

# DecentRE Property Exchange White Paper

September 2022  
Rev. January 2023

Robert S. Hahn

# Why DecentRE PX?

The real estate industry in North America is plagued by *opacity*. Buyers, sellers, brokers and agents all suffer from a system put into place in the 19th century due to technological limitations of the time.

The advent of the internet meant that we could use a far more transparent open auction model for transactions. Open bidding is the ideal way to buy and sell something as unique, as expensive, and as meaningful as a house: it is fair, it always yields the market price, and it is fully transparent.

While open auctions are used more widely in other countries such as Australia, in the United States and Canada, they have been relegated to niche markets such as ultra-luxury, distressed properties, or bank foreclosures. One reason is that North America is unique in all the world in the base system for buying and selling residential real estate: the Multiple Listing Service (MLS).

The MLS is at the center of the real estate industry in North America. It is the reason why open auction is not in wider usage today. It is the reason why innovation in residential real estate has stalled.

Without decentralizing the MLS, there is no hope of bringing the benefits of decentralized computing, decentralized finance, and more efficient, less expensive, and more innovative transaction solutions to market.

DecentRE Property Exchange (DecentRE PX) is the answer. We have built an open auction platform for real estate that is also an MLS in its own right. By bringing a new vision of what an MLS could be and should be, we are also bringing auctions to the mainstream of real estate.

# Introduction

Housing is a fundamental good, like food and energy. Everyone needs to live somewhere.

The housing industry is also the one market that is most resistant to change.

In the United States, the most developed and advanced residential real estate market in the world, twenty years of technological development and advances have led to the average commission dropping from 6% to 5%. Despite the internet transforming our lives in every respect, somehow land registry and title information remains mired in the same paper-based system from the 18th century. Despite advances in financial technology, the process of getting a mortgage to buy a house remains more or less the same as it was in our grandparents' time.

In 2023, the same person who can buy and sell stocks, bonds, crypto, commodities and other assets with his iPhone for pennies must engage in a process not much changed since the mid-20th century to buy or sell a home or an investment property. He must pay transaction costs that are completely out of line with the rest of his financial life. This is where we are, despite exponential advances in big data, AI, computerization, automation, and communication technologies.

The reason is simple: **residential real estate, perhaps more than any other industry, is dominated and controlled by gatekeepers.**

Consider the people and companies involved in the average home sale transaction in the United States:

1. Seller
2. Listing agent
3. Listing Broker (yes, the Broker is often different from the agent)
4. Buyer
5. Buyer agent
6. Buyer Broker
7. Multiple Listing Service
8. REALTOR Association
9. State Licensing Commission
10. Federal government and regulatory agencies

11. Local land registry office (County Clerk, etc.)
12. Real Estate Portal (such as Zillow)
13. Title Company
14. Escrow Company
15. Home Inspector
16. Appraiser
17. Mortgage Broker
18. Loan Officer
19. Loan Underwriter
20. Buyer's financial institutions
21. Seller's financial institutions
22. If the Seller has a mortgage on the house, the Lienholder
23. (Sometimes) Real Estate Attorneys on both sides

Each and every entity here is a gatekeeper of some kind between the Buyer who wants to buy a house and the Seller who wants to sell it to him. Many of them perform the kind of routine function that software does better than human beings.

This is why the most prominent “disruption” from the internet on the real estate industry in the past few decades was the advent of portals like Zillow where buyers can go to see the homes listed by the same real estate agents who have been listing them for decades. They can't actually transact; they can just see what's available for sale.

At the same time, real estate is the most important asset category in the world. Global residential real estate reached \$258 trillion USD in value in 2020.<sup>1</sup> In the U.S. alone, residential real estate hit \$33.6 trillion in value in 2020.<sup>2</sup>

Real estate also lies at the heart of the growing wealth gap in the developed countries, according to a 2015 study by Matthew Rognlie of MIT, which found that the wealth inequality in the G7 nations (US, Japan, Germany, France, UK, Italy and Canada) can be explained largely by ownership of real estate.<sup>3</sup> As housing becomes more and more expensive, younger generations find themselves left behind more and more.

The problem of housing must be solved.

---

<sup>1</sup> <https://www.savills.com/impacts/market-trends/the-total-value-of-global-real-estate.html>

<sup>2</sup>

<https://www.worldpropertyjournal.com/real-estate-news/united-states/los-angeles-real-estate-news/real-estate-news-zillow-housing-data-for-2020-combined-housing-market-value-in-2020-us-gdp-china-gdp-rising-home-value-data-11769.php>

<sup>3</sup> [https://www.brookings.edu/wp-content/uploads/2016/07/2015a\\_roggnlie.pdf](https://www.brookings.edu/wp-content/uploads/2016/07/2015a_roggnlie.pdf)

Blockchain technology, decentralized applications, and other web3 tools and technologies hold the promise of finally being able to break the stranglehold that gatekeepers have on this most important asset, a fundamental good for human life.

We believe that the effort begins with a little-understood arcane corner of the residential real estate market: the MLS. We aim to bring real estate into the web3 world by decentralizing and transforming the MLS, first in the United States -- the birthplace and the stronghold of the MLS -- and then globally.

We are technologists, finance experts, and real estate experts who have come together to bring the promise of decentralization to one of the most centralized industries in the world.

# Basics of the MLS

The U.S. is the second largest housing market in the world according to Savills Research, accounting for 11% of the value of housing globally, at about \$33 trillion in value. In an average year, the U.S. housing market consists primarily of some 5 to 6 million existing homes exchanging hands annually, at a median price of \$372,000 in December of 2020. Add some 600,000 to 800,000 new home construction sales to that figure.

The MLS lies at the center of this market. It is therefore at the center of many of these problems. And it is not well understood outside the industry.

## What is the MLS, and Why Is It So Important?

The MLS is essentially a database of homes for sale in a given area owned and operated by the real estate industry. Most of the 600 or so MLSs are owned by nonprofit Associations of REALTORS, but a significant minority are owned and operated by real estate brokerages. *In every single case, membership to the MLS is restricted to those who have a real estate license.*

Listing agents secure the right to sell a client's property, almost always in an exclusive listing agreement. They then enter the listing into the MLS, which performs data compliance functions to ensure that the data is accurate, complete and timely. All of the other agents in the MLS are able to see what properties are for sale and at what asking price.

In the internet age, the MLS has become the on-ramp to the internet for real property. Information is entered into the MLS, but that information is then used by everyone connected to housing.

Every real estate portal in North America gets its data of homes for sale from the MLS, as well as every single one of the thousands of brokerage and agent websites. The MLS is the conduit to the internet today.

New home construction is often held hostage to the MLS as well, and builders routinely hire real estate agents for the sole purpose of entering their for-sale inventory into the MLS to gain more exposure to potential buyers.

Even For Sale By Owner (“FSBO”) sellers often hire a licensed real estate brokerage for the sole purpose of *putting their homes into the MLS* because that is the only way that buyers will find out about their homes for sale with any level of efficiency.

Buyers who wish to make an offer on a house have to go through the MLS, which means hiring a real estate agent to act as a buyer’s agent since the listing agent often will not even look at an offer<sup>4</sup> that doesn’t come from a buyer’s agent using standardized forms that either the state licensing authority or the REALTOR Association has created.

Each of the over 600 MLSs in North America have their own rules and policies, created and enforced by a small cadre of local brokers, although largely coordinated by the National Association of REALTORS.

It is an incredibly intricate and complex system that has monopoly market power, according to every court that has ever looked at the MLS.

