



Home Health Technology: A \$20 Billion Industry

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GrandCare Systems



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Slide 1



**“Home Health Technology:
A \$20 Billion Industry”**

Wednesday, September 1, 2010
3:00 p.m. – 4:00 p.m. (EDT)




By Laura Mitchell, GrandCare Systems

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Agenda

- Introductions
- Disruptive Demographics
- The Aging Tsunami
- Available Technology Solutions
 - Crisis Management
 - Fall Detection
 - Medication Management
 - Wandering Solutions
 - Remote Monitoring Technologies
 - Remote Wellness Technologies
 - Brain Fitness/Cognitive Assists
 - Socialization/Connectivity Solutions
 - Robots
 - Universal Design
- Getting Started
- Questions



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- Communication System
- Cognitive Assist/Prompt
- Tele-wellness
- Activity of Daily Living
- Brain Fitness
- Entertainment



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POLL




- I am a custom integrator/ electronics systems professional
- I am a builder/ remodeler
- I am an architect/ building designer/ landscape architect
- I am a technology vendor
- Other

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Disruptive Demographics

Percent of the population age 60 and over, 2000-2025




<http://ageLab.mit.edu/disruptive-demographics>

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The Aging Tsunami

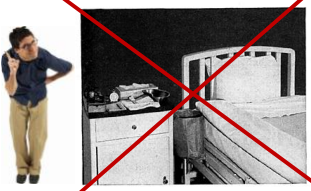


- The average American today retires five years earlier than in 1950 and lives 12 years longer.
- 35 million seniors in 200
- 70 million in 2030
- By 2050, over one million people over 100 years old
- 2/3 of all people that have ever lived to be 65 years old are alive today

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Aging Expectations



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Future Residents...




- Future residents prefer to stay at home as long as possible
 - Want care brought to them
- CAST "Boomer Needs" focus groups in 2005
 - Over 80% willing to pay \$100+ per month for services and technologies to help them stay independent and in their own home
- Ecumen "Age Wave" Study of Baby Boomers in MN
 - 0% want to live in a nursing home -- even if they or a spouse have a debilitating illness
 - 89% want to live at home
 - Nine out of 10 anticipate technology will help them live longer and more independently

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POLL



I am currently providing aging/technology solutions to my clients


I am interested in providing aging/technology solutions to my clients in the near future

I have no plans to provide aging/technology solutions to my clients

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Finding a Solution



It takes a village - - - Or perhaps a network

Noah Principle: No more prizes for predicting rain. Prizes only for building arks.

Even if you're on the right track, you'll get run over if you just sit there.

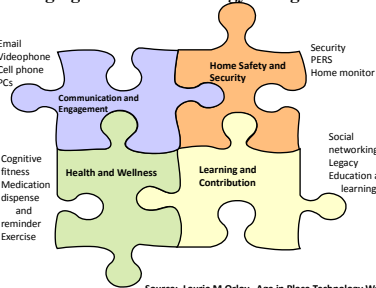
By the time the rules of the game are clear, the windows of opportunity have closed.

TECHNOLOGY

Everyone is talking about Hardware & Software
We say, "Trust the Wetware."

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Four Aging in Place Technology Categories Today



Communication and Engagement: Email, Videophone, Cell phone, PCs

Home Safety and Security: Security, PERS, Home monitor


Health and Wellness: Cognitive fitness, Medication dispense and reminder, Exercise

Learning and Contribution: Social networking, Legacy, Education and learning

Source: Laurie M Orlov, Age in Place Technology Watch

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Crisis Management

- Personal Emergency Response System (PERS)
- Reactive Solution – a button is pressed when emergency occurs. Help is sent
- Central Monitoring Station


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PERS: Personal Emergency Response System




I've fallen and I can't get up!®




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Fall Detection




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Medication Management

"Drugs don't work in patients who don't take them."
C. Everett Koop, MD (Former U.S. Surgeon General)



- One of the leading drivers to Assisted Living
- 51% of all prescription medication is taken incorrectly, causing 125,000 deaths each year.
- Medication non-adherence accounts for more than 35-40% of hospital admissions for the elderly
- Medication non-adherence costs the US healthcare system approximately \$290 billion a year or 13% of all spending (New England Health Institute).

