

## PATENT ASSIGNMENT

Electronic Version v1.1  
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SUBMISSION TYPE:	NEW ASSIGNMENT	
NATURE OF CONVEYANCE:	MERGER	
EFFECTIVE DATE:	11/21/2011	
CONVEYING PARTY DATA		
	Name	Execution Date
	BigBand Networks, Inc.	10/10/2011
RECEIVING PARTY DATA		
Name:	ARRIS Group, Inc.	
Street Address:	3871 Lakefield Drive	
Internal Address:	Legal Dept	
City:	Suwanee	
State/Country:	GEORGIA	
Postal Code:	30024	
PROPERTY NUMBERS Total: 50		
Property Type	Number	
Patent Number:	8036250	
Application Number:	13270877	
Application Number:	61422231	
Patent Number:	8068516	
Patent Number:	8081657	
Patent Number:	6434141	
Patent Number:	7451475	
Patent Number:	6999477	
Patent Number:	7181759	
Patent Number:	6813270	
Patent Number:	7184433	
Patent Number:	7031259	
Patent Number:	7787439	

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Patent Number:	7535888
Patent Number:	7031301
Patent Number:	7120142
Patent Number:	7113502
Patent Number:	6826195
Patent Number:	7237251
Patent Number:	6611526
Patent Number:	6853680
Patent Number:	7068716
Patent Number:	7660328
Patent Number:	7187697
Patent Number:	6937619
Patent Number:	7058087
Patent Number:	7395321
Patent Number:	6914936
Patent Number:	6873195
Patent Number:	6754085
Patent Number:	6632008
Patent Number:	6674804
Patent Number:	6879641
Patent Number:	7471639
Patent Number:	7397822
Patent Number:	7280479
Patent Number:	7764863
Patent Number:	8000475
Patent Number:	7267568
Patent Number:	7366239
Patent Number:	7151782
Patent Number:	7653090
Patent Number:	7676720
Application Number:	11200754
Application Number:	11380363
Patent Number:	7844015
Patent Number:	7971215
Patent Number:	7831729

7986702

Application Number:

12503086

**CORRESPONDENCE DATA**

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*Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent via US Mail.*

Correspondent Name: ARRIS Group, Inc.

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Address Line 2: Legal Dept

Address Line 4: Suwanee, GEORGIA 30024

ATTORNEY DOCKET NUMBER:

LEGAL - BIGBAND ASSIGN

NAME OF SUBMITTER:

Denise Motley

**Total Attachments: 16**

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**AGREEMENT AND PLAN OF MERGER**

by and among

**ARRIS GROUP, INC.,**

**AMSTERDAM ACQUISITION SUB, INC.**

and

**BIGBAND NETWORKS, INC.**

Dated as of October 10, 2011

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

“**Company Intellectual Property Rights**” means Intellectual Property Rights owned by the Company or any of its Subsidiaries.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

“**Company Registered Intellectual Property Rights**” shall mean all of the Registered Intellectual Property owned by, filed in the name of, or applied for by the Company or any of its Subsidiaries.

[REDACTED]

[REDACTED]

[REDACTED]



[REDACTED]

4.15 Intellectual Property.

(a) Section 4.15(a) of the Company Disclosure Letter lists, as of the date of this Agreement, (i) all Company Registered Intellectual Property Rights and, if applicable, the jurisdiction in which each item of Company Registered Intellectual Property Rights has been issued, filed, or recorded;

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]



**EXHIBIT 4.15(a)**

**Patents**

**Exhibit 4.15 (a) Patents**

TITLE	PATENT OR APPLICATION NUMBER	APPLICATION FILING DATE	STATUS	DOCKET NUMBER	ACTIONS DUE BY DECEMBER 31, 2011	JURISDICTION
Method and apparatus for using delay time during switching events to display previously stored information elements	Patent No. 7,237,251		Granted June 26, 2007	1005 (P2) 71677		USA
System and method for providing trick modes	Patent No. 7,764,863		Granted July 27, 2010	1022-Bigba-US (P21)		USA
System and method for providing live media streams and trick modes	10/698,189	October 30, 2003	Pending	1023-Bigba-Us (P22Z)		USA
System, method and computer readable medium for managing program switch requests	12/098,459	April 7, 2008	Pending	1033-Bigba-US		USA
-System and method for generating a mosaic image stream	11/692,934	March 29, 2007	Pending	1038-Bigba-US	Response to be filed	USA
System and method for providing content to a user	11/691,543	March 27, 2007	Pending	1039-Bigba-US		USA
Method and system for rate-shaping and transmitting media streams	11/692,939	March 29, 2007	Pending	1040-Bigba-US-II	Response to be filed October 28, 2011. Last date to respond January 28, 2012.	USA
System and method for providing in-band timing information to digital home communication terminals	Patent No. 7,535,888		Granted May 19, 2009	1044-Bigba-US (P18)		USA

