

# **Address Management Tool for ArcGIS® 9.2**

Installation and User Guide

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Updated 12/4/2006

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## **Purpose**

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The Address Management tool (AMT) is intended to simplify common user tasks for managing address data in a normalized data model within an ArcGIS Geodatabase.

This document contains information about the version of AMT for ArcGIS 9.2 (AMT92).

## Availability and support

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### Disclaimer

The Address Management tool has been developed together with the data model to simplify data management with address data models. It is designed to work with the data model templates and case studies and can be used with the model or with other data sets.

**ESRI technical support is not available for this tool.**

### Feedback

The tool is still in an experimental state and has had only limited testing. Please report issues, bugs, suggestions, and comments about the tool and this document at the ESRI Address Management Discussion Forums at <http://forums.esri.com/forums.asp?c=96>.

### Updates

This tool will be updated periodically, depending on the user feedback and ESRI resource availability. Information about updates will be posted on the ESRI Address Management Discussion Forums web page.

### New at 9.2 version

- All locator styles have been updated to take advantage of new ArcGIS 9.2 functionality and performance improvements.
- ADM One Address with Zone 92.lot locator style has been added.
- ADM One Range with Zone 92.lot and ADM One Range 92.lot locator styles now use new match rule files (us\_srg1s.mat and us\_srg2s.mat, respectively) and support side offset.
- USAddressDataModel.xml has been updated to include Parcel Polygon feature class. It is backward compatible with 9.1 version of the Address Management tool. (AMT91)
- Up to 8 additional custom fields can be specified for each address data import.
- Supports Personal (\*.mdb) and ArcSDE (Enterprise, Personal and Workgroup), Geodatabases. File Geodatabase support is expected to be available at ArcGIS 9.2 SP 2. See the “Known issues and limitations” section for more information.

# Installation

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## System requirements

System requirements for AMT are the same as for ArcEditor™ 9.2. Please see requirements for each specific version of the Windows operating system at <http://support.esri.com/index.cfm?fa=knowledgebase.systemRequirements.gateway>.

## Supported platforms

AMT is supported on Windows only, not on UNIX or Linux.

## .NET 2.0 Framework

.NET 2.0 Framework is required to run AMT92. To verify if .NET 2.0 is installed on your system, use Control Panel > Add or Remove Programs. If you don't see "Microsoft .NET Framework 2.0" in the list of installed software, you need to install .NET 2.0 redistributable runtime. You can download the runtime from the Microsoft web site at <http://www.microsoft.com/downloads/details.aspx?familyid=0856eacb-4362-4b0d-8edd-aab15c5e04f5>.

## ArcGIS configuration

This version of AMT (AMT92) requires ArcGIS 9.2.

### Product license

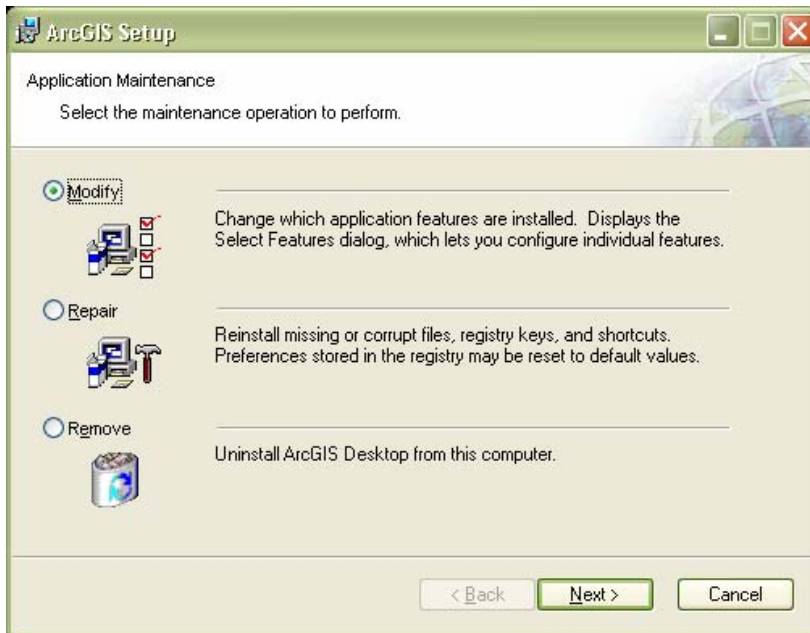
An ArcEditor license is required to run AMT92.

### .NET Support (COM interop assemblies)

To run AMT92, the .NET Support option of ArcGIS must be installed.

