



E-book

OTT – is your service a champion or a runner-up?

What do you need to do to ensure that the quality of experience of your OTT platform makes it ready to be top of the league?



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01

OTT is mainstream
– but is it ready?

OTT is mainstream – but is it ready?

Over the top (OTT) or video streaming services have now been with us for over a decade with the first services emerging in 2006-2007. Since that time, much has changed in our world. The Internet, 4G, Facebook, Snapchat, the iPhone and iPad and Netflix among dozens of other services have brought advanced technical services to billions of people in an incredibly short space of time. With that in mind however, when comparing our life span to that of traditional satellite, cable and terrestrial services – OTT is still very much in the junior leagues.

Just like a lower league sports team or successful amateur boxer looking to step up to the professional leagues and win the big championships there are some basic elements that need to be in place for an OTT platform too that will lead to success. Just turning up and winging it may provide some early wins but later on the flaws will be exposed and losses will follow.

OTT is currently a hugely fragmented and varied market – with some definite heavyweights holding all the belts currently, such as Netflix, while other services such as Disney or NBCUniversal's are emerging as strong challengers.

There are also those seeking national or continental success only – such as BBC and ITV in the UK with their proposed BritBox service or Hulu in the US.

Whether a service has been around for a few years or is about to launch, delivery of content over the internet is well and truly here to stay. With over 60% of US 18-29 year olds now citing streaming as their main method of watching TV¹ and more UK households subscribed to a streaming service than to a traditional pay TV service² then there can be no doubt that OTT streaming is now a staple part of the video viewing landscape.

To ensure your platform is ready for the demands and expectations of title winning performance requires a holistic approach at the whole content delivery ecosystem. OTT services can grow rapidly – adding new features and capabilities on a weekly basis, but are you paying enough attention to the fundamentals?

In this short book we'll look at some of the challenges a growing service faces, how to measure their progress and what steps should be taken to fix the fundamentals to provide a solid platform for a championship winning performance.



02

Top 5
issues for
OTT platforms

Top 5 issues for OTT platforms

Quality of Experience (QoE) is often defined as the measure of the delight or annoyance of a customer's experiences with a service. But this isn't just about the video - it's about the entire journey.

From working with a variety of clients, we have identified a number of common issues that frequently occur as OTT services mature. They arise in different ways and are usually solved in different ways but the impact on the customer experience is often very similar.

So, what are the top 5 customer facing issues we see when we talk QoE?

1. Device management – With new devices, platforms and versions of software launched to market almost daily, keeping the product roadmap up to date is hard. Even harder is the processes to keep applications and their features running smoothly across legacy CE devices. For how long should you keep trying to maintain backwards compatibility? The organisation has to ensure that there are tools and services in place to effectively manage the customer experience. Application crashes, low memory conditions and a slowdown in performance will all significantly reduce the quality of experience – and ultimately impact app store and review ratings – all before any video has been consumed.

2. Content Delivery – Whilst largely in the remit of a content delivery network partner, there are often many tweaks to the configuration and settings that can be made to optimise and improve performance and efficiency. This is usually much more prevalent in services that span multiple countries or global regions – but certainly is not limited. The impact of badly configured content delivery services effects not only video – but all elements of the service including pages, images and artwork and platform services.

3. Client / Server balance – Rarely do technology teams in OTT get the time to review the basic architecture of what they do to fix long outstanding technical problems – instead adding new capabilities as they go. After all – there's nothing more permanent than a temporary fix. It is inevitable that over time in a multi-vendor environment the end to end architectures are no longer as optimised as they once were. As new services and vendors are brought into the mix, those that are deprecated are rarely eliminated from the application stack and architecture. This often results in timeouts and delays as apps and services await a response from an API or endpoint that no longer exists. A complete review of every element of the solution can identify areas leading to significant improvement in the customer experience.

Top 5 issues for OTT platforms

4. Deployment Architecture – Offloading features and functionality like user management or recommendations to the latest and greatest SaaS providers can be an architect's dream come true. Expedited roadmaps, great features, and a fully managed service – what could be bad? Often – it's about the where. SaaS vendors deploy handfuls of services in a few regions across the globe – but often spare little thought to localised routing. Your applications that sit in a particular territory, don't always route to the most efficient location to access that particular service. The result – increased round trip time and excessive latency. You can often be waiting for longer than you thought for something simple to process.

