



**FollowMe - White Paper**

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## **Introduction**

FollowMe is a roaming, secure printing and an accounting solution offering many benefits to large or small companies needing to be able to roam and ensure security in printing as well as accounting for all printer and copier usage on a per user, cost centre and printer basis.

Secure printing has been a requirement in many companies for a number of years. FollowMe has been developed as a solution, which is easy to install, manage and upgrade.

FollowMe also offers an advanced accounting system. This advanced accounting is able to extract print job information directly from the print job as soon as it has been received from the client workstation. This information is then stored so that it can later be used to generate extensive reports on printer usage, cost centre usage and many more.

FollowMe hardware supports over 99% of printers in the world that have a parallel port. FollowMe devices are also available for many printers that have internal interface slots such as Hewlett-Packard (HP), Kyocera and Mutoh.

The FollowMe system has been a continual evolution of a product line for over 4 years showing Ringdale's commitment in connecting people and information, through innovation and the forefront of technology. Ringdale exclusively sells Network Technology products and does not re-sell other brands or technology thereby reassuring our customers of the consistency of the products we offer.

## Issues

The issues with conventional printing methods:

- Roaming - Allowing print jobs to be collected from anywhere in the world.
- Secure transmission of print jobs between the client, server and printer.
- Sorting through other people's unwanted print jobs to find yours somewhere in the middle.
- User confidentiality in content sensitive organisations.
- Paper and consumable wastage.
- Tracking user, printer usage.
- Printer failures, where do you now get your print job? You have to print another document to another installed printer.

Standard Printing (Workstation to Printer):



Printing through a Print Server:



## FollowMe - How does it work?

FollowMe offers a roaming and secure printing solution to organisations and their users. The FollowMe system allows the printing or uploading of print jobs to any FollowMe Q-Server around the world.

The system also allows these print jobs to be collected from any printer around the world as long as it is FollowMe enabled.

All data transmitted or stored using the FollowMe system is sent encrypted.

FollowMe consists of three core areas, the first being the client, which is the users workstation. Secondly is the Q-Server, which is the print server, which stores all print jobs uploaded from the client, and manages all communications. And thirdly the hardware is located on the printer and allows the variety of different recognition techniques to be sent to the server for authentication.

Three core features:



Printing to the Q-Server:



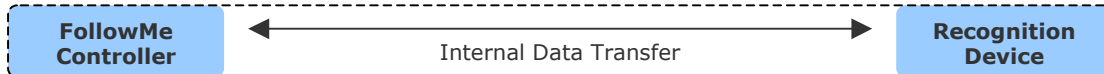
The user would use his normal 'print' button and the print job is uploaded to the Q-Server.

Print to any printer:



The user must first authenticate at the Hardware using any of the supported recognition techniques. Once authenticated the Q-Server will release any print jobs pending. If the device (copier/printer/MFP) is copy patrol enabled the FollowMe Q-Server will signal the hardware to enable the copy patrol functionality.

Hardware:



Hardware consists of two main devices one being the controller and the other is the recognition device (e.g. finger print reader, proximity/swipe card reader or a combination reader).

**Web Printing Feature - How does it work?**

The Web Printing Feature consists of three core areas, the first being the client, which is the users web browser. Secondly is the Q-Server, which is the print server, which stores all print jobs uploaded from the client, and manages all communications. And thirdly the hardware is located on the printer and allows the variety of different recognition techniques to be sent to the server for authentication.

This option does not require any software to be installed on the client workstation, although there is an option that a client side application can be downloaded to ensure the data transferred is encrypted to FollowMe standards.

Three core features:

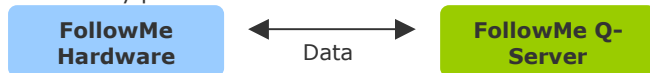


Printing through the Client Web Browser to the Web Printing Feature:



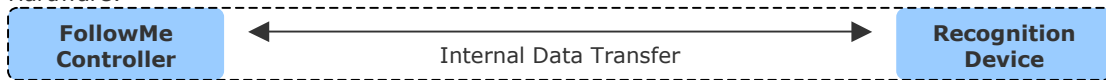
The user would now login to the Web Printing web page and then select either Microsoft Office or Adobe Acrobat files and click an upload button. These files will then be sent from the client machine to server through the web browser and will be stored on the Q-Server.

