

myRoom Plus

IT Implementation Guide

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Lutron myRoom Plus Security Statement

Lutron takes the security of our Lighting Control Systems very seriously. The myRoom Plus Lighting Control System can be configured to meet reasonable standards for security. Lutron has engaged security experts and independent testing firms to review the system's architectures and Lutron is committed to security and continuous improvement throughout the product's lifecycle.

Lutron's Security Architecture Includes:

1. Isolation of the wired Ethernet processor network, the wired QS device links, and the wireless Clear Connect device from each other, which strictly limits the possibility of using the Lutron device links or wireless communication to gain access to the Ethernet network.
2. A web browser user interface protected using TLS and capable of accepting a customer-supplied certificate.
3. Vue user account password storage using NIST-recommended salt and hashing protection. Integration with LDAP is optional. More information can be found in the Guest Room Management Suite specification submittal (P/N 3691020) at www.lutron.com

System Network Deployment

The myRoom Plus processors must be connected via Ethernet to allow the processors to communicate with each other, to access certain features such as BACnet® for BMS integration, PMS integration, CELS integration, Rapid Response Software integration, A/V tablet integration, and to communicate with the optional system server. Lutron advises following best practices in this instance, including separating the guest information network and the building infrastructure network. Use of a VLAN or physically separated networks is recommended for secure deployment. Lutron Services Company Engineers or Lutron Certified Hospitality Technology Integrators can aid in the design and implementation of the myRoom Plus system to meet your specific IT security needs.

The devices on the network can be deployed in one of two ways:

Dedicated Lutron Network Deployment

In this deployment, the myRoom Plus processors are not connected to the building IT network. Dedicated Ethernet cables and switches are used to interconnect the processors with the system server.

Integrated as Part of the Managed IT Network

The myRoom Plus processors communicate with each other, with the system server and with other building systems via the building IT network. Integration with other building systems may require ports to be opened between the systems VLANs. It is strongly recommended that local IT security professionals be involved with the system design and the network configuration to ensure the installation meets their security needs.

Glossary and Abbreviations

CELS (Central Electronic Locking System) – The hotel’s door lock system. This system can be integrated with myRoom Plus to interpret/react to specific door lock messages. An example of a commonly used CELS system that the myRoom Plus system compatible with is ASSA ABLOY.

Hop – Lutron extends the network definition of a hop that traditionally refers to the number of intermediate devices through which data packets must pass between source and destination to include layer 2 and layer 3 devices. This includes any device that will delay the data packets from a source processor to a destination processor. **Note:** This rule is only applicable when using an unmanaged network to interconnect the devices of a myRoom Plus system.

Hop Limit – A hop is one portion of the path that a packet takes from source to destination. Traditionally, the hop limit refers to the time to live (TTL) of that packet before it is discarded. With a Lutron myRoom Plus system, the hop limit is not concerned with TTL. Rather it is a guideline so that latency of myRoom Plus system commands is kept to a minimum. **Note:** This rule is only applicable when using an unmanaged network to interconnect the devices of a myRoom Plus system.

myRoom Plus Hotel Integration Software – Software router and protocol translator which allows for a one-to-many network topology for coordination of the myRoom processors and the various integrations required to other hotel systems (PMS, CELS, RRS). The software is installed on the same myRoom Plus server that runs myRoom Vue.

myRoom Plus Subsystem – A group of myRoom processors that share events, overrides, system integrations, sensor controls, or any other system functionality. The inter-processor communication is UDP multicast. A myRoom Plus subsystem is also a multicast group and shares the same Class D multicast address. Typically, connected rooms or large suited rooms (where more than 100 lighting zones are required) is one myRoom Plus subsystem.

myRoom Processor (GCU-HOSP, GCU-HOSP-1) – This is the basic myRoom Plus controller supporting an expanded MicroC/OS operating system and will be the main myRoom Plus component connected to any network. Each myRoom processor can have one or two RJ45 female connectors. Typically there is a single myRoom Plus processor per guestroom.

PMS (Property Management System) – Controls room management, everyday operations, and communications such as Room Status (sold/unsold/checked in/out). An example of a commonly used PMS system that is compatible with myRoom Plus is Oracle® Micros® Opera™.

