

Graphs

AWS Solutions Architect

Other services: water light music

Cloud Formation

Declarative way of outlining your AWS Infrastructure.

Greater in the right order, exact configuration.

Infrastructure as Code (IaC)

Each resource is tagged

Can estimate the costs of your resources using the CloudFormation Template.

Savings strategy.

Productivity - Ability to destroy and re-create an infrastructure.

Automated generation of Diagram for your templates.

Declarative programming (no need to figure out ordering and orchestration).

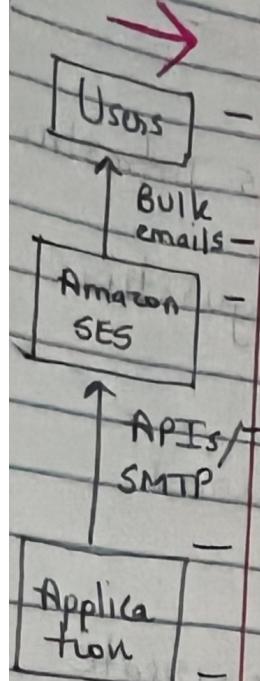
Don't re-invent the wheel - Leverage existing templates on the web, leverage the documentation.

Supports (almost) all AWS services, can we 'custom resources' for resources that are

not supported

Wordpress using
Designer).

Designers).



Simple Email Service (SES)

Fully managed, secure, can send emails globally and at scale

Allows inbound/outbound emails

Reputation dashboard, performance insights, anti-spam feedback

Statistics such as email deliveries, bounces, feedback loop results, email open

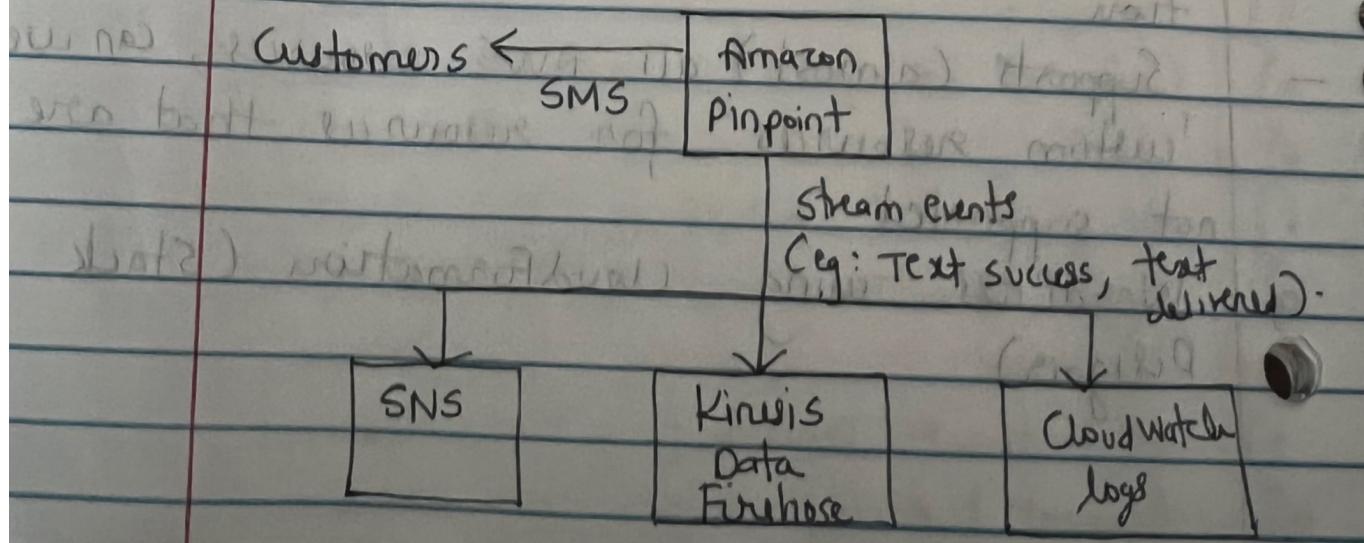
Supports DomainKeys Identified Mail (DKIM) and Sender Policy Framework (SPF).

