CLINTWORLD

Customer Value Engineers

Whitepaper:

Service Plan Consolidation - Taking Advantage of a Billing System Migration

Executive summary

Billing migrations are most often driven by IT, yet extremely disruptive to the Business. The cost is significant, and fraught with risk for Customer Care and Retail. Marketing can take the opportunity to optimize the portfolio of service plans against the current subscriber usage patterns, against the competitive landscape, and leverage a Revenue Quality Assurance (RQA) application to ensure the migration and optimization run successfully. In so doing, the billing migration and marketing operations will be more efficient, and Marketing will end up with a pricing analytics and simulation platform (PASP) going forward to ensure the portfolio of Service Plans and Offers is optimized for their target segment, relative to the competition.

Introduction

It can be difficult to see the upside when IT informs Marketing that they are going to have to reprioritize their initiatives for the year because IT needs to make room in the factory for a billing system, migration. Several things can run through the minds of Marketing executives:

1. I need all of my initiatives in order to hit the revenue targets and business objectives that I signed up for already
2. There goes the budget that I need to fund all of the initiatives required to meet my objectives
3. By the time we emerge from this, my competitors will be a year ahead of us in capabilities

Of course IT is not evil. Billing system migrations generally occur to reduce costs as in the case of a merger or acquisition where such cost reductions are promised to investors. In many cases, billing systems and CRMs become extremely customized in order to meet the needs of the business processes they support. However, customization comes with a long term cost. That is that it becomes impossible to get product releases that contain enhancements without further customization of the enhancements. Eventually, after foregoing standard product releases, the cost to upgrade the billing systems to return to feature parity approaches the cost to switch.

While Billing System Migrations may be a necessary evil, that doesn't change the fact that they are high-cost, high-risk undertakings that supersede Marketing initiatives, disrupting the major business objective(s) they are trying to accomplish. So what can Marketing do to not lose ground because of the Migration? Is there a way to take advantage of the momentum in order to salvage the business plan for the year? This White Paper sets out to show how a Billing System Migration can be leveraged to increase ARPU and reduce churn and operational costs of maintaining the Portfolio of Offers (includes Loyalty Offers and Service Plans).

Trust is the toehold of the CSP

There exists an economic relationship between the subscriber and their CSP. Social networks, over-the-top (OTT) and communication applications don't have it as they are typically free (e.g. Facebook, Gmail, etc.). The OEMs don't have it (e.g. you don't go to a Samsung store to buy a Samsung Phone). The Platforms (e.g. iOS, Android, WP) are developing it (you can go to an Apple Store or Microsoft Store to buy phones, but calling customer care can be a more difficult endeavor with long wait times). CSPs have leveraged a high-touch approach to this relationship by establishing a network of retail stores, and a massive fleet of Customer Care Representatives. The economic, and high-touch relationship the CSPs have with the subscriber, effectively gives them a toehold for any future incremental revenues that subscriber may generate. However, as the Platforms, OEMs, and OTT players collect more data about the subscriber, their ability to develop that direct relationship becomes stronger. CSPs need to leverage the all of the data that they have, Billing, Personal, Usage, and Network in order to continue to have best-in-class interctions that increasingly take place virtually via messages, and the internet, and less so in stores and in calls to care.

Precision builds customers' trust

CSPs often send a text message warning subscribers that they are about to go over their monthly allotment of text messages. The message conveniently offers a way to upgrade to an unlimited text messaging plan. But, for a significant portion of those subscribers, the additional text messaging fees do not add up to the cost of an unlimited plan. This campaign is event-driven (nearing the limit of included text messages), but not optimized for the usage pattern of many of the recipients. What is worse, it causes skepticism of any offer from the CSP, putting into jeopardy trust in their brand, something CSPs value highly.

