Honeywell

Experion LX Station

Specification

LX03-210-120
Release 120
February 2015, Version 1.0

Revision History

Revision	Date	Description
1.0	February 2015	Release publication

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1.   Product Introduction

1.1. Experion LX™ System

As a member of Honeywell's Experion family, Experion LX is specifically designed to meet the customer needs in mid-tier markets (Chemicals, Industrial Power, F&B, Bio-fuels, …), through integrating state-of-the-art technology from the award-winning Experion Process Knowledge System (PKS) with innovative design of Series 8 I/O modules and cabinets, validated wider range of COTS options, easier engineering and maintenance capabilities, and integrator-friendly programs and tools. Experion LX is the perfect platform for process, asset and business management, and enables customers to increase their profitability, productivity and accessibility to local support without sacrificing quality and reliability in an increasingly competitive environment.

1.2. Architecture Overview

The Experion LX platform comprises many different integrated hardware and software solutions depending upon the needs of the installation. The pictured architecture is a representation of many of the possible nodes that can be used in the Experion LX architecture. Note that the architecture is highly scalable and not all nodes are necessary or required.
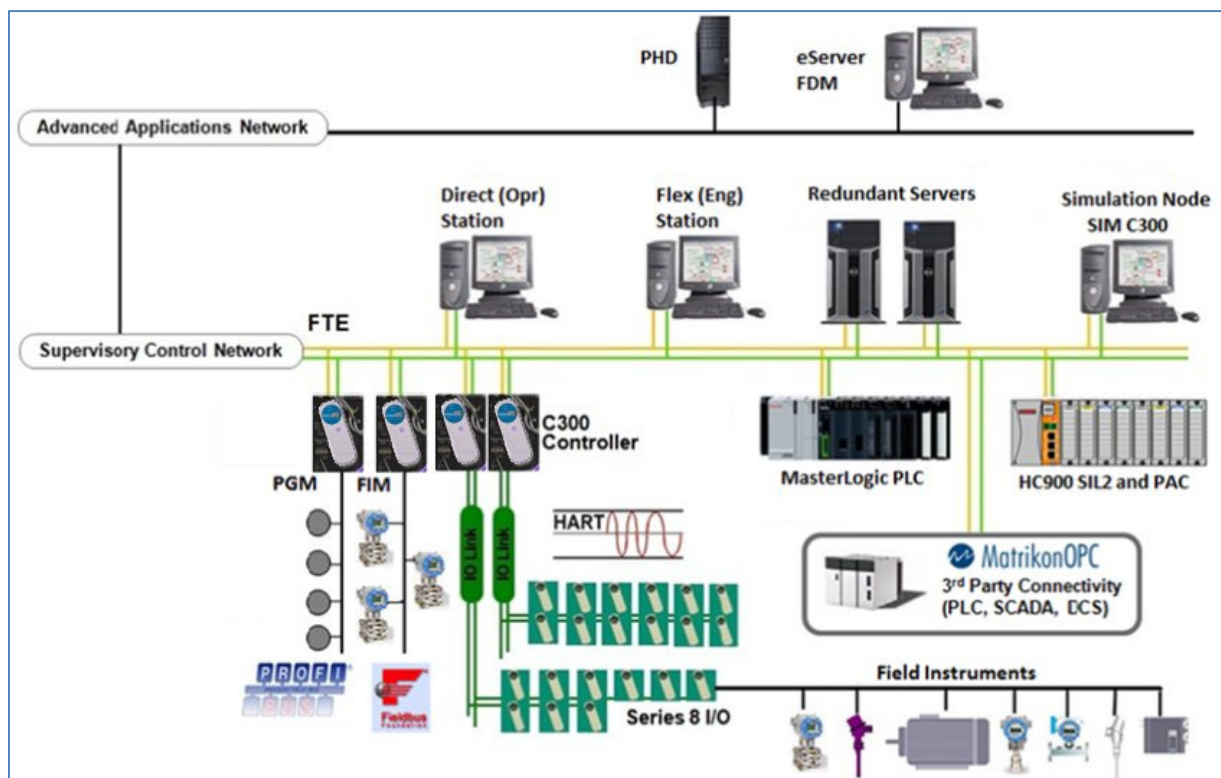

Figure 1- Sample Experion LX architecture

1.3. Experion LX Station Overview

The Experion LX Station is the human-machine interface (HMI) that can be used for different functions around a plant including operations, monitoring, maintenance and engineering. There are different types of Station supported in Experion LX: Direct Station and Flex Station.

The Direct Station is connected to process controller and can directly access process data, alarms, and messages from C300 and so on. There is no loss of view of critical data and alarms when the server fails and therefore an operator can still control and monitor the process, which is helpful in an environment where continuity of view is paramount and where it is important to minimize the impact of a server being unavailable. Direct Station is connected to the Experion LX Server for communication to SCADA and DSA point sources, system history, the system event journal, and the system configuration file server. The Direct Station supports the implementation of a "logical console". This allows operators to fully respond to all alarms/events within their scope of responsibility regardless of operator actions on other stations; providing a single work space for an operator for event handling, alarm acknowledgement, alarm silencing, display manipulation and other functions.

The Flex Station is a versatile operator interface that uses a client-server relationship to present process data to the operator versus Direct Station that directly accesses process data from the controller. It is suitable for full-time operations in a large percentage of applications and can also be used as engineering or wireless Stations. The Flex Station can be configured with a static or rotary connection. A static connection provides a permanent, dedicated link. A rotary connection provides an "as required" connection, enabling numerous casual users to access the Experion system as needed, which is advantageous from a licensing point of view. For example when 10 Flex Station connections are configured, 10 connections can be established at one time but the software could be installed and be available to many more than 10 individuals.

