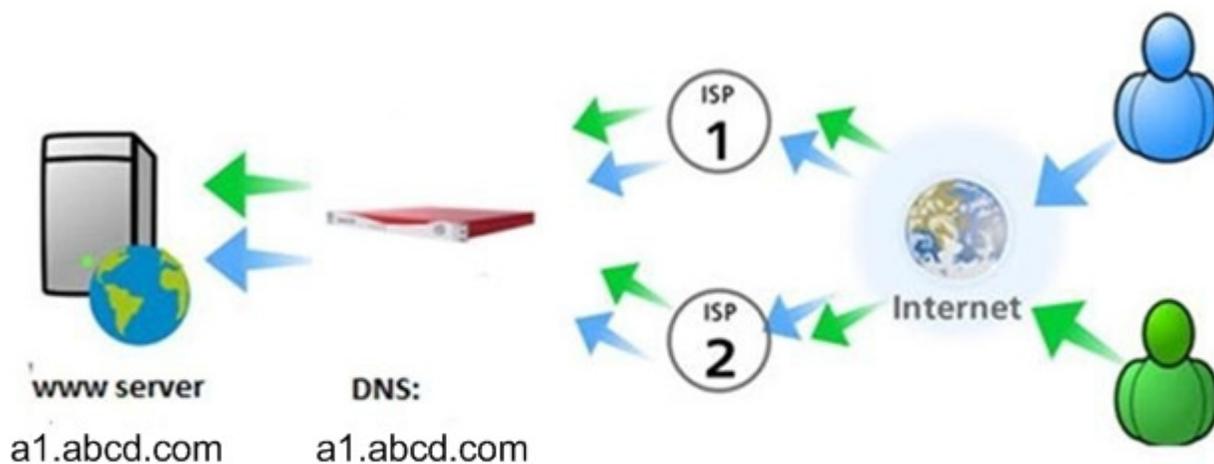


Inbound Link Load Balancing (ILLB)

Tacitine TGEN6200 supports a full fledged DNS server that can be used for Internet facing DNS queries. One of the significant use cases of this DNS server is to provide a Inbound link load balance and failover capability.

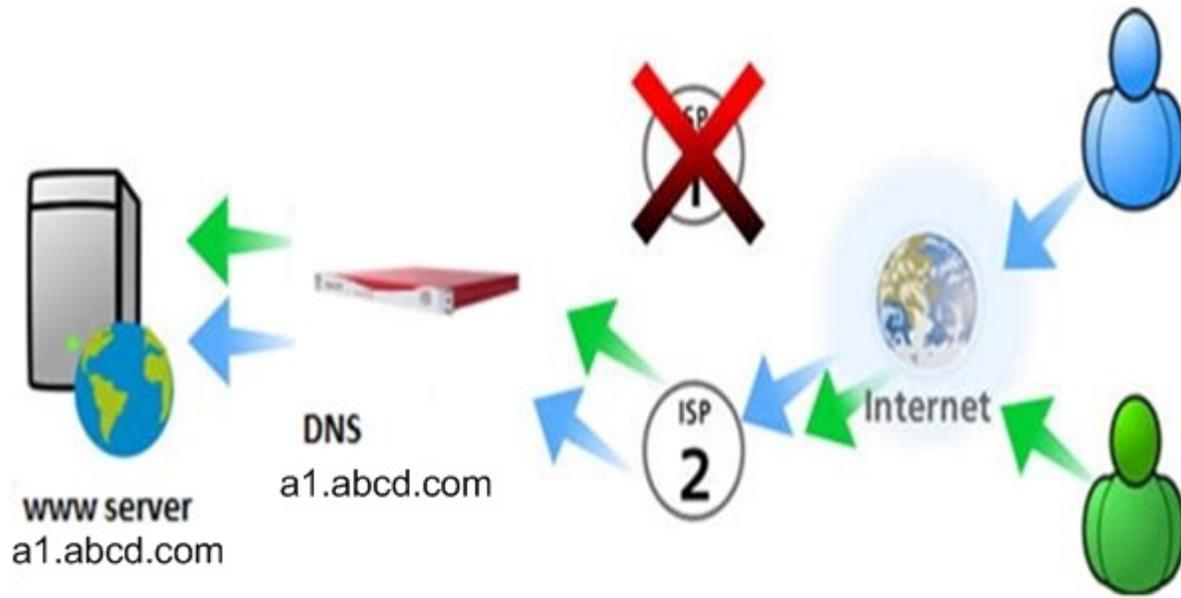
Administrators can configure DNS records on the TGEN6200 Link Balancer that detail how – or to which IP addresses – requests to domains hosted behind the link balancer should be resolved. When a user on the Internet makes a request for a Web site, the TGEN6200 will act as the authoritative DNS resolver and resolve the domain name to the IP address of the appropriate WAN interface.