Print to any printer:



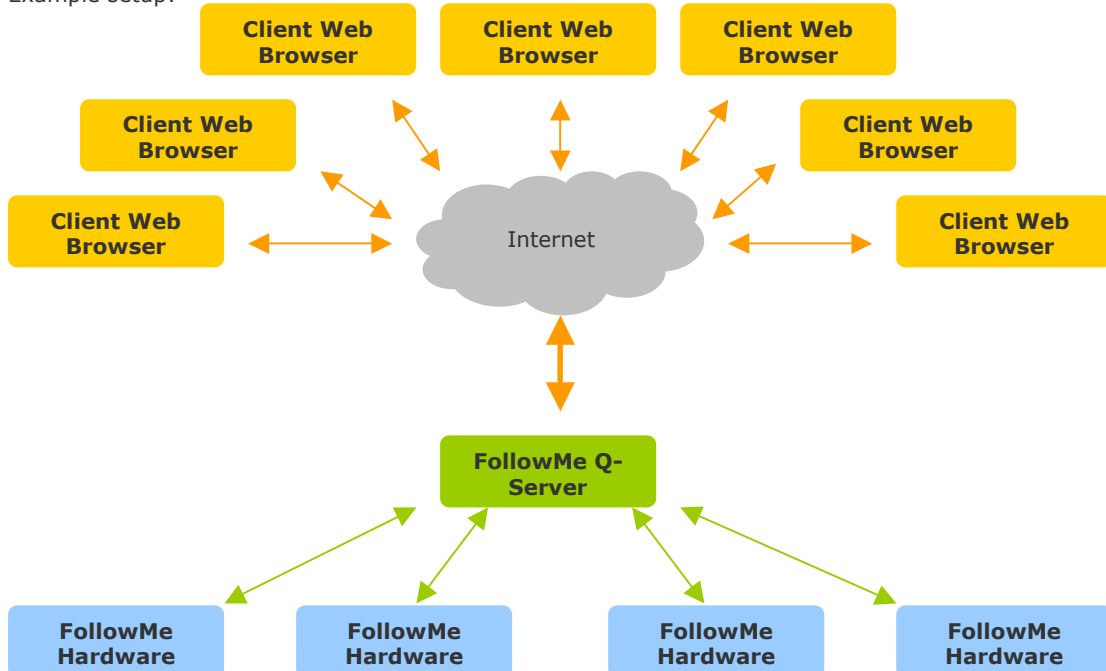
The user must first authenticate himself at the Hardware using any of the supported recognition techniques. Once authenticated the Q-Server will check to see if the user has any print jobs and at that point send them back to the Hardware or printer.

Hardware:



Hardware consists of two main devices one being the controller and the other is the recognition device (e.g. finger print reader, proximity/swipe card reader or a combination reader).

Example setup:



The FollowMe Q-Server has the Web Printing Feature installed and is running Microsoft Internet Information Services.

## Encryption and Compression

FollowMe has inbuilt encryption and compression which is used in all aspects of the system. The system has characteristics that allow custom encryption algorithms to be written for use with the client to server data transfer.

Through the use of the FollowMe compression and encryption technology organisations can ensure network traffic is reduced via compression or secured via encryption.

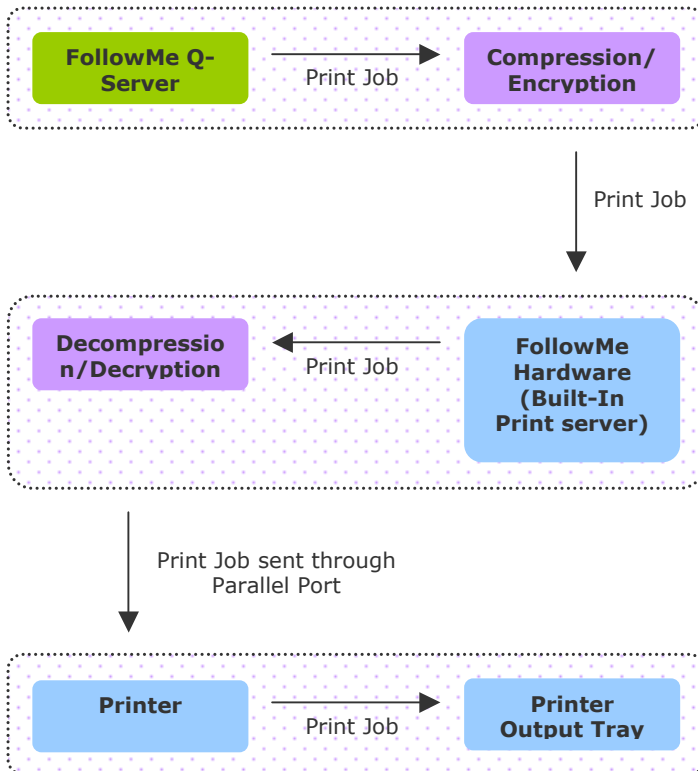
Client to Server encryption/compression:



Encryption and compression can also occur between the server and the printer allowing all aspects to the system to be secure. There are two ways of doing this.

