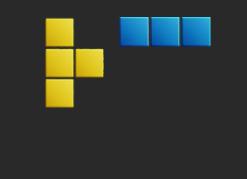


**2018 Spring Technology Summit** 

**Expanding and Launching Profitability through RESO Standards** 



## IT'S **GAME UN** FOR DATA STANDARDS!



## **MLS Implementations of Data Dictionary**

Moderator: Meg Garabrant, NEREN® MLS

#### Panelists:



Olga Ermolin, MLS Listings



Greg Moore, RMLS



Liz Tewksbury, NEREN® MLS



Rob Larson, CRMLS

#### **SPEAKER**

#### **BIO PAGE**

#### Meg Garabrant | NEREN® MLS

Director of Marketing & Communications

The NEREN® MLS has over 10,000 users throughout New England and is the primary MLS for the states of NH and VT. Meg oversees third party integrations, product, member training & education, and is responsible for ensuring RESO field compliance. Meg is a member of RESO, CMLS and is Chair of the CMLS Green Section Council. She most recently became a member of the NAR Sustainability Advisory Group.



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**SPEAKER** 

#### **BIO PAGE**

### Olga Ermolin | MLSListings

Sr. Business Intelligence / Data Integration Engineer

Passionate about all things data, responsible for standardizing the schema of company's database, leading numerous data share and data integration projects with other MLSs and real estate vendors, designing and developing data analytics and business intelligence tools as well as maintaining day-to-day data integrity and data feeds operations.



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## **Background and Process**

- MLSListings servers about 16000 subscribers in the San Francisco Bay Area. We build and maintain our own backend and entry systems, have two third party MLS systems, providing choice to subscribers.
- We also implement and run multiple data shares.
- For 1.3 Core certification, we made changes to our native database that were reflected in all applications
- For 1.5 Platinum, we set up a proxy server and mapped native fields into it.
- Web APIs and our Consumer Site are running on 1.5 Platinum schema.
- Reasoning behind proxy approach:
- The conversion impact would be huge for RETS clients and vendor implementations including our MLS systems.
- Data Dictionary is still evolving and we would be looking at several conversions impacting live customers.
- Our own subscribers want to see native fields in Listing Management and MLS systems.



#### **Tools Used**

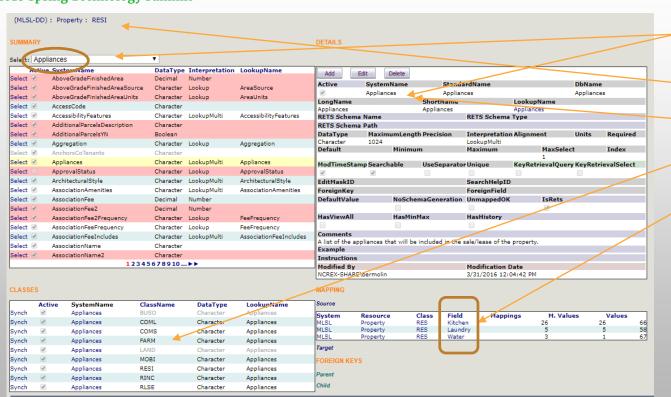


- Used in-house built mapping tool
- The tool loads data dictionary into a RETS metadata schema, defining resources, classes, fields and lookups.
- Our own metadata is also loaded into the tool.
- Tool allows to map RETS metadata items, generating mapping code later.
- First we mapped everything that had a corresponding field in DD
- Then suggested additions to DD for important fields that were missing
- Added local fields to extend our implementation of DD



### **Mapping Tool**

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Ex. Appliances Field in Data Dictionary

- DD is loaded into RETS MD schema
- Each field can be browsed
- Classes where this exist are listed
- Native fields are mapped into DD field:

Kitchen Laundry Water





## **Benefits of DD adoption**

- Any project that involves data sharing or data integration from other sources takes A LOT less time.
   Goes both way, not only our projects go much faster, but also time is saved for our vendors.
- In several cases, we adopted Data Dictionary schema in our own implementations. Example is Media
  resource that we added recently. Another example is Contacts resource that we are adopting right now
  instead of reinventing it ourselves.
- Even if vendor is working with our RETS server that serves data in our local schema, availability of mapping is helpful for their integration process.
- As we were implementing data dictionary while building our consumer site, we made several suggestions to the standard resolving challenges we faced.
- Contributing to data dictionary definition, helped us with mapping later.
- We utilized mapping submitted to Data Dictionary workgroup later in our mapping process.





