



NDS is now  
part of Cisco.



# MediaHighway®

Next Generation  
Set-Top Box Software





# Meeting the challenge of change

Today's set-top boxes (STBs) are expected to do a lot more than ever before. Besides delivering standard DVR and HD services, they must support advanced services like video-on-demand (VOD), catch-up, content distribution to multiple devices, over-the-top (OTT) content and contextual related widgets.

NDS MediaHighway® set-top box software enables STBs to meet all these expectations... and more. It is the industry's fastest growing set-top box software and will soon be the most deployed.

## The choice of pay-TV leaders

MediaHighway has been selected by more than 40 operators worldwide, including leading digital pay-TV platforms such as BSkyB (UK), DIRECTV (US), CanalSat (France), Sky Deutschland (Germany), Airtel (India) and Astro (Malaysia). It is the software behind the world's most popular and fastest growing SD/HD DVR which now has over a third of market share.

## Supports all platforms types and sizes

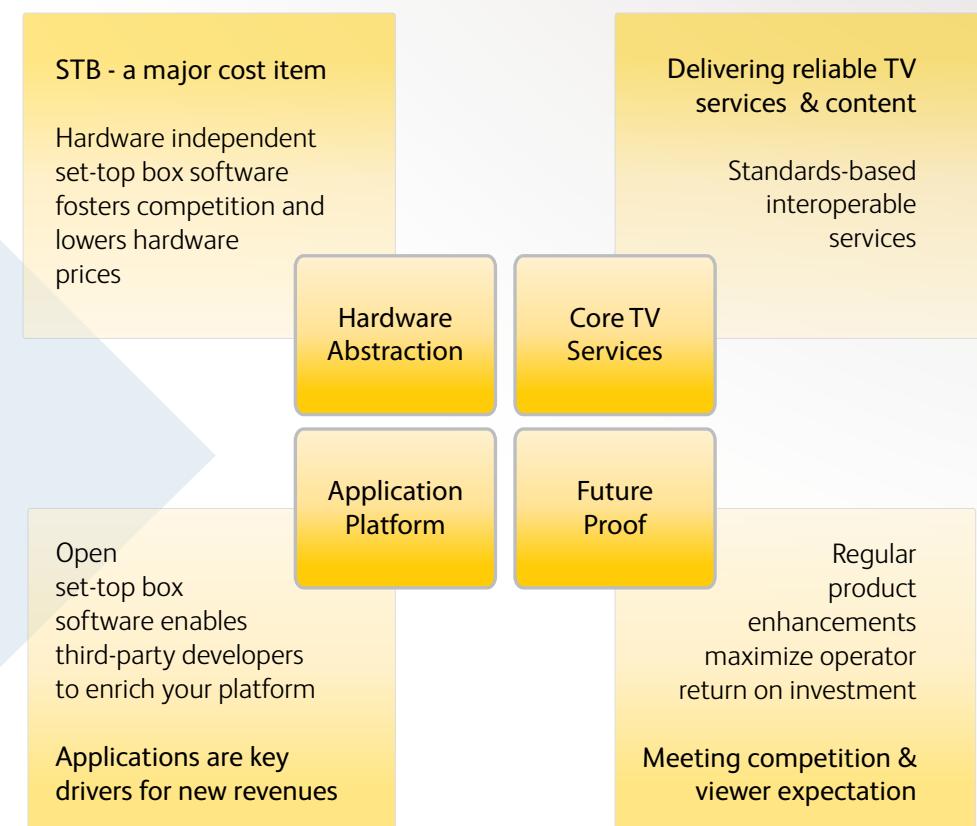
MediaHighway's infrastructure and advanced architecture make it flexible, powerful and feature-rich. It supports platforms large and small using all types of STBs, from low-end zappers or thin IP clients, through mid-end, hybrid HD DVRs to high-end multi-tuner gateway boxes. Advanced MediaHighway-equipped boxes also support dual-core functionality enabling more actions to be done simultaneously without impacting on each other.

# A dynamic feature set

It offers unrivalled features and services designed to boost ARPU and keep subscribers loyal to your platform:

- Manages cable, satellite or terrestrial signals together with IP to deliver rich content across any network
- Supports all content delivery methods—broadcast, hybrid and OTT—through a single hybrid STB or gateway
- Features a sleek new selection of Electronic Program Guides (EPGs) using different application engines (Java, Flash, HTML) and backed by consulting and global studio design services
- Includes integrated HTML browser to enable web-based services
- Supports multi-threading so that EPG coexists with HTML widgets
- Supports multi-room DVR and content distribution to multiple devices
- Includes development, authoring, testing and publishing tools for updating EPGs and creating interactive applications
- Supports rich broadband features—VOD, Catch-up, Restart-TV, content discovery, recommendations etc.

