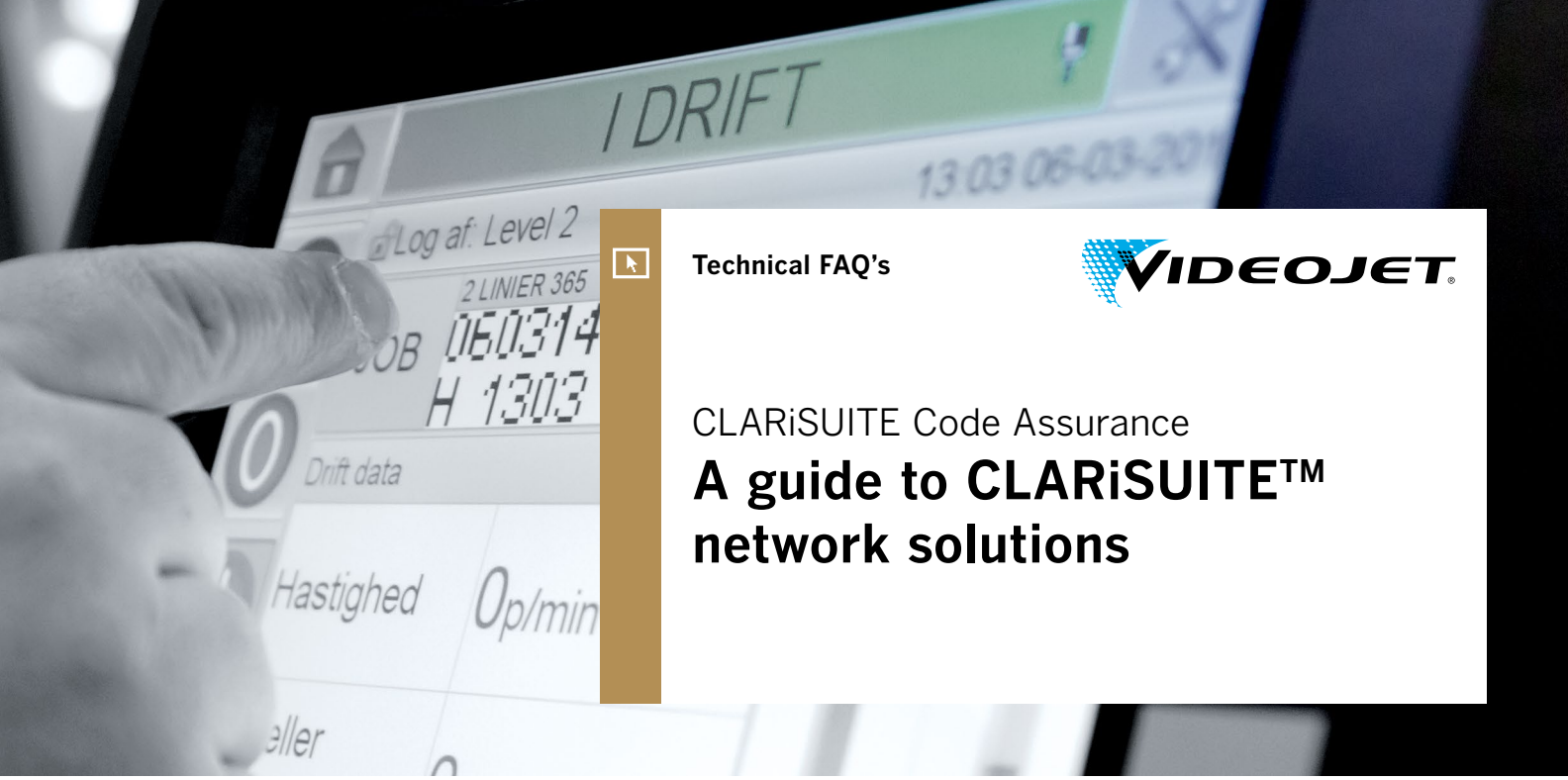
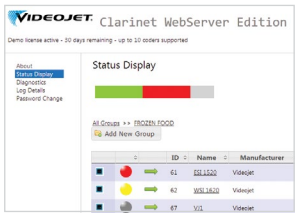


Technical FAQ's

VIDEOJET

CLARiSUITE Code Assurance

A guide to CLARiSUITE™ network solutions



Management Summary

Your company is considering purchasing, or has purchased a software solution from Videojet called CLARiSUITE™. This software needs to be installed in your environment and communicate with Videojet printers connected to a Local Area Network.

