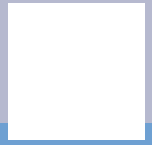# Alcatel IPTV Solution

BEYOND FIRST-GENERATION IPTV TO SIMPLY BETTER TV

BROADEN YOUR LIFE

ALCATEL

The Alcatel IPTV solution enables broadband service providers to compete in the triple play arena by offering a complete, pre-integrated IPTV platform as well as optional triple play applications. This solution comprises the Microsoft TV IPTV Edition and the Alcatel Triple Play Applications and is a key component of the Alcatel Triple Play End-to-End solution.

The IPTV Challenge

Competition and commoditization are decreasing both voice revenues and high-speed Internet access (HSIA) margins; service providers need new services to increase average revenue per user (ARPU) and reduce churn. With worldwide IPTV markets forecasted to reach 72 million subscribers by 2010, IPTV offers significant opportunities to capture new revenues (Alcatel corporate market analysis, 2005).

Cable service providers have aggressively attacked the residential market by adding voice services to their video and HSIA offerings. Given the strength of cable providers and the advances of disruptive technologies such as voice over IP (VoIP), telecom service providers must respond quickly by launching IPTV services and reducing the time-to-market, or risk missing a narrow window of opportunity.

The video market presents major challenges, particularly significant competition from cable and satellite incumbents vying for market share. Matching their offerings would quickly lead to depressed margins and product commoditization. Telcos must offer a significantly improved TV experience for a sustainable competitive advantage. As users embrace new video entertainment forms and more personalized, interactive and accessible communications services, telcos offering unique services will fill a void in the market.

The Alcatel IPTV solution delivers a very compelling user experience and feature set; subscribers immediately enjoy services that are significantly better than current cable and satellite offerings. Ready for market today, Alcatel's pre-integrated solution provides end-to-end system integration. Our ongoing development of new applications enables a future-safe solution, providing continuing differentiation and increased revenue. Our partnership with Microsoft offers significant new service potential through Microsoft's connected home initiative.

"Alcatel's deep understanding of broadband service providers and leadership in broadband solutions and integration make it a natural partner for us. Aligning our efforts will give customers an unmatched network access, software delivery and systems integration solution. Together, Alcatel and Microsoft will usher in a new generation of exciting entertainment, information and communication services, enabled by the marriage of powerful broadband networks and advanced software."

STEVE BALLMER, CEO, MICROSOFT, FEBRUARY 2005

The Microsoft TV IPTV Edition provides integrated hardware and software, pretested in Alcatel labs, to deliver a comprehensive platform offering. The IPTV end-user experience is further enhanced by three optional Alcatel Triple Play Applications: Alcatel 5900 My Own TV, Alcatel 5900 Amigo TV and Alcatel 5900 Communications TV. Together, the Microsoft TV IPTV Edition and the Alcatel Triple Play Applications provide a complete, pre-integrated IPTV solution.

With service offerings that leapfrog over cable and satellite TV and first-generation IPTV deployments, the Alcatel IPTV solution provides a simply better TV experience and answers a real consumer need for more personalized IPTV applications, a need to share community content and a need for personal communication between friends or family from remote locations.

For telecom service providers, the Alcatel IPTV solution creates a new managed service platform that enables providers to offer incremental new services and applications in a controlled way, so they can maintain a leadership position. Alcatel's end-to-end solutions and service integration provide not only video and IPTV applications, but the complete network and the services on it.

Table 1 outlines the key features and benefits of the Alcatel IPTV solution.