Exhibit 4.15(a) Patents.docx

TITLE	PATENT OR APPLICATION NUMBER	APPLICATION FILING DATE	STATUS	DOCKET NUMBER	ACTIONS DUE BY DECEMBER 31, 2011	JURISDICTION
System and method for splicing	11/680,172	February 28, 2007	Pending	1147-Bigba-US	Response to be filed November 30, 2011. Last date to respond February 30, 2011	USA
System, method and computer readable medium for providing media stream fragments	11/936,835	November 8, 2007	Pending	1185-Bigba-US		USA
Method and system for P2P	11/936,840	November 8, 2007	Pending	1186-Bigba-US		USA
System, method and computer readable medium for providing visual content to a user	11/860,638	September 25, 2007	Pending	1188-Bigba-US	Response to be filed October 18, 2011. Last date to respond January 18, 2012	USA
System and method for wirelessly broadcasting advertisements	Patent No. 7,971,215		Granted July 28, 2011	1189-bigba Update		USA
System, method and computer readable medium for managing media streams	Patent No. 7,971,215		Granted June 28, 2011	1190-Bigba-US		USA
Device and method for managing multiple versions of a single program transport stream	Patent No. 7,831,729		Granted November 9, 2010	1229-Bigba-US		USA
Method and device for receiving and transmitting media streams	11/967,443	December 31, 2007	Pending	1242-Bigba-US	Final rejection mailed. Response to be filed October 21, 2011	USA

TITLE	PATENT OR APPLICATION NUMBER	APPLICATION FILING DATE	STATUS	DOCKET NUMBER	ACTIONS DUE BY DECEMBER 31, 2011	JURISDICTION
A method and a computer program product for modifying or generating a multiple program transport stream	11/967,421	December 31, 2007	Pending	1244-Bigba-US	Final rejection mailed. Response to be filed October 21, 2011. Final date for response December 21, 2011.	USA
Rescheduling and statistical multiplexing of encrypted MPEG-2 transport streams	12/169671	July 9, 2008	Pending	1260-Bigba-USP	Response to be filed October 21, 2011 Last date for response December 21, 2011	USA
System and method for generating and providing a program viewing indicator	12/098,461	April 7, 2008	Pending	1261-Bigba-US		USA
Method and system for modulating media packets	Patent No. 7,471,639		Granted 30, Dec 2008	1268-Bigba-US (P27Z)	maintenance fee open window opens December 30, 2011	USA
Method and system for generating, transmitting and utilizing bit rate conversion information	Patent No. 7,660,328		Granted February 9, 2010	1270-Bigba-US (P6)		USA
Method and system for providing programs for multiple end users	Patent No. 7,817,672		Granted October 19, 2010	1273-Bigba-US (1348-Bigba-US)		USA
System and method for encrypting and modulating video streams	Patent No. 8,000,475		Granted August 16, 2011	1275-Bigba-US (P29)		USA
Method for generating a multiplexed sequence of media units	Patent No. 6,674,804		Granted January 6 2004.	1276 (P16)		USA

TITLE	PATENT OR APPLICATION NUMBER	APPLICATION FILING DATE	STATUS	DOCKET NUMBER	ACTIONS DUE BY DECEMBER 31, 2011	JURISDICTION
Method for calibrating a quadrature modulator and a modulation system	Patent No. 7,844,015		Granted November 30, 2010	1045-Bigba-US		USA
System and method for providing interactivity for end-users over digital broadcast channels	Patent No. 7,181,759		Granted 20, Feb 2007	1295 (P12)		USA
Method for allocating media unit sequences among a plurality of output channels	Patent No. 6,914,936		Granted July 5, 2005	1296 (P13)		USA
Method and system for generating and providing delayed media unit sequences to end-users	Patent No. 6,813,270		Granted November 2, 2004	1297 (P14)		USA
System and method for providing media content to end-users	Patent No. 7,184,433		Granted February 27, 2007	1298 (P19)		USA
Method and system for scheduling a transmission of compressible and non compressible packets	Patent No. 7,031,259		Granted April 18, 2006	1299 (P20)		USA
Communication management system & method	Patent No. 7,113,502		Granted September 26, 2006	1300 ()		USA
Communication management system & method	Patent No. 6,434,141		Granted August 13, 2002	1301 (P3)		USA
Method & system for transmitting media streams over a variable bandwidth network	Patent No. 6,879,634		Granted April 12, 2005	1302 (P1)		USA