RRS (Rapid Response System) – Work order management system that delegates messages and updates regarding room management and everyday operations. An example of a commonly used RRS system that is compatible with myRoom Plus is Amadeus™ HotSOS™/REX™.

myRoom Vue – Browser based UI for monitoring and controlling the myRoom Plus system. Available on myRoom Plus software version 3.3 and higher.

Network and IT Considerations

Network Architecture Overview

What is on the traditional network IP architecture? – The myRoom processors, myRoom server, and client devices (e.g., PC, laptop, tablet, etc.).

What is NOT on the traditional network IP architecture? – The lighting actuators, sensors, and load controllers are not on the network architecture. This includes keypads, wired and wireless occupancy sensors, load controllers, dimmers, switches, lighting panels, or LED drivers. These devices communicate on a Lutron proprietary wired or wireless communication network.

Note that AV integration with the processor can be achieved via Telnet integration over Ethernet directly to the processor.

Physical Medium

IEEE 802.3 Ethernet – The physical medium standard for the network between myRoom Plus processors and the myRoom server.

CAT5e – The minimum network wire specification of the myRoom Plus LAN/VLAN.

IP Addressing

IPv4 – The addressing scheme used for the myRoom Plus system. The IPv4 address should be static, but a DHCP reservation system can also be used. Standard DHCP lease is not allowed, as it may allow the myRoom processor IP address to change. DNS Hostname is not supported. The IPv4 address can be field set to any range, Class A, B, or C. Static will be assumed. IPv6 is not supported.

Multicast Addressing

myRoom Plus Subsystem – A myRoom Plus subsystem is a multicast group of myRoom processors sharing a unique and common class D address that need to share events. There is a maximum of five, and minimum of one, myRoom Plus processor(s) per room on a myRoom Plus subsystem. Note that multicast communication is only required within large rooms that contain multiple processors or within suited rooms that can be combined or separated.

Multicast communications – Basic communication to share events between myRoom processors and the myRoom server is based on UDP multicast groups. Below are details on how the myRoom Plus system deploys this communication scheme.

- Each group of myRoom processors that need to share events will need a unique and common class D address. The class D multicast address can be field set and specified by the customer. Processors needing to share events are normally limited to a single guestroom or connected rooms that will be suited together.
- Any source multicast is used because any myRoom processor may be enacting the event.
- Multicast communication in the myRoom Plus system is primarily event based (e.g., system trigger or change in state for monitoring). Polling is not a basis of communications in a myRoom system.
- myRoom servers hosting software version 3.3 and newer can either communicate to the myRoom Plus processors by joining every multicast group or can be setup as TCP unicast communication. This can be setup during system startup by Lutron Field Service at the customer's discretion.

Note: Multicast communication is still required for communication among the processors in a subsystem.

Network and IT Considerations *(continued)*

Feature Dependent Ports

Source	Source Application	Destination	Port	Protocol	Destination Application	Description
myRoom Vue Server	Q-design	Outside Network	2647	UDP	myRoom Processor	myRoom processor configuration and detection software <ul style="list-style-type: none"> Only required while performing initial commissioning or maintenance.
Outside Network	BACnet Client	Outside Network	47808	UDP	myRoom Processor	myRoom processor BACnet/IP <ul style="list-style-type: none"> Only required if the myRoom system is integrating with a BMS through BACnet/IP. UDP Port 47808 is configurable at the time of system startup.
myRoom Vue Server	Telnet	myRoom Processor	23	TCP	myRoom Processor	myRoom processor Telnet <ul style="list-style-type: none"> Only required if the myRoom Plus system is integrating with AV equipment through Serial/IP. This port is open by default in myRoom versions 3.3. The port number is also configurable if desired.
myRoom Vue Server	FTP	myRoom Processor	21	TCP	myRoom Processor	myRoom processor additional port (FTP) <ul style="list-style-type: none"> This port is open by default in versions 3.3.
myRoom Vue Server	NTP	Outside Network	123	TCP	NTP Cloud Server	NTPServerPort (used to connect to NTP Server IP).

Ports (REQUIRED)

Note: Unicast or multicast communication option is configured on site by a Lutron field engineer and at the customer's discretion. System will default to multicast if not specified.

