The Smart Home - The next destination in the quest for a "sticky" customer

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Executive Summary

With the commoditization of the triple play service bundles, the operators are seeing reduced profits and hence are in search of next generation own-the-home bundles. The exponential adoption of the smart home ecosystem is offering the operators a chance to redefine their business models to recapture the "sticky" customer, that provides a regular monthly revenue stream and is less likely to switch providers.

This paper outlines the evolving smart home ecosystem that makes up the current state of the market and what service providers need to do to be a player in this expanding market during this short window of opportunity. A comprehensive plan is needed to support the smart home infrastructure requirements, with the intent to be a service integrator that is the one stop shop that provides all the broadband and networking services needed to support the home.

The winners in the Smart Home space will be those that act quickly and provide a sustainable solution that meets consumers needs.

WHAT IS THE PROBLEM?

In the past, service providers worked to offer bundled triple play (Internet, Voice, Video) services to get multi-year agreements from their subscribers and secure a stable reoccurring monthly revenue stream.

Offering triple play services is no longer enough to keep customers, resulting in high customer churn and reduced profits. This trend will continue for the foreseeable future, so service providers need to act.

Key Words: smart home, triple play, sticky customers, IoT classification

The Problem

In the past, service providers worked to offer bundled triple play (Internet, Voice, Video) services to get multi-year agreements from their subscribers and secure a stable reoccurring monthly revenue stream. Customers that took triple play service had little incentive (also called **stickiness**) to switch their services away from the provider for many reasons – price, inconvenience, contractual commitments etc. With the advent of all IP services, Voice over IP (VoIP) and Over The Top (OTT) Video many customers are no longer willing to pay for services that they are not using or can get somewhere else at a lower cost.

Offering triple play services is no longer enough to keep customers, resulting in high customer churn and reduced profits. This trend will continue for the foreseeable future, so service providers need to act quickly to redefine their bundled services that creates stickiness in the customers of tomorrow. This white paper explores one such concept where providers, equipment vendors and OTT service providers are competing for – **The Smart Home Service Offering**.

An elaborate ecosystem is evolving around the smart home concept. As shown, different strategies are in play from operators (both traditional and OTT), multiple standards are in progress for device and software definitions, different technology streams are maturing, vendors are (or have) developed sophisticated products and operators are paying serious attention to offer competitive services.

KEY TAKEAWAYS

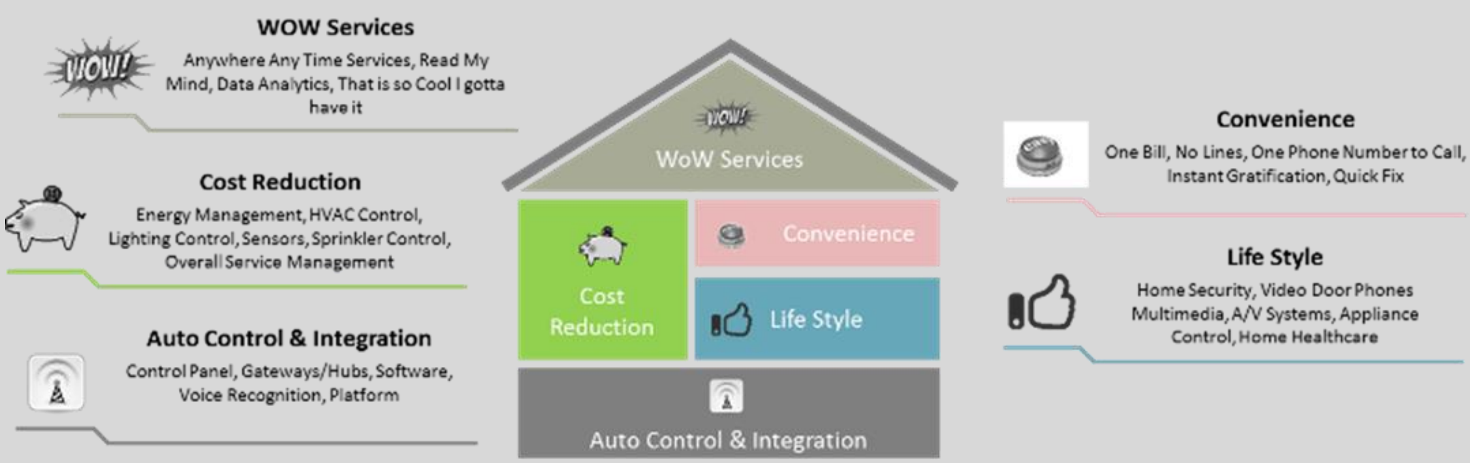
While triple play-based revenue is seeing a decline, the operators are presented with the exciting opportunity in supporting smart homes. There are many players in this area though. This white paper delves into how an operator can cash in the opportunity.

