A Denial of Service (DoS) attack prevents legitimate users from connecting to a network by bombarding it with traffic. The target is either overwhelmed by too much traffic or is unable to process the incoming requests. There are many types of DoS and DDoS attacks. Among them, Amplification attacks rely on open recursive resolvers, which answer queries for anyone, anywhere. These may inadvertently hit a "darknet," a block of network address space announced to the Internet but not used by any end users or computers. There are no end users and no computers on those network addresses, there shouldn't be any traffic coming into that network from the Internet. Anything that does hit that darknet is isn't used by any end users or computers.

Open recursive resolvers, which answer queries for anyone, anywhere, are misconfigured, or "darkspace telescope", a block of network address space announced to the Internet but not used by any end users or computers. Because there are so many open recursive resolvers on the Internet, some attackers simply spray spoofed traffic against any/all IPv4 addresses. These may inadvertently hit a "darknet," a block of network address space announced to the Internet but not used by any end users or computers.

These spoofed queries look as if they're sent from victim V, even though they're actually being sent by attacker A. The open recursive resolver acts as a "traffic amplifier," taking a small input and generating a large output. Because DNS queries are organized into a series of real-time streaming channels. SIE also includes other types of DoS attacks, one of the simplest is a packet-flooding volumetric attack, where the attacker sends far more traffic at the target than the target's network can carry.

This is the very definition of "amplification." The net result of many open recursive resolvers all answering spoofed questions can be a crushing denial of service. A Denial of Service (DoS) occurs when such attacks come from a multitude of sources (such as spam samples and other types of data) bombarding the targeted system or device with a constant stream DNS-based inquiries which makes it impossible for that system to respond. A Distributed Denial of Service (DDoS) occurs when such attacks come from a multitude of sources as the attacker to ORR1, ORR2, ORR3, etc. Each of the open recursive resolvers dutifully responds to the attacker's spoofed DNS queries, sending DNS response traffic.

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There's a bad guy, attacker A. There's a good guy, victim V. There are open recursive resolvers, such as ORR1, ORR2, ORR3. Each of the open recursive resolvers dutifully responds to the attacker's spoofed DNS queries, sending DNS response traffic.

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