



M-NET DTTV Trial lessons !



- M-Net background
- SA statistics & Current Broadcasting situation
- Regulatory timelines
- TRIAL
 - Objectives
 - Network
 - Recruitment
 - Set Top Box
 - Content / Communication / Research
- Ingredients for a successful migration
- Lessons learnt from this trial



M-NET



- Electronic Media Network / NASPERS GROUP
- Licensed for 2 Pay TV terrestrial channels – since 1986
- Signal distributors
 - Orbicom & Sentech
- Network – 60 professional sites / 160 self help
- Coverage 57 % and 40% respectively
- Peak subscribers 1.1 million
- Produce / Acquire / Package – Entertainment content for SA and Africa – for various platforms.



SOUTH AFRICA General Background



- Population 49.4 million
- 1.2m sq km / third the size of the EU
- GDP/Capita \$5800
- 11 official languages
- One third of population < 16 Years old
- 9.7 m TV households
 - 2.2 m house holds have a PC / laptop
 - 1.7 m internet access from somewhere
- Cell phone penetration – excess of 100%



SOUTH AFRICA TV Background



- ITU – Region 1
- 3 broadcasters on analogue terrestrial
 - SABC (Public and commercial) = 3 FTA services
 - Etv (commercial) = 1 FTA service
 - M-NET (Subscription) = 2 Pay channels
- Community broadcasters (TBN and Soweto TV)
- 2 licensed signal distributors
- 2 operational Satellite subscription operators
 - Multichoice & ODM



Regulatory Background



- South Africa signatory of the GE 06 treaty
 - 2 National mux and 2 Metro mux
- D.M.W.G. – Nov 2006 report submitted
 - Technical / Economics / Content / Policy
- Cabinet decides to migrate to digital – Feb 2007
- Detailed policy issued by the Minister – Sep 2008
 - DVB-T / MPEG-4
- July 2009 - SANS 862 FTA STB standard mandatory
- 1st DTTV regulations published September 2009 - then withdrawn
- Nov 2009 - Frequency plan re-confirmed and published
- 2nd DTTV regulations – published February 2010
- SADC countries adopt Nov 2013 – for end of analogue protection
- Region 1 – analogue protection ends 17 July 2015



Trial Objectives

- M-Net granted trial license – November 2008
 - Extended in July 2009 till “commencement of commercial”
- Demonstrate full inter-operability with FTA
- Develop working groups with all stakeholders
 - MOU / rules of operation / Si interoperability / A to A migrations / standards / specifications
- Launch trial in 4 cities - existing analogue subscribers
- Feedback to regulator



M-Net Hard Switch Over



- Recommended and lobbied ICASA for many years
- Use existing analogue spectrum
 - No use of GE 06 allocations – free mux
- Very fast return of large digital dividend
 - Free up 790mhz above spectrum / Telco operators
 - Would have provided 3 additional muxes (40+ channels)
- Complex and costly logistics / technical challenge
 - City by city instantaneous switch over
 - No dual illumination period
 - Full STB / installation subsidy
 - Risky , very challenging , but very rewarding – Massive country benefit
- Unfortunately rejected in DTTV Final regulations of Feb 2010



Trial - Network

- M-Net allocated GE 06 – MUX 2
 - SABC /ETV - allocated GE06 – MUX 1
- Undertook Interference studies
 - Our current analogue network
 - FTA existing networks
 - Other GE 06 – MUX 1 allocation
 - STB re-modulation output frequencies (+90% still use RF)
- Outcome – No trial in Pretoria ! 2 adjacent channel interference with SABC services
- Tackle analogue to analogue migrations head-on !
You have to do it – so do it before the digital migration starts



Network design

- Orbicom network deployment
 - Did not / could not co-locate with Sentech
- Defined M-Net Reception configuration
 - Indoor fixed / FTA outdoor fixed (11 dbi difference)
 - Modulation parameters /power levels
 - MPEG 4 / 64 QAM / 2/3 FEC / ¼ Guard interval
 - Payload of 19.9 mbits/sec
- Reasons for indoor adoption
 - Provide self installations / plug and play / reduced installation cost & time
 - Robust network & reception – less usable capacity 2.2mbit less than FTA
- **Recommendation – DVB –T2 –if not yet started !**



Network deployment



- SFN – 3 sites on CH 54 in Johannesburg
 - Distribution via digital microwave
- Single network in Cape Town & Durban- CH 50
 - Satellite MPEG 4 distribution
- No trial in PTA ! –did not do the A to A migration – lost opportunity
- Plotted theoretical coverage maps – with “current” clutter layers – to establish trial recruitment base.



Recruitment of trialists



- Criteria – existing paid up subscribers
- Generated trial agreement - legal team
- Defined our research objectives
 - Demographics / geographical / race / gender / age
- Outbound telephonic recruitment -by our research company
 - 88% successful recruitment
- **Billing address vs. decoder address !**
- Geo-coded to street level – 50m² / over-layed with coverage
- Had an accurate – agreed subscriber database
- Developed welcome pack /agreement / info pack



Installation - trialists



- Started scheduling accredited installer with subscriber.
 - 60 % failure rate – both parties did not uphold appointment.
 - Adapted model - installer / list / time – they schedule
 - If demands are too high !
 - Adverse weather / night / take technical short cuts
- **Accreditation / education / information / reputation**
- Reception success + 98%
 - Coverage maps / geo-coding / clutter layers / reception mode
 - Collected GPS / BER / Signal levels / antenna installed
- Trial base just over 700 subscribers



Set -Top Box



- Most crucial– if not more so than the network !
- Recommend :
 - Spend time , effort , attention to detail on specifications
 - Hardware - RF front end & connection to display
 - Middle ware , operating system , UI , error screen codes & messaging (MHEG 5 –SA profile)
 - Manufacture selection , cost / time / penalties
 - Manuals , packaging , esthetics , call centre info
 - Independent conformance testing HW & SW
- Devil in the detail – you never want to have to recall or do major over the air software fixes.



