



Intelligent Guest Room 2012B Specification

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19 October 2012

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1 This Specification at a Glance

This specification is used by hotel information systems to determine the operational status or health of guest room devices. Described are message exchange patterns that make it possible to request the status of guest room devices (ad-hoc query) and register to receive notification messages (status change events) when the health of devices in a guest room change.

This Intelligent Guest Room specification is the bridge between the [HTNG Guest & Room Messaging Status \(GRSM\) specification](#) and the [HTNG Device Messaging Structure \(DMS\) specification](#). GRSM is a high-level, guest stay-related informational messaging, whereas the DMS specification is a low-level device protocol.

2 Document Information

2.1 Document History

Version	Date	Author	Comments
0.01	21 Jun 2012	Eric Eichensehr	Added use cases
0.02	22 Jun 2012	Intelligent Guest Room (IGR) Workgroup	Finalized use cases, defined roles
0.03	3 Jul 2012	IGR Workgroup	Seeded data elements
0.04	11 Jul 2012	Eric Eichensehr	Added This Spec at a Glance section
0.05	27 Jul 2012	HTNG Staff	Updated roles
0.06	8 Aug 2012	Jay Rosamilia	Updated diagrams
0.07	15 Aug 2012	Eric Eichensehr	Updated Section Two
0.08	17 Aug 2012	Jay Rosamilia	Added Data Element Tables
0.09	22 Aug 2012	Jay Rosamilia	Updated Data Element Tables
0.10	29 Aug 2012	IGR Workgroup	Updated and discussed Data Element Tables
0.11	30 Aug 2012	Gary Gage & Eric Eichensehr	Updated Data Element Tables, Sample Messages and Relationship to Other Standards section
0.12	5 Sep 2012	IGR Workgroup	Updated Data Element Tables and removed Terminology section
0.13	5 Sep 2012	Jay Rosamilia	Replaced sample messages, added Room Status Publisher role and updated diagram
0.90	18 Sep 2012	Kylene Reese	Prepared for HTNG Member Review
0.92	4 Oct 2012	Jay Rosamilia	Allowed use of Errors collection in response messages.
0.95	9 Oct 2012	Kylene Reese	Prepared for Workgroup vote
1.0	19 Oct 2012	IGR Workgroup	2012B Release

2.2 Document Purpose

More and more, hoteliers are expected to provide guests with all the technology, connectivity and devices that they are used to experiencing in their home environment. Advanced in-room technologies have become a requirement rather than a luxury. But creating that at-home experience is much more difficult for a hotelier than it is for their tech-savvy guests. For the consumer, installing devices and connecting systems is a simple, straight-forward process. However, hoteliers must face the challenge of implementing and maintaining an on-property infrastructure that supports in-room devices and gives all their guests the at-home experience they expect. This specification provides hoteliers with web services that facilitate the deployment and management of their in-room technology infrastructure.

2.3 Scope

This document targets the release of a specification providing the necessary components, including design recommendations, WSDLs, XSDs and Use Cases allowing a hospitality operator or hospitality system provider to design and deploy a set of device-based services in line with best practices, methods and procedures that meet or exceed current industry web services standards specifications. Basic functionality of the Intelligent Guest Room services makes it possible to remotely monitor the status of devices in a room. This specification addresses the ability to remotely query the current and last status of a device or group of devices and subscribe to device status change notifications.

2.4 Relationship to Other Standards

This specification and its supporting schemas leverage the existing OpenTravel Alliance methodology for message construction and incorporate a sub set of applicable [OpenTravel Alliance specifications](#). This ensures a consistent representation of data across the various HTNG specifications.

Please refer to the [HTNG Protocol & Messaging Transport Event Notification specification](#) for details on how to subscribe to and manage notifications defined in this specification.

Useful resources

- [Implementing Web Services Using HTNG Specifications – A Quick Start Guide for Software Developers](#)
- HTNG Discussion Board – currently available at <http://www2.htng.org/discussion>

2.5 Audience

This document is intended to aid in the design, integration and deployment of hospitality systems that require interaction with in-room devices in order to monitor the health of room-based technologies. The document specifically targets hospitality systems developers, integrators and operators.

2.6 Overview

Content contained in this document is intended to assist in the design, implementation and integration of a set of applications and services whose feature set is based on the status of in-room device technologies. A brief overview of each section is as follows:

Section 3 – Scenarios

This section includes the scenario overviews, diagrams, roles, use cases, data element tables and sample messages regarding Room Device Status Query and Room Device Status Change Notification. The technical artifacts (XSDs and WSDLs) for this certification release of IGR v1.0 that can be found in a separate ZIP file included with specification.

