



# Oracle Retail Assortment and Space Optimization Cloud Service

Today's consumers are becoming more demanding as they shop multiple retailers and expect unique and tailored shopping experiences. However, retailers are struggling to keep up with the changing needs of their core customer base as well as meeting the needs of new strategic customer base and markets, as they look to preserve and expand their market share. The result is customers not finding items in their shopping list translating to lost sales and demand shifting to competition as well as low on-shelf inventory productivity.

Some retailers are responding to this challenge with localized assortments; however the reality of varying store formats and store sizes makes it challenging to execute these localized assortments in an efficient and profitable manner. Planogram automation tools help reduce the operational complexity, but do not optimize the planograms to meet customer specific demand for each store or cluster.

## IMPROVE CUSTOMER SATISFACTION WHILE OPTIMIZING RETURN ON SPACE

Oracle Retail Assortment and Space Optimization Cloud Service pairs with the Oracle Retail AI Foundation which provides analytical insights to drive planning, buying, moving and selling decisions. These capabilities enable retailers to drive profit and remain flexible to the changing retail environment. Oracle Retail Assortment and Space Optimization Cloud Service enables retailers to optimize their assortments to store and cluster specific needs to maximize return on space, sales, and gross profit while maintaining visual merchandising standards and supply chain considerations. The solution enables retailers to improve customer satisfaction by optimizing assortment, placement, and facings for the available space.

By leveraging key inputs including optimization goals, demand transference science, visual guidelines, and inventory/replenishment factors, retailers are presented with recommended optimized shelf display that can be leveraged in downstream execution processes.

## DYNAMIC CREATION OF 'SPACE CLUSTERS'

Leveraging available fixture data, the Oracle Retail Assortment and Space Optimization Cloud Service dynamically creates store clusters (space clusters) with common fixture dimensions. This enables the retailer to optimize assortments for all stores with similar space for the category or assortment-mix.



### Key Benefits

- Optimize assortments to available space to maximize planogram performance, return-on-space, sales, revenue and profits while improving customer satisfaction
- Deliver the right assortment for each store
- Eliminate excess on-shelf inventory, minimize stock out rates
- Creation of assortment and facing recommendations to maximize profits while balancing supply chain constraints, business rules and visual merchandising standards

## CONDUCT MICRO-SPACE OPTIMIZATION 'WHAT-IF' ANALYSIS

Dynamically manage and assess the impacts of adding and/or removing fixture space from a particular store or store group. The Oracle Retail Assortment and Space Optimization Cloud Service provides the retailer with the ability to conduct 'what-if' analysis by adjusting fixture lengths during an optimization run to visually review, compare and validate results. This scientific insight is extremely effective as teams plan and conduct store projects to re-allocate space to the planograms for maximum profit. Prior to approving optimization results for downstream execution, retailers are able to review shelf previews; assessing variation from current or historical planograms as well as confirm recommended results align with expectations. Updates to the respective shelf preview may be made real-time with forecasted results being updated in a real-time manner.

## ORACLE CLOUD INFRASTRUCTURE

All Oracle Retail Analytics and Planning cloud services are deployed as cloud-native Software-as-a-Service solutions within Oracle Cloud Infrastructure (OCI) upon Oracle's Autonomous Data Warehouse, and are based upon an architecture and technology stack that is optimally engineered for rapid, low-cost deployments and exceptional performance and scalability, and the highest levels of system availability and security - from storage to scorecard.

## ORACLE RETAIL AI FOUNDATION

Core retail AI and machine learning (ML) powers all Oracle Retail Analytics and Planning cloud services. For example:

**Forecasting Engine** - Provide an intelligent starting point for your planners, increasing automation and accuracy. Move to a more touchless and exception management planning process.

**Customer Segmentation** - Group customers based on attributes, behaviors, and transactions to tailor offers, pricing, and assortments accordingly, incorporating previously hidden patterns in your data.

**Advanced Clustering** - Cluster your stores based upon traditional approaches of volume, square footage, region, etc., or leverage machine learning techniques to cluster stores based upon similar selling patterns, truly creating a customer-centric assortment.

**Profile Science** - Determine the best size ratio for your buys by understanding the true demand of your sizes while considering stock-outs.

**Attribute Extraction and Binning** - Extract item attributes from free-form descriptions, correcting short forms, misspellings, and other inconsistencies, and apply them to Demand Transference, Customer Decision Trees, Advanced Clustering, and more.

**Customer Decision Trees** - Understand how your customers are shopping your assortments to drive attribute-based alternate hierarchies and effectively plan your assortment the way your customer shops.

**Demand Transference** - Understand how unique your items are and the incremental revenue that item brings to determine the most optimal assortment for your customer.

**Affinity Analysis** - Determine how items interact with each other to drive a more effective promotional strategy within your financial planning process.

**Innovation Workbench** - Leverage open source along with your data science team to create your own AI and ML models. Utilize the language of your choice with Jupyter/Zeppelin notebooks.

