



XML Interface DTD

Confidential

Disclaimer	1
1. Radius Subscriber Administration Commands	2
1.1 User Login Command for Radius Subscriber Login	2
1.2 User Logout Command for Radius Subscriber Logout	4
2. Subscriber Administration Commands	5
2.1 User Add Command.....	5
2.2 Group Add Command.....	9
2.3 Update Cache Command.....	12
2.4 Bandwidth Up Command.....	13
2.5 Bandwidth Down Command.....	14
2.6 Max Bandwidth Down Command.....	15
2.7 Max Bandwidth Up Command.....	16
2.8 User Payment Command.....	17
2.9 User Delete Command.....	21
2.10 User Query Command.....	23
2.11 User Authorize Command	26
2.12 User Purchase Command.....	28
3. Room Administration Commands.....	31
3.1 Room Set Access Command.....	31
3.2 Room Query Access Command.....	33
4. Standard Response	36
4.1 Standard OK/ERROR Response	36
4.2 Response Errors for XML Command	38
5. User Status Messages for Radius and 2-way PMS	38
5.1 User Status Message for Radius Login/Logout	38
5.2 PMS User Status.....	40
6. XML format for DAT table.....	42
7. XML Format for Current Subscriber Table	44
8. Contact Information:	47

Disclaimer

There are a number of caveats that need to be expressly stated:

1. Nomadix does not guarantee that following these guidelines will ensure the problem-free interoperability between the web server running the XML scripts and Nomadix technology.
2. To ensure accuracy for future releases, Nomadix reserves the right to change and add to this specification without notice.
3. This document is accurate up to and including NSE release x.4.2.

4. Releases prior to 4.3 and 2.3 may contain a subset of the functionality described below. For the latest release, please contact your local Sales agent or Nomadix Technical Support.

1. Radius Subscriber Administration Commands

1.1 User Login Command for Radius Subscriber Login

The Portal Page web server can send this command to instruct the USG, HSG or NSE to send a RADIUS authentication request to the RADIUS server to authenticate a subscriber. This is the XML command with the following DTD:

```
<?xml version="1.0" encoding="UTF-8"?>

<!--
  DTD defines Login command sent to USG, HSG or NSE
-->

<!ELEMENT SUB_USER_NAME (#PCDATA)>
<!ELEMENT SUB_PASSWORD (#PCDATA)>
<!ELEMENT SUB_MAC_ADDR (#PCDATA)>
<!ELEMENT PORTAL_SUB_ID (#PCDATA)>

<!ELEMENT USG (SUB_USER_NAME, SUB_PASSWORD, SUB_MAC_ADDR,
PORTAL_SUB_ID?)>
<!ATTLIST USG COMMAND CDATA #REQUIRED>
```

Where:

COMMAND attribute: 'RADIUS_LOGIN'

SUB_USER_NAME: Subscriber's username (char [96])

SUB_PASSWORD: Subscriber's password (char [128])

SUB_MAC_ADDR: Subscriber's MAC address (char [12])

PORTAL_SUB_ID (optional): Unique identifier that the Portal Page web server can send to the USG, HSG or NSE which will be sent back with status response (int [4])

Sample command XML:

```
<?xml version="1.0" ?>
<!DOCTYPE USG "ndxRadiusLogin.dtd">

<USG COMMAND="RADIUS_LOGIN">
  <SUB_USER_NAME>jsmith</SUB_USER_NAME>
  <SUB_PASSWORD>abc123</SUB_PASSWORD>
  <SUB_MAC_ADDR>1A2B3C4D5E6F</SUB_MAC_ADDR>
  <PORTAL_SUB_ID>0123</PORTAL_SUB_ID>
</USG>
```

Response for the Login Command

Standard: As a response to this command, the web server will get an acknowledgement XML message from the USG, HSG or NSE (OK or ERROR, see “Standard OK/ERROR Response” section for DTD definition).

The USG, HSG or NSE will send status message asynchronously if the “Portal XML POST URL” is enabled in the AAA section of the USG, HSG or NSE (see User Status Message section).

1.2 User Logout Command for Radius Subscriber Logout

The Portal Page web server can send this command to instruct the USG, HSG or NSE to logout the subscriber. This is the XML command with the following DTD.

```
<?xml version="1.0" encoding="UTF-8"?>

<!--
  DTD defines Logout command sent to USG, HSG or NSE
-->

<!ELEMENT SUB_MAC_ADDR (#PCDATA)>
<!ELEMENT SUB_USER_NAME (#PCDATA)>

<!ELEMENT USG (SUB_MAC_ADDR, SUB_USER_NAME)>
<!ATTLIST USG COMMAND CDATA #REQUIRED>
```

Where:

COMMAND attribute: 'LOGOUT'

SUB_MAC_ADDR: Subscriber's MAC address (char [12], optional if username is present)

SUB_USER_NAME: Subscriber's username (char [96], optional if MAC address is present)

Sample command XML:

```
<?xml version="1.0" ?>
<!DOCTYPE USG "ndxLogout.dtd">

<USG COMMAND="LOGOUT">
  <SUB_MAC_ADDR>1A2B3C4D5E6F</SUB_MAC_ADDR>
  <SUB_USER_NAME>jsmith</SUB_USER_NAME>
</USG>
```

Response for the Logout Command

Standard: As a response to this command, the web server will get an acknowledgement XML message from the USG, HSG or NSE (OK or ERROR, see "Standard OK/ERROR Response" section for DTD definition).

The USG, HSG or NSE will send status message asynchronously if the "Portal XML POST URL" is enabled in the AAA section of the USG, HSG or NSE (see User Status Message).

2. Subscriber Administration Commands

2.1 User Add Command

The specified subscriber has been authorized for access and will be added to the USG's, HSG's or NSE's MAC authorization table. If the subscriber is in the 'Current' (active) memory table of the USG, HSG or NSE then the Update Cache XML command must follow in order to correctly update the subscriber. This is the XML command with the following DTD.

```
<?xml version="1.0" encoding="UTF-8"?>

<!--
  DTD defines User Add command sent to USG, HSG or NSE
-->

<!ELEMENT USER_NAME (#PCDATA)>
<!ELEMENT PASSWORD(#PCDATA)>
<!ELEMENT EXPIRY_TIME (#PCDATA)>
<!ELEMENT COUNTDOWN (#PCDATA)>
<!ELEMENT ROOM_NUMBER (#PCDATA)>
<!ELEMENT PAYMENT_METHOD (#PCDATA)>
<!ELEMENT PLAN (#PCDATA)>
<!ELEMENT IP_TYPE (#PCDATA)>
<!ELEMENT CONFIRMATION (#PCDATA)>
<!ELEMENT PAYMENT (#PCDATA)>
<!ELEMENT SMTP_REDIRECT (#PCDATA)>
<!ELEMENT BANDWIDTH_UP (#PCDATA)>
<!ELEMENT BANDWIDTH_DOWN (#PCDATA)>
<!ELEMENT BANDWIDTH_MAX_UP (#PCDATA)>
<!ELEMENT BANDWIDTH_MAX_DOWN (#PCDATA)>
<!ELEMENT QOS_POLICY (#PCDATA)>

<!ELEMENT USG (USER_NAME?, PASSWORD?, EXPIRY_TIME?, COUNTDOWN?,
ROOM_NUMBER?, PAYMENT_METHOD, PLAN?, IP_TYPE?, CONFIRMATION?, PAYMENT?,
SMTP_REDIRECT?, BANDWIDTH_UP?, BANDWIDTH_DOWN?, BANDWIDTH_MAX_UP?,
BANDWIDTH_MAX_DOWN?, QOS_POLICY?)>

<!ATTLIST USG
```

```

COMMAND CDATA #REQUIRED
MAC_ADDR CDATA
>
<!ATTLIST PASSWORD ENCRYPT (TRUE | FALSE) #REQUIRED >
<!ATTLIST EXPIRY_TIME UNITS (SECONDS | MINUTES | HOURS | DAYS) #REQUIRED >

```

Where:

COMMAND attribute: USER_ADD

MAC_ADDR attribute (optional): Subscriber's MAC address (char [12])

USER_NAME (optional): Subscriber's username (char [96])

PASSWORD (optional): Subscriber's password (char [128])

ENCRYPT attribute: Either TRUE or FALSE

EXPIRY_TIME (optional): Expiry time

UNITS attribute: Either SECONDS, MINUTES, HOURS or DAYS

ROOM_NUMBER (optional): (char [8])

PAYMENT_METHOD (optional but recommended): Either "RADIUS", "PMS", "CREDIT_CARD", or "ROOM_OPEN"

IP_TYPE (optional): Either "PRIVATE" or "PUBLIC"

CONFIRMATION (optional): Confirmation number/ID

PAYMENT (optional): Amount charged for access

COUNTDOWN (optional): 0 off, 1 enabled.

