

ISIS Extensions for MRT

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Outline: Discussing ISIS-MRT Draft

- Overview of ISIS-MRT
- IS-IS extension for MRT Capability
- IS-IS extension advertising & parsing
- Next step

Overview of ISIS-MRT

- MRT Capability advertisement
 - ❑ Default profile: A new M-bit introduced into MT-TLV(229) .
 - ❑ Non-default profile: A new Sub-TLV planned.
- Electing GADAG root
 - ❑ An unique root must be chosed for MRT domain.
 - ❑ One priority is planned for each MRT node.
 - ❑ Root is chosed based on priority comparing.

Overview of ISIS-MRT

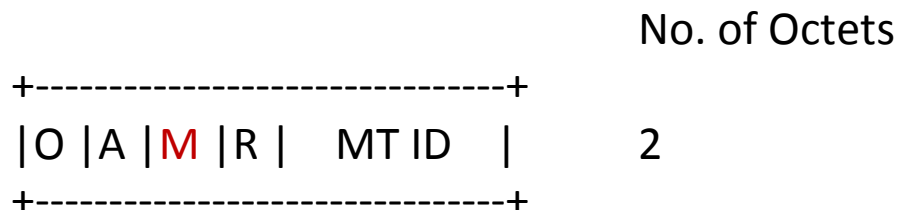
- MRT Ineligible link advertisement
 - ❑ Option is provided for certain links do not involved into MRT.
 - ❑ A new Sub-TLV is planned for these links.
- MRT computation trigger
 - ❑ Topology changes
 - ❑ MRT Capability changes

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IS-IS extension for MRT Capability

- M-bit in MT-TLV(229) is used to identify MRT-Capable for default profile.
- Multiple MT support MRT can have its corresponding M-bit SET.
- MT-TLV is carried in LSP #0 fragment. MRT-Capability can be updated soon when it changed.



IS-IS extension for MRT Capability

- Sub-TLV is planned in Router CAPABILITY TLV(242) to advertise MRT profile.
- Extra MRT Blue&Red MT ID is used for customized profile.
- Multi-instance of Sub-TLV are used to advertise supporting for multiple MRT profile.

	No. of Octets
+-----+	
R R R R MT ID	2
+-----+	
Profile ID	1
+-----+	
Priority	1
+-----+	
MRT-Blue MT ID	2
+-----+	
MRT-Red MT ID	2
+-----+	

IS-IS extension for MRT Capability

- Profile ID is in range [0, 255] with zero as the default profile.
- Priority is in range [0, 255] with 128 as the default priority. Biggest value win as the root with system-Id as tie-breaker.
- Non-zero Blue&Red MT ID will overwrite the two ID defined in profile.

		No. of Octets
+-----+		
R R R R	MT ID	2
+-----+		
	Profile ID	1
+-----+		
	Priority	1
+-----+		
	MRT-Blue MT ID	2
+-----+		
	MRT-Red MT ID	2
+-----+		

IS-IS extension for MRT Capability

- Sub-TLV is planned in Router CAPABILITY TLV(242) to advertise MRT Ineligible Links.
- IS-IS links are described as IS Reachability without IP info.
- Multi-instance of Sub-TLV are allowed.
- If ineligible-link split MRT Island then need to trigger new computation.

	No. of Octets
<pre> +-----+ R R R R MT ID +-----+ </pre>	2
<pre> +-----+-----+ System ID and pseudo-node number +-----+-----+ </pre>	7
<pre> +-----+-----+ Default metric +-----+-----+ +-----+-----+ System ID and pseudo-node number +-----+-----+ </pre>	3
<pre> +-----+-----+ Default metric +-----+-----+ </pre>	3

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IS-IS extension advertising & parsing

- MRT should not affect normal IS-IS behavior. MRT info should be ignored if not recognized.
- MRT info is in level scope.
- Default MRT profile can be carried MT-TLV in LSP #0 fragment(M-bit).
- Capability & Ineligible Sub-TLV is optional and carried in Router Capability TLV(242).
- Multi-instance of MRT is allowed. But care that Blue & Red MT-ID should not conflict in different profile.

Next step

- Comments and suggestion are welcomed for this draft.
- Request to be accepted as WG draft.