Canada Health Infoway | Inforoute Santé du Canada

SNOMED CT Content Development – A Country Perspective

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Agenda

- About Canada Health Infoway
- Request For Change (RFC) Metrics
- Challenges with processing RFCs
- Infoway's RFC tool
- Workflow model
- Consultations with experts
- Suggested future directions

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Canada Health Infoway

- Created in 2001
- $2.1 billion in federal funding
- Independent, not-for-profit corporation
- Accountable to 14 federal/provincial/territorial governments

Mission:

Fostering and accelerating the development and adoption of electronic health information systems with compatible standards and communications technologies on a pan-Canadian basis with tangible benefits to Canadians. *Infoway* will build on existing initiatives and pursue collaborative relationships in pursuit of its mission.

Infoway's vision

- **Healthier Canadians through innovative e-health solutions.**

SNOMED CT Content Development Projects

- Microorganism content
  - A provincial initiative in collaboration with Infoway to use SNOMED CT for the reporting of lab results, to use the potentials of SNOMED CT and to reduce the local maintenance burden
  - ~ 1800 RFCs
- DI content
  - This project developed a SNOMED CT common DI terminology to support the implementation of DI Common Services for all of Ontario.
  - ~ 900 RFCs
- Vaccine content
  - A provincial initiative in collaboration with Infoway that lead to the development of 7 SNOMED CT refsets to support immunization functionality. The subsets enable the consistent capture of immunization data using standardized terminology
  - ~ 300 RFCs
- Overall, ~4000 RFCs in the past 2 years

Challenges with processing RFCs

- Volume
- Required turnaround time
  - E.g. approximately 45 mins/RFC was needed on average
- Tooling
  - Up to this summer no tooling solution beyond Excel was available
  - Lots of manual work
  - Prone to error
- Modeling challenges
  - Uncertainties in international direction

Introduction to InfoRMS

- Infoway Request Management System
- Replaced the previous RFC Process for SNOMED CT with a more efficient and streamlined process
- Scalable – supports multiple projects (HL7, pCLOCD)
- Supports integration in the end-to-end terminology solution

Benefits

- Reduction in errors (stronger data validation, checks for missing information, no reliance on copy-and-paste)
- Better tracking of the requests in a centralized database
- Better communication provided by the tool (manual email communication is no longer required)
- Increased productivity
- Reduced turnaround time for requests from Canadian implementers

Implementation project

- Project planning phase began in November, 2012
- Agile implementation – four sprints and a stabilization phase
- Operational since July 2013

