

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
 Stylesheet Version v1.2

EPAS ID: PAT3657537

|                                   |                             |                       |
|-----------------------------------|-----------------------------|-----------------------|
| <b>SUBMISSION TYPE:</b>           | NEW ASSIGNMENT              |                       |
| <b>NATURE OF CONVEYANCE:</b>      | ASSIGNMENT                  |                       |
| <b>CONVEYING PARTY DATA</b>       |                             |                       |
| <b>Name</b>                       |                             | <b>Execution Date</b> |
| BYTEMOBILE, INC.                  |                             | 11/19/2015            |
| <b>RECEIVING PARTY DATA</b>       |                             |                       |
| <b>Name:</b>                      | CITRIX SYSTEMS, INC.        |                       |
| <b>Street Address:</b>            | 851 WEST CYPRESS CREEK ROAD |                       |
| <b>City:</b>                      | FORT LAUDERDALE             |                       |
| <b>State/Country:</b>             | FLORIDA                     |                       |
| <b>Postal Code:</b>               | 33309                       |                       |
| <b>PROPERTY NUMBERS Total: 93</b> |                             |                       |
| <b>Property Type</b>              | <b>Number</b>               |                       |
| <b>PCT Number:</b>                | US0419369                   |                       |
| <b>Application Number:</b>        | 10871905                    |                       |
| <b>Patent Number:</b>             | 7586871                     |                       |
| <b>PCT Number:</b>                | US0620199                   |                       |
| <b>PCT Number:</b>                | US0619988                   |                       |
| <b>PCT Number:</b>                | US0619990                   |                       |
| <b>PCT Number:</b>                | US0620200                   |                       |
| <b>Patent Number:</b>             | 8312172                     |                       |
| <b>Patent Number:</b>             | 8856279                     |                       |
| <b>Patent Number:</b>             | 8583827                     |                       |
| <b>Patent Number:</b>             | 8312074                     |                       |
| <b>Patent Number:</b>             | 8949368                     |                       |
| <b>PCT Number:</b>                | US0723998                   |                       |
| <b>Patent Number:</b>             | 8181107                     |                       |
| <b>Application Number:</b>        | 13470954                    |                       |
| <b>Application Number:</b>        | 13471019                    |                       |
| <b>Application Number:</b>        | 13471057                    |                       |
| <b>Application Number:</b>        | 13471076                    |                       |
| <b>PCT Number:</b>                | US0813430                   |                       |
| <b>Application Number:</b>        | 12328679                    |                       |

PATENT

| Property Type       | Number    |
|---------------------|-----------|
| PCT Number:         | US0808509 |
| Patent Number:      | 7987243   |
| PCT Number:         | US0808556 |
| PCT Number:         | US1000959 |
| Patent Number:      | 7987285   |
| Patent Number:      | 8230105   |
| Patent Number:      | 8255551   |
| Patent Number:      | 8621061   |
| Patent Number:      | 8769141   |
| Patent Number:      | 9191664   |
| Patent Number:      | 7991904   |
| PCT Number:         | US1000302 |
| Patent Number:      | 8775665   |
| PCT Number:         | US0814027 |
| Patent Number:      | 8521901   |
| PCT Number:         | US1002762 |
| Application Number: | 12580212  |
| PCT Number:         | US1000988 |
| Application Number: | 12751951  |
| PCT Number:         | US1146033 |
| Patent Number:      | 8429169   |
| PCT Number:         | US1334708 |
| Application Number: | 13436658  |
| PCT Number:         | US1334713 |
| Patent Number:      | 9167021   |
| PCT Number:         | US1241706 |
| Application Number: | 13492032  |
| PCT Number:         | US1241691 |
| Application Number: | 13492619  |
| PCT Number:         | US1241684 |
| Application Number: | 13491955  |
| PCT Number:         | US0102222 |
| Patent Number:      | 6496520   |
| PCT Number:         | US9809332 |
| Patent Number:      | 6166729   |
| Patent Number:      | 7209474   |
| Patent Number:      | 8009694   |
| PCT Number:         | US0132473 |

| Property Type       | Number    |
|---------------------|-----------|
| Patent Number:      | 7512694   |
| PCT Number:         | US0132317 |
| Patent Number:      | 7315544   |
| PCT Number:         | US0206702 |
| Patent Number:      | 6795859   |
| Patent Number:      | 7616559   |
| PCT Number:         | US0211779 |
| Patent Number:      | 7099273   |
| PCT Number:         | US0215758 |
| Patent Number:      | 7024460   |
| PCT Number:         | US0215565 |
| Patent Number:      | 7031314   |
| Patent Number:      | 7444418   |
| PCT Number:         | US0215839 |
| Patent Number:      | 7136353   |
| PCT Number:         | US1348366 |
| Application Number: | 13536285  |
| Patent Number:      | 8892551   |
| Application Number: | 13536616  |
| PCT Number:         | US1348369 |
| Patent Number:      | 9075877   |
| Application Number: | 13536430  |
| PCT Number:         | US1453588 |
| Application Number: | 14015866  |
| PCT Number:         | US1462988 |
| Application Number: | 14066615  |
| PCT Number:         | US1518797 |
| Application Number: | 14198276  |
| Application Number: | 14503092  |
| Application Number: | 14503274  |
| Application Number: | 14577078  |
| Application Number: | 14595070  |
| Application Number: | 14622139  |
| Application Number: | 14632913  |
| Application Number: | 14629917  |