We recommend the following:

- ✓ Cash in your relation as a "Trusted Provider"
- ✓ Invest in providing a strong in-home platform
- ✓ Classify your customer needs
    - Refer to the paper for details
- ✓ Offer cost reduction → convenience → life style → WoW services in that order

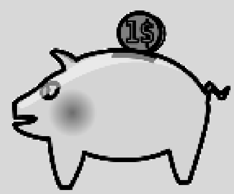
The Smart Home

Duke Tech Solutions (DTS) classifies the utility behind a Smart Home into four primary motivators for the customer - Cost Reduction, Convenience, Improved Life Style and The WoW Factor Services. As shown, the foundation that ties everything together and makes the Smart Home possible is the control and integration. This integration allows these features to be managed locally or remotely.



Many of the services start as the **WoW factor services** that draws the attention of the consumer to try these new smart home applications. These applications evolved from basic utility bill control applications to elaborate artificial intelligence applications such as Google Home. The early adopters ride this innovation wave. Eventually partnerships, ecosystem adoption and standards drive them to mainstream consumers. Ecosystem providers are using analytics to help them understand customer's needs and then developing applications to meet these needs in new and exciting ways. A couple of examples that you probably remember well are – Netflix, Nest.

Once they come out-of-the-wow-factor, they are adopted based on how important these services are to customers. The level of importance can be grouped in cost reduction, convenience and life-style improvements.



The **Cost reduction** applications are smart home features that enable things like lowering the thermostat when the home owner is away, shutting off lights when no one is in the room and even adjusting energy use for off-peak hours. With remote control, users can turn off their sprinkler system when rain comes and they are at work. These cost management applications can be an easy sell as they typically pay for themselves over a short period of time. Typical bundled services such as triple play are also being looked into with entry of newbies such as Google.

Convenience is another major motivator for the home owners. Life is busy, so anything that makes life more convenient is definitely something that will draw home owners in. They also see the value in only having to deal with **one provider** and receiving only **one bill** at the end of the month. They only want to make one phone call or deal with one company when there is a problem. They do not want to have a repair person telling them that it is **another vendor's issue**.

The **improved life style** applications fall somewhere in between the WoW factor applications and the convenience needs of the consumers. They range from security, to home healthcare, to things that just simplify life and lowers risk and anxiety. Some life style applications are valued more than others by home owners. Focusing on the higher valued applications, like security and healthcare first, the operators can drive the monthly revenue especially if the smart home architecture is already in place.

The need for ease of use that drives higher adoption in non-tech savvy users necessitates **automation and integration** of the smart home technologies. It requires having all the individual parts talking the same language (protocol) so that they can be networked and controlled by a common controller that allows both local and remote control through any smart phone, computer or tablet device.

The next section introduces different activities that are in progress in the evolution of the smart home technologies before we move on to discussing how operators can adjust their strategies to bundle the smart home as part of their offering – to Own-The-Home

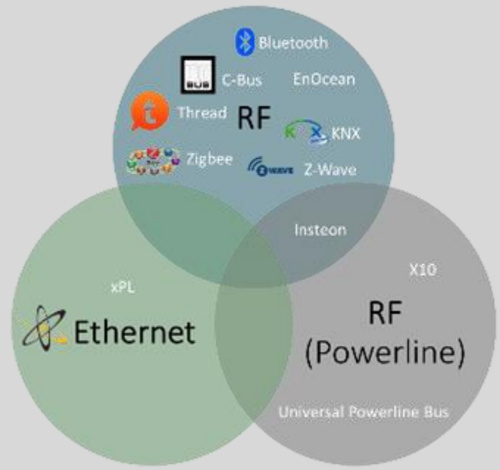
Smart Home Market Dynamics

The smart home market has been evolving for the last decade. Some of the dynamics worth noting are outlined in this section.

