MIF API

draft-ietf-mif-api-extension-01
Basic Concept of MIF API

- Application
- High Level API:
  - general-purpose high-level API
- MIF API:
  - used by higher-level APIs
  - it is permissible for applications to use the MIF API when it is deemed necessary
- Communication API
  - E.g. POSIX socket API and a variety of other related APIs
- Network Link API
  - the software that is responsible for actually managing whatever network links are present on a node, whether these are physical links or tunnels.
Communication Model

- POST MESSAGE call
  - Post message, then returns

- CHECK MESSAGE call
  - Check to see if there is a massage waiting from the High Level API, the MIF API, or the Communications API.

- GET MESSAGE call
  - Check to see if there is a message waiting.
MIF API Usage Example

APP

How many interfaces?
2 interfaces

How many Nets on IF1?
2 Nets

Net1, IF1, DNS configuration?
Net1, IF1, DNS address: 2001::1

Net2, IF1, DNS configuration?
Net2, IF1, DNS address: 192.168.1.1

How many Nets on IF2?
1 Interface

Net1, IF2, DNS configuration?
Net1, IF2, DNS address: 2001::2

DNS query 2001::1, host.example.com A,AAAA
DNS query 192.168.1.1, host.example.com A,AAAA
DNS query 2001::1, host.example.com A,AAAA

API
2001::1 DNS response:
host.example.com
IN A 14.15.16.17
IN AAAA 2001:192:321::1

2002::1 DNS response: ...

192.168.1.1 DNS response:
IN A 192.168.1.1

SYN: 14.15.16.17 @ IF1
SYN: 2001:192:321::1 @ IF1
SYN: 2001:192:321::1 @ IF2
SYN: 192.168.1.1 @ IF1

SYN+ACK @ 192.168.1.1 IF1
SYN+ACK @ 2001:192:321::1 IF2
SYN+ACK @ 2001:192:321::1 IF1
Update From the Previous Version

• Application Connectivity Management
Application: Wants to Connect

• This message is sent by the application to the MIF API that indicates the application wants to connect to the network.
Application: Connection Is Idle

• This message is sent by the application to the MIF API to indicate that although connection is open, it is idle, it may be terminated if necessary but it is preferred to keep open.
Application: Connection Can Be Broken

• This message is sent by the application to the MIF API that indicates that the application can tolerate to connection broken with no penalty.
Interface Is Going Away

• This message is sent by the MIF API to the application that indicates the interface is going away. This may due to the switch off of an interface.
Interface Is Going Up

- This message is sent by the MIF API to the application that indicates the interface is going up. This may due to the switch on of an interface.
Next Step

• New version of draft add more of functionality discussed in Paris meeting.
• We solicit criticism from working group members particularly those who have worked on related problems.
• We would like to do a final version of the document and go to last call before the next meeting.
• Q&A?