Table 1 - Alcatel IPTV Solution Key Features and Benefits

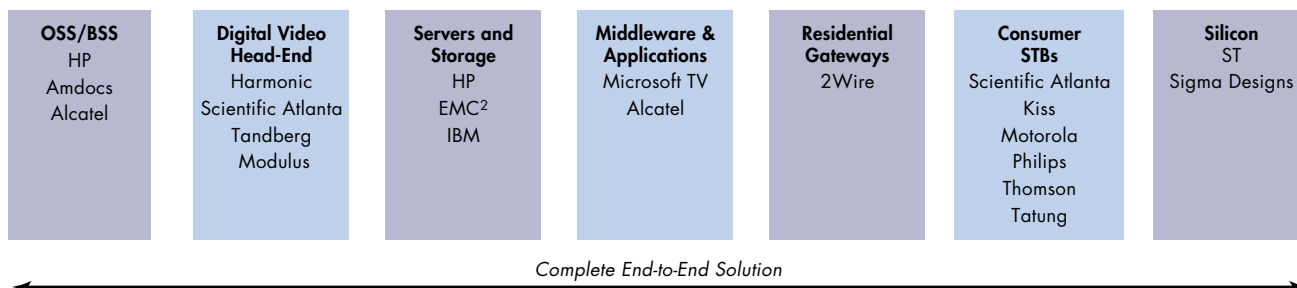| Feature	Benefit
Compelling service set, including broadcast TV (BTV), video on demand (VoD) and personal video recorder (PVR)	> Highly differentiated complete solution that can be deployed virtually as is, avoiding high cost of customization by service providers
	> Intuitive and appealing user interface with instant channel change (ICC) and multiple picture in picture (PIP), for increased end-user satisfaction and less churn
Partnership of industry leaders: Microsoft - consumer software leader; Alcatel - broadband leader	> Alcatel triple play architecture delivers value-added, revenue-generating applications such as My Own TV, Amigo TV and Communications TV integrated on the Microsoft TV IPTV Edition, for a solution that end users will value because of the community content sharing and communication capabilities
Integration of Microsoft's system on chip (SoC)	> Significant reduction in set-top box (STB) cost because SoC is used for mass manufacturing
	> Capability for service providers to upsell to existing customers, increasing ARPU
	> Improved return on investment (ROI)
	> 30% to 50% cost reduction of CPE within two years
Significant integration of software solution components	> VoD and digital rights management (DRM) core offerings, for decreased total cost of ownership (TCO)
	> Quick time-to-market with completely integrated solution, not only for IPTV, but for triple play in general
	> Support for innovative IPTV and triple play consumer applications by an architecture based on the IP multimedia subsystem (IMS)

The Alcatel-Microsoft partnership de-risks the IPTV market for service providers. Alcatel's leadership in broadband infrastructure is complemented by IPTV experience gathered from large-scale deployments such as SBC Lightspeed, the blueprint solution for triple play. The established presence of Microsoft in the home environment (desktop, PDA, X-Box, MSN, etc.) enables converged applications across devices at home: the connected home is becoming a reality with Microsoft solutions.

Alcatel's ecosystem of partners offers vendor choice in the key high-cost areas, the head-end and the STB, and also guarantees a pre-integrated end-to-end solution. As shown in Figure 1, service providers also have choices in servers and storage as well as operations support systems/business support systems (OSSs/BSSs).

Figure 1 - Alcatel's Ecosystem of Partners

OSS/BSS	Digital Video Head-End	Servers and Storage	Middleware & Applications	Residential Gateways	Consumer STBs	Silicon
HP	Harmonic	HP	Microsoft TV	2Wire	Scientific Atlanta	ST
Amdocs	Scientific Atlanta	EMC^2	Alcatel		Kiss	Sigma Designs
Alcatel	Tandberg	IBM			Motorola	
	Modulus				Philips	
					Thomson	
					Tatung	

Complete End-to-End Solution

"*The combination of Alcatel's existing triple play solution and 2Wire's residential home gateway and management systems will arm operators with a fully managed, end-to-end network solution that extends into the home, providing operators and consumers with the benefits of a truly integrated triple play experience.*"

BRIAN HINMAN, PRESIDENT AND CEO, 2WIRE

Alcatel IPTV Solution Components
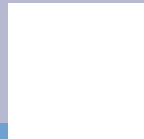
> Richer interface with fades, translucency, overlays

> Rich multimedia program guide

> Broadcast, VoD, digital video recording seamlessly integrated

MICROSOFT TV IPTV EDITION

The Alcatel IPTV Edition helps network operators create and deliver new digital TV and entertainment services that provide subscribers with a truly differentiated, better TV experience. Designed to help network operators derive more value from their digital video and network infra-structure investments, the Microsoft TV IPTV Edition supports a full range of easy-to-use services that lead to a superior TV experience, including:

> Time-shifting of live BTV (standard and high definition)
> Easy navigation via an electronic program guide (EPG)
> Integrated tunerless PIP
> ICC for fast channel zapping
> Easy one-touch broadcast channel recording, either once or programs on a recurring basis (a complete program season)
> Advanced content search by title, genre or actors
> On-demand programming from a video library, with video categorization, to enable browsing by looking at DVD covers

Unlike first-generation IPTV platforms, which relied heavily on component parts from multiple vendors to complete the solution, the Microsoft TV IPTV Edition is a comprehensive platform rather than middleware. This truly end-to-end platform, complete with integrated DRM and a full VoD system, greatly simplifies the management of the IPTV solution, reduces time-to-market and provides a predictable TCO. The Microsoft TV IPTV Edition provides a superior user experience with differentiated core functionality.