MediaHighway's feature set is constantly being tested and evaluated and has a well defined roadmap for the future.



# Delivering the future of pay-TV

Reflecting more than a decade of intensive R&D and significant investment, NDS is now working with customers to create a MediaHighway roadmap of advanced functions and features for the near and long term.

## Electronic Program Guides and UIs

At the heart of any pay-TV operation, today's EPG is the operator's branded, all-in-one portal with content navigation, promotional space, new apps and widgets.

An effective EPG drives revenues and reduces churn while keeping your brand upfront. It maintains your platform's status as the one-stop-shop for broadcast, on-demand, Internet and interactive TV (iTV) services.

MediaHighway follows the NDS strategy which simplifies buying, moving, storing and enjoying content on any device. Our UI designs provide a familiar, yet sleek user experience on all devices while enhancing your brand.

With MediaHighway, you can take advantage of a rich selection of ready-

made or tailored SD and HD EPGs. NDS has won several interactive and design awards for its EPGs, created in our network of global design centers. MediaHighway's multi-threaded approach enables operators to use different application engines (Java, Flash, HTML) for running EPGs and applications at the same time.

MediaHighway STBs support EPGs with multiple languages and character sets, including Chinese, Arabic, Cyrillic, Korean and Hebrew, so you can deploy in any market.

With MediaHighway's design and development tools, EPG Designer and EPG Framework, you can change and update your EPG's look and feel in-house without changing the underlying code.



NDS is the world leader in DVR technology, with over 49 million DVRs devices currently deployed.

### Advanced DVRs

The MediaHighway® DVR has tightly integrated content protection for recorded content, while offering a host of advanced features and business opportunities:

- Over a dozen pre-integrated STBs and multiple chipsets for reduced costs and fast time-to-market
- Series recording, review buffer and Push-VOD
- Smart recording management ensures all programs are recorded at the right time
- Audience measurement for all kinds of content including: live, on-demand and recorded
- Remote booking from PC/Mobile
- Booking from TV promos
- Revenue generating advertising capabilities with NDS Dynamic™ that turns the DVR into a smart ad server in the home

### External DVR

MediaHighway's DVR Lite solution turns legacy STBs into fully functioning DVRs by simply connecting an external hard drive. NDS' DRM technology keeps content encrypted and fully protected on external disks while your subscribers enjoy the benefits of a DVR experience without the associated hardware cost. DVR Lite passes the cost of storage from the operator to the subscriber and increases operational benefits.

# The world's most popular DVR



Today's subscribers want it all—broadcast TV, VOD and OTT long tail Internet content. MediaHighway® ensures that your platform remains the one site to go to for all types of content.

# Offer it all on your platform

## Video-on-demand

MediaHighway supports streaming VOD on cable, IPTV and hybrid STBs. It has been integrated with many of the world's leading VOD servers to provide an efficient, secure and feature-rich experience with these important features:

- Multiple catalogs for regional pricing and availability
- Movie promotions and trailers
- Rich metadata such as content synopsis, poster images, cast list, parental rating, video/audio formats and closed captions
- Unique skins for different on-demand pages
- Catch-up TV and Restart-TV for either "rewinding" the EPG to watch previously aired titles or watching currently broadcast titles from the beginning before they finish

## Hybrid pay-TV services

MediaHighway's, two-way network capability lets you deliver advanced broadband services through a single hybrid STB or gateway; for example, VOD, content from home-network devices, user-generated content and other revenue-enhancing services.

## Progressive download (PDL)

PDL maintains your quality-of-service while delivering IP content over variable bandwidth connections. It avoids the need for expensive VOD servers or high speed networks to deliver HD content and so reduces your cost.

## Advertising solutions

MediaHighway fully integrates with the NDS Dynamic™ suite of advanced end-to-end advertising solutions. NDS Dynamic delivers advertising that is measurable, addressable and interactive. It uses MediaHighway and your DVR to measure what subscribers watch, and then delivers targeted, more meaningful advertising as well as exciting interactive ads.



