

# RETS Workgroup Meeting Minutes

## August 8th – 10th, 2007

### Chicago, IL

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## Wednesday, August 8th

### 10:45 – 12:15 Track 1 - MLS Schema Workgroup

Presenter: Paul Stusiak

MLS Schema Review

Three in-person meetings have occurred between Austin and this one: Rockville, Westlake Village and Minneapolis. We've had about 20-25 people, with good representation with MLS and vendors as well as other interested parties. We've been trying to move through. What we're trying to bring forward Members, Participants, Teams, Person and Offices schemas to allow us to adopt those. We had another meeting last Wednesday where we reviewed things and added a couple of additional items to the schema. We were going to try and carry on with that work as well. There was a good suggestion from Chris, I'll let him cover in a moment. The schemas that we've been talking about have been tied to the definition of RETS2 that we adopted last August, which is a transport model for what was Compact data, now called Delimited, with a flat structure as well as XML Schema and have a clear structure. These XML Schemas are developed with input from many different MLSs. With that I'll pass it over to Chris.

Chris McKeever: In the last couple of weeks, some topics have come up on the dev-list. So, me and Andrew Tillman also of CRT, we feel that the RETS2 Payloads, although it is a separate document feels too closely tied to RETS2. We would like to see the Payloads become their own entity and live outside of RETS2 and not be tied to RETS2. If we consider RETS as a family of standards, there could be a Records Payloads specification. It could live on its own, be developed on its own and be transported on its own not tied to RETS at all.

Greg had talked some last week about a migration path from FTP to RETS, which is great and transitional and can give people time. There are still a lot of FTP servers pumping out CSV, If we adopt these payloads, and they go gold before the RETS2 Spec goes gold, these guys could decide to pump out FTP XML instead of CSV. So you have time to parse it and consume that data. So, when RETS2 comes available the problem is half solved. This gives them time to adapt. It opens things up to a whole array of uses for the Payloads Schemas.

We'd like to propose that this group add this to the recommendations tomorrow, otherwise we could propose that as its own entity during the Friday session. It's really up to this group if that makes sense, to refer to it as its own spec.

Mike Wurzer: How would this relate to Standard Names from 1.x?

Chris Mc: So the Payloads are defined by schema. We've been calling it the RECORD Specification, for Real Estate Common Regional Dataset, just something we threw together real quick. The RETS2 spec would say, we require this and so on, Paul correct me if I'm wrong.

Paul S: As background information, one of the first efforts that somebody has been doing with the schema, who has been really helpful in identifying where something is missing, and so on, is using as their data model and it's not RETS2. It's a RETS1 server, and this is what they will be emitting. So, when Chris said that, it's relevant because this is going on right now.

Gregg Petch: Where is the schema piece right now? Where's the crossover point? Can I just take whatever is the schema and use it how I want?

Paul S: The RETS2 Service Document does specify that if you are carrying RETS data, there are certain schemas you must support. Listings and Properties. On the schema side, other than the habit of saying it's RETS2, there is nothing that makes it RETS2.

Gregg P: Then changing the name, that schema it's done.

Chris M: It's partially a marketing tactic, but at the same time. Until we looked at it, we didn't realize they were really decoupled. We would like to be able to market it. If RETS3 comes out, and we have a great payload, then we can continue to use it.

Paul S: If we revisit RETS1, and the groups say we need to do substantial work with RETS1, then maybe these can be brought back into RETS1. So, here are Payloads that could be carried instead. That would provide a very clear transition path between RETS1 and RETS2. We have been following a path, they are not really coupled although we speak of them that way. So, it's work discussing.

Matt Lavallee: After what you said, yeah, this really opens the possibilities. Anyone else consuming or emitting real estate data could use these payloads even if they aren't using a RETS server. We could even have a JSON model. It's a really great idea.

Chris Mc: We came up with the acronym, so the work's done.

Paul S: What's the general sense in the group to decouple this from RETS2? (no dissent) Ok, then I think we should bring this to the group as a whole tomorrow. We'll bring forward making it more of a universal data standard. I'm hoping we don't have a bunch of people tear the work we've done apart at the last moment.

Well, for those who are new, I'm Paul Stusiak one of the Technical Co-Chairs and I've been Chairing this Workgroup on RETS Schema. We've been trying to solicit input, especially from Brokers who are the true data experts. What data contains, what it means, how it relates to other data. We are wide open, not a closed group, just anyone interested in contributing or participating.

The original set of schemas presented about a year ago had a very separate pieces, listings separate from properties, properties separate from offices. When you wanted to talk about transmitting information, you would put together additional schemas. Over the months, we have determined as a group that we want listings, that contain properties and the public records. And, they contain the people that participate in that listing, and so on. And, that we want to go this or that deep in the listing data. We have come to a more modeled form, where listings contain properties, and you can still look at properties separately. But, when you are looking at a listing you have access to the full property information.

We have recently been talking about how listing information changes frequently, property information changes less frequently. How can we request or get the more dynamic or changing information without having to get everything? How can it be set up so that the information on the property can all be cached, and only when it changes do you need to go get it again.

So, on Friday we are going to have a second working session. What we'll do is talk about querying. Right now we have a very flat way of querying called RQL, which was some syntactic sugar added to the DMQL. We're still looking at the same kind of need to know a unique name for each element we can query on. Which is fine, but it does not address a rich hierarchical model of what this data is, and make you have to go 73 levels down and bring back the office that you don't care about. So, on Friday we'll talk about query with Matt and Sergio to be able to specify this. The key is to be able to select the fields that you are interested in. And, stop with just pointers to the property record and the media information. So, we'll reopen this discussion. Steve, I think you guys had some concerns about RQL a year ago.

So, this is really appropriate with the way the model has come out with people revisiting this. To see if we can get more close to the model of usage for this data.

Bob G: So, is this part tied to RETS2? Because we're talking about querying. So which does this attach to?

Paul S: Definitely tied to RETS2, but if we are separating everything we may need to separate out this part as well. With the way we have the data modeled, we must have a way to specify how deep in the model we want to go. So, this is a very important issue. We would like to have a small payload. So, the query language could be brought back into RETS1, if that's what the community wants.

Right now, with Vocabulary in RETS2 we require that you define a unique name somehow, whether that is through some kind of XPath-ish notation, or come up with some kind of unique name. But, if we're going forward, then why not look at these things? The work has led to a very different model, so why not look at this again? So, not saying we're starting all over, but certainly with the work in the last four months it's time to take a look and see if we can make this work better.

Matt L: Part of my recommendation on Friday is that Query have it's own workgroup moving forward, just so that we can have representation from different groups. And, it can have its own timeline exclusive of the service. That's one of the biggest things, with this decoupling we're talking about. Just because RETS is a service, doesn't mean all this stuff has to come with it. HTML is separate from CSS and JavaScript. Those are distinct areas. Just because you're using one, doesn't mean you have to use all the other ones. If someone wants to use straight SQL, or some crazy JSON model, they're going to do that. They may want to deliver the payloads exclusive of whatever query mechanism we have defined. At the same time, an official RETS2 service should be compliant with the payloads and whatever query language we have with the spec.

Paul S: So, we'll spin up the query group then on Friday and talk about it exclusive of schemas. Also, we'll be having another day and a half in Boston on the 12 and 13 of September. It was going to follow on to Tech Fest, which I think was cancelled. But, we will be continuing with the meeting. There was some suggestion from the folks at MLSPin that we move the dates, so I don't know what he'll say when he gets back. He's been on a Honeymoon. He sent

an email last week saying Tech Fest was cancelled, so it's just an email he shot to me suggesting we could start earlier. It wasn't clear to me why it was cancelled.

Matt L: Well, he probably has a room.

Paul S: We'll definitely have another day and a half. We'll be focusing on listings and properties. There is a possibility of having one in Ottawa in October, also suggestion for one in California. So, yeah, we'll probably have at least one more. The goal is to have the listing and properties ready for a vote at the yearly in Las Vegas, so we have some work ahead of us if we wish to get there. As we've been finding through the review process, they recognize things missing. So, I think we probably are going to have to expect there will be some kind of change to the schemas once they get adopted, but nobody is going to use them until they are adopted. So, it's somewhat of a chicken and the egg type of thing here.

Moving on to our work today. We've got Person, Member and Team to make sure we're not missing anything more that needs to be put in there.

Opening MLSMembership. I think with Participant, we're done since it is a containerization. In MLSMembership we are missing MLSName. I had forgotten to add MLSId. So, in this case we're adding MLS Name and MLS Id. So, we've added some things. There's another entire structure there in terms of the Association. Obviously, you don't have to carry all of this information, it's mostly all optional. So, for each MLSMember, they have one date they joined at. However, if people have cases where people get multiple of the same membership then we may need to talk about that. However, this is the thinking of people at this point.

So, did anyone else have any comments.

Colby Ackerman: Login name, is that of interest to anybody.

Paul S: It may be of interest, I don't believe it belongs in the standard. I think that's either an extension, or argue your case.

Colby A: I'm not, we don't give it out. I was just making a suggestion.

Mark Suchy: Question arose regarding associations with multiple billing types. We've got commercial, residential, there are members. But we've got nine different billing codes.

Paul S: So, you're suggesting there may be additional member types?

Mark Suchy: Bill types.

Paul S: We have added a role.

Mark Suchy: When you are adding users, adding agents, you give them here are all the roles the agent could possibly play in the MLS world. I think that goes to the billing types. We map those billing types to what roles in TM we have. And then, from that master list of who they can be, when you go to add them to a transaction, they are added as one of those roles. So, the server, would say this person can be a listing agent, so then add them as a participant in this transaction as a listing agent, so they are playing that role in the transaction. But, you have to have a master list of all the roles to begin with. So, I would say you need some billing code type, some kind of definition of who they can be. A lot of times it's, there's all kinds of types you have paying types, non-paying types... vendors, there's a whole slew of different types that go along with the billing codes as well. The billing codes were the only thing the MLSs had that we could map to in the TM world.

Matt L: It sounds like If there was a container of eligible roles and we reuse the participation roles, that should satisfy that part of it.

Paul S: Well, right now all the roles a participant takes on has nothing to do with their billing.

Matt L: From my perspective we could fulfill the role part of it like that.

Some discussion arose regarding bill types codes, and the reasons they are needed. Without them, there are some databases that would need to be completely restructured. Also, a discussion on what the roles may be as a comprehensive list, and what a comprehensive list of bill codes.

Paul S: So, can I get some more understanding of what this bill code is and how does it translate into a role? Is there a list of them.

As an example, we have an MLS Id, Regional members, members outside our territory. because our membership database ties back into the Rappatoni database. Our issue is how we are pushing that data back out. I've got a massive security hole, because the way they want it it's sometimes accurate.

Paul S: So, would it be fair to say if we were to add a container spot for billing code types in Members, that we should then have an associated relationship in the roles to say if the role is buying agent then here's what billing code it should be.

Mark Suchy: But it can change it can be different for everybody.

Paul S: Of course, that's why it's just a placeholder. So, okay there's two ways we're handling enumerations in schemas. There are some cases where we have a pretty good handle on all the possible values you can have and if you need to extend it we have this other class and you put a value in to say what that is. So, we've got the nine property types that people agree. Then, if you've got a tenth one, you flag it with other and you put it in the otherDescription attribute and say MobileHome443 property type.

The other way we're handling it is we're saying here's a placeholder for string. You will emit your list of values for your particular location as part of the metadata. So, RETS2 doesn't know anything about them other than an string is going to go in there. When you emit the data, they will have selected from one of your enumerations and they will insert that value in the placeholder.

So, it sounds to me like billing codes is one of those places where the standard has the placeholder, the individual MLS generates their list and emits that as part of the metadata. And, the back end is responsible for this placeholder maps to this list that is custom to this location. I better make sure that the values I emit are the ones from here. And, on the input side I better make sure that I only let them put that in that string place. So that's a UI issue.

The two ways that we're handling that, we have a whole class of them where every MLS is going to be different. So, all we put is a placeholder. So, it sounds like billing code is that.

But, if we're going to publish a generalized list of roles, which I think we can make a pretty good guess as what the roles are going to be. Since each MLS will have different business rules of who can do that, but there's only so many different ways to slice up the transaction. There will always be a listing agent. There's always gonna be someone responsible for the selling side. In some cases, they are the same person. But, you may want to name them differently, that's fine. But, in general we can describe all those.

So, do we need a placeholder in Roles to say for this Billing code that's what this role would be?

The group said "No".

Matt L: It should be okay if the emission, there's sort of a business rule for how they emit what it is that goes on in their system.

Paul S: I'm saying if the Member has a list of billing codes, do we need to at a Participant level say this Role, listing agent, maps in this system to the billing code 7. Or, can we just ignore that and leave that to the back end?

Group: Business rules stay at the business.

Gina: So, do we still need a container for eligible roles?

Paul S: No, billing codes.

Matt L: I think eligible roles still makes sense. That is the one piece of data that you can rely on. The billing codes are going to be different there between Colorado and Maine or whatever. But, the roles will always be consistent. Listing agent in Colorado will be the same as listing agent in California. That can be sent definitively between the two systems.

Mark Suchy: So, we will have the roles and billing codes completely separate?

Matt L: Well, if the California market wants to say this person can't be a buyer's agent, it would be very easy between the four or five systems. Without having to translate the billing codes.

Paul S: Okay, that makes sense. So, we're adding two things then. Eligible Roles container, and Billing code container/string. People can put whatever they want in there. A string type, called BillingCodes that you can put whatever you feel is appropriate in there.

For those new, pretty much everything has a SystemId attached to it. Which is intended to facilitate interchange between systems, so you can tell the originating system. So, we do at least have the information we need to say this system is sending the billing codes.

Gina: So, the EligibleRoles, is that at the Participant level?

Paul S: The role still refers to the actual Participant.

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Mark Suchy: Is this list finalized here?

Paul S: No. Role will not be voted on at this time, we definitely have some more.

Mark Suchy: Every time we do another implementation I have some to add.

Paul S: Yeah, but there was that very large list that we had at one point, of about 50. So, how do we keep getting new roles? Isn't that something that should be understandable from the transaction itself? Are they the same role with specific business rules attached to them?

Gina: Are they all truly distinct from one another?

Mark S: They probably are similarities, but they want to make distinctions. They are different and they want to see them on the transaction. They are clearly identified as a participant, they don't want to use a generic sounding role that doesn't really identify who they are.

Paul S: How many would you guess you have right now?

With some discussion, it seems there are roughly 65 + another dozen or so.

Paul S: So, we may need to rethink how we handle role. Currently the roles we have are on the MLS side of things. So the transaction side had quite a few more.

Mark S: We're actually adding more because of the MLS side.

Paul S: Okay, but the Buyer's Lawyer is a transaction. I said that wrong, the MLS side right now, the role information is quite small. But, on the transaction side, it sounds like the MLSs are asking for more roles.

Gina: Okay, but I'm still not sure where the EligibleRoles go.

Paul S: On the Member. Are there cases where Teams get additional roles as well?

Gina: So, that's where I was wondering if it went at the participant level, so it could be for people.

Paul S: Yeah, but Participant the way it's modeled right now...

Side discussions going on...

Colby: Yeah, but a Team is a specialized user, and anything a user can have a team can have as well.

Paul S: Almost. A members of a Team can have roles as well as the Team role. They have a role within a Team, but each Person or Member in that Team can have a role.

Member refers to a licensed person capable of selling real estate, usually Realtors but they don't have to be. That is part of a Team, as well as assistants, photographers. TeamMates can be Members, there always has to be at least one and zero or more People. So, you can build anything you want in here pretty much. Within a Team, each TeamMate has a TeamRole as well as a Role. The Team has a Role.

Colby: So, by being in a Team a Member can gain roles.

Paul S: Yes, by being on a Team that has a role you may take on the Listing Agent even though you can't sell it. But, your Team, through the Agent of Record is able to sell the property.

A discussion arose regarding how Team Mates have a role within the Team itself and how that does indeed differ from the role within a transaction.

Matt L: Can we change TeamMemberType to TeamMateType?

David Harris: In our implementation, due to limitations of what we've got but it's actually turned out to be quite elegant, we don't want to get into the business of tracking who is in a team and what role they play. So we allow relationships to be formed between agents themselves. The agents have roles themselves, but they are linked up through a permission set. So, Agent A can modify Agent B, but then you have the reciprocal. One way or bidirectional. The Team only exists in that permission sets. Twelve permissions may illustrate the relationships between four agents. We're using that to map to TM, the entire Team needs to be able to add documents to a transaction. In MLS, you have only one listing agent, in TM we may have more than that.

Paul S: Are you saying that any of the members of that team can make changes. That seems like a local business rule, which I believe is handled in the current model. Which says the team has a role. It's up to you to determine what the individual team mates within that team can do to one another.

David H: It just sounds administratively pretty heavy to manage all that instead of the Team exists as a dynamic set of realtionships. Vs. naming a team, because then a person can be in multiple teams...

Paul S: Yes, we cover that.

Gina: I'm not sure we capture that Member to Member relationships, we have the Team and these are the Member. We don't capture to that granular level.

Paul S: Is this also tied to a listing?

David: No, you can modify any of that Agent's stuff. If you're a Team, you're a Team for every listing.

Paul: How does that differ Mike from your Team?

Mike W: In ours, Team is like a Member. Members of the Team have their own identity. They are Team members and Members with Roles. If there permissions they are related to that. I can't say that I perfectly understand how theirs is working, but it doesn't sound like it conflicts with what they've got.

General consensus is that the two models do not significantly conflict.

Returned to the question of whether Eligible or Permitted Roles need to be captured at a Team level as well. General consensus is to wait on that until it becomes necessary.

David: On the implementation side, if we build it large enough to handle all the permutations to represent different roles within different teams... Right now it's monolithic in our case, either you are part of a Team 100% or you're not. And, so far the business model in our market, it's what they want. So, it's an easy implementation. It's just one set of tables. But, if we get to where we have to clone it and replicate it into all these team environments for the sake of standardization.

Paul stressed the point that we are not trying to force a model on everyone or standardize the way everyone models Team, but trying to provide a framework for capturing all the information central to the Team concept. For that matter, this applies to the Member as well. With the schema being developed, most all of the elements are optional, so there may be a concern about being too optional. But, we are trying to build an intersection of all of the elements people tell us they are using.

If an element appears in a model that does not exist in your back end system, you will never emit it.

Matt L: It's just so that whenever you do have data to emit, everyone knows where it is.

Paul S: Yes, that's exactly why. Are there any other comments or questions on Offices, Teams, Members, Participant...?

The group reviewed the elements and types in the Person and Participant, and discussed them a bit. Also, discussed renaming Agent to Member.

Paul S: Anyone from Alaska? Does Alaska have counties?

Mike W: Yes, they are generally called Boroughs.

Paul S: We have county.

Matt L: Boroughs are still a legitimate need. What about New York?

Paul S: So, is Borough needed in addition to County?

Matt L: It is above City.

Mike W: I don't know if it's the same as County.

Matt L: No, in New York there are seven Boroughs. Brooklyn Queens... So Borough is a distinction.

Paul S: By the way the address is based off the postal address, and does not contain the county.

Matt L: In New York, a Borough is recognized as a Township with a local government.

Paul S: This will be revisited when we get to Public Records, Ed has indicated there are issues with townships and such that we need to address. So, address was really intended to be postal address. Not the property record location. We will address that in Public Records.

Matt L: Quebec has Buroughs.

Paul S: So, how do people feel about this then? We were going to bring forward Team, Member, Person, Participant and Office for voting tomorrow. Are we comfortable bringing this forward for a vote, with the changes that we listed today?

After the vote, it will require a change proposal to make a change to it.

Colby: I had a question about the documentation and annotations that are in there.

Paul S: Okay, I will ask the group. I believe I should be able to add to the documentation without a change request based on information that people provide. I would also like to generate a unique identifier for each element within a schema. This will be programmatically generated, and is what the retsid is inside there. Because people who are trying to do mapping with this, as work has continued finds it very difficult when things get renamed, or moved. It seems to me reasonable to auto-generate a unique identifier that will not change.

