



Moving to the Cloud:

The Potential of Hosted Central Station Services





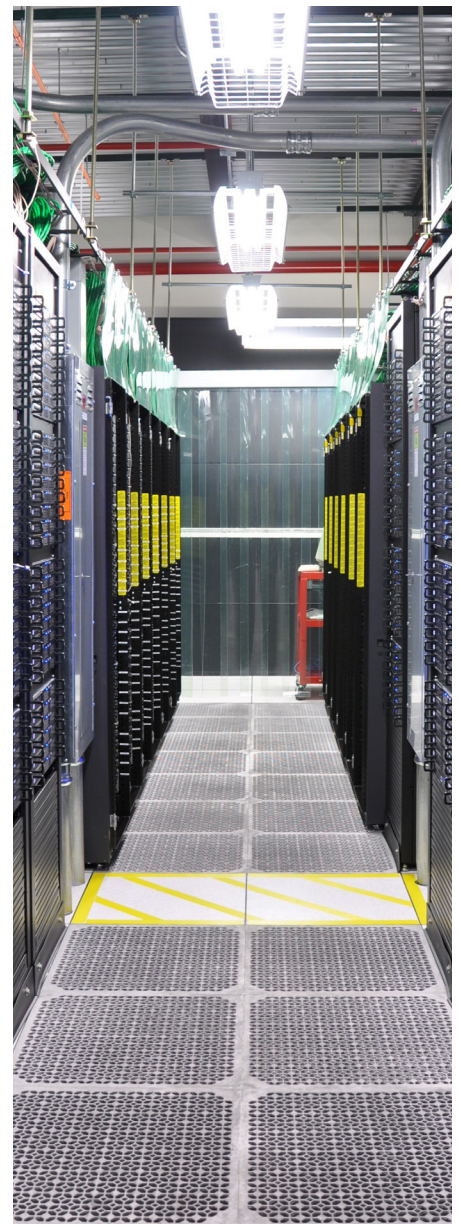
Moving to the Cloud:

The Potential of Hosted Central Station Services

The global market for alarm monitoring services is expected to reach nearly \$60 billion by the year 2020¹; driven by increased concerns regarding the safety and security and the introduction of advanced wired and wireless technologies made possible by the Internet of Things (IoT). However, as the initial and ongoing investment in infrastructure and equipment required to build and maintain a state-of-the-art central station continues to escalate, the cost of building new standalone central stations is likely to eclipse the financial resources available to many companies. Even larger central station service providers (CSSPs) face challenging economic realities when existing infrastructure elements require expansion or upgrading to meet the needs of a growing business.

Third party hosting of key central station technologies, such as information technology (IT) equipment and receivers, provides a potential pathway for many CSSPs to take advantage of current and future opportunities in this dynamic market. By leveraging mission critical capabilities provided by hosted central station service providers, CSSPs can gain access to first-class technology without the requisite investment. Hosted central station services can also enable CSSPs to focus on critical customer service elements that can help to differentiate their offerings in an increasingly competitive market.

This UL white paper will discuss the potential advantages of hosted central station services, and how a new UL certification option will enable CSSPs using hosted services to achieve listing under UL 827, the Standard for Safety, Central-Station Alarm Services.



The Challenges Facing Central Station Service Providers

The effectiveness of any commercial or residential fire or security system ultimately depends on the quality and reliability of the central station that monitors system activity and initiates prescribed actions when alarms are activated. For these reasons, the provision of central station services typically requires the construction of a technically advanced facility that incorporates robust and redundant electrical and communications systems, as well as modern IT capabilities.

At a minimum, central stations must meet the requirements of state and local building and electric codes. Compliance with code requirements is monitored by the local authorities having jurisdiction (AHJs), usually the local building or electrical inspector.

However, additional facilities considerations for central stations include:

- **Building construction**—The physical building in which a central station is housed should be constructed of materials and in a manner that will resist the spread of fire for a defined period of time. In some cases, the installation of a sprinkler system may be advisable.
- **Physical protection**—A central station must be secured against

attack or access by unauthorized persons. Strict measures to control central station access are required.

- **Fire protection**—Automatic fire alarm systems should be installed in any area of a central station not continuously occupied by central station personnel. Fire suppression systems may also be installed to prevent the spread of fire.
- **Power supply**—To prevent unexpected power outages, central stations should be designed with both a primary and secondary power supply. The secondary power supply might include storage batteries or a separately powered generator.
- **Communications systems**—All communications equipment, conductors and circuits should be protected against fire and mechanical damage.

Addressing these and other considerations mean that building a modern, well-equipped central station is a costly and complex process. Depending on the size and required capacity, the development of a new central station can take years of planning with costs running into the millions of dollars². These costs do not include future investments that may be required to upgrade existing infrastructure technologies and systems, or to provide CSSP customers with new and advanced monitoring services.



