# System Component Diagram

**Farmacy Food** (Customer Web Application)
Web application that customers use to interact with the system. Includes sign up, login, profile, settings, payment methods, subscriptions, feedbacks, advices and recommendations

**Farmacy Food** (Customer Mobile Application)
Similarly like Web, this is a Mobile application that customers use to interact with the system.

Get / List Meal Types

Get / List Meal Types

Get Prices

Get Prices

publish base price change event for meal type

**Meal Types** (API)
Meal catalog, meal CRUD

Get / List Meal Types

## Pricing Capability

**Pricing Admin Module** (System Admin Web Application)
Allows users to manage / define pricing policy rules

**Pricing Service** (API)
This service is for getting latest prices

**Pricing Calculation** (Engine)
Reactive pricing calculation engine

publish pricing rule change event

**Pricing Policy Service** (API)
This service is for managing pricing policy rules per locations, time, meal types, customer credits, customer types and other attributes

**Calculated Prices**
Stores calculates prices

execute pricing rule and calculate new price per meal type

**Pricing Policy Rules**
Stores pricing policy rules

## Card & Payment Capability

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stores or updates credit cards or perform payment

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**Cards & Payments**
Stores credit cards and their unique card tokens so non-PCI services could indicate which card to use without knowing card details. Also stores Payments.

**Wallet & Payment** (API)
This service stores and processes customer credit cards: authorizations, charges, returns. This service is under **PCI** scope.

uses

uses

uses

**QuickBooks** (External Service)
Accounting, Book Management, Invoicing

**Card Processor 1** (External Service)
Processes customer credit card: authorizations, charges, returns

**Card Processor 2** (External Service)
Processes customer credit card: authorizations, charges, returns

Several card processors will be used for resiliency in case of default processor is unavailable

authentication using credit card

receives back CC token and user identity ID

pay

gets identity attributes and verifies it is active and in a good stand

When session starts get latest prices per current meals (meal types) in the fridge and "freeze" prices per session. If prices updated during the ongoing session then customer is not impacted.

## Fridge Capability

**Purchase Session** (API)
Creates purchase session based on User Identity and Credit Card BEFORE the door us opened. This service is under **PCI** scope since it receives and transfers credit card data (but doesn't stores).

Receives "meal touched" notifications from fridge device when meals are "touched" or moved by customers

Sends signal back to device when customers take "wrong" or someone else's meal

Caches transaction details in case payment service is down.

**Purchase Sessions**
Stores purchase sessions and keeps track on customer/fridge activity and interactions

publishes session closure event

check if there is a subscribed meal for specific customer in specific fridge

**Fridge Status** (API)
Fridge health check, actual inventory, status, environment metrics like temperature, humidity etc.

**Fridge Admin** (API)
Fridge attributes such as location, properties, capacity, configuration, thresholds. Includes CRUD, list and search API.

**Fridge Admin Module** (System Admin Web Application)
Allows users to manage / define new fridges and manage existing ones. Users can also view reports and dashboards

**Fridges Database**
Fridges definitions, configurations, statuses, metrics

authenticates using credit card (after swipe)

publish events when meals are touched or moved

fridge receive notification when customers pick wrong or someone else's meals

closing session when the fridge door is closed

send status, local metrics and parameters

**Smart Fridge / POS** (Device)
Pro-active smart fridge or POS device that periodically initiates connection and sends status

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authenticate

authenticate

get profile and settings

get profile and settings

## Identity and Profile Capability

**Identity Service** (API)
Identity Management and authentication using user credentials

**User Identities**
Stores user identities

**Customer Accounts** (API)
Customer profile and settings

**Customer Accounts**
Stores purchase sessions and keeps track on customer/fridge activity and interactions

get customer contact details and notification preferences

Get Referral ID

## Notifications Capability

**Notification Sender**
Sends notification to users or staff. Know whether to use push notifications to mobile app, email, or SMS.

**Notifications**
Stores notification channel and template configurations, as well as operational details and status

**Notification Configuration Service** (API)
Used to configure notification channels and templates. CRUD and List.

**Notification Scheduler** (Engine)
Schedules notifications to be sent either immediately or at a later time

**Notification Admin Module** (System Admin Web Application)
Used to configure notification channels and templates

consume notification message

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Receives "meal touched" notifications from fridge device when meals are "touched" or moved by customers

Sends signal back to device when customers take "wrong" or someone else's meal

Caches transaction details in case payment service is down.