#### CORRESPONDENCE DATA

Fax Number: (202)408-4400

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

**Phone:** 202-408-4000  
**Email:** regional-desk@finnegan.com  
**Correspondent Name:** FINNEGAN, HENDERSON, FARABOW, GARRETT &  
**Address Line 1:** 901 NEW YORK AVENUE, NW  
**Address Line 4:** WASHINGTON, D.C. 20001-4413

|                                |                              |
|--------------------------------|------------------------------|
| <b>ATTORNEY DOCKET NUMBER:</b> | 09266.0115-00000             |
| <b>NAME OF SUBMITTER:</b>      | SHERBONNE' BARNES-ANDERSON   |
| <b>SIGNATURE:</b>              | /Sherbonne' Barnes-Anderson/ |
| <b>DATE SIGNED:</b>            | 12/14/2015                   |

**Total Attachments: 9**

source=Bytemobile Patent Assignment\_ Bytemobile to Citrix 12.11.2015#page1.tif  
source=Bytemobile Patent Assignment\_ Bytemobile to Citrix 12.11.2015#page2.tif  
source=Bytemobile Patent Assignment\_ Bytemobile to Citrix 12.11.2015#page3.tif  
source=Bytemobile Patent Assignment\_ Bytemobile to Citrix 12.11.2015#page4.tif  
source=Bytemobile Patent Assignment\_ Bytemobile to Citrix 12.11.2015#page5.tif  
source=Bytemobile Patent Assignment\_ Bytemobile to Citrix 12.11.2015#page6.tif  
source=Bytemobile Patent Assignment\_ Bytemobile to Citrix 12.11.2015#page7.tif  
source=Bytemobile Patent Assignment\_ Bytemobile to Citrix 12.11.2015#page8.tif  
source=Bytemobile Patent Assignment\_ Bytemobile to Citrix 12.11.2015#page9.tif

## PATENT ASSIGNMENT

This PATENT ASSIGNMENT ("Assignment"), effective as of November 19, 2015 (the "Effective Date"), is made by and between Bytemobile, Inc., a Delaware corporation having an office at 851 West Cypress Creek Road, Fort Lauderdale, Florida 33309 ("ASSIGNOR"), and Citrix Systems, Inc., a Delaware corporation having an office at 851 West Cypress Creek Road, Fort Lauderdale, Florida 33309 ("ASSIGNEE").

WHEREAS, ASSIGNOR is the sole and exclusive owner of the patents and patent applications set forth in Exhibit A and incorporated by reference herein (the "ASSIGNED PATENT ASSETS") and

WHEREAS, ASSIGNEE is desirous of acquiring the full right, title and interest in and to said ASSIGNED PATENT ASSETS;

Assignment. For good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, ASSIGNOR hereby grants, conveys, transfers and assigns to ASSIGNEE the entire and exclusive right, title and interest in and to (i) said ASSIGNED PATENT ASSETS and the inventions described therein, including any and all divisionals, continuations, continuations-in-part, reissues, reexams, extensions, or foreign counterparts thereof, (ii) all rights to royalties and other payments under the ASSIGNED PATENT ASSETS, and (iii) all rights to enforce the ASSIGNED PATENT ASSETS and to sue for, collect and retain all damages for past, present and future infringement of the ASSIGNED PATENT ASSETS, the ASSIGNED PATENT ASSETS to be held and enjoyed by ASSIGNEE for its own use and as fully and entirely as the same would have been held and enjoyed by ASSIGNEE had this Assignment not been made. ASSIGNOR hereby undertakes to execute and deliver to ASSIGNEE upon request all lawful documents which may be requested by ASSIGNEE, and to furnish ASSIGNEE with all facts relating to the ASSIGNED PATENT ASSETS as may be requested.

Recordation. ASSIGNOR authorizes and requests the Commissioner of Patent and Trademarks of the United States and the relevant official of any foreign patent office to record ownership of the ASSIGNED PATENT ASSETS as the property of the ASSIGNEE.

IN WITNESS WHEREOF, ASSIGNOR has caused this Assignment to be duly signed on its behalf.

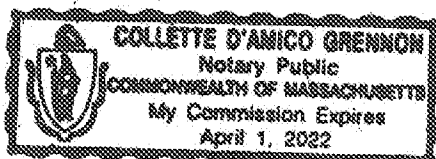
BYTEMOBILE, INC.

Signature: Antonio Gomes  
Antonio Gomes, Secretary

Date: 12/1/2015

State of Massachusetts )  
 ) S.S.  
County of Middlesex )

Before me this 11<sup>th</sup> day of December, 2015 personally appeared Antonio Gomez to me known to be the person who is described in and who signed the foregoing Assignment and acknowledged to me that he signed the same of his/her own free will for the purpose therein expressed.



Collette D'Amico-Henson  
Collette D'Amico Notary Public  
My Commission Expires 4-1-2022

**PATENT**  
**REEL: 037289 FRAME: 0610**

Assignment Accepted By:

CITRIX SYSTEMS, INC.

