Developer's Guide

WISE-PaaS/RMM 3.3

Wireless IoT Sensing Embedded AgentWISE-AgentCommand Format Developer's Guide

ADVANTECH

Enabling an Intelligent Planet

Change Log:

Date	Version	Description / Major change
2015/07/20	V0.1	Scott Chang, create draft document
2015/07/19	V1.0	Scott Chang, first formal release
2015/12/22	V1.1	Rison Yeh, review and revise format
2016/01/08	V1.2	Scott Chang, modify Get Capability format
2016/6/28	V1.3a	Scott Chang, Modify Protection and Recovery Install and Update function to support OTA Mode
2017/1/9	V1.3b	Scott Chang modifies the capability of non-sensor data handler.
2017/9/28	V1.4	Scott Chang, Migrate to RMM 3.3

Table of Content

1 Overview

1.1 Introduction

This document describes the communication protocol and sensor data format between WISE-Agent and WISE-PaaS RMM server.

The Advantech sensor data format is referring to IPSO Alliance Guide [1]. Use Sensor Markup Language (SENML)[3] defines media types for representing sensor measurements and device parameters in the SenML. Representations are defined in JavaScript Object Notation (JSON) [4].

1.2 IPSO Application Framework

The IPSO Application Framework makes use of IETF standards as building blocks for a simple and efficient RESTful design model for IP smart objects. The framework may be used over either HTTP or CoAP web transfer protocols.

HTTP, REST, XML, JSON, COAP and other key components of web technology are powerful mechanisms in an Internet of Things application.

Note: The objective of the Alliance is not to define technologies, but to document the use of IP-based technologies defined at the standard organizations such as IETF with focus on support by the Alliance of various use cases.

Function Sets: The framework is organized into groups of resource types called Function Sets.   A Function Set has a recommended root path, under which its sub-resources are organized.   Each Function Set is assigned a Resource Type parameter, therefore making it possible to discover it.

Function Set	Root Path	Resource Type
General Purpose IO	/gpio	gpio
Power	/pwr	pwr
Load Control	/load	load
Sensors	/sen	sen
Light Control	/lt	lt
Message	/msg	msg
Location	/loc	loc
Configuration	/cfg	cfg

1.3 IPSO Smart Object

IPSO Smart Object [2] Guidelines provide a common design pattern, an object model, which can effectively use the IETF CoAP protocol to provide high level interoperability between Smart Object devices and connected software applications on other devices and services

The common object model is based on the Lightweight M2M (LWM2M 1.0) specification from the Open Mobile Alliance. OMA LWM2M is a device management and service architecture specification based on IETF CoAP, and provides a simple and flexible object template (object model) for constrained device management.

The object model from OMA LWM2M is reused to define application level IPSO Smart Objects. This enables the OMA Name Authority (OMNA) to be used to register new objects, and enables existing LWM2M compliant device libraries and server software to be used as an infrastructure for IPSO Smart Objects

1.4 Media Types for Sensor Markup Language (SENML)

Semantics

SenML	JSON	Type	Description
Base Name	bn	String	This is a string that is prepended to the names found in the entries
Base Time	bt	Integer	A base time that is added to the time found in an entry
Base Units	bu	String	A base unit that is assumed for all entries, unless otherwise indicated
Version	ver	Number	Version number of media type format
Measurement or Parameters	e	Array	Array of values for sensor measurements or other generic parameters
Name	n	String	Name of the sensor or parameter
Units	u	String	Units for a measurement value
Value	v	Float	Value of the entry
String Value	sv	String	
Boolean Value	bv	Boolean	
Value Sum	s	Float	Integrated sum of the values over time
Time	t	Integer	Time when value was recorded
Update Time	ut	Integer	Update time. A time in seconds that represents the maximum time before this sensor will provide an updated reading for a measurement.

The Data Type of Sensor Data Type

Data Type (type)	SenML Field
b (boolean)	bv
s (string)	s
e (enum)	e
i (integer)	v
d (decimal)	v

h(hexadecimal)	s
o(octet-stream)	s

Advantech Sensor Semantics

SenML	JSON	Type	Description
Min Range Value	min	Float	The minimum value that can be measured by the sensor
Max Range Value	max	Float	The maximum value that can be measured by the sensor
Access Mode	asm	String	The access mode of the resource. Ex: read (r), write (w), read/write (rw)
Standard Format	st	String	The sensor format is which standard format
Health Status	Health	Integer	The health status of network or device. Range: -1 ~ 100 Good: > 80, Average: 60 ~ 80, Below Average: 40~60, Bad:0~40, -1: Off line or Fault

Example:

{"n":"Room

Temp","u":"Cel","v":0,"min":0,"max":100,"asm":"r","type":"d","rt":"ucum.Cel","st":"ipso","exten":"sid=3303"}

2 WISE AgentCommunication Protocol

The communication protocol used in WISE Agent is MQTT protocol. MQTT is publish/subscribe, extremely simple and lightweight, messaging protocol designed for constrained devices and low-bandwidth, high-latency or unreliable networks.
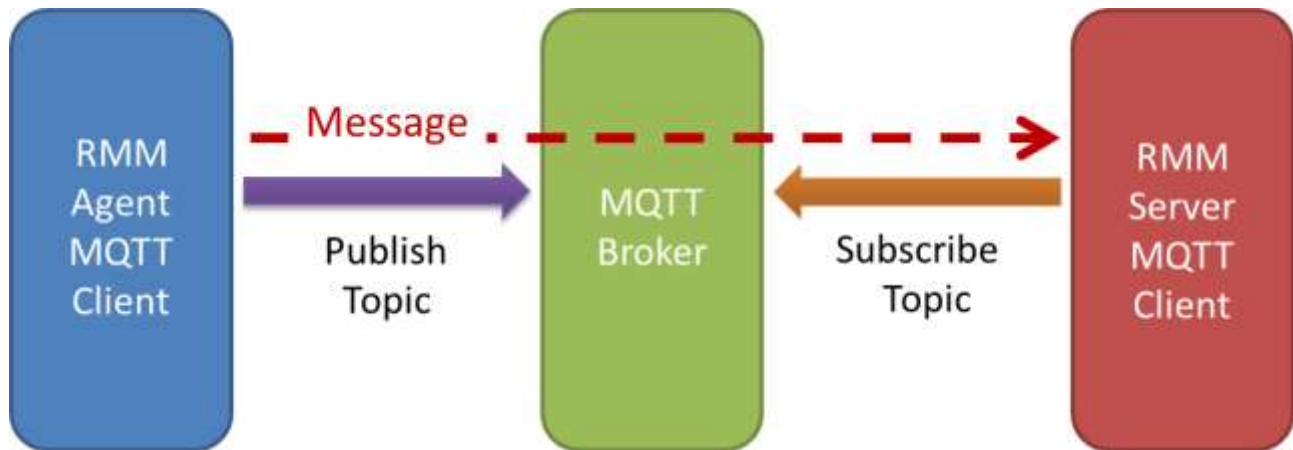
3 WISE Agent Packet Format

The basic WISE Agent Packet in JSON format. And prevent using dot(.) and dollar ($) sign in JSON tag for database limitation.

```
"susiCommData":{

<Custom_Data, JSON format string>

    "agentID":<Agent_ID>,

  "commCmd":<Command_ID>,

    "requestID":<Request_ID, preserved for SA3.0>,

    "handlerName":<Handler_Name>,

    "sendTS":<Time_Tick, Time tick from 1977>

    }
```

4 Agent Connection Protocol

4.1 Will Message

WISE Agent setup the Will Message to Broker, while connected to broker, by calling "mosquitto_will_set". While Client lost connection or keep-alive timeout, the will message will send to the client that subscribe the topic.

Topic:

/cagent/admin/devId/willmessage

Payload:

```
"susiCommData":{

"devID":"000014DAE996BE04",

  "hostname":"PC001104",

  "sn":"14DAE996BE04",

  "mac":"14DAE996BE04",

  "version":"1.0.0.0",

  "type":"IPC",

  "product":"",

  "manufacture":"",

 "account":"anonymous",

 "password":"",   //encrypt with DES and Base64

  "status":0,

  "commCmd":1,

  "requestID":21,

  "agentID":"000014DAE996BE04",

  "handlerName":"general",

  "sendTS":1423536737}

}
```

4.2 AgentInformation.

WISE Agent sends Agent information with "status:1" after connected to notify server the device is connected, and send "status:0" before disconnect to notify server the device will disconnect.

Topic:

/cagent/admin/<agentID>/agentinfoack

Payload:

"susiCommData":{

"devID":"000014DAE996BE04",

　"hostname":"PC001104",

　"sn":"14DAE996BE04",

　"mac":"14DAE996BE04",

　"version":"1.0.0.0",

　"type":"IPC",

　"product":"",

　"manufacture":"",

"account":"anonymous",

"password":"",　//encrypt with DES and Base64

　"status":1,

　"commCmd":1,

　"requestID":21,

　"agentID":"000014DAE996BE04",

　"handlerName":" general",

　"sendTS":1423536737}

}

5   Agent Command

To communicate with RMM Server, WISE Agent defined two topics to receive command and send message.

Sending Topic: /cagent/admin/<Agent_ID>/agentactionreq

Receiving Topic: /cagent/admin/<Agent_ID>/agentcallbackreq
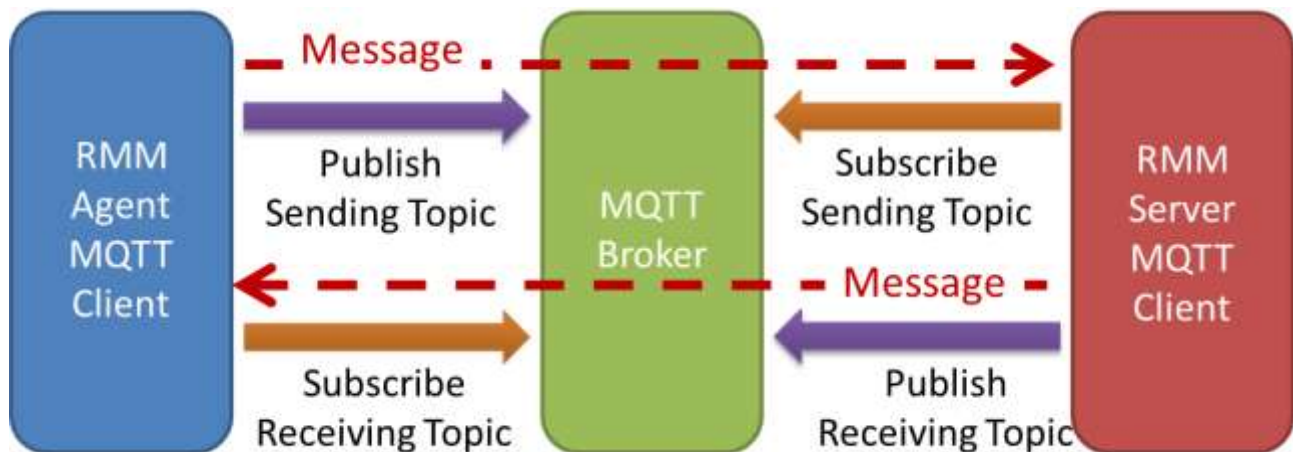
5.1 Send OS Information

WISE/RMM Agent sends the OS Information to RMM Server to record the agent executing environment.

Topic:

/cagent/admin/<agentID>/agentactionreq

Payload:

```
"susiCommData":{
  "osInfo":
  {
    "cagentVersion":"1.0.0",
    "osVersion":"Windows 7 Service Pack 1",
    "biosVersion":"",
    "platformName":"",
    "processorName":"",
    "osArch":"X64",
    "totalPhysMemKB":8244060,
    "macs":"<mac1>;<mac2>",
    "IP":"<local_IP>"
  },
```

    "commCmd":116,

    "requestID":16,

    "agentID":"000014DAE996BE04",

    "handlerName":"general",

    "sendTS":1424765401

}

5.2 Handler List

WISE/RMM Agent sends the List of loaded handlers' name to RMM Server to notify how many handlers are loaded.

Topic:

/cagent/admin/<agentID>/agentactionreq

Payload:

```
"susiCommData":{

  "handlerlist":[

  "<HANDLER_NAME1>",

  "<HANDLER_NAME2>",

  …

  ],

  "commCmd":124,

  "requestID":1001,

  "agentID":"000014DAE996BE04",

  "handlerName":"general",

  "sendTS":1424765401

}
```

5.3 Agent Update

RMM Server can send the Agent Update Command to ask WISE/RMM Agent to download and upgrade to newer version.

Topic:

/cagent/admin/<agentID>/agentinfoack

Payload:

```
"susiCommData":{

    "params":{

        "userName":"<account>", //ftp server login name

        "pwd":"<password>",        //ftp server login password

        "port":2121,              //ftp server listen port

        // download path

        "path":"/upgrade/SA30AgentSetupV3.0.999_for_V3.0.26.exe",

        // md5 checksum.

        "md5":"FC98315DEB2ACD72B1160BC7889CE29C"

    },

    "commCmd":111,

    "requestID":16,

    "agentID":"000014DAE996BE04",

    "handlerName":"general",

    "sendTS":1424765401

}
```

5.4 IoT Command

5.4.1 Get Handler Capability

RMM Server can send the Get Capability Command to get the capability of handlers in WISE/RMM Agent.

Topic:

/cagent/admin/<agentID>/agentcallbackreq

Payload:

```
"susiCommData":

{

"requestID":1001,          //cagent_request_general

"catalogID": 4,

"commCmd":2051,   //general_info_spec_req

"handlerName":"general"

}
```

5.4.2 Send Capability

WISE/RMM Agent collects the capability of handlers and send back to RMM Server.

Topic:

/cagent/admin/<agentID>/agentactionreq

Payload:

```
"susiCommData":

{

"infoSpec":

{

    "HWM":   // handler name

    {
```

e:

[

{ "n": "v01", "n": "cpu1_volt", type:"volt", "u": "V", "max":20, "min":10},

{ "n": "v02", "n": "cpu2_volt", type:"volt", "u": "V", "max":20, "min":10},

{ "n": "t01", "n": "cpu1_temp", type:"temp", "u": "Cel", "max":100, "min":10},

{ "n": "V143360", "n": "OEM0", type:"current", "u": "A", "max":100, "min":10}

]

"bn":"HWM"

}

"requestID": 2001,   //cagent_general

"commCmd": 2052,   //general_info_spec_rep

"catalogID": 4,

"agentID": "000014DAE996BE04",

"sendTS": 1417000000004,   // time tick from 1970

"handlerName":"general"

}

5.4.3 Start Auto Report

RMM Server can send the Start Auto Report Command to ask WISE/RMM Agent report sensor data repeatedly.