Get Credits to calculate final price for customers (and reward them)

When purchase event is published in the system event bus, R&R engine consumes the message and retrieves referral ID of the customer

## Referrals, Rewards and Credits Capability

**Referrals and Rewards** (Engine)
Tracks referred customer purchases. Updates customer credits and assigns rewards according to reward policy.

**Referral Code Creation** (API)
Creates referral codes and referee records.

**Reward Policy Management** (API)
CRUD reward policies

**Credits** (API)
CRUD reward policies

An example of a reward policy could be:

1. Update customer credits with each referred meal.
2. Grant customer free meal each time a referred customer purchases 1st, 100th and 1000th meal

**Referrals**
IDs of customers that asked referral codes, customer referral codes, successful referrals per customer, referred customer purchases.

**Reward Policies**
Stores reward policies

**Credits**
Stores credit points for customers

## Feedback Capability

**Feedbacks & Ranking Results**
Actual customer feedbacks and rankings

**Feedback Collection** (API)
Used to collect feedbacks initiated by customers in web or mobile apps

send feedback

send feedback

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create and manage meal subscriptions using meal plans as templates

## Meal Subscription Capability

**Subscription Admin Module** (System Admin Web Application)
Allows users to manage subscriptions. Users can also view reports and dashboard.

publish notification message

consume inventory update / location change event

**Subscription Notification** (Engine)
Listens to meal updates, and sends notification to customer when the ordered meal arrived to fridge or feedback requests after meal purchases

**Subscription Service** (API)
Allows to create meal subscriptions according to user preference. Per day, weekly, monthly, yearly.

**Subscription Work Orders** (Engine)
Creates meal reservations according to customer subscription

**Meal Subscriptions**
Stores customer subscription details and subscription templates

publish inventory update / location change event

**Meal Inventory** (API)
Updates meals inventory and meal status including meal attributes and parameters

get meals (for surprise me)

publish work order creation message

## Meal Inventory Capability

consumes session closure event

publishes work order creation message

**Demand Planning** (Engine)
Planning and Async inventory update engine. Utilizes ML to determine which meals to order to which fridge, and when

**Meal Types** (API)
Meal catalog, meal CRUD

**Meal Search** (API)
API for users to search and present meals either near location or kind

reads and updates (on purchase) inventory

**Meal Inventory** (API)
Updates meals inventory and meal status including meal attributes and parameters

**Meals**
Stores meals types, amounts, allocations, expiration dates, prices, **Inventory, Meal (instance) Attributes such as who ordered if it was created for subscribed customer**

update and track inventory

**Refiller Application** (Mobile Application)
A mobile application used by refiners to indicate which meal went to with fridge and what shelf/ placement

update and track inventory

## Kitchen Capability

consume work order creation message

consume work order creation message

**Work Order Creation** (Engine)
Creates work orders for the kitchen

**Kitchen**
Meal works orders for kitchen, employee shifts, time tracking, kitchen inventory, meal attributes

**Material Order** (Engine)
Creates purchase orders for material and ingredients

**Kitchen Application** (Web Application)
Kitchen management application

**Kitchen Service** (API)
List production orders, shift CRUD, meal prep time tracking, quality control parameters

**ChefTec** (External Service)
Inventory Control, Nutritional Analysis, Purchasing & Ordering, Production, and Requisitioning & Transfer

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Read content

Read content

## Content Management Capability

**CMS** (API)
Content Management System API

Get meal plans

**CMS**
CMS store

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Get meal plans

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**Meal Types** (API)
Meal catalog, meal CRUD

CRUD Content

CRUD meal types

## Expert Platform

**Expert Application** (Web Application)
Nutrition expert application for creating meals, meal plans, giving recommendations and interacting with customers

publish work order creation message

**Expert Communication** (API)
A messaging service for communication between Experts and Customers. In the future might be refactored to a dedicated messaging capability.

**Meal Plans** (API)
List and get meal plans; Like or Dislike Meal Plans

**Meal Plans Admin** (API)
CRUD meal plans

**Messages**
Messages store

**Meal Plans**
Meal plans

Get personal details and preferences for meal plan personalization

Get personal details and preferences for meal plan personalization

**Customer Accounts** (API)
Customer profile and settings