TITLE	PATENT OR APPLICATION NUMBER	APPLICATION FILING DATE	STATUS	DOCKET NUMBER	ACTIONS DUE BY DECEMBER 31, 2011	JURISDICTION
Method and system for providing multiple services to end-users.	Patent No. 7,151,782		Granted December 16, 2006	1304 ( )		USA
Method and system for delivering MPEG video over bursty communication channels	Patent No. 7,187,697		Granted June 6, 2007	1305 (P7)		USA
Method and system for providing multiple services to end-users.	Patent No. 6,999,477		Granted December 14, 2006	1306 (P8)		USA
Method and system for compressing groups of basic media units	Patent No. 7,068,716		Granted June 27, 2006	1309 (P5)		USA
Communication management system & method	Patent No. 7,031,301		Granted 18 April 2006	1310 (P3 D3-D4)		USA
Communication management system & method	Patent No. 7,120,142		Granted 10 October 2006	1311 (P3 D2)		USA
Method and system for comparison-based prioritized bit rate conversion	Patent No. 6,937,619		Granted August 30, 2005	1312 (P11)		USA
Method and system for prioritized bit rate conversion	Patent No. 7,058,087		Granted 6 June 2006	1313 ( )		USA
Method and system for prioritized bit rate conversion	Patent No. 7,395,321		Granted July 1, 2008	1313-Bibga-US (P10)		USA
Method and system for scalable representation, storage, transmission and reconstruction of media streams	Patent No. 7,116,717		Granted October 3, 2006	1314 (P9)		USA

TITLE	PATENT OR APPLICATION NUMBER	APPLICATION FILING DATE	STATUS	DOCKET NUMBER	ACTIONS DUE BY DECEMBER 31, 2011	JURISDICTION
Method and device for providing video, data and voice to end user devices	11/277,110	March 21, 2006	Pending	1322-Bigba-US (P40)	Issue fee due November 30, 2011	USA
Method, transmitter and system for providing video on demand services	7,653,090	May 31, 2005	Granted January 26, 2010	1323-Bigba-US (P35)		USA
Method and systems for providing enhanced television services	Patent No. 7,787,439		Granted August 31, 2010	1327-Bigba-US (P15)		USA
Method and system for program based redundancy	Patent No. 7,676,720		Granted March 9, 2010	1332-Bigba-US (P34)		USA
System and method for providing interactive service using VOD infrastructure	11/106,388	April 13, 2005	Pending	1333-Bigba-US (P33 +P38) (P-71998-US)	Issue fee due December 27, 2011	USA
Method and apparatus of multiplexing media streams	Patent No. 8,036,250		Granted October 11, 2011	1335-Bigba-US (P26Z)		USA
Method and system for timing media stream modifications	10/683,141	October 9, 2003	Pending	1336-Bigba-US (P25Z)		USA
Method and system for compensating for timing violation of a multiplex of at least two media packet streams	Patent No. 7,397,822		Granted July 8, 2008	1337-Bigba-US (P23Z)	maintenance fee due before January 9, 2012	USA
Method for delivery of narrow cast data over digital broadcast channel	Patent No. 7,451,475		Granted November 26, 2008	1380-Bigba-US (P4)		USA
Video-aware P2P streaming and download with support for real-time content alteration	12/205,878	September 7, 2008	Pending	1394-Bigba-USP		USA