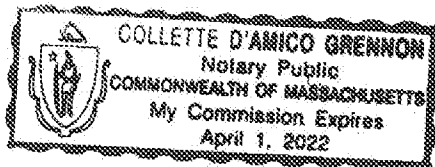
Signature: Antonio Gomes  
Antonio Gomes, Senior Vice President,  
General Counsel & Corporate Secretary

Date: 12-11-2015

State of Massachusetts )  
                                          ) S.S.  
County of Middlesex )

Before me this 11<sup>th</sup> day of December, 2015 personally appeared Antonio Gomes, to me known to be the person who is described in and who signed the foregoing Assignment and acknowledged to me that he signed the same of his/her own free will for the purpose therein expressed.

Collette D'Amico Grennon  
Collette D'Amico Grennon Notary Public  
My Commission Expires 4/1/2022



## Exhibit A

| FILE NUMBER  | TITLE                                                                      | JURISDICTION | DATE FILED   | APPLICATION NUMBER | GRANT DATE   | PATENT NUMBER  |
|--------------|----------------------------------------------------------------------------|--------------|--------------|--------------------|--------------|----------------|
| CTX-829PC    | Method and System for Dynamic Interleaving                                 | WO           | Jun 17, 2004 | PCT/US04/19369     |              |                |
| CTX-829US    | Method and System for Dynamic Interleaving                                 | US           | Jun 17, 2004 | 10/871,905         |              |                |
| CTX-830USCP  | Platform and Method for Providing Data Services in a Communication Network | US           | Jan 11, 2006 | 11/330,588         | Sep 8, 2009  | 7,586,871      |
| CTX-831DE    | Method and System for Delta Compression                                    | DE           | May 23, 2006 | 06760372.0         | Aug 20, 2014 | 602006042766.2 |
| CTX-831DE3   | Method and System for Dynamic Bearer Aware                                 | DE           | May 23, 2006 | 06771004.6         | Aug 27, 2014 | 602006042851.0 |
| CTX-831EP    | Method and System for Delta Compression                                    | EP           | May 23, 2006 | 06760372.0         | Aug 20, 2014 | 1886468        |
| CTX-831EP2   | Method and System for Object Prediction                                    | EP           | May 23, 2006 | 06771002.0         |              |                |
| CTX-831EP3   | Method and System for Dynamic Bearer Aware                                 | EP           | May 23, 2006 | 06771004.6         | Aug 27, 2014 | 1886471        |
| CTX-831EP4   | Method for Multipart Encoding                                              | EP           | May 23, 2006 | 06771139.0         |              |                |
| CTX-831FR    | Method and System for Delta Compression                                    | FR           | May 23, 2006 | 06760372.0         | Aug 20, 2014 | 1886468        |
| CTX-831FR3   | Method and System for Dynamic Bearer Aware                                 | FR           | May 23, 2006 | 06771004.6         | Aug 27, 2014 | 1886471        |
| CTX-831GB    | Method and System for Delta Compression                                    | GB           | May 23, 2006 | 06760372.0         | Aug 20, 2014 | 1886468        |
| CTX-831GB3   | Method and System for Dynamic Bearer Aware                                 | GB           | May 23, 2006 | 06771004.6         | Aug 27, 2014 | 1886471        |
| CTX-831PC    | Method and System for Delta Compression                                    | WO           | May 23, 2006 | PCT/US06/020199    |              |                |
| CTX-831PC2   | Method and System for Object Prediction                                    | WO           | May 23, 2006 | PCT/US06/019988    |              |                |
| CTX-831PC3   | Method and System for Dynamic Bearer Aware                                 | WO           | May 23, 2006 | PCT/US06/019990    |              |                |
| CTX-831PC4   | Method for Multipart Encoding                                              | WO           | May 23, 2006 | PCT/US06/020200    |              |                |
| CTX-831US    | Method and System for Delta Compression                                    | US           | May 22, 2006 | 11/439,068         | Nov 13, 2012 | 8,312,172      |
| CTX-831US2   | Method and System for Object Prediction                                    | US           | May 22, 2006 | 11/439,003         | Oct 7, 2014  | 8,856,279      |
| CTX-831US3   | Dynamic Data Optimization in Data Network                                  | US           | May 22, 2006 | 11/439,009         | Nov 12, 2013 | 8,583,827      |
| CTX-831US4   | Method for Multipart Encoding                                              | US           | May 22, 2006 | 11/439,330         | Nov 13, 2012 | 8,312,074      |
| CTX-832US    | Method for Cache Object Aggregation                                        | US           | May 12, 2006 | 11/432,951         | Feb 3, 2015  | 8,949,368      |
| CTX-833EP    | Content Adaptation                                                         | EP           | Nov 14, 2007 | 07870889.8         |              |                |
| CTX-833PC    | Content Adaptation                                                         | WO           | Nov 14, 2007 | PCT/US07/023998    |              |                |
| CTX-833US    | Content Adaptation                                                         | US           | Dec 8, 2006  | 11/636,033         | May 15, 2012 | 8,181,107      |
| CTX-833USDV  | Content Adaptation                                                         | US           | May 14, 2012 | 13/470,954         |              |                |
| CTX-833USDV2 | Content Adaptation                                                         | US           | May 14, 2012 | 13/471,019         |              |                |
| CTX-833USDV3 | Content Adaptation                                                         | US           | May 14, 2012 | 13/471,057         |              |                |
| CTX-833USDV4 | Content Adaptation                                                         | US           | May 14, 2012 | 13/471,076         |              |                |
| CTX-834PC    | Advertisement Insertion Module and Advertisement Replacement Module        | WO           | Dec 4, 2008  | PCT/US08/013430    |              |                |
| CTX-834US    | Advertisement Insertion Module and Advertisement Replacement Module        | US           | Dec 4, 2008  | 12/328,679         |              |                |
| CTX-835CN    | Method for Media Discovery                                                 | CN           | Jul 10, 2008 | 200880106478.5     | May 22, 2013 | 200880106478.5 |
| CTX-835EP    | Method for Media Discovery                                                 | EP           | Jul 10, 2008 | 08780120.5         |              |                |