## Challenges

- Maintaining two feeds (native and Data Dictionary).
- Those vendors that want native fields, will not transition to APIs and we are looking at maintaining RETS and Web APIs for some time.
- Upgrading to the latest versions of DD disrupts current implementations running in production, including our own implementation of the public site.

#### **SPEAKER**

#### **BIO PAGE**

### Liz Tewksbury | Product Manager

In addition to bringing new products to the MLS, Liz dedicates her time to enhancing product offerings to meet member needs & expectations while also aiding in defining the company's long term product plan. She ensures RESO field compliance in the MLS Database and serves on the RESO Data Dictionary workgroup.



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Facebook: liz.tewksbury.9

**Twitter: @liztewksbury** 





# Process/Route to Obtain Certification



- Regional MLS 10,000+ users on a 3rd party MLS system
- Software Conversion two schools of thought; transfer the database as is or make all changes at one time
- Create a "database" snapshot in EXCEL
- For each field in our database, was there an option in the RESO Data Dictionary that could work?



# RESO MLS Created Field Database

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fx									
	Α	В	С	D	E	G	Н	I	J
	Field Tone	Input Label- (Long Nam	RESO Field Name	Database Name ↓	Short Name	Max# Charac	Type of	Selections 🔻	
1	rieta Type	input Labet- (Long Nam⊾	RESO FIELD Name	Database Name	Short Name	ter	String List:		
2	Listing	Allow AVM	InternetAutomatedValuationDisplayYN	AllowAVMYN	AllowAVM		single select	Yes/No	
3	Listing	Allow Blogging	InternetConsumerCommentYN	AllowBloggingYN	AllowBlog		String List; single select	Yes/No	
4	Listing	Appliances	Apppliances	Appliances	Appliances		String List, Multi-Select		
5	Listing	Appraisal Complete	Non-RESO field	Appraisal CompleteYN	ApprslCom		Currently Single Select	Yes/No	
6	Listing	Area Description	Non-RESO field	AreaDescription			Multi Select		
7	Listing	Assessment Amount	TaxAssessedValue	AssessmentAmount	AssmntAmt	14	Number	-	
8	Listing	Basement Access	Non-RESO field	BasementAccess	BsmtAcss		String List; single select		
9	Listing	Basement Description	Basement	BasementDescription	BsmtDesc		String List, single Select	-	
10	Listing	Basement	Non-RESO field	BasementYN	Basement		Single Select	Yes/No	
11	Listing	Baths	UnitType[type]BathsTotal	Baths	Baths	3	Number		
12	Listing	Baths - 1/2	BathroomsHalf	BathsHalf	BathsHalf	3	Number		
13	Listing	Bedrooms	UnitType[type]BedsTotal	Bedrooms	Bedrooms	3	Number	-	
14	Listing	Color	Non-RESO field	Color	Color		String	-	
15	Listing	Common Land Acres	Non-RESO field	CommonLandAcres	ComLndAcr		String	-	
16	Listing	Compensation - Buyer Agency Type	BuyerAgencyCompensationType	CompensationBuyerAgencyType	CompByAgTy	25	String List; Single Select	\$/%	
17	Listing	Compensation - Buyer or Desingnated Agency	BuyerAgencyCompensation	CompensationBuyerDesignatedAg ency	CompByAgc	25	String		
18	Listing	Concession - Amount	ConcessionAmount	ConcessionAmount	ConAmt	-	-	-	
							String List,		
19	Listing	ConcessionComments	ConcessionComments	ConcessionComments	ConComm		Multi Select	-	
20	Listing	Concessions	Non-RESO field	ConcessionsYN	Concessn?		Single Select	Yes/No	
21	Listing	Condo Name	AssociationName	CondoName	CondoName	50	String	-	
22	Listing	Construction	ConstructionMaterials	Construction	CS		String List'; Multi		
23	Listing	Contingencies	Contingency	Contingencies	Contingncy	1024	String		



## Moving Forward with Adoption

- Copy the RESO Data
   Dictionary when it is published
- Indicate if we currently have adopted that field and if so what our label is.