Flexible IP deployment: shared, dedicated and customer-owned IPs

Send emails using your application using AWS console, APIs or SMTP

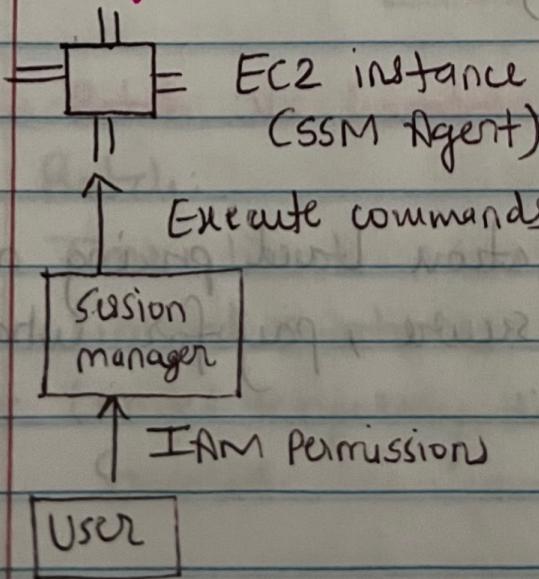
We can: transactional, marketing and bulk email communications

Amazon Pinpoint

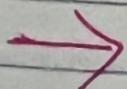


- Scalable 2-way (outbound/inbound) marketing communications service.
- Supports emails, SMS, push voice, and in-app messaging.
- Ability to segment and personalize messages with the right content to customers.
- Possibility to review replies.
- Scales to billions of messages per day.
- Use cases: Run campaigns by sending marketing bulk, transactional SMS messages. ←
- Amazon SNS vs Amazon SES:
- In SNS & SES, you manage each message's audience, content and delivery schedule.
- In Pinpoint, you create message templates, delivery schedule, highly-targeted segments, and full campaigns.

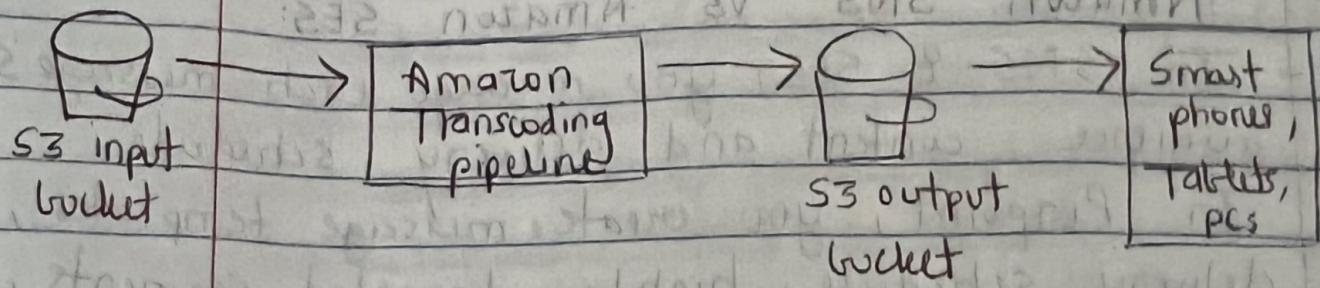
→ Systems Manager - SSM Session Manager



- Allows to start a secure shell on your EC2 and on-premises servers
- No SSH access, bastion hosts, or SSH keys needed.
- No port 22 needed (better security)
- Supports Linux, MacOS, Windows
- Send session log data to S3 / CloudWatch logs.



Amazon Transcoder (Elastic Transcoder).