PLAN: (optional): This relates to the X over Y plan number in Billing Plans setup. If used for X over Y, USER_NAME and PASSWORD are required.

SMTP_REDIRECT: (optional): Either TRUE or FALSE for SMTP Redirection enabled for that user. If not included the User will have this variable as TRUE for their profile.

BANDWIDTH_UP: (optional): This will set the Upstream Bandwidth for a user without having to send the other Bandwidth XML command. Legacy element that is obsolete because of Bandwidth_Max_Up.

BANDWIDTH_DOWN: (optional): This will set the Downstream Bandwidth for a user without having to send the other Bandwidth XML Command. Legacy element that is obsolete because of Bandwidth_Max_Down.

BANDWIDTH_MAX_UP: (optional): This will set the Maximum Upstream bandwidth for the user without having to send the other Bandwidth XML Command.

BANDWIDTH_MAX_DOWN: (optional): This will set the Maximum Downstream bandwidth for the user without having to send the other Bandwidth XML Command.

QOS_POLICY: (optional): Select and add the QoS Policy that is configured on the NSE to the profile for the user.

Sample command XML (Normal Plan):

```

<?xml version="1.0" ?>
<!DOCTYPE USG "ndxUserAdd.dtd">

```

```
<USG COMMAND="USER_ADD" MAC_ADDR="1A2B3C4D5E6F">  
  <USER_NAME>jsmith</USER_NAME>  
  <PASSWORD ENCRYPT="FALSE">JSMITH6</PASSWORD>  
  <EXPIRY_TIME UNITS="SECONDS">60</EXPIRY_TIME>  
  <COUNTDOWN>1</COUNTDOWN>  
  <ROOM_NUMBER>1234</ROOM_NUMBER>  
  <PAYMENT_METHOD>CREDIT_CARD</PAYMENT_METHOD>  
  <IP_TYPE>PRIVATE</IP_TYPE>  
  <CONFIRMATION>123abc</CONFIRMATION>  
  <PAYMENT>9.95</PAYMENT>  
  <SMTP_REDIRECT>TRUE</SMTP_REDIRECT>  
  <BANDWIDTH_MAX_UP>256</BANDWIDTH_MAX_UP>  
  <BANDWIDTH_MAX_DOWN>256</BANDWIDTH_MAX_DOWN>  
  <QOS_POLICY>QoSPolicy1</QOS_POLICY>  
</USG>
```

Sample command XML (X over Y Plan):

```
<?xml version="1.0" ?>
<!DOCTYPE USG "ndxUserAdd.dtd">

  <USG COMMAND="USER_ADD" MAC_ADDR="1A2B3C4D5E6F">
    <USER_NAME>jsmith</USER_NAME>
    <PASSWORD ENCRYPT="FALSE">JSMITH6</PASSWORD>
    <PAYMENT_METHOD>CREDIT_CARD</PAYMENT_METHOD>
    <PLAN>0</PLAN>
    <SMTP_REDIRECT>TRUE</SMTP_REDIRECT>
    <BANDWIDTH_MAX_UP>256</BANDWIDTH_MAX_UP>
    <BANDWIDTH_MAX_DOWN>256</BANDWIDTH_MAX_DOWN>
    <QOS_POLICY>QoSPolicy1</QOS_POLICY>
  </USG>
```

Response for the User Add Command

Standard: As a response to this command, the web server will get an acknowledgement XML message from the USG, HSG or NSE (OK or ERROR, see “Standard OK/ERROR Response” section for DTD definition).

2.2 Group Add Command

The Specified Group is added to that Authfile of the NSE and utilizes the listed attributes for the group. This is the XML command with the following DTD.

```
<?xml version="1.0" encoding="UTF-8"?>

<!--
  DTD defines Group Add command sent to USG, HSG or NSE
-->

<!ELEMENT USER_NAME (#PCDATA)>
<!ELEMENT PASSWORD(#PCDATA)>
<!ELEMENT EXPIRY_TIME (#PCDATA)>
<!ELEMENT DHCP_TYPE (#PCDATA)>
<!ELEMENT DHCP_SUBNET(#PCDATA)>
<!ELEMENT PAYMENT (#PCDATA)>
<!ELEMENT SMTP_REDIRECT (#PCDATA)>
<!ELEMENT BANDWIDTH_MAX_UP (#PCDATA)>
<!ELEMENT BANDWIDTH_MAX_DOWN (#PCDATA)>
<!ELEMENT QOS_POLICY (#PCDATA)>
<!ELEMENT GROUP_USERS_MAX (#PCDATA)>

<!ELEMENT USG (USER_NAME, PASSWORD, EXPIRY_TIME, DHCP_TYPE?, DHCP_SUBNET?,
PAYMENT?, SMTP_REDIRECT?, BANDWIDTH_MAX_UP?, BANDWIDTH_MAX_DOWN?,
QOS_POLICY?, GROUP_USERS_MAX?)>

<!ATTLIST USG
  COMMAND CDATA #REQUIRED
>
<!ATTLIST PASSWORD ENCRYPT (TRUE | FALSE) #REQUIRED >
<!ATTLIST EXPIRY_TIME      UNITS (SECONDS | MINUTES | HOURS | DAYS) #REQUIRED >
```

Where:

COMMAND attribute: GROUP_ADD

USER_NAME (Required): Group's username (char [96])

PASSWORD (Required): Group's password (char [128])

ENCRYPT attribute: Either TRUE or FALSE

EXPIRY_TIME (Required): Expiry time

UNITS attribute: Either SECONDS, MINUTES, HOURS or DAYS

DHCP_TYPE (optional): Either "PRIVATE" or "PUBLIC"

DHCP_SUBNET (optional): Subnet based on configured DHCP subnets in the NSE

PAYMENT (optional): Amount charged for access

SMTP_REDIRECT: (optional): Either TRUE or FALSE for SMTP Redirection enabled for that user. If not included the User will have this variable as TRUE for their profile.

BANDWIDTH_MAX_UP: (optional): This will set the Maximum Upstream bandwidth for the user without having to send the other Bandwidth XML Command.

BANDWIDTH_MAX_DOWN: (optional): This will set the Maximum Downstream bandwidth for the user without having to send the other Bandwidth XML Command.

QOS_POLICY (optional): Select and add the QoS Policy that is configured on the NSE to the profile for the user.

GROUP_USERS_MAX (optional): This will set the maximum number of concurrent users that can utilize this Group account.

Sample command XML:

```
<USG COMMAND="GROUP_ADD">
  <USER_NAME>Conference1</USER_NAME>
  <PASSWORD ENCRYPT="FALSE">users</PASSWORD>
  <EXPIRY_TIME UNITS="SECONDS">600</EXPIRY_TIME>
  <DHCP_SUBNET>192.168.1.0</DHCP_SUBNET>
  <DHCP_TYPE>PRIVATE</DHCP_TYPE>
  <PAYMENT>9.95</PAYMENT>
  <SMTP_REDIRECT>TRUE</SMTP_REDIRECT>
  <BANDWIDTH_MAX_UP>256</BANDWIDTH_MAX_UP>
  <BANDWIDTH_MAX_DOWN>256</BANDWIDTH_MAX_DOWN>
  <QOS_POLICY>QoSPolicy1</QOS_POLICY>
  <GROUP_USERS_MAX>25</GROUP_USERS_MAX>
</USG>
```

Response for the Group Add Command

Standard: As a response to this command, the web server will get an acknowledgement XML message from the USG, HSG or NSE (OK or ERROR, see “Standard OK/ERROR Response” section for DTD definition).

