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Integrated Life: AV Convergence in Life, Work, and Play

A Parks Associates Whitepaper Developed for AVIXA, the Audiovisual and Integrated Experience Association

Integrated Life: AV Convergence in Life, Work, and Play

In early days, only highly skilled technicians and engineers installed premium audio-visual (AV) experiences, often on grand stages with specialized and expensive screens. From there, sophisticated AV moved to corporate boardrooms and then to the homes of the uber wealthy. All are environments where effect and quality typically matter as much or more than budget.

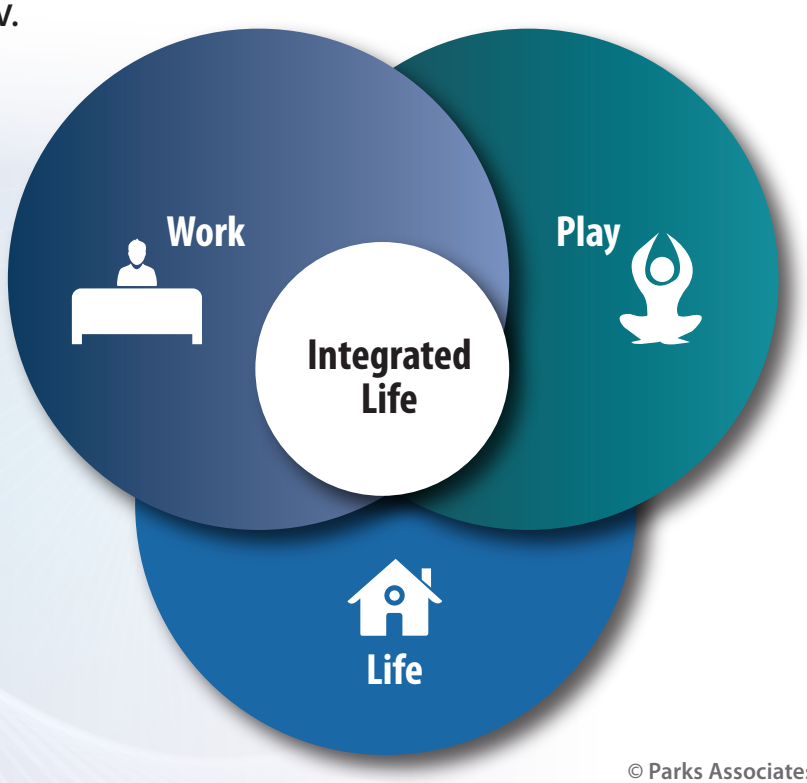
While systems integrators continue to provide sophisticated, component-based, professionally installed (and expensive) AV and integration for commercial applications and upscale homeowners, today, **mainstream consumers can acquire good home theater experiences and multiroom audio in a box or two.**

In addition, consumers experience AV innovation most personally in the home through voice control, AI-powered entertainment, and smart home services, or on the go through smart mobile devices.

> As connectivity among different devices increases, consumers expect to wed their personal technology with experiences outside the home, at the workplace, and with professional AV solutions.

This demand for AV experiences anytime, anywhere offers expansion opportunities for AV solution providers in commercial, residential, hospitality, entertainment, mobile, or other public environments.

This whitepaper explains this technology convergence, calls out challenges and smart tech advances, explores the integrators' role, and shares new opportunities for professional AV.



Convergence of the Enterprise and the Connected Home

While the technology industry often compartmentalizes the home and the enterprise into separate technology sectors, actual users rarely see it that way. **The consumer who streams videos from Netflix on a Roku streaming media player at home is also the employee who uses Zoom, GoToWebinar, and Docebo.**

They are just as likely to include YouTube clips in a business presentation as they are to access corporate training videos via VPN from their home. They may inquire "Hey Alexa" or "Hey Google" at home and long for the day they can use voice commands in their offices, conference rooms, and hotel suites. Many use their personal phones for business and use their business laptop at home, particularly those people working for medium-sized or small businesses.

Top Technology Expectations at Work

Seamless, Plug-and-play Performance

Clear, Secure Enterprise Policies for Consumer Uses

A Familiar User Experience

Consumer to Employee Experiences — Convergence at Work

The distinction between consumers and workers can't entirely be collapsed. **This era of customer experiences and mobile workstyles presents new technology expectations for the workplace.**

Performance Factors

- **Plug-and-play, wireless connectivity** – The ubiquity of connected products and wireless connectivity in both home and work areas has raised expectations for ease of use. Consumers have reduced tolerance for closed systems and unreliable wireless networks, especially as many new residential products promise an out-of-the-box, plug-and-play experience. Simple plug-and-play provisioning to wireless networks is the norm; behind this easy user experience must be robust protection of network security and role-based access provisions.
- **High bandwidth** – The growing bandwidth requirements of 4K video and HDR can strain networks, creating suboptimal performance when peak demand times are not adequately forecast.