The power of the MLS is evident by two recent events.

First, Zillow switched in 2021 to becoming a brokerage solely for the purpose of getting broker-only data feeds (called the IDX feed) from the MLS. Zillow did this even though it required them to go under the rules and regulations of hundreds of local MLSs. Zillow did so because over a decade of conflicts with existing institutions<sup>5</sup> made it clear that they needed to become a brokerage (at least on paper) and join the MLS in order to continue to get data for the portal.

Second, the United States is suing the National Association of REALTORS for antitrust violations stemming from NAR’s control over the MLS. It is a monopoly that has proven resistant to technology, competition, and even local efforts at regulation.

The direct result of the industry’s stranglehold on the MLS is higher cost to consumers and unnecessary delays and inefficiencies, because buyers and sellers must go through a licensed real estate agent to do anything in the housing market. Those agents in turn are

---

<sup>4</sup> It should be noted that this is against the law of agency, and against fiduciary duty. It happens all the time anyway.

<sup>5</sup> For example, a number of MLSs over the years have tried to cut off the data sent to Zillow, delay it, or otherwise restrict it. Entire companies and organizations, such as the Broker Public Portal, sprang up to try to restrict Zillow’s ability to get listing data. This decade-plus conflict is often referred to within the industry as The Syndication Wars.

also held hostage because they have no choice but to comply with the local MLS's rules and policies if they want to stay in business.



# The Solution: DecentRE PX

We believe that the solution is not to try to work within the system, but **to create a whole new system based on web3 technologies of the public blockchain, decentralized applications, and smart contracts**. We believe the solution must come from a bottom-up self-organizing entity, owned and governed by its users: **DecentRE PX**.

We propose to create a new kind of transparent, permissionless and decentralized MLS.

**There will be no barriers to entry to any market participant, licensed or not.** Any homeowner or the homeowner's verified representative may enter listings into DecentRE PX. Anyone may search DecentRE PX to see what is available for sale, and anyone may bid on a property if they meet the criteria set by the seller.

In sharp contrast to the current MLS-based system, **all offers will be on the public blockchain, so that all buyers know precisely where they stand**. Our long experience in the real estate industry has convinced us that there is no fairer, more transparent, and more efficient way to buy and sell real estate than an open auction.

Today, the MLS is like a black box to the average consumer; they have no idea what is going on, other than through their agents. Today, the buyer often loses out on buying a house, and has no idea why. They don't know if the winning bid was \$10,000 more or \$100 more. They don't know if they lost the bid because they were using a loan, or because the winning buyer was represented by the listing agent's best friend. They can't tell if their offer was rejected because of racism and bias.

With an open, transparent, and immutable record of all bids on the blockchain, combined with the permissionless anonymity that DecentRE PX allows, everyone can be certain that the winning bid won for legitimate reasons.

The open public auction **also benefits the home seller**, since the market clearing price is evident, obvious, and public. Age-old manipulations, such as "buying the listing" by promising a much higher listing price than what the market comps suggest just to win the listing, will be far more difficult. Sellers no longer have to wonder if their agents did the right thing by them if the house sells too fast, or face pressure from their own agents to

drop the listing price. The market itself will make the price of their properties perfectly clear in an open auction.

By building on the public blockchain, DecentRE PX will achieve wide open transparency combined with immutability. If any changes are made to the listing information, such changes will be open to all to view.

At the same time, we will protect the privacy and identity of every market participant to the maximum extent possible and carefully separate the private information of users from the public marketplace, while complying with regulatory requirements.

## Consumer First, Welcoming Professionals

We are not hostile to the real estate industry; most of us are from the industry. We are only hostile to industry practices that are hostile to consumers. Unlike other so-called disruptors in our space, we neither denigrate real estate professionals nor talk about overpaid agents.

While we will always put the consumer first in our design and decisions, we welcome real estate brokers, agents, mortgage professionals, and all of the other people involved in the transaction. We believe that real estate professionals provide enormous value as advisors and coordinators, who provide a service to the buyer and seller, rather than as gatekeepers..

Unlike a traditional MLS, **DecentRE PX does not mandate the unilateral offer of compensation** -- the practice of having the seller pay for the buyer's agent by requiring that the listing agent share her commission with the buyer's agent. This practice is being challenged in courts across the United States, and by the US Department of Justice. We believe the industry is ready for change, and the regulatory environment will bring this change about with or without us.

DecentRE PX preserves the ability of real estate agents to be compensated, while avoiding the abuses of the cooperation and compensation system.

We envision a robust and healthy ecosystem growing around DecentRE PX as buyers and sellers do in fact want expert help and guidance, and professionals do want to help buyers and sellers and get paid for their services. The business model will evolve over time and as the real estate regulatory environment evolves.

# Designed to Evolve

The real estate industry is facing massive civil antitrust lawsuits like *Moehrl v. NAR* and *Burnett v. NAR* making their way through the federal courts. NAR has already been sued once by the US Department of Justice, and President Biden's Executive Order on Competition contains an order to the FTC to regulate real estate brokerage and listing services.

Cooperation and compensation, the practice of having the seller pay the buyer's agent, is under attack and not likely to survive the next few years.

Other arbitrary rules like Clear Cooperation Policy are meeting resistance from brokers and agents across the industry. Faith in NAR has never been lower.

There has never been a better time to offer an alternative to the traditional REALTOR-owned MLS with all of its arbitrary and capricious rules and policies to consumers and professionals.

At the same time, we are launching DecentRE PX into the regulatory landscape as it is today, rather than as it will be in the future. Accordingly, we have designed our system and our business model to evolve with the changing times.

We will detail this below.

# How It Works

The DecentRE PX has several important pieces:

- Open Auction – the core property matching function with on-chain transparency and immutability.
- HouseLedger – a unique data repository holding all of the information and data about a unique piece of real property.
- Digital Identity – we must balance the need for KYC, AML and qualifications to participate with the values of censorship resistance, permissionless and trustless market participation.
- Data Distribution – simple to use, industry-standard APIs will make distribution of data far easier, simpler, and permissionless.
- Automatic Contract Creator – creates a valid contract for sale of the property, or a Memorandum of Understanding for those jurisdictions who use attorneys for closings.

## Open Auction

DecentRE PX operates as a fully transparent **open auction**. Our long experience in the real estate industry has convinced us that there is no fairer, more transparent, and more efficient way to buy and sell real estate than an open auction. Indeed, the reason why we are building DecentRE PX on the blockchain is for the transparency and the openness that it provides.

When the Seller lists a property (i.e., make the data in the HouseLedger available), he or she will enter fairly standard auction terms such as reserve price, length of auction, minimum bid amounts, if there is a Buy It Now price, etc. Anyone who has ever used Ebay or other auction websites should be familiar with the process.

## Non Financial Terms

Importantly, we require that the **Seller quantify non-financial terms into dollar amounts**. We do this for efficiency reasons, and for nondiscrimination purposes. Oftentimes, in real

estate, the listing agent will manipulate the Seller using non-financial terms without actually exploring the value of such terms. Sometimes, these non-financial terms are used for invidious discrimination.

At the same time, for many sellers, these non-financial terms have legitimate importance. For example, some sellers require a post-closing lease-back provision so they can take the time to close on their next home. Some sellers value the certainty of cash offers highly. We do not wish to dictate to sellers what should be important to them.

Accordingly, the Seller may select or enter non-financial terms of the sale, but **he must place a monetary value on those terms**. This way, the Buyer may agree to them and have the Offer increase accordingly, or simply offer more money.