The functions provided by the Microsoft TV IPTV Edition include: content acquisition (integrated with encoders and content-packaging tools); content protection (encrypted content, Windows Media DRM); service management, delivery and consumption; and subscriber management. The Microsoft TV IPTV Edition also features a third-party development environment, based on the remote desktop protocol (RDP), for building extra applications.

The architecture of the Microsoft TV IPTV Edition is shown in Figure 2.

Figure 2 - Microsoft TV IPTV Edition Architecture
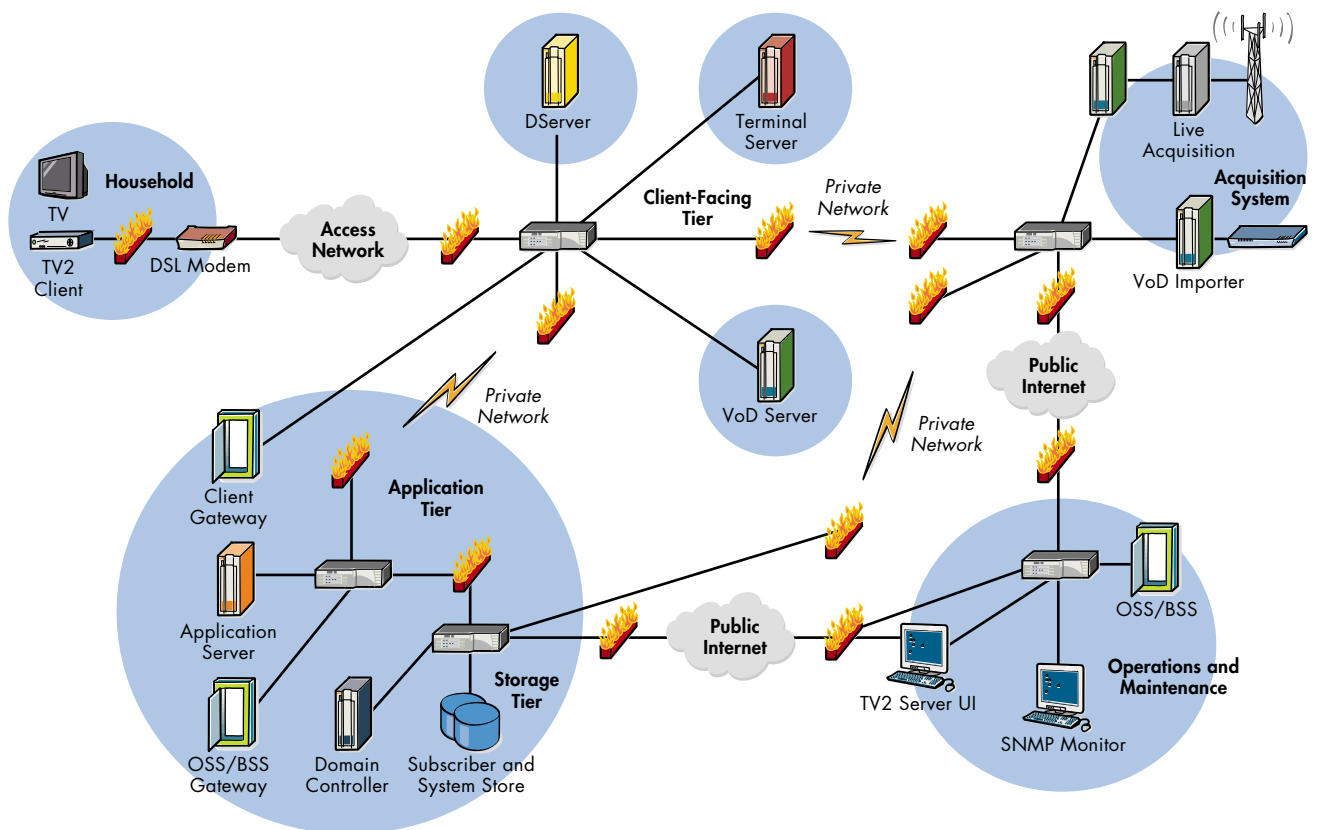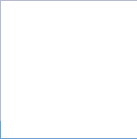
ALCATEL TRIPLE PLAY APPLICATIONS

