

Insights Broadcasting Digital Migration

GLOSSARY

The A-to-Z of digital migration

Since the new technology has its own terms for all kinds of things, we provide a quick guide to the terminology and answer questions about the switch

Q What is DTT?
DTT stands for Digital Terrestrial Television. It refers to the terrestrial broadcasting of television in a digital format. Currently, terrestrial broadcasting in SA is broadcast in an analogue format. The country is in the process of planning and implementing migration from analogue to digital broadcasting.

What is terrestrial television?
Terrestrial television uses a network of transmission towers to relay the signal across the country. Each transmission tower has a specific area of coverage, and it is the network of coverage that provides television signals across the country.

The broadcast signal is sent to the various towers and if you are within the area covered by a tower, then you will be able to receive the broadcast services via a terrestrial aerial which is usually placed on your roof. SABC, e.tv and M-Net are all terrestrial broadcasters.

What is the difference between terrestrial and satellite television?
These are simply different ways of delivering a broadcasting signal. Satellite television broadcasts using a satellite in the sky. The broadcast signal is sent to the satellite and you receive a signal via a satellite dish. A single satellite usually covers a large area (for example the PAS 10 satellite covers the whole of Africa).

What is the difference between analogue TV and digital TV?
In analogue, the signal is transmitted in the form of electromagnetic waves. This is not the most efficient way of transmitting TV signals. In digital, the signal is encoded and can be compressed — this will therefore allow for more channels to be broadcast. A minimum of eight new video channels can occupy the same frequency as one analogue channel.

Why are we migrating from analogue to digital?

There are many reasons for this: (1) Analogue technology is very old and has become expensive to maintain.

(2) Digital technology is more efficient. It allows for more channels, better sound, better picture quality and new services we haven't had before.

(3) Because digital uses radio spectrum more efficiently, it will mean that valuable spectrum can be released and used for other services. Spectrum is scarce, and hence making more efficient use of the available spectrum is necessary if more telecommunications and broadcasting services are to be made available on a terrestrial basis.

(4) The rest of the world is moving to digital and the international body which coordinates the use of frequency has

decided that analogue will not be protected from interference after 2015.

Has this been done elsewhere around the world?

Yes — all countries around the world will do the migration to ensure ongoing co-ordination and protection from interference. Examples of countries that are advanced in their migration process include United Kingdom, New Zealand, Sweden, United States, France and Mauritius.

What is a Set Top Box (decoder)?
The set top box (STB) is a receiver that will decode the digital signal to enable the channels to be displayed on your television set. This STB will plug in to your TV.

Why do I need a Set Top Box?
You need a device which decodes the digital signal received via a standard aerial antenna and supplies the TV set with a video signal. Without the STB you will be unable to display the digital television services on your TV set.

What will the Set Top Box cost?
STBs vary in price depending on their functionality. With the level of functionality proposed by the department of communications, it is estimated that the retail cost of the free-to-air STB will be in the region of R600 to R700.

Will I need a satellite dish to receive DTT?

No, you will not need a satellite dish to receive DTT. The satellite signal is not the same as the terrestrial signal which is received using a terrestrial TV aerial.

Will I need a new aerial to get DTT?
Some viewers may require new existing aeriels, or may need to upgrade existing aeriels. In some instances aeriels may have to be adjusted.

Will I need any other additional equipment to receive DTT?
You will need to have a DTT set top box (also referred to as a decoder). This DTT set top box is not the same as the Multichoice satellite set top box or the current M-Net set top box.

Do you need a Set Top Box to receive the DTT services if you have DSTV?

DStv is a satellite service. The satellite signal is different from the DTT signal and the two systems are not compatible. DSTV subscribers will continue to receive free-to-air channels. However, if you wish to receive all the DTT free-to-air services you will have to purchase a DTT set top box.

Where can the Set Top Box be bought?

Set top boxes aren't available for sale yet. They will most likely be available from mid-2009.

From what date will the Set Top Box be available for purchase?

It is expected that the STB will be available for purchase only towards the middle of 2009. This is because the standard for the STB is still in the process of being finalised. Once these processes are complete (expected to be at the



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end of 2008 or early 2009), then the STBs will have to be manufactured and this will take approximately six months.