Section 4 – Messages

Detailed Data Element tables and sample messages are provided in this section.

Section 5 – Appendices

This section includes terms, implementation requirements, links, any referenced documents, as well as common HTNG schema components referenced in this document.

2.7 Known Limitations

There are no known limitations of this specification at the time of release.

2.8 Further Considerations

Though the feature set of this specification is well defined, future versions of the specification may include a device repository used to register and locate device(s) and their capabilities for the purpose of addressing a specific device or group of devices for command, control and state change notification. It is also expected that future specifications will encompass the features and device delineations defined in the [HTNG Device Messaging Structure \(DMS\) specification](#), with the intent of providing enterprise level web service access to devices defined in the DMS specification.

3 Component Scenarios

The Intelligent Guest Room (IGR) system is a set of standards that make it possible to enhance the guest experience through the use of integrated guest room device technologies. The IGR system encompasses a set of web service standards that make it possible to obtain information from intelligent guest room devices. Using this IGR specification, vendors and/or hoteliers are able to acquire information about the operational status of devices in a guest room in order to minimize guest impact when guest room technology-related problems arise.

3.1 Guest Room Status Check

3.1.1 Overview

In order to enhance the guest experience, a Hotel Information System is required to check the status of guest room technologies prior to room assignment. This may be completed at check-in, pre-arrival or even during the stay. The goal of the status check is to ensure that guest room technologies are functioning properly.

3.1.2 Roles

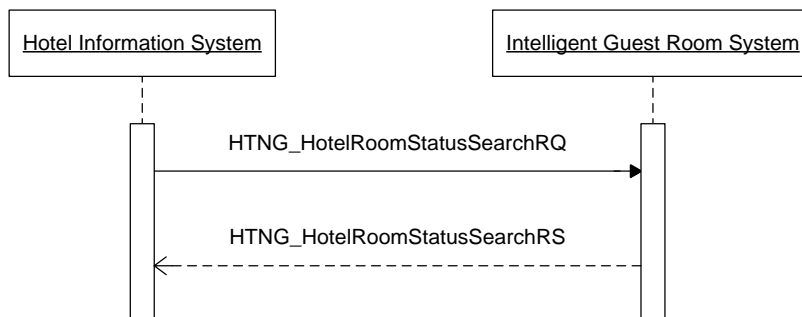
Role	Description	Examples
Hotel Information System	Any hotel software application or service containing features sets based on the status of guest room devices.	PMS Work order management Device management console
Intelligent Guest Room (IGR) System	A system that provides the ability to query the status of guest room devices.	Device Gateway Zone Controller

3.1.3 Use Case

Summary:	Hotel staff wishes to assign a guest room. In order to ensure devices in a guest room are functioning at operationally acceptable levels they are required to check the status of guest room devices prior to room assignment.
Assumptions:	<ul style="list-style-type: none">IGR System is fully functional and accessible.
Pre-conditions:	<ul style="list-style-type: none">None
Trigger:	<ul style="list-style-type: none">Request for room status.

Basic Course of Events:	<ol style="list-style-type: none"> 1) The Hotel Information System constructs an appropriate request message and sends a status check request to the IGR System. 2) The IGR System enumerates guest room devices in order to determine their operational status. 3) The IGR System returns the operational status to the Hotel Information System.
Post-conditions:	<ul style="list-style-type: none"> • Hotel Information System knows the room device status.
Exception Path:	<ul style="list-style-type: none"> • IGR System returns an error status indicating one or more devices are not functioning properly. The error status message includes a severity indicator used by the requesting Hotel Information system to determine a course of action. • Failure of IGR System to return a response.
Alternative Paths:	<ul style="list-style-type: none"> • None

3.1.4 Message Flows



3.1.5 Sample Request

```

<HTNG_HotelRoomStatusSearchRQ EchoToken="Echo12345" TimeStamp="2012-08-17T09:30:47Z"
Version="1.0">
  <POS>
    <Source>
      <RequestorID Type="10" ID_Context="ACME_PMS" ID="PMS1">
        <CompanyName>Acme PMS Company</CompanyName>
      </RequestorID>
    </Source>
  </POS>
  <PropertyInfo ChainCode="HotelChain" BrandCode="HotelBrand" HotelCode="HotelHotel"/>
  <Room RoomID="EE12345">
    <Devices>
      <Device Type="TV Remote" FriendlyName="000"
Class="TelevisionIntegration"/>
      <Device Type="Television" FriendlyName="TV-1"
Class="TelevisionIntegration"/>
      <Device Type="Thermostat" Class="HVAC"/>
      <Device Class="DoorLock"/>
    </Devices>
    <TPA_Extensions/>
  </Room>
  <TPA_Extensions/>
</HTNG_HotelRoomStatusSearchRQ>
  