Topic:

/cagent/admin/<agentID>/agentcallbackreq

Payload:

"susiCommData":

{

"requestID":1001,

"catalogID": 4,

```
    "commCmd": 2053,        //general_start_auto_upload_req

    "handlerName":"general",

   "requestItems":{
      "SUSIControl":{
         "e":[
            {"n":"SUSIControl/GPIO"},
            {"n":"SUSIControl/Voltage/v1"}
         ]
      },
      "HDDMonitor":{
         "e":[
            {"n":"HDDMonitor/hddInfoList"},
            {"n":"HDDMonitor/hddSmartInfoList/PowerOnHoursPOH"}
         ]
      },
   //Report the sensor data of voltage v1 and whole GPIO in SUSI Control Handler
   //"requestItems":{"All":{}},

    // If requestItems contain string "All":{}, Whole handler should report all sensor data.

    "autoUploadIntervalSec": 30

    }
```

5.4.4 Stop Auto Report

RMM Server can send the Stop Auto Report Command to ask WISE/RMM Agent stop reporting.

Topic:

/cagent/admin/<agentID>/agentcallbackreq

Payload:

```
   "susiCommData":

   {

   "requestID":1001,

   "catalogID": 4,
```

```
"commCmd": 2056,        //general_stop_auto_upload_req

"handlerName":"general"

"requestItems":{"All":{}}

}
```

5.4.5 Start/Stop Auto Report Response

WISE/RMM Agentsends Start/Stop AutoReportcommand response back to RMM Server.

Topic:

/cagent/admin/<agentID>/agentactionreq

Payload:

```
"susiCommData":

{

"requestID":1001,

"catalogID": 4,

"commCmd": 2054,        //general_start_auto_upload_rep

"handlerName":"general",

"result":"SUCCESS"

}
```

5.4.6 Send Sensor Data Report

WISE/RMM Agent can send the sensor data report to RMM Server repeatedly after receive the Start Auto Report Command.

Topic:

/cagent/admin/<agentID>/deviceinfo

Payload:

"susiCommData":

{

"requestID":2001,

"catalogID": 4,

"commCmd": 2055,   //general_info_upload_rep

"agentID": "000014DAE996BE04",

"sendTS": 1417000000004,   // time tick from 1970

"handlerName":"general",

"Data":{

"HWM": {

"e":[

        { "n": "v01", "v": 34.5 },

        { "n": "v02", "v": 69.8 }

    ],

    "bn": "HWM"

  }

 }

}

6 Hardware Monitor：

6.1 Set HWM Auto Upload

JSON Command – Report once:

{"susiCommData":{"commCmd":2,"handlerName":"device_monitoring",”catalogID”:4}}

Returned JSON Command:

{"susiCommData":{"commCmd":272,"handlerName":"device_monitoring",”catalogID”:4,"setReqpRep":"SUCCESS"}}

JSON Command – Report repeat:（IntervalTime：2000ms，TimeoutTime 10000ms）

{"susiCommData":{"commCmd":1,"handlerName":"device_monitoring",”catalogID”:4,"autoUploadParams":{"autoUploadIntervalMs":2000,"autoUploadTimeoutMs":10000}}}

Returned JSON Command:

{"susiCommData":{"commCmd":271,"handlerName":"device_monitoring",”catalogID”:4,"setAutoUploadRep":"SUCCESS"}}

Or

{"susiCommData":{"commCmd":271,"handlerName":"device_monitoring",”catalogID”:4,"setAutoUploadRep":"Command parse error!"}}

Or

{"susiCommData":{"commCmd":271,"handlerName":"device_monitoring",”catalogID”:4,"setAutoUploadRep":"Command params error!"}}

6.2 Query HWM Data

JSON Command:

{"susiCommData":{"commCmd":3,"handlerName":"device_monitoring",”catalogID”:4}}

Returned JSON Command:

{"susiCommData":{"commCmd":4,"handlerName":"device_monitoring",”catalogID”:4,"hwmInfo":{"temp":{"cpuT":28.799999,"chipsetT":32.799999,"systemT":22.400000,"cpu2T":48.400002,"oem0T":24.700001,"oem1T":25.600000,"oem2T":41.099998,"oem3T":30.700001,"oem4T":46.299999,"oem5T":31.700001},"volt":{"vcoreV":7.161000,"vcore2V":4.416000,"v2_5V":1.461000,"v3_3V":9.560000,"v5V":6.840000,"v12V":3.886000,"vsb5V":1.088000,

"vsb3V":8.977000,"vbatV":6.206000,"nv5V":3.094000,"nv12V":10.984000,"vttV":7.977000,"v24V":5.101000,"oem0V":2.773000,"oem1V":10.715000,"oem2V":7.551000,"oem3V":4.675000},"fan":{"cpuF":1804,"systemF":1882,"cpu2F":1814,"oem0F":1881,"oem1F":1800,"oem2F":1823,"oem3F":1846,"oem4F":1848,"oem5F":1857,"oem6F":1867}}}}

6.3 Set HDD Auto Upload

JSON Command - Report once:

{"susiCommData":{"commCmd":6,"handlerName":"device_monitoring","catalogID":4}}

Returned JSON Command:

{"susiCommData":{"commCmd":274,"handlerName":"device_monitoring","catalogID":4,"setReqpRep":"SUCCESS"}}

JSON Command – Report repeat:（IntervalTime：2000ms，TimeoutTime 10000ms）

{"susiCommData":{"commCmd":5,"handlerName":"device_monitoring","catalogID":4,"autoUploadParams":{"autoUploadIntervalMs":2000,"autoUploadTimeoutMs":10000}}}

Returned JSON Command:

{"susiCommData":{"commCmd":273,"handlerName":"device_monitoring","catalogID":4,"setAutoUploadRep":"SUCCESS"}}

Or

{"susiCommData":{"commCmd":273,"handlerName":"device_monitoring","catalogID":4,"setAutoUploadRep":"Command parse error!"}}

Or

{"susiCommData":{"commCmd":273,"handlerName":"device_monitoring","catalogID":4,"setAutoUploadRep":"Command params error!"}}

6.4 Query HDD Data

JSON Command:

{"susiCommData":{"commCmd":7,"handlerName":"device_monitoring","catalogID":4}}

Returned JSON Command:

{"susiCommData":{"commCmd":8,"handlerName":"device_monitoring",”catalogID”:4,"hddInfo":{"hddMonInfoList":[{"hddType":2,"hddName":"Disk0-FUJITSU MHZ2160BJ FFS G2","hddIndex":0,"powerOnTime":29986,"hddHealthPercent":100,"hddTemp":46}]}}}

6.5 Query HDD S.M.A.R.T. Info

JSON Command:

{"susiCommData":{"commCmd":275,"handlerName":"device_monitoring",”catalogID”:4}}

Returned JSON Command:

{"susiCommData":{"commCmd":276,"handlerName":"device_monitoring",”catalogID”:4,"hddSmartInfoList":[{"hddType":2,"hddName":"Disk0-FUJITSU MHZ2160BJ FFS G2","hddIndex":0,"smartAttrList":[{"name":"FreeFallProtection","type":254,"flags":12800,"worst":100,"value":100,"vendorData":"000000000003"},{"name":"TotalLBAsRead","type":242,"flags":12800,"worst":100,"value":100,"vendorData":"15C7A3AA0004"},{"name":"TotalLBAsWritten","type":241,"flags":12800,"worst":100,"value":100,"vendorData":"2E3991C20003"},{"name":"HeadFlyingHours","type":240,"flags":12800,"worst":100,"value":100,"vendorData":"000000064169"},{"name":"MultiZoneErrorRate","type":200,"flags":12800,"worst":100,"value":100,"vendorData":"000008A60A6D"},{"name":"UltraDMACRCErrorCount","type":199,"flags":12800,"worst":100,"value":100,"vendorData":"0000022933E9"},{"name":"Temperature","type":194,"flags":8704,"worst":100,"value":100,"vendorData":"0039000C002E"},{"name":"LoadCycleCount","type":193,"flags":12800,"worst":99,"value":99,"vendorData":"0003000077EF"},{"name":"PoweroffRetractCount","type":192,"flags":12800,"worst":100,"value":100,"vendorData":"000000000033"},{"name":"GSenseErrorRate","type":191,"flags":4608,"worst":100,"value":100,"vendorData":"0000000001F0"},{"name":"PowerCycleCount","type":12,"flags":12800,"worst":100,"value":100,"vendorData":"000000000522"},{"name":"PowerOnHoursPOH","type":9,"flags":12800,"worst":86,"value":86,"vendorData":"000000066925"},{"name":"ReallocatedSectorsCount","type":5,"flags":13056,"worst":100,"value":100,"vendorData":"07D000000000"},{"name":"SpinUpTime","type":3,"flags":768,"worst":100,"value":100,"vendorData":"000000000001"},{"name":"ReadErrorRate","type":1,"flags":3840,"worst":100,"value":100,"vendorData":"00000001D51F"}]}]}}}

6.6 Get HWM Platform Info

JSON Command:

{"susiCommData":{"commCmd":251,"handlerName":"device_monitoring",”catalogID”:4}}

Returned JSON Command:

{"susiCommData":{"commCmd":252,"handlerName":"device_monitoring",”catalogID”:4,"pfInfo":{"temp":[{"tag":"

oem5T","display":"OEM5","unit":"Celsius","max":100,"min":-100,"type":1},{"tag":"oem4T","display":"OEM4","unit":"Celsius","max":100,"min":-100,"type":1},{"tag":"oem3T","display":"OEM3","unit":"Celsius","max":100,"min":-100,"type":1},{"tag":"oem2T","display":"OEM2","unit":"Celsius","max":100,"min":-100,"type":1},{"tag":"oem1T","display":"OEM1","unit":"Celsius","max":100,"min":-100,"type":1},{"tag":"oem0T","display":"OEM0","unit":"Celsius","max":100,"min":-100,"type":1},{"tag":"cpu2T","display":"CPU 2","unit":"Celsius","max":100,"min":-100,"type":1},{"tag":"systemT","display":"System","unit":"Celsius","max":100,"min":-100,"type":1},{"tag":"chipsetT","display":"Chipset","unit":"Celsius","max":100,"min":-100,"type":1},{"tag":"cpuT","display":"CPU","unit":"Celsius","max":100,"min":-100,"type":1}],"volt":[{"tag":"oem3V","display":"OEM3","unit":"V","max":500,"min":-500,"type":3},{"tag":"oem2V","display":"OEM2","unit":"V","max":500,"min":-500,"type":3},{"tag":"oem1V","display":"OEM1","unit":"V","max":500,"min":-500,"type":3},{"tag":"oem0V","display":"OEM0","unit":"V","max":500,"min":-500,"type":3},{"tag":"v24V","display":"24V","unit":"V","max":500,"min":-500,"type":3},{"tag":"vttV","display":"VTT","unit":"V","max":500,"min":-500,"type":3},{"tag":"nv12V","display":"-12V","unit":"V","max":500,"min":-500,"type":3},{"tag":"nv5V","display":"-5V","unit":"V","max":500,"min":-500,"type":3},{"tag":"vbatV","display":"CMOS Battery","unit":"V","max":500,"min":-500,"type":3},{"tag":"vsb3V","display":"3.3V Standby","unit":"V","max":500,"min":-500,"type":3},{"tag":"vsb5V","display":"5V Standby","unit":"V","max":500,"min":-500,"type":3},{"tag":"v12V","display":"12V","unit":"V","max":500,"min":-500,"type":3},{"tag":"v5V","display":"5V","unit":"V","max":500,"min":-500,"type":3},{"tag":"v3_3V","display":"3.3V","unit":"V","max":500,"min":-500,"type":3},{"tag":"v2_5V","display":"2.5V","unit":"V","max":500,"min":-500,"type":3},{"tag":"vcore2V","display":"Core2","unit":"V","max":500,"min":-500,"type":3},{"tag":"vcoreV","display":"Core","unit":"V","max":500,"min":-500,"type":3}],"fan":[{"tag":"oem6F","display":"OEM6","unit":"RPM","max":90000,"min":0,"type":2},{"tag":"oem5F","display":"OEM5","unit":"RPM","max":90000,"min":0,"type":2},{"tag":"oem4F","display":"OEM4","unit":"RPM","max":90000,"min":0,"type":2},{"tag":"oem3F","display":"OEM3","unit":"RPM","max":90000,"min":0,"type":2},{"tag":"oem2F","display":"OEM2","unit":"RPM","max":90000,"min":0,"type":2},{"tag":"oem1F","display":"OEM1","unit":"RPM","max":90000,"min":0,"type":2},{"tag":"oem0F","display":"OEM0","unit":"RPM","max":90000,"min":0,"type":2},{"tag":"cpu2F","display":"CPU2","unit":"RPM","max":90000,"min":0,"type":2},{"tag":"systemF","display":"System","unit":"RPM","max":90000,"min":0,"type":2},{"tag":"cpuF","display":"CPU","unit":"RPM","max":90000,"min":0,"type":2}]}}}

6.7 Set HWM Threshold Rule

JSON Command:

{"susiCommData":{"commCmd":257,"handlerName":"device_monitoring","catalogID":4,"hwmThr":{"temp":[{"tag":"cpuT","max":90,"min":60,"type":3,"lastingTimeS":3,"intervalTimeS":20,"enable":"true"}],"volt":[{"tag":"v12V","max":12,"min":5,"type":3,"lastingTimeS":5,"intervalTimeS":50,"enable":"true"}],"fan":[{"tag":"cpu2F","max":1880,"min":1840,"type":3,"lastingTimeS":5,"intervalTimeS":30,"enable":"true"}]}}}

Returned JSON Command:

{"susiCommData":{"commCmd":258,"handlerName":"device_monitoring","catalogID":4,"hwmSetThresholdResult":"HWM threshold apply OK!" }}

6.8 Delete All HWM Threshold Rule

JSON Command:

{"susiCommData":{"commCmd":259,"handlerName":"device_monitoring","catalogID":4}}

Returned JSON Command:

{"susiCommData":{"commCmd":260,"handlerName":"device_monitoring","catalogID":4,"delAllThresholdRep":"Delete all threshold successfully!"}}

6.9 Threshold Check & Report

JSON Command:

None.

Returned JSON Command:

{"susiCommData":{"commCmd":254,"handlerName":"device_monitoring","catalogID":4,"normalStatus":"False","monEventMsg":"vcoreV(avg:3.430)<minThreshold(100.000);cpuF(avg:1803)>maxThreshold(1) and cpuF(avg:1803)<minThreshold(100000)"}}

{"susiCommData":{"commCmd":254,"handlerName":"device_monitoring","catalogID":4,"normalStatus":"False","monEventMsg":"cpuF(avg:1800) normal!"}}

{"susiCommData":{"commCmd":254,"handlerName":"device_monitoring","catalogID":4,"normalStatus":"True","monEventMsg":"HDD(Disk0-FUJITSU MHZ2160BJ FFS G2) healthH normal!;HDD(Disk0-FUJITSU MHZ2160BJ FFS G2) tempH normal!"}}

"normalStatus":"False" means HWM status is Normal，"normalStatus":"True" means HWM value is out of threshold range.

