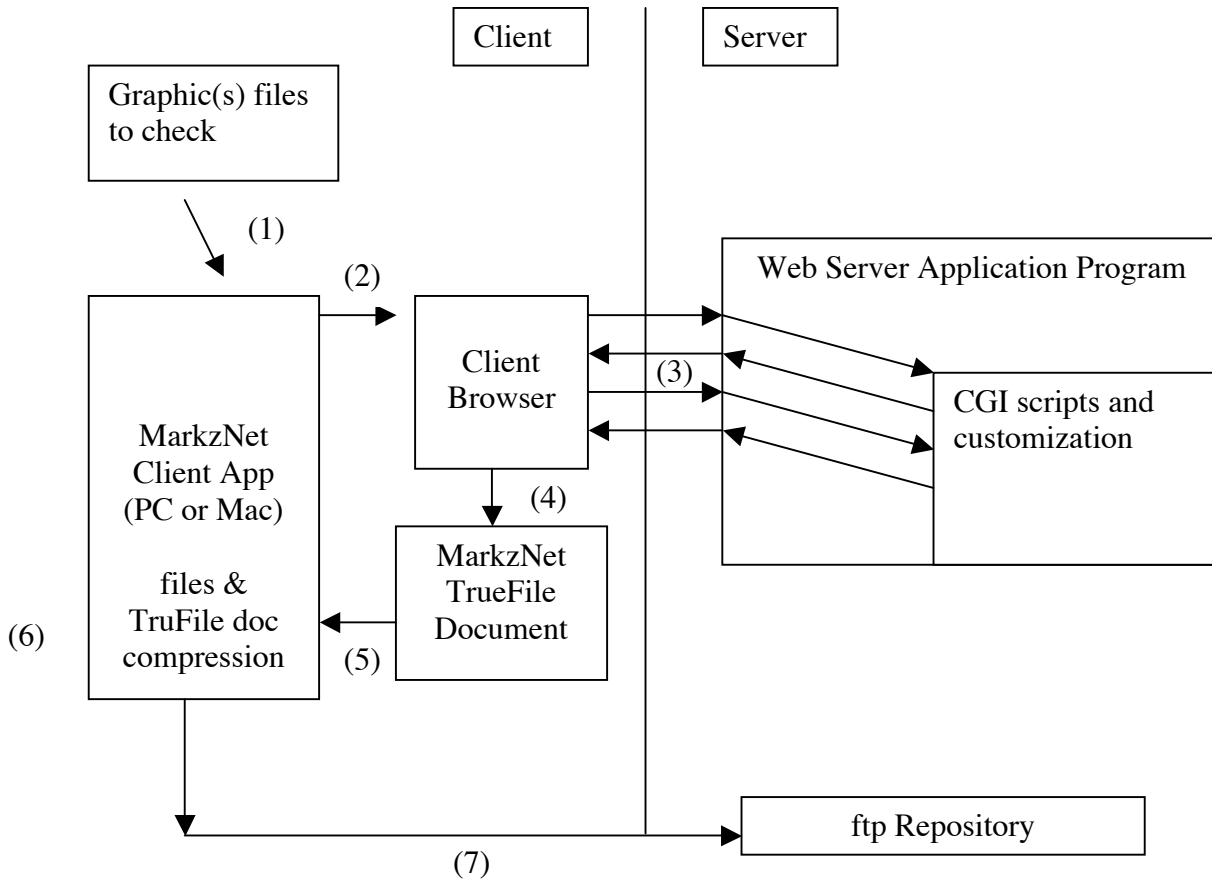


Technical Description of MarkzNet

Background

MarkzNet is a product designed to provide preflighting for files to be printed within the specifications of the printer to which the data files are destined. After analyzing, the MarkzNet client can transfer these to the printer.

Conceptually, there are two components: server-side and client-side.



