

| Country Code | Patent # | Title                                                                                                                                                              | Previous Owner                                                           |
|--------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------|
| US           | 8165187  | <u>Periodic calibration for communication channels by drift tracking</u>                                                                                           | Rambus Inc.                                                              |
| US           | 10741237 | <u>Strobe-offset control circuit</u>                                                                                                                               | Rambus Inc.                                                              |
| US           | 7715501  | <u>Partial Response Receiver</u>                                                                                                                                   | Rambus Inc.                                                              |
| US           | 7715471  | <u>Signaling system with selectively-inhibited adaptive equalization</u>                                                                                           | Rambus Inc.                                                              |
| US           | 11797227 | <u>Memory controller for micro-threaded memory operations</u>                                                                                                      | Rambus Inc.                                                              |
| US           | 10331379 | <u>Memory controller for micro-threaded memory operations</u>                                                                                                      | Rambus Inc.                                                              |
| US           | 9652176  | <u>Memory controller for micro-threaded memory operations</u>                                                                                                      | Rambus Inc.                                                              |
| US           | 9292223  | <u>Micro-Threaded Memory</u>                                                                                                                                       | Rambus Inc.                                                              |
| US           | 7301831  | <u>MEMORY SYSTEMS WITH VARIABLE DELAYS FOR WRITE DATA SIGNALS</u>                                                                                                  | Rambus Inc.                                                              |
| US           | 7397848  | <u>Partial Response Receiver</u>                                                                                                                                   | Rambus Inc.                                                              |
| US           | 8595459  | <u>Micro-Threaded Memory</u>                                                                                                                                       | Rambus Inc.                                                              |
| US           | 7400670  | <u>Periodic calibration for communication channels by drift tracking</u>                                                                                           | Rambus Inc.                                                              |
| US           | 8144792  | <u>Communication Channel Calibration for Drift Conditions</u>                                                                                                      | Rambus Inc.                                                              |
| US           | 12050590 | <u>DATA VERIFICATION IN A DISTRIBUTED DATA PROCESSING SYSTEM</u>                                                                                                   | NEDERLANDSE ORGANISATIE VOOR TOEGEPAST- NATUURWETENSCHAPPELIJK ONDERZOEK |
| US           | 11716591 | <u>DETERMINING A POSITION OF A MOBILE COMMUNICATION DEVICE</u>                                                                                                     | NEDERLANDSE ORGANISATIE VOOR TOEGEPAST- NATUURWETENSCHAPPELIJK ONDERZOEK |
| US           | 12095664 | <u>APPLICATION WIRE</u>                                                                                                                                            |                                                                          |
| US           | 9485176  | <u>GLOBAL IP-BASED SERVICE-ORIENTED NETWORK ARCHITECTURE</u>                                                                                                       |                                                                          |
| US           | 10977237 | <u>DATA VERIFICATION IN A DISTRIBUTED DATA PROCESSING SYSTEM</u>                                                                                                   | NEDERLANDSE ORGANISATIE VOOR TOEGEPAST- NATUURWETENSCHAPPELIJK ONDERZOEK |
| US           | 8966363  | <u>PRINT CONTROL PROGRAM AND METHOD</u>                                                                                                                            | Sharp Kabushiki Kaisha                                                   |
| US           | 7630397  | <u>EFFICIENT SCALABLE IMPLEMENTATION OF VCAT/LCAS FOR SDH AND PDH SIGNALS</u>                                                                                      |                                                                          |
| US           | 8619784  | <u>MAPPING PBT AND PBB-TE TRAFFIC TO VPLS AND OTHER SERVICES</u>                                                                                                   |                                                                          |
| US           | 9229999  | <u>USING AVERAGE REPLICATION LATENCY TO INFLUENCE ROUTING QUERY TRANSACTIONS</u>                                                                                   | International Business Machines Corporation                              |
