IPFIX Protocol Specifications

IPFIX IETF-60 August 4th, 2004

<draft-ietf-ipfix-protocol-04.txt>

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Closed Issues

Closed Issues in version 04
PROTO-12 FlowSet

- **Do we need the IETF exclusive template FlowSet format?**

- **Resolution:**

  remove section 8.3.1 IETF Exclusive Template FlowSet Format

  remove section 8.5.1 IETF Exclusive Options Template FlowSet

  "FlowSet ID 0 and 1 are reserved for historical reasons"
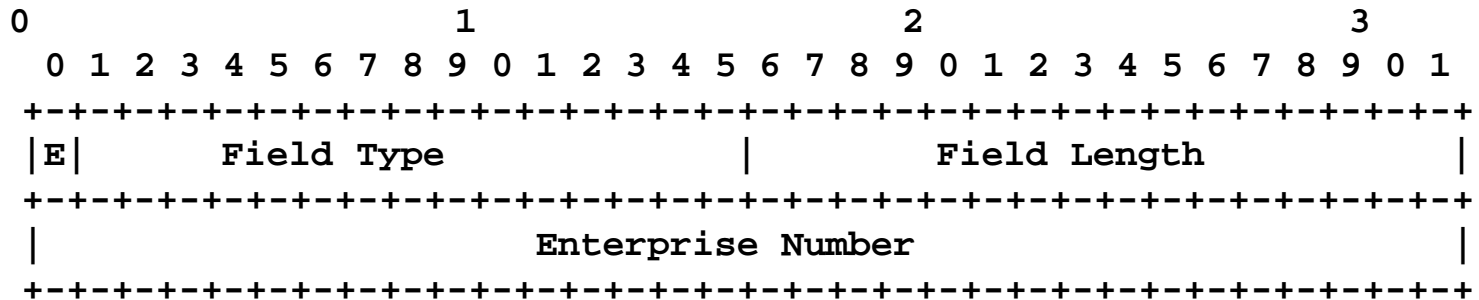
Closed Issues in version 04
PROTO-[5-11]: Transport Protocol

- "SCTP [RFC2960] and SCTP-PR [RFC3758] MUST be implemented by all compliant implementations.
  UDP [UDP] MAY also be implemented by compliant implementations.
  TCP [TCP] MAY also be implemented by compliant implementations."

- New section about SCTP

- New section about UDP

Closed Issues in version 04
PROTO-13 Enterprise ID

- **How to distinguish IETF field IDs from vendor field IDs**

- **Resolution:**

```
 0                   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
+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
|E|       Field Type           |            Field Length        |
+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
|                        Enterprise Number                      |
+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
```

Closed Issues in version 04
PROTO-14: Padding

- **Why do we need padding? Should we shift it to MAY? Limit the size of the padding?**

- **Resolution: new text inserted for all FlowSets**

  "Padding The Exporting Process MAY insert some padding bytes, so that the subsequent FlowSet starts at an aligned boundary. Padding MUST be composed of zero (0) bits. The padding length MUST be shorter than one Flow Data Record. It is important to note that the Length field includes the padding bits. "

Closed Issues in version 04
IPFIX & Sampling

- **IPFIX protocol specification draft: " The IPFIX protocol supports packet sampling. The methods of metering packet samples are out of the scope of this specification."**

- **New proposal:**

  Remove the sentence above

  Adapt the Flow definition

  "This definition covers the range from a flow containing all packets observed at a network interface to a flow consisting of just a single packet between two applications. It includes packets selected by a sampling mechanism."

