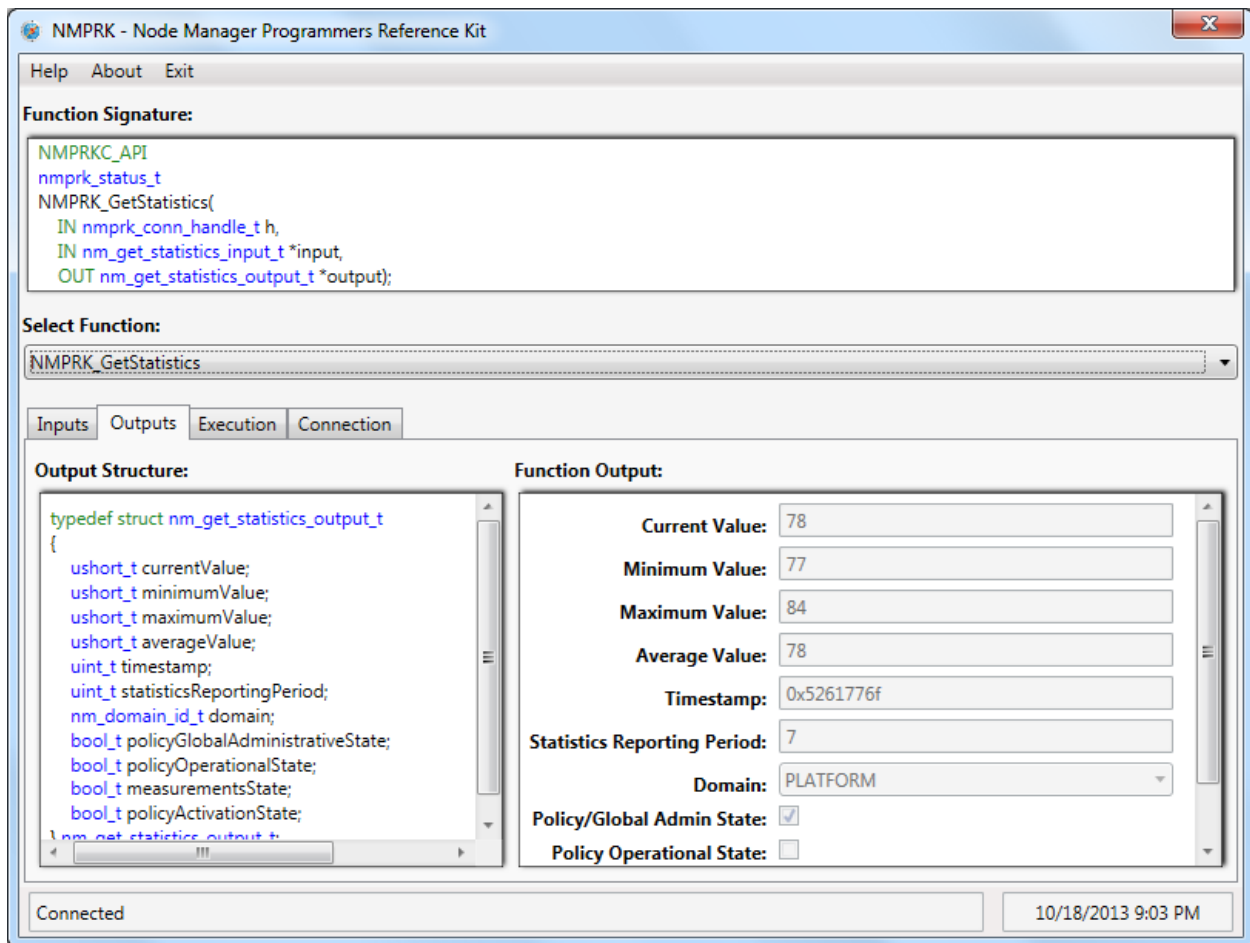


NMPRK GUI User Guide

Introduction

This application demonstrates the capabilities of the Node Manager Programmer's Reference Kit (NMPRK) by providing the ability to choose an API function, view the signature, inputs and outputs for the function. In addition, it allows setting the input values and executing the functions on real Node Manager Systems and viewing the output values and request/response byte strings.