```

3.1.6 Sample Response

```
<HTNG_HotelRoomStatusSearchRS EchoToken="Echo12345" TimeStamp="2012-08-17T09:30:47Z"
Version="1.0">
  <Success/>
  <RoomInformationList>
    <RoomInformation>
      <Room RoomID="EE12345">
        <Devices>
          <Device ID="1129087f" FriendlyName="RMT01" Type="TVRemote"
Description="Acme television remote control" Class="TelevisionIntegration">
            <CurrentHealthStatus Value="WARNING"
Reason="LOW_BATTERY"/>
          </Device>
          <Device ID="ef29086f" FriendlyName="TV-1" Type="Television"
Description="Acme 52 inch Hospitality TV - Bedroom" Class="TelevisionIntegration">
            <CurrentHealthStatus Value="OPERATIONAL"/>
          </Device>
          <Device ID="ac3f196e-2a3b-23af-2bbe-2e67998e1e88"
FriendlyName="Tstat-R1" Type="Thermostat" Description="Room Thermostat" Class="HVAC">
            <CurrentHealthStatus Value="WARNING"
Reason="PARTIAL_FAILURE">An attempt to test the temperature sensor status failed. Device returned
error 1101.</CurrentHealthStatus>
          </Device>
          <Device ID="bf3f195a" FriendlyName="DL-12345"
Description="Door Lock" Class="DoorLock">
            <CurrentHealthStatus Value="ERROR"
Reason="COMMUNNICATION_ERROR">An attempt to test the door lock status failed. Lock Server
Offline. Error 502.</CurrentHealthStatus>
          </Device>
        </Devices>
      </Room>
    </RoomInformationList>
  </RoomInformationList>
</HTNG_HotelRoomStatusSearchRS>
```

3.1.7 Sample Request

```
<HTNG_HotelRoomStatusSearchRQ EchoToken="Echo12345" TimeStamp="2012-08-17T09:30:47Z"
Version="1.0">
  <POS>
    <Source>
      <RequestorID Type="10" ID_Context="ACME_PMS" ID="PMS1">
        <CompanyName>Acme PMS Company</CompanyName>
      </RequestorID>
    </Source>
  </POS>
  <PropertyInfo ChainCode="HotelChain" BrandCode="HotelBrand" HotelCode="HotelHotel"/>
  <Rooms>
    <Room RoomID="EE12345"/>
  </Rooms>
  <TPA_Extensions/>
</HTNG_HotelRoomStatusSearchRQ>
```

3.1.8 Sample Response

```
<HTNG_HotelRoomStatusSearchRS TransactionIdentifier="Tran0001" EchoToken="Echo12345"
TimeStamp="2012-08-17T09:30:47Z" Version="1.0">
  <Success/>
  <Warnings>
    <Warning Type="101" Status="OK" ShortText="IGR Reset">IGR services restarted -
2012-08-10T014:00:47Z</Warning>
  </Warnings>
  <RoomInformationList>
    <RoomInformation>
      <Room RoomID="EE12345">
        <Devices>
          <Device ID="ef29086f" FriendlyName="TV-1" Type="Television"
Description="Acme 52 inch Hospitality TV" Class="TelevisionIntegration">
            <CurrentHealthStatus Value="OPERATIONAL"/>
          </Device>
          <Device ID="af39085e" FriendlyName="STB-001" Type="Set Top
Box" Description="Acme Set Top Box Model m7789K" Class="TelevisionIntegration">
            <CurrentHealthStatus Value="OPERATIONAL"/>
          </Device>
        </Devices>
      </Room>
    </RoomInformationList>
  </RoomInformationList>
</HTNG_HotelRoomStatusSearchRS>
```

```

        </Device>
        <Device ID="1129087f" FriendlyName="RMT01" Type="TVRemote"
Description="Acme television remote control" Class="TelevisionIntegration">
        <CurrentHealthStatus Value="OPERTIONAL"/>
        </Device>
        <Device ID="ac3f196e-2a3b-23af-2bbe-2e67998e1e88"
FriendlyName="Tstat-R1" Type="Thermostat" Description="Room Thermostat" Class="HVAC">
        <CurrentHealthStatus Value="OPERATIONAL"/>
        </Device>
        <Device ID="bf3f195a" FriendlyName="DL-12345"
Description="Door Look" Class="DoorLock">
        <CurrentHealthStatus Value="OPERATIONAL"/>
        </Device>
        <Device ID="2341ae3c" FriendlyName="MB-12345"
Description="Mini Bar" Class="InRoomRefreshmentCenter">
        <CurrentHealthStatus Value="WARNING"
Reason="SERVICE_REQUIRED">Unable to determine item count.</CurrentHealthStatus>
        </Device>
        <Device ID="ef3278ea" FriendlyName="OS-12345"
Description="Ceiling Sensor" Class="OccupancyDetection">
        <CurrentHealthStatus Value="ERROR"
Reason="OFFLINE">Device is unreachable. Communications error 10060.</CurrentHealthStatus>
        </Device>
    </Devices>
    <TelephoneExtensions>
        <TelephoneExtension>12345</TelephoneExtension>
    </TelephoneExtensions>
    <TPA_Extensions/>
</Room>
<TPA_Extensions/>
</RoomInformation>
</RoomInformationList>
</HTNG_HotelRoomStatusSearchRS>

