Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of: Implementation of Section 304 of the Telecommunications Act of 1996 Commercial Availability of Navigation Devices	CS Docket No. 97-80

REPLY COMMENTS OF THE NATIONAL CABLE & TELECOMMUNICATIONS ASSOCIATION

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Table of Contents

Page

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The National Cable & Telecommunications Association ("NCTA") hereby submits its reply comments regarding the feasibility of deploying a downloadable security conditional access system ("DCAS"), in accordance with the Commission's Public Notice dated December 20, 2005, as revised by its December 23, 2005 Order.

Introduction and Summary

The Commission's March 2005 *Second Report & Order* required the cable industry "to submit to the Commission by December 1, 2005 a report on the feasibility of deploying downloadable security and, if feasible, a proposed timeline for deployment."[1] That report was required to include a statement as to whether "the cable industry will commit to the implementation of this system for its own devices and those purchased at retail" and "a draft copy of all licensing terms to which manufacturers would have to

[1] *Implementation of Section 304 of the Telecommunications Act of 1996, Commercial Availability of Navigation Devices*, CS Docket No. 97-80, Second Report and Order, FCC 05-76, 20 FCC Rcd 6794, 6810, 6816, para. 32) (2005) ("*Second R&O*").

agree to include the downloadable security solution in their devices."[2] NCTA's November 30, 2005 DCAS Report fulfilled these specific requirements.

CEA, Dell, HP, Intel, ATI and Sony filed comments on the NCTA DCAS Report that portray DCAS as "infeasible" either due to purported lack of commitment by cable or alleged incompatibility with personal computers ("PCs"). This portrayal is inaccurate on both counts. Downloadable security is a feasible conditional access approach that is preferable to the existing separate security configuration. The cable industry has committed to implement DCAS for its own devices and for those purchased at retail.

In less than 18 months, DCAS has rapidly evolved from an aspiration to a working technology. By using a single non-proprietary microchip, DCAS can: (1) eliminate the need for a separate CableCARD matched to every network, (2) fit security into many more devices, (3) eliminate a manufacturer's card slot, (4) reduce heat dissipation requirements, (5) increase energy efficiency, (6) simplify installation, (7) open up a world of competing vendors, (8) allow for more advanced DRMs, and (9) enable new service offerings to consumers. DCAS has been demonstrated to work across legacy networks with existing and new security technologies, and was on full display at the 2006 Consumer Electronics Show ("CES") operating on retail equipment. The DCAS Host License ("license") (a form of which was attached to the NCTA DCAS Report) has been adopted by two major consumer electronics ("CE") manufacturers so far, who have praised the technology as "a compelling security solution that will help enable nationwide interoperability of advanced two-way cable services" that "benefits CE

[2] *Id.*

manufacturers by lowering material costs and reducing entry barriers in the digital cable receiver equipment market."[3]

The comments filed by CEA, Dell, HP, Intel, ATI and Sony criticizing DCAS are misguided. The cable industry is committed to DCAS and to retail availability. Further, the cable industry has no commercial interest in excluding PCs from receiving cable service given the formidable competitive environment we face for obtaining and retaining subscribers. CableLabs' approval of Microsoft Windows Media DRM to enable a PC to receive high-definition premium cable programming without a set-top box, and to display it throughout a home network of connected devices, should be evidence enough of the cable industry's desire to make cable services available on PCs – so long as the industry and its content providers (who filed in support of DCAS)[4] can be assured that networked devices will deliver and protect cable service as intended by the service provider. Distribution to networked devices that do not meet such requirements would jeopardize the programming that cable operators can make available to all of their customers.

The assorted criticisms of the DCAS license are also unwarranted. The license has already been commercially accepted, and reflects standard arrangements that the commenting parties use themselves for the development of new technologies and for the protection of the confidentiality of security technologies. The critics are asking for terms

[3] Press Release, "LG Electronics, CableLabs Sign Downloadable Security Technology Agreement (Jan. 4, 2006), http://us.lge.com/AboutUs.jhtml?qs=au|detail|press|pressdetail|Corporate|269 (viewed Feb. 3, 2006); Press Release, "LG Electronics, Comcast, Nagravision Conduct First Public Demonstration of Downloadable CAS Technology (Jan. 4, 2006), http://us.lge.com/AboutUs.do?myAction=detail&boardType=press&forwardPage=pressdetail&categoryId=0000000001&seq=258 (viewed Feb. 3, 2006).

[4] MPAA Comments at 1 ("Downloadable security provides a superior means for cable MSOs to ensure that they can have the flexibility necessary to update the protections they employ to preserve the valuable programming services they provide to consumers.").

and conditions that they specifically disclaimed in the one-way Plug and Play Memorandum of Understanding ("MOU").

In sum, market-based negotiations to implement downloadable security are working. Samsung and LG have signed licenses for retail DCAS-enabled devices. Other parties are currently in the process of negotiating, and CableLabs has offered "most favored nation" terms that will enable any signatory to later take advantage of any better or different terms subsequently negotiated by others. The cable industry welcomes input and requests for negotiation from all parties that are interested in deploying DCAS-enabled navigation devices.

I. The Cable Industry Is Committed to DCAS

In less than 18 months, DCAS has rapidly evolved from an aspiration (in a Request for Information) to a working technology, evidenced by live demonstrations by retail manufacturers on the floor of the 2006 CES. CEA members Samsung and LG Electronics have signed the applicable DCAS licenses with CableLabs. LG has praised DCAS as "a compelling security solution that will help enable nationwide interoperability of advanced two-way cable services"[5] that "benefits CE manufacturers by lowering material costs and reducing entry barriers in the digital cable receiver equipment market."[6] Samsung has called it "an excellent solution for interactive devices" and "looks forward to continued collaboration with CableLabs and the cable industry to bring these cable-compatible products to market."[7] Samsung and LG have moved quickly on

[5] Press Release, "LG Electronics, CableLabs Sign Downloadable Security Technology Agreement (Jan. 4, 2006), http://us.lge.com/AboutUs.jhtml?qs=au|detail|press|pressdetail|Corporate|269 (viewed Feb. 3, 2006).

[6] Press Release, "LG Electronics, Comcast, Nagravision Conduct First Public Demonstration of Downloadable CAS Technology, *supra* note 3.