Using the Application

Connection Tab

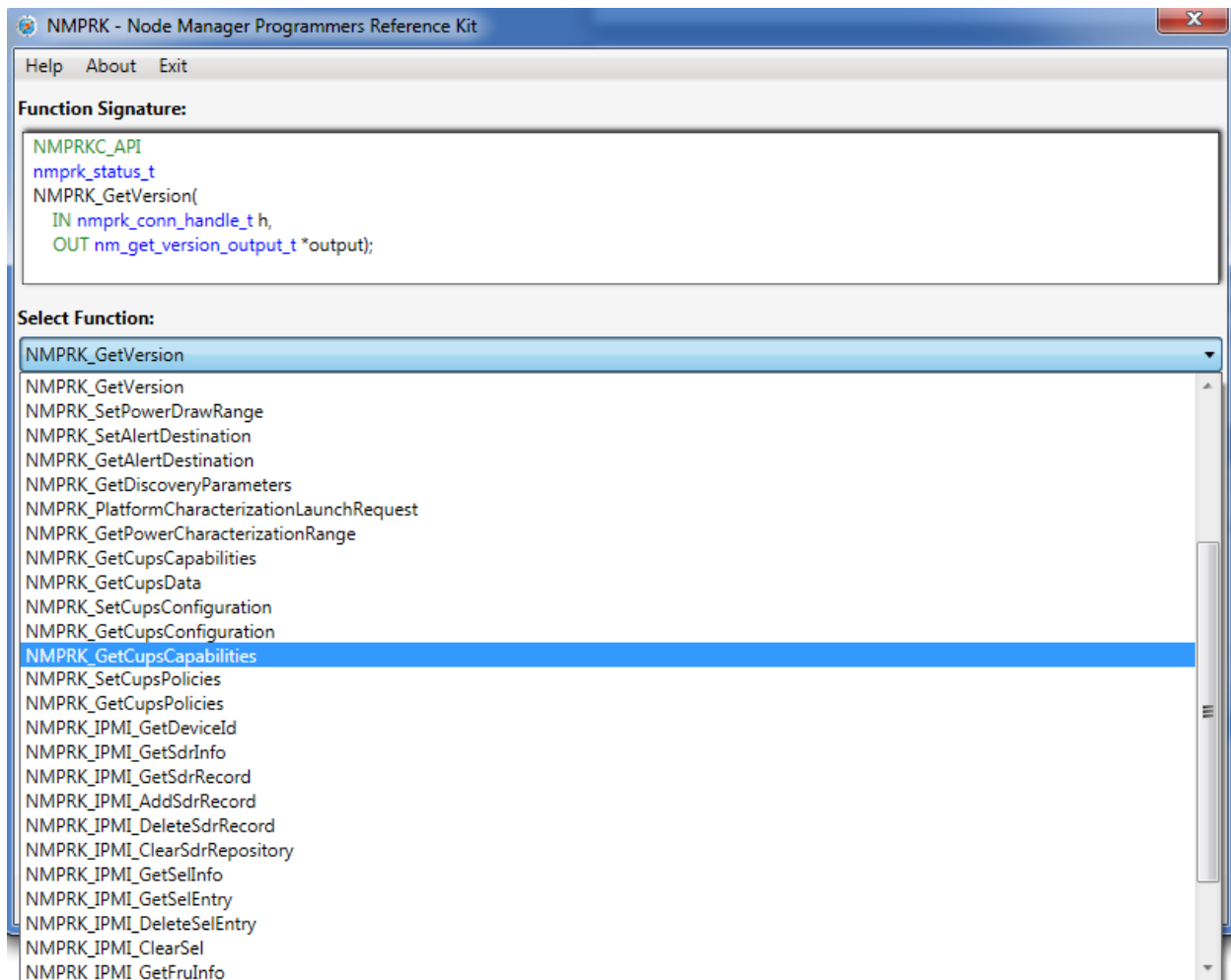
This tab allows the user to connect to the BMC of the local server or remote server. Connection to the local server can be done through one of the following IPMI drivers: Microsoft Generic IPMI Device or Intel IMB Driver (the application will use the first one it finds that is enabled). Connection to a remote server requires an IP address, username and password. When the user clicks 'Connect', the application attempts to connect and searches for the Node Manager SDR that indicates the bridging information. If this SDR is not available, the user may use the 'Manually Enter Bridging Information' box. Connection is not required to view function signature and parameters, but in order to execute any functions, the user must be connected.

The screenshot shows the 'Connection' tab of the application. It features three main sections: 'Connection Type', 'Action', and 'Connection Information'. In the 'Connection Type' section, the 'Remote' radio button is selected. The 'Action' section contains a blue 'Connect' button. The 'Connection Information' section is currently empty. Below these sections, there is a 'BMC Information' group with fields for 'IP Address' (10.20.0.41), 'Username' (root), and 'Password' (masked with dots). At the bottom, there is a checkbox for 'Manually Enter Bridging Information' which is unchecked, and two dropdown menus for 'Channel' and 'Address', both set to '0x00'.

