



# DNS Proxy Integration

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## Feature Summary and Revision History

### Summary Data

**Table 1: Summary Data**

Applicable Product(s) or Functional Area	SMF
Applicable Platform(s)	SMI
Feature Default Setting	Disabled – Configuration Required
Related Changes in this Release	Not Applicable
Related Documentation	Not Applicable

### Revision History

**Table 2: Revision History**

Revision Details	Release
First introduced.	Pre-2020.02.0

## Feature Description

The Domain Name System (DNS) is a network of servers that translates numeric IP addresses into readable, hierarchical Internet addresses, and vice-versa. The DNS Proxy allows you to configure the proxy servers

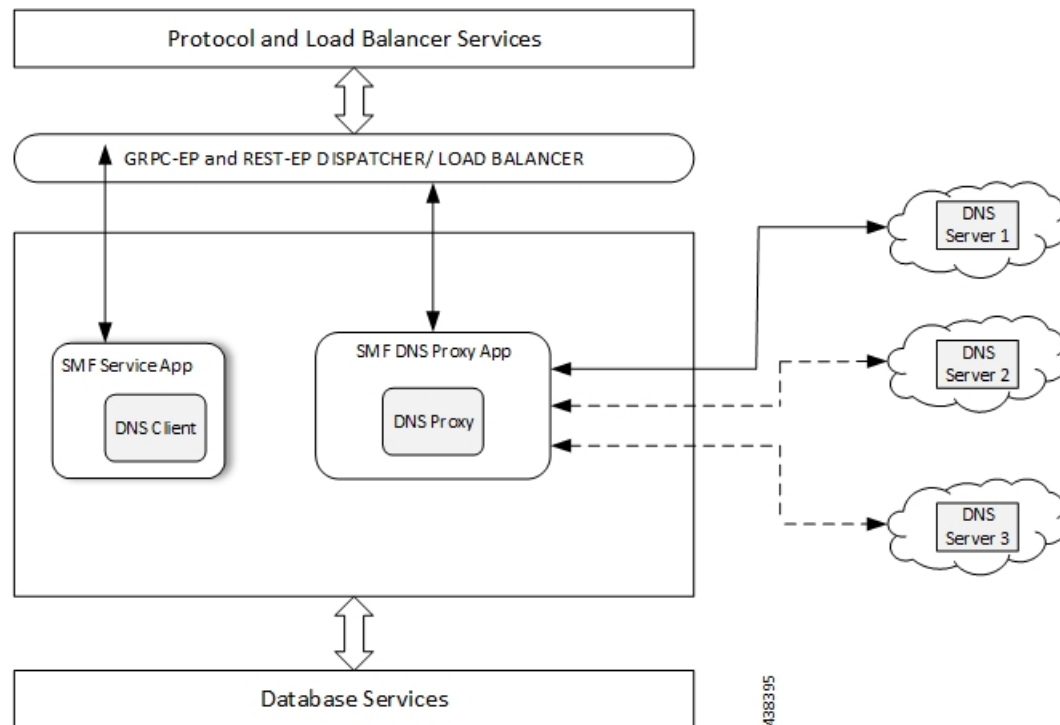
(one or more) for resolving the host names. The DNS queries – for resolving host names to their IP addresses – are sent to the configured DNS servers through the DNS proxy servers.

The DNS proxy feature is integrated in the SMF network function.

## How it Works

The DNS proxy feature is integrated in the SMF cluster. For sending the list of host names to resolve the DNS Proxy server, the SMF Client Library calls the `smfdnsclnt.DNSLookupRequest()` Request. The DNS Proxy server forwards the request to the Open source DNS package for host name to IP address resolution.

