

## Fact Sheet #6: Technical Specification & Deployment Requirements

### Operating Environment

Covalent is developed in Java 2 Standard Edition running as a client/server application connecting over HTTP (SSL secured), so not requiring any modifications to standard firewalls and proxies, where web access is already permitted. Covalent uses the industry-leading 'Apache Tomcat' server to serve up web and XML content. It is built according to all relevant e-Government metadata and data interchange (e-GIF) guidelines. In particular Covalent generates data in XML format, and can accept data from external sources in XML format.

Bandwidth usage is minimal as all the processing is done server side, so speed of response with shared broadband type connection (e.g. 500k) is perfectly acceptable. As the application is trusted (and encrypted via a Verisign™ certificate), online scanning of the site is not required, so freeing up valuable resources.

Covalent runs on the Windows 2000/XP/Vista operating system and uses the Microsoft SQL Server database engine.

### Offsite Hosted Service

Covalent is supplied as a hosted, managed service from our specialist datacentre where the software and clients performance data is stored and maintained.

We have in place a scalable platform infrastructure that can be expanded to support whatever numbers of users our customers require. Capacity requirements are continually monitored and levels of concurrent usage assessed to determine whether an expansion of the supporting infrastructure is necessary.

We take responsibility for all aspects of system administration such as backups, technology upgrades, system testing and maintenance. Should customers require it, we can also provide regular backups of the database via 'Backup Manager' so that they have a full copy on their premises also.

All customer data is routinely backed up overnight and a full copy of each database is stored online for near-instant access. Simultaneous off-site data backups are also performed overnight.



# Covalent Deployment Instructions

## Client-side software required

Covalent is based on the **Java Runtime Environment (JRE) 6.0** from Sun Microsystems, which must be installed on every client accessing the Covalent service. Previous versions of Java will not run Covalent. However, all applications that may have been previously deployed on a system will run either unmodified on later versions of Java or older virtual machines will coexist with Java 6.0 (further information is available in a separate factsheet for those requiring more details).

Covalent is a **Java Webstart** deployed application. Java Webstart is a software deployment tool bundled with the JRE. It manages the automatic installation and updating of applications, which are deployed using standard HTTP.

Software Installation requires Administrative privileges to install the Sun JRE ONLY, no privileges are required to install and run Covalent.

Access to the hosted Covalent service will be via the following URL pattern;

<http://www.covalentcpm.com/<customer name>>

## The minimum Client Machine Specification

- P3 500MHz CPU
- 64MB *free* RAM
- True colour or high colour 800x600 desktop. *8bit will not work*
- Windows 98, XP, Vista, 2000, Me, Linux x86

Approx 200 MB of hard disk space (for Java runtime and Covalent application)

Microsoft Office integration (report formats) requires *Office XP* or greater



Covalent CPM fully supports running in Citrix ICA via access from the web page (e.g. [www.covalentcpm.com/demo](http://www.covalentcpm.com/demo)) - provided the correct java client is installed on the Citrix server. This can also be used as an aid to deployment, or if client pc's are low-spec.

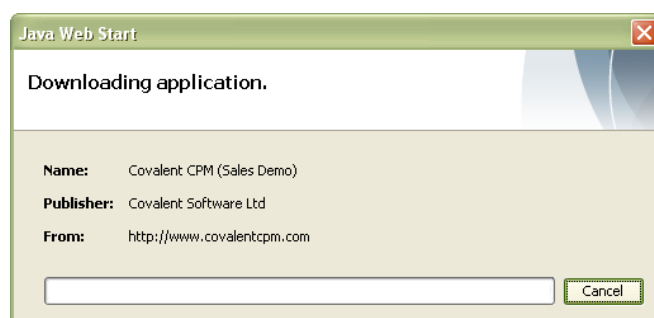
## Internet Access and Network Ports required

The Covalent application itself is a *client/server* application, which uses Java's built-in **Remote Method Invocation (RMI)** interface. RMI requires that the client be able to connect to our server in the datacentre, which is listening on port **443** (SSL) outbound to [www.covalentcpm.com](http://www.covalentcpm.com). RMI also permits clients to dynamically download Java code, where necessary.

The configuration is Proxy compatible (see below), and standard DNS forwarding is strongly recommended (i.e. not reliant upon http proxy DNS).

## Running the Application

The first time Covalent CPM is run the client code will be downloaded automatically (using standard web port 80) to the client machine / PC. The first time Covalent CPM is run the client code will be downloaded automatically (using standard web port 80) to the client machine / PC.





Check the "Always trust..." checkbox, then "Run" the software which imports the Covalent SSL certificate and runs the software (this box will no longer appear). Clear this checkbox and "Run" the software for this session *only* (i.e. this security box will appear every time the software is invoked). This certificate is present to assure that the software running is Covalent and only ever comes from the same, secured servers.

## Security



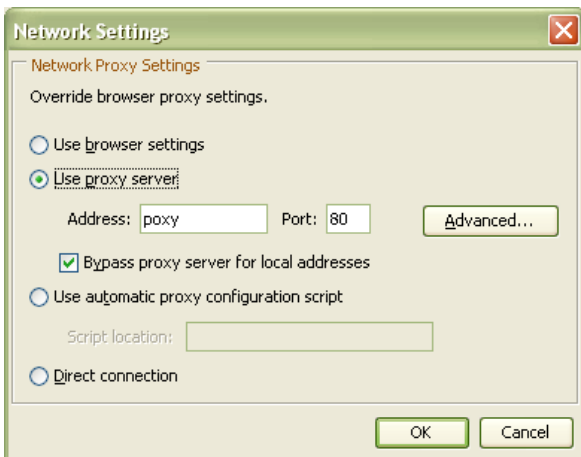
Whilst Covalent is web hosted, it is not just a website. Covalent stores its user and password combinations in an encrypted format and adopts 3DES ciphering and Server-Gated Cryptography, as used by VeriSign. Currently, 128-bit security is used; however, we do have the capability to go to 256 bit security. The 128-bit security can calculate 28 times as many combinations as older 40-bit encryption does...that is a big number! Put in simple terms, a hacker with the time, tools and motivation to crack a 40-bit encryption, would require a trillion years to break into a session protected by an SGC-enabled certificate.

## Note for HTTP / Web Proxy Servers

Some consideration needs to be given to Web Proxies and the installation of Java depends upon this. If a web proxy is used, then this must be included in the Java setup. By default, Java uses the same settings as your internet browsers' settings (e.g. those of Internet Explorer, Netscape etc). However these settings can be overridden, if required.



From control panel, double-click on the "Java" applet and select "Network Settings"



To override the auto-proxy detection, select "Use proxy server" and enter the name or address of the proxy server and the port on which you access this machine.

If manual proxy override is used, it is also important to select the "Advanced" button (above) and ensure that the Type "Secure" is accounted for. To do this, either check the "Use same proxy server for all protocols" tick box, or specify if different proxy servers are used for this protocol (SSL).

### Important

The URL [www.covalentcpm.com](http://www.covalentcpm.com) (or IP 83.138.170.3, 83.138.170.4 and 83.138.170.5) should be added to any whitespace list and not subjected to any antivirus, download scanning or DPI. Standard DNS forwarding is strongly recommended (i.e. not reliant upon http/proxy DNS).