Consider a case where an enterprise has two ISP connections to the Internet. VPN or other users access this location, through the Internet, for server or other application access. Usually, the two ISP public IP addresses will be mapped to a DNS name (specifically an A record) for clients to access the servers through DNS name, rather than IP addresses.

Handling link failures

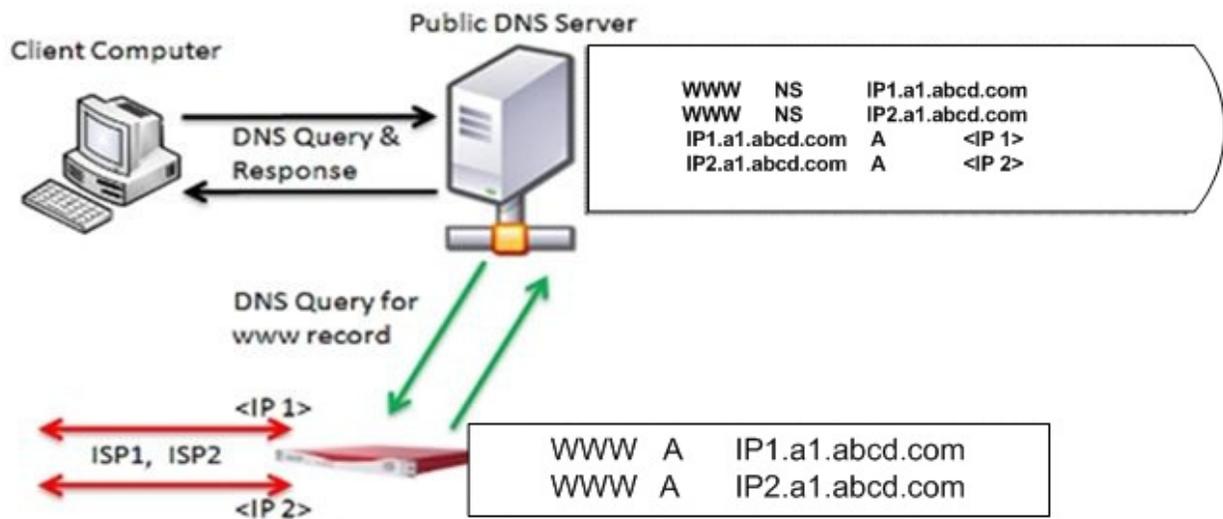
Usually, when a client is presented with two IP addresses in response to a DNS query, the client chooses one of them and continues. In the event of a link failure at the server location, the DNS records do not get updated and clients would see a connection failure.



The DNS server on the TGEN6200 can circumvent this failure scenario and provide robust and intelligent DNS service to clients.

Changing public DNS entry

The required FQDN (for example: www.TGEN6200.com) is usually configured as an A record on the public DNS server. For the DNS based load balancing to work, the record now has to be changed to a NS record. Refer to the figure below.



In the above diagram, in the public DNS server two NS records for www.TGEN6200.com should be configured. These two point to the A records for IP1 and IP2 respectively. Two A records for IP1 and IP2 should be configured, which should point to the two public IPs from the ISPs.

In the TGEN6200, two A records should be configured for www, which point to IP1 and IP2 respectively.