2.3 Update Cache Command

The memory authorization table entry specified by the MAC address will have its status changed from “pending” to “authorized”. NOTE: It is important to update the cache to enable proper access for the subscriber. This is the XML command with the following DTD.

```

<?xml version="1.0" encoding="UTF-8"?>

<!--
  DTD defines Update Cache command sent to USG, HSG or NSE
-->

<!ELEMENT PAYMENT_METHOD (#PCDATA)>

<!ELEMENT USG (PAYMENT_METHOD?)>
<!ATTLIST USG
  COMMAND CDATA #REQUIRED
  MAC_ADDR CDATA #REQUIRED
>

```

Where:

COMMAND attribute: CACHE_UPDATE

MAC_ADDR attribute: Subscriber’s MAC address (char [12])

Sample command XML:

```

<?xml version="1.0" ?>
<!DOCTYPE USG "ndxUpdateCache.dtd">

<USG COMMAND="CACHE_UPDATE" MAC_ADDR="1A2B3C4D5E6F">
</USG>

```

Response for the Update Cache Command

Standard: As a response to this command, the web server will get an acknowledgement XML message from the USG, HSG or NSE (OK or ERROR, see “Standard OK/ERROR Response” section for DTD definition).

2.4 Bandwidth Up Command

Set the Bandwidth Up for an authorized subscriber. This is the XML command with the following DTD.

```
<?xml version="1.0" encoding="UTF-8"?>

<!--
  DTD defines Bandwidth Up command sent to USG, HSG or NSE
-->

<!ELEMENT BANDWIDTH_UP (#PCDATA)>

<!ELEMENT USG (BANDWIDTH_UP)>
<!ATTLIST USG
  COMMAND CDATA #REQUIRED
  SUBSCRIBER CDATA #REQUIRED
>
```

Where:

COMMAND attribute: SET_BANDWIDTH_UP

SUBSCRIBER attribute: Subscriber's MAC address (char [12])

BANDWIDTH_UP: (number measured in Kbps (i.e. for 128,000 bits per second, enter 128))

Sample command XML:

```
<?xml version="1.0" ?>
<!DOCTYPE USG "ndxBwUp.dtd">

  <USG COMMAND="BANDWIDTH_UP" SUBSCRIBER="1A2B3C4D5E6F">
    <BANDWIDTH_UP>128</BANDWIDTH_UP>
  </USG>
```

Response for the Bandwidth Up Command

Standard: As a response to this command, the web server will get an acknowledgement XML message from the USG, HSG or NSE (OK or ERROR, see “Standard OK/ERROR Response” section for DTD definition).

2.5 Bandwidth Down Command

Set the Bandwidth Down for an authorized subscriber. This is the XML command with the following DTD.

```
<?xml version="1.0" encoding="UTF-8"?>

<!--
  DTD defines Bandwidth Down command sent to USG, HSG or NSE
-->

<!ELEMENT BANDWIDTH_DOWN (#PCDATA)>

<!ELEMENT USG (BANDWIDTH_DOWN)>

<!ATTLIST USG
  COMMAND CDATA #REQUIRED
  SUBSCRIBER CDATA #REQUIRED
>
```

Where:

COMMAND attribute: SET_BANDWIDTH_DOWN

SUBSCRIBER attribute: Subscriber's MAC address (char [12])

BANDWIDTH_DOWN: (number measured in Kbps (i.e. for 128,000 bits per second, enter 128))

Sample command XML:

```
<?xml version="1.0" ?>
<!DOCTYPE USG "ndxBwDn.dtd">

<USG COMMAND="BANDWIDTH_DOWN" SUBSCRIBER="1A2B3C4D5E6F">
  <BANDWIDTH_DOWN>256</BANDWIDTH_DOWN>
</USG>
```

Response for the Bandwidth Down Command

Standard: As a response to this command, the web server will get an acknowledgement XML message from the USG, HSG or NSE (OK or ERROR, see "Standard OK/ERROR Response" section for DTD definition).

2.6 Max Bandwidth Down Command

Set the guaranteed Maximum Downstream Bandwidth for an Authorized Subscriber.. This is the XML command with the following DTD.

```
<?xml version="1.0" encoding="UTF-8"?>

<!--
  DTD defines Bandwidth Max Down command sent to USG, HSG or NSE
-->

<!ELEMENT BANDWIDTH_MAX_DOWN (#PCDATA)>

<!ELEMENT USG (BANDWIDTH_MAX_DOWN)>

<!ATTLIST USG
  COMMAND CDATA #REQUIRED
  SUBSCRIBER CDATA #REQUIRED
>
```

Where:

COMMAND attribute: SET_BANDWIDTH_MAX_DOWN

SUBSCRIBER attribute: Subscriber's MAC address (char [12])

BANDWIDTH_MAX_DOWN: (number measured in Kbps (i.e. for 128,000 bits per second, enter 128))

Sample command XML:

```
<?xml version="1.0" ?>
<!DOCTYPE USG "ndxBwDn.dtd">

<USG COMMAND="SET_BANDWIDTH_MAX_DOWN" SUBSCRIBER="1A2B3C4D5E6F">
  <BANDWIDTH_MAX_DOWN>256</BANDWIDTH_MAX_DOWN>
</USG>
```

Response for the Bandwidth Max Down Command

Standard: As a response to this command, the web server will get an acknowledgement XML message from the USG, HSG or NSE (OK or ERROR, see “Standard OK/ERROR Response” section for DTD definition).

2.7 Max Bandwidth Up Command

Set the guaranteed Maximum Upstream Bandwidth for an Authorized Subscriber. This is the XML command with the following DTD.

```
<?xml version="1.0" encoding="UTF-8"?>

<!--
  DTD defines Bandwidth Max Up command sent to USG, HSG or NSE
-->

<!ELEMENT BANDWIDTH_MAX_UP (#PCDATA)>

<!ELEMENT USG (BANDWIDTH_MAX_UP)>

<!ATTLIST USG
  COMMAND CDATA #REQUIRED
  SUBSCRIBER CDATA #REQUIRED
>
```

Where:

COMMAND attribute: SET_BANDWIDTH_MAX_UP

SUBSCRIBER attribute: Subscriber's MAC address (char [12])

BANDWIDTH_MAX_UP: (number measured in Kbps (i.e. for 128,000 bits per second, enter 128))

Sample command XML:

```
<?xml version="1.0" ?>
<!DOCTYPE USG "ndxBwDn.dtd">

<USG COMMAND="SET_BANDWIDTH_MAX_UP" SUBSCRIBER="1A2B3C4D5E6F">
  <BANDWIDTH_MAX_UP>256</BANDWIDTH_MAX_UP>
</USG>
```

Response for the Bandwidth Max Up Command

Standard: As a response to this command, the web server will get an acknowledgement XML message from the USG, HSG or NSE (OK or ERROR, see "Standard OK/ERROR Response" section for DTD definition).