[7] Press Release, "Samsung Electronics Signs Up for Downloadable Security Technology," (Nov. 30, 2005), http://www.cablelabs.com/news/pr/2005/05_pr_dcas_samsung_113005.html (viewed Feb. 3, 2006).

this front and had DCAS demonstrations running on retail equipment on the 2006 CES floor.[8]

CEA's criticisms of DCAS and of cable's commitment to it are unjustified and are belied by the facts. As the Commission has already recognized, downloadable security can deliver significant benefits to consumers, cable operators, and CE manufacturers:

- The "development of set-top boxes and other devices utilizing downloadable security is likely to *facilitate the development of a competitive navigation device market*, aid in the interoperability of a variety of digital devices, and thereby *further the DTV transition*"[9]
- DCAS offers "a *less expensive and more flexible system* for both protecting system security and creating a consumer product interface"[10]
- DCAS "*add[s] significantly to the options* that equipment manufacturers now have in using the CableCARD"[11] and
- DCAS *eliminates the "potentially costly complete separation of the physical security element*."[12]

NCTA agrees with the Commission that downloadable security can be a win-win-win solution for consumers, MSOs and CE. The cable industry has already demonstrated its commitment to DCAS by expending significant time, resources, and money in the

[8] Prior to CES, Scientific-Atlanta ("S-A"), Motorola, and Nagravision demonstrated to Commission staff the download of legacy and new conditional access and entitlement messages to set-top boxes with no embedded security. *See* Letter from James L. Casserly on behalf of Comcast Corporation to Marlene H. Dortch, Federal Communications Commission, CS Docket 97-80 (July 18, 2005). They also demonstrated interoperability across proprietary networks: an S-A set-top box using DCAS operated on a proprietary Motorola network; a Motorola set-top box using DCAS operated on a proprietary S-A network; and both were able to easily move between Motorola and S-A networks. A second demonstration to Commission staff showed DCAS in operation for retail: NDS and Samsung downloaded NDS' conditional access and entitlement messages to a retail Samsung set-top box using DCAS. *See* Letter from James L. Casserly on behalf of Comcast Corporation to Marlene H. Dortch, Federal Communications Commission, CS Docket 97-80 (Nov. 30, 2005).

[9] *Second R&O* at ¶ 31.

[10] *Second R&O* at ¶ 31.

[11] *Second R&O* at ¶ 28.

[12] *Second R&O* at ¶ 31.

development of DCAS as a state-of-the-art security technology that can be shared with the CE industry. Indeed, the use of DCAS can be considered a competitive necessity for the cable industry. By deploying DCAS, the cable industry will be building a robust network that will enable far more offerings of high-value content to customers – a competitive necessity in an environment where DBS and other video delivery platforms are racing to upgrade security (with no regulatory constraints) and compete for content and customers. For this reason among others – and contrary to CEA's suggestion that "NCTA gives no specific assurance of Common Reliance as to *any* date"[13] – the NCTA DCAS Report explicitly "commit[ted] to [DCAS'] implementation for its own devices and those purchased at retail"[14] by a specified timetable (by July 2008) – just as the Commission requested we do.

II. DCAS Is a Feasible Conditional Access Solution

Dell, HP, Intel, ATI and Sony ("collectively "Intel") have raised an assortment of objections to DCAS on "technical" grounds which appear designed to suggest that the use of DCAS architecture would adversely impact the variety of consumer electronics devices and specifically the personal computer. These arguments are without merit.

DCAS Does Not "Preclude" Access to Cable Over PCs

Intel first seeks to portray DCAS as part of a scheme to defend the *status quo* of televisions as "single-function pieces of furniture" against the advance of "multi-function components of a larger home network."[15] This portrayal is baseless. Cable is committed to expanding the retail options available to consumers to access and use cable services to

[13] CEA Comments at 2.

[14] Report of the National Cable & Telecommunications Association on Downloadable Security, CS Docket No. 97-80 (Nov. 30, 2005) ("NCTA DCAS Report") at 1.

[15] Intel, Dell, HP, Sony Comments at 4.

the fullest extent possible. As we have previously described in detail, DCAS and OCAP are specifically designed to work on multiple, competing retail platforms.[16] In addition, cable's commitment to retail devices and to PCs was on full display at the 2006 CES: interactive cable guides were running on two-way OCAP-enabled set-top boxes and digital televisions ("DTVs") manufactured for retail; Panasonic and Samsung each obtained orders to supply OCAP-enabled set-tops to Comcast (the largest cable MSO), which could readily be marketed at retail should those manufacturers and their retail partners so choose;[17] CE manufacturers and the largest cable MSOs held a joint press conference committing to deploy OCAP in their systems, which will allow OCAP-enabled retail devices to work on those systems;[18] cable content was flowing through a variety of competing home networking technologies which will be offered at retail; and Microsoft featured OCUR-enabled PCs that received high-definition premium cable programming without set-tops.

Beyond the CES floor, cable's commitment to retail devices and to PCs has been repeatedly demonstrated. Cable operators sell services, and want their customers to be able to receive those services in a variety of ways in order to better compete in the video marketplace. That is why cable has *already* reached a solution with Microsoft to deliver unidirectional cable services to PCs (including HD and premium cable services), and why cable is very interested in providing more of its services to PCs. This interest has also

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[16] NCTA DCAS Report at 2; Letter from Neal M. Goldberg, NCTA, to Marlene H. Dortch, Federal Communications Commission, CS Docket 97-80; PP Docket 00-67 (Nov. 14, 2005), Exhibit "OpenCable Applications Platform" at 5, 8, 15-16.

[17] National Cable & Telecommunications Association Status Report, CS Docket 97-80, (Jan. 30, 2006) at 4.

[18] Press Release, "Cable Television Industry Voices Support for OCAP™ and Two-Way Digital Cable-Ready Product Deployments" (Jan. 5, 2006), http://www.cablelabs.com/news/pr/2006/06_pr_ocap_ces_010506.html (viewed Feb. 3, 2006).

been illustrated by various retail arrangements,[19] by CableLabs' approvals of PC-compatible technologies for use with unidirectional Digital Cable Ready devices,[20] and by the extensive efforts the industry is making to work with a variety of home networking technologies that will be available at retail.[21] We have repeatedly made clear that a cable home network can be one among many consumer options.[22]

The DCAS Chip

Intel contends that the cable DCAS proposal "does not really offer downloadable conditional access" because "DCAS appears simply to have replaced one proprietary

[19] The industry created, populated, and maintains Go2Broadband— a free Internet-based electronic commerce tool that enables CE manufacturers and retailers to identify a customer's local cable operator and services available so they may recommend compatible hardware to the customer right on the retail showroom floor. Individual MSOs have additional promotional arrangements with specific CE manufacturers.

