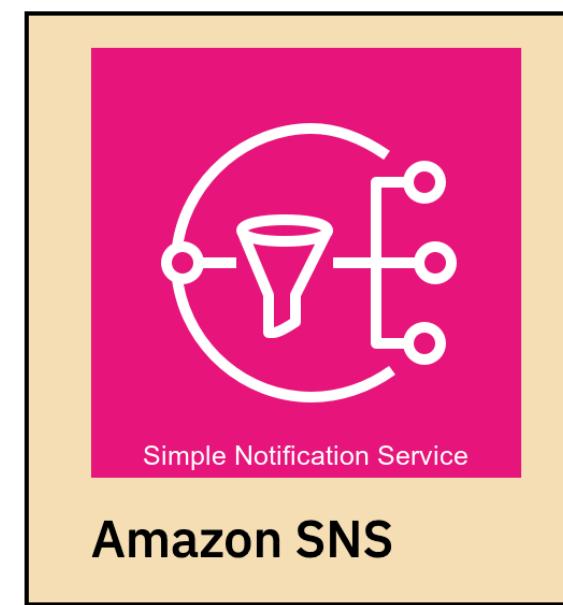


Amazon SNS

Table of Contents

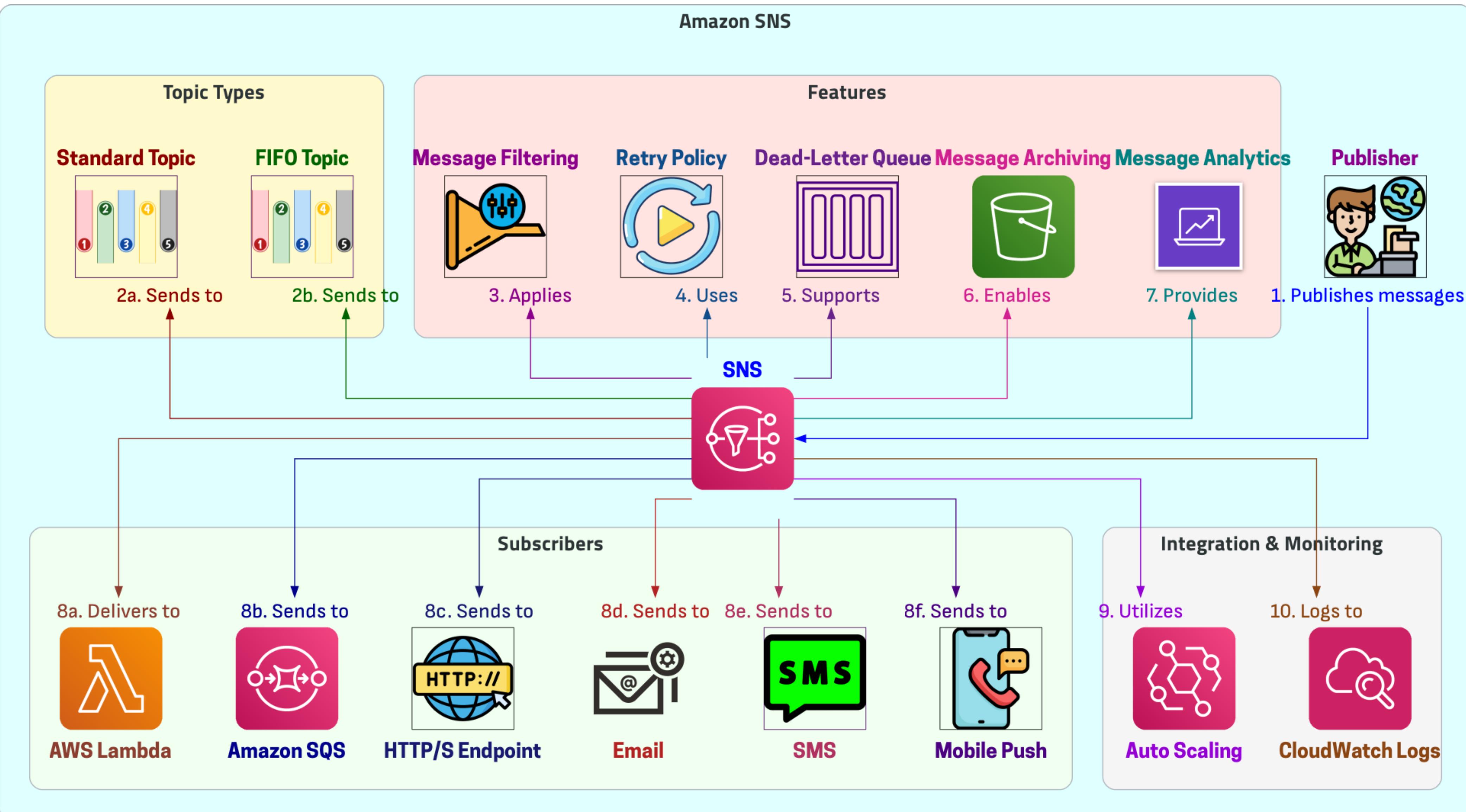


- 1. What is Amazon SNS?
- 2. High Level Overview
- 3. Features and Capabilities of Amazon SNS
- 4. Fanout to Amazon SQS queues
- 5. Fanout to Firehose delivery streams
- 6. Fanout to Lambda functions
- 7. Fanout to HTTP(S) endpoints
- 8. Event Sources
- 9. Destinations
- 10. Amazon SNS Workflow
- 11. Message Ordering and Deduplication (FIFO Topics)
- 12. Amazon SNS Message Filtering
- 13. Message Data Protection in Amazon SNS
- 14. Amazon SNS Dead-Letter Queues (DLQs)



Simple Notification Service

What is Amazon SNS ?

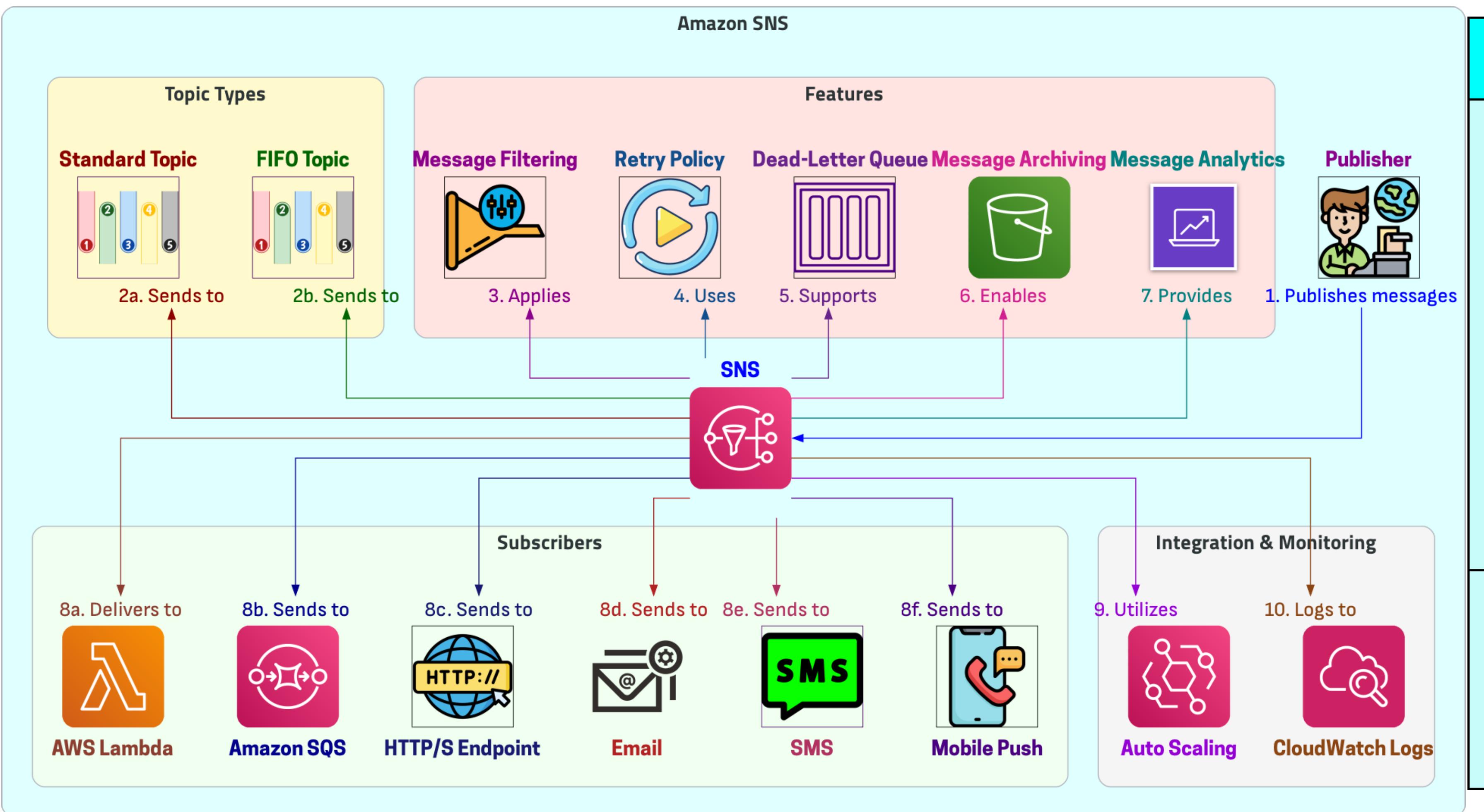


1. Asynchronous communication service
- | | |
|--|---------------|
| | Applications |
| | Microservices |
| | Servers |
| | Users |



Simple Notification Service

What is Amazon SNS ?

