



## What's New in ArcPad® 8

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# What's New in ArcPad 8

## An ESRI White Paper

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# What's New in ArcPad 8

## Highlights

### *New User Interface*

ArcPad® 8 has a new look and feel, with modern icons and toolbars that use less screen real estate than in previous versions. Toolbars can be docked, minimized, and maximized by the user, and a new desktop tool called the ArcPad Toolbar Manager can be used to either modify the out-of-the-box toolbars or create custom ones. The old ArcPad Startup dialog box has been replaced by the Open Map dialog box, which can be used to browse ArcPad maps by list or thumbnail.

### *Improved GPS User Interface*

The GPS position dialog box has been replaced by the new GPS status bar, which is a translucent toolbar that appears at the bottom of the map screen. It shows much of the detail from the old position dialog box and uses colored visual cues to indicate the quality of the GPS fix. In addition, more detailed GPS position information can be displayed on the full-screen multitab GPS dialog box.

### *Enhanced ArcPad Data Manager Extension*

The ArcPad Data Manager now gives the user more options when preparing data for ArcPad. The ArcGIS® Desktop ArcMap™ application can be used to get data for ArcPad immediately as in previous ArcPad versions. New options allow users to configure an ArcPad project for repeated deployment with geoprocessing tools or author an ArcPad project for publication to ArcGIS Server for subsequent use in ArcPad. Additional tools have also been added to ArcPad Tools in the ArcGIS Desktop ArcToolbox™ application, which supports using an ArcPad project in geoprocessing and deploying to mobile devices.

### *Synchronize Edits with ArcGIS Server*

The ArcGIS Server ArcPad extension allows users to publish an ArcPad project to ArcGIS Server, which can be used in ArcPad 8. Any device that can connect to the Internet (by cradle, USB, Wi-Fi, or phone connection) can synchronize ArcPad edits directly with the enterprise geodatabase via ArcGIS Server.

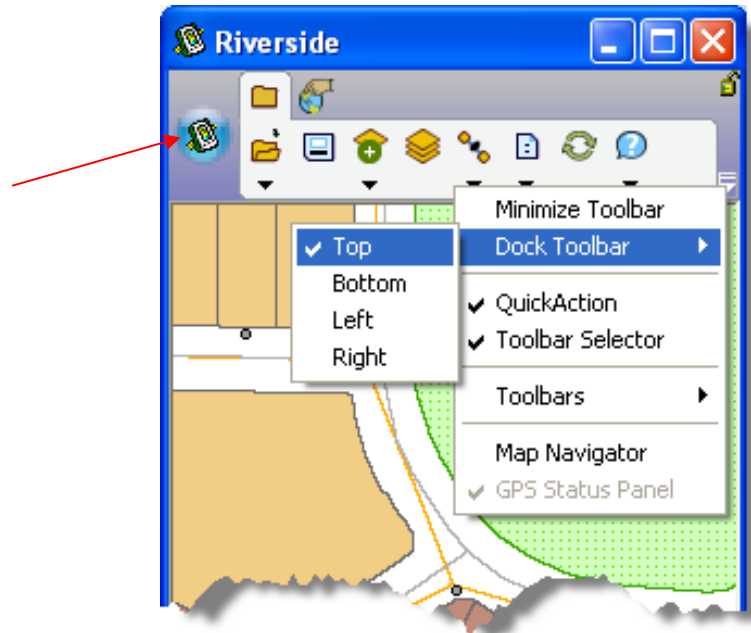
### *StreetMap Improvements*

The StreetMap™ extension included with ArcPad 8 now provides an easier method to find addresses and locations using the new lookup index. The extension is based on ESRI StreetMap Premium data derived from the Tele Atlas® dataset and now includes data for Europe in addition to North America. The extension is included at no extra cost and supports the Smart Data Compression (SDC) format and enables display, address geocoding, reverse geocoding, and routing capabilities.

### *User Interface Improvements*

Over the years, the number of ArcPad user interface tools and components has grown significantly. More and more tools have been made available to the user, and as a result, the program appears more complicated, especially for new users. In addition, when all the toolbars are displayed together, they cover a fairly large part of the screen—especially on mobile devices.

The newly designed icons give ArcPad 8 a modern look. All icons come with both 16 x 16 and 32 x 32 bit resolutions, which allows ArcPad to take advantage of different screen resolutions. The new toolbars take up less space on the screen and can be docked wherever the user prefers. Multiple toolbars now appear as tabs (the Toolbar Selector), exposing more screen real estate for the map.