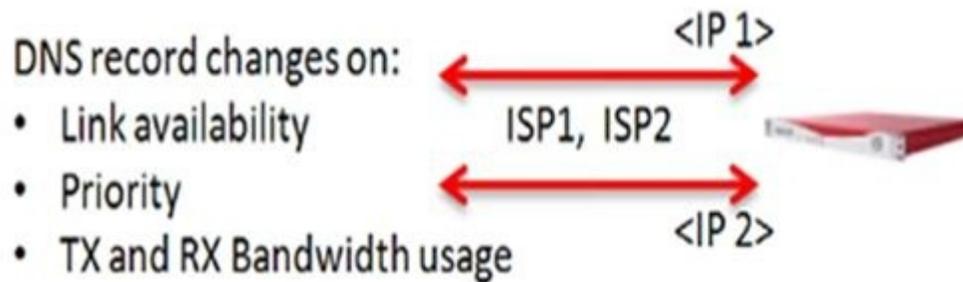
DNS query flow

The client computer requests for the IP address of www.TGEN6200.com from the public DNS server. This query is redirected, transparently, to the TGEN6200. The public DNS server will check automatically on the link that is reachable on the TGEN6200, get the IP address that TGEN6200 has assigned to the FQDN and reply back to the client. This flow happens automatically and is completely transparent to the client.

Automatic change of IP address based on link status

The TGEN6200 can be configured to change the DNS records on multiple events. Some of these are the link status, Tx or Rx bandwidth usage (time average can be specified in minutes) and the priority. Assume that the links from the ISPs are with different bandwidths - this means that one ISP can be favored over the other for the client requests, automatically load balancing the

links. TTL (time to live) for DNS queries can also be setup, so that DNS changes are affected at the rate the enterprise chooses.



Fixing security concerns

Though the TGEN6200 has a full fledged DNS server, it will respond to queries for only the DNS records configured on it. It cannot be, therefore, used as a DNS server for the Internet. Moreover, DNS updates are not accepted, preventing DNS poisoning attacks.

Conclusion

TGEN6200 provides a powerful way to perform incoming load balance on multiple ISP links. For fail safe client access, the authoritative DNS functions can be used.

Configurations:

Note: domain name and IP address is only for representation

At Control Panel (Domain Provider):

Admin Area for rakesh_p@anexgate.com

Home | Domains | My Billing | Settings | Help |

anexgate.net Actions ▾ Transactions ▾ Move Services

Overview Domain Email DNS FREE Domain Forwarding FREE

Manage FREE DNS

Click on the button below to manage the DNS records for anexgate.net.

[Manage DNS](#) 1

Nameserver Information

It looks like anexgate.net is configured to the required nameservers settings. You do not need to make any changes.

Register Domain | Transfer Domain | Whois | Knowledgebase

Ac use A record to add NS Sign out

1

Manage Records for anexgate.net

[A Records](#) [AAAA Records](#) [MX Records](#) [CNAME Records](#) [NS Records](#) [TXT Records](#) [SRV Records](#)

[SOA Parameters](#)

Add Address (A) Record for anexgate.net

Fill in the form below to add an Address (A) Record for anexgate.net

Host Name : 2 anexgate.net (eg.anexgate.net)

Destination IPv4 Address * : A record of NS

TTL * : seconds (eg. 172800)
(Note that the TTL value you specify will be updated in all records of the same type for this zone.)

[Add Record](#)

Manage Records for anexgate.net

2 [A Records](#) [AAAA Records](#) [MX Records](#) [CNAME Records](#) [NS Records](#) [TXT Records](#) [SRV Records](#)
[SOA Parameters](#)

Below is the list of Address (A) Records. Click the 'Add Address A Record' button to add more 'A' records. Alternatively you may click on any row to manage the corresponding 'A' record

List of Address A Records

[Add A Record](#) 2 << 1 >> 3 pg no [Jump To](#)

Sr No	Record ID	Name	Destination IP Address	Status
1	4867155	link1.anexgate.net	129.211.172.48	Active
2	4867164	link1.anexgate.net	229.225.253.247	Active

<< 1 >> pg no [Jump To](#)

3 4

Manage Records for anexgate.net

[A Records](#) [AAAA Records](#) [MX Records](#) [CNAME Records](#) [NS Records](#) [TXT Records](#) [SRV Records](#)
[SOA Parameters](#)

