The TV Everywhere Ecosystem: OTT Video Redefining the Landscape

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The TVE/OTT Ecosystem

Population Concentration

Source: Derek Watkins.

Regional Market Life Cycle Analysis

Source: Frost & Sullivan.

Key Takeaways

Position: TV Everywhere is a “must-have” service offering for any Pay TV provider today. There is a lot of excitement and end-user device proliferation and ubiquitous connectivity are driving a demand side pull for such services. Thus, despite business model ambiguity, the need to provide these services is madatory

Standards: Pay TV providers are increasingly struggling to unify and streamline the multi-screen experience and make it cohesive across all screens. This pertains to the client facing user experience to mirror all primary screen experience to secondary screens as well as from an upstream workflow and delivery perspective for the operator

Competition: Any tech savvy teen can publish video online – OVPs are trying to reinvent and position themselves to be more monetization focussed as are others across the value chain – analytics has become a key area of focus

Strategy: Cloud architectures will play a key role to deploy TVE . As delivery to unmanaged devices grows, so is the need to use the cloud to complement the traditional STB based managed device paradigm

TVE / OTT –
Growth Driven by Major Market Trends

Market Revenue 2012:
> $1.5 billion

CAGR to 2017:
over 20%

- Double-digit growth in handheld devices
- Double digit growth in online video consumption
- Growing availability of licensing rights
- Maturity of ABR file formats and streaming
- Broadband/3G/4G/LTE connectivity
- Maturing Monetization And Biz Models
- Growing Need for Automation, Scalability
- "Virtual Corporation" via Web Video

TVE / OTT Key Market Trends

Continued market fragmentation creates pricing pressures

Peak activity 2013 to 2015

- More and more vendors entering this lucrative space, and at a faster pace
- Could eventually lead to some consolidation

Monetization, particularly targeted/ personalized ad insertion

- Pre-roll, mid-roll, targeted ad insertion

Discovery and rich metadata/ interactive experience

- Mostly through player-side features
- Sticky user experience
- Improves customer loyalty and raises ad impression costs

