



MulticastSender

Instructions

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Introduction & Requirements

MulticastSender is an easy to use program provided by TeraByte Unlimited to facilitate multicasting backup images. This allows you to deploy or restore many systems simultaneously with reduced network bandwidth.

Requirements

- The Windows version of MulticastSender requires an NT-based version of Windows.
- The Windows (or third-party) firewall may need to be opened to allow the required network traffic.
- Image for Windows or Image for Linux version 2.96 or later.
- A working knowledge of multicasting and its network requirements and configuration.

Using MulticastSender in Windows

After downloading the MulticastSender zip file, extract the contents to the folder of your choice. This folder contains the license and documentation files as well as the Windows program files:

`multicastsender.exe` Windows x86 version
`multicastsender64.exe` Windows x64 version

The programs do not require elevated privileges and can be run directly from Explorer or a Command Prompt.

If desired, command line parameters can be specified (parameters not specified will use default values):

```
multicastsender <filename> <multicastsessionname> <password> <autostart>  
<packetsize> <tcpport> <multicastaddress> <multicastport> <packetdelay>  
<resolverport>
```

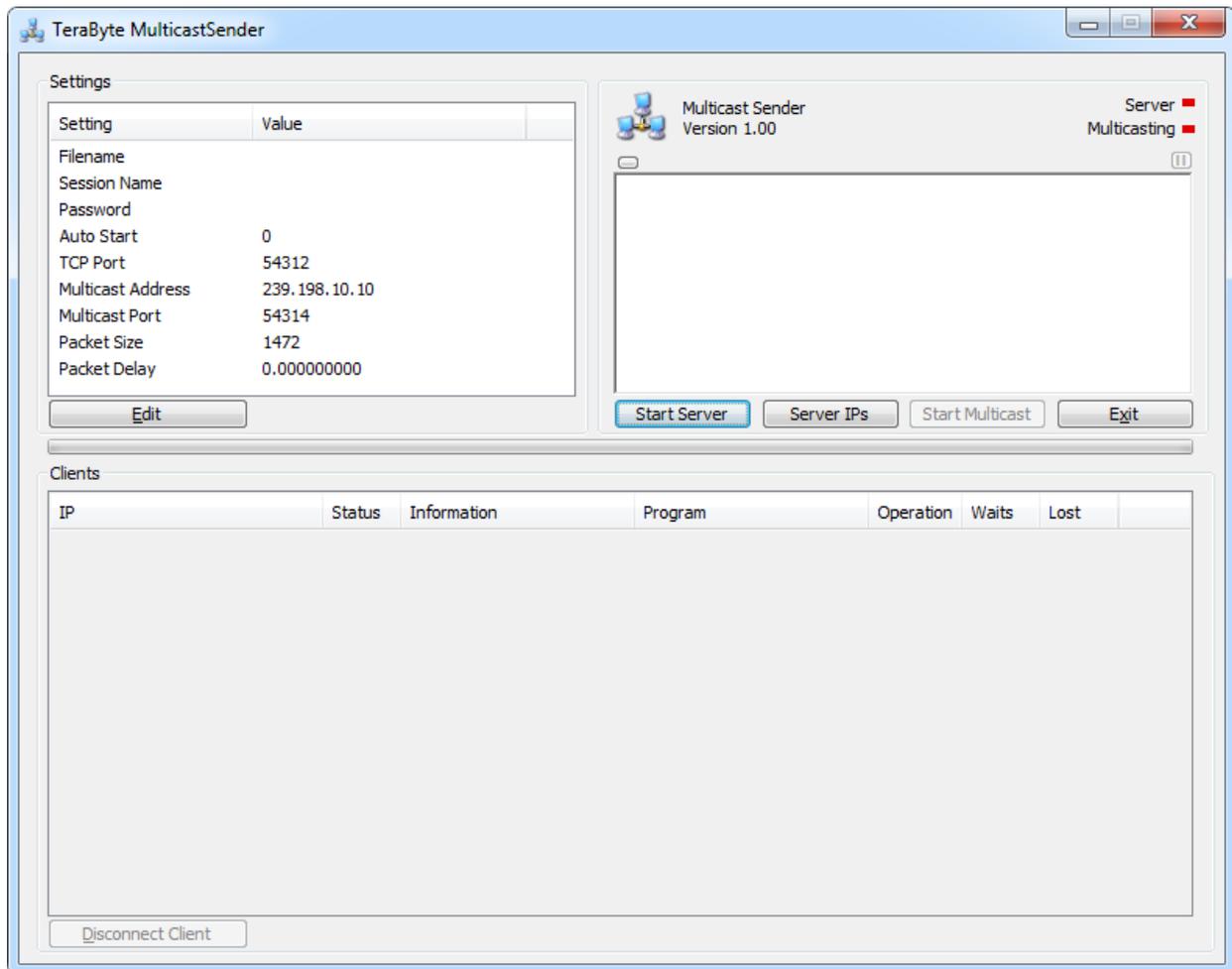
For example:

```
multicastsender G:\Backups\win7x64-Base Office pswd 5
```

