



## Solution Brief

# Empowering the Internet Service Provider with Alepo Data Monetization

## Introduction

Even as mobile plans continue to evolve and become increasingly more unique, the majority of internet service providers (ISPs) in the world are still offering the same plans they were offering 20 years ago: flat-rate, monthly plans with a specific QoS (bandwidth speed) and unlimited data.

ISP offers are simple, because that is what customers have traditionally demanded from ISPs. However, internet usage has changed, as the adoption of streaming and other over-the-top (OTT) apps continue to increase. Far beyond simple browsing, internet usage has become a bandwidth-straining practice encompassing a wide range of OTT apps. This diverse, but consistently draining usage can create a strain on provider networks, which may already find it challenging to distinguish themselves in a saturated marketplace. Through the use of a Data Monetization Platform, ISPs can address both issues at once: preserve network integrity through fine-grained plans that cater to customers' exact needs as they arise. What's more, such a platform gives unique and detailed insight into customer usage, allowing ISPs to determine market gaps and save on international bandwidth by delivering content from a local CDN server whenever possible. A Data Monetization platform gives ISPs the power to create a network where a broad selection of customer behaviors can be catered to precisely, meaning that data is used and rated as efficiently and profitably as possible.

Alepo's Advanced Data Monetization Solution for ISPs was made for ISPs who are looking to differentiate themselves in a shifting marketplace by offering advanced business plans to combat the ever-increasing data use, innovating, and providing more customer-focused offers to retain and grow their customer base.

With the Alepo Data Monetization Solution, ISPs can:

- Maximize network efficiency, reducing the need for costly bandwidth upgrades
- Offer limitless data allowances (quotas) to offer fine-grained, personalized plans
- Prioritize the usage of different quota allowances for plans that respond dynamically
- Support tiered fair-use policy requirements such as gradual FUP, to improve customer satisfaction along with network performance
- Rollover one or more quota allowances to the next billing cycle
- Support shared allowances across family and friend plans

- View and track usage in real time for each type of data allowance, enabling ISPs to respond to opportunities as they arise
- Empower customers to create highly personalized plans in the My Mobile Buddy App

## Alepo Data Monetization Solution Benefits

### Drive Up Your Fixed Broadband Revenue

Alepo's DM Platform is a true data monetization platform. With it, ISPs can readily create the most compelling and highly demanded data offers today, such as bandwidth-on-demand, usage discounts, multiple data allowances, fair use policy, and more. A one-fits-all approach threatens to miss out on lucrative, usage-based offers that give the customer the power to shift and expand their plans easily. Not only will customers find plans that appeal as better values (i.e. a casual weekend browser can get limited use until weekends, and pay less than an unlimited plan), thus increasing the subscriber base, but heavier users will be offered plans and add-ons based on their needs that will increase the average revenue per user.

### Accelerate Time to Market of New Offers

Alepo's Data Monetization (DM) Platform provides pre-built templates for popular policy use cases. Assets can be dragged and dropped into a policy package and rearranged based on priority. The ease of use and visual logic of the DM Platform significantly reduces time and error in configuration, especially compared to traditional scripting engines, making for a more rapid time to market of new offers. Such an intuitive and pre-programmed system allows ISPs to launch plans that fill common market gaps with a very rapid time to market and without a steep learning curve or extensive initial market research.

### Unify Your Business and Technical Teams

By design, Alepo's DM Platform bridges the gap between your commercial and technical teams. Policy assets are directly mapped to business use cases, which promotes a single, common language and manages expectation. A scripting-free environment, policy asset configuration parameters are drag and drop, and identified via easily understood business parameters, e.g., discount rate and Sponsor ID for OTT partners. This means that engineers and marketing teams get a plain language and visual representation of policy offerings, making it possible to see and create offerings at a glance, with nothing lost in translation.

### A Turnkey or Easily Integrated Data Monetization Solution

Alepo's DM Platform includes modern, RESTful APIs that makes it high-performing in any best-of-breeds network environment. Alternatively, Alepo can provide an entire ecosystem of companion applications that create an end-to-end data monetization ecosystem, including an internal SPR, a product catalog for data passes, and a recharge rules manager for prepaid and pay-as-you-go business models. Alepo's award-winning subscriber mobile app, "My Mobile Buddy," enables end users to buy data passes, gift data to family members, set parental controls, manage their bandwidth speeds, and more. Whether deployed within an existing, standards-compliant network, or via a comprehensive Alepo-provided solution, ISPs can be assured of a platform flexible enough to slot quickly into existing networks, and integrate easily with any future network expansions or changes.

