![RESO logo]

It's Inevitable:
Moving to Replication
via the RESO Web API

A Case Study Collaboration with

Showcase IDX

Access to fresh, accurate information is the goal of any technology company delivering data to consumers and professionals. Doing so requires technologists to continually modernize the way they use data to keep up with the competition.

Scott Lockhart, CEO and founder of Atlanta-based Showcase IDX, understands that to survive and thrive, real estate technology companies need to continue to innovate. Showcase IDX provides home search and consumer engagement tools for WordPress websites to real estate agents, teams, and brokers.

Companies like Showcase IDX continually access new data to "replicate," or copy, an MLS's database onto their own internal systems to serve their customers. Lockhart describes the industry transition from the traditional RETS method of data transfer to the newer RESO Web API as "inevitable."

The Real Estate Standards Organization (RESO) Web API standard is the modern way to transfer data between systems. By using an API that any technologist can understand, systems get built faster, data is transferred more accurately, and technology tools can talk to one another. Technology companies across the real estate industry are upgrading their systems to share data via the RESO Web API and providing more value to their professional and consumer customers.

"When RETS was introduced in the late 1990s, APIs (Application Programming Interfaces) which allow applications to communicate with one another were far more rare. The technology world didn't have as much knowledge of lessons learned and best practices as they do now."

"Today, we can apply these best practices to data using modern techniques without the baggage of 20 years of technical debt."

Lockhart explains the disjointed nature of traditional real estate data systems and the work needed to move them forward: "The network and server infrastructure has been challenging between MLSs, since there is little consistency outside some broad similarities between MLS platform vendors. The number of concurrent connections, query rate limits, and other restrictions mean that you have to approach each MLS on its own merits. Even between MLSs with the same software platform, these types of policies and restrictions can be different."

Showcase IDX was already replicating MLS listing data with its RETS solution, so it was a straightforward project to adapt the existing RETS architecture to how the RESO Web API accesses MLS listing data. "The value in a broker or vendor replicating this data is completely predicated on their ability to do something meaningful with it," emphasized Lockhart. "Apart from building their own search application with replicated data, with the right team and strategy, brokers can use the data to append their other data systems to understand their agents."

Showcase IDX decided to adopt the RESO Web API early, because it is built on the RESTful API protocol, a standard that all modern technologists understand (unlike RETS).

"It is an easier and more familiar way for us to connect to this data," he continued. "This switch seemed like an inevitable move towards a standard that provides more flexibility and an opportunity to start fresh with a new data framework."

Several trailblazing MLSs made the decision even easier. "The lead taken by the MLS Grid coming out with API options first certainly paved the way to making it possible for us to adopt so early."

MLS Grid is an MLS service platform that seeks to streamline data sharing by offering a standardized point of access and a single license agreement. Since Showcase IDX had clients in some of these markets already, "We felt that it was better to get ahead and adopt early rather than wait until the last minute."

Leading in Action

Showcase IDX is a company on the move. In 2018, after more than a decade in business, it successfully closed its first-ever round of investment from a private equity source. The company has been in business for more than 14 years, initially in Georgia and Florida followed by an expansion to 60 MLS markets nationwide. "We're looking to aggressively increase our MLS market footprint in the next 18–24 months," said Lockhart.

"We're now live in seven markets using Web API and plan to continue prioritizing working with it as we enter 2020."

"Spurring the move to API with replication was the two main challenges with RETS feeds – inconsistency in the fields between MLSs and the ability to efficiently connect with the data," Lockhart said. The inconsistencies in the data have historically gone beyond just the naming of the fields, Lockhart pointed out. "Whether it was the quality of the data in subdivision fields – where you can have over 20 variations of one subdivision name – or that the data from one MLS to another would be in text, integer, or string format, would slow down adoption," he explains. "Although the field names were mostly consistent with the adoption of the RESO Data Dictionary, the implementation of the data in those fields was not as consistent." However, "We're now live in seven markets using Web API and plan to continue prioritizing working with it as we enter 2020," he added.

As an example, Lockhart cites "The created date of a listing, which one might think is a critical piece of information. The problem is that it is interpreted differently by many MLSs. Some just give the date, some give a date/time stamp with no time, some use Greenwich Mean Time (GMT) with Coordinated Universal Time (UTC). But GMT is a time zone and UTC is a time standard. Some use local server time. Some don't have the date of a listing at all."