[20] Under its output approval process for unidirectional Digital Cable Ready devices, CableLabs has approved specific technologies that enable PCs to access, display, and store cable content. For example, Windows Media DRM enables PCs to access cable content and display it throughout a home network, and Philips-HP's Video Content Protection System allows cable content marked as "copy once" to be burned onto VCPS-enabled DVD+R and DVD+RW optical digital media, which may be used in PCs.

[21] Cable works with CE manufacturers and hundreds of other vendors in fora such as DLNA, UPnP, and MOCA on non-proprietary home networking architectures, including for PCs. The Digital Living Network Alliance (DLNA) is working to develop a wired and wireless interoperable network of personal computers, consumer electronics and mobile devices in the home enabling a seamless environment for sharing digital media and content services. CableLabs, Dell, HP, Intel, ATI and Sony and CEA's members are all members of DLNA. *See generally* http://www.dlna.org/home.

The UPnP™ Forum (UPnP) is an industry initiative designed to enable simple and robust connectivity among stand-alone devices and PCs from many different vendors. The Forum consists of more than 775 vendors, including industry leaders in consumer electronics, computing, home automation, home security, appliances, printing, photography, computer networking, and mobile products. CableLabs, Dell, HP, Intel, ATI and Sony and CEA's members are all members of UPnP. *See generally* http://www.upnp.org/.

The Multimedia over Coax Alliance (MOCA) is a non-profit mutual benefit corporation developing specifications for the transport of digital entertainment and information content over in-home coaxial cable. MOCA includes major players from the retail (RadioShack), consumer electronics (Panasonic, Toshiba, Hitachi), telephone (Verizon, SBC), satellite (Echostar) and cable industries (Comcast, Cox). *See generally* http://www.mocalliance.org/en/index.asp.

[22] *See e.g.*, NCTA Reply to Oppositions to NCTA Petition for Reconsideration, MB Docket No. 02-230, March 24, 2004, at 4-6. Intel's claim (at 15) that DCAS "effectively excludes fully functioning home networks" in unfounded.

hardware requirement (the CableCARD) with another (a secure microprocessor, etc.)."[23] This is incorrect.

Today's CableCARD system requires the use of a proprietary physical card which must be matched with each proprietary network. A Scientific-Atlanta CableCARD will not work on a Motorola system, nor can a new conditional access vendor supply a conditional access system ("CAS") to an MSO relying on the CableCARDs produced by another CAS vendor. In contrast, the DCAS microchip is a hardened microchip built to a common specification that works with multiple conditional access and DRM systems with no additional hardware required to activate or use cable services. It specifically is *not* required to be integrated into a media processor, as Intel claims. The fundamental point of DCAS is to abstract away what is proprietary in conditional access into independent conditional access software that can be dynamically downloaded to a non-proprietary hardened chip.

The benefits of this DCAS approach over CableCARDs are numerous.

First, from the perspective of the consumer, there is a significant difference between a CableCARD and the secure microprocessor to be used in DCAS. Whereas consumers must separately obtain and lease CableCARDs (and replace it if they change cable providers), the secure microprocessor would be usable nationwide and would be built-in to the television, set-top, OCUR, or other Digital Cable Ready device before consumers buy them. Moreover, the secure microprocessor can fit on many more (and smaller) devices. It eliminates the need for a separate piece of equipment and simplifies installation.

[23] Intel, Dell, HP, Sony Comments at 8.

For cable, the secure microprocessor offers advanced security that can be incorporated by a number of competing vendors. Rather than relying upon multiple proprietary CableCARDs that need to be matched with every proprietary network, in DCAS one secure microchip works with multiple conditional access and DRM systems nationwide. This means that operators may purchase navigation devices and conditional access systems from many more vendors. It also means that more advanced DRMs may be deployed to enable new business models that support a greater variety of consumer choices (*e.g.*, month-long movie rentals).

For CE manufacturers and retailers, the secure microprocessor has multiple advantages over CableCARDs. It eliminates the need for a separate piece of equipment to make their device functional, occupies a smaller footprint than CableCARD slots, fits into many more devices, eliminates a manufacturer's card slot, reduces the need for extra heat dissipation, reduces power consumption by about 5 watts, and simplifies the consumer's out-of-the-box experience. The secure microprocessor can fit onto more, smaller, and more energy efficient devices, than could CableCARDs. It simplifies the logistical support retailers must give consumers who would otherwise have to be advised about the need for a CableCARD and how to obtain one. It simplifies installation. It supports more advanced DRMs, more consumer choices, and more vendors.

On each of these fronts, DCAS and the secure microprocessor it employs are without question more advantageous than CableCARDs.

A Software-Only Solution?

The Intel commenters suggest that the only "true" downloadable security system is one that requires no new hardware.[24] Rather than suggesting that downloadable security not rely on any hardware whatsoever, Intel appears to mean that it should run on *their existing* hardware, without any additions or changes, and that DCAS "make a minimum of demands on the hardware."[25]

Cable operators must maintain a highly secure platform to attract the highest value content, such as an on-demand movie during its theatrical release window. Content owners simply will not risk allowing such high-value content on an insecure network. DCAS provides a highly-secure platform, which is why it has earned the support of MPAA.[26] Watering down cable security would disserve cable customers, content suppliers, and ultimately CE manufacturers since it would devalue the cable content they wish their devices to receive. Further, any such requirement would run afoul of Section 629(b), which specifically precludes the adoption of regulations that jeopardize system security.

Compliance and Robustness Standards

Intel suggests that PCs should not yet be required to meet the compliance and robustness standards of DCAS.[27] It specifically asks for a delay in applying these standards to PCs and for exceptions to the DCAS robustness standards, with a view

[24] It is particularly suspect that Intel would make such an assertion. Intel is deep into the trusted-computing initiative, and knows better than to say that silicon doesn't matter for set top boxes and digital TVs. *See* www.trustedcomputinggroup.org/about/members (viewed Feb. 3, 2006). Intel also makes chips, including the chips that make digital cable ready Microsoft Media Center Edition PCs work with the OCUR to receive cable content.

[25] Intel, Dell, HP, Sony Comments at 6.

[26] MPAA Comments at 1-2.