Device reach – platforms, geographical

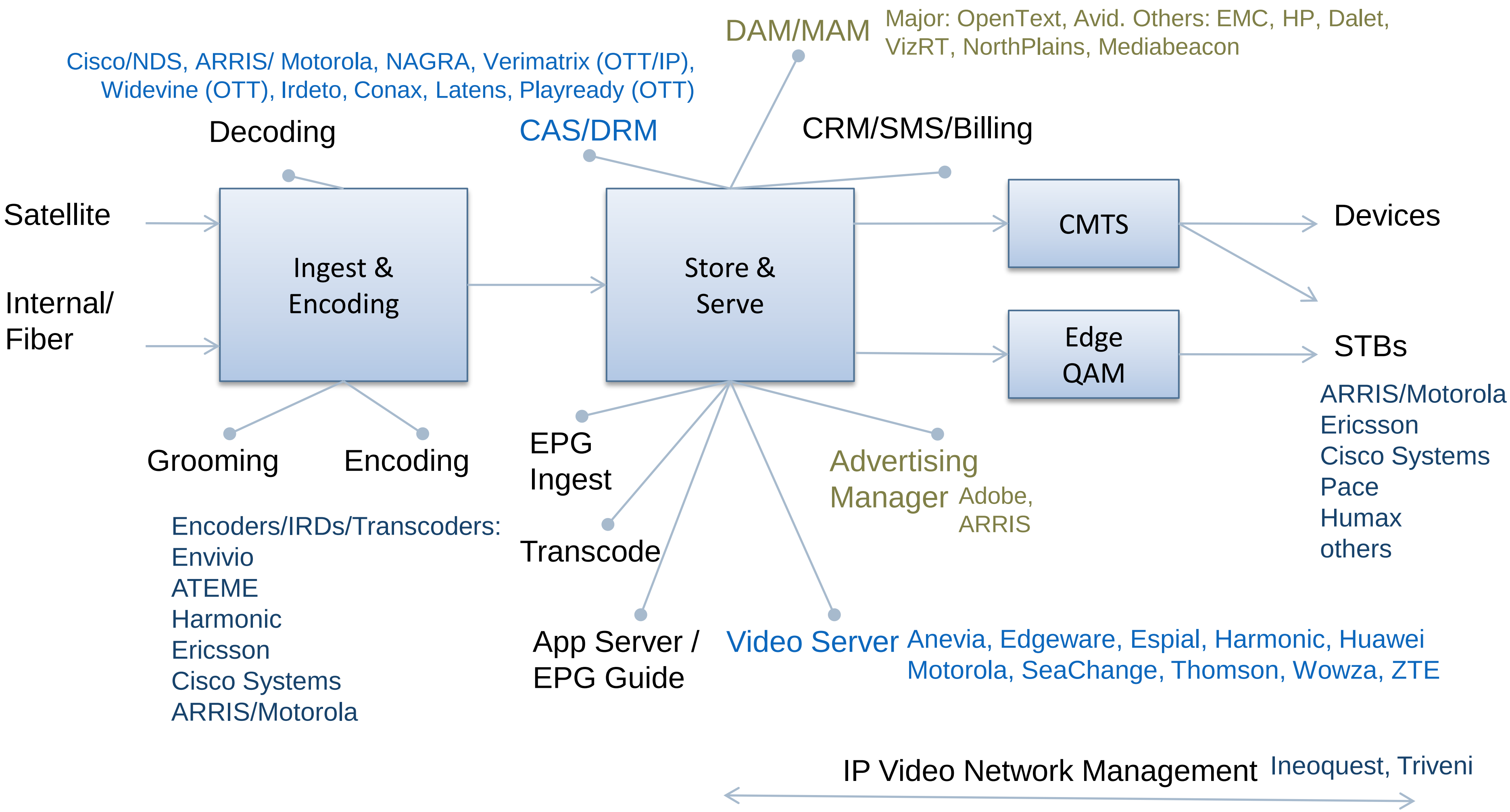
Peak activity between now and 2014

- Event-viewer geographical distance is rising; latency is an issue
- ABR to multiple device types and resolutions