Auto Manufacturers Move to APIs

This was the situation when car manufacturer Toyota released the first navigation system in 1987 on the Toyota Crown. "While Google Maps was first released using GPS in November 2007, many of us first experienced a change in the navigation experience that was only possible due to a change in spatial data being accessed via APIs. This was done by pioneers like MapQuest's Find Me and later by Waze, the GPS navigation software app owned by Google. This change in how the data was accessed also created a fundamental shift in how companies collected spatial data."

A major player in this transformation was Kurt Uhlir, currently Showcase IDX's Chief Marketing Officer. Uhlir was part of the small team that realized that there was a more efficient way to collect, enhance, and verify the data and created the spatial data and navigation industry that grew NAVTEQ from $85 million in revenue to $1.2 billion. Companies previously spent hundreds of millions of dollars on field teams and remote data to create their core asset (spatial data with 250+ attributes per road segment and millimeter-level accuracy) around the world, according to Uhlir. When Google entered the arena, it spent an estimated $300 million in 18 months to collect only a portion of the road network in the United States and Canada.

Since then, the technology Uhlir and his team invented and patented has been used by companies like Waze, Google Maps, Apple Maps, Facebook, Instagram, Twitter, and others, and is quickly becoming the backbone for the data driving much of the autonomous vehicle industry.

"This seemingly small, behind-the-scenes change to accessing spatial data via APIs was the triggering change that led to the vast majority of motorists using Waze to get directions to our next open house, people playing games like Pokémon GO, and many of the athletic applications we use to track our progress today," Uhlir explains.

Borrowing a Page From the Navigation Industry

Uhlir cited the example of the navigation industry moving from one data set to an API. "Most people have multiple mapping apps on their phones that provide full navigation," Uhlir explains.

"While the spatial data industry saw mass consumer adoption of navigation thanks to Garmin, Magellan, and TomTom offering personal navigation devices, it really was a change in how the data was accessed, combined with the mass adoption of smartphones that made navigation a part of our everyday lives."

"HERE (formerly called NAVTEQ) has been the dominant map provider in the United States, Europe, and much of the world for decades," said Uhlir, adding that everything from printed Rand McNally maps to car navigation systems to personal navigation devices and even websites like MapQuest were powered by HERE data and a few smaller data providers.

These navigation systems and applications used static copies of a subset of the HERE map that was generally recreated by each brand into a proprietary data format," said Uhlir. "These navigation system and applications used static copies of a subset of the HERE map that was generally recreated by each brand into a proprietary data format," said Uhlir. "This changed when Traffic.com and INRIX began providing real-time traffic data; these mapping and navigation systems incorporated into the consumer experiences. But the bulk of all spatial data was not accessed in real time – or even short time," Uhlir joked.

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Managing Data Faster, More Accurately

The biggest difference – and the real value – that Showcase IDX sees in the RESO Web API over RETS is the ability to quickly add and manage MLS data. "The split out of standard and MLS-specific data is much easier to work with," Lockhart explains. "The tokenized authentication (OAuth) is much more secure than the standard login in RETS. Moving to the Web API is the future, and we're already seeing the benefits as we add new MLSs to our platform."

Using the RESO Web API has significantly impacted Showcase IDX's ability to quickly add new markets to take advantage of new opportunities. "The flexibility we have with the Web API means that we can move fast," said Lockhart. "It also shows our customers that we are serious about using the latest, most beneficial technologies."

"Honestly, at the end of the day, agents and brokers don't care whether it's FTP, RETS, or RESO Web API. Agents and brokers simply care that they have timely accurate data that they can use in their business. They want the most reliability, and the RESO Web API should go a long way to provide it."

While the RESO Web API can be used to return results of search queries, Showcase IDX didn't want to be limited to what could be searched through this means. "In order to improve the search experience and innovate, we knew that we would have to be able to have the listing data in our own search indexes," Lockhart continued. "This gives us the flexibility to map listing data to non-MLS data sources and gives us more control over query response times, query efficiency, and overall performance."

It didn't take a lot to convince executives that the effort to test the move was worth it. "It was using technology that we use every day, RESTful APIs," Lockhart said. "We could dramatically accelerate our ability to add and manage MLSs effectively with it." He continued, "The level of risk was minor, since it was technology our team was already intimately familiar with."

Moving from RETS to an API for data replication came down to Showcase IDX's ability to make time to do it, when and where it's needed. "As we continue to add MLS coverage to our IDX product and consumer engagement tools, there is a definite preference toward MLSs with the RESO Web API as opposed to a RETS feed," he added.