2.8 User Payment Command

Subscriber's authorization and payment is requested. The authorization method can only be set to PMS. The USG, HSG or NSE will verify room mapping, establish communication with the PMS system, post access fee to the PMS for the subscriber's room bill and add the subscriber to the internal database for access. If the subscriber is in the Current (active) memory table of the USG, HSG or NSE then the Update Cache XML command must follow in order to correctly update the subscriber. This is the XML command with the following DTD.

```
<?xml version="1.0" encoding="UTF-8"?>
<!--
  DTD defines User Payment command sent to USG, HSG or NSE
-->
<!ELEMENT USER_NAME (#PCDATA)>
<!ELEMENT REAL_NAME (#PCDATA)>
<!ELEMENT PASSWORD (#PCDATA)>
<!ELEMENT EXPIRY_TIME (#PCDATA)>
<!ELEMENT ROOM_NUMBER (#PCDATA)>
<!ELEMENT PAYMENT (#PCDATA)>
<!ELEMENT MAC_ADDR (#PCDATA)>
<!ELEMENT REG_NUMBER (#PCDATA)>
<!ELEMENT BANDWIDTH_MAX_UP (#PCDATA)>
<!ELEMENT BANDWIDTH_MAX_DOWN (#PCDATA)>
<!ELEMENT COUNTDOWN (#PCDATA)>
<!ELEMENT BILLING_PLAN (#PCDATA)>
<!ELEMENT CC_SUFFIX (#PCDATA)>
<!ELEMENT CC_EXPIRATION (#PCDATA)>
<!ELEMENT WFB_BUNDLED (#PCDATA)>
<!ELEMENT TRANS_ID (#PCDATA)>

<!ELEMENT USG (USER_NAME, REAL_NAME?, PASSWORD, EXPIRY_TIME, ROOM_NUMBER,
PAYMENT?, MAC_ADDR?, REG_NUMBER?, BANDWIDTH_MAX_UP?,
BANDWIDTH_MAX_DOWN?, COUNTDOWN?, BILLING_PLAN?, CC_SUFFIX?,
CC_EXPIRATION?, WFB_BUNDLED?, TRANS_ID?)>
```

```
<!ATTLIST USG
  COMMAND CDATA #REQUIRED
  PAYMENT_METHOD CDATA #REQUIRED
>
<!ATTLIST PASSWORD ENCRYPT (TRUE | FALSE) #REQUIRED>
<!ATTLIST EXPIRY_TIME UNITS (SECONDS | MINUTES | HOURS | DAYS) #REQUIRED>
```

Where:

COMMAND attribute: USER_PAYMENT

PAYMENT_METHOD attribute: 'PMS'

USER_NAME: Subscriber's username (char [96]). Note: For 2-way PMS, the subscriber's MAC address is optional but recommended.

REAL_NAME (optional, but required for 2-way PMS): Subscriber's real name as listed in PMS (char [96])

PASSWORD: Subscriber's password (char [128])

ENCRYPT attribute: Either TRUE or FALSE

EXPIRY_TIME (optional, but required for 2-way PMS): Expiry time

UNITS attribute: Either SECONDS, MINUTES, HOURS or DAYS

ROOM_NUMBER: Room number (Port-Location "Location" number) of access (char [8]). Note: For 2-way PMS, use the PMS database room number.

PAYMENT (optional): Amount charged for access

MAC_ADDR: MAC address of user for post-paid PMS and 2-way PMS (char [12]).

REG_NUMBER: Reservation number of hotel guest for Micros Fidelio FIAS compliant Query and Post interface (char [24]).

BANDWIDTH_MAX_UP: (optional): This will set the Maximum Upstream bandwidth for the user without having to send any other Bandwidth XML Command.

BANDWIDTH_MAX_DOWN: (optional): This will set the Maximum Downstream bandwidth for the user without having to send any other Bandwidth XML Command.

COUNTDOWN: (optional): This will set the user to have their time only start counting down when they log in.

BILLING_PLAN: (optional): This will allow selection of a specified billing plan for either an X over Y Setting or a WFB selection for the user.

CC_SUFFIX: (optional): Last 4 Digits of the Credit Card for Marriott WFB PMS Verification.

CC_EXPIRATION: (optional): Expiration Date on the Credit Card for Marriott WFB PMS Verification. Format = MMYYY.

WFB_BUNDLED: (optional): WFB Bundle Bill. 0 = Charge 1 = Bundle

TRANS_ID: (optional): (unsigned Integer) Used to match commands with USER_STATUS messages. Information entered here will be mirrored on the USER_STATUS messages.

Sample command XML (Micros Fidelio FIAS Query and Post):

```
<?xml version="1.0" ?>
<!DOCTYPE USG "ndxUserPayment.dtd">

<USG COMMAND="USER_PAYMENT" PAYMENT_METHOD="PMS">
  <USER_NAME>jsmith</USER_NAME>
  <REAL_NAME></REAL_NAME>
  <PASSWORD ENCRYPT="FALSE">JSMITH</PASSWORD>
  <EXPIRY_TIME UNITS="SECONDS">60</EXPIRY_TIME>
  <ROOM_NUMBER>1234</ROOM_NUMBER>
  <PAYMENT>9.95</PAYMENT>
  <MAC_ADDR>0010a4a9cc19</MAC_ADDR>
  <REG_NUMBER>0123456789</REG_NUMBER>
  <BANDWIDTH_MAX_UP>256</BANDWIDTH_MAX_UP>
  <BANDWIDTH_MAX_DOWN>256</BANDWIDTH_MAX_DOWN>
</USG>
```

Sample command XML (2-Way PMS):

```
<USG COMMAND="USER_PAYMENT" PAYMENT_METHOD="PMS">
  <USER_NAME>1A2B3C4D5E6F</USER_NAME>
  <REAL_NAME>Smith</REAL_NAME>
  <PASSWORD ENCRYPT="FALSE">JSMITH</PASSWORD>
  <EXPIRY_TIME UNITS="SECONDS">3600</EXPIRY_TIME>
  <ROOM_NUMBER>1234</ROOM_NUMBER>
  <PAYMENT>9.95</PAYMENT>
  <MAC_ADDR>0010a4a9cc19</MAC_ADDR>
  <BANDWIDTH_MAX_UP>256</BANDWIDTH_MAX_UP>
  <TRANS_ID>123546</TRANS_ID>
  <WFB_BUNDLED>0</WFB_BUNDLED>
  <COUNTDOWN>DISABLED</COUNTDOWN>
</USG>
```

Response for the User Payment Command

This is the response sent to User Payment command. The response is an XML message with the following DTD:

```
<?xml version="1.0" encoding="UTF-8"?>

<!--
  DTD defines response for User Payment command
-->

<!ELEMENT CONFIRMATION (#PCDATA)>

<!ELEMENT USG (CONFIRMATION)>

<!ATTLIST USG
  RESULT CDATA #REQUIRED
  ID CDATA #REQUIRED
  IP CDATA #REQUIRED
>
```

Where:

CONFIRMATION: confirmation number/ID

ID attribute: ID of the USG, HSG or NSE (char [6])

IP attribute: IP address of the USG, HSG or NSE (char [18])

Sample Response XML:

```
<?xml version="1.0" ?>
<!DOCTYPE USG "ndxUserPaymentRsp.dtd">

<USG RESULT="OK" ID="ABC1234" IP="192.168.100.102">
  <CONFIRMATION>123abc</CONFIRMATION>
</USG>
```

2.9 User Delete Command

The subscriber's specified by MAC address or username, will be deleted from the authorization table. This is the XML command with the following DTD.

```
<?xml version="1.0" encoding="UTF-8"?>

<!--
  DTD defines User Delete command sent to USG, HSG or NSE
-->

<!ELEMENT USER (#PCDATA)>

<!ELEMENT USG (USER)>

<!ATTLIST USG COMMAND CDATA #REQUIRED>
<!ATTLIST USER ID_TYPE (MAC_ADDR | USER_NAME) #REQUIRED>
```

Where:

COMMAND attribute: USER_DELETE

USER attribute: ID_TYPE (either MAC_ADDR or USER_NAME)

MAC_ADDR: Subscriber's MAC address (char [12], optional if username is present)

USER_NAME: Subscriber's username (char [96], optional if MAC is present)

Sample command XML:

```
<?xml version="1.0" ?>
<!DOCTYPE USG "ndxDeleteUser.dtd">

<USG COMMAND="USER_DELETE">
  <USER ID_TYPE="MAC_ADDR">1A2B3C4D5E6F</USER>
</USG>

or

<USG COMMAND="USER_DELETE">
  <USER ID_TYPE="USER_NAME">jsmith</USER>
</USG>
```

Response for the User Delete Command

Standard: As a response to this command, the web server will get an acknowledgement XML message from the USG, HSG or NSE (OK or ERROR, see “Standard OK/ERROR Response” section for DTD definition).