2.   Specifications

2.1. Station Sizing

For entry level system, the maximum number of supported Direct Stations for each system is 10, and up to 5 Flex stations. For high capacity system, the limit is 15 Direct Stations and up to 10 Flex Stations.

Station Display Performance Specifications	Specification
Display Parameters	
Maximum number of dynamic parameters per display	600
Maximum number of parameters per second (PPS) per Station computer[1]	1000
Maximum number of dynamic parameters per Station Computer	1200
Maximum number of windows per station computer (includes all status, command, graphic and faceplate windows)	4
Maximum number of concurrent faceplates per station computer	8
Display Updates	
Maximum Display Update Rate [4]	1 second
Typical Field Change to Display Update Time with 600 or less Parameters per Display	< 2 seconds
Typical complex Display Call Up Time with 300 or less Parameters[2, 3]	< 1.5 seconds
Typical complex Display Call Up Time with 600 or less Parameters[2, 3]	< 2 seconds
Standard Faceplate Call Up Time	< 2 seconds
Note 1 - When greater that 1000 Dynamic Parameters are configured, the update rate must be greater than 1 sec. to not violate max PPS Note 2 - The recommend continuous display update rate is 4 seconds Note 3 - Call up time is dependent on display complexity; a non-complex graphic uses standard HMIWeb Display Builder objects with limited use of scripts; this excludes the first initial call up. Note 4 - Complex displays include the number of data bound objects identified, large amount of total objects on the display, and a significant amount of scripting.; includes custom faceplates and popups; assumes performance platform; this excludes the first initial call up Note 5 - Display update values are specified for performance systems and in some cases may not be met by lower specification equipment Note 6 – The platform is able to support multiple display screens. When Dell 380 is used, the maximum number is 2 due to slots limitation.	

2.2. Multi-Window Functionality

Multi-window functionality is a purchased option for the Experion LX Flex Station and is standard for the Experion LX Direct Station. A multi-window Station uses SafeView to manage the placement of its windows.

Performance	Specification
Number of monitors	Up to 4
Number of windows 1	Up to 16
Number of concurrent faceplates	Up to 8
Note 1 - Number of windows includes faceplates, custom displays, Experion System displays etc.	

3.   Hardware and Software Requirements

3.1. Experion LX Station Computer Requirements

A computer must meet the following specifications to be used as a Experion LX Station. These guidelines are intended to provide a minimum baseline. Honeywell computer platforms meet these specifications but may not necessarily be the example platforms listed below. It's highly recommended that user select Honeywell qualified computers to avoid potential incompatibility. For installation information on computer platforms, including physical, electrical, corrosion, and other environmental requirements, please consult the Honeywell installation guides.

This platform specification is based on typical use of the system. To achieve satisfactory performance additional RAM or a higher performance CPU may be required in the following circumstances:

- If the recommended number of data bound objects per display or per station is exceeded
- Third party applications are used
- When purchasing a new platform or adding memory to an existing platform the strong recommendation is to use the maximum supported memory. This will provide optimal performance and could avoid the need to add more memory in the future.

Station Requirements	
System Configuration	**Minimum**
Processor	Intel Core i3-4130 Processor (Dual Core, 3MB Cache, 3.40 GHz, w/HD 4400 Graphics) (338-BCIF) Intel Integrated Graphics
RAM[1]	4GB 1DIMM NON-EDD,1600MHz
Networking[2]	100 Mbps FTE
Video memory (VRAM)	8 MB
Operating system	Windows 7 Professional (64-bit)
Browser type	Microsoft Internet Explorer 9
Hard drive	500GB 3.5inch Serial ATA (7,200 Rpm)
Example platforms	DELL 3020 or HP ProDesk 600 G1 Tower PC
Note 1– An additional 1GB of RAM is suggested for enhanced performance if the Control Builder client is used.	
Note 2 – For controllers, Stations can only communicate directly with devices that reside in the same FTE Community.	

4.   Model Numbers

4.1. LX Station Software

Model Number	Description
LX-STAD01	Experion LX Direct Station (1 connection)
LX-HSTA01	Experion LX Flex Station (1 connection)
LX-SMWIN1	Multi-window Support for Flex Station
NOTE: 1 Direct Station license and 2 Flex station licenses are provided with the Experion LX base software license.	

4.2. LX Station Hardware

Description
Dell 3020
HP ProDesk 600 G1 Tower PC
Broadcom 5722 (PCIe) (Single Port)
Quard port display board: Dataland R7 250 E4 2G

5. Glossary

Term or Acronym	Description
C300	A specific type of Honeywell Process Controller based on the series C form factor
CDA	Control Data Access is the Experion LX system communication infrastructure and data access interface schema that provides application integration with Experion LX system objects.
DCS	Distributed Control System
DSA	Distributed System Architecture
Experion LX Server	The node (optionally redundant) at the heart of Experion LX. The server encompasses a wide range of subsystems including history collection, SCADA interfaces, alarm/event, etc.
FTE	Fault Tolerant Ethernet, the Experion LX control network
HMI	Human-machine interface
HMIWeb	Human-machine interface based on Web technology
HTML	HyperText Markup Language
IKB	Integrated Keyboard
pps	Parameters per second
SCADA	Supervisory control and data acquisition

Sales and Service

For application assistance, current specifications, pricing, or name of the nearest Authorized Distributor, contact one of the offices below.

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