**IEEE P802.15**

**Wireless Personal Area Networks**

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| Project | IEEE P802.15 Working Group for Wireless Personal Area Networks (WPANs) | |
| Title | 802.15 TG10 (L2R) Comment Resolution for CIDs #2130, #2340, #2345 | |
| Date Submitted | [20 January, 2016] | |
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| Re: | [TG10 (L2R) comment resolution.] | |
| Abstract | Comment Resolution for comments CIDs #2130, #2340, #2345 related to metric definitions and mesh configuration parameters | |
| Purpose | [TG10 (L2R) comment resolution to produce next draft.] | |
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**Comments #2130, #2340, #2345**

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| 2130 | Jussi Haapola | Centre for Wireless Communications / University of Oulu | 30 | 5.2.2.2 | 29 - 32 | The text leaves a lot for interpretation. Since the unit is .001 and the length is two octets, does this mean that the entire path ETX count maxes out at 65.535 (sixty five plus change) hops? | Describe the relation between the unit and the length field unambiguously. |
| 2340 | Verotiana Rabarijaona | NICT | 107 | 7.3 | 6 | Should "l2rDefaultTTL" and "l2rDefaultRL" be set per device or per mesh? | Move to table 48 if set per device |
| 2345 | Jussi Haapola | Centre for Wireless Communications / University of Oulu | 29 - 30 | 5.2.2.1 | all | The described algortihm does not really function as intended. The intention according to 2) is that the metric should rapidly increase with decrasing singal strength. However, as power factor 8 is used on a number between (0,1), the result heavily tends toward 0 rather than 1. As a result, the \mu(P) heavily tends to MinRSW rather than MaxRSW. | Change calculation of P = (Pmeas - Pmin) / (Pmax - Pmin) and then \mu0(P) = 1 - P^8. |

**CID 2130:**

In order to increase the useful range of ETX, the precision of the metric can be reduced. Instead of counting in units of .001, it is proposed to count in units of .01. This increases the maximum value of the metric to something over 655. This modification does not affect the frequent outcome that ETX will produce routing decisions very similar to using the hop count metric.