2.10 User Query Command

The current subscriber's data contained in the MAC authorization table is returned. This is the XML command with the following DTD.

```
<?xml version="1.0" encoding="UTF-8"?>

<!--
  DTD defines User Query command sent to USG, HSG or NSE
-->

<!ELEMENT USER (#PCDATA)>
<!ELEMENT USG (USER)>

<!ATTLIST USG COMMAND CDATA #REQUIRED>
<!ATTLIST USER ID_TYPE (MAC_ADDR | USER_NAME) #REQUIRED>
```

Where:

COMMAND attribute: USER_QUERY

USER attribute: ID_TYPE (either MAC_ADDR or USER_NAME)

MAC_ADDR: Subscriber's MAC address (char [12], optional if username is present)

USER_NAME: Subscriber's username (char [96], optional if MAC is present)

Sample command XML:

```
<?xml version="1.0" ?>
<!DOCTYPE USG "ndxQueryUser.dtd">

<USG COMMAND="USER_QUERY">
  <USER ID_TYPE="USER_NAME">jsmith</USER>
</USG>

or

<USG COMMAND="USER_QUERY">
  <USER ID_TYPE="MAC_ADDR">1A2B3C4D5E6F</USER>
</USG>
```

Response for the User Query Command

This is the response sent to User Query command. The response is an XML message with the following DTD:

```
<?xml version="1.0" encoding="UTF-8"?>

<!--
  DTD defines response for User Query command
-->

<!ELEMENT MAC_ADDR (#PCDATA)>
<!ELEMENT USER_NAME (#PCDATA)>
<!ELEMENT PASSWORD (#PCDATA)>
<!ELEMENT EXPIRY_TIME (#PCDATA)>
<!ELEMENT ROOM_NUMBER (#PCDATA)>
<!ELEMENT PAYMENT_METHOD (#PCDATA)>
<!ELEMENT BILLING_STATUS (#PCDATA)>
<!ELEMENT DATA_VOLUME (#PCDATA)>
<!ELEMENT USG (MAC_ADDR, USER_NAME, PASSWORD, EXPIRY_TIME, ROOM_NUMBER,
PAYMENT_METHOD, BILLING_STATUS, DATA_VOLUME)>

<!ATTLIST USG
  RESULT CDATA #REQUIRED
  ID CDATA #REQUIRED
  IP CDATA #REQUIRED
>
<!ATTLIST EXPIRY_TIME UNITS (SECONDS | MINUTES | HOURS | DAYS) #REQUIRED>
```

Where:

MAC_ADDR: Subscriber's MAC address (char [12])

USER_NAME: Subscriber's username (char [96])

PASSWORD: Subscriber's password (char [128])

EXPIRY_TIME: Expiry time

UNITS attribute: Either SECONDS, MINUTES, HOURS or DAYS

ROOM_NUMBER: Room number (Port-Location "Location" number) of access (char [8])

PAYMENT_METHOD: Either "PMS", "CREDIT_CARD", or blank if subscriber added by XML or by administrator

BILLING_STATUS: "DONE_OK" when 2-way PMS query is done and "DONE_ERROR" when the 2-way PMS query is not done.

DATA_VOLUME: data transferred by subscriber in Kbytes

ID attribute: ID of the USG, HSG or NSE (char [6])

IP attribute: IP address of the USG, HSG or NSE (char [18])

Sample Response XML:

```
<?xml version="1.0" ?>
<!DOCTYPE USG " ndxQueryUserRsp.dtd">

<USG RESULT="OK" ID="ABC1234" IP="192.168.100.102">
  <MAC_ADDR>1A2B3C4D5E6F</MAC_ADDR>
  <USER_NAME>jsmith</USER_NAME>
  <PASSWORD>JSMITH6</PASSWORD>
  <EXPIRY_TIME UNITS="SECONDS">3600</EXPIRY_TIME>
  <ROOM_NUMBER>1234</ROOM_NUMBER>
  <PAYMENT_METHOD>PMS</PAYMENT_METHOD>
  <BILLING_STATUS>DONE_OK</BILLING_STATUS>
  <DATA_VOLUME>123456</DATA_VOLUME>
</USG>
```

2.11 User Authorize Command

A subscriber's identity, specified by his MAC address, is checked against the authorization table. If the subscriber is found in the MAC authorization table, **VALID_USER** is returned along with the subscriber's authorization method: **PMS** or **CREDIT_CARD**. If the subscriber is not found, **INVALID_USER** will be returned. This is the XML command with the following DTD.

```
<?xml version="1.0" encoding="UTF-8"?>

<!--
  DTD defines User Authorize command sent to USG, HSG or NSE
-->

<!ELEMENT USG (EMPTY)>

<!ATTLIST USG
  COMMAND CDATA #REQUIRED
  MAC_ADDR CDATA #REQUIRED
>
```

Where:

COMMAND : "USER_AUTHORIZE"

MAC_ADDR attribute: Subscriber's MAC address (char [12])

Sample command XML:

```
<?xml version="1.0" ?>
<!DOCTYPE USG "ndxUserAuth.dtd">

<USG COMMAND="USER_AUTHORIZE" MAC_ADDR="1A2B3C4D5E6F">
</USG>
```

Response for the User Authorize Command

This is the response sent for User Authorize command. The response is an XML message with the following DTD:

```
<?xml version="1.0" encoding="UTF-8"?>

<!--
  DTD defines response for User Authorize command
-->

<!ELEMENT STATUS (#PCDATA)>
<!ELEMENT PAYMENT_METHOD (#PCDATA)>
<!ELEMENT USG (STATUS, PAYMENT_METHOD)>

<!ATTLIST USG
  RESULT CDATA #REQUIRED
  ID CDATA #REQUIRED
  IP CDATA #REQUIRED
>
```

Where:

STATUS: "VALID_USER" or "INVALID_USER"

PAYMENT_METHOD: "PMS" or "CREDIT_CARD"

ID attribute: ID of the USG, HSG or NSE (char [6])

IP attribute: IP address of the USG, HSG or NSE (char [18])

Sample Response XML:

```
<?xml version="1.0" ?>
<!DOCTYPE USG "ndxUserAuthRsp.dtd">

<USG RESULT="OK" ID="ABC123" IP="192.168.100.102">
  <STATUS>VALID_USER</STATUS>
  <PAYMENT_METHOD>PMS</PAYMENT_METHOD>
</USG>
```

2.12 User Purchase Command

A subscriber's e-commerce or special service purchase is to be charged. Currently, the only option is to charge the subscriber's bill via the PMS system. This is the XML command with the following DTD.

```
<?xml version="1.0" encoding="UTF-8"?>

<!--
  DTD defines User Purchase command sent to USG, HSG or NSE
-->
<!ELEMENT ITEM_CODE (#PCDATA)>
<!ELEMENT ITEM_DESCRIPTION (#PCDATA)>
<!ELEMENT ITEM_AMOUNT (#PCDATA)>
<!ELEMENT ITEM_TAX (#PCDATA)>
<!ELEMENT ITEM_TOTAL (#PCDATA)>
<!ELEMENT REAL_NAME(#PCDATA)>
<!ELEMENT MAC_ADDRESS(#PCDATA)>
<!ELEMENT REG_NUMBER(#PCDATA)>
<!ELEMENT TRANS_ID(#PCDATA)>
<!ELEMENT CC_SUFFIX(#PCDATA)>
<!ELEMENT CC_EXPIRATION(#PCDATA)>
<!ELEMENT WFB_BUNDLED(#PCDATA)>

<!ELEMENT USG (ITEM_CODE, ITEM_DESCRIPTION, ITEM_AMOUNT, ITEM_TAX,
ITEM_TOTAL, REAL_NAME?, MAC_ADDRESS?, REG_NUMBER?, TRANS_ID?, CC_SUFFIX?,
CC_EXPIRATION?, WFB_BUNDLED?)>

<!ATTLIST USG
  COMMAND CDATA #REQUIRED
  ROOM_NUMBER CDATA #REQUIRED
>
```

