

CompTIA and CEA's Home Technology Integration Certification

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The housing market in the United States might be in a slump, but the downturn has yet to reach the booming home technology market. In fact, a new survey suggests 2007 could be a second consecutive year of double-digit growth for companies specializing in home technology installation, integration and repair services.

Business is further boosted by the proliferation of new options for the consumer, from flat-panel televisions and multiroom audio to integrated gaming applications and home networks. For example, research firm In-Stat predicts more than 60 million U.S. households will have at least one wide-screen, high-definition TV in their home by the end of 2007. The market for home networking and connected entertainment devices is projected to grow to \$85 billion by 2011, according to ABI Research.

The launch of Microsoft's Windows Vista operating system promised to take IP-based home control systems to a new level with more functionality, better stability and a lower cost compared with proprietary control systems.

All these factors are combining to make the "smart home" or the "connected home" a concept that is no longer limited to the rich and famous. We're seeing mass market acceptance and demand for advanced technologies in the home.

But the explosion of digital entertainment options and home network tools brings with it a new level of complexity when it comes to the installation, use and maintenance of these high-tech toys. Although many of these products are easy to install and use, bringing together disparate components and systems can still be a challenge for many consumers. We're getting further and further from the point where you can plug it in, read the owner's manual and have it work.

There is a demand — and an opportunity — for qualified individuals to provide product installation and integration, as well as ongoing service and support. In fact, the top challenge home technology integration firms face is finding individuals with the right skills.

The worlds of consumer electronics (CE) and information technology are converging in the connected home of the 21st century. Technicians must have skills in both worlds to provide the product installation, integration, service and support that consumers need to fully enjoy a connected-home lifestyle.

In the connected home, the focus is turning to the personal computer as the controlling hub. The digital home market has adopted de facto standards already in use in the IT industry. Nearly every subsystem and electronic device in the home has (or soon will have) an IP address to enhance interoperability.

That puts the personal computer at the heart of the connected home and the IP network as the arteries. This analogy is similar to the solutions IT resellers and software providers are delivering to business customers — it isn't a great leap for some of them to take the expertise they earned with business customers and expand into the consumer market.

To address the need for skills in both IT and CE, the Computing Technology Industry Association (CompTIA) and the Consumer Electronic Association (CEA) have worked together to develop a new professional certification for individuals in home technology integration.

CEA-CompTIA Digital Home Technology Integrator+ (CEA-CompTIA DHTI+) is a credential that covers all aspects of the connected home. The certification maps to specific job roles and skills in home technology integration such as system infrastructure and integration, digital home entertainment and distribution and digital home control of telecommunications, lighting, energy management and security.

CEA-CompTIA DHTI+ is targeted at home technology system installers and integrators responsible for the installation, maintenance and service of digital home products.

The certification is relevant to a variety of industries and job roles related to home technology, including technology integrators; security system technicians; cable, satellite, telecommunications and audio-visual installers; electricians and network administrators. Individuals interested in the certification should have 18 to 24 months' experience in the some area of home integration technology.

The CEA-CompTIA DHTI+ certification exam assumes candidates possess the skills and knowledge of basic PC hardware, hand and tool skills, safety precautions, basic electrical awareness, local regulations and building codes. This certification is not intended to provide basic installation skills such as wire termination and basic hand/tool skills or project management, sales or master system design skills. The domain areas measured by the exam and the approximate percentage representation on the exam include networking (20 percent), audio-video (22 percent), telephony/voice-over Internet protocol (10 percent), security and surveillance (15 percent), home control management (15 percent) and documentation and troubleshooting (18 percent).

Among the specific skill areas covered in each domain are:

Networking

- Identify basic networking protocols and their uses and know when and how to apply them.
- Recognize and implement methods of network security.
- Configure, set up and maintain a residential local area network.
- Configure, set up and maintain a secure wireless network.
- Identify and define network cabling characteristics and performance.

Audio-Video

- Implement, maintain and troubleshoot multiroom audio systems and identify common interference sources.
- Install, configure and maintain a residential home theater system.
- Assess, install and configure content management systems and describe their applications in a residential environment.
- Implement, maintain and troubleshoot multiroom video systems.

Telephony/Voice-Over Internet Protocol (VoIP)

- Differentiate and describe plain old telephone system (POTS) versus VoIP delivery and troubleshoot

common issues.

- Describe and define the fundamentals of telephone systems

Security and Surveillance Systems

- Install, maintain, configure and troubleshoot basic security systems and applications.
- Describe basic terminology and apply installation procedures and methodologies.
- Identify, configure, install, maintain and troubleshoot security and surveillance cameras.

Home Control and Management

- Identify user interfaces and their appropriate applications.
- Define and recognize control systems that integrate subsystems in the home, as well as describe their functionality, characteristics and purpose.
- Identify commonly used communications protocols and their application.
- Describe basic heating, ventilation and air conditioning (HVAC) terminology and install peripheral control devices.
- Describe basic lighting terminology and install peripheral control devices.
- Identify and install component power protection devices.

Troubleshooting Methodology and Documentation

- Identify and apply the fundamentals of troubleshooting and diagnostics.
- Given a scenario, demonstrate how to apply troubleshooting skills to integrated subsystems.
- List and describe the benefits of verification of installation.
- Deliver appropriate manuals and documentation to the end-user upon completion of installation.

For more information on CEA-CompTIA DHTI+, visit <http://certification.comptia.org/dhti/default.aspx>.

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