## Increase Customer Satisfaction and Reduce Churn

Smart ISPs know that a stellar customer experience is a key to success. The customer experience serves to build brand equity and customer loyalty, reduce churn and costs associated with customer care. When the customer experience is optimized, customers trust providers to offer products that are good values. Therefore, they are more likely to purchase offered up-sells and cross-sells, secure that the provider consistently offers good products, well-suited to their needs. Alepo's Data Monetization Solution helps ISPs enhance the customer experience on multiple fronts. It enables more personalized and contextual data offers, features integrative and intuitive self-care tools, and ensures real-time customer communications. Particularly with Alepo's "My Mobile Buddy App," an award-winning policy self-control app, customers are given the opportunity to design highly customized plans, and immediately purchase add-on services. Moreover, Alepo's entire system is designed to automate and streamline customer service and interaction wherever possible, and offers customers a high degree of self-care, giving customers the assurance that control of their account is in their hands.

## Alepo Monetization Solution Components

The Alepo Data Monetization Solution for ISPs is a pre-integrated combo of the Alepo AAA and Alepo Data Monetization (DM) platform, which includes the Alepo PCRF, Product Catalog, Promotion Manager, and My Mobile Buddy App.

### The Alepo AAA

Alepo's High-Performance AAA infrastructure is a true best-of-breeds product that enables service providers to stay ahead of growing subscriber numbers on fixed and mobile data networks. The AAA touches a number of areas within the core network and back office, from security to provisioning to billing and beyond, though when deployed in this architecture, the DM module relieves the AAA from most of the accounting function (data metering). Optimized to be highly reliable, scalable, and extensible, Alepo's High-Performance AAA Infrastructure builds a strong and lasting foundation for service providers of any size.

### Alepo Data Monetization Platform

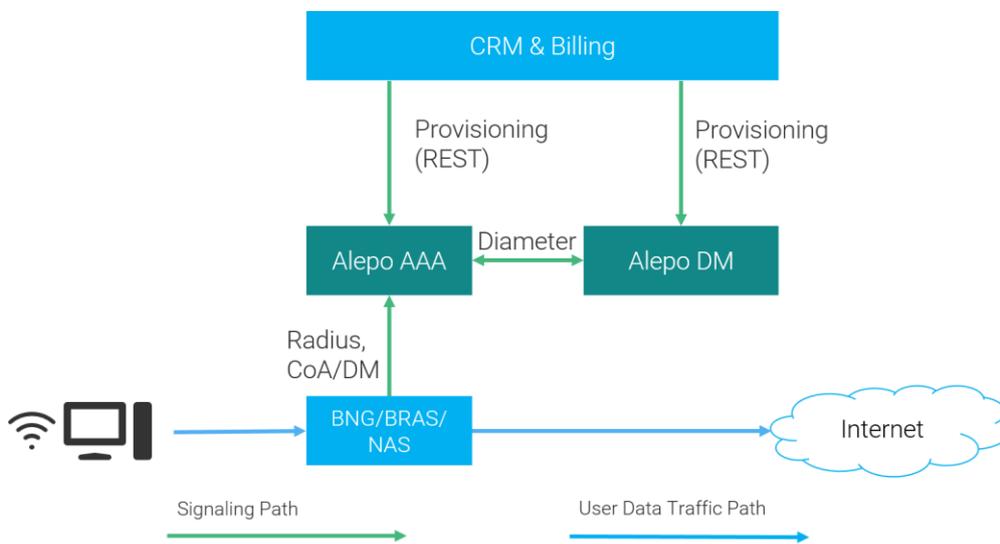
- PCRF - Alepo's Policy & Charging Rules Function (PCRF) is an intelligent and robust policy control engine for diameter core (EPC) networks. Built with the business user in mind, Alepo's PCRF enables service providers to easily and rapidly introduce valuable "Policy 2.0" data plans that boost ARPU, shape the customer experience, and optimize network resource allocation.
- Product Catalog – The Product Catalog, is built for the marketing teams of ISPs to design, collaborate, organize, and manage offer life cycles. The tool includes an intuitive user interface and unique features such as sharing, commenting, version management, and more.
- Promotion Manager - Promotion Manager enables you to run real-time promotions to your subscribers. Create and push personalized promotions based on subscriber behavior and real-time information such as data exhaust, data speed, and more.
- My Mobile Buddy App - Alepo's award-winning My Mobile Buddy mobile app empowers prepaid broadband subscribers to take ownership of their data experiences in the most sophisticated and convenient way. Via the app, subscribers can purchase prepaid data passes, allocate data to family members, set parental controls, monitor their real-time data usage, manage their

