draft-martinelli-ccamp-wson-iv-info-00
draft-martinelli-ccamp-wson-iv-encode-00

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Motivation

- Restart on "WSON with Impairment Validation":
  - Standby due to on wson-rwa discussions

- Proposal: reuse same "approach" as wson-rwa.

- First step: 00 version submitted in July (01 on going)

- Interested people, please join!

WSON: RWA vs. RWA-IV

- RFC6163   **Framework**   - RFC6566

- draft-ietf-ccamp-rwa-info   **Info Model**   - draft-martinelli-ccamp-wson-iv-info

- draft-ietf-ccamp-general-constraint-encode

- draft-ietf-ccamp-rwa-wson-encode   **Encoding**   - draft-martinelli-ccamp-wson-iv-encode

Info Model
(draft-martinelli-ccamp-wson-iv-info-00)

- RFC6566 Defines the Linear Impairment case as "in scope" (sec. 4.1, Scenario C)
- ITU references:
  - ITU G.680 defines the computational models
  - ITU G.697 defines the encodings
- Draft does not repeat information already in ITU documents.
- Introduction of "Impairment Matrix" as a generalization of "Connectivity Matrix"

Info Model (cont. 1)

Connectivity Matrix (from WSON RWA info model):
ConnectivityMatrix ::= <MatrixID> <ConnType> <Matrix>

To further details, ConnectivityMatrix ::=
    <MatrixID> <ConnType> ((<LinkSet> <LinkSet>) ...)

This draft defines:

ImpairmentMatrix ::= <MatrixID> **<ConnType>**
    ((<LinkSet> <LinkSet> **<ImparimemtVector>**) ...)
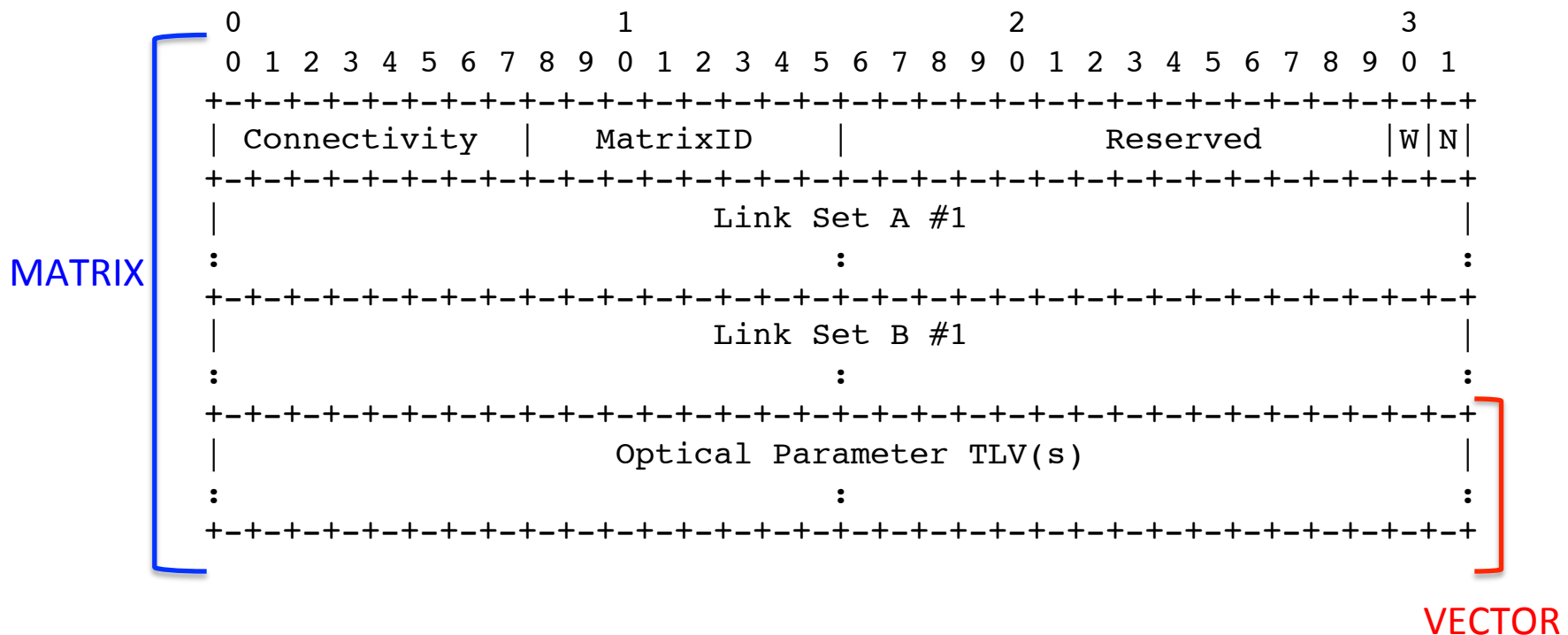
Info Model (cont. 2)