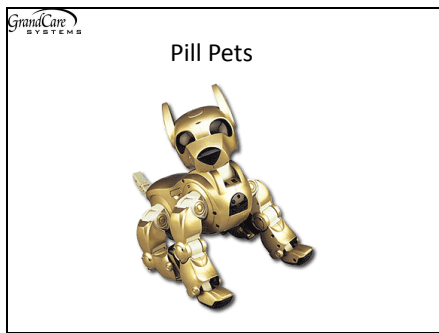
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Slide 18



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Med Mgmt Smart Systems





- Communication
 - Reminders and Alerts
- Activity Sensors
 - Indicate if meds have been accessed
- Physiological Feedback
 - Indicate if meds are effective & taken regularly

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Med Reminders & Prompts



Wednesday 8:42 am
July 26, 2007

Time to take your medication

Weekly Medication

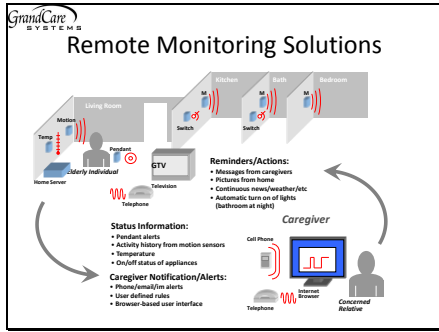
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Wandering Solutions



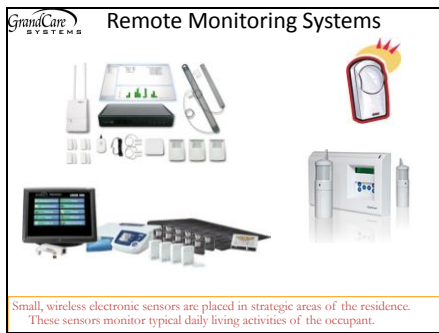
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-
- Remote Monitoring Systems**
- Safety and security
 - 24/7 coverage
 - Allows greater independence
 - Timely and thus efficient care
 - Can allow for caregiving network
 - Allows aged to stay in own home
 - Cheaper than more brick and mortar

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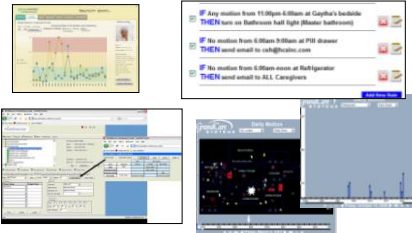


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- Online Graphs & Reports
- Authorized Caregivers customize parameters/rule sets online
- Selected caregivers receive automated email/text/phone alerts



The slide displays four screenshots from the GrandCare SYSTEMS interface. The top-left screenshot shows a line graph with a green trend line. The top-right screenshot shows a list of alert rules with checkboxes and 'THEN' actions, such as 'Any motion from 11:00pm-6:00am at Gayle's bedside THEN send an email to call@grandcare.com'. The bottom-left screenshot shows a configuration screen with various settings and a 'Save' button. The bottom-right screenshot shows a real-time monitoring dashboard with multiple data points and a 'Refresh' button.

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Remote Wellness




The slide features a collage of various remote wellness technologies. It includes a white medical device, a mobile phone, a tablet displaying a user interface, a blood pressure monitor, a pulse oximeter, and several screenshots of data graphs and software dashboards.

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Brain Fitness





The slide displays a collection of brain fitness and entertainment software. It includes a grid of colorful icons for 'Brain Fitness', 'Mind Games', 'Senior eMail', 'Albums', 'Intellectuals', 'Music', 'Extension', 'Fun & Party', and 'Puzzle'. Below this is a screenshot of a game titled 'Gone With the Wind' with a question: 'What General took over Mexico after the Mexican War?' and a 'Gone With the Wind' logo. Other elements include a 'GCTV' logo and a 'Tuesday 8:25 pm February 5, 2008' timestamp.



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GrandCare SYSTEMS ROBOTS!