All Offers will be transparent as to how they arrived at their Aggregate Value.

Example:

- **Top Bid: \$380,000**
  - Bid Amount = \$350,000
  - + Cash (worth \$15K to Seller)
  - + 30 Day Close (worth \$10K)
  - + Waive Inspection (worth \$5K)
- **#2 Bid: \$375,000**
  - Bid Amount = \$355,000
  - + 30 Day Close (worth \$10K)
  - + Waive Inspection (worth \$5K)
  - + 60 day Lease-back (worth \$5K)
- **#3 Bid: \$350,000**
  - Bid Amount = \$360,000
  - + 30 Day Close (worth \$10K)
  - + Waive Inspection (worth \$5K)
  - - FHA Loan (worth \$10K less to Seller)
  - - Sale Contingency (worth \$15K less to Seller)

The buyers are now able to make rational decisions on how to proceed. Buyer #2 might simply bump his bid amount up by \$10K, while Buyer #3 might decide to waive the Sale Contingency and find a way to not use FHA financing (which has a history of taking longer and being more uncertain to close).

Please note that the Seller decides the dollar value of these non-financial terms. We may provide guidance in terms of what values other Sellers have used historically, but the actual value is entirely up to the Seller.

The Seller may decide to make some non-financial terms non-negotiable. For example, if getting a lease-back provision is absolutely required, then the Seller may designate that term as required and only those bids that include that term will be accepted.

All bids are made on-platform and recorded onto the blockchain. This is *essential* to ensure transparency to all market participants and to ensure immutability of the bids once made. Buyers pay all gas fees related to making bids.

At the end of the auction, whether by expiration of the term or by Buy It Now, the Offer with the highest Aggregate Value becomes the winner.

## Buyer Qualifications

The Seller has the option of requiring that bidders meet certain minimum requirements in order to bid. DecentRE PX will verify that only those Buyers who meet the Seller's requirements are able to bid, without disclosing the Buyer's personal information to the Seller or to any other Participants during the bidding process.

For example, a Seller may require that all bidders show proof of funds or a mortgage pre approval. We will collect that information and verify that the Buyer is qualified, at which point the Buyer may place bids on that property. If the bid goes above the pre-approved mortgage amount, the Buyer must show proof of funds or upload a new pre-approval letter from his lender in order to continue.

Please note that DecentRE PX will never allow any buyer qualifications that violate fair housing laws.

## Reserve Price, Anti-Sniping

The Seller will also have the ability to set a Reserve Price, and opt for Anti-Sniping rules.

Reserve Price will not be displayed, but buyers will be informed whether the bids have met the Reserve Price or not. If the auction ends and the Reserve Price has not been met, the Seller will be free to relist without penalty, or to take the highest bid that was below the

Reserve Price. If the Reserve Price has been met, then the highest bidder will be the winner and the Seller may not relist or withdraw without penalty.

Sellers may also set Anti-Sniping rules. Any bid that comes in during the final time period (set by the Seller) automatically extends the auction by the same time period. So for example, a bid placed in the last 4 hours of the auction will extend the auction by 4 hours.

## Home Tours

If the Seller wishes to allow physical showings of his property, and the Buyer wishes to tour the property, the parties may arrange for that showing off-platform. We will partner with one of the leading home tour scheduling companies in the industry.

Please note that anonymity is impossible at this stage. We must pass on the Buyer's information, including some personal information, in order to arrange the physical tour of the property.

The partnership means that DecentRE PX will be able to keep track of how many showing requests there are on a property and make that data available for display or for use by market participants. That data is valuable to establish demand for a particular property at a particular bid price.

## HouseLedger

The current best practice in traditional MLSs is to use “parcel centric” data, so that each home listed for sale is linked to a parcel in public records data. Organizations like RESO are working on [Universal Property Identifiers](#). We aim to take both to the next level and actually implement a real world use case: the **HouseLedger**.

The concept is a simple one: each property in the United States (indeed, globally) should have a unique identifier as well as a data repository that holds all of the information about that property from raw data (bedrooms, bathrooms, square footage, etc.) to photographs to repairs and renovations done. Think of it as a VIN for a house, but with a database attached to it.

DecentRE PX will create the data repository on a decentralized storage service (IPSF, Arweave), and mint a unique NFT, a HouseLedger Key, for that data repository. The user who owns the HouseLedger Key owns and controls the data repository, can append data to

it, and grant access permissions. The HouseLedger becomes a database about a house that keeps a historical record of all of the changes to that house.

## All of the Data, In One Place

What the traditional industry thinks of as a “Listing” is merely parts of the HouseLedger exposed to the public while the property is being marketed for sale.

All of the transaction data for that property is written to the HouseLedger and stored permanently. For example, an inspection report on that property uploaded to DecentRE PX will be stored in the HouseLedger for the Seller and all future owners of the property. Listing photographs will be uploaded and linked to the HouseLedger.

When the property is not being marketed, the homeowner still owns the HouseLedger, and can add to the records and have vendors and service providers add data to it. For example, the homeowner might install solar panels; add that to the HouseLedger along with documentary proof, and it becomes part of the permanent record of the house.

To make a listing then, the owner simply needs to make the listing “go live” which grants appropriate permissions to DecentRE PX to take the data from HouseLedger and display them to other users and to syndicate the data via APIs.

## Control by Homeowner

The Seller owns the HouseLedger which gives him the ultimate ownership over this data repository. The HouseLedger also gives the Seller the ability to delegate access and editing rights to the data repository to others, such as the listing agent.

When the transaction is closed, ownership of the HouseLedger transfers to the new owner, thereby maintaining the chain of title over the information about a property.

Our goal is to place ownership of the data about a property, other than what public records and DecentRE PX’s own Sold Data database require, in the hands of the owner. This is one important way to protect the privacy of the homeowner, as few possessions in life are as personal and as private as one’s home.



# Digital Identity

Real estate is a tightly controlled and heavily regulated asset in the physical world. It is, if you will, the ultimate physical asset. Accordingly, some level of KYC, AML and private information is required to transact in real estate.

Furthermore, as a platform for transacting in real estate, we have to know that the person purporting to sell a house *does in fact have the right to sell that house*, whether as an owner or as a representative of that owner. If a representative, we must verify that the individual is compliant with legal and regulatory requirements, such as an active real estate license.

The starting point for DecentRE PX therefore must be digital identity.

At the same time, we are true believers in the promise of blockchain technology for personal liberty and self sovereignty. As a truly decentralized application, we have zero interest in collecting or storing confidential or personal information on anyone.

# Data Distribution

A critical piece of the puzzle in the 21st century is how DecentRE PX interacts with portals such as Zillow and Redfin, and how it engages in data distribution to other vendors and applications.

Today, the MLS is the central hub for all marketing, online and offline. It is the central database where property information is held, then distributed to marketing channels. This is one reason why some FSBO sellers pay hundreds if not thousands of dollars to a licensed brokerage for the sole purpose of listing their homes in the MLS.

The traditional MLS makes this simple process as difficult, as onerous, as arbitrary and as expensive as possible.

To use but one example, most marketing technology companies must jump through an onerous and arbitrary process with every single MLS they want access to in order to get the listing information for such simple tasks as creating marketing flyers for the property. Oftentimes, there are significant fees charged by the local MLS for the privilege of accessing the data that the seller or the listing agent who hired the marketing company has entered into the MLS.

DecentRE PX makes it simple and easy. We will implement modern APIs, issued automatically upon the requester fulfilling data access criteria. If there are any fees associated with the data, those fees will be billed on a metered basis or as per underlying licenses. (For example, many photographs might have royalty requirements for usage.)

