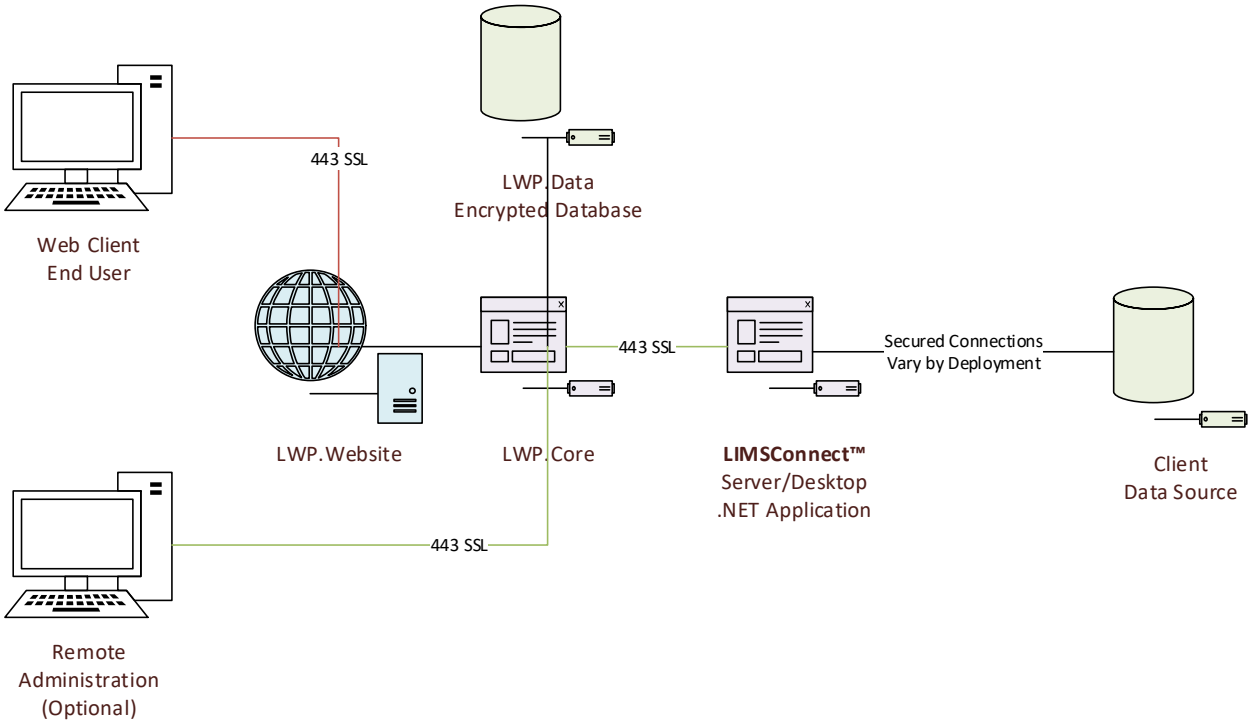
iConnect Lab Web Portal v8 Architecture

The following diagram provides an overview of the basic data flow and the main components of the Lab Web Portal (LWP):



LWP.Website

The LWP.Website is located on a Web Server with browsers connecting via https Port 443 with a corresponding SSL certificate.

LWP.Website is a lightweight and portable web service that can deploy to any cloud based service (such as AWS and Azure) or any hypervisor based server farm (such as VMware or Hyper-V).

LWP.Core

The LWP.Core is located on a separate Application Server with a SSL connection where the LWP.Website, LWP.Sync and LWP.Admin can communicate using a corresponding SSL certificate. This port can be IP restricted and utilizes hashed based token credentials.

LWP.Core is responsible for conducting all data transactions between the various LWP services. Consumes Business Layer. Can be located anywhere on the internal network as long as LWP.Website and LWP.Sync have communications to it.

LWP.Core is a lightweight and portable application service that can deploy to any cloud based service or any hypervisor based server farm.

LWP.Data (Encrypted Database)

LWP.Data typically deploys on the same Application Server as LWP.Core. It is a lightweight and portable application service that can deploy to any cloud based service or any hypervisor based server farm.

LIMSConnect™ (LWP to LIMS Integration)

LWP.Connect is a .NET Framework based application and requires .NET 4.7+ and can deploy to any cloud based service or any hypervisor based server farm.

LWP. Connect is extendable and custom to each deployment and integrates with a client's LIMS utilizing various connection methods. It is capable of onsite deployment communicating outside a client network firewall without the need for exposing ports to the client's network. It utilizes the same protocols a user's web browser would use to communicate with a secure banking website.

Typically, when the LWP. Connect service is deployed outside the LWP network, port 443 SSL will be used for all communications to the LWP.Core. When it is deployed inside the LWP network, it will utilize port 443 SSL as default.

LWP.Admin (Remote Administration)

LWP.Admin typically runs inside the LWP network and can be run from anywhere inside the network without opening firewall ports.

Remote Administration is optional and requires a port opened on the firewall to allow connections to the LWP.Core and typically utilizes port 443 SSL.

System Requirements

LWP Server Specs

WEB SERVER AND APPLICATION SERVER FOR LWP.WEBSITE AND LWP.CORE DEPLOYMENTS

Base System

- Dual core Processor
- 4GB RAM
- 1GB Disk

Typical Configuration (0-200 users, bandwidth dependent)

- Quad core Processor
- 8GB RAM
- 16GB Disk

Extreme Configuration (0-2000 users, bandwidth dependent)

- Quad core Processor
- 64GB RAM
- 128GB Disk

Operating Environments

- Microsoft Windows Server 2008r2, 2012, 2012r2, 2016 Standard or Datacenter
- Can be virtualized using a hypervisor
- Requires SSL Certificate deployment

LWP.Connect Client Specs

LWP.CONNECT TYPICALLY DEPLOYS TO A CLIENT NETWORK ON A DEDICATED MACHINE

Base System

- Dual core Processor
- 4GB RAM
- 1GB Disk

Operating Environments

- Microsoft Windows 7, 8+, 10+ with .NET 4.7+
- Microsoft Windows Server 2008r2, 2012, 2012r2, 2016 Standard or Datacenter
- Can be virtualized using a hypervisor

Cloud Based Deployments

LWP SERVICES CAN BE DEPLOYED TO CLOUD BASED SERVICES AND REQUIREMENTS ARE BASED ON THE SAME SPECS

AWS

- c3.large deployment or better recommended
- 8-16GB General SSD OS drive

- 1GB+ General SSD or 8-16GB EBS provisioned SSD Data Drive
- Shared instance ok

Azure

- D1 v2 deployment or better recommended for all except LWP.Core
- E2, E4, E8, E16+ for LWP.Core recommended (higher memory)