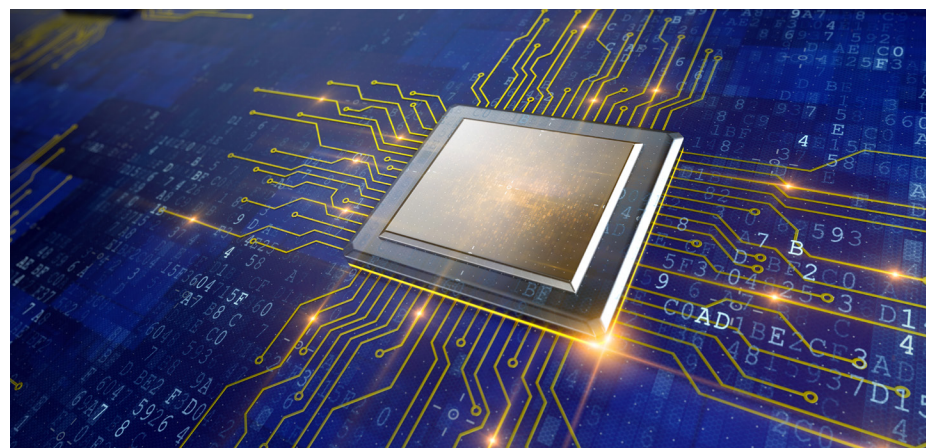
The Advantages of Hosted Central Station Services

In recent years, the growing dependence on advanced computing technology has spurred the development of cloud-based computing services, and growth in the construction and deployment of centralized data centers. Data centers are dedicated operations where IT and communications equipment infrastructure assets have been deployed to handle large volumes of traffic with minimal downtime or interruptions in essential services. More and more enterprises are opting to outsource essential IT services to these data centers in order to improve system reliability, stabilize operating costs, reduce the need for future investments in IT infrastructure and more effectively leverage new IT technologies.

In a similar fashion, CSSPs are increasingly turning to specialized data centers offering hosted central station services to reduce the time and expense typically associated with the development and operation of central stations. Hosted central station services can address a number of central station IT-related requirements, including the provision of central station automation software, alarm receiver and server hosting and disaster recovery services.

The advantages of hosted central station services include:

- **Reduced start-up and upkeep costs**—Using hosted central station services can significantly reduce the initial investment required to build a new central station, and help CSSPs control ongoing operating and maintenance costs.
- **Streamlined operations complexity**—CSSPs that use hosted central station services no longer need to address IT administration issues, such as database maintenance, applying software updates, or managing hardware fixes and upgrades.
- **Greater system redundancy**—Hosted central station services can provide central stations with geographic system redundancy that can help mitigate risks associated with natural disasters and other localized service interruptions.
- **Increased asset protection**—Since providers of hosted central station services focus exclusively on IT services, they are likely to provide more robust data security and protection against potentially crippling cyberattacks.
- **Easily scalable**—CSSPs using hosted services can quickly adjust the scale and scope of contracted IT services to effectively take advantage of new business opportunities, without the long-lead times that might otherwise be required.
- **Optimizes resource allocation**—Hosted central stations services enable CSSPs to focus their resources and attention on those unique aspects of their business that can provide increased value for their customers.
- **Supports new service introductions**—Finally, the use of hosted central station services can ease the path toward the introduction of new service offerings to meet customer needs and emerging opportunities.





UL Certification of Hosted Central Station Services

Facility and operations-related requirements for central stations are presented in UL 827, Standard for Central-Station Alarm Services. Many CSSPs have achieved compliance with the requirements of UL 827 as a method for distinguishing the quality and reliability of their central station monitoring services from competitors.

UL has recently developed a recognition option for those CSSPs seeking to obtain certification to UL 827 while using hosted central station services. Under UL 827A, Outline of Investigation for Hosted Central Station Services, third-party hosted central station service providers are evaluated for compliance with specific portions of UL 827 applicable to their operation. This evaluation is then used as evidence of compliance in applications by CSSPs for certification to UL 827, and enables CSSPs to use hosted central station services as part of their deployment and operation of central stations.

The provisions of UL 827A allocate the specific requirements of UL 827 to a provider of host central station services and to a CSSP, and are described in the following sections.





Requirements for Hosted Central Station Service Providers

Hosted central station service providers must meet the requirements detailed in Sections 1 through 17 of UL 827. These sections of the standard specifically address facilities and equipment used in central stations, including:

- Building construction (Section 6)
- Physical protection (Section 7)
- Fire protection (Section 8)
- Standby lighting (Section 9)
- Clocks (Section 10)
- Power supply (Section 11)
- Communication infrastructure (Section 12)
- Subsidiary stations (Section 13)
- Remote signal management center (Section 14)
- Equipment (Section 15)
- Receiver units (Section 16)
- Alarm monitoring automation systems (Section 17)

UL 827A also includes specific modifications and additions to UL 827 requirements in the following areas:

- **Secondary power sources (Section 11)**— UL 827A expands the acceptable secondary power sources to include equivalent technologies, such as diesel rotary uninterruptible power supply devices (DRUPS).
- **Engine driven generator testing (Section 11)**— Hosted central station service providers are required to conduct generator testing at least once every 30 days.
- **Redundant site options (Section 17)**— Hosted central station service providers whose operation is configured for a monitoring equivalent weight (MEW) of greater than 100,000 must maintain a minimum of three powered and mirrored computer systems in two geographically diverse locations.
- **Virtualization (Section 17)**— UL 827's restriction against the use of virtual machine (VM) software as a substitute for the provision requiring separate computer systems has been modified. Virtualization can now be used in a central station under specific conditions that assure adequate computing resources. The modification is consistent with the requirements in UL 1981, Standard for Central Station Automation Systems.
- **Equipment sharing (Section 17)**— Equipment sharing under UL 827A is permissible when such an arrangement is stipulated in service agreements with CSSP customers, and when the provider of hosted central station services is not itself in the business of providing central station services.
- **Notifications in the operating room (various Sections)**— This change requires that posted notifications identify designated responsible parties within the hosted service provider's organization.



Requirements for CSSPs Partnering with Hosted Central Station Services Providers

CSSPs partnering with hosted central station service providers must meet the requirements detailed in Sections 18 through 50 of UL 827. These sections of the standard address the following aspects of central station design and operation:

- Fire-alarm services (Sections 18-27)
- Burglar-alarm services (Sections 28-42)
- Residential monitoring station (Sections 43-48)
- Temporary operating centers (Section 49)
- Communication disruption (Section 50)

In addition, Sections 1 through 17 of UL 827 apply to CSSPs, as follows:

- **Building construction (Section 6)**—Applicable to the CSSP’s operating room and support facilities.
- **Physical protection (Section 7)**—Applicable to the CSSP’s operating room and support facilities.
- **Fire protection (Section 8)**—Applicable to the CSSP’s operating facility.
- **Standby lighting (Section 9)**—Applicable to the CSSP’s operating facility.
- **Clocks (Section 10)**—Applicable to the CSSP’s operating facility.
- **Power supply (Section 11)**—Applicable to the CSSP’s operating facility. Parameters and specifications are to be derived from the power needs of the CSSP’s operating room and supporting facilities equipment required for the provision of central station services.
- **Communication infrastructure (Section 12)**—Applicable to the CSSP’s operating facility. Specific applicability is dependent on whether receivers are located in the central station or the hosted services facility.
- **Subsidiary stations (Section 13)**—Not applicable to CSSPs.
- **Remote signal management center (Section 14)**—Most of the requirements in this section are not applicable to CSSPs, or are addressed or superseded elsewhere in the standard.
- **Equipment (Section 15)**—Applicable to the CSSP’s operating facility.
- **Receiver units (Section 16)**—Applicable if the CSSP’s operating facility houses receivers.
- **Alarm monitoring automation systems (Section 17)**—In general, the requirements for alarm monitoring automation systems do not apply to the CSSP’s operating facility if those services are being provided by the provider of hosted central station services. However, UL 827A specifies a number of exemptions and clarifications to this exemption.



The Benefits of UL Certification

The availability of UL 827A provides a number of potential benefits to both CSSPs and providers of hosted central station services. First, CSSPs currently certified to UL 827 are no longer required to maintain central station services that can be outsourced to a qualified data center partner. This can free up valuable resources that can be redirected toward more profitable activities, and potentially enable CSSPs to explore and identify new products and new markets. For certified CSSPs who are considering expansion, UL 827A may also provide the economic flexibility to construct new central stations or to invest in other vital infrastructure projects.

For CSSPs not currently certified, the flexibility of using hosted central station services may change the calculus regarding the potential value of certification. CSSPs certified to the requirements of UL 827 exemplify the highest standards of service and reliability and serve as an important role model for the security industry, a position that also provides them with a significant advantage in a competitive marketplace. Achieving UL 827 certification not only serves to strengthen a CSSP's current systems and procedures, but it can also aid efforts to build brand recognition among key target clients.

Finally, the certification pathway offered in UL 827A solidifies the importance of hosted central station offerings in alarm monitoring services. It can help to justify the decision by CSSPs to use hosted services, further fueling their growth and expansion. Hosted service providers who build their business around compliance with the relevant sections of UL 827 will have a clear advantage over hosted service providers that don't.





Summary and Conclusion

The availability of hosted central station services will be a key factor in the future growth of the alarm monitoring industry. Hosted services can reduce the investment required for the deployment of central stations while providing CSSPs with greater strategic and economic flexibility in meeting the current and future needs of their customers. UL 827A provides a pathway that will foster the use of hosted central station services while simultaneously easing the UL 827 certification process for central station operators.



For additional information on UL 827/827A and UL's alarm certification services, contact CertificateServicesQuote@UL.com.

Endnotes

¹ "The Global Alarm Monitoring Services Market: Trends, Drivers and Projections," infographic produced by Global Industry Analysts, Inc., February 2015. Web. 9 November 2015. http://www.strategyr.com/MarketResearch/Alarm_Monitoring_Services_Market_Trends.asp.

² "For example, see "The Making of a Central Station," SDM Magazine, January 1, 2010. Web. 9 December 2015 <http://www.sdmmag.com/articles/85442-the-making-of-a-central-station>.