Whether vendors wish to integrate DecentRE PX APIs into their platforms or not is their decision, not ours. But there will be few limitations from our side.

## Note on Portals

One clear distinction for DecentRE PX is that we will not be using the artificial distinction between “Participant”<sup>6</sup> data access and non-participant data access. The industry has adopted mechanisms like IDX (Internet Data Exchange) and VOW (Virtual Office Website) and others whose original purpose and intent was to protect the monopoly that real estate brokers and agents have had over real estate listing data.

Most of the real estate websites in the industry today, including Zillow, get listing data from the MLS subject to some stringent, arbitrary, and capricious rules. Many of these rules are anticompetitive in purpose and in nature, and at least one rule (the “No Commingling Rule”) is the subject of a civil lawsuit in which the US Department of Justice has taken a position. And don’t forget that there are some 600 MLSs, all with their own variation on these stringent, arbitrary and capricious rules... which change all the time. It is pure chaos and makes technology development enormously difficult and complicated.

Since DecentRE PX makes no distinction between licensed agents and unlicensed consumers, we will offer just one data feed, accessible via API, to anyone who has registered with DecentRE PX. Any rules or requirements we impose will be the result of the community as a whole – vendors and portals included – approving them via DAO mechanisms. Any fees imposed will be the result of copyright owners imposing them (e.g., photographs), or to cover operating costs of providing the data feeds.

Every real estate portal we know is eager to welcome an enlightened MLS that understands the value of data distribution and will move to take immediate advantage of DecentRE PX’s

---

<sup>6</sup> In the traditional MLS, the term “Participant” is often used to refer to a licensed real estate broker who must sign an agreement with the MLS that governs the relationship between the two, as well as any licensed real estate agent with that brokerage. For our purposes, the important point is that Participants get privileged access to real estate data that non-participants do not and often can not have.

open and transparent system. Every proptech vendor we know wants a simpler system so they can create new products for their customers.

DecentRE PX will offer simplicity, in an environment of complexity and uncertainty.

## Automatic Contract Creator

Once a Buyer has won an auction, DecentRE PX will close the auction and automatically generate a Sales Contract, valid in the jurisdiction where the property is physically located, incorporating all of the Terms and Conditions agreed to between the Buyer and the Seller but leaving out personal information.

Both parties will be sent this Draft Sales Contract for review and approval. Both parties must accept the Sales Contract on-chain to proceed.

This automatic contract creator technology already exists.

Once both parties accept the Draft Sales Contract, we move to Closing, which happens off-chain and off of DecentRE PX. Should technology and the regulatory environment change and allow for on-chain closings, DecentRE PX will be a leader in that effort as well.

In jurisdictions where attorneys typically draft a contract, we will issue a Memorandum of Understanding instead that spells out all of the key terms and conditions of the contract to be drafted, thereby saving everyone time and effort.

Please note that under the current process, the Sales Contract is never final. Buyers and sellers often negotiate important terms and conditions, *including final price*, in the Sales Contract in between executing that contract and the actual closing. Deals fall apart during this “pending” phase all the time. Accordingly, while our Sales Contract will be legally valid and enforceable in all jurisdictions where we offer the platform, the final document at Closing is likely to be different.

# The Closing Process

Depending on the jurisdiction, the parties may choose to use a Closing Company (typically title insurance or escrow companies) or a real estate attorney.<sup>7</sup> The parties may choose to close the transaction between them without any assistance.

Both parties must agree on the closing process.

We will provide the buyer and seller with a list of Closing Companies within DecentRE PX who are already members and already authorized to assist in the relevant jurisdiction. Buyer and Seller may choose Closing Companies who are not DecentRE PX members, in which case those companies merely need to register to become DecentRE PX members, which is free of charge.

Once both parties select the Closing Company, we will release the final Sales Contract to both parties, with their personally identifiable information included. The Contract will also be sent to the Closing Company automatically.

In most real estate transactions, there is usually a substantial amount of negotiation and changes post-contract. We are allowing for this practice, but creating a way to incorporate it into the on-chain DecentRE PX system.

All post-Contract negotiations and closing are likely to happen off-chain, and off-DecentRE PX.

## Post-Closing Update

After the actual closing, the Closing Company updates the Transaction on DecentRE PX with the final terms of the sale, which both the Buyer and the Seller must approve. Uploading the closing document will suffice.

The final terms of the Transaction, less personally identifiable information, are written onto the HouseLedger to be part of the permanent record of the property.

---

<sup>7</sup> Hereafter, we will use the term “Closing Company” to refer to the various companies and professionals who could assist the Buyer and Seller close the transaction.

## Post-Closing Rewards

Upon a successful closing, and a post-closing update of data, DecentRE PX will airdrop DPX tokens to all market participants involved based on (a) value of the transaction, which impacts the revenues to DecentRE PX, and (b) level of involvement and interaction with DecentRE PX.

The goal is to incentivize all market participants to continue to utilize DecentRE PX for their real estate transactions. This is particularly important for real estate professionals.

# Value Proposition

Why would consumers and professionals want to use DecentRE PX? We need very clear value propositions if there is to be adoption.

## Transparency

The current system in North America is lacking in transparency from start to finish, which enables abuse of the system. For example, in 2018, a court case revealed [years of data manipulation by a top real estate team in Florida](#) in order to boost their performance stats and to manipulate access to listings.

As we wrote above, the entire process of making offers, counteroffers, and accepting an offer is broken. All of it must go through real estate agents, who may be perfectly ethical and yet forget to update buyers on where their offer stands. Unethical agents, of course, have no trouble manipulating offers and counteroffers to serve their own interests.

In some cases, truly invidious manipulation of the market happens as we saw in a recent expose by Newsday of [racist steering practices](#) by real estate agents.<sup>8</sup>

One of our principal objectives with DecentRE PX is to bring sorely needed transparency to the real estate transaction. Open auction, on-chain data, and open source code – all of this and more add up to the most transparent marketplace that could exist within the legal and regulatory restrictions for real estate.

## Permissionless, Censorship Resistant

Because the rules and policies of DecentRE PX are governed by a DAO (Decentralized Autonomous Organization), there are no rules that the community itself has not proposed and approved. There are no MLS Boards of Directors making arbitrary decisions, discriminating against individuals or innovators. There is no discrimination against listings because they are FSBO, or from a discount broker.

---

<sup>8</sup> <https://projects.newsday.com/long-island/real-estate-agents-investigation/>

There is no requirement that a person be licensed in order to participate in DecentRE PX. The only requirement is that a person be licensed if she is to *represent someone else* in a real estate transaction. That requirement is not ours; it is from the state.

Because the main platform for searching, bidding, accepting, and negotiating the transaction uses anonymous on-chain wallets and smart contracts, a participant's race, ethnicity, sexuality, political leanings, and other personal characteristics simply do not enter the picture. There can be no censorship and no restrictions apart from those required by law.

## Efficiency

By removing gatekeepers, DecentRE PX promotes greater efficiency.

You don't need to hire a real estate broker solely for the purpose of entering listings into an MLS. You hire a real estate agent to advise you and help you through the process, on your own terms.

As data users, you don't have to go through the arduous and arbitrary process of getting a data feed from DecentRE PX. Just apply for API credentials, and pay any relevant fees. Portals like Zillow, Redfin, Realtor.com, and others would love the simplicity.