Paro Robot Seal Healing Pet



Gamma Two Robotics



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GrandCare SYSTEMS Universal Design

- Georgia Tech: Aware Home Research Initiative

<http://awarehome.intr.gatech.edu/>
- Eskaton National Demonstration Home

<http://www.eskaton.org/national-demo-home.html>

– Livable Design

- Inclusive
- Adaptable
- Beautiful

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GrandCare SYSTEMS Diving into the Home Health Industry

- Do Your Research
 - Learn about your demographic
 - Attend aging events
 - Resources
- Study & Understand the Technology
 - Attend Demonstrations
 - Capabilities
- Choose your Product(s)
 - Dealer/Reseller Program
 - Complementary Products
 - Suite of Solutions
- Partner with an Aging Professional/Tech Installer
 - Don't re-invent the wheel
 - Better Client/Home Assessments
 - Stick with what you do best!!!



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 **Education** 

- Industry Blogs
 - www.ageinplacetechnology.com
 - www.telecareaware.com
 - <http://grandcare.wordpress.com/>
 - <http://smartsilvers.com/>
- Weekly Aging/Technology Industry Webinar. Every Thurs 2p Eastern Time. <http://my.dimdim.com/grandcare>
- Aging Technology Alliance: www.agetek.org
- CEDIA – Education on the Tradeshow Floor – Home Health Tech Pavilion

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 **CEDIA EVENTS** 

Sept 21
GC Training 9-5p (info@grandcare.com for more info)
630-9p Informal Meet&Greet – Hilton Atlanta (Point of View Restaurant)

Sept 22
7-9p AgeTek Meet&Greet – Hilton Atlanta (Point of View Restaurant)
HOME HEALTH TECH PAVILION – BOOTH 4072

Sept 23 1030a: Choosing which Technology is right for you
1145a: Simple Technology: BIG RESULTS Booth 4072


Sept 24 2p-4p **DIGITAL HOME HEALTH PANEL ROOM: B312**


Sept 25 4 – 530p When Grandpa Wants the Cadillac ROOM A313


Sept 26
11a – 12p: Senior Cyborgs: The Rise of the Machines Booth 4072

Educational Sessions right on the show floor – complete schedule at <http://wp.me/pyOLA-7U>

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Questions?? 

 Laura Mitchell
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Join our Online Communities!

- GC Website: www.grandcare.com
- GC Forums: <http://dealerweb.grandcare.com>
- GC Blog: <http://grandcare.wordpress.com/>
- LinkedIn: www.linkedin.com/groups?about=&qid=2043956&trk=anet Ug_qrppro
- Twitter: @grandcare
- Boomer Authority: GrandCare
- Facebook Group: GrandCare Systems

• JOIN US EVERY THURSDAY 2pm Eastern: my.dimdim.com/grandcare
GrandCare Leads the Aging Technology Industry Conference Webinar

Resources

CEDIA Member Electronic Lifestyles® Finder Service:

www.cedia.org

Home Technology Alliance information:

www.cedia.net/outreach/hta.php

www.nahb.org/hta

CEDIA *Crosspoint*:

www.cediacrosspoint.com

Aging in Place Industry Blogs:

- www.ageinplacetech.com
- www.telecareaware.com
- <http://grandcare.wordpress.com/>
- <http://smartsilvers.com/>

GrandCare:

www.grandcare.com

Aging Technology Alliance:

www.agetek.com

NAHB Builder Business Guide, "Comfort at Home: Residential Medical and Health Technology Solutions":

http://www.cedia.net/education/IO_archive-db.php

Questions from the webinar

Participant questions:

Answers:

<p>Are there any systems on the market that identify through some sort of floor sweep that someone has fallen. Sometimes clients are not able to push the button.</p>	<p>There are some "smart floor" applications that are out there. These can be costly solutions. Sometimes motion detection can pick up things like this. For example, excessive motion on the foot of the stairs or got up during the night & didn't return to bed within a given parameter. There are all sorts of ways that we might know if something is "amiss".</p>
<p>I own MJW Home Modifications for Boomers & Beyond which modifies homes to allow clients to remain in their homes independently and safely and I want to add assistive technology to my offers. Who do I contact for more info at GrandCare Systems?</p>	<p>Contact info@grandcare.com or call 262-338-6147 and we can absolutely have someone get in touch with you about becoming a reseller or pair you together with an existing dealer/integrator!</p>
<p>How do you become a dealer?</p>	<p>Contact info@grandcare.com or call 262-338-6147. Dealer process is different for some of the other technologies. To become a GrandCare dealer, dealers must attend training, sign the dealer documents & purchase their 1st demonstration system. GCHQ will be hosting a dealer training at CEDIA on Tues. Sept 21, 2010 from 9:30 a.m. – 5:00 p.m. Contact us for more info!</p>
<p>Do you have any advice about how to discuss the term monitoring and big brother watching?</p>	<p>Remote monitoring & smart systems in general have wireless motion/temp/door sensors that can assess the overall activity in the home. It is as intrusive as a security system. It simply alerts a family member or caregiver if something is amiss. Senior/Loved One compliance is very important and we recommend that they absolutely understand that this is an enabling technology that can help them to remain independent, while giving their children "peace of mind" knowing they are safe, happy & healthy at home. GrandCare has a LARGE socialization/cognition/communication component that really helps us to overcome this. With GrandCare, grandma gets to video chat & receive incoming communications...if the family is involved, this featured OVERRIDES all else...</p>
<p>Sounds like most of the info is in the east or mid states, is there info in the west?</p>	<p>I am not sure I understand what kind of information you are referring to. We have dealers throughout the entire United States, Canada and Australia. All sorts of organizations are doing this kind of technology - really everywhere. The technology that I showed in the presentation ranged from Europe to the East coast, Midwest with products also on the West coast being shown.</p>

Questions from the webinar (continued)

<p>Have you seen any web sites or web services that are bringing this all together?</p>	<p>AgeTek Alliance (www.agetek.org), CAST - center for aging services technology, we try to help our GrandCare dealers by providing educational opportunities on how to partner with other organizations & provide a suite of products. We have weekly aging/tech conference call webinars open to everyone in the industry, we also host a monthly webinar for our GC dealers on marketing/sales, tech questions, etc - and have a dealer chat room and forum for dealers to communicate, cooperate, share information, ask questions, and access our documents/ppts/pics, etc.</p>
<p>What are the franchise opportunities for the products?</p>	<p>Many offer dealer programs. Those you will see at CEDIA have dealer opportunities available. Some have sales reps. Contact the specific company to find out details</p>
<p>What is the best way to jump start an AIP business and come up with prospects to talk to about systems for their loved ones?</p>	<p>Make sure whichever program you join, they offer adequate training and materials. I know that some of our distributors offer a full range of "getting started" materials such as website options, sales/marketing & getting started training.</p>
<p>How can we demo your products? What's the best way for HH care companies and ESC's to work together... so both can profit? What have you found to work the best?</p>	<p>Contact the companies you are interested in and see if you can see a demonstration. Many have recorded demonstrations you can watch - or attend CEDIA to see them LIVE in action, touch them, try them, ask questions. If you come on to our weekly aging technology industry call - you can ask questions on the public chat, network and learn more about the industry. Much of this is also covered in your training program.</p>
<p>When providing a system, what should we say is a basic or approximate cost?</p>	<p>This really ranges on what you are selling. If you are selling a Personal Emergency Response System, that's going to be a much lowered cost, vs a fully featured Smart Home/Communication/Tele-wellness System. Some systems have a high upfront cost and lowered monthly cost, some go for a lower upfront cost and higher monthly, some are offered with rental/leasing programs.</p>
<p>When you provide this presentation get a copy of the list of manufacturers and products--pictures were displayed but no mention of the products.</p>	<p>Many of the products that are shown on the ppt were mentioned, but I did mention a few too that did not have a picture shown. If there's anything specific you are looking for, just contact me: laura@grandcare.com and I am happy to get you the information!</p>

Glossary of Terms

Amplified Volume Control Systems: An amplified volume control systems is a single-wire solution that delivers music to multiple rooms via a central control box. Some of these systems make use of CAT 5 cable to deliver the un-amplified audio signal to each room, where an in-wall amplifier and speakers reproduce the music.

Analog: In the consumer electronics world, analog technologies are those that use traditional methods of receiving, recording, and/ or reproducing content or communications. Examples of analog technologies include VHS VCRs and cassette tapes.

