eci

™

General System Requirements

Spruce®

December 16, 2020

Table of Contents

Cloud Based Computing

Cloud based computing provides you with the ability to run the ECI™ Spruce® software through the internet without investing in an application server, a database server, or the personnel needed to administer security, backups, and upgrades.

When you implement Spruce, a true business class broadband internet connection with a static IP address is required. Internet Service Providers (ISPs) sometimes restrict customer bandwidth during heavy usage and it is important to verify this won't result in poor performance during peak times of the day. In addition, non-speed-related issues like stability and latency can have a dramatic impact on your ability to use your software, so diligence is important when selecting an ISP's plan.

Peripherals including laser printers, label printers and signature pads must be network devices with static IP programmability.

Bandwidth and the Internet

The best cloud experience comes from good, reliable internet connectivity. To be confident your connection will give you a good experience, we require the following **minimum** upload and download speeds:

NUMBER OF USERS	DOWNLOAD	UPLOAD
15	5 Mbps	1 Mbps
30	10 Mbps	2 Mbps
50	30 Mbps	5 Mbps

These bandwidth requirements take into consideration general internet use outside of Spruce. This includes web browsing, vendor catalog access, emailing, etc. If the business relies on internet access for data-intensive processes like streaming media or downloading large files, more bandwidth is strongly recommended.

Other important points:

Latency is not necessarily related to bandwidth. While bandwidth is the diameter of the pipe, latency is the length of the pipe. When browsing webpages or streaming media, latency is often compensated for by buffering or caching. This process is not offered over a VPN connection such as the one used to connect to the Spruce hosted data center. When performing bandwidth tests, it is important to check not only the speed of the connection but the latency, generally represented by the initial ping time in milliseconds. Ideally this would be below 60 ms; the maximum we allow is 100 ms.

A stable connection is just as important as, if not more important than, a fast connection. When connected to a secure VPN, the link between the two parties must remain constant to ensure integrity. If the connection is lost, even for a moment, the link is broken and the connection is terminated.

General Operating Environment

The Spruce application operates entirely in a Microsoft Windows® operating system environment. It is our practice to move to newer versions of our internal development software (Microsoft Visual Studio®) and to keep our Cloud server software and hardware up to date after testing for stability. We operate under the assumption that our customers are similarly assuring reliability by keeping their own software and hardware up to date and secure.

Because Spruce software is designed entirely for a modern Microsoft Windows environment, both a LAN (local area network) and WAN (wide area network) are required. Separate VPNs from each of your branch locations to the Spruce

data center are also required. It is your responsibility to assure these infrastructure elements are kept working and reliable.

One additional benefit to modern network technology is that choices in hardware (PCs, network printers, hubs, switches, and so on) are plentiful and not brand specific. We do have specific requirements for certain types of Point of Sale devices such as signature pads, mobile devices and cash slip and specialty printers; these are discussed later in this document. Users should only purchase the specific models we recommend in these cases.

Antivirus

All workstations and servers should be protected with a good-quality antivirus software solution.

We discourage use of Avast, Webroot or Trend Micro anti-virus software because we have experienced compatibility issues with these solutions.

Workstations

A personal computer (PC) is the recommended workstation for the Spruce application. We require Professional (not Home) versions of Microsoft® Windows 10 or later. Though it is difficult to simply state a specific processor or clock speed (since a wide range of factors determine the quality of a PC's response to the software), we have found that multi-core processors tend to come in PCs designed to handle our software well. A minimum of 4 GB of RAM (memory) is recommended. Though thin client technology may be used, we encourage customers considering thin clients to engage high quality, experienced IT companies for the design, as thin clients introduce complexity and add cost (and ongoing maintenance) to any implementation. Furthermore, a VPN connection is required for thin clients. Please note that POS Assured must be run on PCs, it cannot be installed on thin clients.

Spruce is a Microsoft Windows-based product. While users can use Microsoft's RemoteApp functionality to operate the client software on an Apple device, they do so at their own risk. Not all functions work the same using this method, and ECi neither supports the method nor makes any representation or promise that it will work. Future Apple or Microsoft changes could render the functionality unusable or could make it less functional than it is now. In addition, Crystal Reports has no version for Apple devices, and other software may not work as expected or may stop working due to normal software updates from Apple, Microsoft, SAP or others.