"The consumer and employee relationships are a bit different, since your role and the expectations shift as the economics shift – in one case you pay for service, in the other you are being paid for service."

- Sean Wargo, Senior Director of Market Intelligence, AVIXA

- **BYOD support** – Bring your own device (BYOD) policies provide personalization and convenience for workers but create network security challenges from exposure to phishing scams, malware, and ransomware due to the lack of standardized endpoints.
- **Multi-device vendor environment** – The sheer variety of device and service vendors requiring support is an outgrowth of BYOD policies, the complexity of digital services, and the various task-specific needs in the workplace.

Enterprise Policies for Consumer Uses

- **Open access to data and services** – The distributed workforce requires open, secure access to data and business support services, often from anywhere in the world. Cloud and hybrid cloud hosting of assets enable this, but integrating these services with legacy systems in an elegant way is complex.
- **Portability/mobility** – Portability fulfills the need for enterprise flexibility. Prior distinctions between "in-network" and "out-of-network" are no longer adequate.
- **Security** – Consumers and consumers-as-workers have concerns about their privacy and security just as enterprises have concerns about the security of business data.

A Familiar User Experience

- **Voice and touch interfaces** – User interfaces are rapidly evolving from graphical to touch screen, voice, and gesture. Ambient computing with sensors embedded all around will dramatically change interaction with technology.
- **Seamless login** – Consumers want as few steps as possible for authentication and authorization along with devices/services that remember them on the go. This expectation flies against the need for secure networks and role-based restrictions. Consumers often do not understand all the necessary steps to secure a network, especially an enterprise network with multiple users and access levels. This expectation creates tension between designing for security and achieving seamless user experience. Integrators adept at merging security and seamless user access have a business opportunity.

Convergence for the Consumer — Away from Home & Work

For sectors such as hospitality, dining, or event venues, the consumer experience is the business. Consumers bring their personal technologies expecting the same or better ease-of-use than they have at home. Hotel guests increasingly want to access their streaming music or video accounts from their room. Venues often provide their own apps, outlining the amenities available to their attendees and enabling conveniences or commerce options. And everyone wants both Wi-Fi and a clear cellular signal.

Hospitality / hotels – Meeting consumer expectations requires new thinking when your business is the consumer's home-away-from-home. Because of the anytime, anywhere, multiscreen nature of consumer video consumption today, hotels often face a choice of either enabling consumer's preferred viewing options or monetizing on-property entertainment. In addition, consumers attempt to connect virtually any device to the property's data network and contact the staff for technical support if it does not connect seamlessly.

Restaurants – With competition for customers, many restauranteurs develop apps and entertainment experiences to entice consumers and encourage their return. In addition, consumer-based social networking is a key element of restaurant marketing, making easy access to connectivity a must.

Event venues – Stadiums, auditoriums, theaters, and similar venues provide enhanced experiences simultaneously to large numbers of users for a short period of time. Applications range from augmented reality to streaming video from in-venue camera angles. Designing problem-free, plug-and-pay experiences for peak volume traffic provides its own unique challenges.

Public buildings / spaces – For churches, libraries, government buildings, museums, and other spaces, guests often want access to Wi-Fi for a variety of applications. Bandwidth management, authentication, and security are essential, yet challenging.

Two-thirds of U.S. broadband households (**87%** of all U.S. households have broadband capability) have at least one connected entertainment device.

Nearly **70%** of U.S. broadband households subscribe to at least one OTT (over-the-top) service. Consumer viewing and content expectations have changed.

Convergence of the AV Experience

Innovations that simplify and enhance the consumer AV experience now drive new expectations in the enterprise:

Anywhere availability – Whole-home wireless streaming of audio and video extends the AV experience beyond a designated media room or home theater.

High quality – High-resolution audio and video (4K/HDR) in the home elevate expectations for these superior media experiences in hotels, bars, restaurants and public spaces.

Content diversity – Streaming services offer easy access to a high volume and diversity of content. Personalized content recommendations from service providers have simplified content discovery. Two-thirds of broadband households now subscribe to an online video service.