| US           | 8213311  | <u>CONTROL PLANE TO DATA PLANE BINDING</u>                                                                                                                         |                                                                          |
| US           | 9172638  | <u>GLOBAL IP-BASED SERVICE-ORIENTED NETWORK ARCHITECTURE</u>                                                                                                       |                                                                          |
| US           | 9672731  | <u>SYSTEM A PROCESSING UNIT A METHOD AND A COMPUTER PROGRAM PRODUCT FOR MONITORING SENSORS</u>                                                                     | NEDERLANDSE ORGANISATIE VOOR TOEGEPAST- NATUURWETENSCHAPPELIJK ONDERZOEK |
| US           | 8655080  | <u>METHOD AND APPARATUS FOR IDENTIFYING COMBINATIONS OF MATCHING REGIONS IN IMAGES</u>                                                                             | NEDERLANDSE ORGANISATIE VOOR TOEGEPAST- NATUURWETENSCHAPPELIJK ONDERZOEK |
| US           | 9749249  | <u>PSEUDOWIRE PROTECTION USING A STANDBY PSEUDOWIRE</u>                                                                                                            |                                                                          |
| US           | 9020052  | <u>MIMO communication method and devices</u>                                                                                                                       |                                                                          |
| US           | 8811392  | <u>Lightweight control-plane signaling for aggregation devices in a network</u>                                                                                    |                                                                          |
| US           | 8958819  | <u>FEMTO-ASSISTED LOCATION ESTIMATION IN MACRO-FEMTO HETEROGENEOUS NETWORKS</u>                                                                                    |                                                                          |
| US           | 8385355  | <u>E-TREES OVER MPLS AND PBB-TE NETWORKS</u>                                                                                                                       |                                                                          |
| US           | 8670331  | <u>Method and apparatus for detecting Ethernet operation, administration and maintenance (OAM)</u>                                                                 |                                                                          |
| US           | 7630381  | <u>DISTRIBUTED PATCH DISTRIBUTION</u>                                                                                                                              |                                                                          |
| US           | 8200773  | <u>CLIENT-SIDE NETWORK ACCESS POLICIES AND MANAGEMENT APPLICATIONS</u>                                                                                             | International Business Machines Corporation                              |
| US           | 10938708 | <u>SEARCH FOR DISJOINT PATHS THROUGH A NETWORK</u>                                                                                                                 | NEDERLANDSE ORGANISATIE VOOR TOEGEPAST- NATUURWETENSCHAPPELIJK ONDERZOEK |
| US           | 7940652  | <u>PSEUDOWIRE PROTECTION USING A STANDBY PSEUDOWIRE</u>                                                                                                            |                                                                          |
| US           | 8775683  | <u>Exchanging control codes between SIP/IMS and UPnP network elements</u>                                                                                          | NEDERLANDSE ORGANISATIE VOOR TOEGEPAST- NATUURWETENSCHAPPELIJK ONDERZOEK |
| US           | 9219533  | <u>Systems and methods for downlink scheduling in multiple input multiple output wireless communications systems</u>                                               |                                                                          |
| US           | 8949381  | <u>NETWORK SERVICE PROVISIONING</u>                                                                                                                                |                                                                          |
| US           | 8271828  | <u>RESTARTING NETWORKS</u>                                                                                                                                         | NEDERLANDSE ORGANISATIE VOOR TOEGEPAST- NATUURWETENSCHAPPELIJK ONDERZOEK |
| CA           | 2654190  | <u>SYSTEM AND METHOD FOR RADIO NETWORK PLANNING WITH HSDPA ANALYSIS</u>                                                                                            | NEDERLANDSE ORGANISATIE VOOR TOEGEPAST- NATUURWETENSCHAPPELIJK ONDERZOEK |
| US           | 7523858  | <u>DEVICE AND METHODS FOR SECURE TRANSACTIONS</u>                                                                                                                  |                                                                          |
| US           | 10302947 | <u>HEAD MOUNTED DISPLAY</u>                                                                                                                                        | NEDERLANDSE ORGANISATIE VOOR TOEGEPAST- NATUURWETENSCHAPPELIJK ONDERZOEK |
| US           | 9843509  | <u>APPLICATION WIRE</u>                                                                                                                                            |                                                                          |
| US           | 7558287  | <u>COMBINED HARDWARE AND SOFTWARE IMPLEMENTATION OF LINK CAPACITY ADJUSTMENT SCHEME (LCAS) IN SONET (SYNCHRONOUS OPTICAL NETWORK) VIRTUAL CONCATENATION (VCAT)</u> |                                                                          |
| US           | 9161299  | <u>Remote radio header selection</u>                                                                                                                               |                                                                          |
