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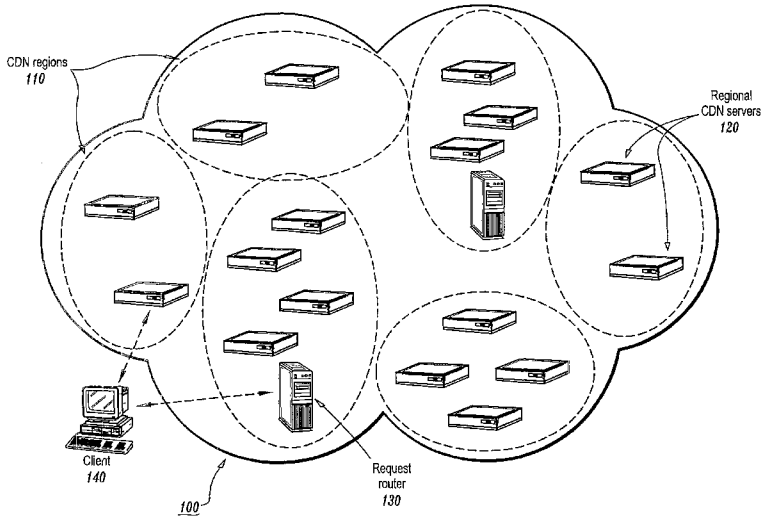
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(54) **Title:** METHOD AND APPARATUS FOR IMPROVING THE RESILIENCE OF CONTENT DISTRIBUTION NETWORKS TO DISTRIBUTED DENIAL OF SERVICE ATTACKS



(57) **Abstract:** Several deterrence mechanisms suitable for content distribution networks (CDN) (120) are provided. These include a hash-based request routing scheme and a site allocation scheme. The hash-based request routing scheme provides a way to distinguish legitimate requests from bogus requests. Using this mechanism, an attacker is required to generate $O(n^2)$ amount of traffic to victimize a CDN-hosted site (120) when the site content is served from n CDN caches. Without these modifications, the attacker must generate only $O(n)$ traffic to bring down the site. The site allocation scheme provides sufficient isolation among CDN-hosted Web sites (120) to prevent an attack on one Web site from making other sites unavailable. Using an allocation strategy based on binary codes, it can be guaranteed that a successful attack on any individual Web site that disables its assigned servers, does not also bring down other Web sites hosted by the CDN (120).

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