# Amdocs Digital Brands SaaS Suite in AWS Cloud

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# Summary

<u>Amdocs Digital Brands Suite</u> ("DBS") is a pre-integrated, end-to-end digital customer management, commerce and monetization platform provided as a service and designed to rapidly and securely monetize any product or service with a focus on simplification, agility and flexibility. It is designed for the needs of digital brands and other agile and lean communications operators, utilities and other subscription-based service providers. Amdocs Digital Brands Suite combines the effectiveness of a lean architecture and future readiness to provide customers the ability to step into the digital economy.

The richness of Amdocs Digital Brands Suite's capabilities and flexibility — leveraging Amdocs' history and expertise in BSS to provide a rich set of capabilities via a modern, cloud-native, set of TMForum OpenAPI-certified REST APIs — allows customers to enjoy the superior performance of a true SaaS solution with the reliability of the leading market vendor. By deploying Amdocs Digital Brands Suite in the AWS Cloud, customers enjoy deployment velocity, significantly reduced costs, and easy integration with IoT, analytics, and machine learning services. Customers can further leverage the compliance benefits of AWS Cloud for sensitive customer data. AWS is a cost-effective, secure, scalable, high-performing, and flexible platform for deploying Amdocs Digital Brands Suite Business Support System.

This whitepaper provides an architectural overview of how the Amdocs Digital Brands Suite Business Support Systems (BSS) solution operates on the AWS Cloud. The document is written for executives, architects, and development teams that need to decide to acquire or deploy a business support solution for their consumer or enterprise business on the AWS Cloud.

# Introduction

Amdocs provides the Amdocs Digital Brand Experience Suite: a digital customer management, commerce and monetization SaaS solution designed specifically for the needs of digital brands and other agile & lean service providers who need to provide digital experience to their customers while being agile, innovative and with rapid time to market. The Amdocs solution helps such CSPs focus on their business by simplifying their business support through pre-built packages of business and technical processes spanning the full customer lifecycle: onboarding, service use, upsell and loyalty, providing care, commerce, ordering and monetization. Provided as a service, the solution is ready to support business simplification and minimal time to market, including integrations to key external partners and an extensive set of TM Forum OpenAPI-compliant APIs (Amdocs currently holds <u>Gold status</u> for TM Forum OpenAPI certifications). More complex business models can be configured in the system and integrations within bespoke ecosystems are supported through the open Application programming interface (API) architecture.



Whether targeting consumer or enterprise business, digital brands and other lean & agile communication service providers strive to provide a unique digital experience, focused mostly on an end-to-end mobile app experience that is simple, fast, personalized and innovative. However, to execute such a business strategy many service providers find that existing Business Support Systems (BSS) platforms are quite complex and lack the flexibility and operational efficiency to fit the needed business model. Key challenges include the need for IT and domain expertise for managing BSS implementations, high initial investment (CAPEX approach), long processes, the high cost of managing legacy operations, and maintaining regulatory compliance. Many companies need to adopt a pan-regional architecture in order to onboard additional countries, regions, customer verticals, and products. This situation demands a significant change in both revenue and customer management systems, as well as in the IT environment.

This whitepaper provides an overview of the Amdocs Digital Brands Suite and a reference architecture for deploying Amdocs BSS on AWS as a service. We also discuss the benefits of running it on AWS and various use cases. By running on the AWS cloud, and especially delivered as a service (SaaS), the Amdocs platform can deliver significant required improvements to the operations and capabilities of customers in every industry, while enabling future growth and expansion to new domains. Customers can also benefit from compliance and security credentials of AWS cloud instead of incurring an ongoing cost of audits related to storing customer data.

# BSS applications are mission critical workloads

Business Support Systems are the backbone of a service provider's customer engagement and business strategy. BSS encompasses the spectrum from marketing, shopping, ordering, charging, taxation, invoicing, payments collection, dunning, and ultimately financial reporting. There are four primary domains: product management, order management, revenue management, and customer management.

#### Product management and commerce

Product management supports the sellable entities, or catalog, of a provider. From conception to sale to revenue recognition, this is the toolset for managing services, products, pricing, discounts, and many other attributes of the product lifecycle.

### **Order management**

Order management is an extension of the sales process, and encompasses four areas: order decomposition, order orchestration, order fallout, and order status management. Ordering may be synchronous, where service is enabled in real-time. Or the actual service delivery may take days, with complex installation processes. It is incumbent on the BSS to accurately and efficiently process orders, avoiding fallouts, while providing status both to the service provider and the customer.



