**Sketch of NIBRS tool suite**

The following table describes a suite of capabilities useful for processing NIBRS data.

Each tool would have an implementation in four layers:

* A Java API
* A REST service that wraps the API
* A command-line tool providing access to (wrapping) the API
* A Camel processor

Note that the tools can be “piped” together, so that the output of one can be the input of another (e.g., N-DEx XML piped to NIBRS XML piped to flat file format). Note too that the Camel processors can be linked together via Camel, within a single Java process or across machines. In this way, one could use the tools as a statewide NIBRS aggregator, accepting flat-file submissions from some agencies and NIBRS XML or N-DEx from others, storing all submissions in a repository.

We could also easily supply a Mondrian schema that fronts the repository with a ROLAP interface for analytics purposes. It is possible that this could also be used to generate UCR Summary reports out of a NIBRS repository; if not, we would need a special-purpose UCR Summary generator. We could develop MDX queries that assist with data quality and validation, as well.

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| **Function** | **Description** | **Input** | **Output** |
| Flat to NIBRS XML | Converts legacy NIBRS flat file format at NIBRS XML | Legacy format | NIBRS XML |
| NIBRS XML to Flat | Converts NIBRS XML to NIBRS flat file format | NIBRS XML | Legacy format |
| N-DEx to NIBRS XML | Converts N-DEx incident-arrest message to NIBRS XML | N-DEx I/A | NIBRS XML |
| NIBRS XML to N-DEx | Converts NIBRS XML to N-DEx incident-arrest | NIBRS XML | N-DEx I/A |
| NIBRS XML Validation | Validates a NIBRS XML instance against NIBRS edit checks plus additional (optional) edits specified by a state/jurisdiction | NIBRS XML | Validation report |
| NIBRS XML Aggregation | Combines N NIBRS XML instances into one | NIBRS XML | NIBRS XML |
| NIBRS Repository Interface | Provides operations to import NIBRS XML into a relational database repository | NIBRS XML | None |