Where:

COMMAND attribute: USER_PURCHASE

ROOM_NUMBER attribute: Room number (Port-Location "Location" number), (char [8])

ITEM_CODE: Code of the item being purchased

ITEM_DESCRIPTION: Description of the item
 ITEM_AMOUNT: Item amount
 ITEM_TAX; Item tax
 ITEM_TOTAL: Item total
 REAL_NAME: Name in the PMS DATABASE Only needed for 2-way PMS
 MAC_ADDRESS: MAC Address of the Subscriber Only needed for Post Paid PMS
 REG_NUMBER: Registration number required for 2-way FIAS PMS
 CC_SUFFIX: (optional): Last 4 Digits of the Credit Card for Marriott WFB PMS Verification.
 CC_EXPIRATION: (optional): Expiration Date on the Credit Card for Marriott WFB PMS Verification. Format = MMYYY.
 WFB_BUNDLED: (optional): WFB Bundle Bill. 0 = Charge 1 = Bundle
 TRANS_ID: (optional): (unsigned Integer) Used to match commands with USER_STATUS messages. Information entered here will be mirrored on the USER_STATUS messages.

Sample command XML:

```

<?xml version="1.0" ?>
<!DOCTYPE USG "ndxUserPurchase.dtd">

<USG COMMAND="USER_PURCHASE" ROOM_NUMBER="1234">
  <ITEM_CODE>123</ITEM_CODE>
  <ITEM_DESCRIPTION>Tooth Brush</ITEM_DESCRIPTION>
  <ITEM_AMOUNT>2.49</ITEM_AMOUNT>
  <ITEM_TAX>0.21</ITEM_TAX>
  <ITEM_TOTAL>2.70</ITEM_TOTAL>
  <REAL_NAME>Smith</REAL_NAME>
  <MAC_ADDRESS>010203040506</MAC_ADDRESS>
  <REG_NUMBER>12345</REG_NUMBER>
  <TRANS_ID>12345</TRANS_ID>
  <CC_SUFFIX>1234</CC_SUFFIX>
  <CC_EXPIRATION>1209</CC_EXPIRATION>
  <WFB_BUNDLED>1</ WFB_BUNDLED>
</USG>
  
```

Response for the User Purchase Command

Standard: As a response to this command, the web server will get an acknowledgement XML message from the USG, HSG or NSE (OK or ERROR, see “Standard OK/ERROR Response” section for DTD definition).

3. Room Administration Commands

3.1 Room Set Access Command

This command will be sent by the Administrator to the USG, HSG or NSE when room access needs to be set. This is the XML command with the following DTD:

```
<?xml version="1.0" encoding="UTF-8"?>

<!--
  DTD defines Room Set Access command sent to USG, HSG or NSE
-->

<!ELEMENT ACCESS_MODE (#PCDATA)>

<!ELEMENT USG( ACCESS_MODE )>

<!ATTLIST USG COMMAND CDATA #REQUIRED
  ROOM_NUMBER CDATA #REQUIRED
>
```

Where:

COMMAND attribute: "ROOM_SET_ACCESS"

ROOM_NUMBER attribute: Room number (Port-Location "Location" number), (char [8])

ACCESS_MODE: Type of access ROOM_OPEN, ROOM_CHARGE, or ROOM_BLOCK

Sample command XML:

```
<?xml version="1.0" ?>
<!DOCTYPE USG "ndxSetRoom.dtd">

<USG COMMAND="ROOM_SET_ACCESS" ROOM_NUMBER="1234">
  <ACCESS_MODE>ROOM_OPEN</ACCESS_MODE>
</USG>
```

Response for the Set Room Access Command

Standard: As a response to this command, the web server will get an acknowledgement XML message from the USG, HSG or NSE (OK or ERROR, see “Standard OK/ERROR Response” section for DTD definition).

3.2 Room Query Access Command

This command will be sent by the Administrator to the USG, HSG or NSE when there is a need to query the access status of a room. This is the XML command with the following DTD:

```
<?xml version="1.0" encoding="UTF-8"?>
<!--
  DTD defines Room Query Access command sent to USG, HSG or NSE
-->
<!ELEMENT USG(EMPTY)>

<!ATTLIST USG COMMAND CDATA #REQUIRED
  ROOM_NUMBER CDATA #REQUIRED
>
```

Where:

COMMAND attribute: "ROOM_QUERY_ACCESS"

ROOM_NUMBER attribute: Room number (Port-Location "Location" number), (char [8])

Sample command XML:

```
<?xml version="1.0" ?>
<!DOCTYPE USG "ndxRoomQuery.dtd">

<USG COMMAND="ROOM_QUERY_ACCESS" ROOM_NUMBER="1234">
</USG>
```

Response for the Room Query Access Command

This is the response sent for Room Query Access command. The response is an XML message with the following DTD:

```
<?xml version="1.0" encoding="UTF-8"?>
<!--
  DTD defines response for Room Query Access command
-->

<!ELEMENT ERROR_NUM (#PCDATA)>
```

```
<!ELEMENT ERROR_DESC (#PCDATA)>
<!ELEMENT ACCESS_MODE (#PCDATA)>
<!ELEMENT ROOM_NUMBER(#PCDATA)>

<!ELEMENT USG (ERROR_NUM?, ERROR_DESC?,ACCESS_MODE?,ROOMNUMBER?)>

<!ATTLIST USG
  RESULT CDATA #REQUIRED
  ID CDATA #REQUIRED
  IP CDATA #REQUIRED
>
```

Where:

RESULT attribute: 'OK' or 'ERROR'. In case of 'ERROR', ERROR_NUM and ERROR_DESC elements must be present.

ID attribute: ID of the USG, HSG or NSE (char [6])

IP attribute: IP address of the USG, HSG or NSE (char [18])

ERROR_NUM: '102' or '200', present only when RESULT is 'ERROR'.

ERROR_DESC: 'Required attribute is missing' when ERROR_NUM is '102', 'Unknown room number' when ERROR_NUM is '200'.

Sample OK XML:

```
<?xml version="1.0" ?>
<!DOCTYPE USG "ndxRoomQueryRsp.dtd">

<USG RESULT="OK" ID="ABC123" IP="192.168.100.102">
  <ROOM_NUMBER>1234</ROOM_NUMBER>
  <ACCESS_MODE>ROOM_OPEN</ACCESS_MODE>
</USG>
```

Sample ERROR XML:

```
<?xml version="1.0" ?>
```

```
<!DOCTYPE USG " ndxRoomQueryRsp.dtd">
```

```
<USG RESULT="ERROR" ID="ABC123" IP="192.168.100.102">
```

```
  <ERROR_NUM>102</ERROR_NUM>
```

```
  <ERROR_DESC>Required attribute is missing</ERROR_DESC>
```

```
</USG>
```

4. Standard Response

4.1 Standard OK/ERROR Response

```
<?xml version="1.0" encoding="UTF-8"?>

<!--
  DTD defines Standard Response from USG, HSG or NSE
-->

<!ELEMENT ERROR_NUM (#PCDATA)>
<!ELEMENT ERROR_DESC (#PCDATA)>

<!ELEMENT USG (ERROR_NUM, ERROR_DESC)?>
<!ATTLIST USG
  RESULT CDATA #REQUIRED
  ID CDATA #REQUIRED
  IP CDATA #REQUIRED
>
```

Where:

RESULT attribute: 'OK' or 'ERROR'. In case of 'ERROR', ERROR_NUM and ERROR_DESC elements will be present.