This document describes the technical infrastructure but, in summary:

- There is no remote access (into or out of your environment) required with this software.
- Networking follows industry standard protocols and configurations.
- Multiple network landscapes supported to enable installation into your network infrastructure.
- Standard Windows® software supported on wide range of hardware (from PC to virtual server).
- No known software conflicts or dependencies on required versions of internet browser, Java, etc.

Overview

IT infrastructure security, integrity and stability are primary concerns of Videojet and its customers.

Videojet understands the concerns of our customers when installing software solutions from any vendor. We therefore strive to deliver systems that fit into existing IT infrastructures simply and with minimal impact. To do this we always adhere to standard, widely-accepted and established technologies.

We help ensure our systems do nothing to expose our customers to any form of security risk (viruses, conflicts, hacker attacks, denial of service, malware, etc.). As Videojet devices can be connected to your network, we test thoroughly to help ensure CLARiSUITE works in standard network architectures.

This document sets out to answer questions that our customer's IT organization might have with regard to implementing our CLARiSUITE solutions. Our highly-skilled technicians are always available to answer any additional questions that may have not been answered in this document.

Videojet's Commitment:

- Maintain and protect your network, equipment and data integrity at all stages of solution implementation and operation.
- Audit installations to ensure they are working correctly within your environment.
- Control access and modification of your data to authorized users only.
- Require authenticated user access to administration tools and user applications.

Remote access to your network

Videojet's CLARiSUITE solution does not require remote connectivity – neither inbound, outbound or to/from your network. It requires local area network communication only between the CLARiSUITE master controller and printer(s).

You protect devices in your network behind security features such as firewalls and Proxy Servers. If a 3rd party solution requires changes to this network protection, it will likely fail to gain acceptance. It is with this in mind that Videojet's CLARiSUITE solution does not require this kind of access to operate at its full level of functionality.

Should you desire remote access from Videojet, to receive advanced levels of support, Videojet is capable of implementing this feature while adhering to your security and access controls. These advanced levels of support are implemented only upon a request from you.

CLARiSUITE is an open system that can be controlled by external software solutions via programmatic, real-time interfaces.

CLARiSUITE general overview

CLARiSUITE consists of a group of software modules that work together:

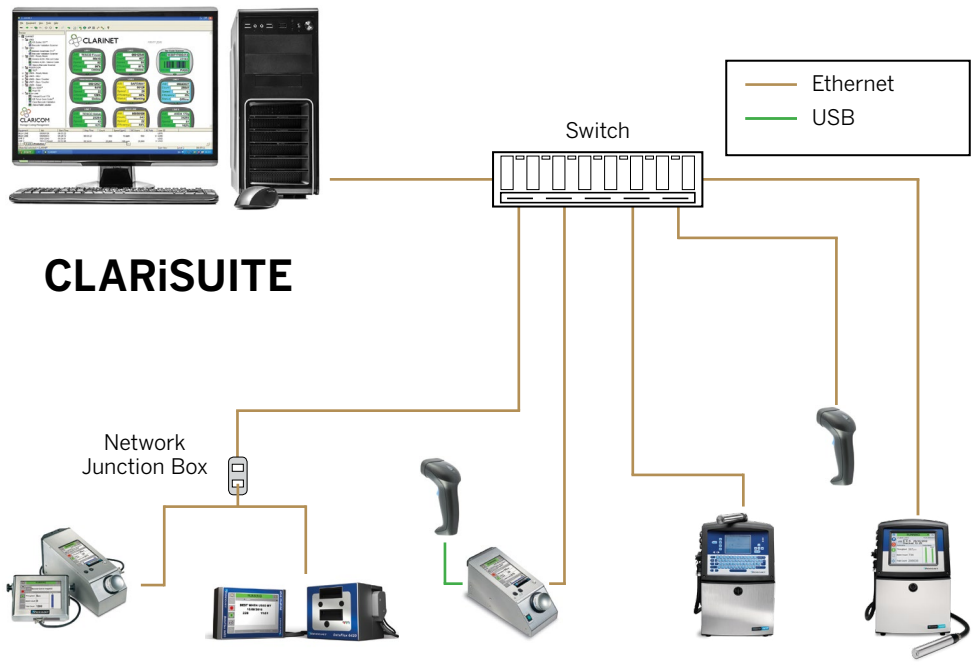
- To create and manage the print job data and print jobs sent to the printers in a CLARiSUITE network for printing on your products and packaging.
- Printers are connected in a network.
- A database to store the job data in a central location. CLARiSUITE is supplied with its own database (Microsoft Access format) that typically resides on the same machine as CLARiSUITE but can also be placed in a different location in your network if desired. CLARiSUITE can also use an external ODBC data source for its job database.
- CLARiSUITE records event, production and efficiency data to text based log files (.CSV) or to a Microsoft SQL Server Express database (depending on the edition of CLARiSUITE purchased).
- Transmission of print jobs to the printers. This can be pushed from the central administration software or a web browser to a printer / multiple printers or pulled from the central database directly from the printer user interface (and then further distributed to other printers in the CLARiSUITE network).
- Depending on the edition of CLARiSUITE purchased, the print job management component of the software either runs as a Windows® Application or a Windows® Service. If running as a Windows Service, then Microsoft Internet Information Services (IIS) and .NET 4.5 Framework is also required.
- All editions of CLARiSUITE must be licensed to enable execution. Depending on the version of CLARiSUITE purchased, licensing is performed either by software based 'license keys' or hardware 'dongles'. License hardware dongles require a free USB port.
- Job selection and printed code validation can be performed using bar code and vision devices. These can be either connected directly to the printer or to the CLARiNET job management component over TCP/IP or serial communications.
- CLARiSUITE is an open system that can be controlled by external software solutions via programmatic, real-time interfaces. CLARiSUITE offers two mechanisms to support this: 1) a standard API that can be embedded into software applications with CLARiSUITE specific function calls and 2) industry standard Open Process Control (OPC) functionality that is supplied as standard with all editions of CLARiSUITE.