STB – Problems -1



1. Challenge – Pay and FTA on 2 different muxes
 - Issue – daily re-authorizations of PAY services
 - 2 causes
 - Subscribers switching to FTA bouquet - long periods
 - Limited CA entitlement bandwidth
- Solution – Outbound communication to SUBS
 - Re- notification of call centre number
 - Leave decoder on PAY mux when not viewing
 - Opened CA bandwidth – our error – immediate success
 - Developed a 3am SW patch – to switch to pay mux to access conditional access key updates.
- **Right solution – All muxes carry other CA**



STB – Problems -2



2. Indoor reception / self installation

- Tested small indoor passive antennas – worked very well
 - Developed active indoor antenna 11 dbi gain
 - Excellent results – mitigated costly installers / less viewer disruption / self installations / reduced subsidy costs
 - Problem – SA omitted in SANS specification 5v power on decoder antenna socket !
 - Partial solution – used decoder USB port to power antenna
- Detail in the planning and specifications !



Content



- 20 mbits / sec – can yield 10 to 12 SD - channels
- Additional mux capacity used by EPG , 8 day guide , CA , SI
- Rotated content – number of channels / genre – research
- Have not tested : -
 - Disability services -Hard of hearing subtitles , audio description , special remotes control units
 - Limited MHEG- 5 applications – did receive FTA M-HEG applications
 - Offered unlike FTA trial no dedicated audio services – very liked !
- Tweaked headend settings :
 - GOP lengths , bit rates , statistical mux settings , filtering , resolution > Subjective picture quality
- **Channel changes – got immediate responses !**



Communication



- Established dedicated trial call centre
- Trained & educated call centre representatives
- 5 staff per shift / Operational 07-00 to 23h00 daily
- Dedicated call centre number – No IVR – “push 7 for DTTV “
- **Inform call centre daily of every move**
 - Content / network / STB / research / regulatory / FTA operators
- **Listen to your call centers – subscriber comments**
- Link between company and viewer
- **They after your reputation , brand and company values**
 - If not : forums / press /twitter / face book / call centre
- **Communicate call centre number MUCH better - with supporting web information.**



Research



- Appointed local research organization - called +94
 - Accurate briefing of expectations of research and trial
 - Used for recruitment
 - Telephonic research & communication
 - Focus groups in 3 trial cities
 - Get timeous feedback on key issues and react !
 - Keep research company informed of every move on trial



Research – Negatives -1



- “technicians / installers inconsistent”
- “level of expertise low” / “ no M-Net Identification “
- “cannot answer questions on DTTV”
- “Seem rushed / working after hours”
- Solution – Improved training & education of DTTV , improved accreditation , slowed down pace , customer satisfaction report , got them to issue technical measurement details , had regional workshops
- They are the physical link between your company - brand , reputation and hopefully your company values



Research – Negatives 2



- “irritating and inconvenient technical hiccups”
 - Picture freezes , low volume level , inconsistent volume levels between FTA and PAY
 - Decoder gets hot , small writing on remote , smart card sticks out too far
- We could partially fix – freezing and volume levels.
- Spend time on the detail – decoder had an inherent hardware instability
- Audio levels are always a challenge :
 - New multi- channel subjective loudness standard – ITU /R BS 1770-1
 - Audio leveling devices / collaboration with other MUX operators
- “Expectation viewers can mix and match content “
 - No , do not know where you got this idea from !



Research - Positives



- “many more channels”
- “capacity to tantalize viewers into what could be”
- “Variety of new content genres ”
- “Quality of picture , definition and sound crispness”
- “ Moving finally into the future”
- “sexy decoder – want silver / white , sleek , modern – smart card must be hidden”
- “loved the EPG / 8 day guide / multi-language”



Digital Migration



Digital migration is a complex / costly process.

- Careful **planning** , **commitment** and **delivery** from all stakeholders in your country.
- Have a common understanding of the **benefits** to migrate to digital
 - Spectrum – digital dividend
 - ITU deadline 17 June 2015 is ticking away
 - More channels / better quality / new diverse services
 - Competitive market and opportunities



Ingredients for successful migration – 4 C's



- **CONTENT** – consumer led & driven – only migrate if there is new , attractive , relevant content available on DTTV
- **COST** - Affordability of STB – This is a huge challenge in developing markets
 - Balance technology features , nice to have's and COST
 - SA funding 70% of STB cost form poorest 5m households - \$ 260 m
- **COMMUNICATION**
 - Consumer must understand the process and know what to do when
 - Consumer sets pace and success
 - Slow migration = low awareness /no incentives / high costs / high disruption
- **CO-OPERATION**
 - Broadcasters /signal distributors / manufacturers / government / Regulator & consumer groups
 - Anyone group who will be effected by this migration – needs to be included right from the beginning.



Personal lessons & experiences



- Conditions WILL change – Be very flexible
- Ensure you are empowered to make fast decisions
- There will always be challenges – JUST DO IT !
- Focus on the viewer / public – they will make or break this migration
- Never underestimate the force of HABIT (internal / consumer / stakeholders)
- Help the market start rolling – seed the retail markets - communication - word of mouth / forums / twitter /face book / press /radio / on air promos



THANKING YOU

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