



Take Back Control - Operating Applications on AWS

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How did we get here?

❑ What resources make up my application?

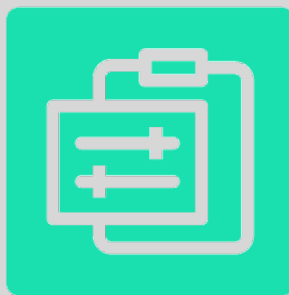
- Define the resources that represent your application

❑ Are my resources and applications healthy?

- Visualize and track the state of your running applications.

❑ Do I have what I need to make sure my applications stay healthy?

- Safely remediate infrastructure issues, incl. on-host, container-based or serverless.

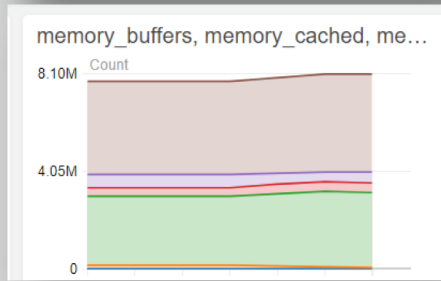
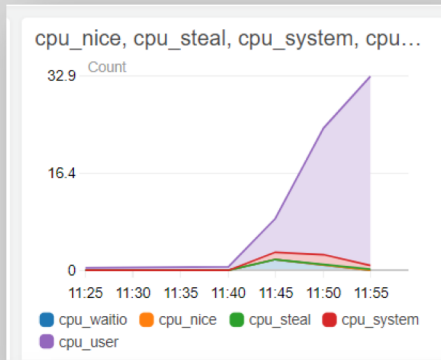


The pursuit of operational excellence

Operate Safely and At Scale

AWS Systems Manager helps you shorten the mean time to detection and resolution of operational issues.

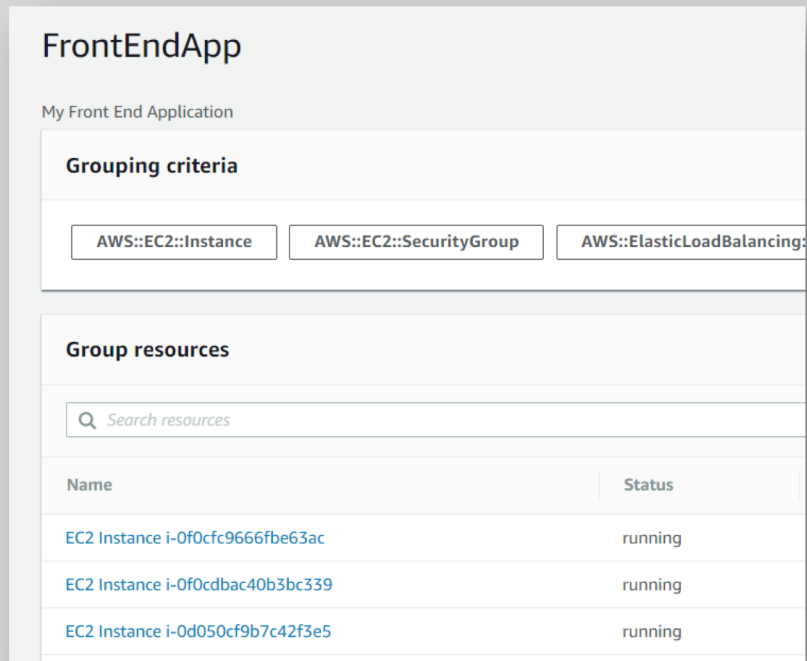
- ✓ **Group** the building blocks of your applications
- ✓ **Visualize** operational insights for applications
- ✓ **Act** using AWS best practices with built-in safeties



AWS Resource Groups – Group Resources

Define the building blocks of your application

- AWS Resource Groups v2 just launched
- Search AWS resources based on tags using a simple query
- Save a search as a heterogeneous group of (dynamic) resources
- Create hierarchies that reflect your actual working structures



The screenshot displays the AWS Resource Groups console for a group named "FrontEndApp". Below the group name, it says "My Front End Application". Under the "Grouping criteria" section, there are three tags: "AWS::EC2::Instance", "AWS::EC2::SecurityGroup", and "AWS::ElasticLoadBalancing". The "Group resources" section features a search bar with the placeholder "Search resources". Below the search bar is a table listing the resources in the group.