This screenshot shows the 'Connection' tab after a successful connection. The 'Action' section now displays a 'Disconnect' button. The 'Connection Information' section is populated with a list of sensor data, including 'Bridging Channel: 0x06', 'Bridging Address: 0x2C', 'Health Event Sensor: 0x19', 'Exception Event Sensor: 0x18', 'Operational Capabilities Sensor: 0x1A', 'Alert Threshold Exceeded Sensor: 0x1B', 'IPMI Version: 0x02', and 'Node Manager Version: 0x03'. The 'BMC Information' and 'Manually Enter Bridging Information' sections remain the same as in the previous screenshot.

Select Function

Users select from a list of functions available in the API using the Select Function combo box in the middle portion of the window. Once a function is selected, the user can see the function signature at the top of the screen and can view the inputs and outputs of the function in more detail using the Inputs and Outputs tabs on the bottom portion of the screen.



Inputs Tab

This tab allows the user to view the input parameters for the function. It also allows the user to modify the values of each input parameter that will be used if the function is executed using the Execution tab.

Inputs

Outputs

Execution

Connection

Input Structure:

```
typedef struct nm_set_policy_alert_thresholds_input_t
{
    nm_domain_id_t domain;
    byte_t policy;
    byte_t numberOfAlertThresholds;
    ushort_t alertThresholdsArray[3];
} nm_set_policy_alert_thresholds_input_t;
```

Function Input:

Domain: PLATFORM

Policy: 0x0

Number of Alert Thresholds: 0

Threshold 1: 0

Threshold 2: 0

Threshold 3: 0

Outputs Tab

The tab allows the user to view the output parameters for the selected function. After a function has been executed, it will also display the value for each output parameter.

Inputs

Outputs

Execution

Connection

Output Structure:

```
typedef struct nm_get_statistics_output_t
{
    ushort_t currentValue;
    ushort_t minimumValue;
    ushort_t maximumValue;
    ushort_t averageValue;
    uint_t timestamp;
    uint_t statisticsReportingPeriod;
    nm_domain_id_t domain;
    bool_t policyGlobalAdministrativeState;
    bool_t policyOperationalState;
    bool_t measurementsState;
    bool_t policyActivationState;
} nm_get_statistics_output_t;
```

Function Output:

Current Value:	78
Minimum Value:	77
Maximum Value:	84
Average Value:	78
Timestamp:	0x5261776f
Statistics Reporting Period:	7
Domain:	PLATFORM
Policy/Global Admin State:	<input checked="" type="checkbox"/>
Policy Operational State:	<input type="checkbox"/>

Execution Tab

This is where the user goes to execute the selected function. If the application is not connected to a server, the 'Invoke Function' button will be disabled. After executing a function, the Outputs tab is populated as well as the Request Bytes and Response Bytes field on this tab.

Note: The byte strings are displayed in the same manner as they would be in IPMITool. They do not reflect the all bytes being transmitted or received for a particular command. On the request side, the first byte is the Net Function and the second byte is the Command. All subsequent bytes are the command data. On the response side, the first byte is the completion code and all subsequent bytes are command data.

The screenshot shows the 'NMPRK - Node Manager Programmers Reference Kit' application window. The 'Execution' tab is selected, displaying the function signature for `NMPRK_GetCapabilities`, a dropdown menu with the same function name, and tabs for 'Inputs', 'Outputs', 'Execution', and 'Connection'. Below these are fields for 'Request Bytes' (containing '2E C9 57 01 00 00 10'), 'Return Value' (containing '00h - Success'), and 'Response Bytes' (containing '00 57 01 00 08 FF 7F 01 00 E8 03 00 00 C0 27 09 00 01 00 10 0E 00'). An 'Invoke Function' button is at the bottom, and a status bar at the very bottom shows 'Connected' and the timestamp '10/18/2013 9:04 PM'.

NMPRK - Node Manager Programmers Reference Kit

Help About Exit

Function Signature:

```
NMPRK_API
nmprk_status_t
NMPRK_GetCapabilities(
    IN nmprk_conn_handle_t h,
    IN nm_get_capabilities_input_t *input,
    OUT nm_get_capabilities_output_t *output);
```

Select Function:

NMPRK_GetCapabilities

Inputs Outputs Execution Connection

Request Bytes:

2E C9 57 01 00 00 10

Return Value:

00h - Success

Response Bytes:

00 57 01 00 08 FF 7F 01 00 E8 03 00 00 C0 27 09 00 01 00 10 0E 00

Invoke Function

Connected 10/18/2013 9:04 PM

Help Menu

In the “Help” Menu, “NMPRK API Help” link opens a popup which has a detailed documentation on all the functions and classes available in the API. The other link “NMPRK GUI Help” has the same information as this document.

