

Guide to Distributed PowerPoint

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Consistent with beta5 Windows Access Grid Toolkit

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Chapter 1. Introduction

About this Document

This document is intended to provide an introduction to Distributed PowerPoint (dppt), the most widely-used application for sharing slide presentations across the Access Grid. It is written for the new AG operator in mind, but does assume that you have basic familiarity with the AG and know how to use the MUD for communications among node operators during an AG session.

It is beyond the scope of this document to suggest alternatives to dppt for non-Windows systems. However, this is an interesting area for experimentation, and the author encourages interested parties to consider exploring this area, and perhaps writing a document on their results.

Acknowledgments

Many thanks go to Bob Olson of Argonne National Laboratory, the lead developer of dppt, whose original documentation for dppt provided a starting point for this document (and from which large sections have been lifted outright). Thanks also go to Marty Hoag of North Dakota State University for his help with the troubleshooting section, Russ Wolf of Boston University for his tireless assistance with the screen shots, and Eric Damboise of University of Maine for his excellent review and suggestion of the "A Record" item in the troubleshooting list.

Conventions Used in this Document

Within this document, the following conventions are used:

- A command to be entered exactly as written, into a console or terminal window, is indicated like this: **command** . If there are any required options, they are displayed like this: **command** *required-option* .
- When discussing options from Windows' menus, menu options are indicated by the use of quotes.

Feedback on this Document

Feedback on this document is always welcome, and should be sent to Jennifer Teig von Hoffman at <jtvh@bu.edu>. It is the author's intention to release updated versions of this document to coincide with major releases of dppt.

About Distributed PowerPoint

The Distributed PowerPoint application (dppt) provides a mechanism by which a presenter can control a ppt slide show on multiple sites from a single machine.

The dppt application requires a late-model Microsoft Java virtual machine. Dppt runs on Windows 2000 and Windows NT (assuming an up-to-date Microsoft Java Virtual Machine). It is also sometimes possible to run dppt on Windows98; the Microsoft java page contains pointers to the latest VM, which can be installed on Windows NT or (probably) Windows 98.

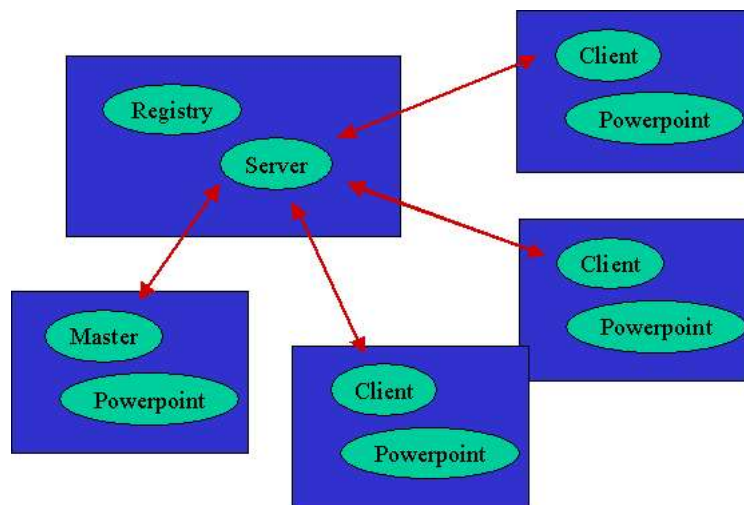
The dppt application is installed on the AG Display machine during the standard installation. It is also available on the Access Grid software download page¹; the instructions for installing and using this stand-alone version vary slightly from the standard installation, and are noted in this document where necessary.

There are three components to a dppt session. The server consists of a registry process and a dppt server process. These can run on any Windows machine (they may also run on a Unix machine with the java virtual machine installed, but that is not discussed in this document). It is best to run them on a machine that will not be restarted, since a restart of the server processes requires a restart of any clients that are running.

The master is a Java program that invokes PowerPoint to view a presentation in master mode. The master distributes page-turn events to the dppt clients.

One or more clients at remote locations invoke PowerPoint to view the presentation, and listen to the page-turn events from the master. The client program prods the local PowerPoint to display the slide the master is currently displaying.

