| **Service Name** | **Description** |
| --- | --- |
| **CodeCommit** | Service where you can store your code. A similar service is GitHub |
| **CodeBuild** | Build and testing service in your CICD pipelines |
| **CodeDeploy** | Deploys the packaged code onto EC2 and AWS Lambda |
| **CodePipeline** | Orchestrates the actions of your CICD pipelines (build stages, manual approvals, many deploys, etc) |
| **CloudFormation** | Infrastructure as Code for AWS. Declarative way to manage, create and update resources. |
| **ECS (Elastic Container Service)** | Docker container management system on AWS. Helps with creating micro-services. |
| **ECR (Elastic Container Registry)** | Docker images repository on AWS. Docker Images can be pushed and pulled. |
| **Step Functions** | Orchestrate / Coordinate Lambda functions and ECS containers into a workflow |
| **SWF (Simple Workflow Service)** | Old way of orchestrating a big workflow. |
| **EMR (Elastic Map Reduce)** | Big Data / Hadoop / Spark clusters on AWS, deployed on EC2 for you |
| **Glue** | ETL (Extract Transform Load) service on AWS |
| **OpsWorks** | managed Chef & Puppet (configuration automation tools for DEVOPs) on AWS |
| **ElasticTranscoder** | managed media (video, music) converter service into various optimized formats |
| **Organizations** | hierarchy and centralized management of multiple AWS accounts |
| **Workspaces** | Virtual Desktop on Demand in the Cloud. Replaces traditional on-premise VDI infrastructure |
| **AppSync** | GraphQL as a service on AWS |
| **SSO (Single Sign On)** | One login managed by AWS to log in to various business SAML 2.0-compatible applications (office 365 etc)  **AWS IAM identity center** is successor to **AWS single sign-on** |
| **Trust Policy** | define which principal entities (accounts, users, roles, and federated users) can assume the role |
| **Access Control List** | **(ACLs) are service policies that allow you to control which principals in another account can access a resource but not in same account.** |
| Elastic Beanstalk | **Automatically handles capacity provisioning, load balancing**  **,scaling, application health monitoring, instance configuration.** |
| OpsHub | **Software to manage your snow family device** |
| DataSync | **Can sync data between network file system i.e. NFS,SMB,HDFS,S3,EFS,FSx. Does not work with EBS volume.** |
| Amazon MQ | **Managed Apache Active MQ** |
| App Runner | **Fully managed service to deploy web application and APIs at scale** |
| Lambda Layer | **additional code and content in the form of layers. A layer is a ZIP archive that contains libraries, a custom runtime, or other dependencies**  A function can use up to 5 layers at a time |
| Lambda@Edge | **Global lambda at cloudfront for request filtering and authentication.** |
| Burst limit | **burst limit represents the target maximum number of concurrent request submissions that API Gateway will fulfil before returning 429** |
| Throttling | **Throttling is the process of limiting the number of requests you** **can submit to a given operation/API** |
| Cognito | **User pool - User authentication full support**  **Identity pool - temporary token to access aws services like OAuth** |
| Cognito Sync | **Deprecated use AWS AppSync now** |
| SAM | **Serverless Application Model**  **Framework for developing and deploying serverless applications. All the configuration is YAML code.** |
| Unicast IP | **One server holds one IP server** |
| Anycast IP | **All server have same ip address and the client is routed to near one** |
| Fargate | is a serverless compute engine for containers that work with both Amazon Elastic Container Service (ECS) and Amazon Elastic Kubernetes Service (EKS). |
| QuickSight | **Serverless machine learning powered business intelligence service to create interactive dashboards** |
| DocumentDB | **Managed mongoDB** |
| Naptune | **Fully managed graph DB** |
| Keyspaces | **Managed Cassandra (distributed no sql database)** |
| QLDB | **Quantam Ladger DB to manage financial transactions** |
| TimeStream | **Fully managed time series DB** |
| OpenSearch | **Successor to elastic search you can search field or partial match as well** |
| Lake formation | **Fully managed service to create data lake(unstructured and semistructured data ) in days.** |
| MSK(Managed Streaming of Kafka) | **Fully managed apache kafka on aws** |
| Config | **Helps record configuration changes of resource. Also with auditing and recording of compliances of resources.** |
| System manager | **AWS Systems Manager, you can group resources, like Amazon EC2 instances, Amazon S3 buckets, or Amazon RDS instances, by application ALSO configure them.** |
| STS (Security token service) | **Allows to grant limited and temporary access to aws resources** |
| Identity Federation | **Allows outside user to temporary assume role and access AWS resources** |
| SAML 2.0 Federation | **To provide access to AWS resource no need to create IAM users just integrate with active directory/ADFS** |