#### **Revenue management**

Revenue management focuses on the financial aspects of the business – both from the customer and service provider perspective. It includes pricing, rating, charging, discounting, and taxing. The invoice data feed in turn feeds the accounts receivable processes – payment collection and dunning – and becomes the foundation for revenue recognition reporting (general ledger). Consumer billing for consumer, enterprise and wholesale services, as well as prepaid and postpaid models, are supported in the system. Revenue management also includes fraud management and revenue assurance.

#### Customer management

The relationship of the service provider and its customers is of critical importance. From the initial contact through self-care/mobile applications, shopping online, and to customer care, it is important to provide a compelling digital experience, traversing the multi-channel exposure of a single customer view. Complex customer models are supported through robust mechanisms of customer groups. Enterprises are modeled through a combination of accounts, hierarchies, groups, and organizations – providing support for real-world charging, billing, and reporting responsibilities.

# Amdocs BSS Portfolio

Amdocs is a software and services vendor with 40 years of expertise specifically focused on the communications and media industry. It's a trusted partner to the world's leading communications and media companies, serving more than 350 service providers in over 85 countries.

Amdocs' product lines encompass digital customer experience, monetization, network and service automation and more, supporting more than 1.7 billion digital customer journeys every day.

Award-winning Amdocs Customer Experience Suite is market leading 5G-native integrated BSS-OSS suite. It is a cloud-native, open & modular suite that supports many of the world's top communication service providers on their digital and 5G journeys.

At the same time, the Amdocs Digital Brands Suite is a SaaS solution that's specifically built for the needs of digital brands and other lean & agile service providers. It is a preintegrated suite with an extensive set of built-in processes and configuration templates to simplify commerce, care, ordering and monetization and empowering business users through "shift-left" to a truly digital experience for the BSS itself – business users, support users and developers. Provided as a service (SaaS), it has unparalleled time to market and scalability, while benefitting from Amdocs robust operations and a "pay as you grow" business model.



# Amdocs Digital Brands Suite Overview

Amdocs Digital Brands Suite provides an easy to use, open and scalable cloud-based solution for customer management and monetization. It enables operators to rapidly capitalize on digital era opportunities by growing customer's business with an open system that is simple to deply and use, pre-built with the relevant customer journeys and that seamlessly interacts with ancillary apps.

Furthermore, it offers the freedom to address a diverse set of product and service markets, as well as a range of end-customer types. Encompassing a set of established and progressive BSS products, Amdocs Digital Brands Suite supplies the necessary business functionality via a collection of TMF OpenAPI-compliant RESTful APIs.

### Configurability, smart interoperability, and consistent experience

- Swift onboarding of the service provider onto the platform. With the SaaS solution, on-boarding can be done in a matter of minutes, allowing operators quick access to sandbox and production-ready environments for their tenants with pre-built mobile app and user-ready UIs for business users and support agents.
- Time to market for new products, services, and bundles in minutes instead of months. Operators can configure new products in the DBS Tenant Console, or via the DBS Catalog APIs. Both provide lifecycle and change management capabilities to safely introduce new changes. Publication to production is performed without expensive orchestration or data copying and can be done directly by business users.
- TMF certified OpenAPIs to streamline configuration and integration tasks. An online "Developer Portal" provides interactive resources to learn about integrating with the DBS APIs.
- Support for multiple lines of business Within a single instance or tenant, Amdocs Digital Brands Suite supports any number of lines of business (mobile, fixed-line, broadband, cable, finance, and utilities) and leverages a flexible catalog to offer converged services to a sophisticated market.
- Operators can subscribe to different event buses to build event-based integrations and enable stream-based processing.

### **Cloud-Native Deployment**

- Amdocs DBS is fully deployed into AWS, and utilizes many of the native AWS services such as S3, Lambda, DocumentDB, API Gateway, Cognito, etc. Using these services, as well as following AWS best practices, allows Amdocs DBS to have world-class levels of resiliency, scalability, availability, monitorability, etc.
- Amdocs DBS is a largely serverless architecture, with most computing functions
  performed by AWS Lambda invocations in response to various system events. This
  serverless architecture helps to achieve greater platform efficiency, while reducing
  operational tasks like server maintenance.
- Deployment is performed through fully automated CI/CD pipeline with comprehensive security and performance checks to ensure production code quality



#### Support options

• Amdocs offers support for subscription, usage-based, and "billing as a service" models over multiple networks and protocols of any kind, and across borders. In addition, it supports any service, product and payment method, as well as multiple currencies and languages.