For example, let's say that Boston University, University of Kentucky, University of New Mexico, and University of Washington are having a meeting. There are people at all four sites who need to give talks which use PowerPoint slides. University of New Mexico offers to provide the dppt server, so all four sites make the necessary configuration changes on all the machines which will be using for presentation and display of PowerPoint slides. Each time a set of slides is presented, the node operator at the node where the presenter is physically located starts the dppt master for the presenter, then uses the MUD to let the other operators know that the master is up. Once the node operators hear the master is up, they start clients on their display machines. When the presenter is finished with his slides, the node operator at the presenter's site kills the dppt master, and uses the MUD to let the other operators know the master is down so that the next master can be started whenever necessary.



Basic Architecture of dppt

Notes

1. <http://www.accessgrid.org/software/index.html>

Chapter 2. Using Distributed PowerPoint

Designing PowerPoint Slides for dppt Delivery

If you're designing PowerPoint slides which will be displayed using dppt, please keep the following in mind:

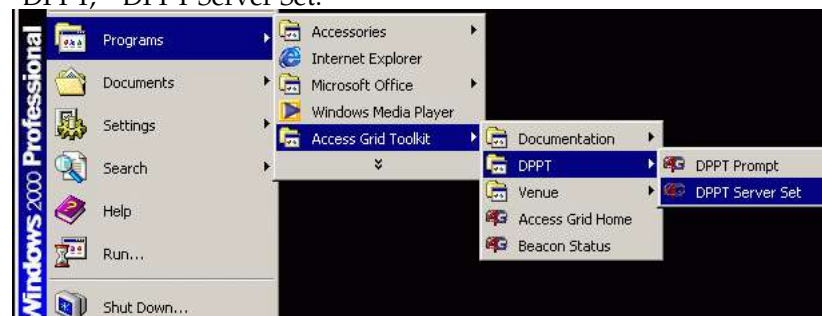
- If your PowerPoint file is very large, please make it available well before the meeting so the remote sites can download it ahead of time, rather than hold up the meeting while all the sites obtain the file. *Please note that this is very important -- meetings can be substantially delayed by long PowerPoint downloads if there's a lack of careful planning.*
- In general, all text and non-animated graphics will work normally. If you are using any unusual fonts, it's recommended to send copies of these fonts to the various sites which will be displaying the slides to ensure that your text will display as intended.
- If you need to include a movie or any other animation, it must be triggered by the slide change -- not by a timer, a mouse click, or any other action after advancing to that slide. Animations will only be casually synchronized at the various sites running dppt clients (ie, they will most likely start at about the same time, but may or may not remain in synch).
- Do not use links to external files, such as Excel spreadsheets, Word documents, or web pages. These links will not work in dppt.
- Be sure to use fonts which are large and clear enough to be seen at a distance. This is good practice in general when creating PowerPoint presentations, but is especially important when using dppt because your slides will be viewed on many different sizes of screens, and in many different sizes of rooms.

Starting up the Server

It is only necessary to start the server if you will be providing the server for a given meeting; generally one AG node in a given meeting will provide the server for the whole meeting, with various sites running masters and clients as needed throughout (please see the section of this document "About Distributed PowerPoint" for a general description of how dppt works). Only one server is needed, and only one master should be running at a time. Node operators generally coordinate the timing for the starting and stopping of master and client software using either the MUD, if it's a formal event, or the standard AG audio channels, if it's an informal event

To start the server, follow these steps on your Display machine:

1. From the Windows Start Menu, select "Programs," "Access Grid Toolkit," "DPPT," "DPPT Server Set."



2. The program "Notepad" will open, in which the file `c:\ag\dppt\config.bat` is opened for editing. Following the instructions in this file, set the SERVER variable to the hostname of the machine that will be a server for the dppt session. Save the file, and close the application.