*Use the QuickAction menu to minimize, dock, show, or hide toolbars.*

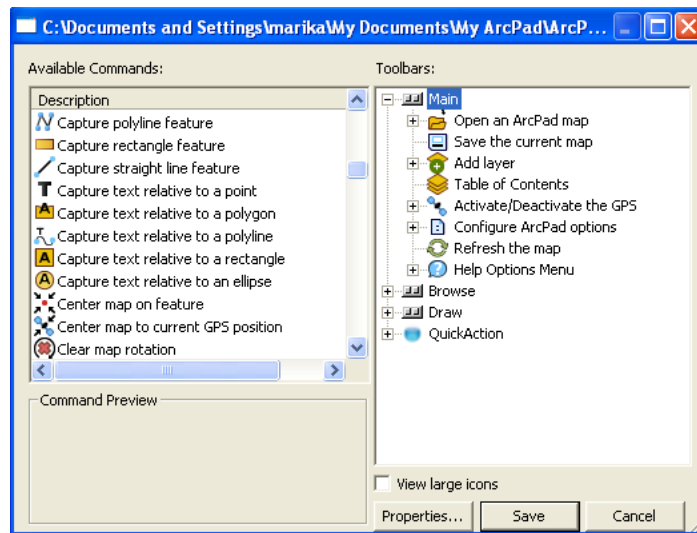
■ QuickAction Button/Menu

The large round icon on the left-hand side of the above image is the QuickAction button. It can be used as a shortcut key for the most frequently used tool(s). This is fully customizable through the new ArcPad Toolbar Manager. By default, the QuickAction button is the QuickProject tool.

■ ArcPad Toolbar Manager

The ArcPad Toolbar Manager allows the user to fully customize the out-of-the-box user interface (toolbars and menus). The default ArcPad.apx file, which contains the default toolbar layout definition, can be selected. Users can also customize ArcPad.apx or create and edit their own .apx files.

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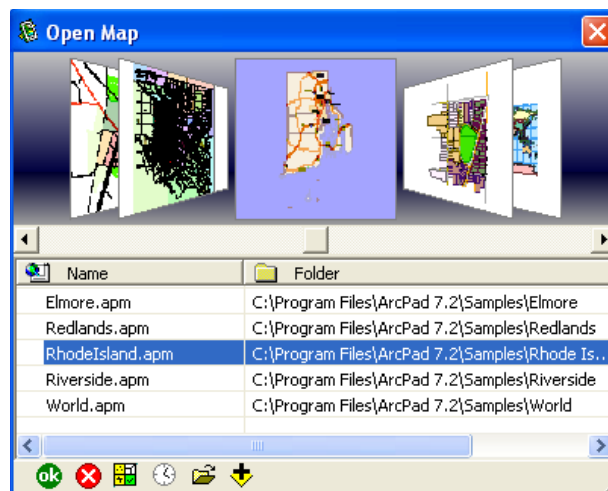


Use the Toolbar Manager to define custom toolbars using standard ArcPad tools.

In ArcPad Toolbar Manager, tools can be dragged to and from the right-hand tree view containing the toolbar layout. The QuickAction button can also be customized here.

#### ■ Open Map Dialog Box

The Open Map dialog box provides an easier user experience in opening previously created map documents, adding new data, or running the QuickProject tool. When a map is saved using ArcPad 8, a thumbnail is created. The user is able to scan through the maps by clicking either through the thumbnails at the top of the dialog box or through the list of titles at the bottom.



The Open Map dialog box appears on startup and allows users to select an existing or new map to work with.

## GPS User Interface

### *GPS Status Bar*

The new GPS status bar appears at the bottom of the map screen. The bar is translucent, allowing the user to see underlying data without the whole screen being blocked.



The background color of the status bar changes based on signal quality and warning preferences that have been set.

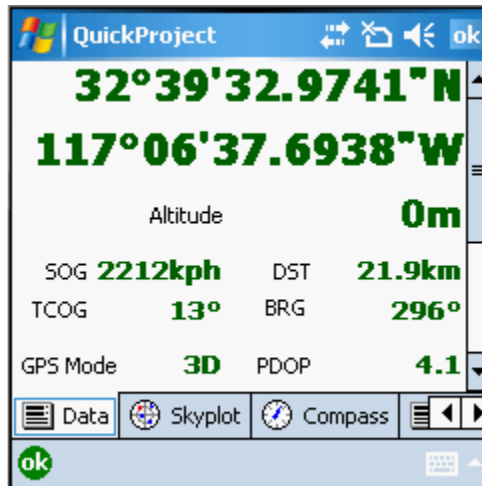
**Red** indicates no signal, **yellow** indicates that some type of preference has not been met, and **green** indicates that all the preferences have been met.

