3. The USP database server(s) shall be built on Microsoft's SQL Server. The preferred SQL version shall be coordinated with the Owner and compatible with the USP.

4. The USP shall be compatible with virtual environments, including VMware and Microsoft Hyper-V.

5. The USP shall use the latest user interface (UI) development and programming technologies such as Microsoft WPF (Windows Presentation Foundation), the XAML markup language, and .NET software framework.

2.1 USP Architecture

A. The USP shall be based on a client/server model. The USP shall consist of a standard Server Software Module (SSM) and Client Software Applications (CSA).

B. The USP shall be an IP enabled solution. All communication between the SSM and CSA shall be based on standard TCP/IP protocol and shall use TLS encryption with digital certificates to secure the communication channel.

C. The SSM shall be a Windows service that can be configured to start when the operating system is booted and run in the background. The SSM shall automatically launch at computer startup, regardless of whether or not a user is logged on the machine.

D. Users shall be able to deploy the SSM on a single server or across several servers for a distributed architecture. The USP shall not be restricted in the number of SSM deployed.

E. The USP shall support the concept of The Federation feature whereby multiple independent ACS, VMS, and ALPR installations can be merged into a single large virtual system for centralized monitoring, reporting, and alarm management.

F. The USP shall protect against potential database server failure and continue to run through standard off-the-shelf solutions.

G. The USP shall support up to one thousand instances of CSA connected at the same time.

However, an unrestricted number of CSA can be installed at any time.

H. The USP shall support an unrestricted number of logs and historical transactions (events and alarms) with the maximum allowed being limited by the amount of hard disk space available.

I. The USP shall support uninterrupted video streaming. The CSA shall keep existing video connections active in the event that an SSM (except Archiver) becomes unavailable.

J. Roles-Based Architecture

1. The USP shall consist of a role-based architecture, with each SSM hosting one or more roles.

2. Each role shall execute a specific set of tasks related to either core system, automatic license plate recognition (ALPR), video (VMS), or access control (ACS) functionalities, among many others. Installation shall be streamlined through the ability of the USP to allow administrators to:

a. Deploy one or several SSM across the network prior to activating roles.

b. Activate and deactivate roles as needed on each and every SSM.

c. Centralize role configuration and management.

d. Support remote configuration.

e. Move roles over from one SSM to another.

3. Each role, where needed, shall have its own database to store events and role-specific configuration information.

4. Roles without databases, such as The Federation feature, Active Directory, and Global Cardholder Management, shall support near real-time standby without any third-party failover software being required.

5. Directory Role