Source	Source Application	Destination	Port	Protocol	Destination Application	Description
myRoom Vue Server	IIS	myRoom Vue Server	15672	TCP IPv4	Local RabbitMQ Server Service	RabbitMQ management console – HTTP API client, management UI and rabbitmqadmin, (only if the management plug-in is enabled).
myRoom Vue Server	IIS	myRoom Vue Server	15671	TCP IPv4	Local RabbitMQ Server Service	RabbitMQ management console – HTTP API client, management UI and rabbitmqadmin, with TLS (only if the management plug-in is enabled).
myRoom Vue Server	IIS	myRoom Vue Server IP	5672	TCP IPv4	Local RabbitMQ Server Service	Exchanges messages between local Lutron services and IIS for myRoom version 3.3.401 and above.
myRoom Vue Server	IIS	myRoom Vue Server IP	5671	TCP IPv4	Local RabbitMQ Server Service	Exchanges messages between local Lutron services and IIS for myRoom version 3.3.399 and below.
myRoom Processor Network	myRoom Processor	myRoom Processor Network	2055–2184	UDP	myRoom Processor	myRoom processor to myRoom processors within a myRoom subsystem (1 port per subsystem).
myRoom Vue Server	Q-Design and CSM	myRoom Processor Network	51023	TCP	myRoom Processor	myRoom application server to myRoom processors UNICAST OPTION <ul style="list-style-type: none"> Only the master processor in each subsystem needs TCP/51023 open. Note: Unicast or multicast communication option is configured onsite. System will default to multicast if not specified.
myRoom Vue Server	Web Browser	myRoom Vue Server	80	HTTP	IIS	myRoom Vue webpage HTTP Destination <ul style="list-style-type: none"> myRoom version 3.3 defaults to port 80 but can be configured for port 443.
myRoom Processor Network	myRoom Processor	myRoom Vue Server	5001–5003	TCP	Hotel Integration/PMS	myRoom processor to myRoom server <ul style="list-style-type: none"> Required if myRoom Plus system is integrated with PMS, CELS, and/or RRS. Port can be configured during initial system startup.

Network and IT Considerations *(continued)*

Ports (REQUIRED) *(continued)*

Source	Source Application	Destination	Port	Protocol	Destination Application	Description
myRoom Processor Network	myRoom Processor	myRoom Vue Server	4444	TCP	CSM	Used for processor to server communication.
myRoom Vue Server	CSM	PMS Server	7000	TCP	PMS Server Application	myRoom server to PMS server <ul style="list-style-type: none"> Required if myRoom Plus system is integrated with PMS. Port can be configured during initial system startup.
myRoom Vue Server	CSM	CELS Server	9002	TCP	CELS Server Application	myRoom server to CELS server <ul style="list-style-type: none"> Required if myRoom Plus system is integrated with CELS Port can be configured during initial system startup.
myRoom Vue Server	CSM	RRS Cloud Service	443	HTTPS	RRS Cloud Application	myRoom server to RRS cloud service TCP/443 <ul style="list-style-type: none"> Required if myRoom Plus system is integrated with RRS.
myRoom Vue Server	CSM	myRoom Vue Server	7203 and 7303	TCP	CSM	Used by LSM and CSM UI to correctly display the status of the internal processes within it.
myRoom Vue Server	CSM	myRoom Vue Server	8092–8094	TCP	CSM	Alert service within CSM for versions 3.3 and above.
myRoom Vue Server	CSM	myRoom Vue Server	5557–5559	TCP	CSM	Alert service within CSM for versions 3.3 and above.
myRoom Vue Server	CSM	myRoom Vue Server	7206–7208	TCP	CSM	Alert service within CSM for versions 3.3 and above.
myRoom Vue Server	CSM	myRoom Vue Server	8101	TCP	CSM	Composite service within CSM used for creating a connection between Vue and the server.
myRoom Vue Server	CSM	myRoom Vue Server	5331–5333	TCP	CSM	TCP port used to connect the CSM gateway to the myRoom Vue server for communication.
myRoom Vue Server	CSM	myRoom Vue Server	5447–5449	TCP	CSM	TCP port used to connect the CSM gateway to the myRoom Vue server for communication using TLS.
myRoom Vue Server	CSM	myRoom Vue Server	4446–4447	TCP	CSM	Lutron service manager remoting port.
myRoom Vue Server	CSM	myRoom Vue Server	2661–2663	UDP	CSM	Multicast port for gateway communication.
myRoom Vue Server	CSM	myRoom Vue Server	7304–7306	TCP	CSM	Quantum service port of RabbitMQ.
myRoom Vue Server	CSM	myRoom Vue Server	10000–10002	TCP	CSM	Reporting service for historical logging and reporting.
myRoom Vue Server	CSM	myRoom Vue Server	8892–8894	TCP	CSM	Runtime service within CSM for versions of 3.3.
myRoom Vue Server	CSM	myRoom Vue Server	6666	TCP	CSM	Internal port used for CSM communication.
myRoom Vue Server	CSM	myRoom Vue Server	5327	TCP	CSM	Gateway service within CSM for versions of 3.3.
myRoom Vue Server	CSM	myRoom Vue Server	5443	TCP	CSM	Gateway service within CSM for versions of 3.3 using TLS.
myRoom Vue Server	CSM	myRoom Vue Server	51023	TCP	CSM	Default TCP remote access port, used for unicast transfers.

