

# Xiant Accelerator User Guide

Xiant Accelerator is a Microsoft Windows-based command line implementation and protocol for transferring files using the user datagram protocol (UDP). Accelerator allows you to rapidly copy files across a network by making full use of available bandwidth. Accelerator is especially effective when transferring files over a high latency network path such as a satellite connection.

## Features

Accelerator provides the following file transfer features:

- Define the file transfer rate (initial, minimum, and maximum).
- Automatically adjust the transfer rate based upon experienced network latency.
- Transfer an actively growing file that hasn't finished being written.
- Transfer multiple files as a group.

## Limitations

- Accelerator does not secure transferred files; files could be intercepted during transfer. Limit your experimentation with the application only to secure network environments using non-sensitive files.
- Accelerator does not authenticate transfer requests: any client that can access a server host could request to transfer any file accessible to the server.
- Accelerator is an *active* file transfer solution that utilizes non-standard ports. The Accelerator client dynamically opens a port and sends a transfer request to the server, and the server utilizes a nonstandard port by default. You may need to modify your network configuration to allow these ports.
- Depending upon your network configuration, you may need to explicitly allow UDP traffic in order for Accelerator to transfer files (UDP is sometimes disabled).

## Requirements

- Accelerator is a Windows-only solution, compatible with the following 32- and 64-bit versions of Windows: XP, Vista, 7, 2003, and 2008.
- Files to be transferred need to be accessible to the Accelerator server and to each client. To prevent unexpected latency, the source directory should be located on the Accelerator server. Additionally, each client needs to have access to the destination directory.

## Installing Accelerator

You should have received download instructions via e-mail after you signed up for the technology preview. From the referenced download page, you can access the `Accelerator.msi` used to install both the server and client programs.

`Accelerator.msi` installs the following files to `c:\program files\xiant\accelerator`:

- o `xaclient.exe`
- o `xaserver.exe`
- o `luftp.dll`

If upgrading, note that you do not need to uninstall the previous version.

### Installing the Server

1. Run `Accelerator.msi` on the Accelerator server host.

There is no configuration file for the Accelerator server; instead, operational parameters are specified when you start the application from a command prompt.

2. Devise a method for Accelerator to access the files for transfer.

Files to be transferred must be located in a directory that is accessible from the Accelerator server as well as each Accelerator client. For example:

- o Shared directories
- o Windows permissions

### Installing the Client

Run `Accelerator.msi` on each client host to install Accelerator.

As with the server, there is no configuration file for the Accelerator client; client operational parameters are specified with each file transfer request.

## Starting the Accelerator Server

Run the Accelerator server from a command line. The Accelerator server needs to be actively running to receive file transfer requests from a client.

### Command Format

Start the application from a command line using the following format:

```
xaserver [-d argument] [-r argument] [-p argument] [-h]
```

The command includes options, option-arguments, and operands, as described in the table below. For option-argument parameters, use a space to separate an option from its argument.

Argument	Description	Default
-d	This option-argument is the debug level, which controls what messages Accelerator writes to the console window. Possible values include: 0, 1, or 2 (in increasing levels of verbosity). Enter 2 only for troubleshooting purposes.  See “Diagnostics” on page 6 for more information about the level of detail for each diagnostic level.	0
-r	This option-argument defines the stream diagnostic interval (in seconds) that controls how often Accelerator writes diagnostic messages to the console.	0.1
-p	This is the port on which the Accelerator server listens for transfer requests from clients.	8869
-h	This is the help argument, which displays the available command line arguments for Accelerator server. Exclude all other arguments when displaying help.	None

### Examples

```
xaserver -h
```

Display the available command line arguments for the Accelerator server.

```
xaserver -p 8870
```

Run the Accelerator server, listening for transfer requests on port 8870 instead of the default of 8869.

```
xaserver -d 2 -p 8870
```

This builds on the previous example, running the server at debug level 2 for troubleshooting purposes.

## Requesting a File Transfer

Request a file transfer from a command line on the client. Accelerator doesn't support bi-directional requests; all transfer requests must originate from the client.

### Command Format

The command to request a file transfer takes the following form:

```
xaclient server [-p argument] [-l] [-x argument]
[-n argument] [-i argument] [-z argument] file_source ...
[file_destination ... | [-dest argument]] [-h]
```

The file request command includes options, option-arguments, and operands, as described below. For option-argument parameters, use a space to separate an option from its argument.