**Resolution: Accept with revision**

* **Replace the following text on page 31, line 29 of 5.2.2.2**

~~.001~~ .01

* **Replace the following text on page 30, line 32 of 5.2.2.2**

~~Expected transmission count~~

**CID 2340:**

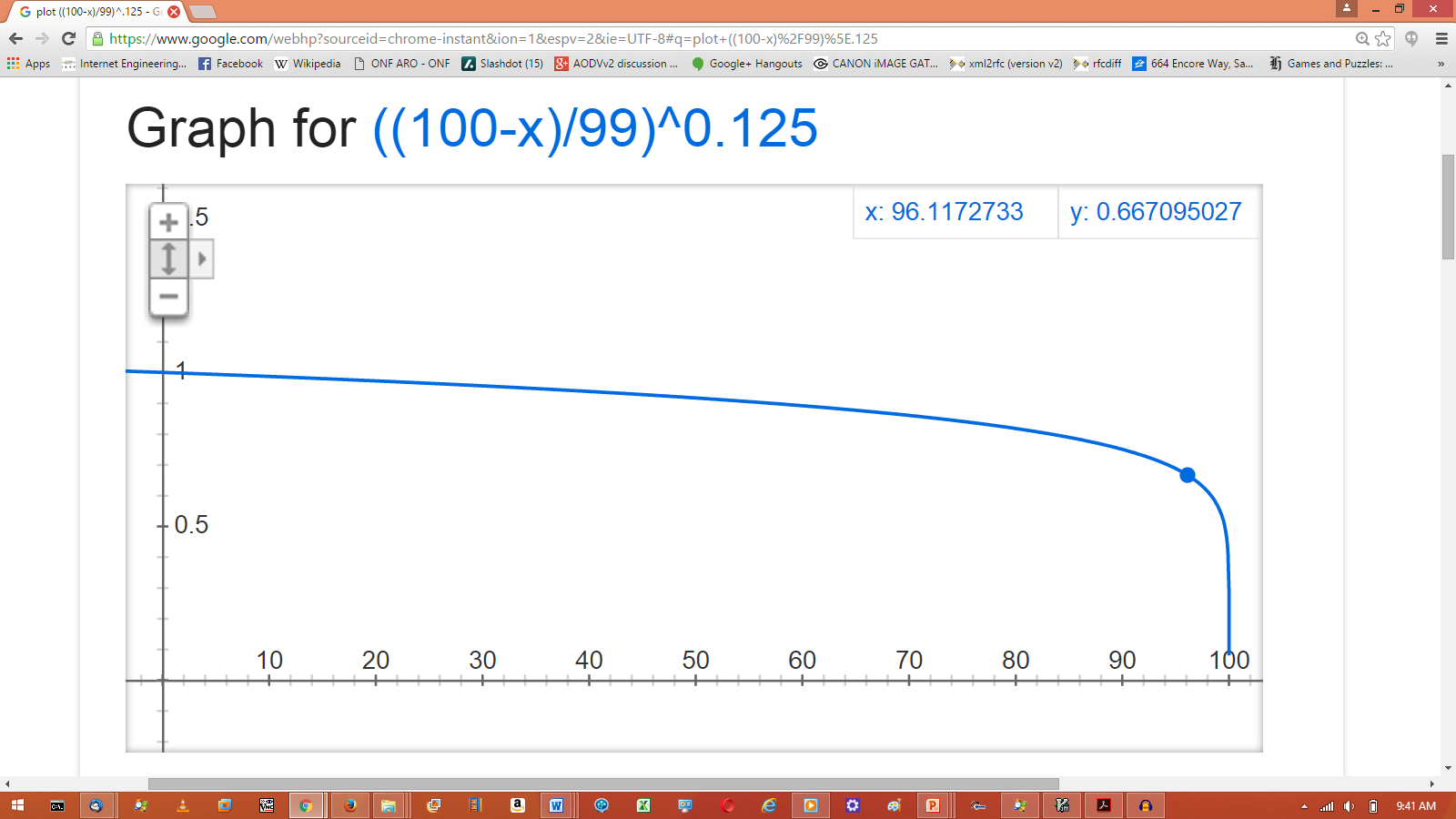
**Resolution: Accept**

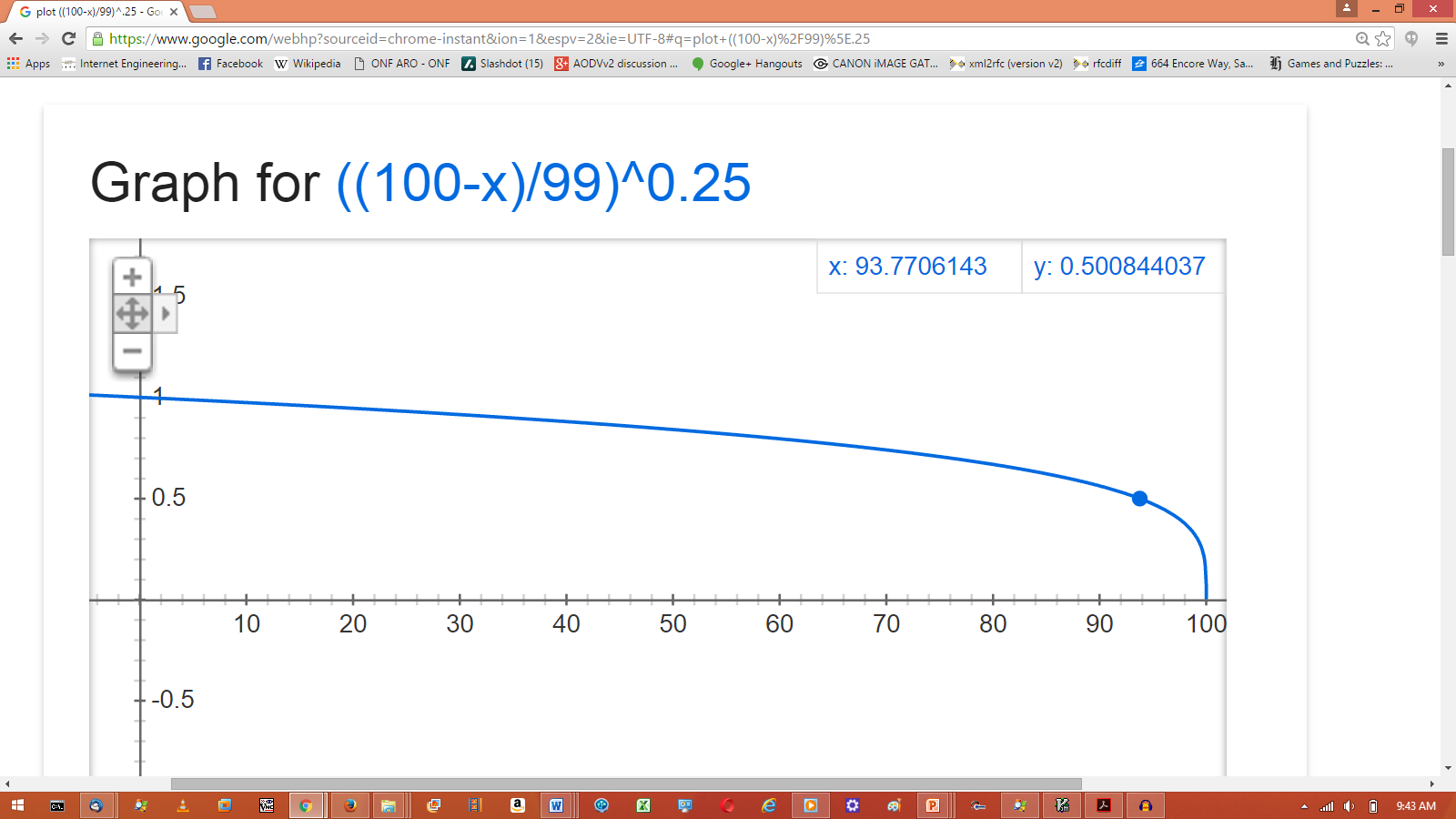
* **Move the rows containing** *l2rDefaultTTL* **and** *l2rDefaultRL***from table 49 to table 48**

