**What is SES?**

Amazon SES *(Simple Email Service)* is a regional service which sends an email regarding marketing, transaction, and notifications. Amazon SES supports custom email header fields, and many MIME types. Email sending capabilities can also be introduced in Amazon SES such as ticketing systems and email clients. It is suitable for small as well as large industries as the cost is less and it is reliable. Amazon SES can be directly integrated to the existing application with the help of SMTP Interface and Amazon SDK.

**Key Features:**

- Flexible Deployment Options
    - By default, Amazon SES sends email from IP addresses **that are shared** with other Amazon SES customers. Shared addresses are a great option for many customers who want to start sending immediately with established IPs. These IP addresses' reputation are monitored closely by AWS.
    - We can **lease dedicated IP addresses** to use with our Amazon SES account.
    - Amazon SES also supports Bring Your Own IP (BYOIP).
- Sender Identity Management (Authenticity) and Security
    - SES supports Domain Keys Identified Mail (DKIM), Sender Policy Framework (SPF), and Domain-based Message Authentication, Reporting and Conformance (DMARC).
    - Authenticating Email with Sender Policy Framework (SPF) – an email validation standard that's designed to prevent email spoofing. Domain owners use SPF to tell email providers which servers are allowed to send email from their domains.
    - Authenticating Email with Domain Keys Identified Mail (DKIM) – a standard that allows senders to sign their email messages with a cryptographic key. Email providers then use these signatures to verify that the messages weren't modified by a third party while in transit.
    - Complying with DMARC – an email authentication protocol that uses SPF and DKIM to detect email spoofing. In order to comply with DMARC, messages must be authenticated through either SPF or DKIM, or both.
- Provides Sending Statistics
    - SES captures information on the number of sends, deliveries, opens, clicks, bounces, complaints, and rejections. This data is shared by default in the **Sending Statistics** report in the SES console.
    - Sending data can be stored in an Amazon S3 bucket or an Amazon Redshift database, sent to Amazon SNS for real-time notifications, or analyzed using Amazon Kinesis Analytics.

- Reputation Dashboard
    - SES console includes a reputation (*a measure of confidence that an IP address, email address, or sending domain is not the source of spam*) dashboard that we can use to track issues that could impact the delivery of your emails, such as bounce and feedback loops for your account.
    - We can use CloudWatch to create alarms that notify us when the bounce or complaint rates reach certain thresholds.
- Email Receiving
    - We can use SES to receive emails and Content Personalization.
    - We can accept or reject mail based on the email address, IP address, or domain of the sender.
    - Once SES has accepted the email, we can store it in an S3 bucket, execute custom code using a Lambda function, or publish notifications to SNS.
- Mailbox Simulator
    - The Amazon SES sandbox is an area where new users can test the capabilities of SES. When the account is in the sandbox mode, we can only send email to verified identities. A verified identity is an email address or domain that we own.
    - In sandbox mode, there are limits on the volume of email that we can send each day, and on the number of messages that we can send each second.
- Security
    - AWS uses in-house anti-spam technologies to filter messages that contain poor-quality content. They also scan all messages that contain attachments to check for viruses and other malicious content.
    - Integrates with AWS KMS.
    - Supports TLS 1.2, TLS 1.1 and TLS 1.0 for TLS connections.

**Benefits:**

- High Deliverability
- Cost-Effective
- Configurable
- Reliable

**Limitations:**

- Can only use SES to send email from addresses or domains that you own.
- SES accepts email messages up to 10 MB in size.
- There is a sending quota, which is the maximum number of recipients that we can send email to in a 24-hour period.

- There is a maximum send rate, which is the maximum number of recipients that we can send an email to per second, however this can be increased by making a request to AWS.

**Use Cases:**

- Sending Transaction Messages
- Sending Marketing Communications
- Sending Notifications
- Receiving Emails

**Methods of Sending Emails**

- Amazon SES console
- SES Simple Mail Transfer Protocol (SMTP) interface
- Amazon SES API

**Cost Structure:**

With Amazon SES, there are not any direct prices and no minimum commitments. We pay as we go, and pay just for what you utilize. If we send email using an application hosted in an Amazon EC2 instance, the primary 62,000 emails we send are unit free, with an awfulsly low rate for every email sent thereafter.

Additionally, we have to pay for dedicated IP addresses we lease (if any) or charged for each BYOIP we bring to SES. We also pay for outgoing data charges per GB.

**Is SNS the same as SES?**

Amazon SNS is for messaging-oriented applications, with multiple subscribers requesting and receiving push notifications of messages via different available transport protocols, such as HTTP, Amazon SQS, and email. SNS does not support multimedia attachments. Not enough? If so, please visit this link to know more.

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