Closed Issues in version 04

- **PROTO-3: Flow definition "IP encapsulated packet"**

  Resolution: definition kept unchanged

- **PROTO-22: Exporter ID (ie IP address of exporter)**

  Resolution
  - The IFPIX information model contains an IPv4 and IPv6 Exporter ID data type .
  - nothing changed to the IPFIX protocol draft

Open Issues

Open Issues
PROTO-1: FlowSet Name Change

- **Mailing list comment: unhappy about the FlowSet**

- **Possibilities:**
  - **leave as is**
  - **Record Set**
  - **Record Array**
  - **Record Collection**
  - **Record List**
  - **Set**

- **Proposal:**
  - **Template FlowSet -> Template Set**
  - **Option Template FlowSet -> Option Template Set**
  - **Data FlowSet -> Data Set**

Open Issues
PROTO-[16-20]: Scope -> Proposal

- **Scope: 1= System, 2=Interface, 3=Line Card, etc…
  Information Elements: draft-ietf-ipfix-info-04.txt**

- **Proposal: use the information elements for the scope as well**

- **The advantages are:**
  - **no need for IANA to maintain 2 lists, potentially similar ones**
  - **no need to have a separate mechanism for proprietary scope; we could reuse the same mechanism of "enterprise field type" for proprietary Information Elements**
  - **the collecting process job, easier as it can link easily the information element in the Flow Data Records with the information element in the Options Data Records.**

- **The principles:**
  - **if multiple scopes are used, they are treated as logical AND.
    example: scope = line card1, scope = cache2**
  - **"if the order of the fields in the Option Template is relevant, the order of the fields is used"**

Open Issues
PROTO-26: IANA

- **RFC2434: "Guidelines for Writing an IANA Considerations Section in RFCs"**

- **For new Information Elements**

  - **While waiting for the IANA process to be in place: new information element requests to the IPFIX and PSAMP mailing lists**

  - **When the IANA process is in place (when the two working groups disappear)**

    - **requests directly to IANA**

    - **"First Come First Served" and "Expert Review"**

    - **The IPFIX and/or PSAMP WG chairs, or Area director should designate a few matter experts, or potentially be the experts themselves. The expert would then check the accuracy and completeness of specification.**

- **For new FlowSet**

  "specification required" solution, i.e. a new RFC

Open Issues
PROTO-21: Metering Process Statistics

- **[IPFIX-REQ]: "The exporting process should be capable of reporting measured traffic data regularly according to a given interval length."**
- **Do we want to specify a minimum set of mandatory fields? Which one? Interval length Specification?**
- **Or we just say: the IPFIX protocol allows this with Option Templates!**
- **Maurizio sent a proposal of required fields to the mailing a few months ago. No reply so far!**

Open Issues
PROTO-23: Time Synchronization Proposal

- **Finalize the details**
- **Define the Information Elements in [IPFIX-INFO]**

Open Issues

- **PROTO-[5-11]: TCP section (see Simon's draft)**

- **PROTO-25: The section 11 "Template Management" will have to updated according to the transport protocol.**

  PROPOSAL: treat UDP as the exception in the UDP transport protocol subsection

- **PROTO-30: Review the requirements draft to see what we miss, once it's an I-RFC**

New Issues

Open Issues
Reference to NetFlow version 9

- "The FlowSet ID value of 0 and 1 is reserved for backwards compatibility of the Option Template FlowSet: the Option Template specified in this document is a superset of the Option Template specified in [NETFLOW9]. The Option Template specified in this document that would contain only IETF defined Field Types would be equivalent to the Option Template specification in [NETFLOW9], with the only exception that the FlowSet ID value is 1"

- Proposal: The FlowSet ID value of 0 and 1 are not used for historical reasons [NETFLOW9].

Open Issues
Exporter not in the terminology section

- **Proposal**

    Exporter: "The device which hosts an Exporting Process."

    Keep the IPFIX Device "A device hosting at least an Observation Point, a Metering Process and an Exporting Process. "

    Remove IPFIX Node "An IPFIX node is a host that implements the IPFIX protocol which means it contains an Exporting Process or a Collecting Process or both"

Open Issues

- **Architecture Draft Consistency**
  - **Flow Expiration section is not synchronized anymore**
  - **Terminology section is not synchronized anymore**

- **New list of (minor) issues in the draft.**

Feedback

- **Any other issues to be discussed now?**

- **Will publish a new version of the draft within a week: a lot of small editorial changes done already.**

- **Thank you**