CLOUDWARE

WHAT'S IS CLOUDWARE?

CloudWare is an application virtualisation solution that extends the reach of existing Windows applications to corporate networks or the internet. It is a key enabler for businesses to move to a Cloud based IT architecture by allowing them to host and publish their business-critical applications on a server/servers housed in a secure and centrally managed environment. With CloudWare, authorized employees, business partners, and customers can securely access applications from anywhere, regardless of connection, location, client platform, or operating system.

ARCHITECTURE

CloudWare consists of two parts: the CloudWare server host software and the CloudWare client software.

The CloudWare server software runs on a central server along with the applications being published. Each client device runs one of the CloudWare client applications that is installed locally or as Web browser plug-ins.

The CloudWare server software is available for Microsoft Windows Server and the CloudWare server can be configured on a standalone server or as a member of a server cluster. Due to its optimised and streamlined design, CloudWare adds a minimum amount of overhead to the systems it runs on.

The CloudWare client software is available for several operating systems, including Microsoft Windows (32-bit and 64-bit platforms), Mac OS X, iOS, Android, Linux, and other UNIX-like systems. CloudWare also provides a Web browser plug-in client that displays application windows as Web pages.

To access an application by means of a Web page, a hyperlink is defined pointing to a page that checks if the CloudWare client plug-in is present in the browser. If not, it is downloaded, and the CloudWare client is then invoked to open a connection with the server that hosts the application. The application then executes on the server and is displayed within the browser.

To access an application with a CloudWare client, the client is run and a connection is made to the server containing the desired application. Applications can also be published as icons on the CloudWare program window. Clicking the icons invokes the specific host-resident applications.

CloudWare has the ability to automatically detect a user's connection speed and dynamically tune itself to achieve the best performance over a LAN, WAN, or wireless connection, thereby allowing it to run very effectively over slower, latency prone connections.

The CloudWare server software listens for client connections on TCP port 491 by default. When a client connects to the host, a new session is created by initiating and running the appropriate drivers, subsystems, and services according the host operating system. The login process authenticates the user and connects to the requested application.

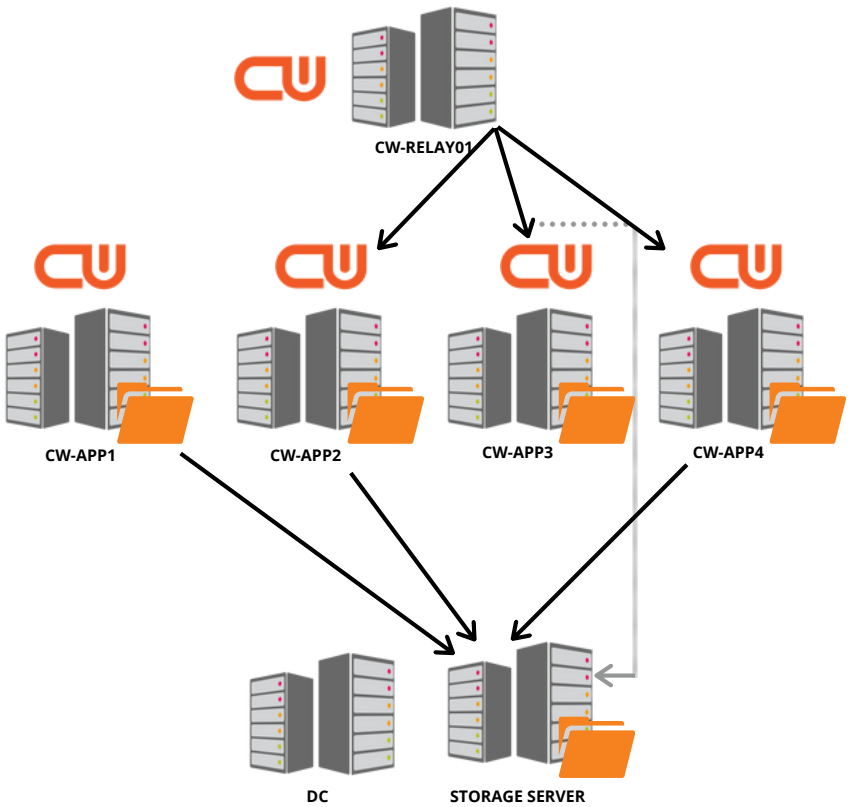
Key to this process is the creation of a virtual display device and driver that routes the drawing calls to the client, compressing and encrypting them. Likewise, keyboard and mouse events are routed to the application from the client. CloudWare also creates virtual channels, which allow client printers and client drives to be presented to the host session, thus allowing applications to access them.

SECURITY

The CloudWare communication port (TCP 491) can be changed to any other port of choice. The CloudWare protocol can also be encrypted with a 2048bit SSL Certificate making it as secure as online banking.

When a load balancing deployment is done you can separate the CloudWare relay server from the CloudWare application servers by a firewall in the DMZ.

CLOUDWARE SERVER DEPLOYMENT



WHAT ARE THE KEY BENEFITS OF USING CLOUDWARE?

- End users can access business critical applications that are published through CloudWare from anywhere. All that's needed is an internet connection and a device that has the CloudWare client installed.
- CloudWare is very connectivity tolerant and works extremely well in low bandwidth high latency environments (e.g. remote branches that use ADSL or Diginet lines).
- CloudWare is extremely user friendly. Users access the hosted application seamlessly through a desktop icon. To the users it appears as if the application runs locally.
- CloudWare is very scalable and can use clustering and load balancing to dynamically distribute traffic to multiple servers.
- By using CloudWare to move to a Cloud based centralised IT solution businesses will realise benefits on many fronts:
  - Reduced total cost of ownership of IT infrastructure which has been consolidated and is being managed from a central location rather than multiple sites.
  - Reduced need for dedicated and expensive skilled IT resources to look after dispersed and complex IT systems.
  - Dynamically increase or reduce the amount of licenses, as well as the resources required, to run the IT infrastructure.
  - Can run business critical applications across less costly internet infrastructure (e.g. ADSL).
  - CloudWare can easily run on energy efficient, mini-PC's (such as CloudGate), thereby eliminating the need for bulky desktop computers which are much more costly to maintain.
  - Business critical data is located in a central location where access can be more effectively restricted and managed, thereby making it far more secure.

HOW DOES IT COMPARE TO TERMINAL SERVICES/ RDS

- It's much easier to install and manage.
- It uses less server resources.
- It is highly compatible with printers of all types which makes the implementation and management of these much easier.
- It works on multiple client operating systems (Windows, Linux and Android) – not just Windows.
- It is less prone to latency and bandwith issues.

TECHNICAL REQUIREMENTS

CONNECTIVITY

- 32Kbps to 64Kbps bandwith required per session
- Can tolerate 300ms to 500ms latency
- Connects over TCP port 491

SERVER

- Hardware = Quade Core CPU, 4GB RAM, 100GB storage
- Software (Minimum requirement) = Widows Server 2008 R2 with service pack 1. Is compatible with Windows Server 2016 and 2019.

CLIENT

- Windows 7 with service pack 1 (x64)
- Linux (Ubuntu 16.04 LTS)
- Max OS X
- Android 3.0 and higher