# Data protection and technical details

To prevent data from “third parties” for being used incorrectly, we have taken the following measures:

* We are ISO / IEC 27001: 2013 (Certificate No. ISC127) certified.
* We are ISO / IEC 9001:2015 certified
* The databases are separated from the web servers, make hacking far more difficult.
* The source code is stored in Microsoft Devops.
* Our software runs on our own servers and is hosted in a data center in Rotterdam (http://www.i3d.nl/) This data center has an access control system at the front door and to the room where the servers are located.
* Our system administrators must log in before the biometric system will grant access.
* Our rack is physically secured by a lock as a last access procedure.
* The fire safety in this data center is provided by a reduced oxygen mixture, whereby people in the relevant room can breathe normally, but fire cannot arise.
* There are three different data connections from the data center, each from a corner of the building to a different network node. This makes it almost impossible to have data outages from the data center.
* The production and web servers in the data center are placed behind a Cisco ASA 5508-X with:
	+ IPS (Intrusion Prevention System) against DDOS attacks)
	+ AMP (AntiMalware Protection)
	+ URL (Filtering traffic to and from the servers)
* A Cisco ASA 5520 is used for backup, redundancy and maintenance. Both firewalls are monitored in an FPMC
* The Web servers (the only ones in the DMZ) can only be reached after a Proxy server for;
* Extra security
* Load balancing of the Sites
* All our computer systems and our network components are duplicated. (Redundant).
* Connections to and from the data center, not to a website, are done with a VPN connection.
* The 2FA (two factor authentication) of MobilePass ensures that login names and passwords are also sent encrypted over the internet.
* In addition to their employment contract, our system administrators have signed a separate confidentiality agreement and a statement of conduct of the Dutch government.
* Work is done on HP blade servers (with 24 × 7, 4 hour support contract) in a VMWare ESX environment with Acronis backup procedure.
* The website is distributed over multiple web servers by load balancing, which in turn connect to the i-SCSI hard disk cabinet.
* The databases are in MSSQL 2016. The individual databases are also backed up online every day (so this is done off-site).
* The application is developed in ASP.NET. The development is done by our own programmers.
* OpenIDconnect with OAuth AccessTokens for the APIs and JWT Tokens is used as basic authentication. The passwords are stored AES encryption. The tokens are signed with a digital certificate x.509 RSA algorithm.
* Each customer has its own database and website on a shared web server running IIS.
* The application is accessed via SSL.
* We work with Reverse Proxy servers for the flexible processing of addressing in our network (eg in case of calamities).
* Our backup procedures are as follows:
	+ Database backups are made incremental on separate disks of the database files. The log files are backed up every hour and the database every day.
	+ The disks of the servers are backed up daily to online backup facility.
	+ The VM machines are fully backed up also to online backup facility.
	+ RTO; is 5 hours after normal loss of working machines. 24 hours after catastrophic loss of entire infrastructure.
	+ RPO; is up to one hour for loss of working machines.
	+ We work with virtual machines that can be migrated live between storage facilities.

The loss of a single disk will not affect the service.

* Each customer has its own database with the possibility that it will be replaced or placed in a protected environment for control or investigation.
* Almost all components are implemented at least in pairs.
* We aim for an uptime of > 99.5%.
* Updates and bug fixes are made daily via Continuous integration on the live system, resulting in little to no downtime.
* **Compete | IT Solutions BV** is supplier of the product www.leavedays.com.