ID attribute: ID of the USG, HSG or NSE (char [6])

IP attribute: IP address of the USG, HSG or NSE (char [18])

ERROR_NUM: present only when RESULT is 'ERROR' (see Response Errors for XML Command section).

ERROR_DESC: (see Response Errors for XML Command section).

Sample OK XML:

```
<?xml version="1.0" ?>  
<!DOCTYPE USG "ndxOkRsp.dtd">  
  
<USG RESULT="OK" ID="ABC123" IP="192.168.100.102">  
</USG>
```

Sample ERROR XML:

```
<?xml version="1.0" ?>  
<!DOCTYPE USG "ndxErrorRsp.dtd">  
  
<USG RESULT="ERROR" ID="ABC123" IP="192.168.100.102">  
  <ERROR_NUM>102</ERROR_NUM>  
  <ERROR_DESC>Required attribute is missing</ERROR_DESC>  
</USG>
```

4.2 Response Errors for XML Command

Error No.	Error Description String
100	Parsing error
101	Unrecognized command
102	Required attribute is missing
103	Required data is missing
200	Unknown room number
201	Unknown user name
202	Unknown user MAC address
203	Incorrect password
204	User name already present
205	Too many subscribers
206	Unable to provide all requested data
207	AAA internal error (when AAA is not configured correctly for the command request)
301	User Radius Authorization Denied
303	Unsupported payment method

5. User Status Messages for Radius and 2-way PMS

5.1 User Status Message for Radius Login/Logout

The USG, HSG or NSE sends this message to the Portal Page web server when the subscriber's status changes. This is the XML command message with the following DTD:

```
<?xml version="1.0" encoding="UTF-8"?>
```

```
<!--
```

```
    DTD defines User Status Message sent from USG, HSG or NSE
```

```
-->
```

```

<!ELEMENT SUB_MAC_ADDR (#PCDATA)>
<!ELEMENT SUB_STATUS (#PCDATA)>
<!ELEMENT SUB_USER_NAME (#PCDATA)>
<!ELEMENT PORTAL_SUB_ID (#PCDATA)>

<!ELEMENT USG (SUB_MAC_ADDR, SUB_USER_NAME, SUB_STATUS, PORTAL_SUB_ID)>
<!ATTLIST USG
  COMMAND CDATA #REQUIRED
  ID CDATA #REQUIRED
  IP CDATA #REQUIRED
>

```

Where:

COMMAND attribute: 'USER_STATUS'

ID attribute: ID of the USG, HSG or NSE (char [6])

IP attribute: IP address of the USG, HSG or NSE (char [18])

SUB_MAC ADDRESS: Subscriber's MAC address (char [12])

SUB_STATUS: One of: 'RADIUS_LOGIN', 'RADIUS_LOGIN_ACCEPT', 'RADIUS_LOGIN_REJECT', 'RADIUS_LOGIN_ERROR', 'RADIUS_LOGIN_TIMEOUT', 'RADIUS_LOGOUT',

'RADIUS_LOGOUT_PORTAL_RESET', 'RADIUS_LOGOUT_IDLE_TIMEOUT',

'RADIUS_LOGOUT_SESSION_TIMEOUT', 'RADIUS_LOGOUT_USER_REQUEST', or 'RADIUS_LOGOUT_ADMIN_RESET' (char [35])

'SUB_USER_NAME: Subscriber's Username (char [96])

PORTAL_SUB_ID: Some unique identifier that the Portal Web Server can send to the USG, HSG or NSE, which will be sent back on responses for that request. (int [4])

Status Message	Description
RADIUS_LOGIN	Default Login Response if no match for other RADIUS_LOGIN messages, i.e. Access-Challenges will reproduce this message.
RADIUS_LOGIN_ACCEPT	Login by XML or IWS (Internal Web Server) Login or HTML GET (SSL or non-SSL)
RADIUS_LOGIN_REJECT	Login Reject
RADIUS_LOGIN_ERROR	An error occurred.
RADIUS_LOGIN_TIMEOUT	Login Timeout
RADIUS_LOGOUT	Default Logout Response if no match for other RADIUS_LOGOUT messages
RADIUS_LOGOUT_PORTAL_RESET	XML Logout
RADIUS_LOGOUT_IDLE_TIMEOUT	Idle Timeout
RADIUS_LOGOUT_SESSION_TIMEOUT	Session Timeout

RADIUS_LOGOUT_USER_REQUEST	ICC (Information Control Console) or http://1.1.1.1 Logout
RADIUS_LOGOUT_ADMIN_RESET	Logout by Administrator (deleted from USG, HSG or NSE administration)

Sample command XML:

```
<?xml version="1.0" ?>
<!DOCTYPE USG "ndxRadiusStatus.dtd">

<USG COMMAND="USER_STATUS" ID="ABC123" IP="192.168.100.102">
  <SUB_MAC_ADDR>1A2B3C4D5E6F</SUB_MAC_ADDR>
  <SUB_USER_NAME>jsmith</SUB_USER_NAME>
  <SUB_STATUS>RADIUS_LOGIN_ACCEPT</SUB_STATUS>
  <PORTAL_SUB_ID>0123</PORTAL_SUB_ID>
</USG>
```

5.2 PMS User Status

The USG, HSG or NSE sends this message to the Portal Page web server when the subscriber purchases time with a two-way PMS system. This can be done with either the XML User_Payment or User_Purchase command.

This is the XML command message with the following DTD:

```
<?xml version="1.0" encoding="UTF-8"?>

<!--
  DTD defines User Status Message sent from USG, HSG or NSE
-->

<!ELEMENT SUB_MAC_ADDR (#PCDATA)>
<!ELEMENT SUB_STATUS (#PCDATA)>
<!ELEMENT SUB_USER_NAME (#PCDATA)>
<!ELEMENT PORTAL_SUB_ID (#PCDATA)>
<!ELEMENT TRANSACTION_ID (#PCDATA)>

<!ELEMENT USG (SUB_MAC_ADDR, SUB_USER_NAME, SUB_STATUS, TRANSACTION_ID)>
<!ATTLIST USG
```

COMMAND CDATA #REQUIRED
 ID CDATA #REQUIRED
 IP CDATA #REQUIRED
 >

Where:

COMMAND attribute: 'USER_STATUS'

ID attribute: ID of the USG, HSG or NSE (char [6])

IP attribute: IP address of the USG, HSG or NSE (char [18])

SUB_MAC ADDRESS: Subscriber's MAC address (char [12])

SUB_STATUS: One of: "PMS_INVALID_CREDENTIALS", "PMS_COMPLETED", "PMS_FAILED", "PMS_POST_PAID"

TRANSACTION_ID: The TRANS_ID sent in the USER_PAYMENT or USER_PURCHASE

Status Message	Description
PMS_INVALID_CREDENTIALS	The PMS Name or Room number doesn't match anything that the user entered.
PMS_COMPLETED	The PMS Transaction was successful and a POST should have been sent and accepted by the PMS System
PMS_FAILED	The transaction was denied, transaction failed for unspecified reasons, or the NSE got something from PMS we did not expect.
PMS_POST_PAID	The PMS on the NSE is set to POST Paid and the initial verification of the users credentials completed successfully but did not POST a bill.