```

3.1.9 Sample Request

```

<HTNG_HotelRoomStatusSearchRQ EchoToken="Echo12345" TimeStamp="2012-08-17T09:30:47Z"
Version="1.0">
    <POS>
        <Source>
            <RequestorID Type="10" ID_Context="ACME_PMS" ID="PMS1">
                <CompanyName>Acme PMS Company</CompanyName>
            </RequestorID>
        </Source>
    </POS>
    <PropertyInfo ChainCode="HotelChain" BrandCode="HotelBrand" HotelCode="HotelHotel"/>
    <Room>
        <Devices>
            <Device Type="Television" FriendlyName="TV-1"
Class="TelevisionIntegration">
            </Device>
        </Devices>
        <TPA_Extensions/>
    </Room>
    <TPA_Extensions/>
</HTNG_HotelRoomStatusSearchRQ>

```

3.1.10 Sample Response

```

<HTNG_HotelRoomStatusSearchRS EchoToken="Echo12345" TimeStamp="2012-08-17T09:30:47Z"
Version="1.0">
    <Success/>
    <RoomInformationList>
        <RoomInformation>
            <Room RoomID="EE12345">
                <Devices>
                    <Device ID="ae29086f" FriendlyName="TV-1" Type="Television"
Description="Acme 52 inch Hospitality TV - Bedroom" Class="TelevisionIntegration">
                    <CurrentHealthStatus Value="OPERATIONAL"/>
                    </Device>
                </Devices>
            </Room>
            <TPA_Extensions/>
        </RoomInformation>
        <RoomInformation>
            <Room RoomID="EE22345">
                <Devices>

```

```

        <Device ID="ef29086e" FriendlyName="TV-1" Type="Television"
Description="Acme 52 inch Hospitality TV - Bedroom" Class="TelevisionIntegration">
            <CurrentHealthStatus Value="OPERATIONAL"/>
        </Device>
    </Devices>
</Room>
<TPA_Extensions/>
</RoomInformation>
<RoomInformation>
    <Room RoomID="EE32345">
        <Devices>
            <Device ID="ff29086a" FriendlyName="TV-1" Description="Acme
52 inch Hospitality TV - Bedroom" Class="TelevisionIntegration">
                <CurrentHealthStatus Value="OPERATIONAL"/>
            </Device>
        </Devices>
    </Room>
    <TPA_Extensions/>
</RoomInformation>
</RoomInformationList>
</HTNG_HotelRoomStatusSearchRS>
```

3.2 Guest Room Status Event Notification

3.2.1 Overview

In order to enhance the guest experience, the Room Status Publisher monitors the status of guest room devices and raises an event to a Room Status Subscriber when device failures are detected.

Note: Please refer to the Protocol & Messaging Transport Event Notification specification for details regarding how to subscribe to and manage notifications.

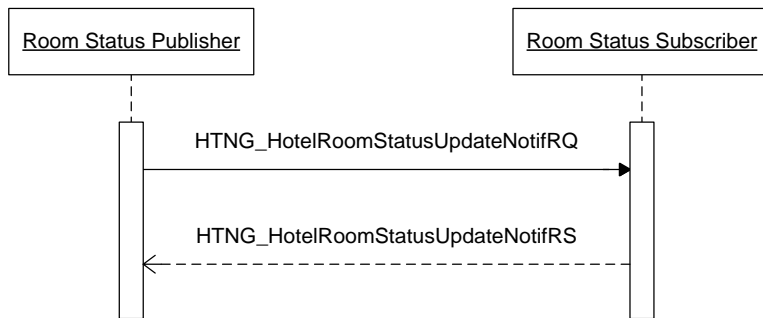
3.2.2 Roles

Role	Description	Examples
Room Status Publisher	A system that provides the ability to register for and publish events relating to the guest room devices.	Device Gateway Zone Controller
Room Status Subscriber	A system interested in receiving real-time updates to the health and status of guest room devices.	PMS Work order management Device management console

