

Download managers

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Why do you need Download Managers?

Files can be downloaded from the Internet with the help of a Web browser just by left-clicking the link, or by right-clicking it and selecting from the context menu *Save Target As...* (for Internet Explorer) or *Save Link As...* (for Netscape Navigator). This will display a window where you should specify the location and name of the file to be saved. You can also save an HTML- or text file which is already displayed in the browser window through the menu *File -> Save As...*

If the connection is broken during the download, it may happen that after restoring the connection the process will start from the very beginning. When the file is big and connection is broken too often, you may have to make many attempts before you manage to download the whole file between two disconnections, and sometimes it can be actually impossible to download the file at all.

This problem can be solved with the help of special software called "**download managers**". Their **main functions are**:

- **Resuming interrupted downloads** (i.e., downloading only the rest of the file instead of restarting the process from the very beginning);
- **Scheduled operation**: connecting to the Internet, downloading a list of specific files and disconnecting according to a user-defined schedule (e.g. at night when the connection quality is usually higher, while the connection rates are lower);
- some download managers have **additional functions**: searching for files on WWW and FTP servers by name, downloading files in several "streams" from one or from different servers, etc.

To resume interrupted downloads, it is not enough to use a download manager: the server from which the file is being downloaded should support download resumption. Unfortunately, some servers do not support this function, and are called "non-resumable."

Can browsers resume interrupted downloads without any download managers?

Internet Explorer v.5&6 can resume interrupted downloads. (The downloaded portion of the file is saved to the "*Temporary Internet Files*" folder, and only after the download is complete, the whole file "emerges" in the destination folder). However, this capability of Internet Explorer does not always work. Also, sometimes it happens that Internet Explorer stops the download too early, with the user not being aware that the downloaded file is actually only an incomplete part of the original file. This does not happen with download managers – they always check the file size, and mark the task as complete only when the downloaded file is of exactly the same size as the original file.

Netscape Navigator v.4.* cannot resume interrupted downloads. After interruption, the destination folder contains the downloaded fragment of the original file. Upon resuming the download, it starts from the very beginning, whether you choose to overwrite this incomplete file or change the file name or folder.

What download managers can be used, and where to get them?

Quite a lot of freeware or shareware download managers can be downloaded from the Internet, for example:

Net Vampire (www.netvampire.com)

Go!Zilla (www.gozilla.com)

ReGet (www.reget.com)

FlashGet (www.amazesoft.com)

GetRight (www.getright.com)

Also, download managers can be found in the section "*Internet -> Connectivity -> Download Managers*" of a well-known Tucows site (www.tucows.com). For fast download, you can choose a Tucows mirror in your country, e.g.:

In Russia: <http://tucows.rinet.ru>, <http://tucows.online.ru>

In Ukraine: <http://tucows.uar.net>

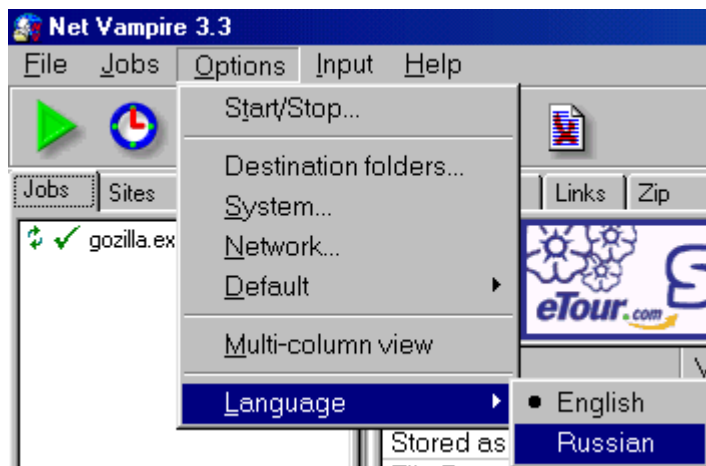
See, for example, <http://tucows.online.ru/manager95.html> .

