

Axway Inc. - Active Tumbleweed-Sourced Families

| Managed File Transfer (MFT) |                 |                |             |                    | Firewall           |                          |           | CA                    |             |                  |               |            |  |          |            |               |                                   |
|-----------------------------|-----------------|----------------|-------------|--------------------|--------------------|--------------------------|-----------|-----------------------|-------------|------------------|---------------|------------|--|----------|------------|---------------|-----------------------------------|
| Managed File Transfer (MFT) | MFT-Doc Convert | MFT-Enrollment | Private URL | Policy Enforcement | Messaging Firewall | Crypto-Security Firewall | Anti-Spam | Certificate Authority | Reference # | Client Reference | Application # | Filed Date | Title  | Patent # | Issue Date | Country Name  | Status                            |
| √                           |                 |                |             |                    |                    |                          |           |                       | 50326.00015 | 127-0001TW       | 086115643     | 10/22/1997 | Electronic Document Delivery System In which Notification Of Said Electronic Document Is Sent To A Recipient Thereof | 118892   | 8/1/2000   | TAIWAN        | ISSUED (will lapse in due course) |
| √                           |                 |                |             |                    |                    |                          |           |                       | 50326.00007 | 127-0001-2TW     | 087116360     | 10/1/1998  | Method And Apparatus For Delivering Documents Over An Electronic Network   | 146895   | 12/1/2001  | TAIWAN        | ISSUED (will lapse in due course) |
| √                           |                 |                |             |                    |                    |                          |           |                       | 50326.00001 | 127-0001 US      | 08/738966     | 10/24/1996 | Electronic Document Delivery System In which Notification Of Said Electronic Document Is Sent To A Recipient Thereof | 5790790  | 8/4/1998   | UNITED STATES | ISSUED                            |
| √                           |                 |                | √           |                    |                    |                          |           |                       | 50326.00002 | 127-0001-1 US    | 08/832784     | 4/4/1997   | Private, Trackable URLs For Directed Document Delivery   | 6192407  | 2/20/2001  | UNITED STATES | ISSUED                            |
| √                           |                 |                |             |                    |                    |                          |           |                       | 50326.00004 | 127-0001-2 US    | 08/957986     | 10/2/1997  | Method And Apparatus For Delivering Documents Over An Electronic Network   | 6385655  | 5/7/2002   | UNITED STATES | ISSUED                            |
| √                           |                 |                | √           |                    |                    |                          |           |                       | 50326.00008 | 127-0001-3 US    | 09/353164     | 7/14/1999  | Electronic Document Delivery System In Which Notification Of Said Electronic Document Is Sent To A Recipient Thereof | 6487599  | 11/26/2002 | UNITED STATES | ISSUED                            |
|                             |                 |                | √           |                    |                    |                          |           |                       | 50326.00010 | 127-0001-5 US    | 09/522250     | 3/9/2000   | Private Trackable URLs For Directed Document Delivery  | 6529956  | 3/4/2003   | UNITED STATES | ISSUED                            |
|                             | √               | √              |             |                    |                    |                          |           |                       | 50326.00016 | 127-0002 US      | 08/792171     | 1/30/1997  | Distributed Dynamic Document Conversion Server   | 6119137  | 9/12/2000  | UNITED STATES | ISSUED                            |
| √                           |                 |                |             |                    |                    |                          |           |                       | 50326.00022 | 127-0003TW       | 087104858     | 3/31/1998  | Document Delivery System   | 117795   | 7/1/2000   | TAIWAN        | ISSUED (will lapse in due course) |
| √                           |                 |                |             |                    |                    |                          |           |                       | 50326.00018 | 127-0003 US      | 08/829976     | 4/1/1997   | Distributed Dynamic Document Conversion Server   | 6061448  | 5/9/2000   | UNITED STATES | ISSUED                            |
| √                           | √               |                |             |                    |                    | √                        |           |                       | 50326.00023 | 127-0004 US      | 09/122619     | 7/23/1998  | Method And Apparatus For Effecting Secure Document Format Conversion   | 6151675  | 11/21/2000 | UNITED STATES | ISSUED                            |
| √                           | √               |                |             |                    |                    | √                        |           |                       | 50326.00024 | 127-0004-1 US    | 09/715940     | 11/17/2000 | Method And Apparatus For Effecting Secure Document Format Conversion   | 6470086  | 10/22/2002 | UNITED STATES | ISSUED                            |
| √                           | √               |                |             |                    |                    | √                        |           |                       | 50326.00025 | 127-0004-2 US    | 10/013765     | 12/10/2001 | Method And Apparatus For Effecting Secure Document Format Conversion   | 6516411  | 2/4/2003   | UNITED STATES | ISSUED                            |