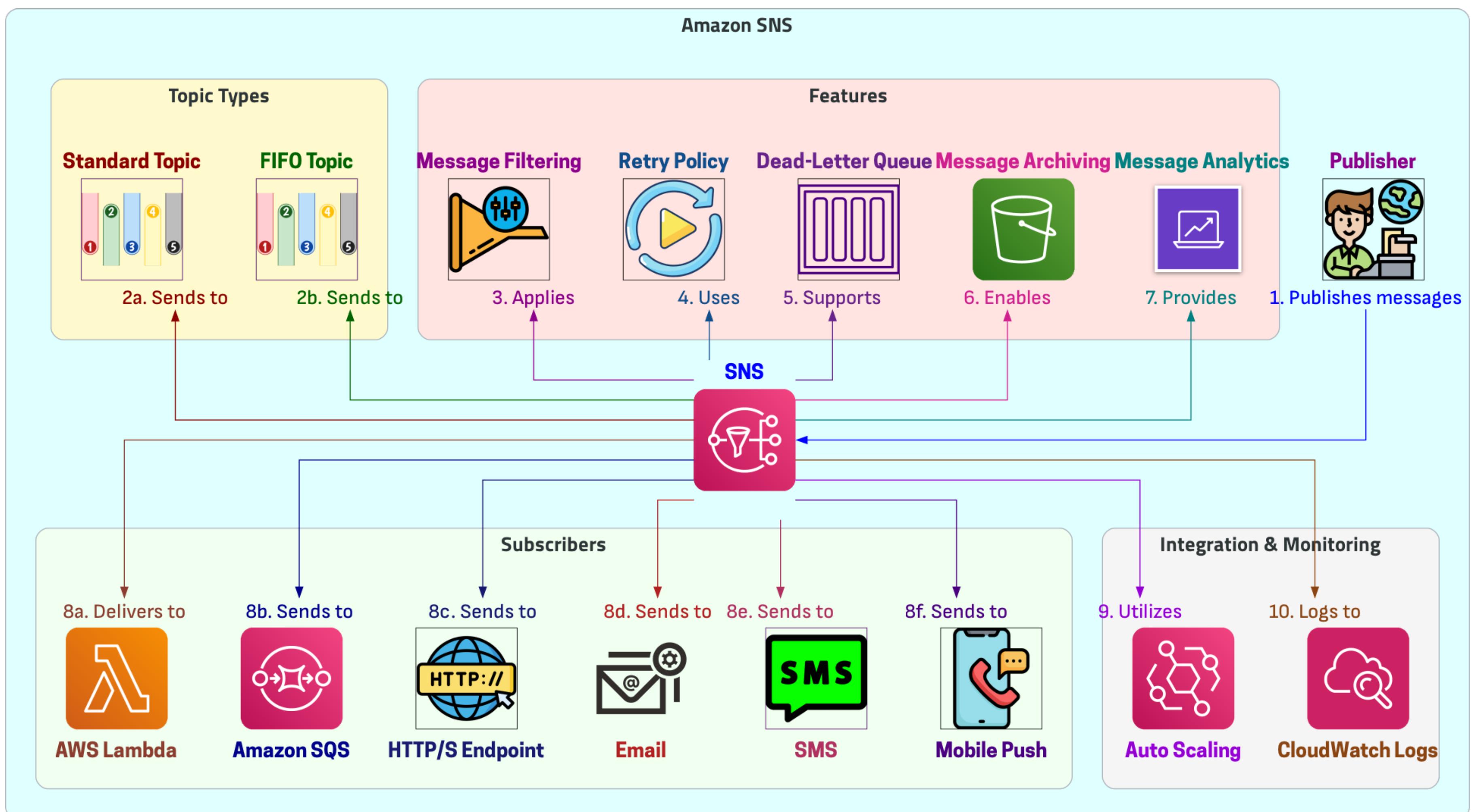


2. 🚀 Publish-subscribe model	
	λ AWS Lambda
📦 SQS	
🌐 HTTP/S	
✉️ Email	
📱 SMS	
🔔 Mobile push notifications	
❗ System alerts	
👤 User notifications	
⚙️ Use cases	Process automation



Simple Notification Service

What is Amazon SNS ?



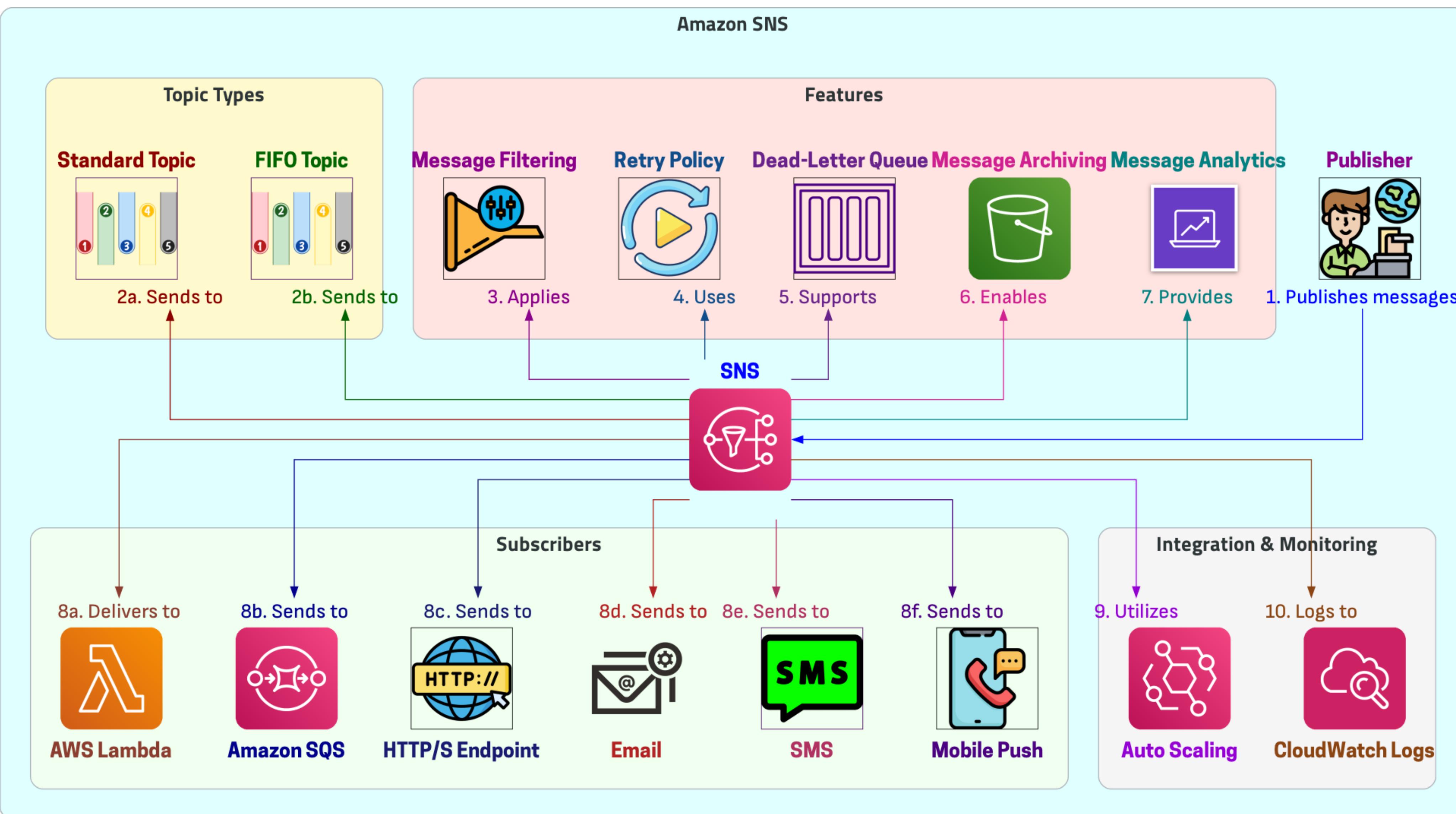
3. Topic types

Standard topics	High throughput
	Best-effort ordering
FIFO topics	At-least-once delivery
	Exactly-once delivery
Ordered message delivery	High throughput
	Ordered message delivery



Simple Notification Service

What is Amazon SNS ?

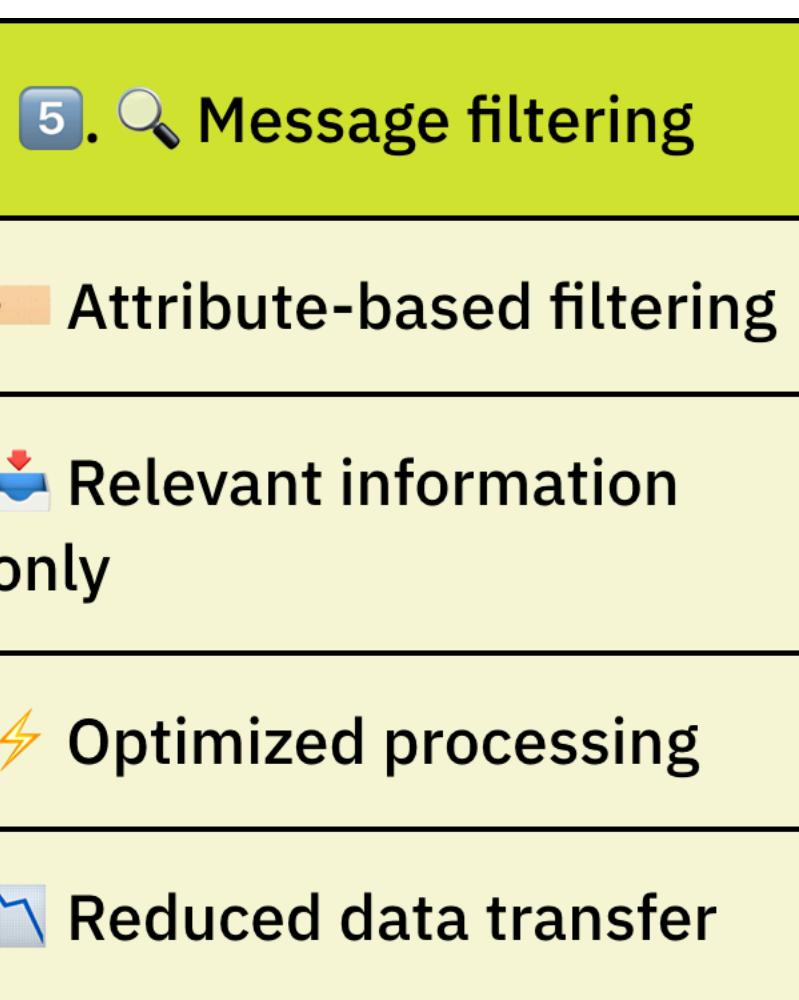
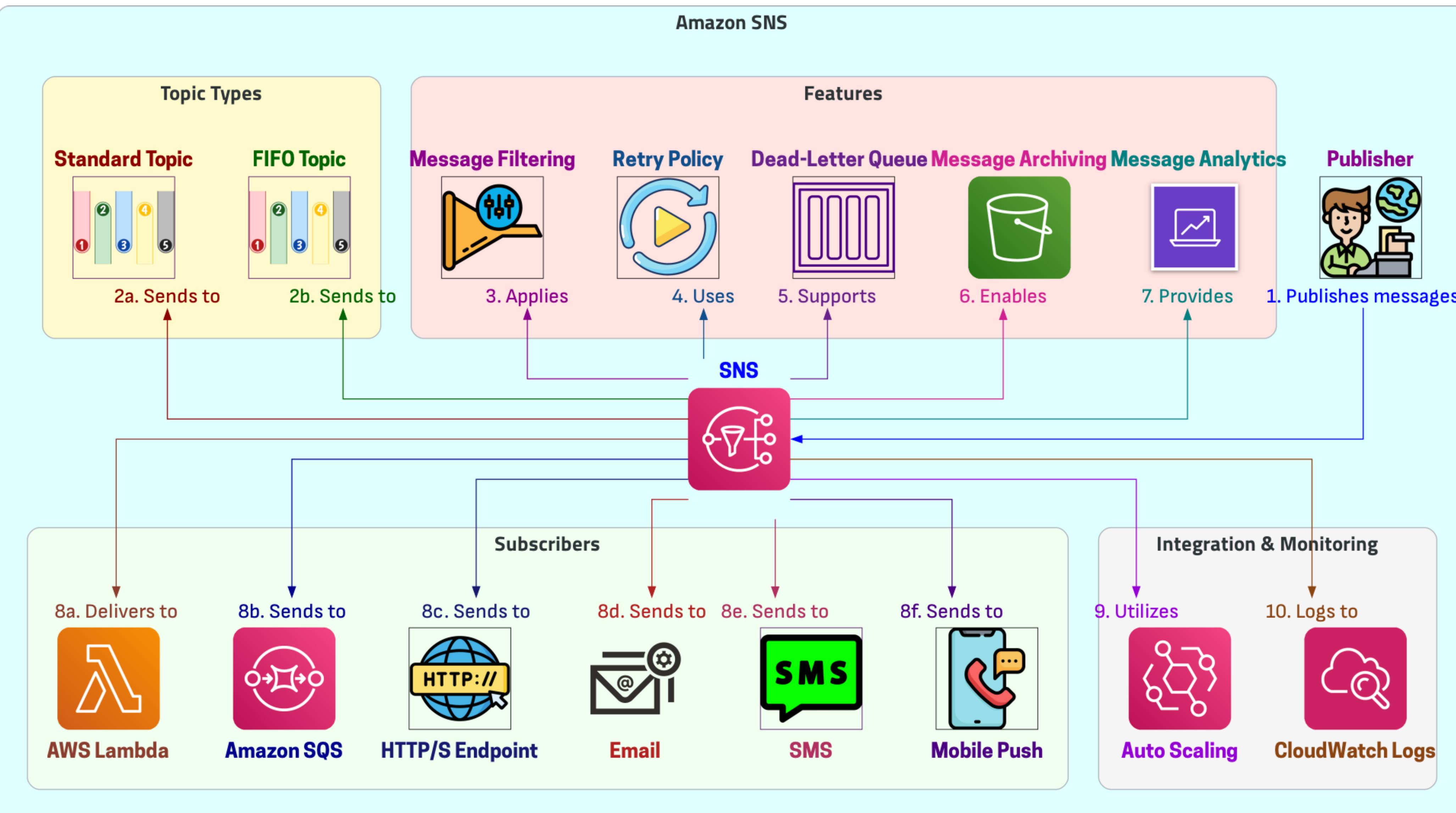