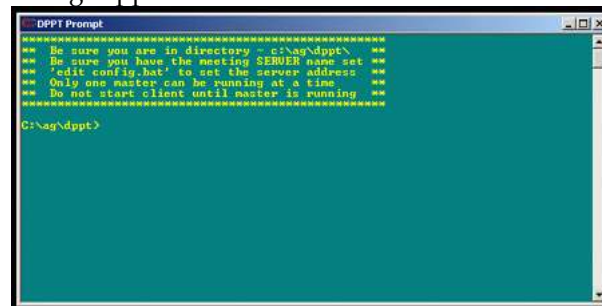


```
File Edit Format Help
set CLASSPATH=ag.jar;agx.jar;jsdt.jar;jsdt-client-socket.jar
rem *****
rem ** You MUST SET the Distributed Power Point Server
rem ** change the 'SERVER=hostname' line below to reflect your
rem ** meetings distributed power point server.
rem **
rem ** You can keep multiple SERVER lines provided that
rem ** you place 'rem' before the word SERVER
rem ** For the SERVERS you are not using for your meeting.
rem **
rem ** The last 'SERVER=hostname' will be where your dppt
rem ** will look. You can have only one server per meeting.
rem *****
rem
rem SERVER=agcontrol.bu.edu
set SERVER=dyfrlg.mcs.anl.gov
rem
set PORT=5001
set URL=jsot://%SERVER%:%PORT%/socket/Session/AG
set JAVA=jview
```

3. From the Windows Start menu, select "Programs," "Access Grid Toolkit," "DPPT," "DPPT Prompt."



4. A DOS command window will appear, as shown below, with the prompt "c:\ag\dppt>".



5. Repeat the two previous steps; you will need two of the DOS command windows that this menu item brings up.
6. In one DOS command window, run the following command: **registry**
7. In the second DOS command window, run the following command: **agserv**
8. After you run these commands, you will see a set of messages to the standard output scroll by in both of these command windows. When this is finished, the two command windows should look something like this:

file by a URL rather than downloading a local copy can cause some delay in initial startup, depending on how long the file takes to download).

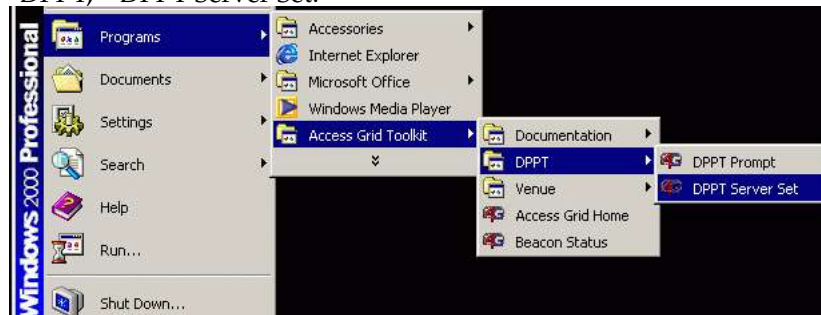
6. Open a DOS command window. Type `cd c:\dppt3\`.
7. Start the master with one of the commands below, depending on how you would like the results to be displayed:
 - a. *If you would like to run PowerPoint in a full-screen window:* Run `master full-path--or-url-to-ppt-file`. Please note that PowerPoint requires a full path, even if you're invoking the script from the directory the presentation is in.
 - b. *If you would like to run PowerPoint in a resizable window:* Run `wmaster full-path-or-url-to-ppt-file`. Again, please note that PowerPoint requires a full path, even if you're invoking the script from the directory the presentation is in.
8. The master should now be running on this machine. If you followed the instructions to run in a full-screen window, the PowerPoint window that appears will automatically go into full-screen mode. (If it does not, this indicates that it has not connected appropriately to the server; see the section on Troubleshooting.) If you followed the instructions to run in a resizable window, the PowerPoint window that appears will look something like the illustration below. (If one of these is not the case, this indicates that the master has not connected appropriately to the server; see the section on Troubleshooting.)



Distributed PowerPoint Running in a Resizable Window

If you are running the master on your Display Machine:

1. From the Windows Start Menu, select "Programs," "Access Grid Toolkit," "DPPT," "DPPT Server Set."

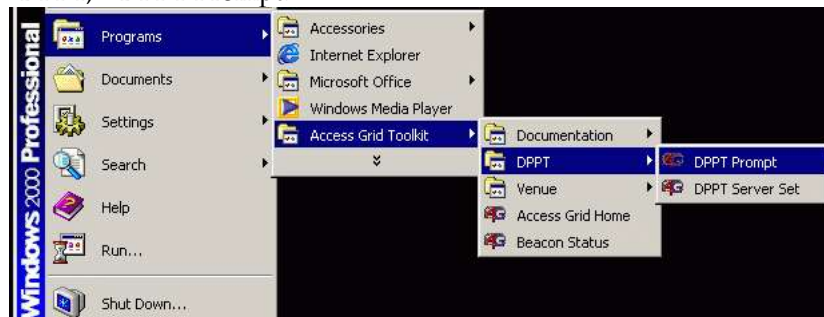


2. The program "Notepad" will open, in which the file `c:\ag\dppt\config.bat` is opened for editing. Following the instructions in this file, set the SERVER variable to the hostname of the machine that will be a server for the dppt session. Save the file, and close the application.