3.2.3 Use Case

Summary:	Hotel staff wishes to be notified real-time when guest room device failures are detected.
Assumptions:	<ul style="list-style-type: none">Room Status Publisher is fully functional and accessible.The Room Status Subscriber is functional and has an active Room Status Publisher event subscription.
Pre-conditions:	<ul style="list-style-type: none">A Room Status Subscriber has registered interest in receiving event notifications from the Room Status Publisher.
Trigger:	<ul style="list-style-type: none">Guest room device failure and corrections.
Basic Course of Events:	1) As guest room device failures occur or are corrected, the Room Status Publisher detects the status changes and sends an appropriate notification message to registered Room Status Subscribers.
Post-conditions:	<ul style="list-style-type: none">Hotel staff is informed of guest room device statuses.
Exception Paths:	<ul style="list-style-type: none">Room Status Publisher returns an error if an attempt to subscribe for notification(s) fails.Room Status Publisher sends a notification to subscribers when the Room Status Publisher is no longer capable of sending notifications to Room Status Subscribers.
Alternative Paths:	<ul style="list-style-type: none">None

3.2.4 Message Flows



3.2.5 Sample Request

```
<HTNG_HotelRoomStatusUpdateNotifRQ EchoToken="Echo22222" TimeStamp="2012-08-17T09:30:47Z"
Version="1.0">
  <POS>
    <Source>
      <RequestorID Type="10" ID_Context="ACME_PMS" ID="PMS1">
        <CompanyName>Acme</CompanyName>
      </RequestorID>
    </Source>
  </POS>
  <PropertyInfo ChainCode="HotelChain" BrandCode="HotelBrand" HotelCode="HotelHotel"/>
  <Room RoomID="EE12345">
    <Devices>
      <Device ID="2341ae3c" FriendlyName="MB-12345" Description="Mini Bar"
Class="InRoomRefreshmentCenter">
        <PriorHealthStatus Value="ERROR" Reason="UNKNOWN"/>
        <CurrentHealthStatus Value="OPERATIONAL"
Reason="POWER_CYCLED">Manual device reset performed</CurrentHealthStatus>
      </Device>
      <Device ID="ef3278ea" FriendlyName="OS-12345" Description="Ceiling Sensor"
Class="OccupancyDetection">
        <PriorHealthStatus Value="ERROR" Reason="LOW_BATTERY"/>
        <CurrentHealthStatus Value="OPERATIONAL"
Reason="BATTERY_REPLACEMENT">Device online.</CurrentHealthStatus>
      </Device>
    </Devices>
    <TPA_Extensions/>
  </Room>
  <TPA_Extensions/>
</HTNG_HotelRoomStatusUpdateNotifRQ>
```

3.2.6 Sample Response

```
<HTNG_HotelRoomStatusUpdateNotifRS TransactionIdentifier="Tran0002" EchoToken="Echo22222"
TimeStamp="2012-08-17T09:30:47Z" Version="1.0">
  <Success/>
</HTNG_HotelRoomStatusUpdateNotifRS>
```

4 Messages

4.1 Guest Room Status Check

4.1.1 Data Element Table – Request

Element @Attribute	Num	Description/Contents
HTNG_HotelRoomStatusSearchRQ	1	Root element of the message.
@EchoToken	1	A reference for additional message identification, assigned by the requesting host system. When a request message includes an echo token, the corresponding response message MUST include an echo token with an identical value.
@TimeStamp	1	Indicates the creation date and time of the message in UTC using the following format specified by ISO 8601; YYYY-MM-DDThh:mm:ssZ with time values using the 24-hour clock (e.g., 20 November 2003, 1:59:38 pm UTC becomes 2003-11-20T13:59:38Z).
@Version	1	For all OpenTravel versioned messages, the version of the message is indicated by a decimal value.
HTNG_HotelRoomStatusSearchRQ / POS / Source	1	This holds details regarding the requestor. It may be repeated to also accommodate the delivery systems.
HTNG_HotelRoomStatusSearchRQ / POS / Source / RequestorID	1	An identifier of the entity making the request (e.g., ATA/IATA/ID number, Electronic Reservation Service Provider (ERSP), Association of British Travel Agents (ABTA)).
@Type	0..1	A reference to the type of object defined by the UniqueID element. Refer to OpenTravel Code List Unique ID Type (UIT).
@ID_Context	0..1	Used to identify the source of the identifier (e.g., IATA, ABTA).
@ID	1	A unique identifying value assigned by the creating system. The ID attribute may be used to reference a primary-key value within a database or in a particular implementation.
HTNG_HotelRoomStatusSearchRQ / PropertyInfo	1	Identifies a specific hotel by using the Chain Code, the Brand Code, and the Hotel Code. The codes used are agreed upon by trading partners.