Technologies: Four primary technologies are driving the current evolution of the smart home. These are cloud computing, Next Generation LTE cellular network, Internet of Things (IoT, [1]) and most recently voice recognition. Each of these alone have only a minor impact. The power and significance to a smart home is realized when these technologies are used together to provide value add services.

One of the technical advances that will enable the expansion of the smart home is the introduction of the 5th generation mobile network (G5 Network). This technology has been designed to support an extremely large number of users per unit area. It will also improve support of device-to-device communications with the intent of providing lower latency and lower battery consumption. This will help drive the expansion and evolution of the Internet of Things (IoT) allowing more cost-effective solutions to be developed that would fall under the smart home umbrella of applications.

Standards: One of the reasons that smart home solutions have not been widely accepted is because of the lack of standards and the lack of interoperability when customers try to add or change hardware and software to meet their needs. The biggest issue is standardizing the smart home protocol. The list shown in the figure above are just some of the protocols currently being used [2].



Standards around many aspects of the smart home are in work with efforts moving quickly to finalize and gain consensus. Once established, vendors will integrate and ensure compliance.

Vendors: There are several hardware and software vendors that are enabling smart home solutions. Google, Apple and Amazon are wowing customers with voice recognition to provide users with an assistant in the home. iControl has developed a software platform that is used to control all the smart devices in the home. Honeywell has developed analytic tools to help with making since of the data being collected by smart devices. Samsung has created a flexible, open ecosystem, from silicon to tools to cloud, plus an extensive array of technology partners to help enable IoT and Smart Home solutions to be developed and **brought to market quickly**. Vendors are developing smart home enabling applications at a record pace. Who will win? Or How will the ecosystem partnerships evolve?

Operators: Per Strategy Analytics [3], there were 30 million homes in the US at the end of 2016 with one or more smart home capabilities. Strategy Analytics projects this number to grow by 20% to more than 35 million by the end of 2017. The top 10 service providers have a collective total of 2.4 million subscribers accounting for more than 80% of all smart home service subscribers.

At the end of 2016, the Smart Home market leaders were Vivint, ADT Pulse, AT&T and Comcast. All offer plans that include an installation fee, a monthly monitoring fee and require at least a 2-year agreement with early termination fees. Vivint, ADT Pulse, Front Point, Protection 1 and Moni are home security companies that have been successful expanding their smart home services beyond security. AT&T, Comcast, CenturyLink and TWC are broadband service providers. Nexia is an Ingersoll Rand (HVAC) company that was established to address home automation.

As you can see the market is highly fragmented and different operators are evolving to monetize the smart home ecosystem.

Strategy: There have been different strategies evolving - ***mergers***, ***strategic partnerships***, and alliances to ***syndicate*** the existing platforms to other operators.

Smart Home Service Providers by End of 2016 (by Strategy Analytics)	# of subs (in thousands)
Vivint	737
ADT Pulse	692
AT&T	308
Comcast	280
Front Point	123
Protection 1	93
CenturyLink	60
Nexia	55
TWC	36
MONI	32

The most notable has been Comcast's ***acquisition*** of iControl's (OpenHome) Converge software platform [4]. This software will be used to control and manage Comcast's Xfinity Home Security solution. This software platform is also being used by ADT (Pulse solution), Rogers Communication in Canada, DSC (Connect 24 service) and Time Warner (IntelligentHome – security, energy management solution). This Comcast acquisition also enables them to offer Wi-Fi enabled video and home automation (Piper business unit) and connected home and business platform (Connect business unit).