# Leveraging the Internet

## Gateway to Internet opportunities

Using MediaHighway's integrated W3C compliant HTML browser, viewers can enjoy Internet audio and video content as an integral part of your branded offering. You can also apply new revenue generating features including bumper advertising, contextual widgets, linking paid premium titles with Internet content and Internet pay-per-view (PPV), to ensure your customers remain loyal.

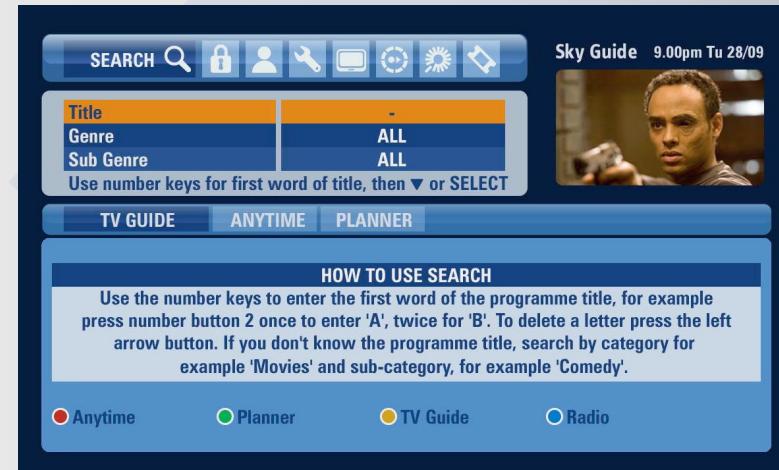
## Search and recommendations

MediaHighway's unique search mechanism consolidates results from linear channels, the VOD catalog, DVR recordings, PPV titles and even walled-garden Internet content. It uses metadata and cross-links to present recommended titles that open up new revenue streams.

## Over-the-Top (OTT) content delivery

MediaHighway supports adaptive-bit rate (ABR) based HTTP streaming technology for delivering live TV and on-demand over unmanaged IP networks. This is ideal for delivering niche live channels to select audiences without taking up costly broadcast bandwidth. All content, whether delivered over both broadcast and IP, is presented seamlessly through a unified programming guide.

MediaHighway® keeps you at the center of your subscribers' video experience by integrating online content with your broadcast services.



BSkyB search feature



Recommendation widget

# Home networking for more enjoyment

MediaHighway makes it easier for subscribers to share DVR and VOD content between multiple devices.

Its home-networking capabilities practically turn simple STBs around the home into DVRs without any local storage.

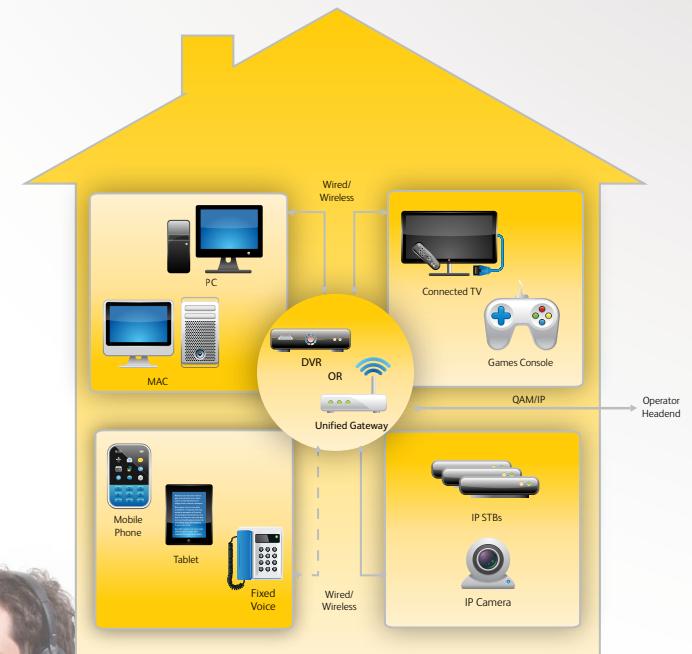
Subscribers can share content between horizontal devices, such as tablets and PCs, and in the near future, with connected TVs and game consoles. They can also stream photos, music and video stored on the PC to the big screen.

## NDS Unified Gateway™

MediaHighway software is a key enabling technology that is making the next generation of converged services a reality. It drives the NDS Unified Gateway to bring triple-play services into a single operator-managed device with home network capabilities. These include:

- Multi-room DVR
- Connectivity between the gateway and companion devices
- Voice and broadband management
- VOD enhancements such as global search, recommendations, contextual TV widgets
- Home automation services
- Addressable advertising

Each client supports a remote UI, while the native UI resides on the Gateway box or in the headend.