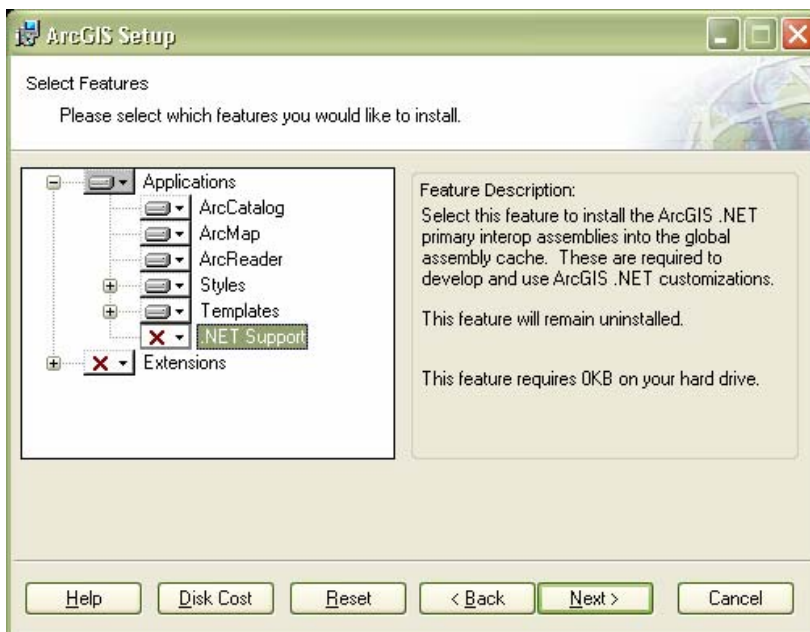
Use Control Panel > Add or Remove Programs.

1. Select ArcGIS Desktop and click Change. The ArcGIS Setup window appears.



2. Click Next. On the ArcGIS Setup dialog box, verify the state of the .NET Support item. If this item is installed (no red X next to it), just click Cancel as you already have this option installed.

3. If this option is not installed (interface will appear similar to the one below), select .NET Support and click Next.



This will install .NET Support for ArcGIS on your system.



## Installing the package

Currently AMT does not have an installer. You can simply uncompress contents of the AddressManagementTool92.zip file by opening it in the Windows Explorer (double-click) and copy/paste the AddressManagementTool folder from the compressed folder to the location of your choice, for instance to C:\. You can create a shortcut to

AddressManagementTool\Bin\AddressManagementTool92.exe using Windows Explorer.

## Contents of the package

### \AddressManagementTool92

AddressManagementTool Install and User Guide.pdf

#### \Bin

AddressManagementTool92.exe

The Address Management Tool executable file

#### \Models

This folder contains XML export files for data model templates that AMT will recognize.

USAddressDataModel.xml

This is the US-oriented address data model XML template. The major difference from the Calgary address data model (visit [support.esri.com/datamodels](http://support.esri.com/datamodels) for more information) is that addresses (house numbers) are stored in a separate Address table, and AddressPoint is considered a regular addressable feature class, the same as Building and other feature classes.

#### \Settings

ADMSettings.mdb

This is the template database that stores definitions of the import datasets (Centerline, Point, Building, Parcel, etc.) and default field mappings for each set. These settings are stored in the ADMSettings table.

#### \Geocode

us\_srg1s.mat

This is the geocoding rule file for ADM One Range with Zone locator style.

us\_srg2s.mat

This is the geocoding rule file for ADM One Range locator style.

#### \Locators

ADM One Range 92.lot

ADM One Range with Zone 92.lot

ADM One Address 92.lot

ADM One Address with Zone 92.lot

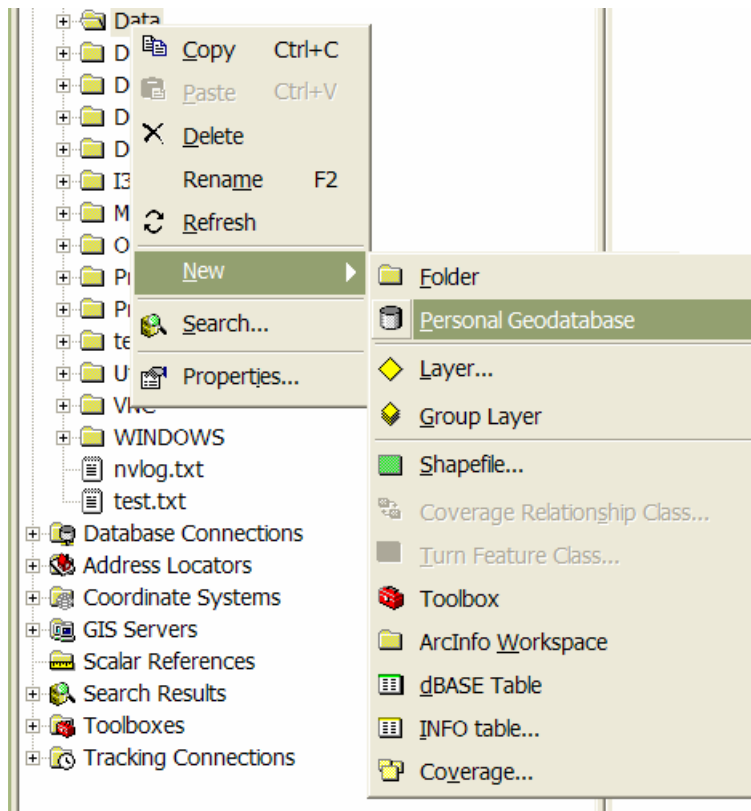
These are the address data model specific locator styles.