| Custom identity broker | **Use only when identity provider is not compatible with SAML** |
| Web identity Federation | **Not recommande by AWS use cognito** |
| AWS Managed Microsoft Active Directory | **Create your own AD in AWS which can support Microsoft related application very well.** |
| AD Connector | **Directory gateway (proxy) to redirect to on-premises AD but doesn’t support more features. Just a connector.** |
| Simple AD | **AD compatible managed directory on AWS, can not be joined with on premises AD** |
| Organizations | **Allow to manage multiple accounts** |
| SCP (service control policy) | **Applied at OU or account level, guardrail what action can be performed by account users.** |
| SSM (System manager parameter) | **Secure storage for configuration and secret,by default no encryption but can be enabled. No rotation policy** |
| Secret manager | **Used for only credential , Rotation policy, Default encryption** |
| Certificate manager | **Easily provision, manage and deploy TLS certificates** |
|  |  |
| Shield | **Protect from DDOS attack** |
| CloudHSM | **Dedicated hardware to store and manage encryption keys** |
| WAF | **Safe guard your network by WACL can be deployed on API gateway, Cognito , ALB, AppSync, cloud front** |
| Firewall manager | **Manage rule in all accounts of an organizations. centrally configure AWS WAF rules, AWS Shield Advanced protection, Amazon Virtual Private Cloud (VPC) security groups, AWS Network Firewalls, and Amazon Route 53 Resolver DNS Firewall rules across accounts and resources in your organization**. |
| CloudTrail | **An history of events/API calls made within your AWS account. Provide governance,compliance and audit for your AWS account.** |
| VPC flow log | **Capture information about IP traffic going into your VPC** |
| CloudWatch | **Performance monitoring (metrics,CPU,Network etc) & dashboards, events & alerting,log aggregation & analysis.** |
| GuardDuty | **Intelligent threat discovery by observing cloudtrail log, VPC flow log, DNS log,S3 data events, cloudtrail events, kubernetes audit logs, Can protect cryptocurrency attacks.** |
| Inspector | **Automated security assessment for EC2 and container infrastructure.** |
| Artifact | **AWS Artifact to view the security reports as well as other AWS compliance-related information.** |
| Macie | **Protect your sensitive / PII data in AWS** |
| X-Ray | **helps developers analyse and debug production, distributed applications, such as those built using a microservices architecture.**  **X-Ray provides an end-to-end view of requests as they travel through your application, and shows a map of your application’s underlying components** |
| Bastion host | **To SSH into our private EC2 instances** |
| NAT Instance | **For one way internet access to private EC2 instances** |
| NAT Gateway | **Fully managed , 2 way internet access to private Ec2 instances** |
| Reachability Analyzer | **Network diagnostic tool that troubleshoot network connectivity.** |
| VPC peering | **Privately connect two VPCs using AWS network, make them behave as if they were in the same network** |
| VPC sharing | **account that owns the VPC (owner) shares one or more subnets with other accounts (participants) that belong to the same organization from AWS Organizations** |
| VPC Endpoints | **Powered by AWS private link allows you to connect to AWS services using private network instead of using the public network** |
| Gateway endpoints | Gateway endpoints provide reliable connectivity to Amazon S3 /DynamoDB without requiring an internet gateway or a NAT device for your VPC, Free , set as target in route table, Region specific do not support inter-region communication. Preferred exam choice |
| Interface endpoint | **Used as entry endpoint, support most service but not DynamoDB, $ per hour, use** When access required from onprimise or site to site VPN or direct connect or different region or different VPC |
| Transit VPC | **An intermediate VPC used to connect VPCs with On premise** |
| Site to site VPN | **Virtual private gateway at AWS side and Customer Gateway at onpremise.** |
| VPN CloudHub | **if you have multiple AWS Site-to-Site VPN connections, you can provide secure communication between sites using the AWS VPN CloudHub.**This enables your remote sites to communicate with each other, and not just with the VPC.**VPN CloudHub uses virtual private gateway.** |
| EC2 classic & Classic link  (Deprecated) | **Ec2 classic: instance run in a single network shared with other customers.**  **Classic link: allows you to link EC2-Classis instances to a VPC in your account** |
| Transit Gateway | **Transitive peering between thousands of VPC and on premise, hub and spoke (star) connections, share cross region and cross accounts** |
| Resource Access Manager | **Share resources that you own with other AWS accounts.Participants can’t view, modify, delete resources that belong to other participants but they can access them.** |