Network Printers

The Spruce application was designed to be used primarily with network laser or LED printers. We suggest the use of laser printers with multiple drawers. This takes advantage of software features that allow the printing of multiple copies using different formats (and colors of paper, etc.).

Some printing, such as Payables checks and statements, require a laser printer with multiple drawers, so at least two drawers are required for the office printer used for these purposes. Color laser printers are supported but the toner can be expensive, so we recommend monochrome printers. Some customers wishing to include color logos find that preprinted paper can be a more cost-effective solution than using color printers. We recommend using the same printer model and configuration for all your printers, even across branches, as this will allow you to share consumables and to quickly substitute printers when an important device stops working.

Printer redirection through a remote desktop connection will not work because the printer name will change each time the user logs in (the Spruce software accesses the printer by using the Windows printer name).

Optional & Specialty Peripheral Devices

We require specific models and options for most devices, including Point of Sale ticket printers, cash drawers, barcode scanners, and others. Some of the devices are not required to use the Spruce software, but they have been approved for use with the Spruce application.

Printers

Below is a list of printers as well as requirements and options for each.

PRINTERS		
	DEVICES	**OPTIONS & REQUIREMENTS**
	Zebra® (ZIH Corp.) QLN 420 *zebra.com* For barcoded price labels. A Portable wireless label printer that may be used with supported mobile devices and the Spruce AnyWare software. Wireless access point required to connect. **Part number**: QN4-AUNA0E00-00	Also requires: ● Zebra QLN Smart Charger P1031365-063 ● Zebra QLN PC-USB Cable P1031365-055 ● Wireless Access Point / WIFI
	Zebra® (ZIH Corp.) ZT230 *zebra.com* For barcoded price labels. A non-portable thermal label printer. **Part number**: ZT23042-T01200FZ	An industrial-grade label printer. Label sizes commonly used with Spruce include 10000287 (Bin), 10000288 (Price Tag), and 10006209 (4x3 Special Order). Wax ribbon may be required. See Help / Special Topics / Hardware and Peripherals / Zebra Label Printers.
	DYMO® (A Newell Rubbermaid Company) LabelWriter® 450 Turbo *global.dymo.com/enUS/Products/* A light duty thermal device for barcode label printing. See required print server below. **Part number:** 1752265 **DYMO® LabelWriter® Print Server** Print server necessary to assign an IP address to a Dymo LabelWriter 450 Turbo printer. **Part number**: 1750630	Printer must be used in conjunction with the Print Server. One default label printer can be assigned to a station. Labels commonly used with Spruce include Dymo # 30323 (Special Order), 30336 (Price Tag), 30252 (Document and Bin), 30327 (Document). Search Spruce Help for "Dymo Label Sizes."
	Epson OmniLink TM-T88VI Single-station Thermal Receipt Printer *Epson.com* A thermal Cash Ticket Printer typically used for Point of Sale cash transactions. **Part number:** C31CE94061	The Epson TM-T88VI has replaced all Ithaca peripheral devices. Use of a cash drawer is optional.
	Brother HL-L6200DW *Brother.com* High Yield Toner cartridge (approx. 8000 pages). Capacity for up to 10 envelopes. Flexible connectivity with Gigabit Ethernet and wireless interfaces, and mobile device printing. **Part number:** HL-L6200DW **High Yield toner part number:** TN-850	A reliable, reasonably priced printer that has drivers for all modern operating systems and that Spruce has thoroughly tested in the cloud environment.

Sold by ECI Spruce as an option

Barcode Scanners & Scanner Scales

Below is a list of barcode scanners and scanner scales as well as requirements and options for each.