4. 🛡️ Secure and reliable
Multiple AZ storage
Retry policies
Dead-letter queues
Message archiving
Analytics for insights



Simple Notification Service

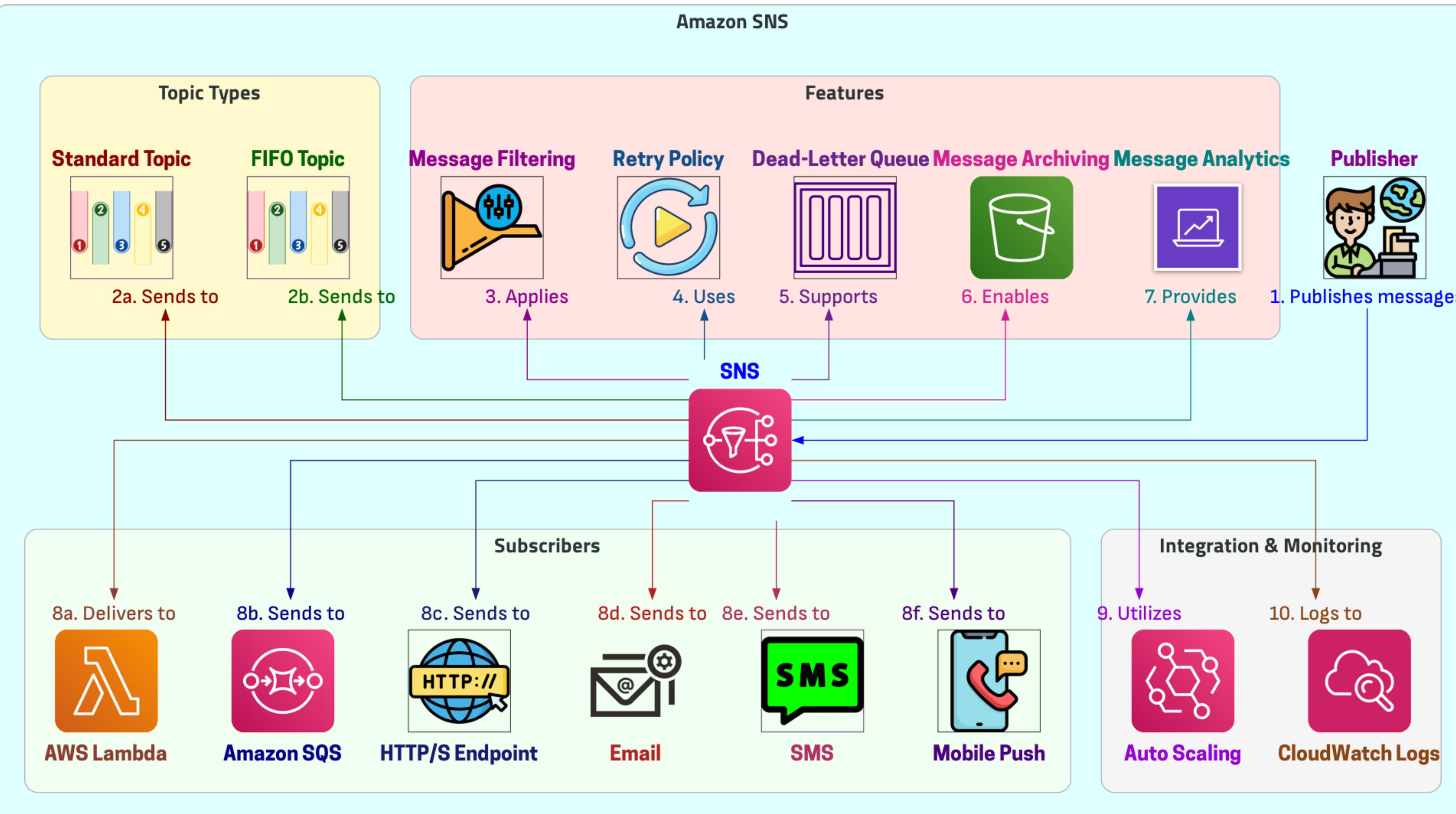
What is Amazon SNS ?





Simple Notification Service

What is Amazon SNS ?



6. Architectural benefits

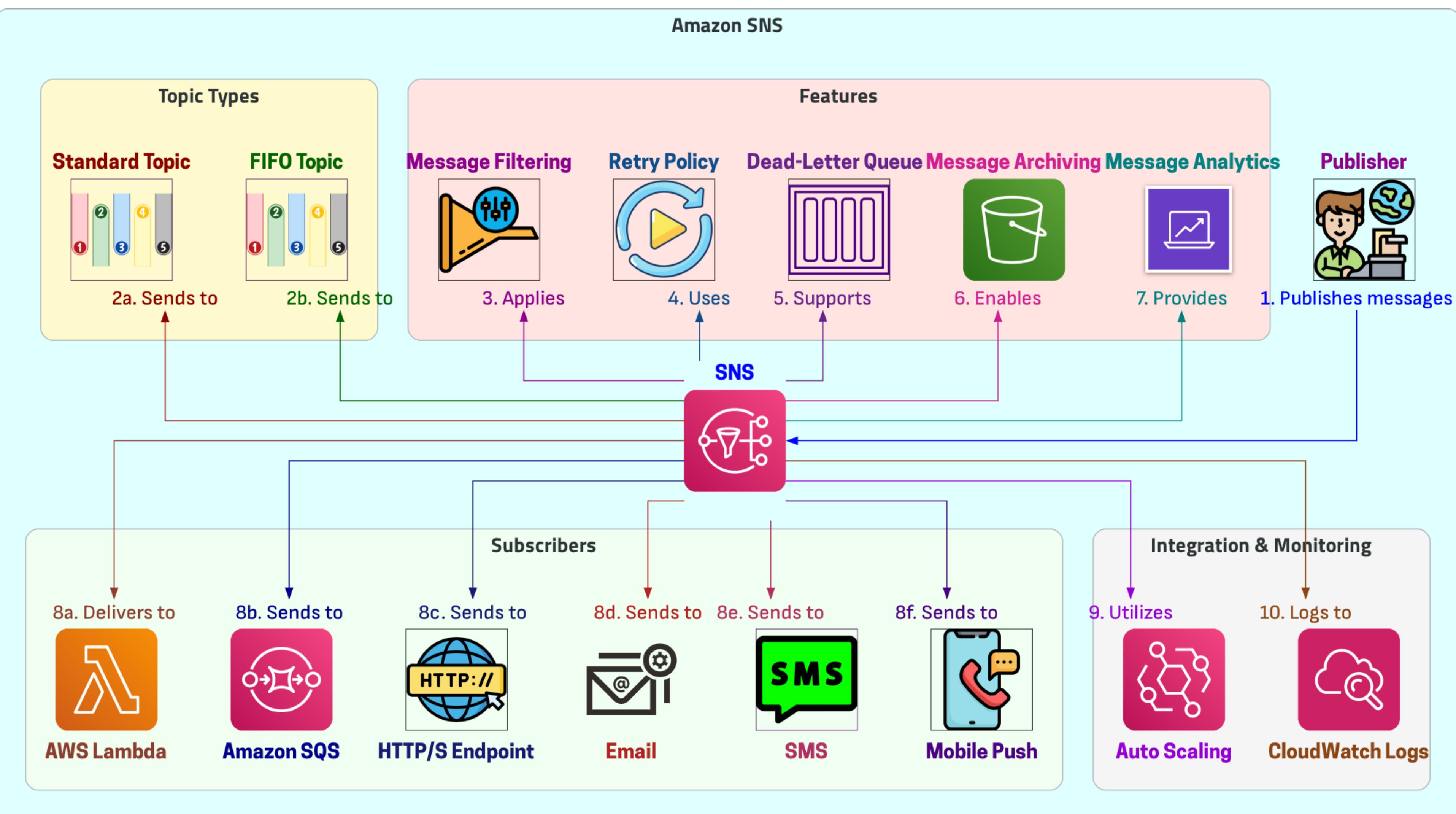
Loosely coupled systems

Scalable architectures

Resilient architectures



What is Amazon SNS ?