Main settings and download jobs (by example of Net Vampire)

NetVampire is a program able to resume interrupted downloads, connect to the Internet and download files according to a user-defined schedule. It also has some additional capabilities (for example, searching for files on the Internet by name, switching download tasks to different servers, etc.). To install this program, you need to run the installation file which is named nvamp33.exe for version 3.3 (it can be packed to the archive netvampire.zip).

NetVampire is a free program sponsored through display of advertising banners in a special window. This is why during the process of installation or the first start it can ask the user to enter some demographic data and specify his/her interests.

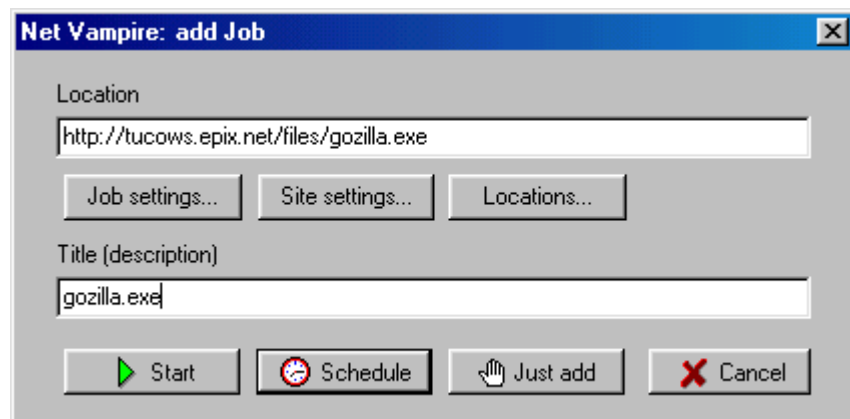
User menu of NetVampire can be displayed in English or Russian. Languages can be switched through the menu *Options -> Language*.



Destination folders

A folder to store the downloaded files can be chosen through the menu *Options -> Destination Folders -> Edit*. It makes sense to keep the downloaded files separately from the program files – so, it is recommended to change the default setting and to assign for this purpose a separate folder not located in "Program Files". The downloaded files can be sorted by categories (for example, programs, device drivers, images, sound files, etc.), with a separate folder allocated for each category. A new category can be added through the menu *Options -> Destination Folders -> Add*.

Adding a job for file download



Adding a job for file download

A new job for file download can be added with the help of the button *Add New Job* (or through the menu *Jobs -> Add*). The complete URL of the file to be downloaded should be entered in the *Location* box. In the *Title* box, you can enter an arbitrary name for this job (by default, the title is the same as the file name). Press the *Start* button to start the download.

Buttons controlling the main functions of Net Vampire

Start selected jobs	Schedule selected jobs	Stop selected jobs	Add new job	Paste URL from clipboard	Edit job settings	Delete selected jobs


Of course, it is not necessary to type the URLs in the job box manually. For example, you can just drag the link from the browser to the Net Vampire "Drop Basket," which is usually displayed in the lower right corner of the screen (you can turn the display of this basket on and off through the menu *Input -> Show Drop Basket*).



Also, you can just copy the link in the browser window to the Windows clipboard (by right-clicking it and choosing from the context menu *Copy Shortcut* or *Copy Link Location*), and then press in the Net Vampire window the "Paste URL from Clipboard" button.

If the clipboard monitor mode of Net Vampire is enabled (through the menu *Input -> Monitor Clipboard*), then a new job box will pop up every time when a URL is copied to the clipboard. When the browser clicks monitor mode is enabled (*Input -> Monitor Browser Clicks*), this box is automatically displayed when you left-click any link in the browser window while pressing the ALT button.

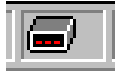
A download job can be suspended and resumed at any moment with the buttons *Stop Selected Jobs* and *Start Selected Jobs*.