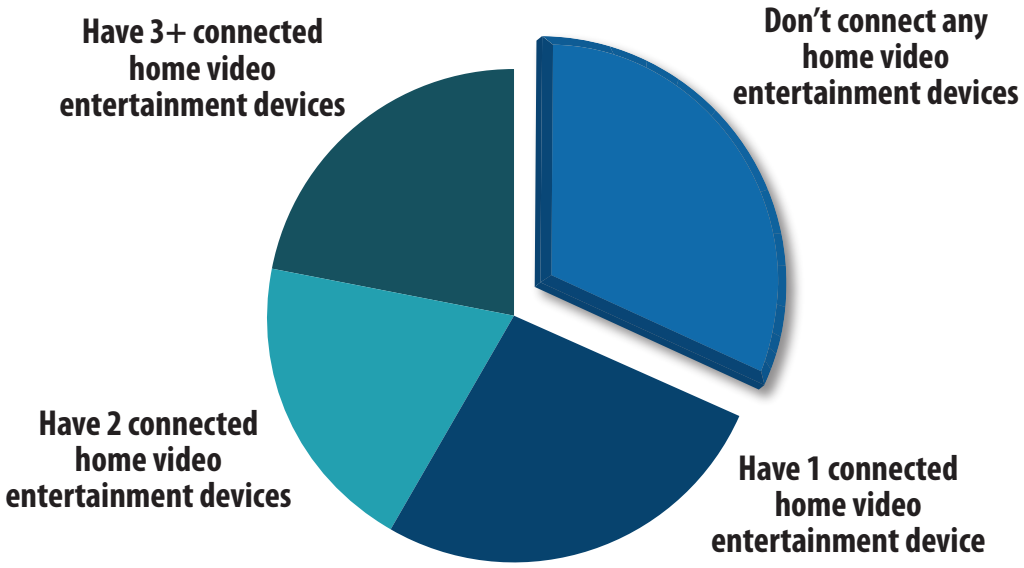
Diverse business options – A variety of business models provide consumers many options: subscription video and music services, transactional on-demand rentals and purchases, and bundling of content with other services, such as Amazon Prime.

Portability – Devices and accessibility are enabled by a variety of apps that allow consumers to access this content not only in-home but increasingly out-of-home. Consumers actively listen to music and watch television in coffee shops, at work, and while waiting in line virtually anywhere.

Low threshold for delays – High expectations for on-demand content create consumer frustration with delays in delivery or glitch experiences…anywhere.

Numbers of Connected Home Video Entertainment Devices

U.S. Broadband Households



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Bringing these entertainment innovations into the enterprise is challenging for multiple reasons:

IT Requirements

Though business IT environments traditionally prioritized uptime over all else, it is no longer feasible to regard uptime and ease of use as competing priorities. Consumer expectations for both simplicity and reliability have risen along with the ubiquity of smart devices. End users no longer have patience with unreliable devices. IT departments in enterprises are also increasingly aware of the importance of ease-of-use in addition to their traditional focus on system reliability. The process of determining suitable solutions, gaining budgets, getting approvals, and scheduling implementation is a group process. It takes time, and that time must be billed by integrators.

Limits on Liability

Loss of data, security breaches, and down-time create legal liability for a company. While a consumer may lose data and suffer the inconvenience of a ransomed computer, a company can face millions of dollars in damage and the loss of consumer and client trust from security breaches. The heightened awareness of risk management around technology in the workplace creates an expectation of enterprise responsibility and compliance with complex requirements.

Access

Public vs. private / permission-based networks – A business environment typically offers multiple levels of access for guests and various tiers of employees. With employees, access permissions determine which assets are available. Home networks are starting to apply this logic on a smaller scale, offering partitioned access for guests and granular controls for family members. Controls can be provided to filter content, manage timed access and parental permissions, and authorize/deauthorize devices on the network.

Maximizing Security / Minimizing Support

The home prioritizes ease-of-access and functionality, often compromising security for the sake of ease of use. Some business environments may limit streaming content to safeguard productivity or the performance of the Wi-Fi network for a broader volume of users. Wi-Fi range might be limited so as not to overlap adjacent office tenants. Guest access has to be accommodated without compromising security.

The business environment provides technical support and ongoing maintenance in ways the home does not enjoy.