7. Auto-scaling capabilities

High volume message handling

Large number of subscribers

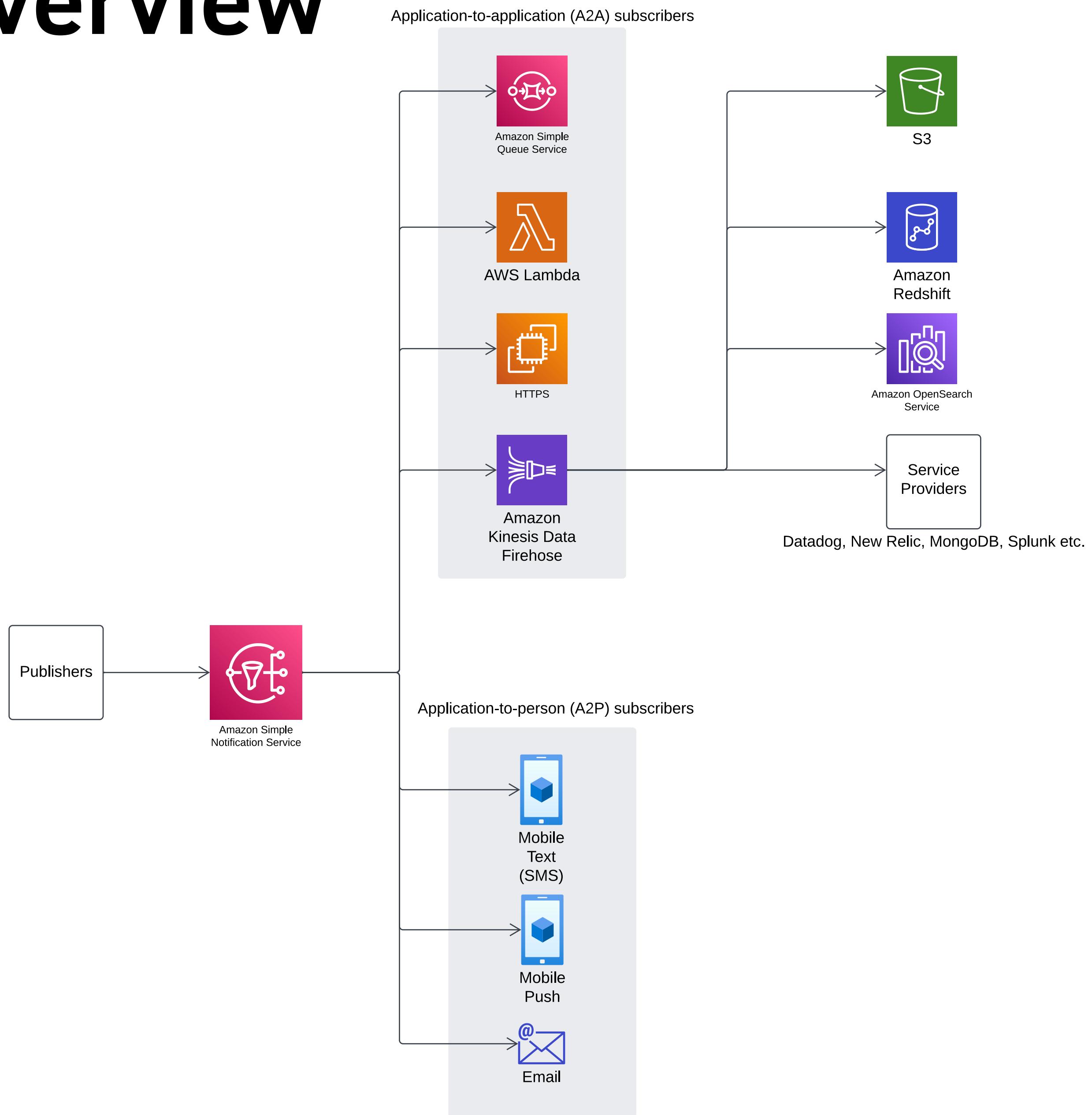
No manual intervention

Tracking

Detailed logs

Troubleshooting

High Level Overview





Features and Capabilities of Amazon SNS



Simple Notification Service

1. A2A Messaging

Amazon Data Firehose delivery streams

Lambda functions

Amazon SQS queues

HTTP/S endpoints

AWS Event Fork Pipelines

2. A2P Notifications

Mobile applications

Mobile phone numbers

Email addresses

3. Topic Types

Strict message ordering

Define message groups

Prevent message duplication

Flexible delivery order

Possible message duplication

All delivery protocols supported

4. Message Durability

Geographically distributed storage

Delivery retry policy

Dead-letter queues

5. Message Archiving

Firehose delivery streams

Analytics endpoints

Amazon S3 buckets

Amazon Redshift tables

FIFO topics support

In-place message archiving

Message replay

6. Message Attributes

Arbitrary metadata

7. Message Filtering

Filter policy assignment

Filter policy scope

MessageAttributes

MessageBody

Payload-based filtering

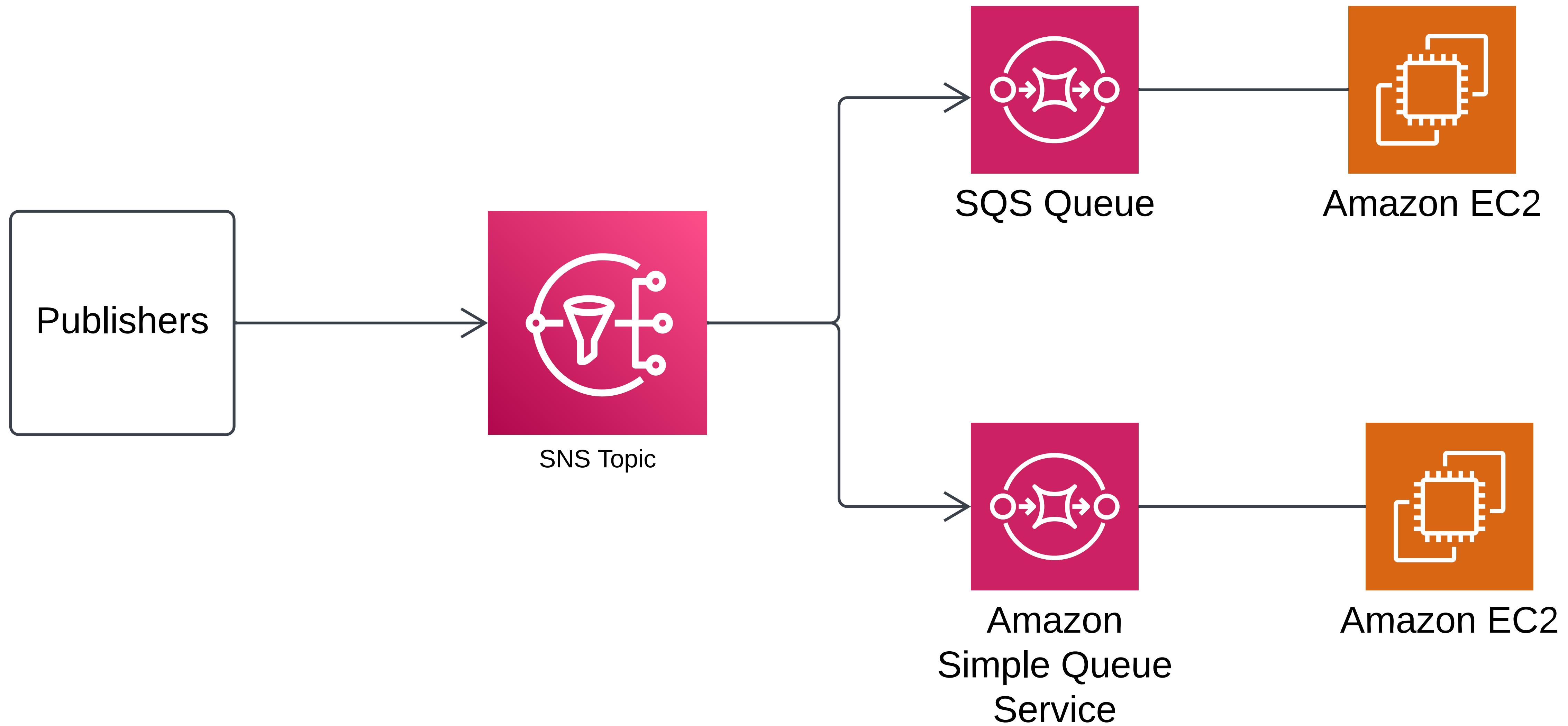
Attribute-based filtering

8. Server-side Encryption

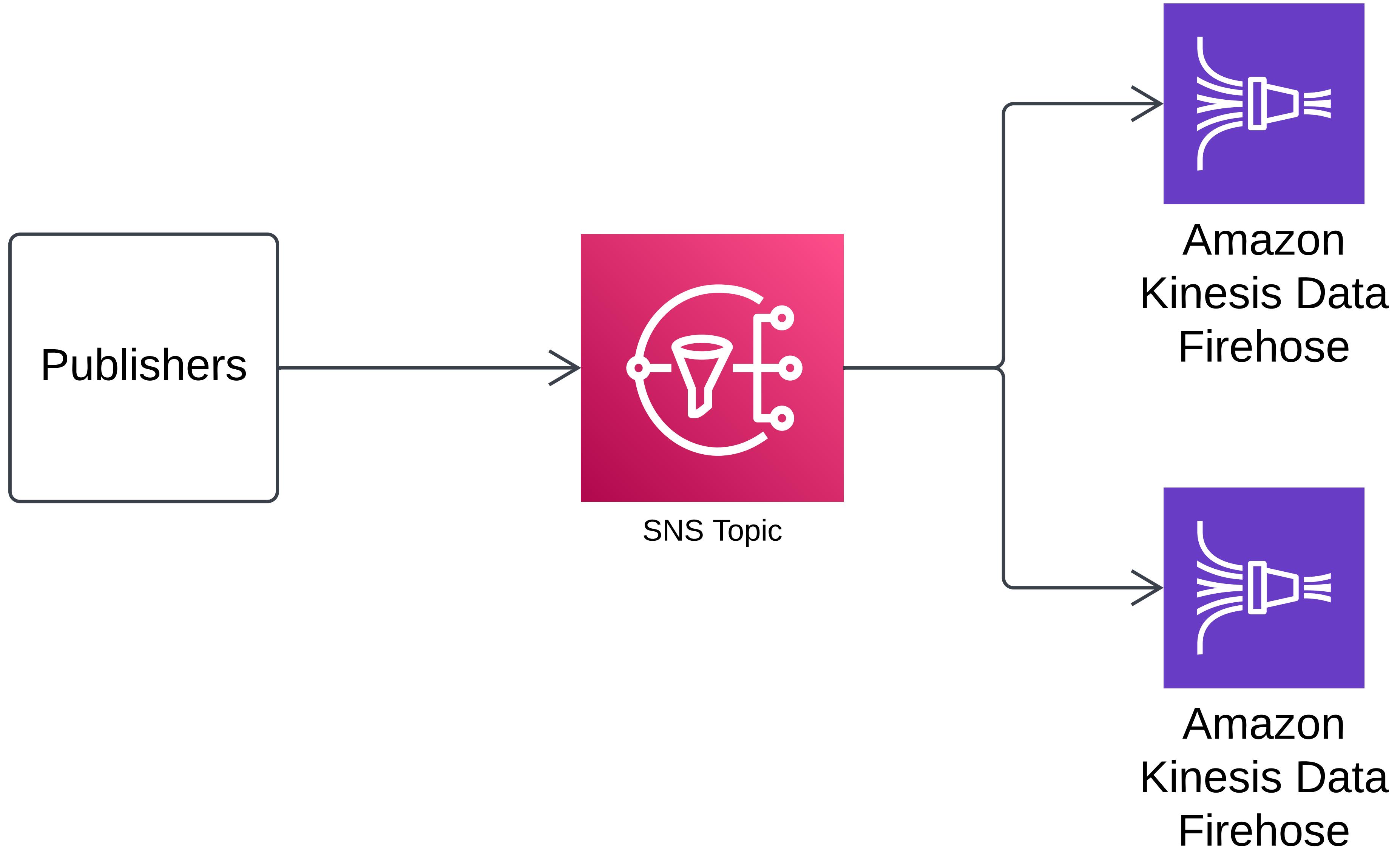
AWS KMS encryption keys

Data security at rest

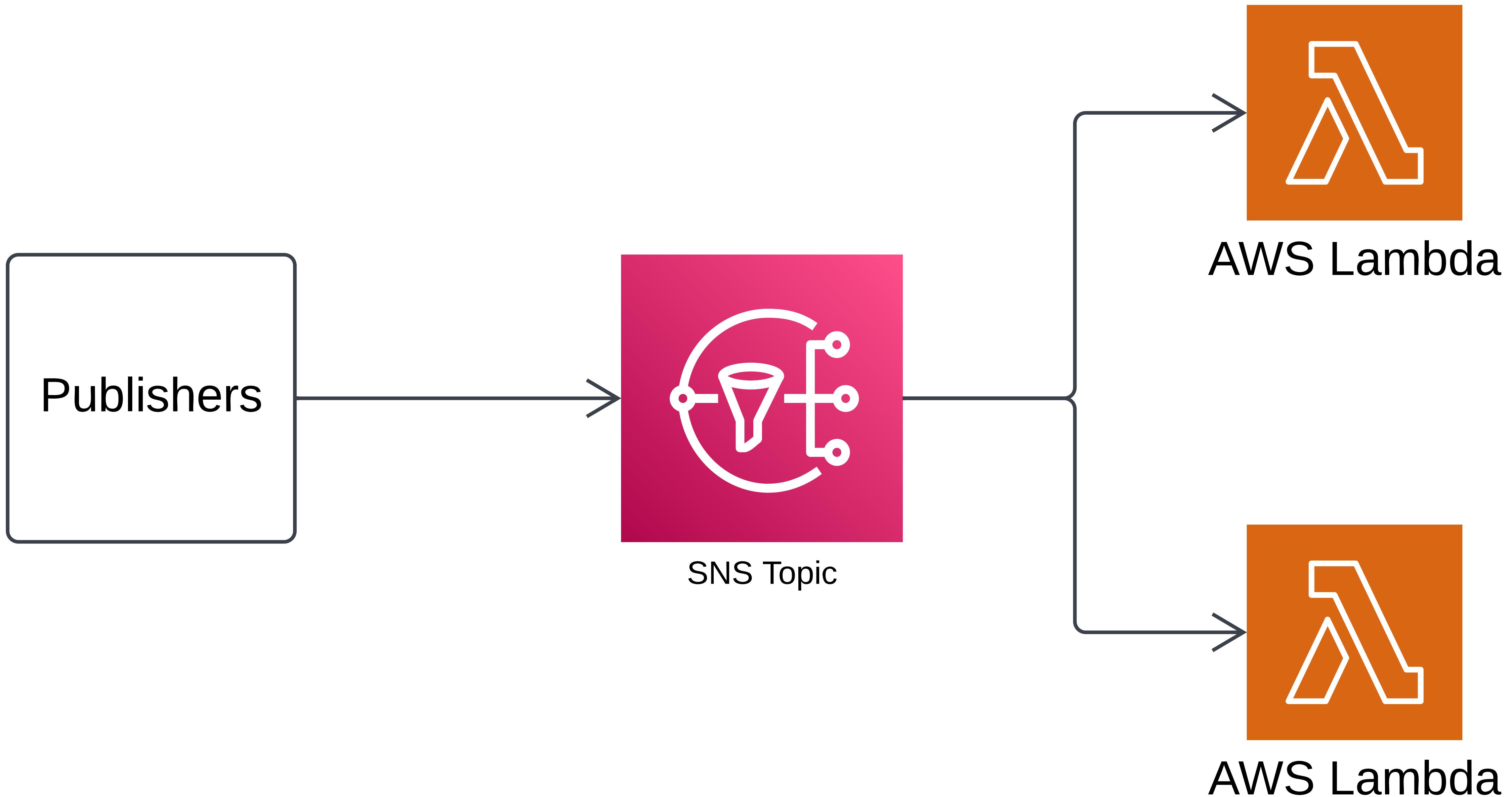
Fanout to Amazon SQS queues



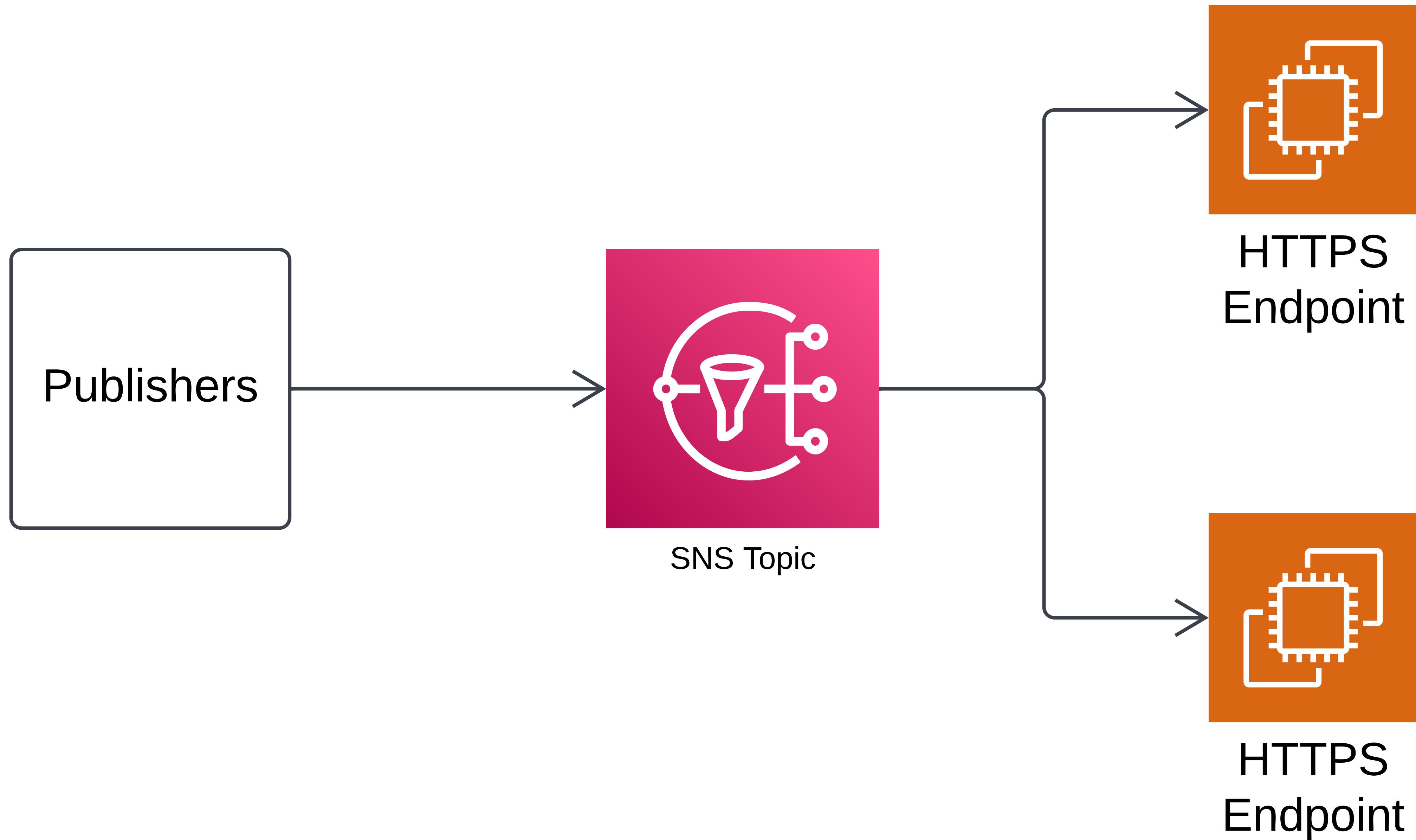
Fanout to Firehose delivery streams