Element @Attribute	Num	Description/Contents
@HotelCode	1	The code that uniquely identifies a single hotel property. The hotel code is decided between vendors.
@BrandCode	0..1	A code that identifies the brand or flag of a hotel, often used for independently-owned or franchised properties who are known by a specific brand.
@ChainCode	0..1	The code that identifies a hotel chain or management group. The hotel chain code is decided between vendors. This attribute is optional if the hotel is an independent property that can be identified by the HotelCode attribute.
HTNG_HotelRoomStatusSearchR Q / Room	1	Used to convey information about a single room or a suite comprised of room components. The populated values on this entity are used as the query parameters.
@RoomID	0..1	The room number.
HTNG_HotelRoomStatusSearchR Q / Room / RoomType	0..1	A container element which holds information describing the room.
@Building	0..1	The building in which the room is located.
@Floor	0..1	The floor on which the room is located.
@Wing	0..1	The wing on which the room is located.
@RoomLocationCode	0..1	Indicates the location of the room within the hotel structure. Typical values would be "Near Exit", "Close to elevator", "Low Floor" or "High Floor". Refer to OpenTravel Code List Room Location Type (RLT).
HTNG_HotelRoomStatusSearchR Q / Room / Devices	0..1	A collection of Devices.
HTNG_HotelRoomStatusSearchR Q / Room / Devices / Device	1..n	Container element which holds information describing the device.
@ID	0..1	An identifier that is unique within the network.
@FriendlyName	0..1	A name used to identify a device in a room.
@Class	0..1	General classification of the device, ie HVAC, TelevisionIntegration, etc.

Element @Attribute	Num	Description/Contents
@Type	0..1	Specific classification of the device, ie Thermostat, SetTopBox, etc.
@Description	0..1	Text Description of the device.
HTNG_HotelRoomStatusSearchRQ / Room / TelephoneExtensions	0..1	A collection of telephone extensions.
HTNG_HotelRoomStatusSearchRQ / Room / TelephoneExtensions / TelephoneExtension	1..n	A telephone extension that is part of a single room or a suite of component rooms.

4.1.2 Data Element Table – Response

Element @Attribute	Num	Description/Contents
HTNG_HotelRoomStatusSearchRS	1	Root element of the message.
@EchoToken	1	A reference for additional message identification, assigned by the requesting host system. When a request message includes an echo token, the corresponding response message MUST include an echo token with an identical value.
@TimeStamp	1	Indicates the creation date and time of the message in UTC using the following format specified by ISO 8601; YYYY-MM-DDThh:mm:ssZ with time values using the 24-hour clock (e.g., 20 November 2003, 1:59:38 pm UTC becomes 2003-11-20T13:59:38Z).
@Version	1	For all OpenTravel versioned messages, the version of the message is indicated by a decimal value.
@Target	0..1	Used to indicate whether the request is for the Test or Production system.
HTNG_HotelRoomStatusSearchRS / Success	0..1	The presence of the empty Success element explicitly indicates that the OpenTravel versioned message succeeded.
HTNG_HotelRoomStatusSearchRS / Warnings	0..1	Used in conjunction with the Success element to define one or more business errors.

Element @Attribute	Num	Description/Contents
HTNG_HotelRoomStatusSearchR S / Warnings / Warning	1..n	Used when a message has been successfully processed to report any warnings or business errors that occurred.
@Type	1	The Warning element MUST contain the Type attribute that uses a recommended set of values to indicate the warning type. The validating XSD can expect to accept values that it has NOT been explicitly coded for and process them by using Type = "Unknown". Refer to OpenTravel Code List Error Warning Type (EWT).
@Status	0..1	If present, recommended values are those enumerated in the OTA_ErrorRS, (NotProcessed Incomplete Complete Unknown) however, the data type is designated as string data, recognizing that trading partners may identify additional status conditions not included in the enumeration.
@ShortText	1	An abbreviated version of the error in textual format.
@Code	0..1	If present, this refers to a table of coded values exchanged between applications to identify errors or warnings. Refer to OpenTravel Code List Error Codes (ERR).
HTNG_HotelRoomStatusSearchR Q / Errors	0..1	A collection of errors that occurred during the processing of a message.
HTNG_HotelRoomStatusSearchR Q / Errors / Error	1..n	An error that occurred during the processing of a message.
@Type	1	The Error element MUST contain the Type attribute that uses a recommended set of values to indicate the error type. The validating XSD can expect to accept values that it has NOT been explicitly coded for and process them by using Type = "Unknown". Refer to OpenTravel Code List Error Warning Type (EWT).