As the system was designed to be as efficient as possible therefore as standard the system is able to use compression of data between client and server.

Server to Printer compression:



**NOTE:** The FollowMe Security SDK has been discontinued. However this feature is still available within the FollowMe product but is no longer supported as a public feature. Please contact Ringdale technical support for more information.

## Accounting

FollowMe offers a very effective and precise accounting feature that is able to obtain print job information directly out of the print job once it has been uploaded from the client to the server.

What information can be obtained from the print jobs?

- Simplex or duplex
- Paper size
- Colour or black and white
- Document name
- Printer name
- Printer driver name

Individual costs for printers, cost centres and cost codes:

- Know exactly how much the printer cost your organisation
- Charge different cost centres (departments) different costs for printing
- Bill client on a cost code (reference number) basis

This information is stored within the FollowMe Q-Server database for report generation at a later date. Reports are customisable to date ranges, users, cost centres and printers this information is displayed on screen and can also be exported or printed.

How does the process work?



The print job is uploaded and then once the file is received by the server it is then analysed.

Print Job formats that can be analysed:

- PCL (All versions)
- PostScript (All versions)
- HPGL (All versions)
- ESC/Page (All versions)

And many more, if FollowMe cannot parse a particular format then let us know and then it will.

Accuracy is the key:

- We believe accuracy is the key therefore now through the use of the FollowMe accounting processing engines organisations can now account for the percentage of toner printed on a sheet of paper.

How?

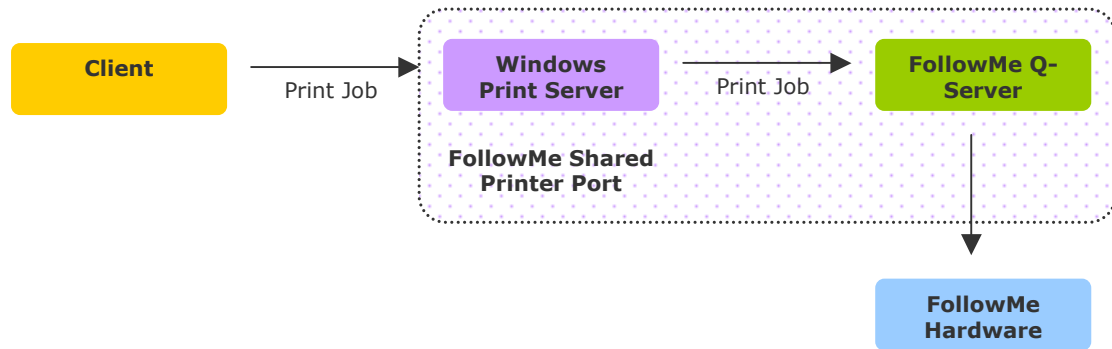
- FollowMe is able to parse any supported format of print job and analyse it for the content of black and white and colour. This data then can be customised to how it is used for billing or statistical purposes.

### Shared Printer Port

This is a port that is installed on any Windows print server and replaces the current TCP/IP port. The port removes the need to install the FollowMe client onto all client workstations.

Through the use of FollowMe technology the port re-directs the print jobs using the print job originators username to the FollowMe server that should be located on a separate server.

Even though a separate server is recommended it is not required. The time required to install client software onto client workstations is sometimes considerable and therefore it is beneficial when working in large installations to use the Shared Printer Port.



The Shared Printer Port enables a seamless integration into current systems and practices, also reducing overheads.