bandwidth speeds, gift data to other subscribers, and more. The mobile app is pre-integrated with Alepo's data charging ecosystem. Fully supported and hosted by Alepo with custom branding options, Alepo's My Mobile Buddy mobile app takes customer experience to a new level with zero effort required to deploy or maintain the app.

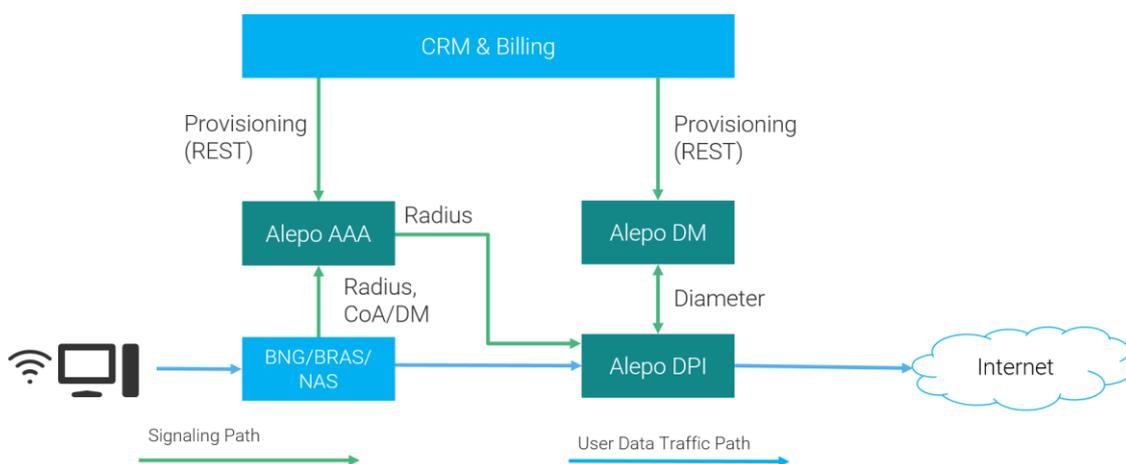
## Deep Packet Inspection

Deep Packet Inspection (DPI) is a form of network packet filtering that examines the data part of a packet as it passes through to search for protocol non-compliance, viruses, spam, intrusions, or defined criteria to decide how to treat the packet<sup>1</sup>. It is essential for ISPs who want to be able to offer application-based use cases. The Alepo Data Monetization Solution can be deployed in 2 ways, either with or without a DPI. Adding a DPI module allows an ISP to explore use cases for quota and bandwidth management for specific types of application usage. For example, with a DPI, an ISP can provide different limits within a customer's monthly download quota for video streaming and gaming usage.

### Visual: Option 1 Architecture (Without DPI)



### Visual: Option 2 Architecture (With DPI)



# Use Cases

## Use Cases

## Definition

## Example



### Robust Fair-Use Policy

Rather than offering a single monthly quota for fair-use enforcement, which can catch customers by surprise, cause frustration, and do little to curb overuse on a day-to-day basis, Data Monetization allow providers to define a daily/weekly/monthly data limit for a subscriber after which their speed will be throttled. This helps control heavy data users to ensure they are not constantly congesting the network. Data Monetization allows providers to create daily, weekly, and monthly FUP limits, tiered FUP and customized FUP.

Jane lives next door to Tom, who loves to play video games. This means that he uses a huge amount of data each month, often hogging the bandwidth in their apartment building. To help out people like Jane, her ISP throttles top data users. So, Tom's first 5GB of data comes at the standard rate of 30Mbps, but as he uses more, his speed is throttled. When he uses 5-10 GB his speed drops to 20 Mbps, the next 10-20 GB is at 15 Mbps, then 20-50 GB is at 10 Mbps, and 50 GB and beyond is at 5 Mbps.



