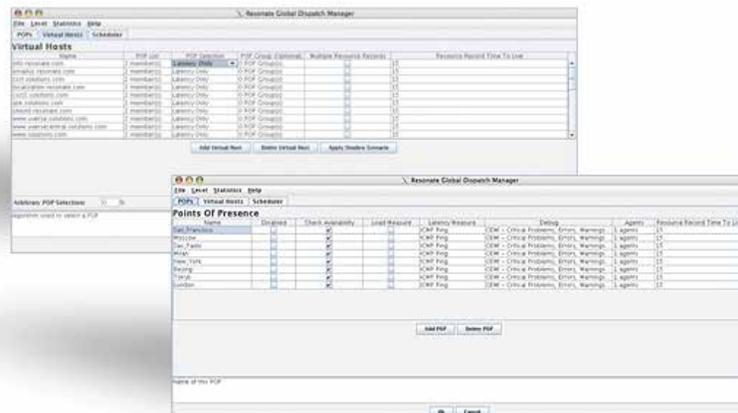


Global Dispatch™

Intelligent Multi-Site Load Balancing for Application Performance and Business Continuity

Global Dispatch is an intelligent, DNS-based load balancing solution that provides high availability and optimum performance for geographically distributed business applications.

Global Dispatch helps in reducing operating costs and enhancing the end-user experience by ensuring that traffic is always directed toward the most available, responsive sites.

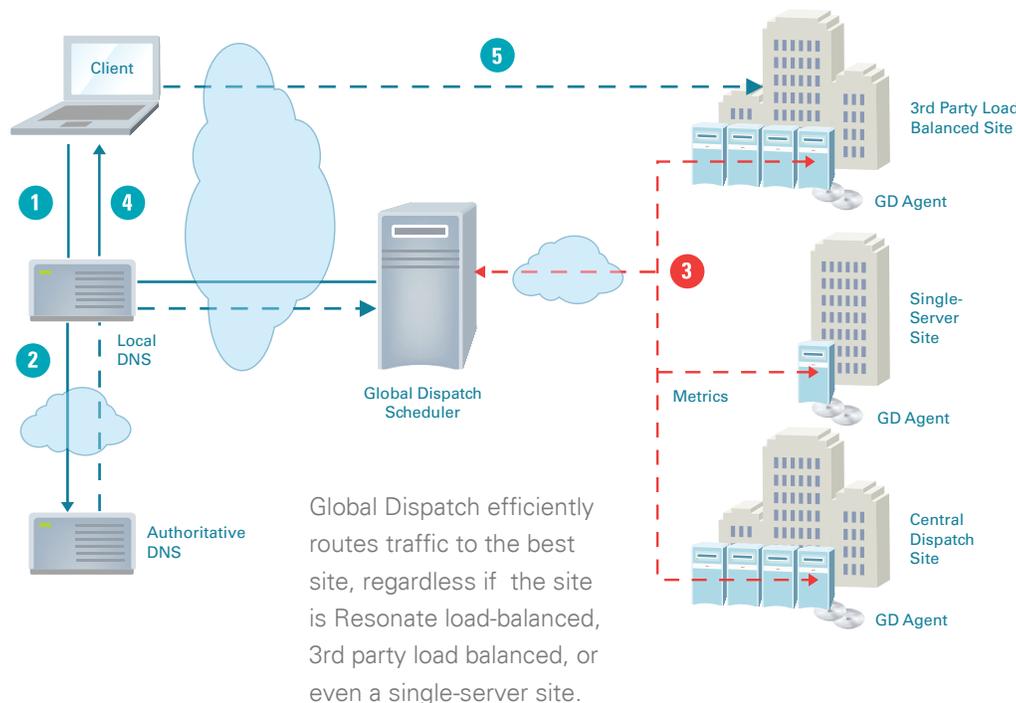


Global Dispatch - For Maximum Multi-Site Predictability and Performance

Organizations worldwide are distributing their critical business applications across multiple geographically dispersed sites in order to increase performance, availability and resiliency of these important business assets. With this trend, however, the network administrator is faced with a new set of challenges involving efficient delivery of the applications, as well as management of the load balancing infrastructure.



Global Dispatch is an intelligent, agent-based service level load balancing solution that provides high availability and optimum performance for geographically distributed business applications. Global Dispatch enables management of globally distributed traffic to ensure traffic is always directed toward the most available, responsive sites, while its powerful management tools gather critical site metrics that help in the decision making process. Its flexible, native software solution layers onto existing infrastructure, including existing DNS and local server load balancing solutions, enabling companies to quickly and easily deploy a redundant site and ultimately deliver a great end user experience.



Active Intelligence Concept of Operations

- 1 Client makes request to local DNS. If not cached, Local DNS queries Auth. DNS (or GD Scheduler if configured as proxy).
- 2 Auth. DNS returns IP address GD Scheduler to Local DNS. Local DNS communicates with GD Scheduler directly.
- 3 GD uses LB policy and capture metrics from POPs to determine appropriate site. GD automatically routes Persistent connections.
- 4 Selected sites' IP returned to Local DNS, which it returns to client.
- 5 Client connects to POP.

Global Dispatch At-a-Glance

Ensure Business and Application Continuity

By continuously monitoring the health and availability of each POP, Global Dispatch is able to ensure that server/ datacenter degradation or failure does not impact operations or application availability.

