



Bulletin: Web Caching

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OBJECTIVE:

PLNet continually looks for ways to improve the network including increasing speed and reducing costs. To this end, a new initiative has been added to the network: Web Caching. Browsing the Internet or "Surfing the Net" has increased in popularity such that the volume of traffic on PLNet threatens to overwhelm network capacity. The introduction of Web Caching is one of the technologies being implemented to help minimize this issue.

BACKGROUND:

When a user accesses a web page, the request typically goes out to the Internet to the server on which the page resides. The page content is then returned back across the Internet to the user's workstation. Web Caching works by storing the content of requested web pages on a dedicated caching server inside the PLNet network. The first time a page is accessed, the contents are returned and stored on the caching server. On subsequent requests for the same web page, the cache delivers the page from its local (or cached) storage rather than going out across the Internet link to the originating web site. Every web page changes over time, so each cached page has a useful life, or "freshness". The cache server is set up to determine whether or not its copy of a page is still "fresh", or whether it needs to retrieve a new copy from the originating server. The more users request the same page during its useful life, the more external traffic the cache eliminates.

There are billions of web pages, but only a relatively small number of them (or objects on pages) are requested frequently. Many users request the same pages and objects. A simple example is the logo image at the top of most Amazon.com pages. This image must be delivered every time the browser accesses one of Amazon's pages, and these pages are requested tens of thousands of times a day. By handling object requests rather than passing them to the originating server, web caches reduce network traffic and improve the browsing experience for users.

Given that 85-90% of PLNet traffic is web based, web caching reduces bandwidth pressures and improves response times.

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