

## Results XML 2014 specification

The purpose of this document is to specify the standard xml's that will be produced by RTR for use by external reporting clients (flash, 3<sup>rd</sup> parties).

The goal of the standard is to have output that can be used in a variety of jurisdictions. We only output data in a convenient format to work with, but we leave out certain steps that have to be solved on the client side.

Note:

The XML file that is produced is encoded as UTF-8 and includes a Byte Order Mark (BOM) as part of the encoded file to signal the endianness of the file. Software parsing the XML file should take this into account if necessary

## Formatting

Formatting issues are the responsibility of the web presentation. This includes:

- Date formatting: we supply the election day in the following string format "YYYYMMDD", this has to be shown in the correct notation for example: US/Canada: MM/DD/YYYY, Europe: DD/MM/YYYY
- Decimal separators if required: "123,456". This might be different for US and Canada.
- Percentage calculation and rounding: rounding is sometimes on 2 decimals, sometimes on 3. Always take into account division by zero and be careful with percentages above 100%.
- Win/Tie/Loser status flag will always be given in a standardized format (perhaps 1 is winner, 0 is tie, -1 is loser) even if the election is not finished. The web presentation has to include logic to only show this status if the election is finished).
- Sorting of choices.
- Contest vote totals: the total amount of votes collected within a contest. Used for percentage calculation. This number must be calculated by the web presentation.

## Special situations

- Contests might be disabled or acclaimed. It is the responsibility of the web presentation to deal with this. So if the customer does not want to see any disabled or acclaimed contests the web presentation has to filter for them.
- It is common that areas not always contain contests (we see this a lot in New Brunswick). The web presentation has to filter for them.
- Disabled choices might or might not have to appear in the web report, the presentation has to filter for them if necessary.

## Version Info

2.0	<p>Unification of queries with latest model changes</p> <p>New fields added into results.xml:</p> <ul style="list-style-type: none"><li>- Result: version</li><li>- Contest: sum, trn</li><li>- Choice: prc</li><li>- Area: trn, trn2, vot2, bal2, extid</li></ul> <p>New fields added into electionevent.xml:</p> <ul style="list-style-type: none"><li>- Election: version</li><li>- extid: for next entities</li><li>a) Area Types</li><li>b) Area</li><li>c) Office</li><li>d) Contest</li><li>e) Party</li><li>f) Choice</li><li>g) Electorgroup</li><li>h) Combination</li><li>i) Combo</li><li>j) Countng group</li><li>- Party: candtot</li></ul>

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### Proposal for xml format

The following is a proposal for an XML format that will be used with flash presentation.

We will separate the format into two xml files: *election.xml* and *results.xml* as we have been doing before.

#### General notes:

- Identifiers are integers
- Booleans are either 0 or 1
- String will be UTF-8
- Date will be in "YYYYMMDD" notation.
- Certain characters will be replaced with their HTML codes: " , < , > , &
- All attribute and element names will be lowercase.
- Nesting will be avoided for 1-n relationships, instead we will work with parent id's. For n-n relationships we will use nesting.
- There will be optional attributes, in this case a null value should be assumed.

## Election.xml

This file contains all static information regarding the election. This means any information that cannot change during election day.

### Election element

This is the root element and will contain all other elements describe below. It has the following attributes:

- version: identifier of file version.
- id: identifier of election event.
- nm: Name of the election event.
- dt: Scheduled date of the election event in YYYYMMDD format.
- tp: Type of election, can be one of the following values: "General Election", "Closed Primary", "Open Primary".
- jd: Name of the geographical area in which the election event is organized.
- des: Description of the election event.
- ts: timestamp of the moment when this report was produced.
- el: Number of eligible voters in the entire election, regardless of electoral groups.

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### Areatypes element

Parent of all the possible areatype elements.

### Area type element

Has the following attributes:

- id: integer identifier
- nm: name of the area type
- top: is this area type the top area type. Can be 0 or 1.
- ab: abbreviation of the area, optional
- des: description of the area, optional.
- pid: parent area type id, top parent area type does not have parent area type id.
- s: integer indicating sort order, the order of records themselves is also useable as order.
- extid: user defined identification of Area type

### Areas element

Parent of all the area elements.

### Area element

Represents each area in the election. Has the following attributes:

- id: integer
- nm : name of the area
- ab: abbreviation of the area, optional
- des: description of the area, optional.
- atid: id of the area type
- pid: id of parent area
- t: is this area the top area. Can be 0 or 1.
- el: number of eligible voters in this area regardless of electoral groups.
- s: sort order
- extid: user defined identification of Area

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## Offices element

Parent of all the possible office elements.

### Office element:

- id: integer identifier
- nm: name of the office
- atid: area type id
- tp: office type, can be one of the following values: Candidacy, Measure, Nomination, Statistical, Straight Party, Recall Question.
- sys: voting system, can be one of the following values: FPTP, Preferential
- maj: is major office or not, Can be 0 or 1.
- s: sort order
- extid: user defined identification of Office

## Contests element

Parent of all the contest elements.

### Contest element

Represents each contest in the election. Has the following attributes:

- id: integer identifier
- nm: name of the contest
- aid: area id
- oid: office id
- pos: number of positions
- wr: number of write-ins
- el: number of eligible voters
- acc: is contest acclaimed and was never included on any ballot
- dis: is contest disabled.
- s: sort order
- extid: user defined identification of Contest

## Parties element

Parent of all the party elements.