The offer and acceptance process is open, transparent, and fast. There is no need to submit offers through a real estate agent utilizing standard forms to no real purpose. The open auction process happens online and on-chain, as quickly as buyers place bids. There is no need for real estate agents to write up offer form after offer form or read through dozens of offers to discern what terms are and are not being offered. The system takes care of all of the bids and ranks them on Aggregate Value automatically. The winner is decided by code, and code is law.

The automated sales contract generation saves buyers, sellers, and their agents untold hours of labor.

Removing most of the bureaucracy of the MLS and replacing them with software and automation means DecentRE PX will be the most efficient property trading platform available.

# Neutrality

As above, DecentRE PX is not hostile to real estate agents and brokers. We are friendly to real estate professionals, because most of us have real life friends who are real estate professionals. We happen to think there is real value in using a seasoned professional in something as important and as expensive as the purchase and sale of real estate.

We are just not *beholden* to them the way the traditional MLS and traditional companies are.

From a practical standpoint, we may promote using an expert to help the buyer and seller with a transaction as complex as transfer of real property can be. In fact, our go to market strategy specifically contemplates working **with**, not against, the industry. Our marketing and messaging do not have to be hostile to real estate professionals or to the industry. They can be positive and favorable, and encourage their participation.

Buyers and sellers do not have to abandon their agents; they can simply incorporate them into the process. Agents do not have to give up commissions or adopt any particular business model to participate in DecentRE PX.

That brokers and agents are not threatened by DecentRE PX is evidenced by those leading brokers and agent team leaders who not only sit on our Board of Advisors but have also become investors, putting up their own money to see the future come about.

# Cost

DecentRE PX is cheaper to market participants.

In the Launch stage, DecentRE PX is **entirely free of charge** to all professionals involved in the transaction: the brokers, agents, title companies, mortgage brokers, inspectors, etc.

Gas fees charged by the blockchain are not from DecentRE PX and are paid by whichever user triggers the blockchain. Since we plan on deploying to a low-cost blockchain, such as Polygon, these gas fees will be measured in cents and fractions of cents, not hundreds of dollars.



# Core MLS Functions

While DecentRE PX is intended to be a new kind of platform for buying and selling real estate, there are certain core functions of the traditional MLS that are important to the marketplace and market participants. We will fulfill those functions as well.

## Data Compliance

First and foremost, the MLS performs a very valuable function in ensuring data integrity. The three dimensions of data are recency, completeness and accuracy. An additional consideration for real estate in the United States is compliance with various laws and regulations, such as the Fair Housing Act, which prohibits certain kinds of language in advertising.

Compliance is mostly done with automation – such as technologies that scan property descriptions for Fair Housing violations – and via game theory and smart contracts.

We intend to reward market participants who find errors in the listing data and report them with DPX. By helping to drive accuracy of the data, they are helping DecentRE PX and all of the other participants as well, and we plan to reward them accordingly. The rewards would be taken from the DPX rewards that the Seller would receive for listing the property in the first place, thereby incentivizing the Seller (or his agent) to ensure data accuracy at time of listing entry.

However, it is impossible to anticipate every situation where a data compliance issue might arise. DecentRE PX will therefore have a Compliance department to intervene when necessary. Our Team has the requisite knowledge and the necessary contacts as well as the experience to operate an effective Compliance department.

## Sold Data

Another important function of the MLS is to provide far more up to date, more complete, and more robust Sold Data information than is available from public records.

We do this by creating a copy of the data from the HouseLedger *during the time it is publicly available*. As long as the homeowner keeps the HouseLedger private (i.e, not on the market), then all of the data in the HouseLedger is private and completely controlled by the homeowner. However, during the time that the homeowner is marketing the property for sale, that information is *public*. And all public information should remain public to the marketplace.

Accordingly, we will keep a copy of that data, linked to the unique property ID, in our system for Sold Data purposes.

This allows for important market tasks like CMA (Comparable Market Analysis) reports, tracking pricing trends, etc.

# GO TO MARKET STRATEGY

Any disruptive new player must answer the question of how they plan to make it when well-established incumbents already exist. This question is particularly relevant for real estate, an industry that has resisted change and disruption for so long and so effectively. We are well aware of the difficulty. So how do we plan to do it?

## Phase 1: Launch

It is important to recognize that the real estate industry is in the midst of a major shift in the regulatory environment. The US Department of Justice and the Federal Trade Commission have both been very active in looking at the problem of high real estate commissions. President Biden, in his Executive Order on Competition, has ordered the FTC to regulate real estate.

We believe that the decades-old practice of mandatory offer of compensation, where the seller pays the listing broker, and the listing broker shares a part of that with the buyer broker, is coming to an end.

However, it has not ended yet. Just about every real estate broker and agent benefit from mandatory offer of compensation, which guarantees a payday to the agent involved in the transaction. And while the traditional MLS continues to guarantee payment to agents, it will be difficult to break the network effect of the incumbents.

Therefore, we will launch as DecentRE PX under a Buyer Premium business model.

## Buyer Premium Model

DecentRE PX will charge a **5% Buyer Premium** to the winning bidder.<sup>9</sup> This amount will be added on to the winning auction bid price (the monetary component) and the Sales Contract will be drafted with the agreed upon Sale Price equal to the Bid Price + 5%.

---

<sup>9</sup> We have chosen 5% because that is the national average of real estate commissions in the United States.

For example, if the winning bid was for \$400,000 (the non-financial terms are not included in this calculation), then the final Sale Price would be adjusted to \$420,000. We have verified with mortgage experts that the Buyer will be able to finance this amount, subject to usual conditions of mortgages: appraisal, loan limits, etc.

All real estate agents, acting on behalf of another, will be *contractually obligated to waive all commissions and fees from the buyer or the seller if the property is sold via DecentRE PX*. Use of DecentRE PX may not be cheaper for the consumer, but it will not be more expensive.

At close of escrow, the Buyer will instruct disbursement of the Buyer Premium fee to DecentRE PX.

DecentRE PX then will deduct 50 bps (0.5%) for our platform fee, then divide the remainder in two and remit those amounts as payment to the listing broker and the buyer broker. This platform fee is discounted for token ownership. Please see below.

In effect, we will switch the commission from the seller to the buyer, then *DecentRE PX will guarantee payment to the agents involved in the transaction*.

There are three reasons to launch with this Buyer Premium model.

## Reason #1: Industry Adoption

The most obvious reason is that real estate agents are the gatekeepers of consumer relationships today. Giant companies in real estate, from Zillow to eXp to Compass, have become successful by recognizing this critical role of the real estate agent in today's industry structure.

If DecentRE PX is to be considered as something more than a curiosity for crypto-geeks, we must simply deal with the reality as it exists today. That means we must make bringing listings and buyers to our platform as easy as possible for real estate agents. But it especially means that our MLS must provide some guarantee of payment.

## Reason #2: Incentivize the Seller

By moving compensation from the seller to the buyer, we create a major incentive for sellers to direct their agents to do the transaction on DecentRE PX. At the same time, we

create no disincentive to the listing agent, since we are paying the listing agent her portion of the commission.

Listing market share is the name of the game at Launch and for the early years, as we must grow large enough and fast enough to generate positive network effects. Token rewards will help, but ultimately, for an MLS, having listings is the all important factor.

If we have the listings, then buyers will find their way to our platform. (This is especially true when their agents have an incentive to steer those buyers to our platform, since we will guarantee that they get paid.) Portals will want to join as data takers, because we have the listings.

It really is quite simple in a way: we must be the first choice of every seller and of every listing agent for a marketplace to sell their homes.

## Reason #3: Transparency to Buyer

While the 5% Buyer Premium will cause sticker shock at first, we believe that education will easily overcome resistance.