Any parameters that contain spaces must be surrounded by quotes.

Note: The server will start automatically when command line parameters are used.

The MulticastSender window consists of three main sections: settings, control & log, and clients.



Settings

Settings can be accessed by selecting the item and clicking **Edit** or by double-clicking the item. You normally just need to supply the filename, session name (if used), and password (if used) as the default values for the rest of the settings will work in most cases.

Filename – Browse for the Full image file (.tbi) to use (incremental and differential images are not supported). When selected, the filename and size will be displayed.

Session Name – Specify the session name. Leave blank to not use a session name.

Password – Specify the password for the session. Leave blank to not use a password.

Auto Start – If you wish MulticastSender to automatically start multicasting once a certain number of clients connect, specify that number here. Set to **0** to disable auto start. Use a negative value to have the program exit after the multicast session ends.

TCP Port – Specify the TCP port number to use. The default is **0** to let the OS choose an unused port.

Multicast Address – Specify the multicast address to use. This address must be in the allowed range for multicasting. The default is **239.198.10.10**.

Multicast Port – Specify the multicast port number to use. The default is **0** to let the OS choose an unused port.

Packet Size – Specify the packet size to use. The default is **1472**. Better performance may be achieved by using a larger packet size. The maximum size is around 65000.

Packet Delay – Specify the delay value that should be used between sending each packet. The default is **0** (no delay). The maximum delay value is **0.1** (100ms).

Resolver Port – Specify the port the client can use to resolve the TCP port by Session Name. This makes it easy to have a single server running multiple instances. The default is **31527**.

Control & Log

Log entries are displayed in the log box. Server and multicasting status are indicated as active (green) or inactive (red).

Start Server – Starts the multicast server. If any required conditions are not met the issues will be logged.

Server IPs – Click to display a dialog showing the IP addresses of the server.

Start Multicast – Starts the multicast operation. Events will be shown in the log area. Progress is indicated in the title bar and on the progress bar just above the Clients area. Once started, this button will change to **Stop Multicast**.

Exit – Exits the program.

Clear Log – This small button is located just above the top-left of the log box (under the program icon). Click it to clear the log.