Pace of innovation

Consumer apps, devices, software, and services are ever more frequently accessed in the workplace. The consumer space can move fast because fixes can occur quickly. It is difficult and unwise for an IT department or provider to stay at the edge of innovation. Technology integration, testing, and validation for large-scale enterprises requires both time and investment. Complexity slows the pace of innovation for enterprises.

Consumer AV tech/services consider home use/needs first

Consumer tech/services are designed for the home, an environment with a limited number of users, consumer-grade devices, and "soft" security standards. The home can be specially tailored thanks to this limited number of users while enterprise environments have to account for many and different types of users who have varying access rights and system skills. As a result, consumer tech solutions for enterprise require additional integration steps to meet expanded requirements for security, integration, and positive user experiences.

Enabling the Integrated Life

For integrators, these challenges represent opportunity.

Using their strong skills, pro-AV integrators can expand the breadth of their business to include residential applications such as smart energy and lighting, smart security and home automation, and smart safety devices. They can also bring their knowledge of the integrated home experience to the hospitality, workplace, and MDU (multi-dwelling unit) commercial housing sectors.

COMPATIBILITY
ADVANCED TECH
COMPLEXITY
INTEROPERABILITY

To seize the opportunities, integrators must expand their knowledge of consumer usage and hold skills in the implementation of technologies that support consumer habits.

Integrators Navigate Complexity

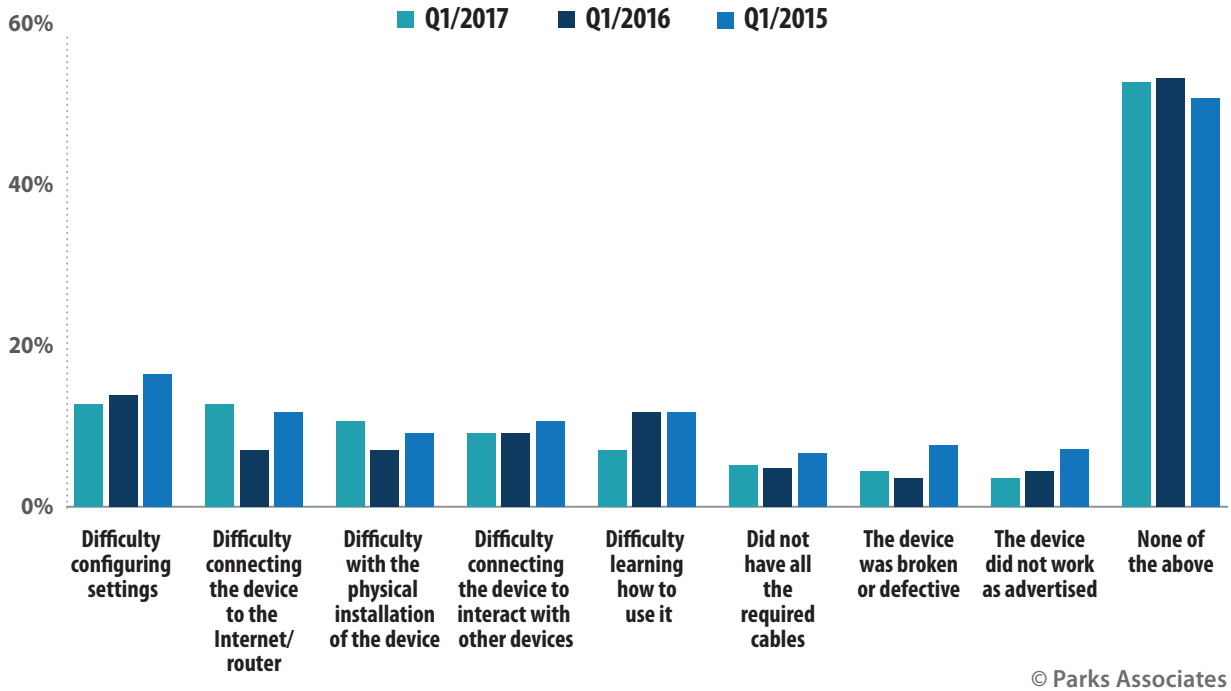
Integrators navigate the complexity created by a variety of networking protocols, onboarding procedures, user interfaces, platform architectures, media standards, devices and subsystems, and security standards.

Early adopter consumers acquire standalone hero products early in a category's lifecycle; sooner or later they want their devices and services to work together seamlessly.

Enterprises may introduce technology piecemeal with no clear plan for how everything will work together.