TITLE	PATENT OR APPLICATION NUMBER	APPLICATION FILING DATE	STATUS	DOCKET NUMBER	ACTIONS DUE BY DECEMBER 31, 2011	JURISDICTION
A method for an instant channel change	12/248,892	October 9, 2008	Pending	1416-Bigba-USP		USA
A system and a method for rescheduling and statistical multiplexing of encrypted MPEG-2 transport streams	60/982,485	October 25, 2007	Provisional	1428-Bigba-USP		USA
A system and a method for transmitting information	12/273,668	November 19, 2008	Pending	1455-Bigba-USP		USA
System, method and computer readable medium for fast channel change requests	12/098,463	April 7, 2008	Pending	1456-Bigba-US	Appeal brief entered	USA
FCC with variable bitrate transmission	60/990,957	November 29, 2007	Provisional (-> full application)	1456-Bigba-USP		USA
CPE-RG additional functions for IPTV	Patent No. 7,986,702		Granted June 26, 2011	1457-Bigba-USP		USA
CPE-RG additional functions for IPTV	12/324,865	December 3, 2008	Pending	1457-Bigba-USP	Response filed	USA
A method and system for providing video	61/033,801	March 5, 2008	Provisional	1540-Bigba-USP		USA
Transparent frames for RS	12/398,208	March 5, 2009	Pending	1541-Bigba-US		USA
System, method and a computer program product for recording data	61/045,619	April 17, 2008	Provisional	1600-Bigba-USP		USA
Communication management system & method	2,371,795		Allowed	1647-Bigba-CA	Payment issue fees due and divisional to be filed by November 25, 2011	CANADA
Internet protocol over switched digital video	12/503,086	July 15, 2009	Pending	1677-BigBa-USP		USA

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TITLE	PATENT OR APPLICATION NUMBER	APPLICATION FILING DATE	STATUS	DOCKET NUMBER	ACTIONS DUE BY DECEMBER 31, 2011	JURISDICTION
A method and a system for transmitting content	12/565,792	September 24, 2009	Pending	1716-Bigba-USP		USA
Method and system for compressing groups of basic media data units	Patent No. 7,366,239	January 26, 2005	Granted April 29, 2008		maintenance fee window (without surcharge) closes at October 29, 2011	USA
Method and system for transmitting video streams	61/221,108	January 5 2010	Pending	1741-Bigba-USP		USA
Systems and methods for splicing between media streams	61/232,809	August 11, 2009	Provisional (-> full application)	1742-Bigba-USP		USA
Method and system for secured communication in a non-CTMS environment	61/313,812	March 15, 2010	Provisional	8103-Bigba-USP		USA
In-premises retransmission server	61/322,855	April 11, 2010	Provisional	8118-Bigba-usp		USA
Forecasting and network-planning of narrowcast services	61/349,863	May 30, 2010	Provisional	8131-Bigba-USP		USA
Systems and methods for media content provisioning	61/365,783	July 20, 2010	Provisional	8142-Bigba-USP		USA
Floating connectors	Patent No. 7,267,568		Granted September 11 2007			USA
Transmit pre-equalization in a modem environment	Patent No. 6,879,641		Granted April 12 2005			USA
Compensating for differences between clock signals	Patent No. 6,873,195		Granted March 29 2005			USA

TITLE	PATENT OR APPLICATION NUMBER	APPLICATION FILING DATE	STATUS	DOCKET NUMBER	ACTIONS DUE BY DECEMBER 31, 2011	JURISDICTION
System and process for embedded cable modem	Patent No. 6,853,680		Granted Feb 8 2005			USA
System and process for high-availability, direct, flexible and scalable switching of data packets in broadband networks	Patent No. 6,826,195		Granted November 30, 2004		maintenance fee window opens November 30, 2011	USA
State machine for providing dynamic quality of service in a cable network	Patent No. 7,280,479		Granted October 9, 2007			USA
Pipe light	Patent No. 6,632,008		Granted October 14, 2003			USA
Mounting circuit boards in housings	Patent No. 6,754,085		Granted June 6, 2004		maintenance fee window closes December 6, 2011	USA
System and process for embedded cable modem in a cable modem termination system to enable diagnostics and monitoring	Patent No. 6,853,680		Granted February 8, 2005		maintenance fee window opens Feb 8, 2012	USA
System having a meshed backplane and process for transferring data there through	Patent No. 6,611,526		Granted August 23, 2003			USA
Method and system for secure communication in non-CMTS environment	13/046,746	March 13, 2011	Pending	8103-US		USA
Forecast and cable TV network- planning of narrowcast services	13/118,482	May 30, 2011	Pending	8131-US		USA
Classification of HTP multimedia traffic per session	61/477,617	April 21, 2011	Pending			USA

TITLE	PATENT OR APPLICATION NUMBER	APPLICATION FILING DATE	STATUS	DOCKET NUMBER	ACTIONS DUE BY DECEMBER 31, 2011	JURISDICTION
Method and device for receiving and providing programs	11/200,754	August 9, 2005	Pending	71986-US	Response to be filed	USA
Method and system for scalable representation, storage, transmission and reconstruction of media streams	11/327,077	January 5, 2006	Pending	71955-US2	Response to be filed	USA
Method and device for receiving and providing programs	11/380,363	April 26, 2006	Pending	P-71957-US	Response to be filed	USA