# KPMD EQA Programme Manager Software

## Infrastructure Requirements

### Overview

The EQA Programme Manager system consists of three elements:

- a Microsoft Visual Basic .Net Windows forms client (written in VB .Net) that is installed on each PC and connects to a , which provides the office-based system;

- a classic Microsoft Active Server Pages (ASP) web application that runs on a web server that allows participants to input result details via the web; this can be hosted by KPMD or by the client (all existing clients currently use KPMD); and

- Microsoft Web Services that are used to post or pickup data between the other two elements. The web services are standard web services written using Microsoft VB .Net.

The following diagram illustrates how the system works.
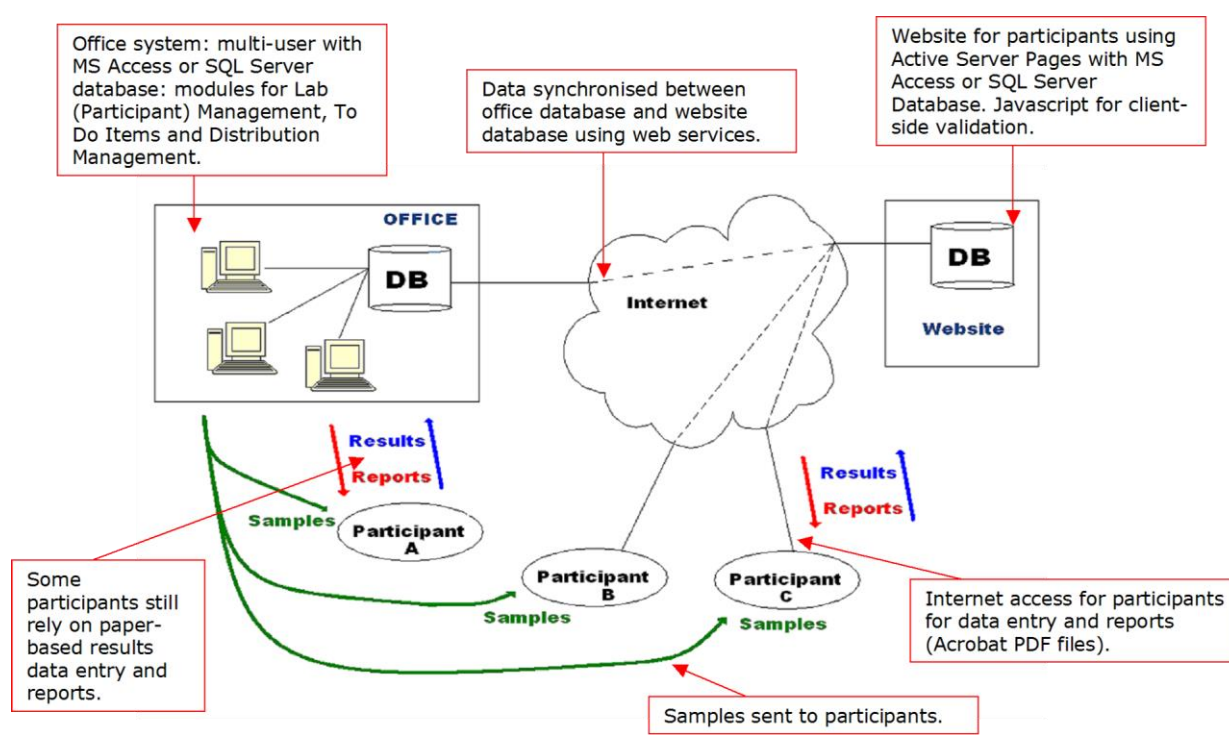


Both the website and office databases are stored in Microsoft SQL Server database management system on the web server (managed by KPMD) and on the client's local area network. A local area network and file server are therefore required on the client's premises to enable multi-user access by the staff.

As well as hosting SQL Server, the office file server will also be used for storing correspondence (Microsoft Word documents) sent to participants, Word templates used by mail merge to generate the correspondence, reports (Crystal Reports .rpt files) and participants' Round reports (normally stored in Adobe PDF files).

The client's local area network will need to be connected to the internet using a broadband or leased line connection. This is necessary for web services to synchronise the two databases and for the client to use File Transfer Protocol (FTP) to copy reports from the office file server to the web server.

Internet access from the office is also required for the automatic generation of emails at various points in the process, for example to notify participants that a Round has been opened and that samples have been sent. The office software uses web services to generate and send emails from the web server. This eliminates

potential problems interfacing the software with email software, Microsoft Exchange/Outlook, Pegasus, Eudora or whatever.

Finally internet access is required for remote support (see below).

## Web Services

The Web Services element of the system is built into the office-based system and the participants' data-entry website application. An example of this is for when a new Round is created and the data is passed from the office-based system up to the website. The Web Services handle the transaction at both ends.

