

# Plant an App

## Performance Specification

Revision: 1<sup>st</sup> of December, 2017

Our mission with the Plant an App service is to provide a strong foundation for building websites and web applications. This involves hosting, licenses, security, maintenance, support. We chose Amazon Web Services (AWS) at the base of our platform. AWS is the leader of cloud services.

### Latest Windows Server

Our VPS systems run the latest version of Windows Server which provides highest performance and security. We also deploy windows updates on regular basis to further enforce these parameters.

### CDN - Offload Static Files

Our CDN is built over AWS Cloudfront. It automatically transfers all static files such as js, css or image files to the cloud, so user browsers download them from the CDN. This means that the server spends less time processing and transferring static files which results in higher server performance. IIS runs the entire Asp.NET pipeline on all static files.

The CDN replicates the static files worldwide, which also increases page loading speed because users get those files from the nearest location.

### SSD Storage

All websites are stored on SSD storage which have higher performance compared to traditional disk drives. This means that the website loads faster into memory and that files are quicker to be read or written on the disk.

## Low Impact Backups

The backups are taken off-site. We create a snapshot of the entire disk that holds the website file, therefore there is no impact on the system with copying or zipping files which are known to be very resource intensive of the disk and CPU.

## Managed DB Server

The database is stored on a different server managed by us. This means that the resources of the server are entirely dedicated to computing web pages. The database servers have high performance SSD disks so data is fast to be read and written on disk. They also have generous memory to cache data in memory for even faster access.

We run the latest version of SQL Server which provides most features and capabilities.

## Load Balancer SSL Encryption

We put a load balancer in front of all servers. Even if there is only one server, our load balancer helps prevent DDoS attacks and encrypt HTTP traffic to HTTPS with a SSL certificate. The certificate we provide has strong encryption that fits under A class.

Since the encryption happens in the load balancer, it means that the web server has more resources for processing web requests.

## IIS Configuration

We've optimized IIS on all servers we host so they provide best compression and performance. We deploy appropriate machine.config so these settings apply to all DNN instances on the server.

## DNN Upgrades

On request, we can provide our service to help with DNN upgrades for heavily discounted fees. Newer DNN means faster and more secure websites, which is part of our mission with the Plant an App service.

# Performance improvement

When running Pingdom Tools to test websites before and after moving them to our hosting infrastructure, we found an average page speed increase of 20-60%. The farther the client is from the server, the greater the improvement because of our CDN service.

Also, the page rating on Pingdom Tools for DNN website varies from C to F. On our hosting infrastructure, we managed to bring this to A rating most of the time. The cases where we only could get it to B is when the page contains a lot of includes to external services such as Facebook, Google, LinkedIn and others.