Fanout to Lambda functions



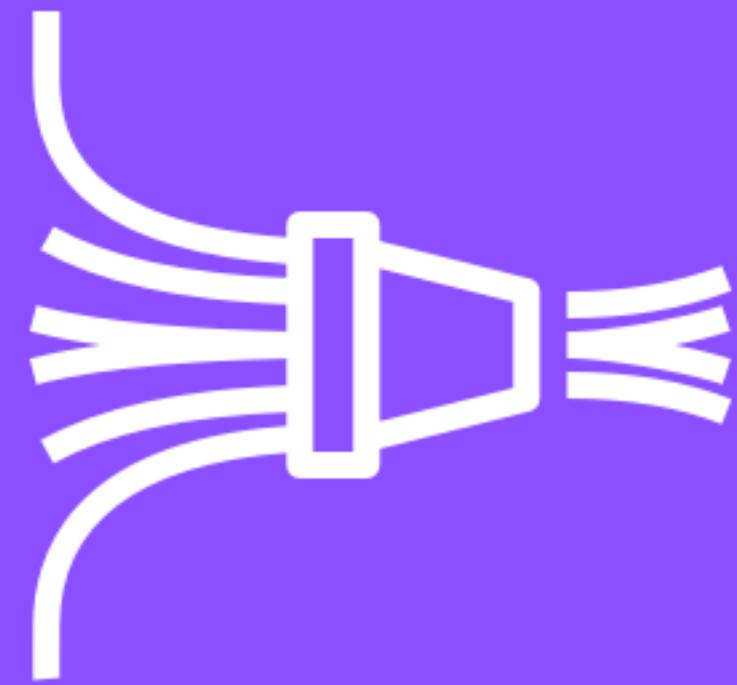
Fanout to HTTP(S) endpoints



Event Sources

1. Amazon Athena	10. AWS Elastic Beanstalk	19. Amazon DynamoDB	28. Amazon GameLift	37. AWS Chatbot	46. Amazon Elastic Transcoder	55. AWS Directory Service
2. AWS Data Pipeline	11. AWS Lambda	20. Amazon ElastiCache	29. AWS IoT Core	38. AWS CloudFormation	47. AWS Application Discovery Service	56. Amazon GuardDuty
3. Amazon Redshift	12. Amazon Lightsail	21. Amazon Neptune	30. AWS IoT Device Defender	39. AWS CloudTrail	48. AWS Snowball	57. Amazon Inspector
4. Amazon EventBridge	13. Amazon EKS Distro	22. AWS CodeBuild	31. AWS IoT Events	40. Amazon CloudWatch	49. Amazon API Gateway	58. AWS Security Hub
5. AWS Step Functions	14. Amazon ECS	23. AWS CodeCommit	32. AWS IoT Greengrass	41. AWS Config	50. Amazon CloudFront	59. AWS Backup
6. AWS Billing and Cost Management	15. Amazon Connect	24. AWS CodeDeploy	33. Amazon DevOps Guru	42. AWS Control Tower	51. AWS Direct Connect	60. Amazon Elastic File System
7. Amazon Chime	16. Amazon Pinpoint	25. Amazon CodeGuru	34. Amazon Lookout for Metrics	43. AWS License Manager	52. Elastic Load Balancing	61. Amazon S3 Glacier
8. Amazon EC2 Auto Scaling	17. Amazon SES	26. AWS CodePipeline	35. Amazon Rekognition	44. AWS Service Catalog	53. Amazon Route 53	62. Amazon S3
9. EC2 Image Builder	18. AWS Database Migration Service	27. AWS CodeStar	36. Amazon SageMaker	45. AWS Systems Manager	54. Amazon VPC	

