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DEVICE INFORMATION SERVICE

Abstract:

This service exposes manufacturer and/or vendor information about a device.

Revision History

Revision	Date(yyyy-mm-dd)	Comments
D09r00	2010-11-22	Initial Draft from Health Device Information UCRDD. Incorporated feedback from MindTree and Socket Mobile.
D09r02	2010-12-08	Version used for IOP.
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D11r01	2011-09-29	Per BARB, restore mandate this service as primary
D11r02	2011-10-03	Internal draft
D11r03	2011-10-04	BARB Submission Draft
D11r04	2011-10-05	Address first of BARB comments (LE removal)
D11r05	2011-10-13	Put in HID PnP value into 1.1 per GPA discussion
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Document Terminology

The Bluetooth SIG has adopted Section 13.1 of the IEEE Standards Style Manual, which dictates use of the words “shall”, “should”, “may”, and “can” in the development of documentation, as follows:

The word *shall* is used to indicate mandatory requirements strictly to be followed in order to conform to the standard and from which no deviation is permitted (*shall* equals *is required to*).

The use of the word *must* is deprecated and shall not be used when stating mandatory requirements; *must* is used only to describe unavoidable situations.

The use of the word *will* is deprecated and shall not be used when stating mandatory requirements; *will* is only used in statements of fact.

The word *should* is used to indicate that among several possibilities one is recommended as particularly suitable, without mentioning or excluding others; or that a certain course of action is preferred but not necessarily required; or that (in the negative form) a certain course of action is deprecated but not prohibited (*should* equals *is recommended that*).

The word *may* is used to indicate a course of action permissible within the limits of the standard (*may* equals *is permitted*).

The word *can* is used for statements of possibility and capability, whether material, physical, or causal (*can* equals *is able to*).

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1 Introduction

The Device Information Service exposes manufacturer and/or vendor information about a device.

1.1 Conformance

If a device claims conformance to this service, all capabilities indicated as mandatory for this service shall be supported in the specified manner (process-mandatory). This also applies for all optional and conditional capabilities for which support is indicated. All mandatory capabilities, and optional and conditional capabilities for which support is indicated, are subject to verification as part of the *Bluetooth* qualification program.

1.2 Service Dependency

This service is not dependent upon any other services.

1.3 Bluetooth Specification Release Compatibility

This service is compatible with any *Bluetooth* core specification host [\[1\]](#) that includes the Generic Attribute Profile (GATT).

1.4 GATT Sub-Procedure Requirements

This service does not have any GATT Sub-Procedure requirements.

1.5 Transport Dependencies

This service may use GATT over an LE, BR/EDR, or HS transport.

1.6 Error Codes

This service does not define any application error codes.

2 Service Declaration

The Device Information Service shall be instantiated as a «Primary Service».

Only one instance of the Device Information Service shall be exposed on a device.

The service UUID shall be set to «Device Information». The UUID value assigned to «Device Information» is defined in [\[1\]](#).

3 Service Characteristics

The Device Information Service may expose one or more of the characteristics shown in [Table 3.1](#). It is possible that none of the characteristics below are included. Unless otherwise specified, only one instance of each characteristic shall be present.

Characteristic Name	Characteristic Qualifier	Mandatory Properties	Optional Properties	Security Permissions
Manufacturer Name String	O	Read		None
Model Number String	O	Read		None
Serial Number String	O	Read		None
Hardware Revision String	O	Read		None
Firmware Revision String	O	Read		None
Software Revision String	O	Read		None
System ID	O	Read		None
IEEE 11073-20601 Regulatory Certification Data List	O	Read		None
PnP ID	O	Read		None

Table 3.1: Device Information Service characteristics

Notes:

- Security Permissions of “None” means that this service does not impose any requirements.
- Properties not listed as Mandatory or Optional are Excluded.

3.1 Manufacturer Name String

The Manufacturer Name String characteristic shall represent the name of the manufacturer of the device.

3.1.1 Characteristic Behavior

The Manufacturer Name String characteristic returns its value when read using the *GATT Characteristic Value Read* procedure.

3.2 Model Number String

The Model Number String characteristic shall represent the model number that is assigned by the device vendor.

3.2.1 Characteristic Behavior

The Model Number String characteristic returns its value when read using the *GATT Characteristic Value Read* procedure.

3.3 Serial Number String

The Serial Number String characteristic shall represent the serial number for a particular instance of the device.

3.3.1 Characteristic Behavior

The Serial Number String characteristic returns its value when read using the GATT *Characteristic Value Read* procedure.

3.4 Hardware Revision String

The Hardware Revision String characteristic shall represent the hardware revision for the hardware within the device.

3.4.1 Characteristic Behavior

The Hardware Revision String characteristic returns its value when read using the GATT *Characteristic Value Read* procedure.

3.5 Firmware Revision String

The Firmware Revision String characteristic shall represent the firmware revision for the firmware within the device.