Telstra has ***partnered*** with Ericsson to offer the Telstra Smart Home solution rolled out in 2016 [5], [6]. Telstra plans to expand their smart home solution to their overseas markets but will make sure that the solution works well in Australia first. AT&T has also entered the smart home market with their Smart Security offerings – AT&T Digital Life [7]. They offer varied packages under security and automation.

As the operators work to scale their solutions, some are ***syndicating*** their in-home solution and offering it to other service providers that are late to the game or do not want to or have the time and incur the expense of developing a solution on their own. Comcast [8], [9] is offering such syndication to Rogers, Shaw and Cox.

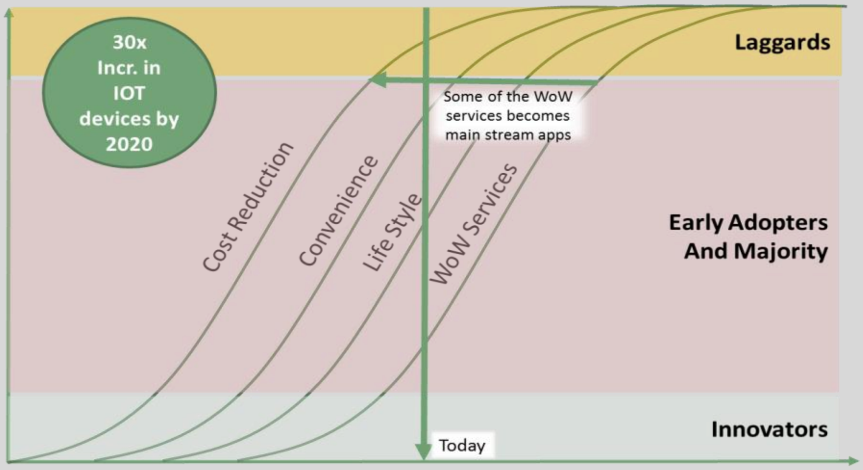
So, what? Even though there are many competitors working diligently to capture smart home market share, the market is still fragmented with no clear winner [10], [11]. Although there are many proprietary solutions, standards are evolving and gaining traction. Large scale Smart home adaption has started and will soon start showing exponential growth. The challenge is how operators, who have a traditional relationship with the consumer can offer services that evolve into the so-called smart-home services, which in turn keep the customer sticky with the operator. In the remainder of this white paper, DTS offers our perspective around how providers are trying to Own-The-Smart-Home ecosystem. An Own-The-Home (OTH) strategy offers an ecosystem that allows providers to maximize their next generation revenue from the subscriber. The interesting part is that in this fragmented service offering creates unique opportunities for a service provider to add value – and gain sticky customers.

What are Current Service Providers to do?

What is important for a customer to stick around for a long time with an operator? To Own the Home, operators need to *"offer services that customers cannot refuse"* 😉 Here are some of the main factors on which they need to focus -

- ✓ *Experience* – Provide a unified and exceptional customer experience
- ✓ *Support* – Have seamless and cordial support
- ✓ *Integration* – Help the customers in using the services to its fullest through integration
- ✓ *Billing/subscription* – A single bill or subscription for the customer that makes sense and costs less

- ✓ *Security* – With roughly 30x increase in smart home devices – the security becomes a major issue. Solve it seamlessly for the customer please.