In case the user wishes to see more detailed information or the status bar information on a bigger screen, the previous GPS Position Window has been replaced with a full-screen dialog box on a mobile device and an expandable screen in Windows®.

### *GPS Position Dialog Box*

The GPS Position dialog box has four tabs: Data, Skyplot, Compass, and Quality.

The Data tab shows position information including horizontal position, elevation, speed over ground (SOG), and true north course over ground (TCOG). If a feature is selected in the map, the user also sees distance (DST) and bearing (BRG) to that feature from a current location.



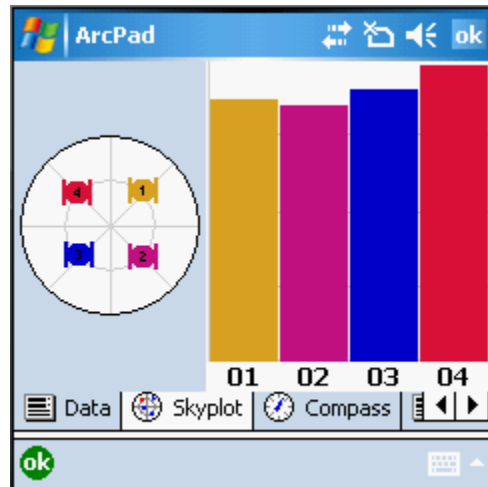
*Data Tab of the GPS Position Window*

A brief indication of quality is shown on the Data tab with the GPS mode and single-quality parameter (the default being PDOP), which can be customized. The text also changes color and coincides with the background colors of the GPS status bar.

**Red** indicates no signal, **yellow** indicates that some type of preference has not been met, and **green** indicates that all the preferences have been met.

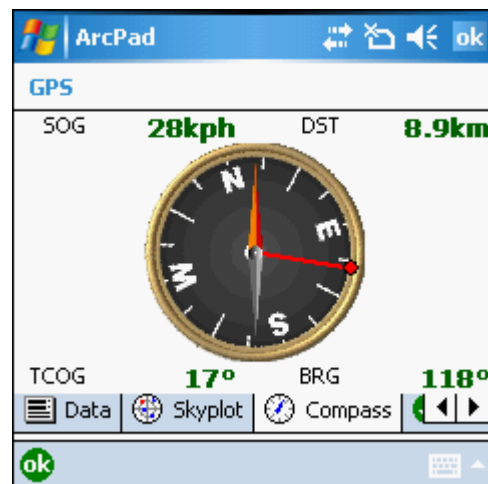
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The Skyplot tab shows the satellite skyplot and the signal strength bar graph. Satellites with a black outline are available and used for calculating the GPS position. Satellites available but not used are simply colored. Gray satellites are unavailable.



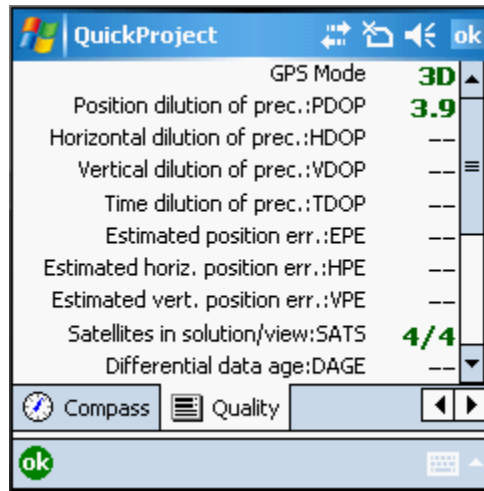
*Skyplot Tab of the GPS Position Window*

The Compass tab shows direction with a black arrow and the direction to the selected destination in red. The GPS direction corresponds with the TCOG direction, and the direction to the destination corresponds with the BRG.



*Compass Tab of the GPS Position Window*

The Quality tab lists all the quality parameters available.