| FILE NUMBER  | TITLE                                                                                 | JURISDICTION | DATE FILED   | APPLICATION NUMBER | GRANT DATE   | PATENT NUMBER    |
|--------------|---------------------------------------------------------------------------------------|--------------|--------------|--------------------|--------------|------------------|
| CTX-835PC    | Method for Media Discovery                                                            | WO           | Jul 10, 2008 | PCT/US08/008509    |              |                  |
| CTX-835US    | Method for Media Discovery                                                            | US           | Jul 10, 2008 | 12/170,719         | Jul 26, 2011 | 7,987,243        |
| CTX-836CN    | Adaptive Bitrate Management for Streaming Media Over Packet Networks                  | CN           | Jul 10, 2008 | 200880106476.6     |              |                  |
| CTX-836CN2   | Adaptive Bitrate Management for Streaming Media Over Packet Networks                  | CN           | Mar 30, 2010 | 201080023638.7     |              |                  |
| CTX-836DE    | Adaptive Bitrate Management for Streaming Media Over Packet Networks                  | DE           | Jul 10, 2008 | 08780143.7         | Feb 27, 2013 | 602008022546.1   |
| CTX-836EP    | Adaptive Bitrate Management for Streaming Media Over Packet Networks                  | EP           | Jul 10, 2008 | 08780143.7         | Feb 27, 2013 | 2171927          |
| CTX-836EP2   | Adaptive Bitrate Management for Streaming Media Over Packet Networks                  | EP           | Mar 30, 2010 | 10733056.5         |              |                  |
| CTX-836EPDV  | Adaptive Bitrate Management for Streaming Media Over Packet Networks                  | EP           | Jul 10, 2008 | 13000979.8         |              |                  |
| CTX-836FR    | Adaptive Bitrate Management for Streaming Media Over Packet Networks                  | FR           | Jul 10, 2008 | 08780143.7         | Feb 27, 2013 | 2171927          |
| CTX-836GB    | Adaptive Bitrate Management for Streaming Media Over Packet Networks                  | GB           | Jul 10, 2008 | 08780143.7         | Feb 27, 2013 | 2171927          |
| CTX-836HK2   | Adaptive Bitrate Management for Streaming Media Over Packet Networks                  | HK           | Nov 6, 2012  | 12111165.2         |              |                  |
| CTX-836PC    | Adaptive Bitrate Management for Streaming Media Over Packet Networks                  | WO           | Jul 10, 2008 | PCT/US08/008556    |              |                  |
| CTX-836PC2   | Adaptive Bitrate Management for Streaming Media Over Packet Networks                  | WO           | Mar 30, 2010 | PCT/US10/000959    |              |                  |
| CTX-836US    | Adaptive Bitrate Management for Streaming Media Over Packet Networks                  | US           | Jul 9, 2008  | 12/170,347         | Jul 26, 2011 | 7,987,285        |
| CTX-836USCN  | Adaptive Bitrate Management for Streaming Media Over Packet Networks                  | US           | Jul 25, 2011 | 13/190,238         | Jul 24, 2012 | 8,230,105        |
| CTX-836USCN2 | Adaptive Bitrate Management for Streaming Media Over Packet Networks                  | US           | Jul 29, 2011 | 13/194,761         | Aug 28, 2012 | 8,255,551        |
| CTX-836USCN3 | Adaptive Bitrate Management for Streaming Media Over Packet Networks                  | US           | Jul 24, 2012 | 13/557,086         | Dec 31, 2013 | 8,621,061        |
| CTX-836USCN4 | Adaptive Bitrate Management for Streaming Media Over Packet Networks                  | US           | Aug 28, 2012 | 13/596,916         | Jul 1, 2014  | 8,769,141        |
| CTX-836USCN5 | Adaptive Bitrate Management for Streaming Media Over Packet Networks                  | US           | Nov 11, 2013 | 14/077,139         | Nov 17, 2015 | 9,191,664        |
| CTX-836USCP  | Adaptive Bitrate Management for Streaming Media Over Packet Networks                  | US           | Mar 31, 2009 | 12/416,085         | Aug 2, 2011  | 7,991,904        |
| CTX-837CN    | Method for Controlling Download Rate of Real-Time Streaming as Needed by Media Player | CN           | Feb 3, 2010  | 201080014605.6     | Jul 22, 2015 | ZL201080014605.6 |