Gina: So the idea would be that anything within the annotations can be modified, but everything else would stay the same.

Colby: I don't want to seem difficult, but I think the understanding of elements will change as annotations are added.

Paul S: Okay, that's fair.

Colby: And, one of them, I have some notes. There is an MLSJobDescription, under MLSMembership that wasn't annotated. That, its use may conflict or may not be understood now. That once documentation is added, it may change.

Paul S: So, would it be more appropriate to do roll up changes on the annotation?

Colby: Perhaps it's fine to do the annotations now, and then deal with change requests. Change requests aren't impossible.

Paul S: They aren't impossible, they are just done tri-annually.

Colby: But, the alternative being a non-ratified or non-useful payload.

Paul S: Would it be better to make that part of a review and then update the versionTimestamp when the documentation changes.

Colby: Well, how complete is the documentation?

Paul S: Not as complete as I would like it. It is much harder to get people to say, "You need to add this element" than to get them to say what the meaning of that element is. MLSJobDescription is an excellent example that was requested at the last meeting in MPLS and I still don't have the documentation yet.

Matt L: Is it possible, instead of having the annotation in all the schema to point to the Wiki and try to get the documentation that is there to get clarification on its own?

Paul S: I found it really hard to do that earlier where there was a separation of information and explanation. So, that was one of the reasons that I started to include it.

Matt L: As long as you have the ids, then you could say wiki/element id and have the docs up there.

Paul S: You know, that's a very good idea if we start with it and then it points over here and we get in three or four months and we bring it back in as a modification update.

Matt L: And the Wiki keeps a version history, so that if the meaning gets richer or more ambiguous without affecting schema.

Paul S: So, bringing it back in at some future date as a rollup change.

Colby: Well, the recommendation is to not have any documentation in the schema.

Paul S: I'm not recommending that. I've found it really hard to work with when it's in two places. I would prefer to see it in place, and then we've written some transforms to emit these as spreadsheets, or to create the documentation for them and populate sample instances. So, I would like to keep that so that

we have one source of truth as opposed to multiple sources of truth. I would propose that we could use the Wiki to enrich it on a basis where everybody goes, "Yeah, we agree with that, let's pull it in"

Gina: Well, that was part of the idea with the tool, SCT, that was built was to have a way for others to work on the comments or the documentation.

Matt L: Well, I think a Wiki as long as we have the unique id anyway, we're not going to be able to get too much rich information in this window of the schema. But, if you want to pull them back in another meeting, it's pretty easy to generate a change report from the Wiki. Everything that's changed.

Paul S: Do we need to update the version of the schema if the semantic, if the meaning has changed? I'm assuming once they are voted in, any changes to element names or type definitions are change request. But in the documentation are we also going to apply that same thing? We'll need a new schema version number?

Matt L: I'm thinking it would take a pretty big change in meaning to make it need to redefine the schema.

Paul S: I'm thinking documentation, examples... anything inside the annotation does not generate a change to the schema version number. but, at each meeting we pull back in the appropriate pieces, maybe from the Wiki pull that back into the schema. So, that didn't really answer the question about how people feel about bringing this forward. Do we have any dissenters of the people who have studied this carefully? Or any dissenters at all as a general point?

Matt L: I'll bring up my point of dissension I've brought up on the boards lately. I do have a big concern about our schemas exposure to redefinition.

Paul S: That's not correct. You cannot redefine them.

Matt L: I tried, and I did. I was able to redefine Properties to redefine and extend to include five of my own fields and...

Gina: Using xs:redefine?

Matt L: Yes.

Gina: Did you steal the Properties namespace for your own.

Matt L: Absolutely.

Gina: Can't do that, the namespace is RETS property.

Matt L: That is the purpose of redefine, is to redefine an existing namespace.

Gina: You are not allowed to redefine RETS.

Paul S: But does it validate?

Matt L: As far as the consumer is concerned, it does properly validate. That was my problem. I'm overloading that namespace.

Gina: Well, you're hijacking that namespace. I mean, when it comes to these payloads, the namespace is RETS.org's property.

Matt L: You're right, but we don't have the keyword in there to block redefinitions. We don't have blocking extensions. So, as long as that's the case, if I have these five fields that I absolutely must have in Member, rather than screw up all my clients, I'm just going to redefine Member on my system. The client never knows the difference. And, the client validates, against OUR RETS namespace.

Paul S: But, it can't possibly validate in the code. You generate the code off the schema, how can that work if you've now got a new schema?

Matt L: Because my instance says that this is where that namespace goes.

Paul makes that point that any code generated off the official RETS schema will fail to validate against Matt's redefined schema.

Matt makes the point that the code would not be generated off the RETS schema but would come from the redefined schema provided by Matt to the consumer.

A compliance checking, checking against this, it would fail.

Gina: If somebody were to do what he's saying, I don't see how it could be compliant in any fashion.

Is there something in the spec to state that?

Paul S: Is there something we can do inside the schema itself to...

Gina: Yes, we can mark all this stuff as you cannot redefine. But, we'll have to go through every single one of them and do it. I was hoping we could rely on the honor system, and not have to do that. That nobody would try to take RETS.org namespace...What people do is take the namespace URI, and make it resolvable to the location of the official RETS schema which would alleviate some of this problem. People would go to the namespace, to the URI. Tools would resolve to the URI, which RETS would control by virtue of the fact that the schema living there is the standard.

Matt L: Well, what is defined in xs:redefine, the last entry wins. So, if my entry wins...

Gina: So, are you going to be able to POST it to RETS.org's website?

Matt L: No, I don't need to. If I'm hosting it locally I can configure it to use the local file on my machine.

Well, then you aren't compliant.

Matt L: I am, according to the standard right now, I am. The spec says I have to support Property.xsd, it does not say I have to support it without modification, and that was my complaint this past week.

We just have to add a little clause.

Gina: With the redefine users can extend the types, without it users can't extend any of the types with the any extensibility point.

Paul S: If we prohibit redefine, then we can't do the extends?

Gina: No, we can.

Gina: The way he achieved the extension, I'll let him say. But any of the complexTypes that we have, that have the any extensibility point cannot be extended.

Matt: Unless you redefine, or it's in the same namespace.

Gina: That's where we have namespace protection.

Paul S: And, we weren't going to do extensibility at every point.

Gina: That's correct. If we can stop the redefine, then I think we're fine on the extension part.

Paul S: So, we can add a keyword.

Gina: We cannot just do that though, we have to make it clear that the RETS namespaces are RETS property. The property of the standard, the property of the community.

Paul S: We're going to have to add a copyright to the top of the schemas.

Gina: But doesn't everybody agree that we need to make it clear regarding this namespace?

Matt L: That was my point on list, that I found because of that loophole.

Gina: So, the other thing is for the party that he wants to share with, to get his corrupted schema he has to give it to them. If the person you are sharing with goes to the namespace URI, they're not going to get your stuff. You have to send it to them and say "Use this instead".

Matt L: As long as it is referenced in the instance document, that is all the parser sees. Stylus studio didn't ask me if it was okay to redefine this.

Gina: No. But, I guess I'm trying to make the point that even if somebody does this and hijacks the RETS namespace, it's not going to mean that everybody in the whole world is suddenly hijacked, it would just be whoever he sent his version to.

Matt L: Right. This all goes back to the REIL experience and the ability still remains in the system to redefine locations into integers which from a data optimization standpoint makes perfect sense. But, from a predictability standpoint from the client, it doesn't. And, this loophole still provides them that facility. Making City an integer and a resource that they have to then go and query.

Colby: As Gregg mentioned, is there a document that accompanies the schemas that could have statements in it as to how the schemas may be used?

Paul S: There is the Service Document.

Colby: The big question is that if it's not in the actual schema itself, where compliance rules live?

Gina: Actually, there is a schema document on the schemas and their development that's separate from the Service Document.

Paul S: It hasn't been updated in a long, long time.

Gina: Yes, but that could be where it is. And, if we've already discussed having this exist in its own sphere then a document that goes along with it that points this out.

Matt L: What's the apprehension with prohibiting redefinition? It's adding one property to the top of the schemas, I mean that's really the only labor.

Gina: It's more or less, it shouldn't be necessary assuming everybody understands a standard is a standard.

Matt L: I completely agree. My three suggestions this week. 1. We block redefinition. 2. We add to the standard that the schemas have to be returned in an unmodified form. Right now, it just says those schemas have to be returned.

Paul S: It says that you've got to support Properties.xsd, Listings.xsd. It doesn't say what that support means. You have to have a resource, and an output format that's Properties.xsd.

Gina: One of the reasons, was because I wanted to make it clear to the community as a point of law. We can do both, I have no issue with doing both. Doing just a redefine portion, without doing both would be a mistake.

Paul S: Sounds like we have two things we need to do.

Gina: Three things: Update the documentation that partners with the schemas to clarify this point.

Paul S: So, we're clarifying the Service Document.

Gina: That's the third.

Paul S: We're adding to the RETS Schema document.

Matt L: As a part of compliance testing, the servers must return the standard payloads.

Gina: We talked about that at the last meeting, about validation against the standard schemas. We need to discuss ensuring that is in the compliance testing.

Paul S: So, it sounds like we do need to come up with a change request to the Service Document, to add this information. Which, obviously is not going to happen tomorrow. So, for December that's a task to bring it forward. So, if we were to block redefinition in the schema, using the keywords are there other things that people are uncomfortable with bringing this forward for a vote? Does this group recommend that we adopt those?

There was a motion and a second from the floor.

Paul S: Anyone opposed to that.

Nobody spoke.

Paul S: So, tomorrow afternoon, at the end of the day we will bring these forward with the recommendation that the group.

Bob: Actually Paul, with the work we've been doing, I've been focusing on Listing and Property. Two weeks from now, if we find some small problems or some things missing we're not locked out. If we take a vote, how locked down will this thing be?

Paul S: It's going to be locked down until the next meeting, officially. At which point we would bring a Change Proposal forward to say "Here are some things that need to be changed". We'd roll them up into one. The Working Group of schema would say, we adopt these or bring these to the group as a whole, or however Governance boils down in the final analysis of how voting happens and then assuming that the Workgroup says "Yes", then we bring it to the group as a whole and say "The schema group says we should adopt this", and hopefully everyone will go "Perfect".

Gregg: I think by adopting it, we should go into this knowing that we're going to find some things. But, I know of a lot of folks out there not going to do anything with it until it is been adopted. I think there will be more activity in the community to see if it's going to work.

Paul S: This group will be giving us the remit to add the redefine, and the billing code container, and the eligible roles...

Bob: You've mentioned that you don't want any security information in there, right now I'm looking at Members. If I want to know what kind of privileges they have to access an MLS, is that information specific to Member? Because right now I can't find it.

Paul S: No.

Bob: Is it meant not to be there?

Paul S: Right now, it's meant not to be there. Are you suggesting that it should be there?

Bob: No.

Paul S: So, I'm hoping that maybe the question leads you to think about it, and you come back and say maybe it should be.

Bob: Well, it is a pretty important feature. Whether that's where it belongs or not, everyone's got to contend with that.

Paul S: I would offer the counter case, the schema, we're not talking about the Data Dictionary or the Vocabulary. The schema that we are talking about are, "Here is your information back to you". Business rules then, are not in scope with this. So, Sergio's point is that we need a way to communicate to requesting applications, "Here's what you can ask me for. And, if you ask me for other stuff I'm just going to tell you no." So, to me, for writing a client, I want to know that information because I want my user experience to be good. But we're really defining, you made the request and the security around that request is appropriate and here's what the system is returning. It may or may not be encrypted, which is outside the scope because that is a part of the XML Security description itself. It may have fields that are suppressed because you don't have the role that permits you to see this.

Bob: And really, that is the key. The users are going to have access to certain fields because of their role. That aspect is not in the standard.

Gina: Not in the payloads.

Paul S: Not in the payloads. And, so we still have to address Matt's very good case, where I have multiple applications some of which are IDX and some of which are Broker back end and I want to get the data once. I want to pass the appropriate information to the Broker side, and I want to pass the appropriate information to the IDX side. How do I do that? So we still have that to address inside of the schema. And the way to do that may be with the IDX schemas, the Vocabulary, and Metadata schemas so that's for another discussion. In scope, but not this particular one. I know you're not too keen about them, but I think we can address those concerns of yours as we go. And particularly if we revisit the query language. The Vocabulary may change as a result of this.

Paul Stusiak adjourned the meeting until September 12.

## 10:45 – 12:15 Track 2 - Security - SAML Reference Implementation

Presenter: Paul Hethmon, Clareity Security

Paul presented a prepared presentation with slides. His presentation covers concepts Security Assertion Markup Language or SAML Reference Implementation. The audience for this presentation is for Software Vendors developers using the proposed SAML reference implementation.

Please refer to his slides for information regarding presentation.

The projector was not set up to show the SAML XML slides.

Paul instead showed his Acme MLS web site for this demonstration.

SAML use of Digital Signatures are W3C standard.

Time synchronization is important. If your server and client are not synchronized, then you may need to extend the authentication timeout to cover your out of time synchronized clients. Running NTP client is important. If your system has server and client time synchronized then you can configure the Toolkit for a short authentication timeout. Currently the demo is set for 5 minutes authentication timeout.

Paul has been working with Google Apps. Google Apps supports Single Sign On. But it does not support SAML 100%. Google doesn't use or support milliseconds in timestamps. This time granularity is allowed in the SAML specs. Then SSO with Google Apps then worked.

SSO between your organization and an external site. The framework of mutual understanding of what are the levels of security and protocols to use and how.

Matt, Clareity has legal agreements under review to allow release of documents. Code will be distributed once these agreements has been finalized.

Questions and Answers Section

Question: If we gave the average developer here in this room a RETS specs and ask them would it work with somebody else's RETS server without CRT doing compliance checking the answer would probably be no. So we have to go through our compliance checks that passes the colon. SAML is just the same. SAML and Google are the same, they have not gone through a certification process.

Answer: Liberty has gone through a certification process. They appear to be a subset of what they can do with SAML. Our intention with the SAML Reference Implementation is to go down closer to the same level as Liberty. If we take this SAML Reference Implementation toolkit to a certification process is in the order of about \$25,000 or something like that. It would be up to Mark Lesswing and the folks at NAR to whether or not we should do this.

Peter: It occurs to me that it is cheap compared to having 17 people has 17 difference colon schemas.

Matt Cohen: Clareity Security Started a SSO process around 2 years ago. Clareity polled all of the MLS vendors, a few Transaction Manager vendors, franchises, CREA, a few others. This reference implementation was started to avoid have too many colon schemas. We all agreed that SAML was the best way to go. They got together to decided on a SAML Reference Implementation. At this time a SAML certified application does not guarantee interoperability.

OASIS is the standard body that produces SAML specification does not have a certification process. Liberty Alliance does have a certification process and is detail at there website.

This SAML Reference Implementation toolkit is freely available via RETS SVN repository. The code is licensed under CRT. The license agreement basically says to, do what you want but give credit where credit is due.

CRT has put up a website to help you understand which part of SAML to use and why. The people who wrote the SAML standards did not provide enough conceptual information. You need to play with SAML for a year to understand it.

Question: Does SAML have federated support?

Answer: Yes, SAML has federated provisioning.

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Question: When will the C# and .NET implementation be release?

Answer: C# libraries are late. Maybe January 2008.

## **1:15 – 2:45 Track 1 - Compliance Testing and Plug-fest**

## **3:00 – 4:30 Track 1 - Compliance Testing and Plug-fest (Continued)**

No Minutes available.

## **1:15 – 2:45 Track 2 - New to RETS**

Presenters: Kristen Carr, Regional MLS Florida and Dave Harris, Director of IT FMLS in Atlanta

Kristen Carr and Dave Harris presented an informative, non technical, interactive introduction to what is RETS and what it means. This session was well attended by a large gathering of people from MLS' Brokers, Attorney, Consultants, anyone else interested in RETS.

A slide show presentation was presented to the audience. Please refer to their presentation slides for this agenda.

### ***Synopsis***

NAR has many tools available from RETS clients, servers to toolkits and for developers on its website , [rets.org](http://rets.org).

RETS allows MLS data to be pulled from a RETS servers whenever these servers are available. The current data is available upon a RETS Client request. This is unlike FTP feeds which data files must be prepared in advance and data will be old once downloaded. This is especially true during a busy marketplace.

With RETS allows data pulls with concise information or lots of information. It all depends on what a RETS client is interested in retrieving from a RETS server.

RETS used to have a stigma that RETS data was not trustworthy. This was true in the early days of RETS when RETS was an after thought. Now the focus has shifted from FTP to RETS for MLS data delivery. There are more RETS servers available and MLS that have implemented RETS have put more attention to keeping data for RETS up to data.

How far do the MLS need to far behind before the MLS becomes irrelevant? Currently the MLS is center of the Listing data. But currently, consumers are looking at other sources for MLS information like Shopzilla, Craig's List, and eBay, and other sources. A consumer has an impression about a Listing from these other non-MLS sources but may not understand why the information is not correct when discussing a property with a Real Estate Agent. RETS can help MLS by controlling MLS data quality and retrieval.

RETS is a viable and readily available portable option that allows the MLS to maintain as a value add participant in their marketplace. With a big "If", only if everyone in this room drives RETS. There are talks within the community that RETS needs to work on Standard Names, making consistent definition of terms for all MLS' to use. The MLS business cases drives the progress of RETS.

RETS Marketing is interested in writing information to help convince IDX providers to move to RETS.

## 3:00 – 4:30 Track 2 - Implementation Forum

Presenters: Kristen Carr, Regional MLS Florida and Dave Harris, Director of IT FMLS in Atlanta

Kristen and Dave presented an open discussion about experiences adopting RETS.

Greg Petch of MRIS shared his experiences with adopting RETS. Here are his following points:

How to implement and convince MLS end-users to use RETS.

Migration path for FTP users to RETS by putting RETS formatted data into the FTP data to allow FTP users to become more familiar with RETS data format.

Implement a RETS server. Make available RETS testing servers.

Provide RETS information packages.

Implement monitoring infrastructure for bad code.

Give 30 day notice of pending changes to be release.

MRIS let their community migrate to RETS when they want.

They developed a RETS client to allow smaller brokers to access a MRIS RETS server.

3 years to fully deploy and implement RETS.

It was an easy sell for MRIS customer to switch to RETS because RETS will give them on demand current information instead of once a day FTP feeds. Eventually, FTP usage became small enough to schedule a FTP phase out time line.

Now MRIS customers are happy using RETS.

MRIS has 60,000 customers and 200 of those are RETS clients. MRIS has one person who spends 4 hours a day for RETS support. This includes direct customer support and technical.

### ***Question and Answer***

Are MRIS customers happier using RETS? Absolutely, customer like that they can get data continually. This was an easy sell.

Does MRIS have ability to serve statically information in RETS? To help reduce the number of queries then have the brokers process the data for mean and averages other common type of statistical MLS information, MRIS constructed these aggregate functions as extensions into MRIS RETS server.

A MLS had the following experience. All the large broker don't trust the RETS. The brokers routinely download complete active listings because the broker's process do not understand, if during a real-time RETS query for changed listings, a listing is missing the broker think that Listing is missing. His MLS then works with the brokers to correct their processes understand how real-time systems behave.

FTP feed management causes scalability and storage issues. Fortunately, NAR and CRT has a lot of RETS tools and resources available. MLS who adopt RETS become trainers to brokers software developers on how to use RETS. The MLS software developer becomes mentors to third-party RETS developers to help them understand and assistance. FTP process change break too easily by simply changing a field. RETS process is faster and uses less system management than FTP feeds.

It is possible to have the RETS clients or end-users to pay for the unusual amount of system resources to support them. Simply because the MLS customers are acquiring MLS data for the purpose of making money.

With the RETS tools from CRT someone can use them in developing a new RETS client in a newer computer technology like Ruby. This shows that quality of tools has improved over the last few years. But the information on how to use RETS is lacking. A suggestion is have an information package available includes a sample of best practises.