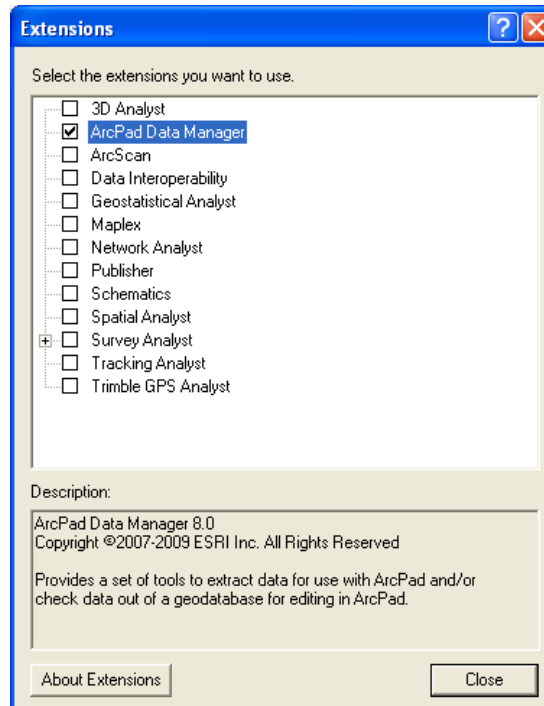
*Quality Tab of the GPS Position Window*

## ArcPad Data Manager for ArcGIS Desktop

The ArcPad Data Manager is an extension to ArcGIS Desktop 9.3 that is installed with ArcPad 8. It includes an ArcMap toolbar and a toolset for ArcToolbox.

### *ArcMap Toolbar*

To view the ArcMap toolbar, you must have the ArcPad Data Manager extension enabled (Tools > Extensions).



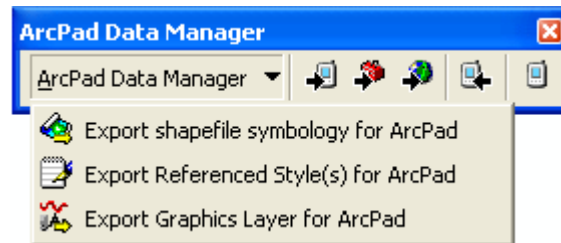
*The ArcPad Data Manager Extension*

The toolbar looks like this:



*The ArcPad Data Manager Toolbar for ArcMap*

The ArcPad Data Manager drop-down list contains legacy tools that can still be used in ArcPad 8. Export shapefile symbology for ArcPad is used to simply change the symbology for a shapefile in ArcPad. Export Referenced Style(s) for ArcPad is used to prepare particular style sheets for ArcPad. Export Graphics Layer for ArcPad will create an ArcPad graphics layer that can be opened and edited in ArcPad. Users can also export an ArcMap graphics layer from within the Get Data for ArcPad wizard.



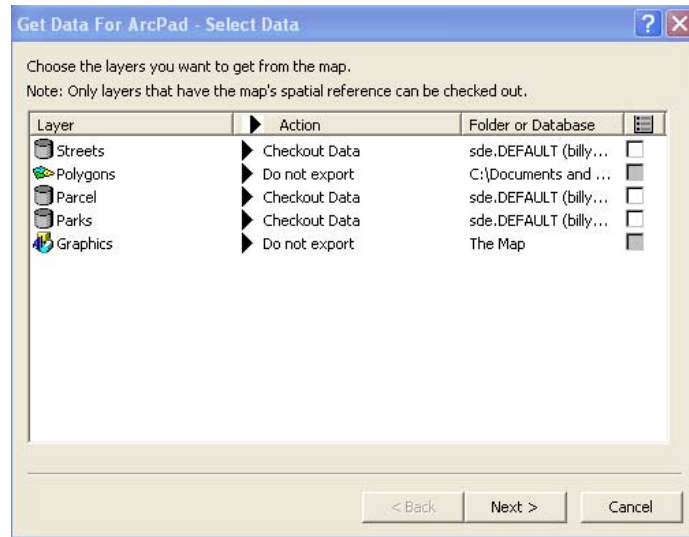
*Legacy Tools on the ArcPad Data Manager Toolbar for ArcMap*

The remaining tools on the ArcPad Data Manager toolbar are

- Get Data for ArcPad
- Configure Project for Use with Geoprocessing Tools
- Author ArcPad Project for Publication to ArcGIS Server
- Get Data from ArcPad (unchanged from ArcPad 7.1)
- Deploy to Mobile Device

## Get Data for ArcPad

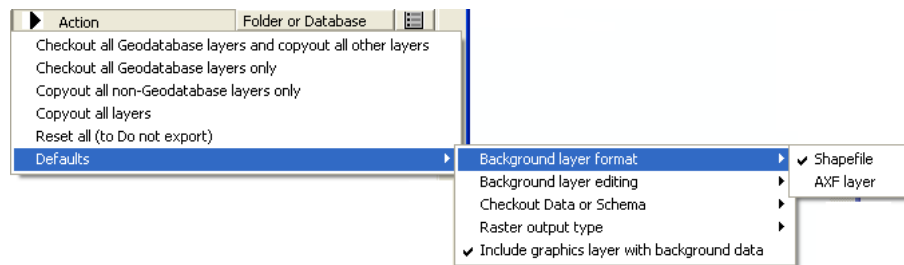
Choosing the Get Data for ArcPad tool  presents the following window:



Select Data in the Get Data for ArcPad wizard.