Element @Attribute	Num	Description/Contents
@Status	0..1	If present, recommended values are those enumerated in the OTA_ErrorRS, (NotProcessed Incomplete Complete Unknown) however, the data type is designated as string data, recognizing that trading partners may identify additional status conditions not included in the enumeration.
@ShortText	1	An abbreviated version of the error in textual format.
@Code	0..1	If present, this refers to a table of coded values exchanged between applications to identify errors or warnings. Refer to OpenTravel Code List Error Codes (ERR).
HTNG_HotelRoomStatusSearchR S / RoomInformationList	0..1	The result set generated by the query sent in the request.
HTNG_HotelRoomStatusSearchR S / RoomInformationList / RoomInformation	1..n	A container element used to hold room and reservation information.
HTNG_HotelRoomStatusSearchR S / RoomInformationList / RoomInformation / Room	1	Used to convey information about a single room or a suite comprised of room components.
@RoomID	1	The room number.
HTNG_HotelRoomStatusSearchR S / RoomInformationList / RoomInformation / Room / Devices	0..1	A collection of Devices.
HTNG_HotelRoomStatusSearchR S / RoomInformationList / RoomInformation / Room / Devices / Device	1..n	Container element which holds information describing the device.
@ID	1	An identifier that is unique within the network.
@FriendlyName	0..1	A name used to identify a device in a room.
@Class	1	General classification of the device, i.e. HVAC, TelevisionIntegration, etc.
@Type	0..1	Specific classification of the device, i.e. Thermostat, SetTopBox, etc.

Element @Attribute	Num	Description/Contents
@Description	1	Text Description of the device.
HTNG_HotelRoomStatusSearchR S / RoomInformationList / RoomInformation / Room / Devices / Device / CurrentHealthStatus	1	Container element that contains the current operational status of the device.
@Value	1	The enumerated operational status of the device.
@Reason	0..1	Text description of the reason for the device operational status.

4.2 Guest Room Status Event Notification

4.2.1 Global Sample Message – Request

Element @Attribute	Num	Description/Contents
HTNG_HotelRoomStatusUpdateN otifRQ	1	Root element of the message.
@EchoToken	1	A reference for additional message identification, assigned by the requesting host system. When a request message includes an echo token, the corresponding response message MUST include an echo token with an identical value.
@TimeStamp	1	Indicates the creation date and time of the message in UTC using the following format specified by ISO 8601; YYYY-MM-DDThh:mm:ssZ with time values using the 24-hour clock (e.g., 20 November 2003, 1:59:38 pm UTC becomes 2003-11-20T13:59:38Z).
@Version	1	For all OpenTravel versioned messages, the version of the message is indicated by a decimal value.
HTNG_HotelRoomStatusUpdateN otifRQ / POS / Source	1	This holds details regarding the requestor. It may be repeated to also accommodate the delivery systems.
HTNG_HotelRoomStatusUpdateN otifRQ / POS / Source / RequestorID	1	An identifier of the entity making the request (e.g., ATA/IATA/ID number, Electronic Reservation Service Provider (ERSP), Association of British Travel Agents (ABTA)).

Element @Attribute	Num	Description/Contents
@Type	0..1	A reference to the type of object defined by the UniqueID element. Refer to OpenTravel Code List Unique ID Type (UIT).
@ID_Context	0..1	Used to identify the source of the identifier (e.g., IATA, ABTA).
@ID	1	A unique identifying value assigned by the creating system. The ID attribute may be used to reference a primary-key value within a database or in a particular implementation.
HotelRoomStatusUpdateNotifRQ / PropertyInfo	1	Identifies a specific hotel by using the Chain Code, the Brand Code, and the Hotel Code. The codes used are agreed upon by trading partners.
@HotelCode	1	The code that uniquely identifies a single hotel property. The hotel code is decided between vendors.
@BrandCode	0..1	A code that identifies the brand or flag of a hotel, often used for independently-owned or franchised properties who are known by a specific brand.
@ChainCode	0..1	The code that identifies a hotel chain or management group. The hotel chain code is decided between vendors. This attribute is optional if the hotel is an independent property that can be identified by the HotelCode attribute.
HotelRoomStatusUpdateNotifRQ / Room	1	Used to convey information about a single room or a suite comprised of room components.
@RoomID	1	The room number.
HotelRoomStatusUpdateNotifRQ / Room / Devices	1	A collection of Devices.
HotelRoomStatusUpdateNotifRQ / Room / Devices / Device	1..n	Container element which holds information describing the device.
@ID	0..1	An identifier that is unique within the network.
@FriendlyName	0..1	A name used to identify a device in a room.
@Description	1	Text Description of the device.
@Class	1	General classification of the device, ie HVAC, TelevisionIntegration, etc.