The same level of personalization is expected for service plans. Subscribers expect to get one that fits their usage patterns (and their budgets). As the example above shows, long-term upselling relies on subscriber's ability to trust the Offer. Therefore, it is critical that the Offer is data-driven, and computed precisely, leaving no room for doubt that the CSP has their best interests in mind, and value the economic relationship they currently enjoy. If a subscriber learns that they are either paying significant overage fees, or not utilizing their plan to capacity, their distrust often turns into a call to Customer Care, resulting in a Loyalty Offer, or potential churn as they feel compelled to hunt for a plan that better suits them.

Marketing understands this dynamic all to well and has over the years created hundreds of Service Plans in order to ensure subscribers can find a plan they are comfortable with, and never have to leave them. An added benefit of a large portfolio of Service Plans is that the subscriber can choose a plan that best suits their perceived typical usage pattern. Yet on those months when the subscriber goes under, or over the target usage of their Service Plan, the CSP gets either higher margins, or higher revenues respectively. Another, but less obvious benefit, is that finely tuning the price for each segment allows for a small premium on the price because the price does not have to be optimized for lower tiers of usage.

However, the returns diminish as more Service Plans are added due to the increase in operational, and maintenance costs to support them. The problem becomes maintaining all of these plans in all of the systems that use them. The structure of a Service Plan becomes the superset of all of the plans. This is compounded when there are multiple business units in a CSP (e.g. Mobile, Broadband, IPTV, VoIP/Local Phone, etc.) and IT wants one system of record for all of them in order to have an integrated architecture that can support bundling of all of the CSP's products and offers.

Get the pricing right before migration

As the old saying goes, "Don't sell what you don't want them to buy." Standard Data Migration practices generally adhere to the principle of, "Garbage in, garbage out." In other words, if you put data that you don't want, into the new Billing System and/or CRM, then you generally will not want the data that comes out. We suggest following this principle for Service Plan Consolidation as well. Therefore, the first thing we must do is determine what is the right set of Service Plans and Offers for our subscriber base, as well as any target segments we want to go after.

The section header, "Get the Pricing Right Before Migration," implies that something is actually wrong with the current pricing. One way to look at this is that as the network, devices, and content have changed the usage patterns for your market, have you Optimized new service plans accordingly, and have you moved the base of legacy subscribers to these new plans? Assuming you have not, let's go through the steps required to do so.

1. Analyze your existing portfolio of plans against the usage patterns of your subscribers
2. Analyze your competitions' portfolio of plans against the usage patterns of your subscribers
3. Determine the amount of potential savings that induces price-dependent churn. We call this the "ClintKPI".

The ClintKPI is critical to this process because knowing it enables you to identify which customers are in danger of price churn and which plans can be consolidated without ruining revenues and upselling potential. Analysis of the ClintKPI is enlightening because it shows how much potential savings is necessary before subscribers will move to a new service plan. With this information, it is possible to create a new portfolio of service plans that will be optimized for your subscriber base. To describe what we mean by "Optimized", lets introduce a term called, "Price Distance." Price Distance is the amount of money between two price points. For example, if a CSP offers an entry level plan at EUR 20 per month, and an unlimited everything plan at EUR 40 per month, the Price Distance between the two plans is EUR 20. To calculate Price Distance for a small number of plans, with basic features is feasible by spreadsheets. However, to find the optimum Price Distance between Plans for the entire base, or for given target segments is much more complicated. Pricing Analytics software makes the task much more feasible.

Another area that the ClintKPI shines a spotlight on to is "Leakage". Leakage is the revenue lost because the portfolio of Service Plans and Offers is not optimized. There are many causes for leakage:

- Unnecessary Loyalty Offers
- Underestimated Usage Elasticity
- Cannibalized Revenue by New Products
- Billing Errors
- Insufficient Loyalty Offers
- Low Affinity Upselling Offers
- Manual Portfolio Maintenance

Experience shows that the sum of these points of leakage can add up to nearly 10% of total revenue for a CSP. This is generally a big number, and is the basis of the business case for Service Plan Consolidation.

