Software Inventory Message and Attributes (SWIMA)

draft-ietf-sacm-nea-swid-patnc-00

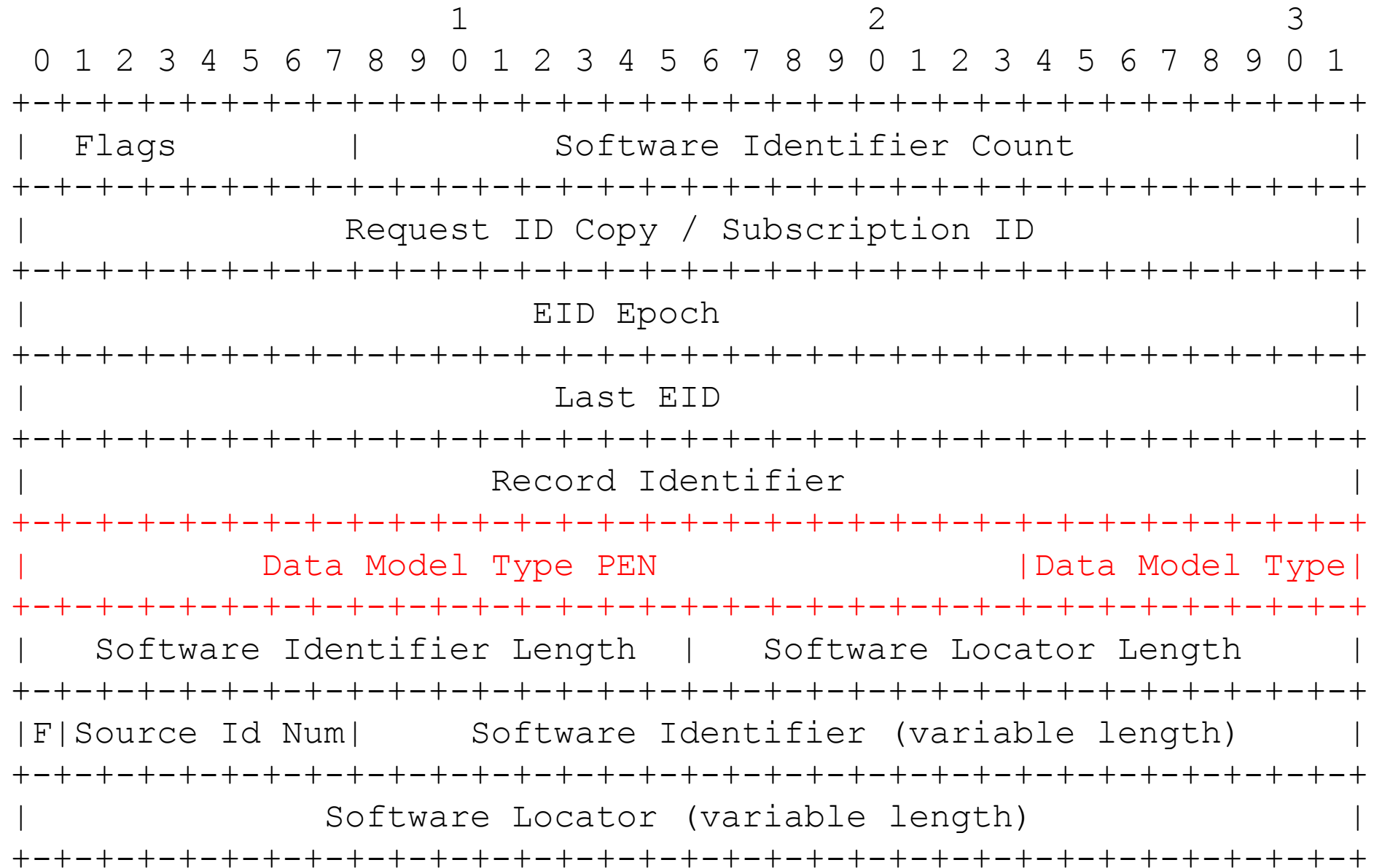SACM WG Virtual Interim Meeting

1/11/2017

Agenda

- Issue 4: User/vendor defined data models

- Issue 1: Data source identification

- Other issues:
  - Added instructions on using SWID 2009 and 2015 (XML) as data models
  - MTI data models
  - Servers MUST accept all data models