What are the questions to ask about RETS? Now that I understand what to ask, what should a RETS vendor provide? Not all MLS' have the answer nor the support resources to address all RETS questions and concerns.

How can we help those MLS' who are afraid to switch to RETS because of losing control of how their data is being used? There tools that may help MLS protect their data in the RETS Exhibition Forum.

## ***Follow-up Tasks***

Prepare a Template or "RETS-In-A-Box" concept documents. This may contain samples of:

- Service Agreements
- How to move from FTP to RETS
- How an user connects to an MLS using RETS
- A RETS vendor's system requirements
- Migration paths
- Sample RETS server pull request like hourly query.
- And maybe others. This is not the final list.

The following people are assigned to participating in this activity and preparing these documents. This activity is open to for anyone wanting to participate:

- Kristen Carr
- David Harris
- Mary Francis
- Colon
- Matt Cohen
- Dan Woolley
- Steven ?

A target draft is planned to for the December 2007 RETS Meeting.

## **4:30 – 5:30 RETS Exhibition**

Presenter: Mark Scheel, eNeighbourhoods

Mark provided an overview of the exhibition that provides a showcase for RETS application from talented programmers and RETS Vendors. This exhibition revisited several previous winners and one new application.

### ***Rapattoni RETS 1.5 Metadata Manager***

Joshua Vosper from Rapattoni Corporation gave a presentation of the RETS 1.5 Metadata Manager originally presented at the RETS Conference in 2005 in New Orleans. The purpose of product is to provide access control on specific RETS fields through the use of Metadata Profiles on a per user basis. The results is control the information that an account is allow to access.

This was the winning presentation at the RETS Conference at New Orleans in 2005.

### ***RETS Proxy***

Peter Williams from Rappitioni Corporation gave a presentation of a RETS Proxy application to connect to a RETS server for a RETS Client. This proxy code was written by Keith Gardner and done matter of hours. This proxy uses a Clareity Security's SAML Single Signon Reference Implementation.

Please contact Peter Williams for more information about this RETS Proxy demonstration.

### ***RETS iQ Data Manager Proxy***

Dave Harris of FMLS demonstrates another usage for a RETS Proxy concept as FMLS developed RETS iQ Data Manager Proxy product. It is a product that manages RET client connection, and records RETS client connection activity. Through this tool you can get a summary report on per user, how many connections and and total connection time. The tool can drill down to a particular RETS client activity request to view what they submit for the purpose of technical support. This tool also filters RETS data elements by RETS user.

Please contact Dave Harris for more information about this product.

### ***MarketLinx RETS Connector***

Libor Viktorin of MarketLinx will be demonstrating MarketLinx's RETS Connector which is another RETS Client which focus' on RETS Searches and simplifies downloading. RETS Connector allows you to define each RETS Server as a profile entry. You can use this tool to retrieve a RETS Server's Metadata and cache it. It separates and cache's each RETS client response. This is a Microsoft Windows base application that allows an RETS user to schedule a RETS bulk download. This provides a familiar Broker IDX downloading process through RETS.

Please contact Libor Viktorin for more information about RETS Connector.

### ***Exhibition Winner***

Normally we a have a vote. This time we have only one new entry so Peter Williams wins.

## Thursday, August 9th

### 8:30 – 8:45 Opening Remarks and Agenda Review

Presenter: Paul Stusiak

Paul provided a recap of the sessions from yesterday.

Announce today and tomorrow agenda.

The last 4 month we have been holding in person meetings, 3 of them, in various location to discuss RETS schemas with really good process. There have been conference calls thus generating documents.

RETS 1 WG has been having weekly teleconference calls and have generated documents and will continue the good work that they have been doing. They will provide a recommendation later today.

The update group has had weekly teleconference meetings and have posted a couple of proposals for the next meeting. They do have a recommendation ready.

Finally the Governance group has completed a proposed Governance model that we will talk about.

And the non-technical group, which is Kristen and David, prepared their presentation, New To RETS yesterday and was well attended. So pressure is on to continue this successful session.

The next 4 months we plan to do the following:

- Continue with the in-person meetings for the MLS Schema. Mainly this will focus on Listings, Properties and Media. The goal which may not be realistic is to bring these to a vote at the end of November 2007 in Las Vegas or the next RETS meeting.
- Governance group will be producing more documentation to go along with a proposal to answer some questions.
- Technical review group and bring forward proposals.
- Create a query language group to represents a query and create an instance document in a RETS 2.

## **8:45 – 10:15      Governance Workgroup Report**

Presenter: Mark Lesswing, CTO of NAR

Mark Lesswing gave background information for the reasons to put together a governance structure in place. NAR wants to put help to build an industry RETS standard not a NAR controlled one. I'm pushing hard in the April 2007 RETS meeting to get a governance working group together. We are pushing a big event in Miami, Florida. When we are in Miami we would to have more Broker community involvement than they current are at this time. But one of the problems of having a larger group is handling change from a larger community. Having Governance body in place to help structure change.

Recently the Governance Working Group has released a Governance Document for this group to review. We have search from a Governance review not to long ago how other industries handle Standards and get that all together in a committee. Then Mark had to get the RETS Governance Working Group document through NAR regulations for NAR approval. Anyone familiar how hard it is to get something through NAR in under 10 minutes knows it's really difficult. But a document was put out there ahead of this August 2007 RETS Meeting. Now most people saw this document for the first time here.

Mark Lesswing open the floor for discussions on the following topics related to the RETS Governance Working Group's Governance Document. The following headings describe the topics discussed and the text body summarizes the discussion on that topic.

### ***NAR Wants to Select the RESO EO***

Steve Verba: Until this entity is self-funding NAR is currently providing a majority of the RETS initiative funding. Therefore NAR should be allowed to select the RESO EO. This RESO group can select its own EO when it financially self-sufficient and operating on its own.

Mark Lesswing concurred with Steve rationale for having NAR select the RESO EO. Mark added that is NAR currently funds RETS at the annual cost of \$350,000. NAR intention is to back out of this cost by at least half. Until then NAR wants to select the RESO EO.

Another comment: Beyond the \$350,000 obviously those who show up at these meetings...eat the cost associated with that and gladly do so. I kinda look at the extra \$500, per ill-defined member, as a Tax for the contribution to be part of this effort that we are making. I don't see this ever being self-supporting entity.

Mark understands the financial demands that everyone bears when they attend these meetings. The previous commenter agrees to accept NAR to select the RESO EO.

Another comment: It would be nice if there was some voice at the board level in that hire. The community has to work with that person and engage with that person and they should feel comfortable with that choice and if they don't have a voice then it would be difficult to feel comfortable. While I respect the the funds that NAR contributes the value into the entity is the Intellectual Property (IP) coming from the community. While that \$350,000 is a lot of money it pales in comparison in the amount of IP that is being contributed by all of the participants under this process. Which is worth millions of dollars. So it is NAR's responsibility to create this opportunity for everybody. I think if we can have some provisions like the board has a voice in that decision so that NAR can go back and have an oversight on that decision. That'll be helpful ensuring that the person chosen is a true leader that the community will respect.

Greg Larson says that Mike makes a good point, obviously someone has to make a final decision I think that should be NAR. Setting up a board or selection committee with standards experience to select the EO. Then NAR can choose the EO from the list of candidates. Then this will be a group decision.

Mark added that perhaps that board is the selection committee for selecting the EO.

### ***Proposed Participant Fee***

Mark invited comments about the \$500 participant fee. Should this fee be higher, or lower. Can some members contribute more than the \$500 fee?

Comment: I don't have a position on this fee but do you have a target amount to raise.

Mark L: 50% is the target. Then NAR can back out and then more control is turned over to RESO. As a suggestion fund could be raise through sponsorships of events like this.

If Brokers were more involved then Brokers may release more funds to support RETS.

### ***Is The Governance Model A Failure Or A Success?***

Mark L: Received an email about this governance model. The email comments were, this governance document is going to be either a dismal failure or a wild success. The question raise is why not continue the current governance model.

One person thought this would be a success.

Many commented that a Governance model should be place to guide and manage RETS.

Many comments did not address Mark Lesswing's original question clearly or directly.

Discussions began to lead away from discussing the RETS Governance Working Group Document and discuss how to bring Brokers, and MLS involved. Quick suggestions to fund this RETS Initiative.

Greg Petch said that this meeting was starting to move from the topic of governance to how to get the broker involved.

Joshu Vosper proposed to change this meeting's agenda to move from an open discussion format to focus on reviewing the RETS Governance Working Group Document.

### ***RETS Working Group Governance Document***

The meeting turned to review the proposed Governance document.

Points were clarified to people's questions.

Mark Lesswing presented a slide of the proposed RETS Governance Organization model.

Shares could be offered to purchase to eligible voters on an annual basis. This can cover each year RETS funding requirements. But shareholders would add another of stakeholder complexity. There should be one shareholder, NAR.

Consider Sun Microsystems Java Community Process by that Sun's elects half of the board and the community elects the other half. This may Sun's maintains controls. The RETS board could be composed this way.

Mike Wurzer says that the shareholder elects the board and the board elects the EO. Then issues of stakeholders goes away.

The scheduled meeting was drawing to end of its time slot. Mark Lesswing stated that the current RETS Governance Working Group would be disbanded today. He proposed that we have the RETS Governance Working Group continue its work on this Governance Model continue after today, to address any issues in the model.

### ***Adopting the RETS Governance Working Group's Document***

Motion to vote on adopting the RETS Governance Working Group document. Steve Clarke second this motion.

Mark Lesswing opened the floor to discussion this motion. His suggestion is to keep a working body to keep this work going.

Paul Hethmon does not think this document is ready for voting and suggests postponing voting. By updating the document with comments prior to voting.

Ted proposes the following amendment, to postpone the vote on this document and create a group to allow governance to continue in the next 90 days. This motion is not withdrawn so the motion cannot be amended.

Steve Clarke moves to amend the original motion of voting on the document now and the current RETS Governance Working Group continue to serve until the permanent elected board is seated. Shaun seconds it.

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Discussion on the amendment for keeping the RETS Governance Working Group remains until the elected board is seated.

A motion was table to move voting on this document to tomorrow as the first item on Friday, August 10, 2007 agenda. Shawn 2nd it.

Only one person will not be able to participating voting tomorrow morning.

Steve Clarke to moves to continue this discussion at the end of today.

There was no more discussion on the amendment to look at 3 things and delay the voting to this afternoon. Clearly, the group accepts waiting to the end of the day. Vote carries

The session broke and will return after a 15 minute recess.

## **10:15 to 12 noon Governance Workgroup Report - Continuation**

Presenter: Mark Lesswing

Dave Harris move a motion to continue discussion of the Governance Workgroup Report. This was seconded by Steve Clarke. Motion carried.

Motion to waive the 2 weeks period to vote on the governance report was tabled. Now this motion is open for discussion.

Mark Lesswing called a vote for a motioned to waive the 2 weeks period to vote on the governance report. Motion carried by majority vote.

?: Motion for the The Governance committee stays in effect until the elected board is slated. Sergio Del Rio 2nds this motion. Mark Lesswing calls this motion to a vote. Voting carries this motion.

Shawn makes the motion to vote the Governance report as-is, with the Governance committee in place to make further changes. This motion is 2nd by Steve Clarke. Mark Lesswing opens the floor to discuss this motion.

Matt McGuire submits amendment the current motion to accept the document in principle and process beginning when the official board is in place the legal IPR clause is suspended. Stuart Schussler 2nds this motion. Mark Lesswing opens the floor for discussing this amendment.

Matt McGuire withdraws his amendment of accepting the document in principle and process beginning when the official board is in place the legal IPR clause is suspended. This amendment is struck down.

Mark Lesswing calls for a vote of 2/3 majority margin for the current motion of accepting the RETS Governance Document. By a show of hands, for 63, against 7. Motion carries the RETS Governance document has been accepted.

Mark Lesswing opens the floor to discuss Governance document changes.

Steve Clarke tabled a motion to have a mechanism charge the Governance group with immediate work for putting together a process of nomination so that the Governance group can begin the process as soon as possible.

Mark Lesswing: We do have a motion for electronic voting. Chris McKeever can go and buy something to have electronic voting in place. The Governance group to have an electronic nominating mechanism in place by September 1, 2007 for Governance board election in Miami, Florida. Mark Lesswing calls for a vote on this motion. Motion carries.

Session adjourned at 11:45am.

## **10:30 - 12:00 Track 1 - Transaction Management Schema Workgroup**

Please refer to accompanying pdf entitled Transaction Management Schema

## **10:30 - 12:00 Track 2 - Update Workgroup**

Cancelled

## **1:00 – 2:30 All - Marketing Forum**

Presenter: Greg Larson and Matt Cohen of Clarity Consulting.

Greg Larson opened this session agenda:

- Update on past marketing activities
- Marketing discussion and brainstorming on improving the awareness of RETS
- RETS Web site updates

## ***Past Marketing Activities***

Greg Larson provided an updated on recent comments about RETS and some interesting uses of RETS.

## ***Improving RETS Awareness***

The following suggestion to help improve RETS awareness:

- White paper to explain why the Real Estate industry is going to RETS. This can be given to the MLS then given to their members.
- Welcome to RETS guide.
- Develop these documentations in teams that are focus to their target audience.
- Paula O'Brian suggested to create a RETS Kiosks for NAR trade shows and other industry events. Also put this Kiosk at an association office.
- Have 10 minutes RETS session at association and MLS board.
- Write ups in newsletters and magazine.
- Have people write up a short testimonial what value RETS provides.
- Introduce RETS format into FTP feed download.
- Some Brokers like RETS can allow pulling MLS data more frequency than FTP feeds. This is an easy selling point.
- Carlos discussed RETS support for Transaction Management is missing. Filling this may increase RETS adoption.

Kristen Carr: Keep the RETS business and RETS specs separate. Have an implementation guidelines. Produce these white paper from teams.

Gary Larson: The Marketing group and the non-technical groups would be in charge to get these documents out.

These are suggestions to look at for the next 90 days.

## **RETS Website**

Presented by: Chris McKeever

Presenter: Chris McKeever, CRT

Chris reviewed the new RETS.org Website Changes.

Is there any objection to using Google groups?

The RETS non-technical does that currently.

Google groups are indexed once a week by Google.

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More granularity for the RETS groups. Currently everything is funneled through rets-dev mailing list.

Are there plans to put his work on RETS.org? There plans over the next couple weeks to post the payload. Add commendable documents like the Governance document to allow people to comment paragraph and lines.

The front page has RSS feed.

Need to add a Marketing Workgroup site.

Question: Who has ultimate control over this website?

Answer: There are 6 people who have control.

The RETS.org website is owned by NAR, and hosted on NAR servers. RETS and the community benefits.

Session was adjourned by 2:30pm.

## **2:45 – 4:15 All - Perspectives on RETS**

Presenters: Steve Verba, Oracle; John Cirincione, Appraisal Institute; Kevin McQueen, Focus Forward Consulting

Steve Verba: Introduced himself. There are a group of related standards MISMO, OSCRE, PISCES, with an agreement to keep information flowing between those groups. The area of RETS and MISMO crossing over is with the property data.

MISMO has a REPI group who works on these standards. This group is made up of those in the industry interested in data interchange. John Cirincione of the Appraisal Institute serves as the co-chair of this group in MISMO. John is going to share observations and experience on these. To see how the appraiser and REPI perceive the work with RETS. There is a tentative idea to have another summit with these groups to try and bridge the gaps between us.

Alonzo and Ernie are here with John. They are here to discuss the needs of the appraiser for RETS. Mortgage business is big business. The central item is the Fannie Mae form. The data from the MLS is required. But, he has to rekey the data into the form. There are about 15 fields from an MLS data sheet that are key and must be put into a report to do the job of appraising a property.

Alonzo makes the form software for about 60% of the appraisers in the country. They would like to see a button click, and populate the forms for comparable properties. There are time constraints, making it even more valuable to get this data in a timely fashion and to minimize time wasted.

Ernie Durbin provides tools for statistical analysis with data on what is currently on the market. RETS interfaces give them the ability to generate that analysis with the click of a button.

The idea is to have a workgroup that looks at the RETS schema and the needs of MISMO and sees how to map between the two. It may be ideal to agree on a model, or possibly to provide transforms to go between them.

Kevin McQueen has been looking to help MLS with the consolidation and regionalization that has been happening across the country. Similar to the California effort, an effort has been underway with Wisconsin to share data. Competing MLS's had agreed in principle that they would share data. Kevin sat them down to discuss what fields they would be willing to share. Brokers wanted it all, MLS's worked with them to determine what would be shared. They are putting a repository in place, looking for a server solution with a front end needed. They looked at some vendors and chose one. It turned out that mapping was hard, but the data rules were not hard. The brokers are very excited about.

He has begun working with New York to try and do the same thing.

## **2:45 – 4:15 All - RETS2 MLS Schema Catch-up Review**

Presenter: Paul Stusiak

Paul presented a few Powerpoint slides for this session.

Comments,

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Chris McKeever: Schema as RETS 2. Schemas are not tied to the RETS 2 transport. Let's call it the Data Representation of a model property.

Chris McKeever: RETS RECORD Real Estate Commons Dataset.

We can use them to add to RETS 1.x server. This would provide a migration path from RETS 1.x to RETS 2.x. Otherwise tying it to RETS 2 would make it to large of change for MLS vendors.

Steve Clarke: It looks like the RETS Schema (RECORD) decouple from the RETS 2 transport is a good idea. With looser data typing.

Paul Stusiak: Address node level select ability. Suggest for another workgroup to revisit the query language.

Paul Stusiak: Introduce more participation by using WebX to hold meetings.

Matt McGuire: Where is the resource stored?

Paul Stusiak: Available on RETS.org

Is the change request visible?

Paul Stusiak: no it is an internal system.

Paul Stusiak: There's tool called, XNSDoc that produces a javadoc like output. Hyper Model, this is a model tool that produces UML like schema. This is a free plugin for Eclipse IDE.

## **4:15 - 5:30 General Session**

Presenter: Paul Stusiak

## **Working Groups Reports**

### ***MLS Schema Review***

Matt McGuire: Where can I get the most recent schemas for review? Where is the Schema Comment Tool?

Paul S: It is available from the rets.org Payloads Workgroup. There are also reports for changes published after the meetings, and an xnsdoc view. Also, a hyper model to show the relational representation UML diagram. This UML diagram looks an awful lot like the object model diagram produced in 2003.

Mark Suchy: Transaction group wants to work more closely with the MLS group on these payloads.

Paul S: Yes, from the Transaction Group a desire to remove the artificial separation between the two should be removed.

This will be discussed again later.

We have a guest from the appraisal institute to speak.

### ***RETS 1 Technical Review Workgroup***

Stuart Schuessler

Status update: Went over the 1.x specification with a fine toothed comb. With the last meeting, it was opened up to return to work on RETS 1.x. Upon evaluation, they would like to put forward a motion to open RETS 1.8 for change proposals. To put all their change proposals plus Sergio's Update, Libor's Upload Photo, and changes brought forward by the working group to clarify certain aspects that were interpreted by different vendors in different ways.

### ***RETS Update Workgroup***

Sergio Del Rio

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Status update: They meet every Thursday from 11:00 - 12:00 PDT. They are using gotomeeting. The group has become small because some, who shall remain nameless have dropped off support. They are down to 2 - 3 people regularly participating. Would like to invite those interested to participate and help.

The minutes are added to the website after the meetings, Paula is working with them.

Their charter is to review RETS1.x and make it work better for update. After that, would like to integrate with the RETS2 effort. Also, included is an effort to provide presentation metadata and for regionalization.

Steve Verba asked Sergio to look at the research done by MISMO on the rules. He agreed.

There is still lots of work to be done. The group will not bring anything forward until the whole group agrees.

Bob Gottesman asked if there will be consistency with the RETS2 side. Sergio indicated that they are working on a RETS2 solution also.