- Highlight and review the new RESO fields for consideration
- Review existing RESO fields that we haven't adopted to determine if they may be more suitable than an equivalent "local" field



# RESO Data Dictionary Field Adoption

NEREN							
Adopted?	P Long Name (label)	StandardName	Definition	Groups	SimpleDataType	SugMaxLength	Synonym
,	SqFt - Apx Finished Above Grade	<u>Above Grade Finished Area</u>	Finished area within the structure that is at or above the surface of the ground.	Property Resource,Structure Group	Number	14	
ı		<u>AccessCode</u>	If the property is located behind an unmanned security gate such as in a Gated Community, what is the code to gain access through the secured gate.	Property Resource, Listing Group, Showing Group	String	25	GateCode
	Features - Accessibility	<u>AccessibilityFeatures</u>	A list or description of the accessibility features included in the sale/lease	Property Resource, Structure Group	String List, Multi	1024	
N		<u>AnchorsCoTenants</u>	The main or most notable tenants as well as other tenants of the shopping center or mall in which the commercial property is located.	Property Resource, Characteristics Group	String	1024	
Y	Appliances	<u>Appliances</u>	A list of the appliances that will be included in the sale/lease of the property.	Property Resource, Equipment Group	String List, Multi	1024	
,	Style	<u>ArchitecturalStyle</u>	A list describing the style of the structure. For example, Victorian, Ranch, Craftsman, etc.	Property Resource, Structure Group	String List, Multi	1024	Style
,	Association Amenities	<u>AssociationAmenities</u>	Amenities provided by the Home Owners Association, Mobile Park or Complex. For example Pool, Clubhouse, etc.	Property Resource, HOA Group	String List, Multi	1024	AssociationRules, AssociationInfo, HOAAmenities
,	Date - Available	Availability Date	The date the property will be available for possession/occupation.	Property Resource, Listing Group, Closing Group	Date	10	
N		<u>BuilderName</u>	Name of the builder of the property or builder's tract.	Property Resource,Structure Group	String	50	
,	Buyer Agency Type	BuyerAgencyCompensationType	A list of types to clarify the value entered in the BuyerAgencyCompensation field. For example \$, % or some other clarification of the BuyerAgencyCompensation.	Property Resource, Listing Group, Compensation Group	String List, Single		SOCompType, SellingOfficeCompensationType, BuyerBrokerCompensationType, SOCType, CommissionType
,	Financing - Buyer	<u>BuyerFinancing</u>	A list of options that describe the type of financing used. This field is used when setting a listing to Closed. i.e. cash, FHA loan, etc.	Property Resource, Listing Group, Closing Group	String List, Multi	1024	
,	Date - Terminated	<u>CancelationDate</u>	Date the listing contract between the seller and listing agent was cancelled. This is the date entered by the agent reflecting when the change occurred contractually, not a timestamp of when the change was made in the MLS.	Property Resource, Listing Group, Dates Group	Date	10	
V		CarportSpaces	The number of carport spaces included in the sale.	Property Resource, Structure Group	Number	14	
v	City	City	The city in listing address.	Property Resource, Location Group, Address Group	String List, Single	50	





## **Benefits of Aoption**



- When working with other 3<sup>rd</sup> parties, having standards that everyone is following streamlines the process.
- As an example, the NEREN MLS recently implemented RESO Power Production fields with the specific purpose of allowing for Auto-Population of that data from a 3<sup>rd</sup> party.
- With all parties using the same data standards, it eliminated the need for data mapping beyond initial import
- Also sped up the time to complete the auto-pop process; hours instead of weeks