7 Power OnOff :

7.1 Get MAC list

JSON Command:

{"susiCommData": {"commCmd":71, "handlerName":"power_onoff", "catalogID":4}}

Returned JSON Command:

{"susiCommData":{"commCmd":72,"powerOnOffReplyMessage":"00:D0:C9:12:35:2D"}}

7.2 Get Latest Boot Up Time

JSON Command:

{"susiCommData": {"commCmd":73, "handlerName":"power_onoff", "catalogID":4}}

Returned JSON Command:

{"susiCommData":{"commCmd":74,"handlerName":"device_monitoring",”catalogID”:4,"powerOnOffReplyMessage":"2001-12-31 16:00:09"}}

7.3 Get Power On Time

JSON Command:

{"susiCommData": {"commCmd":75, "handlerName":"power_onoff", "catalogID":4}}

Returned JSON Command:

{"susiCommData":{"commCmd":76,"handlerName":"power_onoff",”catalogID”:4,"powerOnOffReplyMessage":"33:52:33"}}

7.4 Reboot

JSON Command:

{"susiCommData": {"commCmd":79, "handlerName":"power_onoff", "catalogID":4}}

Returned JSON Command:

{"susiCommData":{"commCmd":80,"handlerName":"power_onoff","catalogID":4,"powerOnOffReplyMessage":"Success"}}

7.5 Shutdown

JSON Command:

{"susiCommData": {"commCmd":77, "handlerName":"power_onoff", "catalogID":4}}

Returned JSON Command:

{"susiCommData":{"commCmd":78,"handlerName":"power_onoff","catalogID":4,"powerOnOffReplyMessage":"Success"}}

7.6 Suspend (S3)

JSON Command:

{"susiCommData": {"commCmd":81, "handlerName":"power_onoff", "catalogID":4}}

Returned JSON Command:

{"susiCommData":{"commCmd":82,"handlerName":"power_onoff","catalogID":4,"powerOnOffReplyMessage":"Suspending"}}

7.7 Hibernation (S4)

JSON Command:

{"susiCommData": {"commCmd":83, "handlerName":"power_onoff", "catalogID":4}}

Returned JSON Command:

{"susiCommData":{"commCmd":84,"handlerName":"device_monitoring","catalogID":4,"powerOnOffReplyMessage":"Hibernating"}}

7.8 Wake on lan

JSON Command:

{"susiCommData":{"commCmd":85,"handlerName":"power_onoff","catalogID":4,"macs":"00-0B-AB-63-14-AE;00-0B-AB-63-14-AE"}}

Returned JSON Command:

{"susiCommData":{"commCmd":86,"handlerName":"power_onoff","catalogID":4,"powerOnOffReplyMessage":"00-0B-AB-63-14-AE SUCCESS,00-0B-AB-63-14-AE SUCCESS"}}

7.9 Get AMT Parameter

JSON Command:

{"susiCommData": {"commCmd":87, "handlerName":"power_onoff", "catalogID":4}}

Returned JSON Command:

{"susiCommData":{"commCmd":88,"handlerName":"power_onoff","catalogID":4,"amtEn":"True","amtId":"2222", "amtPwd":"11111111"}}

7.10 Get Capability

JSON Command:

{"susiCommData": {"commCmd":521, "handlerName":"power_onoff", "catalogID":4}}

Returned JSON Command:
{"susiCommData":{"infoSpec":{"power_onoff":{"infomation":{"e":[{"n":"MAC List","sv":"00:FF:F8:C7:5D:3F,00:23:24:95:BE:E1"},{"n":"amtEn","sv":"TRUE"},{"n":"amtId","sv":"111"},{"n":"amtPwd","sv":"222"},{"n":"functionList","sv":"wol,shutdown,restart,hibernate,suspend"},{"n":"functionCode","v":31}],"nonSensorData":true,"bn":"infomation"}}},"commCmd":522,"requestID":104,"agentID":"000090FBA61A5C26", "handlerName":"power_onoff","sendTS":1441601223}}

Support Function:

Function String	Function Code
"none"	0x00

"wol"	0x01
"shutdown"	0x02
"restart"	0x04
"hibernate"	0x08
"suspend	0x10

8 Recovery：

8.1 Backup

JSON Command:

{"susiCommData":{"commCmd":41,"handlerName":"recovery","catalogID":4}}

Returned JSON Command:

{"susiCommData":{"commCmd":42,"handlerName":"recovery","catalogID":4,"recoveryReplyMessage":"ProgressReport","BackupPercent":0"}}

{"susiCommData":{"commCmd":42,"handlerName":"recovery","catalogID":4,"recoveryReplyMessage":"ProgressReport","BackupPercent":1"}}

……

{"susiCommData":{"commCmd":42,"handlerName":"recovery","catalogID":4,"recoveryReplyMessage":"ProgressReport","BackupPercent":100"}}

{"susiCommData":{"commCmd":42,"handlerName":"recovery","catalogID":4,"recoveryReplyMessage":"BackupEnd"}}

8.2 Restore

JSON Command:

{"susiCommData":{"commCmd":43,"handlerName":"recovery","catalogID":4}}

Returned JSON Command:

{"susiCommData":{"commCmd":44,"handlerName":"recovery","catalogID":4,"recoveryReplyMessage":"Restore OK!"}}

8.3 Install

JSON Command:

OTA Mode:
{"susiCommData":{"commCmd":49,"handlerName":"recovery","catalogID":4,"rcvyInstallThenActive":"True","rcvyI

nstallASZPersent":0, "otaMode":true }}

Ftp:

{"susiCommData":{"commCmd":49,"handlerName":"recovery","catalogID":4,"userName":"dhl1","pwd":"111","port":21,"path":"/upgrade/AcronisInstaller.exe","md5":"FAEFABC662EE3E5FC2449917BB120F51","rcvyInstallThenActive":"True","rcvyInstallASZPersent":0}}

Returned JSON Command:

{"susiCommData":{"commCmd":50,"handlerName":"recovery","catalogID":4,"recoveryReplyMessage":"Install action start"}}

{"susiCommData":{"commCmd":50,"handlerName":"recovery","catalogID":4,"recoveryReplyMessage":"File downloader start!"}}

{"susiCommData":{"commCmd":50,"handlerName":"recovery","catalogID":4,"recoveryReplyMessage":"Downloading,download Persent:0%, Speed: 45.08KB/S\n"}}

{"susiCommData":{"commCmd":50,"handlerName":"recovery","catalogID":4,"recoveryReplyMessage":"Downloading,download Persent:1%, Speed: 36.79KB/S\n"}}

……

{"susiCommData":{"commCmd":50,"handlerName":"recovery","catalogID":4,"recoveryReplyMessage":"Downloading,download Persent:99%, Speed: 74.40KB/S\n"}}

{"susiCommData":{"commCmd":50,"handlerName":"recovery","catalogID":4,"recoveryReplyMessage":"Downloading,download Persent:100%, Speed: 50.71KB/S\n"}}

{"susiCommData":{"commCmd":50,"handlerName":"recovery","catalogID":4,"recoveryReplyMessage":"Download Finished,Download Persent:100%, Speed: 50.71KB/S\n"}}

{"susiCommData":{"commCmd":50,"handlerName":"recovery","catalogID":4,"recoveryReplyMessage":"Install action start"}}

{"susiCommData":{"commCmd":50,"handlerName":"recovery","catalogID":4,"recoveryReplyMessage":"Installer install start!"}}

{"susiCommData":{"commCmd":50,"handlerName":"recovery","catalogID":4,"recoveryReplyMessage":"Installer installing!"}}

{"susiCommData":{"commCmd":50,"handlerName":"recovery","catalogID":4,"recoveryReplyMessage":"InstallCommand,InstallingMsg,Installing Acronis Agent Core..."}}

{"susiCommData":{"commCmd":50,"handlerName":"recovery","catalogID":4,"recoveryReplyMessage":"InstallCommand,InstallingMsg,Installing Acronis Agent Windows..."}}

{"susiCommData":{"commCmd":50,"handlerName":"recovery","catalogID":4,"recoveryReplyMessage":"InstallCommand,InstallingMsg,Installing Acronis Agent Tools..."}}

{"susiCommData":{"commCmd":50,"handlerName":"recovery","catalogID":4,"recoveryReplyMessage":"InstallCommand,InstallingMsg,Activating Hotkey..."}}

{"susiCommData":{"commCmd":50,"handlerName":"recovery","catalogID":4,"recoveryReplyMessage":"InstallCommand,InstallingMsg,Install Complete"}}

{"susiCommData":{"commCmd":50,"handlerName":"recovery","catalogID":4,"recoveryReplyMessage":"Installer Install OK!"}}

{"susiCommData":{"commCmd":50,"handlerName":"recovery","catalogID":4,"recoveryReplyMessage":"Install action successfully!"}}

If old Acronis is installed, then we need to uninstall it, the responded message as below:

{"susiCommData":{"commCmd":50,"handlerName":"recovery","catalogID":4,"recoveryReplyMessage":"Uninstall old acronis start!"}}

{"susiCommData":{"commCmd":50,"handlerName":"recovery","catalogID":4,"recoveryReplyMessage":"Uninstalling old acronis"}}

{"susiCommData":{"commCmd":50,"handlerName":"recovery","catalogID":4,"recoveryReplyMessage":"Uninstall old acronis ok!"}}

8.4 Update

JSON Command:

OTA Mode:

{"susiCommData":{"commCmd":57,"handlerName":"recovery","catalogID":4, "otaMode":true }}

Ftp:
{"susiCommData":{"commCmd":57,"handlerName":"recovery","catalogID":4,"userName":"dhl1","pwd":"111","port":21,"path":"/upgrade/AcronisInstaller.exe","md5":"FAEFABC662EE3E5FC2449917BB120F51"}}

Returned JSON Command:

Response message is similar to Install.

8.5 Get Current Status

JSON Command:

{"susiCommData":{"commCmd":61,"handlerName":"recovery","catalogID":4}}

Returned JSON Command:

{"susiCommData":{"commCmd":62,"handlerName":"recovery","catalogID":4,"recoveryStatusInfo":{"rcvyIsInstalled":"True","rcvyIsActivated":"True","rcvyIsExpired":"False","rcvyIsExistASZ":"True","rcvyIsNewerVer":"False","rcvyVersion":"1.0.0","rcvyLatestBKTime":"2002-01-01 6:27:45","rcvyActionMsg":"None","rcvyWarningMsg":"None"}}}

8.6 Activate

JSON Command:

{"susiCommData":{"commCmd":51,"handlerName":"recovery","catalogID":4}}

Returned JSON Command:

{"susiCommData":{"commCmd":52,"handlerName":"recovery","catalogID":4,"recoveryReplyMessage":"ActivateInfo,OK"}}

8.7 Get Capability

JSON Command:

{"susiCommData": {"commCmd":521, "handlerName":"recovery", "catalogID":4}}

Returned JSON Command:

{"susiCommData":{"infoSpec":{"recovery":{"Information":{"e":[{"n":"rcvyIsInstalled","bv":false},{"n":"rcvyIsActivated","bv":false},{"n":"rcvyIsExpired","bv":false},{"n":"rcvyIsExistASZ","bv":false},{"n":"rcvyIsNewerVer","bv":false},{"n":"rcvyVersion","sv":"1.0.0"},{"n":"rcvyLatestBKTime","sv":"2002-01-01 6:27:45"},{"n":"rcvyActionMsg","sv":"None"},{"n":"rcvyWarningMsg","sv":"None"},{"n":"functionList","sv":"none"},{"n":"functionCode","v":0}],"nonSensorData":true,"bn":"infomation"}}},"commCmd":522,"agentID":"00004437E646AC6D","handlerName":"recovery","sendTS":1009814825}}

Support Function:

Function String	Function Code
"none"	0x00
"backup"	0x01
"recovery"	0x02

"remoteinstall"	0x04
"remoteupdate"	0x08
"remoteactivate	0x10

9 Protection：

9.1 Protect

JSON Command:

{"susiCommData":{"commCmd":11,"handlerName":"protection",”catalogID”:4}}

Returned JSON Command:

{"susiCommData":{"commCmd":12,"handlerName":"protection",”catalogID”:4,"protectReplyMessage":"ProtectAction Start"}}

{"susiCommData":{"commCmd":12,"handlerName":"protection",”catalogID”:4,"protectReplyMessage":"ProtectActionSolidifyStart"}}

{"susiCommData":{"commCmd":23,"handlerName":"protection",”catalogID”:4,"protectReplyMessage":"list installed products\r\n"}}

{"susiCommData":{"commCmd":23,"handlerName":"protection",”catalogID”:4,"protectReplyMessage":"On Solidify C:\\\r\n"}}

{"susiCommData":{"commCmd":23,"handlerName":"protection",”catalogID”:4,"protectReplyMessage":"00:00:00: Total number of files scanned 0，solidified 0\r\n"}}

……

{"susiCommData":{"commCmd":23,"handlerName":"protection",”catalogID”:4,"protectReplyMessage":"on solidify D:\\\r\n"}}

{"susiCommData":{"commCmd":23,"handlerName":"protection",”catalogID”:4,"protectReplyMessage":"00:00:00: Total number of files scanned 1，solidified 0\r\n"}}

{"susiCommData":{"commCmd":23,"handlerName":"protection",”catalogID”:4,"protectReplyMessage":"00:00:00: Total number of files scanned 19，solidified 0\r\n"}}

……

{"susiCommData":{"commCmd":23,"handlerName":"protection",”catalogID”:4,"protectReplyMessage":" On Solidify E:\\\r\n"}}

{"susiCommData":{"commCmd":23,"handlerName":"protection",”catalogID”:4,"protectReplyMessage":"00:00:00: Total number of files scanned 3，solidified 0\r\n"}}

{"susiCommData":{"commCmd":23,"handlerName":"protection",”catalogID”:4,"protectReplyMessage":"00:00:21: Total number of files scanned 4，solidified 0\r\n"}}

……

{"susiCommData"{"commCmd":12,"handlerName":"protection","catalogID":4,"protectReplyMessage":"ProtectActionSolidifyEnd"}}

{"susiCommData"{"commCmd":12,"handlerName":"protection","catalogID":4,"protectReplyMessage":"ProtectctionEnableSuccess"}}

{"susiCommData":{"commCmd":12,"handlerName":"protection","catalogID":4,"protectReplyMssage":"ProtectActionEnd"}}

9.2 Unprotect

JSON Command:

{"susiCommData":{"commCmd":13,"handlerName":"protection","catalogID":4}}

Returned JSON Command:

{"susiCommData":{"commCmd":14,"handlerName":"protection","catalogID":4,"protectReplyMessage":"ProtectActionDisableSuccess"}}

9.3 Activate

JSON Command:

{"susiCommData":{"commCmd":20,"handlerName":"protection","catalogID":4}}

Returned JSON Command:

{"susiCommData":{"commCmd":21,"handlerName":"protection","catalogID":4,"protectReplyMessage":"ActiveSuccess"}}

9.4 Install

JSON Command:

OTA Mode:
{"susiCommData":{"commCmd":18,"handlerName":"protection","catalogID":4,"prttInstallThenActive":"True",
"otaMode":true}}

Ftp:
{"susiCommData":{"commCmd":18,"handlerName":"protection","catalogID":4,"userName":"dhl1","pwd":"111","

port":21,"path":"/upgrade/McAfeeInstaller.exe","md5":"FAEFABC662EE3E5FC2449917BB120F51","prttInstallThen Active":"True"}}

Returned JSON Command:

{"susiCommData":{"commCmd":19,"handlerName":"protection",″catalogID″:4,"protectReplyMessage":"Install action start"}}

{"susiCommData":{"commCmd":19,"handlerName":"protection",″catalogID″:4,"protectReplyMessage":"File downloader start!"}}

{"susiCommData":{"commCmd":19,"handlerName":"protection",″catalogID″:4,"protectReplyMessage":"File downloader start!"}}

{"susiCommData":{"commCmd":19,"handlerName":"protection",″catalogID″:4,"protectReplyMessage":"Downloa ding,download Persent:0%, Speed: 0.00KB/S\n"}}

{"susiCommData":{"commCmd":19,"handlerName":"protection",″catalogID″:4,"protectReplyMessage":"Downloa ding,download Persent:0%, Speed: 33.33KB/S\n"}}

{"susiCommData":{"commCmd":19,"handlerName":"protection",″catalogID″:4,"protectReplyMessage":"Downloa ding,download Persent:1%, Speed: 33.33KB/S\n"}}

{"susiCommData":{"commCmd":19,"handlerName":"protection",″catalogID″:4,"protectReplyMessage":"Downloa ding,download Persent:1%, Speed: 33.33KB/S\n"}}

{"susiCommData":{"commCmd":19,"handlerName":"protection",″catalogID″:4,"protectReplyMessage":"Downloa ding,download Persent:4%, Speed: 33.69KB/S\n"}}

{"susiCommData":{"commCmd":19,"handlerName":"protection",″catalogID″:4,"protectReplyMessage":"Downloa ding,download Persent:4%, Speed: 35.16KB/S\n"}}

…….