How is the Set Top Box installed?

The STB can be installed by a professional installer or one can connect the cable from the TV aerial to the STB (normally RF-in at the back) and then follow the STB installation menu using the supplied manual.

If I have five TV sets in the house, will I need five Set Top Boxes?

Yes. If you want each TV set to present different channels. Other models of STBs that have functionality that allows you to connect more than one TV to the STB could be developed and made available at a later stage. This STB will however be more expensive.

Will I need to pay a subscription every month like DSTV?

No. The SABC and e.tv will continue to be available for free. However, you will still have to continue paying your TV licence.

You will only need to pay a monthly subscription fee if you choose to subscribe to M-Net.

When will the STB and the new DTT services be available to me?

It is anticipated that the service will be publicly available in the second half of 2009. However, there are a number of areas that still need to be resolved before the service is available to the public. This includes testing the service.

It is also important to note that the digital network will be rolled out over a period of three years. Therefore, you will need to check when the digital signal will be available in your specific area. I

I hear that the SABC is not ready for digital migration? What is the

SABC doing to ensure I do not lose my television signal?

The migration to digital is a process that is expected to take a minimum of three years. During this period of migration, viewers will still be able to receive the current analogue services of SABC 1, 2, 3 and e.tv. However, once commercial DTT starts, if you don't have a set top box you will be unable to receive any new digital channels or services.

The process of switching off the analogue signal is expected to begin in November 2011. Once the analogue service is switched off, viewers will need to have a DTT set top box to receive free-to-air terrestrial television services, including SABC 1, 2, 3 and e.tv.

The SABC, e.tv and M-Net are conducting a trial to test the new DTT services and technology to ensure that the service works. This trial began on November 1 last year.

Will this migration only affect the SABC?

No. The migration will affect e.tv and M-Net as well.

The deadline announced for the digital TV switch-on is November 1 2008. What exactly happened on November 1 2008?

On November 1 2008, the digital signal was switched on by Sentech and broadcasters started testing the DTT network and technology. This does not mean that you will be able to go out and purchase a set top box to receive the signal. The trial is being done with a small sample of viewers selected by broadcasters to test the service. Once the service has been tested adequately, and all other related processes are in place, STBs will

be made available in retail stores for the public to purchase so that they can receive digital services. This is expected to happen in the second half of 2009.

What are the benefits of digital TV?

With digital TV you will have access to more channels. SABC and e.tv will offer more free-to-air channels, while M-Net will offer more pay-TV channels. Other benefits include a better picture and sound quality, access to an Electronic Programme Guide (EPG) on your television screen which allows you to view your TV guide on your TV screen. You will also be able to receive additional information services and interactive services on your television set such as games, information services, weather services, etc.

Will I need to buy a new television set to receive DTT?

No. Most current analogue television sets will be able to receive DTT. The main consideration is that your TV must have an A/V input to ensure that

your set top box can be plugged in to your TV. If you have this, you should be able to use your current TV set. You do not need a high definition (HD) TV, LCD TV or Plasma TV to receive DTT.

In the next few years, there could also be TVs with an integrated set top box (that means a set top box already built into the TV). These are usually called iDTVs. However, these are not yet available in South Africa.

Will there be high definition TV on DTT?

HD uses a lot of frequency. At this stage there is no plan for HDTV on DTT. However, this could be a possibility over the next few years.

How does a person establish if his TV will be compatible with the Set Top Box?

The TV set must have audio and video inputs or alternatively must have RF input.

What if I cannot afford the Set Top Box? Does this mean that I will not be able to watch TV after 2011?

The government announced in August last year its plans to

establish a subsidy or incentive scheme to assist households that cannot afford the STB. The proposed subsidy will be 70% of the price of a STB (which was estimated by the government to cost R700). It is anticipated that approximately 5-million South African households will need the subsidy/incentive.

How is the government going to monitor and control the subsidy roll-out?

The government has only recently announced that a subsidy will be made available. It is unclear at this stage how this will be managed or rolled out.