A typical MarkzNet transmission goes through the following steps:

- 1) The user drag/drops a document onto the MarkzNet client.
- 2) The MarkzNet client launches the client's default web browser and has the web browser access a pre-determined web page. This web page typically presents the user with an HTML form intended to collect job ticket data. This web page, and all web pages needed for MarkzNet, are defined by and are in control of the printer. The MarkzNet client remains active in the background and waits.
- 3) After a series of web page interactions between the server and the client (completely in the control of the printer's web server), the server dynamically builds a TrueFile Spec file containing the rules for MarkzNet execution. This file is sent to the client's browser via the http response mechanism.
- 4) Upon receipt of the TFS in the client browser, the browser recognizes the .TFS mime type and passes the TFS onto the MarkzNet client. Parenthetically, more than one MarkzNet client (MarkzNet clients from different printers) can reside on the client machine. MarkzNet contains a mechanism to hand off a TFS to the proper MarkzNet client.
- 5) The MarkzNet Client reads the TrueFile Spec document and executes all preflight rules/ground controls specified therein. The TrueFile Spec document also contains how each rule shall be dealt with. Each rule can pass, fail, or warn the customer. If the job fails, the MarkzNet Client sends an http request to the feedback page defined within the TFS. This URL is used by the printer to explain to the customer the causes of the failed job. Note that this is not the sole mechanism providing interaction between the server and the client. For example,

there exists a mechanism through which the server can tell the MarkzNet client where the job resides and there is a mechanism whereby the server can interrogate the job without running a preflight. This is documented in the TFS specification at [http:// mas.markzware.com/TFSSpecification.html](http://mas.markzware.com/TFSSpecification.html)

- 6) If the job is to move forward (no failures reported), the MarkzNet Client collects and compresses the TrueFile Spec document and all job elements into a compressed archive.
- 7) The compressed archive is transmitted to the receiver, according to the upload instructions in the TrueFile Spec document. The receiver now has a complete set of files, plus a copy of the TrueFile Spec document that was originally created by the Web Server. This TrueFile Spec serves as a container for the Job Ticket Data that was collected from the user.

Product Definition

The MarkzNet product consists of:

- Server-side sample scripts
- Server-side cgi program
- Client-side application program(s) that are downloaded from the MarkzNet administrative interface

The supplied server-side scripts are written in the perl language. This is a common language used in cgi programming across several operating systems. These scripts are a demonstration containing the overall structure of what a cgi might provide as well as some elements necessary to create a TrueFile Spec document. Also contained is the program markznet.cgi, a program residing on the server and required in order to run the MarkzNet Client. The server-side scripts must be modified to set up the location of the ftp repository and to define the unique job information required by the printer.

The client-side application programs are serialized to the server, i.e., the printer. The serialization is achieved through our administrative interface. Upon registration of the product, the printer may customize the client, including adding their own graphic into their MarkzNet client..

System Compatibility

Macintosh clients: MacOS 7.5 to 9.2.2 and MacOS X

Windows clients: Win 9x, Win ME, WinNT 4.0 and higher, Win2000

Server: Windows NT, MacOS X, Solaris, and any Unix/Linux flavor

Memory Requirements

MarkzNet client size is dictated by the size of the documents being preflighted. A rule of thumb on the memory size is to provide the MarkzNet client as much memory as the application in which the job was created. Thus, if the job was composed in QuarkXPress and QuarkXPress was set at 35,000 KB, MarkzNet should be set at 35,000 KB.

What about firewalls?

MarkzNet is agnostic toward firewalls. MarkzNet uses standard http and ftp protocols. Firewall issues are outside the scope of this product and are best addressed with your systems or network administrator.

Summary

The MarkzNet product components are used in concert with one another, transmitting information between the components via the internet. The customer's client components interact exclusively with the customer's server components, and visa versa. The client components cannot be used with any other customer's server components, nor will the client operate with any other customer's server components. The client components do not talk with other client components. Similarly, server components do not interact with other server components. Server components are passive components and do not operate until initiated by the client component.