[27] Intel, Dell, HP, Sony Comments at 21 (seeking phase-in only of "limited" standards).

towards avoiding certain of the costs associated with protecting high-value content.[28] Yet it wishes its equipment to connect to cable networks and receive premium content. Vulnerable customer premises equipment affects *all* cable customers, because *any* leak in the network renders it unattractive as a vehicle for program suppliers to deliver their highest-value content. Intel knows this, and also knows that it is commonplace for technology proponents to require adopters to make adjustments in order to maintain an appropriate level of security when connecting to a larger network. We offer two examples:

1. DTLA (which was founded in part by Intel and Sony, among others) only provisionally approved Windows Media DRM, subject to "the satisfaction of a number of commitments by Microsoft Corporation related to conforming the protections under the Windows Media DRM license terms with those offered by DTLA."[29] Under this provisional approval, Microsoft is required to amend its compliance and robustness standards in order to receive content protected with DTCP.
2. Microsoft also modified its compliance and robustness standards as part of the CableLabs approval for Windows Media DRM in order to permit Windows PCs to receive decrypted cable programming delivered from cable networks.

Intel's comments are based on an untenable contention – that equipment providers that wish to have their devices receive cable content should be able to receive that benefit without undertaking the responsibility to protect cable content, or bearing any of the associated costs.[30] To enable PCs to receive cable services using a CableCARD, a PC manufacturer must provide a secure interface and meet the appropriate compliance and

[28] Intel, Dell, HP, Sony Comments at 7 (arguing that DCAS would "preclude" cable access in multi-function devices and personal computers "as those devices are currently constructed" – in other words, the commenters define the necessity of any change on their part as a preclusion of their equipment); *see id.* at 21 (objecting to robustness standards or implementation of core functions in hardware").

[29] *See* http://www.dtcp.com/, "Announcement: DTCP grants provisional approval to Windows Media DRM," (viewed February 3, 2006).

[30] *See e.g.*, Intel, Dell, HP, Sony Comments at 6 (DCAS "should make a minimum of demands on the hardware that composes the computing platform"); and at 21 (DCAS "should not dictate specific implementation details" for robustness); *see* Intel, Dell, HP, ATI Comments at 4 (complaining that compliance with robustness rules would be too expensive).

robustness standards. DCAS is not "incompatible with [PCs'] underlying platform"[31] or incompatible with PCs. Under DCAS, a PC manufacturer is simply obligated to comply with the relevant security requirements, just as they must with CableCARDs, if they want their devices to be able to decrypt and receive multichannel video programming services.

As Intel knows, CableLabs and Microsoft have reached an agreement that enables CableCARDs to work on Windows-based PCs, and cable is now working with other members of the PC and IT industries on similar accords.[32] The cable industry will work in a similarly cooperative fashion with PC and IT interests on DCAS.[33]

Encryption Requirements and PCI Express

In a separate filing, Intel, ATI, Dell and HP take issue with two specific aspects of the DCAS robustness rules. First, they question the requirement that, if the video decoder is not located inside the same silicon device or ASIC as the video decryption engines, the interface between the two chips must be encrypted.[34] Second, they object to treating PCI Express as a "user accessible bus."[35] They claim that this is an unnecessary

[31] Intel, Dell, HP, Sony Comments at 7.

[32] Intel suggests that NCTA misrepresented to the Commission that PCs would be authorized as unidirectional digital cable products ("UDCPs") regardless of robustness. Intel Comments at 13-14. To the contrary, NCTA specifically explained that "Intel is seeking a special exemption from the requirement accepted by every other manufacturer of OpenCable devices, whether the devices are built under PHILA or the devices are intended to be built under DFAST: that the device be made robust and tamper proof, so that programmers can be confident in the security of the cable network, and cable operators can therefore acquire digital programming for cable customers." Reply Comments of the National Cable & Telecommunications Association, CS Docket No. 97-80, April 28, 2003, at 31-33. The Commission did not grant Intel that special exemption.

[33] It is possible that Intel is redirecting unhappiness that one particular implementation of interest to it—DTCP-IP—has not yet been approved. But DTLA submitted DTCP-IP with no video profile (of the kind that was required when DTCP was approved for 1394). As the Commission has previously held in its Broadcast Flag Technology Approval order, approvals for content protection technologies are specific to interface and transport. *Digital Output Protection Technology and Recording Method Certifications*, MB Docket No. 04-55 *et al*., Order, FCC 04-193 at ¶¶ 64, 68 (rel. Aug 12, 2004). CableLabs has been working closely with DTLA (the licensing administrator for DTCP) on an approach that would address this issue.

[34] Intel, Dell, HP, ATI Comments at 8-9.

[35] Intel, Dell, HP, ATI Comments at 7-8.

requirement that would impose unidentified "prohibitive compliance costs"[36] for PCs. They argue that the requirement is unnecessary based on an assumption that commercial hackers would likely attempt easier hacks.[37]

These objections miss the point. Although it may require more expertise to steal content traversing PCI Express than through less-secure configurations, the high-value content sought to be delivered by cable (such as early release HD movies) will attract the most skilled, experienced and well-funded pirates. Even without a probe or interposer, it is possible to build an add-in card which acts as the decoder and receives un-encrypted streams, including one based on the PCI Express interface chips which are available to any card manufacturer. PCI Express is a relatively new technology, and concerns over its robustness are neither limited to the cable industry nor specific to the DCAS license. These issues have come up in other security forums. It may, however, be possible to secure cable content through authentication of add-in cards, or other means, and the cable industry is willing to discuss these issues with interested parties in an appropriate forum. To date, the cable industry has not been contacted to discuss these issues.

It seems obvious that public forums are not the place to discuss and resolve the points of vulnerability in the security of new technologies, specifically as they apply to cable. This is particularly the case in this instance where the statute applies to *all* MVPDs,[38] and specifically warns that "The Commission shall not prescribe regulations

[36] Intel, Dell, HP, ATI Comments at 9.

[37] Intel, Dell, HP, ATI Comments at 12-13, fn. 16.

[38] While we welcome Verizon's vote of confidence that DCAS is a superior technology to CableCARDs, we take issue with Verizon's suggestion that it should be exempted from the separate security rule on the grounds that it is a small, new entrant. Verizon has unquestionably become an MVPD, and the Commission has previously determined that all MVPDs are subject to Section 629. *Commercial Availability of Navigation Devices,* CS Docket No. 97-80, Report and Order, FCC 98-116, 13 FCC Rcd 14775, ¶ 22 (rel. June 24, 1998) ("We disagree with the comments of several parties that Section 629

… which would jeopardize security of multichannel video programming and other services offered over multichannel video programming systems, or impede the legal rights of a provider of such services to prevent theft of service."[39]

III. The DCAS License Is Commercially Reasonable

CEA and others also attack certain elements of the DCAS license, despite the fact that two of CEA's major members have signed the license, and other members are in the midst of negotiations to sign as well.