{"susiCommData":{"commCmd":19,"handlerName":"protection",″catalogID″:4,"protectReplyMessage":"Downloa ding,download Persent:98%, Speed: 34.39KB/S\n"}}

{"susiCommData":{"commCmd":19,"handlerName":"protection",″catalogID″:4,"protectReplyMessage":"Downloa ding,download Persent:98%, Speed: 35.19KB/S\n"}}

{"susiCommData":{"commCmd":19,"handlerName":"protection",″catalogID″:4,"protectReplyMessage":"Downloa ding,download Persent:99%, Speed: 34.04KB/S\n"}}

{"susiCommData":{"commCmd":19,"handlerName":"protection",″catalogID″:4,"protectReplyMessage":"Downloa ding,download Persent:99%, Speed: 34.79KB/S\n"}}

{"susiCommData":{"commCmd":19,"handlerName":"protection",″catalogID″:4,"protectReplyMessage":"Downloa ding,download Persent:100%, Speed: 34.04KB/S\n"}}

{"susiCommData":{"commCmd":19,"handlerName":"protection",″catalogID″:4,"protectReplyMessage":"Downloa

d Finished,Download Persent:100%, Speed: 34.04KB/S\n"}}

{"susiCommData":{"commCmd":19,"handlerName":"protection","catalogID":4,"protectReplyMessage":"Installer install start!"}}

{"susiCommData":{"commCmd":19,"handlerName":"protection","catalogID":4,"protectReplyMessage":"Installer installing!"}}

{"susiCommData":{"commCmd":19,"handlerName":"protection","catalogID":4,"protectReplyMessage":"Installer Install OK!"}}

{"susiCommData":{"commCmd":19,"handlerName":"protection","catalogID":4,"protectReplyMessage":"Install action successfully!"}}

9.5 Update

JSON Command:

OTA Mode:
{"susiCommData":{"commCmd":24,"handlerName":"protection","catalogID":4,"prttInstallThenActive":"True", "otaMode":true }}

Ftp:
{"susiCommData":{"commCmd":24,"handlerName":"protection","catalogID":4,"userName":"dhl1","pwd":"111"," port":21,"path":"/upgrade/McAfeeInstaller.exe","md5":"FAEFABC662EE3E5FC2449917BB120F51","prttInstallThen Active":"True"}}

Returned JSON Command:

Response message is similar to Install.

9.6 Get Current Status

JSON Command:

{"susiCommData":{"commCmd":26,"handlerName":"protection","catalogID":4}}

Returned JSON Command:

{"susiCommData":{"commCmd":27,"handlerName":"protection","catalogID":4,"protectionStatusInfo":{"prttIsProt ection":"False","prttIsActivated":"False","prttIsExpired":"True","prttIsInstalled":"False","prttIsNewerVer":"True"," prttVersion":"1.0.0","prttActionMsg":"Installing--Downloading,download Persent:5%, Speed: 94.16KB/S\n","prttWarningMsg":"None"}}}

{"susiCommData":{"commCmd":27,"handlerName":"protection",”catalogID”:4,"protectionStatusInfo":{"prttIsProt
ection":"False","prttIsActivated":"False","prttIsExpired":"True","prttIsInstalled":"False","prttIsNewerVer":"True","
prttVersion":"1.0.0","prttActionMsg":"Installing--Downloading,download Persent:63%, Speed:
97.09KB/S\n","prttWarningMsg":"None"}}}

{"susiCommData":{"commCmd":27,"handlerName":"protection",”catalogID”:4,"protectionStatusInfo":{"prttIsProt
ection":"False","prttIsActivated":"False","prttIsExpired":"True","prttIsInstalled":"False","prttIsNewerVer":"False","
prttVersion":"1.0.0","prttActionMsg":"Installing--Installer running","prttWarningMsg":"None"}}}

{"susiCommData":{"commCmd":27,"handlerName":"protection",”catalogID”:4,"protectionStatusInfo":{"prttIsProt
ection":"False","prttIsActivated":"False","prttIsExpired":"True","prttIsInstalled":"True","prttIsNewerVer":"False","
prttVersion":"1.0.0","prttActionMsg":"None","prttWarningMsg":"Install OK!"}}}

9.7 Return Warning Message

Returned JSON Command: Warning message on protected mode

{"susiCommData":{"commCmd":28,"handlerName":"protection",”catalogID”:4,"protectReplyMessage":"McAfeeEr
ror 1/28/2002 22:14:38.500! McAfee Solidifier prevented an attempt to modify file
'E:\\WorkSpace\\SA3.0_Agent201310311718\\Bin\\Debug\\SAMultiAgent.exe' by process
C:\\WINDOWS\\explorer.exe (Process Id:1192, User:MICROSOF-DF6226\\Administrator).\r\n"}}

9.8 Get Capability

JSON Command:

{"susiCommData": {"commCmd":521, "handlerName":"protection", "catalogID":4}}

Returned JSON Command:

{"susiCommData":{"infoSpec":{"protection":{"Information":{"e":[{"n":"prttIsProtection","bv":0},{"n":"prttIsActiva
ted","bv":0},{"n":"prttIsExpired","bv":0},{"n":"prttIsInstalled","bv":0},{"n":"prttIsNewerVer","bv":0},{"n":"prttVer
sion","sv":"1.0.0"},{"n":"prttActionMsg","sv":"None"},{"n":"prttWarningMsg","sv":"None"},{"n":”functionList”,"s
v":"none"},{"n":”functionCode”,"v":0}],"nonSensorData":true,"bn":"infomation"}}},"commCmd":522,"agentID":"
00004437E646AC6D","handlerName":"protection","sendTS":1009814825}}

Support Function:

Function String	Function Code
"none"	0x00
"protect"	0x01

"unprotect"	0x02
"remoteinstall"	0x04
"remoteupdate"	0x08
"remoteactivate	0x10

10 Remote KVM：

10.1 Get VNC Server Parameter

JSON Command:

{"susiCommData":{"commCmd":139,"handlerName":"remote_kvm",”catalogID”:4}}

Returned JSON Command:

{"susiCommData":{"commCmd":140,"handlerName":"remote_kvm",”catalogID”:4,"vncConnectParams":{"vncServerIP":"172.21.73.139","vncServerPort":5900,"vncServerPassword":"z51Q8Uv4"}}}

10.2 Get KVM Mode

Two Modes:

Normal Mode: connect to VNC Server directly.

Listen Mode: VNC Viewer open a listen port and wait VNC Server connected

Repeat Mode: Both VNC Viewer and Server connected to Repeat Server.

JSON Command:

{"susiCommData":{"commCmd":141,"handlerName":"remote_kvm",”catalogID”:4}}

Returned JSON Command:

{"susiCommData":{"commCmd":142,"handlerName":"remote_kvm",”catalogID”:4,"vncModeInfo":{"vncMode":"default","custvncPort":5900,"custvncPwd":"na"}}}

10.3 Connect KVM

10.3.1 Normal Mode

JSON Command:

{"susiCommData":{"commCmd":139,"handlerName":"remote_kvm",”catalogID”:4,"vncServerStartMode":1,

"vncServerStartNeedChangePassword":0}}

Returned JSON Command:

{"susiCommData":{"commCmd":140,"handlerName":"remote_kvm","catalogID":4,"vncConnectParams":{"vncServerIP":"172.21.73.139","vncServerPort":5900,"vncServerPassword":"z51Q8Uv4"}}}

10.3.2 Listen Mode

JSON Command:

{"susiCommData":{"commCmd":139,"handlerName":"remote_kvm","catalogID":4,"vncServerStartMode":2,"vncServerStartNeedChangePassword":0, "vncServerStartListenPort":5500,

"vncServerStartListenHost":"172.17.20.166"}}

Returned JSON Command:

{"susiCommData":{"commCmd":140,"handlerName":"remote_kvm","catalogID":4,"vncConnectParams":{"vncServerIP":"172.21.73.139","vncServerPort":5900,"vncServerPassword":"z51Q8Uv4"}}}

10.3.3 Repeater Mode

JSON Command:

{"susiCommData":{"commCmd":139,"handlerName":"remote_kvm","catalogID":4,"vncServerStartMode":3,"vncServerStartNeedChangePassword":0, "vncServerStartRepeaterPort":5501, "vncServerStartRepeaterID":1234}}

Returned JSON Command:

{"susiCommData":{"commCmd":140,"handlerName":"remote_kvm","catalogID":4,"vncConnectParams":{"vncServerIP":"172.21.73.139","vncServerPort":5900,"vncServerPassword":"z51Q8Uv4"}}}

10.4 Get Capability

JSON Command:

{"susiCommData": {"commCmd":521, "handlerName":"remote_kvm", "catalogID":4}}

Returned JSON Command:

{"susiCommData":{"infoSpec":{"remote_kvm":{"infomation":{"e":[{"n":"vncMode","sv":"disable"},{"n":"custvncPort","v":5900},{"n":"custvncPwd","sv":"123"},{"n":"functionList","sv":"disable"},{"n":"functionCode","v":0}],"nonSensorData":true,"bn":"infomation"}}},"commCmd":2052,"requestID":2001,"agentID":"00004437E646AC6D","handlerName":"general","sendTS":1440488003000}}

Support Function:

Function String	Function Code
"disable"	0x00
"default"	0x01
"repeater"	0x02
"customvnc"	0x04

11 Software Monitor：

11.1 Set Process Monitor Info Auto Upload

JSON Command – Report once:

{"susiCommData":{"commCmd":153,"handlerName":"software_monitoring","catalogID":4}}

Returned JSON Command:

{"susiCommData":{"commCmd":154,"handlerName":"software_monitoring","catalogID":4,"swmSetReqpReply":"SUCCESS"}}

JSON Command – Report repeat:（IntervalTime：2000ms，TimeOutTime：10000ms）

{"susiCommData":{"commCmd":151,"handlerName":"software_monitoring","catalogID":4,"swmAutoUploadParams":{"swmAutoUploadIntervalMs":2000, "swmAutoUploadTimeoutMs":10000}}}

Returned JSON Command:

{"susiCommData":{"commCmd":152,"handlerName":"software_monitoring","catalogID":4,"swmSetAutoUploadReply":"SUCCESS"}}

11.2 Set System Monitor Info Auto Upload

JSON Command – Report once:

{"susiCommData":{"commCmd":183,"handlerName":"software_monitoring","catalogID":4}}

Returned JSON Command:

{"susiCommData":{"commCmd":184,"handlerName":"software_monitoring","catalogID":4,"swmSetSysMonReqpReply":"SUCCESS"}}

SON Command – Report repeat:（IntervalTime：2000ms，TimeOutTime：10000ms）

{"susiCommData":{"commCmd":181,"handlerName":"software_monitoring","catalogID":4,"swmAutoUploadPara ms":{"swmAutoUploadIntervalMs":2000, "swmAutoUploadTimeoutMs":10000}}}

Returned JSON Command:

{"susiCommData":{"commCmd":182,"handlerName":"software_monitoring","catalogID":4,"swmSetSysMonAuto UploadReply":"SUCCESS"}}

11.3 Query System Monitor Info

JSON Command:

{"susiCommData":{"commCmd":177,"handlerName":"software_monitoring","catalogID":4}}

Returned JSON Command:

{"susiCommData":{"commCmd":178,"handlerName":"software_monitoring","catalogID":4,"swmSysMonInfo":{"sy sCPUUsage":11,"totalPhysMemKB":3110064,"availPhysMemKB":1332056}}}

11.4 Query Process Monitor Info

JSON Command:

{"susiCommData":{"commCmd":179,"handlerName":"software_monitoring","catalogID":4}}

Returned JSON Command:

{"susiCommData":{"commCmd":180,"handlerName":"software_monitoring","catalogID":4,"swmPrcMonInfoList": [{"swmPrcMonInfo":{"prcName":"winvnc.exe","prcID":3532,"prcCPUUsage":0,"prcMemUsage":8536,"prcIsActive ":1}},{"swmPrcMonInfo":{"prcName":"cmd.exe","prcID":12252,"prcCPUUsage":0,"prcMemUsage":2864,"prcIsActi ve":1}},{"swmPrcMonInfo":{"prcName":"CAgent.exe","prcID":11556,"prcCPUUsage":1,"prcMemUsage":4304,"prc IsActive":1}},{"swmPrcMonInfo":{"prcName":"SogouCloud.exe","prcID":8768,"prcCPUUsage":0,"prcMemUsage":4 132,"prcIsActive":1}},{"swmPrcMonInfo":{"prcName":"notepad.exe","prcID":8216,"prcCPUUsage":0,"prcMemUsa ge":9376,"prcIsActive":1}},{"swmPrcMonInfo":{"prcName":"QQMusicExternal.exe","prcID":8512,"prcCPUUsage": 0,"prcMemUsage":15324,"prcIsActive":1}},{"swmPrcMonInfo":{"prcName":"QQMusicIE.exe","prcID":12076,"prcC