## ***Business Track Workgroup***

David Harris, Kristen Carr

There are many who need to participate in and benefit from RETS who are not technical. The goal of the Workgroup was to speak to the needs of the business community.

Create a complete track of non-technical topics to try and resolve business problems and to educate those who are not technical. They put together a presentation and delivered it at the "New To RETS" yesterday. There was an amazing turnout, and most were first timers. The idea is to encourage them to make their voices heard to ensure RETS continues to meet the business needs of the community. Everyone new was from the MLS's. They came because Greg Larson sent them an email. Most people said they would come back when asked.

The idea was to try and get the business community to drive the technical side. There is a great partnership between the Business Track and the Marketing group to do outreach to those who could use RETS but are not very technical. Would like to provide documents Matt Coen and Mary Francis put a lot of work into them. These documents are educational in nature.

There is an email list, like the rets-dev group. It is a private Google group. There is an area to share documents. Kristen invited anyone who can participate and contribute to do so. Dave indicated that the best thing you could do to help would be to write up your thoughts on what RETS does for you, or anything that would help you implement RETS. The 2- 3 sentences on what you think is the benefit of RETS is due by next week. This could help educate others. They are putting together a survey.

## ***Wrap Up***

Presenter: Paul Stusiak

There are at least four proposals on the floor to bring to the group.

1. There is a recommendation to reopen RETS1 for revision.
2. There is a recommendation to combine the TM and MLS schema groups.
3. Recommend determining the MLS Schema group to separate from the RETS2 efforts.
4. Adopt the Members, Teams, Offices, Participants and Person schema.

Stuart: Make a motion to reopen the RETS 1.7 specification, and begin accepting change proposals. Changes will be incorporated into a version 1.8.

Sergio: Second

Vote taken, carried unanimously.

Matt Lavallee: Make a motion to join the MLS and TM Schema Workgroups into one.

Carlos: Second

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Vote taken, carried unanimously.

Matt Lavalley: Make a motion to rename RETS2 Schema to RETS Schema.

Carlos: Second

Jeff Brush: Are they coupled?

Paul S: The RETS2 Service Document has requirements in it related to Payloads.

Jeff Brush: There should be a Compliance document, or some separate document with that in it.

Stuart: Does this mean the RETS 1.x Workgroup could look at the Payloads for 1.x? Move in the direction of supporting payloads.

Paul S: Yes.

Paul S: The group could bring forward a suggested name, the goal is to remove the RETS2 from the name.

Vote taken, carries unanimously.

Rob Larson: Make motion Body as a whole adopt the Person, Participants, Members, Offices, Teams schema with any changes made required as a change proposal.

Joshua Vosper: Second

Steve Clarke: Will those rets-ids be included?

Paul S: Yes

Vote taken, carries unanimously.

Where will we be meeting in December?

Matthew McGuire: Moved that we meet in Miami.

Stuart: Moved we go to Orlando.

Mark Schiel: Seconded Miami

Mark L: It would be beneficial to meet in Miami as a support of the community.

Vladimir Sanchez: Seconded Orlando.

Mike W: Calls for a vote on Miami.

Vote taken, 3 opposed, motion carries.

Next meeting in Miami

Matt volunteered to take suggestions for Governance documents between 9:00 - 10:30 tomorrow.

Question came up: Has the latest version been uploaded yet?

Paul S: We'll get an email posted to rets-dev indicating that it has been posted.

Sergio: I would like to make a motion to abolish the two implementation rule for change proposals for RETS 1.7.

Paul S: We will take the issue of the two implementation rule back up for discussion tomorrow. It is time to wrap up today. Please come prepared to discuss this issue tomorrow morning first thing.

## Friday, August 10th

### 8:30 – 8:45 Opening Remarks and Agenda Review

Presenter: Paul Stusiak

Sergio: Make a motion to abolish the two implementation rule for change proposals delivered to the body by Workgroups.

Steve C: Second

Steve: There was a lot of movement yesterday to continue work on RETS 1. His perception was that the Governance Document process usage beginning immediately. That document doesn't have a two implementation rule. In his mind, we shouldn't need to abolish the rule because accepting the document does so.

Paul S: My understanding was the document was not in force until the seating of the board. Could someone from the Governance group speak?

Peter: Yesterday we began by enabling the nomination of members for the board by the December meeting.

Discussion ensued regarding exactly what the vote was about yesterday. Whether the acceptance of the document meant the rules were immediately in effect, or that the process to institute the document were all that was started.

Stuart: I would like to amend the motion

Each workgroup provide written minutes for each meeting.

Provide a monthly summary of work, along with change proposals.

Opinions: Majority, minority and chair opinions on the change proposals.

This is to provide the group with more warning about change proposals coming, and keep the group informed between time. Also to provide more detail on the opinion of the group about the work done.

Steve C: If we submit a change proposal that nobody has read, they can vote it down. We want to be able vote on it.

Sergio: From the update group's perspective, bringing forward a change proposal is what we thought we were doing. I would like to be able to submit the change proposals in December.

Libor: The RETS servers who implement update are represented. Requiring two implementations means we all have to do the work first.

Matt Lavallee: Couldn't we have a draft status (similar to the W3C) with an associated time period before it becomes part of the standard?

Steve V: In the past, changes were proposed that would impact other people's implementations, which is why the rule was instituted in the first place. Couldn't we use the reference implementation as a test ground.

Rob Larson: Why did the two implementation rule get instituted in the first place?

Steve C: There were change proposals that got voted in, and got voted back out again. Also, in our minds RETS 1 was coming to an end.

Jeff Brush: This is a standard. Putting it out there, and changing it next week isn't good. Whatever we put out there needs to be implementable. The only thing I can think of, was the client header change between 1.5 and 1.7. With the tools that were out there, it was too hard to do. Two implementations is a little hard, but the people who create the proposal have a bias to get it adopted. But, everyone else needs to be able to implement it without having to rewrite libraries.

Steve V: When we created that rule. You always got one for free, we would change the reference implementation. This way, the one bringing it forward could show that it could be done. Then the reference implementation would do it. The argument about shutting down 1 is not true. The same two implementation rule was applied to 2.0, it was not used to shut it down. Stopping work on the 1.x was done to focus on the development of the 2.0.

Ryan: I think we should at least one. I don't think we should be voting without having anything working.

Sergio: There are actually two implementations of update. We are looking at features to add to the standard that neither of us has implemented. Should we implement it and it not pass? I think if a working group brings something forward, it should be accepted. I also recall too many change proposals being brought forward.

Rob Larson: I like Matt's idea. If we have a draft status, we can put it out there for people to prove out before it becomes a standard is a good idea.

Matt Lavallee: If we remove the requirement, it is not necessarily fair to have people to bring forward an idea that we don't even know if it works, and be asked to adopt it not even knowing if it works or not is not fair.

Steve C: The work groups have put in a lot of time.

Paul S: Do you expect that you will have one implementation before December, PostObject. But the bigger one, update, nobody will put effort in until we know it will be approved.

Matt McGuire: Chicken and the egg situation. Both are valid. A business point and a technical point. The only compromise I can see is the one proof of concept. At least we can see if it will work then.

Ed: I can envision a standards process that takes the volume of work done on update, and say yes this has merit as a part of the standard. Let's do a proof of concept, and then take it in as part of the standard. I read the PostObject, I think you should continue work on it.

Mark L: I have a question about the UID and ID in GetObject itself. If you proved it to work with GetObject.

Sergio: Yes, they will be done.

Mark L: So that's one implementation.

Steve C: But there is also PostObject.

Mark L: So, therefore we have three ways to update?

Paul S: No. They are bringing them together.

Vladimir: Certification process of the implementation. The disagreement seems to be in how it gets into the spec. Other standards bodies have a process, such as suggested by Matt. There is an RFC period, if it works and doesn't break it will be drafted and move to the next phase. If we don't have a process like that, we will go in circles. This is more democratic, and encourage collaboration. If the wheel is invented you should use it.

Jeff: What if we have a workgroup to come up with a way to vet proposals instead of discussing it here.

Paul S: That's a good idea to have them bring it forward to the governance group.

Mark: Can we see who

Andrew: Make an amendment, that we suspend the two implementation rule with the notion that it will go into a draft mode.

Steve C: Second.

Rob Larson: Draft period is fine, but ok. A two implementation rule also proves there is some interest out there. If there is a standard out there only used by one person is there a reason for it to be out there with just a single use?

Steve C: We are talking about changing governance, I just want to remind everyone the new document does not have a two implementation rule. Also, people should be engaged and paying attention to change proposals and vote them down if they are not ready. We should be voting against them if they need it. I think the voting process provides enough checks and balances without anything more.

Libor: Wants to address the single implementation question.

Mark: At one point it was all done in the standards body as a whole. Now we have committees who work on this stuff.

Mark L: We should have an RFC period, vetted by the body before we vote on the change proposal as a body.

Paul S: We abolish the two implementation rule for change proposals brought forward by workgroups and replace it with a draft period.

Jeff B: I would prefer to have a clearer draft period. We need someone to define this.

Paul S: Let's vote the amendment and proposal and then talk about what the draft period looks like.

matt l: called for a vote on the amendment

37 pro, 1 opposed

Vote called for vote on the amended motion

Unanimously accepted.

Ryan: The Governance doc already says change proposals have to come from working groups.

Steve C: I don't think we can vote on those change proposals today. I think the limited response on who has read it means I would like to provide a short blurb on what each of them are for the group to see what they are.

Paul S: How does the group feel about formalizing what the workgroups are doing? This should address the situation we have now where everyone is not prepared.

Matt McGuire: I agree with what you are saying in principle, but I don't agree with the detail. There are two things: transparency and

Paul S: I was hoping the groups could follow these guidelines between now and December and see how it goes. This will provide them with some guidelines between now and then.

Peter S: I think this is a direction we are going in anyway. I think it makes a lot of sense. If there is an attempt to do so before we finalize it with governance, this will provide a learning period.

Mark L: The big mission is to get the nominations brought forward.

Steve: PostObject to submit images to a RETS server. We want to make the validation rule process more flexible by allowing the server to advertise business rule tokens to be used in the validation rule language. We want to be able to allow servers advertise how they are representing their dates and times. We want the server state how they are represented and adhere to that advertisement. How we deal with role based metadata versioning. The current standard indicates that versions are increasing, we want to change it to allow you to have two people logging in getting two different timestamped metadata due to their permissions.

Paul S: These will be voted on in the next meeting for sure. If you have input you need to be paying attention to the groups. Please, come to the next meeting prepared as a body.

## **8:45 – 10:15      Track 1 - Update Workgroup**

Presenter: Sergio Del Rio

Presented a review of the Update Workgroup Change proposal.

Due to time constraints there's time to review one of the following two items on this session's agenda:

- PostObject
- Update Changes.

A vote was called and group voted to review Update Changes.

The session carried on with Sergio reviewing of Update Changes.

Type and Update Type were confusing hence these were change to simply Update Type.

Increased the sizing in the warning response.

Locking Mechanism. Added new Update Types to handle locking of records for a RETS Client can issue. A RETS Client can issue a Cancel Update to release a lock or release an update transaction. This supports pessimistic and optimistic locking.

The RETS Server will return a Lock tag in the RETS Update Response to indicate to the client how long the lock will remain in effect.

Sergio described a typical RETS Update workflow to illustrate the this RETS Update Transaction proposal.

This proposal allows an optional behavior RETS Server to accept pieces of RETS data to be saved but not committed yet.

Question: Is there another source of information remove SQL and database reference and terminology when reviewing this Update Transaction Change proposal.

This change proposal supports bulk updates

RETS Client is responsible to submit an Update Transaction Request that a RETS Server will accept.

There's an intention to define an Update rule language that will be compatible to RETS 2.0 and RETS 1.x.

SDR will add a "Persistent-ID" System Name with the error block. This was requested by Stuart Shussler. Also, pass the System ID in the error block and allowing the client to resolve it.

May have a best practices RETS Update Transaction document for understanding this Update Transaction.

Dave Harris: Is there a mechanism to allow update to particular listings? SDR will follow up on this question.

This group completed reviewing the Update Change Proposal. Now Sergio began to give an overview of the PostObject.

Session adjourned.

## **8:45 to 10:15 Track 2 - Compliance Workgroup**

Presenters: Paula O'Brien, Ronin Technologies; Ryan Bonham

Paula: We actually developed compliance tests back in 2003, RETS 1.0 was out, 1.5 was on the scene. There was a problem where for testing it was impossible to connect to other people's servers. If the server vendor hadn't written the client, the client would not be able to connect to the server. So compliance was almost a plugfest idea, focused on logging in. Later on, batch tests were written against other aspects of the specification. The spec did have some ambiguities, so some work had to go into determining what could be codified and tested. Those compliance tests are still out there and available today. This went a long way towards inspiring server vendors to put work into making their code interoperable. However, the issue remained that testing was done at the product level, rather than the site level.

What we find out there today is that we have vendors with compliant products, and non-compliant installations. This can happen due to different environments, differing data, etc. In order to address this, in 2004 the idea was brought forward to have site audits. Not popular at the time, due to the amount of work that may go into it. The politics were and are tricky. What we currently have, is the ability to run a compliance test and generate a report. The report has an executive summary as well as the actual results. Some example information: standard names, resources, keyfields in the GetObject. The summary is written so that the business staff is able to understand what is needed, not only the technical staff.

The idea of the summary is to work with the MLS and the vendor to arbitrate these non-compliant issues that are found. If a vendor's MLS system is found to be non-compliant, the proposal was to give the vendor 60 days to fix the issues. If the issues are not rectified, for that site, the RETS logo is to be taken away from that installation until the problem is fixed. This is considered to be a good starting point and incentive for the vendors to increase levels of compliance. In addition, for those sites found to be in compliance, celebrate the success by publishing to the RETS.org site all the good things found for that given RETS installation. This can be used for marketing purposes.

We are refining a list of the first 60 sites that we're going to be hitting. We will present that list to Mark Lesswing within the next two weeks to get the ball rolling on site audits within the next quarter. And, we can discuss the results in the December meeting.

So, the concept of the site audits and getting the ball rolling to this end is the first item the group would like to have endorsed.

Paula Opened the floor to ask if anyone thinks site audits are a bad idea.

It was brought up that there may be some disagreement by some folks other than those in attendance at this meeting.

In San Diego, some server vendors had brought up concerns over issues caused by bad data from the MLS rather than from any implementation problems within the code. Standard-XML is decoded and there are some character that cannot be present in XML in order to validate. One server vendor suggested that they couldn't legally change the data in any way, which in their interpretation included replacement of single characters with their character entity for XML well-formedness.

Steve Verba: Some of the original concerns with site audits arose as a result of previous Governance, through the existence of a core group, which included Steve Verba, Paul Stusiak, and Kevin McQueen (Mark and Greg may have been on it as well). Kevin had at that time expressed the concern that if we do these site audits it may be taken in the wrong spirit as beating up on the MLS vendor.

Steve V: The unit that gets the site audit is the MLS Organization. They are running some instance of the MLS Vendor's servers. The attitude we approach them with is that this is something of a health check. We think this is a good way to approach it.

Paula: The other thing is an arbitration process. Right now, you have a RETS server and a client. The client connects, or the inverse, and they find out something is non-compliant on their own. Or, it may just be questionable. Right now there is no process, no chain, nothing. You call the vendor, inform them, and then you're stuck. There is no formal channel to pursue, no person to come in the middle and arbitrate. Kristen has been talking to the Governance group to ensure these kinds of issues are handled.

Paula: So, does the group feel an arbitration process will be beneficial?

It was generally agreed that a third party mediator could help bridge the gaps, and keep things going smoothly with the customers, client vendors, server vendors, and MLSs.

Gina: With the reopening of RETS 1.x, is there any plan to leverage experiences and lessons learned within the realm of compliance back into the specification?

Paula: Some of the issues reported have already been included in the document presented to the errata. This includes some of the ambiguities. I would expect this to continue to happen, if the update gets included, we will also need to have compliance testing in this regard as well. Also, any change proposals could be reviewed by the Compliance Workgroup as well.

Gina: So, are any concerns going to be brought to the group as a whole, or to the RETS 1.x workgroup.

Paula: Workgroups should be related to solving a particular problem. I think Workgroups should be dissolved once there is no longer a problem to work on. I think the Compliance Workgroup, if a need arises, would put together a Change Proposal and bring it to the body as a whole at the appropriate trimester meeting.

Steve V: With the passing of RETS2, it became an issue lacking clarity as to whether a given Workgroup was to work on a topic from the perspective of RETS 1.x or RETS2. Or, both, or solely one or the other? It became problematic, with the exception of compliance. Most Workgroups have a center of gravity in one version or the other. It will become even more important, with reopening of RETS 1.x to clarify this point.

Paula: So, the first two concerns are the site level testing and arbitration process. The third issue to cover is the re-certification process. There was originally a guideline that you had to be re-certified every two years. This has never been enforced, and every two years may not be enough.

Peter Spicer: There is a significant business value to having the RETS logo and being certified compliant. A standard operating procedure for any organization is to have a procedure for re-certifying, to ensure that a product is still in compliance. Personally, the two year time frame is a little too long. I also think the certification should be tied to a version, and in parallel with those versions. The time period should be six months, one year, something...

Kristen: Stressed that re-certification is common in many realms, and this is not an uncommon idea.

Steve V: Changes to the specification itself, originally it was a goal to have changes integrated within code bases to implement these specification changes within six months of the change being ratified. Now that we are bringing changes forward, we could have a scheduled automatic re-certification triggered by these specification changes or the rule we had previously was tied to a change for a version and was a six month period. Although this was never really enforced.

Kristen: Also, there are changes being made on the products not the specifications. These changes may break compliance.

Discussion ensued regarding the importance of site audits to catch differences in implementations in different server instances. Also, about how changes to the product can break compliances.

Paula: We have two distinct levels: So we have re-certification at the product level for when a product changes as well as when the RETS version changes. And we have the site audit at the installation levels. Or, is there some kind of juxtaposition combination when a product changes we have to redo the site audits as well.

Gina: We do need to stay aware, with the site level audits, that a vendor may be making a strong effort to keep the product compliant, but there is still the fact that the data may cause non-compliance issues. Also, I think all server vendors do want to be compliant, so that's probably not the issue. I think there is an issue with scheduled, automatic testing. What some server vendors might find preferable would be to have them pursue it when they are prepared for it. There should be that time period where if the certification lapses, you will lose your logo. So, some consideration should be made to allow a server vendor to allow RETS 1.0 version to lapse, and pursue only having a compliant 1.5 version.

Steve V: Maybe we need to be proactive, rather than wait to see if anyone wants to test for compliance at a given meeting. Maybe we go to them and say, we want to make sure you are registered in the RETS organization. Then we take the burden off the party.

Kristen: I agree. There needs to be three levels of compliance: 1. first time, new product compliance. 2. By a given date, I will need to re-certify (Paula: we can send out a letter) within X amount of time. 3. A needs based certification, this is where a MLS can request re-certification, or a third party can request a compliance check or a vendor can request one for a third party. Arbitration will come in here.

Kristen: From a business perspective,

Steve V: Yes, this arbitration could be a service that RETS provides.

Kristen: We need to have some real meat for the December meeting, and I would love to work on getting the document out.

Paula: This is really about RETS as a product, or a brand. It has to have a seal of approval. On the surface, there is the recognition of what RETS is, but beyond knowing what it is, we need to have assurances that it does what it should. We need to ensure it is properly perceived.

Kristen: There is still a perception that RETS doesn't work.

Paula: Walking around NAR annual, we still get a reaction of "RETS, what's that?" and "RETS is broken".

Kristen: Florida Association of Realtors just approved to offer a statewide MLS for free, in addition to regular MLS. We had them come out, and we asked if they were using RETS, and they said we're not using RETS because it doesn't have enough fields. We are using FTP.

Paula: Agree with Kristen's three different levels. As a group, we're going to do the draft of the arbitration process, finalize the site audit process, and then come up with this overarching cross workgroup kind of thing about compliance and how it should be presented. We'll get these documents up on RETS.org.

