



HDMI™: Enabling Better Customer Service Business Models

Prepared by Simply Labs, LLC
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HDMI™: Enabling New Customer Support Business Models – A White Paper

In a few short years, HDM has become the de facto digital interface standard for the high-definition consumer electronics (CE) market. There are currently more than 875 adopters of the HDM technology standard worldwide. Nearly 28% of U.S. households have high-definition (HD) televisions, and that number will more than double by 2010, according to Parks Associates. HDMI also offers a standardized connection over a single cable, and includes a control bus known as the Consumer Electronics Control (CEC) bus, as illustrated in the following Figure 1.



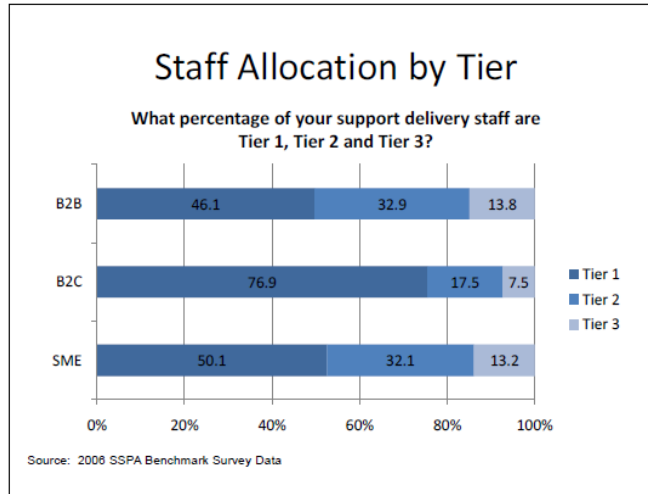
Figure 1. CEC Bus Implementation Example

Although not well appreciated, CEC can also assist in transforming customer service organizations of retailers, manufacturers, MSOs and service providers, custom installers and in-home service providers. Transforming to a best in class customer service organization is a journey that can not happen overnight. Whether your organizational goals border on the more quantitative (e.g., support cost as a percent of revenue, cost per incident, time per call, first call resolution, number of in-home visits, etc.) or qualitative (e.g. consumer word of mouth, website/forum postings, sales floor associate presentation), the good news is that effective customer service business process that takes advantage of CEC is a very achievable goal with enormous ROI.

This white paper provides an overview of ways service organizations can improve customer satisfaction by providing superior service while simultaneously keeping costs down by increasing operational efficiencies that incorporate CEC technologies. This white paper will also discuss three customer support models: Cable-MSO and Telco customer service, CE equipment manufacturer helps-desks, and Custom Installer support environments.

The Cable-MSO & Telco Customer Service Business Model

Within the residential HD entertainment services market, Cable-MSOs and Telcos (i.e. Carriers) make use of residential gateways, set-top boxes, bridges, and CE equipment to meet the growing consumer demand for bundled multimedia HD services. The introduction of these new HD services has increased customer support calls by 4-fold, and support call costs have surpassed an average \$40 per subscriber per year.



Segment	Tier 1	Tier 2	Tier 3
Enterprise Support (B2B)	\$130	\$350	\$500
Consumer Support (B2C)	\$40	\$80	\$150

By utilizing CEC technology, carriers can meet – and drive – consumer demand for their services, while reducing installation, operational expenses and even consumer deployment costs.

Today, carriers must not only provide great products and services, but also deliver solid customer service and technical support at an affordable cost. Carriers are bogged down with the tremendous support costs associated with introduction of new broadband services, and their subscribers are often frustrated by the difficulties in using these services.

Since the phone remains the service access channel of choice for most consumers, how do carriers meet expectations for phone-based service without breaking the bank?

What support channels do you offer your customers?

Choice	[n]	% of Respondents	Graph/Respondents
Phone	75	93.8%	
Knowledge management/knowledgebases	43	53.8%	
Dynamic FAQ	15	18.8%	
Email autoreponse/suggest	36	45%	
Text Chat/Instant Messaging	19	23.8%	
Screen shering	22	27.5%	
Remote control	37	46.2%	
Remote diagnostics	17	21.2%	
Electronic case submittal on web	35	43.8%	
User Forums	18	22.5%	
Webinars	18	22.5%	
Other	5	6.2%	
Total Respondents:	80		
Total Responses:	340		

2008 Service & Support Metrics Survey sponsored by www.supportindustry.com.

Solution components include: intelligent software located in the residential gateways and set-tops combined with remote management software located in the data center. Combining this business approach with remote access to HD consumer electronics devices supporting CEC can dramatically reduce the need for support center help.

Set-tops and Gateways based upon CEC technology shortens the average support call by providing efficient first call remote interaction with the support representative, and can reduce the necessity for follow-up calls and expensive in-home service visits.