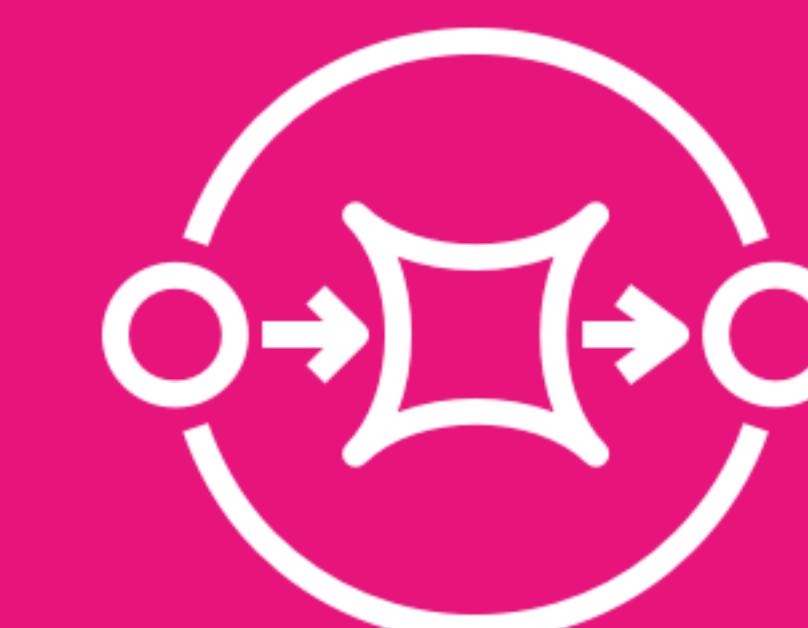
Destinations



Kinesis Data Firehose

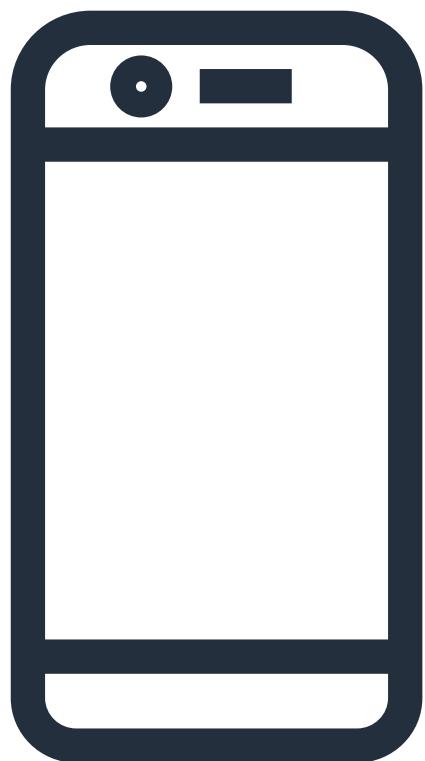


Lambda

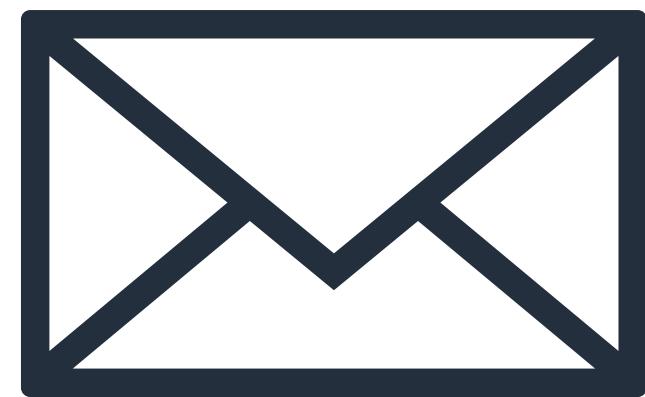


Simple Queue Service

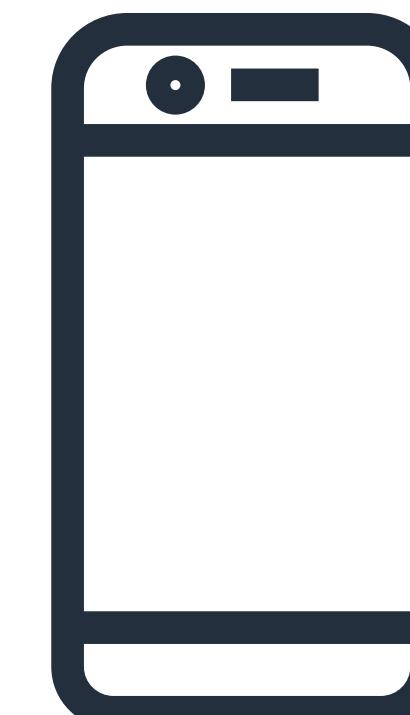
**HTTPS
Endpoint**



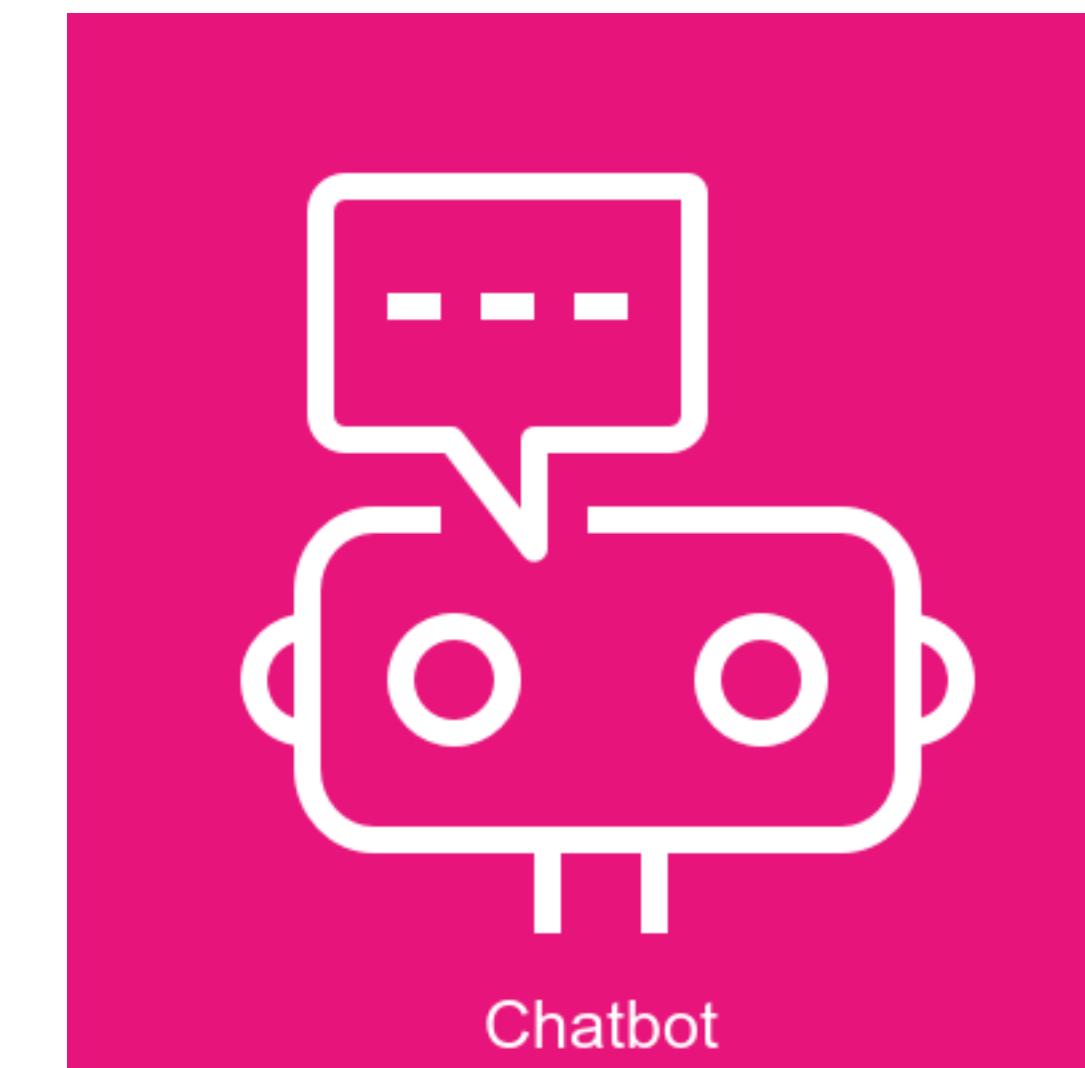
SMS



Email

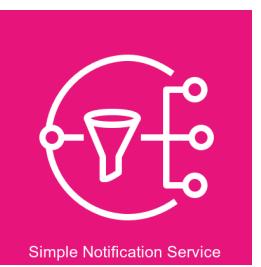


Push

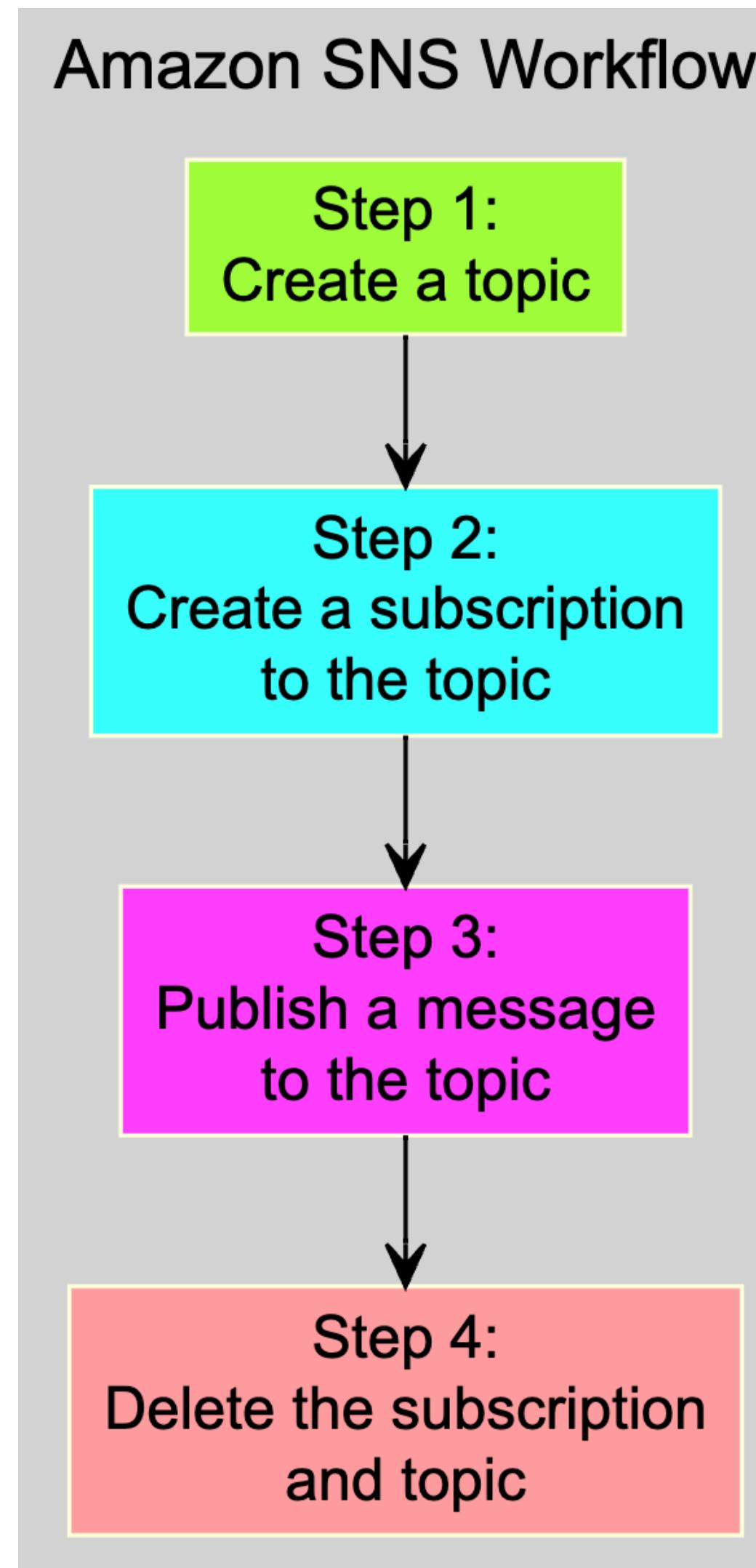


Chatbot

pagerduty

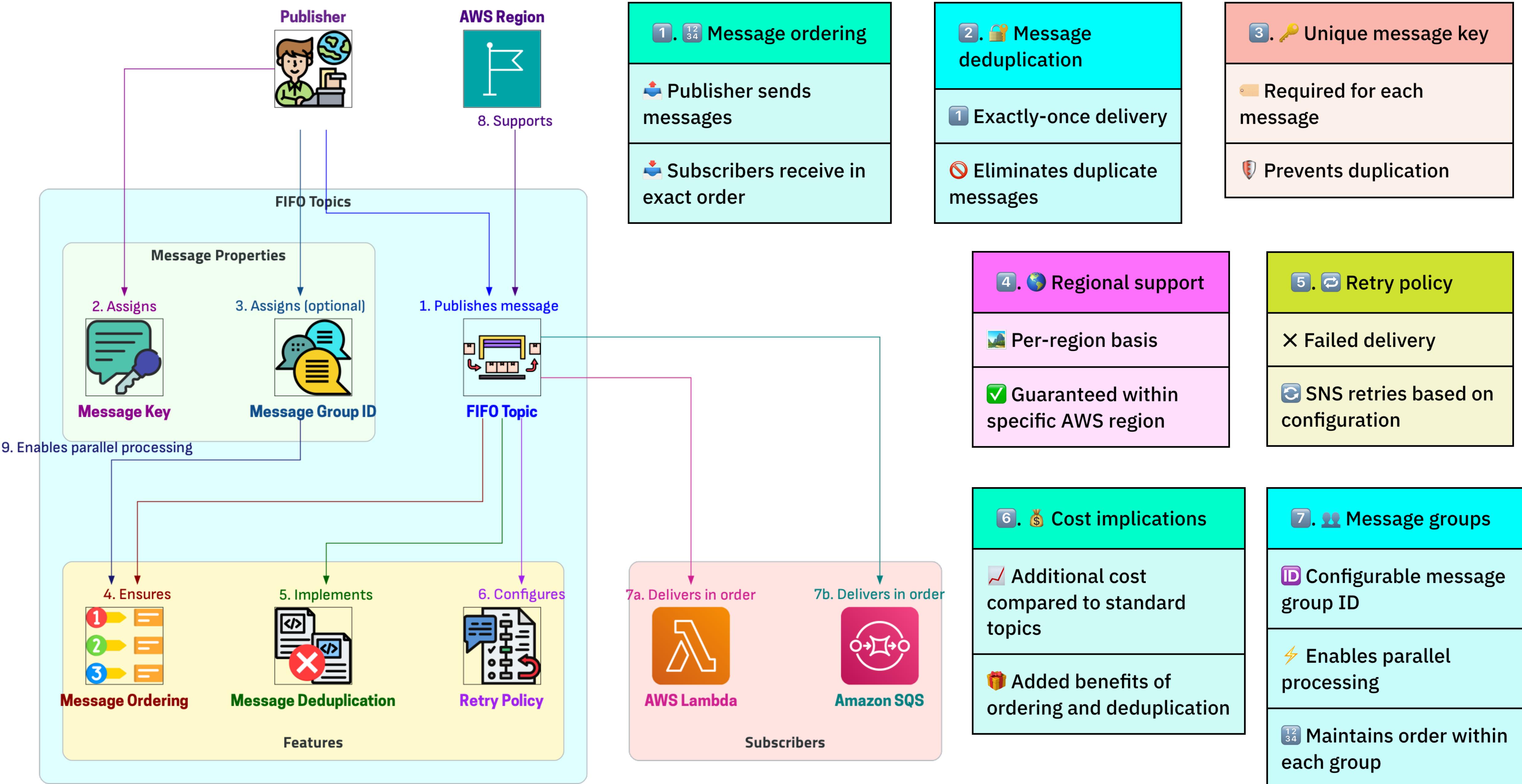


Amazon SNS Workflow