<p><i>These green arrows on the left from the job name show that the server from which the file is being downloaded is resumable. If there are no green arrows while a download is in progress, it means that the server is non-resumable, and the download would every time be restarted from the very beginning.</i></p>	
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Net Vampire can download several files simultaneously. Each of them will be assigned a separate job. All jobs can be started and stopped independently of each other. The maximum number of simultaneous download jobs is controlled by the setting *Options -> Network -> General -> Max concurrent connections*; the maximum number of simultaneous jobs from the same site is controlled by the settings of *Options -> Default -> Site Settings -> Connections -> Max connections per site*. The jobs added in excess of these limits would wait for their turn until the running jobs are completed. In the upper right corner of the Net Vampire window you can see an indicator showing the completed part of the selected (marked with cursor) job, and a histogram showing the speed of this download. (Some servers are designed in such a way that they do not report the file size – in this case, the percentage will not be displayed). By clicking the *Info* tab in the right part of the Net Vampire window, you can display information about the file and the process of its download. Clicking on the *Log* tab will show the log of commands sent by Net Vampire to the server and of the server's responses. This information can be helpful in case of any problems with specific files or servers.

Automatic dial-up connection

In the case of a dial-up Internet connection, a disconnect would cause a running Net Vampire job to display a server connection error until the error limit expires, and then to stop the job. After reconnecting to the Internet, you would need to restart the job manually by pressing the *Start Selected Jobs* button. However, through the menu *Options -> Network -> Dial-Up* you can make Net Vampire automatically reconnect after a disconnection. To do this, you have to enable the option *Dial up when needed*, specify the name for your connection with the provider (it must be already configured in Dial-Up Networking), and enter the user name and password. If necessary, you can specify the number of dial-up attempts and the duration of pauses between them. If the option *Hang up when done* is enabled, Net Vampire would automatically disconnect upon completion of all jobs.

<p>When the automatic dial-up mode is enabled, the right bottom part of the Net Vampire window shows the modem icon. Clicking on it with the left or right mouse button disables or enables the automatic dial-up mode, or changes its settings.</p>	
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Settings for connection through a proxy server

If a computer can connect to the Internet directly (without a proxy server), you can specify no proxy parameters.

However, if a computer is connected to the Internet through a proxy server, the parameters of this server must be specified in the settings *Options -> Network -> Proxies -> Add* (for example, proxy type: HTTP <GET/POST>, *Title*: some arbitrary name of the connection, *Address* and *Port*: domain name or IP address of the proxy server and the port number). After that, you need to set this connection *Default for HTTP* and/or *Default for FTP*. If you don't know the parameters of your proxy server, you can copy the settings of your web browser (for Internet Explorer 5&6: *Tools -> Options -> Connections -> LAN settings -> Proxy server*, Netscape 4.5-4.7: *Edit -> Preferences -> Advanced -> Proxies -> View*), or ask your Internet service provider or network administrator.

Scheduled download

When adding a new job, you can click in the "Net Vampire: Add job" box the *Job Settings* button. Then, you will be able to edit the job settings, e.g. to set the date and time when this job should start. Clicking the *Schedule* button will suspend this job until the specified time. Similarly, you can edit the settings of the jobs that have already been added by clicking on *Edit Job Settings*.

Of course, a job would automatically start as scheduled only if the computer is turned on and the Net Vampire program is running at that time. In case of a dial-up connection, the *Dial up when needed* option should be enabled. Also, turn on the *Hang up when done* option if you want to disconnect after this download is completed.

The *Options -> Start/Stop* menu has a *Time constraints* option, allowing a user to set more conditions for starting the jobs: e.g. one can define that jobs should not start before a specific time, and should stop after another specific time. Upon completion of the jobs (*Upon completion*), you can automatically exit Net Vampire, shut down Windows, and turn the computer off (*Power Off*) – if this is supported by the operating system and hardware.

More functions of Net Vampire: file search and import of incomplete downloads from other programs