What is the Digital Dzonga?

The Digital Dzonga is a body that will be established to manage the digital migration process on behalf of the government. The Digital Dzonga advisory council is currently established and is made up of a wide range of representatives from government, broadcasters, manufacturers, labour and consumer groups which were appointed by the minister of communications.

Who are the various role players in the process and what are their specific roles?

The Dzonga — Is a body established to co-ordinate the migration process for the country

Broadcasters — Terrestrial broadcasters need to migrate their services onto digital. The main affected broadcasters are SABC, e.tv and M-Net. The broadcasters will be responsible for establishing new services, migrating existing services (SABC 1, 2, 3, e.tv and M-Net) onto digital, and will play a role in education and awareness. The broadcasters are the most affected parties in the process (apart from consumers) as they will have to manage analogue and digital services during the dual illumination transition period.

Signal Distributors — Signal distributors are responsible for rolling out the digital network infrastructure on behalf of broadcasters. The main signal distributor affected is Sentech, although other signal distributors (such as Orbicom) are also involved.

The government — Is responsible for developing the policy for broadcasting digital migration. They are also responsible for ensuring that funding is available for the subsidy or incentive, and for the development of a manu-

facturing strategy. The communications department is driving this process on behalf of the government and will work with other government departments such as the Treasury and the department of trade and industry.

Icasa — Is the regulator responsible for regulating the telecommunications and broadcasting sectors. Icasa will be ultimately responsible for the frequency planning and allocations and the issuing of licences for digital services. New digital services cannot be launched without a licence or authorisation from Icasa.

Manufacturers — Will be responsible for manufacturing the STBs and to ensure the STBs they develop are compliant with standards and will work as required.

Retailers — The retail industry will play a role in ensuring that the STBs are available for purchase by the public and provide accurate information to consumers so that they can make the right choices when purchasing the STBs.

Consumers — Will be responsible for ensuring that they have the information they need to make informed choices and ensure that they have the necessary STB before the analogue signal is switched off.

What does DTT mean for Radio?

DTT is not in any way a replacement for the current FM broadcasting but adds great value if included in the service offering. DTT can be used to provide coverage of existing FM services where they cannot be extended due to frequency congestion. Through its capabilities DTT can provide value-add services — Interactive Services, Teletext, Graphics, Traffic Information, Weather, Stock Markets and more — to existing radio service offerings.

What other implications are there for Radio?

Digital Migration only affects analogue television. There are currently no plans to replace FM services, which will still be around for quite some time. Digital Audio Broadcasting (DAB) and Digital Radio Mondiale (DRM) are digital radio offerings that can be deployed by broadcasters. The SABC is currently developing a digital radio strategy which will inform how the SABC will employ such services.

SABC tunes in to the feedback

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merely brought in available STBs from another market."

The free-to-air trial currently has seven SABC TV channels and two e.tv channels, as well as 19 radio stations. "We will also be introducing data services over the next few months on the trial," informs Nabe.

More than 2 000 households have access to the trial service, and the SABC hopes to increase this to 3 000 over the next month. "Each of these trial participants are providing ongoing feedback on the service, which is crucial to the development and improvement of the service in preparation for a public launch of DTT."

"Many technical issues within the SABC and for the DTT platform in general have been identified and resolved through the trial, and the SABC is now focusing on the service proposition."

With digital comes the ability not only to offer better quality television, but to also offer new services. The SABC will be testing new digital services such as multiple audio and subtitles on a single programme, audio description, as well as an Electronic Programme Guide and data and information services.

"We will be carefully analysing the research and feedback we get from these services to develop a compelling DTT proposition at launch, which is important because consumers need to be offered a very strong value proposition to incentivise them to purchase a STB."

"This is one of the main reasons why the SABC hopes that we can launch DTT to the public well

before the 2010 Fifa World Cup. Consumers can then have the opportunity to experience the World Cup in digital, and have access to even more exciting World Cup content."

However, although much progress has been made, there still remains a significant amount of work to do before DTT can be launched. Icasa processes need to be completed, details on funding allocations need to be finalised and key technical and other decisions need to be taken.