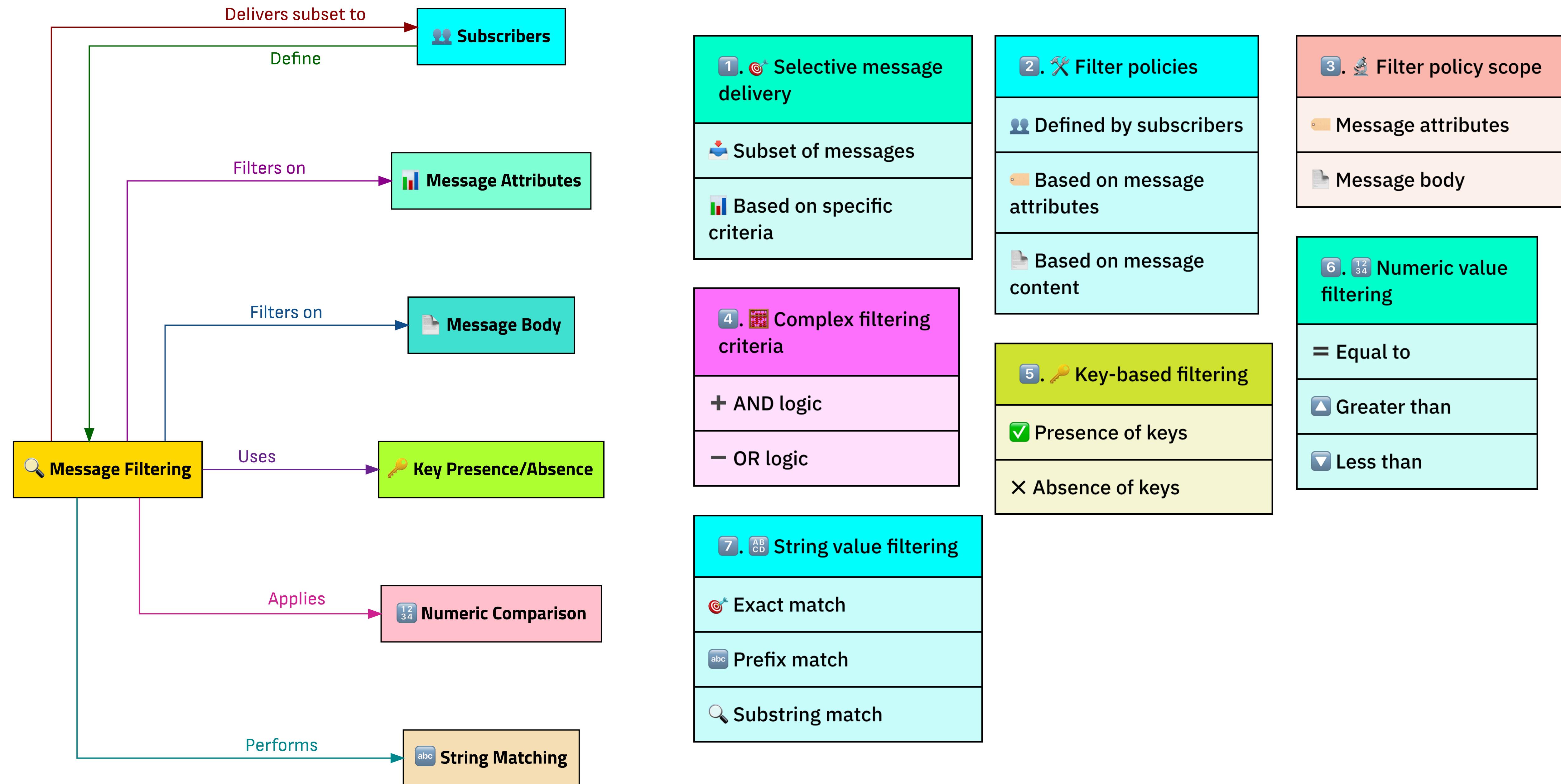
Message Ordering and Deduplication (FIFO Topics)





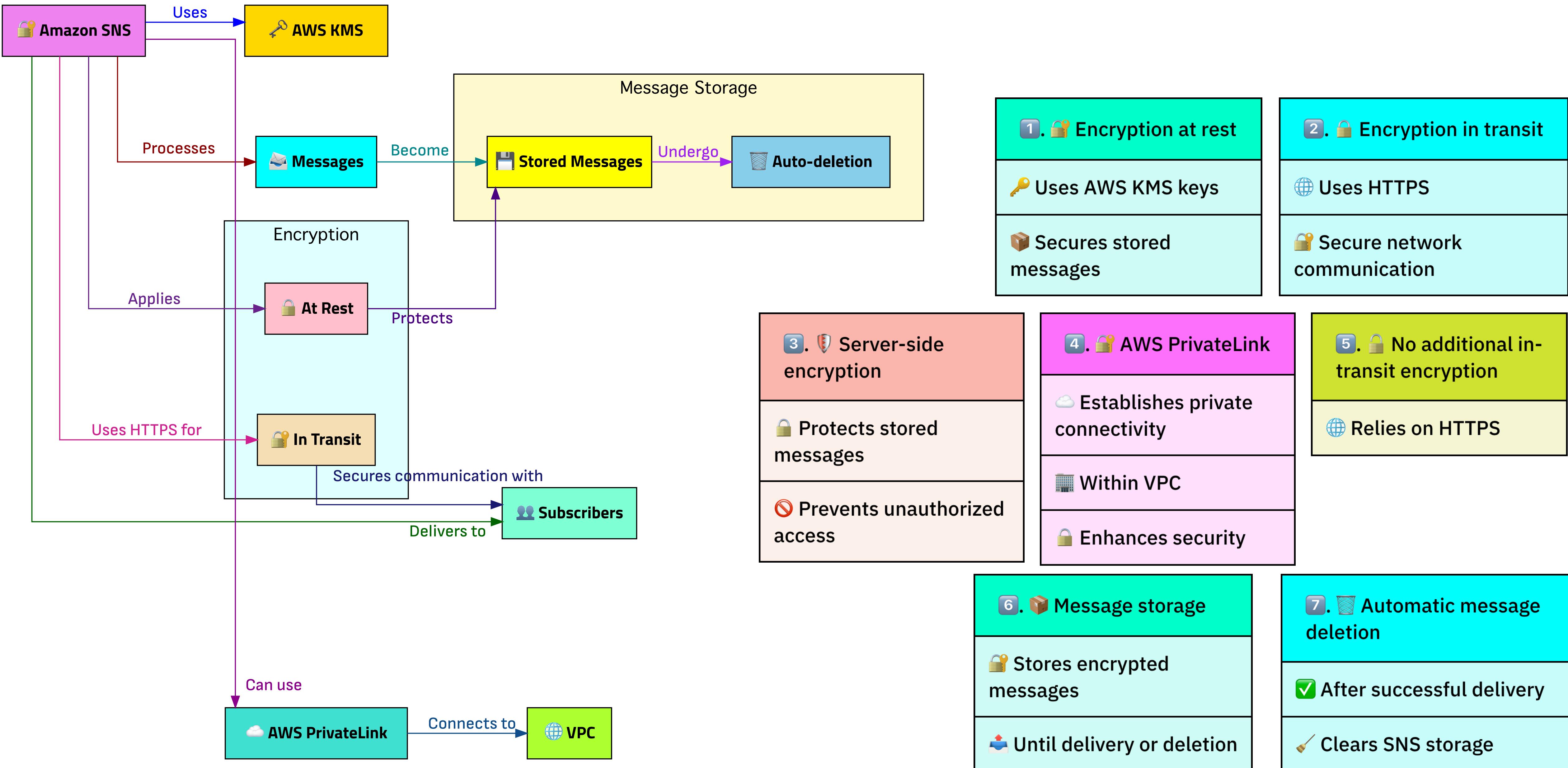
Simple Notification Service

Amazon SNS Message Filtering





Message Data Protection in Amazon SNS





Amazon SNS Dead-Letter Queues (DLQs)



1. Message delivery failure handling

- Multiple retry attempts
- Handles undeliverable messages

2. Per-subscription configuration

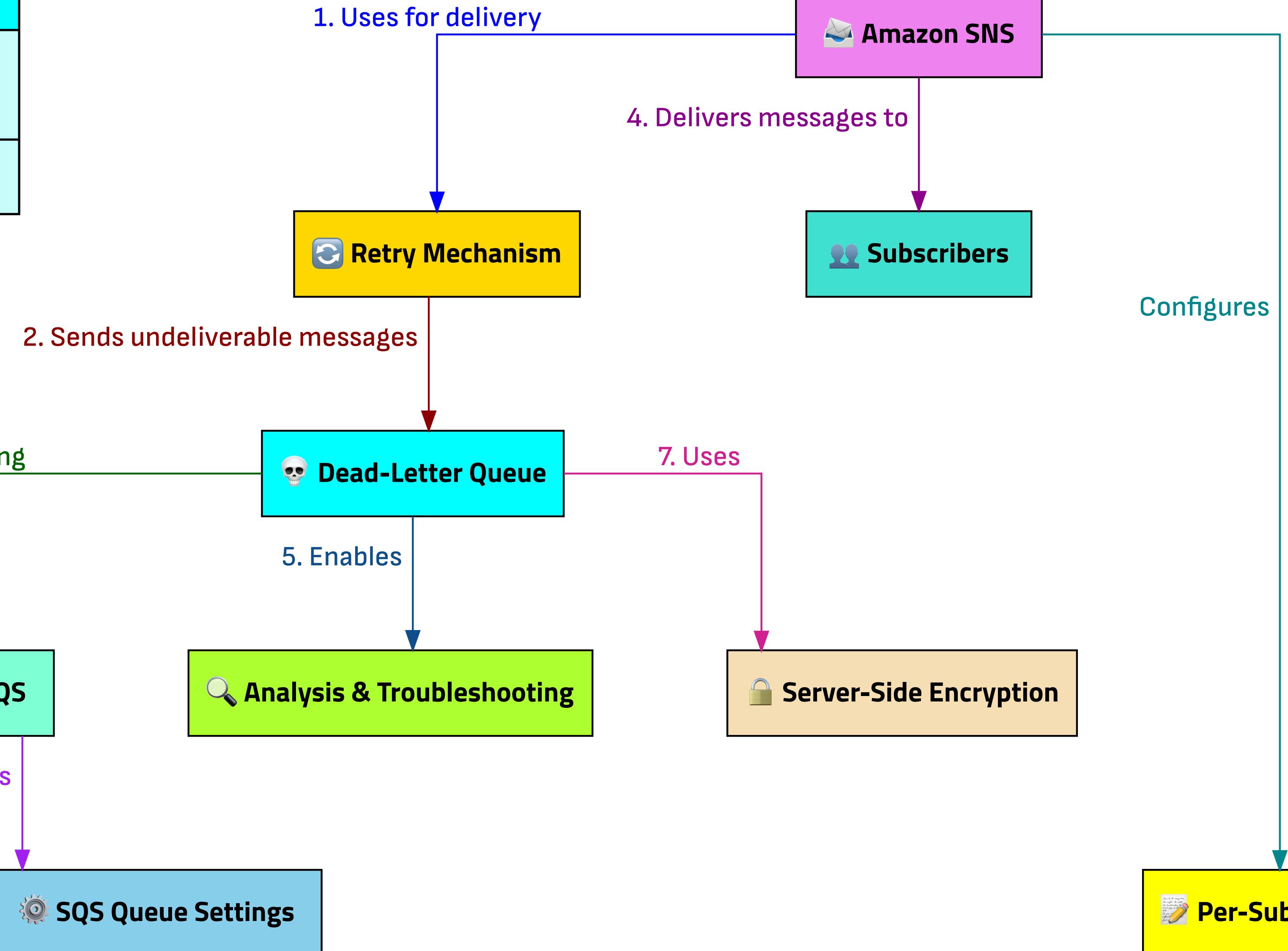
- Separate DLQ for each subscriber
- Topic-specific settings