1 will use to create subdomain and assign NS

Add NS Record for anexgate.net

Fill in the form below to add an NS Record for anexgate.net

Zone: anexgate.net (eg.abc.anexgate.net)

2

Value: Link1 anexgate.net

3 A Fully Qualified Domain Name eg. abc.pqr.com)

TTL *: 38400 seconds

[Add Record](#)

Manage Records for anexgate.net

[A Records](#)
[AAAA Records](#)
[MX Records](#)
[CNAME Records](#)
[NS Records](#)
[TXT Records](#)
[SRV Records](#)

[SOA Parameters](#)

Below is the list of NS Records. Click the 'Add NS Record' button to add more 'NS' records. Alternatively you may click on any row to manage the corresponding 'NS' record

List of NS Records

[Add NS Record](#) << 1 >> pg no [Jump To](#)

Sr No	Record Id	Name	Value	Status
1	4844458	anexgate.net	64170.mercury.orderbox-dns.com	Active
2	4844459	anexgate.net	64170.venus.orderbox-dns.com	Active
3	4844460	anexgate.net	64170.earth.orderbox-dns.com	Active
4	4844461	anexgate.net	64170.mars.orderbox-dns.com	Active
5	4850701	support.anexgate.net	link1.anexgate.net	Active
6	4882953	online.anexgate.net	link1.anexgate.net	Active

<< 1 >> pg no [Jump To](#)

DNSWatch

 Type: [Resolve](#)

[DNSWatch](#) > DNS Lookup for support.anexgate.net

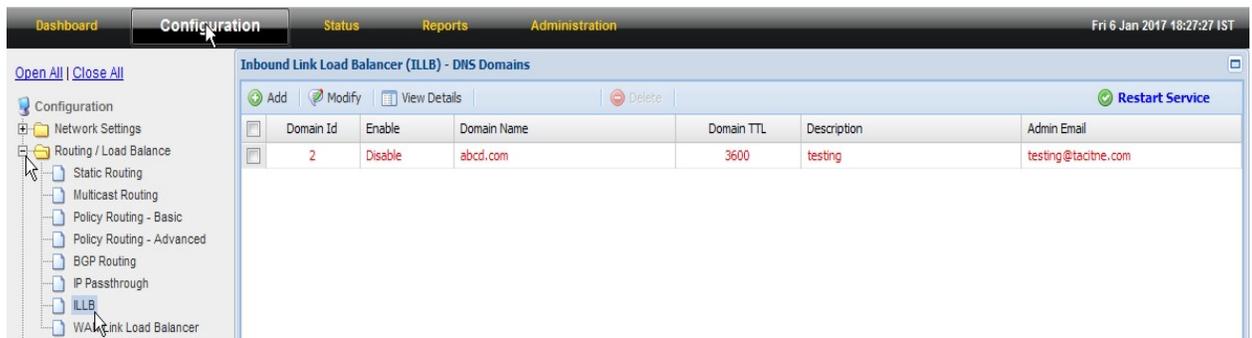
Searching for support.anexgate.net. NS record at M.ROOT-SERVERS.NET. [202.12.27.33] ...took **11 ms**
 Searching for support.anexgate.net. NS record at e.gtld-servers.net. [192.12.94.30] ...took **12 ms**
 Searching for support.anexgate.net. NS record at lalk233451.venus.orderbox-dns.com. [74.54.56.231] ...took **129 ms**

NS record found: link1.anexgate.net.