Paula and Ryan: This group recommends that this group come up with a RETS2 compliance document. As a sidebar, this group will also be coming up with RETS2 compliance document as well as Payloads compliance. There needs to be a formal document.

Steve V: Do RETS2 compliance tests exist yet?

Paula: The compliance tests for the transport, and the metadata, and the required things in the RETS2 Service Document do indeed exist. What we are waiting on is approval for the Well-Known fields, we don't have those yet, and approval for the payloads, because we can't test well-known payloads until the subset are approved. We need Listings and Properties, the Well-Known names come from those. We got some yesterday, but we still have some that need to be finalized.

Paula: Also, what does it mean to be "Powered by RETS"? We need to do a better job of describing in less technical terms what RETS brings to a business.

Ryan: We need to schedule our next Workgroup call.

Paula: It was agreed to do a call in three weeks. I will activate the Compliance Workgroup page, and it will have the documents, meeting information, discussion topics, and stuff. I'll send that note out for rets-dev. August 31, is that date.

Kristen: Can't we have a distribution list?

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Paula: We could do that from rets.org.

Kristen: I'll talk to Chris and we'll get an answer today sometime.

Paula: Great meeting, glad to have all these faces. Let's make RETS a household name so that everyone want RETS. Meeting adjourned.

## 10:30 – 12:00 Track 1 - RETS 1 Technical Review Workgroup

Presenter: Stuart Shussler

Stuart gave the highlights of a review of the RETS 1 Technical Review Workgroup's document.

Question: What will be the outcome of this document?

Stuart S: The outcome we would propose is to put each of these changes into a change proposal or separated them in to individual enhancements. I would need to verify the options for rolling these recommendation into the RETS specification. These recommendations would probably appear in RETS 1.8 specification. We would also look at deprecating RETS 1.5 Specification to keep the Standards moving forward.

Stuart informed the group that the Workgroup intention is not to create any controversy such as the proposals for Login and Date/Time. These proposals will be reviewed to ensure these proposals not interfere with the RETS Standards. So this workgroup is looking to speed up the process. We are not necessarily the gate keeper of RETS.

Stuart S: Let review the recommendation to having the boolean type have the numerical value of one for true and zero for false. Does anyone have any objections to this? This came about when Libor Viktorin mentioned that not everyone uses SQL Server. Using a numeric value will avoid any issues of reserved words a RETS server may have defined.

Stuart S: There's a minor clean up on the User-Agent HTTP Header field.

Capability-url-list in the RETS Login Response Parameter action-url remove the MUST word from this item. A RETS Client is not required to refer to this Action URL field after a successful RETS Login Request. This just another URL within the capability-url-list that is not mandatory to reference.

Question: What were the historical details for a RETS client having to refer to the Action URL?

Stuart S: This come from the RETS 0.9 Specification by WyldFyre, Inc., the RETS Server wanted a way to carry a message to a RETS Client. Also, a RETS Client issues a request the WyldFyre central server to validate a RETS Client and this is just a left over artifact and this carried through all the different version of RETS. It's at a point of questioning why do we have this? And that is why we are removing the MUST description for this field. There are historical specification like that are leftover artifacts that people don't completely remember why they were put in there. Except me, I have the unfortunate ability to remember all the things that happened with RETS over the years because I have been here from the first RETS meeting.

Some the recommendation here are questions such as should a RETS Server return a HTTP Status Code 401 (is 404 correct?) if a media is not found or return a ReplyCode. Some of these question are not resolved within the working group and this can be open to the floor for discussion. The reason for a RETS Server to return a HTTP 404 Status Code is because a client displays an image tag not found. Replying with a ReplyCode instead then a RETS Client doesn't know how to handle it.

Comment: There's nothing that prevents a HTTP 401 to be carried by a RETS ReplyCode so these field are not mutually exclusive.

Typically in RETS you have a HTTP Status Code of 200 and then you have a RETS ReplyCode to let the RETS Client know that in the context of RETS that the media was not found.

Comment: I know that's typical but there's nothing in the HTTP Specification from stopping...

Stuart S: I agree I was trying to be consistent with...

Mark Lesswing: It would be help to have a consistent return code policy to assist RETS Clients to implement in a consistent way.

Stuart S: The intention, in this case, is to return a HTTP 200 then a RETS ReplyCode to indicate that the media was not found.

Stuart S: Object definition and Object-ID. This is undefined right now.

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Stuart S: When you Location=1 what should the Listing be? I would like to see URL 1, URL 2, and so on. To list them out - which URLs. Also have the actual response defined. We don't have this here yet.

Stuart S: There's some clean up Content-ID.

Stuart S: The Object-ID. An example, you need to retrieve 5 pictures you are trying to download. You have a particular order to display. When you received them the first image received should be the primary image to display instead of no particular order.

Stuart S: There are cases where we change the SHOULD to MUST and MUST to SHOULD.

Stuart S: MUST use well-known names in a RETS Search Transaction Request. There's a conflict in document and we're recommending to change it to a MUST for consistency.

Stuart S: ForeignKey in Compact-Decoded. If you have a foreign key field and its downloaded in a Compact-Decoded format then you don't have to decode that field. It would be useless to the client and the client could go back to the foreign key to perform the action in the foreign key.

Stuart S: RETS Servers are not returning the MaxRows element when the result set has reached a maximum number of rows limit.

Tie the RETS Search Transaction Offset request argument to maintain an order to be included and described in the updated RETS 1.8 Specification. Also, we recommend the RETS Search Transaction Offset request argument to be mandatory.

Revisit Standard Names to tie them better to the RETS 2.0 Specification.

We could support all the different RETS 2.0 Payloads in RETS 1.8 by providing a metadata that lists what Payload are available from a RETS Server. A proposal will be put forward by this group to include RETS 2.0 Payload (or RECORDS).

Change the Restricted Indicator usage to a MUST requirement.

Illegal XML characters. These must be properly escaped. This will be added.

The size of the queries, minimum and maximum levels in the queries. You can currently specified the list of fields to return through the RETS Search Transaction select request argument. But one could specified many fields that could cause a stack overflow on a RETS Server. Some RETS servers can handle this situation fine. An idea is to provide a limit in the Login Response data to indication to the RETS Client the size limitation of a RETS query to prevent this problem on RETS Server. This needs to be worded correctly.

Comment: What is the error code return when a query is too complex?

Stuart S: There is one now but we wanted to be able to tell a RETS Client before it issued a RETS query. But this is ongoing at this time.

Add the NULL parameter.

Reviewed the BNF for the Query language:

- Define how to include String range expressions.
- Clarify numerical range-list term must have the lower end value specified first.
- datetime term to clean it usage of UTC and GMT time reference. UTC usage was proposed before but somehow it didn't make it into the specification.

The group proposed that the GET Transaction be removed. Peter Williams noted that he uses the GET Transaction is used to protect resources via RETS Login credentials and a valid RETS-Session-ID. Libor noted that there is not documented use-cases for GET Transaction so there is no define usage for this transaction. This seem to be another artifact. The GET Object Transaction can return URL using the GETObject Location Request Argument. So this proposal reworded to that it is not required for a RETS Client to login to issue a RETS GET Transaction. Basically the group agreed that to use a web server if you want to serve something with a RETS server. Libor and Peter Williams will clarify this item outside of this review session for future document update.

General size of field name lengths in RETS Metadata are sometimes too short like DBNAMES is only characters. The lengths will be reviewed.

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Google Groups and Google Docs may be used to allow document collaboration.

Meetings every Thursday at 1:00pm.

Please email to Stuart Shussler to be added to this group.

## 10:30 – 12:00 Track 2 - Query Language Workgroup

Presenters: Paul Stusiak, Matt Lavallee

Paul: Opening remarks: As the schema continue being developed, there has been some concern expressed with the query language and how it works with the schemas. The purpose of this is to kick off a new workgroup, or group, to investigate alternates to the RQL query language to give us a bit more control over the schema side of things, in particular depth of node you can query down to.

At this time, let's take a moment to elect a Chair. This has typically been from the members. I'm going to jump in and nominate Matt Lavallee to be that Chair.

Seconded, by Bob Gottesman.

It was opened to anyone else interested in the position. Or a person to volunteer as Co-Chair.

Sergio declined.

Matt Lavallee then is the Chair.

Matt: In the interim Payload meetings since Austin, is that querying for specifically what you want (unless you know the entire vocabulary), there is no easy way to know how to ask for what you want. I have a lot of experience, in the Internet world. Been doing web professionally since 1997. Learned modeling from a military DBA. I've been in real estate for about four years, but got active with RETS about February. Paul suggested coming to a RETS meeting. I had my own opinions on RETS 1. RETS is unlike any standard out there. RETS2 promised to be a lot more familiar to developers out there. Right now, there are thousands of them out there. I think it's great for the industry, something we can rely on working from system to system. And, I'm active on rets-dev posts.

The goal is to provide a query mechanism that permits precise selectivity and intelligent filtering across the unified RETS data model. The RETS data set, which was originally set to be these payloads, has turned out to be a true relational model. You don't need to be able to read a Vocabulary to see how to get data. It's pretty self evident and defined, with the UML it is possible to see the relationships between all the resources. The problem is that the original RQL still views everything as a returned data set. As whatever is defined in schema you get everything back.

Alternatives: Original RQL, Forieng keys, Xpath/XQuery

Why not RQL?

One primary reason, is the disjoint resource and payload data models. You have this resource and payload called listings. Vocabulary is required to see how resource lines up with the payload model. THis is a lot of study. Selectivity is limited by Payload. It forces fat result sets. If I ask for Listing 1234, you'll get back the listing, all participants, offices, the property, the tax record, the photos. That's HUGE. Nobody wants that. Finally, it requires the DMQL style assertion of Resource at the API level. You can't craft a query based on what you want. You have to have it at the API level, as you are asking for Residential as a resource, before you submit the query. This is counter intuitive to the SQL that everyone is used to. You select from a table within your query. You don't hard code that part of the system. The resources, payload, metadata, data dictionary, vocabulary, etc. is a big learning curve.

Why not Foreign Keys?

I know, looking back at historical documents this was a strong proposal, not entirely bad. The problem is that it is not entirely designed against an XML dataset. Foreign key models require a flat data model. Foreign keys are not really designed for a nested relationship. And, the verbosity gets insane, we have the same sort of issues we have with RQL. Especially factoring in the resources, vocabulary, etc. Node identification required vocabulary.

Querying against the payload would not be possible without knowing what the keyfields are for each resources. You wouldn't ever seen what the key is in the results. RQL and Foreign keys both kill the containment model. It turns all this elegance into a flat structure.

Steve Clarke: I think there's going to be a lot of complexity introduced in terms of the ability to implement with this level of abstraction. Today, we have a flat model on the servers. To put forward a specification that proposes a hierarchical query language with implicit foreign key relationships to be implemented by the servers, I think there will be resistance to that. Mainly because it will be difficult. Also, selectability of the query language should be at the field level instead of node level.

Matt: Node can be at any level even leaf.

Jeff: You assume a unified RETS data model. That is not the way they store the data now.

Paul: We are modeling the standard. e don't care how it is in the back end. Part of the reason we wound up starting this up was because people were looking to the schemas themselves as how can we map the data we have in there to a common state. It's not natural to talk about data dictionary. What is natural is to take a schema to the folks at an MLS, and ask what does that map to on the back end. For implementation, there may obviously be implementation issues. We're trying to represent the information in the format that fits the standard. Sergio could talk about how he not happily emits XML from the RETS1 system he operates. It's not pretty. It doesn't have to be emitted to the total depth. We need to be able to say, if you choose to implement it, it will be this field. We're not gonna say, the only way I'm going to get information back is a 20 table join in the back end.

Steve C: We'll be doing the 20 table join in the back end anyway. It's not like we're going to redevelop our database to be compliant with RETS.

Sergio: This query language should be defined to work with any payloads, not just the standard ones correct?

Matt L: Yes.

One of the other alternatives that had been investigated, was XPath and XQuery.

XPath is a node selecting and filtering construct. It is not a full query language. It is for picking out a single node or handful of nodes.

XQuery was designed to do all that. But, XQuery is really, really complicated. Implementing XQuery would be a nightmare on the back end. You have to format your result set inline.

Bob: Someone is going to have to map something somewhere. XQuery would be an unpleasant nightmare.

#### RQLX In a Nutshell

This began with an XPath style of notation. It breaks down the hierarchy you seen in the schema using XPath notation. It could also be implemented using the dot notation. XPath can be cumbersome. Many databases already implement the dot notation. SQL style notation for the actual query. The grammar symbols built in determine what fields will come back from the structured data.

Bob: Listing/\* wouldn't that pick up the properties too?

Matt: Nope, subschema don't automatically get included. We are doing a pessimistic data return.

Steve C: When you are selecting fields, does this remove all the other tags?

Matt: I'll get to that, I do have an example.

Matt reviews the example on the slide in the presentation.

I am trying to make an ANTLR definition that will convert RQLX to a tabular form of relational SQL. It shows where we are automatically creating those joins based on what we know about the schema.

Where do these ideas come from?

SQL XML 1.0, it was rolled into MS SQL Server 2000 as a service pack, its in SQL Server 2005, Oracle 9i. They also have an emissions set of tags for defining what the XML will look like on the way out.

XML Schema itself defines the data and relationship model. Everyone who sees them will know what the model looks like.

XPath is the node identification system, which solves the problem of Vocabulary. Instead of having an abstract name, you follow the path to get there.

Payload model which will be out there as a standard.

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In practice, access RETS2 data as a graph. Return only the data selected in the select clause.

It is possible to validate and only return a very small set of the child entity. Specifically, the modification timestamp and the key field.

Matt goes over the syntax for the query.

Accessing RETS2 as a flat table, still relevant for the IDX model. You would ask for it as comma delimited. This would make it even smaller.

Steve C: So, does the query language support queries against the system names or against the standard names?

Matt L: This operates against the schema names.

Paul: So this probably means there is no intent to get rid of RQL. This means there may be an additional.

Steve C: So why can't we have one query language that works against either system or standard names.

Paul: We may get there.

Question was asked if there was a way to get "the works".

Matt: Yeah, /\* /\*. As the RQLX workgroup talks about it, there may be annotation that would say give me the full traversal. But because media is included, you would very rarely want to include it all together.

Paul: We may look at that. We don't want the binaries all the time. It may turn out that we make media just separate, maybe include the metadata but not the actual media itself.

Jeff: When we originally did RETS2, the original concept was small payloads. What it sounds like you guys have done is a data model for RETS rather than a return data model.

Paul: Pretty much. It's turning out much like the object model you presented a while ago. If you view it in HyperModel, and it's like I've seen that before. It's like a model for what the Workgroup's view of what the data model looks like. It's come about from working with the participants in the group.

Matt L: The biggest problem with that thinking was the learning curve. Gina and Paul have created the spreadsheet that can be shown to the non-technical people.

Jeff: It looks like the Data Dictionary.

Matt L: Right. Without having to rename everything. So, when they go to proof this output, it is exactly what they knew they wrote down the first time. You don't want a resource to be named one thing and be something different when it comes out the payload. People aren't going to like that.

Steve C: I would argue that some people will like that, to see the data the way they actually named it.

Matt L: Custom payloads completely remain an option. The upside here is that a custom payload can still use this same query syntax.

Jeff: This maps it into an XML format, it's just a list of names.

Matt L: But, they could have a flat payload that is how it looks on the back end. Those who will have clients accessing different back ends, they will want to have a predictable standard data structure. For internal use, they may want to have streamlined custom payloads. And they can do that, and still use the query model. The standard payloads are still enforced as a part of the standard. But, for those who want to do so, it is easy to use that facility. Part of the point, is that this reduces the need for custom and lightweight payloads. One of the things we cut out of the payloads is the concept of different, short views of the same data. We should be able to interrogate what we have. We have gotten payloads down from what we had before.

Steve C: How is it advertised that, what fields are available for query. Ideally, everything is available, in reality vendors will implement what they can.

Matt L: If you don't have it, don't send it.

Gina: He wants to know what fields can be searched on.

Matt L: Actually the metadata is a whole another topic that should be addressed later. But for now, your data dictionary serves the purpose.

Sergio: We've talked about using XPath to indicate that.

Matt L: I wasn't going to go that far to make the Data Dictionary relative to the schema.

Steve C: Well, we've talked about decoupling the payloads from RETS2. There's talk about bringing the schema into RETS1, if we could use the new schema as the new version of standard fields in RETS1 this would be useful immediately. This would encourage work on the data itself. I do care how we can implement the mappings, bringing it into RETS1 would be useful.

Matt L: this would help with a smooth transition plan. Bring the RETS2 payload model back to RETS1.

Paul: There is some talk about giving it a name, right now it's still schema.

Matt L: It's time to learn what the data will be looking like in a year's time. Get that parsing exercise down, and when RETS2 is ready to be put on the server this is a great avenue for transition. Implicit relationships are the biggest pain on the data side, but it's a lot less painful than the vendors having to connect to a painful data model.

The multiple criteria across element types is also not covered by RQL, aside from hoping that all your criteria come from a single resource.

The unified payload model reduces the need for Vocabulary through the unique identification, faster ramp up time, and permits infinite expansion due to the availability of custom payloads. Getting back to SQL and object-oriented programming style, getting an ANTLR piece out as quickly as possible is very important. There is a lower server side processing requirement because of the pessimistic data return, you are only getting keys unless otherwise specified.

RQLX may be too complex for some users, but that is unavoidable in some ways. I don't think we can have a query syntax that is easily accessible to the average Excel Spreadsheet user.

XML Schema may be excessively verbose. This gets into the whole levels of inheritance question. Do we allow unique particle substrings? That's one idea brought to me that has some merit. There is a simple way to uniquely identify a node in a tree.

Do we stick with the XPath style of notation, or go with the dot notation? This would be a decision for the Workgroup.

Where to go next?

Form an RQLX Workgroup, which is done. Develop the full BNF, in the Workgroup. Get out Reference Implementations as fast as possible for review by the community. We need to know how real world this is. It needs to be tested against existing data sets. Do a functional demo by December. ANTLR eats a lot of that labor. It serves as a grammar translator, so it can be as complex as we want and it makes it simple by mapping to SQL. It is proof of concept kind of work that has to happen before a Change Proposal is brought before the group.

Steve C: If we can absolutely not do a join, we won't buy five or six new servers, and we won't do the join. It's like another reason, currently we don't support Standard fields because we don't know the mappings. Our customers aren't willing to do the mapping, or tell us what the mappings are. But, we can't query on it hierarchically, even though we know the listing agent pool size is in the hierarchy somewhere, we don't utilize our database and expose that field in our listing resource directly. We could do a join, technically we could map the field in the agent record to that standard name even though we don't support it in the hierarchical query. Now, there's like two levels of non support in the standard payloads.

Matt L: Yeah, queriability and returnability. Yep, and that's what we still need to address. That will happen at a role based level, as in fields that can't be queried or seen due to business rules or roles.

Steve C: We wouldn't be willing to do these joins. If someone is querying for a listing, they will get listing data. If they are querying for an agent, they'll get the agent data. With the listing, they are not going to get a bunch of agent data. We're not really inclined, to do this join so they can get a bunch of unrelated agent data.

Paul: All you have to return is the key and modification timestamp. Most of the time, people will make the request and get the big long payload once, and they won't want to get it a bunch of times. Based on the keys and timestamps they may know whether to go back for more stuff.

Steve C: If you went in, and said give me listing agent pool size, and that's all you ask for, you'll get it. But, if you ask for something from the listing too, you won't get it. We don't think it's valuable to do this join. How many levels do we have to support. If it is optional, we won't support it. If it is required, we will fight it.

Discussion arose regarding a need to get the photo count, and how multiple queries are needed for some of this data. If there can be some joins to save on the queries. If we could go to the database directly, this would be easy to do. If it is slow, that is the problem.

Steve C: The question is, how much work or load are we going to allow on these basically free servers?