5. Poor Data Management – usually the customer support teams are on the front line and bear the brunt of irate customers. These teams do an amazing job in attempting to rectify the customer's problems but often with insufficient information and data to assist them. The old IT solution of 'turn it off and on again' is heard way too frequently! Better identification and capture of key data in a structured and clean way can significantly assist the teams in resolving customer issues. This same data can also be used to identify trends and take proactive corrective action to reduce the number of customer issues. Many data sources should not equal many tools – so a process to collate, analyse and abstract data to a single set of structured and clear dashboards will pay dividends.



03

Quality of Experience –
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Quality of Experience – what is it and why does it matter?

So how should you look at Quality of Experience (QoE)? In our terms, QoE is entirely viewed from the perspective of an end user. The user only sees what is on their screen and how it performs, e.g. how long does it take to load a page, how quickly can I login, how fast are search results returned, how long does it take for a video start, does the video re-buffer excessively or does the application crash often?

The journey to present content to the end user will touch almost all elements of the service. To understand how that QoE is impacted it's important for an OTT service provider to constantly monitor as many elements of the service as possible, from app start-up and authentication within the applications and web portals, to final content playback and the consumption of video frames.

In order to maintain the rapid growth, quick fixes and workarounds are often deployed to maintain services for customers with an internal promise to put a proper fix in place in the future.

Frequently though these fixes do not get implemented fast enough. We call this technical debt. The next time anyone knows about it or has to deal with it is when there is a catastrophic incident because the appropriate fix has yet to be applied or the subscriber churn increases to commercially unacceptable levels.

At that point the need to improve the quality of experience is absolutely imperative but the number of complex inter-linked issues can make the whole process a seemingly unsurmountable challenge.

This is why it is important to be considering the quality of experience on a constant basis. It should be seen as preparatory action in order to be ready to challenge for championship greatness. The journey to move from challenger to champion requires detailed preparation, continuous development and continuous improvement whether an athlete improving performance or an OTT platform raising the quality of experience.



04

What to monitor,
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What to monitor, measure and analyse

Whilst there is some debate about the origin, the fact that it is attributed to so many different experts may indicate some truth in the saying: “That which is measured, improves”.

So, what should be measured for improvements to be seen? The problem faced in most situations today, whether in sports or OTT services, is not one of a lack of data to monitor but one of data overload. It is possible to collect data from multiple sources but only a careful selection of this data really needs to be interpreted to provide the overall health of an OTT service.

The remaining data may in turn become highly useful to assist in diagnosing and subsequently solving a problem but initially through mis-interpretation may lead to an incorrect diagnosis.

Based on proven methods with our customers, we break down our work to three main areas that with focus, bring significant results:

1. Applications – The end user’s perspective. The application is what your users interact with – so it’s where we start – not by analysing code, but by understanding how your end users interact with your service. Breaking down calls and flows to evaluate each aspect of the journey right up until the path to play – identifying any points of interest and charting how the quality of experience is viewed through the eyes of your market.

2. Platform – The engineering perspective. The source of all activity – thousands of requests per second hitting critical subsystems. Understanding the deployment architecture, how pieces connect and transfer data to their dependants is another critical element. Over time, new vendors or software modules are added to the solution – gradually changing the dynamic. Platform architecture analysis exposes known or unknown issues, aids product and engineering teams – preventing the often-infuriating vendor blame game.

3. Delivery – The content perspective. The final piece of the puzzle – and the end product consumers have inevitably purchased. This track evaluates the Content Delivery Network, delivery parameters, media specifications and how the player renders video and audio. There’s so much going on at the point of play – and background factors such as caching settings, player buffer, pre-load, heuristics override or bit rate control can detrimentally impact the consumption experience

As performance improves so the monitoring requirements change. Just like a sports team pushing for promotion and raising their game as the competition gets tougher what they look at and monitor will change. So it is with OTT platforms too as they progress from their initial deployments to meet the needs of larger and more demanding audiences.