### Unlimited Allowances Capability

A AAA, by default, has a limited number of data allowances, such as the main data allowance and an add-on data allowance. However, with Alepo's Data Monetization introduced, the number of data allowances are limitless. Offer peak & off-peak, day & night, weekend & holiday allowances. Create separate data allowances for base plans and add-on purchases, deplete the allowances at different priorities, set different validity periods for different allowances, configure rollover for allowances, and more.

Tracy works the night shift. Because of her odd hours, she typically uses the internet when no one else does. So, she purchases a night time package from her ISP. It costs less than other plans because the daytime data speed is 10 Mbps and night time data is at 30 Mbps. She also has a separate weekend allowance so that when she is awake during the day on the weekends, she has faster speeds.



### Free or Sponsored Apps

Form partnerships with local companies or over-the-top (OTT) application and content providers and have these companies sponsor free usage or speed boosts on their apps or sites. A "Sponsor ID" option allows you to tag all session EDRs applicable to this promotion, making it easy to report on usage and reconcile any sponsorship or cost-sharing agreements with your OTT partners.

Peter never has to miss a minute of his favourite football team with the ESPN Football Sunday Ticket Speed Boost. Every Sunday, when he accesses ESPN Sunday Ticket, he gets a boost in bandwidth speed to up to 50 Mbps, so he can enjoy his team in buffer-free HD quality video. ESPN pays for this boost, so Peter doesn't have to pay a dime!

This creates a customer reward that boosts loyalty and brand recognition, and it creates incentives for subscribers to use zero-rated apps, which can provide an incentive for OTT providers to promote their apps with sponsorship or cost-sharing agreements.



### Zero-Rating

Offer plans with subscriptions to certain apps or websites that don't impact the user's overall data usage. Often times, operators form partnerships to provide this free or lower-cost use. Or, they provide zero-rating on their own applications and platforms, so that a subscriber doesn't use their data when logging into their self-care account to view their internet usage.

Ryan streams music from Pandora all day while working. So, she purchases a Pandora subscription from her ISP so she can stream unlimited Pandora without cutting into her monthly data limit.



### Speed Boost and Usage Promotions

Give a usage discount on special days, times or anniversaries. This enables service providers to offer happy hour promotions, promotions to their customers on their birthdays or anniversaries, or on special days or holidays, giving customers a temporary higher bandwidth speed and/or a discount on data usage. Promotional calendars can be imported into the system based on local special days or holidays.

Jessica loves her ISP. Why? Because she loves the personalized promotions she receives from them. They gave her a 50% usage discount on New Year's Day so that she could upload all her pictures from the night before, and they even sent her a text on her birthday notifying her that she would get free data for her entire day.



### Usage-Based Discounts

Give data discounts to top users, encouraging them to buy and use more data. This enables service providers to define a data usage threshold for all data use, or within a specific application or group of applications. When a user goes above this data threshold, they receive a discount on additional data. This can be used as a method to encourage the purchasing of more and more data. Incentivize your top data users, and encourage them to keep using more data!

Tom loves to play online video games. But, this means that he uses a huge amount of data each month. Luckily, his ISP rewards top data users. His first 5GB of data comes at the standard rate, but as he uses more, he gets a discounted rate. So, his usage of 5-10 GB gives him a 10% discount, 10-50 GB gives a 20% discount, and 50GB+ gives a 30% discount.



### Manage My Speed: Turbo Boost & Throttling

Let customers increase or decrease their speed when they need to with bandwidth on demand. An increase in speed, or a turbo boost, comes at a small fee when they need extra bandwidth. A decrease in speed, or a throttle, can be helpful to help "stretch" data when a user is nearing the end of their limit. Alepo's Data Monetization Solution includes a My Mobile Buddy App that puts speed control in the customer's hand. The solution also includes APIs to provision a turbo boost subscription from an external self-care portal or mobile app.

Mary is subscribed to the lowest tier package with her ISP. This package gives her 15Mbps download speeds, which is usually plenty for her. But, she wants to have some friends over to watch a movie on Netflix and she is worried about buffering issues. So, she purchases a turbo boost from her ISP, which gives her 3 hours of 50Mbps download speed, so she can enjoy her movie, buffer-free!



### Advanced Notifications & Alerts

Configure alerts for the amount of data used, or the amount remaining. Even create alerts for numerous data allowances if a customer has multiple quotas. Plus, notify customers of promotions or events they are eligible for and provide links in the notification to prompt quick action.

