

DYMO, NHDP, and SMF MANET MIBs

Brian Adamson¹ Ian D. Chakeres² Robert G. Cole³
Sean Harnedy⁴ Joe Macker¹

¹Naval Research Laboratory
{adamson,jmacker}@nrl.navy.mil

²Motorola
ian.chakeres@gmail.com

³Johns Hopkins University
robert.cole@jhupl.edu

⁴Booz Allen Hamilton
harnedy_sean@bah.com

Introduction

MANET MIBs

MANET MIB
Team

Introduction

MIB Structure

Questions and
Issues

References

- Three MIBs related to MANET WG protocols:
 - DYMO MIB <ietf-manet-dymo-mib-00.txt> [1]
 - NHDP MIB <ietf-cole-manet-nhdp-mib-00.txt> [2]
 - SMF MIB <ietf-cole-manet-smf-mib-00.txt> [3]
- Supports configuration, state, performance and notifications for the associated MANET protocols
- DYMO MIB has seen significant work since previous drafts; MIB compiles
- NHDP MIB is a shell, drawing heavily from the Information Base section of the current NHDP draft - looking for help from the NHDP developers (volunteers?)
- SMF MIB has defined Objects, but not Notifications and Conformance

Common Structure of the MIBs

MANET MIBs

MANET MIB
Team

Introduction

MIB Structure

Questions and
Issues

References

- xxxx → DYMO, NHDP or SMF
- xxxxMIBNotifications Group - informs
- xxxxMIBObjects Group - collection of managed objects, comprized of:
 - xxxxConfiguration Group - objects and tables for protocol/device configuration, e.g., objects in Section 6 of DYMO draft [4], hosts and interfaces tables
 - xxxxState Group - current state info, e.g., DYMO routing table
 - xxxxPerformance Group - objects, e.g. aggregate and per interface, useful for protocol tuning, trouble shooting
- xxxxMIBConformance Group - basic and full conformance

Tactical Questions and Issues

MANET MIBs

MANET MIB
Team

Introduction

MIB Structure

Questions and
Issues

References

- (DYMO-MIB) dymoRouting Table and RFC 4292 “IP Forwarding Table MIB” - these describe current routes within the local device
- (DYMO-MIB) Is a peers Table useful - this would contain a list of recently know members of the DYMO routing domain
- (NHDP-MIB) The LIB’s Local IF Set Table - overlaps with MIB II Interface Group?
- (NHDP-MIB) The LIB’s Removed Interface Address Set Table - how is this used and is the information in the MIB II Interface group sufficient?
- Each draft has a detailed list of work items in back - Open Issues Section.

Strategic Questions and Issues

MANET MIBs

MANET MIB
Team

Introduction

MIB Structure

Questions and
Issues

References

- (ALL MIBs) How will these MIBs be used?
 - e.g., if I know this device supports DYMO, then I can configure it. But how do I know it supports DYMO?
 - How do I re-configure a device in the MANET and expect continuity of communication?
- Modular MANET WG protocol set
 - Do we need a capabilities MIB?
 - How do I initially configure these protocols at startup?
 - Do we need a baseline configuration for initial communications and for recovery from mis-configuration?
- (ALL MIBs) Thought on protocol performance issues and associated local measurements to help in network diagnostics and how they would be used is needed

References

MANET MIBs

MANET MIB
Team

Introduction

MIB Structure

Questions and
Issues

References

- 1 Harnedy, S., Cole, R.G. and I.D. Chakeres, *Definition of Managed Objects for the DYMO Manet Routing Protocol*, IETF Draft, <draft-ietf-manet-dymo-mib-00.txt>, May 2008.
- 2 Cole, R.G. and I.D. Chakeres, *Definition of Managed Objects for the Neighborhood Discovery Protocol*, IETF Draft, <draft-cole-manet-nhdp-mib-00.txt>, May 2008.
- 3 Cole, R.G. Macker, J. and B. Adamson, *Definition of Managed Objects for the Manet Simplified Multicast Framework Relay Set Process*, IETF Draft, <draft-cole-manet-smf-mib-00.txt>, July 2008.
- 4 Chakeres, I.D. and C.Perkins *Dynamic MANET On-Demand (DYMO) Routing*, IETF Draft, <draft-ietf-manet-dymo-12.txt>, February 2008.