#### Open and secure integration model

 Security & compliance provided by both AWS Cloud and the Amdocs Digital Brands Suite architecture. DBS utilizes the native AWS methods for encryption of data both at rest and in motion, with the option for the tenant customer to supply and manage their own encryption keys. User pool authorization is managed by the AWS IAM and Cognito services; these authorization rules extend to the OpenAPIs which depend on users authenticated in the correct user pool to perform their function. For example, editing catalog entities is an action only available to certain privileged users.

# **Functional Architecture**

The functions or capabilities of the Digital Brands Suite architecture can be grouped into three layers: Digital Channels, BSS Services and Common Services. The following diagram illustrates the high-level architecture:



Figure 1: Amdocs Digital Brands Suite Functional Architecture

This whitepaper focuses primarily on the Services layers, as these are deployed in AWS. While the UI applications are downloaded from AWS, the actual UI runtime occurs client-side. The BSS Service APIs support the Digital Brands Suite UIs, as well



as other 3rd party client integrations. APIs are built with a service-oriented approach, independent of any specific user interface pattern or application context. This allows the BSS Services APIs to support the DBS Digital Channels, while providing maximum flexibility to support 3p integrations. There are no "special" or "private" UI-based APIs.

# The functional capabilities

Digital Brands Suite provides these capabilities:

### **Digital Channels**

- Responsive, multi-modal Tenant Console for tenant self-management and operational tasks, including Product Catalog definition, operational reports and dashboards, and other configuration portals.
- Bespoke native mobile application

### **BSS Services**

- Product Catalog: Fully TMF620 compliant product catalog to allow operators to define their commercial products, as well as the underlying services offered by those products. In addition, fully TMF679 compliant product qualification APIs allow operators to define rules matching products and services to customers.
- Shopping Cart: Cart item management (including product option selection and product instance configuration), price/tax calculation, and eligibility qualification.
- Customer/Account Management: Definition of party, customer profiles and customer hierarchies along with customer interactions, supporting simple to extremely complex B2B hierarchies and B2C scenarios, using standardized TMF compliant
- Order Fulfillment: A workflow-driven process to provision and activate orders in the system. Configurable milestones annotate the workflow models for each service and can be used to build user-facing feedback on workflow progress. Workflow branches and nodes may involve both automated and manual steps and provide integration points for service activation on third-party systems.
- Resource Inventory: Manages serialized logical inventory for association to products. Inventory can be categorized by type or line, with co-requisite rules defined in the catalog.
- Service Management: Manages a basic service catalog view in support of service fulfillment and provisioning.
- Real-time Billing: Provides scheduled and on-demand recurring and one-time charging services for charges of various types. Also integrates with OCS GW to process rated usage.
- Applied Products: Manages the product instances (assigned products) of the Accounts.
- Payment Profiles: Manages the preferred payment methods for each account. Integrates with the Payment Gateway to process payments. No sensitive information (PII) or card information (PCI) is stored or transmitted with this service.



#### **Foundational Capabilities**

- User management: Authentication, roles, groups, user management and single sign-on.
- Security, usage throttling, Service Level Agreements (SLAs): Authorization, metrics, and SLA enforcement around exposed northbound APIs.
- Configurable service logic: Operators can configure (where applicable) callouts to their own APIs to perform such enrichment functions as external validation, data manipulation, etc. This allows operators to tailor these API experiences to their specific needs.
- Messaging: Event notification and integration for a more collaborative experience. Catalog authors can be notified when changes are made which may interest them. Operators can be notified when order handling flows are stuck, etc. Notifications can be human-readable (email messages), or machine tailored to serve a variety of integration scenarios.

Special Note: the Online Charging System (OCS) Gateway in this diagram depicts a reference implementation; integration with an OCS (as well as the specific OCS used) is an optional aspect of the Digital Brands Suite solution that can integrate with Amdocs Charging as well as an external OCS.

# **Service Composition**

Amdocs DBS is built with a cloud-native approach, utilizing AWS services to perform specific functions, rather than running existing server images within a generic container. This approach allows Amdocs DBS to take full advantage of AWS capabilities and cloud architectural experience.