| FILE NUMBER | TITLE                                                                                     | JURISDICTION | DATE FILED   | APPLICATION NUMBER | GRANT DATE   | PATENT NUMBER  |
|-------------|-------------------------------------------------------------------------------------------|--------------|--------------|--------------------|--------------|----------------|
| CTX-837HK   | Method for Controlling Download Rate of Real-Time Streaming as Needed by Media Player     | HK           | Nov 2, 2012  | 12111069.9         |              |                |
| CTX-837PC   | Method for Controlling Download Rate of Real-Time Streaming as Needed by Media Player     | WO           | Feb 3, 2010  | PCT/US10/000302    |              |                |
| CTX-837US   | Method for Controlling Download Rate of Real-Time Streaming as Needed by Media Player     | US           | Feb 9, 2009  | 12/368,260         | Jul 8, 2014  | 8,775,665      |
| CTX-838CN   | TCP Packet Spacing                                                                        | CN           | Dec 22, 2008 | 200880127690.X     | Jul 30, 2014 | 200880127690.X |
| CTX-838DE   | TCP Packet Spacing                                                                        | DE           | Dec 22, 2008 | 08868107.7         | Jul 10, 2013 | 602008025981.1 |
| CTX-838EP   | TCP Packet Spacing                                                                        | EP           | Dec 22, 2008 | 08868107.7         | Jul 10, 2013 | 2232791        |
| CTX-838FR   | TCP Packet Spacing                                                                        | FR           | Dec 22, 2008 | 08868107.7         | Jul 10, 2013 | 2232791        |
| CTX-838GB   | TCP Packet Spacing                                                                        | GB           | Dec 22, 2008 | 08868107.7         | Jul 10, 2013 | 2232791        |
| CTX-838PC   | TCP Packet Spacing                                                                        | WO           | Dec 22, 2008 | PCT/US08/014027    |              |                |
| CTX-838US   | TCP Burst Avoidance                                                                       | US           | Dec 22, 2008 | 12/341,307         | Aug 27, 2013 | 8,521,901      |
| CTX-839CN   | Budget Encoding                                                                           | CN           | Oct 14, 2010 | 201080057336.1     |              |                |
| CTX-839EP   | Budget Encoding                                                                           | EP           | Oct 14, 2010 | 10776446.6         |              |                |
| CTX-839HK   | Budget Encoding                                                                           | HK           | Feb 13, 2013 | 13101855.7         |              |                |
| CTX-839PC   | Budget Encoding                                                                           | WO           | Oct 14, 2010 | PCT/US10/002762    |              |                |
| CTX-839US   | Budget Encoding                                                                           | US           | Oct 15, 2009 | 12/580,212         |              |                |
| CTX-840CN   | Framework for Quality-Aware Video Optimization                                            | CN           | Mar 31, 2010 | 201080023636.8     |              |                |
| CTX-840EP   | Framework for Quality-Aware Video Optimization                                            | EP           | Mar 31, 2010 | 10713807.5         |              |                |
| CTX-840HK   | Framework for Quality-Aware Video Optimization                                            | HK           | Nov 6, 2012  | 12111166.1         |              |                |
| CTX-840PC   | Framework for Quality-Aware Video Optimization                                            | WO           | Mar 31, 2010 | US2010/000988      |              |                |
| CTX-840US   | Framework for Quality-Aware Video Optimization                                            | US           | Mar 31, 2010 | 12/751,951         |              |                |
| CTX-841CN   | Systems and Methods for Video Cache Indexing                                              | CN           | Jul 29, 2011 | 201180046902.3     |              |                |
| CTX-841EP   | Systems and Methods for Video Cache Indexing                                              | EP           | Jul 29, 2011 | 11743914.1         |              |                |
| CTX-841IN   | Systems and Methods for Video Cache Indexing                                              | IN           | Jul 29, 2011 | 573/CHENP/2013     |              |                |
| CTX-841PC   | Systems and Methods for Video Cache Indexing                                              | WO           | Jul 29, 2011 | PCT/US11/046033    |              |                |
| CTX-841US   | Systems and Methods for Video Cache Indexing                                              | US           | Jul 29, 2011 | 13/194,837         | Apr 23, 2013 | 8,429,169      |
| CTX-842CN   | Adaptive Traffic Management in Cellular Wireless Networks                                 | CN           | Mar 29, 2013 | 201380018290.6     |              |                |
| CTX-842EP   | Adaptive Traffic Management in Cellular Wireless Networks                                 | EP           | Mar 29, 2013 | 13768473.4         |              |                |
| CTX-842IN   | Adaptive Traffic Management in Cellular Wireless Networks                                 | IN           | Mar 29, 2013 | 7536/CHENP/2014    |              |                |
| CTX-842PC   | Adaptive Traffic Management in Cellular Wireless Networks                                 | WO           | Mar 29, 2013 | PCT/US13/034708    |              |                |
| CTX-842US   | Adaptive Traffic Management in Cellular Wireless Networks                                 | US           | Mar 30, 2012 | 13/436,658         |              |                |
| CTX-843CN   | Measuring Web Browsing Quality of Experience in Real-Time at an Intermediate Network Node | CN           | Sep 30, 2014 | 201380018343.4     |              |                |
| CTX-843EP   | Measuring Web Browsing Quality of Experience in Real-Time at an Intermediate Network Node | EP           | Mar 29, 2013 | 13769049.1         |              |                |