## Using the Address Management tool

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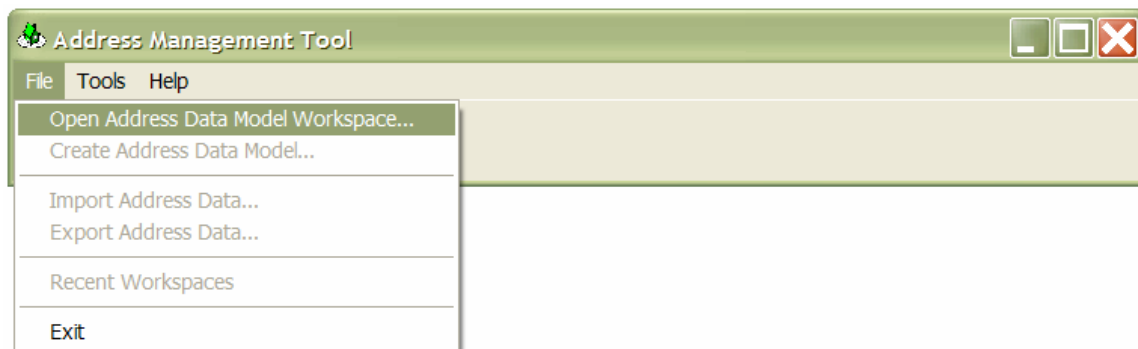
### Creating the data model workspace

Using ArcCatalog™, right-click a folder in the table of contents, click New, then click Personal Geodatabase.



### Opening the address data model workspace

From the File menu, click Open Address Data Model Workspace.



Use the browse dialog to select the geodatabase you've just created.

**Notes:**

The tool stores the path to the database you've opened in AddressManagementTool\Settings\Settings.cfg file and opens it automatically upon startup.

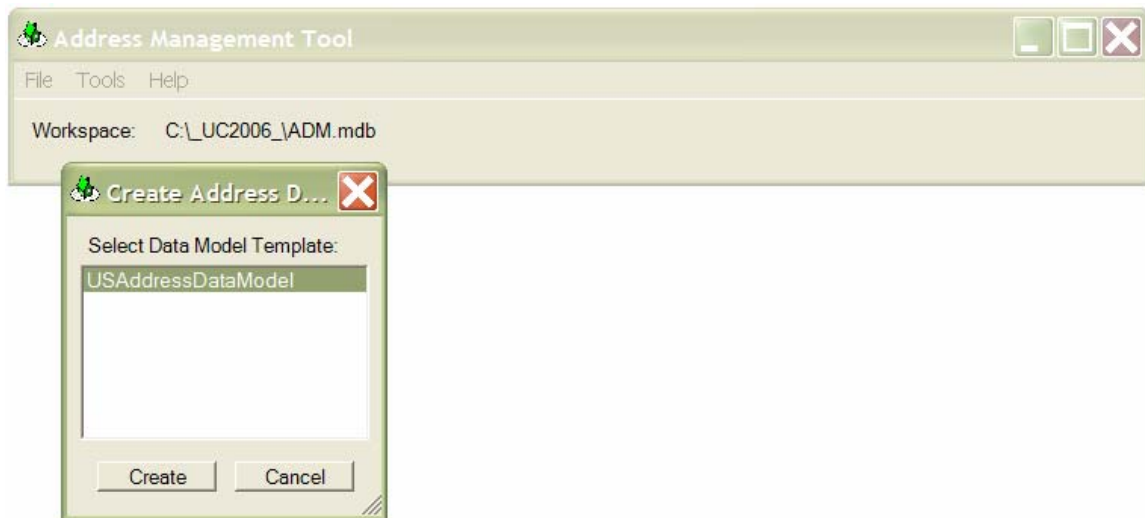
The tool may lock the workspace and prevent it from being edited by ArcMap™ or ArcCatalog. Close the tool if you need to make edits.