Geodatabase layers are available for checkout and editing in ArcPad. Shapefiles are available for copying to ArcPad (in either shapefile or AXF format) for use as background data. Graphics can also be copied out to ArcPad.

In ArcPad 8, users have more options when checking out data. By clicking Action on the title bar of the table, they can make bulk changes for all layers and modify the defaults used by the Get Data for ArcPad wizard. The image below shows that layers that are copied out (for use as background data) are selected to be copied out as shapefiles. The user could alternatively choose to copy background layers out to an AXF file. This is useful if there are many background layers—only one file will be created to store all the background information.




Choose default options to be used when getting data for ArcPad.

### Configure Project for Use with Geoprocessing Tools


Clicking the Configure Project for Use with Geoprocessing Tools button  will display dialog boxes similar to those in the Get Data for ArcPad wizard. The difference is that, at the end, data is not created on the machine. To create data, the user needs to run the new Process ArcPad Project toolbox tool. This tool can be run directly from ArcToolbox or from within a model built by ModelBuilder™.

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**Author ArcPad  
Project for  
Publication to ArcGIS  
Server**

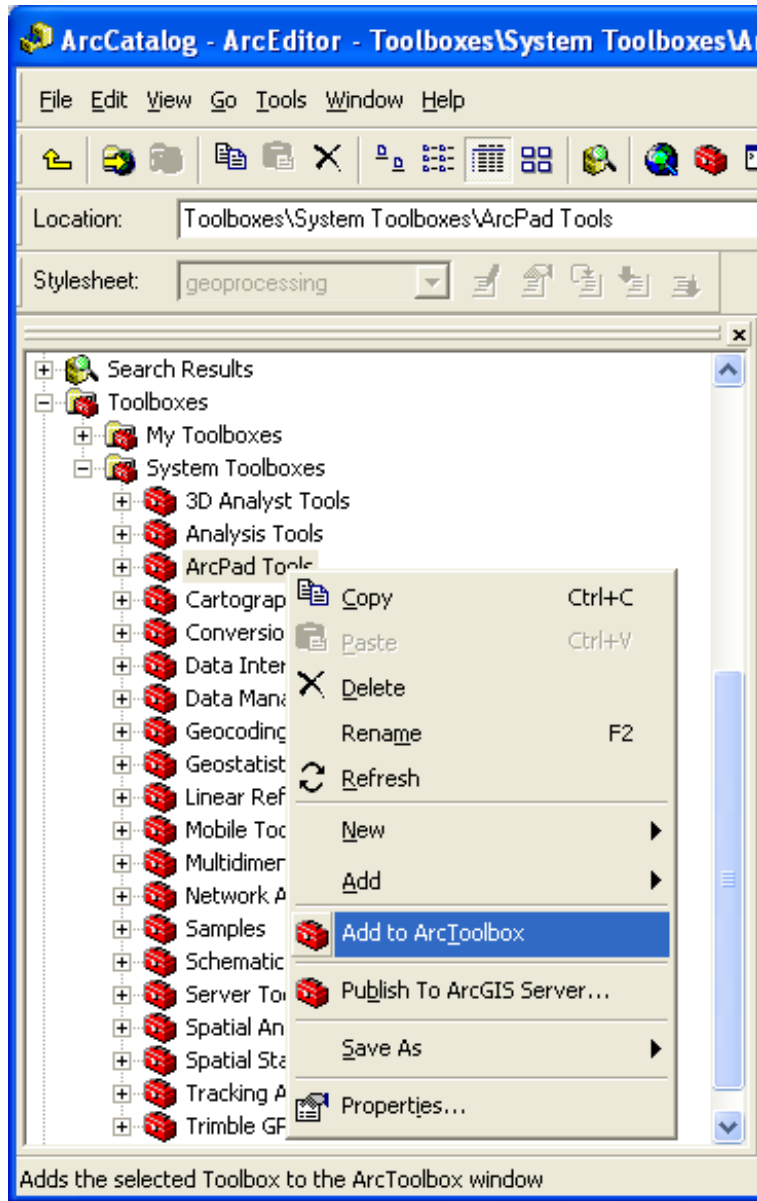
The Author ArcPad Project for Publication to ArcGIS Server tool  is used to create a configuration file for publication to ArcGIS Server. Only data stored in an ArcSDE® database can be published to ArcGIS Server, and all layers must contain a global ID. The database must also be versioned. When choosing the Author ArcPad Project for Publication to ArcGIS Server tool, users will see dialog boxes similar to those in the Get Data for ArcPad wizard. As with the Configure Project for use with Geoprocessing tools, at the end, data is not created on the machine. To create data, the project must be published to ArcGIS Server.