PUUsage":0,"prcMemUsage":4580,"prcIsActive":1}},{"swmPrcMonInfo":{"prcName":"QQMusicExternal.exe","prcID":11452,"prcCPUUsage":0,"prcMemUsage":34192,"prcIsActive":1}},{"swmPrcMonInfo":{"prcName":"QQMusic.exe","prcID":8072,"prcCPUUsage":0,"prcMemUsage":15352,"prcIsActive":1}},{"swmPrcMonInfo":{"prcName":"tadb.exe","prcID":11328,"prcCPUUsage":0,"prcMemUsage":3316,"prcIsActive":1}},{"swmPrcMonInfo":{"prcName":"360MobileMgr.exe","prcID":12264,"prcCPUUsage":0,"prcMemUsage":27496,"prcIsActive":1}},{"swmPrcMonInfo":{"prcName":"AlipaySafeTran.exe","prcID":10536,"prcCPUUsage":0,"prcMemUsage":24536,"prcIsActive":1}},{"swmPrcMonInfo":{"prcName":"devenv.exe","prcID":6544,"prcCPUUsage":2,"prcMemUsage":118084,"prcIsActive":1}},{"swmPrcMonInfo":{"prcName":"WINWORD.EXE","prcID":6748,"prcCPUUsage":0,"prcMemUsage":4652,"prcIsActive":1}},{"swmPrcMonInfo":{"prcName":"QQ.exe","prcID":6268,"prcCPUUsage":0,"prcMemUsage":92628,"prcIsActive":1}},{"swmPrcMonInfo":{"prcName":"QQProtect.exe","prcID":5036,"prcCPUUsage":0,"prcMemUsage":18612,"prcIsActive":1}},{"swmPrcMonInfo":{"prcName":"QQExternal.exe","prcID":996,"prcCPUUsage":0,"prcMemUsage":88,"prcIsActive":1}},{"swmPrcMonInfo":{"prcName":"QQExternal.exe","prcID":6196,"prcCPUUsage":0,"prcMemUsage":88,"prcIsActive":1}},{"swmPrcMonInfo":{"prcName":"mmc.exe","prcID":7604,"prcCPUUsage":0,"prcMemUsage":2360,"prcIsActive":1}},{"swmPrcMonInfo":{"prcName":"IPMSG.exe","prcID":7548,"prcCPUUsage":0,"prcMemUsage":2108,"prcIsActive":1}},{"swmPrcMonInfo":{"prcName":"firefox.exe","prcID":7292,"prcCPUUsage":0,"prcMemUsage":201212,"prcIsActive":1}},{"swmPrcMonInfo":{"prcName":"TXPlatform.exe","prcID":7140,"prcCPUUsage":0,"prcMemUsage":2344,"prcIsActive":1}},{"swmPrcMonInfo":{"prcName":"OUTLOOK.EXE","prcID":5008,"prcCPUUsage":0,"prcMemUsage":20648,"prcIsActive":1}},{"swmPrcMonInfo":{"prcName":"taskmgr.exe","prcID":7564,"prcCPUUsage":2,"prcMemUsage":4632,"prcIsActive":1}},{"swmPrcMonInfo":{"prcName":"conime.exe","prcID":6840,"prcCPUUsage":0,"prcMemUsage":10728,"prcIsActive":1}},{"swmPrcMonInfo":{"prcName":"conime.exe","prcID":7008,"prcCPUUsage":0,"prcMemUsage":84,"prcIsActive":1}},{"swmPrcMonInfo":{"prcName":"conime.exe","prcID":6640,"prcCPUUsage":0,"prcMemUsage":84,"prcIsActive":1}},{"swmPrcMonInfo":{"prcName":"mspdbsrv.exe","prcID":4988,"prcCPUUsage":0,"prcMemUsage":3828,"prcIsActive":1}},{"swmPrcMonInfo":{"prcName":"devenv.exe","prcID":6800,"prcCPUUsage":1,"prcMemUsage":135004,"prcIsActive":1}},{"swmPrcMonInfo":{"prcName":"360se.exe","prcID":5964,"prcCPUUsage":0,"prcMemUsage":67388,"prcIsActive":1}},{"swmPrcMonInfo":{"prcName":"360se.exe","prcID":4476,"prcCPUUsage":1,"prcMemUsage":134184,"prcIsActive":1}},{"swmPrcMonInfo":{"prcName":"360se.exe","prcID":4564,"prcCPUUsage":0,"prcMemUsage":36620,"prcIsActive":1}},{"swmPrcMonInfo":{"prcName":"360MobileMgr.exe","prcID":2132,"prcCPUUsage":0,"prcMemUsage":3504,"prcIsActive":1}},{"swmPrcMonInfo":{"prcName":"WordBook.exe","prcID":3256,"prcCPUUsage":0,"prcMemUsage":13876,"prcIsActive":1}},{"swmPrcMonInfo":{"prcName":"Alipaybsm.exe","prcID":1824,"prcCPUUsage":0,"prcMemUsage":14492,"prcIsActive":1}},{"swmPrcMonInfo":{"prcName":"TeamViewer.exe","prcID":444,"prcCPUUsage":0,"prcMemUsage":25736,"prcIsActive":1}},{"swmPrcMonInfo":{"prcName":"SoftMgrLite.exe","prcID":1928,"prcCPUUsage":1,"prcMemUsage":34468,"prcIsActive":1}},{"swmPrcMonInfo":{"prcName":"YodaoDict.exe","prcID":1260,"prcCPUUsage":0,"prcMemUsage":26616,"prcIsActive":1}},{"swmPrcMonInfo":{"prcName":"ctfmon.exe","prcID":1440,"prcCPUUsage":0,"prcMemUsage":8528,"prcIsActive":1}},{"swmPrcMonInfo":{"prcName":"PccNTMon.exe","prcID":1044,"prcCPUUsage":0,"prcMemUsage":4312,"prcIsActive":1}},{"swmPrcMonInfo":{"prcName":"360tray.exe","prcID":1040,"prcCPUUsage":0,"prcMemUsage":30544,"prcIsActive":1}},{"swmPrcMonInfo":{"prcName":"TSVNCache.exe","prcID":2044,"prcCPUUsage":0,"prcMemUsage":13224,"prcIsActive":1}},{"swmPrcMonInfo":{"prcName":"SGImeGuard.exe","prcID":2008,"prcCPUUsage":0,"prcMemUsage":12236,"prcIsActive":1}},{"swmPrcMonInfo":{"prcName":"explorer.exe","prcID":1832,"prcCPUUsage":0,"prcMemUsage":16976,"prcIsActive":1}}]}]}}

11.5 Set SWM ThresholdRule

JSON Command:

{"susiCommData":{"commCmd":157,"handlerName":"software_monitoring","catalogID":4,"swmThr":{"cpu":[{"prc":"cmd.exe","prcID":0,"max":100,"min":0,"lastingTimeS":5,"intervalTimeS":10,"type":3,"enable":"true","actType":0,"actCmd":"None"}],"mem":[{"prc":"cmd.exe","prcID":0,"max":8000,"min":12,"lastingTimeS":5,"intervalTimeS":10,"type":3,"enable":"true","actType":0,"actCmd":"None"}]}}}

Returned JSON Command:

{"susiCommData":{"commCmd":158,"handlerName":"software_monitoring","catalogID":4,"swmSetMonObjsRep":"SWM threshold apply OK!" }}

11.6 Delete All SWM Threshold Rule

JSON Command:

{"susiCommData":{"commCmd":159,"handlerName":"software_monitoring","catalogID":4}}

Returned JSON Command:

{"susiCommData":{"commCmd":160,"handlerName":"software_monitoring","catalogID":4,"swmDelAllMonObjsRep":"Success"}}

11.7 Threshold Check & Report

JSON Command:

None

Returned JSON Command:

{"susiCommData":{"commCmd":173,"handlerName":"software_monitoring","catalogID":4,"normalStatus":"False","monEventMsg":"Process(PrcName:notepad.exe, PrcID:9204) CpuUsage = 0, MemUsage = 2844, PrcStatus =

Nomal (MemUsage(avg:2848)>maxThreshold(15)), will execute cmd: echo notepad >> C:\\test.txt"}}

{"susiCommData":{"commCmd":173,"handlerName":"software_monitoring","catalogID":4,"normalStatus":"False" ,"monEventMsg":"Process(PrcName:notepad.exe, PrcID:9204) threshold is reached, the act successfully!"}}

"normalStatus":"False" means HWM status is Normal，"normalStatus":"True" means HWM value is out of threshold range.

11.8 Kill Process Command

JSON Command:

{"susiCommData":{"commCmd":169,"catalogID":4,"requestID":15,"prcID":7292}}

Returned JSON Command:

None

11.9 Restart Process Command

JSON Command:

{"susiCommData":{"commCmd":167,"catalogID":4,"requestID":15,"prcID":7292}}

Returned JSON Command:

None

12 Terminal：

12.1 Send Command

JSON Command:

{"susiCommData":{"commCmd":301,"handlerName":"terminal","catalogID":4, "terminalCmdId":100, "terminalCmdStr":"ipconfig"}}

Returned JSON Command:

{"susiCommData":{"commCmd":308,"handlerName":"terminal","catalogID":4,"terminalTiInfo":{"terminalPid":100 ,"terminalContent":"\r\nWindows IP Configuration\r\n\r\n"}}}

{"susiCommData":{"commCmd":308,"terminalTiInfo":{"terminalPid":100,"terminalContent":"\r\nEthernet adapter Local Area Connection:\r\n\r\n   Connection-specific DNS Suffix . . . . : advantech.corp\r\n   Link-Local IPv6 Address . . . . : fe80::895:360f:37f:5415%11\r\n   IPv4 Address . . . . : 172.17.20.86\r\n   Subnet Mask . . . . : 255.255.254.0\r\n   Default Gateway . . . .: 172.17.21.254\r\n   172.17.21.211\r\n\r\nTunnel adapter isatap.advantech.corp:\r\n\r\n   Media State . . . .: Media disconnected\r\n   Connection-specific DNS Suffix . . . . : advantech.corp\r\n"}}}

12.2 Terminate Previous Command

JSON Command:

{"susiCommData":{"commCmd":305,"handlerName":"terminal","catalogID":4, "terminalCmdId":100}}

Returned JSON Command:

{"susiCommData":{"commCmd":306,"handlerName":"terminal","catalogID":4,"terminalSetReqpReply":"SUCCESS"}}

12.3 Get Capability

JSON Command:

{"susiCommData": {"commCmd":521, "handlerName":"terminal", "catalogID":4}}

Returned JSON Command:

{"susiCommData":{"infoSpec":{"Terminal":{"infomation":{"e":[{"n":"functionList","sv":"internal"},{"n":"functionC ode","v":1}],"nonSensorData":true,"bn":"infomation"}}},"commCmd":2052,"requestID":2001,"agentID":"000044 37E646AC6D","handlerName":"general","sendTS":1440488003000}}

Support Function:

Function String	Function Code
"disable"	0x00
"internal"	0x01

13 Screenshot：

13.1 Screenshot upload

JSON Command:

{"susiCommData":{"commCmd":401,"handlerName":"screenshot","catalogID":4,"userName":"dhl1","pwd":"111"
,"port":21}}

Returned JSON Command:

{"susiCommData":{"commCmd":402,"handlerName":"screenshot","catalogID":4,"fileName":"0000002170E9A5B8
.jpg","msg":"Screenshot success!"}}

13.2 Screenshot Base64 transfer

JSON Command:
{"susiCommData":{"commCmd":403,"handlerName":"screenshot","catalogID":4}}

Returned JSON Command:

{"susiCommData":{"commCmd":404,"handlerName":"screenshot","catalogID":4,"fileName":"00004437E646AC6D
.jpg","ScreenshotBase64":"/9j/4AAQS.......I//2Q==","status":"True","msg":"Screenshot success!"}}

{"susiCommData":{"commCmd":404,"handlerName":"screenshot","catalogID":4,"fileName":"","ScreenshotBase6
4":"","status":"False","msg":"Screenshot error!"}}

13.3 Get Capability

JSON Command:

{"susiCommData": {"commCmd":521, "handlerName":"screenshot", "catalogID":4}}

Returned JSON Command:
{"susiCommData":{"infoSpec":{"screenshot":{"Information":{"e":[{"n":"functionList","sv":"internal"},{"n":"functi
onCode","v":1}],"nonSensorData":true,"bn":"infomation"}}},"commCmd":522,"agentID":"00004437E646AC6D","
handlerName":"screenshot","sendTS":1009814825}}

Support Function:

Function String	Function Code
"none"	0x00
"internel"	0x01

14 Network Monitor：

14.1 Set Network Info Auto Upload:

JSON Command– Report once:

{"susiCommData":{"catalogID":4,"handlerName":"NetMonitor","catalogID":4commCmd":453}}

Returned JSON Command:

{"susiCommData":{"commCmd":454,"handlerName":"NetMonitor","catalogID":4,"setReqpRep":"SUCCESS"}}

JSON Command– Report repeat: （IntervalTime：2000ms，TimeoutTime 10000ms）

{"susiCommData":{"catalogID":4,"handlerName":"NetMonitor","catalogID":4,"commCmd":451,"autoUploadPara
ms":{"autoUploadIntervalMs":2000, "autoUploadTimeoutMs":10000}}}

Returned JSON Command:

{"susiCommData":{"commCmd":452,"handlerName":"NetMonitor","catalogID":4,"setAutoUploadRep":"SUCCESS
"}}

Or

{"susiCommData":{"commCmd":500,"handlerName":"NetMonitor","catalogID":4,"errorRep":"Command(
451) parse error!"}}

Or

{"susiCommData":{"commCmd":500,"handlerName":"NetMonitor","catalogID":4,"errorRep":"Command(
451) params error!"}}

14.2 Query Network Info

JSON Command:

{"susiCommData":{"catalogID":4,"handlerName":"NetMonitor","catalogID":4,"commCmd":455}}

Returned JSON Command:

{"susiCommData":{"commCmd":456,"handlerName":"NetMonitor","catalogID":4,"netMonInfoList":[{"netMonInfo":{"adapterName":"Local Area Connection","adapterDescription":"Marvell Yukon 88E8057 PCI-E Gigabit Ethernet Controller","type":"Ethernet","index":12,"status":"Operational","speedMbps":100,"netUsage":0.395576,"sendBytes":338062,"sendThroughput":0.337104,"recvBytes":55581,"recvThroughput":0.058472}}]}}

14.3 Get Capability

JSON Command:

{"susiCommData":{"catalogID":4,"handlerName":"NetMonitor","catalogID":4,"commCmd":521}}

Returned JSON Command:

{"susiCommData":{"infoSpec":{"NetMonitor":{"netMonInfoList":[{"bn":"Index0-本地连接","bt":1450856894,"bu":"","ver":1,"e":[{"n":"adapterName","sv":"本地连接"},{"n":"adapterDescription","sv":"Realtek PCIe GBE Family Controller"},{"n":"type","sv":"Ethernet"},{"n":"netStatus","sv":"Connected"},{"n":"Link SpeedMbps","v":100},{"n":"netUsage","v":0},{"n":"sendDateByte","v":0},{"n":"sendThroughput","v":0},{"n":"recvDateByte","v":0},{"n":"recvThroughput","v":0}]}]}},"commCmd":2052,"requestID":2001,"agentID":"000000232495BEE1","handlerName":"general","sendTS":1450856894}}

14.4 Get Specific Sensors Data

JSON Command:

{"susiCommData": { "commCmd": 523, "handlerName": "NetMonitor", "catalogID": 4, "sessionID": "1234", "sensorIDList": { "e": [{"n": "NetMonitor/netMonInfoList/Index0-本地连接/type"   },{"n": "NetMonitor/netMonInfoList/Index0-本地连接/adapterName"   },{"n": "NetMonitor/netMonInfoList/Index0-本地连接/adapterDescription"   },{"n": "NetMonitor/netMonInfoList/Index0-本地连接/netStatus"   },{"n": "NetMonitor/netMonInfoList/Index0-本地连接/netSpeedMbps"   }, {"n": "NetMonitor/netMonInfoList/Index0-本地连接/netUsage"   },{"n": "NetMonitor/netMonInfoList/Index0-本地连接/sendDateByte"   },{"n": "NetMonitor/netMonInfoList/Index0-本地连接/recvDateByte"   },{"n": "NetMonitor/netMonInfoList/Index0-本地连接/sendThroughput"   },{"n": "NetMonitor/netMonInfoList/Index0-本地连接/recvThroughput"   }] }}}

Returned JSON Command:

{"susiCommData":{"sensorInfoList":{"e":[{"n":"NetMonitor/netMonInfoList/Index0-本地连接/type","sv":"Ethernet","StatusCode":200},{"n":"NetMonitor/netMonInfoList/Index0-本地连接/adapterName","sv":"本地连接","StatusCode":200},{"n":"NetMonitor/netMonInfoList/Index0-本地连接/adapterDescription","sv":"Realtek PCIe GBE Family Controller","StatusCode":200},{"n":"NetMonitor/netMonInfoList/Index0-本地连接/netStatus","sv":"Connected","StatusCode":200},{"n":"NetMonitor/netMonInfoList/Index0-本地连接/netSpeedMbps","sv":"not found","StatusCode":404},{"n":"NetMonitor/netMonInfoList/Index0-本地连接

/netUsage","v":0.019888,"StatusCode":200},{"n":"NetMonitor/netMonInfoList/Index0-本地连接/sendDateByte","v":1191,"StatusCode":200},{"n":"NetMonitor/netMonInfoList/Index0-本地连接/recvDateByte","v":21550,"StatusCode":200},{"n":"NetMonitor/netMonInfoList/Index0-本地连接/sendThroughput","v":0.001808,"StatusCode":200},{"n":"NetMonitor/netMonInfoList/Index0-本地连接/recvThroughput","v":0.018080,"StatusCode":200}]},"sessionID":"1234","commCmd":524,"requestID":113,"agentID":"000000232495BEE1","handlerName":"NetMonitor","sendTS":1450858687}}

14.5 Set Threshold Rule

JSON Command:

群组：

{ "susiCommData": { "commCmd": 457, "handlerName": "NetMonitor", "catalogID": 4, "nmThr":
[{"n":"NetMonitor/netMonInfoList/All/recvDateByte","max":80,"min":0,"type":3,"lastingTimeS":3,"intervalTimeS":20,"enable":"true"}]}}

或者

{ "susiCommData": { "commCmd": 457, "handlerName": "NetMonitor", "catalogID": 4, "nmThr":
[{"n":"NetMonitor/netMonInfoList/Index0/sendThroughput","max":80,"min":0,"type":3,"lastingTimeS":3,"intervalTimeS":20,"enable":"true"}]}}

单设备：

{ "susiCommData": { "commCmd": 457, "handlerName": "NetMonitor", "catalogID": 4, "nmThr":
[{"n":"NetMonitor/netMonInfoList/Index0-本地连接/netUsage","max":80,"min":0,"type":3,"lastingTimeS":3,"intervalTimeS":20,"enable":"true"},{"n":"NetMonitor/netMonInfoList/Index0-本地连接/sendThroughput","max":80,"min":0,"type":3,"lastingTimeS":5,"intervalTimeS":50,"enable":"true"},{"n":"NetMonitor/netMonInfoList/Index0-本地连接/recvThroughput","max":80,"min":0,"type":3,"lastingTimeS":5,"intervalTimeS":30,"enable":"true"}
]}}

Returned JSON Command:

{"susiCommData":{"setThrRep":"Threshold apply OK!
","commCmd":458,"agentID":"00004437E646AC6D","handlerName":"NetMonitor","sendTS":1009815005}}

Threshold returned JOSN Command：

......

14.6 Delete Threshold

JSON Command:

{"susiCommData":{"commCmd":459,"handlerName":"NetMonitor","catalogID":4}}

Returned JSON Command:

{"susiCommData":{"delAllThrRep":"Delete all threshold successfully!","commCmd":460,"agentID":"00004437E646AC6D","handlerName":"NetMonitor","sendTS":1009816206}}

14.7 Start Auto Upload

JSON Command:

{"susiCommData":{"commCmd":533,"catalogID":4,"handlerName":"NetMonitor","requestItems":{"e":[{"n":"Net Monitor/netMonInfoList/Local Area Connection/netUsage"}]},"autoUploadIntervalMs":1000,"autoUploadTimeoutMs":10000}}

autoUploadIntervalMs: upload interval，unit: ms，

autoUploadTimeoutMs: upload time，unit: ms。

Returned JSON Command:

{"susiCommData":{"commCmd":534,"catalogID":4,"handlerName":"NetMonitor","StatusCode":200, "msg":"success","agentID":"00004437E646AC6D","sendTS":1009815005}}

14.8 Send AutoReport Data

Autoreport JSON Command：

{"susiCommData":{"data":{"NetMonitor":{"netMonInfoList":[{"bn":"Local Area Connection","bt":1434691421,"bu":"","ver":1,"e":[{"n":"adapterName","sv":"Local Area Connection"},{"n":"adapterDescription","sv":"Intel(R) 82579LM Gigabit Network Connection - Packet Scheduler Miniport"},{"n":"type","sv":"Ethernet"},{"n":"index","v":2},{"n":"status","sv":"Connected"},{"n":"speedMbps","v":1000},{"n":"netUsage","v":0.001515},{"n":"sendBytes","v":202613},{"n":"sendThroughput","v":0.000066},{"n":"recvBytes","v":34848},{"n":"recvThroughput","v":0.001449}]}]}},"commCmd":2055,"requestID":2001,"agentID":"0000000BAB39A520","handlerName":"general","sendTS":1434691421000}}

15 SUSI Control：

15.1 Get Capability

JSON Command:

{"susiCommData":{"commCmd":521,"catalogID":4,"handlerName":"SUSIControl","catalogID":4}}

Returned JSON Command:

{"susiCommData":{"SUSIControl":{"Platform Information":{"e":[{"n":"Board manufacturer","sv":"Advantech","Id":16846849},{"n":"Board name","sv":"AIMB-767","Id":16846850},{"n":"BIOS revision","sv":"V1.13","Id":16846853},{"n":"Driver version","sv":"4.0.12800","Id":16843265},{"n":"Library version","sv":"4.0.12800","Id":16843266}],"bt":1276020076,"bn":"Platform Information","bu":"Info","ver":1,"Id":16842752},"Hardware Monitor":{"Id":16908288,"Temperature":{"e":[{"n":"CPU","v":22.500000,"max":100,"min":0,"Id":16908545},{"n":"System","v":33,"max":100,"min":0,"Id":16908547}],"bn":"Temperature","bt":1276020076,"bu":"Cel","ver":1,"Id":16908544},"Voltage":{"e":[{"n":"Vcore","v":1.080000,"max":15,"min":0,"Id":16908801},{"n":"3.3V","v":3.232000,"max":15,"min":0,"Id":16908804},{"n":"5V","v":4.614000,"max":15,"min":0,"Id":16908805},{"n":"12V","v":11.856000,"max":15,"min":0,"Id":16908806},{"n":"5V Standby","v":4.878000,"max":15,"min":0,"Id":16908807},{"n":"3V Standby","v":3.360000,"max":15,"min":0,"Id":16908808},{"n":"CMOS Battery","v":3.200000,"max":15,"min":0,"Id":16908809}],"bn":"Voltage","bt":1276020076,"bu":"V","ver":1,"Id":16908800},"Fan Speed":{"e":[{"n":"CPU","v":1854,"max":8000,"min":0,"Id":16909057},{"n":"System","v":0,"max":8000,"min":0,"Id":16909058},{"n":"OEM0","v":0,"max":8000,"min":0,"Id":16909060}],"bn":"Fan Speed","bt":1276020076,"bu":"RPM","ver":1,"Id":16909056}},"GPIO":{"Id":17039360,"":{"e":[{"n":"dir","v":24998514,"max":0,"min":1,"Id":17039897},{"n":"level","v":24998514,"max":1,"min":0,"Id":17040153}],"bn":"","bt":1276020076,"bu":"V","ver":1,"Id":17039641}}},"commCmd":522,"agentID":"00004437E646AC6D","handlerName":"SUSIControl","sendTS":1009814825}}

15.2 Get Specific ID Sensors Data

JSON Command:

{"susiCommData":{"commCmd":523,"handlerName":"SUSIControl","catalogID":4,"sessionID":"1234","sensorIDList":{"e":[{"n":"SUSIControl/Hardware Monitor/Temperature/CPU"},{"n":"SUSIControl/Hardware Monitor/Voltage/CPU"}]}}}

Returned JSON Command:

{"susiCommData":{"sensorInfoList":{"e":[{"n":"SUSIControl/Hardware Monitor/Voltage/CPU","sv":"not found","statusCode":404},{"n":"SUSIControl/Hardware Monitor/Temperature/CPU","v":24,"statusCode":200}]},"sessionID":"1234","commCmd":524,"agentID":"0000000 BAB4706A3","handlerName":"SUSIControl","sendTS":1009826755000}}

15.3 Set Specific ID Sensors Data

JSON Command:

{"susiCommData":{"commCmd":525,"catalogID":4,"sessionID":"1234","sensorIDList":{"e":[{"n":"SUSIControl/Hardware Monitor/Temperature/CPU","v":123},{"n":"SUSIControl/Hardware Monitor/Voltage/CPU","v":123}]}}}

Returned JSON Command:

{"susiCommData":{"sensorInfoList":{"e":[{"n":"SUSIControl/Hardware Monitor/Voltage/CPU","sv":"Not found","statusCode":404},{"n":"SUSIControl/Hardware Monitor/Temperature/CPU","sv":"Success","statusCode":200}]},"sessionID":"1234","commCmd":526,"agentID":"0000000BAB4706A3","handlerName":"SUSIControl","sendTS":1009826815000}}

15.4 Set Threshold Rule

JSON Command:

{"susiCommData":{"commCmd":527,"catalogID":4,"handlerName":"SUSIControl","susictrlThr":[

{"n":"SUSIControl/Hardware Monitor/Temperature/CPU","id":16908545,"max":90,"min":60,"type":3,"lastingTimeS":3,"intervalTimeS":20,"enable":"true"},

{"n":"SUSIControl/Hardware Monitor/Voltage/12V","id":16908806,"max":12,"min":5,"type":3,"lastingTimeS":5,"intervalTimeS":50,"enable":"true"},

{"n":"SUSIControl/Hardware Monitor/Fan Speed/CPU","id":16909057,"max":1880,"min":1840,"type":3,"lastingTimeS":5,"intervalTimeS":30,"enable":"true"}

]}}

Returned JSON Command:

{"susiCommData":{"setThrRep":"SUSIC
trl threshold apply OK!","commCmd":528,"agentID":"00004437E646AC
6D","handlerName":"SUSIControl","sendTS":1009815005}}

Threshold returned JOSN command：

{"susiCommData":{"thrCheckStatus":"False","thrCheckMsg":"SUSIControl/Hardware
Monitor/Temperature/CPU(avg:23)<minThreshold(60)","commCmd":532,"agentID":"00004437E646AC6D","handl
erName":"SUSIControl","sendTS":1009818068}}

15.5 Delete Threshold

JSON Command:

{"susiCommData":{"commCmd":529,"handlerName":"SUSIControl","catalogID":4}}

Returned JSON Command:

{"susiCommData":{"delAllThrRep":"Delete all threshold
successfully!","commCmd":530,"agentID":"00004437E646AC6D","handlerName":"SUSIControl","sendTS":100981
6206}}

15.6 Start Auto Upload

JSON Command:

{"susiCommData":{"commCmd":533,"catalogID":4,"handlerName":"SUSIControl","requestItems":{"e":[{"n":"SUSI
Control/Hardware
Monitor/Temperature/CPU"}]},"autoUploadIntervalMs":1000,"autoUploadTimeoutMs":10000}}

autoUploadIntervalMs: upload interval，unit: ms，

autoUploadTimeoutMs: upload time，unit: ms。

Returned JSON Command:

{"susiCommData":{"commCmd":534,"catalogID":4,"handlerName":"SUSIControl","StatusCode":200,
"msg":"success","agentID":"00004437E646AC6D","sendTS":1009815005}}

15.7 Send AutoReport Data

Autoreport JSON Command：

{"susiCommData":{"data":{"SUSIControl":{"GPIO":{"id":262144,"bn":"GPIO","GPIO04":{"e":[{"n":"Dir","v":1,"id":17039877},{"n":"Level","v":1,"id":17040133}],"id":17039621,"bn":"GPIO04"},"GPIO00":{"e":[{"n":"Dir","v":0,"id":17039873},{"n":"Level","v":1,"id":17040129}],"id":17039617,"bn":"GPIO00"},"GPIO07":{"e":[{"n":"Dir","v":1,"id":17039880},{"n":"Level","v":1,"id":17040136}],"id":17039624,"bn":"GPIO07"},"GPIO01":{"e":[{"n":"Dir","v":0,"id":17039874},{"n":"Level","v":1,"id":17040130}],"id":17039618,"bn":"GPIO01"},"GPIO02":{"e":[{"n":"Dir","v":0,"id":17039875},{"n":"Level","v":1,"id":17040131}],"id":17039619,"bn":"GPIO02"},"GPIO05":{"e":[{"n":"Dir","v":1,"id":17039878},{"n":"Level","v":1,"id":17040134}],"id":17039622,"bn":"GPIO05"},"GPIO03":{"e":[{"n":"Dir","v":0,"id":17039876},{"n":"Level","v":1,"id":17040132}],"id":17039620,"bn":"GPIO03"},"GPIO06":{"e":[{"n":"Dir","v":1,"id":17039879},{"n":"Level","v":1,"id":17040135}],"id":17039623,"bn":"GPIO06"}},"Platform Information":{"e":[{"n":"Spec version","sv":"1,0","id":16843009},{"n":"Boot up times","v":4516,"id":16843010},{"n":"Running time (hours)","v":18456,"id":16843011},{"n":"Microsoft Plug-and-Play ID","sv":"ADV, 0x123","id":16843012},{"n":"Platform revision","sv":"2,0","id":16843013},{"n":"Board manufacturer","sv":"Advantech","id":16843777},{"n":"Board name","sv":"SOM-5890","id":16843778},{"n":"Board serial number","sv":"EPA0000001","id":16843780},{"n":"BIOS revision","sv":"V1.11","id":16843781},{"n":"Platform type","sv":"COMExpress","id":16843783},{"n":"Driver version","sv":"4.0.13258","id":16843265},{"n":"Library version","sv":"4.0.13258","id":16843266},{"n":"Firmware version","sv":"18.10.775","id":16843267}],"id":65536,"bn":"Platform Information"},"Hardware Monitor":{"bn":"Hardware Monitor","id":131072,"Temperature":{"e":[{"n":"CPU","v":44,"id":16908545}],"id":131328,"bn":"Temperature"},"Voltage":{"e":[{"n":"12V","v":11.964000,"id":16908806},{"n":"5V Standby","v":5.149000,"id":16908807}]}}}}}}