The installation landscape of CLARiSUITE is flexible to meet the requirements of our customers. Depending on the version purchased, the entire CLARiSUITE system can be installed on a single PC / server or distributed across multiple machines. For example, the print job management and administration components (CLARiNET) could be running in a server room with the job database and print job templates stored on separate servers. The print job design software (CLARiSOFT) could be installed on one or more user PCs in the production facilities and the jobs executed (and system monitored / configured) from multiple web browsers throughout the production facilities.

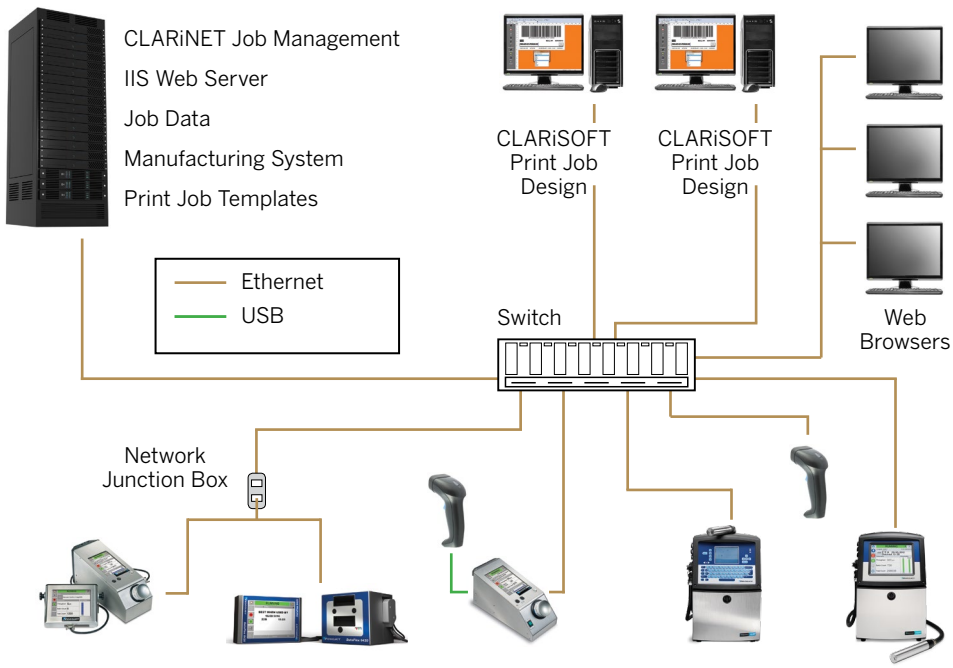
Your implementation requirements will be driven by a combination of existing hardware and software architecture and the operational requirements of your production department. CLARiSUITE is flexible enough to meet these challenges while utilizing standard software and networking tools and methodologies.