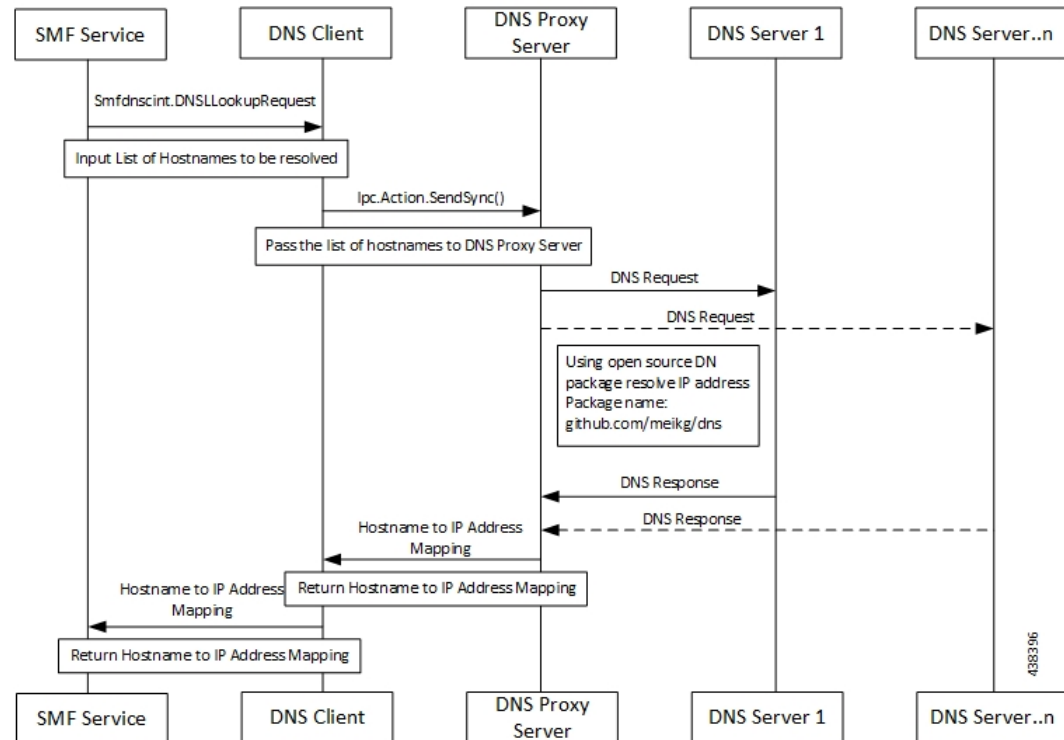
**Figure 1: DNS Proxy Feature Integration**



## Call Flows

The following call flow illustrates the communication between the DNS client and the Proxy server.

Figure 2: DNS Client and Proxy Server Communication Call Flow



## Configuring the DNS Proxy Feature

This section describes how to configure the DNS proxy feature.

Configuring the DNS proxy feature involves the following steps:

1. Configuring SMF DNS proxy replica
2. Configuring SMF DNS proxy

## Configuring SMF DNS Proxy Replica

Use the following configuration to configure the SMF DNS proxy replica.

```

configure
  k8 smf profile dns-proxy no-of-replicas integer
commit
end

```

### NOTES:

- `k8 smf profile dns-proxy no-of-replicas integer` : Specifies the number of replicas of the DNS proxy pod.

- **commit**: Commits the configuration.

## Configuring SMF DNS Proxy

Use the following configuration to configure the SMF DNS proxy feature.

```
configure
  profile dns-proxy
    timeout integer
    query-type { ipv4v6 | ipv4 | ipv6 }
    servers string
    ip string
    port integer
    priority integer
    protocol { tcp | udp }
    commit
```

### NOTES:

- **profile dns-proxy** – Enters the DNS Proxy Configuration mode.
- **timeout***integer* – Specifies the client timeout value.
- **query-type** – Specifies the DNS query type.
- **servers** *string* – Specifies the name of the DNS server. For example, serv1.
- **ip** *string* – Specifies the IP address of the DNS server.
- **port** *integer* – Specifies the priority of the DNS server.
- **protocol** – Specifies the protocol of the DNS server.
- **commit** – Commits the configuration.

The following is an example configuration where two DNS servers – serv1 and serv2 – are configured:

```
show running-config profile dns-proxy profile1
  query-type ipv4
  timeout 5
  servers serv1
  ip 10.105.227.227
  port 53
  protocol tcp
  priority 1
  exit
  servers serv2
  ip 10.105.227.228
  port 20
  protocol udp
  priority 2
  exit
exit
```