- Used to convert media files stored in S3 into media files in the formats required by consumer playback devices
- Benefits:

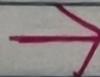
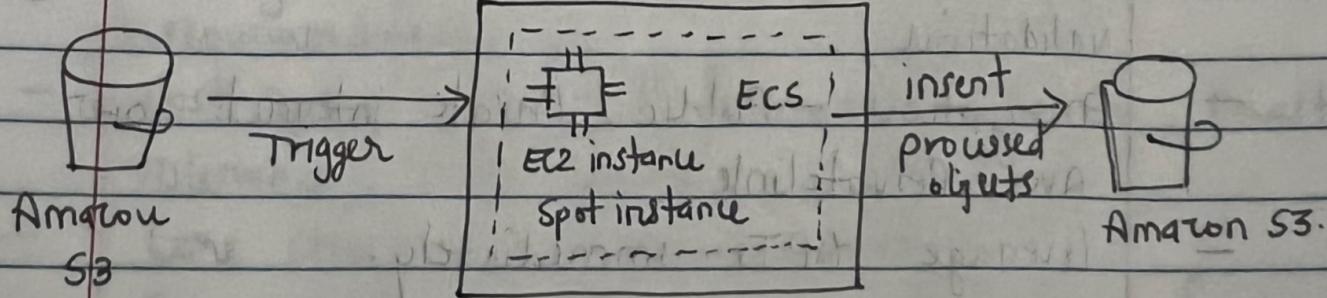
- 1) Easy to use
- 2) Highly scalable
- 3) Cost effective (duration based pricing model)
- 4) Fully managed & secure, pay for what you use.



AWS Batch

- Fully managed, batch processing at any scale
- Efficiently run 100,000s of computing batch jobs on AWS
- Batch job: Job with a start and an end time
- Batch will dynamically launch EC2 instances or Spot Instances
- Batch provisions the right amount of compute/memory.
- Batch jobs are defined as Docker images and run on ECS.
- Helpful for: Cost optimizations, focusing less on the infrastructure.

AWS Batch



Batch vs Lambda

i) Batch:

- Time limit
- Limited runtimes
- Limited temporary disk space
- Serverless

- Batch
- No time limit
- Any runtime as long as it's packaged on Docker image

- Rely on EBS / instance store for disk space
- Relies on EC2 (can be managed by AWS).

Amazon AppFlow

Fully managed integration service, enables securely transfer data between SaaS applications and AWS.

Sources: Salesforce, SAP, Zendesk, Slack, ServiceNow

Destinations - S3, Redshift, Snowflake, Salesforce.

Frequency - On a schedule, in response to events, or on demand.

Data transformation capabilities - filtering, validation.

Encryption - Public / Private internet over AWS PrivateLink.

Leverage APIs immediately.

Well Architected Framework General

guiding principles.

- Stop guessing your capacity needs

- Test systems at production scale

- Automate

- Allow for evolutionary architecture

- Drive architectures using data.

- Improve through game days. ←

→ **Well architected Framework 6 pillars:**

- 1) Operational excellence
- 2) Security
- 3) Reliability
- 4) Performance Efficiency
- 5) Cost optimisation
- 6) Sustainability

→ **AWS Well-Architected Tool:** Free tool to review your architectures against 6 pillars and adopt best practice.

→ **Trusted Advisor:**

- High level AWS account assessment
- Analyse your AWS accounts and provides recommendation.
- Cost Optimization, Performance, Security, Fault Tolerance, Service limits.
- Core checks & recommendations
- Can enable weekly email notifications from the console.
- Full Trusted Advisor: Available for Business & Enterprise Support Plans.:- Ability to set Cloudwatch Alarms when reaching limits, Programmatic Access using AWS Support API.

→ Trusted Advisor Checks e.g.

1)

Cost optimisation:
Low utilization EC2 instances, idle load
balancers, under-utilized EBS volumes.

2)

Reserved instances & savings plan optimization.
Performance:

High utilization, EC2 instances, CloudFront
CDN optimisations.

3)

Security:

MFA enabled on Root Account, IAM

key rotation, exposed Access keys.

S3 Bucket Permissions for public access,
Security groups with unrestricted ports.

4)

Fault Tolerance:

EBS snapshots age, availability zone
balance

ASG Multi-AZ, RDS Multi-AZ, ELB

Config.

Service limits.

5)

Service limits.

Review of utilization: cost/benefit analysis

for each service -> make changes if suggested

Health checks review Lambda functions

Lambda triggers review Lambda functions