| US           | 8938075  | <u>Method and device for establishing a communication session</u>                                                                                                  | NEDERLANDSE ORGANISATIE VOOR TOEGEPAST- NATUURWETENSCHAPPELIJK ONDERZOEK |
| US           | 10735320 | <u>APPLICATION WIRE</u>                                                                                                                                            |                                                                          |
| US           | 9769342  | <u>ELECTRIC APPARATUS</u>                                                                                                                                          | Sharp Kabushiki Kaisha                                                   |

|    |          |                                                                                                                                                                  |                                                                          |
|----|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------|
| US | 9832042  | MAPPING PBT AND PBB-TE TRAFFIC TO VPLS AND OTHER SERVICES                                                                                                        |                                                                          |
| US | 8707171  | SERVICE REGISTRY POLICY EDITING USER INTERFACE                                                                                                                   | International Business Machines Corporation                              |
| US | 7535895  | SELECTIVELY SWITCHING DATA BETWEEN LINK INTERFACES AND PROCESSING ENGINES IN A NETWORK SWITCH                                                                    |                                                                          |
| US | 9922111  | DATA RESTORATION UTILIZING REDUNDANCY DATA                                                                                                                       |                                                                          |
| US | 8055651  | DISTRIBUTION OF JOIN OPERATIONS ON A MULTI-NODE COMPUTER SYSTEM                                                                                                  | International Business Machines Corporation                              |
| US | 7613213  | TIME MULTIPLEXED SONET LINE PROCESSING                                                                                                                           |                                                                          |
| US | 8554715  | Electronic document classification apparatus                                                                                                                     | NEDERLANDSE ORGANISATIE VOOR TOEGEPAST- NATUURWETENSCHAPPELIJK ONDERZOEK |
| US | 7570400  | DOCUMENT READING DEVICE                                                                                                                                          | Sharp Kabushiki Kaisha                                                   |
| US | 7609621  | AUTOMATIC PROTECTION NETWORK SWITCHING                                                                                                                           |                                                                          |
| US | 9161304  | Power management based on discontinuous reception cycles in a mobile communication system                                                                        |                                                                          |
| US | 10429764 | NETWORK SYSTEM COMPRISING CUSTOMER REPLACEABLE UNIT                                                                                                              | Sharp Kabushiki Kaisha                                                   |
| US | 8588061  | APPLICATION WIRE                                                                                                                                                 |                                                                          |
| US | 8018880  | LAYER 2 VIRTUAL PRIVATE NETWORK OVER PBB-TE/PBT AND SEAMLESS INTERWORKING WITH VPLS                                                                              |                                                                          |
| US | 8731563  | MOBILE TERMINAL AND MOBILE STATE REPORTING METHOD THEREOF                                                                                                        |                                                                          |
| US | 9118393  | ENHANCING A PUSH-TO-TALK COMMUNICATION SYSTEM                                                                                                                    | NEDERLANDSE ORGANISATIE VOOR TOEGEPAST- NATUURWETENSCHAPPELIJK ONDERZOEK |
| US | 9235259  | METHOD FOR DETECTING AUDIO TICKS IN A NOISY ENVIRONMENT                                                                                                          | NEDERLANDSE ORGANISATIE VOOR TOEGEPAST- NATUURWETENSCHAPPELIJK ONDERZOEK |
| US | 8234705  | CONTAGION ISOLATION AND INOCULATION                                                                                                                              |                                                                          |
| US | 9442992  | ACCESS SYSTEM AND METHOD FOR ACCESSING SIGNAL DATA                                                                                                               | NEDERLANDSE ORGANISATIE VOOR TOEGEPAST- NATUURWETENSCHAPPELIJK ONDERZOEK |
| US | 11540085 | Determining a position of a mobile communication device                                                                                                          | NEDERLANDSE ORGANISATIE VOOR TOEGEPAST- NATUURWETENSCHAPPELIJK ONDERZOEK |
| US | 8832486  | METHOD AND SYSTEM FOR PREDICTING THE POWER CONSUMPTION OF A MOBILE TERMINAL                                                                                      | NEDERLANDSE ORGANISATIE VOOR TOEGEPAST- NATUURWETENSCHAPPELIJK ONDERZOEK |