| √                           | √               |                |             |                    |                    | √                        |           |                       | 50326.00026 | 127-0004-3 US    | 10/356833     | 2/3/2003   | Method And Apparatus For Effecting Secure Document Format Conversion   | 6748529  | 6/8/2004   | UNITED STATES | ISSUED                            |
| √                           |                 | √              |             |                    |                    |                          |           |                       | 50326.00034 | 127-0005 US      | 09/057966     | 4/9/1998   | Sender Driven Certificate Enrollment System  | 6651166  | 11/18/2003 | UNITED STATES | ISSUED                            |
| √                           |                 | √              |             |                    |                    |                          |           |                       | 50326.00041 | 127-0006 CA      | 2383000       | 8/16/2000  | Solicited Authentication Of A Specific User  | 2383000  | 4/12/2011  | CANADA        | ISSUED                            |
| √                           |                 | √              |             |                    |                    |                          |           |                       | 50326.00036 | 127-0006 US      | 09/387444     | 8/31/1999  | Solicited Authentication Of A Specific User  | 6725381  | 4/20/2004  | UNITED STATES | ISSUED                            |
| √                           |                 | √              |             |                    |                    |                          |           |                       | 50326.00037 | 127-0006-1 US    | 10/763968     | 1/23/2004  | Solicited Authentication Of A Specific User  | 7356834  | 4/8/2008   | UNITED STATES | ISSUED                            |
|                             |                 | √              |             |                    |                    |                          |           |                       | 50326.00038 | 127-0006-2 US    | 12/098321     | 4/4/2008   | Solicited Authentication Of A Specific User  | 8234690  | 7/31/2012  | UNITED STATES | ISSUED                            |
|                             |                 | √              |             |                    |                    |                          |           |                       | 50326.00039 | 127-0006-3 US    | 13/560986     | 7/27/2012  | Solicited Authentication Of A Specific User  | 8661509  | 2/25/2014  | UNITED STATES | ISSUED                            |
| √                           |                 |                |             | √                  |                    |                          |           |                       | 50326.00046 | 127-0007 US      | 09/540023     | 3/31/2000  | Policy Enforcement In A Secure Data File Delivery System   | 6826609  | 11/30/2004 | UNITED STATES | ISSUED                            |
| √                           |                 |                |             | √                  |                    |                          |           |                       | 50326.00048 | 127-0007-2 US    | 10/790901     | 3/1/2004   | Policy Enforcement In A Secure Data File Delivery System   | 8196183  | 6/5/2012   | UNITED STATES | ISSUED                            |
| √                           |                 |                |             | √                  |                    |                          |           |                       | 50326.00049 | 127-0007-3 US    | 13/481549     | 5/25/2012  | Policy Enforcement In A Secure Data File Delivery System   |          |            | UNITED STATES | PENDING/Published                 |
|                             |                 |                |             |                    | √                  | √                        |           |                       | 50326.00051 | 127-0008-1 US    | 09/967117     | 9/29/2001  | E-Mail Firewall With Stored Key Encryption/Decryption  | 7162738  | 1/9/2007   | UNITED STATES | INACTIVE/Reissued                 |
|                             |                 |                |             |                    | √                  | √                        |           |                       | 50326.00063 | 127-0008-6 US    | 11/516365     | 9/5/2006   | E-Mail Firewall With Policy-Based Cryptosecurity   | 8255683  | 8/28/2012  | UNITED STATES | ISSUED                            |
|                             |                 |                |             |                    | √                  | √                        |           |                       | 50326.00064 | 127-0008-7 US    | 11/642117     | 12/20/2006 | E-Mail Firewall With Stored Key Encryption/Decryption  | 8607042  | 12/10/2013 | UNITED STATES | ISSUED                            |
|                             |                 |                |             |                    | √                  |                          |           |                       | 50326.00065 | 127-0008-8 US    | 11/642165     | 12/19/2006 | E-Mail Firewall  | 7380274  | 5/27/2008  | UNITED STATES | ISSUED                            |
|                             |                 |                |             |                    | √                  | √                        |           |                       | 50326.00066 | 127-0008-9 US    | 11/807953     | 5/29/2007  | E-Mail Firewall With Stored Key Encryption/Decryption  | RE43302  | 4/3/2012   | UNITED STATES | ISSUED                            |
|                             |                 |                |             |                    | √                  |                          | √         |                       | 50326.00052 | 127-0008-10 US   | 12/355538     | 1/16/2009  | Delay Technique In E-Mail Filtering System   |          |            | UNITED STATES | PENDING/Published                 |
|                             |                 |                |             |                    | √                  | √                        |           |                       | 50326.00053 | 127-0008-11 US   | 13/595621     | 8/27/2012  | E-Mail Firewall With Policy-Based Cryptosecurity   | 8806191  | 8/12/2014  | UNITED STATES | ISSUED                            |