| FILE NUMBER | TITLE                                                                                     | JURISDICTION | DATE FILED   | APPLICATION NUMBER | GRANT DATE   | PATENT NUMBER |
|-------------|-------------------------------------------------------------------------------------------|--------------|--------------|--------------------|--------------|---------------|
| CTX-843IN   | Measuring Web Browsing Quality of Experience in Real-Time at an Intermediate Network Node | IN           | Mar 29, 2013 | 7533/CHENP/2014    |              |               |
| CTX-843PC   | Measuring Web Browsing Quality of Experience in Real-Time at an Intermediate Network Node | WO           | Mar 29, 2013 | PCT/US13/034713    |              |               |
| CTX-843US   | Measuring Web Browsing Quality of Experience in Real-Time at an Intermediate Network Node | US           | Mar 30, 2012 | 13/436,671         | Oct 20, 2015 | 9,167,021     |
| CTX-844CN   | On-Demand Adaptive Bitrate Management for Streaming Media Over Packet Networks            | CN           | Jun 8, 2012  | 201280038961.0     |              |               |
| CTX-844EP   | On-Demand Adaptive Bitrate Management for Streaming Media Over Packet Networks            | EP           | Jun 8, 2012  | 12727579.0         |              |               |
| CTX-844IN   | On-Demand Adaptive Bitrate Management for Streaming Media Over Packet Networks            | IN           | Jun 8, 2012  | 3513/KOLNP/2013    |              |               |
| CTX-844PC   | On-Demand Adaptive Bitrate Management for Streaming Media Over Packet Networks            | WO           | Jun 8, 2012  | PCT/US12/041706    |              |               |
| CTX-844US   | On-Demand Adaptive Bitrate Management for Streaming Media Over Packet Networks            | US           | Jun 8, 2012  | 13/492,032         |              |               |
| CTX-845CN   | Application of Adaptive Quantization in Quality-Aware Video Optimization                  | CN           | Jun 8, 2012  | 201280039090.4     |              |               |
| CTX-845EP   | Application of Adaptive Quantization in Quality-Aware Video Optimization                  | EP           | Jun 8, 2012  | 12727763.0         |              |               |
| CTX-845IN   | Application of Adaptive Quantization in Quality-Aware Video Optimization                  | IN           | Jun 8, 2012  | 3512/KOLNP/2013    |              |               |
| CTX-845PC   | Application of Adaptive Quantization in Quality-Aware Video Optimization                  | WO           | Jun 8, 2012  | PCT/US12/041691    |              |               |
| CTX-845US   | Application of Adaptive Quantization in Quality-Aware Video Optimization                  | US           | Jun 8, 2012  | 13/492,619         |              |               |
| CTX-846PC   | Adaptive Bitrate Management on Progressive Download with Indexed Media Files              | WO           | Jun 8, 2012  | PCT/US12/041684    |              |               |
| CTX-846US   | Adaptive Bitrate Management on Progressive Download with Indexed Media Files              | US           | Jun 8, 2012  | 13/491,955         |              |               |
| CTX-847AU   | Wireless Network System and Method                                                        | AU           | Jan 22, 2001 | 2001232925         | May 6, 2004  | 2001232925    |
| CTX-847DE   | Wireless Network System and Method                                                        | DE           | Jan 22, 2001 | 01905003.8         | Oct 20, 2010 | 60143288.6    |
| CTX-847EP   | Wireless Network System and Method                                                        | EP           | Jan 22, 2001 | 01905003.8         | Oct 20, 2010 | EP1258104     |
| CTX-847FR   | Wireless Network System and Method                                                        | FR           | Jan 22, 2001 | 01905003.8         | Oct 20, 2010 | 1258104       |
| CTX-847GB   | Wireless Network System and Method                                                        | GB           | Jan 22, 2001 | 01905003.8         | Oct 20, 2010 | 1258104       |
| CTX-847PC   | Wireless Network System and Method                                                        | WO           | Jan 22, 2001 | PCT/US01/002222    |              |               |
| CTX-847US   | Wireless Network System and Method                                                        | US           | Jul 19, 2000 | 09/618,881         | Dec 17, 2002 | 6,496,520     |
| CTX-848PC   | Remote Visual Information Monitoring System and Method                                    | WO           | May 7, 1998  | PCT/US98/009332    |              |               |
| CTX-848US   | Remote Digital Image Viewing System and Method                                            | US           | May 7, 1997  | 08/852,557         | Dec 26, 2000 | 6,166,729     |
| CTX-850US   | Wireless Services Provider Network System and Method                                      | US           | Jul 27, 2001 | 09/917,449         | Apr 24, 2007 | 7,209,474     |
| CTX-850USCN | Wireless Services Provider Network System and Method                                      | US           | Mar 15, 2007 | 11/686,677         | Aug 30, 2011 | 8,009,694     |
| CTX-851EP   | Wireless Communications Invisible Proxy and Hooking Systems and Methods                   | EP           | Oct 17, 2001 | 01983161.9         |              |               |