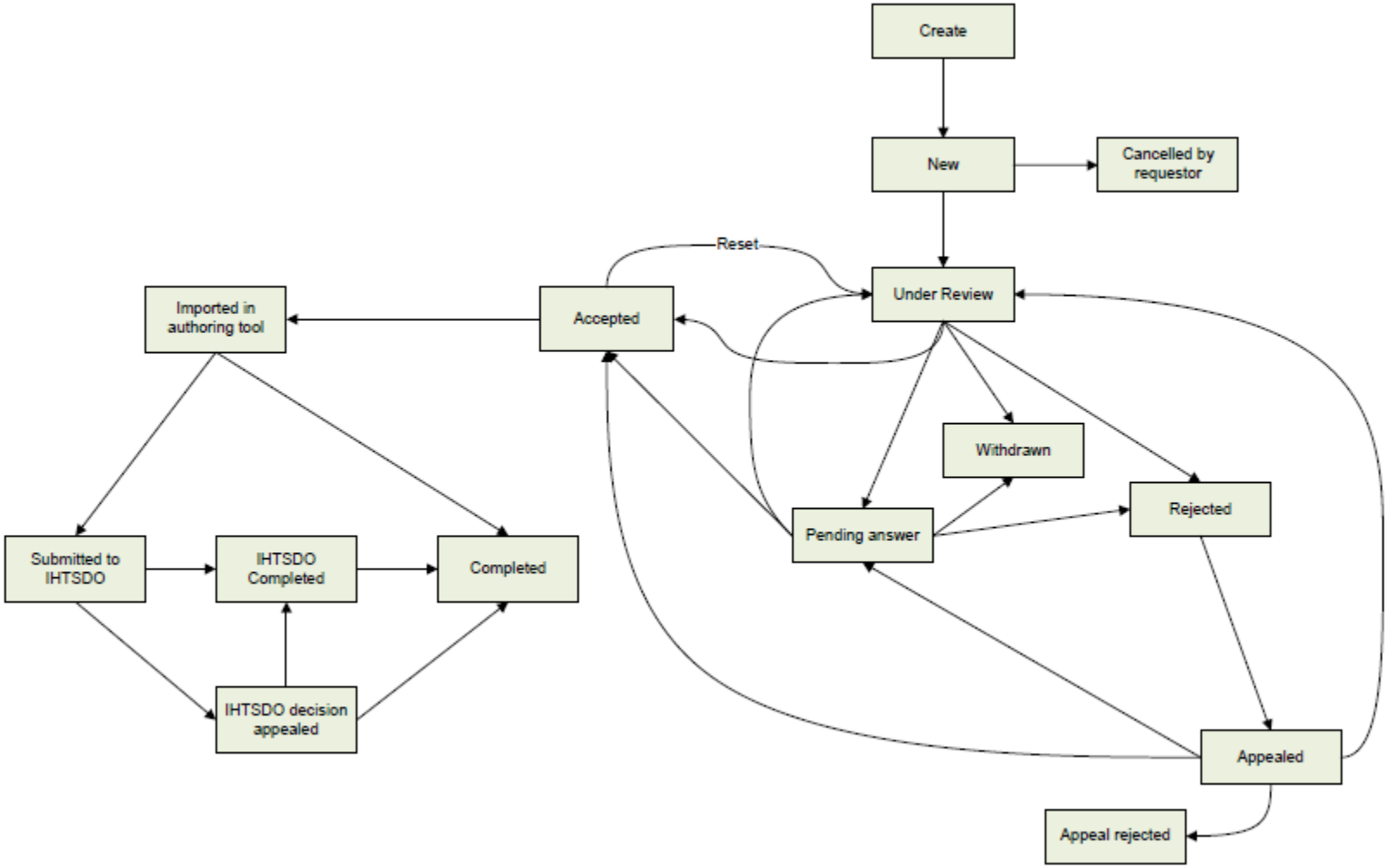
JIRA-based tool

- JIRA is a commercial change/issue tracking system developed by Atlassian
- One of the best solutions for tracking changes in the world, adopted by high-profile companies (BMW, Facebook, Cisco, Nike, eBay, etc.)
- Highly customizable (request types, fields, workflow, etc.)
- Plugin-based architecture allows extending the functionality through:
  - Installation of third-party plugins
  - In-house development of custom plugins
- Allows hosting multiple "projects" with distinct actors and access controls;