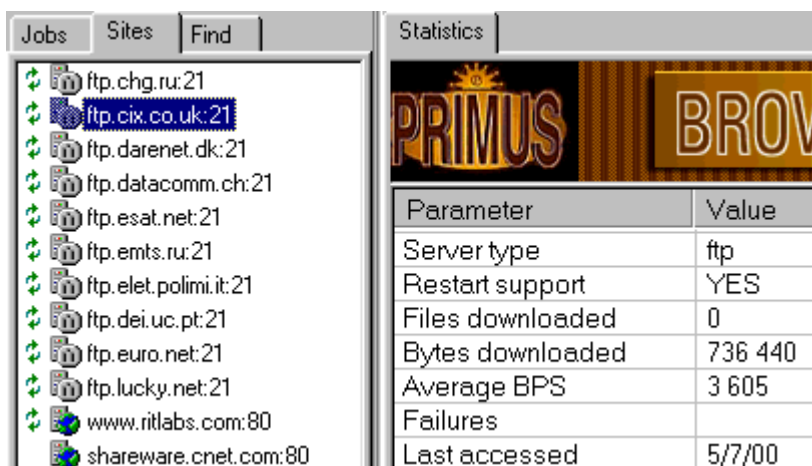
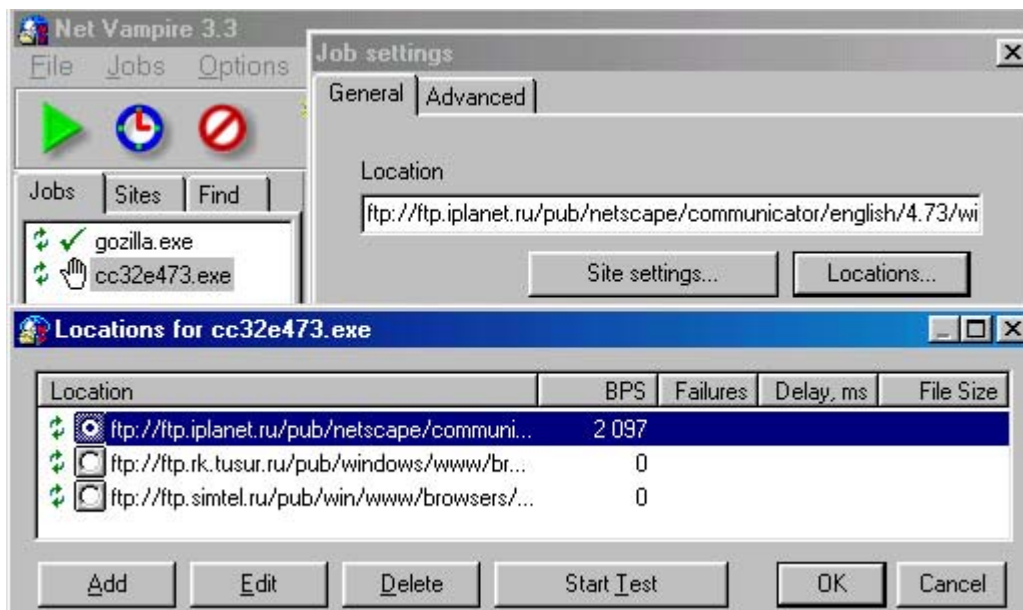
File search and switching download to other servers

If you press the *Find* tab in the left part of the Net Vampire, you can search for files by name. You can enter the file name (by default, the file name is taken from from the selected job), choose the search engines (click *All* to select all of them at once), click on *Start/Stop Search* (an icon looking like binoculars), and thus start searching on the Internet for files with the same name. The links found by the search engines will be displayed in the *Search Results* box. If you select several servers, right-click them and choose *Test Selected* in the context menu, these servers will be tested – you will see the file size and the time of the server response delay. (Clicking the button *Test All* will test all the servers).

Location	BPS	Failures	Delay, ms	File Size
ftp.cdrom.com:21	0		13 559	1 665 775
ftp.chemo.tuniv.sz...	0		24 819	1 665 775
ftp.cix.co.uk:21	3 605		5 050	1 733 349
ftp.cix.co.uk:21	3 605		1 810	1 585 377
ftp.comp.hkbu.edu...	0		11 639	undefined language string
ftp.darenet.dk:21	3 960	0%	2 849	undefined language string
ftp.datacomm.ch:21	0		3 679	1 585 377
ftp.dei.uc.pt:21	0		6 369	1 585 377
ftp.digex.net:21	0		5 659	1 585 377
ftp.edison.ru:21	0		16 259	1 665 775

The figure above shows in the *Search Results* window links to several versions of a file with the same name but different sizes (in this case, these are newer and older versions of the same program).