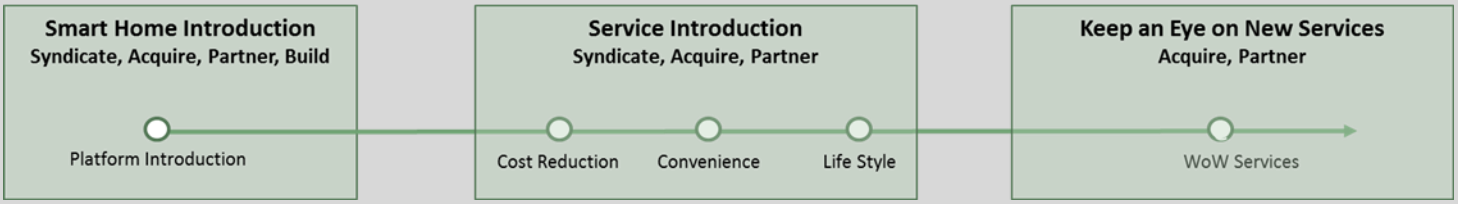


The smart home evolution offers a relief to the incumbent operators to re-enter the bundled services market with a vengeance. As shown, the world-wide IOT market is going to grow by 30x [12] by 2020. As mentioned before the wow services of the past will eventually make it into life style, convenience and finally to cost reduction services of a smart home customer. Some of the wow services being experimented by innovators move into main stream. The goal of the operators is to be prepared and have a platform to bundle and support them on their (operators) portfolio. What are operator's differentiators? Well – the unified experience, seamless support, integrated services, single bill and (we got your back) security.

Knowing that the consumers value, one throat to choke when there is an issue, and of course, having an existing relation with the consumer are the major factors that the operators need to remember. Operators need to be the smart home engager that designs, creates, integrates, monitors and delivers smart home solutions to their customers – that is become a one stop shop for the home owner. As long as customers are satisfied with the services provided, they have no reason to switch or introduce another provider. Besides providing another revenue source, the provider is recapturing the "sticky" customers and hence the recurring revenue stream [13].

Suggested Plan of Action

If you are a service provider, your goal is to be a **one stop shop** for all your customer's broadband and the smart home networking needs. To do this, you will need to be the integrator of the smart home equipment and applications. As the integrator, you will need a **converged smart-home platform** that has cloud-based **portal access** which allows the customer to select and manage their own services. To enable the in-home services, the operator needs to introduce **a smart-home gateway** and/or an **IoT hub**.



As shown above, service providers should introduce their smart home platform with a service that the majority of consumers' value and are willing to pay for. Not only does this provide the best return, it establishes the infrastructure in the home and in the cloud, that will enable upselling additional services at a more economical price point. A suggestion – triple play (basic cost optimized service), or a home security (life style improvement service) which has been the primary driver in the growth of the smart home and is expected to continue to be the catalyst in the short term. As mentioned before, there are many ways that the operator can introduce the platform - *syndicate, acquire, partner or build*.

Once the platform is in place – the operator should work through their differentiators in *integration, ease of use, unified billing, best support and value-added services (battery backup, self-installs etc.) to develop* an attractive offering. Of course, the operator needs to understand more about their customer to better offer services (their usage and issue resolution) – hence the back-office analytics (of course, they need customer's consent). Note that choosing the right smart-home gateway and IOT hub are crucial for the operator success.

Once the ecosystem is owned by the operator, they need to focus on integrating the cost saving, convenience and life style improvement applications in that order – with an eye on the wow services.

Another key component to the solution is customer data security. Security of customer data is critical and special care should be taken to make sure all necessary precautions are taken. Complying with current and evolving regulatory requirements may cause some challenges. Any breach in data will cause negative press that will lead to a loss of new and potentially current customers. Data security and compliance will become even more important as more connected in-home medical applications are identified and deployed. Understanding how customer data will be handled should be considered early and well understood before deployment. Handled properly, data security can be used as a selling point, rather than just being a liability.

Being the engager and the integrator, operators are the **primary interface to the customer**. This has many benefits. The primary benefit is access to customer data that can be used to improve service and to identify new services that customers desire. Care needs to be taken in handling customer data properly. By evolving the smart home services at the right time, the operator can own the home.

Summary

In summary, we suggest the following process if you, as an operator, are in the middle of or starting to wonder **how to own the home**:

- ✓ Clearly articulate what does it mean to you?
- ✓ Get to the bottom of how you can create the smart home platform – syndicate, acquire, partner, build
- ✓ Identify how you can introduce this platform with a first got-to-have service for your customers
- ✓ Have a clear roll-out plan for the cost improvement, convenience and life-style services with an eye on the wow service integration
- ✓ Make sure to add value to the customer to make them sticky – remember customer experience, seamless support, full service integration, single bill and integrated security, and
- ✓ Finally make sure you have a sustainable solution by understanding your consumer needs

Good luck!

Want to further explore your thoughts along these lines? Reach out to the authors at Dennis.Edens@duketechsolutions.com, Sudheer@duketechsolutions.com

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