NIEM Conformance Made (As) Simple (As Possible)

NIEM conformance is formally defined by three specifications:

1. NIEM Conformance Specification: https://reference.niem.gov/niem/specification/conformance/3.0/
2. NIEM Naming and Design Rules: https://reference.niem.gov/niem/specification/naming-and-design-rules/4.0/
3. NIEM Model Package Description Specification: https://reference.niem.gov/niem/specification/model-package-description/3.0.1/

Those specifications provide conformance rules for three kinds of thing, three NIEM *conformance targets:*

1. An XML document – a *message*, a collection of instance data at runtime
2. An XML schema document set -- which forms a schema used to test whether a message conforms to one or more *message formats*
3. A Model Package Description – in practice, an Information Exchange Package Documentation (IEPD); this is a *message description*, consisting of a schema document set and anything else needed to define one or more message formats

The spike recommendation and suggested step-by-step process calls for a GLDM-conforming and NIEM-conforming IEPD that defines the data elements for any data stored internally or exchanged externally by GCCS-JE. Formally, this means satisfying all of the rules in the three specifications above. Informally, this means the XML schema documents in the IEPD must:

1. Follow the rules for XML schema documents in the Naming and Design Rules. These rules prescribe an ISO 11179 standard format for XML schema component names and definitions, and proscribe certain constructs in the XML Schema language. Most of the rules are expressed in Schematron and can be assessed by an automated conformance checker. These rules are not overly restrictive or especially difficult to follow in practice.

2. Reuse data components defined in the NIEM core and domain models instead of needlessly defining a new, duplicate component in an extension schema document. If something in the NIEM model satisfies your business or mission need, then you should use it. This rule requires a good-faith human evaluation.

3. Use data components in accordance with their definition. If the definition says the element contains the length of some object, do not use that element for a shoe size. This rule also requires good-faith human evaluation.

NIEM does not define conformance for databases or system implementations, which means that in general, there is no such thing as a NIEM-conforming database, system, implementation, or tool. To achieve the goal while avoiding confusion, GCCS-JE should codify the spike recommendations in a *NIEM implementation rule,* rather than invent a new (GCCS-JE specific) form of NIEM conformance.