By right-clicking on any link, you can choose *Add to New Job* from the context menu to create a new job based on this link, or *Add to Existing Job* – to add this link to the existing job. Thus, it is possible to specify for one job several locations from which this file can be downloaded. The list of locations for each job can be viewed and edited through the menu *Jobs -> Job settings -> Locations*. The button “Add” is for adding another link, while the “Start Test” button allows you to check the file size and the server response delay time. The active location is indicated by a checked button; by checking another button, you switch the download to another site. Normally, it makes sense to switch downloads to “resumable” sites whose response delay is lowest. (The absence of the green arrows to the left of the link does not necessarily mean that this server is non-resumable – it may mean just that Net Vampire has not yet determined whether this server is resumable or not).



Net Vampire keeps in its log files data about the servers that have been accessed. To view this information, click the “Sites” tab

Import of incomplete downloads from other programs

If you have a file fragment from a download not completed by another program (e.g., Netscape Navigator), you can try to import it to Net Vampire through the menu *Jobs -> Import partial file* and specify the appropriate URL in the job settings. Then, Net Vampire will try to use this piece of file to resume the download from the position where it was interrupted. However, in practice it often happens so that Net Vampire (like other download managers) does not properly recognize a piece of file downloaded by a different program, and starts downloading the file from the very beginning instead of resuming it. In such a case, it makes sense to try pausing and then resuming the job – sometimes the second attempt is more successful than the first one, so that Net Vampire recognizes the file piece and resumes the download.

The problem of "hidden" URLs

Sometimes the URLs of the files that should be downloaded are not specified explicitly. For example, a link looking like <http://www.reget.com/redirect/redirect.asp?lang=default&product=reget&link=free>, instead of the actual file, points to a special program that redirects the browser to the true URL. In this specific case, it works both for browsers and for download managers. However, it may not always be true. For example, on Tucows servers the "download now" references are also hidden: e.g., a link to Go!Zilla on <http://tucows.online.ru/manager95.html> points to an intermediate HTML document: http://tucows.online.ru/adnload/193982_74052.html; upon opening this document, the browser reads the URL of the required file <http://tucows.online.ru/files/gozilla.exe>, and

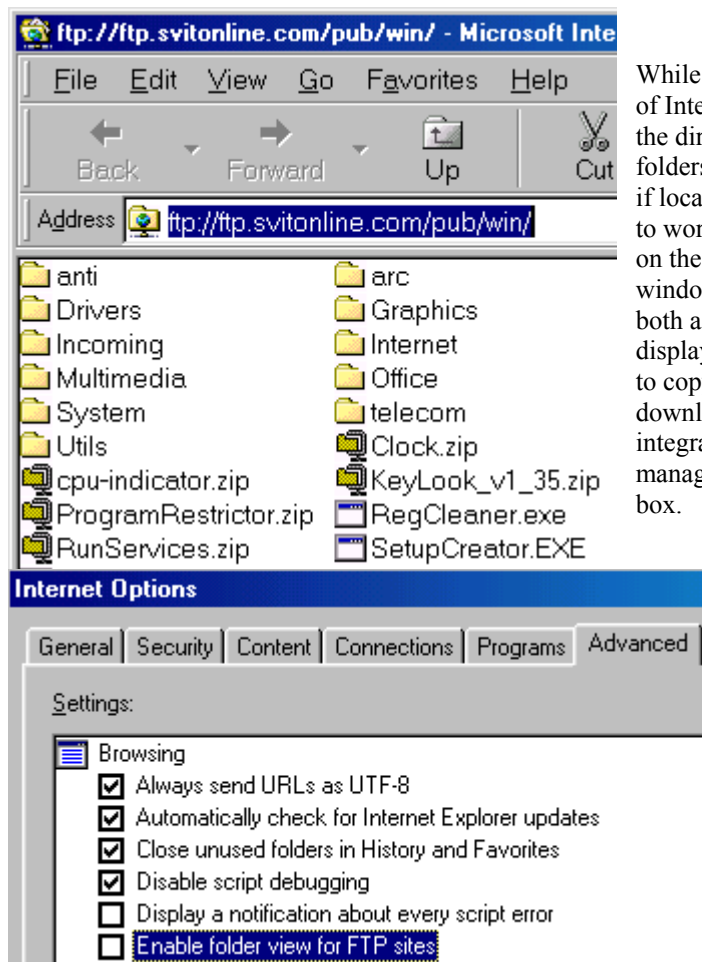
prompts the user to save this file to a disk. Fortunately, the document contains also the link to the true URL of the required file: "If your download does not start automatically, **Click here**". This link can be used for a download manager, while closing the browser box prompting to download the file. (Opening a new job of a download manager using the "download now" link would not work – the program would stop after downloading the intermediate HTML document).