BARCODE SCANNERS & SCANNER SCALES		
	DEVICES	OPTIONS & REQUIREMENTS
	Symbol® (Motorola, Inc.) LS2208 *motorola.com* Handheld 1D Barcode Scanner (USB connection). This model is the only model that may be optionally programmed for use with Terminal Services clients. May also be used with a PC. **Part number**: LS2208-SR20007R-NA	Must be programmed for proper function. Programming instructions are available on our customer support portal.
	Symbol (Zebra/Motorola) CS4070 *zebra.com* Bluetooth™ Enabled Companion Scanner. **Part number:** CS4070-SR70000TAZW	Small, highly portable scanner primarily intended for use on Microsoft Surface Pro and similar portable Windows devices. Must be paired with Bluetooth-capable PC to work. Must be programmed for proper function. Programming instructions are available on our customer support portal.
	Zebra (Symbol/Motorola) DS8178 *zebra.com* Wireless 2D Bluetooth™ Enabled Imager (Barcode Scanner). **Part number:** DS8178-SR7U2100SFW	Must be programmed for proper function. Programming instructions are available on our customer support portal.
	Symbol® DS4608 *Zebra.com* Provides the versatility of a handheld and hands-free 2D scanner. **Part Number:** DS4608-SR7U2100SGW	Must be programmed for proper function. Programming instructions are available on our customer support portal.
	Zebra LI4278 Cordless Scanner *Zebra.com* The 1D LI4278 offers cordless freedom with Bluetooth compatibility. **Part Number:** LI4278-TRBU0100ZWR	Must be programmed for proper function. Programming instructions are available on our customer support portal.
	Magellan™ 9400i *Datalogic.com* • Easily scan barcode items as well as weigh items on the unit itself. • High performance bar code scanners designed with digital imagers in all planes. • Spruce supports both the Magellan™ 9400i and the legacy Magellan™ 8500xt. Please contact your aftermarket sales representative to enable this feature. **Part Number:** 9420150013-000055 **Power Supply:** 11-0171 **Cable:** 8-0730-04	Must be programmed for proper function. Programming instructions are available on our customer support portal.

Sold by ECI Spruce as an option

Document Scanners

Below is a list of document scanners as well as requirements and options for each.

DOCUMENT SCANNERS		
	DEVICES	**OPTIONS & REQUIREMENTS**
	Fujitsu Image Scanner fi-7160* Sheetfed *fujitsu.com* **Part number:** PA03670-B085 **Fujitsu Image Scanner fi-7260 Sheetfed/Flatbed** **Part number:** PA03670-B555	We recommend these optional scanner models as proven devices that come with PaperStream Capture, a scanning automation solution that allows easy barcode recognition and automatic attachment of barcoded documents; this avoids extra fees for third party software to accomplish the same thing.

Sold by ECi Spruce as an option

Handheld, Pad Devices, Phones

Below is a list of handheld and pad devices, phones as well as requirements and options for each.

HANDHELD, PAD DEVICES, PHONES		
	DEVICES	**OPTIONS & REQUIREMENTS**
	Microsoft Surface Pro *microsoft.com* Versatile workstation in a tablet form and using the full Spruce software. **Part number:** LPZ-00001 **Dock Part Number:** PF3-00005 **Pen Part Number:** EYV-00009 **Wireless Keyboard and Mouse:** PY9-00001	This small-format device can be used as a tablet for in-the-aisle activities. It can also be connected to an optional dock to provide full workstation functionality. Because it is a Windows device, it runs the full Spruce client software wherever you have reliable Wifi. *ECI can supply this device and the optional dock, pen, and wireless keyboard/mouse set.*
	Zebra TC57 Touch Computer Series *Zebra.com* The TC57 is a commercial quality handheld that is ideal for use with Spruce AnyWare. It includes a laser scanner with a pistol-grip trigger handle, rugged exoskeleton, AC Adapter and cable. **Part Number:** TC57HO-1PEZU4P-NA **Trigger Handle Clip:** TRG-TC51-SNP1-03 **Rugged Boot with Handstrap:** SG-TC5X-EXO1-01 **AC Adapter:** PWR-WUA5V12W0US **USB Data Transfer Cable:** CBL-TC51-USB1-01	Must be programmed for proper function. Programming instructions are available on our customer support portal. Requires Spruce AnyWare. Cellular connectivity possible; requires a third party SIM card and data plan. Contact your ECI Salesperson for information and pricing.
	Zebra® ET51 Tablet *zebra.com* A hardened, high performance, 8.4" Android tablet **Part number:** ET51CE-G21E-00NA **Expansion Back**: ZBK-ET5X-8SCN5-02 **Expansion Back Battery**: BTRY-ET5X-PRPK2-01 **Rugged Frame**: SG-ET5X-8RCSE2-02 **AC Line Cord**: 23844-00-00R **DC Line Cord**: CBL-DC-388A1-01 **Rugged Charge Connector**: CHG-ET5X-CBL1-01 **DC Power Supply**: PWR-BGA12V50W0WW **Wall Adapter**: PWR-WUA5V12W0US	The ET51 is a commercial quality tablet that can be purchased from ECI preconfigured with Spruce AnyWare (requires AnyWare license, not included). Includes expansion back (with battery and barcode scanner), power cables, and rugged frame. See the Spruce AnyWare documentation and videos for more information. This device is similar to the ET56 but does not have cellular capability. Contact your ECI Salesperson for information and pricing.