A solution would be to have a standard view that encompasses these different fields that we need to get that currently require multiple queries. It would make things easy. We are always having to explain why we can't do joins.

Steve C: The query language implies that everything is available from anywhere. The listing agent is maybe not a good example, but the relationship between one record and another record that a vendor says is not efficient for them to provide and suddenly we have a level of non support that's going to be there. That's got to be described so the client knows what to expect. This way the client can know. We'll have somebody in the Workgroup, probably Matt McGuire.

Matt L: That's why we're talking about it. We need to know if this will be supported by the major vendors or not. I can see right now there may be a keyword needed to say that you can only query on the current schema.

Sergio: This is a level above this, because if you don't have the data in your listing view, you may not want to do a join to get the data so you may want to output a reduced set.

Bob: It's more complicated. The issue is not necessarily the depth of the data, but what we're doing is the join is how you do it. But, if someone has a legacy database, that database but that makes it look like it's impossible to do the join. What is really simple and logical here, for some reason on the back end may be impossible to handle.

Matt L: That's why we've talked about a Variman that stages data in the new model, the schema model. I think Frank demoed a staging, mapping tool. I know some people have already done this for RETS1.

Can we forget about the mapping between XML and relational model, and extend the schema to our own needs and use RQL or RQLX to query that new view of the model? It will open it up to whatever vendor implementation.

Matt L: For right now, there are five payloads that you must support to be compliant to the standard.

Paul: When the requirement for the support of the payloads was added, this model was not there. Previously, these payloads were skinny pieces of data. When the requirement for listing, properties, agents, etc. it was that listing had a really skinny piece of data, properties didn't have a skinny piece of data but it was only property information. And, to get listings and properties, like most people use, to do that we joined those pieces of data together it was in a container called ListingProperty. But, a listing doesn't exist outside the realm of a property, it makes no sense. So, in the domain, it became more interesting to say properties are always contained within a listing. So, that requirement in the original RETS2 Service Document doesn't represent where we are now. But we want to discuss this stuff so we don't end up in a case where we can't get there from here.

Steve C: I think I'm the one who's been perceived as the anti-guy, anti-standards. But, I don't want to see a standard where there is a loophole. Why standardize the data if we aren't going to do it in a way that it can be used? Standard payloads, awesome we've got you covered.

Matt L: The verbiage in the standard didn't indicate whether you can modify the standard payloads, but we've closed that loophole. But, I don't think there is a requirement, but it is there that the payload must be returned to the fullest possibility, there is some verbiage about mapping as close as possible.

Steve C: You can add additional fields to the end.

Paul: Yes, in your own namespace. For things that are regional stuff, that's the the idea. So, these guys don't care about a ski slope, but somebody in Aspen might. That was the intent of the extension mechanism is for the local or regional data items.

Steve C: Strong data typing in the payloads, if it is too strong you are encouraging people to say my fields can't match the standard. So, I'm going to map to my own custom fields.

Matt L: A lot of that has happened.

Paul: A lot of the data typing has been simplified. Pretty much all the booleans are nullable. Fields like list price are numbers. We took the discussion from Austin to heart.

Steve C: In general, it seems like my questions are more one level up for connecting the metadata and how to do that.

Matt L: The next meeting is more or less as an update for what is found, or the findings. So, it's time for lunch.

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Paul: We'll be reconvening next door to set some dates.

## **1:00 – 2:15 Track 1 - Security Workgroup**

Presenter: Paul Hethmon, Clareity

Follow up discussion items from last RETS April 2007 meeting:

Strong authentication within RETS

Single Signon

There is no need to change RETS to support strong authentication. In implementation, you can use Basic Authenticate through strong authentication. Therefore use SSL. This keeps the application data traffic between RETS Client and Server to a minimum.

Question: Will there a White Paper on this topic of strong authentication?

Paul Hethmon: I had thought about it. A best practices document may come out. Currently Clareity lawyers are going though documents they have to-date before releasing.

Then the discussion was opened to any other question or concern about RETS Security.

## **1:00 – 2:15 Track 2 – Data Replication - cancelled**

## **Future RETS Meeting Dates and Locations**

December 2007

Place: Miami, FL

Dates: Wednesday, December 5, 2007 – Friday, December 7, 2008.

Notes: The first day will be a full day. The last day will end early.

April 2008

Place: Philadelphia, PA.

Dates: Wednesday, April 2, 2008 to Friday, April 4, 2007.

August 2008

Place: Chicago, IL.

Dates: Wednesday, August 6, 2008 to Friday, August 8, 2007.

December 2008

Place: TBD

August 8th – 10th, 2007

RETS Workgroup Meeting Minutes - Chicago, IL

Dates: Wednesday, December 3, 2008 – Friday, December 5, 2008.

Meeting Adjourned until December 5<sup>th</sup>.

**RQLX 1.0**

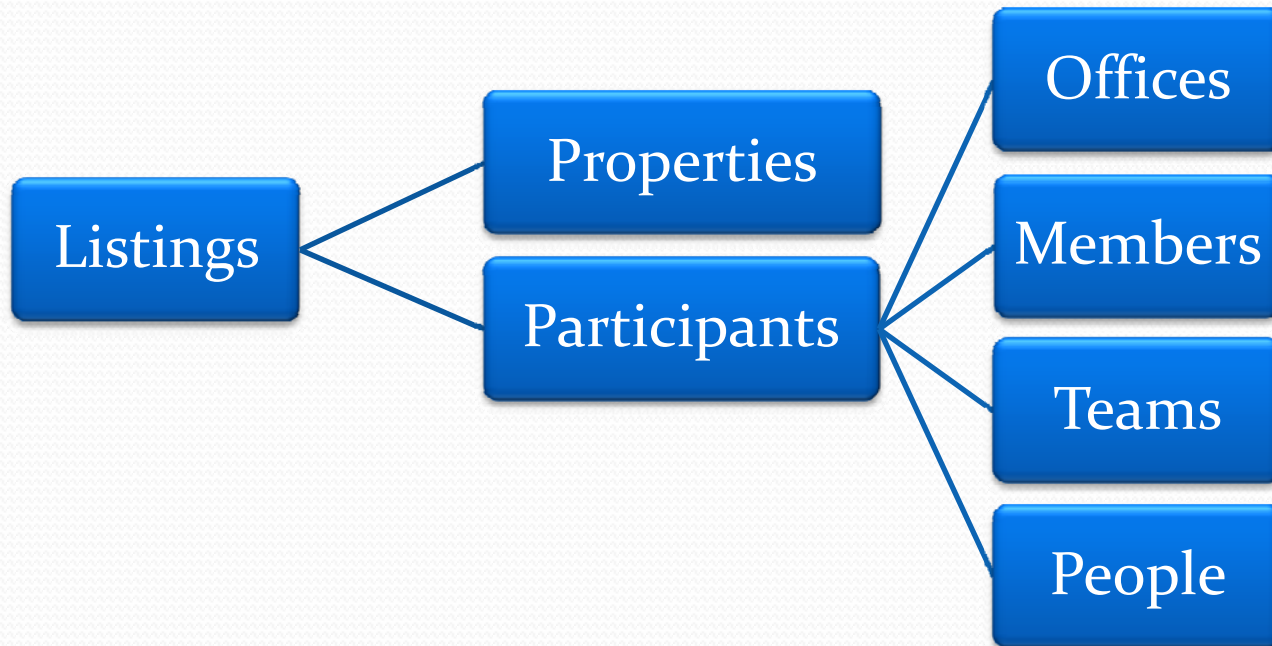
**R**eal Estate **Q**uery **L**anguage for **X**ML

# Matt Lavalley

- First email address in 1988
- First web site in 1994
- Software industry since 1996
- Professional web guy since 1997
  - Worked on CMS data models for web sites up to \$2.5M
  - Learned modeling from an old, military DBA
- Real Estate web site provider since 2003
- Invaded RETS in February
- 30% of all RETS-dev posts 😊

# RQLX Goal

- The goal of RQLX is to provide a query mechanism that permits precise selectivity and intelligent filtering of a unified RETS data model.



# Alternatives

- Why not (the original) RQL?
- Why not Foreign Keys?
- Why not XPath or XQuery?

# Alternatives: Why not RQL?

- Assumes disjoint Resource and Payload data models – you have to know both to get what you want
- Selectivity is limited to a single Resource
- Forces “fat” result sets – deal breaker
- Requires DMQL-style assertion of Resource, etc., at the API level, not query level – not portable
  - Select a Resource, select an output payload, assign criteria, hope for the best
- Resources, Payload, Metadata/DataDictionary, Vocabulary = steep learning curve

# Alternatives: Why Not Foreign Keys?

- FKs are designed for a tabular, relational data model
- Query verbosity and complexity of generating output

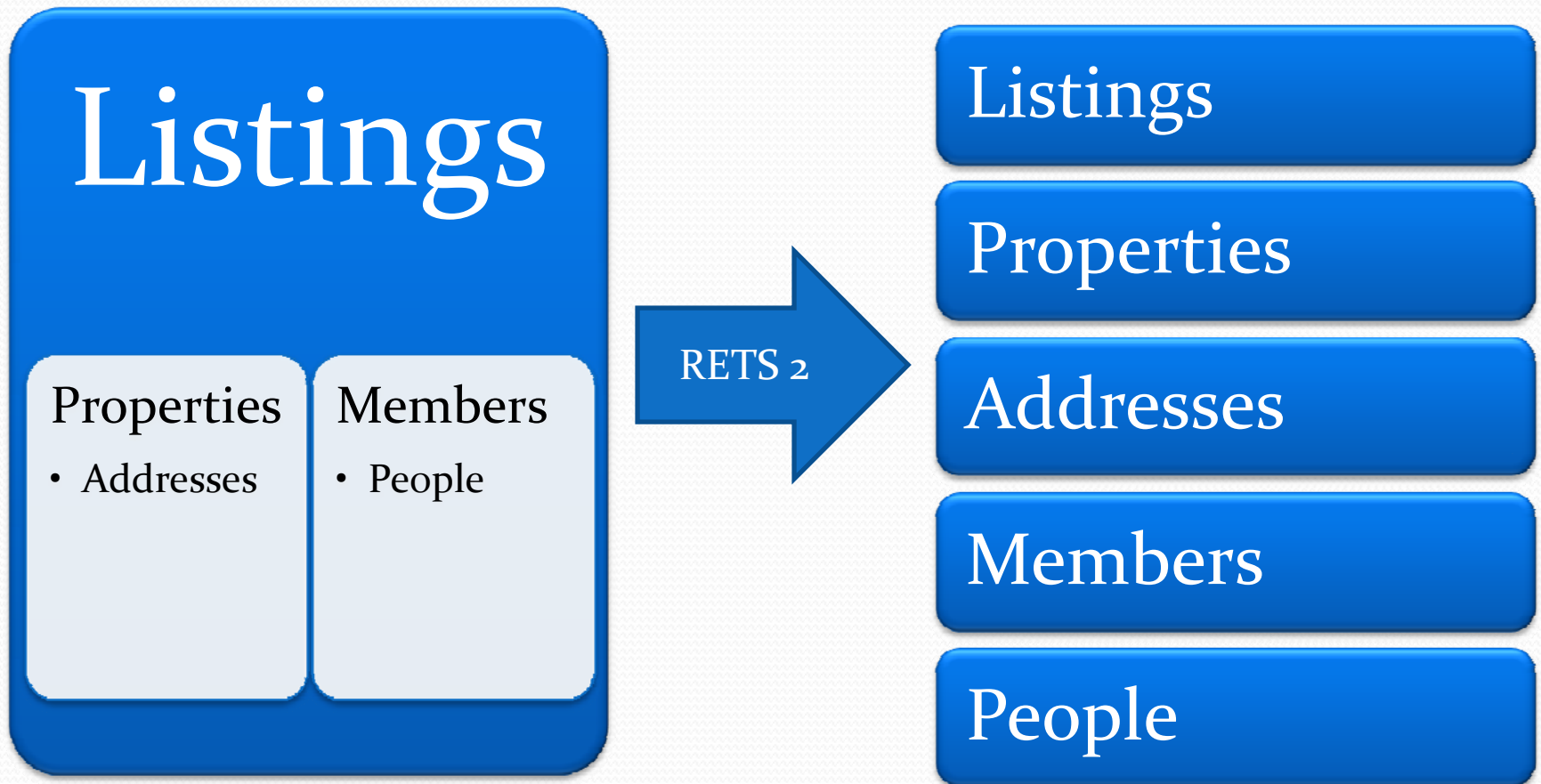
Example:

```
SELECT ListingsListingListingID, PropertiesPropertyPropertyID FROM
Listings INNER JOIN Properties ON Listings.PropertyID =
Properties.PropertyID WHERE ListingsListPrice>=400000 AND
PropertiesGeographicLocationCity='Chicago'
```

... and all that gets you is two fields!

- Node identification requires “Vocabulary”
- Querying against the schema/payload model would not be possible without Key structure familiarity

# RQL and Foreign Keys kill the containment model



# DMQL & RQL Fans

Complain Here

# Alternatives: Why not XPath or XQuery?

- **XPath** is a node selection & filtering construct, not designed for querying and combining result sets (i.e., works on one field at a time)
- **XQuery** is overkill: implementation complexity virtually guarantees inconsistency between servers, and we don't need all of its features.

Example:

```
declare variable $results external;
<listings>
let $listings := .
for $l in $listings//listing,
    $p in $listings//listing/property
where ends-with($p/address/city, 'Burbank')
    and $l/property/PropertyKey = $p/@PropertyKey
return
    <listing>
        <ListingID>$l/ListingID</ListingID>
        {$p}
    </listing>
</listings>
```

# RQLX in a Nutshell

- XPath-style notation for element/node identification
  - Example:  
Properties/Property/Rooms@TotalRooms
  - Could alternatively be adopted with dotted notation per Object-Oriented Programming and SQL (i.e., Properties.Property.Rooms)
- SQL-style construct for query syntax
- Grammar symbols “flatten” structured data

Example:

```
SELECT Listings/*, Listings/Property/*  
FROM Listings  
WHERE  
Property/Address/City='Chicago'  
AND ListingStatus='Active'  
AND ListingPricing/ListPrice>=400000
```

# RQLX in a Nutshell, part 2

## Query in RQLX

```
SELECT
    Listings/*
FROM
    Listings
WHERE
    Property/Address/City='Chicago'
    AND
    ListingStatus='Active'
    AND
    ListingPricing/ListPrice>=400000
```

We “know” Property is contained in Listings

## Parsed as Relational SQL

```
SELECT
    Listings.*
FROM
    Listings
    INNER JOIN Properties
    ON
        Listings.PropertyID=
            Properties.PropertyID
    INNER JOIN Addresses
    ON Properties.AddressID=
        Addresses.AddressID
WHERE
    Addresses.City='Chicago'
    AND
    ListingStatus='Active'
    AND
    ListPrice>=400000
```

# Foundations

- SQL/XML 1.0
  - You've probably already got it!
- XML Schema
  - Defines data & relationship model
- XPath
  - The original XML node identification standard
- RETS 2.0 Payload Model
  - In progress!

# RQLX in Practice

- Access RETS 2.0 data as a graph
    - Server only returns related schema instances that are explicitly identified in the SELECT clause of the query
    - Key ID stubs replace elements for excluded schema
- Example:

```
<Listings>
  <Listing>
    <ListingID>06355000</ListingID>
    <ListingPricing>
      <ListPrice>400000</ListPrice>
    </ListingPricing>
    ...
    <Property>
      <modificationTimestamp>2007-09-01T00:15:00</modificationTimestamp>
      <PropertyKey>15344</PropertyKey>
    </Property>
  </Listing>
</Listings>
```

Note that this is only a stub holding the key data for the relevant Property when we do not request the Properties schema/payload

# RQLX in Practice, part 2

- Accessing RETS 2.0 data as a tables
  - Server returns dotted-notation headers
  - Key ID stubs replace elements for excluded schema

Example:

```
Listing.ListingID,Listing.ListingPrice,...,Property.PropertyKey  
06355000,400000,...,15344
```

Only the Key data is returned for the relevant Property (child entity)

# Benefits of RQLX

- Precise Selectivity
  - Get as much, or as little, data as you *need*
  - Highly efficient for distributed cache/update model
  - Reduces need for custom or lightweight payloads
- Intelligent Filtering
  - Implicit relationships reduce successive queries
  - Multiple criteria across element types
- Unified Payload Model
  - Reduces need for vocabulary through unique node identification
  - Permits infinite expansion and correlation through schema relationships
- Simplification
  - Similar to SQL and Object-Oriented Programming inheritance notation
  - Simplified server-side implementation through relationship hints, reduced language complexity
  - Lower server-side processing burden through pessimistic data return, precise query capabilities

# Outstanding Issues

- RQLX may still be too complex for some users
  - Will likely be an issue regardless of language
- Schema may be excessively verbose in some places
  - Property/Community/Schools/School/District
  - Allow unique particle substrings? (/P/C/S/S/D)
- Grammar mechanics of whether to use / or . or @
  - / used only when crossing schema
  - . used to reference direct child elements
  - @ used to reference attributes (XPath format)

# Next Steps

- Move to create the RQLX Workgroup
- Develop BNF grammar
- Reference implementation(s)
  - ANTLR grammar
  - Test against existing data sets
- Functional demonstration
- Change Proposal from RQLX Workgroup
- Adoption for Change to RETS 2.0 Standard

# Transaction Management Schema Workgroup

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# Work Already Completed

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- Set of necessary schemas already developed and in use within transaction community
- Elements needed in those schemas already included
- Enumerations have solid starting point

# Work to be Done

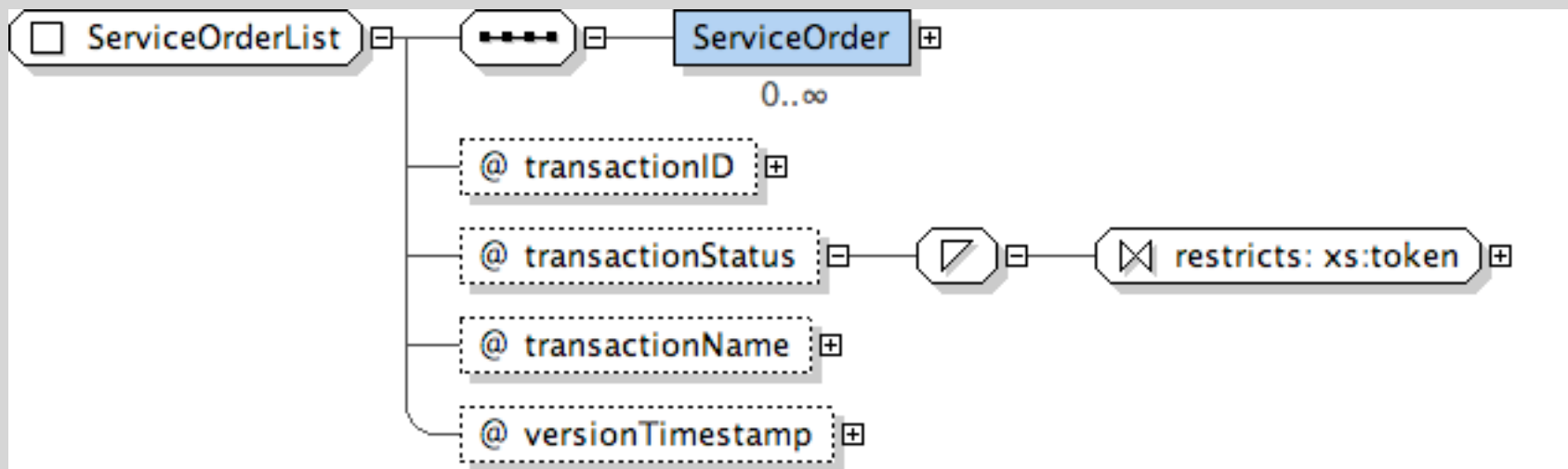
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- Verify consistency with style guidelines
- Integration across schemas
- Incorporate design refinements based on MLS payloads work already completed
- Integrate any changes requested by the community
  - Additions to enums
  - Additional elements, removal of elements, etc.