Non-assert Clause

One clause to which CEA objects is the one requiring all participants in the DCAS architecture not to assert essential intellectual property ("IP") claims against each other. This "non-assert" clause also applies to MSOs, CAS providers (such as Motorola and Scientific-Atlanta), and chip providers, in addition to CE manufacturers. It is a common IP risk-management technique to require those who commercially benefit from a technology to agree not to sue other participants with an IP claim that is essential to that technology, because such an agreement promotes wide deployment of the subject technology at a nominal cost and protects manufacturers from being ambushed by hidden royalty demands from fellow licensees.[40] CEA's objection appears completely out of

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should apply only to cable television systems. There is no basis in the law, or the record of this proceeding, to support a conclusion that the statutory language does not include all multichannel video programming systems.") As the Commission is well aware, Verizon is one of America's largest corporations, with millions of preexisting relationships with residential and business customers, a nationally-known brand, and enormous financial resources. Just three months from its initial offer of multichannel video programming in Keller, Texas, Verizon claims that it has captured 20% of that MVPD market, and by the end of January 2006 it had entered the market in Florida, Virginia, New York, California, Massachusetts and additional markets in Texas. *See* http://newscenter.verizon.com/proactive/newsroom/release.vtml?id=93141 (viewed Feb. 3, 2006). In any event, comments on NCTA's DCAS Report are not the place to plead for waiver.

[39] Section 629(b).

[40] DTCP and HDCP follow the same model, and both DTLA and Sony defended it vigorously to the Commission. *Digital Output Protection Technology and Recording Method Certifications*, MB Docket No.

touch with its members, as this same structure is used in the DTCP and HDCP licenses. The Commission specifically approved this IP structure in the broadcast flag technology approval order.[41]

One constructive comment that CEA has made is that there should be a means by which potential licensees, who are evaluating but not yet committing or contributing to DCAS technology, may review specifications without committing their patent portfolios for a limited time. This is a sound suggestion, and will be incorporated into the DCAS license.

Confidentiality and the Specification Development Process

Intel takes issue with the license's confidentiality protections regarding the development of the DCAS architecture, in which access to works in progress and other confidential material is protected by non-disclosure agreement (NDA).

The cable industry has designed and developed DCAS with considerable participation by manufacturers and other vendors, each of which acceded to the NDA as part of the initial technical DCAS system overview. Two hundred twenty-five (225) companies, including CE companies like Philips, Pioneer, Panasonic, Thomson/TTE, Hitachi, Mitsubishi, JVC, Texas Instruments, Toshiba, Samsung, LG, Sharp, Sony, TiVo, and Zenith participated in the initial technical overview under NDA. Indeed, ATI, Dell, HP, Intel, and Sony each received the technical system overview of DCAS under NDA.

04-55 *et al*., Order, FCC 04-193 at ¶¶ 88-89 (rel. Aug 12, 2004). DTLA defended it as "commonly employed in licenses for digital video content protection technology," and "sensible and pro-competitive." *See In the Matter of Certification of Digital Transmission Content Protection ("DTCP") for Digital Content Broadcast Protection*, MB Docket No. 04-64, Certification of Digital Transmission Licensing Administrator LLC for Approval of DTCP as an Authorized Output Protection Technology (March 1, 2004) at 16-17.

[41] *Digital Output Protection Technology and Recording Method Certifications*, MB Docket No. 04-55 *et al*., Order, FCC 04-193 at ¶¶ 88, 89, 91 (rel. Aug 12, 2004).

As part of the initial DCAS overview, the NDA specifically did not require the surrender, option, grant, or license of intellectual property. Instead, it simply required that confidential information be kept confidential.

For those participants wishing to work on the early specification development, additional agreements were required. Under their terms, additional agreements gave the visiting engineer complete control over what, if any, of their intellectual property they wished to contribute. If they did contribute intellectual property, they were required not to claim later that a royalty was due for incorporating that intellectual property. Intellectual property management requires the vigilant protection of developing new technologies against those who want to "contribute" an idea that carries hidden IP claims – something CE manufacturers gained first-hand experience with during the development of V-chip.[42]

We provided early draft host specifications to the DCAS Host License signatories who intend to build these devices. As is customary for OpenCable specifications, the draft specifications were published to the OpenCable reflector (about 500 companies) on February 6, 2006. Further comments, including those from Intel, Sony, Dell, HP, ATI and others, are solicited, and will be peer reviewed. Following this comment review process, the specs will be publicly posted to the CableLabs website. No surrender, option, grant, or license of any intellectual property will be required to review these public specifications.

As Intel itself knows, security specification development is done carefully, with tight control over the security of the work in progress through NDAs and "need to know"

[42] Elizabeth D. Ferrill, Patent Investment Trusts: Let's Build a PIT to Catch the Patent Trolls, NORTH CAROLINA JOURNAL OF LAW & TECHNOLOGY, Vol. 6, Issue 2 at 367 (Spr. 2005).

distribution. For example, Intel's Viiv has been closely guarded, as are other Intel projects that are currently subject to NDAs. The DTCP and HDCP licenses also control security-related specifications to minimize potential exposure to hackers.[43]

CEA claims that Section 76.1205 of the Commission's rules (regarding "technical information" concerning interface parameters) requires that all specifications must be made public now. In fact, the Commission specifically rejected adoption of such a broad rule and instead "commit[ted] to MVPDs the development of standards" for equipment manufacturers.[44] Moreover, CEA's expansive reading is untenable under a statute that specifically forbids any "regulations … which would jeopardize security of multichannel video programming and other services offered over multichannel video programming systems, or impede the legal rights of a provider of such services to prevent theft of service."[45]

Change Process

CEA and Intel object to the DCAS license's change management process for specifications or requirements.[46] The applicable process is not unilateral and is well known to CEA members who have been participating in a similar process for the OCAP specification.[47] In its reports to the Commission, CEA described how its member

[43] *See* DTLA Digital Transmission Protection License Agreement, "Adopter Agreement," § 3.1, available at http://www.dtcp.com/data/AA05312005.pdf (viewed Feb. 3, 2006). Security specifications are released only to Licensees, who also agree to confidentiality provisions.

[44] *See Implementation of Section 304 of the Telecommunications Act of 1996; Commercial Availability of Navigation Devices*, CS Docket 97-80, Report and Order, FCC 98-116 at ¶¶ 119, 124 (rel. June 24, 1998).