3. Amazon SQS integration

- Uses SQS as DLQ
- Reliable storage for undeliverable messages

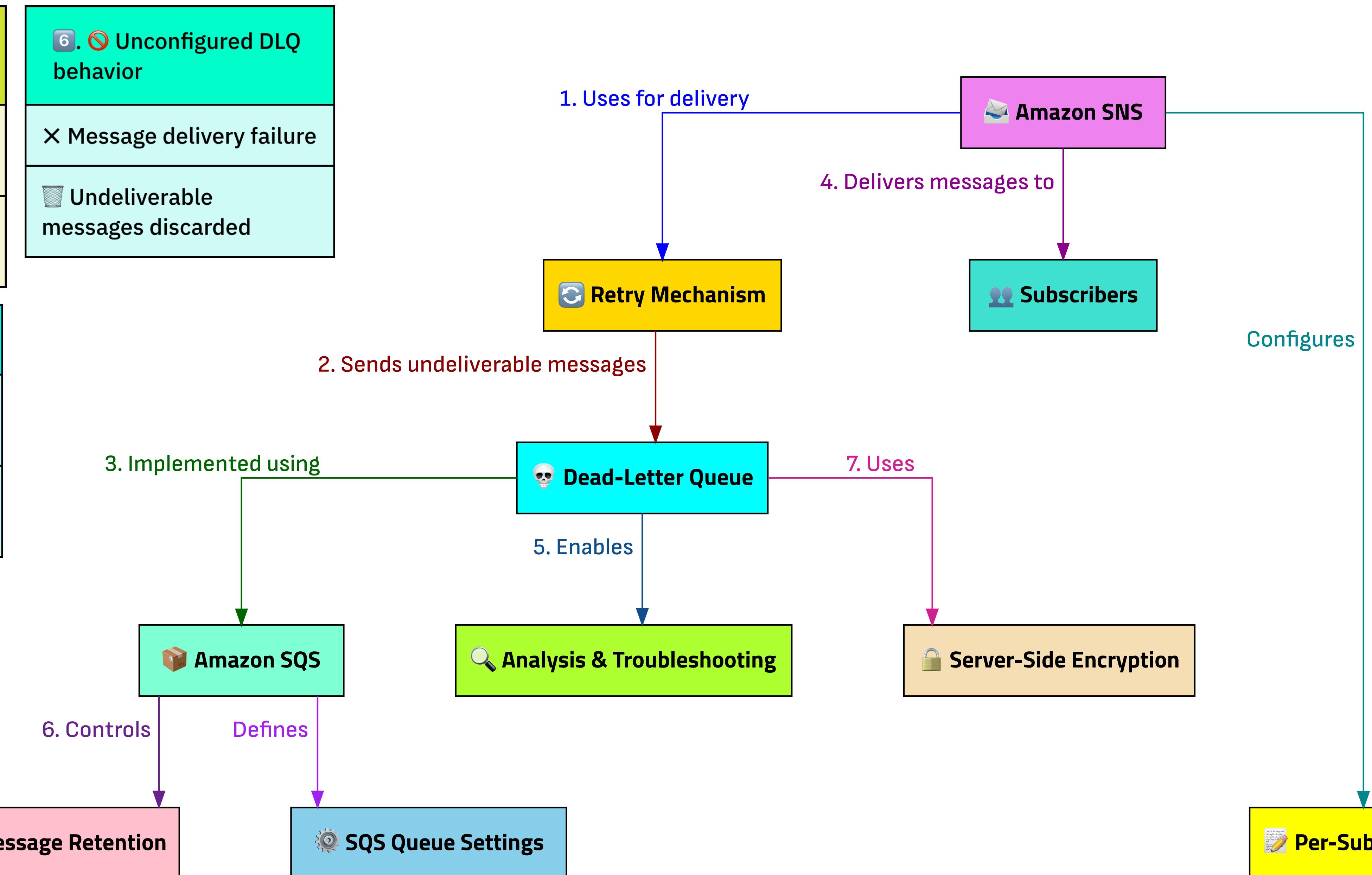
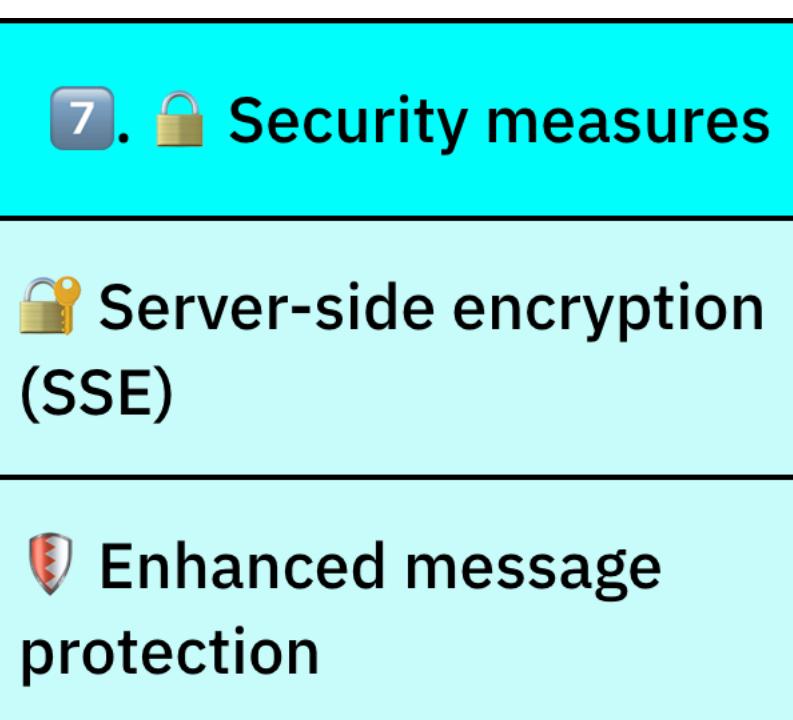
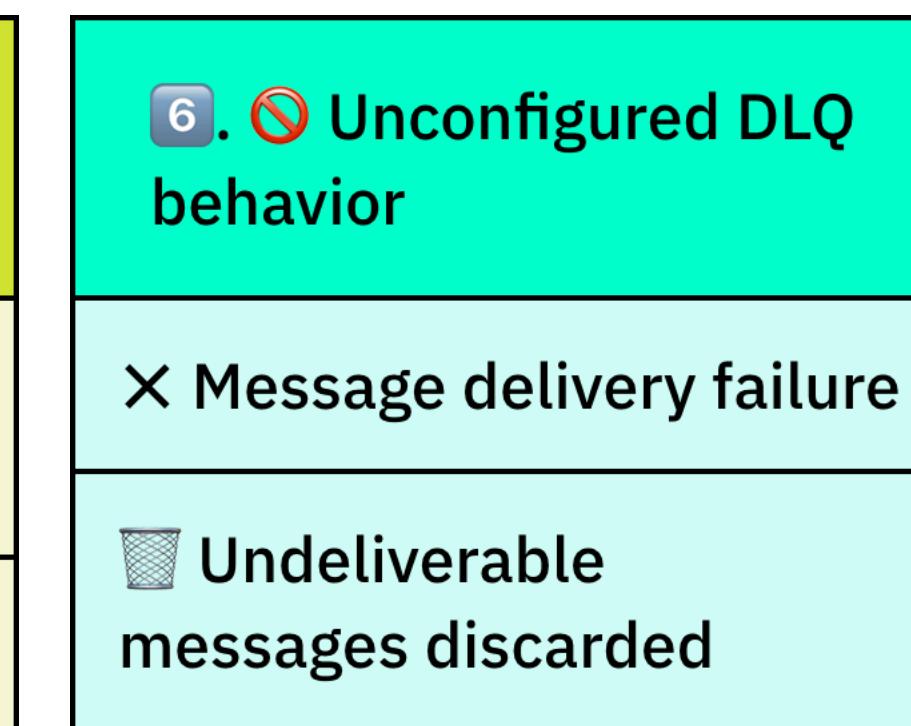
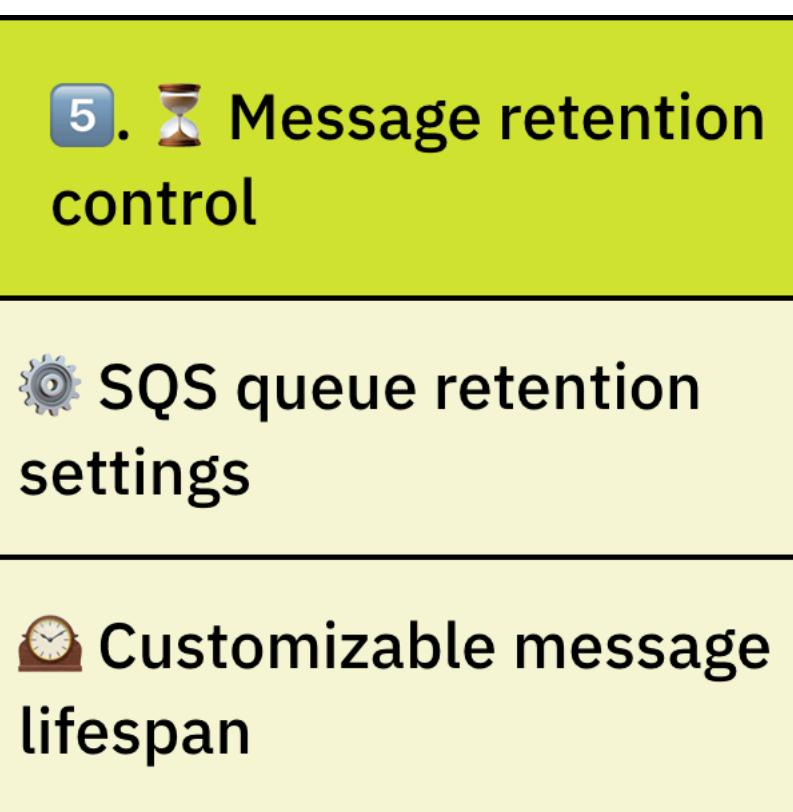
4. Failure analysis and troubleshooting

- Identify delivery issues
- Resolve problems





Amazon SNS Dead-Letter Queues (DLQs)





**Thanks
for
Watching**