Three-phased service plan consolidation and migration

This much consolidation and migration is going to re- quire time in advance of the actual billing system mi- gration for setup, analysis iterative marketing cam- paigns. This is part of getting the data right before migrating it to the new billing system. But how much time do you need to get install the system, analyze the data, run campaigns that migrate subscribers, re- move the legacy plans without subscribers, and run a final Quality Assurance check against the legacy billing system? Given that a month prior to migration, IT tends to freeze changes to these systems, thus shrink- ing your window of execution. Our experience sug- gests that a project such as this should begin six to nine months before IT freezes changes to the existing system.

1. Configure the Pricing Analytics and Simulation Platform (PASP) with all of the current service plans in use, a target set of plans, and the competitions' plans

2. Launch of test campaigns for each target Service Plan
    - Reassessment of current target portfolio
    - Upsell migration campaigns
    - Neutral migration campaigns
    - Best plan migration campaigns
    - Forced migration campaigns

Because the CE Score incorporates all aspects of the Customer Experience, there is no need to "manually" consider the non-financial impacts of product differentiation. This leads to faster time to market and more consistent decision-making. It can be assumed that CSPs applying CE Score throughout the Customer Lifecycle will significantly reduce pricing leakage.

Phase 1: creating the target portfolio that leads to zero lost revenue

- Configure the PASP with all of the current service plans in use, a target set of plans, and the competitions' plans (1-2 Months)

This process assumes a PASP, independent of the legacy and new billing systems, has already been procured. The role of the PASP is to help Marketing decide which Service Plans should be in the target portfolio, and which Offers will be required to help entice people to switch. The best platforms are designed specifically for CSP Service Plans, and are integrated with Telecom-grade Data Warehouse applications such as Teradata and Oracle.

To begin, it is crucial to be able to extract the legacy portfolio from the legacy billing system. This may not be as easy as it sounds as legacy systems may not be designed for this task, or may not be equipped with hooks for doing this. The good news is that modern pricing simulations and analytics platforms have product catalog modeling applications that are well designed for data entry. Once the target portfolio of service plans is complete, it is possible to validate, subscriber-by-subscriber, the setup of each service plan, by comparing their actual bill, to a simulation. The benchmark for billing accuracy needs to be that for at least 99% of the subscriber base, their simulated bill is within .3% of the actual bill.

The result of simulations should indicate that the number of Service Plans in the portfolio could be reduced to 20% of the current portfolio and still cover 80% of the subscriber base. Furthermore, the results will help Marketing define the Offers required for the campaigns to the remaining 20% of the base, maintaining the goal of revenue neutrality.

Phase 2: testing the portfolio and offers against sample populations for each service plan of the portfolio

The PASP should produce result sets that can be inges- ted by Campaign Management applications. Although the target portfolio of plans is optimized for 80% of the subscriber base, getting them to change plans willingly takes Marketing effort, and incentives. Knowing how much of an incentive to offer helps prevent revenue leakage. A well-run campaign with targeted offers can move as much as 99% of the subscribers to the target portfolio

- Campaign Driven Migration (6 Months)
  - Test upsell campaigns on a small population for each segment.
  - Assess the acceptance rate and adjust the target portfolio as necessary

During this phase, it is imperative to analyze how each target service plan is performing for the segment it is serving in order to ensure that the target portfolio and migration offers are meeting the acceptance goals, and once accepted, producing ARPU within an acceptable range of the simulations. We suggest running test campaigns on a small sample population within each segment, of each service plan of the target portfolio. As the results come in, the analysis should help to answer the following questions:

- Is the target portfolio sufficiently large to find both higher value and lower cost service plans for the subscribers?
- If not, is there an Offer for the affected population that enables the upsell, or does the Target Portfolio need to be modified?

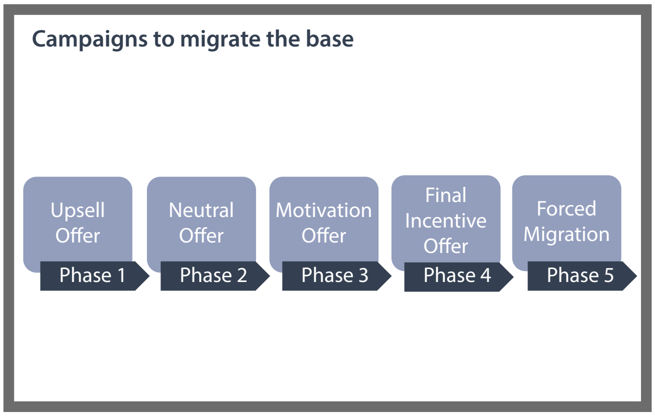

Fig. 1: High Level Migration Campaign Flow.