[45] Section 629(b).

[46] CEA Comments at 5; Intel, Dell, HP, Sony Comments at 17, n. 26.

[47] The OCAP change process involves a joint cable-CE technical discussion group that is developing proposed changes to the OCAP specification.

companies were actively involved in the change process for OCAP.[48] Indeed, CEA's members file most of the engineering change requests (ECRs) under this process. This activity demonstrates that the OpenCable process is open, inclusive, and welcomes those who wish to consult about their differences.[49] The process for DCAS (as is described in the NCTA DCAS Report and in the attached license) is no different than that for OCAP.[50]

Service to Customers Clause

CEA objects to the license term that reserves for a cable operator the right to deny service to a particular retail customer.[51] If CEA's objection is grounded in its desire for the cable industry to make an explicit commitment to retail devices, the cable industry has already volunteered it with a proposed Commission rule that would require MSO support for retail OCAP DTVs.[52] A technology license, however, cannot guarantee

[48] Joint Status Report of the Consumer Electronics Association and the National Cable & Telecommunications Association, CS Docket No. 97-80 (Nov. 30, 2005) at 1-2; Joint Status Report of the Consumer Electronics Association and the National Cable & Telecommunications Association, CS Docket No. 97-80 at 1-2 (October 14, 2005).

[49] Sony (followed by Hitachi and Sharp) have suggested that NCTA has erroneously implied that those companies agreed with everything in the OpenCable process because we included their companies in lists of those who participate in the OpenCable ECR processes and who have signed the OpenCable Contribution Agreement. Sony goes so far as to say NCTA "misrepresented" its position. *See, e.g.*, Letter from Jim Morgan, Sony, to Marlene H. Dortch, Federal Communications Commission, CS Docket No. 97-80 (Jan. 5, 2006). In fact, by filing the lists as we did, we merely advised the Commission of the many entities participating in the OpenCable process and showed that the process is an inclusive one. We certainly did not suggest that every entity on the lists agreed with everything in the OpenCable process.

[50] Section 3 of the License describes the process, including the manner in which CableLabs is required to consider "the economic burden that Licensee will bear as a result of implementing such change, taking into account such factors as cost to implement, production cycles, backward compatibility and existing inventory of Licensee, the cumulative effects of Changes on software architecture, as well as consumer choice, interest in innovation, economic burden on the Cable Operator, and developments in technology." The License also provides specific rights of escalation and dispute resolution. DCAS Host License § 3.4.

[51] CEA Comments at 5.

[52] *See* Report of the National Cable & Telecommunications Association on Two-Way (Interactive) Digital Cable Ready Televisions, CS Docket 97-80 at Appendix B, pp. 6-7 (Nov. 30, 2005) ("NCTA 11-30-05 IDCP Report") (proposed new rule § 76.641 entitled "Support for Interactive Digital Cable Ready Products on Digital Cable Systems").

service to non-compliant products, nor can it authorize a customer to buy a retail product and stop paying a service provider for service.

The DCAS License is Not Bound to DFAST Terms

CEA suggests that certain terms of the DCAS license should mirror those applicable to unidirectional products in the DFAST license.[53] In doing so, CEA is asking for terms and conditions on interactive devices that it specifically disclaimed in the unidirectional MOU. CEA and its members already agreed in the unidirectional MOU that DFAST would not set the standard for advanced interactive devices. Specifically, they agreed that advanced interactive two-way products would be held to "a higher level of compliance, and of interoperability testing."[54] As CEA members recognized at the time of signing the unidirectional MOU, the DCAS devices under discussion would be decrypting and receiving the highest-value content on cable – including early window, on-demand content – and warrant different terms than those applied to unidirectional devices. Indeed, the DCAS license was modeled on the more robust commercial license for OCAP and CHILA for two-way cable content.[55]

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[53] CEA Comments at 4.

[54] DFAST License at § 4.2, found at *Implementation of Section 304 of the Telecommunications Act of 1996*, CS Docket No. 97-80, *et al*., Further Notice of Proposed Rulemaking, FCC 03-3 at Appendix B (rel. Jan. 10, 2003).

[55] CEA and its members also agreed in the unidirectional MOU that DFAST would not apply to devices that receive content that is available to advanced interactive DCAS devices. Specifically, the MOU provides that DFAST is barred from implementation on advanced interactive products until DBS, telephone, DSL, Internet and other competing technologies for the distribution of video are subject to the same encoding rules. Memorandum of Understanding Among Cable MSOs and Consumer Electronics Manufacturers (Dec. 12, 2002) at § 2.9 ("The DFAST License Agreement contains a field-of-use restriction barring its implementation on Advanced Interactive (two-way) Digital Cable Products. This field-of-use restriction will remain in effect until December 31, 2005, and thereafter unless appropriate regulations and legislation are then in effect that subject all MVPDs (including DBS), telephone and DSL providers, Internet and other competing technologies for the distribution of video to the same encoding rules"), found at *Implementation of Section 304 of the Telecommunications Act of 1996*, CS Docket No. 97-80, *et al*., Further Notice of Proposed Rulemaking, FCC 03-3 (rel. Jan. 10, 2003), Appendix B. This limitation on the use of DFAST continues to apply because no such regulations have been adopted for DBS or telephone—

Harm to Service Clause

CEA also takes issue with the license requirement that their devices do not cause harm to service and play cable content as intended by the service provider.[56] But CEA and its members, including Sony already accepted this requirement in the DFAST license they endorsed in 2002.[57] Without an assurance that services will be rendered as intended by the operator, consumers will have no assurance that the cable service will meet their expectations and be delivered as advertised, or that they can be appropriately serviced by cable customer service and technical support representatives.[58]

Cable competes in an exceptionally dynamic marketplace against competitors who have considerable leeway in dealing with manufacturers and retailers. For example, on January 13, 2006, DirecTV gave notice of a March 1 termination of its retail contracts for commissionable sales of retail set-top boxes and moved to leasing proprietary, integrated boxes.[59] DirecTV proclaimed that this move was "to ensure that customers

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two industries for whom CEA members build equipment without assurances of "common reliance," standardization, or any of the other demands they make of cable.

[56] CEA Comments at 5. Intel, Dell, HP, Sony Comments at 12 suggest that the PC be treated as a "sink" with no obligation to deliver cable services as offered by the cable operator.

