

COMMUNITY CONNECT

Technical Implementation Guide



Workstations

Workstation Hardware Requirements

Houston Methodist won't make recommendations on computer vendors or models since we deploy our Epic software via Citrix. However, there are two categories of workstations to consider when purchasing hardware to run Epic.

- **Fully Functional Workstations (registration, front desk, patient room)**
 - These workstations will have the ability to use all services offered by Houston Methodist, such as document scanning, barcode scanning, billing, signature pads, etc.
 - These endpoints must run on a fully supported Microsoft Windows operating system and must have available USB ports (six open USB ports to support all peripheral devices).
 - Hardware must be sufficient to run any peripheral devices and third-party software required for your day-to-day use.
 - **Minimum Hardware Requirements**

Minimum hardware specifications	
Processor	Intel Core i5-2400 or better
Memory	+8GB
Disk	7200 RPM or SSD, at least 10 Gb available for supporting software
Display	See Display Requirements below
Network interface	10/100/1000

- **Citrix-Only Workstations and Endpoints**

- These devices will run the Epic Citrix application without any peripheral hardware, such as document scanners, barcode scanners, signature pads, etc.
- They can be any kind of device that can run Citrix Workspace, which includes any device running a supported Microsoft operating system, iOS devices, tablets, etc.
- **Minimum Hardware Requirements:** Because Citrix Workspace can run on such a wide variety of platforms, Houston Methodist doesn't have minimum hardware requirements for Citrix-only endpoints.
 - When purchasing new hardware, refer to the [Citrix Workspace Requirements for Windows, Mac](#) or any other platforms your clinic chooses to run Citrix-only clients on, to determine the current minimum hardware specifications.

Display Requirements

The target display for general use is a 32-bit color display using either of the following monitors:

- 1920x1080 resolution (minimum 23-inch widescreen monitor, 95.78 PPI).
- 1920x1200 resolution (minimum 24-inch widescreen monitor, 94.34 PPI).

Software Specifications

Software requirements for any workstation connecting to Houston Methodist's Epic are as follows:

- Fully functional workstations must have:
 - A supported version of Microsoft Windows, e.g. Windows 10 (32 bit or 64 bit).
 - Any industry standard antivirus/antimalware security software.
 - Citrix Workspace (version specified by Houston Methodist).
 - Printer drivers (if Windows printing will be performed).

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- Webcam drivers (if a webcam will be used).
- Drivers for signature pad (if used on said machine, specified by Houston Methodist).
- Drivers for credit card machine (if used on said machine, specified by Houston Methodist).
- Drivers for check reader (if used on said machine, specified by Houston Methodist).
- Nuance Power Mic II extension for Citrix (if used on said machine, specified by Houston Methodist).
- Citrix-only workstations must have:
 - Any operating system that supports Citrix Workspace.
 - Any industry standard antivirus/antimalware security software.
 - Citrix Workspace (version specified by Houston Methodist).

Workstation Epic Configuration

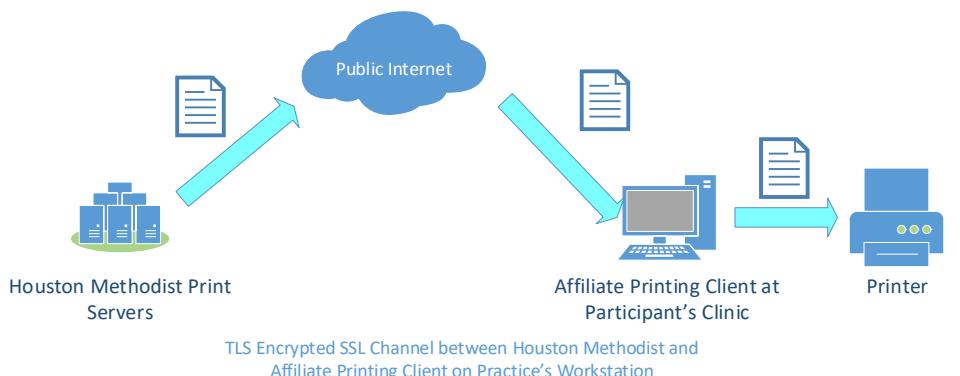
Any workstation that connects to Houston Methodist's Epic application *should* be configured within the Epic database by Houston Methodist's IT department. This ensures that certain settings, such as departmental profiles, order mappings and print mappings are maintained from user to user.