3.5.1 Characteristic Behavior

The Firmware Revision String characteristic returns its value when read using the GATT *Characteristic Value Read* procedure.

3.6 Software Revision String

The Software Revision String characteristic shall represent the software revision for the software within the device.

3.6.1 Characteristic Behavior

The Software Revision String characteristic returns its value when read using the GATT *Characteristic Value Read* procedure.

3.7 System ID

The System ID characteristic shall represent a structure containing an Organizationally Unique Identifier (OUI) followed by a manufacturer-defined identifier and is unique for each individual instance of the product.

3.7.1 Characteristic Behavior

The System ID characteristic returns its value when read using the GATT *Characteristic Value Read* procedure.

3.8 IEEE 11073-20601 Regulatory Certification Data List

The IEEE 11073-20601 Regulatory Certification Data List characteristic shall represent regulatory and certification information for the product in a list defined in IEEE 11073-20601 [3].

3.8.1 Characteristic Behavior

The IEEE 11073-20601 Regulatory Certification Data List characteristic returns its value when read using the GATT *Characteristic Value Read* procedure.

3.9 PnP ID

The PnP_ID characteristic is a set of values that shall be used to create a device ID value that is unique for this device. Included in the characteristic are a Vendor ID source field, a Vendor ID field, a Product ID field, and a Product Version field. These values are used to identify all devices of a given type/model/version using numbers.

3.9.1 Characteristic Behavior

The PnP_ID characteristic returns its value when read using the GATT *Characteristic Value Read* procedure.

3.9.1.1 Vendor ID Source Field

The Vendor ID Source field designates which organization assigned the value used in the Vendor ID field value.

The possible values are defined in [Table 3.2](#).

Value	Description
0x01	Bluetooth SIG- assigned Device ID Vendor ID value from the Assigned Numbers document [2]
0x02	USB Implementer's Forum assigned Vendor ID value
0x00, 0x03-0xFF	Reserved for future use

Table 3.2: Vendor ID source field values

3.9.1.2 Vendor ID Field

The Vendor ID field is intended to uniquely identify the vendor of the device. This field is used in conjunction with Vendor ID Source field, which determines which organization assigned the Vendor ID field value.

Note: The Bluetooth Special Interest Group assigns Device ID Vendor ID, and the USB Implementer's Forum assigns Vendor IDs, either of which can be used for the Vendor ID field value. Device providers should procure the Vendor ID from the USB Implementer's Forum or the Company Identifier from the Bluetooth SIG.

3.9.1.3 Product ID Field

The Product ID field is intended to distinguish between different products made by the vendor identified with the Vendor ID field.

The vendors themselves manage Product ID field values.

3.9.1.4 Product Version Field

The Product Version field is a numeric expression identifying the device release number in Binary-Coded Decimal. This is a vendor-assigned value, which defines the version of the product identified by the Vendor ID and Product ID fields. This field is intended to

differentiate between versions of products with identical Vendor IDs and Product IDs. The value of the field value is 0xJJMN for version JJ.M.N (JJ – major version number, M – minor version number, N – sub-minor version number); e.g., version 2.1.3 is represented with value 0x0213 and version 2.0.0 is represented with a value of 0x0200. When upward-compatible changes are made to the device, it is recommended that the minor version number be incremented. If incompatible changes are made to the device, it is recommended that the major version number be incremented. The sub-minor version is incremented for bug fixes.

The vendors themselves manage Product Version field values.

4 SDP Interoperability

If this service is exposed over BR/EDR then it shall have the following SDP record.

Item	Definition	Type	Value	Status
Service Class ID List				M
Service Class #0		UUID	«Device Information»	M
Protocol Descriptor List				M
Protocol #0		UUID	L2CAP	M
Parameter #0 for Protocol #0	PSM	Uint16	PSM = ATT	M
Protocol #1		UUID	ATT	M
Parameter #0 for Protocol #1	GATT Start Handle	Uint16		M
Parameter #1 for Protocol #1	GATT End Handle	Uint16		M
BrowseGroupList			PublicBrowseRoot*	M

Table 4.1: SDP Record

* PublicBrowseRoot shall be present; however, other browse UUIDs may also be included in the list.

5 Acronyms and Abbreviations

Acronyms and Abbreviations	Meaning
ATT	Attribute Protocol
BR/EDR	Basic Rate / Enhanced Data Rate
GAP	Generic Access Profile
GATT	Generic Attribute Profile
HS	High Speed
LE	Low Energy
OUI	Organizationally Unique Identifier
PnP	Plug and Play
UUID	Universally Unique Identifier

Table 5.1: Acronyms and Abbreviations

6 References

- [1] *Bluetooth* Core Specification v4.0
- [2] Characteristic descriptions are accessible via the [Bluetooth SIG Assigned Numbers](#).
- [3] IEEE Std 11073-20601™ - 2008 Health Informatics - Personal Health Device Communication - Application Profile - Optimized Exchange Protocol - version 1.0 or later