Network and IT Considerations *(continued)*

Ports (OPTIONAL)

myRoom Processor Configuration and detection software

UDP/2647

- Only required while performing initial commissioning or maintenance

myRoom Processor BACnet/IP

UDP/47808 (default)

- Only required if the myRoom Plus system is integrating with a BMS through BACnet/IP
- UDP Port 47808 is configurable at the time of system startup

myRoom Processor Telnet

Source TCP/23 (default)

- Only required if the myRoom Plus system is integrating with AV or tablet equipment
- This port is open by default in version 3.3
- The port number is configurable if desired

myRoom Processor Additional Ports

Source TCP21 (FTP) and TCP80 (HTTP)

- These ports are open by default in versions 3.3

Hop Limit for Unmanaged Networks

The required hop limit of any data packet from a source processor to a destination processor/server within a single subsystem is six. **Note:** This rule is only applicable when using an unmanaged network to interconnect the devices of a myRoom Plus system and is required to ensure optimal performance.

Latency Requirements for Managed Networks

Note that for managed networks, the maximum latency between any two myRoom processors should be less than 10 ms. The maximum latency between the myRoom server and any processor is 10 ms.

Other Protocols Supported

IGMP – myRoom supports Versions 1, 2, and 3 for multicast communication within a subsystem. Any possible flooding of multicast traffic can be constrained to a set of interested ports by using IGMP snooping.

PIM – If myRoom processors within a subsystem are deployed on different subnets and need routing, PIM is supported in both sparse and dense modes. PIM is typically not required if the connections from the server to the processors is configured for Unicast.

Network and IT Considerations *(continued)*

Other Protocols Supported *(continued)*

BACnet/IP – BACnet is a communications protocol for building automation and control networks. It is defined in ASHRAE/ANSI standard 135. Below are details on how the myRoom Plus system implements BACnet communications.

- BACnet communication is used to allow two-way communication between the myRoom system and a Building Management System (BMS) for control and monitoring of the system.
- The myRoom processors adhere to Annex J of the BACnet standard. Annex J defines BACnet/IP which uses BACnet communication over a TCP/IP network.
- The BMS communicates directly to the myRoom processors, not to the myRoom server.
- If the BMS is on a different subnet than the myRoom processors then BACnet/IP Broadcast Management Devices (BBMDs) can be used to allow the BMS to communicate across subnets.
- BACnet should not be used for Central Electronic Lock System (CELS) integration, nor Property Management System (PMS) integration. See the Guestroom Management Suite's list of software licenses available for these types of integrations.

Telnet – Telnet is an application layer protocol used to provide a bi-directional text-based communication between client and server devices. The myRoom processors will use this protocol over TCP/IP for two main instances:

1. Telnet may be used during system startup to run diagnostics and initiate firmware updates. Once system startup is complete, the Telnet port may be closed.
2. If there is an AV system (e.g., a touchscreen) integrating with the myRoom Plus system, it may communicate to the myRoom processor over a Telnet session. By default, port 23 will be used but this can be changed at the customer's discretion.
3. Telnet should not be used for Central Electronic Lock System (CELS) integration, nor Property Management System (PMS) integration. See the Guestroom Management Suite's list of software licenses available for these types of integrations.