Acceptance rates need to be analyzed by contact channel and by subscriber segment in order to determine the impact to ARPU.

Note that active contact channels (e.g. outbound call marketing) and passive contact channel (i.e. those where the subscriber initiates contact for a different reason via the web, a call to Customer Care, or a visit to a retail store) acceptance rates may differ for the same segment so extrapolation is not sufficient.

This process requires the involvement of both Product Management and Loyalty Marketing to ensure that the migration of subscribers to the target portfolio is successful for at least 99% of the subscriber base, and that ARPU remains flat or increases as a result of the migration to an optimized portfolio of service plans.

A typical result of test campaigns should show accept- ance rates for three campaign types:

- Upsell Offer
- Neutral Offer
- Forced Offer*

*Note: When accounting for the revenue impact of the billing system migration, it is important to include the revenue lost from those who rejected the forced migration option and therefore resulted in churn.

Campaigns can be differentiated by subscriber segment (residential, business etc.) and sub segments for contract duration, churn danger etc. Campaigns should follow an “Iterative, Break-Even” model, where each successive offer is based initially upon the results of the test campaigns, keeping the revenue impact of rejecting an offer balanced against the acceptance of upsell offers. Note that as the results of the campaigns come in, Product Management and Loyalty Marketing can adjust the offers as necessary to maintain the goal of 99% subscriber migration and zero reduction in ARPU.

The testing phase can be closed once the target portfolio of service plans and offers has been approved, the billing migration team has the list of legacy service plans to archive, and for every subscriber, there is a campaign defined for all contact channels that will move them to the target service plan.

Phase 3: moving from 80% to 99% of the subscriber base via targeted offers with zero loss of revenue

Executing Service Plan Consolidation campaigns requires constant verification of acceptance rates to ensure that total revenue does not decrease as a result. This is not trivial since maintaining an aggregated view on campaign success will require good integration through all contact channels. For example, a subscriber that was called by a direct marketing team with an upsell offer may accept it days later in a retail store. Nevertheless the BI analysts can waive those cases when preparing data for tactical decisions (if or if not a campaign has to be modified). Assuring that the message is clear and consistent across contact channels is the real challenge.

An important aspect of this strategy is communication. Massive service plan optimization programs run through multiple contact channels can create a considerable amount of noise. Rumors of inconsistent treatment of subscribers can spread throughout the customer representative community, as well as through the subscriber community via social networks. In order to minimize the noise, communication of clear timelines, procedures, and current status throughout all contact channels is critical. The more time invested during the planning phase, the more straightforward the execution will be. Note, it is common to underestimate that amount of time and effort required to manage subscriber objections even though they accepted offer. This is true for upsell migrations as well as forced migrations.

However, once the objections are settled, the final result should be 99% of the subscribers migrated to the target portfolio of offers with no loss of revenue as a result.

Billing system migration tasks

Now that the legacy billing system contains the optimized, target portfolio of service plans, and 99% of the subscriber base migrated over to them, the project can now join the IT-driven tasks of migrating the data to the new billing system. From the Service Plan Consolidation perspective, the high-level tasks are as follows:

1. Completion of all subscriber migrations within the legacy billing system
2. Archive the orphaned service plans in the legacy billing system
3. Configure the target portfolio on the new billing system
4. Final Quality Assurance against legacy billing

At this point the new billing system loaded up with the target portfolio of service plans, subscriber profiles, and usage data. In addition to that, the PASP contains the subscriber profiles, their usage data, and also the superset of Service Plans from both legacy and new billing systems. This enables it to be the "Pre- and post-launch QA-system" that ensures the new billing system, and downstream systems, have the new target portfolio of service plans configured correctly. As Marketing wants to update a service plan or offer, the PASP can be used to perform quality assurance against the changes that were made.

