

ndn-cxx - Feature #4024

NetworkMonitor: stub implementation

03/28/2017 03:45 PM - Junxiao Shi

Status:	Closed	Start date:	
Priority:	Normal	Due date:	
Assignee:	Junxiao Shi	% Done:	100%
Category:	Utils	Estimated time:	5.00 hours
Target version:	v0.6		
Description			
In NetworkMonitor, allow getNetworkInterface and listNetworkInterfaces return value to be mocked in a test case.			
Related issues:			
Related to ndn-cxx - Feature #4025: NetworkMonitor: empty impl on unsupported...		Closed	
Blocks NFD - Feature #4021: FaceSystem: use NetworkMonitor::listNetworkInterf...		Closed	
Blocked by ndn-cxx - Feature #3353: NetworkMonitor: emit fine-grained signals...		Closed	

History

#1 - 03/28/2017 03:59 PM - Junxiao Shi

- Blocks Feature #4021: FaceSystem: use NetworkMonitor::listNetworkInterfaces() added

#2 - 03/28/2017 03:59 PM - Junxiao Shi

- Blocked by Feature #3353: NetworkMonitor: emit fine-grained signals when the state of a network interface changes added

#3 - 03/29/2017 07:48 AM - Junxiao Shi

- Related to Feature #4025: NetworkMonitor: empty impl on unsupported platform added

#4 - 03/29/2017 09:37 AM - Junxiao Shi

- Status changed from New to In Progress

- Assignee set to Junxiao Shi

Design:

- Pure virtual base class NetworkMonitor::ImplBase is introduced. It is a friend of NetworkMonitor, and offers protected methods to modify NetworkMonitor data structures or emit signals on it. ImplBase type is public API.
- Existing Impl class inherit from ImplBase. It is not a friend of NetworkMonitor, but accesses NetworkMonitor data structures and signals via ImplBase protected methods. Impl type is not public API.
- NetworkMonitor constructor takes unique_ptr<NetworkMonitor::ImplBase>, which defaults to nullptr. Passing nullptr causes the constructor to internally make an Impl instance.
- NetworkInterface type setters are made public. NetworkMonitor APIs that return NetworkInterface are changed to return const NetworkInterface instead so that setters cannot be invoked by outsider.
- MockImpl class inherits from ImplBase and exposes its protected methods as public. To make a mock NetworkMonitor, pass a MockImpl instance to NetworkMonitor constructor.

#5 - 03/29/2017 08:32 PM - Davide Pesavento

Junxiao Shi wrote:

- NetworkInterface type setters are made public.

I'd rather keep them private.

#6 - 03/29/2017 09:30 PM - Junxiao Shi

Reply to note-5:

How would you propose to let a test case create and update a NetworkInterface?

What's the harm of making the setters public? If someone uses const_cast, it's their problem. Testability is more important than absolute protection.

#7 - 06/08/2017 03:23 PM - Davide Pesavento

@Junxiao, are you still working on this?

#8 - 06/08/2017 07:12 PM - Junxiao Shi

I'm waiting for the design discussion to be resolved.

For coding, I'm waiting for [#3817](#) to close in order to avoid conflicts.

#9 - 06/08/2017 09:18 PM - Davide Pesavento

- Blocked by Feature [#3817](#): NetworkMonitor fine-grained signals for macOS added

#10 - 06/22/2017 09:39 AM - Davide Pesavento

- Blocked by deleted (Feature [#3817](#): NetworkMonitor fine-grained signals for macOS)

#11 - 06/22/2017 09:41 AM - Davide Pesavento

The main change of [#3817](#) has been merged. Remaining changes under that task will be minor and localized, thus this task is no longer blocked by [#3817](#).

#12 - 06/28/2017 09:02 PM - Junxiao Shi

- % Done changed from 0 to 20

- Estimated time set to 5.00 h

<https://gerrit.named-data.net/3978> patchset1 illustrates some of the API changes. I've skipped macOS variant for now. It also does not include MockImpl yet.

#13 - 07/01/2017 08:47 AM - Junxiao Shi

- % Done changed from 20 to 40

<https://gerrit.named-data.net/3978> patchset2 brings the public API design of MockNetworkMonitor. It's structured as a subclass of NetworkMonitor rather than an Impl, because the Impl is passed by unique_ptr to NetworkMonitor and thus is solely owned by NetworkMonitor, so it's unsafe for the caller to keep a reference to an Impl. Instead, MockNetworkMonitor can internally manage an Impl and forward calls to it.

#14 - 07/02/2017 10:36 AM - Junxiao Shi

- Status changed from In Progress to Code review

- % Done changed from 40 to 100

#15 - 07/03/2017 10:24 AM - Alex Afanasyev

- Status changed from Code review to Closed

#16 - 07/03/2017 04:16 PM - Davide Pesavento

- Subject changed from NetworkMonitor: mock impl to NetworkMonitor: stub implementation