**Initializing the data model**

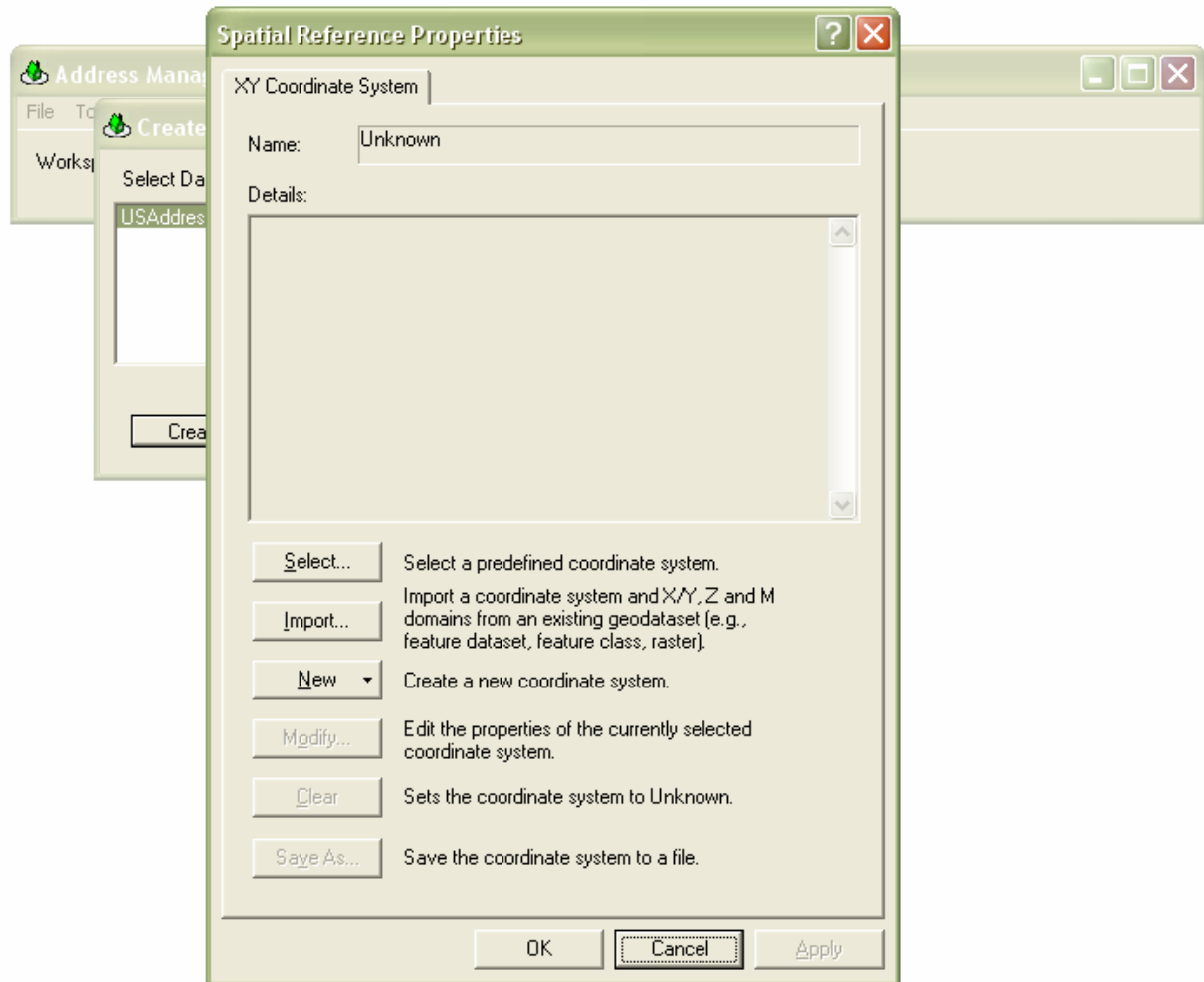
1. From the File menu, click Create Address Data Model:



2. Choose the address data model template (for instance, USAddressDataModel).



3. Click Create button. The Spatial Reference Properties dialog box appears. Specify the spatial reference parameters. All the feature classes and feature datasets created with this command will have the spatial reference parameters you specified on this dialog box.



4. Click OK. The tables, feature classes, relationship classes, and feature dataset from the XML template will be transferred to the Geodatabase. For ArcSDE Geodatabases this will also install address data model specific address locator styles and geocoding rules into the address data model workspace (Note: geocoding rules will only be installed if the connected user has DBA privileges).