Each microservice development team is free to make their own design and implementation choices, due in large part to the Amdocs DBS "API-first" and "independence" principles of the microservices architecture. Collectively, the microservices teams have found the following AWS services to be helpful in their development:





#### Figure 2 : Typical Microservice Construction

Amdocs DBS relies on the AWS Lambda service to provide serverless compute resources.

# Value Proposition of Deploying Digital Brands Suite on AWS

With the increase of the subscriber base and high demands of 5G, scalability and cost reduction become essential factors in building a successful business model. CSP(s) who are running Digital Brands Suite on AWS will pay only for the resources they use. With the "pay as you go" model, customers also can spin up, experiment and iterate BSS environments (testing, dev, etc.), and pay based on consumption.

An on-premises environment usually provides a limited set of environments to work with provisioning additional environments can take a long time or might not be possible. With AWS, CSP(s) can create virtually many new environments in minutes as required.

In addition, CSP(s) can create a logical separation between projects, environments and loosely decoupled application, thereby enabling each of their teams to work independently with the resources they need. Teams can subsequently converge in a common integration environment when they are ready. At the conclusion of a project, customers can terminate the environment and cease payment.



Customers often over-size on-premises environments for the initial phases of a project, but subsequently cannot cope with growth in later phases. With AWS, customers can scale their compute resources up or down at any time. Customers pay only for the individual services they need, for as long as they use them. In addition, app developers can change instance sizes in minutes through the <u>AWS Management Console</u>, the AWS Application Programming Interface (API), or <u>Command-Line Interface</u> (CLI).

Another important benefit of using AWS with consumption-based model is that each service can utilize and implement the best tools for its business function – from the type of database to the CPU used, developers have much more freedom compared to on-premises environments where other factors also influence architecture decisions for example enterprise licenses and hardware procurement decisions. This results in much more efficient and scalable code. You can see examples of how DBS utilizes different technologies in the following chapter. Because of the exponential growth of data worldwide and specifically in the telecom world, designing and deploying backup solutions is more complicated than before. With AWS, customers have multiple options to set up a disaster recovery strategy depending on the Recovery Point Objective (RPO) and Recovery Time Objective (RTO) leveraging the expansive <u>AWS global infrastructure</u>.

Amdocs Digital Brands Suite platform offers rich product and service management capabilities which can be integrated with <u>AWS Cloud Analytics services</u> for use cases such as subscriber, customer, and usage analytics. Digital Brands Suite capabilities can be also empowered by Machine Learning and Artificial Intelligence capabilities through AWS services.

# Digital Brands Suite Deployment Architecture on AWS

Digital Brands Suite is a cloud-native solution, meaning that Amdocs takes full advantage of AWS capabilities to deliver a robust cloud offering, particularly in the areas of platform/technical architecture which addresses such areas as availability, scalability/elasticity, resiliency, etc.

# **Technical Architecture**

# **High Availability**

The following diagram depicts how Digital Brands Suite can be deployed in <u>multiple</u> <u>availability zones (AZ) configuration</u> to promote high availability:





### Figure 4 – Digital Brands Suite High Availability in AWS

Digital Brands Suite is built across a minimum of two <u>availability zones</u>. All AZs in an <u>AWS Region</u> are interconnected with high-bandwidth, low-latency networking. AZs are physically separated by a meaningful distance, although all are within 100 km (60 miles) of each other. If one of the Availability zones becomes unavailable, the application can continue to provide service. Each layer of the architecture is designed with availability in mind, from API Gateways deployed in multiple AZs, to a serverless approach to compute (Lambda), to <u>databases utilizing multi-AZ</u> set up.

Route53 is used to provide a common DNS-based edge experience to API consumers. From Route53, traffic can be routed to the different Availability Zones based on routing rules. For example, rules can be set such that if an API Gateway in an AZ becomes unavailable, traffic can be routed to another AZ as a backup. Other rulesets support latency-based routed, geoproximity-based routing, or weighted routing; Amdocs can adjust these rules as needed depending on the growth of the customer base and the needs of the solution.

Application components are serverless and stateless, which means that any available Lambda can process the incoming requests, and failure or interruption of a Lambda does not leave the system in an unstable state; other Lambdas can step in and reprocess or complete the operation as needed.

