



## How we do it

### End-to-End Testing

Ensuring that the individual parts of your application are operational does not necessarily mean that the website is "Transact-able". PagePulse ensures that the end-to-end customer process is operating as intended.

PagePulse achieves this by simulating customer interactions in a way that is consistent with the way that your customers use your website. The PagePulse service is able to browse to home pages, login and perform transactions just like your customers do.

### The System

The PagePulse service relies on a custom-built set of applications using the Microsoft .Net suite of development tools, and utilizes Microsoft SQL Server as its data repository. The system is split into two core components:

- The Master
- The Agents

The Master is responsible for the overall orchestration of the PagePulse System. This includes the scheduling of jobs and the associated alerting engine when sites enter a failure mode. The Master instructs an Agent to execute a predetermined Script at a specified time, gathers the results at the conclusion of the Script, and determines the outcome of the Script.

The Agent is a "box" programmed and situated geographically where you need it. An Agent responds to requests by the Master to execute a Script and then returns the results of the execution. In order to simulate the different experiences for customers using a variety of connection types such as 56k Dialup,

*Master The central controller responsible for scheduling of jobs and the alerting of people in failure modes.*

DSL, DSL2 and fast connected corporate networks, PagePulse uses a variety of Agents with varying connection types in differing geographic locations. All Agents have static IP Addresses, so PagePulse traffic can be easily removed from Web Analytics.

PagePulse continues to add to the PagePulse Network with new Agents as customer demand requires.

### Simulating customer interaction

PagePulse simulates the customer interactions by the Master instructing the Agent to execute a predetermined "Script" of interactions. The Script details the request to be made and any data that is required during the request, together with the expected response. The Scripts are created by the PagePulse team after consultation with our client.

### Intelligent Scripting

The Script implements a pseudo language so we are able to perform more complex operations such as:

- **Looping:** The Agent is able to iterate a certain amount of loops. This is usually implemented where there is a HTTP-Refresh tag implemented on the page.
- **Try/Finally:** The Agent is able to perform a series of requests, and if there is a failure detected, it jumps to a Script block for further execution. This is usually implemented to ensure a customer is logged out even if the Script fails mid- execution.
- **If/Else:** The Agent is able to branch to different Script blocks based on the response of a request. This is implemented where a customer needs to occasionally accept a notice before proceeding.

*Script A predetermined list of requests that are issued against your website.*

*Agent A digital mystery shopper for your website, which exists externally to your firewall and monitors your website in real-time.*



## Eliminating false negatives

Alerts are only useful when your staff act on the information in the alert. The quickest way to compromise this is by sending out false negatives. In order to ensure that this does not happen, the PagePulse Master will instruct a different Agent to confirm the non-transact-ability of your website, prior to sending out an alert.

Another key strength of the PagePulse System is “The right information to the right people at the right time”. In order to deliver on this, PagePulse has an extremely versatile alerting engine. The engine allows such situations as “Email me during normal business hours. Outside these hours please SMS me, but only between the hours of 10 pm and 6 am. Alert me if the site is down for more than 30 minutes”.

## What we can measure

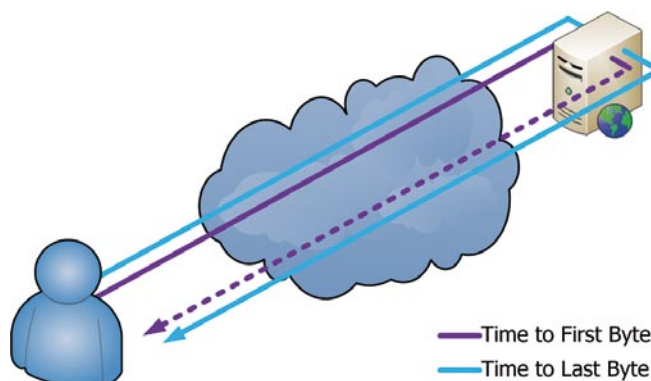
Because the Agents are custom-built applications, we are able to gather very granular information about the responses from your website. Two of the most important measures are Time to First Byte and Time to Last Byte. From these measures we are able to understand if it is more likely that it is slow sever response or internet congestion causing poor transact-ability on your website.

## Outside the firewall

All the simulated interactions originate outside your firewall. This has two benefits:

- This is congruent with how your customers’ interactions occur
- There is no requirement to install software on any of your servers or infrastructure.

*“The right information to the right people at the right time”.*



Determining correctness of response  
In order to determine whether the request was successful, the Agent measures three attributes:

- **Status Code:** The Agent looks at the HTTP Status Code sent by the website and compares this against the expected status code.
- **Expected Text:** The Agent looks at the body of the response, and searches for the presence of particular text, or ensures that a particular text is not present.
- **Response Time:** The Agent measures how long a certain response takes, and compares this against an expected time. This can be a measure of a particular step, or the overall Script. We are able to implement “above the line” measures or “averaging” measures.

## FREE TRIAL

*Take the pulse of your website for free For a limited time, PagePulse is offering a one-month free introductory trial. Don't miss out on this opportunity to measure the transact-ability of your website and see your website the way your customers do.*  
[www.pagepulse.co.nz](http://www.pagepulse.co.nz)