If the browser box does not show the required URL, it can be found in the HTML source:

```
<META HTTP-EQUIV="Refresh" CONTENT="4;URL=../files/gozilla.exe">
```

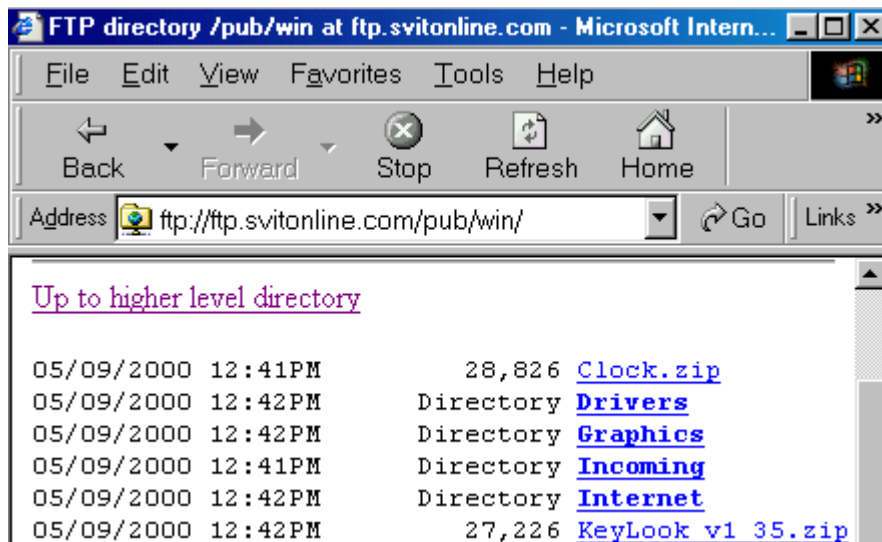
When the reference to the searched for file is hidden so good that a download manager cannot recognize it, and the true URL is not seen in the HTML source, you can try to search for this file on the Internet (see above), keeping in mind that different files can have same names, or use Internet Explorer to download the file, hoping that it would be able to resume the download if necessary.

Internet Explorer and viewing FTP sites



While viewing the contents of FTP servers with the help of Internet Explorer v.5, the default mode is showing the directories and files not as hyperlinks but rather as folders and icons – the way they would have been seen if located on the local disk. It is done in order to be able to work with files on an FTP server in the same way as on the local disk – to drag them from window to window (or even from folder to folder), etc. This has both advantages and drawbacks: e.g., the context menu displayed upon right-clicking a file does not allow you to copy the URL to the or to start a download with download managers (such as ReGet or FlashGet) integrated with browsers. Also, some download managers do not support “dragging” files from such a box.

The mode of viewing FTP sites as folders can be disabled through the menu *Tools -> Internet Options -> Advanced* (from the FTP site view box this menu can be accessible through *View -> Internet Options -> Advanced*). When the option *Enable folder view for FTP sites* is enabled, the site is viewed "as a folder".