- A workstation receives its configuration based on the workstation's hostname, which will be set up by the Community Connect participant's IT staff.
- The workstation name *must* be set, based on Houston Methodist's naming convention, and all configured workstation names will be provided by Houston Methodist IT.
- See **Appendix B – Houston Methodist Community Connect Device Naming Convention**.

Printing

There are two general types of Epic printing, both will most likely be used at the participant's facility.

- **Server-side printing jobs** (orders, labels, armbands, reports, etc.) are created and rendered on Houston Methodist infrastructure and routed to a printer at the Community Connect participant's site.
- **Epic server-side printing** requires special relay software (**LRS Affiliate Printing Client**) installed at the participant's site that will securely transport the print job across the public Internet.
 - **Affiliate Printing Client Requirements:**
 - At least one 'always-on' Microsoft Windows workstation or server per site.
 - Must be installed and activated within 30 days of creation.
 - If **Affiliate Printing Client** is needed on additional workstations/clients after 30 days, a new **Affiliate Printing Client** package must be created by Houston Methodist.



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- **Client-side printing (Citrix printing)** is used for workflows that aren't supported for server printing. These jobs are typically utilized whenever all information being printed is already visible in Hyperspace, such as when a user right clicks a report in **Chart Review** and selects **Print**. Client-side printing utilizes Citrix printing capabilities and will print to the local workstation's default printer queue. Houston Methodist's Citrix infrastructure only allows the default print queue to be mapped in the Citrix session.

Printer Requirements

Epic provides guidance on the printers that are most appropriate for its software. In addition, Houston Methodist's IT department's experience adds yet another level of expertise to the decisions you'll make in your purchases.

- Participant printers, including laser, armband and label, will be restricted to Houston Methodist approved models (see **Appendix A – Houston Methodist Supported Hardware**).
- Printer name must conform to the Houston Methodist printer naming convention (see **Appendix B – Houston Methodist Community Connect Device Naming Convention**).
- Each printer used at the practice must be configured and mapped in the Houston Methodist Epic database.
- Printers must have static IP addresses assigned.
- There must be at least one assigned workstation that will run the **LRS Affiliate Client Printing** software and stay online 24/7. Houston Methodist suggests using the workstation used for **Business Continuity Access (BCA)** to host the **Affiliate Client**.

Business Continuity Access PC

Business Continuity Access (BCA) PC is used when Epic isn't available, either due to failure/maintenance at the Community Connect participant's facility or failure/maintenance at Houston Methodist. This PC will have periodic clinical reports delivered to it so the participant will have access if there is a planned or unplanned downtime.

Requirements for BCA PC

Because the **BCA** PC is intended for use in the event of an unplanned downtime, Houston Methodist requires that this workstation always remains on, with network access, including clinic off hours.

Houston Methodist also requires minimum specifications for hardware purchased to host the **BCA** PC application.

PC Hardware

Minimum BCA PC specifications	
Processor	Intel Core i5-2400 or better
Memory	+8GB
Disk	7200 RPM
Display	24", 1920x1280, 32bit Color
Network interface	10/100/1000

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Storage Space

Exact requirements will vary by organization, due to variability in report and login file size and quantity. With a typical size and quantity of reports and local encrypted user authentication data, **BCA** PCs require an additional 500 MB of storage space for all **BCA** components and data.

Independent Power

Since **BCA** PCs are intended to be used in downtime situations, when power might be lost, **BCA** PCs in locations that stay open during power outages must be equipped with an independent power system (usually an uninterruptible power supply or generator power), sufficient to power the PC and attached printer for at least 30 minutes.