Nabe says the SABC initiated many key industry workgroups to start making some of these decisions and substantial progress is being made in this area.

Funding is also another critical matter that needs to be finalised. The SABC has already invested millions in the process but, once launched, the migration will cost the SABC billions of Rands to complete. The government has committed to supporting the SABC and other broadcasters financially during the dual illumination period, and the SABC is in ongoing discussions with the department in this regard.

"Digital migration is a complex process and will require the co-operation of many stakeholders to make it a success. Without the commitment and perseverance of the SABC, the process would not have progressed this far — and the SABC remains committed to continue to play a lead role and working with all key stakeholders to ensure a quick and successful migration."

"Ultimately, South Africans must be able to reap the benefits of digital television and the SABC will lead them into a digital future," concludes Nabe.

A people-centred Information Society

Efficient use of spectrum allows for innovation

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accruing from efficiencies in spectrum usage will allow more channels to be carried across fewer airwaves and lead to greater convergence of services," explained Bozsoki.

"The inherent flexibility offered by broadcasting DTT will support mobile reception of video, internet and multimedia data, making applications, services and information accessible and usable anywhere and at any time.

"It opens the door to new innovations such as Handheld TV Broadcast (DVB-H) along with High-Definition Television (HDTV) while providing greater bandwidth to existing mobile, fixed and radio navigation services," he added.

But there are also disadvantages of the digital terrestrial broadcasting system.

Bozsoki said that new equipment is required (transmitting and receiving), new antenna installation may be required, analogue television requires lower signal strength to get a viewable picture and in addition digital does not degrade as gracefully as analogue so fringe reception is no longer

possible.

Nevertheless, he claimed that 120 countries in Europe, Middle East and Africa made an important step towards the introduction of DTT when they signed a treaty agreement in June 2006 at the conclusion of ITU's Regional Radiocommunication Conference (RRC-06) in Geneva, heralding the development of "all-digital" terrestrial broadcast services for sound and television.

The digitalisation of broadcasting in Europe, Africa, Middle East and the Islamic Republic of Iran by 2015 represents a major landmark towards establishing a more equitable, just and people-centred Information Society.

"The digital switchover will leapfrog existing technologies to connect the unconnected in under-served and remote communities and close the digital divide."

"The GE06 Agreement provides a flexible regulatory framework that makes possible the introduction of new broadcasting technology and also services other than broadcasting in the GE06 frequency bands," said Bozsoki.

The World Radiocommunication Conference (WRC-07), held in 2007, also

dealt with the regulatory aspects of the usage of the spectrum for these services.

Broadcasting is not only a set of technologies, but a set of social, cultural and commercial practices. Broadcasting develops on the basis of many factors and reciprocally influences various aspects of society from industry to welfare.

According to an ITU report, administrations of industrially developed countries, which have already approved the programme of migration and declared the date of analogue terrestrial broadcasting switch-off, have at least three main reasons for switchover. The first reason is the optimisation and more efficient use of the spectrum; second, potential for raising revenue through spectrum auction to new ICT services bidders; and revitalisation of the broadcast services market through users' access to a wide variety of programmes and services.

DTT services have already been rolled out in many parts of the world, including the Asia-Pacific region. "However, the progress is slow in some developing countries of the region. Failure to adopt digital broadcasting may

deprive broadcasters of the opportunity to integrate with the worldwide broadcasting fraternity in terms of technological compatibility and advancement," said Bozsoki.

"This is in fact widening the digital divide. Therefore, to bridge the gap between digital developments and existing analogue technology, it is essential to plan for seamless migration to digital broadcasting."

"Especially in developing countries, it also should not be ignored that DTT could be a basis for education, health-care and other socially valuable ICT services and eventually contribute to connecting the world, bridging the digital divide and expanding the information society. But for most developing countries, switchover from analogue to digital broadcasting is something feasible but not driven by urgent necessities. It can be seen that the transition process is not progressing evenly among all countries and is still at the early stage of implementation in most developing countries," said Bozsoki.

There are ongoing projects in ITU to support developing countries in overcoming these problems and moving together toward the digital transition.