Optional Hotel System Integrations

PMS, CELS, and Hotel optimization systems integrate with the myRoom system, as described below:

- Property Management System Integration (PMS): Done through server-to-server communication. Integration partners include Protel, Infor, and others. Additional software licenses are required to enable the integration. See the software license specification for your hotel's PMS below:
 - Oracle (Micros) Opera – LMR-OPERA-PR (P\N 369855)
 - Hilton OnQ – LMR-HLTNPMS-PR (P\N 3691031)
 - Protel – LMR-PROTEL-PR (P\N 3691032)
 - Infor – LMR-INFOR-PR (P\N 3691053)
- Central Electronic Locking System (CELS): Done via server-to-server communication. Integration partners include Salto, KABA/Saflok, and ASSA Abloy/VingCard. Additional software licenses are required to enable the integration. See the software license specification for your hotel's CELS below:
 - Salto – LMR-SALTO-PR (P\N 369922)
 - KABA Saflok – LMR-SAFLOK-PR (P\N 369943)
 - ASSA Abloy Vingcard – LMR-VINGCARD-PR (P\N 369942)
 - Integration must adhere to specific Vingcard models listed in the submittal
- Housekeeping/Optimization: Done via server-to-server communication. Integration partners include HotSOS/REX. Additional software licenses are required to enable the integration. See the software license specification for your hotel's optimization service below:
 - HotSOS – LMR-HOTSOS-PR (P\N 369972)

Network and IT Considerations *(continued)*

Communication Speed and Bandwidth

100 BaseT – Is the maximum communication speed required for the myRoom processor and myRoom server communications.

1.88 MBPS – Worst case bandwidth in a fully loaded subsystem of five processors. Most subsystems include only one to two processors.

Server and Application Considerations

Required Microsoft® SQL and OS Versions for myRoom Plus

Reference below specification submittals based on server type or PC type on www.lutron.com

- High Reliability Server P/N 369594
- Standard Server P/N 369593 or Standard PC by Others P/N 369589
- Virtual Server by Others P/N 369592
- Laptop PC P/N 369384 or Laptop PC by Others P/N 369591
- Desktop PC P/N 369329 or Desktop PC by Others P/N 369590

Non-Dependent System Server

The myRoom processors can fully function without server connectivity. Loss of server connectivity does however impact integration events received from PMS, CELS, or RRS systems. The myRoom server serves three functions;

1. Enables End User UI – Provides the web server for myRoom Vue.
2. Historical Data Collection – All energy management and asset management is stored on the SQL logging server for reporting.
3. Integration with other Hotel systems via the Hotel Integration software installed on the myRoom server.

SQL Server Database Usage

Application (Runtime Project) Database – Stores all of the configuration information for the system (areas, zones, programming, and other settings). A locally installed instance of SQL Server Express edition is best suited for this database and is automatically installed and configured during installation of a myRoom system on the server. Due to the operations performed (backup, restore, etc.) the myRoom software requires high-level permissions to this database. For this reason, remote SQL is not supported in the myRoom system.

Logging Database – Real-time database that stores system and user activity reported from the myRoom system. Used to generate historical activity reports in myRoom Vue software.

Energy Database – Real-time database that stores energy consumption data for the lighting control system. Used to show energy reports in myRoom Vue. Data is recorded at an area level every time there is a change in the system.

SQL Instance Requirements

- Lutron requires a dedicated SQL instance for all installs for data integrity and reliability.
- A myRoom system does not support remote SQL. The SQL instance must be installed on the application server.
- System administrator privileges are required for myRoom software to access the SQL instance.
- Microsoft® SQL Server Express will be installed by default. Alternatively, full SQL can be installed if provided by the customer.

SQL Access

Lutron applications use “sa” user and “sysadmin” permission levels with SQL Server because the myRoom Plus applications need backup, restore, create new, delete and modify permissions under normal use. The username and password can be changed but the privileges are required. Note that only SQL authentication is supported.

Server and Application Considerations *(continued)*

Windows® Services

The Lutron Services Manager is a Windows® service that runs on the myRoom server and provides status information about key myRoom applications and also ensures that they are running any time the machine is restarted. The Lutron Services Manager application coincides with the Lutron Service Manager service which should always be running on the server machine. It can be accessed using the small red “gears” icon in the system tray or from Services within the Windows® operating system. myRoom applications in Lutron Service Manager includes:

- *Q-Runtime* – runs in the background and serves a number of purposes, among them it acts as a facilitator of system traffic.
- *Q-Reporting* – stores system data and logs it for the purpose of displaying energy savings, system events, or user activity.
- *Q-Gateway* – interfaces the myRoom Vue software with the myRoom Plus server.
- *Q-Alerts* – monitors the system for certain events/triggers and raise awareness through visible changes in the myRoom software or through email messages.