Easy to Deploy and Scale

Due to Global Dispatch's agent-based approach, it deploys easily into any network environment, whether the POPs under monitor are load balanced with Resonate Central Dispatch, a 3rd party vendor, or even single-server.

More Efficient use of Infrastructure and Bandwidth

By routing traffic to the POP with the most capacity (or whose network has the least latency), Global Dispatch helps administrators balance the tradeoffs between efficiency, cost and quality.

Easy and Powerful Management

Global Dispatch Manager features a simple and intuitive user interface that taps into the industry's deepest set of statistics collected from the POPs. The result is an easy-to use management system that gives any type of data needed.

Improved Clarity into User and Group Behavior

Global Dispatch provides insights into how and when users are accessing services, where they are located, and other important information that can help administrators make decisions that support business objectives.

Global Dispatch Features

Real-World Simulation with Shadow Mode

Shadow Mode enables administrators to test the Global Dispatch configuration before setting it into actual production. In this mode, Global Dispatch responds to DNS queries using a round-robin scheduling method while simultaneously logging the results of “what-if” calculations to show which POP would have been selected had certain rules been activated. Shadow Mode helps administrators better understand site traffic and routing patterns at initial site setup, and provides a means to safely test adjustments that were made because of fluctuations in site activity or applications.

Automatic Disaster Recovery

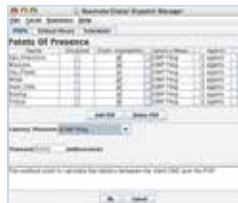
Because of its ability to load balance DNS across two sites simultaneously, Global Dispatch guarantees application continuity when primary site(s) are unavailable.

Persistency and Persistent Load Balancing

Global Dispatch assigns user requests to the same POP that handled the prior request so that server databases across sites need be synchronized only periodically. This “sticky session” capability helps reduce the high costs of real-time data synchronization by utilizing state information already stored in the server’s database.

Group-level Personalization

Global Dispatch’s group-level personalization provides the flexibility to direct users to specific servers and applications for tailored content (or to reduce WAN charges). Users are identified by their IP address and can be routed to the site with the content most applicable to them.



Delegate or Proxy to Authoritative DNS Server

Global Dispatch provides flexibility in its capacity to act as either as a delegate or a proxy to the authoritative DNS server. When Global Dispatch is a delegate of the authoritative server, hostnames such as www.domain.com and ftp.domain.com are delegated as sub-domains to Global Dispatch. When the Scheduler acts as a proxy to the authoritative DNS server, it can also handle requests for domain.com, where it is treated as a peer to the authoritative DNS server.

For example, a request originating in Japan will be automatically routed to the Tokyo POP instead of one in Denver. The user will see content created specifically for the Japanese market, including localization, specific product lines, ‘Japanese-centric’ marketing, etc.

Dynamic Load Balancing and Failover Modes

Global Dispatch allows the administrator to switch between load balancing and fail-over operation at the click of a button. GD Schedulers can also be load balanced for fail-safe availability.

Increase Visibility into User and Group

Global Dispatch features a wide array of real-time and historical reporting capabilities that help isolate and troubleshoot network issues. Global Dispatch reporting also provides insights into user and group-level behavior that facilitates faster and more user-centric networking decisions.

Increase Intelligence and Simplify Management with Global Dispatch Manager

Global Dispatch Manager enables administrators to easily set up, configure and manage multiple geographically distributed sites through an intuitive graphical console. The system gives administrators a single comprehensive view into their Global Dispatch sites, as well as user behavior, and can be accessed locally or remotely via a secure browser connection. Once the Global Dispatch sites are up and running, detailed statistics can be gathered through the Global Dispatch Manager to provide valuable usage information that helps administrators troubleshoot and fine-tune site configuration, as well as make better marketing and business decisions about the overall deployment.

Global Dispatch employs a comprehensive approach to gathering intelligence from each POP, including health of each location, as well as overall traffic and system efficiency. Global Dispatch logs the results of all DNS requests including the source IP address of the DNS query, the physical POP chosen, and the IP address returned. GD Manager provides easy access to statistics such as:

- ▣ Current size of cache in bytes or # of entries
- ▣ # of hits / misses on the cache
- ▣ Average time for GD to respond to DNS requests
- ▣ # of requests for particular host name
- ▣ # of times POP was selected in response to DNS request
- ▣ Current status of all POPs
- ▣ # of times a latency measurement failed (from a POP)



Specifications

Platform Support

- ▣ Sun SPARC CPU line
- ▣ Intel CPU Family
- ▣ AMD CPU Family
- ▣ IBM PowerPC

OS Support

Resonate Global Dispatch runs natively, in either homogenous or heterogeneous environments on:

- ▣ Sun Solaris
- ▣ Microsoft Windows Server
- ▣ Linux
- ▣ AIX

Load Balancing Techniques/Policies

- ▣ Round Robin
- ▣ Weighted Round Robin
- ▣ Latency
- ▣ Load
- ▣ Latency/Load

Load Determinants

- ▣ Connect
- ▣ URL Connect
- ▣ Custom Script
- ▣ Load Server
- ▣ TCP Connect
- ▣ ICMP Ping
- ▣ Reverse DNS Lookup

Management

- ▣ CLI and Windows client
- ▣ Solaris and Linux platforms
- ▣ Customizable API

Reporting

- ▣ Granular reporting on Nodes Services and Site
- ▣ Both real-time and elapsed time reporting capabilities
- ▣ Can track historical performance and compare with current performance.



Simplifying complex networks

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