The heart of the system is a CEC based gateway or set-top box unit, which is a unit that also act as CEC gateway between different HD devices. The CEC-based unit can also be a standalone unit, such as the unit available from Simplay Labs (SL-301). A simple illustration of the network architecture is shown in Figure 2.

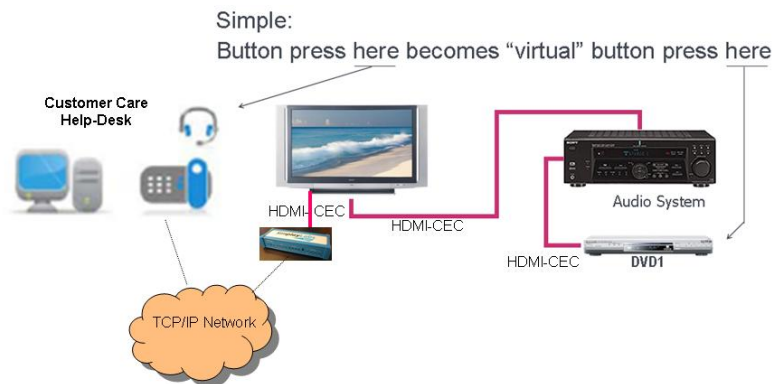


Figure 2: Remote CEC access Help-Desk architecture

Most HD components require configuration and set-up before they will work properly, but many subscribers, even relatively sophisticated subscribers, find configuring the HD device to be difficult or cumbersome. CEC enables a simple “virtual” button push by a Help-Desk service technician to become a corresponding button push on the consumers’ home HD equipment. Since the majority of problems consumers report are simple “device configuration” problems, Help-Desk representatives can correct the improper device settings during the call. This alleviates a service call “truck-roll” and yields a satisfied customer.

Carriers using Simplay Labs’ CEC technology solution can easily and cost effectively introduce new value added HD services while keeping operational support expense to a minimum. With so many consumers confused on whether they are actually receiving and viewing HD, HD Carriers will be able to make sure consumer configurations are correctly enabled for proper utilization of VOD, PPV, and premium HD content. With proper implementation, the CEC configuration reporting features can present the Help-desk agent with observed device settings. This allows the Help-desk agent to perform a one click fix, remotely. These capabilities enhance the subscriber experience, reduce problem escalations, reduce costs, and increase the chances of a first call resolution.

The CE Manufacturer Customer Service Business Model

As the CE marketplace becomes increasingly commoditized, superior customer service stands out as one of the few ways for CE manufacturers to differentiate themselves from the competition – and one of the few ways to win the hearts, minds and wallets of their customers. Some of the biggest (and most expensive) challenges facing CE manufacturer service organizations include device recalls, returns and service calls into their Customer Care organization, as well as charge-backs from retailers on avoidable service, parts, warranty and return expenses.



Most (industry figures range as high as 80%) product returns are avoidable because they are returns of working devices where ultimately no problem is found. The reason for many of these returns is simple: customers open up the box and can’t immediately do what they want to do. Then they become frustrated and want to return the device because “it doesn’t work.” Each returned device can cost the manufacturer \$500 or more, depending on the device, how long customer care organization worked with the customer on the device before the return, and other factors.

So, how can Customer Service Representatives (CSRs) get the root cause quickly? By making use of CEC's configuration reporting capabilities. During a service desk call, the CSR is trying to understand the situation. If the CSR can not see the device or HD-network set-up, the service call is extended.

And that's where CEC technologies can help. Remote CEC-based configuration verification, as shown in Figure 2 above, can allow equipment manufacturers' CSRs to help customers set up their devices, or address configuration issues faster and more economically than was possible in the past. This alone will help reduce returns, particularly with devices with no trouble found. Being able to push those configuration problems back down to first call interaction will allow CSRs to reduce those returns. CEC-based devices help eliminate the time-consuming communication, and the CSR having that picture of what's going on is worth a lot of time savings in this sort of environment.

Some studies indicate that manufacturers can increase first-call resolution by at least 30%, and that reducing the time to problem resolution will yield an increase in customer satisfaction (see . *Total Support: Achieving sustainable business growth with a remote support solution*, **By Peter McGarahan**, President, McGarahan & Associates, Part of the NTRglobal Thought Leadership Series)

Since first call CSRs are able to gain remote access to the unit to facilitate a resolution, that also helps prevent the need for problem escalation. In the face of increasing competitive market pressures and decreasing product profitability margins, CE manufacturers are under tremendous pressure to provide top-notch customer care within targeted cost constraints. In the end, it can be a manufacturer's commitment to customer service via CEC-based devices that wins over the consumer.

The Custom Installer Consumer Support Model

There are a group of companies that specialize in planning and installing HD systems (e.g. home theaters) for the home. Imagine controlling the audio, video, home computer network, lighting, temperature, window shades, security, and almost any other integrated home function from a single remote control unit. These "Custom Installers" design, install, and service these products, and customize them to the homeowner's lifestyle. The key selling point of a custom Installer is "we provide unmatched knowledge and post installation service."