## **MLS Challenges**



- Vendors RETS Servers are not certified at the highest level
- API is certified at the highest level but do not contain MLS local fields
- Without local fields, the API will not be used by vendors
- Industry topic: Preparing for life without RETS





# YOU'VE GOT TO BE FORWARD-THINKING TO STAY AHEAD OF THE GAME.



### **API Comparison**

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	Spark	Bridge	MLS Grid	Spring	PIC	AMP	Trestle
Deal Breakers							
Does your API offer highest level RESO certification available ?							
Can you provide vendors with a RESO compliant API?							
Do you support the inclusion of non-RESO (MLS local) fields in your							
API?							
Available Data							
How quickly do you bring the API into compliance with the latest							
RESO Data Dictionary after it is published?							
Do you support the inclusion of all property classes in your API?							
Do you support the inclusion of non-listing non-Agent/Office fields							
in your API? Ex. Saved Searches, Contacts, Likes and/or favorites?							
Do you support the inclusion of Open House/Broker Open House							
fields in your API?							
Do you support the inclusion of Documents in your API?							
Do you support the inclusion of Virtual Tours in your API?							
Payloads							
Is there a limit to the MLS to the number of payloads that can be							
provided via the API?							

- Search is on for an API solution that can support all MLS fields and all necessary payloads
- a robust API product comparison asking the same 45 questions to vendors of 7 available API solutions to find a suitable alternative.

#### **SPEAKER**

#### BIO PAGE

### Greg Moore | VP Technical Systems

Greg has been involved in Real Estate Technology for 32 – years and at RMLS for 16. As Vice President of Technical Systems, he provides leadership and general oversight of RMLS' technological goals and activities. He facilitates the technical requirements for data processing, hardware services, network communications, and management information services to accomplish the company's goals and objectives.



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## Aligning our Native DB to the DD

#### Mapping to the DD with Excel

			S		
			H	ST	
Table	Column Name	System Name	WX		Standard Name V1P4
Propmain	LISTING ID	ListingID	X	_	ListingId
Propmain	ACCESSIBILITY YN	AccessibilityYN	X	^	Listingia
Propmain	ACRES	Acres	X	V	LotSizeAcres
Propmain	APN	TaxID	X		ParcelNumber
Propmain	APN2	TaxID2	X	^	Parceinumber
Propriain Propmain	APN3	TaxID2 TaxID3	X		
•	AREA		X		MI CA Mai
Propmain	BAC	Area			MLSAreaMajor
Propmain		BuyerAgencyCompensation	X		BuyerAgencyCompensation
Propmain	BAC_TYPE	BuyerAgencyCompensationType	Х		BuyerAgencyCompensationType
Propmain	BANK_OWNED_YN	BankOwnedYN	Х	Z	
Propmain	BANKRUPTCY_YN	BankruptcyYN	X	Z	
Propmain	BATHS_FULL	BathsFull	X		BathroomsFull
Propmain	BATHS_PART	BathsPartial	X	X	BathroomsPartial
Propmain	BATHS_TOT	BathsTotal	X		
<propmain></propmain>	BATHS_TOTAL_INTEGER	BathsTotalInteger	X	Χ	BathsTotalInteger
Propmain	BDRMS	Beds	X	Χ	BedroomsTotal
Propmain	CCR_YN	CCandRYN	X		
Propmain	CDOM	CumulativeDaysOnMarket	X	Χ	CumulativeDaysOnMarket
Propmain	CITY_ID	City	X	Χ	City
Propmain	COUNTY_ID	County	X	Χ	CountyOrParish
Propmain	DATE_COE	DateClose	X	Χ	CloseDate
Propmain	DATE_CONT	DateContingent	X		
Propmain	DATE_EXP	DateExpiration	X	X	ExpirationDate
Propmain	DATE_HS	DateHotSheet	X		·
Propmain	DATE_LIST	DateList	X	Χ	OnMarketDate
Propmain	DATE OFF	DateOffMarket	X	X	OffMarketDate



## Create DD Compliant Data Image

#### Transpose Native DB to RESO Standard Names in SQL Views

ALTER VIEW [dbo].[ResoPropmain]