The different data storage options used by the microservices – whether it is DocumentDB, Aurora, or S3 – all have options for high-availability. DocumentDB and Aurora can be deployed in multi-AZ mode, while S3 is a global service which is highly-available by default.



## Scalability

The Digital Brands Suite is designed for scalability and elasticity by taking advantage of AWS services which are built with these capabilities in mind.

API Gateway is itself a scalable service, usually more so than the services behind it. Access to the services is governed by throttling limits so that load above a set threshold can be gracefully shed without impacting the backend.

The serverless compute architecture of DBS is scalable by default; Lambda functions can be spawned as needed based on the request or event demand.

While S3 is a naturally scalable service, both DocumentDB and Aurora are configured to respond to scaling needs based on alerts from monitored metrics (e.g. CPU load on the DB).

# Security

### Access Management

The access is following a Role Based Access Control (RBAC) via <u>AWS Identity and</u> <u>Access Management</u> (IAM)/AWS Cognito. The solution has defined roles based on the "least privileged" principle of access; user roles are limited to the resources required to perform their assigned functions, and no further.

#### Secure Data at Rest

Data at rest is encrypted at the storage volume level (using AWS built-in capabilities) as well as on the database level (on configurable PII fields).

Digital Brands Suite is using <u>AWS Key Management Service (KMS)</u> to create and control the encryption keys. KMS makes it easy for customers to create and manage cryptographic keys and control their use across a wide range of AWS services and in applications. Encryption is applied by solution components and AWS services. Decryption is applied by each data consumer.

#### Secure Data in Transit

The web user interfaces access will be encrypted with SSL encryption (i.e., HTTPS). The Solution API layer access will be encrypted with SSL encryption (i.e., HTTPS). Additionally, the encryption keys will be stored in AWS key management service. The System credentials will be securely stored in <u>AWS Secrets Manager</u>. The ACH / credit card data will be tokenized by Purchaser's payment gateway system, the Solution stores the credit card token only.

# **AWS Well-Architected Framework**

The <u>AWS Well-Architected Framework</u> helps cloud architects build secure, highperforming, resilient, and efficient infrastructure for their applications and workloads. Based on five pillars — operational excellence, security, reliability, performance efficiency, and cost optimization — AWS Well-Architected provides a consistent



approach for customers and partners to evaluate architectures, and implement designs that can scale over time.

The AWS Well-Architected Framework helped Amdocs to adapt best practices and to achieve an optimized architecture of Digital Brand Suite on AWS.

Below is an overview of the five pillars of the AWS Well-Architected Framework with reference to Digital Brands Suite architecture on AWS:

#### **Operational Excellence**

This pillar focuses on the ability to run and monitor systems to deliver business value and continually improve supporting processes and procedures. Digital Brands Suite architecture on AWS has the ability to support development and run workloads effectively. Application gains insights into the operations aspects by leveraging <u>Amazon</u> <u>CloudWatch</u> that collects metrics, alarms, monitors <u>Amazon Aurora</u> metrics, uses CloudWatch <u>Container Insights</u> from <u>Amazon EKS</u> cluster. Application responding to events based on insights using <u>AWS Lambda</u>, automating changes and defining standards to continuously manage & improve supporting processes and procedures to deliver business value.

Customers can find prescriptive guidance on implementation in the <u>Operational</u> <u>Excellence Pillar whitepaper</u>.

#### Security

This pillar focuses on ability to protect information, systems, and assets while delivering business value through risk assessments and mitigation strategies. Digital Brands Suite architecture on AWS takes advantage of inherent prevention features such as <u>Amazon VPC</u>s to logically isolate environments as per customer requirements, <u>Subnets</u> to logically isolate multiple layers in VPC and control the communication between them, <u>Network Access Control Lists</u> and <u>Security Groups</u> to control incoming and outgoing traffics. Digital Brans Suite uses <u>AWS Key Management Service</u> (KMS) for security of data at rest, SSL encryption for data in transit as well as <u>AWS Secrets Manager</u> for systems credential management, Role Based Access Control (RBAC) via <u>AWS IAM</u> for access management as discussed in security section. The architecture is leveraging the AWS security services to protect data, systems and assets in a way that improves the overall security posture of the CSP's network.

Customers can find prescriptive guidance on implementation in the <u>Security Pillar</u> <u>whitepaper</u>.

