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| Project | **IEEE 802.21b**  **<https://mentor.ieee.org/802.21>** |
| Title | **Suggested Remedies for 802.21b: New Network Types need to be defined** |
| DCN | **21-11-0080-00-bcst** |
| Date Submitted | **16/05/2011** |
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| Re: |  |
| Abstract | IEEE 802.21b extends IEEE 802.21 to handle DO technologies such as DVB, T-DMB and ATSC-M/H. This technologies are not defined as Network Types |
| Purpose | Proposes changes in the current draft |
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**Suggested Changes:**

**This contribution also updates table F.14 and tables derived from it with the latest version of the RADIUS NAS-Port Type mapping.**

**Change Table F.14 in the following way:**

|  |  |  |
| --- | --- | --- |
| **Network** | **Link type** | **Network subtype** |
| (*Reserved*) | 0 | N/A |
| Wireless - GSM | 1 | N/A |
| Wireless - GPRS | 2 | N/A |
| Wireless - EDGE | 3 | N/A |
| (*Reserved*) | 4-14 | N/A |
| Ethernet - IEEE 802.3 | 15 | Bit 0: 10 Mb  Bit 1: 100 Mb  Bit 2: 1000 Mb  Bit 3ñ–63: (Reserved)  The above bits represent the link speeds that Ethernet supports.  The capability information of twisted pair Ethernet link can be  obtained via auto-negotiation as defined in Clause 28 of IEEE Std  802.3. |
| (*Reserved*) | 16-17 | N/A |
| Wireless - Other | 18 | Bit 0: DVB  Bit 1: T-DMB  Bit 2: ATSC-M/H |
| Wireless - IEEE 802.11 | 19 | Bit 0: 2.4 GHz  Bit 1: 5 GHz  Bit 2: 4.9 GHz  Bit 3: 3.65 GHz  Bit 4: 316 THz  Bit 5-63 (Reserved)  The above bits represent the frequency band that IEEE 802.11  link supports. The capability information and extended capabilities  information of IEEE 802.11 link can further be represented  as defined in 7.3.1.4 and 7.3.2.27, respectively, of IEEE Std  802.11-2007. |
| (*Reserved*) | 20-21 | N/A |
| Wireless - CDMA2000 | 22 | N/A |
| Wireless - UMTS | 23 | Bit 0: Rel-99  Bit 1: Rel-4  Bit 2: Rel-5 (w/ HSDPA)  Bit 3: Rel-6 (w/ HSUPA)  Bit 4: Rel-7 (MIMO/OFDM)  Bit 5: Rel-8  Bit 6ñ–63: (Reserved) |
| Wireless - cdma2000-HRPD | 24 | Bit 0: Rev-0  Bit 1: Rev-A  Bit 2: Rev-B  Bit 3: Rev-C  Bit 4ñ–63: (Reserved) |
| (*Reserved*) | 25-26 | N/A |
| Wireless - IEEE 802.16 | 27 | Bit 0: 2.5 GHz  Bit 1: 3.5 GHz  Bit 2-63: (Reserved)  The above bits represent the frequency band that IEEE 802.16  link supports. The system profiles of IEEE 802.16 link can further  be represented as defined in clause 12 (12.3 and 12.4) of  IEEE Std 802.16e-2005. |
| Wireless - IEEE 802.20 | 28 | N/A |
| Wireless - IEEE 802.22 | 29 | N/A |
| (*Reserved*) | 30-35 | N/A |
| Wireless-XGP | 36 | N/A |
| (*Reserved*) | 37-255 | N/A |

NOTE- The Link type values in Table F.14 are deliberately made consistent with RADIUS network access server (NAS)-Port-Type definitions as specified by Internet Assigned Numbers Authority (IANA).

NOTE: The DO technologies which do not have associated any RADIUS NAS-Port-Type are indicated through a subtype of Wireless-Other.

Change table F.15 as:

|  |  |  |
| --- | --- | --- |
| **Network** | **Link type** | **Network subtype** |
| NET\_TYPE\_INC | BITMAP(32) | A type to represent a set of link types.  The value is a four octet bitmap:  Bit 0: Wireless - GSM  Bit 1: Wireless - GPRS  Bit 2: Wireless - EDGE  Bit 3: IEEE 802.3 (Ethernet)  Bit 4: Wireless - Other  Bit 5: Wireless - IEEE 802.11  Bit 6: Wireless - CDMA2000  Bit 7: Wireless - UMTS  Bit 8: Wireless - cdma2000-HRPD  Bit 9: Wireless - IEEE 802.16  Bit 10: Wireless - IEEE 802.20  Bit 11: Wireless - IEEE 802.22  Bit 12: Wireless-DVB  Bit 13: Wireless-DMB  Bit 14: Wireless-ATSC-M/H  Bit 15–31: (*Reserved AND shall be always set to 0*) |