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Title:	G.Fast: Proposal to solve inconsistent terminology

Abstract

Inconsistent terminology can be seen in the various items in the G.Fast issues list [1] and the corresponding contributions. We plead for a common terminology that corresponds to the agreed functional reference model for G.Fast [2]. For this purpose we propose a number of basic terms to be adopted in the G.Fast working text and G.Fast issues list.

1. Problem description

With the agreement on the functional and protocol reference model (Alcatel 2012-06-4A-038R1, [2] and Lantiq 2012-07-4A-040 [3]) an important step in the development of the G.Fast standard has been made. What still lacks at this point is however a clear and common terminology which easily leads to an inconsistent use of terminology and possible misunderstandings.

This gets apparent under Item 2.1 of the G.Fast Issues list [1] in which the operator requirements are specified regarding the number of ports to be supported by an FTU-O module. For instance Item 2.1.2.3 [1] asks for modularity of the 'FTU-O node' but does it refer to an 'Access Node' or to a 'FTU-O module'? When looking at some other contributions it can be observed that in some case different designations are used for the same entity, for instance: 'node', 'access node', 'G.Fast access node' or 'G.Fast Distribution Point'.

Under Item 3 of the G.Fast issues list [1] the necessity of having clear definitions has been acknowledged and initial inputs been made to come to a common terminology [4, 5]. This item requires however further attention since for the work on the G.Fast standard a general terminology will prove to be very helpful.

With this contribution, we propose a number of basic terms to be adopted in the G.Fast working text and G.Fast issues list.

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2. Proposed solution

In order to come to a general understanding some basic terminology is proposed that corresponds to the functional reference model for G.Fast that has been agreed (G.Fast Issue 6.5.4.1 [1], 2012-06-4A-038R1 [2]). For illustration a simplified representation of the G.Fast functional reference model is shown in Figure 1, to which an initial set of terms proposed in this contribution is related.
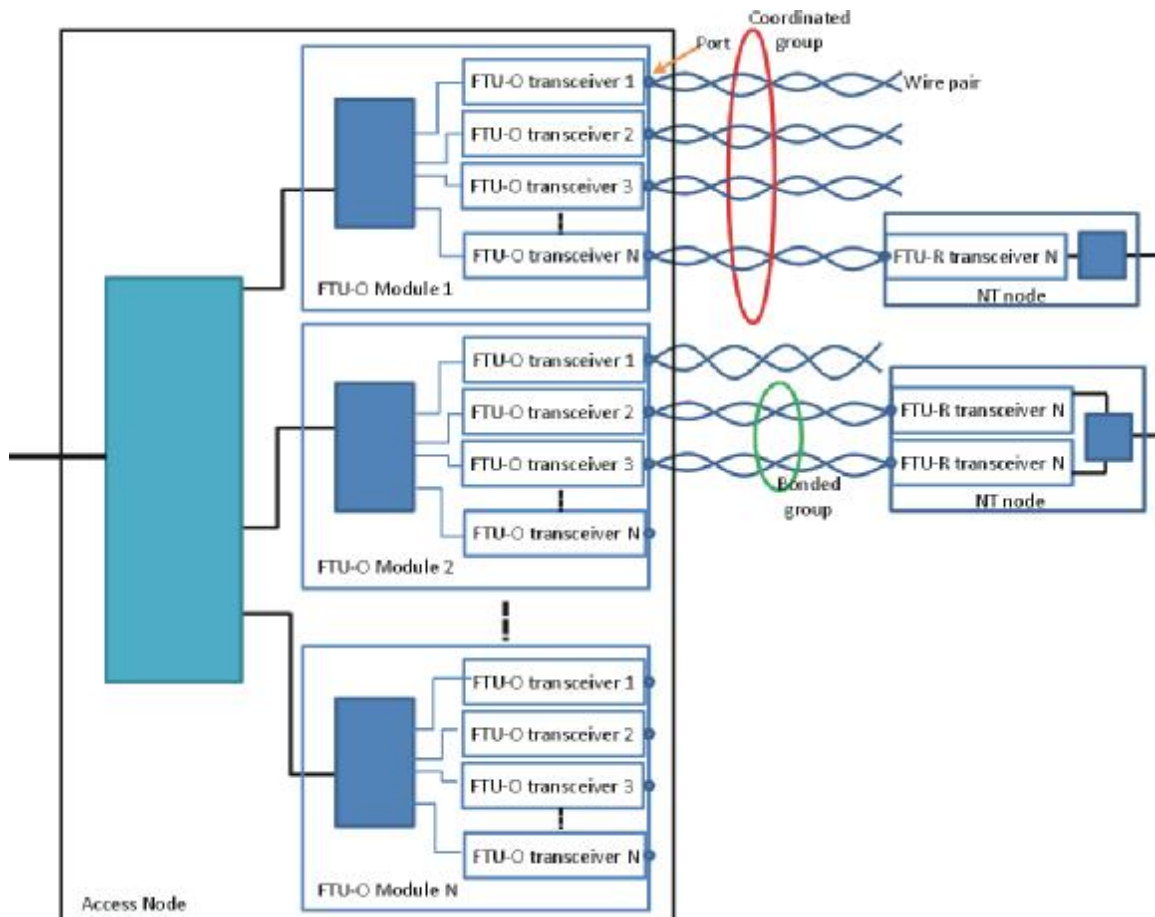