Problems in Setting Up Smart Home Devices

U.S. Smart Home Device Owners Who Self-Installed Their Devices



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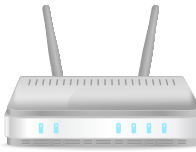
Almost 50% of smart home owners who set up devices themselves experience some kind of difficulty. © Parks Associates

Integrators Navigate Incompatibility



Integrators' system design services need to account for the incompatibility from common issues around interoperability and a lack of defined standards. For each of the points below, enterprise users face similar challenges as they choose technologies for their solutions:

In entertainment – For some new elements of entertainment, standards are not yet defined. For example, there is no defined standard for high dynamic range (HDR) video. A variety of formats including Dolby Vision, HDR10, HDR+, and HLG improve color, clarity, and brightness, but they do not work together. Each is supported by different display devices, player devices, and content producers.

Many uninformed consumers purchase components that lack interoperability, thus diminishing their viewing experience despite spending significantly for it.

For Wi-Fi mesh networks – Wi-Fi systems follow standards, but many devices offer enhanced features for managing data derived from proprietary networking protocols. D-Link, Netgear, and others achieve higher throughput by optimizing data exchange within the network, but they do it in different ways.

For smart home automation – Long-recognized interoperability issues exist in home automation as a result of fragmented networking standards, various typologies, proprietary hardware controllers, embedded controllers in attached devices, and integration through cloud API integrations. Even low-power devices sharing the same networking protocol, such as Z-Wave or Zigbee, may experience compatibility issues when additional features are layered on top of the core application.

Enhanced features may not be supported by another OEM's products. New integrations at the application layer of the stack—such as Works with Nest, Zigbee and OCF over Thread, Public Z-Wave, and Apple HomeKit—offer options beyond the system-level integration offered in central controllers from companies such as Control4, Crestron, or AMX.

Network security – Without any clear standard or regulation defining "secure," data security is a matter of "secure enough" to meet a given manufacturer's unique standards, to meet workplace requirements, or, more simply, to win purchaser adoption. However, vulnerable devices on the network are a threat to all devices on the network. Endpoint monitoring, whether in the enterprise or the home, is necessary to maintain network security.

To receive the full benefits of the technology, all content, TVs, and connected CE devices must use the same format.

Despite the apparent downside of incompatibility, multiple dynamics foster its continuance:

Competitors' push for walled gardens – Many device makers want users to buy their technology hoping that their tech is the differentiator that enables market dominance. This invariably leads to walled gardens with little opportunity to expand the value of solutions through broader interoperability.

Uncooperative competitors (hardly a surprise) – Interoperability is ultimately a matter of business relationships. Uncooperative competitors can participate in standards efforts, all the while inhibiting them in order to maintain their perceived advantage. Conversely, innovators perceive open standards and partnerships as a means to creating a tide that lifts all boats.

Lack of testing / compliance to standards – Lack of testing and compliance rules result from the "rush to market," underfunding for testing and certification, and a lack of awareness of uneven implementation of standards, sometimes by third-party component vendors.

Integrators Provide Interoperability

Integrators have a critical role in ensuring interoperability of devices and systems.

They need to understand the benefits of each device and options available to them in designing a system. Integrators have to deal elegantly with competing standards at use in the same environment—such as in hospitality or enterprise environments—reliably.

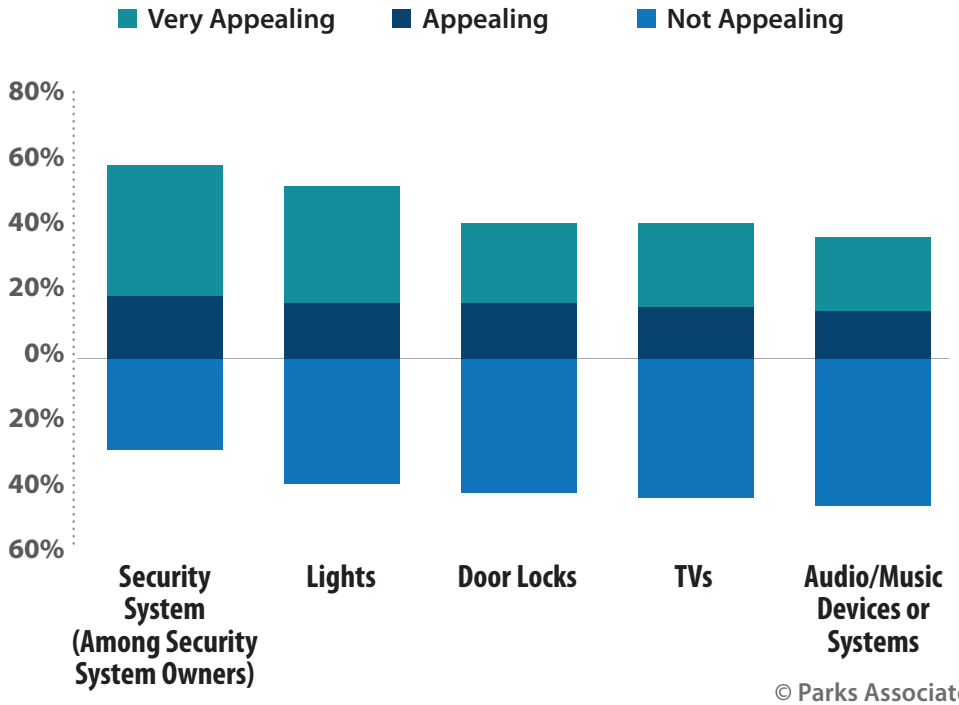
"Our most valuable contribution, or so we are often told, is our ability to make products having different languages and communications topologies work together seamlessly."
- Sean Wargo, Senior Director of Market Intelligence, AVIXA