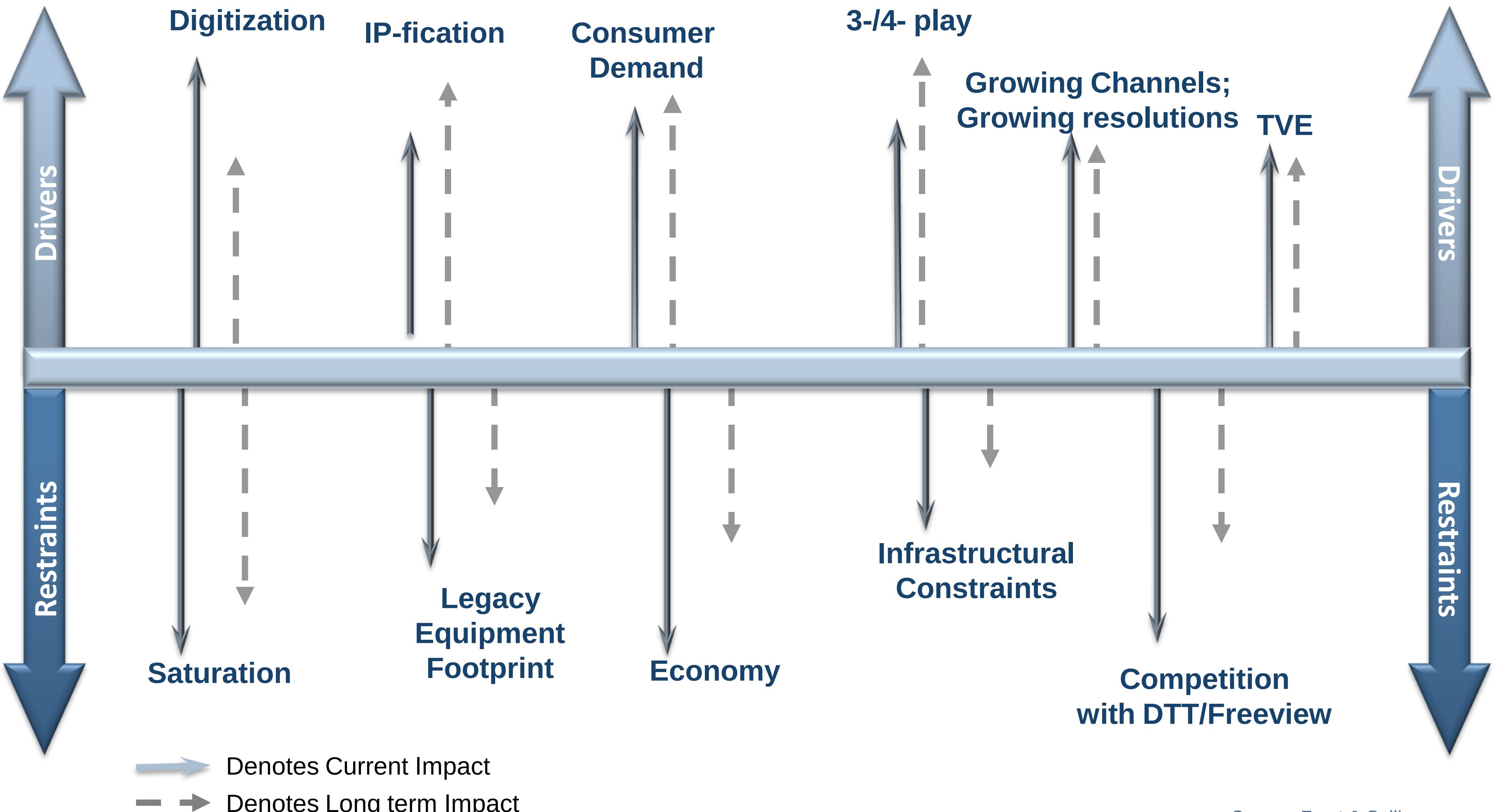
Market Trends

Typical VOD Architecture

Platform Vendors: ARRIS, Ericsson, Cisco, Comcast Media Center, ZTE, Seachange, Teleste, others