| Traffic mirroring | **VPC feature that you can use to copy network traffic from an elastic network interface. Traffic mirror filters can't inspect the actual packet of the incoming and outgoing traffic.** It would make more sense if you redirect the traffic to an EC2 instance where an Intrusion Detection System (IDS) is running |
| Egress only IGW | **Used only for IP6 similar to NAT instance but for IP6** |
| Network Firewall | **Protect entire VPC, layer 3 to layer 7 protection, any direction you can inspect inbound / outbound.** |
| Network access analyzer | **Feature of VPC that reports on unintended access to your AWS resources based on the security and compliance that you set. Not able to perform deep packet inspection on traffic leaving or entering VPC.** |
| Detective Service | **This service just automatically collects log data from your AWS resources to analyze, investigate, and quickly identify the root cause of potential security issues or suspicious activities in your AWS account** |
| DR - Pilot light | **Small version of app is always running, useful for critical core.** |
| DR - Warm Standby | **Full system is up and running but at minimum size** |
| DR - Multi Site | **Full production scale is running** |
| Schema Conversion tool | **move your stored procedures and secondary database objects), you must use the AWS Schema Conversion Tool.** |
| Basic Schema Copy | **Basic Schema Copy will automatically create tables and primary keys in the target instance if the target does not already contain tables with the same names** |
| Application Discovery Service | **Plan migration projects by gathering information about on premises data centers. Server utilization data and dependency mapping.** |
| Application Migration Service | **Lift and shift solution converts your physical virtual and cloud based servers to run natively on AWS using replication agent.** |
| Backup | **Centrally manage and automate backup across AWS services** |
| Rekognition | **Face detection , labeling , celebrity recognition** |
| Transcribe | **Audio to text** |
| Polly | **Text to audio** |
| Lex | **Build conversational bots -chat bots, Alexa** |
| Connect | **Cloud contact center** |
| Comprehend | **Natural language processing** |
| Comprehend Medical | **Detect health info on prescription, notes and reports.** |
| Sage maker | **Machine learning for every developer and data scientist** |
| Forecast | **Build highly accurate forecasts** |
| Kendra | **Search engine** |
| Personalize | **Realtime personalization recommendation** |
| Textract | **Detect text and data in documents** |
| Cloud Formation | **Declarative way of outlining your AWS infrastructure for any resources.** |
| Step Functions | **AWS Step Functions lets you coordinate and orchestrate multiple AWS services such as AWS Lambda and AWS Glue into serverless workflows.**A Step Function automatically triggers and tracks each step, and retries when there are errors, so your application executes in order and as expected |
| SWF(Simple Workflow Service) | **Same as step function and AWS recommend using step function instead SWF** |
| Cost Explorer | **Visualise understand and manage your AWS cost and usage over time, Forecast usage upto 12 months** |
| SES(simple email service) | **Fully managed service to send emails securely, globally and at scale** |
| Pinpoint | **Ability to segment and personalize messages with right content to customer by email, SMS, push, voice and in app messaging, possibly to receive replies.** |
| SSM session manager | **Allows you to start a secure shell on your EC2 and on premises servers. No SSH access. Bastion hosts or SSH key needed** |
| Elastic Transcoder | **Convert media files stored in s3 into media files in the formats required by consumer playback devices.** |
| Batch | **Fully managed batch processing at any scale, efficiently run 100K of computing batch jobs.** |
| AppFlow | **Fully managed integration service that enables you to securely transfer data between Software as a service applications and AWS. Sources : Salesforce,SAP,Zendesk,Slack and Service now**  **Destination: AWS services like S3,Redshift or non AWS such snowflake and salesforce.** |
| Health or Personal Health | **provides ongoing visibility into your resource performance and the availability of your AWS services and accounts**.how service and resource changes might affect your applications running on AWS |
| Service Health | **AWS Service Health Dashboard shows public events that may affect several customers in particular regions.** |
| Wavelength | **combines the high bandwidth and ultralow latency of 5G networks with AWS compute and storage services so that developers can innovate and build a new class of applications.** |
| Trusted Advisor | **Hight level AWS account assessment, analyze your aws account and provide recommendation on cost optimization,performance, security, fault tolerance, service limits.** |
| Route53 Traffic Flow | **Visual editor to manage complex routing decision trees, simplify the process of creating and maintaining records in large and complex configurations.** |
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