| US | 8483131  | METHOD FOR NEGOTIATING AND TRANSMITTING LENGTH INFORMATION OF LOCATION UPDATE TIME                                                                               |                                                                          |
| US | 11128567 | APPLICATION WIRE                                                                                                                                                 |                                                                          |
| US | 7840165  | TONER REPLENISHING APPARATUS IMAGE FORMING APPARATUS AND COLOR IMAGE FORMING APPARATUS                                                                           | Sharp Kabushiki Kaisha                                                   |
| US | 8527765  | SHARED SECRET VERIFICATION METHOD AND SYSTEM                                                                                                                     | NEDERLANDSE ORGANISATIE VOOR TOEGEPAST- NATUURWETENSCHAPPELIJK ONDERZOEK |
| US | 7712142  | DOCUMENT INTEGRITY                                                                                                                                               |                                                                          |
| US | 8438120  | Machine learning hyperparameter estimation                                                                                                                       | NEDERLANDSE ORGANISATIE VOOR TOEGEPAST- NATUURWETENSCHAPPELIJK ONDERZOEK |
| US | 9444733  | Proxies for pseudo-wire allocation and distribution                                                                                                              |                                                                          |
| US | 9398037  | DETECTING AND PROCESSING SUSPICIOUS NETWORK COMMUNICATIONS                                                                                                       |                                                                          |
| US | 7596570  | DATA SHARING                                                                                                                                                     |                                                                          |
| US | 9413650  | Lightweight control-plane signaling for aggregation devices in a network                                                                                         |                                                                          |
| US | 8116567  | DIGITIZING DOCUMENTS                                                                                                                                             | International Business Machines Corporation                              |
| US | 9875243  | RECOMMENDER AND MEDIA RETRIEVAL SYSTEM THAT RECORD GROUP INFORMATION                                                                                             | NEDERLANDSE ORGANISATIE VOOR TOEGEPAST- NATUURWETENSCHAPPELIJK ONDERZOEK |
| US | 7449274  | TONER FOR ELECTROSTATIC IMAGE DEVELOPMENT AND IMAGE FORMING METHOD USING THE SAME                                                                                | Sharp Kabushiki Kaisha                                                   |
| US | 9137630  | PROXY SERVERS IN DEVICE IDENTIFICATION SYSTEMS                                                                                                                   | NEDERLANDSE ORGANISATIE VOOR TOEGEPAST- NATUURWETENSCHAPPELIJK ONDERZOEK |
| US | 7568170  | Data processing setting apparatus, data processing setting method, data processing setting program, and computer readable recording medium recording the program | Sharp Kabushiki Kaisha                                                   |
| US | 9350560  | SELECTIVE INFORMATION SHARING ACROSS TEAM SPACES                                                                                                                 | International Business Machines Corporation                              |
| US | 8104092  | DOCUMENT INTEGRITY ASSURANCE                                                                                                                                     |                                                                          |
| US | 8965892  | IDENTITY-BASED FILTERING                                                                                                                                         |                                                                          |
| US | 9143418  | NETWORK TRANSMISSION CAPACITY MEASUREMENT                                                                                                                        | NEDERLANDSE ORGANISATIE VOOR TOEGEPAST- NATUURWETENSCHAPPELIJK ONDERZOEK |
| US | 9912661  | IDENTIFICATION OF PROXIMATE DEVICES                                                                                                                              | NEDERLANDSE ORGANISATIE VOOR TOEGEPAST- NATUURWETENSCHAPPELIJK ONDERZOEK |
| US | 9361264  | SYSTEMS AND METHODS FOR ACCESS AND CONTROL OF HARDWARE DEVICE RESOURCES USING DEVICE-INDEPENDENT ACCESS INTERFACES                                               | International Business Machines Corporation                              |
| US | 10812933 | Determining a position of a mobile communication device                                                                                                          | NEDERLANDSE ORGANISATIE VOOR TOEGEPAST- NATUURWETENSCHAPPELIJK ONDERZOEK |
| US | 7970009  | METHOD FOR PERFORMING PROTOCOL TRANSLATION IN A NETWORK SWITCH                                                                                                   |                                                                          |
| US | 9760865  | MULTI-MODAL TRANSCRIPT UNIFICATION IN A COLLABORATIVE ENVIRONMENT                                                                                                | International Business Machines Corporation                              |
| US | 7899916  | VIRTUAL SERVICE ENDPOINT                                                                                                                                         |                                                                          |