|                             |                 |                |             |                    | √                  |                          |           |                       | 50326.00178 |                  | 14/453441     | 8/6/2014   | E-Mail Firewall With Policy-Based Cryptosecurity   |          |            | UNITED STATES | PENDING/Published                 |
|                             |                 |                |             |                    | √                  | √                        |           |                       | 50326.00068 | 127-0008CA       | 2301147       | 7/23/1998  | E-Mail Firewall With Stored Key Encryption/Decryption  | 2301147  | 7/13/2010  | CANADA        | ISSUED                            |

| Managed File Transfer (MFT) |                 |                |             |                    | Firewall           |                          |           | CA                    |               |                  |                          |            |  |          |            |                            |                                   |
|-----------------------------|-----------------|----------------|-------------|--------------------|--------------------|--------------------------|-----------|-----------------------|---------------|------------------|--------------------------|------------|--|----------|------------|----------------------------|-----------------------------------|
| Managed File Transfer (MFT) | MFT-Doc Convert | MFT-Enrollment | Private URL | Policy Enforcement | Messaging Firewall | Crypto-Security Firewall | Anti-Spam | Certificate Authority | Reference #   | Client Reference | Application #            | Filed Date | Title  | Patent # | Issue Date | Country Name               | Status                            |
|                             |                 |                |             |                    | √                  | √                        |           |                       | 50326.00069   | 127-00008 SWIT   | 98939097.6               | 7/23/1998  | E-Mail Firewall With Stored Key Encryption/Decryption  | 1010283  | 11/29/2006 | SWITZERLAND                | ISSUED                            |
|                             |                 |                |             |                    | √                  | √                        |           |                       | 50326.00070   | 127-0008GERM     | 98939097.6/DE19986036545 | 7/23/1998  | E-Mail Firewall With Stored Key Encryption/Decryption  | 1010283  | 11/29/2006 | GERMANY                    | ISSUED                            |
|                             |                 |                |             |                    | √                  |                          |           |                       | 50326.00054   | 127-0008-1 GERM  | 06022815.2               | 11/2/2006  | E-Mail Firewall  | 1750384  | 9/30/2009  | GERMANY                    | ISSUED                            |
|                             |                 |                |             |                    | √                  | √                        |           |                       | 50326.00071   | 127-0008EPC      | 98939097.6               | 7/23/1998  | E-Mail Firewall With Stored Key Encryption/Decryption  | 1010283  | 11/29/2006 | EUROPEAN PATENT CONVENTION | ISSUED                            |
|                             |                 |                |             |                    | √                  |                          |           |                       | 50326.00055   | 127-0008-1 EPC   | 06022815.2               | 11/2/2006  | E-Mail Firewall  | 1750384  | 9/30/2009  | EUROPEAN PATENT CONVENT    | ISSUED                            |
|                             |                 |                |             |                    | √                  | √                        |           |                       | 50326.00072   | 127-0008FRAN     | 98939097.6               | 7/23/1998  | E-Mail Firewall With Stored Key Encryption/Decryption  | 1010283  | 11/29/2006 | FRANCE                     | ISSUED                            |
|                             |                 |                |             |                    | √                  |                          |           |                       | 50326.00056   | 127-0008-1 FRAN  | 06022815.2               | 7/23/1998  | E-Mail Firewall  | 1750384  | 9/30/2009  | FRANCE                     | ISSUED                            |
|                             |                 |                |             |                    | √                  | √                        |           |                       | 50326.00073   | 127-0008GBRI     | 98939097.6               | 7/23/1998  | E-Mail Firewall With Stored Key Encryption/Decryption  | 1010283  | 11/29/2006 | UNITED KINGDOM             | ISSUED                            |
|                             |                 |                |             |                    | √                  |                          |           |                       | 50326.00057   | 127-0008-1 GBRI  | 06022815.2               | 7/23/1998  | E-Mail Firewall  | 1750384  | 9/30/2009  | UNITED KINGDOM             | ISSUED                            |
|                             |                 |                |             |                    | √                  | √                        |           |                       | 50326.00074   | 127-0008 HONG    | 98939097.6               | 7/23/1998  | E-Mail Firewall With Stored Key Encryption/Decryption  | 1010283  | 11/29/2006 | HONG KONG                  | ISSUED (will lapse in due course) |
|                             |                 |                |             |                    | √                  | √                        |           |                       | 50326.00075   | 127-0008 IREL    | 98939097.6               | 7/23/1998  | E-Mail Firewall With Stored Key Encryption/Decryption  | 1010283  | 11/29/2006 | IRELAND                    | ISSUED                            |