[57] DFAST provides: "No feature or functionality of a Unidirectional Digital Cable Product, as manufactured and distributed, shall (a) technically disrupt, impede or impair the delivery of services to a cable customer; (b) cause physical harm to the network or the POD; (c) facilitate theft of service or otherwise interfere with reasonable actions taken by Cable Operators to prevent theft of service; (d) jeopardize the security of any services offered over the cable system; or (e) interfere with or disable the ability of a Cable Operator to communicate with or disable a POD Module or to disable services being transmitted through a POD Module."

[58] Intel also knows that a service provider has an interest in the ability of hardware to deliver service as intended. Intel's own promotion of Viiv makes this point. It tells the customer "Home networking capability and many Intel® Viiv™ technology-based usage models will require additional hardware devices, software or services. Functionality of Intel® Viiv™ technology verified devices will vary; … System and component performance and functionality will vary depending on your specific hardware and software configurations." *See* http://www.intel.com/products/viiv/description.htm#components, (viewed Feb. 3, 2006).

[59] *See* http://www.dslreports.com/forum/remark,15238297; Multichannel News, 1/23/06, http://www.multichannel.com/article/CA6301253.html?display=Search+Results&text=DirecTV. DirecTV

always have access to the most state of the art, up-to-date equipment." Telephone companies and IT players likewise impose their own requirements and specifications on their set-tops and other proprietary devices that receive their services.

It is more crucial than ever that cable operators be able to compete for customers against other facilities-based competitors in this environment. The cable industry is building a network with sufficient security, intelligence, and robustness in order to convince program suppliers to provide it with the highest-value content, like early release VOD movies, via cable. No law compels program suppliers to make content available to cable operators if they operate an insecure or indiscriminate platform. If a device attached to a cable operator's network prevents the operator from fulfilling its service commitment, or causes the operator's network to leak, it jeopardizes not only the operator's retention of *that* particular customer, but it also places at risk the programming that the cable industry can make available to *all customers*.

Further, CEA, Dell, HP, Intel, ATI and Sony's insistence that they have no obligation to deliver cable service as intended by the service provider would convert cable from a service provider who can deliver on promises made to the consumer, into a wholesale pipe to any device, whether robust or not, functional for cable service or not, and regardless of impact on the rest of cable customers. That is not the purpose of Section 629 and would turn cable into a common carrier in violation of Section 621(c).

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is simultaneously raising its service prices. *See* http://www.multichannel.com/article/CA6301692.html?display=Search+Results&text=DirecTV (all sites herein viewed February 3, 2006).

Testing

Dell, HP, Intel, and Sony claim to fear a "white water rafting expedition" if devices are required to be tested for certification.[60] They do not dispute, as explained in the NCTA DCAS Report,[61] that such testing has long been a feature in technology implementation that has been emulated by the WiMAX Forum for wireless broadband,[62] and that it is being developed in conjunction with high-definition DVDs.[63] They also do not dispute that CableLabs' testing: (1) follows published, objective tests drafted in cooperation with CE manufacturers; (2) is administered by trained professionals under confidentiality procedures protecting the manufacturer; and (3) is subject to quality assurance, a review panel, and an appeals process.[64] They do not dispute that CableLabs' multiple testing waves are coordinated with the manufacturers' product deployment cycle, or that tests are administered on a cost recovery, not-for-profit basis.[65] They do not dispute that as of November 2005, there were 374 certified or verified models of CableCARD-enabled one-way products from 22 manufacturers.[66] They do not dispute that every one of the 22 manufacturers of unidirectional digital cable products ("UDCPs") has taken advantage of the state of the art development testing at CableLabs.[67] And, although the CableLabs testing process for unidirectional devices is

[60] Intel, Dell, HP, Sony Comments at 17.

[61] NCTA DCAS Report at 7.

[62] Intel serves on the Board of the WiMAX forum, and Dell is one of the members. http://www.wimaxforum.org/home/ (viewed Feb. 3, 2006).

[63] Intel and Sony are among the founders of The Advanced Access Content System Licensing Administrator (AACS LA). http://www.aacsla.com/home (viewed Feb. 3, 2006).

[64] NCTA DCAS Report at 7.

[65] NCTA DCAS Report at 7.

[66] NCTA 11-30-05 IDCP Report at 5.

[67] NCTA 11-30-05 IDCP Report at 14.

subject to Commission appeal and review, no manufacturer has availed itself of such appeal for any product. As demonstrated by this record, their complaint is unfounded.

Fees

Intel claims to lack information on the licensing costs for DCAS. Section 5.1 of the Host license specifies a one-time nominal fee at signing, with no continuing royalty.

Trusted Authority Reference

CEA tries to conjure up fear of "an unidentified 'Trusted Authority' with apparently plenary power over the function of *all* navigation devices."[68] This grossly mischaracterizes the term "trusted authority." NCTA has already explained that this reference in the license is to an authentication database used in validating a new device as it initializes on the network.[69]

* * * *

The DCAS license has been commercially accepted and adopted by two major CE manufacturers so far. It reflects standard arrangements for the licensing of intellectual property and protecting the confidentiality of security technologies. It included other commercially reasonable terms that have already been accepted by CE manufacturers for CableCARD-based advanced interactive devices. The cable industry welcomes input and requests for negotiation from all parties that are interested in deploying DCAS-enabled navigation devices. The license offers "most favored nation" terms that will enable any signatory to later take advantage of any better or different terms subsequently negotiated by others.

[68] CEA Comments at 5.

[69] NCTA DCAS Report at 3.

IV. Other Issues

CEA attempts to divert attention from the benefits of DCAS with spurious claims regarding CableCARDs. None of them has any merit, and they are in any event irrelevant here.

First, CEA implies that cable bears the responsibility for the difference between the "80,000" (actually, more than 100,000) customers who take CableCARDs[70] and the number of DTVs that have been sold with CableCARD slots. In fact, consumers are adopting CableCARDs at a reasonable pace, considering that the cards only serve unidirectional DTVs. One hundred percent card usage on every DTV with a card slot should not have been expected.[71] CEA insinuates that cable operators have failed to adequately promote CableCARDs, but to the contrary our prior reports have documented that support.[72] As CEA's CEO Gary Shapiro has told the press, cable operators "have stuck to their promise to support" CableCARDs.[73] CEA appears to be disappointed that cable operators may have advised some consumers that existing CableCARD-enabled DTVs do not support interactive services. But that is the truth and the Commission

[70] NCTA status report, Docket 97-80 (Dec. 29, 2005) at 1 (reporting that there would be more than 100,000 CableCARDs in use by the end of 2005).