16 Hard-Disk Monitor:

16.1 Get Capability

JSON Command:

{"susiCommData":{"catalogID":4,"commCmd":521,"handlerName":"HDDMonitor"}}

Returned JSON Command:

{"susiCommData":{"catalogID":4,"handlerName":"HDDMonitor","commCmd":522,"HDDMonitor":{"hddInfoList":[
{"e":[{"n":"hddType","sv":"STDDisk"},{"n":"hddName","sv":"WDC
WD10EZEX-08M2NA0"},{"n":"hddIndex","v":1},{"n":"powerOnTime","v":981,"u":"hour"},{"n":"hddHealthPercent
","v":100,"u":"percent"},{"n":"hddTemp","v":33,"u":"celsius"}],"bn":"Disk1-WDC
WD10EZEX-08M2NA0","ver":1,"asm":"R"},{"e":[{"n":"hddType","sv":"STDDisk"},{"n":"hddName","sv":"Crucial_CT
250MX200SSD1"},{"n":"hddIndex","v":0},{"n":"powerOnTime","v":164,"u":"hour"},{"n":"hddHealthPercent","v":1
00,"u":"percent"},{"n":"hddTemp","v":35,"u":"celsius"}],"bn":"Disk0-Crucial_CT250MX200SSD1","ver":1,"asm":"R
"}],"hddSmartInfoList":[{"BaseInfo":{"e":[{"n":"hddType","sv":"STDDisk"},{"n":"hddName","sv":"WDC
WD10EZEX-08M2NA0"},{"n":"hddIndex","v":1}],"bn":"BaseInfo","asm":"R"},"Unknown":{"e":[{"n":"type","v":130}
,{"n":"flags","v":32},{"n":"worst","v":1},{"n":"value","v":43},{"n":"vendorData","sv":"02000100037B"}],"bn":"Unk
nown","asm":"R"},"MultiZoneErrorRate":{"e":[{"n":"type","v":200},{"n":"flags","v":2048},{"n":"worst","v":200},{"
n":"value","v":200},{"n":"vendorData","sv":"000000000000"}],"bn":"MultiZoneErrorRate","asm":"R"},"UltraDMA
CRCErrorCount":{"e":[{"n":"type","v":199},{"n":"flags","v":12800},{"n":"worst","v":200},{"n":"value","v":200},{"n"
:"vendorData","sv":"000000000000"}],"bn":"UltraDMACRCErrorCount","asm":"R"},"UncorrectableSectorCount":{
"e":[{"n":"type","v":198},{"n":"flags","v":12288},{"n":"worst","v":200},{"n":"value","v":200},{"n":"vendorData","s
v":"000000000000"}],"bn":"UncorrectableSectorCount","asm":"R"},"CurrentPendingSectorCount":{"e":[{"n":"typ
e","v":197},{"n":"flags","v":12800},{"n":"worst","v":200},{"n":"value","v":200},{"n":"vendorData","sv":"00000000
0000"}],"bn":"CurrentPendingSectorCount","asm":"R"},"ReallocationEventCount":{"e":[{"n":"type","v":196},{"n":"
flags","v":12800},{"n":"worst","v":200},{"n":"value","v":200},{"n":"vendorData","sv":"000000000000"}],"bn":"Rea
llocationEventCount","asm":"R"},"Temperature":{"e":[{"n":"type","v":194},{"n":"flags","v":8704},{"n":"worst","v":
105},{"n":"value","v":110},{"n":"vendorData","sv":"000000000021"}],"bn":"Temperature","asm":"R"},"LoadCycle
Count":{"e":[{"n":"type","v":193},{"n":"flags","v":12800},{"n":"worst","v":200},{"n":"value","v":200},{"n":"vendor
Data","sv":"000000000132"}],"bn":"LoadCycleCount","asm":"R"},"PoweroffRetractCount":{"e":[{"n":"type","v":19
2},{"n":"flags","v":12800},{"n":"worst","v":200},{"n":"value","v":200},{"n":"vendorData","sv":"000000000019"}],"
bn":"PoweroffRetractCount","asm":"R"},"PowerCycleCount":{"e":[{"n":"type","v":12},{"n":"flags","v":12800},{"n":
"worst","v":100},{"n":"value","v":100},{"n":"vendorData","sv":"000000000116"}],"bn":"PowerCycleCount","asm":
"R"},"CalibrationRetryCount":{"e":[{"n":"type","v":11},{"n":"flags","v":12800},{"n":"worst","v":100},{"n":"value","
v":100},{"n":"vendorData","sv":"000000000000"}],"bn":"CalibrationRetryCount","asm":"R"},"SpinRetryCount":{"e
":[{"n":"type","v":10},{"n":"flags","v":12800},{"n":"worst","v":100},{"n":"value","v":100},{"n":"vendorData","sv":"
000000000000"}],"bn":"SpinRetryCount","asm":"R"},"PowerOnHoursPOH":{"e":[{"n":"type","v":9},{"n":"flags","v"
:12800},{"n":"worst","v":99},{"n":"value","v":99},{"n":"vendorData","sv":"0000000003D5"}],"bn":"PowerOnHours

POH","asm":"R"},"SeekErrorRate":{"e":[{"n":"type","v":7},{"n":"flags","v":11776},{"n":"worst","v":200},{"n":"value","v":200},{"n":"vendorData","sv":"000000000000"}],"bn":"SeekErrorRate","asm":"R"},"ReallocatedSectorsCount":{"e":[{"n":"type","v":5},{"n":"flags","v":0},{"n":"worst","v":0},{"n":"value","v":0},{"n":"vendorData","sv":"000000000000"}],"bn":"ReallocatedSectorsCount","asm":"R"},"StartStopCount":{"e":[{"n":"type","v":4},{"n":"flags","v":12800},{"n":"worst","v":100},{"n":"value","v":100},{"n":"vendorData","sv":"000000000147"}],"bn":"StartStopCount","asm":"R"},"SpinUpTime":{"e":[{"n":"type","v":3},{"n":"flags","v":9984},{"n":"worst","v":172},{"n":"value","v":176},{"n":"vendorData","sv":"000000000898"}],"bn":"SpinUpTime","asm":"R"},"ReadErrorRate":{"e":[{"n":"type","v":1},{"n":"flags","v":512},{"n":"worst","v":0},{"n":"value","v":0},{"n":"vendorData","sv":"000000000000"}],"bn":"ReadErrorRate","asm":"R"},"bn":"Disk1-WDC WD10EZEX-08M2NA0","ver":1},{"BaseInfo":{"e":[{"n":"hddType","sv":"STDDisk"},{"n":"hddName","sv":"Crucial_CT250MX200SSD1"},{"n":"hddIndex","v":0}],"bn":"BaseInfo","asm":"R"},"SpinUpTime":{"e":[{"n":"type","v":3},{"n":"flags","v":0},{"n":"worst","v":0},{"n":"value","v":0},{"n":"vendorData","sv":"000000000000"}],"bn":"SpinUpTime","asm":"R"},"FlyingHeight":{"e":[{"n":"type","v":206},{"n":"flags","v":3584},{"n":"worst","v":100},{"n":"value","v":100},{"n":"vendorData","sv":"000000000000"}],"bn":"FlyingHeight","asm":"R"},"DataAddressMarkerrors":{"e":[{"n":"type","v":202},{"n":"flags","v":12544},{"n":"worst","v":100},{"n":"value","v":100},{"n":"vendorData","sv":"000000000000"}],"bn":"DataAddressMarkerrors","asm":"R"},"UltraDMACRCErrorCount":{"e":[{"n":"type","v":199},{"n":"flags","v":12800},{"n":"worst","v":100},{"n":"value","v":100},{"n":"vendorData","sv":"000000000000"}],"bn":"UltraDMACRCErrorCount","asm":"R"},"UncorrectableSectorCount":{"e":[{"n":"type","v":198},{"n":"flags","v":12288},{"n":"worst","v":100},{"n":"value","v":100},{"n":"vendorData","sv":"000000000000"}],"bn":"UncorrectableSectorCount","asm":"R"},"CurrentPendingSectorCount":{"e":[{"n":"type","v":197},{"n":"flags","v":12800},{"n":"worst","v":100},{"n":"value","v":100},{"n":"vendorData","sv":"000000000000"}],"bn":"CurrentPendingSectorCount","asm":"R"},"ReallocationEventCount":{"e":[{"n":"type","v":196},{"n":"flags","v":12800},{"n":"worst","v":100},{"n":"value","v":100},{"n":"vendorData","sv":"000000000000"}],"bn":"ReallocationEventCount","asm":"R"},"Temperature":{"e":[{"n":"type","v":194},{"n":"flags","v":8704},{"n":"worst","v":60},{"n":"value","v":65},{"n":"vendorData","sv":"002800180023"}],"bn":"Temperature","asm":"R"},"ReportedUncorrectableErrors":{"e":[{"n":"type","v":187},{"n":"flags","v":12800},{"n":"worst","v":100},{"n":"value","v":100},{"n":"vendorData","sv":"000000000000"}],"bn":"ReportedUncorrectableErrors","asm":"R"},"EndtoEnderror":{"e":[{"n":"type","v":184},{"n":"flags","v":12800},{"n":"worst","v":100},{"n":"value","v":100},{"n":"vendorData","sv":"000000000000"}],"bn":"EndtoEnderror","asm":"R"},"SATADownshiftErrorCount":{"e":[{"n":"type","v":183},{"n":"flags","v":12800},{"n":"worst","v":100},{"n":"value","v":100},{"n":"vendorData","sv":"000000000000"}],"bn":"SATADownshiftErrorCount","asm":"R"},"Unknown":{"e":[{"n":"type","v":171},{"n":"flags","v":12800},{"n":"worst","v":100},{"n":"value","v":100},{"n":"vendorData","sv":"000000000000"}],"bn":"Unknown","asm":"R"},"PowerCycleCount":{"e":[{"n":"type","v":12},{"n":"flags","v":12800},{"n":"worst","v":100},{"n":"value","v":100},{"n":"vendorData","sv":"000000000081"}],"bn":"PowerCycleCount","asm":"R"},"PowerOnHoursPOH":{"e":[{"n":"type","v":9},{"n":"flags","v":12800},{"n":"worst","v":100},{"n":"value","v":100},{"n":"vendorData","sv":"0000000000A4"}],"bn":"PowerOnHoursPOH","asm":"R"},"ReallocatedSectorsCount":{"e":[{"n":"type","v":5},{"n":"flags","v":13056},{"n":"worst","v":100},{"n":"value","v":100},{"n":"vendorData","sv":"000000000000"}],"bn":"ReallocatedSectorsCount","asm":"R"},"ReadErrorRate":{"e":[{"n":"type","v":1},{"n":"flags","v":12032},{"n":"worst","v":100},{"n":"value","v":100},{"n":"vendorData","sv":"000000000000"}],"bn":"ReadErrorRate","asm":"R"},"bn":"Disk0-Crucial_CT250MX200SSD1","ver":1}]}}}

16.2 Get Specific Sensors Data

JSON Command：

{"susiCommData":{"commCmd":523,"catalogID":4,"handlerName":"HDDMonitor","sessionID":"1234","sensorIDList":{ "e":[{"n":"HDDMonitor/hddInfoList/Disk0-Crucial_CT250MX200SSD1/hddName"},

 {"n":" HDDMonitor/hddInfoList/Disk0-Crucial_CT250MX200SSD1/powerOnTime"},

 {"n":"HDDMonitor/hddSmartInfoList/Disk1-WDC WD10EZEX-08M2NA0/Temperature/value"},

 {"n":"HDDMonitor/hddSmartInfoList/Disk0-WDC WD10EZEX-08M2NA0/Temperature/flags"}

]}}}

Returned JOSN Command：

{"susiCommData":{"sessionID":"1234","HDDMonitor":{"e":[

{"n":"HDDMonitor/hddInfoList/Disk0-Crucial_CT250MX200SSD1/hddName","sv":"Crucial_CT250MX200SSD1","StatusCode":200},

{"n":" HDDMonitor/hddInfoList/Disk0-Crucial_CT250MX200SSD1/powerOnTime","v":251,"StatusCode":200},

{"n":"HDDMonitor/hddSmartInfoList/Disk1-WDC WD10EZEX-08M2NA0/Temperature/value","v":111,"StatusCode":200},

{"n":"HDDMonitor/hddSmartInfoList/Disk0-WDC WD10EZEX-08M2NA0/Temperature/flags","sv":"Not Found","StatusCode":404}

]},"commCmd":524,"requestID":113,"agentID":"0000C03FD5E484E7","handlerName":"HDDMonitor","sendTS":1435646107000}}

16.3 Set Threshold Rule

JSON Command:

{"susiCommData":{"catalogID":4,"commCmd":257, "handlerName":"HDDMonitor","hddThr":[

{"n":"HDDMonitor/hddSmartInfoList/Disk1-WDC WD10EZEX-08M2NA0/Temperature/value","max":45,"min":30,"type":3,"lastingTimeS":3,"intervalTimeS":20,"enable":"true"},

{"n":"HDDMonitor/hddInfoList/Disk1-WDC WD10EZEX-08M2NA0/hddHealthPercent","max":100,"min":50,"type":2,"lastingTimeS":5,"intervalTimeS":50,"enable":"true"},

]}}

Returned JSON Command:

{"susiCommData":{"setThrRep":"HDD threshold apply OK!
","commCmd":258,"requestID":113,"agentID":"0000C03FD5E484E7","handlerName":"HDDMonitor","sendTS":14
35647694000}}

Threshold check out of range returned JOSN Command：

{"susiCommData":{"thrCheckStatus":"False","thrCheckMsg":"HDDMonitor/hddInfoList/Disk1-WDC
WD10EZEX-08M2NA0/hddHealthPercent(avg:79.00)<minThreshold(80.00)","commCmd":254,"requestID":113,"ag
entID":"0000C03FD5E484E7","handlerName":"HDDMonitor","sendTS":1435648211000}}

Threshold check back to normal returned JOSN Command：

{"susiCommData":{"thrCheckStatus":"True","thrCheckMsg":" HDDMonitor/hddInfoList/Disk1-WDC
WD10EZEX-08M2NA0/hddHealthPercent
normal!","commCmd":260,"requestID":113,"agentID":"0000C03FD5E484E7","handlerName":"HDDMonitor","sen
dTS":1435649406000}}

16.4 Delete Threshold

JSON Command:

{"susiCommData":{"commCmd":259,"handlerName":"HDDMonitor","catalogID":4}}

Returned JSON Command:

[{"susiCommData":{"delAllThrRep":"Delete all threshold
successfully!","commCmd":260,"requestID":113,"agentID":"0000C03FD5E484E7","handlerName":"HDDMonitor",
"sendTS":1435649406000}}

16.5 Start Auto Upload

JSON Command:

{"susiCommData":{"commCmd":533,"catalogID":4,"handlerName":"HDDMonitor","requestItems":{"e":[{"n":"HD
DMonitor/hddInfoList/Disk1-WDC
WD10EZEX-08M2NA0/hddHealthPercent"}]},"autoUploadIntervalMs":1000,"autoUploadTimeoutMs":10000}}

autoUploadIntervalMs: upload interval，unit: ms，

autoUploadTimeoutMs: upload time，unit: ms。

{"susiCommData":{"commCmd":534,"catalogID":4,"handlerName":"HDDMonitor","StatusCode":200,
"msg":"success","agentID":"00004437E646AC6D","sendTS":1009815005}}

16.6 Send AutoReport Data

Autoreport JSON Command:

{"susiCommData":{"data":{"HDDMonitor":{"hddInfoList":[{"e":[{"n":"hddType","sv":"STDDisk"},{"n":"hddName","
sv":"ST9250315AS"},{"n":"hddIndex","v":0},{"n":"powerOnTime","v":14243,"u":"hour"},{"n":"hddHealthPercent",
"v":100,"u":"percent"},{"n":"hddTemp","v":31,"u":"celsius"}],"bn":"Disk0-ST9250315AS","ver":1,"asm":"R"}],"hdd
SmartInfoList":[{"BaseInfo":{"e":[{"n":"hddType","sv":"STDDisk"},{"n":"hddName","sv":"ST9250315AS"},{"n":"hdd
Index","v":0}],"bn":"BaseInfo","asm":"R"},"FreeFallProtection":{"e":[{"n":"type","v":254},{"n":"flags","v":12800},{
"n":"worst","v":100},{"n":"value","v":100},{"n":"vendorData","sv":"000000000000"}],"bn":"FreeFallProtection","a
sm":"R"},"UltraDMACRCErrorCount":{"e":[{"n":"type","v":199},{"n":"flags","v":15872},{"n":"worst","v":200},{"n":"
value","v":200},{"n":"vendorData","sv":"00000000000C"}],"bn":"UltraDMACRCErrorCount","asm":"R"},"Uncorrec
tableSectorCount":{"e":[{"n":"type","v":198},{"n":"flags","v":4096},{"n":"worst","v":100},{"n":"value","v":100},{"n
":"vendorData","sv":"000000000000"}],"bn":"UncorrectableSectorCount","asm":"R"},"CurrentPendingSectorCoun
t":{"e":[{"n":"type","v":197},{"n":"flags","v":4608},{"n":"worst","v":100},{"n":"value","v":100},{"n":"vendorData",
"sv":"000000000000"}],"bn":"CurrentPendingSectorCount","asm":"R"},"HardwareECCRecovered":{"e":[{"n":"type
","v":195},{"n":"flags","v":6656},{"n":"worst","v":45},{"n":"value","v":47},{"n":"vendorData","sv":"0000031AFA64
"}],"bn":"HardwareECCRecovered","asm":"R"},"Temperature":{"e":[{"n":"type","v":194},{"n":"flags","v":8704},{"n
":"worst","v":43},{"n":"value","v":31},{"n":"vendorData","sv":"000D0000001F"}],"bn":"Temperature","asm":"R"},"
LoadCycleCount":{"e":[{"n":"type","v":193},{"n":"flags","v":12800},{"n":"worst","v":1},{"n":"value","v":1},{"n":"ve
ndorData","sv":"0000000356EC"}],"bn":"LoadCycleCount","asm":"R"},"PoweroffRetractCount":{"e":[{"n":"type","
v":192},{"n":"flags","v":12800},{"n":"worst","v":100},{"n":"value","v":100},{"n":"vendorData","sv":"00000000000
1"}],"bn":"PoweroffRetractCount","asm":"R"}}]}}}}

17 Process Monitor:

17.1 Get Capability

JSON Command:

{"susiCommData":{"catalogID":4,"handlerName":"ProcessMonitor","catalogID":4,"commCmd":521}}

Returned JSON Command:

{"susiCommData":{"commCmd":522,"handlerName":"ProcessMonitor","catalogID":4,"ProcessMonitor":{"System MonitorInfo":{"e":[{"n":"CPUUsage","v":11},{"n":"totalPhysMemKB","v":3110064},{"n":"availPhysMemKB","v":1332056}],"bn":"SystemMonitorInfo","basm":"R","btype":"d","bst":"","bextend":""},"ProcessMonitorInfo":[{"e":[{"n":"Name","sv":"winvnc.exe"},{"n":"PID","v":3532},{"n":"CPUUsage","v":0},{"n":"MemUsage","v":85},{"n":"IsActive","bv":1}],"bn":"3532-winvnc.exe","basm":"R","btype":"d","bst":"","bextend":""},{"e":[{"n":"Name","sv":"cmd.exe"},{"n":"PID","v":12252},{"n":"CPUUsage","v":0},{"n":"MemUsage","v":2864},{"n":"IsActive","bv":1}],"bn":"12252-cmd.exe","basm":"R","btype":"d","bst":"","bextend":""}]}}}

17.2 Get Specific Sensors Data

JSON Command:

{"susiCommData":{"commCmd":523,"handlerName":"ProcessMonitor","catalogID":4,"sessionID":"1234","sensorIDList":{"e":[{"n":"ProcessMonitor/System Monitor Info/CPU Usage"},{"n":"ProcessMonitor/System Monitor Info/MemUsage"}]}}}

Returned JSON Command:

{"susiCommData":{"sensorInfoList":{"e":[{"n":"ProcessMonitor/System Monitor Info/CPU Usage","v":11,"statusCode":200},{"n":"ProcessMonitor/System Monitor Info/MemUsage","sv":"not found","statusCode":404}]},"sessionID":"1234","commCmd":524,"agentID":"0000000BAB4706A3","handlerName":"ProcessMonitor","sendTS":1009826755000}}

17.3 Set Threshold Rule

JSON Command:

{"susiCommData": { "swmThr": [{"n": "ProcessMonitor/Process Monitor Info/6532-cmd.exe/mem","max": 80,"min": 0,"type": 3,"lastingTimeS": 5,"intervalTimeS": 50,"enable": "true","actType": 3,"actCmd":

"mmc"},"n":"ProcessMonitor/Process Monitor Info/8832-Wireshark.exe/cpu","max": 0,"min": 0, "type": 3,"lastingTimeS": 5,"intervalTimeS": 50,"enable": "true","actType": 0,"actCmd": "None"}],"commCmd": 157,"requestID": 15,"agentID": "","handlerName": "ProcessMonitor","sendTS": 1436261178}}

Returned JSON Command:

{"susiCommData":{"setThrRep":"SWM threshold apply OK!","commCmd":158,"requestID":118,"agentID":"0000000BAB4706A3","handlerName":"ProcessMonitor","sendTS":1435649410000}}

Threshold JOSN command：

{"susiCommData":{"thrCheckStatus":"False","thrCheckMsg":"ProcessMonitor/Process Monitor Info/6532-cmd.exe/mem (#tk#average#tk#:1092)>#tk#maxThreshold#tk#(80), #tk#will execute cmd#tk#: mmc,#tk#the act successfully#tk#","commCmd":173,"requestID":118,"agentID":"0000000BAB4706A3","handlerName":"ProcessMonitor","sendTS":1436518943000}}

17.4 Delete Threshold

JSON Command:

{"susiCommData":{"commCmd":159,"handlerName":"ProcessMonitor","catalogID":4}}

Returned JSON Command:

{"susiCommData":{"setThrRep":"Success","commCmd":160,"requestID":118,"agentID":"0000000BAB4706A3","handlerName":"ProcessMonitor","sendTS":1435650049000}}

17.5 Start Auto Upload

JSON Command:

{"susiCommData":{"commCmd":533,"catalogID":4,"handlerName":"ProcessMonitor","requestItems":{"e":[{"n":"ProcessMonitor/ProcessMonitorInfo/3532-winvnc.exe/CPUUsage"}]},"autoUploadIntervalMs":1000,"autoUploadTimeoutMs":10000}}

autoUploadIntervalMs: upload interval，unit: ms，

autoUploadTimeoutMs: upload time，unit: ms。

Returned JSON Command:

{"susiCommData":{"commCmd":534,"catalogID":4,"handlerName":"ProcessMonitor","StatusCode":200,

"msg":"success","agentID":"00004437E646AC6D","sendTS":1009815005}}

17.6 Send AutoReport Data

Autoreport JSON Command：

{"susiCommData":{"data":{"ProcessMonitor":{"System Monitor Info":{"e":[{"n":"CPU Usage","v":3},{"n":"totalPhysMemKB","v":1972668},{"n":"availPhysMemKB","v":1327008}],"bn":"System Monitor Info","basm":"R","btype":"d","bst":"","bextend":""},"Process Monitor Info":[{"e":[{"n":"Name","sv":"rdpclip.exe"},{"n":"PID","v":2540},{"n":"CPU Usage","v":0},{"n":"Mem Usage","v":4432},{"n":"IsActive","v":1}],"bn":"2540-rdpclip.exe","basm":"R","btype":"d","bst":"","bextend":""},{"e":[{"n":"Name","sv":"taskmgr.exe"},{"n":"PID","v":3956},{"n":"CPU Usage","v":0},{"n":"Mem Usage","v":2400},{"n":"IsActive","v":1}],"bn":"3956-taskmgr.exe","basm":"R","btype":"d","bst":"","bextend":""},{"e":[{"n":"Name","sv":"PrivacyIconClient.exe"},{"n":"PID","v":3764},{"n":"CPU Usage","v":0},{"n":"Mem Usage","v":10232},{"n":"IsActive","v":1}],"bn":"3764-PrivacyIconClient.exe","basm":"R","btype":"d","bst":"","bextend":""},{"e":[{"n":"Name","sv":"ctfmon.exe"},{"n":"PID","v":4020},{"n":"CPU Usage","v":0},{"n":"Mem Usage","v":1724},{"n":"IsActive","v":1}],"bn":"4020-ctfmon.exe","basm":"R","btype":"d","bst":"","bextend":""},{"e":[{"n":"Name","sv":"TibMounterMonitor.exe"},{"n":"PID","v":3920},{"n":"CPU Usage","v":0},{"n":"Mem Usage","v":2384},{"n":"IsActive","v":1}],"bn":"3920-TibMounterMonitor.exe","basm":"R","btype":"d","bst":"","bextend":""},{"e":[{"n":"Name","sv":"schedhlp.exe"},{"n":"PID","v":3888},{"n":"CPU Usage","v":0},{"n":"Mem Usage","v":1512},{"n":"IsActive","v":1}],"bn":"3888-schedhlp.exe","basm":"R","btype":"d","bst":"","bextend":""},{"e":[{"n":"Name","sv":"RTHDCPL.EXE"},{"n":"PID","v":3928},{"n":"CPU Usage","v":0},{"n":"Mem Usage","v":8400},{"n":"IsActive","v":1}],"bn":"3928-RTHDCPL.EXE","basm":"R","btype":"d","bst":"","bextend":""},{"e":[{"n":"Name","sv":"rundll.exe"},{"n":"PID","v":3736},{"n":"CPU Usage","v":0},{"n":"Mem Usage","v":824},{"n":"IsActive","v":1}],"bn":"3736-rundll.exe","basm":"R","btype":"d","bst":"","bextend":""}]}}}}

17.7 Kill Process Command

JSON Command:

{"susiCommData":{"commCmd":169,"catalogID":4,"handlerName":"ProcessMonitor","prcID":7292}}

Returned JSON Command:

None

17.8 Restart Process Command

JSON Command:

{"susiCommData":{"commCmd":167,"catalogID":4,"handlerName":"ProcessMonitor","prcID":7292}}

Returned JSON Command:

None

18 Server Redundancy:

18.1 Lost Connection Command

JSON Command:

{"susiCommData": {"commCmd": 125,"handlerName": "general", "catalogID": 4,"response": {"statuscode": 0,"msg": "Server lost connection"}}}

Returned JSON Command:

None

18.2 Authenticated Notification

If it is successfully:

{"susiCommData": {"commCmd": 125,"handlerName": "general","catalogID": 4, "response": {"statuscode": 1,"msg": "Authenticated"}}}

Returned JSON Command:

None

If it is failed:

{"susiCommData": {"commCmd": 125,"handlerName": "general","catalogID": 4, "response": {"statuscode": 1,"msg": "Authenticate failed"}}}

None

18.3 Connection limitation Notification

{"susiCommData": {"commCmd": 125, "handlerName": "general","catalogID": 4,"response": {"statuscode": 3,

"msg": "Reached the connection limitation"}}}

None. And Connection will be lost.

18.4 Reconnection Command

{"susiCommData": {"commCmd": 125,"handlerName": "general","catalogID": 5,"response": {"statuscode":

4,"msg": "Reconnect to current server"}}}

None. And will reconnect server.

18.5 Connect To Master Server Command

{"susiCommData": {"commCmd": 125,"handlerName": "general","catalogID": 5,"response": {"statuscode":

5,"msg": "Connect to master server"}}}

None. And will connect to master server.

18.6 Connect To Specific Server Command

JSON Command:

{"susiCommData": {"commCmd": 125,"handlerName": "general","catalogID": 5,"response": {"statuscode": 6,"msg": "Connect to specific server","server": {"address": "172.22.13.25","port": 1883,"auth": "<'ID:PW' and encrypt with DES and Base64>"}}}}

Returned JSON Command:

None. And will connect to specific server.

18.7 Setting Redundant Server List Command

JSON Command:

{"susiCommData": {"catalogID": 4,"requestID": 1001,"serverIPList": {e: [{"n": "192.168.0.1:1883"},{"n": "192.168.0.2:1883"},{"n": "192.168.0.3:1883"},],"bn": "serverIPList"}"commCmd": 125,"type": "WSN"}}

Returned JSON Command:

{"susiCommData": {"commCmd": 125,"handlerName": "ServerRedundancy","catalogID": 5,"response": {"statuscode": 8, "msg": "Set redundancy server IP list","serverIPList": [{"n": "192.168.0.1:1883:F0PE1/aaU8o="},{"n": "192.168.0.2:1883:F0PE1/aaU8o="},{"n": "192.168.0.3:1883:F0PE1/aaU8o="}]}}}

Appendix A: Replay Status Code

The definition of Get / Set Specific Sensors Data Status Code.

Success	200 (Note: Success to handle this command)
Fail	500 (Note: Fail to Get / Set)
Request Error	400 (Note: RESTful API syntax or format Error)
Setting	202 (Note: Transient Status (in setting))
Read Only	405 (Note: This resource is read only)
Writ Only	405 (Note: This resource is write only)
Out of Range	416 (Note: Set value range is out of range)
Resource Locked	426 (Note: This resource be setting now by another client)
Sys Busy	503 (Note: System is busy)
Format Error	415 (Note: Not JSON Format)
Request Timeout	408 (Note: WSN Setting Failed Timeout)
Syntax Error	422 (Note: format is correct but syntax error)
Not Found	404 (Note: Resource Not Found)
Resource Lose	410 (Note: SenHub disconnect)
Not Implement	501 (Note: This version wsn driver can't support this command)

Reference

[1] IPSO Alliance: http://www.ipso-alliance.org/
[2] IPSO Smart Object: IPSO-Smart-Objects-1.0.pdf
[3] SenML: https://datatracker.ietf.org/doc/draft-jennings-senml/
[4] JavaScript Object Notation (JSON) http://json.org/