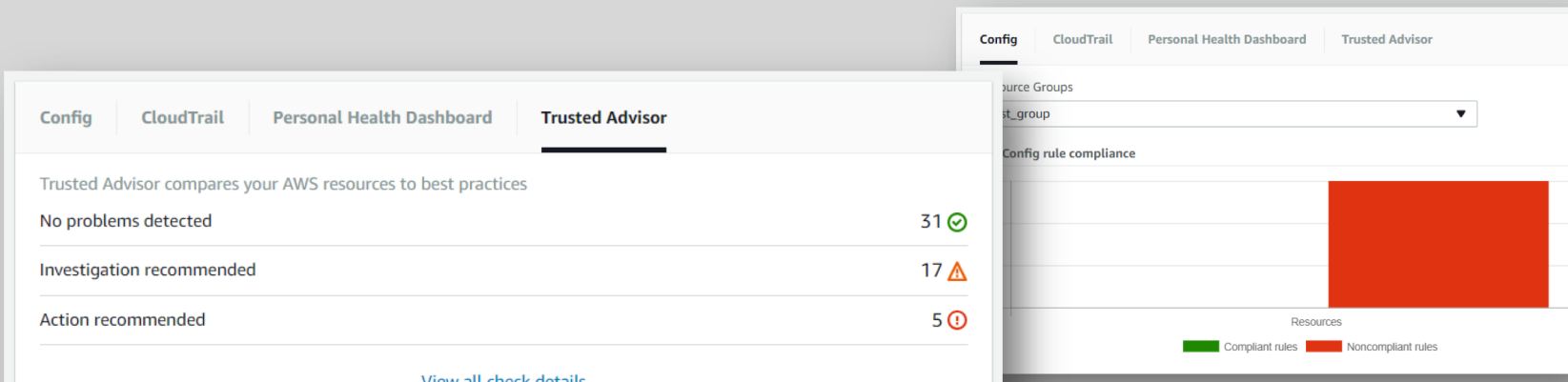
Name	Status
EC2 Instance i-0f0cfc9666f6be63ac	running
EC2 Instance i-0f0cdbac40b3bc339	running
EC2 Instance i-0d050cf9b7c42f3e5	running

Grouping Resources Demo

Integrated (cross-service) Insights

Gain operational insights

- View recent API calls through **AWS CloudTrail**
- View recent configuration changes through **AWS Config**
- View recent events through **AWS Personal Health Dashboard**
- View recommendations through **AWS Trusted Advisor**

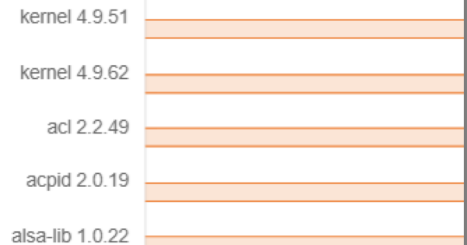


Track Software Inventory and Compliance

Amazon EC2 Instances and On-Premises Servers

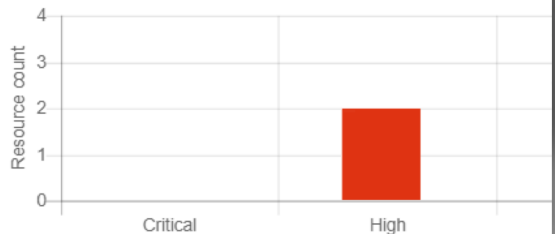
- ❑ Track on-host software inventory like application packages, file meta-data, network configuration, OS details, etc.
- ❑ Define on-host configuration and software compliance checks.
- ❑ Track configuration drifts like OS changes, files, folders, and permissions, over time.