| FILE NUMBER | TITLE                                                                                                       | JURISDICTION | DATE FILED   | APPLICATION NUMBER | GRANT DATE   | PATENT NUMBER |
|-------------|-------------------------------------------------------------------------------------------------------------|--------------|--------------|--------------------|--------------|---------------|
| CTX-851PC   | Wireless Communications Invisible Proxy and Hooking Systems and Methods                                     | WO           | Oct 17, 2001 | PCT/US01/032473    |              |               |
| CTX-851US   | Wireless Communications Invisible Proxy and Hooking Systems and Methods                                     | US           | Oct 17, 2001 | 09/982,511         | Mar 31, 2009 | 7,512,694     |
| CTX-854DE   | Global Sequence Numbers in Wireless Communications Systems and Methods                                      | DE           | Oct 17, 2001 | 01981658.6         | Dec 10, 2014 | 60149155.6    |
| CTX-854EP   | Global Sequence Numbers in Wireless Communications Systems and Methods                                      | EP           | Oct 17, 2001 | 01981658.6         | Dec 10, 2014 | 1332635       |
| CTX-854FR   | Global Sequence Numbers in Wireless Communications Systems and Methods                                      | FR           | Oct 17, 2001 | 01981658.6         | Dec 10, 2014 | 1332635       |
| CTX-854GB   | Global Sequence Numbers in Wireless Communications Systems and Methods                                      | GB           | Oct 17, 2001 | 01981658.6         | Dec 10, 2014 | 1332635       |
| CTX-854PC   | Global Sequence Numbers in Wireless Communications Systems and Methods                                      | WO           | Oct 17, 2001 | PCT/US01/032317    |              |               |
| CTX-854US   | Global Sequence Numbers in Wireless Communications Systems and Methods                                      | US           | Oct 17, 2001 | 09/982,510         | Jan 1, 2008  | 7,315,544     |
| CTX-857EP   | Scalable Server Architecture Systems and Methods                                                            | EP           | Mar 2, 2002  | 02715045.7         |              |               |
| CTX-857PC   | Scalable Server Architecture Systems and Methods                                                            | WO           | Mar 2, 2002  | PCT/US02/006702    |              |               |
| CTX-857US   | Scalable Server Architecture Systems and Methods                                                            | US           | Mar 2, 2002  | 10/090,290         | Sep 21, 2004 | 6,795,859     |
| CTX-859US   | Multi-Link Network Architecture, Including Security, in Seamless Roaming Communications Systems and Methods | US           | Sep 2, 2004  | 10/933,067         | Nov 10, 2009 | 7,616,559     |
| CTX-860EP   | Data Transport Acceleration and Management within a Network Communication System                            | EP           | Apr 11, 2002 | EP2002000733982    | Aug 30, 2006 | EP1393508     |
| CTX-860GB   | Data Transport Acceleration and Management within a Network Communication System                            | GB           | Apr 11, 2002 | EP2002000733982    | Aug 30, 2006 | 1393508       |
| CTX-860PC   | Data Transport Acceleration and Management within a Network Communication System                            | WO           | Apr 11, 2002 | PCT/US02/011779    |              |               |
| CTX-860US   | Data Transport Acceleration and Management within a Network Communication System                            | US           | Jan 29, 2002 | 10/061,574         | Aug 29, 2006 | 7,099,273     |
| CTX-861PC   | Service-Based Compression of Content within a Network Communication System                                  | WO           | May 16, 2002 | PCT/US02/015758    |              |               |
| CTX-861US   | Service-Based Compression of Content within a Network Communication System                                  | US           | Mar 11, 2002 | 10/095,551         | Apr 4, 2006  | 7,024,460     |
| CTX-862EP   | Systems and Methods for Providing Differentiated Services Within a Network Communication System             | EP           | May 15, 2002 | EP2002000739275    | Oct 29, 2008 | EP1393496     |
| CTX-862EPDV | Systems and Methods for Providing Differentiated Services Within a Network Communication System             | EP           | May 15, 2002 | 05008744.4         | Mar 28, 2007 | EP1564960     |