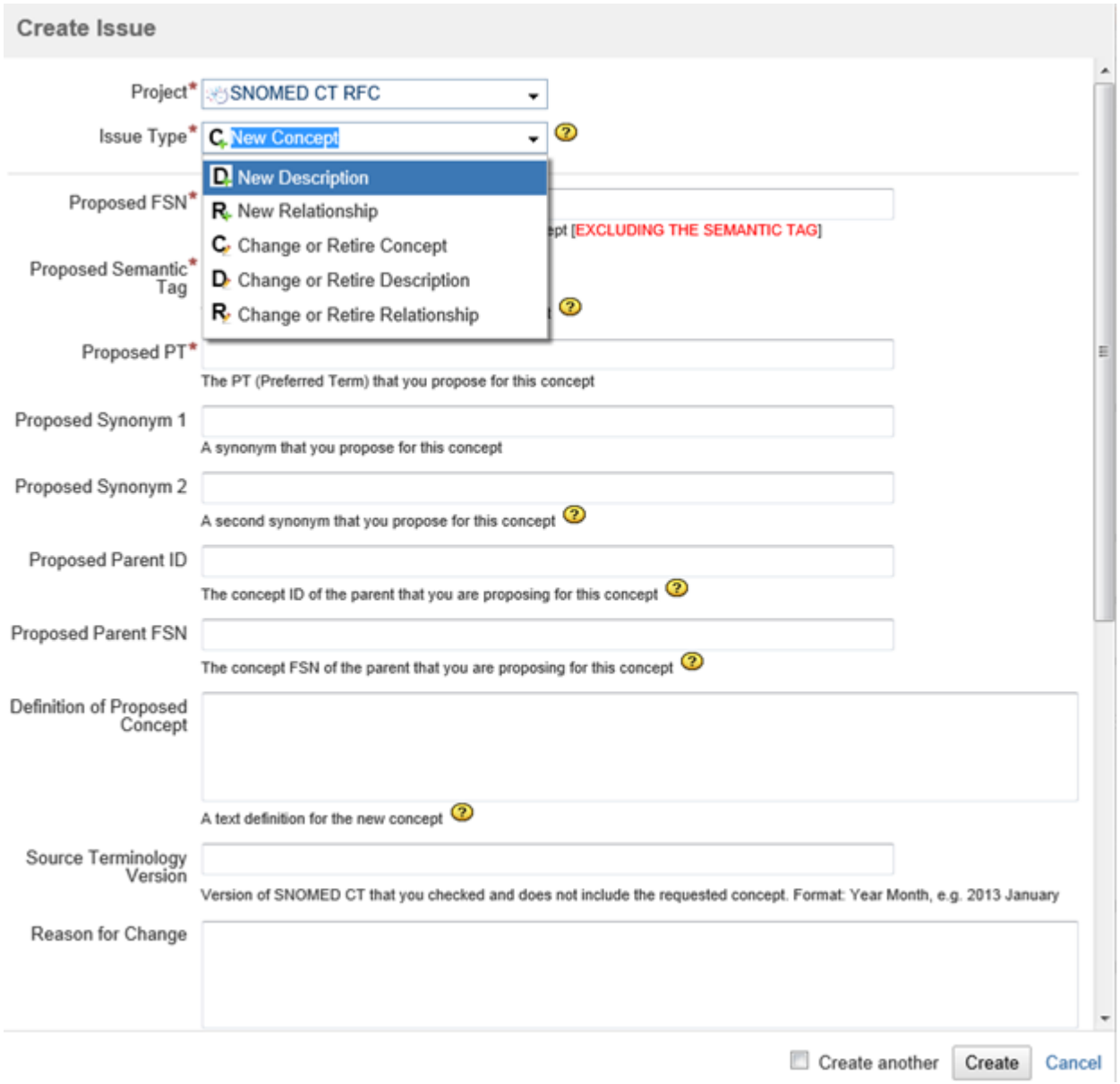
Before - After

Before	After
• Requestor downloads the template from InfoCentral • Requestor completes the template and emails to SC • Communication between SC and requestors done through different methods (emails, phone calls, etc.) • No easy way to document all communication • No way for requestors to know the status of their requests other than asking SC • Log of previous requests out of date	• Requestor downloads the template from the tool • Requestor completes the template and uploads via the tool • All communication done within the tool and stored in the tool • Requestors can not only see the status of their requests but they can also monitor other requests that are of interest to them • All requests are up to date in the tool