#### **Notes:**

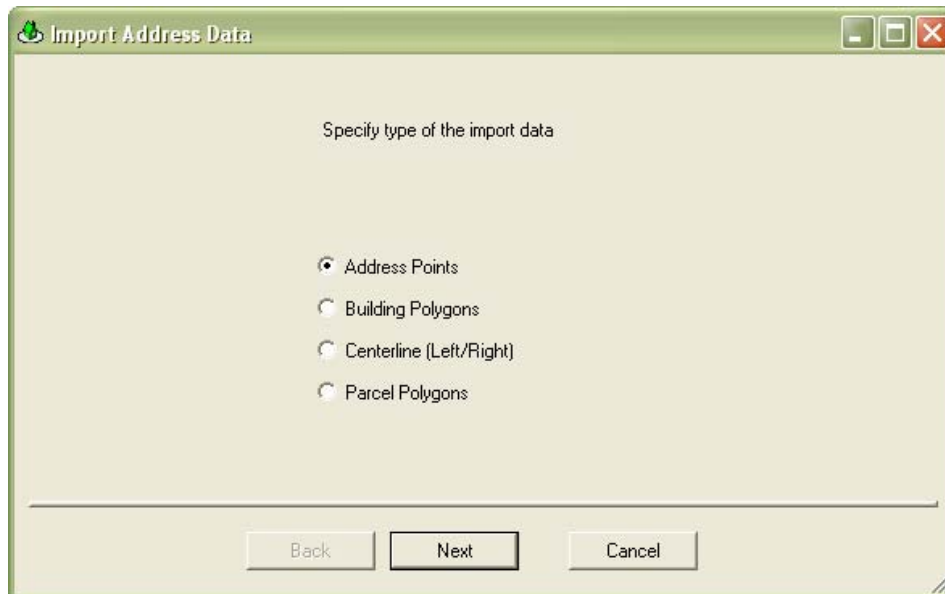
It is recommended to import spatial reference parameters from the existing data, as this is the data you are about to load in the address data model.

You can use XML Import from ArcCatalog to create the address data model; however, although you will be able to set the spatial reference to the feature classes or datasets, you will not be able to change the X/Y domain. Therefore, use of AMT is recommended, because AMT will set the spatial reference and the X/Y domain as specified.

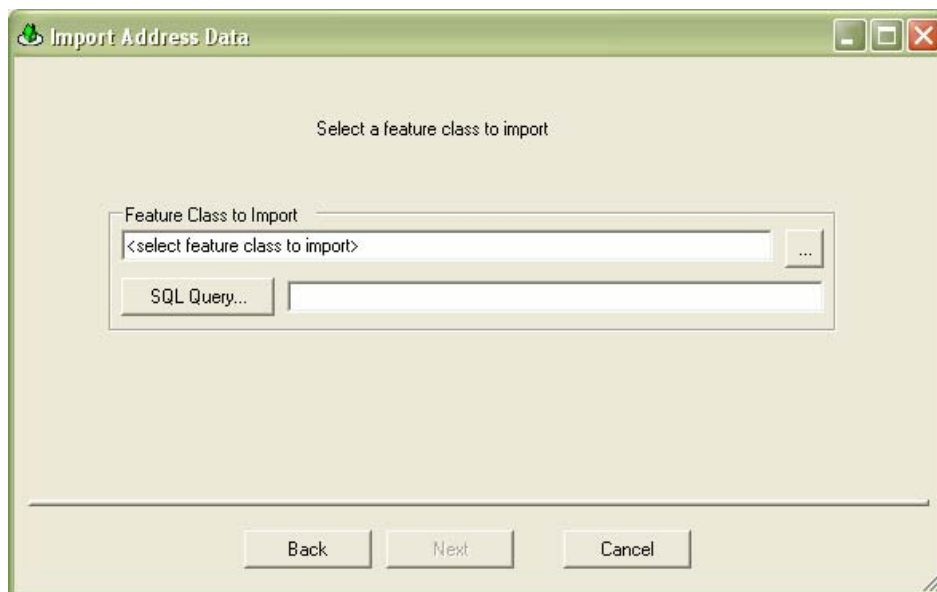
The name of the data model template shown on the Create Address Data Model dialog box is actually a file name (without extension) of the corresponding geodatabase workspace XML export file. AMT only shows XML files in the AddressManagementTool\Models folder.

## Loading addressable features into the address data model

1. From the File menu, select Import Address Data... menu command. The Import Address Data wizard appears.
2. Choose the type of import data you want to load.



3. Click Next.



4. Browse for a feature class to import (shapefile or a feature class in a geodatabase). You can apply a selection clause on the feature class to restrict features that will be imported.