Figure 1 Simplified functional reference model for G.Fast

3. Proposed terminology

Port: The terminal of a device to which a single wire pair can be connected. When N wire pairs are to be connected to a device, consequently this will require N ports.

FTU-R transceiver: The component at an end user location that transmits and receives G.Fast signals.

FTU-O transceiver: The component that transmits G.Fast signals to and receives G.Fast signals from the FTU-R through a single port. Thus when a device is equipped with N ports, it requires N FTU-O transceivers to serve these ports.

FTU-O module: a set of one or more FTU-O transceivers that are _all_ under coordination of a common timing control entity (TCE). If vectoring is implemented, _all_ FTU-O transceivers in the same FTU-O module are under coordination of a common vectoring control entity (VCE) as well.

Coordinated group: All wire pairs that are connected to the ports of the same FTU-O module. If vectoring is implemented, it is consequently implemented for *all* wire pairs of a coordinated group.

Bonded group: A set of two or more wire pairs from the same coordinated group, that are under coordination of a common bonding control entity (BCE), and serve the same NT node. A coordinated group may contain multiple bonded groups, and it is not required that bonding is implemented for all wire pairs in a coordinated group.

NT Node: the composition of one or more FTU-R modules at the same end user location. If bonding is implemented, all wire pairs to the ports of an NT node belong to the same bonded group.

Access Node: the composition of one or more FTU-O modules combined with and interconnection to the optical network. The interconnection to multiple fibers is not excluded

Abbreviations

FTU-O   Fast Termination Unit at the ONU

FTU-R   Fast Termination Unit at the Remote site

BCE   Bonding Control Entity

VCE   Vectoring Control Entity

TCE   Timing Control Entity

4. Summary

1. This paper should be presented at the G.Fast session and relates to issue 3.2 of the G.Fast issues list 2012-07-4A-U20R1.

2. This paper proposes to agree on the following issues:

3.2	Open	Should the terminology proposed for 'Port', 'FTU-R transceiver', 'FTU-O transceiver', 'FTU-O module', 'Coordinated group', 'Bonded group', 'NT node' and 'Access Node' as specified in Section 3 of contribution COM15-C2289-E be adopted in G.Fast?	COM15-C2289-E 2012 -06-4A-039
3.x	Open	Should all the wording in the G.Fast working text and the G.Fast issues list be updated according to the terminology proposed in contribution COM15-C2289-E , so that it becomes unambiguous to what has been agreed or requested?	COM15-C2289-E

4 References

[1]   "G.Fast: Updated Issues List for G.Fast", Temporary Document 2012-07-4A-U20R1, Les Brown, Associated Raporteur for G.Fast

[2]   "G.Fast: Reference model for G.Fast", Temporary Document 2012-06-4A-038R1, Alcatel-Lucent

[3]   "G.Fast: Functional model of an FTU", Temporary Document 2012-07-4A-040, Lantiq

[4]   "G.Fast: Proposed terms and acronyms tables", Temporary Document 11BM-073, Marvell Semiconductor, INc., 20-24 June 2011

[5]   "G.Fast: KPN requirements for G.Fast", Temporary Document 2012-06-4A-39, KPN, TNO

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