Transitive validation: if A=B, and B=C, then A=C

The key benefit of Service Plan Consolidation for the billing migration team is a significant reduction in QA effort. By consolidating the portfolio of Service Plans by as much as 80%, and employing a PASP that can effectively replicate a bill rendered via the legacy billing system AND the new billing system, the QA ef- fort can be automated and streamlined. Going forward, the PASP will always serve as a means to validate that all systems required to bill (network, mediation, billing) are configured correctly. This same migration path can be used to migrate the product entire product catalog, not just the service plans.

The PASP is required to provide the system engineers with all means of verification. For example, the ability not only to report CDR-by-CDR but to include/exclude some options/bundles that are not yet in production. For example the QA could first be running against non-discounted rating, then continuously add other features. The PASP should also accept multiple input streams as may be the case when consolidating billing systems within a CSP for prepaid/post-paid as well as Broadband, VoIP, ITPV and Mobile. The benefit of the converged portfolio of service plans is that Marketing now has one system in which they can view all of the service plans within the enterprise, making analysis of them easier, and measurement of the efficacy of bundles much more transparent. With proper systems integration, the PASP can effectively become the System of Record for the Enterprise Product Model.

Solution details

Clintview, the PASP developed by Clintworld, was created specifically for CSP pricing analytics. The key task of the platform is to analyze usage data for a given segment, on a given service plan in order to determine what factors drive a change in ARPU and churn, and at what point are those factors relevant when comparing it to another service plan. The permutations of service plan comparisons, and the enormity of usage data make these simulations quite large. The results are often incorporated into subscriber self-service use cases, so a high level of accuracy and performance are required.

Maintenance of the Product Catalog is fully optimized for Communication Service Providers with Service Plan creation times of less than 10 minutes. Generally, the product catalog is replicated in Clintview in one person-month depending of course on the size of the catalog, and the number of people entering data. Since every Clintview project requires quality assurance features, the billing results and Clintview results will converge quickly.

With test campaigns being available around six weeks into the project, it is important to iteratively finetune the price elasticity for the target portfolio, ensuring there enough Service Plans and Offers to realize an acceptance rate of 99%.

The graph depicts the projected acceptance rate of a Target Service Plan, based on the results of a test campaign. From these results, Marketing can:

1. Identify the impact of price elasticity determinants such as brand/product affinity, and available alternatives in the marketplace.
2. Segment acceptance rates by amounts of relative fee increases.
3. Create subsequent Offers to more effectively migrate the base with each campaign iteration.
4. Create additional Service Plans where Offers are not enough to migrate a segment.

With five million subscribers being simulated within 4 hours on a highly scalable hardware platform, simulations can be fine-tuned and repeated in a sufficiently short timeframe.

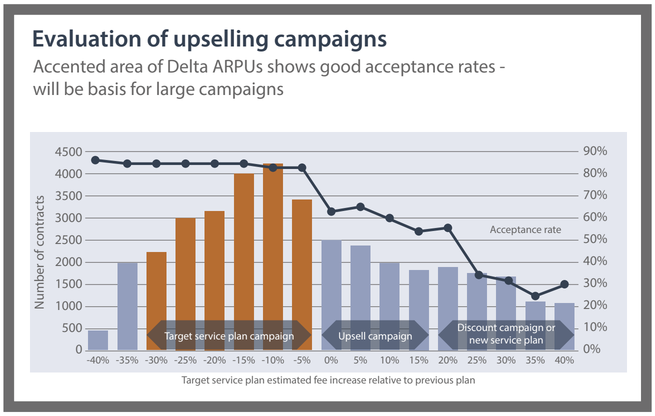

Fig. 2: Deep Analysis of Acceptance Rates.