Element @Attribute	Num	Description/Contents
@Type	0..1	Specific classification of the device, ie Thermostat, SetTopBox, etc.
HotelRoomStatusUpdateNotifRQ / Room / Devices / Device / PriorHealthStatus	0..1	Container element that contains the previous operational status for the device.
@Value	1	The enumerated operational status of the device.
@Reason	0..1	Text description of the reason for the device operational status.
HotelRoomStatusUpdateNotifRQ / Room / Devices / Device / CurrentHealthStatus	1	Container element that contains the current operational status of the device.
@Value	1	The enumerated operational status of the device.
@Reason	0..1	Text description of the reason for the device operational status.

4.2.2 Global Sample Message – Response

Element @Attribute	Num	Description/Contents
HTNG_HotelRoomStatusUpdate NotifRS	1	Root element of the message.
@EchoToken	1	A reference for additional message identification, assigned by the requesting host system. When a request message includes an echo token, the corresponding response message MUST include an echo token with an identical value.
@TimeStamp	1	Indicates the creation date and time of the message in UTC using the following format specified by ISO 8601; YYYY-MM-DDThh:mm:ssZ with time values using the 24-hour clock (e.g., 20 November 2003, 1:59:38 pm UTC becomes 2003-11-20T13:59:38Z).
@Version	1	For all OpenTravel versioned messages, the version of the message is indicated by a decimal value.
@Target	0..1	Used to indicate whether the request is for the Test or Production system.

Element @Attribute	Num	Description/Contents
HTNG_HotelRoomStatusUpdate NotifRS / Success	0..1	The presence of the empty Success element explicitly indicates that the OpenTravel versioned message succeeded.
HTNG_HotelRoomStatusUpdate NotifRS / Warnings	0..1	Used in conjunction with the Success element to define one or more business errors.
HTNG_HotelRoomStatusUpdate NotifRS / Warnings / Warning	1..n	Used when a message has been successfully processed to report any warnings or business errors that occurred.
@Type	1	The Warning element MUST contain the Type attribute that uses a recommended set of values to indicate the warning type. The validating XSD can expect to accept values that it has NOT been explicitly coded for and process them by using Type = "Unknown". Refer to OpenTravel Code List Error Warning Type (EWT).
@Status	0..1	If present, recommended values are those enumerated in the OTA_ErrorRS, (NotProcessed Incomplete Complete Unknown) however, the data type is designated as string data, recognizing that trading partners may identify additional status conditions not included in the enumeration.
@ShortText	1	An abbreviated version of the error in textual format.
@Code	0..1	If present, this refers to a table of coded values exchanged between applications to identify errors or warnings. Refer to OpenTravel Code List Error Codes (ERR).
HTNG_HotelRoomStatusUpdate NotifRS / Errors	0..1	A collection of errors that occurred during the processing of a message.
HTNG_HotelRoomStatusUpdate NotifRS / Errors / Error	1..n	An error that occurred during the processing of a message.
@Type	1	The Error element MUST contain the Type attribute that uses a recommended set of values to indicate the error type. The validating XSD can expect to accept values that it has NOT been explicitly coded for and process them by using Type = "Unknown". Refer to OpenTravel Code List Error Warning Type (EWT).

Element @Attribute	Num	Description/Contents
@Status	0..1	If present, recommended values are those enumerated in the OTA_ErrorRS, (NotProcessed Incomplete Complete Unknown) however, the data type is designated as string data, recognizing that trading partners may identify additional status conditions not included in the enumeration.
@ShortText	1	An abbreviated version of the error in textual format.
@Code	0..1	If present, this refers to a table of coded values exchanged between applications to identify errors or warnings. Refer to OpenTravel Code List Error Codes (ERR).

5 Appendices

5.1 Referenced Documents

The following table shows the documents upon which this document depends:

Document Title	Location/URL
HTNG Device Messaging Structure (DMS) Specification	http://collaboration.htng.org/inroom.ici/protected/document.s.php?action=show&dcat=10&gdid=23121
HTNG Guest & Room Status Messaging (GRSM) Specification 2.0	http://collaboration.htng.org/specs/documents.php?action=show&dcat=42&gdid=23699
HTNG Protocol & Message Transport (PMT) Event Notification Specification	http://collaboration.htng.org/specs/documents.php?action=show&dcat=35&gdid=23182
OpenTravel Alliance Specifications	http://opentravel.org/Specifications/Default.aspx