

# Youmanage Technology Platform

The Youmanage service platform is based on advanced, industry-standard technologies and a highly resilient hosting platform to ensure the highest levels of service availability, interoperability and security of client data.

## Overview

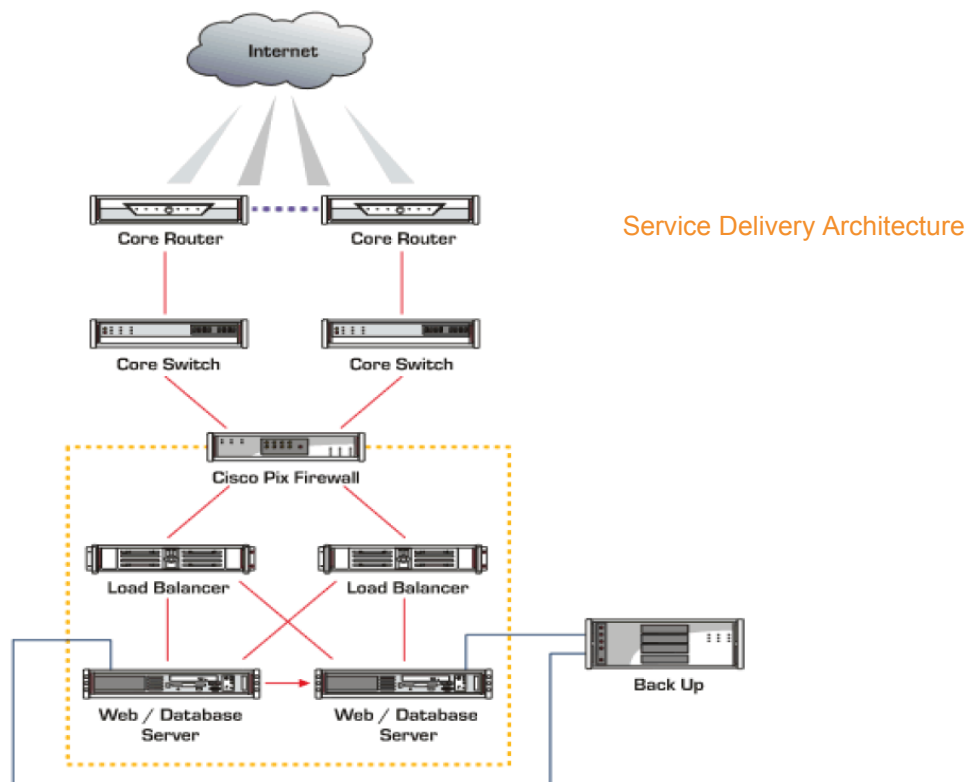
The Youmanage Technology and Service Delivery platform consists of the following key elements:

- Software application based on Microsoft IIS, .NET Framework and SQL Server technologies
- Resilient hardware platform with built-in redundancy
- SQL Server Clustering with real-time mirroring
- Regular back-ups of all client data
- State-of-the-art data-centre with comprehensive physical security
- Resilient network architecture with full network security measures
- Continual service monitoring

## Service Architecture & Hardware Platform

The Youmanage service architecture is designed to minimise single points of failure. Dual redundant servers operate in master/slave configuration such that the master server switches immediately to the slave in the event of a malfunction. The slave server carries a copy of the active database, ensuring seamless operation and no user impact in the event of a master server failure.

A highly resilient hardware platform is in place with built-in redundancy, including 2 x Graphite Max Windows servers, 2 x dedicated load balancers and 2 x Dedicated Cisco PIX 501 Firewall (one active, one standby). The servers are housed in two separate data-centre suites, with separate network feeds and power supplies, ensuring continuity of service even in the event of a serious failure.



## Load Balanced Web Servers

Hardware load balancing deals with the problem of server hardware failure to ensure that downtime does not occur. Once the load balancer detects a problem with either one of the web servers, it will automatically take it out of the cluster and allow maintenance to be carried out. Once this work has been completed, the server can be put back into the cluster and allow load balancing to carry on as usual. Youmanage's service platform incorporates two dedicated load balancers so if the master load balancer fails the slave unit will automatically take over.

## SQL Clustering and Mirroring

Youmanage utilises SQL server clustering and data replication technologies to minimise the risk of downtime for customers and to maximise security and availability of client data. The SQL server clustering solution ensures that if a primary server fails, the system automatically allows a second physical server to take over, with a mirrored copy of the client's data, keeping downtime to a minimum. Replication technology is used, which continually captures byte-level changes as they happen on the primary server and immediately replicates those changes to the secondary server.

## Data Recovery

All client data is backed up on a daily basis with a full database backup taken weekly to ensure minimal loss of data in the event of a database failure. In addition, full backups can be taken on client request. Industry-leading back-up software is used to provide the fastest disk based recovery on the market. In addition, Youmanage can, at a client's request, deliver an automated export of the client's data on a regular scheduled basis if the client wishes to maintain their own separate copy of the data.

## Data-centres

The servers are located in two separate data-centre suites to ensure continuity of operation in the event of a major site incident. Data-centres operate with full VESDA fire detection systems coupled with CO2 and Halon gas fire suppression systems. Environmental monitoring systems are in place to control temperature and humidity. Uninterruptible Power Supplies ensure continuity of service in the event of power outages. The data-centres are protected by full physical security measures, including CCTV monitoring, motion detection, 24/7/365 security guards and an advanced access control system.

## Network Resilience

Bandwidth capacity into the data-centre is aggregated between several suppliers to ensure that service provision is unaffected in the event of a network failure. Network access is designed to ensure 100% uptime.

## Access Security

Youmanage clients are protected by dedicated enterprise class Cisco PIX firewalls incorporating the state-of-the-art Adaptive Security Algorithm, which tracks all authorized network communications and prevents unauthorised network access. Our servers are also protected by an Intrusion Detection System which analyses network traffic and blocks any traffic which is considered abnormal. Secure Socket Layer (128 bit SSL) access encryption is provided as standard to protect data communications between local client machines and the Youmanage servers.

## Service Monitoring and Maintenance

Server monitoring is carried out every 5 minutes, 24 hours a day, 7 days a week from 3 UK locations. In the event of a failure the 24-hour support team is automatically notified by e-mail and SMS.

The ongoing server maintenance programme ensures that patches are installed promptly upon release. The level of criticality of the release will determine the speed with which it is installed onto the server.

## Integration Capabilities

Youmanage has been designed to ensure a high degree of interoperability with other systems. Youmanage is based on Microsoft .NET Framework and SQL Server technologies which have become the de facto standards for web-enabled software applications. Youmanage therefore supports a wide range of integration methods and technologies, including XML-based web services.

Where Youmanage is to be the primary data source, the Automated Export facility enables scheduled exports of client data in a variety of formats for import to other systems, such as a payroll system. This provides an inexpensive way of ensuring synchronisation of data across multiple systems, improving accuracy and eliminating the need for duplicate data-entry.