Top 5 Applications (AWS components)

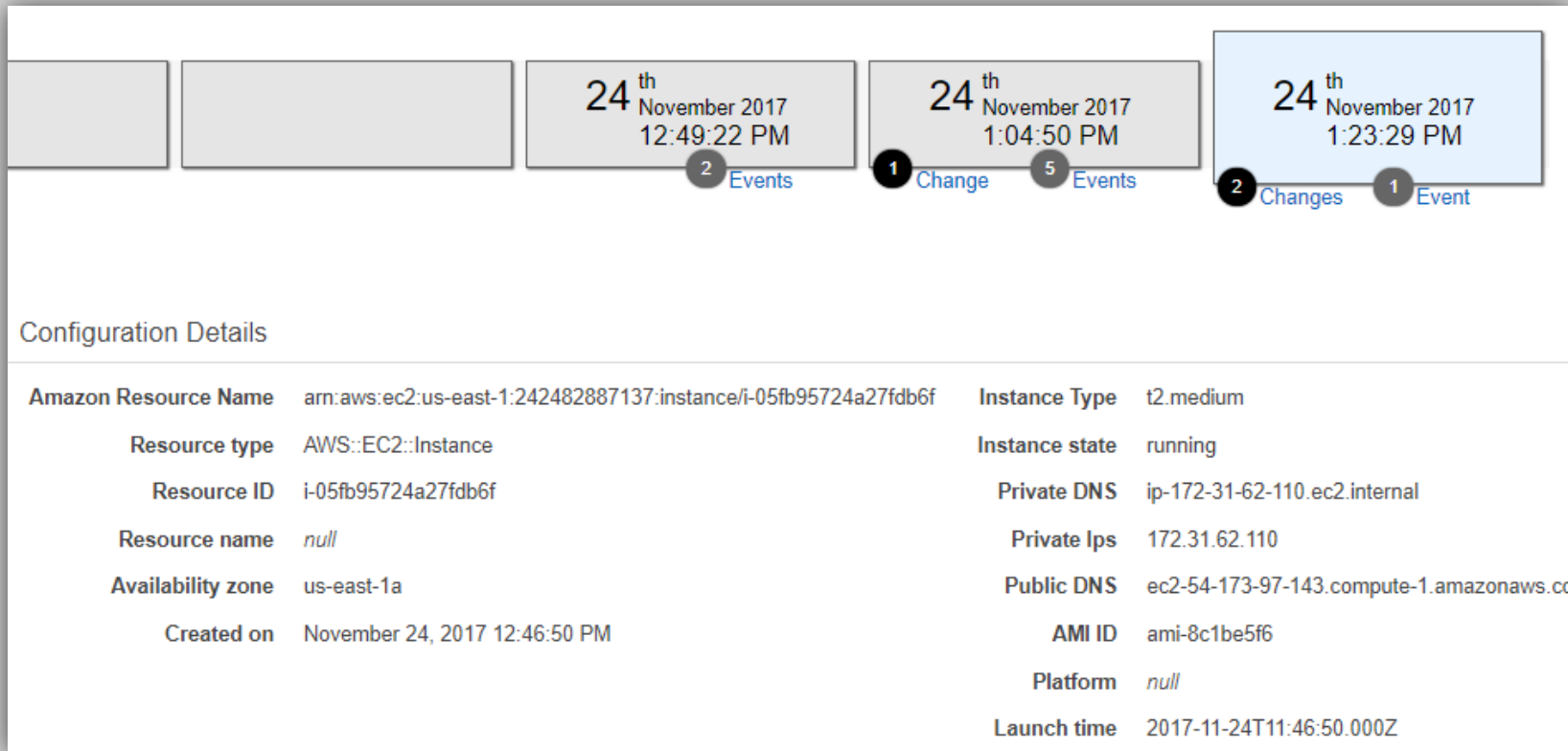


Application	Resource Count
kernel 4.9.51	4
kernel 4.9.62	3
acl 2.2.49	2
acpid 2.0.19	2
alsa-lib 1.0.22	2

