

# NBA Player Proposition & Micro Markets From Creation to Resulting

A Case Study of Huddle  
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## INTRODUCTION

Our NBA player proposition and micro markets go through several states and transitions during their lifecycle. What these states are and how many transitions each market has depends on several factors such as the configuration of the market, game dynamics, team tendencies, and so on.

In order to provide a better understanding of what the lifecycle for our markets looks like, we'll have to divide it into four stages.

- Configuration of the Markets From the Operator Perspective
- Creation of the Markets
- Pre-match & In-play Pricing
- Resulting

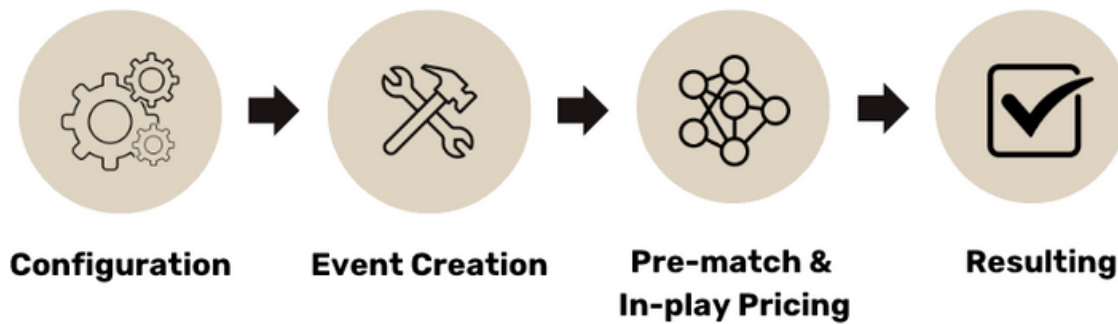
But, before we begin, let's dive into a high-level overview of the complete flow that brings our pricing of player props and micro markets to you.

### **Player Props and Micro Markets Offering - Flow Overview**

- The first step is the ingestion of games that are played. When NBA is in question, we ingest the schedule at least one week in advance
- Initialization of the games in our ecosystem
- We kick off our projections pipeline to have the most up-to-date projections for the upcoming games
- Configuration of the game and team parameters
- Creation of micro markets
- Configuration of the player parameters
- Creation of player props markets
- Our system automatically collects and processes play-by-play data with all the player-related statistics and actions on the court
- Every significant change that comes in through play-by-play data automatically triggers the simulation to recalculate the prices
- Operator-specific configuration kicks in and we determine which markets will be offered and how
- Operator-specific hold percentages and limits are applied
- Markets are sent to the operator

In this flow, the operator's tasks include configuring the markets (more information below), subscribing to the NBA competition in the Huddle OS back office, and ensuring that integration for our Odds Feed product is operational on their end.

Now that we've covered the high-level flow overview, let's delve deeper into the key aspects of player props and the micro market lifecycle.



## CONFIGURATION OF THE MARKETS FROM THE OPERATOR PERSPECTIVE

The first step in the lifecycle that the majority of operators want to do is the actual **configuration of the market**. We allow extensive configuring of each market individually and each market can be configured to suit the operator's needs.

Every NBA player proposition or micro market can be customized with varying lines, including minimum and maximum values, line types, and incremental adjustments above and below the main line. On top of that, the hold percentage for each market can be adjusted for both pre-match and in-play offerings. Finally, the last part of the market configuration is adjusting the time when you want to stop offering or displaying the given market.

Once all of this is configured, one of the internal applications that supervises the pricing processes will take over and ensure that the configuration runs as the expected behavior of the market until it's changed again.

## CREATION OF THE MARKETS

When it comes to basketball, Huddle models take several things into account before the market is created and the first prices are produced.

### *Player Props*

For player proposition markets, Huddle accounts for the following:

- Players on the court from both teams
- Individual quality of the player
- Blowout or close game scenarios
- Projected performance versus the actual performance in the given game
- Projected playing time versus actual playing time

Huddle's model runs 100.000+ simulations of every event. Each of these simulations predicts the outcome of a couple of next possessions alongside the statistics for every player that we predict will participate in the game.

Market prices are determined based on the outcome of these simulations and then passed to another application in our stack. This application forwards the player props market offerings to yet another application for further processing.

### ***Micro Markets***

As far as micro markets go, the process of creation is the same. Huddle runs simulations which are simulating the outcome of possessions and markets are created based on that.

The only difference are factors that we take into account. For micro markets, Huddle accounts for the following:

- Players on the court (the same case as with player props, certain players will change their playstyle based on who are they facing from the opposing team)
- Time left in the match/period
- Score difference
- Shot tendencies of the teams (some teams tend to take more 3-point shots based on result and match intensity)

## PRE-MATCH & IN-PLAY PRICING

After configuring and creating markets from our projections pipeline and simulations, initial prices are generated. These prices for NBA player props and micro markets are available for both pre-match and in-play, typically at least 24 hours before the event.

As mentioned earlier, Huddle's pricing stack includes several applications responsible for different pricing tasks. The one responsible for player props markets, not only reads the offering but also processes event state updates for each game and industry market updates.

After processing, the data is passed to an internal application that generates commands, which are then picked up by another application in our pricing stack. Commands that are created are related to pricing changes and the whole lifecycle of the markets including offering, displaying, and cashout.

This is where we are coming to the most interesting part.

Aside from the factors that we take into account when running simulations. Our models have a set of parameters that are used for the calculation of the prices. These parameters are calculated by another pricing application that runs the proprietary algorithm. It's important to note that the application can run in three different modes which allows us to decide how much control over the markets we want to have.

If we want to have full control over the markets (Manual mode), the last piece of the pricing puzzle called **"Params Manager"** falls into place. It's an internal API that allows the adjusting of model parameters for both players, teams, and events themselves. In other words, when control of the pricing is set to full manual mode, the Params Manager takes control of one of the pricing applications in the stack, and prices that are produced for both pre-match & in-play are calculated solely on the manual input of our trading team.

## RESULTING

The logical end of the market lifecycle is the resulting. Basically, it's a way of determining which selection was a winning one for the given market based on its type and line.

This is a process that is completely automated, but it can be manually overridden if there's a necessity for it. The application responsible for this is called simply Market Resulter. Resulter determines which selection is the winning one based on the event state and rules which are set for the given market. Information about these is picked up from several internal applications to which we referred multiple times in the text.

## CONCLUSION

We've delved into the background of NBA player propositions and micro markets pricing. Though we've only scratched the surface of the involved processes, it's clear that every price change is the result of calculations based on algorithms, simulations, and human expertise.

In the ever-evolving world of sports betting, staying ahead of the competition is the key. Our expertise in crafting markets, strategizing pricing, and predicting outcomes puts us at the forefront of the industry.

As we come to the end of this article, it's important to recognize that while we've highlighted the main processes driving our player propositions and micro markets, there are a lot of others running behind the scenes. Together, they ensure our pricing ecosystem runs smoothly, delivering top-notch odds to our customers.

So, the next time you place a bet on your favorite NBA player prop or micro market, think about the careful blend of algorithms and human insight behind those odds. And know that Huddle is committed to refining our methods, ensuring you're always on the winning side – one calculated price at a time.