	Zebra® ET56 Tablet *zebra.com* A hardened, high performance, 8.4" Android tablet **Part number:** ET56DE-G21E-00NA **Expansion Back:** ZBK-ET5X-8SCN5-02 **Expansion Back Battery:** BTRY-ET5X-PRPK2-01 **Rugged Frame:** SG-ET5X-8RCSE2-02 **AC Line Cord:** 23844-00-00R **DC Line Cord:** CBL-DC-388A1-01 **Rugged Charge Connector:** CHG-ET5X-CBL1-01 **DC Power Supply:** PWR-BGA12V50W0WW **Wall Adapter:** PWR-WUA5V12W0US	The ET56 is a commercial quality tablet that can be purchased from ECI preconfigured with Spruce AnyWare (requires AnyWare license, not included). Includes expansion back (with battery and barcode scanner), power cables, and rugged frame. See the Spruce AnyWare documentation and videos for more information. This device is similar to the ET51 but does have cellular capability (requires third party SIM / data plan, not included). Contact your ECI Salesperson for information and pricing.
	Windows®, Android™ and IOS Based mobile devices using remote connections	Third Party Remote Desktop Apps allow full Spruce functionality on a variety of devices through remote desktop connections to the Spruce system. A data plan (not included) is required for use outside of a Wi-Fi environment. This method requires standard Spruce concurrent seat availability.

Sold by ECi Spruce as an option

Payment and Networking Devices

Below is a list of payment and security devices as well as requirements and options for each.

PAYMENT AND NETWORKING DEVICES		
	DEVICES	OPTIONS & REQUIREMENTS
	NET1 Genius VeriFone MX915 Payment Device with Touch Pad** *cayan.com* This color device may be used for credit, debit, EMV/chip cards, gift cards, Apple Pay, Android Pay, Samsung Pay, Level Up, and for signature capture. It features a durable, full color display. **Note:** Additional Credit/Debit Card Processing Fees may apply. *Verifone devices are PCI ED approved and Americans with Disabilities Act (ADA) compliant*	Device requires NET1 Genius Transaction Bundle(s). Both the device and the transaction bundles must be purchased through ECI. These devices can be attached to your Windows network through a hub or switch using a network cable with RJ-45 ends. They require a separate power connection using the included power supply. They may not be shared, so only one device per station is allowed. NET1 works with TSYS. ****Available to US customers only**
	Fortinet Fortigate 30E Network Security/Firewall Appliance *www.fortinet.com* Provides consolidated security and networking. Secures direct internet access for Cloud Applications for improved latency. Good for small and mid-size offices. 1000Base-T, Gigabit Ethernet, 5 x RJ-45, Desktop/Rack-mountable **Part number:** FG-30E	ECI customers should consult their IT team to implement a firewall. Changes to your network that require router configuration must be programmed by a network professional for proper function. *This product is recommended but not required.*