CLARiSUITE and its interaction with your network

The image below details a basic CLARiSUITE installation running on a single machine.



Videojet CLARiSUITE Printer Network



Videojet CLARiSUITE Printer Network

CLARiSUITE is a highly scalable solution able to support complex, distributed computing environments. With IIS integration, it is possible to perform administration, job management, printer management and reporting / monitoring from geographically disparate locations via a standard Web Browser. CLARiSUITE can also integrate into pre-existing services and applications to leverage previous investments.

General network overview

Videojet's printers need to be networked using Ethernet or Serial communications. If implementing within an IP65 compliant environment, you will need to connect the Ethernet cables to the printers with an IP65 connector. These can be ordered directly through your local Videojet representative.

The simplest method of network setup is to have CLARiSUITE and printers stand alone on an isolated network – this is the commonly selected option among Videojet's customers.

As a suggestion, the IP65 Ethernet connectors in our printers offer a more resilient and durable connection and can be used in non-IP65 environments.

Industrial Ethernet (such as Ethernet/IP) is not supported by CLARiSUITE / Videojet printers.

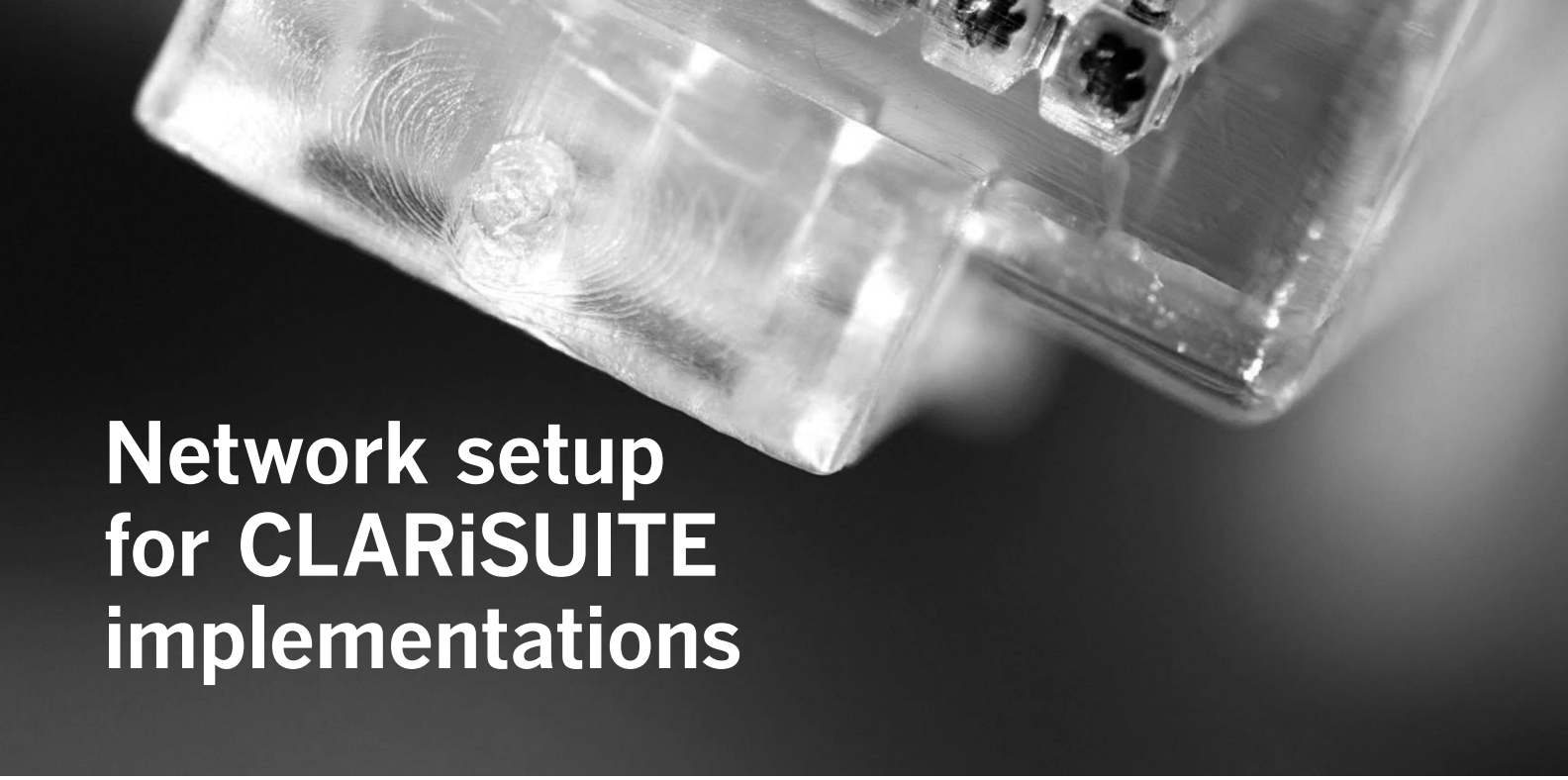
The types of network traffic between CLARiSUITE and the printers fall into the following categories:

- **Print job transfers.** As required (initiated by operators), messages to be printed on the products and packaging are sent from CLARiSUITE to the printer(s). Job data (from the job database) is merged with a print job template on the computer running CLARiNET or CLARiSOFT before being transmitted. Print job sizes are small – typically less than 100kb. At job initiation, the print job will be sent from the database to the printer, ensuring that the newest version is being used. The print job is transferred once, regardless how many times it will be printed during the job (resides in printer memory during the job).

- **Status updates.** The printers keep the CLARiSUITE management console updated with status information. Printers are polled for status every couple of seconds (configurable) and events, such as status change of a printer (on-line, off-line, fault), will also be sent to CLARiSUITE. These status updates are insignificant in size and will not impact network performance (< 100 bytes).

- If bar code validation scanners are used to validate the code printed, then small status print jobs (containing the bar code data) may be sent over the network. These print jobs would be less than 100 bytes and sent after reading every printed code.

In summary, the network traffic, even at high-speed printing and validation, will have little to no impact on your network within a normal CLARiSUITE printer network.



Network setup for CLARiSUITE implementations

General setup information

When referring to "CLARiSUITE network", this document refers to the CLARiSUITE solution, the machine(s) it runs on and all devices (printers and scanners) it communicates with.

The simplest method of network setup is to have CLARiSUITE and printers stand alone on an isolated network – this is the most commonly selected option among Videojet's customers.

Alternatively, integration as part of the customer's existing LAN is possible and is achieved either with or without subnets. If this method is selected and the customer wishes to detach the CLARiSUITE and printer network, then this is achieved by installing two Network Interface Cards – NIC's – in the computer running the CLARiNET print job and printer network management component.

IP address recommendations

Our customers are free to assign IP addresses / ranges, gateways and subnet masks to be used. If connected to your Local Area Network then this IP address range must be allocated based on the other equipment you have connected and your network configuration. You are free, therefore, to advise the numbering to use and it is recommended that a written document of this IP address allocation should be maintained.

All Videojet equipment uses Static IP addressing and therefore the IP numbers (or range) provided should be permanently allocated to the CLARiSUITE network. In this instance, if you use DHCP, please ensure you block the allocated range, so that it does not get allocated to another device.

If you intend to use a stand-alone network, then an example IP address scheme follows:

1. Configure the CLARiSUITE PC to use IP address 192.168.0.1 and to use Submask 255.255.255.0

2. Configure each printer and non-printing device (scanner, terminal server) with a Unique IP address, e.g. 192.168.0.101, 192.168.0.102 etc.

Computer hardware and operating systems

See Appendix 1 for a complete list of supported hardware and software.

Hardware

Videojet supplied hardware

Depending on the region, it may be possible to purchase CLARiSUITE pre-installed on a PC supplied by Videojet that meets basic requirements for the Videojet printing environment in your company. This machine is setup and tested prior to leaving Videojet. It is supplied with the manufacturer's warranty; Videojet does not take responsibility for supporting or servicing this hardware. This machine will be installed with the latest CLARiSUITE supported version of the Windows operating system. Auto update is disabled on this machine and should remain disabled.

No anti-virus software is pre-installed, enabling you to install your company's preferred solution. CLARiSUITE is known to be compatible with many brands of anti-virus software – please check with your Videojet representative to confirm if your system is compatible.

Customer supplied hardware

CLARiSUITE runs on standard PC / server hardware (either 32 or 64 bit architecture – see following section on software for details regarding operating systems).