The system can be used for two totally separate functions or all combined:

- Roaming, Secure Printing Solution
- Print Accounting Solution
- Both combined as a All-In-One system

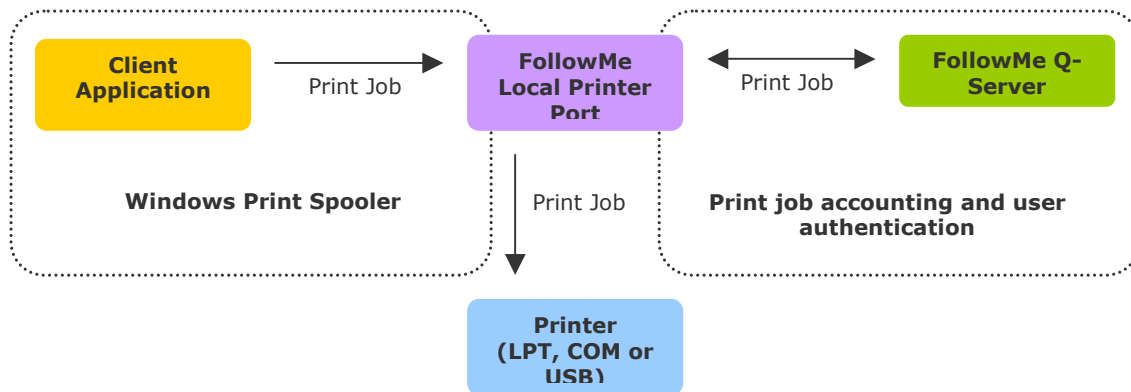
### Local Printer Port (LPP)

Through the use of the Local Printer Port organisations are able to allow personal printing still to occur, however through the use of this unique port we are able to account the information which is printed to the local machine printer and bill that to the specific user which is printing it.

FollowMe is even able to restrict printing on the Local Printer Port based on the time restrictions placed on the user that also applies to his or her network printing.

This helps to allow print audits to occur, with knowing exactly what has been printed throughout the organisation even if jobs have not been printed on network printers.

The process:



The Local Printer Port now allows organisations that require personal printers to also be accounted without the need to move to network printers.

## **Monitoring**

Through the use of the intelligent monitoring, FollowMe is able to monitor Print Queues to help improve server stability and printing uptime.

Monitoring works in a multitude of ways, either monitoring print queues or monitoring printer's directory. FollowMe is able to notify an administrator if a queue is hung or has failed. It is able to poll printers for uptime and even for printer statistics, consumable usage and low toner (printer manufacturer and model dependant) and warn an administrator of this via e-mail.

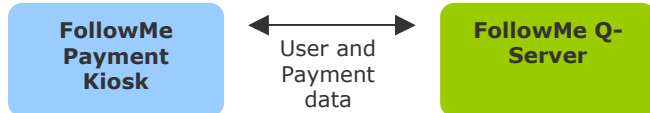
FollowMe also incorporates intelligent hardware monitoring which enables hardware devices to actually monitor the FollowMe Q-Servers to ensure if one or many were to fail that the device itself would be able to display a message on the printer front panel (printer manufacturer and model dependant).

## Kiosks – Payment Kiosk

FollowMe offers many benefits to the educational sector and providers offering copying/printing on a pay per copy/print basis including automated payment systems. By utilising the automated systems FollowMe offers out of hours utilisation of the system for credit additions and management of user accounts and most importantly the use of the copying and printing functionality.

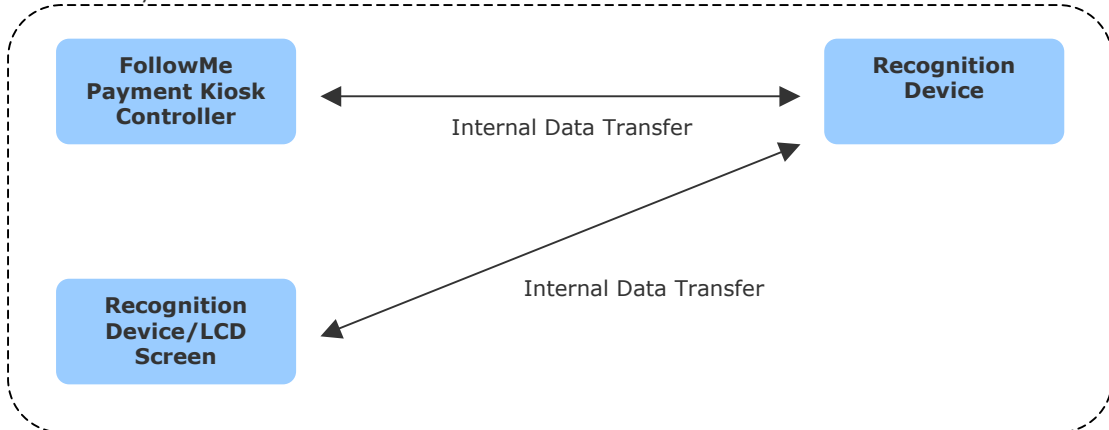
The FollowMe Payment Kiosk and FollowMe Online Payment Kiosk bring new functionality in an ever-changing world, by offering payment systems that can work online and in a rugged standalone case it brings new offerings to this market, reducing the administrative overheads and offering advantages for automated payments during working hours and out of hours.