Working with Tomorrow's Entertainment and Smart Tech

One example of changing consumer expectations is the high appeal consumers report for voice integration across device types and categories. As these capabilities become familiar and adopted at home, consumers will want the same capability wherever they happen to be.

Appeal of Voice Integration with Specified Devices

U.S. Broadband Households



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Smart technology is transforming the user experience across categories.

Integrators face multiple changing realities when addressing emerging technology.

The application of virtual and augmented reality (VR/AR), voice interaction, artificial intelligence (AI), machine learning, and data analytics underpin this change. These technologies provide immersive and enriched experiences as well as simplified control. Contextual data drive personalized content recommendations and proactive automation.

A brief summary of each technology area and its challenges follows:

Virtual and augmented reality – Stadiums, hotels, and malls are applying AR to wayfinding apps that help guests navigate facilities and locate amenities. The primary use cases for Google Glass with Glass Enterprise Edition (EE) involve manufacturing, machinery, and medical applications.

VR is driving new forms of content creation and entertainment experiences in public lobbies, special events, and small VR theaters. Microsoft HoloLens VR solutions support training scenarios for flight crews while HTC Vive enterprise edition is actively deployed in education, enterprise, and the medical industry.

VR and AR deployments lack standards, endure latency issues, and face power constraints. VR/AR experiences are unique to each type of headset and platform. Content, platform and device have to align to fully deliver the experience.

Artificial intelligence for content engines – Streaming media services have raised the profile of AI to facilitate content discovery, offer personalized recommendations, and deliver other elements of app personalization. Now, applications to manage and protect user data while still providing a personalized experience are necessary.

Voice interaction – In the hospitality industry, smart speakers are taking on the role of the concierge, room service, and personal assistant to handle requests for items, services, or music. Hotels such as Starwood's Aloft brand and the Wynn resorts in Las Vegas have piloted voice-enabled smart speakers to control thermostats, blinds, and entertainment devices. Alexa for Business brings the experience of the Echo device into the workplace. Cisco launched an enterprise-grade voice assistant, called Spark Assistant, built for meetings

Privacy concerns around voice interaction that worry consumers in the home are also an issue for enterprises. Business visitors need to know that conversations dealing with sensitive information will not be hacked through the use of a voice assistant.

Automation, AI, Machine Learning – The enterprise environment has experienced a rise in the use of sophisticated AI and machine learning to analyze big data, perform complex object detection, and support physical security and cybersecurity. **Recently, consumer products have incorporated these technologies.**

Video analytics for security lead the application of AI to the smart home, providing intelligent alerts, the reduction of false alarms, and detection of anomalous behavior.

Facial analytics provide greater personalization of automation for family members and guests.

Machine learning is analyzing patterns of behavior indicated by sensor data to proactively recommend automation sequences that fit the user's lifestyle.

Ultimately, AI will provide a truly smart home that can make decisions for the user based on their preferences, history of usage, and daily context.

Recommendations when Designing Entertainment with Smart Tech

In recent years, technology has opened up new entertainment experiences such as streaming content, immersive interactivity, social sharing, and multiscreen engagement. Integrators must consider trends and user expectations in their system design of entertainment experiences:

Future Proof
Integrators need to design with the flexibility to support new devices, applications, and experiences. The home environment has become much more dynamic than it once was. The workplace, typically far more technically complex, is now pressed to have a similar level of adaptability. Future proofing requires building on systems and devices with ample APIs, open platforms, and interoperable ecosystems of solutions.