Alerts can be emailed using a SMTP server connection and port designation as configured by the administrator. SSL encryption and authentication can also be enabled.

Database Size

Typically, each database is capped at 10 GB when using SQL Server 2012 Express edition. If this database is deployed to a customer-supplied instance of SQL Server full edition on the application server, the 10 GB limit need not apply and the policy for data retention can be specified using myRoom configuration options.

Application (Runtime Project) Database – Does not grow appreciably post-deployment. Data modifications take place via software tools like myRoom Vue where a facility manager can modify scheduled events and settings. Typical size is less than 100 MB but can reach ~250 MB for very large installations.

Logging Database – Growth of the database varies based on the size of the facility, nature of devices used, and occupant activity. For example, occupancy sensors tend to report larger volumes of data as compared to other devices. When using SQL Server 2012 Express edition, the database can store a minimum of 3 months of activity data. The database will delete the oldest information once it is close to being full.

Energy Database – When using SQL Server 2012 Express edition, the database can store up to 10 years of energy data for systems having ~2000 areas or less (rooms).

Active Directory (AD)

Individual user accounts can be setup and identified using AD. At setup, each user account can be setup by the administrator with a direct application individual name and password or with authentication using Integrated Windows® Authentication (IWA). Active directory is not used for the application but for individual user accounts in myRoom Vue.

IIS

IIS is required to be installed on the Application server to host the myRoom Vue web page. Minimum version required is IIS 7.5. **A recommendation of installing all features listed for IIS is advised.** It is recommend that a website security certificate be purchased from a trusted certification authority and installed on the server to provide proper security for the myRoom Vue web page.

Server and Application Considerations *(continued)*

DNS Host Names

When multiple myRoom systems are installed on the same server, each system's webpage requires a DNS host name for the system web page. If you have multiple systems (e.g., a phased project using separate versions), there may be multiple systems on the same server and/or there may be multiple servers.

DNS naming examples:

- myRoom System 1 - https://tower1.myroom.com
- myRoom System 2 – https://tower2.myroom.com
- myRoom System 3 – https://tower3.myroom.com
- myRoom System 4 – https://tower4.myroom.com
- myRoom System 5 – https://tower5.myroom.com

TLS 1.2 Cipher Suites

Required Cipher Suites

- TLS_ECDHE_RSA_WITH_AES_128_GCM_SHA256
- TLS_ECDHE_RSA_WITH_AES_256_GCM_SHA384

Cipher Suites to be Disabled

- TLS_RSA_WITH_AES_128_CBC_SHA256
- TLS_RSA_WITH_AES_128_GCM_SHA256
- TLS_RSA_WITH_AES_256_GCM_SHA384
- TLS_RSA_WITH_RC4_128_SHA
- TLS_RSA_WITH_3DES_EDE_CBC_SHA
- TLS_RSA_WITH_AES_128_CBC_SHA
- TLS_RSA_WITH_AES_256_CBC_SHA
- TLS_ECDHE_ECDSA_WITH_RC4_128_SHA
- TLS_ECDHE_ECDSA_WITH_AES_128_CBC_SHA
- TLS_ECDHE_ECDSA_WITH_AES_256_CBC_SHA
- TLS_ECDHE_RSA_WITH_RC4_128_SHA
- TLS_ECDHE_RSA_WITH_3DES_EDE_CBC_SHA
- TLS_ECDHE_RSA_WITH_AES_128_CBC_SHA
- TLS_ECDHE_RSA_WITH_AES_256_CBC_SHA
- TLS_DHE_DSS_WITH_3DES_EDE_CBC_SHA
- TLS_RSA_WITH_NULL_SHA256
- TLS_RSA_WITH_NULL_SHA
- SSL_CK_RC4_128_WITH_MD5
- SSL_CK_DES_192_EDE3_CBC_WITH_MD5
- TLS_RSA_WITH_RC4_128_MD5

Multi-Instance Installation

A myRoom system allows multiple instances of a myRoom server to be installed and run on the same machine in parallel. Up to 10 systems can be installed on a single machine.