**Note:** The SQL Query button is currently not implemented, so the expression, if needed, must be typed in manually.

5. Click Next.

Import Address Data

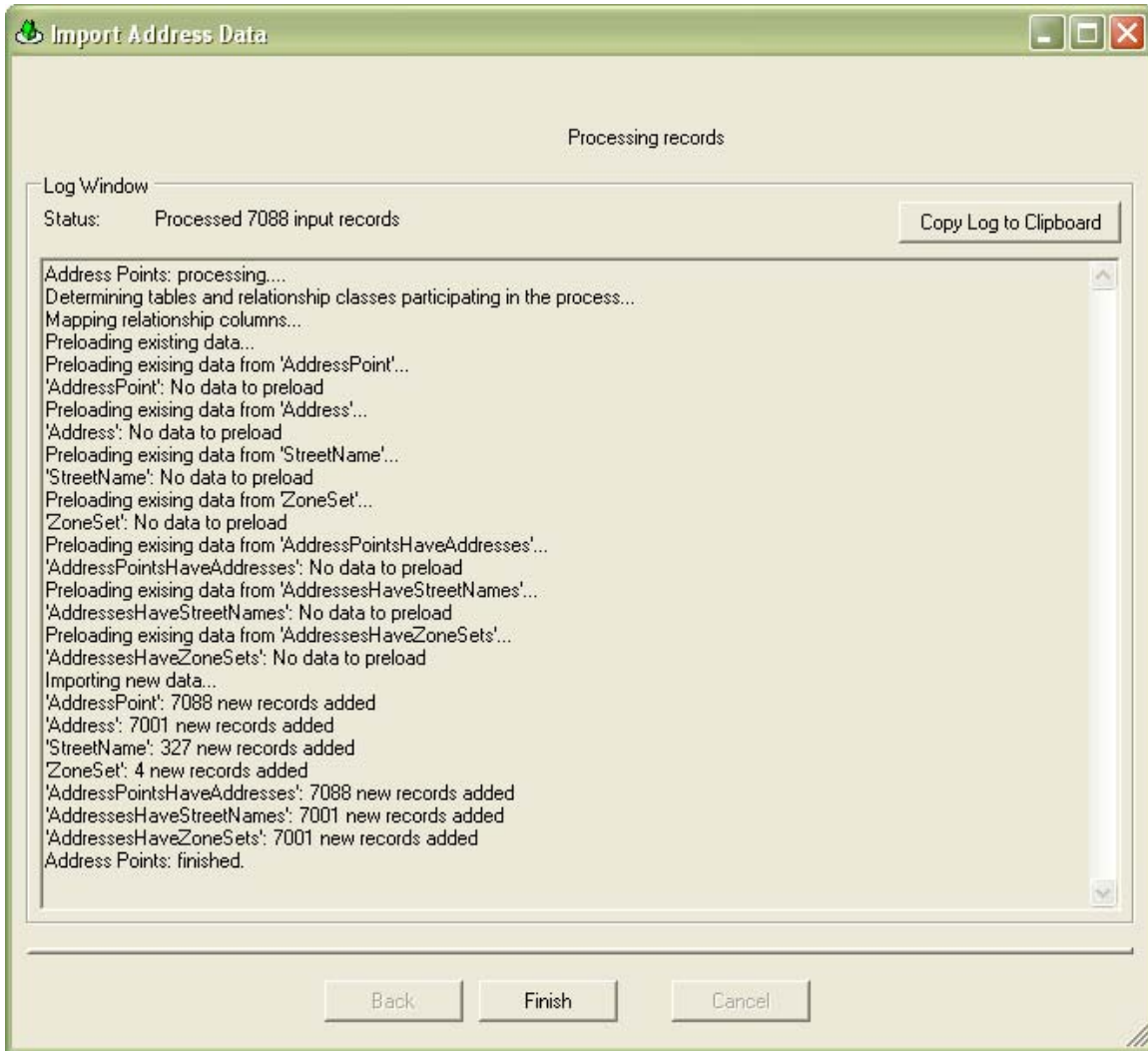
Select fields for the DataModel and fields for the feature class to be imported

Field Mappings		Data Model Elements	Target Fields
Source Fields			
Shape	<b>Shape</b>	AddressPoint	SHAPE
ADDRESS	<b>House Number</b>	Address	HouseNumber
PRE_DIR	Prefix Dir	StreetName	PrefixDirection
PRE_TYPE	Prefix Type	StreetName	PrefixType
STREET_NAM	<b>Street Name</b>	StreetName	BaseName
STREET_TYP	<b>Type</b>	StreetName	SuffixType
SUF_DIR	Suffix Dir	StreetName	SuffixDirection
CITY	City	ZoneSet	CityName
State_abbr	State	ZoneSet	StateAbbreviation
ZIPCODE	Zipcode	ZoneSet	Zipcode
<None>	Custom1	<None>	<None>
<None>	Custom2	<None>	<None>
<None>	Custom3	<None>	<None>
<None>	Custom4	<None>	<None>

Back Next Cancel

6. You will need to provide field names for your original data and data model fields (for the USAddressDataModel template, the Data Model Elements and Target Fields controls will be mapped automatically). If there are additional (custom) fields in your data model, you can map them to the original feature class fields as well. See the “Known issues and limitations” section if you need to add more custom fields.