**Deploy to Mobile  
Device**

When choosing the Deploy to Mobile Device tool , users will be prompted to select an existing .cab file to copy and install on their connected mobile devices.

***ArcToolbox Tools***

To see the toolbox in their favorites, users can open ArcCatalog™ and click the ArcToolbox folder in the Catalog tree. Inside the Toolboxes subfolder, there is a toolbox called ArcPad Tools. Right-clicking this toolbox and selecting Add to ArcToolbox displays the ArcPad tools in the ArcToolbox window when it is opened in either ArcCatalog or ArcMap.

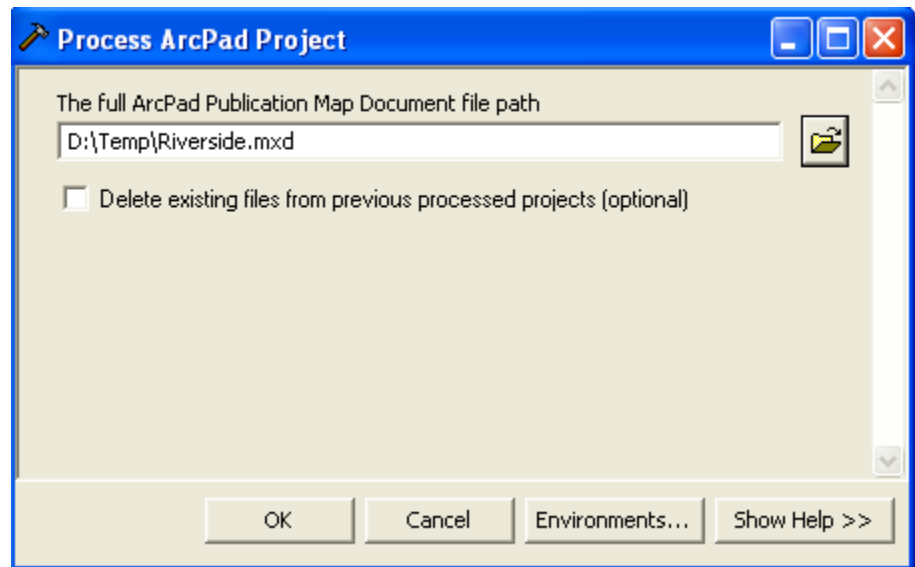


*If ArcPad tools are not visible in the ArcToolbox window, browse to System Toolboxes in the main Catalog tree and choose Add to ArcToolbox.*

In addition to ArcPad Check In and ArcPad Check Out from ArcPad 7.1, there are two new tools in the ArcPad Tools toolbox: Process ArcPad Project and Deploy to Mobile Device. These tools can be used like any other ArcToolbox tools—they can either be added to geoprocessing models or used as stand-alone tools.

### Process ArcPad Project

The Process ArcPad Project tool can be run from the toolbox (in either ArcMap or ArcCatalog) or within a model. Using the tool requires a map document that has been configured for use with geoprocessing in ArcMap. Within the tool's dialog box, select the map document that has been configured and click OK.