Software Installation

- Software installation requires administrator privileges to install.
- Once installed, administrator privileges are not required for day to day operation.
- Administrator account access will be required for any maintenance or troubleshooting.
- The myRoom software will run in the background even when there is no user logged into the server.
- Internet access is required during installation to download the necessary Lutron software and third-party software as needed. Internet access is not required after installation.

Server and Application Considerations *(continued)*

IIS Features

The table below is a minimal list of features that MUST be installed.

Feature Name	Required	Comment
FTP Server		
FTP Extensibility	no	
FTP Service	no	
Web Management Tools		
IIS 6 Management Compatibility		
IIS 6 Management Console	no	Allows you to use existing IIS 6.0 APIs and scripts to manage this IIS 7.0 and above Web server.
IIS 6 Scripting Tools	no	Allows you to use existing IIS 6.0 APIs and scripts to manage this IIS 7.0 and above Web server.
IIS 6 WMI Compatibility	no	Allows you to use existing IIS 6.0 APIs and scripts to manage this IIS 7.0 and above Web server.
IIS Metabase and IIS 6 Configuration Compatibility	no	Allows you to use existing IIS 6.0 APIs and scripts to manage this IIS 7.0 and above Web server.
IIS Management Console	yes	Installs Web server Management Console which supports management of local and remote Web servers.
IIS Management Scripts and tools	yes	Manages a local Web server with IIS configuration scripts.
IIS Management Services	yes	Allows this Web server to be managed remotely from another computer via the Web server Management Console.
World Wide Web Services		
Common HTTP Features		
Static Content	yes	Serves .htm, .html, and image files from a Web site.
Default Document	no	Allows you to specify a default file to be loaded when users do not specify a file in a request URL.
Directory Browsing	no	Allow clients to see the contents of a directory on your Web server.
HTTP Errors	no	Installs HTTP Error files. Allows you to customize the error messages returned to clients.
WebDav Publishing	no	
HTTP Redirection	no	Provides support to redirect client requests to a specific destination.
Application Development Features		
ASP.NET	yes	Enables Web server to host ASP.NET applications.
.NET Extensibility	yes	Enables Web server to host .NET framework-managed module extensions.
ASP	no	Enables Web server to host Classic ASP applications.
CGI	no	Enables support for CGI executables.
ISAPI Extensions	yes	Allows ISAPI extensions to handle client requests.
ISAPI Filters	yes	Allows ISAPI filters to modify Web server behavior.
Server-Side Includes	no	Provides support for .stm, .shtm, and .shtml include files.

Server and Application Considerations *(continued)*

IIS Features *(continued)*

Feature Name	Required	Comment
Health and Diagnostics Features		
HTTP Logging	yes	Enables logging of Web site activity for this server.
Logging Tools	yes	Installs IIS logging tools and scripts.
Request Monitor	yes	Monitors server, site, and application health.
Tracing	yes	Enables tracing for ASP.NET applications and failed requests.
Custom Logging	yes	Enables support for custom logging for Web servers, sites, and applications.
ODBC Logging	no	Enables support for logging to an ODBC-compliant database.
Security Features		
Basic Authentication	no	Requires a valid Windows® user name and password for connection.
Windows® Authentication	no	Authenticates clients by using NTLM or Kerberos®.
Digest Authentication	no	Authenticates clients by sending a password hash to a Windows® domain controller.
Client Certificate Mapping Authentication	no	Authenticates client certificates with Active Directory accounts.
IIS Client Certificate Mapping Authentication	no	Maps client certificates 1-to-1 or many-to-1 to a Windows® security identity.
URL Authorization	no	Authorizes client access to the URLs that comprise a Web application.
Request Filtering	yes	Configures rules to block selected client requests.
IP and Domain Restrictions	no	Allows or denies content access based on IP address or domain name.
Performance Features		
Static Content Compression	no	Compresses static content before returning it to a client.
Dynamic Content Compression	no	Compresses dynamic content before returning it to a client.