#### Reliability

This pillar focuses on ability of a system to recover from infrastructure or service failures, dynamically acquire computing resources to meet demand, and mitigate disruptions such as misconfigurations or transient network issues. Digital Brands Suite quickly recovers from Database failure by leveraging <u>Amazon Aurora</u> which spans



across multiple <u>availability zones</u> in <u>AWS Region</u>, and each Availability Zone contains a copy of the cluster volume data. This functionality means that DB cluster can tolerate a failure of an Availability Zone without any loss of data. Digital Brands Suite on AWS supports <u>Cluster Autoscaling</u> (CA) as well as <u>Horizontal Pod Autoscaling</u> (HPA) handling scalability and reliability of application. Changes are made through automation leveraging <u>AWS Cloud Formation</u>.

The architecture of Digital Brands Suite on AWS encompasses the ability to perform its intended function correctly and consistently when it's expected to. This includes the ability to operate and test the workload through its total lifecycle.

Customers can find prescriptive guidance on Implementation in the <u>Reliability Pillar</u> <u>whitepaper</u>.

#### **Performance Efficiency**

This pillar deals with the ability to use computing resources efficiently to meet system requirements, and to maintain that efficiency as demand changes and technologies evolve. The architecture of Digital Brands Suite on AWS ensures an efficient usage of the compute, storage and database resources to meet the system requirements, and to maintain that as demand changes and technologies evolve.

Customers can find prescriptive guidance on implementation in <u>the Performance</u> <u>Efficiency Pillar whitepaper</u>.

#### **Cost Optimization**

This pillar deals with the ability to avoid or eliminate unneeded cost or suboptimal resources. Digital Brands Suite on AWS uses Amazon Aurora PostgreSQL which considerable reduces database costs. <u>Amazon Aurora</u> PostgreSQL is three times faster than standard PostgreSQL databases. It provides the security, availability, and reliability of commercial databases at 1/10th the cost. Additionally Digital Brands Suite on AWS supports <u>Cluster Autoscaling</u> (CA) as well as <u>Horizontal Pod Autoscaling</u> (HPA), contributing to considerable cost reduction. The architecture of Digital Brands Suite on AWS has the ability to run systems to deliver business value at the lowest price point. Customers can find prescriptive guidance on implementation in the <u>Cost Optimization Pillar</u> <u>whitepaper</u>

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# **Further Reading**

For additional information, see:

- <u>5G Network Evolution with AWS</u>
- <u>Continuous Integration and Continuous Delivery for 5G Networks on AWS</u>
- <u>Next-Generation Mobile Private Network Powered by AWS</u>
- <u>AWS Well-Architected Framework</u>
- <u>Next-Generation OSS with AWS</u>

# **Document Revisions**

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# Glossary

- AAA: Authentication, Authorization, and Accounting
- **ACH**: Automated clearing house
- API: Application programming interface
- AR: Accounts Receivable
- AWS: Amazon Web Services
- AZ: Availability Zone
- BSS: Business Support Systems
- CA: Cluster Autoscaling
- CLI: Command-Line Interface
- CSP: Communications Service Provider
- CSR: Customer Service Representatives
- DB: DataBase
- DBS: Amdocs Digital Brands Suite
- DDoS: Distributed Denial of Service
- DMZ: DeMilitarized Zone
- ECR: Amazon Elastic Container Registry
- **EFS**: Amazon Elastic File System
- EKS: Amazon Elastic Kubernetes Service



- **GSLB**: Global Server Load Balancing
- HLR: Home Location Registers
- HPA: Horizontal Pod Autoscaling
- HSS: Home Subscriber Servers
- HTTPS: Hypertext Transfer Protocol Secure
- IAM: AWS Identity and Access Management
- IGEN: Invoice Generator
- KMS: AWS Key Management Service
- NBA: Next Best Action
- NBO: Next Best Offer
- OCS: Online Charging Systems
- OSS: Operations Support System
- **PII**: Personal Identifiable Information
- **RBAC**: Role Based Access Control
- **RDP**: Remote Desktop Protocol
- **REST API**: REpresentational State Transfer Application programming interface
- RPO: Recovery Point Objective
- **RTO**: Recovery Time Objective
- S3: Amazon Simple Storage Service
- SaaS: Software as a Service
- SLA: Service Level Agreement
- SME: Small- and Medium-sized Enterprise
- SSL: Secure Sockets Layer
- UI: User Interface
- VPC: Amazon Virtual Private Cloud
- WAF: AWS Web Application Firewall