Supporting user/vendor-defined data models

- Previously, data model type indicated in a 1-byte integer corresponding to values in an IANA table
  - Only values registered in the IANA table could be used

- New version
  - Data model type identified in 2 fields: 3-byte PEN and 1 byte integer
  - Vendors can use their PEN to assign their own meanings to data model type integer values
  - PEN of 0x000000 indicates the IANA registry should be used for data model type integer meaning
  - Within IANA registry, values between 192 and 155 (MSBs set) are reserved for local use and enterprises can assign meaning
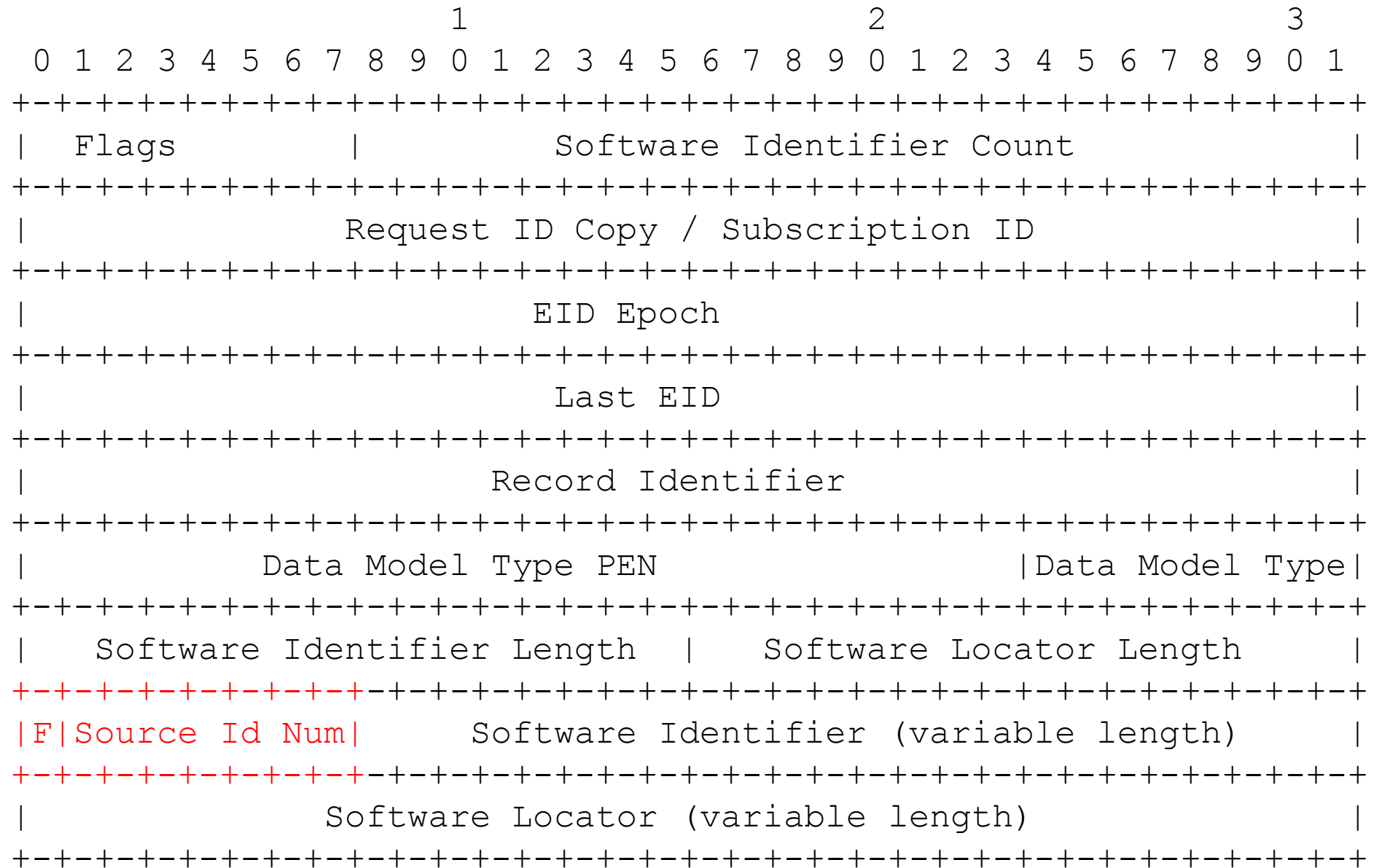
New Data Model Fields

```
                              1                   2                   3
      0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1
     +-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
     |  Flags        |           Software Identifier Count           |
     +-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
     |            Request ID Copy / Subscription ID                  |
     +-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
     |                          EID Epoch                            |
     +-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
     |                          Last EID                             |
     +-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
     |                     Record Identifier                         |
     +-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
     |             Data Model Type PEN              |Data Model Type|
     +-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
     |   Software Identifier Length   |  Software Locator Length     |
     +-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
     |F|Source Id Num|     Software Identifier (variable length)     |
     +-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
     |                Software Locator (variable length)             |
     +-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
```