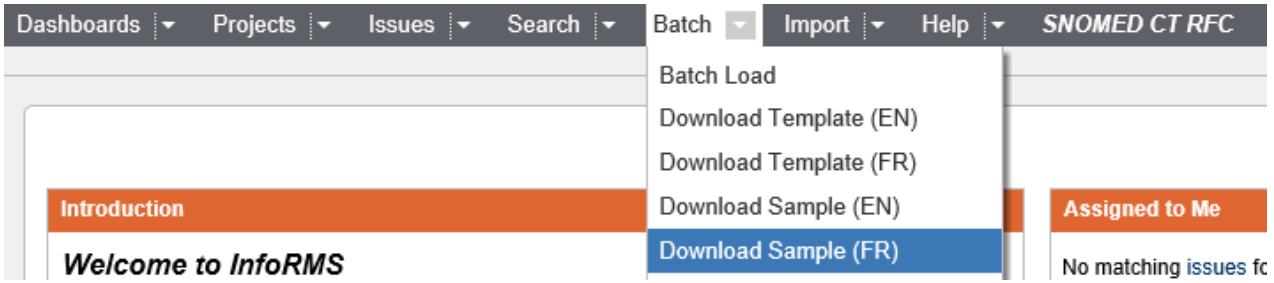
Integrated workflow



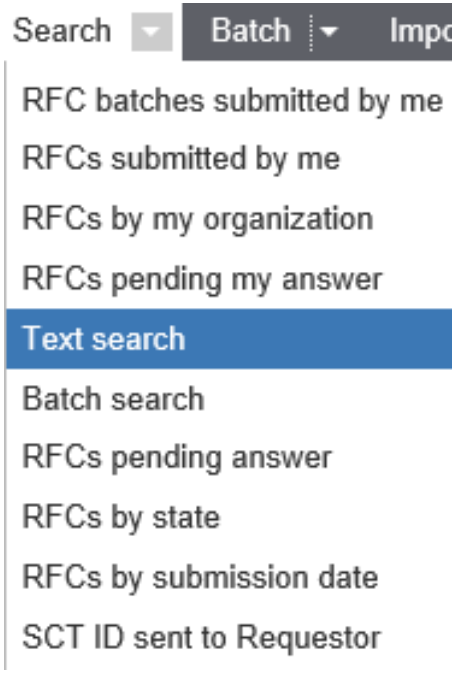
- Adding a new RFC
- RFCs can be entered individually or in a batch
- RFCs can be of 6 types as shown in the picture



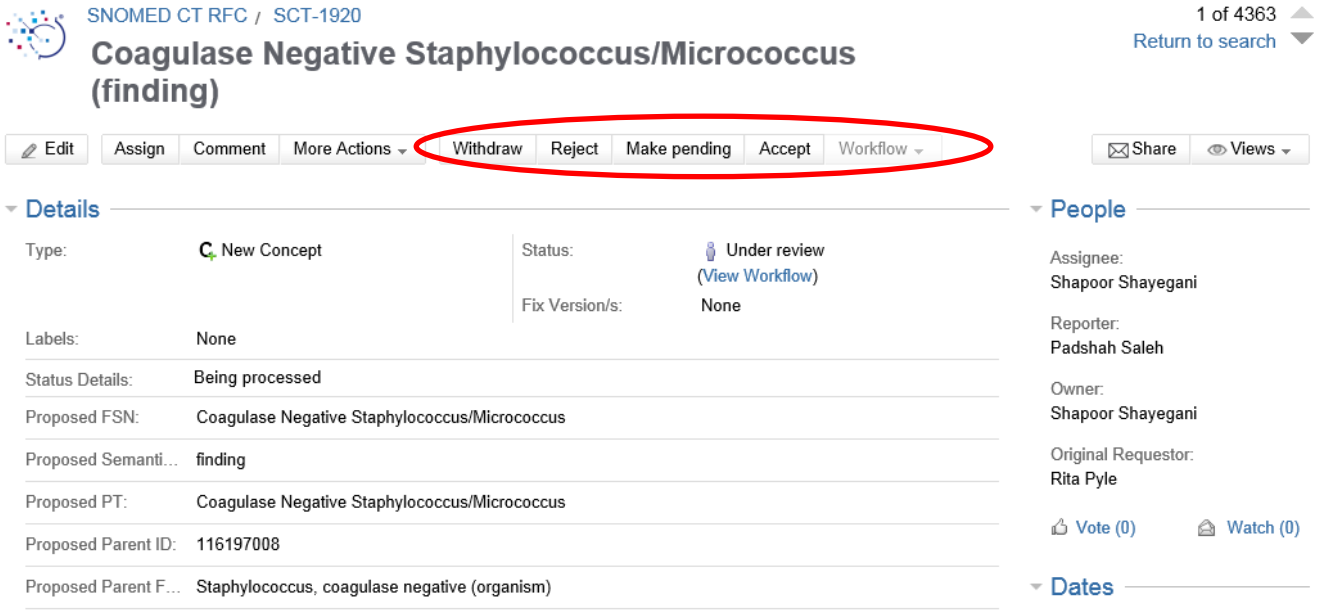
- A "batch" template can be downloaded in English or French
- The template is an Excel file that needs to be completed and uploaded



