Proposed Extensions to NAP for Hard Copy Devices

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IDS Attributes to SOH/SOHR Attributes:

HCD Name:

HCD DEVICE NAME TLV (Type = NEW, Length = variable)

This attribute contains a null terminated UTF-8 string providing the name of the Hard Copy Device.

HCD Model Number:

HCD MODEL NUMBER TLV (Type = NEW, Length = variable)

This attribute contains a null terminated UTF-8 string providing the vendor assigned model number of the Hard Copy Device.

HCD Vendor Name:

HCD VENDOR NAME TLV (Type = NEW, Length = variable)

This attribute contains a null terminated UTF-8 string providing the name of the manufacturer of the Hard Copy Device.

HCD Vendor OID:

HCD VENDOR ID TLV (Type = NEW, Length = 3 bytes)

This attribute contains the IANA SMI Private Enterprise Code of the vendor of the Hard Copy Device.

HCD Firmware Name: (Product Name)

Reference: MS -SOH, pg 22.   Product Name

PRODUCT NAME TLV (Type = 0x0A or 0x8A, Length = variable)

This attribute contains a null terminated UTF-8 string providing the name of the firmware product installed on the Hard Copy Device.

HCD Firmware Version:

Reference: MS -SOH, pg 21.   Software Version (1 byte field)

Reference: PA-TNC, pg 23. Numeric Version (16 byte field)

HCD FIRMWARE VERSION TLV (Type = NEW, Length = 16 bytes)

This attribute contains 5 parts to define the version of the firmware installed on the Hard Copy Device.

1. Major Version Number (4 bytes)
2. Minor Version Number (4 bytes)
3. Build Number (4 bytes)
4. Service Pack, Major Number (2 bytes)
5. Service Pack, Minor Number (2 bytes)

HCD Firmware Patches:

HCD SOFTWARE PATCHES TLV (Type = NEW, Length = variable)

This attribute contains a null terminated UTF-8 string defining the firmware patches that have been installed on the Hard Copy Device.

Applets Group has been skipped

HCD Application Name:

HCD APPLICATION NAME TLV (Type = NEW, Length = variable)

This attribute contains a null terminated UTF-8 string providing the name of the application in the Hard Copy Device.

HCD Application Version:

Reference: PA-TNC, pg 23. Numeric Version (16 byte field)

HCD APPLICATION VERSION TLV (Type = NEW, Length = 16 bytes)

This attribute contains 5 parts to specify the version of the application in the Hard Copy Device.

1. Major Version Number (4 bytes)
2. Minor Version Number (4 bytes)
3. Build Number (4 bytes)
4. Service Pack, Major Number (2 bytes)
5. Service Pack, Minor Number (2 bytes)

HCD Firewall Setting:

Reference: PA-TNC, pg 29. Port Filter (8 byte field)

HCD FIREWALL SETTING TLV (Type = NEW, Length = 4 bytes)

This attribute defines the current state of all ports existing on the Hard Copy Device. Each existing port is represented by the following three parameters.

1. Blocked Flag (1 byte)
2. Protocol (1 byte)
3. Port Number (2 bytes)

HCD Certification State:

Reference: MS-SOH, pg 14.   Compliance Result Codes

COMPLIANCE RESULT CODES TLV (Type = 0x04, Length = variable)

This attribute contains an array of SOH Result Codes defining the compliance of the Hard Copy Device.

HCD Configuration State: **has been skipped**

HCD_Bridging_Enabled:

HCD BRIDGING ENABLED TLV (Type = NEW, Length = 1 byte)

This attribute, when true, indicates this Hard Copy Device network interface is being used as a bridge, router, or proxy for other devices.

HCD_PSTN_Fax_Enabled:

HCD PSTN FAX ENABLED TLV (Type = NEW, Length = 1 byte)

This attribute, when true, indicates the Hard Copy Device PSTN Fax function is enabled.

HCD_AdminPW_Configured:

HCD ADMINPW_CONFIGURED TLV (Type = NEW, Length = 1 byte)

This attribute, when true, indicates the Hard Copy Device's default administrator password or other credentials have been changed from the out-of-box configuration.

HCD_Secure_Time_Enabled: **has been skipped**

HCD_Time_Source: **has been skipped**

HCD_Min_Encryption_Cipher_Suite: **has been skipped**

HCD_Min_Encryption_Key_Length: **has been skipped**

HCD_Min_Security_Level: **has been skipped**

New TLVs defined above could be presented as sub-TLVs of:

Reference: MS-SOH, pg 15

VENDOR SPECIFIC TLV (Type = 7, Length = variable)

This required attribute contains vendor specific information. The *Value* field contains two parts.

1. VENDOR ID FIELD (4 bytes)

This optional field may contain the IANA SMI of the organization defining the content and structure of the *Data* field. NAP does not interpret this field and it may be used for any purpose or omitted.

For HCDs this will be the PWG SMI 2699 (0xA8B).

2. DATA FIELD (variable)

This field contains the vendor specific data. PWG TLVs follow.

Required SOH/SOHR Attributes:

Defining the product type:

Reference: MS-SOH, pg 14

SYSTEM HEALTH ID TLV (Type = 2, Length = 4)

This required attribute provides the identifier of the System Health Agent (SHA) or the System Health Validator (SHV) generating the SOH or SOHR report entry. This must be the first entry in the SOH or the SOHR. The *Value* field contains two parts.

1. VENDOR SMI CODE FIELD (3 bytes)

For Hard Copy Devices this will be the PWG SMI 2699 (0xA8B).

2. COMPONENT ID FIELD (1 byte)

This field defines the component type, qualified by the *Vendor SMI Code*.

> 1 = Printer Device
> 2 = Scanner Device
> 4 = Copier Device
> 8 = Fax Device
> Values are additive. (e.g. 7 = Printer, scanner, copier MFD.)

Defining the reason for non-compliance:

Reference: MS-SOH, pg 15

FAILURE CATEGORY (Type = 0x0E, Length = 1)

This attribute provides the reason the system failed validation. Defined values are:

> 0 = No failure occurred.
> 1 = A failure occurred that is not due to client or server components or communication.
> 2 = A failure occurred due to a client component.
> 3 = A failure occurred due to a client communication.
> 4 = A failure occurred due to a server component.
> 5 = A failure occurred due to a server communication.