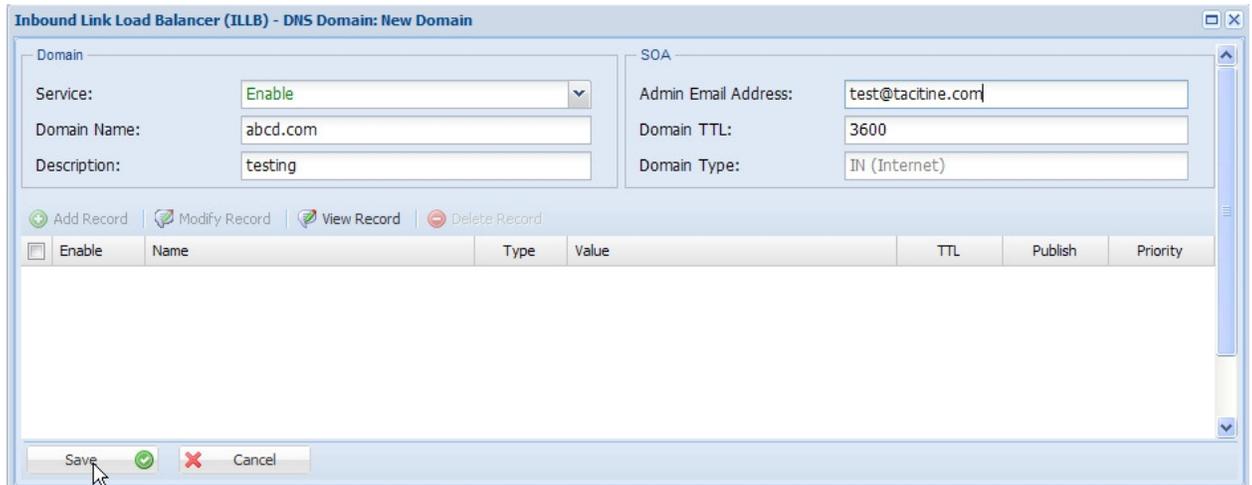
Domain	Type	TTL	Answer
support.anexgate.net.	NS	38400	link1.anexgate.net.

Configuration at TGEN6200:

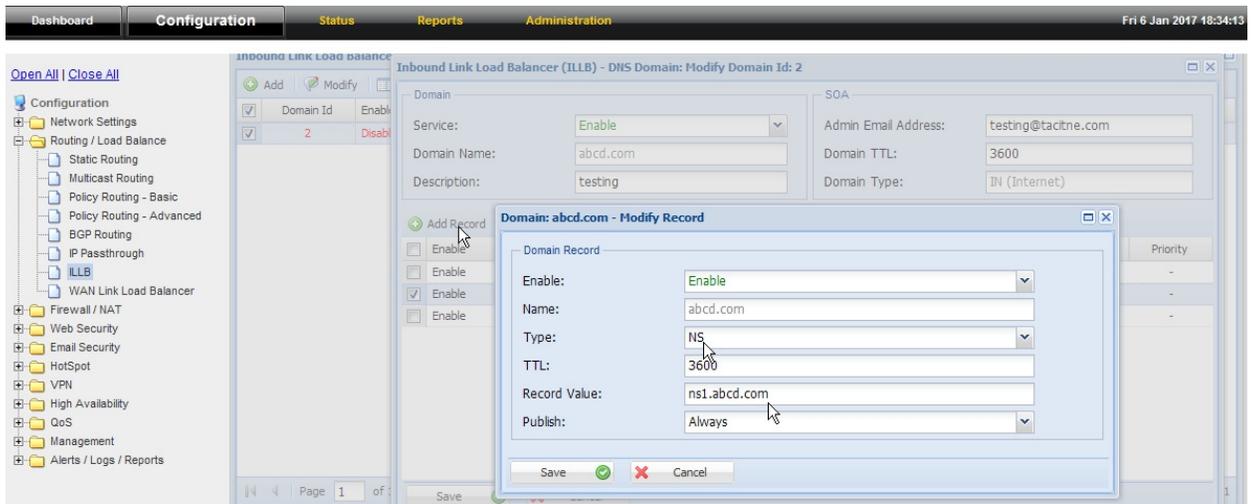
1. Login to TGEN6200
2. Click on Configuration
3. Select Routing /Load Balancing
4. Select ILLB
5. Click on Add to add new domain for Public Resolution