With the growth of big-box home installation services, the custom install business faces increasing profit margin challenges,. When thinking about customer trouble call handling procedures and processes, custom installers should consider three key areas: increasing automation rates with more robust voice self-service solutions; enhancing the customer experience by personalizing interactions; and incorporating remote access technologies to reduce overhead and expenses.

Luckily, off-the-shelf customer contact center software and technologies are more powerful, more flexible and more cost-effective than ever. The right combination can help custom installers increase customer loyalty, boost first call resolution rates, optimize agent efficiency, cut costs and increase the number of revenue generating opportunities.

Incorporating remote access technologies that are integrated with CEC technology is also a great way to reduce operating costs, while simultaneously enabling custom installers to expand the geographical market they serve. Reduction in mean time to repair by enabling reduced travel will save real expense dollars, since each trip for a custom installer is very expensive, costing as much as \$150 per home visit. This includes fuel requirements, time to on-site requirements, and drive back to the operations base. Pre-diagnosing a problem before an in-home service call will also result in the installer bringing the right parts and equipment the first time, and reducing the need of any second in-home visits.

But more importantly, during the timeframe they are working on a simple device configuration problem, they are not someplace else fixing a more serious problem, or performing a new revenue generating installation. HD products with proper CEC technology integration can address the service costs in a unique manner.

For example, by using a mobile phone custom installers can monitor and control HD systems via a CEC gateway device, as illustrated in Figure 3.

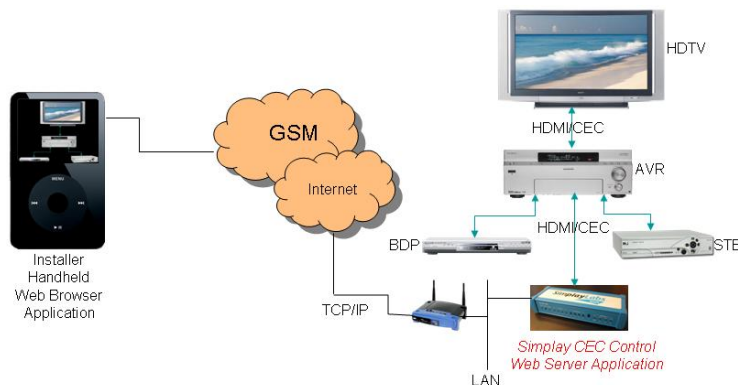


Figure 3. Mobile Access to remote CEC-based Devices

This type of CEC based architecture allows custom installers to accept trouble calls and resolve issues simultaneously during the call. All while at a different revenue generating site.

This configuration accomplishes the task by engaging the handset for tetherless access to customer equipment settings and configuration. Although the CEC standard is capable of handling this customer support scenario, actual support is dependent upon the devices' implementation, so custom installers should favor products that support the full CEC standard.

In the case of configuration and service settings, the custom installer quickly views the returned settings, and makes corrections via the phone by inputting the corrected settings to the handset. The custom installer can quickly troubleshoot a customer's set-up (or simple wrong button push), returning the system to working order. This capability reduces customer service handling times thereby reducing support costs and increasing customer satisfaction.

Today, many CE devices can be controlled remotely using custom systems, or by plugging them into off-the-shelf modules that communicate using wireless technologies such as ZigBee or Z-Wave. Even then, users are usually limited to turning the devices on or off. Only CEC can provide a complete command and control infrastructure for total remote customer service capabilities of devices without very expensive supporting components.

Summary

The smart-appliance market is seeing a rebirth, thanks to the growth of home networks and the boom in connected entertainment devices. In a customer support environment, there are a lot of costs, including labor, problem handling time, and dispatch time. CEC can be a powerful customer service tool when coupled with support processes in a way that allows support personnel to efficiently take advantage of the information that it is capable of providing. To take full advantage of the technology, CEC has to be part of the normal customer service routine.

It pays for all types of organizations supporting HD CE devices to proactively deploy remote access to CEC based products. The key is establishing your workflow and ensuring devices fully support the CEC specification, so that customer care organizations can take advantage of that remote support CEC technology.

There are several manufacturers supporting CEC within their products, but the implementation for CEC from one manufacturer is not always interoperable with other manufacturers. That is because of the difficulty in on-going CEC testing and implementation R&D in a multi-vendor environment.

Carriers and manufacturers need to be able to easily integrate best-of-breed CEC solutions into their current products. Simplay Labs designed its drop-in CEC software stack, support products with very open APIs, and a CEC software development kit. Simplay Labs offers everything needed to make it very easy to integrate a CEC solution with other systems, such as service desk management systems, CRM systems, network management solutions.

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