FollowMe Payment Kiosk communications to the Q-Server:



The user must first authenticate at the Hardware using any of the supported recognition techniques. Once authenticated the Q-Server will check to see if the user exists and if he or she has rights to use the Payment Kiosk and then enable or disable the device.

FollowMe Payment Kiosk Hardware:



## Kiosks - Online Payment Kiosk

FollowMe offer online payments as another way to generate revenue for pay-per copy/print environments. By offering online payments this expands the offering

FollowMe Online Payment Kiosk consists of two core features:

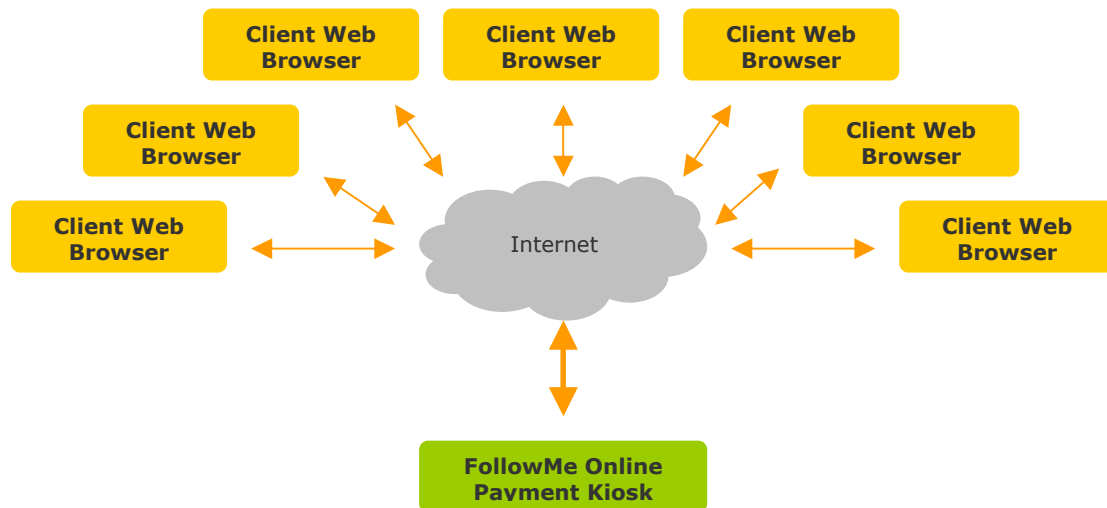


Payments through the Client Web Browser using the Online Payment Kiosk:



The user is required to login to the Online Payment Kiosk web page and then select their Payment Method (e.g. Visa, MasterCard, America Express, Discover, etc), enter their card number and select a monetary amount to add to their account after this they simply click an authorise button. This data is then authorised on the fly against a financial institution and the user is prompted that their account has been updated and money has been taken from their card.

Example Online Payment Kiosk setup:

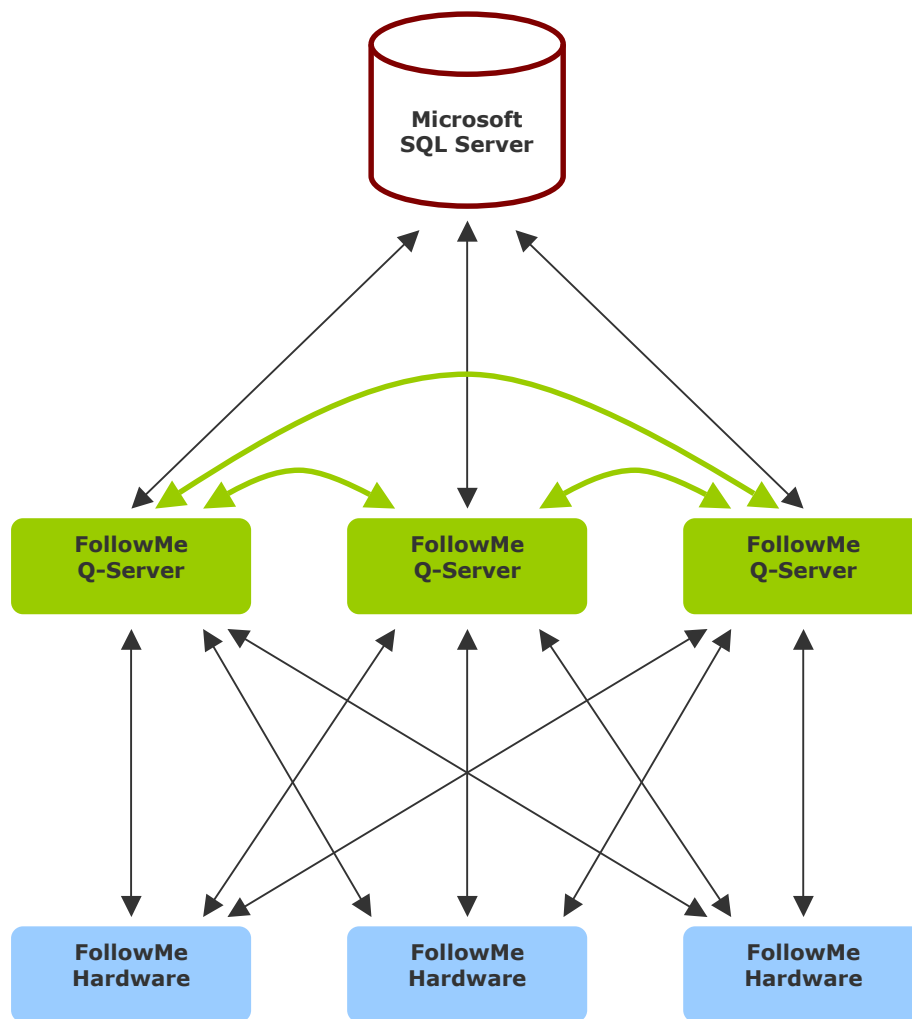


**NOTE:** The FollowMe Online Payment Kiosk requires Microsoft Internet Information Services to run.

Payment Providers:

- The FollowMe Online Payment Kiosk may require integration with certain banks to process online transactions.