| US | 9602649  | EVENT DISAMBIGUATION                                                                                                                                             | NEDERLANDSE ORGANISATIE VOOR TOEGEPAST- NATUURWETENSCHAPPELIJK ONDERZOEK |
| US | 9261591  | Measurement agent, a tag, a method for measuring, a method for serving measuring and a computer program product                                                  | NEDERLANDSE ORGANISATIE VOOR TOEGEPAST- NATUURWETENSCHAPPELIJK ONDERZOEK |
| US | 7885918  | CREATING A TAXONOMY FROM BUSINESS-ORIENTED METADATA CONTENT                                                                                                      | International Business Machines Corporation                              |
| US | 8144717  | Initialization of a wireless communication network                                                                                                               | NEDERLANDSE ORGANISATIE VOOR TOEGEPAST- NATUURWETENSCHAPPELIJK ONDERZOEK |
| US | 9160658  | Proxies for pseudo-wire allocation and distribution                                                                                                              |                                                                          |
| US | 8848711  | GLOBAL IP-BASED SERVICE-ORIENTED NETWORK ARCHITECTURE                                                                                                            |                                                                          |

|    |          |                                                                                                                                                                                                                                                      |                                                                          |
|----|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------|
| US | 7254589  | Apparatus and method for managing and inferencing contextual relationships accessed by the context engine to answer queries received from the application program interface, wherein ontology manager is operationally coupled with a working memory | International Business Machines Corporation                              |
| US | 8873531  | DEVICE SYSTEM AND METHOD OF INDICATING STATION-SPECIFIC INFORMATION WITHIN A WIRELESS COMMUNICATION                                                                                                                                                  | Intel Corporation                                                        |
| US | 8433537  | IDENTIFYING MOBILE DEVICES                                                                                                                                                                                                                           |                                                                          |
| US | 8825797  | METHOD AND SYSTEM FOR PROVIDING USER SERVICE DATA                                                                                                                                                                                                    |                                                                          |
| US | 8209038  | SYSTEM AND METHOD FOR RADIO NETWORK PLANNING WITH HSDPA ANALYSIS                                                                                                                                                                                     | NEDERLANDSE ORGANISATIE VOOR TOEGEPAST- NATUURWETENSCHAPPELIJK ONDERZOEK |
| US | 10411999 | APPLICATION WIRE                                                                                                                                                                                                                                     |                                                                          |
| US | 8885642  | SUPPORT FOR NETWORK ROUTING SELECTION                                                                                                                                                                                                                | NEDERLANDSE ORGANISATIE VOOR TOEGEPAST- NATUURWETENSCHAPPELIJK ONDERZOEK |
| US | 8929312  | DYNAMIC RESOURCE MANAGEMENT FOR ORTHOGONAL FREQUENCY DIVISION MULTIPLE ACCESS WIRELESS NETWORKS                                                                                                                                                      |                                                                          |
| US | 10175605 | NETWORK SYSTEM COMPRISING CUSTOMER REPLACEABLE UNIT                                                                                                                                                                                                  | Sharp Kabushiki Kaisha                                                   |
| US | 9197675  | APPLICATION WIRE                                                                                                                                                                                                                                     |                                                                          |
| US | 9516048  | CONTAGION ISOLATION AND INOCULATION VIA QUARANTINE                                                                                                                                                                                                   |                                                                          |
| US | 8274711  | Document reading apparatus capable of sequentially reading documents stacked on an automatic document feeder and a document set on a platen                                                                                                          | Sharp Kabushiki Kaisha                                                   |