# Consistency with Style Guidelines

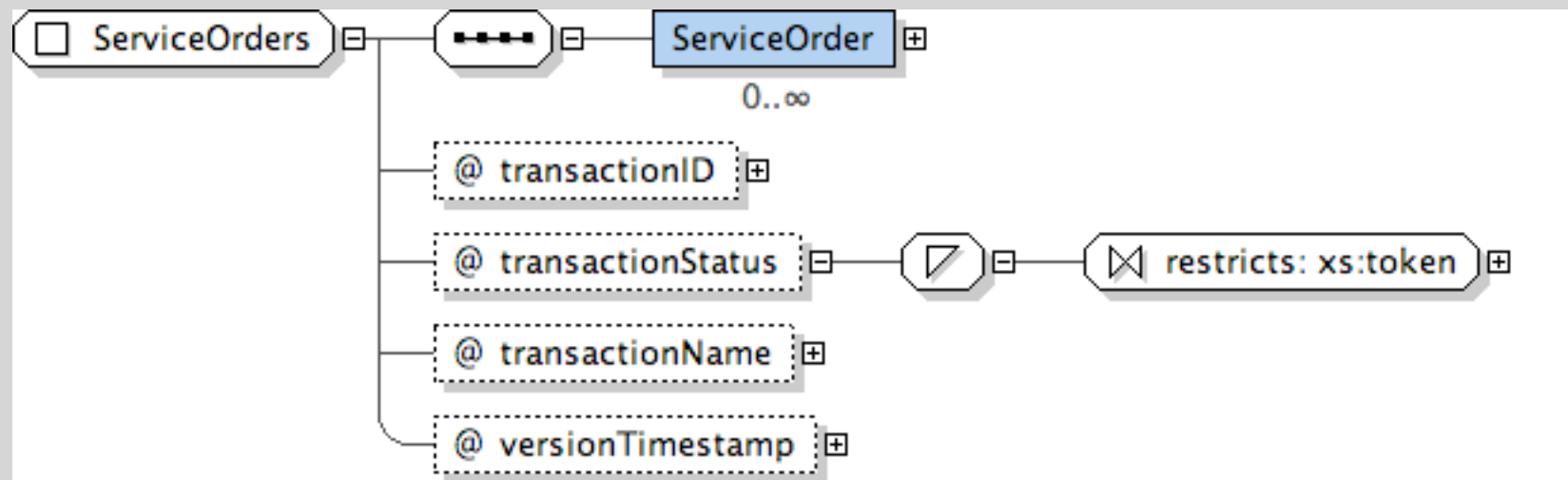
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- Naming conventions
- Case consistency
- Design with reusable top-level types
- Ensure consistent use of the `xs:any` extensibility points
- Provide data types for all elements



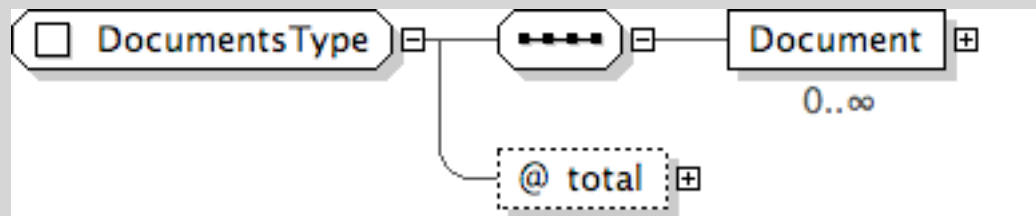
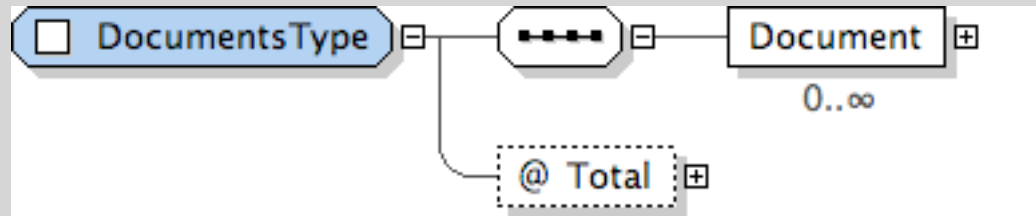
## Naming Conventions

When have a collection of items, use plural of the name rather than the term “List”



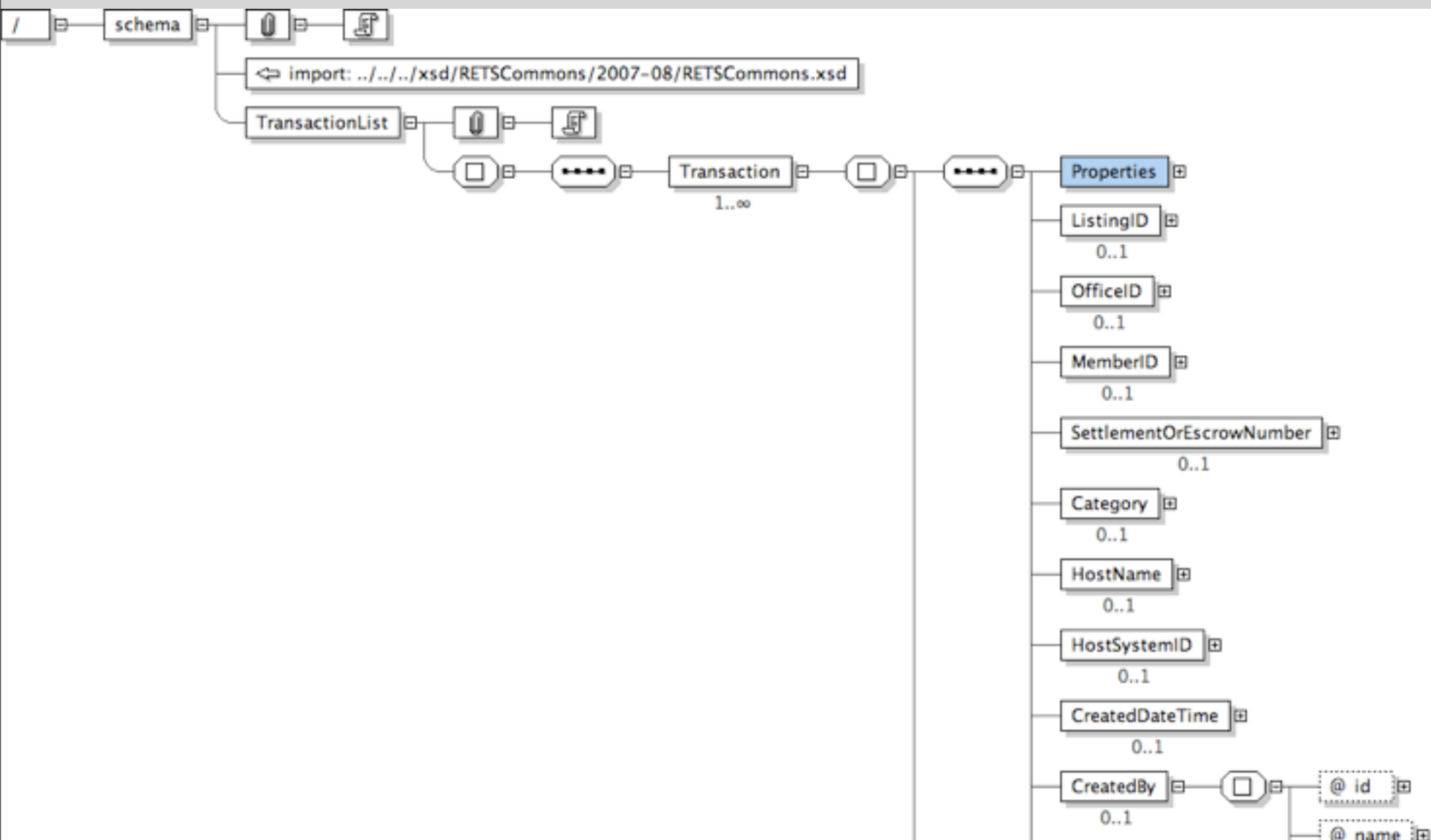
## Naming Conventions

When have a collection of items, use plural of the name rather than the term “List”



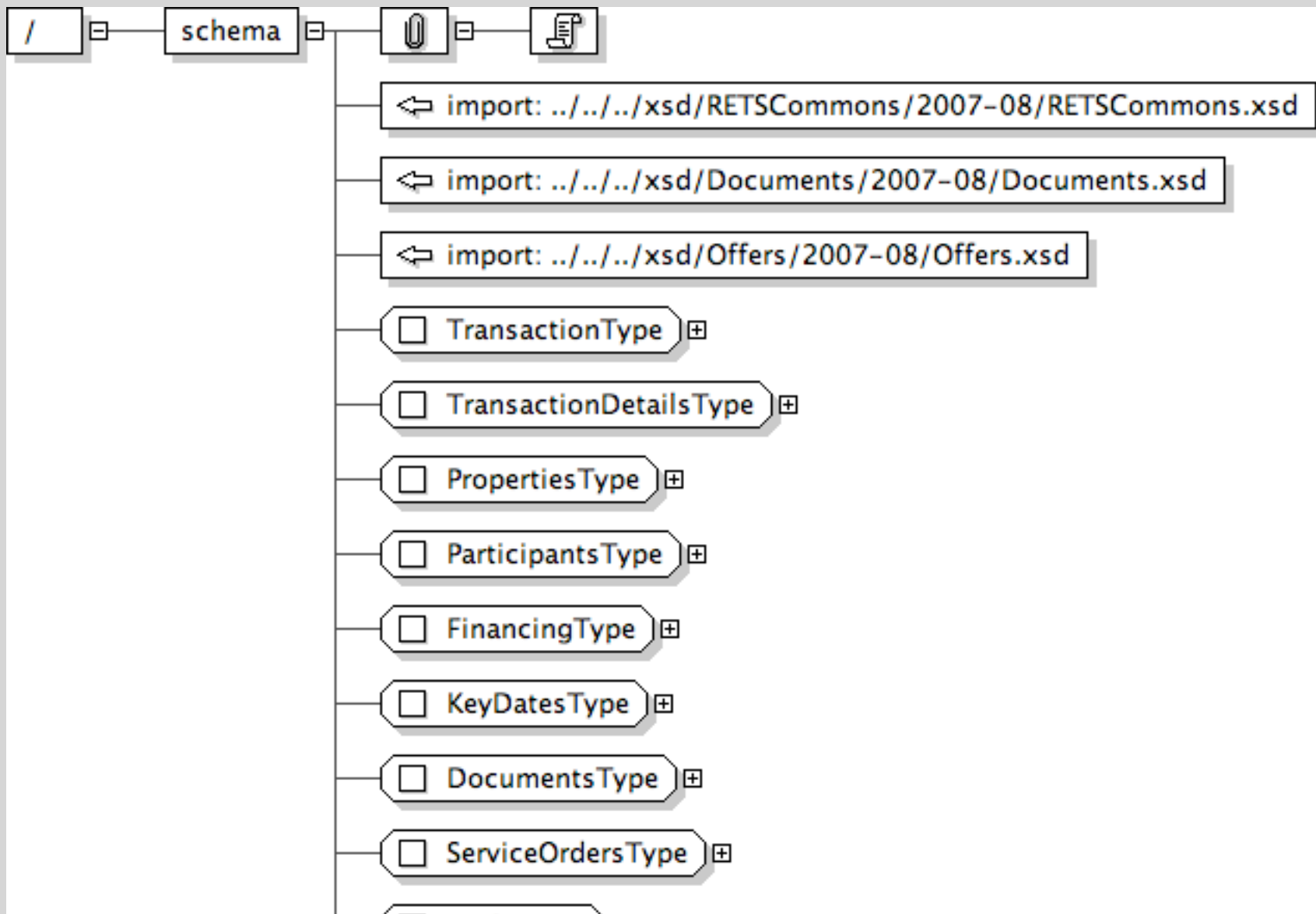
## Case Consistency

Attribute names should start with lower case



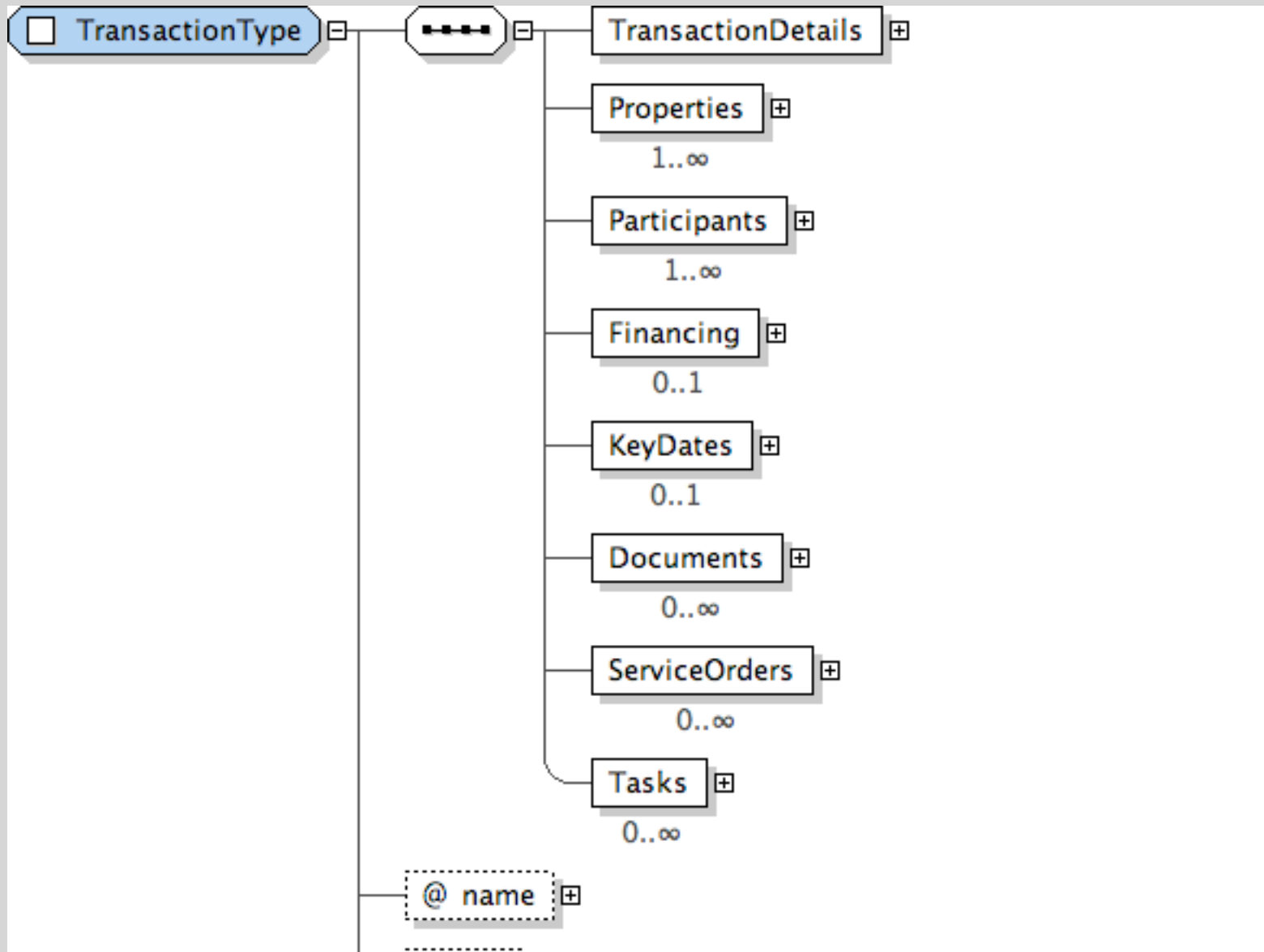
Top-Level, Reusable  
Types

Utilize Venetian Blind design  
pattern rather than Russian Doll



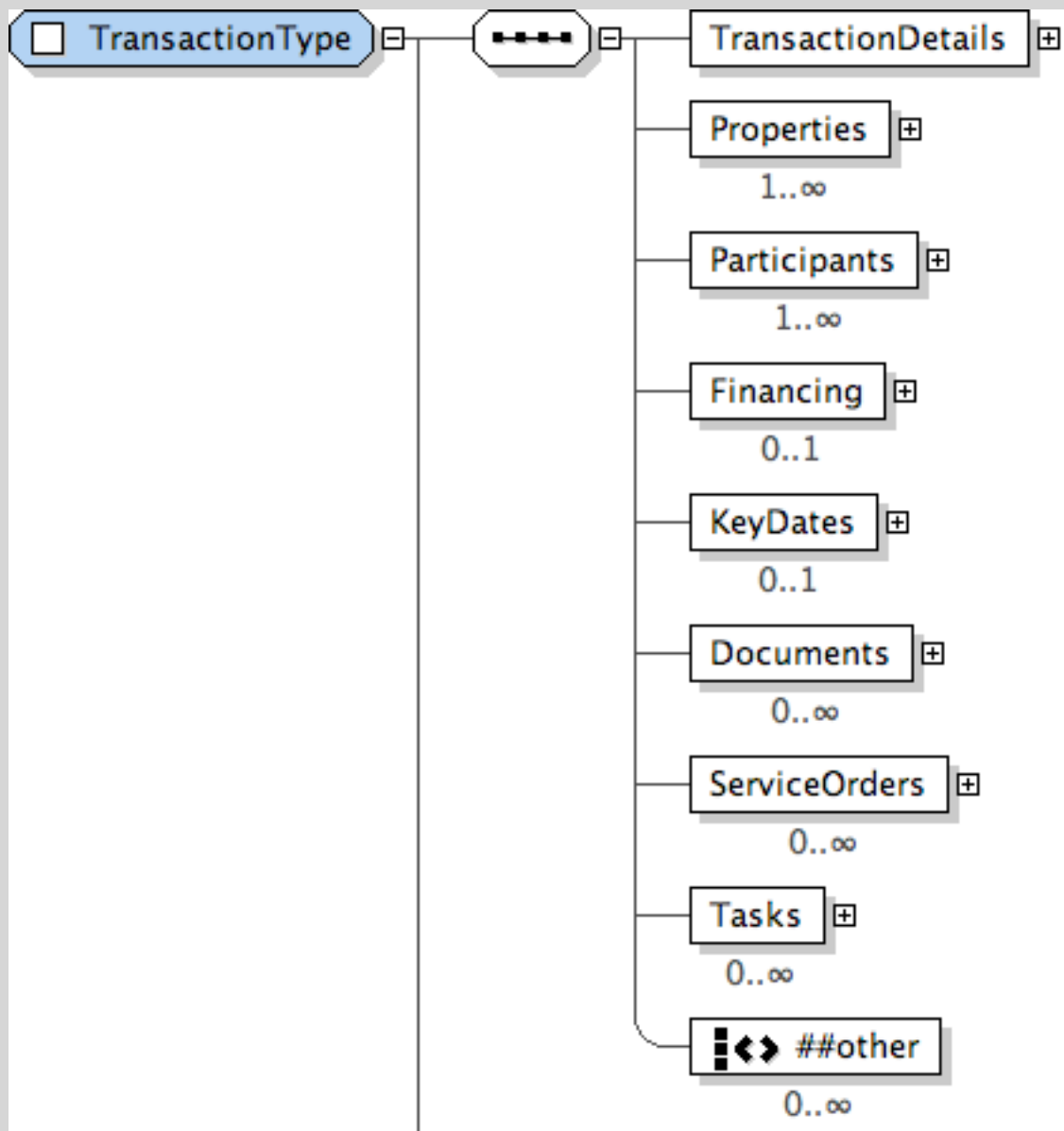
Top-Level, Reusable  
Types

Utilize Venetian Blind design  
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Ensure Extensibility  
Points