Aspect Ratio: The ratio of the width to the height of an image. Analog television uses a 4:3 or 1:1.33 ratio (slightly rectangular, being wider than it is tall), while digital television uses 16:9 or 1:1.78 (almost twice as wide as it is tall).

Asymmetric Digital Subscriber Line (ADSL): A form of DSL broadband service, it is called "asymmetric" because of its two-way bandwidth is devoted to the downstream direction, sending data to the user.

Audio Distribution Amplifier: These are amplifiers that distribute the input from a single audio component to multiple audio outputs or locations.

Bridge: A bridge is a device that connects two similar networks together to increase the distance or number of devices a given type of network can handle.

Broadband: Broadband refers to telecommunication that provides multiple channels of data over a single communications medium. Typical examples of consumer broadband services are high-speed internet delivered via cable, Digital Subscriber Line (DSL) or fiber-optic networks.

Cable Modem: A cable modem is a device that enables connection to the internet and sends/ receives data via a local cable TV provider.

Category 3 Cable (CAT 3 Cable): Used for medium-speed communications of up to 10 megabits over a distance of up to 100 meters. The FCC has specified that new homes use a minimum of CAT 3 wiring for telephones in new home construction.

Category 5 Cable (CAT 5 Cable): Network cabling that consists of four twisted pairs of copper wire terminated by RJ45 connectors and is capable of up to 100 Mbps over distance of up to 100 meters. Commonly used for data and telephone, it is now widely used for distribution of audio signals and is often used in new home construction.

Category 5 Enhanced Cable (CAT 5(e) Cable): Supports short-run 1000baseT (1,000 Mbps) networking by utilizing all four wire pairs. CAT 5(e) is backward-compatible with CAT 5 cabling.

Cathode Ray Tube (CRT): CRT refers to the traditional glass picture tubes that have been used in analog TVs since their inception. CRTs are also used in some rear-projection TVs.

Cluster: A hardware connection between two or more PCs that forms a closed network or internal network for sharing data and processing tasks among connected PCs.

Coaxial Cable: Coaxial (coax) wiring is often used to distribute video signals but can also be used for other types of communications. There are several varieties of coax cable used in homes such as RG59 and RG6, the latter of which is recommended for all new wiring for cable and satellite TV.

Cogeneration (Also known as combined heat and power, CHP): CHP is the use of a heat engine or a power station to simultaneously generate both electricity and useful heat. It is one of the most common forms of energy recycling.

Color Saturation: A term to describe how vivid and intense colors in the display appear, independent of brightness. If the color saturation is too low, colors appear washed out, but if the color saturation is too high, colors may appear too vivid.

Contrast: The relationship between the lightest and the darkest areas on a display device or picture. A small difference means low contrast and a large difference means high contrast.

Dedicated Wire: Wiring that is installed specifically for communications. It includes twisted pair wiring used for Ethernet networks and coax wiring used for cable TV, etc.

Digital: Digital describes electronic technology that generates, stores, and processes data in terms of two states: positive and non-positive. Positive is expressed or represented by the number 1 and non-positive by the number 0. Thus, data transmitted or stored with digital technology is expressed as a string of 0's and 1's.

Digital Video Recorder (DVR): A video component (set-top box) with an integrated hard drive for recording and time-shifting television programming. DVRs may contain an integrated tuner for receiving cable, over-the-air, satellite and/ or HDTV broadcasts. The most popular example of a DVR is a TiVo. DVR functionality can also be integrated into other devices such as a home computer or television.

Ethernet: Ethernet is the most widely-installed local area network (LAN) technology, which uses coaxial cable or special grades of twisted pair of wires.

Firewall: Security measures (hardware and/ or software) that blocks unauthorized users from gaining access to a computer or network.

Graphic User Interface (GUI): A technology for interfacing with computer software by pointing (mouse) to graphic images (windows, icons, menus) instead of typing text. Apple's Mac Operating System and Microsoft's Windows are the two most popular computer GUIs. On consumer electronics products, GUIs are commonly used to program VCRs and setup video displays via their on-screen menu.

High Definition Multimedia Interface (HDMI): A single high-bandwidth cable that can carry both digital audio and video signals from an HDTV receiver, DVD player, etc., to a video display and/ or multi-channel audio receiver/ processor.