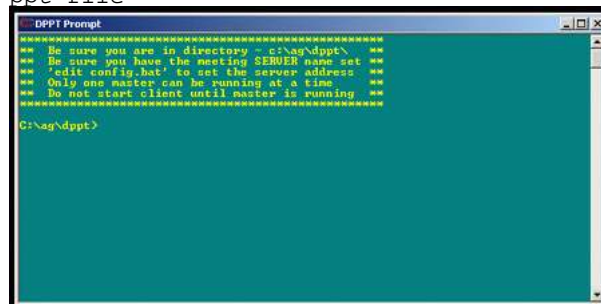
```

config.bat - Notepad
File Edit Format Help
set CLASSPATH=ag.jar;agx.jar;jsdt.jar;jsdt-client-socket.jar
rem *****
rem ** YOU MUST SET the Distributed Power Point Server
rem ** change the 'SERVER=hostname' line below to reflect your
rem ** meetings distributed power point server.
rem **
rem ** You can keep multiple SERVER lines provided that
rem ** you place 'rem' before the word SERVER
rem ** For the SERVERS you are not using for your meeting.
rem **
rem ** The last 'SERVER=hostname' will be where your dppt
rem ** will look. You can have only one server per meeting.
rem *****
rem
rem SERVER=agcontrol.bu.edu
set SERVER=dyfrlg.mcs.anl.gov
rem
set PORT=5001
set URL=jsdt://%SERVER%:%PORT%/socket/Session/AG
set JAVA=jview
    
```

3. If necessary, download a copy of the PowerPoint file to the machine. Alternately, you may reference a file with a URL (please note that referencing a file by a URL rather than downloading a local copy can cause some delay in initial startup, depending on how long the file takes to download).
4. From the Windows Start menu, select "Programs," "Access Grid Toolkit," "DPPT," "DPPT Prompt."



5. A DOS command window will appear, as shown below, with the prompt "c:\ag\dppt>". From that prompt, run **wmaster full-path-or-url-to-ppt-file**



6. The master should now be running on this machine; the PowerPoint window that appears will look something like this illustration below. (If this is not the case, this indicates that the master has not connected appropriately to the server; see the section on Troubleshooting.)

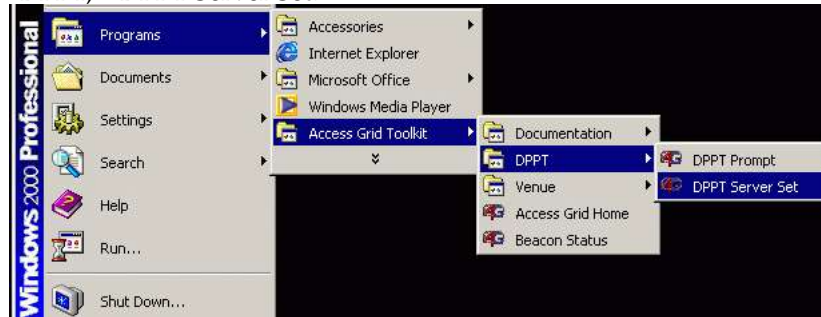


Distributed PowerPoint Running in a Resizable Window

Starting the Client

On your Display machine, follow the steps below:

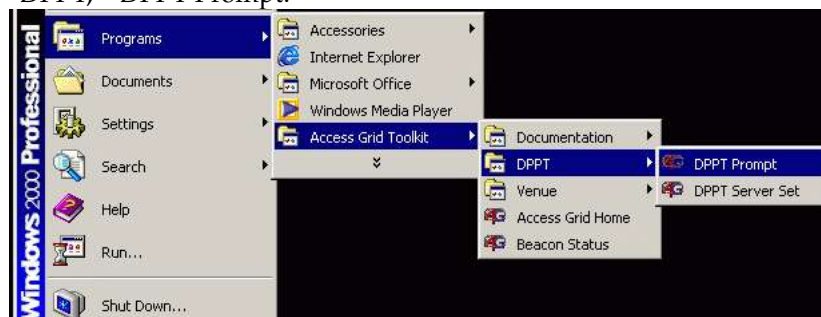
1. From the Windows Start Menu, select "Programs," "Access Grid Toolkit," "DPPT," "DPPT Server Set."