Alcatel is offering three optional new applications on top of the Microsoft TV IPTV Edition, all designed to increase ARPU and reduce churn. These applications differentiate the Alcatel IPTV offering from the offerings of all competitors and answer the clear need of consumers for more personal content, communication and the creation of a community. Alcatel is also committed to expanding the list of triple play applications, enhancing existing Alcatel IPTV solution deployments and providing continuing differentiation.
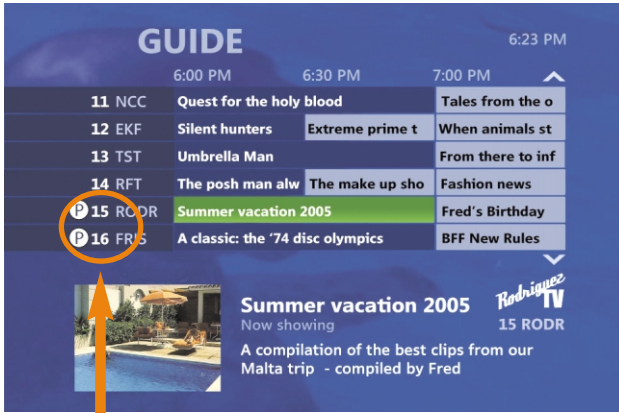
Personal channels

Upload content through mobile

MY OWN TV

My Own TV provides a user-friendly way to upload multimedia content (movies and photos) to the operator's network (via the PC) and to then share it with a dedicated group of people (the community or affinity group). Viewers can access the content via the EPG on the television.

Key Benefits and Features

> Enables you to create your own TV channels and easily share niche content, be it personal multimedia content, commercial content (dedicated to one brand or a theme) or e-government content on TV as a niche TV channel or as a VoD category

> Allows you to post your own content (movies and photos) from your PC or from a mobile or personal digital assistant (PDA) on a TV channel

> Lets you invite your audience to enjoy, thereby answering the need of end users for more recognition from their local community and more personalization in their means of communicating, entertaining and transferring information

Own avatar/face   **Speaking buddy**
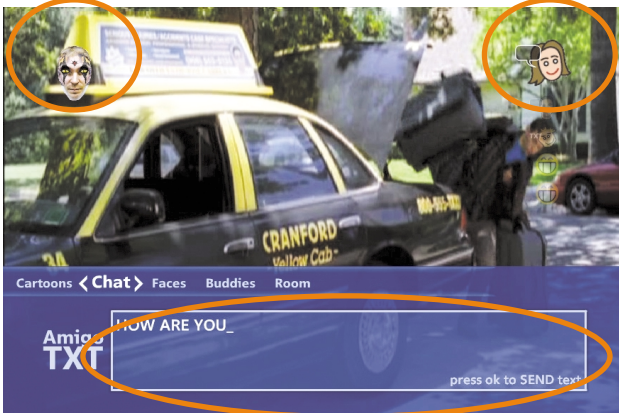
**Chat capability with remote control**

AMIGO TV

Amigo TV enables you to watch TV with your remote friends and family as if you were in the same room. You can chat with your buddies via a group voice chat or via text chat. Personalized avatars or emoticons represent you and your friends on the TV screen. These emoticons are multimedia, so you can express your emotions to your friends. You can send winks or moving cartoons to your friends' screens in an overlay to the watched channel, to communicate in a personal way.