"We can leverage tools (with the Web API) that just aren't available for monitoring, troubleshooting, and optimizing RETS."

Lockhart said that it didn't take much to go live in the company's first RESO Data Dictionary / Web API market. "It really was more about creating an API handler that would sit between our propriety RETSYNC ETL platform that would communicate and interpret the API instead of the typical RETS connection."

The time to develop and understand the nuances of the feeds is significantly reduced by moving to a common API protocol. "We can also leverage tools that just aren't available for monitoring, troubleshooting, and optimizing RETS," Lockhart explains. "The fact that the RESTful API is the standard for moving data around the web will save us time and money in adding and managing MLS data, and, in turn, give us more time and money to invest in innovation."

As a technology company, Showcase IDX uses RESTful APIs every day. "Until the RESO Web API, we've not been able to have that level of control, data consistency, and access with MLS listing data," Lockhart said. "In our experience, it took less time than we thought it would to get a feed prototype up and through refinement and into production. We found that the people that needed the least amount of convincing were our backend data developers. They wanted this yesterday."

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Four Days to Develop Web API Integration

The initial integration was pretty straightforward, taking one developer about four days to begin accessing and pulling in MLS data. "Now we that we have the handlers and that initial integration built, the process to add new MLss will be much quicker than that," notes Lockhart. "Our customers know that we are always looking at ways to improve and for tools that we can use to spur innovation. They have been cautiously behind us. I say cautiously because they've seen MLS RETS rollouts not go so well, so when we tell them more about what it entails, they are cautiously optimistic that RESO Web API could be superior and useful."

The baseline RESO Web API documentation that Showcase IDX has seen from most MLSs (MLS Grid members and others) has been a big improvement from RETS documentation. "It really helps if you have experience with RETS in terms of setting up the replication side of things," Lockhart said. "If you don't have that experience, some of the available RETS documentation can fill the holes on how to process the data, but it can still be difficult at times. At the end of the day, it'll come down to the engineering team working with the RESO Web API and the architecture of their application to be able to build a process to replicate efficiently and accurately."
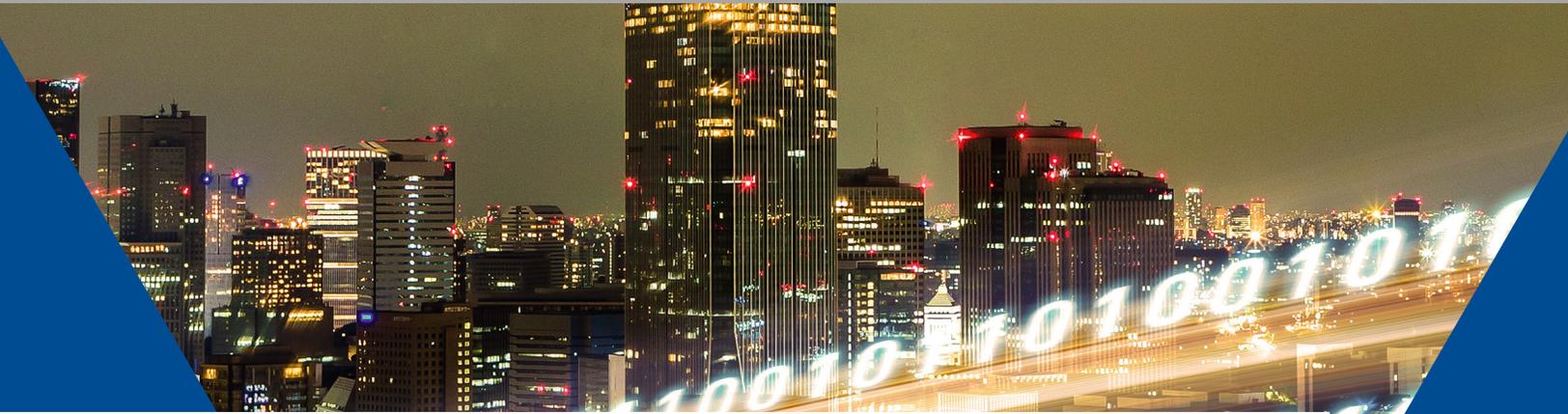
An Opportunity to Learn:
Working with RESO

The industry is in a very different place than when RETS was released in the late 1990s; APIs are now ubiquitous and the level of experience and technical ability at MLSs is at an all-time high. While there are clear technical benefits in transitioning to a RESTful data-sharing platform, Web API provides a new opportunity for the industry to learn from its RETS experience and not repeat missteps and divergence.