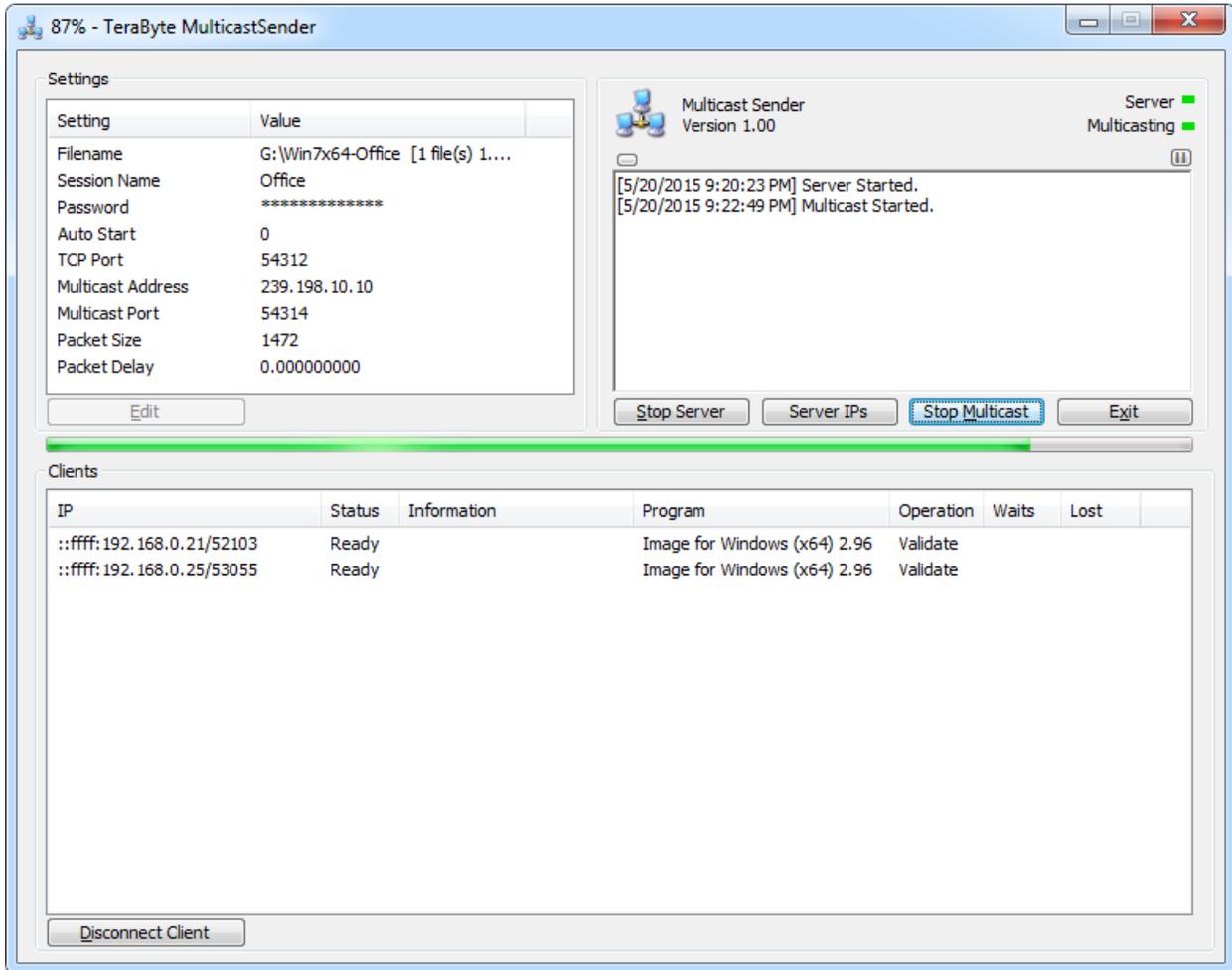
Pause Multicast – This button is located just above the top-right of the log box. Click it to pause multicasting. Any clients that are behind and requesting data will still be sent the data while paused.

Clients

Lists connected clients and shows status and details for each.

Disconnect Client – Disconnects the client currently selected in the list. Clients can also be disconnected by right-clicking on them in the list and selecting Disconnect from the pop-up menu. From the client side you can disconnect by canceling the operation in Image for Windows or Image for Linux.

An example is shown below with a validation in progress with two clients.



waits – It's okay to see the number of Waits increasing provided it's not constant or severe, it simply means the data is arriving too fast for the given client who is telling the sever to wait before sending more data. Note that if there is one slow client on the network, it will slow down the others as well.

Lost – If you're seeing lost packets then you either have a network problem or the data is arriving so fast that the client has no way to keep up, either way it will result in degraded performance. In such a case, consider introducing a packet delay, start with .0000001 and adjust accordingly.

Using MulticastSender in Linux

After downloading the MulticastSender zip file, extract the contents to the folder of your choice. This folder contains the license and documentation files as well as the Linux program file:

`multicastsender` Linux x86 console version

From Linux, start a terminal and run the program. The main menu will be displayed. In the screenshot below the program is running in Ubuntu.