|                             |                 |                |             |                    | √                  | √                        |           |                       | 50326.00076   | 127-0008 JAPA    | 2000-504677              | 7/23/1998  | E-Mail Firewall With Stored Key Encryption/Decryption  | 3932319  | 3/30/2007  | JAPAN                      | ISSUED                            |
|                             |                 |                |             |                    | √                  |                          |           |                       | 50326.00058   | 127-0008-1 NETH  | 06022815.2               | 7/23/1998  | E-Mail Firewall  | 1750384  | 9/30/2009  | NETHERLANDS                | ISSUED                            |
|                             |                 |                |             |                    | √                  | √                        |           |                       | 50326.00050   | 127-0008 US      | 09/180377                | 7/23/1998  | E-Mail Firewall With Stored Key Encryption/Decryption  | 6609196  | 8/19/2003  | UNITED STATES              | ISSUED                            |
|                             |                 |                |             |                    | √                  | √                        |           |                       | 50326.00080   | 127-0009 US      | 09/887313                | 6/22/2001  | Method And System For E-Mail Message Transmission  | 7127741  | 10/24/2006 | UNITED STATES              | ISSUED                            |
|                             |                 |                |             |                    | √                  | √                        |           |                       | 50326.00081   | 127-0009-1 US    | 11/522012                | 9/14/2006  | Method And System For E-Mail Message Transmission  | 7401356  | 7/15/2008  | UNITED STATES              | ISSUED                            |
|                             |                 |                |             |                    | √                  | √                        |           |                       | 50326.00082   | 127-0009-2 US    | 12/172819                | 7/14/2008  | Method And System For Messaging Security   | 8407780  | 3/26/2013  | UNITED STATES              | ISSUED                            |
|                             |                 |                |             |                    | √                  | √                        |           |                       | 50326.00083   | 127-0009-3 US    | 13/849432                | 3/22/2013  | Method And System For Messaging Security   |          |            | UNITED STATES              | PENDING/Published                 |
| √                           | √               |                |             |                    |                    |                          |           |                       | 50326.00085   | 127-0010 US      | 08/800864                | 2/14/1997  | Method And System For Binary Data Firewall Delivery  | 6502191  | 12/31/2002 | UNITED STATES              | ISSUED                            |
|                             |                 |                |             |                    | √                  |                          | √         |                       | 50326.00086   | 127-0011 US      | 10/154137                | 5/22/2002  | Method And System For Filtering Communication  | 7117358  | 10/3/2006  | UNITED STATES              | ISSUED                            |
|                             |                 |                |             |                    |                    |                          | √         |                       | 50326.00087   | 127-0011-1 US    | 11/508779                | 8/23/2006  | Method And System For Filtering Communication  | 7389413  | 6/17/2008  | UNITED STATES              | ISSUED                            |
|                             |                 |                |             |                    | √                  |                          | √         |                       | 50326.00088   | 127-0011-2 US    | 12/140149                | 6/16/2008  | Method And System For Filtering Communication  | 8943308  | 1/27/2015  | UNITED STATES              | ISSUED                            |
|                             |                 |                |             |                    |                    |                          | √         |                       | 50326.180US04 |                  | 14/577535                | 12/19/2014 | Method And System For Filtering Communication  |          |            | UNITED STATES              | PENDING/Published                 |
|                             |                 |                |             |                    |                    |                          | √         |                       | 50326.00096   | 127-0016 US      | 10/678602                | 10/3/2003  | Dynamic Message Filtering  | 7257564  | 8/14/2007  | UNITED STATES              | ISSUED                            |
|                             |                 |                |             |                    |                    |                          | √         |                       | 50326.00097   | 127-0016-1 US    | 11/639554                | 12/15/2006 | Dynamic Message Filtering  | 7653606  | 1/26/2010  | UNITED STATES              | ISSUED                            |
|                             |                 |                |             |                    |                    | √                        |           |                       | 50326.00104   | 127-0018         | 08/956563                | 10/23/1997 | Encryption And Decryption System And Method With Content Analysis Provision                              | 6393568  | 5/21/2002  | UNITED STATES              | ISSUED                            |