Ensure all major types include  
the `xs:any` element extensibility  
point



Ensure Extensibility  
Points

Ensure all major types include  
the `xs:any` element extensibility  
point

```
<xs:complexType name="TransactionDetailsType">
  <xs:sequence>
    <xs:element name="Name" />
    <xs:element name="Id" />
    <xs:element name="Category" />
    <xs:element name="Status" />
    <xs:element name="Phase" />
  </xs:sequence>
</xs:complexType>
```

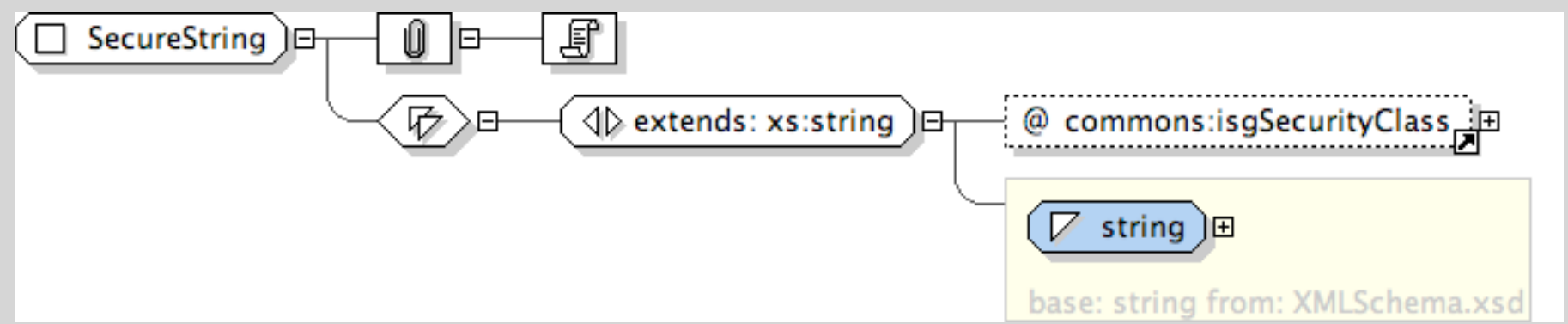
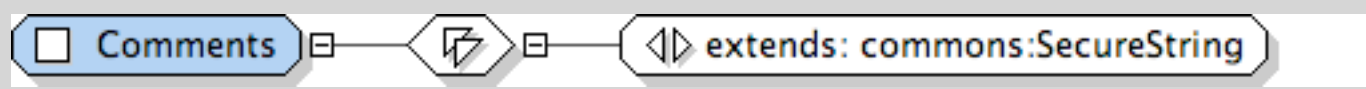
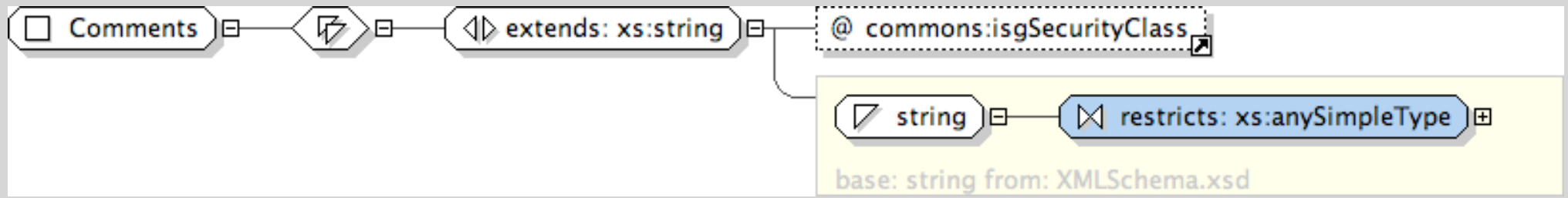
Provide Data Types for  
All Elements

Avoid having typeless elements

# Integration Across Schemas

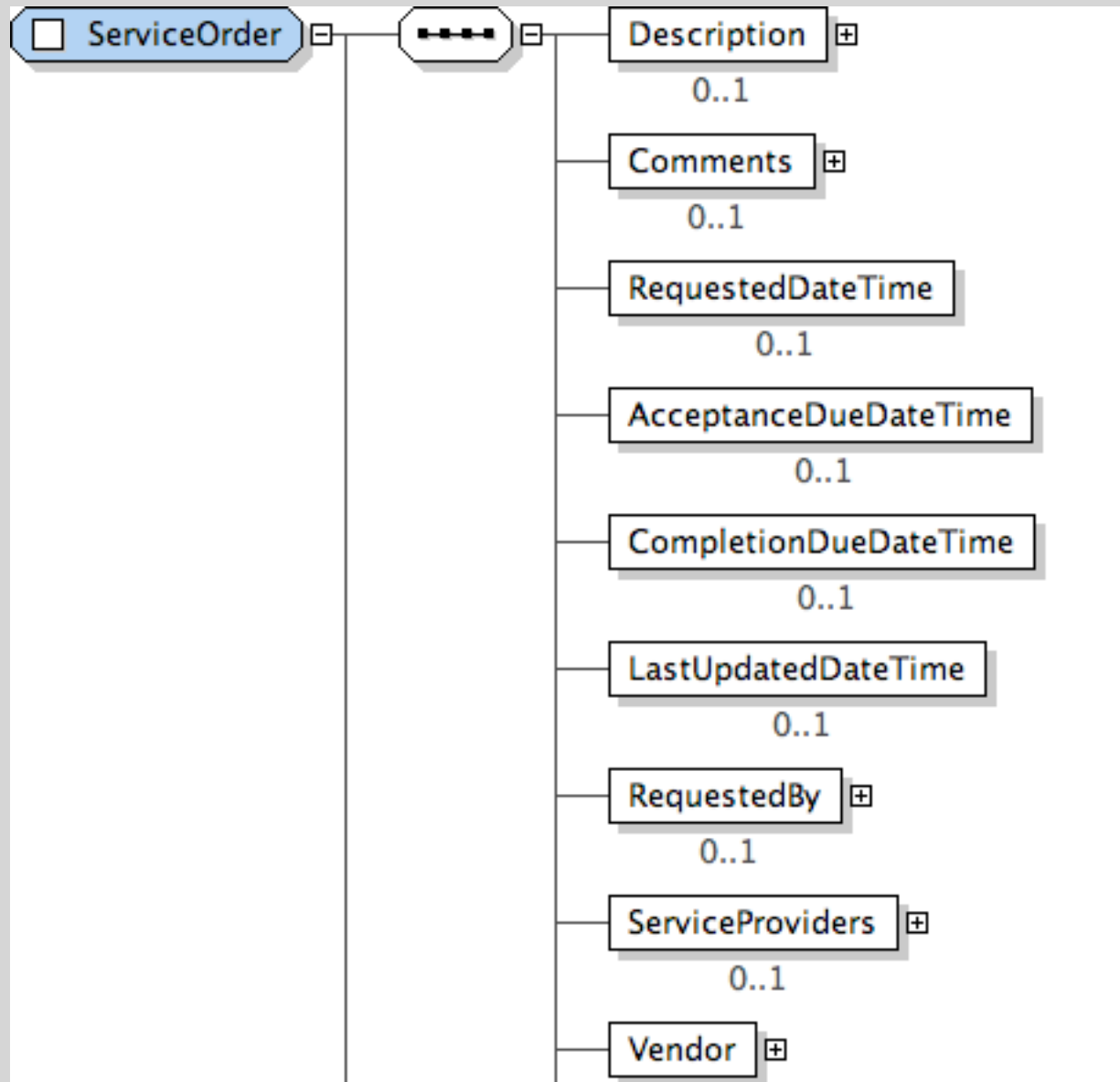
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- Look for types to reuse from commons
- Watch for types that could be moved to commons for reuse by other schemas
- Look for namespace consolidation opportunities



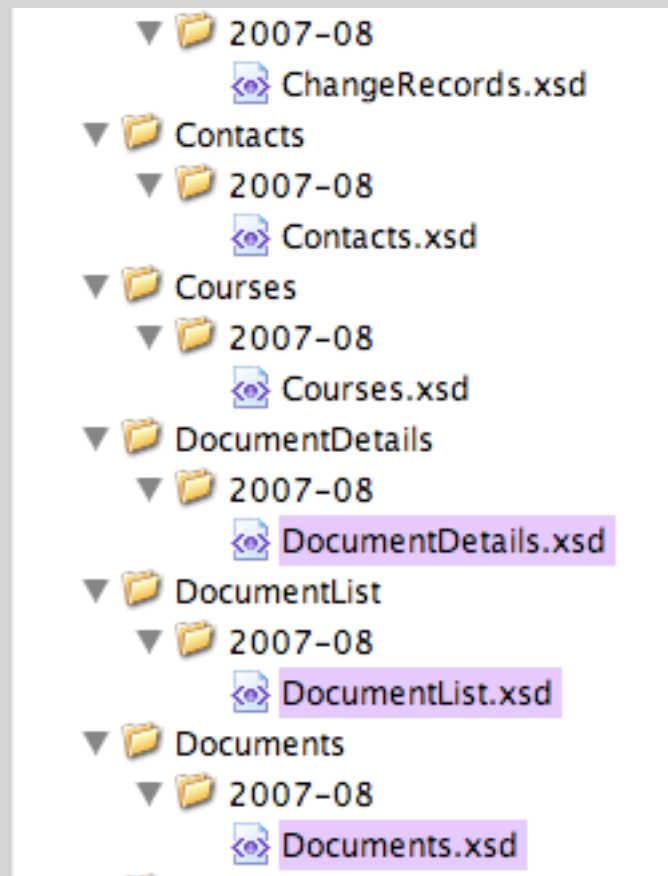
Reuse RETSCommons  
Types

Use SecureString type rather  
than isgSecurityClass attribute



Look for Types to Reuse

Could ServiceOrderList use a common ServiceOrderType with ServiceOrder?



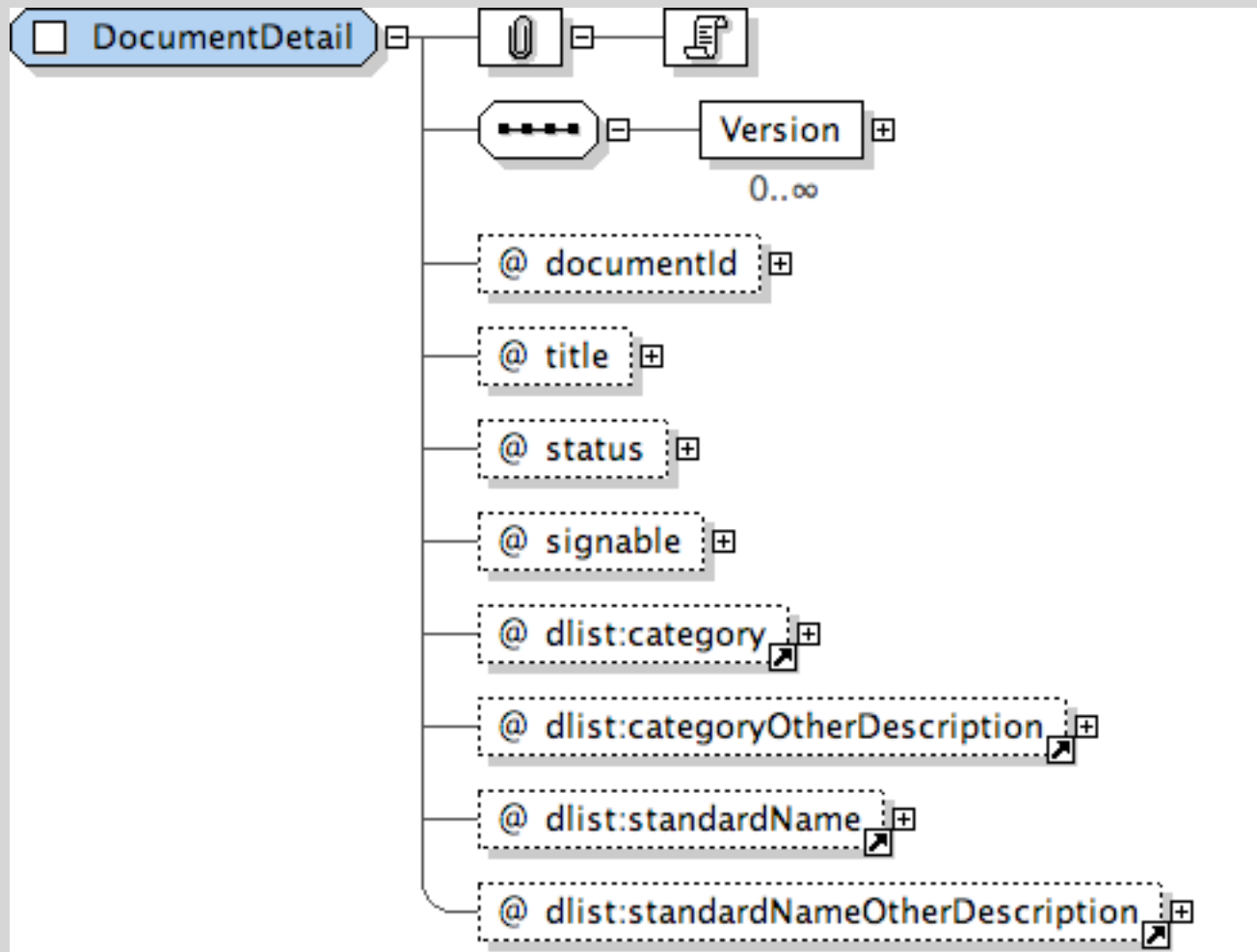
## Namespace Consolidation Opportunities

Can some of the namespaces be consolidated?

# Design Refinements Based on MLS Payloads Work

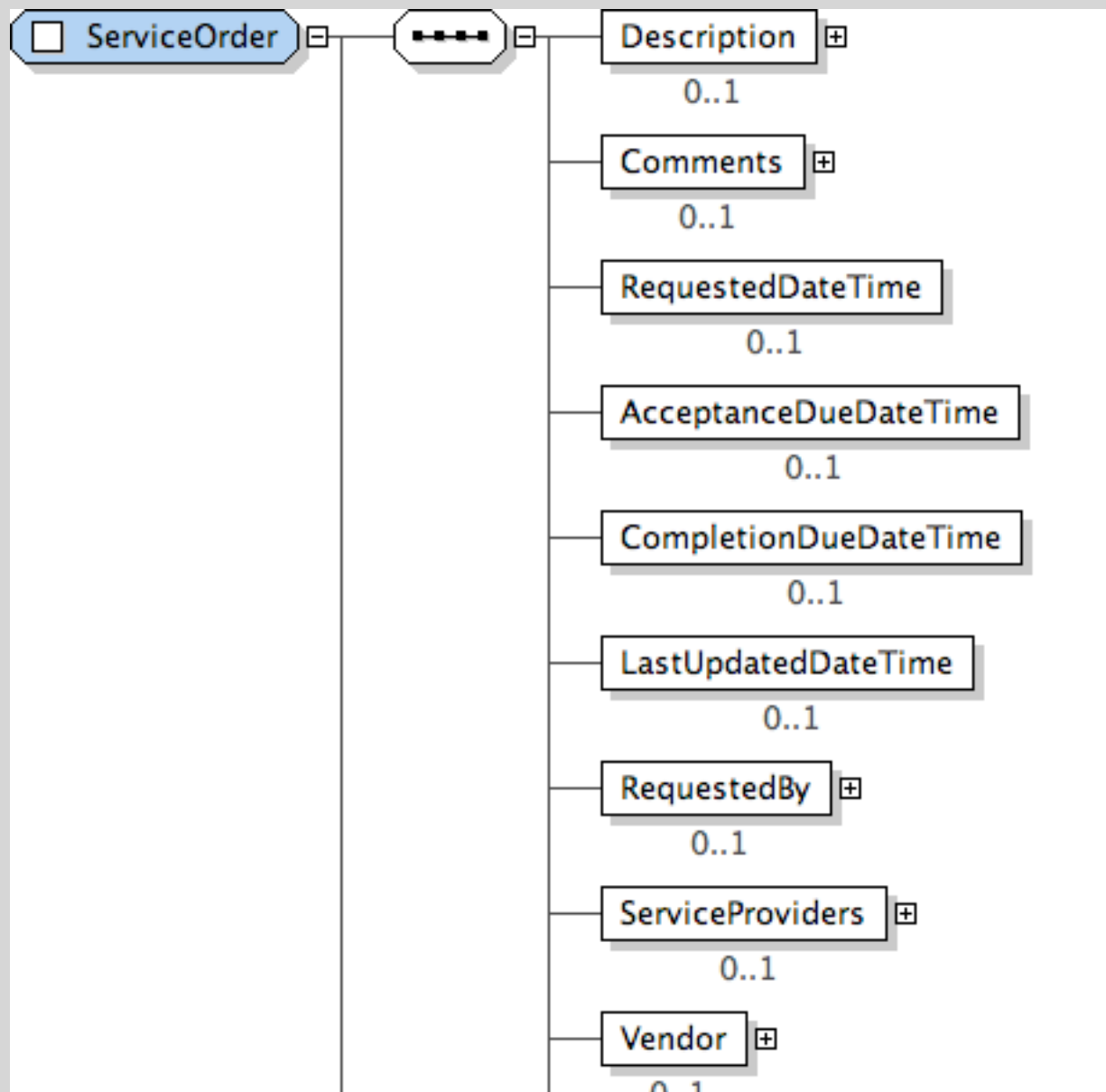
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- Minimize use of attributes
- Containerization of logical groupings of elements
- Enumeration extensions through use of other



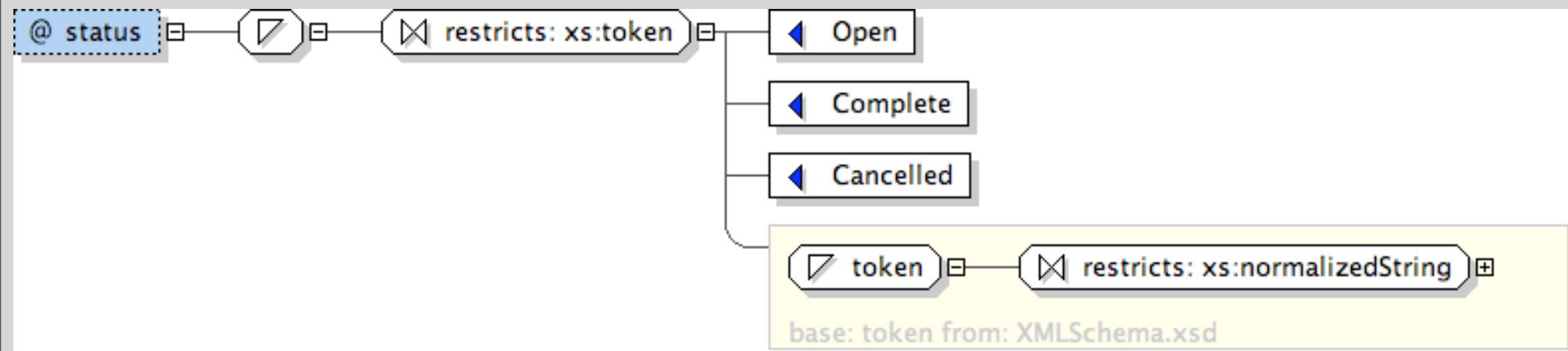
Minimize Use of  
Attributes

Could any/all of these attributes  
be child elements?



## Containerization

Can any of these elements be logically grouped?



Add “Other” with  
Description to Enums

Where there may be unforeseen  
possibilities allow the value  
“Other” in enums

# Incorporate Feedback from Community

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- Integrate any changes requested by the community
  - Additions to enums
  - Additional elements, removal of elements, etc.
  - Any other changes deemed beneficial or necessary

# Benefits of Making Changes

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- Consistency between MLS and Transaction Payloads
- Improve maintainability
- More easily integrate and readily propagate future version changes
- Data types have a lot of benefits
  - Can validate data and structure
  - Improve code generated from XSD