The application has been installed in a number of organisations with secure firewalls and proxy servers, and web services have not caused any problems. The web services use SOAP, which in turn uses HTTP. If there is a proxy server within an organisation then the following lines of code are added to office software for use when calling one of the web services:

```
Dim pr As New System.Net.WebProxy("127.0.1.2", 80)
pr.Credentials = System.Net.CredentialCache.DefaultCredentials
wsFoodLaw.Proxy = pr
```

DefaultCredentials represents the system credentials for the current security context in which the application is running. For a client-side application, these are usually the Windows credentials (user name, password, and domain) of the user running the application. This means there will be no impact as long as the user running the system has access to the internet via the proxy server. The only possible problem that we may encounter is that the DefaultCredentials property applies only to NTLM, negotiate, and Kerberos-based authentication. If you are using a different type of authentication, then you will have to let us know and we will have to look at a different solution.

## Hardware and Third-Party Software

If additional hardware is required, for example a network server or client PCs, then KPMD will be happy to provide advice regarding minimum specifications and configuration.

As described above, the system is designed to use data stored in a Microsoft SQL Server database. A SQL Server licence will be required. KPMD is not responsible for the purchase or supply of Microsoft SQL Server licences. In many cases, the free edition of SQL Server, SQL Server 2022 Express, is suitable

The system is designed for use with Microsoft Office, specifically Microsoft Word (for mail-merge etc), and Excel (for exporting report data). KPMD is not responsible for the purchase or supply of these products.

The system uses Crystal Reports (SAP) for many of the reports generated. Crystal Reports runtime is included in the build setup and so a Crystal Reports licence is not required.

## Technical Support

We support all of our clients, in the UK and world-wide, using remote access software, such as Microsoft's built-in Remote Desktop Connection or LogMeIn. In the past we have also used WEBEX (see WEBEX website) or pcAnywhere (see Symantec website). This should be installed on either the server used for SQL Server and/or the network server used by the end-users, or a client PC which has access to SQL Server, and the network server. Our preferred option would be Remote Desktop Connection, using a virtual private network (VPN) if required.

We would also request the use of Microsoft SQL Server Management Studio with access rights to the new database which will be installed for the new system,

KPMD can offer an element of hardware and infrastructure support but some on-site help will probably be required. Most hardware suppliers will offer support and will configure new file servers, including backup routines, as required by the customer.

The following areas of support, excluding that specifically required for the KPMD software, will be required:

- Hardware – PCs, printers, network cabling and hubs etc;

- Operating System and Network software – user accounts, network resources, installation of software, Microsoft patches/fixes/updates etc;

- Back & Restore routines – operating system level, programs and applications, working documents (Word documents, Excel spreadsheets etc);

- SQL Server – database backup and restore, log file clearance, new installations, ad hoc data reports etc.

## Data Cutover of Existing Data

The client needs to provide a set of participant data at the start of the project so that we can start development and testing with realistic data. They should then provide a full set of data one more time when the system goes live so that it starts with the most up-to-date data.

The data can be provided in whatever format is most suitable: ASCII text files (comma-separated-value or fixed length fields or XML), or in an Excel spreadsheet, or a Microsoft Access database. Ideally the format should be consistent each time the data is provided.

Once the system has gone live, and data is being added and updated on a frequent basis, then we do not envisage any more need to import data from the client.

## Installation

Ideally, KPMD will perform the following tasks remotely using the remote access described above or implemented using SQL scripts that will be run by an administrator of the SQL Server database (probably in the IT department).

The process for the very first installation of the system will probably be as follows:

1. create a SQL Server database

2. create an SQL Server user account for the specific database and let us know what the username and password are. We will use this information to hard-code access to the SQL Server database without resorting to file or system Data Sources on the client PCs. The user should be set as default to the new database and be able to connect only

3. we will send you a SQL Script(s) to create the tables, views and stored procedures (along with the necessary GRANTS for the SQL-server user account), and other SQL Script(s) to create the base data

4. we will also send you a setup routine (SETUP.exe) for use in installing the system plus Microsoft .Net Framework. Copy this installation setup to a common network drive that can be accessed by all the PCs to be used

5. run the setup routine on each PC to be used

6. create new file folders, also on a common network drive that can be accessed by all of PCs to be used. Folders are: Documents, Templates, Reports and PDFfiles. The users will need full control of these folders.

An administrator of the SQL Server database (probably in the IT department), will need to set up a regular background process (SQL Server Agent) at an agreed frequency for backing up the database. It is strongly recommended that a full backup and restore is tested at some point.

After the first installation, we will send amended versions of the system in order to fix bugs and add new features. These new versions will be installed from new setup routines that will need to be run on each PC. There will also be changes to the SQL Server database, these will be installed remotely by KPMD using the remote access described above or implemented using SQL scripts that will be run by an administrator of the SQL Server database (probably in the IT department).