AS SELECT

Ctandard Names		
Standard Names		
pm.Listing_ID	AS	ListingKey,
pm.HOA_AMT	AS	AssociationFee,
pm.HOA_DUE_PER	AS	AssociationFeeFrequency,
pm.BATHS_FULL	AS	BathroomsFull,
pm.BATHS_PART	AS	BathroomsPartial,
pm.BATHS_TOT	AS	BathsTotalInteger,
pm.BDRMS	AS	BedroomsTotal,
pm.SQFT_SOURCE	AS	BuildingAreaSource,
pm.SQFT	AS	BuildingAreaTotal,
pm.BAC	AS	BuyerAgencyCompensation,
pm.BAC_TYPE	AS	BuyerAgencyCompensationType,
pm.S_AG1_EMAIL	AS	BuyerAgentEmail,
pm.S_AG1_NAME	AS	BuyerAgentFullName,
pm.S_AG1_ID	AS	BuyerAgentMlsId,
pm.S_OFF_NAME	AS	BuyerOfficeName,
pm.S_OFF_PHONE	AS	BuyerOfficePhone,



## Transform Enumerations

FEAT_ID	SHORT_DESC	FULL_DESC	RESO_DESC
919	2NDKIT	2nd Kitchen	Kitchen 2
422	POW-AVL	Power Available at Property Line	Electricity Available
423	POWER	Power	Electricity Connected
454	ROD+1	Deed Recording + 1 Day	Close Plus 1 Day
475	SEPTIC	Septic	Septic Tank
514	SUBJTEN	Subject to Tenancy	Subject To Tenant Rights
525	SWR-AVL	Sewer Available at Property Line	Sewer Available
752	4TH-BD	4th Bedroom	Bedroom 4
753	MSTBATH	Master Bath	Master Bathroom
622	BAY	Bay	View of Bay
1026	2NDMSTR	2nd Master Bedroom	Master Bedroom 2
1030	LEEDHMS	Leed Homes	LEED For Homes
1032	NGBS-WH	NGBS Whole Home Remodel	NGBS Whole-Home Remodel
256	GRAVEL	Gravel	Tar/Gravel

#### **SPEAKER**



#### Rob Larson| CIO

Rob has 14 years with CRMLS; graduated from the Grove School of Music, majoring in Composition and Arranging; and has over 25 years in Information Technology. Rob is an original architect of CARETS (California Real Estate Technology Services), www.ca-rets.com; an author of NAR's Green the MLS Toolkit, www.greenthemls.org; the Treasurer for Build it Green, www.builditgreen.org; on the Board of Trustees at Carden Arbor View School; a partner in the US Department of Energy's Home Energy Accelerator Program, https://betterbuildingssolutioncenter.energy.gov/ac celerators/home-energy-information; and he is the Chair and Editor of the Real Estate Standards Organization's (RESO) Data Dictionary.

#### **BIO PAGE**



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#### **RESO Wiki**

For the wiki, <a href="http://ddwiki.reso.org">http://ddwiki.reso.org</a>

Select the current versions (older versions are below on that first

page)

Data Dictionary 1.6 has just been approved and released for public view

The <u>Data Dictionary 1.6 Wiki</u> can be found here.

The RESO Data Dictionary 1.6 has been approved (Aug 4, 2017) and now the official most current and up to date RESO Data Dictionary version. Previous versions are listed below.



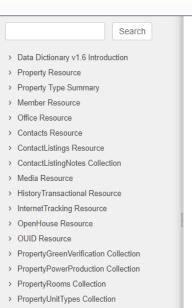


#### Once in the current version:

- Check out the introduction and Terms & Definitions pages to learn more about the dictionary.
- 2. use the search at the top right, or expand the hierarchy below the search to view fields in categorized groups.

#### **RESO Wiki**





> Prospecting Resource

> SavedSearch Resource

> TeamMembers Resource

> Lookup Fields and Values

> Showing Resource

> Teams Resource

#### The best way to get started

Dictionary v1.6 Introduction

RESO Data Dictionary Wiki v1.6

Welcome to the RESO Data Dictionary Wiki

member an really make a difference.

