Network and New Site Preparation

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Introduction

The WIC Information System runs on an application called HuBERT. There are central HuBERT servers, and the HuBERT application, which is installed on the local computer. The HuBERT application is designed to update and pull data from the centralized HuBERT server database via the Internet. The system requires an internet connection to function. This internet connection must be planned for at all clinic sites that agencies plan on having.

The following sections are meant to assist Local Agencies in preparing a clinic site for the HuBERT information system. Each Local Agency may review this guide and use it in their planning. This document can also be presented to local IT, or other planners who will need to be involved, as an introductory guide.

Section 1: Initial Questions - covers some necessary questions for proper planning.

Section 2: Hardware, Security, and Bandwidth - covers information that will be useful in technical planning.

Section 3: WIC Wireless Guide - summarizes the concept of "wireless" connectivity, a subject that may come up in discussions with local IT contacts

Section 1: Initial Questions

Questions to consider while assessing site for the HuBERT information system (recommended that you review this with local IT.)

1. In your space is there internet connectivity?

2. Will your internet connectivity be through Local IT or an Internet Service Provider (ISP)?

3. Will you have consistent support in this location?

4. Who will be your contact for your initial WIC connectivity and on-going connectivity support? e.g. ISP, Local IT person, or other entity

5. What is the maximum number of staff that will be working at this location at one time?

6. Where is the internet connectivity located? e.g. one wall socket, a socket next to each computer, etc.

7. Do computers need to move to certain locations within the space to accommodate the connection?

8. Is there a power source near these locations?

9. Is there a network port to plug into for each computer?

10. Will you need a switch or router to increase or add to the amount of ports in order to accommodate all WIC computers?

11. Will you be running wires on the floor or can they be hard wired?

Questions to discuss with Administrators if there is a possible site lacking Internet access

1. Is there high-speed Internet available through any source?

2. What would costs be to establish a connection and for ongoing service?

3. Are there other suitable locations available with high-speed Internet connections?

4. Who will be your contact for your initial WIC connectivity and on-going connectivity support? e.g. ISP, Local IT person, or other entity

5. Is this a site that could be combined to another that has internet connectivity

Section 2: Hardware, Data Security, and Bandwidth

Hardware and Data Security

HuBERT is a .NET based application designed to update and pull data from a centralized database over the Internet. The system requires a connection to the web servers to function and the client-side install serves only to send and retrieve the necessary data, much like an Internet browser.

Computers and supporting hardware will be provided by the state. Some technical points of the planned system and HuBERT include:

- Provided computers will use the supported Operating System (OS), Windows 10 64bit
- Provided computers will come with OS, Office Suite, HuBERT, and an anti-virus suite
  - On a case-by-case basis, the anti-virus may be replaced with a different local standard, and must be supported by the local IT
  - On a case-by-case basis, other county applications needed for WIC personnel can be installed. This means that WIC staff could use one computer per user if all the necessary applications were installed
  - Computers can be configured as needed to attach to the clinic site's network
- HuBERT uses an encrypted (TLS) connection over the Internet to connect to the web servers which connect to the central database
  - "Security with regard to communications is achieved by using SSL to encrypt the XML service payloads being exchanged. Application security is controlled by a specialized application authentication and authorization model that leverages a database driven

user profile and role-based privilege model to control access to various application features. Customized credentials are used to exchange tokenized authentication during service invocations." – SPIRIT Detailed Technical Specifications Document 2006

- The HuBERT application is a smart-client install required on any computer that will need access to the central database.
- HuBERT implements and requires user authentication with the central servers via the application itself. This is separate from any other system authentications, e.g., Windows, Novell, or Active Directory

Bandwidth Recommendations

The following statistics are offered for an environment that is inherently variable. Due to this, if other office communications (e-mail, Internet, or other automated, network driven, systems, streaming services, or video conferences) are factored in, the connection requirements may vary greatly.

- 1-3 users: 1.5 Mbps downspeed (best case)
- 3-7 users: 3.5 Mbps downspeed (best case)
- 5 Mbps or higher downspeed (best case)
  - Application speed can vary due to more variables than just connection speed. I.E. how many people are using the network and what the network is being used for.
  - Testing of the speed between the HuBERT servers and your computer's location can be performed by going here: http://speedtest.mnwic.net
  - At the time of this writing, total required bandwidth per simultaneous users for HuBERT can be estimated by multiplying simultaneous number of users by 400-500 kbps. For example, three simultaneous users would require 1.2 Mbps to 1.5 Mbps for best performance. As seen in the clinic environment, there will not be better performance from connections exceeding these speeds.

Section 3: Wireless Guide

Purpose

Wireless connectivity has been brought up by many agencies as a solution the WIC application's requirement for Internet connectivity. This section has been designed to explain some of the basic areas of wireless networking. Keep in mind that wireless connectivity options are only intended to be used when the wireless connection is secure. Local agencies need to ensure that their clinic connection is secure and reliable.

It should be noted that the greatest risks with network security occur when the uninitiated attempt to, or successfully complete, a network install of any type. Always contact the proper

network administrators to assist with any planning or installation of any network device or functionality on their network.

Definitions

LAN (Local Area Network) – A set of computers or devices in the same geographical area (room, building, etc.) that have been connected together with network cables or wireless connections allowing data transfer between them. A firewall will generally define and separate the LAN, as a whole, from the Internet.

ISP (Internet Service Provider) – A company or organization through which a connection to the Internet can be provided, like Comcast, Frontier, CenturyLink, AT&T, Qwest, Verizon, Sprint, etc.

Options

You may have begun discussions with your local IT or other suitable entity on how to provide the required Internet connection to the WIC computers at a proposed clinic site. When the topic of "wireless" comes up, some of the following concepts may be mentioned. Examples below are listed in a least risk to most risk scale. Entities at risk would include the network with which the WIC computers attach (county, building, etc.) and the WIC computers themselves.

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