

Network Working Group

Internet Draft

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## Traffic Engineering Attribute

[draft-fedyk-bgp-te-attribute-03.txt](#)

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### Abstract

This document defines a new BGP attribute, Traffic Engineering attribute, than enables BGP to carry Traffic Engineering information.

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								
+--+																																							

```

+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+
|                               Max LSP Bandwidth at priority 5       |
+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+
|                               Max LSP Bandwidth at priority 6       |
+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+

```

```

|                               Max LSP Bandwidth at priority 7       |
+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+
|                               Switching Capability-specific information |
|                               (variable)                             |
+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+

```

The Switching Capability (Switching Cap) field contains one of the values specified in Section 3.1.1 of [\[GMPLS-SIG\]](#).

The Encoding field contains one of the values specified in [Section 3.1.1](#) of [\[GMPLS-SIG\]](#).

The Reserved field SHOULD be set to 0 on transmit and MUST be ignored on receive.

Maximum LSP Bandwidth is encoded as a list of eight 4 octet fields in the IEEE floating point format [\[IEEE\]](#), with priority 0 first and priority 7 last. The units are bytes (not bits!) per second.

The content of the Switching Capability specific information field depends on the value of the Switching Capability field.

When the Switching Capability field is PSC-1, PSC-2, PSC-3, or PSC-4, the Switching Capability specific information field includes Minimum LSP Bandwidth and Interface MTU.

```

      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
+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+
|                               Minimum LSP Bandwidth                 |
+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+
|                               Interface MTU                         |
+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+

```

The Minimum LSP Bandwidth is encoded in a 4 octet field in the IEEE floating point format. The units are bytes (not bits!) per second.

The Interface MTU is encoded as a 2 octet integer.

When the Switching Capability field is L2SC, there is no Switching Capability specific information field present.

When the Switching Capability field is TDM, the Switching Capability specific information field includes Minimum LSP Bandwidth and an indication of whether the interface supports Standard or Arbitrary SONET/SDH.

```

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

```

```

+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+
|               Minimum LSP Bandwidth               |
+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+
|   Indication   |
+---+---+---+---+---+

```

The Minimum LSP Bandwidth is encoded in a 4 octet field in the IEEE floating point format. The units are bytes (not bits!) per second. The indication of whether the interface supports Standard or Arbitrary SONET/SDH is encoded as 1 octet. The value of this octet is 0 if the interface supports Standard SONET/SDH, and 1 if the interface supports Arbitrary SONET/SDH.

When the Switching Capability field is LSC, there is no Switching Capability specific information field present.

#### [4.](#) IANA Considerations

This document defines a new BGP attribute. This attribute is optional and non-transitive.

#### [5.](#) Security Considerations

This extension to BGP does not change the underlying security issues inherent in the existing BGP.

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## 8. Acknowledgements

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## 9. Normative References

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## 10. Non-Normative References

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