Compliance summary of managed instances



Track Software Inventory Over Time



Gathering Operational Insights Demo

Build your own operational dashboards

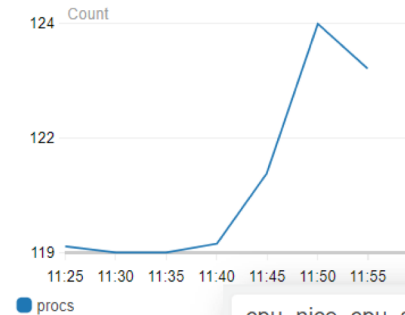
Setup operational dashboards

- Build your and customize your own ops-dashboards
- Leverage your existing Amazon CloudWatch dashboards
- Leverage your existing CloudWatch metrics
- Visualize your application's metrics

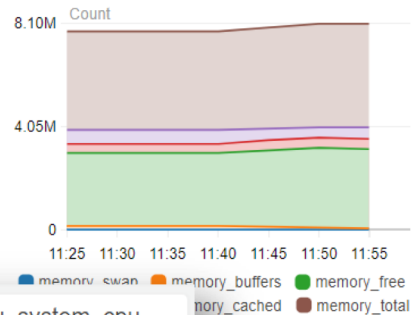
Front End Fleet

Please reach out to John McClane for additional info on the fleet

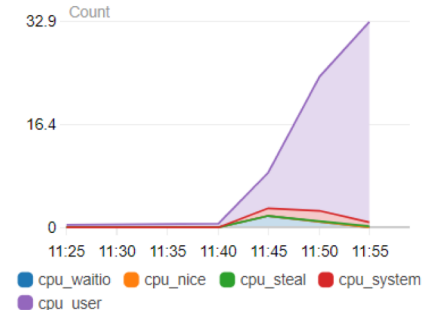
Processes



memory_buffers, memory_cached, me...



cpu_nice, cpu_steal, cpu_system, cpu...



Building Operational Dashboards

Demo

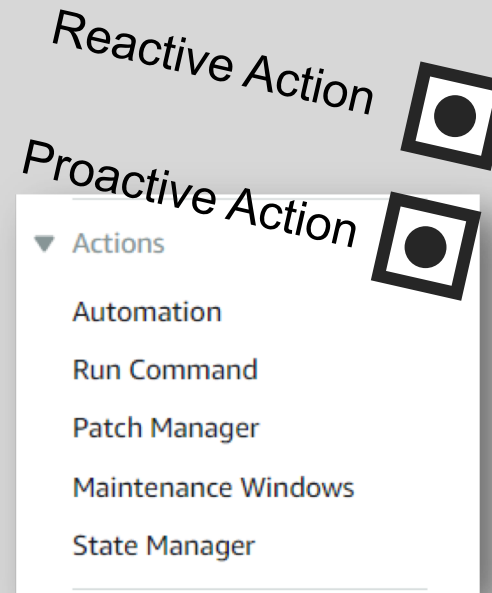
Taking Action

Take action using AWS Systems Manager

- ❑ Automate manual tasks into repeatable steps
- ❑ Constrain or delegate to authorized users
- ❑ Set up execution triggers through CloudWatch Events

Perform bulk operations with built-in safeties

- ❑ Run against resource groups or tags
- ❑ Velocity controls, error thresholds and approval actions



Take Reactive and Proactive Action



Run Command



State Manager

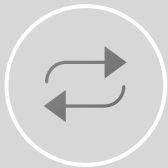


Patch Manager

Take Reactive and Proactive Action



Run Command



Automation



State Manager

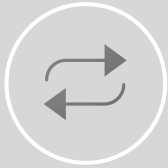


Patch Manager

Take Reactive and Proactive Action



Run Command



Automation



State Manager



Maintenance Window



Patch Manager



Parameter Store

Taking Action Demo

AWS Systems Manager Customers & Partners



AWS Systems Manager

Gain operational insights and take action



Group resources

Create groups of resources across different AWS services, such as for applications or different layers of an application stack



Visualize data

View aggregated operational data by Resource Group



Take action

Respond to insights and automate operational actions across Resource Groups

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