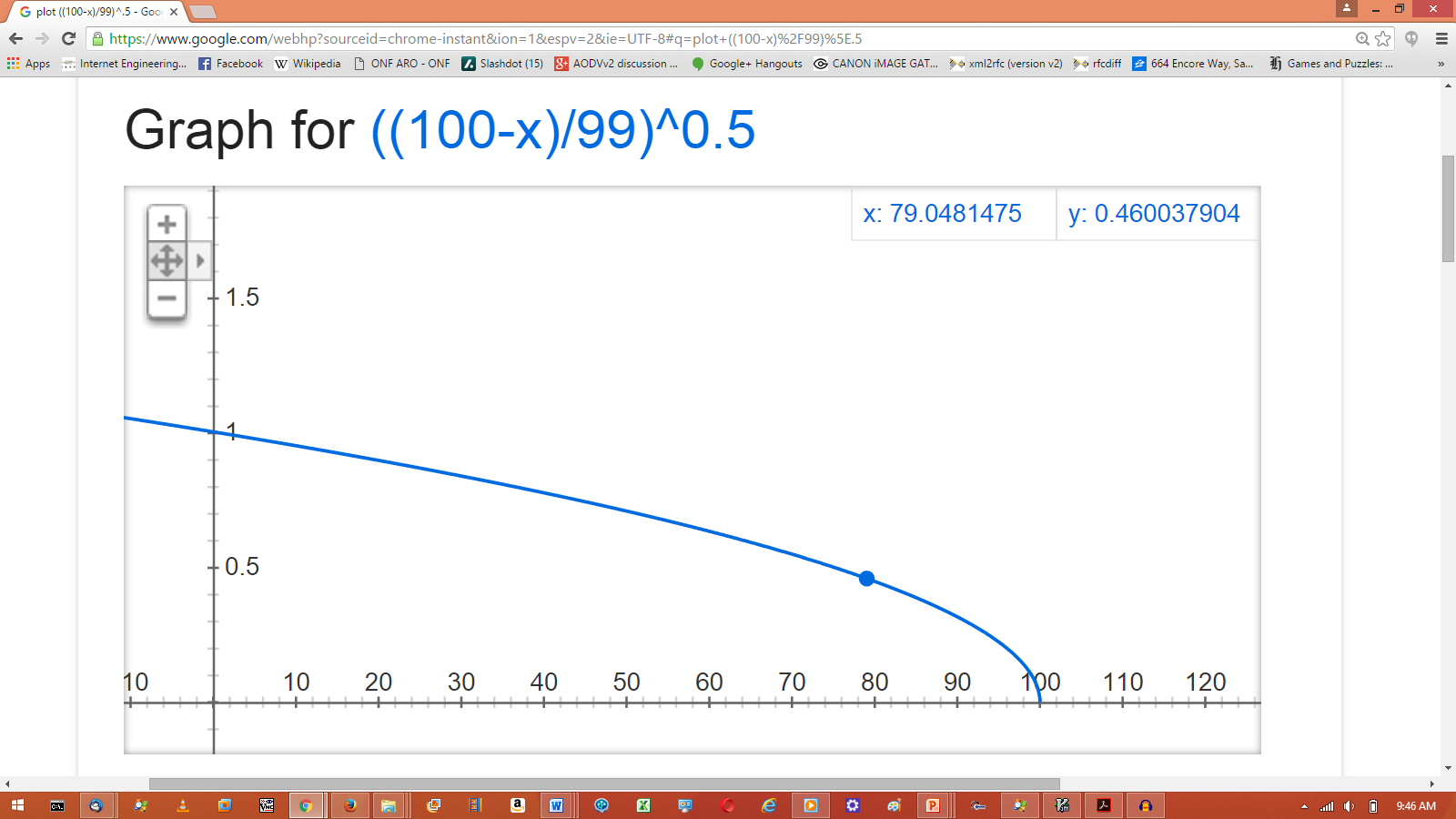
**CID 2345:**

The original formulation does not have the preferred dependence on signal strength. The intended design suggests that even moderately weak signals should be strongly disfavored. In other words, as *P*meas increases from *P*min to *P*max, the metric value should decrease, slowly at first, from its maximum value *MaxRSW* to its minimum value *MinRSW*. The normalizing equation on line 4 does allow strong signals to produce computed values near *MinRSW*.

Using *P*min=1 and *P*max=100, graphs here are shown in the normalized range (0,1).







Also, note that the shape of the RSW metric is not exponential.

**Resolution: Accept with revision**

* **Replace the following text at page 29, line 35 of 5.2.2.1**

RSW value increases ~~exponentially~~ rapidly

* **Add “1/“ to the text at page 30, line 9 of 5.2.2.1, as shown**

*P*1/8