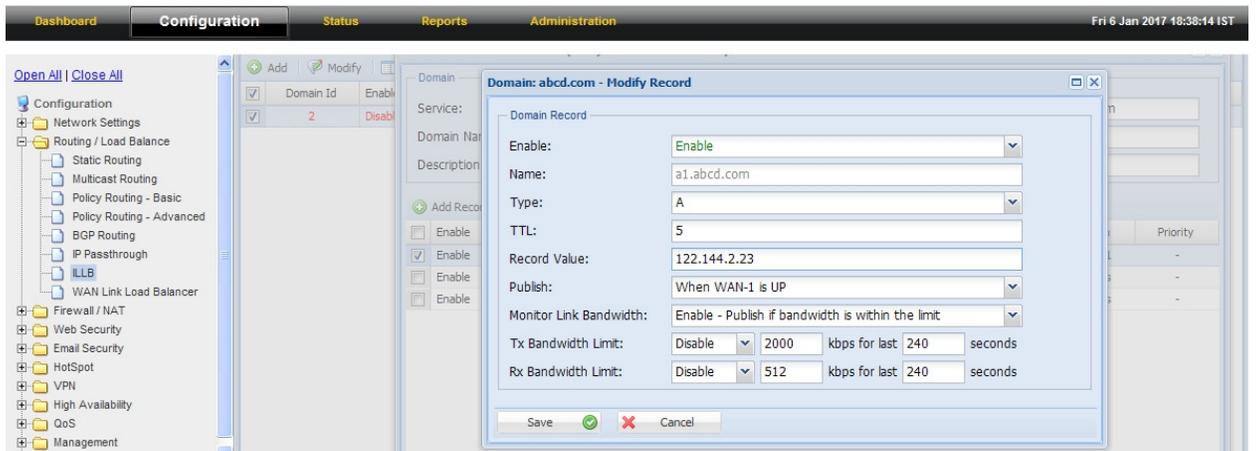
In the new window opened enter the registered domain name and save the configuration



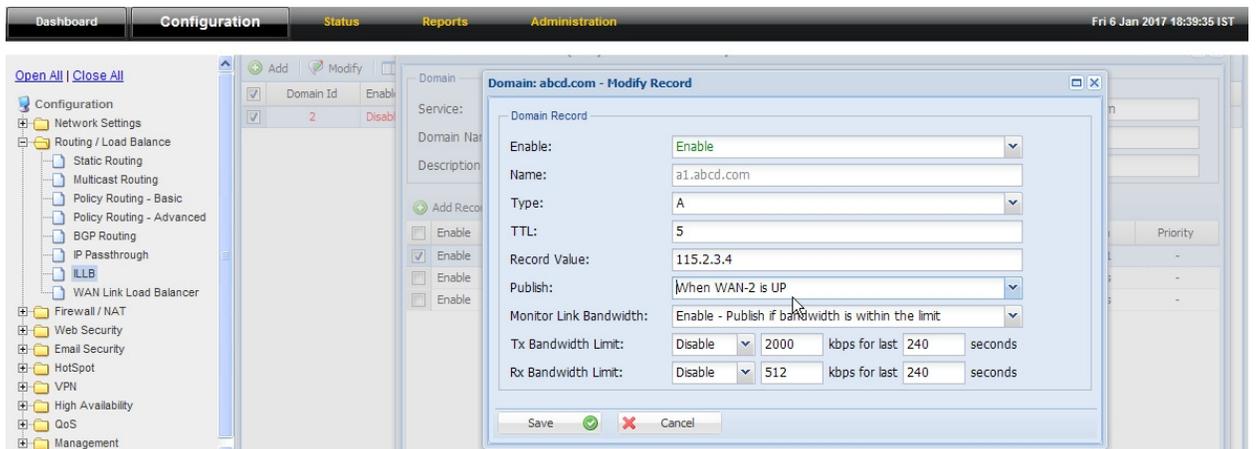
Once saved, click on Add Record to enter NS record and A record for the registered Domain Name



Adding NS record



Adding "A" record for the domain name with one of the public IP (WAN1)



Adding "A" record for the domain name with second public IP (WAN2)

Once saved the configuration, TGEN6200 will start publishing the IP's assigned to the domain name to nameserver. This will publish the IP for the domain name depends on the interface links.

Checking configuration:

1. Open www.dnswatch.info in the browser and enter the registered domain name. The result should show the configured IP in ILLB menu.
2. Type nslookup <domain name>
The result should show with the published IP with round robin way.