Data source identification

- New design
  - 7-bit integer with a Source Identification Number
  - 1 bit Source First Use Flag
- First time a source is used, the SW-PC assigns a Source Identification Number to it
- First time information from a source is reported, the Source First Use flag is set in all attribute records from that source
- All information includes the Source Identification Number from which the information came
- **Allows SW-PV to recognize that two records came from same source but does not help determine what that source is**

New Source Identification Fields

```
                              1                   2                   3
    0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1
   +-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
   |  Flags        |            Software Identifier Count          |
   +-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
   |              Request ID Copy / Subscription ID                |
   +-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
   |                          EID Epoch                            |
   +-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
   |                          Last EID                             |
   +-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
   |                       Record Identifier                       |
   +-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
   |           Data Model Type PEN               |Data Model Type|
   +-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
   |     Software Identifier Length  |   Software Locator Length   |
   +-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
   |F|Source Id Num|      Software Identifier (variable length)    |
   +-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
   |                 Software Locator (variable length)            |
   +-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
```

New Suggestion for Source Identification

- Drop the Source First Use flag
  - SW-PV just assigns values – no need to flag first use
  - 256 sources unlikely to be depleted
- Add new Source Information exchange
  - SW-PV sends a "Source Information Request" – empty attribute
  - SW-PV sends a "Source Information Response"
    - Variable length metadata string allows descriptive text about the source corresponding to each Source Identification Number
    - Currently no standardization of content, but allows for future extension

Data Model Updates

- Fleshed out descriptions of use of two data models
  - SWID 2015 in XML
  - SWID 2009 in XML
  - Provided deterministic procedures for developing Software Identifiers for each

- Filled in new IANA table for Software Data Models
  - SWID 2009
  - SWID 2015
  - Reserved 192-255 for local use

Data Models Updates (2)

- Explicitly state the SW-PVs MUST not reject input based on its data model
  - SWIMA's job is to convey available data – downstream consumption might care about the data model, but that needs to be handled downstream

- Explicitly state that SW-PCs MUST support the data models identified in the current specification (currently SWID 2015 and 2009 in XML)
  - All this means is the SW-PC needs to be able to create Software Identifiers for these models

Next Steps

- Revise based on today's feedback

- Add new data models? (COSWID?)

- Review and integrate other comments

- New draft will be out ahead of next virtual interim

- Specification is content complete – might be able to request WGLC before IETF 98
  - So please check this out soon and provide comments