Alice loves when her ISP notifies her of her data use. They send her a text when she has used 80% of her data for the month, and include a link to purchase a 5GB booster pack to get her through the rest of the month. She also has a separate weekend allowance because she typically uses more data on the weekends, so she receives a text alert when she only has 100Mb remaining in her weekend balance.

Sample SMS: "Dear Customer, you have used 80% of your monthly allowance. Click the link below to purchase a 5GB booster pack."  
<http://tiny.url/promo1/>



### Advanced and Build-Your-Own Data Passes

No need for scratch cards! Give customers an easy way to purchase pre-set data allowances with data passes in the My Mobile Buddy App. Create day passes, night passes, turbo boost passes, and more. Or, give customers complete control over their data allowances with data passes in the My Mobile Buddy App. Give them the complete freedom to design, purchase and activate data allowances for their exact needs. If a DPI is present, application-based passes can also be created.

Taylor knows that she uses most of her data each month on Netflix and Hulu. So, instead of paying for an expensive unlimited data plan, she uses her Mobile Buddy App to create a data pass that perfectly fits her needs. She logs onto the app and goes to the build-your-own data pass page. She selects the applications/websites she wants to include in her data pass, the amount of data she wants to pay for these applications and the length of validity for the pass. The app tells her what the cost will be for pass she has

created, and she makes the purchase straight from the app.



### Data Pass Gifting

Allow subscribers to purchase and gift data passes to anyone else on the ISP's network. Users can send data passes to friends and family members who are also on their same ISP network.

Andrew knows that his brother uses a lot of data, and often runs over his data allowance by the end of each month. So, Andrew gifts his brother a 5GB data pass to help get him through the end of the month.



### Parental Control

Allow parents to have more control over their children's internet use. Restrict certain websites or applications, and limit the times of day that child users can be on the internet.

Richard and Lisa have 3 sons and like to have control over what their children can access on the internet, and when. So, with their parental control settings, they set up which websites and applications they don't want their boys to have access to. They can also ensure that the boys aren't browsing when they should be doing their homework or sleeping, by setting time of day restrictions.

## Deploying with Alepo

### A Zero-Impact Solution

Making system-wide changes in a complex network environment can cause service disruption, and require significant time and investment, delaying time to market. Alepo's Data Monetization Solution allows rapid and cost-effective deployment. In addition, Alepo's "Replace Nothing" deployment mode ensures seamless integration with an ISP's existing network elements. By delivering only the necessary components to "bridge the gap," this approach reduces network complexity and unnecessary changes to the existing network environment, speeding up deployment time.

### Ongoing 24x7x365 Support

Alepo's Global Technical Assistance Centre (GTAC) is Alepo's in-house technical services department. Alepo's GTAC is comprised of a team of skilled and experienced support professionals and engineers who provide immediate response, technical assistance, and implementation services to existing Alepo clients. Alepo's GTAC offers convenient, multichannel, 24 x 7 x 365 supports in many languages. All Alepo clients can subscribe to GTAC on an annual or multi-year basis.

### A Best-Fit Solution

Alepo takes the time to learn about each customer's unique business goals, both short-term and long-term, to understand their priorities. Because we have a modular and flexible architecture, our components can be configured in any number of ways so that we ultimately find the best match for each customer. A customer solution is then constructed as per our core design principles of automation, compliance to standards, scalability, feature-richness, flexibility, and future-readiness. The solution is measured against a rigorous set of key performance indicators (KPIs). On every project, Alepo carefully designs, builds, and delivers solutions that:

- Grow with the business and readily adapt to market changes
- Heighten the user experience for end customers and system users alike
- Reduce time, costs, and risks associated with deployment and network integration
- Maximize return on investment (ROI)

## Reference

1. [https://en.wikipedia.org/wiki/Deep\\_packet\\_inspection](https://en.wikipedia.org/wiki/Deep_packet_inspection)

## About Alepo

Alepo makes next-generation data opportunities a reality, creating advanced software solutions and services that enable global communications service providers to accelerate revenue growth, market share, and business success on fixed and mobile broadband networks. For over a decade, Alepo has been the go-to technology partner for all things data at leading service providers.

Established in 2004, Alepo is a mature technology solutions provider based in Austin, Texas, with a presence in all regions of the world.

For more information, please visit [www.alepo.com](http://www.alepo.com)

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