	Fortinet FortiAP 221-E	ECI customers should consult their IT team to implement a firewall. Changes to your network that require router configuration must be programmed by a network professional for proper function.
	www.fortinet.com	
	Medium-density 802.11ac Wave 2 access point. This unit is ideal for medium size offices. Multiple FortiAPs can be used to cover larger areas.	
	2x 10/100/1000 Base-T RJ45, 1x Type A USB, 1x RS-232 RJ45 Serial Port	*This product is recommended but not required.
	Part number: FAP-221E-A	
	Fortinet GPI-115 PoE Injector	*This product is recommended but not required.
	www.fortinet.com	
	The single-port GPI-115 Power over Ethernet (PoE) injector offers a fully IEEE 802.3af/802.3at-compliant solution to power FortiAP™ wireless access points. It delivers 15.4 Watts of Gigabit Ethernet (GE) PoE, avoiding the need to run AC power lines for your wireless access point because you use the LAN (network) cabling to deliver both DC power and data.	
	Part number: GPI-115	

Sold by ECi Spruce as an option

Cash Drawers
Below is a list of cash drawers as well as requirements and options for each.

CASH DRAWERS		
	DEVICES	**OPTIONS & REQUIREMENTS**
	APG® Cash Drawer Series 4000 with a 480 Ethernet Interface *cashdrawer.com*	Coin roll storage till is standard. Locking steel covers are optional. The listed part number only works on the standard PK-15TA-03 till.
	An 18" x 16.7" cash drawer that connects using an Ethernet RJ45 standard connection. Black (standard) or Stainless front are available.	
	Part number: JB480-1A-BL1816-C. **Locking Cover Part number:** PK-14L-03-R-BX	

Sold by ECi Spruce as an option

A Note Regarding Hardware Support

ECI Spruce is a software company and does not provide ongoing support for hardware devices. The list of specialty peripheral devices is provided for user reference and refers to devices that have been tested and approved for use with the Spruce application. All network configuration is the user's responsibility. In some cases, pricing for hardware we sell as a convenience to our customers may include initial configuration. Assistance for hardware purchased from another vendor is always billable. For certain devices, we may require that the device be shipped to our office for configuration or additional software installation. In these cases, all costs are the user's responsibility. Hardware support is billable at our hourly rate and we do not guarantee availability. We do not provide support for peripheral devices that do not appear on this list.

Hardware Integration Q & A

Who is responsible for the day-to-day operations of my network?
Day-to-day operation of your local network, computers, equipment, and any server(s) that you may operate independently are your company's responsibility. Support does not include assistance with your local network, router (once initial setup is completed and working), Internet connectivity, devices, or client computers. No direct hardware support is covered by your support plan including cases where you purchased equipment through us as a reseller. Your company should seek the assistance of a local provider for assistance with any issues regarding your local network and devices as necessary. If ECI does do network or router troubleshooting at your request, you will be billed accordingly.

What is Spruce responsible for?
Spruce is a cloud-based solution operating remotely from servers maintained by ECI personnel. Your data is regularly backed up and secured at our data center. We are responsible for your backups and any data recovery assistance. Support is limited to the management and operations required by and specifically related to our servers. Our assistance is necessary when adding or modifying any networked devices requiring server installation (printers, signature pads, cash drawers, etc.). This type of limited assistance is covered by your support plan.

Spruce is a software company and we provide professional support for our software.

Spruce is not a hardware support organization. In the event of the failure of any workstation client computers, please contact the manufacturer.

For other hardware (printers, scanners, etc.), including devices purchased from Spruce, the manufacturer is the sole provider of support (based upon their warranty). Please contact the manufacturer in the event of a device failure.

Why is a dedicated broadband connection required for the cloud?
The internet is generally both fast and predictable, even though no one has complete control over it. When your company is running Spruce as a service, connections to the internet matter just as much as the internet itself. On the Spruce side, cloud connections are robust and redundant, resulting in high dependability and reliability. The only way to assure that your transactions are fast and predictable, is to safeguard the one remaining piece of the loop, and that is your own store's internet connection. Making this a dedicated connection eliminates problems associated with connection sharing. With a dedicated connection on your end, you can always be sure your customer's quote or your statement run won't be slowed down while your employees download huge catalog files, talk on your VoIP phone system or even watch the big game online.