- Ringdale does offer many payment providers already, although some may require additional integration.

## FollowMe - Cluster Environment



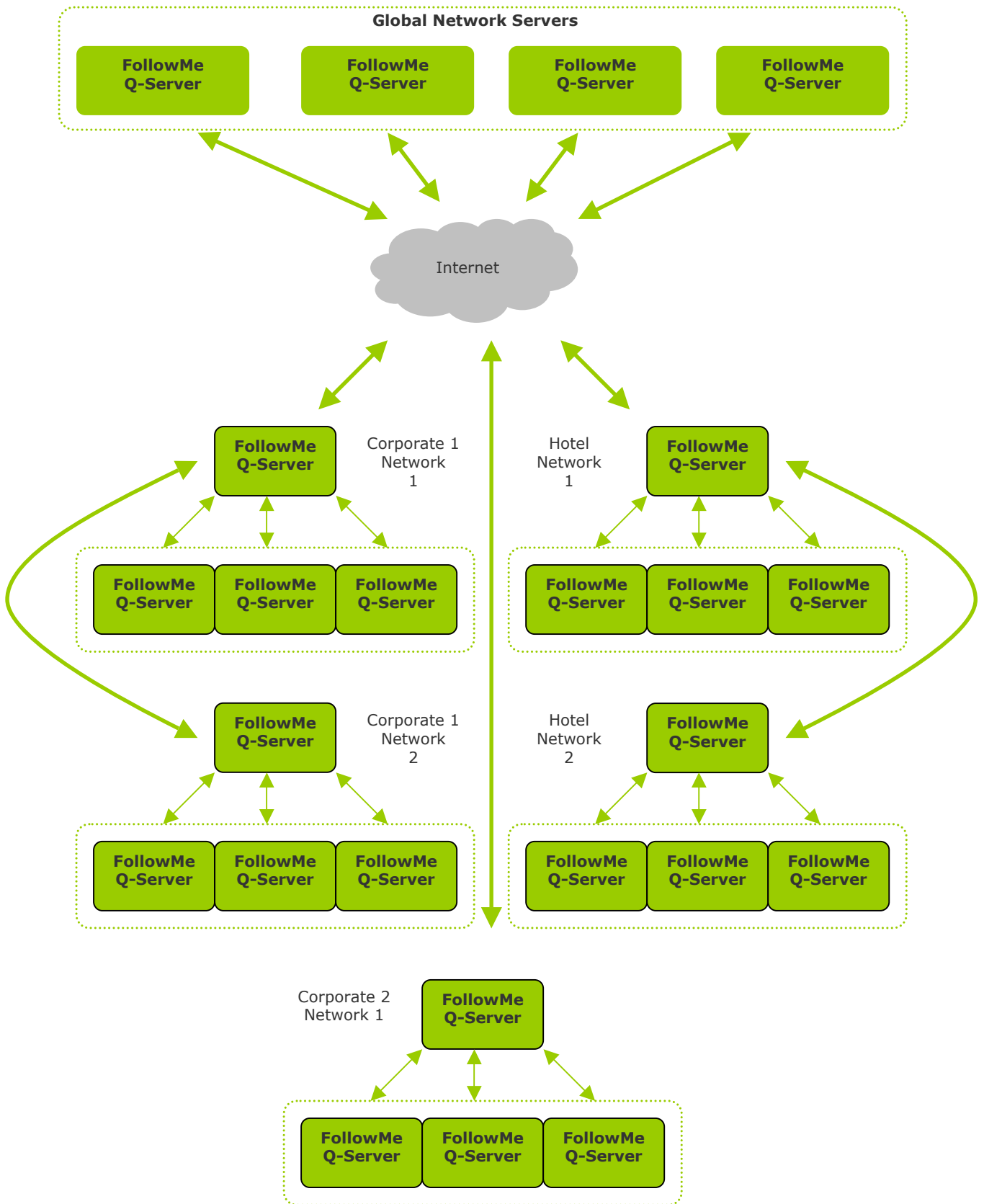
	Microsoft SQL Server
	Server to Server Communications
	FollowMe Q-Server
	FollowMe Hardware
	All other Data Communications

