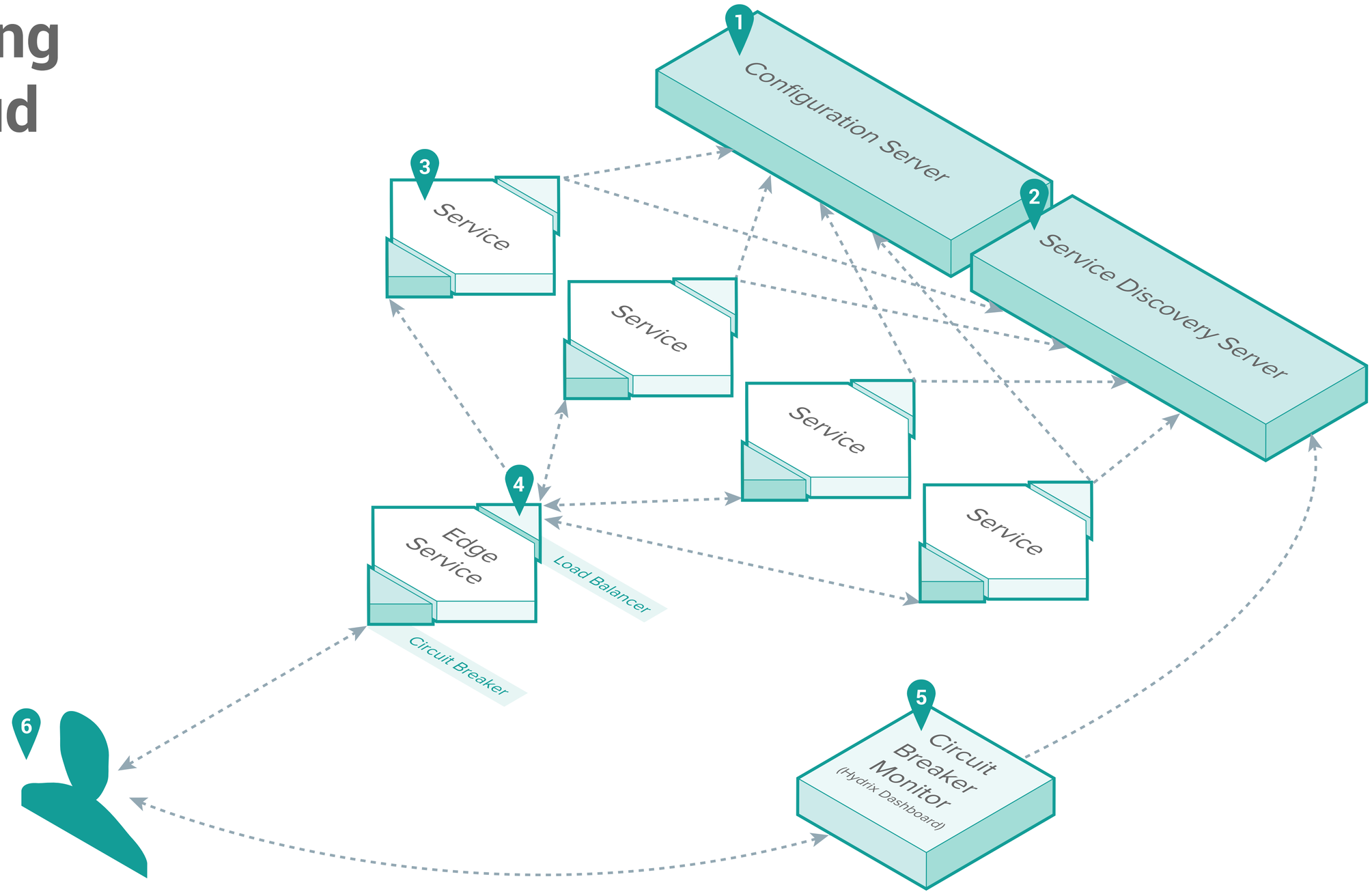
Spring Cloud



1 Configuration Server

Spring Cloud Config offers a centralized configuration Server for all microservices in the application. By default, it obtains its configuration from a Git repository, enabling versioned and tagged configuration.

2 Service Discovery

Spring Cloud Netflix offers integration with Netflix Eureka for service discovery. The service discovery server maintains a record of all active services and can be used to lookup a service for consumption.

As services come online, they notify the service discovery server of their availability. Periodically, each services pings the service discovery server to renew its lease. If a service fails to renew its lease, the service discovery server may remove that service from its registry.

3 Services

A cloud aapplication is made up of one or more micro-services, each one performing a specific task within the overall application. These services draw configuration from the configuration server and register themselves with the service discovery server.

4 Load Balancing

For scaling and reliability, any given service may have one or many instances available at a time. Spring Cloud Netflix offers load balancing at the point of service consumption by integrating with Netflix Ribbon.

5 Fault Tolerance

To avoid cascading failures in the application, each service may have one or more operations that are instrumented with “circuit breakers”. These circuit breakers detect struggling and/or failing operations and provide a stream of metrics concerning the health of the service. In addition, the circuit breakers may offer fallback behavior to be used in the case that the operation is unavailable.

Spring Cloud Netflix integrates with Netflix Hystrix to enable circuit breaker capability. The circuit breaker metrics can be monitored via the Hystrix dashboard.

6 Clients

Various clients operate against the application through the edge services provided for each client type.