Key Benefits and Features
> Creates a rich social experience on TV
> Enables you to watch TV with your online buddies in a virtual living room
> Allows communication using voice or text
> Enables sharing of emotions via emoticons and winks

CLID on TV
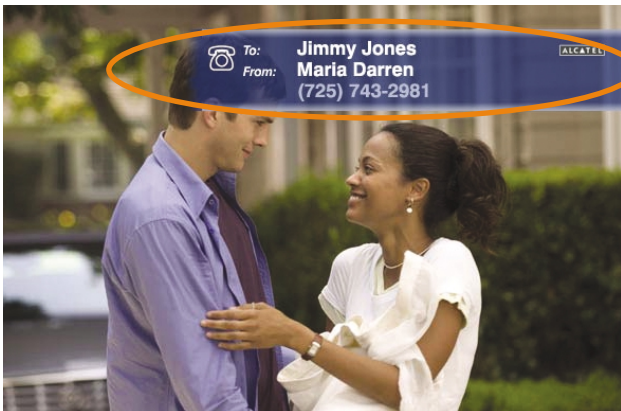
COMMUNICATIONS TV

Communications TV extends communications to the television set in three ways. The calling line ID (CLID) on the TV notifies you when there is an incoming call. Communication profile management on TV lets you use the TV (in addition to the PC and the phone) to manage your communications profile. Click-to-connect lets you initiate a call from the TV by consulting the address book or call history. (The actual call is handled by the phone.)

Key Benefits and Features
> Simplifies communications by extending them to the television set
> Notifies you on the TV when there is an incoming call
> Enables you to use the TV (in addition to the PC and the phone) to manage your communications profile
> Lets you initiate a call from the TV by consulting the address book or call history

The commitment of both Alcatel and Microsoft to this partnership provides exactly the joint solution that telecom service providers require to compete against the formidable, entrenched cable and satellite services. Microsoft's leadership in the consumer software sector and Alcatel's leadership in broadband infrastructure and video/triple play are undeniable. This combined expertise enables service providers to focus on delivering services to customers rather than struggling with the integration and management challenges of a multivendor solution.

Microsoft's connected home strategy and core competency in software platforms offer the best end-user experience. Alcatel is the most experienced IPTV integrator and is known for innovative applications linking video and communications. And Alcatel is committed to growing an already impressive, end-to-end, video-specific portfolio.

The Microsoft TV IPTV Edition includes and pre-integrates all elements of end-to-end DRM. This approach avoids the significant upfront investment and ongoing maintenance of acquiring, managing and integrating third-party systems. In addition, Microsoft's SoC approach enables the mass production of low-cost STBs, lowering the overall TCO and offering service providers a broad choice of vendors.

The joint solution offers a choice of vendors in the key high-cost areas, the head-end and the STB. Service providers also have choice in other key areas such as content-encoding protocols. The Alcatel-Microsoft solution also enables choice in server vendors, CODECs, applications via RDP and the extensibility framework and encoder providers. Flexible integration with OSSs/BSSs via open application programming interfaces widens the range of choices even further. The integrated joint-solution approach de-risks the overall deployment and greatly reduces time-to-market.

Microsoft	Alcatel
The best end-user experience	Undisputed broadband leader
Drivers of SoC reference architecture	End-to-end video-specific portfolio
Connected home strategy	Most experienced IPTV integrator
Core competency in software platforms	Innovative applications linking video, niche multimedia content and communications

With video as a core strategic focus since the mid-1990s, Alcatel has made huge investments in R&D, expertise and full-scale infrastructure production. The Alcatel Triple Play End-to-End solution architecture is designed to support the most challenging of triple play services — video — giving service providers a much higher level of overall performance than can be achieved through a multivendor infrastructure.

Alcatel's global IPTV expertise has been developed through deployments dating back to 1999. We currently have more than 30 triple play projects world-wide plus over 25 networks transforming for triple play.

Alcatel is the only telecom service partner with significant experience in end-to-end solutions and end-to-end service integration. Our integration services span the full range of disciplines, from market-ing consulting to network design and implementation. Examples in Alcatel's service catalog include: service definition, end-user research on the potential appli-cations, network audit and network design. End-to-end lab configuration and integration of not only video and IPTV applications, but the end-to-end network and the services on it, complete Alcatel's integration services.

"We are honored to partner with companies like Alcatel to facilitate the IPTV development in China … we have complete confidence in bringing innovative content services to end users through our partnerships."

LI RUIGANG, PRESIDENT OF SHANGHAI MEDIA GROUP, AFTER PARTNERING

WITH ALCATEL TO IMPLEMENT CHINA'S FIRST IPTV LICENSE, JULY 2005

"Our decision to launch a new triple play offer, once having our own network infrastructure, required the support of an experienced partner with exten-sive integration skills, innovative applications and a best-of-breed portfolio of solutions. This is why we have selected Alcatel."

GUILLERMO MERCADER, CEO, YA.COM, OCTOBER 2005

ALCATEL