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| Comment Number | Comment | Editor's Response |
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| 1 | The addition of short tag XML encoding: We are OK with this proposal, however the binary version of the standard is still shorter, and for mobile devices this may be the most valuable variant | |
| 2 | Message size is not a significant factor One of the major arguments for short tags is that the length of the NIEM element names creates a problem in resource-constrined environments. This is a questionable argument for several reasons: 1) NIEM tags add only slightly to the size of the entire transaction; 2) Extra transmission times are extremely small; 3) Many user-facing applications transmit rendered items rather than raw XML; 4) The legacy encoding is still available for extreme cases | |
| Rebuttal to comment 2, point 2) by another canvassee | This is a poor assumption. Many current users are on dial-up | |
| Rebuttal to comment 2, point 4) by another canvassee | The legacy [traditional] format is not conducive to transmission via web services without additional encoding | |
| 3 | Having two vocabularies undermines NIEM's goals, This extra effort is likely to discourage information sharing and / or add significant costs to data sharing in government | |
| Rebuttal to comment 3 by another canvassee | The short-tag encoding is optional. As is the "extra effort" which is easily handled with an XSLT | |
| 4 | Adding an encoding increases the complexity of the specification … There is not a one-to-one mapping between the data elements in any of the encodings; all three have different structures. Trying to express a three-way many-to-many mapping in a comprehensive way is challenging | |

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| Rebuttal to comment 4 by another canvassee | Users would not be encoding all three encodings. The specification gives them the freedom to choose which encoding is most appropriate for their use. Any necessary mappings between the encodings can be very easily effected by XSLT. |
| 5 | Cryptic element names are difficult to work with… NIEM tags, on the other hand, are human readable by anyone and are even more meaningful to users familiar with a few NIEM rules |
| Rebuttal to comment 5 by another canvassee | Targeted partners don't all speak English, so the NIEM tags are actually quite meaningless to them. The short tag elements, on the other hand, are familiar names that they are used to working with as part of the current native specification. Applications are more likely to be written correctly and quickly when developers and users understand the meaning of the data at a glance. |
| 6 | The short-tag approach does not take advantage of XML benefits. The proposal says that no XML schema will be developed for the short tag XML. Schemas serve several important purposes in any XML application: a) They allow for automated validation; b) They specify the order and structure of elements; c) They document the structure in a standard way; d) They allow for code generation |

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| Rebuttal to comment 6) by another canvassee | A schema for short-tag XML can be easily generated, should one be desired. Concerning the statement about importance of schemas: This is not a true statement. The SAX API works with XML documents, not schemas, although one can argue that a schema is an XML document. The SAX API doesn't care about the order of elements in an XML document; you use this API to traverse the XML elements, the XML characters and any processing instructions sequentially from the top of the docuemnt to the end of the document. XSLT enables you with the use of XPath to extract values from an XML document without necessarily knowing the structure of the document. That is the power of this tool; it is functional rather than imperative in nature. Concerning code generation: Most agencies implementing NIEM or GJXDM-based XML do not use code generation. Java-based suites generate one class per XML element, and thus try to generate more than a thousand clases per NIEM-based IEPD and usually crash as a result. XQUERY (XML Quuery Language) is a technology based on XPath that enables a developer to traverse XML documents without knowing the structure of the document being processed, directly accessing elements |
| 7 | Adding an encoding places an extra burden on implementers |
| Rebuttal to comment 7) by another canvassee | Implementers will not care about existing optional encodings they are not using |
| 8 | There is no clear transformation path between the two XML encodings. Transforming short tag XML to NIEM XML is particularly complex because there is no schema for the short tag XML. It is impossible for the developer to be able to make assumptions about the structure / order of the input document so he has to handle every case |
| Rebuttal to comment 8) by another canvassee | This statement is untrue. XSLT is typically used to transform one XML instance document to another form of XML, not schema (although it can be done as schemas are XML) This is a very common and simple use of XSLT and is not "impossible' at all |

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| 9 | I believe that the short tag concept has really been forwarded to be able to address concerns that our international partners have regarding NIEM. Traditionally, the ANSI/NIST ITL has been the defacto biometric fingerprint standard worldwide, even though the NIST standard is primarily targeted for use in the US. Moving to the NIEM XML standard for the NIST standard makes sense for the US participants - especially since the feds have adopted it and because federal funding for the states requires its use. Obviously the international community is not married to the NIEM standard in the same manner that we are in the states - they don't see the benefit and arguably it is an inefficient exchange standard for biometric transaction. Furthermore, I have heard that the international partners do not like the plain text NIEM tags because they are in English - they don't get the benefit of knowing what the tag is because of the language barrier, but they have to absorb the extra overhead associated with the length of the tag. | |