Home Automation: Systems that provide convenient centralized access, usually via keypad or PC, to various controls and appliances within a home. Home automation systems allow for the remote control of such items as lighting, thermostats, locks, pet care, pools and spas, landscape watering, blinds and window treatments, multi-media systems, etc.

Home Network: A home network interconnects electronic products and systems, enabling remote access to, and control of, those products and systems, as well as any other available content such as music, video, or data.

Hush Box: A hush box is an enclosure around a projector that muffles the noise and typically has an exhaust fan that acts to pull out the heat from the projector to avoid overheating.

In-ceiling, In-wall, On-wall Speakers: Speakers can be installed in ceilings, walls, and floors as necessary to blend subtly with room décor. Today's in-wall and in-ceiling speakers are capable of the kind of performance associated with free standing speakers except that they can be flush-mounted or hidden almost anywhere.

LCD: A video display technology that uses a liquid crystal display, rather than the traditional picture tube, to display video images. Many of today's flat panel TVs and monitors use LCD technology to achieve a super-thin cabinet design.

Local Area Network (LAN): A network of personal computers and peripheral devices configured to share information over a short distance, usually within one home or building.

Media Server: A device that stores, organizes, and distributes digital content (audio, video, etc.) to other electronic devices.

Modem: Short of modulate/ demodulate, a modem modulates outgoing digital signals from a computer or other digital device to analog signals for a conventional copper twisted pair telephone line and demodulates the incoming analog signal and converts it to a digital signal for the digital device.

Multi-room Audio Distribution: Multi-room audio refers to any audio system that can distribute sound to speakers in multiple listening areas. In its most basic form, a multi-room audio setup contains a source component, like a CD player or an amplifier and is connected to speakers in at least two different rooms.

Phantom Load: Refers to the electric power consumed by electronic appliances while they are switched off or in a standby mode.

Plasma TV: A type of flat-panel video display that uses a special gas sandwiched between layers of glass. When the gas is electrically charged, the gas moves into a "plasma" state and illuminates phosphors, which produce a picture.

Radio Frequency (RF): RF waves can be transmitted and received through walls and other physical barriers and differs from IR (infrared) technology, which requires a clear line-of-sight between transmitter and receiver.

Residential Gateway: A device that allows customers' premise equipment which is connected to in-home networks to access and use services from any external network regardless of media.

Router: A device used to connect two networks, and most commonly used in residential applications to connect a home network to the internet.

Standby Mode: Refers to a low power mode for electronic devices such as computers, televisions, and remote controlled devices. These modes save significant electrical consumption compared to leaving a device fully on and idle and allow the user to avoid having to reset programming codes or wait for a machine to reboot.

Sub-system: Any system in a whole-house system that accepts commands from another system and/ or gives feedback to that system.

Structured Wiring: A system of low-voltage wires (not power line) designed to carry electronic signals throughout the home.

Systems Integrator or Installer: This specialist works with all the trades in the design and build process to plan, design, program, install, and service low-voltage electronic systems and equipment in the residential market.

Twisted Pair Cabling: Cable constructed of two braided wires, each with its own dielectric insulation twisted together to form a single cable. The twisting allows the cable to carry higher frequency signals than the cable could otherwise. Most twisted pair cables used in the home such as CAT 3, 4, and 5 include four of these pairs of wires within an outer insulating sheathing. There are two basic types of twisted pair cables: shielded and unshielded. Most applications in the home use unshielded four-pair cable.

User Interface: Devices such as volume controls, keypads, and LCD touchscreens that allow control (to varying degrees) of a home's electronic systems. There are a wide variety of user interfaces available and most can be mounted in the wall or are designed for the table-top or counter.

Voice Over IP: Voice telephone service delivered via the internet. A major advantage of VoIP and internet telephony is that it avoids the tolls charged by ordinary telephone service.

Whole-house Network: A whole-house network involves multiple types of cluster networks connected to each other through devices called gateways. This type of network is the most complex but it also provides the most functionality.

Widescreen: Any video software or hardware with an aspect ratio wider than 4:3; usually 16:9, which is the optimum ratio for viewing anamorphic DVDs and HDTV broadcasts.