- <ConnType>: new value defined, "2" for Impairment Matrix

- <ImpairmentVector>
  - This is the way to represent all impairment information associated with a Link-Set pair.
  - Details goes into encoding draft

Encoding
(draft-martinelli-ccamp-wson-iv-encode-00)

- The details the Impairment Matrix and Vector

```
 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
+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
| Connectivity  |    MatrixID    |           Reserved      |W|N|
+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
|                         Link Set A #1                         |
:                              :                               :
+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
|                         Link Set B #1                         |
:                              :                               :
+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
|                     Optical Parameter TLV(s)                 |
:                              :                               :
+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
```

MATRIX

VECTOR

Encoding (cont.)

- The Optical Parameter details

```
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
 +-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
 |            Type               |            Length             |
 +-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
 | ParamSource   |   ParamID     |            Reserved         |W|
 +-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
 |                           Value                               |
 +-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
 |                          Variance                            |
 +-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
```
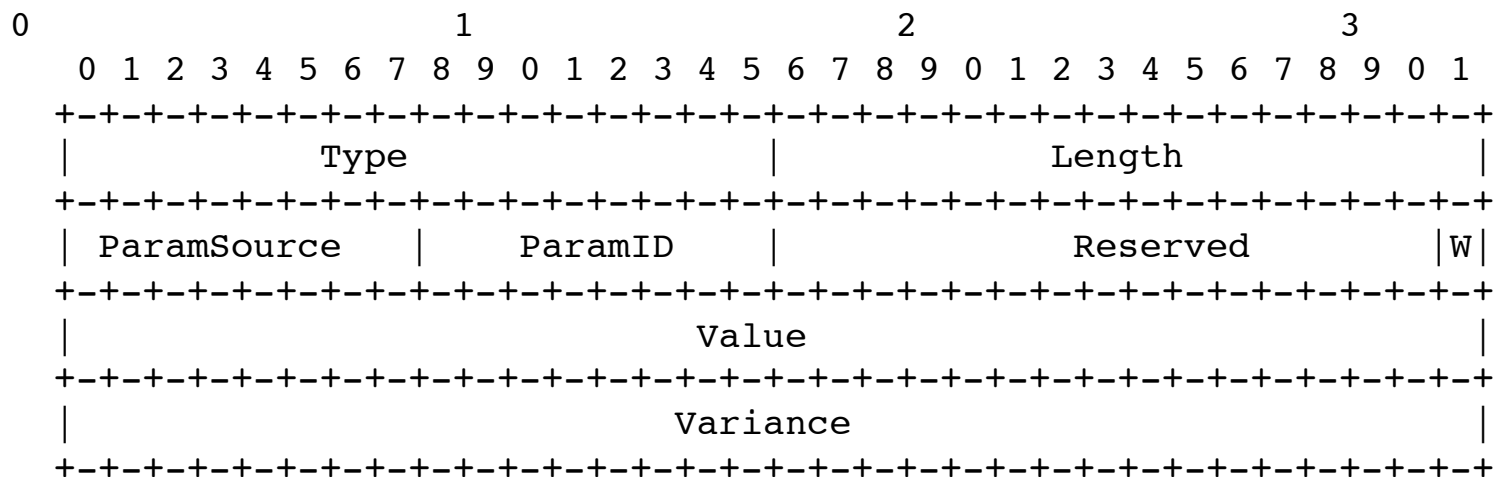
Parameter "Source" and "ID" as per ITU G.697

Next Steps

- Solicit comments and contribution from WG.

- Refinements on both Info Model and Encoding (e.g. Parameters List, Wavelength Dependency, Link vs Node information).

- Approach needs validation through ITU Liaison?

Thank You!

Impairments Made Simple