- Search options
- Several search options are developed
- More search criteria can be entered by users; JIRA supports SQL



- Workflow options within the tool support transitioning the request between states



Consultations with experts

- Several consultations were made on issues such as:
  - Validity of RFCs
  - Modeling issues
  - Naming issues
- Consultations were done with:
  - Internal resources
  - Canadian experts (e.g. Winnipeg public health lab)
  - International experts (e.g. Jim Case)
  - IHTSDO (e.g. Chief Terminologist)
  - CAP
  - IHTSDO content project were reviewed

Communication with requestors

- Close communication was maintained with the requestors
- Experts at the requesting organizations were involved to ensure the intent of the RFCs are clear and to agree upon a solution
- Name changes were proposed and discussed
- RFCs were generally not rejected without involvement and understanding of the requestor

Uncertainties at the international level

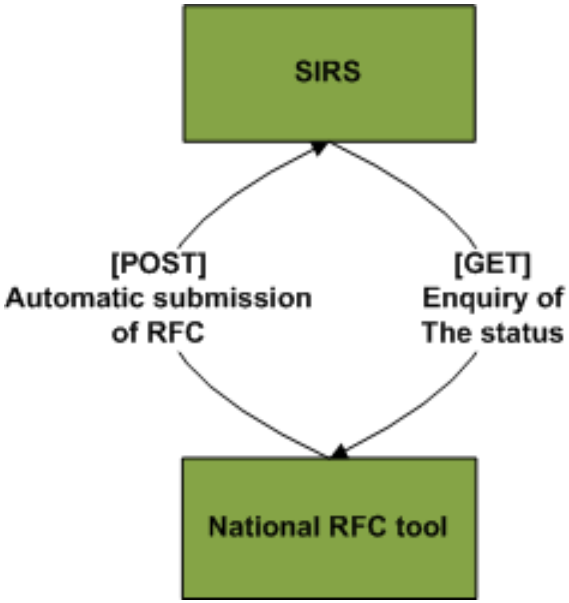
- Some content projects at the IHTSDO make modeling/naming guidelines a moving target
- When consultation channels were exhausted we had to make decisions

Example of approach taken - Micro

- **RFC pattern:**
  - X species (organism). For example: Shigella species (organism)
- **Problems:**
  - They fall under Genus and become siblings to other species of the same Genus
  - It is like a catch-all concept, or similar to 'unknown', 'not otherwise classified', etc. that classification systems have and a terminology such as SNOMED would not allow
  - What it really means is that the lab has found an organism and is down to the level of Genus but is not sure which species it belongs to
- **Consultation:**
  - Consulted with Kent Spackman and James Case.
- **Solution:**
  - Create these as "observation result" instead of organism. Since observation result has not been added as a semantic tag yet, we are creating them as finding for now. The created concepts are "X species unspecified (finding)"

Suggestions

- Integration between SIRS and national RFC tools should be considered
  - E.g. through APIs



Suggestions (2)

- Decisions and context leading up to decisions should be transparent and accessible to NRCs working on Content Development
- Consultations with experts have been a very successful approach
  - It would be great if there was a cross-NRC/IHTSDO sharing of expertise and decision
  - Working in isolation is not a good practice
  - Involving stakeholders ensures
    - Efforts are not duplicated
    - A consistent international approach is taken
    - Others can benefit from the same work
- Tighter communications with requestors makes the process more transparent and more satisfactory at the end

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Thank you