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| | To me, the question is: do we value the ability to exchange biometric data with our international partners? I think that the answer is different depending on who you ask: individual states - no so much, but the federal government (DoD, DHS and FBI) - yes. It would seem to me that there would be a real need for a international short tag standard that could be mapped to the true ANSI/NIST standard, however, I'm not sure what body should develop it. It may make sense for NIST to develop a "Part 3 - International Short Tag" as well as a mapping crosswalk to part 2 so that there would be consistency in a transformation from the NIEM based Part 2 to a standardized Part 3. |
| 10 | Although we don't believe that NIEM provides an answer for all solutions, and we don't believe anyone could develop a NIEM standard transmission spec without leaving something out or extending NIEM to accommodate missed elements in the standard, we don't think the "short tag" approach is the answer either. Just one more thing we have to worry about coding to, introducing errors, spending money testing, etc. Unfortunately, they can't use the argument that NIEM is easier to understand or use, or that it is so comprehensive that there is no reason why any other standard should be considered. In developing NIEM, they could have done better about naming elements in a more friendly or obvious manner, and giving the option of a broader scope of defined elements. But the short tag approach seems more like a regression to early XML days rather than a step forward in technology. If they are worried about size of data transmitted over the network from a mobile device, couldn't they use compression? |

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| 11 | It is not a rejection of a NIEM-based XML implementation, but rather an alternative implementation to provide interoperability with international organizations that do not recognize NIEM, as well as providing a simplified method of communicating in XML for those who do not care about NIEM conformance. |
| 12 | [This organization] supports the short tag XML proposal in the Draft ANSI/NIST-ITL 1-2010 both for data sharing with international stakeholders that have no requirements for NIEM conformance, as well as for mobile applications and systems that can benefit from the elimination of certain structures and constraints. |
| 13 | The short tag sample provided does not use namespaces. Using namespaces in an XML application is important for several reasons: a) They identify the standard to which the elements belong; b) They facilitate the combining of vocabularies from different standard or domains; They make extensions easily identifiable; d) They are commonly used to identify the major version of an XML vocabulary |

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| Rebuttal to comment 13) by another canvassee | If a namespace is not explicitly defined, unqualified elements are in the default namespace. Having one namspace is actually simpler for implementers. Concerning vocabularies, a SOAP element is just an XML envelope that will support / contain any XML used for a specific exchange even if the embedded XML doesn't have namespaces associated with it. It is valid to have namespace-qualified elements and unqualified elements within the same document. Concerning d), Namespaces are used to represent data sources. The W3C recommendation for versioning of XML vocabulary is by representing the release date in the URI of a schema |
| 14 | The cryptic tag names attempt to reduce space slightly while sacrificing clarity. This is antithetical to XML. The XML 12.0 specification says "Terseness in XML markup is of minimal importance." |
| 15 | Who would be responsible for writing an XSLT? It is complex enough if it is left up to implementers. There will likely be variations among them. It should be writtten by NIST as part of the standard, but it is unlikely that NIST will have resource to write it. |
| Rebuttal to comment 15) by another canvassee | This is mere speculation and off-topic. The XSLT will be provided with the IEPD. This is meant to be a review of the draft ANSI/NIST/ITL specification, not an IEPD. |
| 16 | The extra time required to run an XSLT in a real-time scenario will negate any benefit of sthorter tags in the first place. |

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| Rebuttal to comment 16) by another canvassee | Although it is not projected to be an intensive process, it is important to note that there is no reason to assume that any particular users will perform such a transformation. It merely offers users the option to do so, if they wish. The benefits of short tags are that they use less bandwidth and are more comprehensible to non-English speakers, especially those who are already familiar with the legacy encoding. They may wish to transform the short tag XML to a different encoding, or they may not. They will be allowed to decide for themselves. |
| 17 | Short-tag approach does not increase business value. One other option to reduce data file size is by applying data loading scheme. Mobile device's screens, in general, are small in size. So a user will not need to view the entire XML document. Dynamic or lazy data loading would be one approach. Additionally, the mobile industry probably already solved this problem. |
| 18 | The XML representation of the new ANSI/NIST Standard is still a literal translation from the ASCII/Binary fields in the old standard to XML tags. It does not follow the best practices of using XML. The strength of XML should be utilized in the standards to facilitate efficiency, scalability and maintainability of the standards. For example, the XML type IDREF can be used in place of cross-reference fields like “IDC” to reference related objects within the data transaction. IDC is required to link fingerprint minutia (Type 9 data) to the associated fingerprint images |

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| 19 | Unfortunately, the agenda includes a proposal for a "short tag" XML version of the biometric standard. In [a person's name]'s words, "… proposal is a total rejection of NIEM and work we've done to date. " | The proposal does not affect the NIEM-conformant encoding. That is, and shall remain an authorized encoding of the standard. The short-tag proposal is in addition to the Traditional and NIEM-conformant encodings, not replacing either. The decision to officially authorize a particular encoding (now including ASN.1) is up to the canvassees and should not be taken as a rejection of anyone's work. Proposals for change to the standard can be broight up by any person / group and should not be taken personally. |
| 20 | I recommend for each technical representation that four considerations be addressed before the committee invests in the development of a specific representation (e.g. legacy, XML, ASN.1, etc):<br>1. That an *architectural definition* be developed for a specific technical format (e.g. is this targeted for enterprise apps, for web apps, for mobile apps, for hardware devices, or some combination of, etc.)<br><br>2. That there be a commitment to the development committee by multiple organizations<br><br>3. That there be a commitment to the certification definition and testing effort by multiple organizations<br><br>4. That there be a commitment to the implementation of the new technical representation by multiple organizations within a specific timeframe | |