7. Click Next. A progress window appears, containing log messages for the import process.



8. Click Finish.

**Note:** when import process is finished, AMT stores field mappings that were used for the import in `ADMSettings` table in your workspace. These settings will be used for subsequent import operations as well as for exporting address data.

## Exporting from the address data model

You can export address data from a normalized address data model into a denormalized feature class using Export Address Data from the File menu. Click the type of data to export (AMT remembers which fields in the Data Model were selected during the import process and will use them). AMT will create a feature class in your workspace named `exportFC_Dime_<unique_number>` for centerlines or `exportFC_<unique_number>` for all other address features.

## Fishbone tool

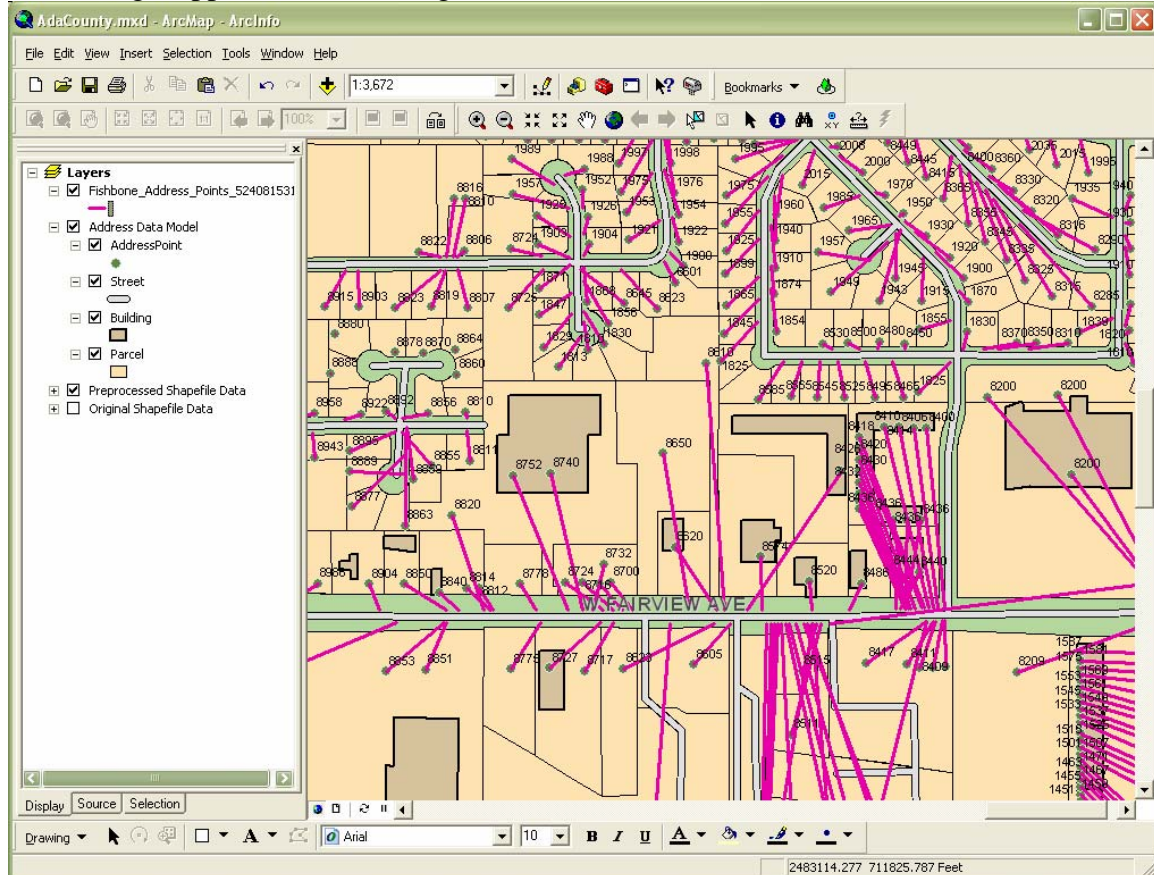
You can visualize how your point and polygon addresses relate to street centerlines using the Fishbone function (Tools > Fishbone menu command). You need to select the type of



address data (one of the types you have already imported) and an address locator built on street centerlines (see notes on address locators in the section “Known issues and limitations”). A feature class named

Fishbone\_<address\_feature\_type>\_<unique\_number> will be created in your workspace.