FollowMe clustering is an intelligent process of combining one or multiple FollowMe Q-Servers to co-exist in one or multiple environments.

The clustering principle works on the emphasis that if one server was to fail then it will automatically try the next available one.

The process allows maximum spread of risk through the use of multiple Q-Servers and ensures efficient printing and resilient operation.

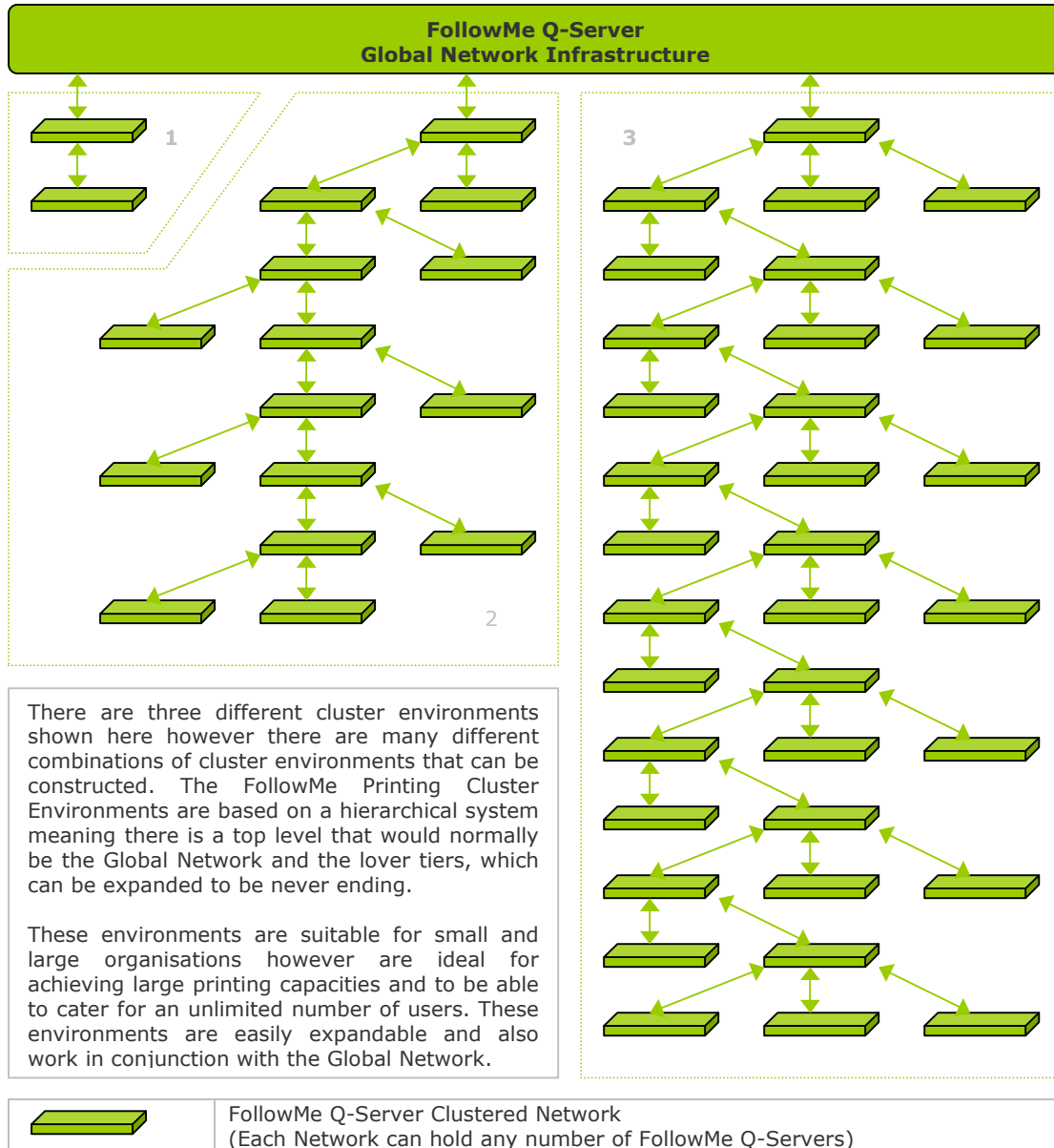
**Global Network**



This cluster setup is expandable to any number of Q-Servers and the Network is designed in a way so that saleability is easy and it is also adaptable to any market.

## Cluster Environments and the Global Network - Working Together

The following example shows how the FollowMe Cluster Environment and Global Network work together.



### **Why can FollowMe Clustering be efficient?**

It is unique due to its ability to work with intelligently with its fellow systems to bring a printing equilibrium. Through the use of our cluster technology the systems are able to grow to any size at just a click of a button.

The FollowMe Clustering works by not propagating data to all systems although storing it on the individual systems until it is required. Through the use of encryption and compression data is sent between servers efficiently and cleanly without increasing network loads therefore helping avoiding bottlenecks.

FollowMe monitors its local cluster servers to ensure that if one were to fail and administrator would be notified via e-mail. Also this helps reduce downtime and ensure uptime is not affected.

## Target Markets

### FollowMe

FollowMe can be employed/deployed in at least 3 major sectors where return of investment will be achieved in the fastest possible time frame in network printing environments.

Large sized organisations:

- Government Agencies
- Postal Services
- Universities (Clustering, Global Network, Web Printing Feature)
- Car Manufacturers
- Banks (Clustering)
- Print Shops (Global Network, Web Printing Feature)
- Airports (Clustering, Global Network, Web Printing Feature)
- ...and any content sensitive organisations

Medium sized organisations:

- Insurance Companies
- Lawyers
- Hotels (Global Network, Web Printing Feature)
- Hospitals (Clustering)
- Print Shops (Global Network)
- Internet Service Providers (Global Network, Web Printing Feature)
- ...and any content sensitive organisations

Small sized organisations:

- Hotels (Web Printing Feature)
- ...and any content sensitive organisations

The FollowMe system offers many incentives and one of these being the ROI. The FollowMe system has the highest ROI of any product in its market and typically pays for itself in a ten-device installation within the first year.

### Web Printing Feature

The Web Printing Feature is designed for markets where printing from anywhere in the world without the installation of any client side software is essential.

### Clustering

FollowMe Clustering offers organisations the freedom to expand printing infrastructures to build high capacity printing environments and reliance to allow for expansion without it becoming a legacy system. Clustering can also be used in conjunction with the Global Network Partner program.

### Global Network

This is the FollowMe bigger picture. Allowing any company that has signed up the Global Network Partner program to allow any of its users to print to any of the Global Network Partners sites (e.g. Hotels, Airports and any Public Areas).

## **Conclusion**

The FollowMe solution can help any organisation small or large to allow users to roam and secure print jobs and photocopies easily and efficiently from any location.

The system has been designed in such a way to allow anyone to print anywhere in the world without restriction. It is so unique that no longer are there restrictions when printing due to location and time as print jobs will literally follow you from location to location with out the need to re-print or setup printers for each different location you may visit.