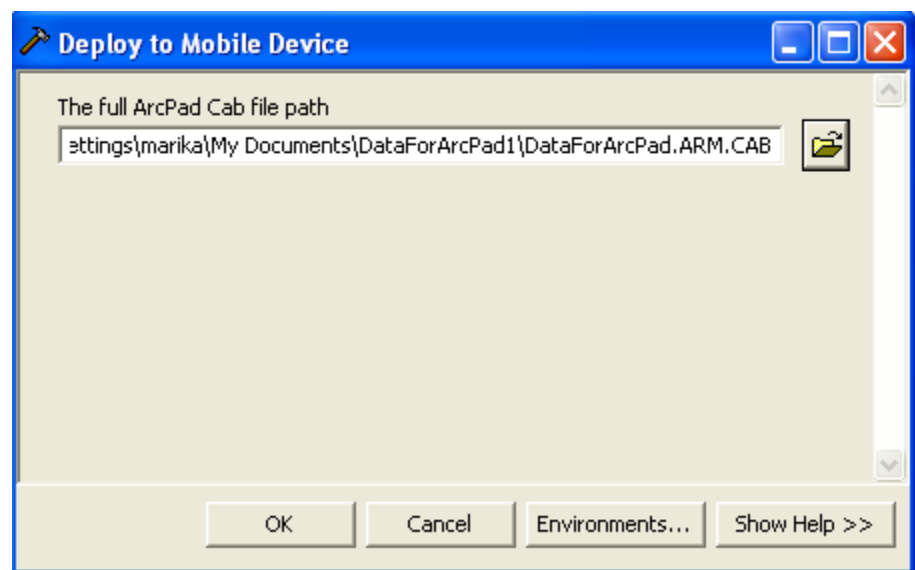


*Process ArcPad Project Tool*

The ArcPad data will be created in the folder defined as the output folder in the wizard in ArcMap. To automate the tool—for example, in a model—ensure that the Delete existing files from previous processed projects (optional) check box is checked. This will delete any previously generated ArcPad files and create new ones in their place.

## Deploy to Mobile Device

The Deploy to Mobile Device tool can also be run from the toolbox (in either ArcMap or ArcCatalog) or within a model. Choose the file to deploy (usually a file with a .cab extension) and run it.



*Deploy to Mobile Device Tool*

Ensure that a mobile device is connected to Active Sync (in Windows XP) or to Mobile Device Manager (in Vista).

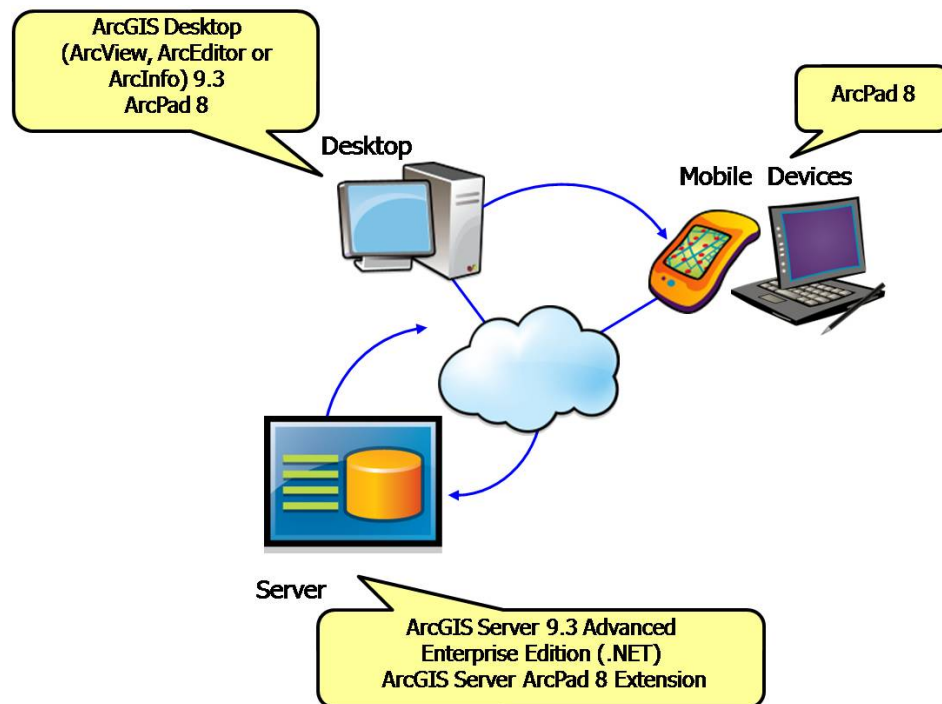
## ArcGIS Server ArcPad Extension

### Introduction

The ArcGIS Server ArcPad extension enables ArcGIS Server to host data that can be used by ArcPad and synchronized between ArcPad and the server via any Internet connection. Use of the synchronization functionality requires

- A desktop environment for authoring data
- A server environment for publishing data
- A mobile environment for using data

The following diagram shows what software is required in each of these environments:




*Software Components Required for ArcPad Data Synchronization*

The desktop requires ArcGIS Desktop 9.3 (ArcInfo®, ArcEditor™, or ArcView®) and ArcPad 8, the server requires ArcGIS Server 9.3 Advanced Enterprise edition (.NET) and ArcGIS Server ArcPad 8 extension, and the mobile device requires ArcPad 8.