Sample command XML:

```
<?xml version="1.0" ?>
<!DOCTYPE USG "ndxPMSStatus.dtd">

<USG COMMAND="USER_STATUS" ID="0164b3" IP="67.130.149.61">
  <SUB_MAC_ADDR>00:04:AC:25:6F:3A</SUB_MAC_ADDR>
  <SUB_USER_NAME>gray</SUB_USER_NAME>
  <SUB_STATUS>PMS_POST_PAID</SUB_STATUS>
  <TRANSACTION_ID>1234</TRANSACTION_ID>
</USG>
```

6. XML format for DAT table

The NSE will send the DAT table with this format after a get request is sent to the following Web address: **http://NSE_IP/xml/dat.xml**. This is the XML Command with the following DTD:

```
<?xml version="1.0" encoding="UTF-8"?>

<!--
  DTD defines DAT Table Message sent from the NSE
-->

<!ELEMENT SESS_NUM (#PCDATA)>
<!ELEMENT SUB_IP (#PCDATA)>
<!ELEMENT SUB_PORT (#PCDATA)>
<!ELEMENT SUB_MAC_ADDR (#PCDATA)>
<!ELEMENT SESS_NAT_IP (#PCDATA)>
<!ELEMENT SESS_NAT_PORT (#PCDATA)>
<!ELEMENT REMOTE_IP (#PCDATA)>
< !ELEMENT REMOTE_PORT (#PCDATA)>
<!ELEMENT SESS_PROTO (#PCDATA)>
<!ELEMENT SESS_STATE (#PCDATA)>
<!ELEMENT IDLE_TOUT (#PCDATA)>
<!ELEMENT SESS_TOUT (#PCDATA)>

<!ELEMENT NSE (SESSION_ENTRY)>
<!ELEMENT SESSION_ENTRY(SESS_NUM, SUB_IP, SUB_PORT, SUB_MAC_ADDR,
SESS_NAT_IP, SESS_NAT_PORT, REMOTE_IP, REMOTE_PORT, SESS_PROTO, SESS_STATE,
IDLE_TOUT, SESS_TOUT)>
<!ATTLIST NSE COMMAND CDATA #REQUIRED>
```

Where:

COMMAND attribute: 'DAT_TABLE_RSP'

SESS_NUM: The Session Number in the Table

SUB_IP: The Subscriber IP address for this Session
SUB_PORT: The Subscribers Source Port for this Session
SUB_MAC_ADDR: The MAC address for the Subscriber for this Session.
SESS_NAT_IP: The IP address that this session has been translated to usually the NSE IP but sometimes an INAT address.
SESS_NAT_PORT: The source port from the NSE that this session is using.
REMOTE_IP: The destination IP for this Session.
REMOTE_PORT: The destination port for this translated session.
SESS_PROTO: The protocol that is being used in this session. (Usually TCP or UDP, ANY means it is an INAT session)
SESS_STATE: The State that the Session is in. (i.e. Established, Time_Wait, UDP_MAPPED, etc.)
IDLE_TOUT: The Idle timeout for this session.
SESS_TOUT: How long the session has been timing out.

Sample command XML:

```
<?xml version="1.0" ?>
  <!DOCTYPE USG "ndxDatRsp.dtd">
<?xml version="1.0" encoding="UTF-8" ?>
<NSE COMMAND="DAT_TABLE_RSP">
  <SESSION_ENTRY>
    <SESS_NUM>1</SESS_NUM>
    <SUB_IP>10.0.0.13</SUB_IP>
    <SUB_PORT>1387</SUB_PORT>
    <SUB_MAC_ADDR>00:D0:B7:4E:00:4D</SUB_MAC_ADDR>
    <SESS_NAT_IP>67.130.149.61</SESS_NAT_IP>
    <SESS_NAT_PORT>5026</SESS_NAT_PORT>
    <REMOTE_IP>80.239.235.200</REMOTE_IP>
    <REMOTE_PORT>443</REMOTE_PORT>
    <SESS_PROTO>TCP</SESS_PROTO>
    <SESS_STATE>ESTABLISHED</SESS_STATE>
    <IDLE_TOUT>7</IDLE_TOUT>
    <SESS_TOUT>1793</SESS_TOUT>
  </SESSION_ENTRY>
</NSE>
```

7. XML Format for Current Subscriber Table

The NSE will send the Current Subscriber table with this format after a get request is sent to the following Web address: **http://NSE_IP/xml/current.xml**. This is the XML Command with the following DTD:

```
<?xml version="1.0" encoding="UTF-8"?>

<!--
  DTD defines Current Table Message sent from the NSE
-->

<!ELEMENT SUB_MAC_ADDR (#PCDATA)>
<!ELEMENT SUB_IP (#PCDATA)>
<!ELEMENT LOCATION (#PCDATA)>
<!ELEMENT ROOM_NUM (#PCDATA)>
<!ELEMENT USERNAME (#PCDATA)>
<!ELEMENT BW_UP (#PCDATA)>
<!ELEMENT BW_DOWN (#PCDATA)>
<!ELEMENT THRU_UP (#PCDATA)>
<!ELEMENT THRU_DOWN (#PCDATA)>
<!ELEMENT SUB_AAA_STATE (#PCDATA)>
<!ELEMENT EXPIRY_TIME (#PCDATA)>
<!ELEMENT SUB_IDLE_TO (#PCDATA)>
<!ELEMENT BYTES_TX (#PCDATA)>
<!ELEMENT BYTES_RX (#PCDATA)>
<!ELEMENT PROXY_STATE (#PCDATA)>

<!ELEMENT NSE (SUBSCRIBER)>
```

```
<!ELEMENT SUBSCRIBER (SUB_MAC_ADDR, SUB_IP, LOCATION, ROOM_NUM, USERNAME,  
BW_UP, BW_DOWN, THRU_UP, THRU_DOWN, SUB_AAA_STATE, EXPIRY_TIME,  
SUB_IDLE_TO, BYTES_TX, BYTES_RX, PROXY_STATE)>  
<!ATTLIST NSE COMMAND CDATA #REQUIRED>
```

Where:

COMMAND attribute: 'CURR_USERS_RSP'

SUB_MAC_ADDR: MAC Address of the Subscriber in the Table

SUB_IP: IP address of the Subscriber in the Table

LOCATION: The Port that the Subscriber is connected on for either VLAN or SNMP Query return.

ROOM_NUM: The Room Number that Matches the LOCATION information from the Port Location Table.

USERNAME: Subscribers Username

BW_UP: The Configured Maximum Upstream Bandwidth for this Subscriber

BW_DOWN: The Configured Maximum Downstream Bandwidth for this Subscriber

THRU_UP: The Current amount of upstream throughput this subscriber is utilizing.

THRU_DOWN: The Current amount of downstream throughput this subscriber is utilizing.

SUB_AAA_STATE: The State of the Subscriber (i.e. Valid, Pending, Valid-Radius, etc.)

EXPIRY_TIME: The amount of time left before the subscriber session times out.

SUB_IDLE_TO: The amount of idle time left before the subscriber is removed from the current subscriber list.

BYTES_TX: Number of Bytes sent by the subscriber.

BYTES_RX: Number of Bytes sent to the subscriber.

PROXY_STATE: Current Proxy State of the Subscriber.

Sample response XML:

```
<!DOCTYPE USG "ndxCurrentRsp.dtd">  
<?xml version="1.0" encoding="UTF-8" ?>  
<NSE COMMAND="CURR_USERS_RSP">  
  
<SUBSCRIBER>  
<SUB_MAC_ADDR>00:04:AC:C5:6F:25</SUB_MAC_ADDR>  
<SUB_IP>67.130.149.5</SUB_IP>  
<LOCATION>0</LOCATION>  
<ROOM_NUM />  
<USER_NAME>  
<![CDATA[ "test" ]]>
```

</USER_NAME>
<BW_UP>0</BW_UP>
<BW_DOWN>0</BW_DOWN>
<THRU_UP>0-0</THRU_UP>
<THRU_DOWN>0-0</THRU_DOWN>
<SUB_AAA_STATE>Valid</SUB_AAA_STATE>
<EXPIRY_TIME>3 hrs 52 min</EXPIRY_TIME>
<SUB_IDLE_TO>20 mins : 0 sec</SUB_IDLE_TO>
<BYTES_TX>11708</BYTES_TX>
<BYTES_RX>10111</BYTES_RX>
<PROXY_STATE>Off</PROXY_STATE>
</SUBSCRIBER>
</NSE>

8. Contact Information:

Main:

Nomadix, Inc.
1100 Business Center Circle,
Suite 100
Newbury Park, CA 91320
USA

+1.818.597.1500

<http://www.nomadix.com/>

Sales:

+1.818.597.1500

sales@nomadix.com

Technical Support:

+1.818.575.2590

support@nomadix.com