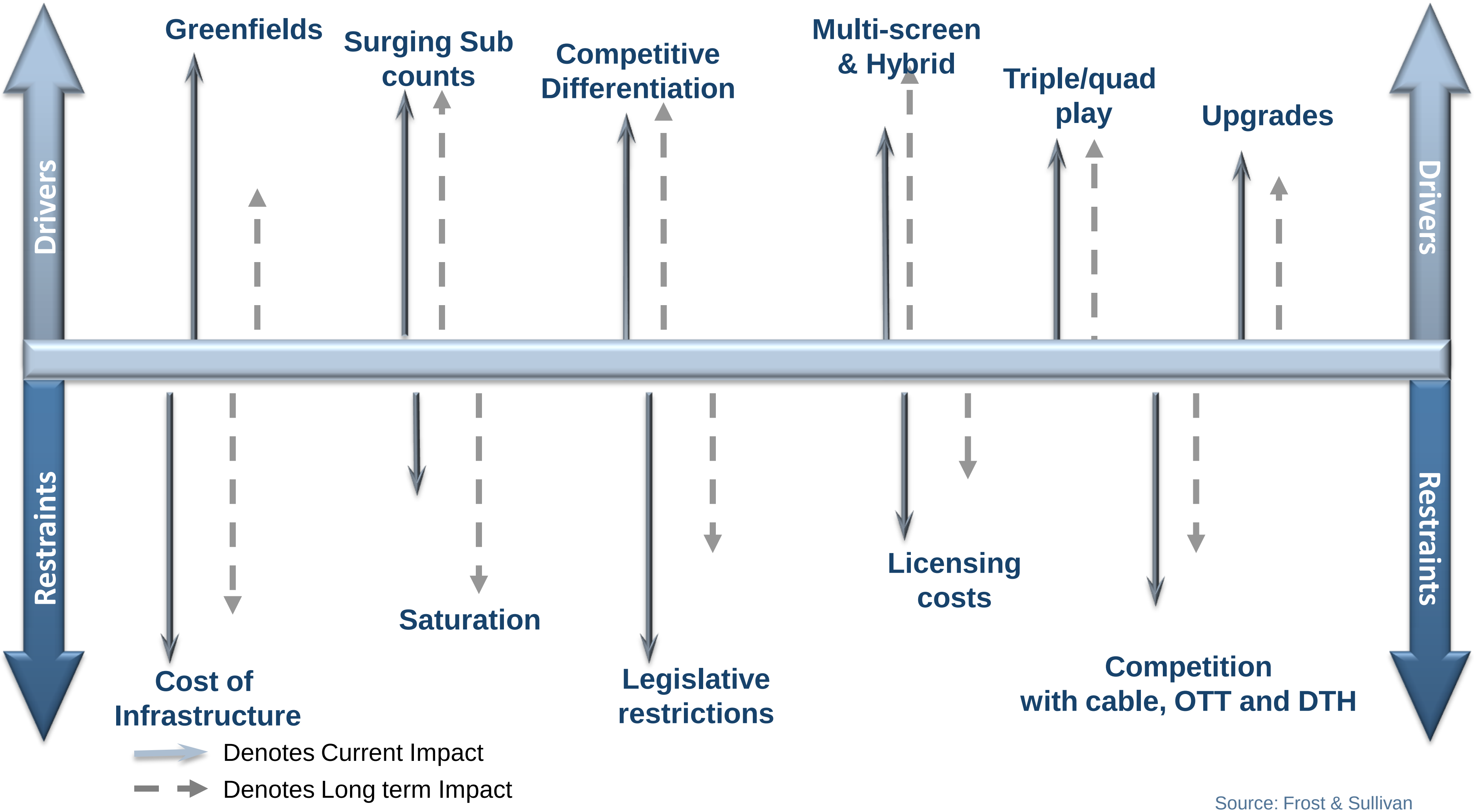


Cable Drivers and Restraints



Source: Frost & Sullivan

IPTV Drivers and Restraints

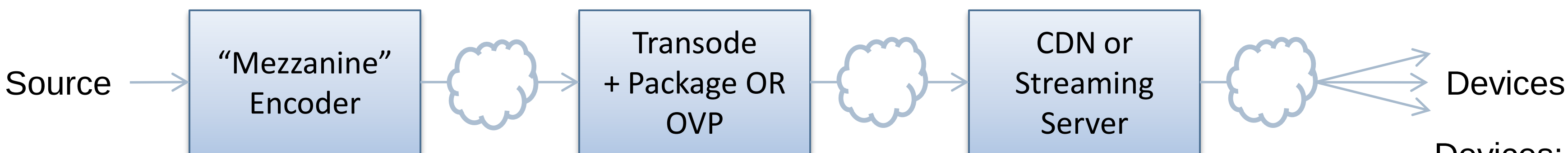


Source: Frost & Sullivan

OTT Live Via Cloud

Transcoder:
Compresses and formats stream in
ideal format for every target device/bitrate

CDNs:
Optimized networks for smooth delivery of video to all target audiences



Compresses incoming feed
and hands off
to transcoding layer
in the cloud. Typically
a live, appliance-based encoder; or
may run on PC

OVP:
Single solution for transcoding, packaging, ad insertion, analytics, etc

Streaming Servers:
Servers that support connections for streaming video to various target devices

Devices:
PCs
Smartphones
Tablets
Smart TVs
Consoles
etc

Consumer Video Devices –
Unit Forecast by Product Segment

Year	Video Game Consoles	Set-Top Boxes	Blu-ray Players	Smart TVs	Smart Phones	Tablets	IP Streaming Devices
2011	40.7	158.0	47.3	62.2	540.9	67.0	5.2
2012	31.3	198.0	59.1	86.1	734.7	124.4	10.7
2013	36.8	222.9	70.9	124.2	921.3	167.2	19.4
2014	43.3	233.6	83.7	164.2	1,130.4	216.7	25.2
2015	50.4	235.5	97.1	191.1	1,376.8	266.8	29.1
2016	58.6	245.2	111.7	222.2	1,642.5	316.2	32.0
2017	68.1	239.8	126.2	244.4	1,974.3	359.2	34.9
CAGR (2012-2017)	**16.8%**	**3.9%**	**16.4%**	**23.2%**	**21.9%**	**23.6%**	**26.7%**

Note: All figures are rounded. The base year is 2012. Source: Frost & Sullivan

Trends, Opportunities & Unmet Needs

Relevant Trends

1. Unmanaged device proliferation
2. Cable IP-fication
3. Increasing demand for richer apps / engaging content experiences
4. Headend components and CPE increasingly falling victim of bundled price cuts
5. Cloud-based middleware slowly gaining mindshare
6. Increased consolidation among large infrastructure providers creating larger barriers to entry
7. STBs giving way to smarter digital media hubs
8. Pay TV business models changing as interactivity, personalization and content diversity increases
9. Subsidized fiber rollouts through rural telcos creates an aggregate large opportunity