[71] The comparison of CableCARDs deployed with the number of CableCARD-enabled sets proves nothing. CEA often touts the number of DTV sets sold even when many of those sets are not used for watching high-definition programming. According to recent Forrester Research data, nearly half of the buyers of high-definition DTVs are not even using the high-definition feature—because they did not know the HD television would not give them high-definition channels without additional equipment or an HD subscription, or because a message at the beginning of the programs they watch tells them that those programs are being broadcast in HD. New Research Proves HDTV Still 'Fuzzy' for Consumers, December 6, 2005, http://webwire.com/ViewPressRel.asp?SESSIONID=&aId=6521 (viewed Feb. 3, 2006).

[72] NCTA status report, Docket 97-80 (Dec. 29, 2005) at 2 (describing extensive cable support procedures and initiatives for CableCARDs, including internal teams, a multi-MSO collaborative to share support strategies). *See also* NCTA statue report, Docket 97-80 (Oct. 3, 2005).

[73] *Consumer Electronics Daily*, (Aug. 31, 2005).

explicitly urged cable operators and CE manufacturers to provide their customers with that information.[74]

Second, CEA attributes every consumer frustration with CableCARD-equipped UDCPs to the lack of common reliance. In fact, CE manufacturing problems have led to many of the customer frustrations with CableCARD-equipped DTV sets. The lack of "common reliance" cannot be the reason why one manufacturer's CableCARD-enabled DTV does not work properly with a CableCARD when the DTVs from five other manufacturers work perfectly using the same CableCARD on the same cable system. A *New York Times* review of UDCPs reported exactly such a scenario in which the same CableCARD from the same cable operator performs "flawlessly" in one manufacturer's DTV set, but not in another manufacturer's DTV set.[75] For example, the *Times* article reported that a Cablevision CableCARD "worked flawlessly" with a Panasonic Viera, but the reviewer had a negative experience with a Sharp Aquos using the same card.[76]

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[74] *Implementation of Section 304 of the Telecommunications Act of 1996, Commercial Availability of Navigation Devices*, CS Docket No. 97-80, Second Report and Order and Second Further Notice of Proposed Rulemaking, FCC 03-225, ¶ 41 (rel. Oct. 9, 2003) ("we believe that the digital cable ready designation, absent further clarification or explanation, may cause consumer confusion because it does not indicate that a set-top box will be needed to receive interactive services. As discussed above, we expect that the cable industry will fulfill and expand upon its voluntary commitments in the MOU to ensure that subscribers and local retailers are both aware of the availability of digital cable service in their area and of the compatibility of unidirectional digital cable products with operators' systems. … We strongly believe that it is incumbent upon the consumer electronics industry to collaborate with both their retail partners and the cable industry to develop consumer awareness campaigns about unidirectional digital cable televisions and their functionalities, particularly with regard to the need for set-top boxes in order to receive interactive services.")

[75] *See* Letter from Neal M. Goldberg, NCTA, to Jonathan Cody, Legal Advisor to Chairman Powell, Federal Communications Commission, Docket 97-80, (Jan. 11, 2005) at 7 (quoting David Pogue, Streamlined Cable TV in a Card, *New York Times* (Dec. 30, 2004).

[76] *Id.* ("different TV makers have designed their CableCard slots with different degrees of gracefulness. … The worked flawlessly with the CableCard … The Sharp Aquos wasn't quite as accommodating. For some goofy technical reason, the Sharp set treated analog and digital channels differently once the CableCard was installed. So if you have Cablevision (a company whose channels are not all digital), for example, you have to switch video inputs on the remote whenever you want to view a channel higher than 84. Yuck.").

Cable operators have experienced similar frustrations. Such problems have nothing to do with, and cannot be fixed by, "common reliance." More than likely they are due to the process of "self-verification" under which most models of CableCARD-enabled DTVs are not tested at CableLabs. Previous reports on file with the Commission have documented that customers are being faced with DTVs that cannot tune to specific channels, or suffer other problems, because the manufacturer failed to load the proper firmware.[77] Some manufacturers have posted such problems to their websites,[78] while others wait for the customer or cable installer to find and solve the problem. Cable has been working to solve the customers' problems, whether caused by CableCARD, network, or CE equipment (costing cable operators a significant amount of time, money and resources). But it is inaccurate to attribute these problems, and their solution, to a lobbying slogan. CE needs to face up to its own responsibilities, rather than assigning blame to others with such abandon.

Finally, CEA takes issue with the pace of the current cable-CE negotiations to implement bi-directional cable products and DCAS. These talks have been complicated by the insistence of some CEA members that cable invent and nationally deploy multiple application-specific interfaces other than OCAP. This proceeding should not become a diversion for those CEA members that care more about slowing down those in the forefront of OCAP and DCAS. Comments on issues unrelated to downloadable security are just such a diversion.

[77] *See* NCTA status report, Docket 97-80 (Oct. 3, 2005) at 2.

[78] *See e.g.*, http://www.tacp.toshiba.com/resource.asp?resourceid=5 (viewed Feb. 3, 2006).

V. Conclusion

From the perspective of the consumer, the manufacturer, cable operators, and retailers DCAS is a far better solution than CableCARDs. It is superior in that it: (1) eliminates the need for a separate piece of equipment matched to every network, (2) occupies a smaller footprint that fits into many more devices, (3) eliminates a manufacturer's card slot, (4) reduces heat dissipation requirements, (5) increases energy efficiency, (6) simplifies installation, (7) opens up a world of competing vendors, (8) allows for more advanced DRMs, (9) simplifies the sale of Cable Ready DTVs by retailers and (10) enables new service offerings to consumers. Nothing in the comments refutes the statements in NCTA's DCAS report "that downloadable security is a feasible [conditional access] approach, that it is preferable to the existing separate security configuration," and that the cable industry has committed to its implementation for its own devices and those purchased at retail by July, 2008.[79] As with any work in progress, there will be improvements made. The record, however, demonstrates that downloadable

[79] Given the criticism leveled against the NCTA DCAS Report, which satisfied all of the Commission's requests, one is reminded of Lyndon Johnson's comment that "[i]f one morning I walked on top of the water across the Potomac River, the headline that afternoon would read: 'President Can't Swim." http://www.time.com/time/personoftheyear/archive/photohistory/johnson.html (viewed Feb. 3, 2006).

security is feasible and preferable to the existing separate security configuration, and that the cable industry is committed to it for both leased and retail use.

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