As a proof point of Clintview's level of billing accuracy, a major European CSP has implemented it as a near real-time, stand-alone billing assurance solution for their prepaid billing system. Clintview is as precise as the billing system in terms of processing usage data and business rules in order to determine the subscriber bill. Errors will be detected – with the exception of the same error is configured in both systems. A quality assurance platform that runs at a 100% precision does not necessarily mean that the road for verification between the billing systems is smooth; there are still obstacles on the way to fully support the billing migration.

- The data flow has to be assured in a potentially fragile (since system architecture has to be considered from two input systems -in a time of stretched hardware resources during migration)
- Newly introduced service plans in the new system need to be verified, this will be possible only directly after migration and – in this case for Clintview there would not be any calibration against the legacy system.

Business benefits

Using Clintview for both Service Plan Consolidation and Quality Assurance provides both project and post-launch operational benefits to Marketing and IT:

1. Reduce the cost of migrating Service Plans and the associated QA for the billing system migration project
2. Reduced maintenance costs due to a 80% reduction of Service Plans
3. Marketing has a new application platform that;
    - Enables them to employ price elasticity analytics in order to maximize revenue of the portfolio of Service Plans and Offers
    - Ensures that new Service Plans and Offers are setup correctly in the billing system

Who's responsibility: marketing or IT?

Some organizations go by the 51% rule where by the team that owns more than 50% of the benefit gets to pay for 100% of the cost. Others attempt to share the cost, and value as defined in a business case for Finance. In this white paper, we have differentiated Marketing and IT tasks and benefits. So who drives? Who pays? In the end, that is a company cultural issue that changes with the wind. We can say this: Clintview is required for Service Plan Consolidations pre and post migration and the benefits go mostly to Marketing. Revenue Quality Assurance benefits aid IT in ensuring that their systems are set up properly and efficiently.

The picture to the right demonstrates just how inextricably tied the Business is to the data warehouse. Clintview is an enabling application that is tightly integrated with the data warehouse. Leveraging the data warehouse, Clintview provides Marketing with: 1) Service Plan Pricing Analytics that maximize ARPU and position the portfolio against competitive threats, and 2) Optimized Offers for use in Loyalty, Cross-Sell, and Upsell Campaigns. By using the suite of real-time web applications to provide subscribers with personalized Service Plan recommendations, Retail and Online channels can reduce costs and improve customer ser- vice. IT departments use Clintview as a means to audit the billing system, ensuring it is configured appropriately for each new Service Plan and Offer. IT departments for multi-screen Communication Service Providers can use Clintview as the enterprise product catalog, centralizing the product information in one system of record, ensuring that dependent systems are in sync with the master.

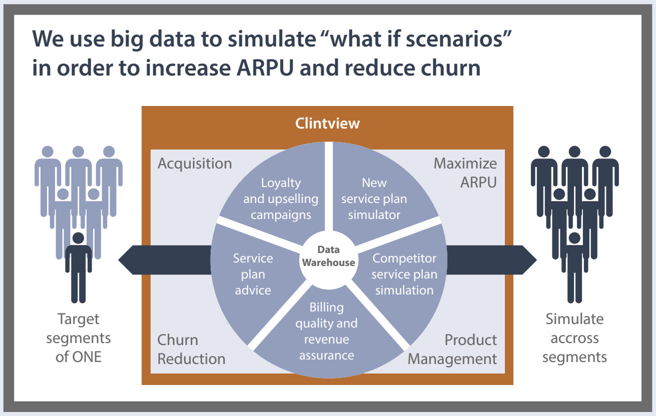

Fig. 3: Areas of application for Clintview

Just as inextricably tied are the goals that drive the Business: optimized Products that maximize ARPU, accelerate Acquisition, and reduce Churn. Therefore, when it comes to driving revenue up, and costs down at this scale, everybody in the company will be involved. The business case for a billing migration will always have to account for the real and opportunity costs incurred by the Business. The Business will have to re-prioritize their goals and strategy in order to ac- commodate need to migrate billing systems, and benefit from it long term. Clintview has been an integral part of creating joint successes across the Marketing and IT. Regardless, of who makes the first move towards a pricing analytics and simulation platform, it will be a very valuable step!

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