Fact is, the buyer is who ends up paying the high real estate commissions anyhow, since the buyer is the only one bringing money to the transaction. Everyone understands that the seller is bumping up the list price of the home to incorporate high commission costs.

In our Launch approach, the buyer agents themselves will be incentivized to explain the economics of commissions to the buyer. In fact, the 5% Premium is more transparent to the buyer than the hidden real estate commission, which is then divided between the agents.

## Target Markets

Real estate is a very large and very fragmented market. We aim to go after all of the segments but focusing on these at Launch.

# Traditional Brokerages and Agents

With the Buyer Premium model at Launch, we have every expectation that DecentRE PX will be embraced by traditional brokers and agents. We are, after all, offering a simpler, more transparent, and more efficient platform at zero cost to the brokers and agents, while **guaranteeing compensation**.

Listing brokers and agents will be particularly enthusiastic about saving their clients an enormous amount of money. Given how competition works in real estate, if one major full-service listing agent can offer “zero commission listing” to homeowners, every other agent in that market must follow suit.

Buyer brokers will be enthusiastic about DecentRE PX:

- Total transparency: all current bids on listings are open and public, so buyer agents can tell their clients exactly where things stand.
- Less work. Buyer agents today spend hours upon hours writing up offers; never having to write another offer is a major incentive to bring their buyers to DecentRE PX. Even better, with full transparency, buyers will know not to even bother with some houses where they are already outbid by existing bidders. That saves time and heartache for the buyer and for the buyer agent.

All agents will receive DMLS tokens upon a successful closing on the DecentRE PX platform as a participation incentive. We should not underestimate the power of such incentives both to participate and to drive clients to close the transaction on DecentRE PX.

What will also appeal to this group is the fact that **DecentRE PX is a community-governed DAO with minimum rules and maximum freedom**. It is impossible to convey the extent to which on-the-ground real estate agents despise the bureaucracy of the local MLS, the arbitrary and nonsensical rules, with NAR policies that tell them how to run their businesses, how to market their clients' properties, and the hundreds of little rules and regulations that result in nasty emails, fines, or disciplinary actions.

What rules and policies we have at DPX are those that the market participants themselves have decided they need in order to make the marketplace work for themselves and for their clients. Those rules and policies can be proposed, amended, and repealed through the DAO.

What will also appeal to traditional agents is the fact that they want to be there to list a home if and when a FSBO seller gets tired of the work, the hassle, and the lack of progress

to decide to just list with an agent. By being on DecentRE PX already, they have the inside track on listing those homes. That potential for additional business, at zero cost to them, will be a powerful incentive.<sup>10</sup>

Finally, DecentRE PX **does not require exclusivity**. Brokers and agents may continue to be members of their current MLSs, while joining DecentRE PX since there are no subscription fees and REALTOR Association fees. Simply put, joining DecentRE PX is a no-lose, all-win proposition for traditional agents.

## FSBO (For Sale By Owner)

DecentRE PX is the solution that those homeowners choosing to go FSBO have needed for decades. Our value proposition is the strongest to those sellers who chose to go it on their own in order to save the 5% commission.

Google “FSBO” and you’ll find an absolute avalanche of articles and videos and statistics arguing against FSBO, usually from NAR and other self-interested sources. Despite that, roughly 8% of homes sold every year are sold by-owner. Using 2021 numbers, that 8% represents 520,000 homes that were sold by-owner with an estimated market value of \$194 billion.

With our Buyer Premium model, the seller pays no commissions at all. We pay the listing agent, not the seller. **There is no reason to go FSBO at all.** An experienced agent offers a great deal of value from pricing to staging to marketing to handling all of the paperwork and all of the challenges that arise during the closing. Sellers seeking to save money should simply use DecentRE PX, instead of taking on all of that work.

Suppose that a seller nonetheless elects not to use an agent for some reason; perhaps no agent wants to take the listing, because the low price makes listing such a property unprofitable. Then the fact that DecentRE PX is an MLS means that all FSBO listings on DecentRE PX are made available to all of the major portals who want them, and without the arbitrary restrictions and limits that other traditional MLSs place. We have relationships with all of the major real estate portals to know that they are all singularly hungry for listing data.

Importantly, Buyer agents will not avoid their properties or call asking what compensation is offered, since DecentRE PX will pay them out of the Buyer Premium.

---

<sup>10</sup> In fact, we believe that DecentRE PX will eliminate FSBO’s altogether. Please see below.

It's difficult to think of a superior platform for a FSBO seller, should one even exist after DecentRE PX becomes reality.

## New Construction

Another important channel will be homebuilders. Their business model and practices do not fit easily within the current MLS infrastructure. As builders, they are in effect institutional FSBO sellers who often employ their own salespeople who may or may not be licensed.

They often face difficulty getting their properties (which have not yet been built) into portals like Zillow and Redfin, and dealing with 600+ local MLSs adds to their headache. Zillow launched a service in 2020 called Listing Connect and had to launch a service called Zillow Listing Services<sup>11</sup> in order to provide builders a way into the MLS. Since retreating from iBuying in 2021, Zillow has shut down Zillow Listing Services, leaving a vacuum for home builders.

We can fill that vacuum with what we are proposing. It will be an important channel for thousands of property listings.

## MLS-Only Brokerages

Another powerful channel for DecentRE PX is the “MLS-Only” brokerages. Numerous companies in real estate already offer a service whereby they take advantage of their MLS membership to charge FSBO sellers a flat fee just to list their home in the MLS, and perhaps provide a yard sign.

These discount brokerages are looked down upon by the rest of the industry, but tolerated as they have minimal impact on the transaction count.

DecentRE PX will market our platform to these MLS-Only brokerages actively and enthusiastically. The benefit for these brokers and agents is the fact that DecentRE PX is **free to use for the professional**, provides differentiation, and provides an avenue of potential business development within the platform and community.

---

<sup>11</sup> Please see: <https://www.zillow.com/resources/new-construction/introducing-listing-connect/>



In fact, the Buyer Premium model means that these MLS-Only brokerages can easily upgrade their representation to full-service, be guaranteed compensation, and still have the seller pay nothing to them. It should be a very easy upsell.

Furthermore, there are radical disruptor brokerages in the industry who would welcome the ability to list their properties in an MLS that requires no cooperation and compensation, and requires no anticompetitive and arbitrary rules.

## Phase 2: Evolution

What happens if and when the regulatory environment changes?

First, we believe that our Buyer Premium model does not fall under the challenged cooperation and compensation model. There is no mandatory commission, no unilateral offer of compensation, and therefore, no steering by buyer agents at all. The buyer pays us, the auction house, a Buyer Premium – a common practice across the auction industry. What we the auction house do with our money afterwards is our business.

We believe that once the industry's unilateral offer of compensation is held to be anticompetitive, DecentRE PX and its Buyer Premium model will be the only way for brokers and agents to get compensation.<sup>12</sup>

Nonetheless, suppose that the regulatory authorities demand that we change and eliminate the Buyer Premium. We then evolve to Phase 2.

In Phase 2, we will move away from the Buyer Premium model and institute a low platform fee modeled after DeFi protocols.

The seller will pay a **0.25% platform transaction fee upon a successful closing**. This is in-line with other DeFi apps. For a \$400,000 home sale, the transaction fee would be \$1,000. This compares to the average of 5.0% or \$20,000 that a traditional agent would charge because she is part of a traditional MLS requiring cooperation and compensation. It represents a small increase over the Buyer Premium model.