Access Anytime, Anywhere
Remote access and control of devices, systems, and content is fast becoming a basic application requirement. Security challenges arise in seeking to meet this demand for universal content, whether the content is stored on the home network, in the cloud, or on workplace servers. Access and authorization need to be designed in a way that balances security with ease of use. Search and discovery of content can be simplified through use of personal preferences and voice-control.

Social interaction
Expectations for interactivity and communication must be accounted for in design. Social media and marketing are critical to hospitality and entertainment venues, often requiring integration of social engagement with the AV experience.

Deliver Desired User Benefits

Intuitive operation
The value proposition of convenience is a driving force for smart tech adoption. Delivering convenience requires simple, intuitive application and system design. Integration can create a more intuitive user experience than one-size-fits-all solutions that don't always work well together in a coordinated manner. Designing by product ecosystem is one way to ensure a more intuitive experience.

Cost savings
While innovators and early adopters are less cost-sensitive than the mass market, **all consumers are interested in realizing cost savings in one area to offset technology costs in others.**

For example, purchasers of smart thermostats and other smart energy management devices most value the convenience of remote access and control, with the energy savings typically valued for offsetting the hardware costs. More economical home automation controllers and subsystems are creating more opportunities for the pro-installed market on the lower edges of the luxury customer. Designing with the end system in mind can identify economies across the system by coordinating energy- or water-related devices to maximize savings.

> Pro AV excels at designing with the end system in mind; it is through the deployment of these skills that the opportunity for a new business line emerges.

Simplified daily life

Consumers are looking to hire products to perform specific daily jobs for them. Solutions move from a "nice to have" to a "must have" when they make life simpler, easier, safer, and more secure.

Consumer anxiety about mastering new complicated technologies is addressed when elegant technology design simplifies and even reduces the amount of interaction required for the service. Designing for simplicity may involve personalized automation for various family members or including products with machine learning applications that learn the lifestyle patterns of the home in order to make proactive and personalized automation recommendations.

Consumers don't want more complexity.

Ongoing Support

Several factors influence consumer use of professional technical support services:

- the number of complex connected devices adopted by households
- the number of problems consumers encounter with their devices
- consumer attitudes towards self-help and professional support

Emerging trends around support indicate an expansion of scope from traditional break-fix paradigms to more comprehensive service offerings that include emerging device categories, such as smart home devices, and evolving support processes that are automated, more efficient, and less costly in time and money to both providers and consumers. Firms are also looking to improve the self-support tools for consumers.

Embrace new opportunities in managed services and integration

Managed services can offer continual evaluation and system updates to ensure sought-after experiences are reliably available. Opportunities in managed services and integration are growing around needs for remote monitoring of the home network in order to proactively identify malfunctions, reboot the system, or reauthorize devices that have dropped off the network.

Network security monitoring provides another opportunity for a managed service that addresses consumer concerns about data security by configuring security software, monitoring the home network, and updating firmware when needed.

Core Applications		
Personalized entertainment	**Entertainment experiences that travel with the user**	**Universal portable access**
Systems can be designed to maintain consumer preferences in order to deliver personalized brand and entertainment experiences across locations. These preferences can be attached to user accounts so they can be delivered whenever the user engages the brand.	Integrators can enable users to access all of their personalized services through the television or smart speaker in the hotel room. This requires continual updating of personal assistant skills and service integrations to ensure the most popular services are readily available.	Most experiences have been location-based, but mobile technology enables content anywhere, anytime. On-demand user expectations require design for universal access to streaming music and video.

For example, hospitality services can remember content preferences, such as a family-oriented customer never wanting adult films to show up on the TV or favorite artists to be available on a preloaded playlist.

The Future and the Integrated Lifestyle

In this era of integrated life, pro AV integrators are uniquely positioned to master emerging technologies in one sphere and apply them to others.

Integrators play a pivotal role by operating at the "street level," interacting with the people using the system while still seeing the network as a whole and understanding the complexities of delivering services and experiences to end users. Integrators often have to account for multiple roles when working with end users, interacting with them as consumers as well as employees and collaborators.

This unique position gives integrators a prime opportunity to build new business around a service-oriented, knowledge-based offering that bridges the gap between home and work, and expectations and experiences.