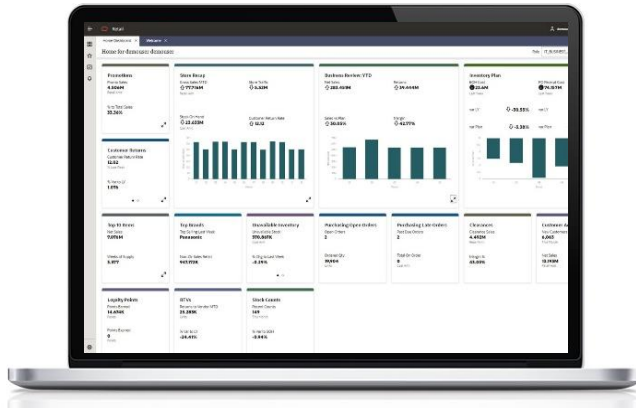
### Key Features

- *Integrated with the Category Management Planning & Optimization solution; enabling the ability to easily review and reconcile results with upstream plans*
- *Creation of customer-centric and targeted assortments while optimizing assortment and item facings to open space*
- *Use item-level demand transference combined with supply chain constraints to create targeted assortments at store or store cluster level*
- *Dynamically generate store clusters based on available fixture dimensions*
- *Support for different fixture types include shelf, peg board, freezer chests as well as peg board / shelf combinations*
- *Visual guidelines and defined business rules throughout the optimization process*
- *'What-if' analysis to identify opportunities to increase and/or decrease space allocated to a particular assortment*
- *Optimized shelf layout in a visual preview and the ability to make updates*
- *Embedded Retail AI Foundation, powering Oracle Retail Demand Forecasting Cloud Service with:*
  - *Forecasting Engine*
  - *Customer Segmentation*
  - *Advanced Clustering*
  - *Profile Science*
  - *Attribute Extraction & Binning*
  - *Customer Decision Trees*
  - *Demand Transference*
  - *Affinity Analysis*
  - *Innovation Workbench*
- *Further extensibility with:*
  - *Oracle Retail Home*
  - *Oracle Analytics*
  - *Oracle Application Express*
  - *Oracle REST Data Services*
  - *Oracle Machine Learning*

## ORACLE RETAIL HOME

Oracle Retail Home is a single access point, to simplify a user's interactions with the data and applications that are most relevant to their roles, and to better empower them to anticipate informed actions, and to inspire engagement.

Based on a robust and flexible portal framework, Retail Home is intended first to provide timely and role-specific high-level insights, and second to enable selectively drilling into relevant applications for more details.



### *The Oracle Retail Analytics and Planning family of cloud services includes:*

- Oracle Retail AI Foundation
- Oracle Retail Insights
- Oracle Retail Assortment and Space Optimization
- Oracle Retail Promotion and Markdown Optimization
- Oracle Retail Offer Optimization
- Oracle Retail Merchandise Financial Planning
- Oracle Retail Assortment Planning
- Oracle Retail Demand Forecasting
- Oracle Retail Inventory Optimization

## ORACLE ANALYTICS

Oracle Analytics can be used to generate and consume analytics from Oracle Retail AI Foundation data, and in turn can also surface dashboards to Oracle Retail Home.

Oracle Analytics is a comprehensive platform that parlays data into information to provide business insights, federating a broad array of features to suit business users, power users and data scientists:

### **Governed**

- Corporate Dashboards
- Pixel Perfect Report
- Semantic Models
- Role-based Access Control
- Query Federation

### **Self-Service**

- Data Preparation
- Data Visualization
- Storytelling
- Sharing and Collaboration
- Mobile Apps

### **Augmented**

- Natural Language Processing
- Voice and Chatbot
- Data Enrichment
- One-Click "Explain"
- Adaptive Personalization

Beyond the extensibility afforded by the Oracle Retail AI Foundation's Innovation Workbench, Oracle Analytics, and Oracle Retail Home, also included are Oracle Data Store, Oracle APEX, and Oracle REST Data Services.

## ORACLE DATA STORE AND APPLICATION EXPRESS

Oracle Retail Data Store can supply data for Oracle Application Express (APEX) apps and Oracle REST Data Services, which both are included. APEX is a low-code development platform that enables you to build scalable, secure enterprise apps with world-class features that can be deployed anywhere.

Developers can quickly develop and deploy compelling apps that solve real problems and provide immediate value using APEX. You won't need to be an expert in a vast array of technologies to deliver sophisticated solutions. Focus on solving the problem and let APEX take care of the rest.

## ORACLE REST DATA SERVICES

Oracle REST Data Services bridges HTTPS and your Oracle Database, providing, among other things, a REST API, SQL Developer Web, a PL/SQL Gateway, SODA for REST, and the ability to publish RESTful Web Services for interacting with the data and stored procedures in your Oracle Database.

## ORACLE MACHINE LEARNING

Oracle Machine Learning supports data exploration, preparation, and machine learning modeling at scale using SQL, R, Python, REST, AutoML, and no-code interfaces. It includes more than 30 high-performance in-database algorithms producing models for immediate use in applications.

By keeping data inside the database, organizations can simplify their overall architecture and maintain data synchronization and security. It enables data scientists and other data professionals to build models quickly by simplifying and automating key elements of the machine learning lifecycle.

[Learn more or request 1:1 demo](#)

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