LEVEL 3® INTELLIGENT TRAFFIC MANAGER

DELIVER HIGH-QUALITY CONTENT AND NETWORK PERFORMANCE 24/7

One of the biggest challenges facing major ISPs and online content providers is how to achieve 24/7 uptime and optimal network performance without the cost of building and managing redundant, geographically diverse infrastructures. While standard DNS services can be used to help distribute requests evenly across the network, they don’t account for current server loads, traffic backups caused by hardware problems or geographic issues that can slow high-quality website content delivery and application performance. The subscription-based Level 3 Intelligent Traffic Manager (ITM) service is designed to do all of this and more.

By leveraging the Level 3 ITM service and robust worldwide architecture, you can help ensure your customers have the best user experience 24/7 – even if you use multiple Content Delivery Networks (CDNs) – and avoid the investment in additional hardware or software solutions.

One Intelligent, Customizable Service for Worldwide Reliability

The Level 3 ITM offering is a DNS-based service that allows you to transparently monitor and route wide-area traffic to any publicly accessible IP application, website or CDN based on policies that you configure for optimal performance and availability. The policies can be based on geography, traffic balancing rules and the availability of systems, giving you the ability to tailor a solution to your business needs.

Managing your service via Level 3’s user-friendly, secure portal gives you the flexibility to:

- Split requests by percentage of traffic for global load balancing between servers, load balancers and caching networks
- Forward users to nearest locations based on their geographic location
- Return the best servers by eliminating unreliable, distant or unreachable servers and by monitoring performance of not just the server, but an entire application
- Redirect traffic to any number of tiered backup servers or a third-party content delivery network, such as Level 3’s CDN, during overwhelming flash crowds

Level 3 continues to change the business of content delivery as one of the first carriers to combine the advantages of an industry-leading Internet backbone with a sophisticated and proven Content Delivery Network (CDN) platform. This unique combination allows us to connect customers with the benefits of our high-performance, highly scalable service — and deliver those services in a simplified, flexible manner. Our comprehensive suite of CDN services allows you to deliver rich online content to global audiences with outstanding quality, speed and reliability.
Key Service Features and Benefits

Subscription-Based Service – Deploy to a large number of sites and locations without investing in expensive hardware or software. Automatic updates help ensure you are always running the latest version.

Flexibility – The service can be used for automatic failover, global load balancing, geographic intelligence or any combination of the three.

Economical – Lower costs for bandwidth and caching by controlling where and how traffic is distributed.

Fast Implementation – The service can be turned up quickly as a CNAME alias or name server delegation.

Agnostic Service – It can be purchased as a stand-alone or in conjunction with other CDN services from nearly any service provider.

Ease of Use – You can administer the service using a web-based portal designed for ease of use and security.

Configuration Options

Failover Configuration – Name resolution decisions are based on the availability of the customer server, as determined independently by the global network of name servers. If any of these servers are unavailable, it will not return their associated IP address until the server starts responding again. Meanwhile, traffic will be sent to the designated alternate servers.

Geographic Intelligence Configuration – Name resolution decisions are based on the IP address of the end user’s resolver. The mapping, from IP address to geographic region, allows rules based on the continent, country, U.S. state or time zone of the resolver IP address.

Global Load Balancing Configuration – Name resolution decisions are based on customer-specified ratios of traffic sent to each server. Typically, the ratios are chosen to reflect the capacity at each server. The service can also dynamically update the ratio by polling a set location.

How the ITM Service Works

The Level 3 ITM service provides many extensions and enhancements to a standard DNS by leveraging an international network of custom name servers and monitoring agents, operating approximately 20 name servers worldwide on three separate production networks. This architecture is designed for superior reliability, lower latency and faster name resolution than standard DNS configurations.

MONITORING AND MANAGING TRAFFIC FLOW

- Configure a static “traffic distribution” policy by specifying the percentage of traffic to be directed to each application server.
- Set rules for “overflows” that can be defined to handle spillover traffic, or all traffic in the event of a total failure.
- Define rules via the portal in which global traffic is handled for each of your domains (and subdomains). Each server can be assigned a “load share” value, which determines how much of the overall traffic it will handle.
- Configure our CDN or other CDN services to be used to handle any percentage of traffic, or operate as an overflow mechanism.
- Integrate global load balancing seamlessly with local load balancing equipment.
Intelligent Traffic Manager Request Flow

When the client’s browser makes a request for a resource, the following sequence of events occurs:

1. The browser first queries its DNS resolver for a subscriber domain name.
2. The DNS resolver queries a nearby traffic manager name server for the domain name.
3. The ITM name server follows the subscriber’s specified policies to return the appropriate subscriber IP address to the end user’s DNS resolver.
4. The DNS resolver passes the information on to the browser.
5. The end user communicates with the best subscriber server, according to the customer-selected policies.

Empower Your Network to Deliver a High-Quality Experience Today.