About AVIXA

AVIXA™ is the Audiovisual and Integrated Experience Association, producer of InfoComm trade shows around the world, co-owner of Integrated Systems Europe, and the international trade association representing the audiovisual industry. Established in 1939, AVIXA has more than 5,400 members, including manufacturers, systems integrators, dealers and distributors, consultants, programmers, live events companies, technology managers, content producers, and multimedia professionals from more than 80 countries. AVIXA members create integrated AV experiences that deliver outcomes for end users. AVIXA is a hub for professional collaboration, information, and community, and the leading resource for AV standards, certification, training, market intelligence and thought leadership. Additional information is available at **avixa.org.**

Parks Associates is an internationally recognized market research and consulting company specializing in emerging consumer technology products and services.

Founded in 1986, Parks Associates creates research capital for companies ranging from Fortune 500 to small start-ups through market reports, primary studies, consumer research, custom research, workshops, executive conferences, and annual service subscriptions.

The company's expertise includes the Internet of Things (IoT), digital media and platforms, entertainment and gaming, home networks, Internet and television services, digital health, mobile applications and services, support services, consumer apps, advanced advertising, consumer electronics, energy management, and home control systems and security.

For more information, visit **parksassociates.com** or contact us at **972.490.1113** / **info@parksassociates.com**

About The Author

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Brad Russell explores leading-edge issues in connected consumer electronics, smart home devices and platforms, IoT data privacy and security, and data-driven applications. He has a background in marketing communications, technology startups, and online media. Brad balances the art and science of market research to generate insights that lead to more astute business decision making and value-generating practices.

Brad received his BS degree in advertising and marketing from the University of Texas at Austin. He also earned MDiv and DMin degrees from two leading seminaries with concentrations in ethics and cross-cultural leadership.

INDUSTRY EXPERTISE: Connected Consumer Electronics, Smart Home Devices and Platforms, IoT Data Privacy and Security

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INTEGRATED LIFE DAY

June 5 | Las Vegas Convention Center

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ic18 infocomm

Integrated Life Day at InfoComm 2018 is going to be a 'can't-miss' for anyone interested in how modern lifestyles are impacting the deployment of technology solutions in every kind of space.

Demand for connected AV experiences is opening new business opportunities for integrators and companies that can provide expert managed services across multiple platforms and locations.

We look forward to exploring these opportunities at Integrated Life Day at InfoComm with leading industry experts.

Parks Associates research shows:

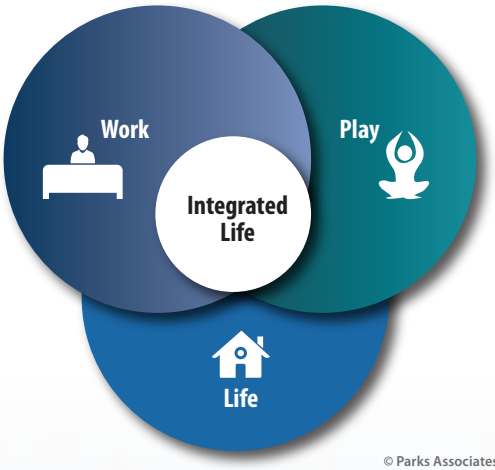
- U.S. broadband households have more than seven video access devices on average
- 44% of U.S. broadband households own two or more Internet-connected home video entertainment devices for streaming content
- Nearly 70% of U.S. broadband households subscribe to at least one OTT (over-the-top) service

Integrated Life Day is a groundbreaking addition to the content offering at InfoComm 2018, the largest professional audiovisual trade show in the United States, with thousands of products for audio, unified communications and collaboration, display, video, control, digital signage, home automation, security, VR, and live events.

Parks Associates' deep knowledge of consumer tech trends and intelligent building design is reflected in the program they are putting together for the Vegas show.

Sessions for Integrated Life Day:

- Integrated Life: How the Enterprise and Connected Home Are Converging
- Simplifying the AV Experience: User Interface Innovations
- Delivering Value by Safeguarding Security and Privacy
- Enabling the Integrated Life: Interoperability, System Design, and Managed Services
- Artificial Intelligence, Virtual Reality, and Voice: The Impact of Innovative Technologies
- How Sensors, Automation, and Big Data Create Personalized Experiences
- Understanding Consumers' Expectations and Why They Buy "Smart" Devices
- Changing Consumer Habits and the Effect on Technology Experiences in Hospitality and Entertainment



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