# Interactive TV services

NDS' next generation interactive TV solution keeps the TV as the primary entertainment source in the home.

Using the MediaHighway Development Kit's (MHDK) iTV tools and standard API extensions, operators and third-party developers can apply advanced Flash, Java & HTML graphics and interactions to create compelling applications that enrich the viewing experience. For example:

- Contextual applications that synchronize with and enhance the content your viewers are watching
- Social TV features
- In-home shopping
- Gaming
- Games channels for branded and white label products
- Multi-player games
- Quizzes, trivia and educational applications
- Sports applications with statistics and multiple camera angles

The MHDK simulates, debugs and pre-integrates applications, allowing you to test them on a PC connected to your STB. This cuts development time from months to days.

## Interactivity on companion devices

MediaHighway integrates with the NDS Service Delivery Platform (SDP). The SDP enables operators to extend their brand to companion devices while avoiding the time and cost of creating and integrating applications.

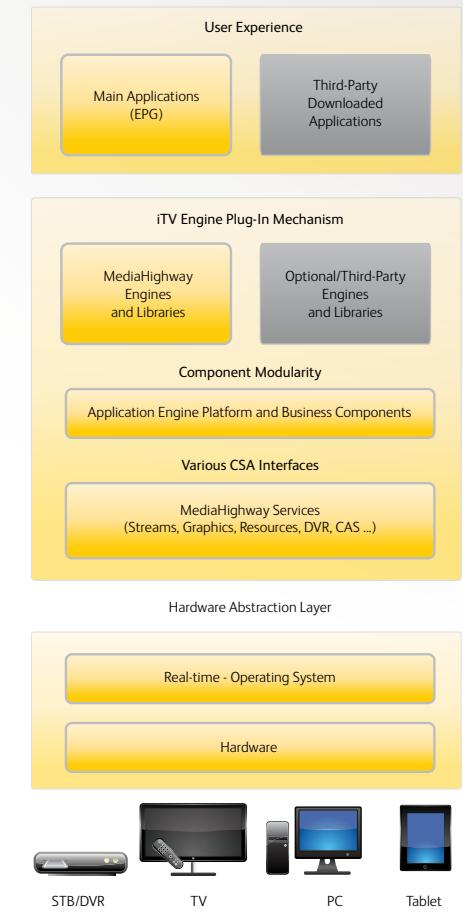
Using the SDP "Developer Portal", third-party app developers can access standard APIs to create contextual applications for various platforms such as iOS, Android, RIM and others. Subscribers can then use their companion devices to interact with

their set-top box through applications related to content they are currently watching. They can, for example:

- Use the device as remote control to perform trick modes and book recordings
- See related content from websites such as Facebook, Twitter, IMDb and YouTube
- Watch live or on-demand content either within the home network, or outside the home through the operator's cloud service.



## MediaHighway®



# Optimize your STB investment

MediaHighway® can save you millions on development costs by enabling you to design once and use on all STB models. It continues to save money by significantly lengthening the useful life of these STBs.

You can innovate and update, adding new functions to deployed STBs without the intervention of the STB manufacturer or disruption to your service. Your subscribers will be more satisfied and you will get a better return on your investment.

Many NDS customers deploy a variety of retail STBs to encourage price and feature competition. They chose MediaHighway to reduce call center costs and ensure consistency across the range of STBs.

To learn more about how NDS MediaHighway® can help your pay-TV business to introduce market leading services, visit the [Web page](#) or [contact us](#).



## NDS Customers

### THE AMERICAS

Cablevision  
Canal Overseas  
Charter Communications  
Cogeco Cable  
Comcast  
Cox Communications  
DIRECTV  
DIRECTV LA  
Rogers Communications  
Sky Brazil  
Sky Mexico

### EUROPE | MIDDLE EAST | AFRICA

A1 Telekom Austria  
Akado Stolitsa  
BeTV  
Bouygues Telecom  
BSkyB  
BTC Vivacom  
Cablecom  
Canal Digital  
Canal Digital  
Canal Overseas  
CanalSat  
Cyfra+  
CYTA  
Digital +  
Dogan TV  
Eutelsat  
Get  
Hot  
Unitymedia KabelBW  
Kabel Deutschland  
Kazteleradio  
Lumiere TV  
On Digital Media  
Ono  
PAKT  
PrimaCom  
Romtelecom  
Serbia Broadband