A low-end PC is typically powerful enough to run the software. Only on larger installations (> 30 printers) is a more powerful machine required.

Depending on the version of CLARiSUITE purchased, the entire software solution can be installed on a single machine or individual components can be installed separately on different machines as desired (i.e. remote print job design software on a second machine). Various installation landscapes and licensing models to support these landscapes should be discussed with Videojet CLARiSUITE specialists prior to ordering. This will help ensure that the desired installation landscape can be supported and that sufficient licenses / dongles have been ordered.

A single NIC is required to establish connection to the network. Please review the previous section on networking models for a specific installation landscape where two NIC's would be required.

Virtualization

CLARiSUITE can run on a virtual server. If this option is required, please work with your Videojet representative to ensure the correct version of the software is supplied and to receive the necessary support from our technical team.

Software

CLARiSUITE runs within a Windows® environment only. Videojet does not support the software on any other environment / Windows emulation software.

Software installation is typically performed by a Videojet qualified technician as part of the purchased solution. If your company has opted to self-install, you will be supplied with the software, an installation and setup manual, and telephone support.

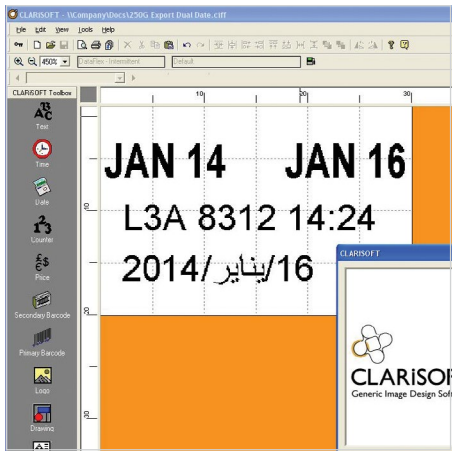
Please let your Videojet sales representative know if CLARiSUITE will be installed on a shared machine running other software. We will, wherever possible, endeavor to test such a configuration prior to final installation at your site.

Software updates

Videojet adopts a continuous improvement approach to all product development. As such, new versions (upgrades and service updates) of our software will be made available from time to time.

Our software is supplied with a warranty. Extended warranty[1] and software maintenance options are available. Please discuss these options with your Videojet representative to help ensure you remain up to date with the most recent version of CLARiSUITE.

1. Warranty period depends on the region in which the software is purchased



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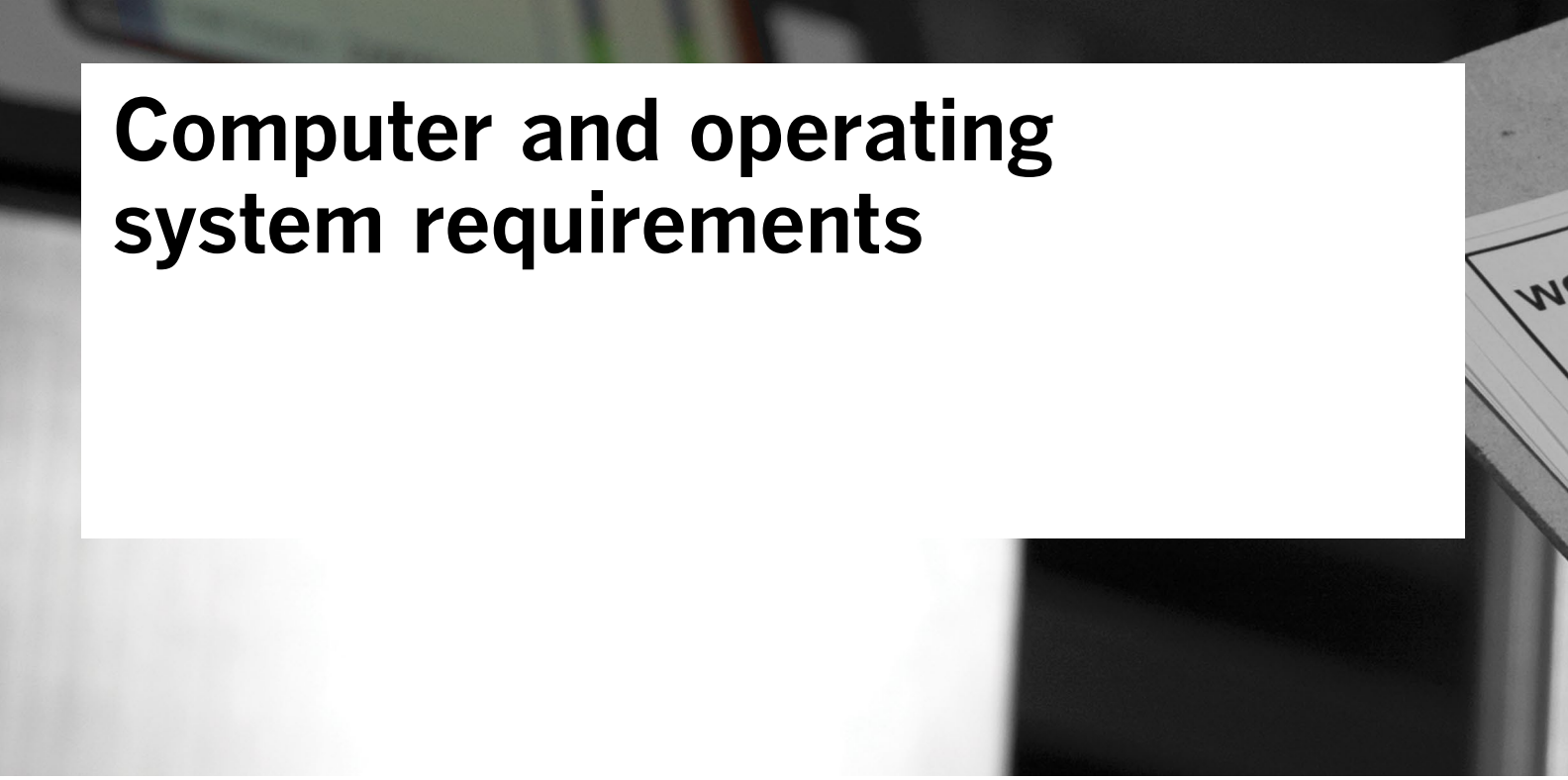