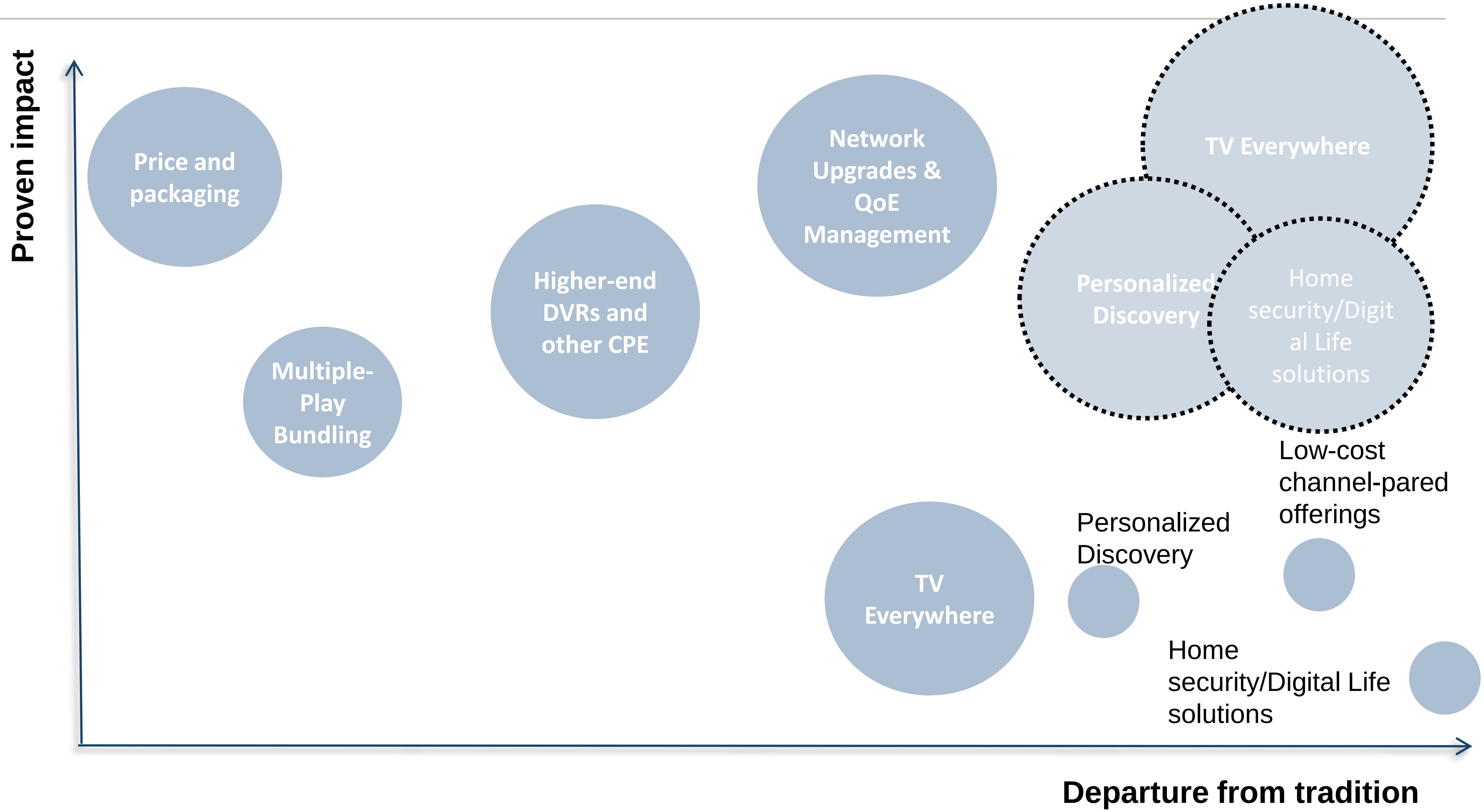
The market wants a monetization focused feature/app rich agile platform which has deployment flexibility through CPE or the cloud.

Unmet Needs

1. Closed middleware platforms make continued development difficult
2. “One Size Fits Only a Few” middleware products limit market traction and as a consequence continue to let a home grown market persist
3. Providing a seamless TVE experience is still a pipe dream for operators despite the excitement
4. Sustained customer support, especially toward ongoing platform development is lacking
5. The market wants unobtrusive middleware that would not be disruptive to the rest of network operations

✓Cable is moving toward IP.
✓TVE is a potential game changer.
Seize the Moment!

Churn Management Tools In Perspective



TV Everywhere, Personalized Discovery and Digital Life Solutions will be the most transformative over the next 36 months. The rest are expected to remain at the same level of importance

Note: Size of bubbles indicates level of current investment and the dotted outline bubbles are forecasted investment levels for those that will trasform the most.

Source: Frost & Sullivan

Factors Influencing the M&E Ecosystem: Key Takeaways

Transformative technical trends and changing priorities, in descending order of impact

Critical	Leverage both technology and creative programming to adapt existing IPTV , cable and DTH brands to remain relevant and attractive for the next decade.
Urgent	Adapt business model, operations infrastructure and CPE to position for ongoing growth despite ongoing market disruptions.
Key	Minimize churn and maximize subs/homes passed ratio through attractive entry-level packages, quad-play bundles and advanced offerings (HD, DVR, PPV, multi-screen, TVE , etc) as well sticky digital home services.
Essential	Upgrade infrastructure to meet growing throughput demands and competitive need to differentiate on quality.
Basic	Continue to grow revenues, if not subscriber counts, through compelling price-product combination , despite competition from other pay TV service providers and alternate content sources.