How do firewalls affect the interface with Beyond Compare?
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FAQ Article Print

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Symptom (public)

Beyond Compare is unable to interface with Deltanji to perform code comparisons.

Problem (public)

The Deltanji routine %vc830 implements an FTP server that Beyond Compare connects to for diffing objects, change requests, components etc. In situations where there is a requirement to encrypt data as it travels between the server and the client, FTPS (FTP over SSL) can be used.

Deltanji support both active and passive FTP connection modes. See [1]this article for details about the differences, but in a nutshell, here is how the the FTP(S) protocol uses its command and data channels. The server port numbers below assume %vc830 is started on port 21.

Active FTP :
   command : client >1023 -> server 21
   data   : client >1023 <- server 20

Passive FTP :
   command : client >1023 -> server 21
   data   : client >1024 -> server >1023

A quick summary of the pros and cons of active vs. passive modes:

- Active FTP is beneficial to the FTP server admin, but detrimental to the client side admin. The FTP server attempts to make connections to random high ports on the client, which might be blocked by a firewall on the client side.
- Passive FTP is beneficial to the client, but detrimental to the FTP server admin. The client will initiate both connections to the server, but one of them will be to a random high port, which might be blocked by a firewall on the server side.

[1] http://slacksite.com/other/ftp.html

Solution (public)

During its initial contact with the server, an FTP client controls whether active or passive mode will be used. It does this with a command called PASV.

In Beyond Compare use the Tools\Profiles menu option. The relevant settings are on the Connection tab. As with most profile-related settings, use the <default> profile to establish the defaults for all profiles. Then override any of these on individual profiles if necessary.

Note that when passive mode is not being used you also get an option to constrain the range of client-side ports that the server may be asked to connect back to the client at. This may be helpful if it is necessary to grant inbound exceptions in a client-side firewall, or outbound exceptions in a server-side one.

Another explanatory article about active vs passive modes is [1]here.

Deltanji documentation about its FTP server is [2]here.

[1] http://www.ncftp.com/ncftpd/doc/misc/ftp_and_firewalls.html
[2] https://www.georgejames.com/files-cgi/doc/deltanji/latest/docs/configuringbeyondcompare.html