Computer and operating system requirements

	CLARiSOFT Print Job Design Software	CLARiSUITE Foundation	CLARiSUITE Alliance	CLARiSUITE WebServer
Operating System	Windows® XP (32 / 64-bit) Windows® Vista (32 / 64-bit) Windows® 7 (32 / 64-bit) Windows® Server 2003 (32 / 64-bit) Windows® Server 2008 (32 / 64-bit)			Windows® 7 (32 / 64-bit) Windows® Server 2008 (32 / 64-bit)
Processor	1 GHz or higher	(-20 connections) 1 GHz or higher (> 20 connections) 1.3 GHz or higher		1.4 GHz or higher
Memory	1 GB or higher	(5-20 connections) 1 GB or higher (> 20 connections) 1 GB or higher		2 GB or higher
Free Disk Space	250 MB	250 MB		2 GB
Display Resolution	1024 x 768 or higher			
Serial Port	Yes, if connecting to printers via RS 232	CLARiSUITE requires Ethernet connectivity		
USB Port	1 required			1 required if running CLARiSOFT on the same machine
Network Port	Not required	10/100/1000 Ethernet		
Input Devices	Keyboard and mouse			

	Foundation	Alliance	WebServer
Print Job Management/ Data Source	• CLARiSOFT® database	• CLARiSOFT® database • Single query external ODBC data source, e.g., MS Access, MS SQL, etc.	• CLARiSOFT® database • Single query external ODBC data source, e.g., MS Access, MS SQL, etc.
Job Selection & Start	• Via CLARiTY user interface • Via hand held Bar code scanner[2] • Initiated centrally from CLARiNET	• Via CLARiTY user interface • Via hand held bar code scanner[2] • Initiated centrally from CLARiNET • Network connected bar code scanner	• Via CLARiTY user interface • Via hand held bar code scanner[2] • Initiated from web browser • Network connected bar code scanner
Bar Code Validation	• Scanner connected to CLARiTY printer	• Scanner connected to CLARiTY printer • Network connected scanner	• Scanner connected to CLARiTY printer
Code Validation (Vision)	• Via CLARiTY printer[3]	• Via CLARiTY printer[3]	• Via CLARiTY printer[3]
Operational Mode	• Windows® application	• Windows® application	• Windows® Service
User Interface / HMI	• PC-based	• PC-based	• Web browser-based
Activity Logging	• Event logging • Logging to text file	• Event / Production / Efficiency / OEE • Logging to text file	• Event / Production • Logging to SQL database[6] • Export to CSV file
OPC (Open Process Control)	Yes	Yes	Yes