RESO – which focuses on the development and implementation of real estate data standards that facilitate innovation and efficiency – has been exceptionally responsive and supportive of Showcase IDX adopting the RESO Web API. "They know that we are one of the first companies of our size and industry segment to be implementing the RESO Web API, and they have been really helpful in understanding how the RETS Data Dictionary guidelines are being interpreted as best practices into the Web API," Lockhart emphasized. "The idea is to avoid repeating missteps and to apply the collective lessons learned with RETS, by working together closely with other companies like ours and MLSs to work with the new protocol, through RESO."

"We plan on mentioning it and including it in our webinars and upcoming industry speaking engagements. We have already been talking to our customers through our customer outreach about adding the RESO Web API, and the response has been cautiously positive. Most brokers see it as a mark of quality that means that we take listing data seriously and that we have a level of sophistication that they can trust.

"RESO does an excellent job in providing materials to help broker prospects understand the competitive advantage RESO offers, Lockhart continued. "The conferences and online resources are very worthwhile," he said.

"Given the innovation we're seeing from RESO, we're hoping to have our director of engineering and senior data developer start participating more. I've spoken at one RESO conference, which was excellent. They offer a great mix with a really high concentration of very smart people who are trying to make the real estate industry better. I was able to meet a bunch of new people and rekindle old relationships. At the RESO gatherings, I learn more than I do at any other conference."

Choosing Web API Over RETS

Obtaining a RESO Web API feed from an MLS is highly beneficial, added Lockhart. "There seems to be far more thought and preparation put into documentation and process," he said. "What's nice is that there are universal standards for RESTful API documentation. And from what we've seen, the documentation has been pretty good. Unfortunately, I can't say so much for RETS, where many MLSs lack useful technical documentation for data partners to use to connect to their data and troubleshoot issues."

Showcase IDX has been iterating its RETS data replication engine for years, Lockhart continues, and the constant changes in RETS and feeds seems like a never-ending project. "Building RESO Web API support into our existing indexing engine to replicate and index listing data took just a few days for one developer to get the first MLS up and running."

Showcase IDX isn't planning to walk away completely from RETS anytime soon. The reason? "All of our supported MLSs would need to have walked away from RETS, too," said Lockhart.

"At the RESO gatherings, I learn more than I do at any other conference."

"We believe the perceived value of being RESO compliant will continue to grow as more agents and brokers understand the value that RESO brings to the industry."

With the RESO Data Dictionary / Web API, Lockhart says it is good to be using the same API protocols for bringing in MLS and non-MLS data. It also means that the ramp-up time for new developers is much lower because it's a more universal technology.

Lockhart said that RESO provided excellent documentation and support for the first initial release version of the RESO Web API standard. "That being said," he continued, "what will be interesting is whether it will become divergent between MLS platform vendors. We have already seen some straying from the specification, and our hope is that…MLSs get back on track and stick to the RESO Data Dictionary. It's in the entire industry's best interest."

While brokers weren't specifically asking if Showcase IDX is RESO compliant, the company has always told brokers and agents that it is RESO compliant by default and that it works well with RESO Data Dictionary-compliant data. "We believe the perceived value of being RESO compliant will continue to grow as more agents and brokers understand the value that RESO brings to the industry," Lockhart said.

About RESO

The Real Estate Standards Organization (RESO) creates and promotes open standards that drive efficiency and innovation throughout the real estate industry. RESO has more than 850 active member organizations, including technology companies, brokerages, multiple listing services, and REALTOR® associations. RESO standards create an industry foundation that provides real estate organizations the opportunity to deliver greater value to professionals and consumers.

For more information, visit www.reso.org.

About Showcase IDX

At Showcase IDX, we live and breathe real estate for you – the real estate professional. We understand that there's a difference between FSBOs, large portals, and the REALTORS® that really know their local markets. That's why we've created the leading real estate search and consumer engagement platform, allowing you to reach customers faster and more effectively.

More than 3 million consumers used our IDX search on agent and broker websites last year, and those agents saw 79% more traffic from Google because they use Showcase IDX. Our features and integrations allow you to give your buyers and sellers the real estate experience they expect – MLS listings with unique local information, portal quality property search, automated messages, and targeted campaigns. And our exclusive community helps you keep improving over time.

Showcase IDX was founded in 2003. Since then, we've closed a private equity round and grown our team. Now, we are the leading IDX WordPress plugin for real estate and are growing faster than ever. We democratize technology for agents and brokers, creating innovative products that empower our customers to grow.