### Party element

Represents each party in the election. Has the following attributes:

- id: integer identifier
- nm: name of the party
- ab: abbreviation of the party
- des: description of the party

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- egid: link to its electoral group (optional)
- candtot: Number of candidates affiliated by Political Party
- s: sort order
- extid: user defined identification of Political Party

### Choices element

Parent of all the choice elements.

### Choice element

Represents each choice in the election. Has the following attributes:

- id: integer identifier
- nm: name of the choice
- conid: identifier of contest
- wr: is the choice a write-in or not. Can be 0 or 1.
- dis: is the choice disabled or not. Can be 0 or 1.
- Inc: is the choice incumbent or not. Can be 0 or 1.
- fnm: first name of the choice, optional
- lnm: last name of the choice, optional
- gen: gender of the choice, can be "Male" or "Female", optional
- s: sort order
- extid: user defined identification of Choice

### Affiliations element

Parent of all the choice elements.

### Aff element

Represents each choice affiliation in the election. Has the following attributes:

- chid: integer identifier of the choice
- pid: integer identifier of the party
- s: sort order

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### Electorgroups element

Parent of all the group elements.

#### electorgroup element

- id: integer identifier
- nm: name of the electoral group
- ab: abbreviation
- t: is top electoral group or not, can be 0 or 1.
- s: sort order
- extid: user defined identification of Elector Group

### Combinations element

Parent of all the combo elements.

#### Combo element

Represents each electoral group combination. Or in other words the types of ballots that exist.

- id: integer identifier
- nm: name of the electoral group combination
- extid: user defined identification of Electoral Group combination

### Combohasgroups element

Parent of all the chg elements.

#### Chg element

Represents the relationship between electoral group combinations and electoral groups.

- gid: electoral group id
- cid: electoral group combination id
- s: sort order



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### Countinggroups element

Parent of all the group elements.

### countinggroup element

Represents the counting group. These groups are categories of tabulators, for example Advanced voting day tabulators would be grouped together in this counting group.

- Id: integer identifier.
- nm: name of the counting group.
- extid: user defined identification of Counting group

## Results.xml

### Results element

Has the following attributes

- version: version of xml file
- ts: timestamp example: 4/29/2010 12:27:35 PM
- nm: name of the election
- fin: is the election finished or not, can be 0 or 1.
- bal: number of ballots cast.
- vot: number of voters that cast a ballot.
- tab: total number of tabulators
- cltab: number of closed tabulators
- pol: total number of polls (can be either leaf polls or main polls depending on setting "Include Splits in progress reporting", this applies to all poll count attributes below as well)
- clpol: number of closed polls.
- stpol: number of started polls.

### Choices element

Parent of all the choice elements.

### Choice element

Result for a choice (total and per party affiliation)

- id: identifier of choice
- tot: indicates if it is a choice total, if not then pid indicates the party affiliation. Can be 0 or 1.
- pid: party id, only given if tot =0
- vot: number of votes
- e: elected status, attribute will only be there if tot=1. Values can be -1 (loser), 0 (tie), 1 (winner). Can only be relied on if the office for this contest is FPTP (first past the post).
- Prc: defined as the percentage of votes received by candidate, calculated by taking the sum of the votes for that candidate and dividing it by the sum of the valid votes for that contest.

### Contests element

Parent of all the contest elements.

### Contest element

- id: identifier of the contest
- bal: number of ballots cast (and number of voters that cast a ballot) for this contest.

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- bl: number of blank ballots for this contest.
- uv: number of undervotes
- ov: number of overvotes
- iv: number of invalid votes
- wrr: number of write-ins. No longer populated, field is there for backwards compatibility.
- sum: defined as the sum of all valid votes for that contest, does not include overvotes/undervotes.
- trn: defined as the percentage of voters that voted for that contest, by dividing the number of cast ballots containing that contest by the number of eligible voters for that contest (taking into account the elector groups), this number is multiplied by 100 and rounding to 2 decimals.

### Areas element

Parent of all the area elements.

#### Area element

- id: identifier of the area
- bal: number of ballots cast in this area, regardless of electoral group combination (counted per polling district)
- vot: number of voters that cast a ballot in this area, regardless of electoral group combination (counted per polling district)
- bal2: number of ballots cast in this area (counted per ballot manifestation)
- vot2: number of voters that cast a ballot in this area (counted per ballot manifestation)
- tab: number of tabulators for this area
- cltab: number of closed tabulators for this area
- pol: number of polls in this area
- clpol: number of closed (leaf) polls in this area.
- stpol: number of (leaf) polls started in this area.
- Trn: defined as the percentage of voters that voted for that area, by dividing the number of cast lead ballots in that area (by looking at precinct breakdown) with the total number of eligible voters in that area), this number is multiplied by 100 and rounding to 2 decimals.
- trn2: defined as the percentage of voters that voted for that area, by dividing the number of cast lead ballots in that area (by looking at ballot manifestation breakdown) with the total number of eligible voters in that area), this number is multiplied by 100 and rounding to 2 decimals.
- extid: user defined identification of Area

### Tab element

Each Area element contains a Tab element, which is the parent of a series of Cg elements.

### Cg element

Each Cg element contains the count of all tabulators vs. closed tabulators within the current area for a specific counting group.

- cgId: identifies the counting group
- tot: total number of tabulators
- clos: the number of closed tabulators