Printer

A printer capable of printing at least 20 pages per minute, *attached directly* to the **BCA** downtime PC, is required to allow all reports to be printed in reasonable time. The local queue must be labeled **BCA**.

Technical Dress Rehearsal (TDR)

Technical dress rehearsal is an event scheduled before go-live. It helps ensure that all the devices users need to complete their workflows in Epic are deployed and work as expected. Technical dress rehearsal requires active participation and collaboration of many Houston Methodist teams and your IT partner.

Technical dress rehearsal requires significant coordination and effort to test technical and application configuration on all devices your users will use after go-live, including:

- Hyperspace access and wireless connectivity.
- **Read-Only Hyperspace** icon availability and access, if applicable.
- Printing configuration and workflows, including:
 - Server and client-side printing
 - Client printer default setup
 - Label printing
- All peripheral integration, including:
 - Paper scanners
 - Cameras
 - Microphones and dictation devices
 - Credit card readers
 - E-signature pads
- Any special displays, including:
 - Multiple monitor setups
- **Business Continuity Access (BCA)** application
- Mobile devices, including:
 - Laptops

TDR is usually scheduled 1-2 weeks before go-live, during an agreed upon time. Every device to be used with Epic will be tested and must pass before TDR is considered a success.

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Prerequisites for TDR

Your IT partner will be actively engaged in preparing for technical dress rehearsal and working with the Houston Methodist team to ensure readiness. The time commitment required for successful hardware deployment and TDR depends on how much hardware users will use at go-live. Even if you won't deploy a lot of new hardware at go-live, prepare for hardware deployment early so you have time to address any issues that arise.

Review Existing Hardware and Procure and Deploy New Hardware

- All existing inventory to be used with Epic must meet minimum hardware and software requirements as outlined in this document.
- All new hardware that you'll need for the Epic go-live must be procured. Include all the devices users will use to complete their workflows, such as monitors, workstations, scanners, cameras and all other peripheral devices.
- All printers and workstations to be used with Epic must be properly labeled with hostname and must follow the HM naming convention. Printers must be stocked with paper and labels.

Follow HM Standards for Hardware and Software Readiness

- Refer to the [Install Checklist Guidelines](#) in the [Appendix](#).

Work with Your Houston Methodist Team to Build Out Device Inventory in Epic

Following device deployment and installation, turn the completed [Houston Methodist Community Connect Inventory Spreadsheet](#) over to the Houston Methodist team at least one week before TDR. The HM team will then prepare the Epic environment for your site by importing your device inventory into the Epic database and performing print mapping.

Schedule TDR

Work with your Houston Methodist team to schedule TDR. TDR participants will include:

- HM Epic technical coordinator
- HM TDR testing team
- Your IT desktop support

Although technical dress rehearsal doesn't include direct participation from users, it will bring a significant group of testers into user work areas. The testers will need access to user workstations and hardware to complete testing. Please ensure any staff working in the area at the time of go-live is made aware of the TDR event.

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Day of TDR

- On the day of TDR, a Houston Methodist team will arrive to execute the TDR test scripts against every workstation, printer and peripheral device that will be used with Epic.
- There will also be another HM team assisting online remotely.
- Please ensure your IT desktop support team is scheduled to be onsite to assist in answering questions and addressing hardware issues.
- Ensuring all prerequisites are met will ensure a smooth TDR. Testers will typically spend 10-15 minutes per device if prerequisites are met executing a test script.
- The goal of TDR is to pass every device in a single event. TDR won't be considered successful until every device has passed.