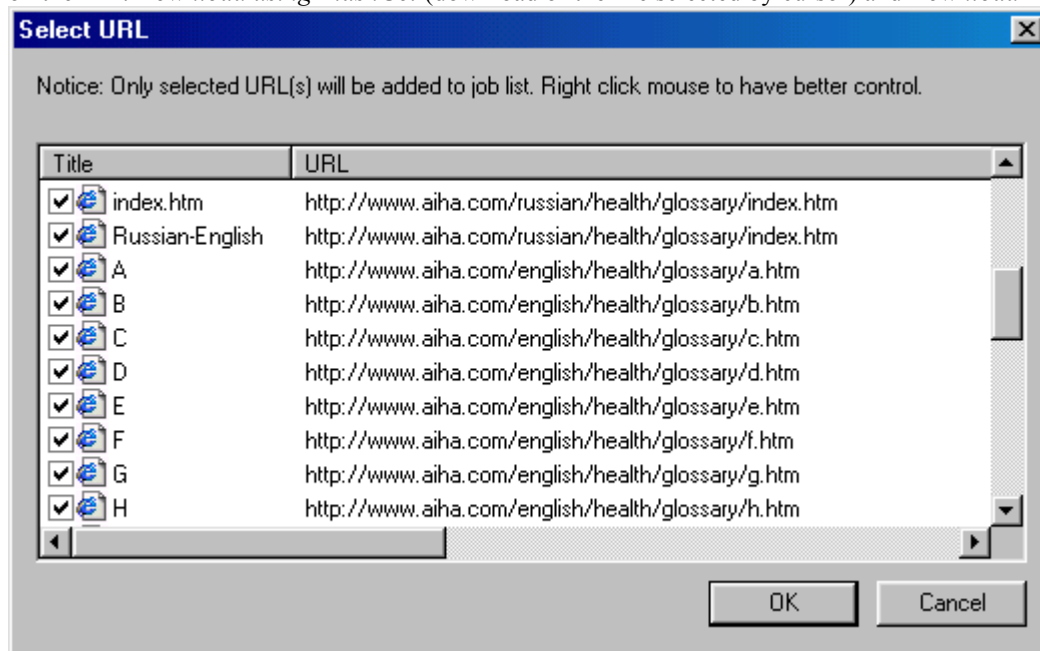
If option *Enable folder view for FTP sites* is disabled, directories and files on the site will be shown as hyperlinks, and all menu items for integration with download managers will become accessible again.

More capabilities of download managers (by example of FlashGet)

FlashGet is another download manager; it can be found at www.amazesoft.com (previously, it was called JetCar). The user menu is available in a variety of languages (including Russian, Ukrainian, Romanian, Turkish, etc.). By example of FlashGet, we can discuss some additional capabilities not available in Net Vampire.

Integration with Internet Explorer ("Download" и "Download All")

Installation of FlashGet add new items to the context menu of Internet Explorer, appearing when right-clicking on the link: *Download using FlashGet* (download of the file selected by cursor) and *Download All by FlashGet*.



Selecting *Download All by FlashGet* will show a box with all links from the current page. We can specify which files should be downloaded, and which shouldn't. The appropriate URL's will be added to the list of jobs.

ReGet can also be integrated with a browser in a similar way (options *Download using ReGet*, *Download All by ReGet* and *List for ReGet*).

