RESO Transport Workgroup

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Agenda

• What we are trying to achieve
• Where we started
• Where we are now
• Details
• Questions / Answers / Discussion / Debate
• Next Steps / Actions / Timing
What we want to accomplish

• A “modern” (relevant) transport standard for our industry
• Something based on REST, lightweight
• That reduces the amount of data replication
• That better controls the flow of data
• That provides better access options for the “common” developer
• That does NOT require a massive lift for all vendors involved
Where we started

• A year ago – what’s the “best path forward?”
  – Lots of votes for OData
  – Lets not re-invent the wheel
  – Lets adopt something with legs

• Dug into it, discussed, debated
  – Other options emerged
  – Existing APIs depart from OData
  – Found various advantages and limitations
Where we are now

- Proposing OData as our stake in the ground
- This is the path we want to drive down
- We need to get to agreement
- There’s still debate
  - Why?
    - OData is only for .Net?
    - Better options available?
    - OData is too complex?
    - OData just won’t work?
What is OData?

• OData is an application-level protocol for interacting with data via RESTful web services
• Designed for the problem area we are focused on
• Initially, very focused on ATOM / XML
• Initially driven by Microsoft
• Now taken up by OASIS
  – Organization for the Advancement of Structured Information Standards
## Pros & Cons of OData

### Pros
- Already a working standard
- OData Filter and Query support is extremely comprehensive
- Encapsulates search & syndication in one
- No one has to write own query parser
- Supports XML (ATOM) and JSON
- Reference implementation already exists
- Validation / Compliance tools available
- Data model agnostic
- Supports modern technology – Jquery, JavaScript, mongoDB, iOS, Android...
- Support for .Net, Java, PHP, Ruby, Oracle, SQL Server, MySQL, nodeJS...
- Built for what our industry does

### Cons
- Primary driver was Microsoft
- Some key limitations, namely, geographic search
- JSON support still maturing
- Some departures from REST principles
- Other, competing standards like GData
Reality

• Any choice we make will have pros and cons
• Every approach taken to date makes compromises on REST principles
• No matter what approach the community will have work to do
• OData is not perfect, but it’s a solid foundation that we can work with
Scope

• Query (Search)
  – Not Create, Update, Delete to start

• Focus on key resources
  – Listings
  – Members
  – Offices
  – Media

• Extending to other resources is a “roadmapping” exercise
Scope

• We will extend OData where needed
  – “Functions” are the mechanism
  – Reference implementations for any new extension
  – We will promote back to OASIS
Core Recommendations

• Transport will standardize how to search by individual data types (how to search by string, number, list, lookups, etc)
  – 3 key string functions
  – 9 additional logical functions on numbers, strings, dates
• Pagination is defined in OData, use that functionality
• URI will have .../reso/complianceVersion/property/...
  – Media will be accessed via hyperlink
• Endpoint defines the payload (example)
  – /mobile/listing
    • <id=...>
    • <property HREF= ...>
• Can also do select statement to limit to specific fields
Core Recommendations

• Use functions to implement views that you want.
• This helps with things like
  – Implementing payloads
  – Implementing Saved searches
  – Implementing Saved select statements (like “short cuts”)
Challenges/ Limitations we Found

• Geographic search
  – Point + Radius, Polygon functions
• Select and sub-select (Get statements)
  – Various payloads like “mobile”
• Lookups
  – Can be handled by “collection elements”
• Missing some “convenience” factors
  – Using “Any” and “All” solves this
• Compliance
  – Need to dig into OData compliance tools
What’s next?

• Additional resources
  – Tax, History, Contacts, Events, Statistics, etc.

• Additional use cases
  – Syndication, Replication, etc.

• Additional geographic search types
  – Line, multi-polygon, etc.

• Getting a connection with OData team to help promote our agenda
Next Steps

- Propose to board for approval to move forward
- Call for assistance from the team
  - A few key items to iron out
- Initial draft out to community for comment
- Incorporate feedback / improvements
- Get final proposal out for ratification
Thank You!