

Service Name

AWS Supply Chain

Service Overview

AWS Supply Chain is a cloud-based supply chain management application that works with existing enterprise resource planning (ERP) and supply chain management systems. It connects and extracts inventory, supply, and demand data from existing systems into a unified AWS Supply Chain data model. The service uses machine learning and generative AI to enhance demand forecasting, inventory visibility, and supply planning. It provides end-to-end visibility into supply chains, enabling organizations to collaborate with suppliers, automate order processing, gain insights through analytics, and digitally transform their supply chain operations without requiring replatforming, upfront licensing fees, or long-term commitments.

Key Use Cases

- **Demand Planning:** Create demand forecasts, adjust forecasts according to market conditions, and enable demand planners to collaborate across teams using machine learning algorithms
- **Supply Planning:** Plan and forecast purchases of raw materials, components, and finished goods with auto replenishment and manufacturing plans
- **Supply Chain Risk Management:** Automatically generate insights of potential supply chain risks like stockouts, excess stocks, and lead time deviations with rebalance recommendations
- **N-Tier Visibility:** Extend visibility and insights beyond the organization to external trading partners for comprehensive supply chain transparency
- **Manufacturing Operations:** Transform manufacturing processes by developing effective material resource plans, monitoring material composition changes, and maintaining spare parts visibility
- **Sustainability Management:** Invite partners and map their sustainability information to create a secure and efficient way for obtaining documents and datasets from supplier networks

Features

- **Data Lake:** Simplifies aggregating data from supply chain systems using an extensible data model built for supply chain management, supporting Amazon S3, EDI, SAP S/4HANA, and SAP ECC 6.0
- **Insights:** Automatically generates insights of potential supply chain risks and provides rebalance recommendations using machine learning

- **Order Planning and Tracking:** View work order status, expected time of arrival predictions, delivery risk and recommendations for each work order
- **Demand Planning:** Create demand forecasts using machine learning, adjust forecasts according to market conditions, and enable collaboration across teams
- **Supply Planning:** Supports auto replenishment and manufacturing plans for planning and forecasting purchases of raw materials, components, and finished goods
- **N-Tier Visibility:** Extends visibility and insights beyond the organization to external trading partners
- **Sustainability:** Enables inviting partners and mapping their sustainability information for comprehensive environmental tracking
- **Amazon Q Integration:** Generative AI assistant integrated into AWS Supply Chain for querying and analyzing data using natural language

Value Proposition

AWS Supply Chain offers a comprehensive cloud-based solution that eliminates the need for replatforming, upfront licensing fees, or long-term commitments. It leverages AWS's secure infrastructure, machine learning, and generative AI to provide end-to-end supply chain visibility and automation:

- The service integrates seamlessly with existing ERP systems while offering advanced features like automated risk detection, demand forecasting, and supplier collaboration
- Customers benefit from reduced time-to-market, improved operational efficiency, cost optimization through pay-as-you-go pricing, and the ability to scale globally using AWS's infrastructure
- The integration with Amazon Q provides natural language querying capabilities, making complex supply chain data analysis accessible to all stakeholders

Service Integration

AWS Supply Chain integrates deeply with multiple AWS services to provide comprehensive functionality. Core integrations include Amazon S3 for data storage and retrieval of product catalogs, purchase orders, and invoices; Amazon SageMaker for building machine learning models for demand forecasting and anomaly detection; AWS Lambda for serverless code execution and event processing; Amazon DynamoDB for storing inventory levels and order status data; Amazon SNS and Amazon SQS for notifications and messaging; AWS Step Functions for coordinating workflows; Amazon Kinesis for real-time data stream processing; AWS Glue for ETL operations; AWS Lake Formation for data lake management; IAM Identity Center for authentication; and Amazon QuickSight for embedded analytics. The service also leverages AWS CloudTrail, AWS Config, and AWS Trusted Advisor for monitoring, compliance, and optimization.

Onboarding and Offboarding

Getting started with AWS Supply Chain involves a four-step process. First, assign an IAM Identity Center User profile to manage identity synchronization:

- Second, create an AWS Supply Chain instance through the AWS console
- Third, choose an AWS Supply Chain application owner to manage the instance
- Fourth, log into the AWS Supply Chain web application using provided credentials
- The service supports up to 10 instances per AWS account and offers a test drive feature with pre-populated datasets for evaluation
- Users need a broadband internet connection and supported web browsers (Chrome, Firefox, Edge, Safari)
- The platform provides various permission roles including Administrator, Data Analyst, Inventory Manager, Planner, Partner Data Manager, and Supply Planner to manage access appropriately

Getting Started Guide: <https://docs.aws.amazon.com/aws-supply-chain/latest/adminguide/getting-started.html>

Data Removal

When deleting an AWS Supply Chain instance, the service provides APIs for programmatic deletion including `DeleteInstance`, `DeleteDataLakeDataset`, `DeleteDataIntegrationFlow`, and `DeleteDataLakeNamespace`. Instance deletion is an asynchronous operation that cleans up AWS resources created during instance creation and deletes associated KMS keys and relevant information. However, data stored in Amazon S3 buckets is not automatically deleted and must be managed separately. Related information in Amazon Q is also deleted when the instance is removed. Users must manually handle S3 data cleanup as part of the offboarding process.