Argument	Description	Default
server	This operand is the host name or IP address of the Accelerator server.	None
-p	This option-argument is the port on which the Accelerator server listens for transfer requests.	8869
-l	Use this option to begin transferring a file that hasn't finished being written to and is still actively growing. For example, you might use this when transferring a video file that is actively being encoded.  Note that this argument should not be used when transferring more than one file.	Not specified by default
-x	This option-argument sets the maximum send rate in Kbps.	50000
-n	This option-argument sets the minimum send rate in Kbps.	1000
-i	This option-argument sets the initial send rate used by Accelerator in Kbps.	1000
-z	This option-argument sets the size of each transferred packet (or window) in Kb.	1350
file_source	This operand is the path to the file on the server you want to transfer (for example, \\server\share\file_name.ext). You may specify multiple files to be transferred.	None

Argument	Description	Default
file_destination	This operand is the target local destination for the first file to be transferred (for example, <code>c:\files</code> ). Include this immediately following its corresponding <code>file_source</code> operand.  Alternatively, you can instead use the <code>-dest</code> option-argument to define a common destination for each transferred file.	None
-dest	When transferring multiple files, include this option-argument to specify a common destination directory for each requested file. This argument replaces the <code>file_destination</code> operand for each source file.	None
-h	This is the help argument, which displays the available command line arguments for Accelerator client. Exclude all other arguments when displaying help.	None

## Examples

```
xaclient 10.0.307.74 \\10.0.307.74\files\concertfootage.wmv
c:\video
```

This request transfers a single file from a shared directory on the server 10.0.307.74 to the local directory `c:\video` using Accelerator's default transfer settings. This example assumes that the Accelerator server is listening to requests on port 8869.

```
xaclient 10.0.307.74 -l \\10.0.307.74\files\concertfootage.wmv
c:\video
```

This variation of the previous example assumes that the requested file is actively growing; the `-l` option causes the Accelerator server to continue attempting to transfer the file until the file has stopped growing.

```
xaclient ftpserver \\ftpserver\files\concertfootage.wmv c:\files
\\ftpserver\files\football.wmv c:\files
```

This builds on the first example, requesting to transfer an additional WMV file, specifying a destination directory for each, and using the server host name rather than its IP address.

```
xaclient ftpserver \\ftpserver\files\concertfootage.wmv
\\ftpserver\files\football.wmv -dest c:\video
```

This example builds on the previous one, using the `-dest` argument to specify a common destination directory for each transferred file.

```
xaclient ftpserver \\ftpserver\files\footage.wmv
\\ftpserver\files\game.wmv -dest c:\video -x 50000 -n 1000 -i 30000
-z 1350 -p 6670
```

This example includes additional arguments that define the transfer rate (initial, min, and max), packet size, and assumes the server is listening on port 6670 instead of 8869.

# Diagnostics

Both the Accelerator server and client write diagnostic messages to the console window and to a log file.

## Accelerator Server Diagnostics

The Accelerator server provides various levels of diagnostic information, depending on the diagnostic level specified as an argument when the server was started (see page 3).

### Console Information

The client periodically prints event-driven diagnostic lines to the console.

### Log Information

The Accelerator server writes event descriptions to a log file in the application's working directory. Log files are date and time stamped using the following format:

```
xaserver-[MM-DD-YYYY].log
```

Messages in the log file largely mirror those found in the console.

## Accelerator Client Diagnostics

Currently, the Accelerator client provides only one level of diagnostic information in the console window and log file.

### Console Information

The client periodically prints diagnostic lines to the console in the following format:

```
5 MB, tp: 28244 / 15785, 2s, 5242880/1073739776, dup: 0 KB
```

- 5 MB :: Total bytes transferred
- tp: 28244 / 15785 :: Throughput instantaneous / whole stream
- 2s :: Time elapsed, in seconds, since the file transfer began
- 5242880/1073739776 :: Bytes received/total file size
- dup: 0 KB :: Duplicate bytes received (this only appears if a duplication scenario occurs)

### Log Information

The Accelerator client writes diagnostic messages to a log file in the application's working directory. Log files are date and time stamped using the following format:

```
xaclient-[YYYYMMDD].log
```

Messages in the log file largely mirror those found in the console.

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