---

<sup>12</sup> Furthermore, existing MLSs cannot transition to the Buyer Premium model without becoming an auction house. It is difficult to charge buyers a fee when all that the MLS does is provide a catalog of what is for sale. DecentRE PX does far more, by matching the actual buyer to the actual seller. We are a *marketplace*, not merely a catalog.

Other than that platform fee, and any one-time Listing Fee for minting the HouseLedger or fees from the third party Digital ID provider, *there is no other cost to the seller from DecentRE PX.*

Buyers will also pay a **0.25% platform transaction fee**, and only if they complete a transaction. Simply using DecentRE PX to search for properties, to negotiate, to bid, are entirely free.

Agent compensation will then be left entirely up to the Buyer and the Seller to negotiate with their representatives. This will be the new reality under a changed regulatory environment, and DecentRE PX will be in the same boat as every other MLS.

However, the platform fee discounts from DMLS token ownership remains, which means that many of the most active agents on DecentRE PX will be able to pass on the savings to their clients. Going from 0.25% platform fee to 0.05% platform fee could save clients thousands of dollars in that future.

## We Know The Players

Our team and Advisors know all of the players in residential real estate from the discounters and disruptors to the old school traditional brokerages to small and large MLSs, tech companies, agent teams, and boutique brokerages. We have relationships with most of the large technology companies, and if we don't have a direct relationship, it is one degree of separation.

We know where the pitfalls are, who the likely supporters are, and who the opponents are. We know who to talk to and how to approach them.

We are truly industry insiders, as well as industry disruptors. If anyone could pull this off, we can.

# Organizational Structure

The organizational structure of DecentRE PX is important to achieve the balance between personal identity requirements, privacy and decentralization, and consumer adoption. It is also designed to evolve, as we plan to transition over time to a full-on DAO-owned and operated entity, but we need to control the technology development and the treasury early on in our development.

## DecentRE Labs

DecentRE Labs is the centralized company that will develop the software and the technology for DecentRE PX. It will be a privately held company, composed primarily of the Core Team, advisors and investors. For the first few years, until the platform is widely adopted and governance can be transitioned fully to a DAO, DecentRE Labs will manage the finances and businesses of DecentRE PX.

Founders, team members, advisors, and investors will all be part of DecentRE Labs. Investments will be structured as is the norm in blockchain companies, with equity in Labs plus warrants for token rewards when they are minted and distributed.

## DecentRE Foundation

We will also set up a nonprofit organization, DecentRE Foundation, which will manage the community-generated Rules and Policies of DecentRE PX.

The Foundation will also encourage the adoption of the principles of transparency, decentralization, and censorship resistance in real estate, as well as promote developer involvement in the ecosystem.

In the beginning, the DAO treasury will be dedicated to the Rules & Policies of DecentRE PX and to promotion of developer involvement in the DecentRE ecosystem. Over time, as we transition more and more to a DAO form, we will migrate more and more control to the Foundation.

# DMLS Token

DecentRE PX will have a governance token, DMLS. Over time, we hope to fully decentralize control and governance of DecentRE PX to the community. However, in the beginning, Decentre Labs will have control over the DecentRE PX treasury to drive development and marketing.

DMLS will be first and foremost a governance token for the DecentRE Foundation DAO. Its secondary feature is to be a utility token within DecentRE PX.

## DMLS as Governance Token

DMLS will be the governance token for the DAO, and work as follows.

- 1) Quorum
  - a) Quorum for all votes equals 10% of the total DMLS in circulation
    - i) The DMLS cost of Discount NFTs count towards DMLS in circulation.
- 2) Proposing Rules
  - a) Anyone may propose a new Rule or modifications to a Rule by locking a minimum of 10,000 DMLS Tokens. Locked DMLS must remain locked until the Proposal is either voted on or withdrawn; unlocking will automatically result in the Proposal being withdrawn.
    - i) “Locking” means sending your DMLS tokens to a smart contract so that it cannot be transferred.
  - b) All Proposals must set the end date for Discussion; the default is midnight Pacific Time after 30 days.
  - c) DPX will open up discussions on any Proposal via its message boards, Discord server, or other channels of communication.
- 3) Voting
  - a) All DMLS and Discount NFT holders are entitled to vote on any Proposal before the Foundation. All votes are done via Foundation voting mechanisms. Votes may be cast any time during the official discussion period (30 days), and changed at any time, until the end of the voting period.
  - b) Default voting period is 14 days.
  - c) Majority vote is required for passage
    - i) 1 DMLS token = 1 vote.

- ii) Discount NFT = 1 vote per DMLS cost of the NFT. (I.e., Silver NFT = 100,000 votes, Gold NFT = 500,000 votes, etc.)

It is difficult to convey just how important this rule-making power is to the real estate industry. Companies today routinely spend millions of dollars in costs simply lobbying NAR and the various MLSs for rules changes. They have entire teams of experienced professionals to do “industry relations” – most of that involves lobbying the MLS, REALTOR Associations, and NAR for MLS rules and policies.

Decentralizing this rule and policy making power is one of the most important innovations of DecentRE PX and one of the most appealing value propositions for industry participants.

Plenty of crypto projects and DeFi projects have governance tokens, and they languish in value as the number of people interested in governance of inward-focused crypto rules and development is vanishingly small. With DMLS, we are enabling actual businesses and actual real-world brokers, agents, consumers, and advocacy organizations to have a direct say in real world rules and policies that impact real world business decisions.

## DMLS and Fee Discounts

In addition to serving as the governance token for the DAO, DMLS will be a utility token within the DecentRE PX ecosystem. At launch, we plan on a platform fee discount based on token ownership.

A DMLS holder may purchase Discount NFTs of varying levels. A wallet with the Discount NFT in it will pay a discounted Platform Fee as follows:

- **Silver:** 100,000 DMLS = Grants Platform Fee of 0.20%
- **Gold:** 500,000 DMLS = Grants Platform Fee of 0.15%
- **Platinum:** 2,000,000 DMLS = Grants Platform Fee of 0.10%
- **Diamond:** 5,000,000 DMLS = Grants Platform Fee of 0.05%

Each NFT may be upgraded to the next tier by paying the difference between it and the next tier NFT in DMLS. For a \$400,000 house, the difference between 0.25% platform fee and 0.10% platform fee is \$600 *per transaction*. Some of our launch partners do well over 10,000 transactions per year. Investing in a Platinum NFT then is worth \$6 million per year to such a company.

As the price of the property transacted increases, the value of this discount increases as well.

This discount mechanism creates an incentive for agents to buy and hold DMLS tokens under the Buyer Premium model.

In Phase 2, should it come to pass, these discounts incentivize buyers and sellers to hire agents who have large DPX holdings. That in turn incentivizes professionals to buy and hold DMLS tokens.

Future utility functions we are considering include:

- Lead routing based on DMLS staking for professionals: if a consumer wishes to hire a professional within DecentRE PX, that inquiry will be routed based on DMLS ownership. Alternatively, any list of professional service providers may be ranked based on DMLS ownership.
- Allowing required deposits to be made in DMLS.
- Allowing payment for professional services within DecentRE PX to be made in DMLS.

# Revenue Opportunity

DecentRE PX is not a speculative technology play in the Metaverse. We are not launching a DeFi protocol relying on crypto investors locking value. We are launching a company in the real world, dealing with the real economy, with real assets generating real transactions. We expect to provide real world value to real world market participants, and to generate real revenue right out the gate.