Backup/Restore and Disaster Recovery

AWS Supply Chain leverages AWS's comprehensive backup and disaster recovery infrastructure. Data stored in the service benefits from Amazon S3's durability and can be protected using AWS Backup for centralized backup management. The service supports cross-region replication capabilities inherent in underlying AWS services. However, specific backup and disaster recovery features are primarily dependent on the underlying AWS infrastructure rather than native Supply Chain-specific backup capabilities. Users should implement backup strategies using AWS services like S3 replication, DynamoDB backups, and AWS Backup for comprehensive data protection.

Backup Capabilities

AWS Supply Chain does not provide native backup capabilities but relies on the backup features of underlying AWS services. Data stored in Amazon S3 benefits from built-in durability and versioning capabilities:

- Users can leverage AWS Backup to create centralized backup policies for supported AWS services used by Supply Chain
- The service integrates with services like DynamoDB and S3 that have their own backup mechanisms
- For comprehensive data protection, customers should implement backup strategies using AWS's ecosystem of backup services rather than relying on Supply Chain-specific backup features

Disaster Recovery

AWS Supply Chain supports disaster recovery through AWS's infrastructure rather than native disaster recovery features. The service can benefit from AWS Elastic Disaster Recovery for continuous replication and AWS's multi-region architecture for resilience:

- Cross-region deployment capabilities allow for disaster recovery planning using AWS CloudFormation for infrastructure deployment
- However, the service does not integrate directly with AWS Elastic Disaster Recovery as a managed feature
- Disaster recovery planning requires implementing solutions using AWS's broader disaster recovery services and multi-region deployment strategies

Recovery Objectives

AWS Supply Chain helps customers meet RPO and RTO objectives through AWS's underlying infrastructure capabilities rather than service-specific features. Customers can achieve low RPO through continuous data replication using S3 cross-region replication, DynamoDB global tables, and other AWS service capabilities. RTO can be improved through multi-region deployments and automated failover mechanisms using services like Route 53 and AWS Application Recovery Controller. However, specific RPO and RTO targets depend on customer implementation of AWS disaster recovery best practices rather than built-in Supply Chain recovery features.

Service Constraints

Service Quotas: <https://docs.aws.amazon.com/aws-supply-chain/latest/adminguide/quotas.html>

FAQ: <https://docs.aws.amazon.com/aws-supply-chain/latest/adminguide/faq.html>

Technical Requirements

Service Documentation: <https://docs.aws.amazon.com/aws-supply-chain/latest/userguide/index.html>

User Guide: <https://docs.aws.amazon.com/aws-supply-chain/latest/userguide/what-is-service.html>

API Reference: <https://docs.aws.amazon.com/aws-supply-chain/latest/APIReference/index.html>

Pricing Overview

Please see the AWS UK G Cloud 15 Pricing Document accompanying this service in the Digital Marketplace.

Public Pricing: <https://aws.amazon.com/aws-supply-chain/pricing/>

Cost Optimization

AWS Supply Chain offers several cost optimization options through its pay-as-you-go pricing model. The service provides a 30-day free trial including 1,000 product SKU location combinations for Insights and Demand Planning, 1,000 component SKU location combinations for Supply Planning, 25 data requests for Sustainability, and 10 GB of data storage:

- Cost optimization is achieved through tiered pricing that reduces per-unit costs at higher volumes, particularly for Supply Planning which ranges from \$0.30 to \$0.10 per combination for the first 1,000,000 combinations
- Data lake storage charges \$0.25 per GB per month for additional storage beyond the free tier
- N-Tier Visibility is included in Supply Planning and Insights pricing, providing additional value without separate charges
- The service eliminates upfront licensing fees and long-term commitments typical of traditional supply chain solutions

Savings Considerations

Main cost savings considerations include eliminating traditional on-premises supply chain software licensing costs, reducing infrastructure maintenance expenses, and leveraging AWS's economies of scale. The service's cloud-native architecture eliminates the need for dedicated hardware, software maintenance, and IT staff for system management:

- Volume-based pricing tiers provide significant savings for large-scale implementations, with per-unit costs decreasing substantially at higher usage levels

- Integration with existing AWS services can reduce overall cloud costs through consolidated billing and shared resource utilization
- The pay-as-you-go model ensures customers only pay for actual usage rather than peak capacity provisioning
- Automated insights and machine learning capabilities can reduce operational costs by identifying inefficiencies and optimizing inventory levels, potentially saving significant working capital costs