| US | 8438448  | DECODING METHOD AND DEVICE FOR LOW DENSITY GENERATOR MATRIX CODES                                                                                                                                                                                    |                                                                          |
| US | 9754307  | RECOMMENDER SYSTEM AND MEDIA RETRIEVAL SYSTEM FOR PROVIDING RECOMMENDATIONS TO GROUPS OF USERS                                                                                                                                                       | NEDERLANDSE ORGANISATIE VOOR TOEGEPAST- NATUURWETENSCHAPPELIJK ONDERZOEK |
| US | 10018938 | NETWORK SYSTEM COMPRISING CUSTOMER REPLACEABLE UNIT                                                                                                                                                                                                  | Sharp Kabushiki Kaisha                                                   |
| US | 8645480  | TRUST REPRESENTATION BY SIMILARITY                                                                                                                                                                                                                   |                                                                          |
| US | 8149844  | UPDATE ACQUISITION                                                                                                                                                                                                                                   |                                                                          |
| US | 9397825  | METHOD AND SYSTEM FOR RECONSTRUCTION OF A DATA OBJECT FROM DISTRIBUTED REDUNDANT DATA PARTS                                                                                                                                                          | NEDERLANDSE ORGANISATIE VOOR TOEGEPAST- NATUURWETENSCHAPPELIJK ONDERZOEK |
| US | 8650479  | Guided attachment of policies in a service registry environment                                                                                                                                                                                      | International Business Machines Corporation                              |
| US | 7852504  | IMAGE FORMING DEVICE PRINT JOB TRANSMISSION DEVICE DATA MANAGEMENT DEVICE PROGRAM STORAGE MEDIUM AND METHOD FOR SUPPLYING PRINT SHEET                                                                                                                | Sharp Kabushiki Kaisha                                                   |
| US | 9264354  | MAPPING PBT AND PBB-TE TRAFFIC TO VPLS AND OTHER SERVICES                                                                                                                                                                                            |                                                                          |
| US | 8548324  | METHOD AND APPARATUS FOR REGULATING SERVICE OF OPTICAL SYNCHRONOUS DIGITAL HIERARCHY NETWORK                                                                                                                                                         |                                                                          |
| US | 8374154  | DEVICE SYSTEM AND METHOD OF SIMULTANEOUSLY COMMUNICATING WITH A GROUP OF WIRELESS COMMUNICATION DEVICES                                                                                                                                              | Intel Corporation                                                        |
| US | 8782282  | NETWORK MANAGEMENT SYSTEM                                                                                                                                                                                                                            |                                                                          |
| US | 8176411  | INTEGRATING AN APPLLET INTO A MULTI-PAGE OR MULTI-TASKING WEB APPLICATION TO ENABLE APPLLET STATE TO BE AUTOMATICALLY SAVED AND RESTORED                                                                                                             | International Business Machines Corporation                              |
| US | 9201941  | EFFICIENT DATA SHARING                                                                                                                                                                                                                               |                                                                          |
| US | 8582427  | PSEUDOWIRE PROTECTION USING A STANDBY PSEUDOWIRE                                                                                                                                                                                                     |                                                                          |
| US | 8219997  | Execution the job that is divided into job tasks based on the estimated completion time                                                                                                                                                              | International Business Machines Corporation                              |
| US | 7123851  | ADJUSTMENT METHOD OF IMAGE FORMING DEVICE IMAGE FORMING DEVICE ADJUSTMENT METHOD OF IMAGE FORMING SYSTEM IMAGE FORMING SYSTEM AND ADJUSTMENT METHOD OF IMAGE SCANNING DEVICE                                                                         | Sharp Kabushiki Kaisha                                                   |
| US | 9367521  | CONTENT AND CONTEXT BASED HANDLING OF INSTANT MESSAGES                                                                                                                                                                                               | International Business Machines Corporation                              |
| US | 9167043  | SERVERS FOR DEVICE IDENTIFICATION SERVICES                                                                                                                                                                                                           | NEDERLANDSE ORGANISATIE VOOR TOEGEPAST- NATUURWETENSCHAPPELIJK ONDERZOEK |