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Appendix A – Houston Methodist Supported Hardware

Laser jet printers	For standard laser jet printing, Houston Methodist will support most modern Hewlett Packard LaserJet printers. A list of currently supported HP printers purchased by Houston Methodist for general use are as follows: <ul style="list-style-type: none">• HP E52645dn• HP E50145dw• HP E60165dn• HP E62665z• HP E72535z• HP E82550z• HP E55040dn• HP E55040dw• HP E57540dn• HP E65160dn• HP E67660z• HP E77830z• HP E87660z	
Label printers	Label Printer Models: <ul style="list-style-type: none">• Zebra GK420D, Zebra ZD420 Label Stock: 2"W x 1.25"H	
Armband printers	Models: <ul style="list-style-type: none">• Zebra LP 2824Plus• Zebra ZD410	
Claims printers	Model must support “edge-to-edge” or “borderless” override capability HP LJ4015, LJ602 or CM4540 MFP	Used to print forms: EOB; CMS-1500; UB-04
Document scanners		Requires USB port Supported scanners require TWAIN drivers
Patient e-signature pads	Topaz model T-LBK462-BSB-R	Requires USB port
Microphone (Dragon)	PowerMic II for high noise environments	Requires USB port
Web camera	Any web camera that can be detected by Windows should function with Epic	Requires USB port
Credit card machines	Instamed Ingenico IPP320	Requires USB port
Check reader machines	MagTek Check Scanner	Requires USB port

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Appendix B – Houston Methodist Community Connect Device Naming Convention

All devices utilizing the Houston Methodist Epic environment are required to conform to the Houston Methodist Community Connect device naming convention.

The format is as follows:

CC**R****DDDD****TT****NN**

CC	All printers and workstations <i>must</i> start with the letters CC, signifying they're devices within the Community Connect environment.
R	The third character will be designated by Houston Methodist. This character represents the closest regional Houston Methodist facility and will be a single numeric digit. At this time, the facilities are numbered: 1 – Houston Methodist in the Texas Medical Center 2 – Houston Methodist Sugar Land 3 – Houston Methodist Willowbrook 4 – Houston Methodist Baytown 5 – Houston Methodist West 6 – Houston Methodist Clear Lake 8 – Houston Methodist The Woodlands
DDDD	This will be a four-character mnemonic used to identify the participating Community Connect practice and will be designated by Houston Methodist.
TT	This will be two characters used to describe the device type. One of the following will be required: <ul style="list-style-type: none">• DT – Desktop• LT – Laptop• LJ – Laser jet• AB – Armband printer• LB – Label printer
NN	This is an inventory number ranging from 01 to 99. For example, if you have 10 desktops, they should range from DT01 to DT10.

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Appendix C – Installation Checklist (TDR Readiness)

For detailed instructions, refer to the **Houston Methodist Epic Installation Guide**.

All workstations to be used with Epic:

- Meet minimum hardware specified.
- Meet minimum Windows operating system platform.
- Have the latest Citrix Workspace version installed.
- Follow Houston Methodist naming convention standards.
- Are labelled with hostname clearly visible.

All printers to be used with Epic:

- Follow Houston Methodist naming convention standards.
- Are labelled with hostname clearly visible.
- Stocked with paper/labels.

All registration (front end) workstations:

- Install supported e-signature pad and driver following **HM Installation Guide**.
- Install supported credit card device and driver following **HM Installation Guide**.
- Connect web camera and ensure it's functional.
- Connect scanner and ensure it's functional.

Affiliate Printing Software:

- Request and install **Affiliate Printing Device** software from Houston Methodist (within 30 days of TDR).
- Confirm with Houston Methodist support that **Affiliate** client has been activated.

BCA Client Software:

- Download and install the Houston Methodist **BCA** software.

Complete and turn in the Houston Methodist Community Connect inventory spreadsheet

- Complete inventory worksheet (third tab) and return to Houston Methodist. Please ensure all data is accurate and complete before sending. This information will be entered into the Houston Methodist Epic database.
 - List every device (workstation and printer) in the spreadsheet.
 - Identify which printers each workstation will print to.
 - Identify **BCA** device(s).
 - Identify **Affiliate Printing Device**(s).