PAGELY®

We help Big Brands, Scale WordPress.
WORDPRESS HOSTING MANAGED BY PROFESSIONALS

THE PAGELY **ARES** APPLICATION GATEWAY

FAST, FLEXIBLE, RELIABLE
SEAMLESSLY ROUTING AND SECURING BILLIONS OF REQUESTS PER MONTH

Faster, more flexible network management with ARES. One of the major points of differentiation between Pagely and other managed WordPress hosts, is that **we enable large amounts of configuration flexibility.**

At our network edge this means supporting everything from custom cache keys, to reverse proxies. As Pagely has grown, managing those customizations in a performant and maintainable way had become challenging. The latest version of our edge layer that we are calling **ARES,** was conceived as a solution to increase the level of customization while simultaneously improving our ability to maintain them.

FEATURE BRIEF

Embracing the **infrastructure-as-code** and **continuous integration** philosophies the **ARES Application Gateway** by Pagely features fully automated deployment and remote configuration allowing for seem-less and hands free management by our engineers and robust performance and flexible configuration for our customers.

Remote Configuration

On startup each ARES instance makes an API call to a central API to load its configuration. This provides **consistent configuration even as customer clusters expand or contract, or are rebuilt**.

Push Configuration

Each ARES instance has a management API, that allows us to push specific configuration elements, so configuration changes are deployed and implemented in near real time (a few seconds).

Network Wide Configuration Updates

Global or local configuration integration of 3rd party web accelerators and WAF rules can be delivered to the entire network within 15 minutes without changing other variables. **Example**: A customer specific proxy whitelist configuration can be implemented in ARES within minutes.

Dynamic SSL + Lets Encrypt Support

Our new SSL management is built to manage ARES instances, and leverages the remote configuration system to allow for **a customer facing user interface to immediately update server SSL certs,** no matter if they have a Single instance, a 10 server cluster, or are deployed to our network of Geocache (PressDNS) servers around the world. SSL certs are loaded dynamically so even with thousands of certs on one server, there aren't long delays on configuration reloads. **Lets Encrypt support** authorizes/renews Lets Encrypt certificates and propagates in near real time via the Dynamic SSL management built into ARES.

Cache Layer Fast Paths

Custom processing rules can be limited to cache miss only paths, allowing for minimal processing needed to build a cache-key to run before checking for a cache hit. PCRE, and LUA JIT implementations allow for **common paths to be optimized to their fullest for each configuration.** The reduction in computing overhead required for rule processing enables for even faster page loads for every WordPress site we manage.

Sophisticated Rate Limiting

RPS (Request Per Second) **rate limiting** with queue based delays allows for traffic shaping by cheaply delaying requests, instead of just throwing errors if a single IP spikes traffic. **The means less 503's and more page views even when under load**.

Request blocking by size or time in queue intelligently prevents a single slow or abnormally large request from bottlenecking the entire server/instance.

Slot based rate limiting protects the upstream PHP workers by queuing requests allowing for capacity reservation and throughput maximization by optimizing traffic for different server sizes and PHP performance.

Rate limiting **configuration can be combined and applied to multiple traffic variables**, from IP, User Agent, cookie value, application, or site path.

Whitelisting can be applied using IP based lists or defined HTTP headers, or a combination of both.

IP Access Control

All/some/any part of an application can have IP White or Black lists applied.

Audit-able IP/User Agent Blocking

Traffic can be blocked in an audit-able way with metadata including custom reasons defined and logged for each Block.

Blocks can be time limited or indefinite

Request Analysis Framework

Normalized identifiers are created from each request allowing for sophisticated cache keys to be built and analysis can be tweaked on a per WordPress application level in near real time.

- Browser type (Desktop/Mobile/User-Agent/etc)

- Geo-location parameteres

- WordPress specific non-cacheable cookie markers

- Endpoint type

Integrated Rules Language for Support Customizations

ARES provides a JSON based rules engine, which can be applied to all requests or only on cache miss. Rules can match against all properties of the request, including:

- HTTP headers
- Cookie values
- Paths
- Query strings

- Host
- Any identify generated by request analysis

Matching rules can run a large number of actions that allow for many different customization scenarios that include:

- Setting cookies
- Setting headers
- Responding with specific content

- Apply rate limiting rules
- Apply HTTP based authentication
- Responding with redirects

- Changing the upstream PHP
  configuration

- Showing captchas

High Performance WAF Engine

The integrated WAF engine is optimized for making informed security decisions. To block/log based on global security rules sets that are dynamically updated. These rule sets are maintained by our InfoSec team as part of our PressARMOR security methodology.