SMART team evaluation of the process for adding extensions to the FHIR Bulk Data standard

The required elements of the bulk data specification are intentionally minimalistic, standardizing the bare minimum functionality to enable the most broad use cases. Servers and clients are permitted to implement additional functionality in both the request and response as long as it does not break the requirements. From our survey of early adopting implementers, a small number of plans to extend functionality were uncovered, either by implementing additional query parameters not required by the specification, or by leveraging the ‘extension’ field in the server response.

Although no particular extensions are defined within the specification, the current Implementation Guide (https://hl7.org/fhir/uv/bulkdata/index.html) provides guidance on use of pre-coordinated JSON objects in server’s ultimate response:

“To support extensions, this implementation guide reserves the name “extension” and will never define a field with that name, allowing server implementations to use it to provide custom behavior and information. For example, a server may choose to provide a custom extension that contains a decryption key for encrypted ndjson files. The value of an extension element SHALL be a pre-coordinated JSON object.”

Multiple survey respondents divulged plans to implement the experimental '_typeFilter' query parameter, allowing a comma-separated list of FHIR REST API queries to further restrict the results of the query. Two other non-required query parameters were mentioned, one labeled '_until' to not return resources that have been updated past a given timestamp. When used along with the current '_since' parameter, this allows requesting export of resources modified within specific time intervals, for example to limit the output size of very large requests. Another implemented query parameter was mentioned, to enable requesting a 2-stage process for retrieving large documents.

Currently, implementers are encouraged to contribute to the evolution of the SMART/HL7 FHIR bulk data access implementation guide through participating in Connectathon events and the Argonaut working group discussions, as coordinated through the chat stream at https://chat.fhir.org/#narrow/stream/179250-bulk-data. Specific requests should be logged against the “FHIR-bulkdata” specification at https://jira.hl7.org/. After reviewing feedback from early adopters, the SMART team has logged the JIRA ticket FHIR-28606 to improve guidance surrounding additional community-driven query parameters and extensions, including '_until'.