

Monitoring locks across NM interfaces

draft-meng-fan-lock-mib-01

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Introduction

- Lock mechanisms already exist in NETCONF, COPS-PR, might exist in proprietary CLI and SNMP.
- Locks via a NM interface might impact operations via another NM interface if a device supports multiple NM interfaces.
- Motivation for LOCK-MIB
 - Help operators understand how locks might be impacting their operations and debug the problems related to locks.
 - Monitor all locks regardless of the NM interface in a consistent way.

LOCK-MIB Overview

- Indicator
 - lockNMInterfacesSupported
 - Which interface locks are monitored
- Statistics
 - lockActiveLocks
 - Number of active locks in the managed device
 - lockFailures
 - Number of failed locks in the managed device
- Base lock table
 - lockTable
 - Generic information for all locks regardless of the NM interface
- Specific lock tables
 - lockNetconfTable
 - Specific information for locks via NETCONF
 - lockCopsPrTable
 - Specific information for locks via COPS-PR
 - *LOCK-MIB can be extended to accommodate new specific lock tables.*

Indicator lockNMInterfacesSupported

- Which interface lock could be monitored via LOCK-MIB.
 - E.g., if there is no COPS-PR lock in lockTable, it may be due to COPS-PR protocol is not supported, COPS-PR locks are not monitored or no active COPS-PR locks at all.

BITS lockNMInterfacesSupported

Statistics

- **Statistic objects could help warn about anomalous behavior**
 - Somebody might be trying to launch a DoS attack via creating locks frequently (which would cause the number of active locks bump up)
 - Somebody might be trying to lock things they are not authorized to, or somebody might be attempting applying locks to different portions of datastore to see what they could get (which would cause the number of failed locks bump up)

Gauge32	lockActiveLocks
Counter32	lockFailures

Base lock table lockTable

- Common information shared by different NM interfaces

INDEX [lockIndex]	
Unsigned32	lockIndex
SnmpAdminString	lockUserName
SnmpAdminString	lockNMInterface
INTEGER	lockType
TimeStamp	lockStartTime
TimeStamp	lockEndTime
INTEGER	lockState

Specific lock tables

- Different way to identify locked area by different NM interfaces

lockNetconfTable

INDEX [lockIndex]

Unsigned32	lockNetconfLockID
Unsigned32	lockNetconfSessionID
BITS	lockNetconfTarget
INTEGER	lockNetconfSelectType
SnmpAdminString	lockNetconfSelect
TruthValue	lockNetconfModified
Unsigned32	lockNetconfReleasedBy

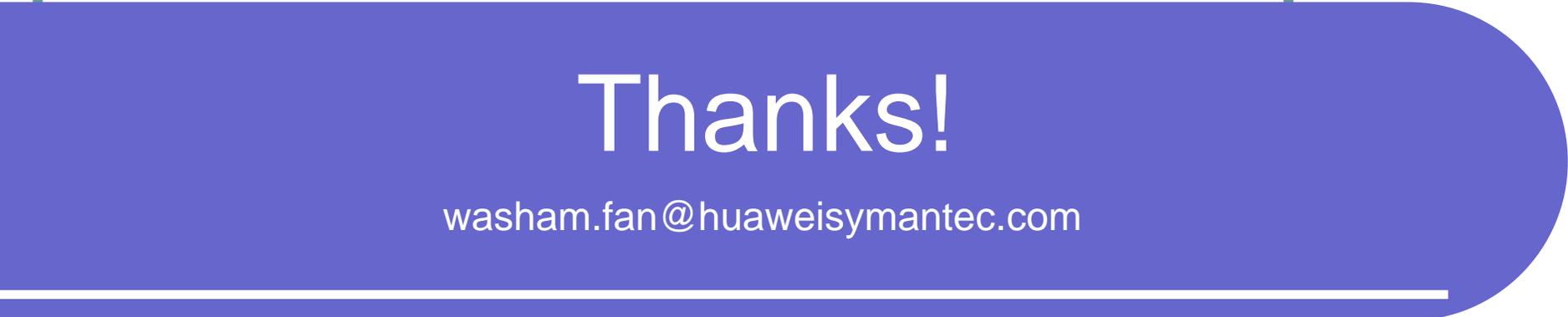
lockCopsPrTable

INDEX [lockIndex]

Unsigned32	lockCopsPrIndex
OCTET STRING	lockCopsPrPEPID
IpAddress	lockCopsPrPDPAddr
INTEGER	lockCopsPrClientState
Unsigned32	lockCopsPrClientHandle
INTEGER	lockCopsPrClientType
SnmpAdminString	lockCopsPrInstallPolicies
SnmpAdminString	lockCopsPrUpdatePolicies
TruthValue	lockCopsPrModified

Questions?

- Is it important?
 - SET would be used to do feature-specific configuration in real world.
- Is there interest in it?
 - Anyone want to join us on this work?
- Should it be a WG item?



Thanks!

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