

Project: IEEE P802.15 Working Group for Wireless Personal Area Networks (WPANs)

Submission Title: [Comment resolution for CTA and TU resolution ]

Date Submitted: [March 18, 2007]

Source: [Zhou LAN<sup>(1)</sup>, Chang-Woo Pyo, Fumihide Kojima, Hiroyuki Nakase, Shuzo Kato]

Company [National Institute of Information and Communications Technology (NICT)]

Address<sup>1</sup>[3-4 Hikari-no-oka, Yokosuka-shi, Kanagawa 239-0847, Japan]

Voice<sup>1</sup>:[] , FAX<sup>1</sup>: []

E-Mail<sup>1</sup>:[lan@nict.go.jp]

Re: [In response to TG3c comments (IEEE P802.15-08-0020-05-003c)]

Abstract: [Comment resolutions]

Purpose: [To be considered in TG3C baseline document.]

Notice: This document has been prepared to assist the IEEE P802.15. It is offered as a basis for discussion and is not binding on the contributing individual(s) or organization(s). The material in this document is subject to change in form and content after further study. The contributor(s) reserve(s) the right to add, amend or withdraw material contained herein.

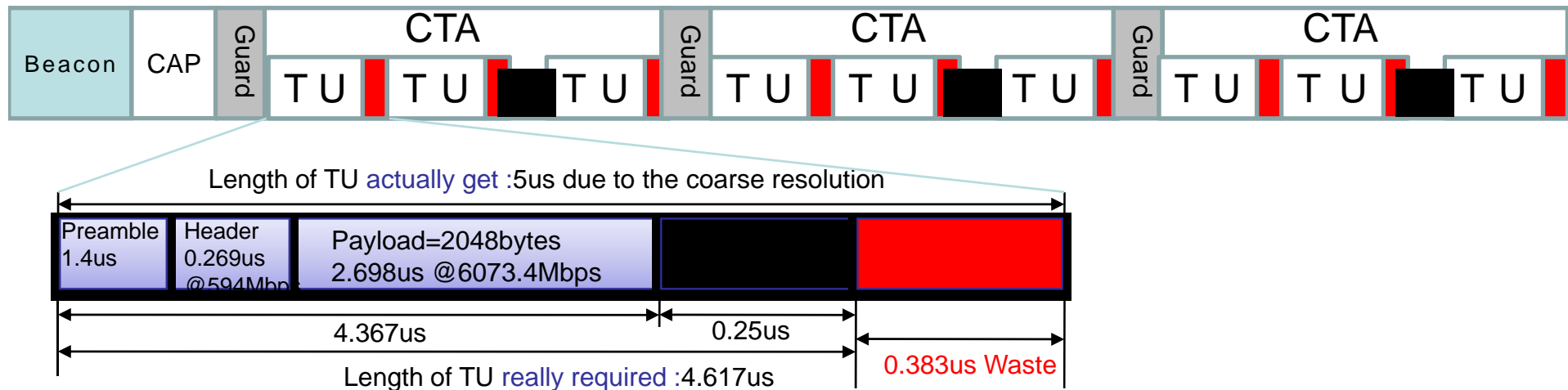
Release: The contributors acknowledge and accept that this contribution becomes the property of IEEE and may be made publicly available by P802.15.

# comment #58

- Comment
  - Do we need higher resolution for the CTA timing and/or the TUs in channel time request
- Answer
  - For CTA timing, higher resolution is not needed
  - For TU resolution, it is suggested to put one sentence at the end of section 8.4.3.7 saying “ It is recommended to use the calculation method as defined in Figure 113 for better CTA efficiency”

# Throughput improvement by high resolution TU

- Assuming 2Kbytes data frame transmission at 6Gbps, 14% throughput improvement can be achieved if TU resolution is changed to 160ns (10% time of per frame transmission is wasted due to coarse TU resolution (1us) )



This **is to** illustrate TU calculation method defined in section 8.4.3.7 of 802.15.3.  
**Not to** illustrate the frame transmission in which frames can be put back to back with MIFS or SIFS in between

# Overhead in beacon to support high resolution TU

- Overhead for increased resolution is negligible
  - Less than 1% superframe time is paid (Only need to extend 10.9 % beacon length to support up to 256 DEVs )