Note: The Live Linux environment of Image for Linux does not support running multicastsender. A normal Linux installation is required.

```
File Edit View Search Terminal Help
----- Menu -----
1) Filename:
2) Session Name:
3) Password:
4) Auto Start:      0
5) TCP Port:       54312
6) Multicast Address: 239.198.10.10
7) Multicast Port:  54314
8) Packet Size:    1472
9) Packet Delay:   0.0000000000

S)tart TCP Server
Q)uit

Select Option: █
```

The settings available are the same as those detailed for the Windows version. To edit a setting, type its corresponding number and press Enter. Then type in the new value and press Enter. The menu will be refreshed with the new value.

You can also specify the settings as command line parameters when you run the program. Parameters not specified will use default values. You will need to specify the filename extension if it's not `.tbi` (e.g. `.TBI`).

```
multicastsender <filename> <multicastsessionname> <password> <autostart>
<packetsize> <tcpport> <multicastaddress> <multicastport> <packetdelay>
<resolverport>
```

For example:

```
multicastsender /backups/win7x64-base office
```

Note: The server will start automatically when command line parameters are used.

To start the server, type **S** and press Enter.

```
File Edit View Search Terminal Help
----- Menu -----
[Server Started]

S)top TCP Server
M)ulticast Start
L)ist Clients
D)rop Client
I)P List
Q)uit

Select Option: █
```

From this secondary menu you can select from the following options:

Stop TCP Server – Stop the server and return to the main menu.

Multicast Start – Start the multicast operation. After the operation starts this option will change to **Multicast Stop**.

List Clients – Display a list of connected clients along with status and details. An example is shown below:

```
----- Client List -----
ID:1   IP: ::ffff:192.168.0.16/43022: (ready) Image for Linux (GUI) 2.96
      (Op:Validate Wait:0 Miss:0)
ID:2   IP: ::ffff:192.168.0.21/55598: (ready) Image for Windows (x64) 2.96
      (Op:Validate Wait:0 Miss:0)

  2 Client(s)
```

Drop Client – Select a client to drop by entering its ID number.

IP List – Display the IP addresses of the server.

Quit – Exit the program.

Connecting to MulticastSender

You can connect to MulticastSender using either Image for Windows or Image for Linux. The operation type can be a restore or a validation.

Using Image for Windows

/f: \\server[:resolverport]*tcpport*sessionname*password

Examples:

```
imagew /v /f:\\\\192.168.0.16**session name*
```

```
imagew /v /f:\\\\192.168.0.16*12345**
```

```
imagew /v /f:"\\\\OfficeServer**win8 Clean*pswd"
```

```
imagew /r /f:\\\\192.168.0.16**win7Base* /d:w0
```

```
imagew /r /f:\\\\MyServer:12345**Custom Resolver Port Session* /d:w0
```

Use quotes (around the entire /f switch) if any of the values contain a space. Default values will be used for resolverport, sessionname, and password if not specified. resolverport only applies when tcpport is zero. In addition to the server, at minimum, you must provide either the tcpport or sessionname.

Note: If using Image for Windows from TBWinPE/RE you will need to disable the Windows firewall to allow the connection. This can be done via TBLauncher (File menu) or by selecting the applicable option when creating the build.

Using Image for Linux

```
--f:\\\\server*port*sessionname*password
```

Examples:

```
image1 -v --f:\\\\192.168.0.16**session name*
```

```
image1 -v --f:\\\\192.168.0.16*12345**
```

```
image1 -v --f:"\\\\OfficeServer**win8 Clean*pswd"
```

```
image1 -r --f:\\\\192.168.0.16**win7Base* --d:10
```

```
imagew -r --f:\\\\MyServer:12345**Custom Resolver Port Session* /d:w0
```

Use quotes (around the entire -f switch) if any of the values contain a space. Default values will be used for resolverport, sessionname, and password if not specified. resolverport only applies when tcpport is zero. In addition to the server, at minimum, you must provide either the tcpport or sessionname.