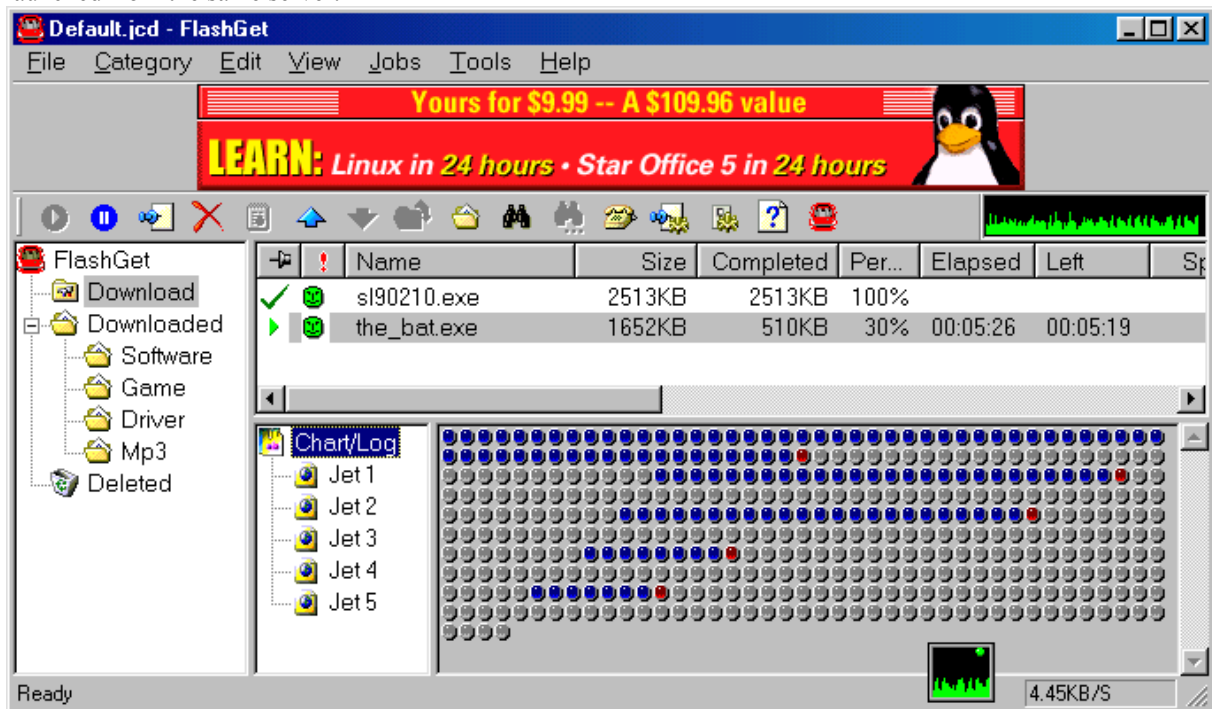
Limiting the download speed

When a download manager is downloading files, and the user at the same time is browsing the Internet, the browsing speed will be slower than usual because part of the channel's bandwidth is used by the download manager. FlashGet can limit the speed of file downloads, so that browsing would be faster. This function is

controlled through the menu *Tools -> Options -> Connection -> Download Speed Limit, Always Obey Speed Limit* and *Tools -> Obey Speed Limit*. Similar options are also available for Go!Zilla and ReGet.

Downloading files in several streams from different servers

For faster downloads, FlashGet can download a file simultaneously in several “streams”. In such a case, a file is broken into several pieces, and each piece is downloaded in a separate “stream” (from the same server or from different servers). When all pieces are downloaded, FlashGet merges them and recovers the original file. When FlashGet starts a new job, it begins searching for copies of the required file on other servers, checks the file size and the connection speed, and starts additional streams to download the parts of the file from other servers. (This works only for resumable servers). If no alternative servers are found, additional streams are launched from the same server.



FlashGet: downloading one file in five streams

The option of automatically downloading a file in several streams can be disabled or modified through the menu *Tools -> Options -> Mirrors*. For example, *Min. size for automatic mirror search* is the minimum file size for which is FlashGet automatically searches for mirrors. (It is assumed that for smaller files possible advantages of downloading from different servers will hardly justify the time required to find suitable mirrors).

File managers (FAR, Windows Commander etc.) and their capabilities to resume downloads from FTP sites

Windows Commander (www.ghisler.com) and FAR (www.rarsoft.net) are file and archive managers that can work with files located not only on local or network disks, but also on FTP sites (depending on user access rights). Interrupted downloads from an FTP server can be resumed if the server is resumable. Note that Windows Commander and FAR are convenient for uploading user's files to an FTP server – it is a very popular tool for updating a Web page.

References

- <http://www.netvampire.com/manual/> - Net Vampire User's Manual (when installing Net Vampire this documentation is automatically copied to the local disk – normally, to C:\Program Files\Net Vampire\HELP\)
- <http://www.netvampire.com/manual/faq.html> – Net Vampire FAQ
- <http://www.amazesoft.com/manual.htm> – FlashGet User Manual (with the program installed, it can be accessed through the menu *Help -> User Manual*)

<http://www.gozilla.com/faq.html> - Go!Zilla Frequently Asked Questions
<http://www.getright.com/support.html> – GetRight Technical Support