(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
2 December 2004 (02.12.2004)

PCT

(10) International Publication Number
WO 2004/105279 A3

(51) International Patent Classification[7]: H04J 3/16

(21) International Application Number:
PCT/US2004/014562

(22) International Filing Date: 10 May 2004 (10.05.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
10/441,771 19 May 2003 (19.05.2003) US

(71) Applicant *(for all designated States except US)*: **INTEL CORPORATION** [US/US]; (a Delaware Corporation), 2200 Mission College Boulevard, Santa Clara, CA 95052 (US).

(72) Inventors: **OVADIA, Shlomo**; 1576 Willow Oaks Drive, San Jose, CA 95125 (US). **MACIOCCO, Christian**; 16322 SW Stahl Drive, Tigard, OR 97223 (US).

(74) Agent: **MALLIE, Michael, J.**; Blakely, Sokoloff, Taylor & Zafman, 7th Floor, 12400 Wilshire Boulevard, Los Angeles, CA 90025 (US).

(81) Designated States *(unless otherwise indicated, for every kind of national protection available)*: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

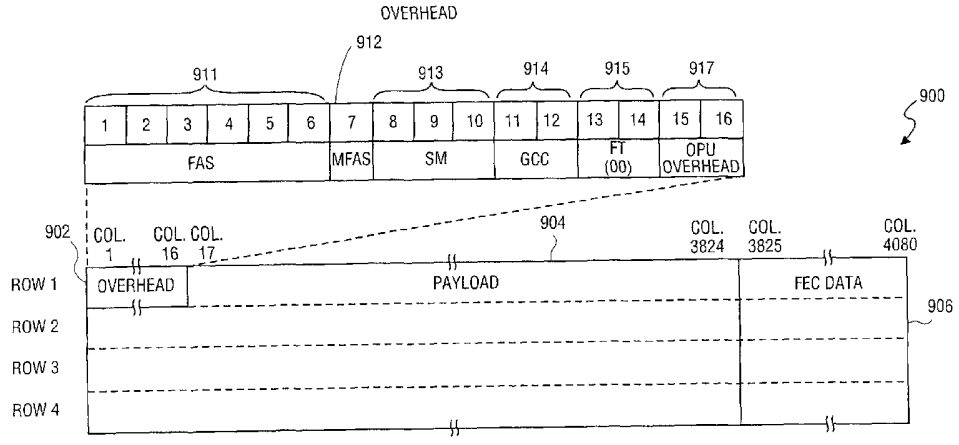
(84) Designated States *(unless otherwise indicated, for every kind of regional protection available)*: ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:
— *with international search report*

(88) Date of publication of the international search report:
17 March 2005

[Continued on next page]

(54) Title: ARCHITECTURE AND METHOD FOR FRAMING OPTICAL CONTROL AND DATA BURSTS WITHIN OPTICAL TRANSPORT UNIT STRUCTURES IN PHOTONIC BURST-SWITCHED NETWORKS



(57) Abstract: An optical network, which includes edge and switching nodes, optically communicate information formatted into bursts that are included in one or more optical channel transport unit (OTU) frames that are based on ITU-T recommendation G.709. The overhead portion of the OTU frame can include all of the fields defined in the G.709 standard, except that the two reserved bits are used to define an OTU frame type. When the FEC function is not used, the OTU frame can be arbitrarily partitioned to carry optical burst information. The information can be either control and/or data bursts or metadata related to the optical network and/or optical burst flow. When the FEC function is used, the OTU frame is used to include optical control or data bursts or optical metadata in the payload portion of the G.709 OTU frame.

WO 2004/105279 A3

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

INTERNATIONAL SEARCH REPORT

PCT/US2004/014562

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 H04J3/16

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 H04J H04L H04Q

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WALCH P F: "FEC Standards and Long Haul STM-64 DWDM Transmission. T1X1.5/2000-044" CONTRIBUTION TO T1 STANDARDS PROJECT, 17 January 2000 (2000-01-17), pages 1-4, XP002160113 page 2, line 19 - page 2, line 32 page 3, line 7 - page 3, line 33 page 4, line 16 - page 4, line 18 ----- -/--	1-74

[X] Further documents are listed in the continuation of box C.

[X] Patent family members are listed in annex.

° Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
29 October 2004	08/11/2004

Name and mailing address of the ISA	Authorized officer
European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016	Molinari, F

4

Form PCT/ISA/210 (second sheet) (January 2004)

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	"Interfaces for the Optical Transport Network (OTN)" ITU-T G.709 Y.1331, 'Online! March 2003 (2003-03), pages 1-109, XP002302880 Retrieved from the Internet: URL:http://mirror.itu.int/dms/pages/itu-t/rec/g/T-REC-G.709-200303-I.html> 'retrieved on 2004-10-26! cited in the application the whole document --- US 6 487 686 B1 (YAMAZAKI YUKIO ET AL) 26 November 2002 (2002-11-26) abstract column 1, line 8 - column 1, line 12 column 3, line 11 - column 3, line 37 figure 12 ---	1-74 1-74

INTERNATIONAL SEARCH REPORT

Information on patent family members

US2004/014562

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 6487686 B1	26-11-2002	JP 2000196552 A	14-07-2000