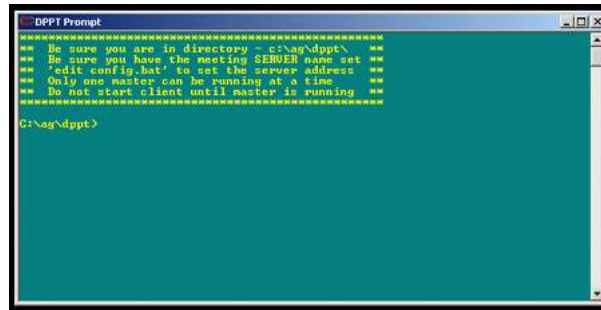
2. The program "Notepad" will open, in which the file c:\ag\dppt\config.bat is opened for editing. Following the instructions in this file, set the SERVER variable to the hostname of the machine that will be a server for the dppt session. Save the file, and close the application.



3. If necessary, download a copy of the PowerPoint file to the machine. Alternately, you may reference a file with a URL (please note that referencing a file by a URL rather than downloading a local copy can cause some delay in initial startup, depending on how long the file takes to download).
4. From the Windows Start menu, select "Programs," "Access Grid Toolkit," "DPPT," "DPPT Prompt."



5. A DOS command window will appear, as shown below, with the prompt "c:\ag\dppt>". From that prompt, run **client** full-path-or-url-to-ppt-file



```

DPPT Prompt
=====
** Be sure you are in directory = c:\ag\dppt> **
** Be sure you have the meeting SERVER name set **
** edit config.bat to set the server address **
** Only one master can be running at a time. **
** Do not start client until master is running **
=====
C:\ag\dppt>

```

6. You will see several messages to the standard output scroll by in your command line window. After a moment, the client window will appear, looking something like the illustration below. (If this is not the case, this indicates that the client has not connected appropriately to the server; see the section on Troubleshooting.)



(Note: It is possible to control the precise placement of a non-bordered presentation window with the `-size` and `-pos` flags. See the batch files `clientpos.bat` and `masterpos.bat` for an example.)

Troubleshooting

Below are some common problems which can interfere with `dppt`'s ability to function properly. If `dppt` is not operating as desired, check to make sure that none of these is the case:

- Multiple instances of the `dppt` client, master, or server running on the same machine. Please note, though, that it's fine to run the server and *one* client or master on the same machine.
- Forgetting to edit the "set SERVER" line in the configuration file to reference the appropriate server for the given event, or mis-typing the appropriate server name.
- Accidentally introducing a trailing space after the name of the server in the "set SERVER" line of the configuration file.
- Starting the client or master before the server is running.
- Changing the order of the command lines in the configuration file. Please note that it's acceptable to have multiple server lines as long as all but one are commented out by placing "rem" at the beginning, but that the current server line must stay in the same position within the file.
- Starting the client before the master is running, if this is the first time a master has been run since the server was first started.
- Using an IP address or CNAME for the SERVER variable. Only valid "A records" can be used in this variable. One way to determine if a server name is a CNAME is as follows: Using a terminal on your AG Audio or Video machine, type `host host-name-in-question`. If the name is a CNAME, the output from this command will state that it is a "nickname" for another machine name. Otherwise, it will simply state that the hostname in question "has" a particular IP number. For example, in the following sample output, only "agdisplay.unet.maine.edu" would be an appropriate entry for the SERVER variable:

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```
host ag.unet.maine.edu
ag.unet.maine.edu is a nickname for agdisplay.unet.maine.edu
agdisplay.unet.maine.edu has address 130.111.39.200
host agdisplay.unet.maine.edu
agdisplay.unet.maine.edu has address 130.111.39.200
```

- If two or more machines connecting with a given dppt server have the same username and hostname, you may see the error message "Caught JSDT exception: name in use". Marty Hoag of North Dakota State University has summarized this problem (and a workaround) in an email to the ag-tech mailing list².

Notes

1. <http://www.accessgrid.org/software/index.html>
2. <http://www-unix.mcs.anl.gov/web-mail-archive/lists/ag-tech/2001/10/msg00097.html>