### ASIA | OCEANIA

SFR  
Sky Deutschland  
Sky Italia  
Smallworld  
TeleClub  
Tele Columbus  
Total TV  
UPC  
Viasat  
Vision TV  
Vodafone  
Yes  
Zon

ADN Networks  
Aora  
Astro MBNS  
Bharti Airtel  
C&M Gangnam Cable  
Canal Overseas  
CCN-Wenzhou  
CCTV  
Chongqing Cable TV  
CJ HelloVision  
Classic Cable Network  
Darsh Digital  
DEN  
DOXTV  
Foxtel  
GTPL  
Guangzhou Cable TV  
Guizhou Cable TV

Hathway  
HCN  
JAK Communications  
KT  
Mediascape  
PT MNC Skyvision  
Shanghai Oriental Cable Network  
Shenzhen Topway  
Sichuan Cable Network  
Sky Television  
Softbank-BBTV  
STAR  
Tata Sky  
Tbroad  
Tianjin Cable  
TrueVisions  
TVB Pay Vision  
Zhongshan Cable

**NDS Headquarters**  
One London Road  
Staines  
Middlesex  
TW18 4EX  
United Kingdom

Tel: +44 (0)20 8476 8000  
Fax: +44 (0)20 8476 8100

**NDS Americas**  
3500 Hyland Avenue  
Costa Mesa  
CA 92626  
USA

Tel: +1 714 434 2100  
Fax: +1 714 434 2474

**NDS Australia**  
Level 31 Northpoint  
100 Miller Street  
North Sydney  
NSW 2060  
Australia

Tel: +612 9025 3000  
Fax: +612 9025 3099

**NDS Canada**  
140 Fullarton Street  
Suite 1600  
London, Ontario  
N6A 5P2  
Canada

Tel: +852 2201 9151  
Fax: +852 2201 9141

**NDS China**  
25th Floor, Tower A  
Oriental Media Centre  
4 Guanghua Road  
Chaoyang District  
Beijing 100026  
China

Tel: +86 10 8527 9588  
Fax: +86 10 8529 8460

**NDS France**  
3 Esplanade du Foncet-  
65 rue Camille Desmoulins  
92442 Issy Les Moulineaux  
France

Tel: +33 1 5500 5700  
Fax: +33 1 5500 5701

**NDS Germany**  
Betastrasse 9  
85774 Unterföhring  
Germany

Tel: +49 (0)89 92 333 4007  
Fax: +49 (0)89 92 333 4200

**NDS Hong Kong**  
Suite 5301  
53/F Central Plaza  
18 Harbour Road  
Wanchai  
Hong Kong

Tel: +852 2201 9151  
Fax: +852 2201 9141

**NDS India**  
2nd Floor, Tower B  
Paras Twin Towers  
Sector 54  
Golf Course Road  
Gurgaon  
New Delhi 122 001  
India

Tel: +91 124 452 6000  
Fax: +91 124 452 6016

**NDS Israel**  
5 Shlomo Halevi Street  
Har Hotzvim  
Jerusalem 97770  
Israel

Tel: +972 2 589 4444  
Fax: +972 2 589 4400

**NDS Japan**  
22F Shibuya Mark City West  
1-12-1 Dogenzaka  
Shibuya-ku  
Tokyo 150-0043  
Japan

Tel: +81 3 4360 5343  
Fax: +81 3 4360 5301

**NDS Korea**  
47F, 63 Building  
60 Yuido-dong  
Yeongdeungpo-gu  
Seoul 150-763  
Korea

Tel: +822 6294 9151  
Fax: +822 6294 9158

**NDS Russia**  
Smolensky Passage,  
Smolenskaya Square 3  
Regus Business Center Office 745  
Moscow 121099  
Russia

Tel: +7 (495) 643 98 97  
Fax: +7 (495) 225 85 00

**NDS Singapore**  
Unit 1  
30/F UOB Plaza 1  
80 Raffles Place  
Singapore 048624

Tel: +65 6632 7500  
Fax: +65 6632 7532

**NDS Spain**  
Paseo de Castellana, 141  
Cuzco IV  
28046 Madrid  
Spain

Tel: +34 915 726 400  
Fax: +34 915 726 621



NDS is now  
part of Cisco.