|                             |                 |                |             |                    |                    |                          |           | √                     | 50326.00114   | 127-0020 SG      | 1998057052               | 5/13/1997  | Apparatus And Method For Demonstrating And Confirming The Status Of A Digital Certificate And Other Data | 60542    | 5/23/2000  | SINGAPORE                  | ISSUED (will lapse in due course) |
|                             |                 |                |             |                    |                    |                          |           | √                     | 50326.00106   | 127-0020 US      | 08/645759                | 5/14/1996  | Apparatus And Method For Demonstrating And Confirming The Status Of A Digital Certificate And Other Data | 5903651  | 5/11/1999  | UNITED STATES              | ISSUED                            |
|                             |                 |                |             |                    |                    |                          |           | √                     | 50326.00107   | 127-0020-1 US    | 09/103656                | 6/23/1998  | Apparatus And Method For Demonstrating And Confirming The Status Of A Digital Certificate And Other Data | 6532540  | 3/11/2003  | UNITED STATES              | ISSUED                            |
|                             |                 |                |             |                    |                    |                          |           | √                     | 50326.00108   | 127-0020-2 US    | 09/123732                | 7/28/1998  | Apparatus And Method For Demonstrating And Confirming The Status Of A Digital Certificate And Other Data | 6442689  | 8/27/2002  | UNITED STATES              | ISSUED                            |
|                             |                 |                |             |                    |                    |                          |           | √                     | 50326.00109   | 127-0020-3 US    | 09/511645                | 2/22/2000  | Apparatus And Method For Demonstrating And Confirming The Status Of A Digital Certificate And Other Data | 6901509  | 5/31/2005  | UNITED STATES              | ISSUED                            |

| Managed File Transfer (MFT) |                 |                |             |                    | Firewall           |                          |           | CA                    |             |                  |               |            |  |          |            |               |         |
|-----------------------------|-----------------|----------------|-------------|--------------------|--------------------|--------------------------|-----------|-----------------------|-------------|------------------|---------------|------------|--|----------|------------|---------------|---------|
| Managed File Transfer (MFT) | MFT-Doc Convert | MFT-Enrollment | Private URL | Policy Enforcement | Messaging Firewall | Crypto-Security Firewall | Anti-Spam | Certificate Authority | Reference # | Client Reference | Application # | Filed Date | Title  | Patent # | Issue Date | Country Name  | Status  |
|                             |                 |                |             |                    |                    |                          |           | √                     | 50326.00110 | 127-0020-4 US    | 10/106869     | 3/25/2002  | Apparatus And Method For Demonstrating And Confirming The Status Of A Digital Certificate And Other Data | 7073056  | 7/4/2006   | UNITED STATES | ISSUED  |
|                             |                 |                |             |                    |                    |                          |           | √                     | 50326.00111 | 127-0020-5 US    | 11/069687     | 3/1/2005   | Apparatus And Method For Demonstrating And Confirming The Status Of A Digital Certificate And Other Data | 7526644  | 4/28/2009  | UNITED STATES | ISSUED  |
| √                           |                 |                |             |                    |                    |                          |           |                       | 50326.00118 | 127-0022 US      | 09/792949     | 2/26/2001  | Mechanism For Efficient Private Bulk Messaging   | 6912285  | 6/28/2005  | UNITED STATES | ISSUED  |
| √                           |                 |                |             |                    |                    |                          |           |                       | 50326.00119 | 127-0022-1 US    | 11/107679     | 4/15/2005  | Mechanism For Efficient Private Bulk Messaging   | 8335919  | 12/18/2012 | UNITED STATES | ISSUED  |
| √                           |                 |                |             |                    |                    |                          |           |                       | 50326.00120 | 127-0022-2 US    | 13/717,297    | 12/17/2012 | Mechanism For Efficient Private Bulk Messaging   | 8924719  | 12/30/2014 | UNITED STATES | ISSUED  |
| √                           |                 |                |             |                    |                    |                          |           |                       | 50326.00179 |                  | 14/566,345    | 12/10/2014 | Mechanism For Efficient Private Bulk Messaging   |          |            | UNITED STATES | PENDING |

| Managed File Transfer (MFT) |                 |                |             |                    | Firewall           |                          |           | CA                    |
|-----------------------------|-----------------|----------------|-------------|--------------------|--------------------|--------------------------|-----------|-----------------------|
| Managed File Transfer (MFT) | MFT-Doc Convert | MFT-Enrollment | Private URL | Policy Enforcement | Messaging Firewall | Crypto-Security Firewall | Anti-Spam | Certificate Authority |
| 24                          | 6               | 7              | 3           | 3                  | 29                 | 24                       | 7         | 7                     |
| 28                          |                 |                |             |                    | 38                 |                          |           | 7                     |

Total Patent Grants:63 (44 US, 11 EMEA, 6 APAC, 2 Canada)

Applications Pending:6