# Hardware Recommendations

Revision 2013-03-05

Below are hardware recommendations and hard disk space estimates to assist with your procurement of servers/virtual machines to host the ADSI Shipping System. This estimate assumes that the Q/A and Production environments will have their SQL databases managed by your database team, and the Development Environment will have its own. These are only suggestions and the decision to add or subtract environments can be discussed. Any of these servers may be Virtualized.

## Development Environment

**ADSI Application & SQL Server**

* CPU: Intel x64 Quad Core
* RAM: 2-4 GB
* OS: Windows 2008 R2 Server (64 bit recommended)
* Software: MS SQL Server 2012
* Hard Drive Recommendation:

|  |  |
| --- | --- |
| **Purpose** | **size(GB)** |
| Operating System, .NET, IIS, Page File | 40 |
| MSSQL Executables | 15 |
| ADSI Executables & Logs | 5 |
| FedEx Executables **(installed on C:)** | 5 |
| ADSI SQL Databases | 10 |
| **Total** | **75** |

**Note:** Development Environment may need to scale for larger volume shipping customers.

## Q/A or Production Environment for < 1,000 Packages/Day

**ADSI Application Server**

* CPU: Intel x64 Quad Core
* RAM: 4 GB
* OS: Windows 2008 R2 Server (64 bit recommended)
* Software: MS SQL Server 2012
* Hard Drive Recommendation:

|  |  |
| --- | --- |
| **Purpose** | **size(GB)** |
| Operating System, .NET, IIS, Page File | 60 |
| ADSI Executables & Logs | 10 |
| FedEx Executables **(installed on C:)** | 5 |
| MSSQL Executables (if applicable) | 15 |
| ADSI SQL Databases (if applicable) | 15 |
| **Total** | **105** |

**Customer SQL Server** (if not on Production Server)

(These database sizes assume a 1 year retention and a Full SQL Recovery Model. It assumes that the Log and DB file backups are stored elsewhere and are managed by the customer)

|  |  |
| --- | --- |
| **Database** | **size(GB)** |
| ADSI\_Shipping | 5 |
| ADSI\_ConnectShip | 5 |
| ADSI\_FedEx | 5 |
| **Total** | **15** |

## Q/A & Production Environments for At Least 5,000 Packages/Day

**ADSI Application Server**

* CPU: Intel x64 Quad Core 2 GHz or better
* RAM: 6 GB
* OS: Windows 2008 R2 Server (64 bit recommended)
* Software: MS SQL Server 2012
* Hard Drive Recommendation:

|  |  |
| --- | --- |
| **Purpose** | **size(GB)** |
| Operating System, .NET, IIS, Page File | 75 |
| ADSI Executables & Logs | 35 |
| FedEx Executables **(installed on C:)** | 15 |
| **Total** | **125** |

**Customer SQL Server**

(These database sizes assume a 1 year retention and a Full SQL Recovery Model. It assumes that the Log and DB file backups are stored elsewhere and are managed by the customer)

|  |  |
| --- | --- |
| **Database** | **size(GB)** |
| ADSI\_Shipping | 10 |
| ADSI\_ConnectShip | 10 |
| ADSI\_FedEx | 10 |
| **Total** | **30** |

## Q/A & Production Environments for At Least 10,000 Packages/Day

**ADSI Application Server**

* CPU: Intel Xeon x64 Quad Core 2.5GHz or better
* RAM: 8+ GB
* OS: Windows 2008 R2 Server (64 bit recommended)
* HD: 150+ GB
* Load Balancing is recommended.

|  |  |
| --- | --- |
| **Purpose** | **size(GB)** |
| Operating System / Paging | 75 |
| ADSI Executables | 75 |
| **Total** | **150** |

**ADSI FedEx Server**

* Depending on FedEx volume, FedEx may optionally be installed on the ADSI Application Server.
* CPU: Intel Xeon x64 Quad Core 2.5GHz or better
* RAM 6-8+ GB
* OS: Windows 2008 R2 Server (64 bit recommended)
* HD: 105+ GB

|  |  |
| --- | --- |
| **Purpose** | **size(GB)** |
| Operating System / Paging | 75 |
| FedEx Executables (installed on C:) | 30 |
| **Total** | **105** |

**Customer SQL Server**

(These database sizes assume 10,000 packages a day with a 1 year retention and a Full SQL Recovery Model. It assumes that the Log and DB file backups are stored elsewhere and are managed by the customer)

|  |  |
| --- | --- |
| **Database** | **size(GB)** |
| ADSI\_Shipping | 15 |
| ADSI\_ConnectShip | 15 |
| ADSI\_FedEx | 15 |
| **Total** | **45** |

## Q/A & Production Environments for > 50,000 Packages/Day

**ADSI Application Server x 3 (Load Balanced)**

* CPU: Intel Xeon x64 Quad Core 2.5GHz or better
* RAM: 16 GB
* OS: Windows 2008 R2 Server (64 bit recommended)
* HD: 250+ GB (exclusively for ADSI/ConnectShip applications)

|  |  |
| --- | --- |
| **Purpose** | **size(GB)** |
| Operating System / Paging | 125 |
| ADSI Executables | 125 |
| **Total** | **250** |

**ADSI FedEx Server**

* CPU: Intel Xeon x64 Quad Core 2.5GHz or better
* RAM 12 GB
* OS: Windows 2008 R2 Server (64 bit recommended)
* HD: 175+ GB (exclusively for FedEx applications)

|  |  |
| --- | --- |
| **Purpose** | **size(GB)** |
| Operating System / Paging | 125 |
| FedEx Executables (installed on C:) | 50 |
| **Total** | **175** |

**Customer SQL Server**

(These database sizes assume 50,000 packages a day with a 1 year retention and a Full SQL Recovery Model. It assumes that the Log and DB file backups are stored elsewhere and are managed by the customer)

|  |  |
| --- | --- |
| **Database** | **size(GB)** |
| ADSI\_Shipping | 75 |
| ADSI\_ConnectShip | 75 |
| ADSI\_FedEx | 75 |
| **Total** | **225** |

# Bandwidth Estimates

Below are average bandwidth estimates based on a sample set retrieved from several customers performing both shipping and rating operations and printing ZPL labels. The ADSI Server handles over 60 different types of functions. Depending on the functions used, data usage may vary.

**Average Transaction Size:** 22.93 KB

|  |  |
| --- | --- |
| **Packages Per 8 Hour Shift** | **KB/s (combined Upload & Download)** |
| 500 | 0.398 |
| 1,000 | 0.796 |
| 5,000 | 3.981 |
| 10,000 | 7.962 |
| 50,000 | 39.809 |

Below are average bandwidth estimates based on a sample set retrieved from several customers performing both shipping and rating operations and transmitting **PNG image files**. The ADSI Server handles over 60 different types of functions. Depending on the functions used, data usage may vary.

**Average Transaction Size:** 75.06 KB

|  |  |
| --- | --- |
| **Packages Per 8 Hour Shift** | **KB/s (combined Upload & Download)** |
| 500 | 1.303 |
| 1,000 | 2.606 |
| 5,000 | 13.031 |
| 10,000 | 26.063 |
| 50,000 | 130.313 |