Data Dictionary 1.6 Approval Date: August 4, 2017

**Data Dictionary 1.6** 

RESO Data Dictionary Wiki v1.6

This is the Real Estate Standards Organization (RESO) Data Dictionary

Wiki Home Page for Data Dictionary 1.6. Please feel free to browse and

estate data. To leave a comment you can click on 'comment' link at the

get acclimated to terms and fields relating to the transmission of real

bottom of each page, or better yet, join our growing ranks as a RESO

To learn more about this wiki and RESO please follow this link Data

Created by RESO DD Workgroup, last modified by Robert Gottesman on Aug 07, 2017

Search

After reviewing <u>Data Dictionary v1.6 Introduction</u>, the best way to get started is to familiarize yourself with the navigation bar (*on the left*) and the groupings, specific field of interest or a lookup value. Sooner or later you will find your way into a detail page about your scope of interest including a definition, attributes and how it integrates into real estate information. Click on <u>Data Dictionary Terms and Meta Definitions v1.6</u> for additional information on the meaning of terms within a page.



#### **RESO Wiki – Questions & Comments**

At the bottom of every definition page, there is a "Questions/Comments?" button.

After completing the subsequent form, information about the field or enumeration page you were on when you clicked "Questions/Comments" along with any other info you type will be sent into RESO for review by the Data Dictionary Workgroup.







#### Confluence



The RESO Workgroup Collaboration System, aka "Confluence", requires RESO membership and a login. <a href="http://members.reso.org">http://members.reso.org</a>.

After login, select Data Dictionary from the navigation options on the right hand side.

#### **Navigate Between Workgroups**

- Board Liaison Committee
- Broker Advisory Group
- Data Dictionary
- Event Catalog
- Internet Tracking



## Confluence - Discussions



#### Scroll down the page to see the workgroup discussion topics:

Status	Торіс	Author	# of Replies	Last Activity Date
	OfficeBrokerMIsId Definition Update	Rob Larson	0	Mar 22, 2018
	Queue Resource	Rob Larson	8	Mar 15, 2018
	MemberStateLicenseState	Gayle Ludemann	28	Mar 15, 2018

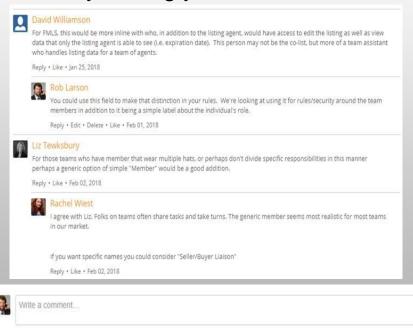
- •You can start your own topic, or ask Rob, or RESO staff, for assistance starting a topic.
- •If you have more than one topic, a separate entry is required for each topic.
- •Before adding any subject to the workgroup meeting agenda, that topic must first be added to Confluence.



### Confluence - Collaboration



Come to Confluence regularly to review and participate in the on line discussions by adding your own notes/comments.





## **Workgroup Navigation**



On the left hand side, select "DD Call Agenda and Notes" to review the work and decisions made by the workgroup.

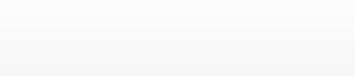
#### **Navigate Current Workgroup**

- > DD Call Agenda and Notes
- > DD Files
- DD Members
- DD Tasks
- Real Estate Business Rules
- File lists









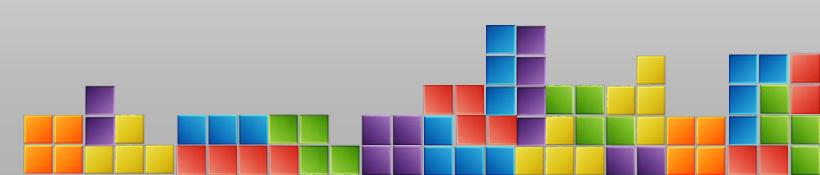




# Questions?











# Thank You,