Given the size and scale of the residential real estate market in the United States, the opportunity is staggering. We have modeled the following, based on some conservative estimates of growth and market penetration:

	Year 1	Year 2	Year 3	Year 4	Year 5
Total EHS Transactions (NAR)	4,780,000	4,541,000	4,313,950	4,529,648	4,756,130
Average Sale Price (NAR)	\$385,800	\$393,516	\$401,386	\$409,414	\$417,602
Total Sales Volume, Thousands	\$1,844,124,000	\$1,786,956,156	\$1,731,560,515	\$1,854,501,312	\$1,986,170,905
DecentRE Transaction Share					
% of FSBO	0.05%	0.10%	0.20%	0.40%	0.80%
% of Agent	0.125%	0.50%	1.00%	2.00%	4.00%
# of Transactions	5,688	21,252	42,504	80,757	169,590
FSBO Transactions	191	363	690	1,449	3,044
Agent Transactions	5,497	20,889	39,688	83,346	175,026
Sales Volume, Thousands	\$2,194,508	\$8,362,955	\$16,207,406	\$34,716,265	\$74,362,239
<b>DecentRE PX Revenue</b>	<b>\$10,972,538</b>	<b>\$41,814,774</b>	<b>\$81,037,032</b>	<b>\$173,581,323</b>	<b>\$371,811,193</b>
<b>Total Expenses</b>	<b>\$2,980,056</b>	<b>\$11,146,812</b>	<b>\$19,471,195</b>	<b>\$37,713,325</b>	<b>\$72,291,203</b>
<b>Profit/(Loss)</b>	<b>\$ 7,992,482</b>	<b>\$ 30,667,962</b>	<b>\$ 61,565,837</b>	<b>\$ 135,867,998</b>	<b>\$ 299,519,991</b>

Please contact us for more detailed pro forma projections.

# Why These Are Conservative Estimates

At first glance, these numbers look just too good to be true. We had the same reaction you are having now.

However, these are indeed conservative estimates.

First, most of the Agent transactions are done by the top 10-20% of agents in the industry, and those are the people who are most likely to transition to DecentRE PX as the primary platform for buying and selling. Those are the top producing agents who most want something new and different from the current options in the MLS space.

We know many of these agents personally. We know how to reach the remaining top producers through our networks, including those of our Advisors. We know what motivates them, we know how to speak their language. We are confident that they will embrace our model, especially the Buyer Premium model at Launch.

Second, just our Launch Partners for the initial beta launch did 25,000 transactions in 2022. We continue to add large agent teams or leading brokerages as launch partners, who will be fully behind our effort. We have modeled converting only a fraction of even our Launch Partners, which is indeed conservative.

In addition, as we have mentioned above, once one leading agent or leading brokerage in a market begins offering 0% commission full-service listing services, all of the other producing agents and brokers must find a way to match them or be *crushed* in the fiercely competitive landscape for real estate brokerage services. We think our model has built-in virality by the nature of competition.

Third, these projections do not include potential transactions from New Construction, which adds an additional 600k to 800K in annual transactions in the US alone. We have spoken to a number of leading builders and they are excited about the potential of DecentRE PX to offer them a platform for letting agents and consumers know about their new build products.

They also do not include projections from possible expansion into international markets, especially Canada, which shares the same model as the U.S. Canada alone adds an additional 550K to 600K in annual transactions.



As we noted, residential real estate just in the United States is a \$33.6 trillion asset class. Annually, some \$2.4 trillion of residential real estate changes hands. Total real estate commissions alone are estimated at roughly \$80 billion annually. Our goals are to convert a mere **1% of agent transactions and 0.20% of FSBO transactions** by the end of year three, while offering a platform that is unparalleled in transparency, efficiency, ease of use, data security, and is anonymous, permissionless, and decentralized with a native token that rewards participation.

We think these are conservative goals and conservative estimates.

DecentRE PX is a *monster* opportunity.

# The Team

## Robert Hahn

Rob Hahn is the founder and Managing Partner of 7DS Associates – a strategy consulting firm in residential real estate – who has worked with many of the most important companies in the industry. He has worked with major MLSs like BrightMLS, CRMLS, StellarMLS, NTRIS, Realcomp and many others, national real estate companies like Realogy and HomeServices of America, technology companies from startups to Trulia and Zillow, as well as investors like Tiger Global and Slate Path Capital.

With a varied background from finance, corporate law, technology, product development, media and entertainment, startups, fashion and even as a professional card player, and a unique ability to see trends before they fully develop, Rob is one of the few who can really connect the dots and understand what they mean for the real estate industry.

What makes Rob so special is that he is a true industry insider who is able to go against the grain. Real estate has long been an insular industry that has resisted change and fought innovation in order to protect the status quo. He is unafraid to push for changes that would benefit consumers, benefit society, and benefit the industry even if they are unpopular with the powers that be. He knows why Chesterton's fence is there in the middle of the road, and why it needs to be moved.

Rob started in real estate at a specialized commercial real estate investment firm investing in airplane hangars (true story!). He moved on to Realogy, where he headed the interactive marketing for Coldwell Banker Commercial, before launching 7DS Associates. He writes the well-known blog Notorious R.O.B., one of the most respected and influential trade publications (at least according to the U.S. Department of Justice) in residential real estate.

He is a graduate of Yale University and NYU School of Law where he studied cross-border bankruptcy law. He is a refugee from New Jersey currently residing in Las Vegas, Nevada with his wife, the amazing Sunny Lake Hahn and two dogs with dramatically different personalities.

# Dr. Yoohwan Kim

Yoohwan Kim, Ph.D., is a Professor of Computer Science at the University of Nevada Las Vegas (UNLV). He received his MS and Ph.D. degree in Computer Science from Case Western Reserve University and Bachelor of Economic degree from Seoul National University in Korea. His research interests are in computer networks, cybersecurity, blockchain, and software development where he has published over 150 academic papers and has four patents granted. His research on Distributed-Denial-of-Service (DDoS) attack mitigation has been widely recognized with over 550 citations. His works have been sponsored by Microsoft Research, US Air Force, US Navy Air Command, Oak Ridge National Laboratory, NASA, Department of Energy, and National Nuclear Security Administration. In 2017 to 2019 he was invited to the Air Force Research Laboratory as a summer faculty fellow to work in satellite communication security. Dr. Kim holds multiple industrial certifications in cybersecurity (CISSP, CEH, CISA, CPT) and, as a certified CEH (Certified Ethical Hacker) instructor, he enjoys teaching hands-on penetration testing skills. He frequently offers public lectures and training sessions to regional cybersecurity communities.

Dr. Kim has been active in blockchain research and education as well as in industrial projects. He has been teaching a graduate level course on blockchain since 2019 and been working with diverse industrial partners for implementing blockchain-based systems. He has conducted a great number of blockchain projects including, a high-performance blockchain system called Binary blockchain, hospitality customer management system, masternode staking platform, private group communication, decentralized storage systems, secure IoT data management, decentralized online card games, electrical power market, healthcare data management system, decentralized marketplace, and tracing COVID-19 spread, etc.

Before joining UNLV in 2004, he worked in the software and communication networking industry for several years. He was a software engineer at Lucent Technologies, Inc. (now Nokia), in Whippany, NJ, developing software for wireless networking equipment. He was also a co-founder of a technology start-up in Holmdel, NJ, that pioneered an innovative method for delivering video advertising over the Internet. Prior to that he was a professional software engineer engaged in several projects including business information system development at Andersen Consulting (now Accenture), patient financial service database management at Cleveland Clinic Foundation, and robotic manufacturing system software development sponsored by Energizer Battery Company.