Server and Application Considerations *(continued)*

Browser UI (myRoom Vue)

The main UI into the myRoom system is myRoom Vue and is browser based. Below is the supported browsers:

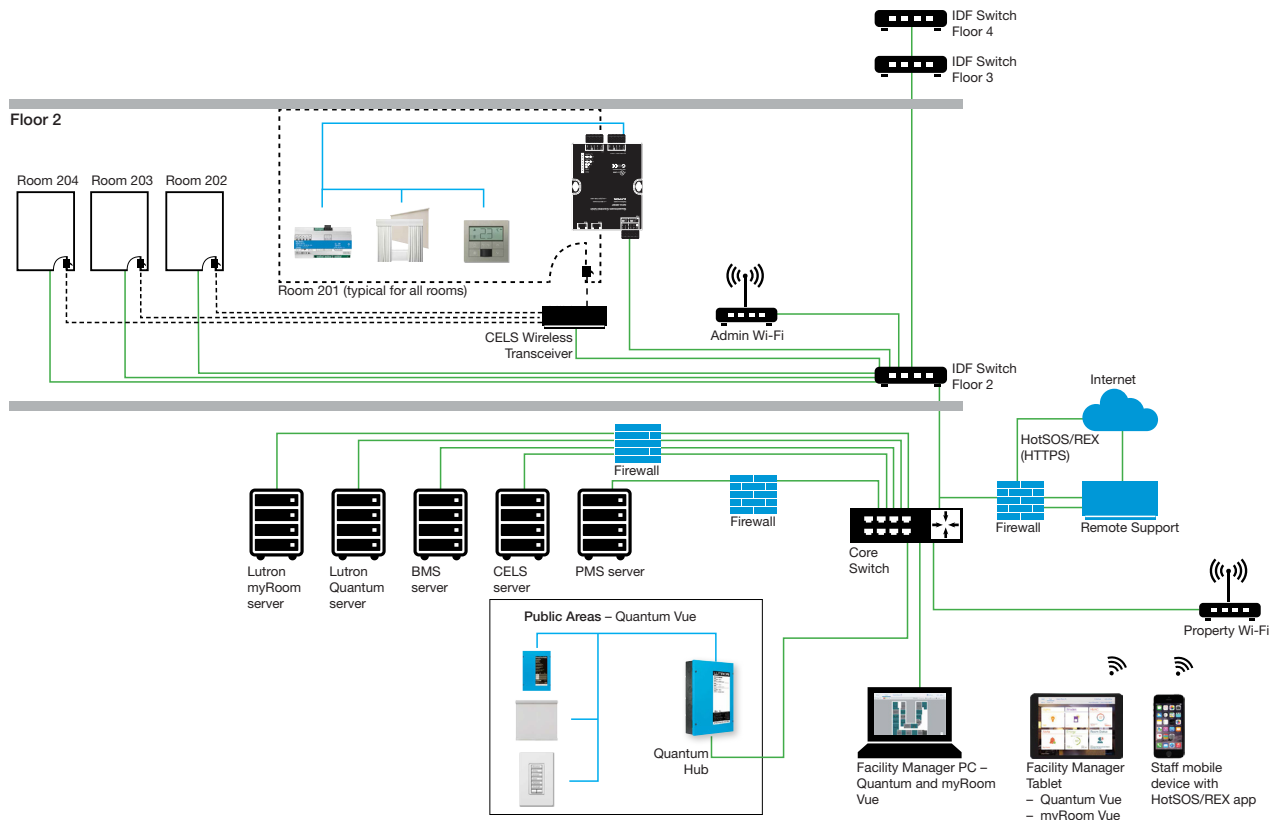
Browser Options

Device	Browser
<i>iPad Air or iPad Mini</i>	<i>Safari (iOS 8 or 9)</i>
Android™ or Windows® laptop, desktop, or tablet	Google Chrome® latest version

Software Maintenance

1. Each myRoom software version is designed and tested to work on specified Windows Operating System versions. See page 10 of this document for which versions of the myRoom software are compatible with each version of Windows and SQL.
2. Lutron recommends keeping the Windows Servers and PCs used with a myRoom system up to date on all Windows patches that have been recommended by the customer's IT department.
3. Lutron recommends installing, configuring and updating an anti-virus program, such as Symantec, on any Server or PC running the myRoom software.

Typical System Network Diagram



Key

Wiring

- Wireless doorlock link
- Network link (Ethernet)
- QS wired link

Customer Assistance

If you have questions concerning the installation or operation of this product, call the Lutron Customer Assistance.

Please provide the exact model number when calling.
Model number can be found on the product packaging.
Example: SZ-CI-PRG

U.S.A., Canada, and the Caribbean: 1.844.LUTRON1
Other countries call: +1.610.282.3800
Fax: +1.610.282.1243

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