05

Why your team
may not be the
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We understand that it's hard to ask for help sometimes. After all – no team wants to admit they may need additional help. We're sensitive to this – and know that in-house teams don't always have the time or skills to address the issue at hand. The best sports teams and performers are open to bringing in extra coaches or analysts if they need to improve in a specific area.

There are three good reasons why an external team can better address the issue and help the internal teams and organisation to resolve what is troubling them.

1. Time – Internal teams are already focussed on keeping the service running. They already have day jobs to do. To load them up with further work that is often very intensive will either result in further problems due to the day to day work suffering or insufficient depth to get to the root cause of the issue under investigation.

2. Perspective – Sometimes it's hard to see the detail when we're staring at it every day. The internal team will have done a fine job in building and operating the service to date. However, in a complex multivendor environment with servers located potentially globally the ability to drill down into the depths of the data to understand the root the depths of the data to understand the root cause often benefits from a fresh perspective.

Bringing in an external team with a high level of knowledge and experience can help to upskill the internal team. The internal team will benefit by learning from the investigation and may well be responsible for implementing the whole or parts of the solution due to their skills in configuring and operating the service. beyond their ability.

3. Independence – Using an external organisation will provide an independent point of view. Internal teams may be influenced by local issues or politics that an external team is not a part of. We're not there to point fingers or engage in a blame game. A purely technical fact finding process goes a long way to making improvements.

High growth OTT platforms and sports teams or athletes share these characteristics. To improve, a sports team that thinks they know it all, will rarely have they developed all the skills and knowledge required to handle the new challenges that a higher level of ambition and competition will throw up.

In equal measure OTT platforms and sports teams or athletes can overcome these challenges by asking for help which develops the new skills necessary to reach the targets they have set themselves.



06

How to
prepare for
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There are three main things any organisation can do to prepare to move their OTT service to a championship winning status.

1. Look at customer satisfaction scores and feedback from a variety of sources. This will include sources such as the online apps stores, surveys and focus groups, their own website or customer forums if they are running them as well as calls and emails logged into customer service. What are the common themes?
2. Engage a third party to conduct a quality of experience (QoE) review. The feedback from the first action will guide the third party into some of the areas to examine in more detail as part of the overall review.
3. Once you have a set of recommendations, create a plan to implement the necessary changes. Knowledge is nothing without action and in order to grow up and mature the network must make changes as required to continue to grow and develop.

Whilst there will remain a belief that any issues can be identified and fixed internally this is rarely the case. There will continue to be any number of workarounds and quick fixes implemented by internal teams to quickly patch over any issues. Rarely do these last for very long since there are so many moving parts to the whole system, many of which an OTT provider has little or no control over.

The only real solution is an in-depth review to find the root cause and implement a detailed engineering solution using current best practice. It is inevitable in a fast growth environment that some technical debt will accumulate but it is essential to remain on top of this to prevent it blocking the platform from the highest of success!



07

Is your OTT platform
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The bigger question remains as to how ready is your services for primetime? Many were initially created a few years ago with a rapid time to market approach, perhaps now based on increasingly obsolete technology, but have grown rapidly to support many tens or hundreds of thousands of subscribers and are finding it hard to shed the techniques that were necessary to win in the early days. Like those sports teams that have emerged in so many sports to become dominant champions they have taken a long hard look at the fundamentals of what they do in order to prepare the foundations for a long period of success.

With subscribers now paying upwards of £5 a month they are beginning to expect a quality of experience commensurate with their experience of broadcast TV. There is no doubt that a high quality of experience is no longer a nice to have – it's critically expected.

In order to keep the subscriber paying their monthly fee then today's OTT service provider needs to be highly focussed on that end user's quality of experience. The days of subscribers and operators tolerating spinning wheels and messages about buffering have now passed. OTT video streaming is now TV and like its much older sibling, broadcast, it has to be there all the time.

So where does your OTT service sit? Does it have the fundamentals to be a championship winner, facing relegation or somewhere in between?

If it's somewhere in between or facing relegation then are you ready to bring in a new team to help fix the fundamentals and help your service be a winner?

For an initial discussion to see whether your service is in need of a QoE review and to discuss how Spicy Mango can help then email us at hello@spicymango.co.uk or call us on +44 (0)844 848 0441.