The resulting Fishbone feature class can help analyze potential errors in the address numbering, flipped centerline ranges, etc.



### Notes:

It might be helpful to set Minimum Match Score to 100 for the locator. This will help to avoid false positives and fishbone lines crossing the entire map. Also, setting small (even zero) values for Side Offset can help in getting a better picture.

It is also possible to generate fishbone lines using a noncenterline address locator. For instance, using Building data against a locator based on PointAddresses will show how features in Building feature class relate to the features in PointAddresses.



## Known issues and limitations

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### Data model support

Although AMT is designed to support any reasonable data model, currently there are some limitations on handling one-to-many relationships in certain configurations. Currently AMT will work with the models provided (USAddressDataModel and Calgary address data model). For the Calgary address data model, the import order needs to be Address Points before Building Polygons and Parcel Polygons (otherwise, duplicate address records will be created and nil shapes assigned to them).

### Types of import data

AMT comes with four predefined data import/export types: Address Points, Building Polygons, Parcel Polygons and Centerline (Left/Right). These import/export types are defined in the ADMS`Settings` table

(`AddressManagementTool\Settings\ADMSSettings.mdb`). Internally, the tool currently recognizes two distinct data types for import/export:

- Centerline: transfers DIME-style centerline (LeftFrom, LeftTo, RightFrom, RightTo attributes for each street segment) into “nickel” (two records with From, To, Side attributes for each street segment) representation.
- Any addressable point or polygon feature class (no transformations are applied, except normalization).

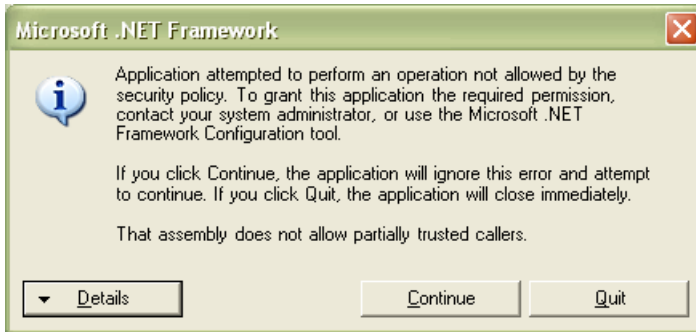
However, because AMT currently uses the mapping chosen for an imported feature class for the export process as well, we provide more than one import data type for noncenterline data (one import type per one feature class).

### Performance

The tool stores some intermediate results in memory; therefore, the amount of data it can process and its overall performance depend on the amount of available RAM. The tool should be able to handle data with a size of a large county and perhaps average state (several hundred thousand records), however, at this point it is unlikely to perform on very large data (millions of records).

### Running AMT from a shared network location

If you run AMT from a shared resource (a network drive or network share on a remote computer), depending on your .NET security settings, you may be getting error messages from .NET Framework, such as the following:



You can either change your .NET security policy or just install AMT on your local machine to avoid these errors.

## Using XML Import from ArcCatalog

You can use XML Import from ArcCatalog to create the address data model; however, although you will be able to set the spatial reference to the feature classes or datasets, you will not be able to change the X/Y domain. Therefore, use of AMT is recommended, because AMT will set the spatial reference and the X/Y domain as specified.

## Address locators

Address locator styles provided with the tool can only be used if you choose to work with the `USAddressDataModel` template. You need to copy the styles from `AddressManagementTool\Locators` into the `ArcGIS\Locators` folder and additional geocoding rule files from `AddressManagementTool\Geocode` to `ArcGIS\Geocode`.

You can also export address data from the model in a flat feature class (see “Exporting from the Address Data Model”) and create an address locator using standard out-of-the-box ArcGIS locator styles.

## File Geodatabase support

There is a known issue with a particular case of a complex table join in File Geodatabase implementation that currently prevents AMT92 working with File Geodatabases. Specifically, non-centerline address features cannot be imported into Address Data Model with AMT. ESRI has a fix for the issue and it is expected to be available in ArcGIS 9.2 SP2.

## Notes

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`AddressManagementTool\Settings\Settings.cfg`

This file stores the last opened geodatabase workspace. It will be created or modified every time a data model workspace is opened. It is safe to delete this file (resets the last used workspace to <None Selected>).