### Authoring Data for ArcGIS Server

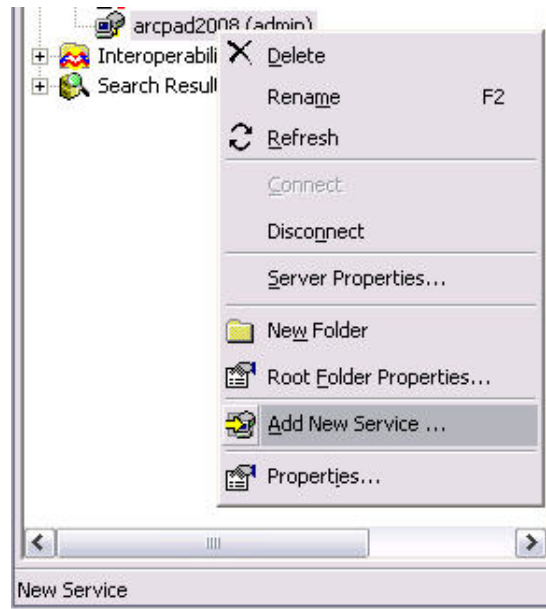
As described above in the section "ArcPad Data Manager for ArcGIS Desktop," incorporating ArcGIS Server in a project starts in ArcMap. Key requirements for data include storage in an enterprise ArcSDE database, containment of global IDs, and versioning.

Again, the Author ArcPad Project for Publication to ArcGIS Server tool  will guide the user through a wizard with dialog boxes similar to those in the Get Data for ArcPad wizard.

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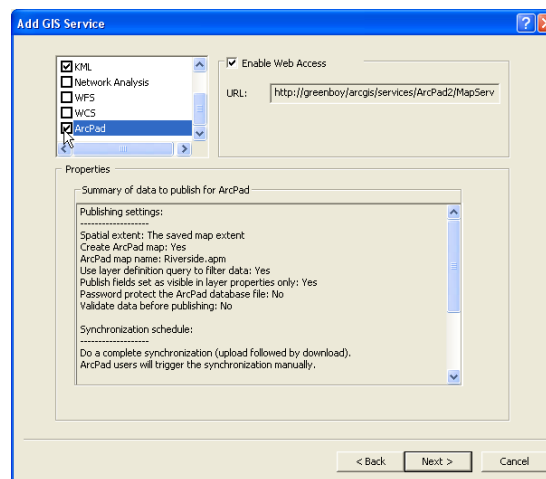
### ***Publishing Data to ArcGIS Server***

An ArcPad project is published in a manner similar to any other map service publication in the ArcGIS Desktop ArcCatalog application. The Add New Service command on the shortcut menu of ArcGIS Desktop (in ArcCatalog) provides the option to enable an ArcPad service.



*Add New Service*

Following the steps of publication like in any other map service, select ArcPad on the Add GIS Service page of the wizard.



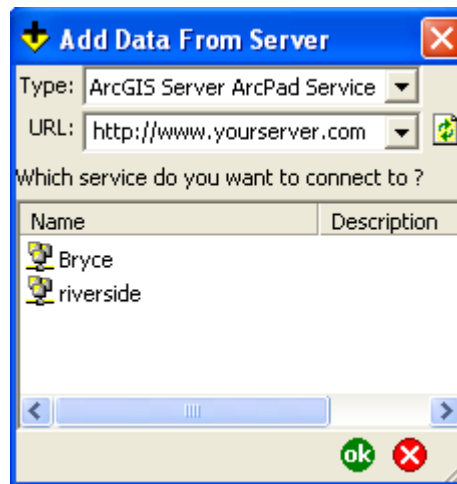
*Choose to add ArcPad capabilities to the New Service.*

When the wizard is finished, a map service is created that can be immediately previewed in ArcCatalog or ArcMap. Also created on the server are the ArcPad files including a ZIP file and a .cab file on the server. To disseminate data to a large group of field-workers, users can download the .cab via the desktop Web browser and e-mail or distribute it as

required. The ZIP and .cab files are stored in ArcGIS Server in the folder \\[your GIS server name]\arcgisservice\arcpadpublications\DataForArcPad.

### ***Using Data from ArcGIS Server***

To download published data to a mobile device, users should open the Add Data From Server dialog box in ArcPad. Longtime ArcPad users should recognize this dialog box; in previous versions of ArcPad, it was called the Add Internet Server dialog box and was used to add ArcIMS® data to maps. The dialog box still allows users to add an ArcIMS image service, but it also allows them to browse for ArcGIS Server ArcPad services. The user can enter the URL for ArcGIS Server (which contains published ArcPad data) and choose the data from the list. That data will be downloaded to the mobile device, unpacked, and added to the map.



*Choose the service in ArcPad.*

Users edit data in the same way as any other data. To synchronize edits with the enterprise geodatabase, they simply create a connection to the network (via Wi-Fi, phone, or USB connection to the PC and network) and choose the Synchronize Data with ArcGIS Server menu item in ArcPad. If a network connection is not found, synchronization will not occur.



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