| FILE NUMBER | TITLE                                                                                           | JURISDICTION | DATE FILED   | APPLICATION NUMBER | GRANT DATE   | PATENT NUMBER |
|-------------|-------------------------------------------------------------------------------------------------|--------------|--------------|--------------------|--------------|---------------|
| CTX-862GBDV | Systems and Methods for Providing Differentiated Services Within a Network Communication System | GB           | May 15, 2002 | 05008744.4         | Mar 28, 2007 | 1564960       |
| CTX-862PC   | Systems and Methods for Providing Differentiated Services Within a Network Communication System | WO           | May 15, 2002 | PCT/US02/015565    |              |               |
| CTX-862US   | Systems and Methods for Providing Differentiated Services Within a Network Communication System | US           | Apr 19, 2002 | 10/126,131         | Apr 18, 2006 | 7,031,314     |
| CTX-863US   | Transcoding Multimedia Information Within a Network Communication System                        | US           | May 9, 2002  | 10/143,441         | Oct 28, 2008 | 7,444,418     |
| CTX-864EP   | Dual Mode Service Platform Within Network Communication System                                  | EP           | May 17, 2002 | EP2002000771851    | Nov 2, 2006  | EP1393497     |
| CTX-864GB   | Dual Mode Service Platform Within Network Communication System                                  | GB           | May 17, 2002 | EP2002000771851    | Nov 2, 2006  | 1393497       |
| CTX-864PC2  | Dual Mode Service Platform Within Network Communication System                                  | WO           | May 17, 2002 | PCT/US02/015839    |              |               |
| CTX-864US   | Quality of Service Management for Multiple Connections Within a Network Communication System    | US           | May 17, 2002 | 10/150,858         | Nov 14, 2006 | 7,136,353     |
| CTX-865CN   | Methods and Systems for Secure In-Network Insertion of Web Content and Web Services             | CN           | Jun 27, 2013 | 201380044936.8     |              |               |
| CTX-865EP   | Methods and Systems for Secure In-Network Insertion of Web Content and Web Services             | EP           | Jun 27, 2013 | 13810286.8         |              |               |
| CTX-865IN   | Methods and Systems for Secure In-Network Insertion of Web Content and Web Services             | IN           | Jun 27, 2013 | 172/KOLNP/2015     |              |               |
| CTX-865PC   | Methods and Systems for Secure In-Network Insertion of Web Content and Web Services             | WO           | Jun 27, 2013 | PCT/US13/048366    |              |               |
| CTX-865US   | Methods and Systems for Secure In-Network Insertion of Web Content and Web Services             | US           | Jun 28, 2012 | 13/536,285         |              |               |
| CTX-866US   | Method and System of Location-Based Content Organization and Content Suggestions                | US           | Jun 28, 2012 | 13/536,350         | Nov 18, 2014 | 8,892,551     |
| CTX-867US   | No-Click Log-In Access to User's Web Account Using a Mobile Device                              | US           | Jun 28, 2012 | 13/536,616         |              |               |
| CTX-868CN   | System and Method for Transparent In-Network Adaptation of Rich Internet Applications           | CN           | Jun 27, 2013 | 201380044064.5     |              |               |
| CTX-868EP   | System and Method for Transparent In-Network Adaptation of Rich Internet Applications           | EP           | Jun 27, 2013 | 13809263.0         |              |               |
| CTX-868IN   | System and Method for Transparent In-Network Adaptation of Rich Internet Applications           | IN           | Jun 27, 2013 | 171/KOLNP/2015     |              |               |
| CTX-868PC   | System and Method for Transparent In-Network Adaptation of Rich Internet Applications           | WO           | Jun 27, 2013 | PCT/US13/048369    |              |               |
| CTX-868US   | System and Method for Transparent In-Network Adaptation of Rich Internet Applications           | US           | Jun 29, 2012 | 13/537,434         | Jul 7, 2015  | 9,075,877     |
| CTX-869US   | Intelligent Client-Side Caching on Mobile Devices                                               | US           | Jun 28, 2012 | 13/536,430         |              |               |

| FILE NUMBER | TITLE                                                                                                 | JURISDICTION | DATE FILED   | APPLICATION NUMBER | GRANT DATE | PATENT NUMBER |
|-------------|-------------------------------------------------------------------------------------------------------|--------------|--------------|--------------------|------------|---------------|
| CTX-1033PC  | Methods and Systems for Quantifying the Holistic Quality of Experience for Internet Multimedia        | WO           | Aug 29, 2014 | PCT/US14/53588     |            |               |
| CTX-1033US  | Methods and Systems for Quantifying the Holistic Quality of Experience for Internet Multimedia        | US           | Aug 30, 2013 | 14/015,866         |            |               |
| CTX-1045PC  | Methods and Systems for Optimal Delivery of Internet Video Over Wireless Networks                     | WO           | Oct 29, 2014 | PCT/US14/62988     |            |               |
| CTX-1045US  | Methods and Systems for Optimal Delivery of Internet Video Over Wireless Networks                     | US           | Oct 29, 2013 | 14/066,615         |            |               |
| CTX-1068PC  | Systems and Methods for Media Format Substitution                                                     | WO           | Mar 4, 2015  | PCT/US15/18797     |            |               |
| CTX-1068US  | Systems and Methods for Media Format Substitution                                                     | US           | Mar 5, 2014  | 14/198,276         |            |               |
| CTX-1126US  | Detecting Client Device Identity at a TCP Proxy                                                       | US           | Sep 30, 2014 | 14/503,092         |            |               |
| CTX-1131US  | A method to detect presence of video content inside encrypted transaction                             | US           | Sep 30, 2014 | 14/503,274         |            |               |
| CTX-1136US  | Systems and Methods for Handling of Partial Videos for Caching and Optimization                       | US           | Dec 19, 2014 | 14/577,078         |            |               |
| CTX-1143US  | A mechanism for large scale bandwidth management of IP flows using a hierarchy of traffic shaping     | US           | Jan 12, 2015 | 14/595,070         |            |               |
| CTX-1173US  | Method for Computing User Experience Indexing Metrics for a class of Encrypted Adaptive Bitrate Video | US           | Feb 13, 2015 | 14/622,139         |            |               |
| CTX-1174US  | Method for Detecting Site Identity in SSL/TLS Encrypted Traffic                                       | US           | Feb 26, 2015 | 14/632,913         |            |               |
| CTX-1175US  | Method for Detection and Classification of Encrypted Multimedia Content using Pattern Matching        | US           | Feb 24, 2015 | 14/629,917         |            |               |