Compatible Printers:

Continuous Ink Jet
- 1000 Line[1]
- Excel 2000/178/DN
- 400 Series

Case Coding
- 2300 Line
- 2120
- Overture/Patrion

Label Printing
- Sato Print Engines
- Zebra Print Engines

Laser Marking[4]

Thermal Ink Jet[5]

Thermal Transfer Overprinters

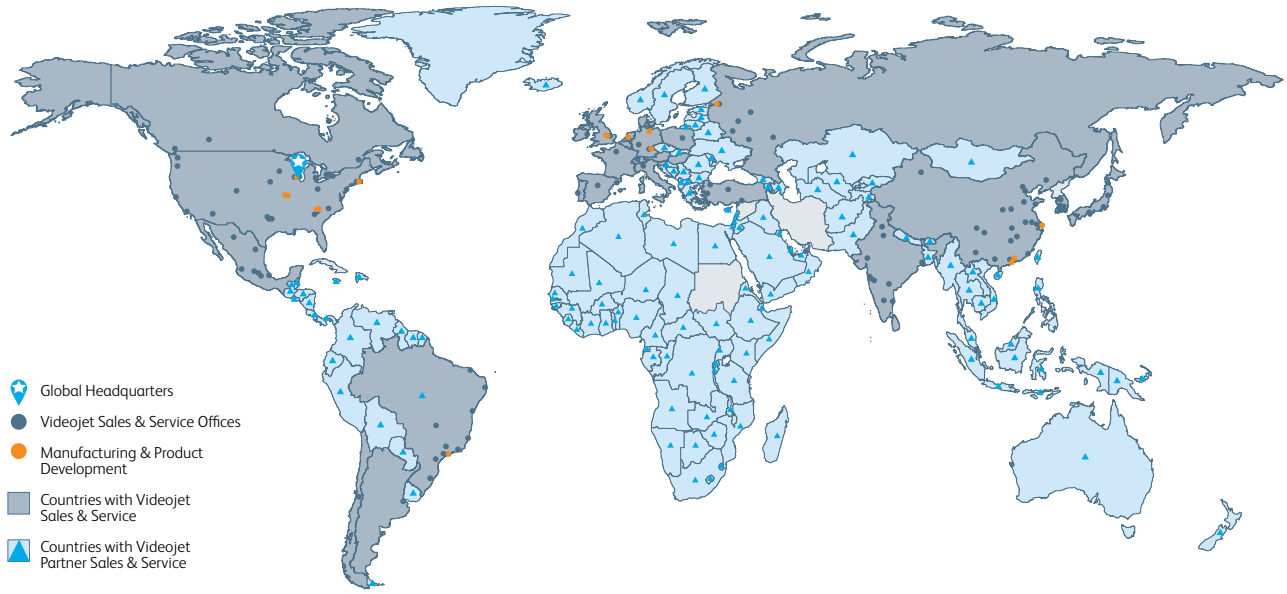
1 1210/1220 not supported
2 Hand Scanner connected directly to USB or RS232 port of CLARiTY printer
3 Fixed mount vision device connected directly to RS232 port of CLARiTY printer. Contact your local Videojet representative to discuss vision capabilities.
4 Excludes 3020, 3410 and Focus lasers
5 Includes Wolke m600 touch, Videojet 8510 and Videojet 8610 only
6 CLARiSUITE WebServer Edition supplied with Microsoft SQL Server Express. Customer-supplied ODBC-compliant databases can also be used.

Peace of mind comes as standard

Videojet Technologies is a world-leader in the product identification market, providing in-line printing, coding, and marking products, application specific fluids, and product life cycle services.

Our goal is to partner with our customers in the consumer packaged goods, pharmaceutical, and industrial goods industries to improve their productivity, to protect and grow their brands, and to stay ahead of industry trends and regulations. With our customer application experts and technology leadership in Continuous Ink Jet (CIJ), Thermal Ink Jet (TIJ), Laser Marking, Thermal Transfer Overprinting (TTO), case coding and labeling, and wide array printing, Videojet has more than 325,000 printers installed worldwide.

Our customers rely on Videojet products to print on over ten billion products daily. Customer sales, application, service and training support is provided by direct operations with over 3,000 team members in 26 countries worldwide.
In addition, Videojet's distribution network includes more than 400 distributors and OEMs, serving 135 countries.



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