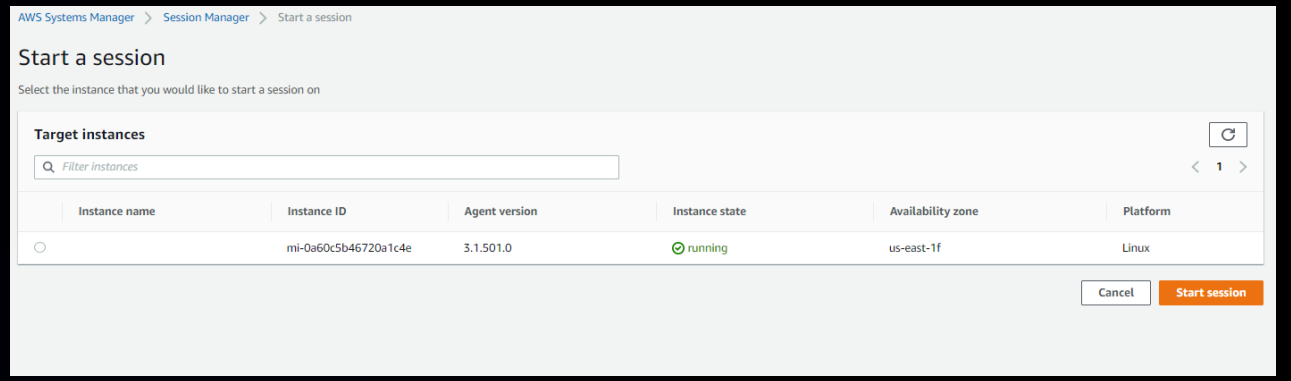


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Secure troubleshooting using Session Manager

SECURE AND AUDITABLE PRIVILEGED ACCESS TO YOUR EDGE DEVICES

- Eliminates the need for bastion hosts, inbound firewall exceptions, and managing SSH keys
- Offers centralized access controls via AWS Identity and Access Management (IAM)
- Saves time and money, as you no longer need costly onsite maintenance visits



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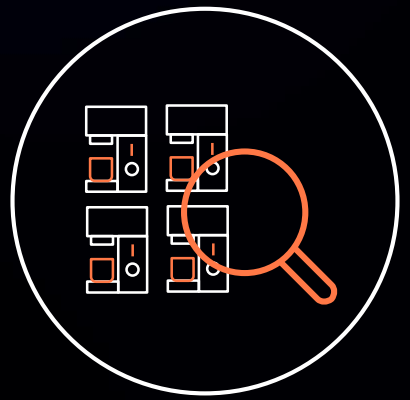
Native integration with AWS IoT Greengrass

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AWS IoT Greengrass – Build, deploy, and manage IoT applications



Manage device software



Control device fleets



Broker data



Run ML at the edge

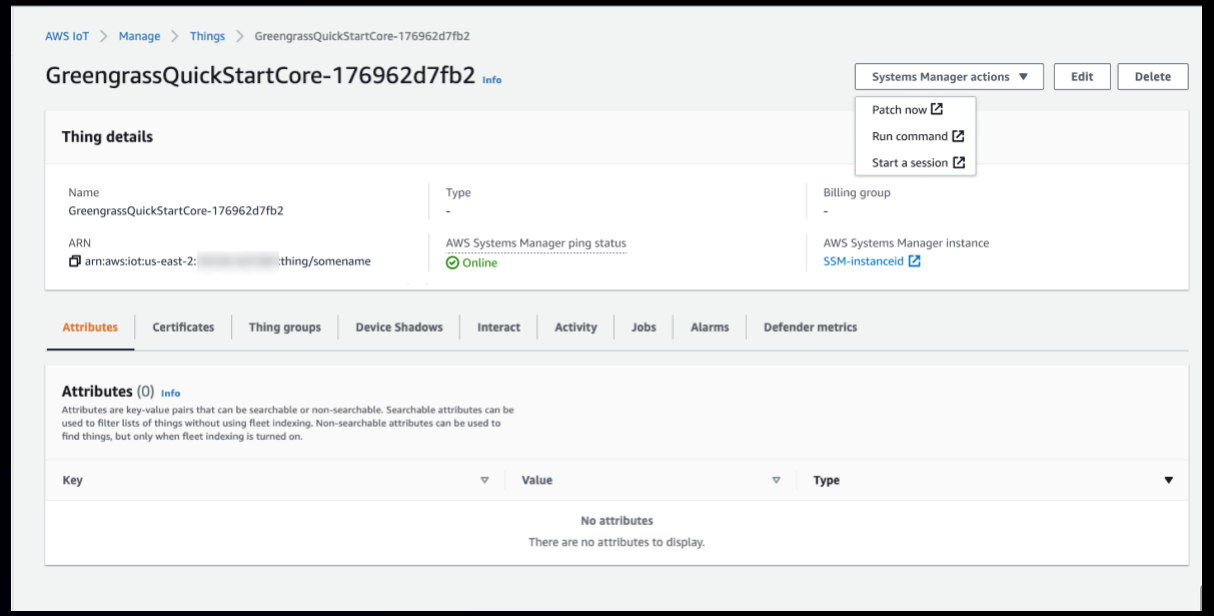
Security – at-rest and in-transit

aws

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Secure remote management of your full edge software stack

- Use AWS IoT Greengrass for integrated management of system software and applications
- Save time, as integration with other remote management tools is not required
- Easily provision the SSM Agent as an AWS IoT Greengrass component with a few clicks



AWS IoT Greengrass

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How is it priced?

Basic tier

- Integrated fleet management
- Patching and firmware updates
- Provisioning and configuration management
- Up to 1,000 devices

No additional charge

Advance tier

- All features of basic tier
- Session Manager
- No limit on number of devices

$5/month[1]

[1] Prorated based on instance hours

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