

HMP + X2 Whitepaper

Network API to Access HMP resources



This white paper explores the features and benefits of PIKA Technologies' innovative HMP + X2 product.

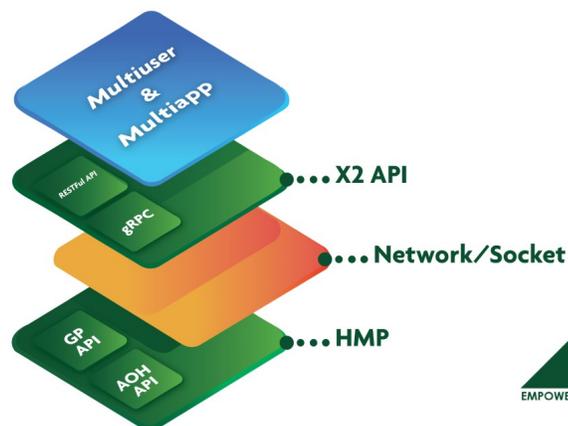
With a focus on hardware connectivity to time-division multiplexing (TDM), VoIP, mobile networks and Open Source platforms, this new PIKA product has rapidly become the market leader. PIKA Technologies is an original manufacturer (OEM) of enabling technologies for developers of communication applications. Since 1987, out of their headquarters in Ottawa, Canada, PIKA has been filling a void in the application communication space by leveraging their experience, knowledge, technology, and channels.

When embracing modernization decisions about telecom software, such as making the leap to cloud-based solutions, developers and companies need a product with a strong foundation. This product also needs to be able to both consume and extend a Telephone API in a way that still allows for total flexibility across platforms and mediums. This is exactly what the PIKA HMP + X2 product does, with significant results. Welcome to the future of flexibility, interoperability, seamless integration and pay-as-you-go.

A new era has arrived. Finally, a product that meets our now lofty expectations in the rapidly changing technology age. Let's explore how PIKA's HMP has evolved from a solid foundation to provide world-class network APIs that improve performance regardless of a telecom application's current architecture and technology stack.

A Solid Foundation

On the market for several decades, PIKA's HMP Solutions have a proven record as a stable, library-based set of APIs and hardware. But developers today need a more robust, scalable solution, with more redundancy and an unrestricted architecture. They need the freedom to consume and extend their Telephone APIs rapidly, using a range of languages, via a product that's intuitive enough for fast prototyping, development and deployment. This is why PIKA introduced HMP + X2: so users can access functionality via the network.



Cross Language and Platform

You can develop your application using any programming language that supports gRPC and protocol buffers. At the time of writing, gRPC and protocol buffers support C++, C#, Dart, GO, Java, Python, Ruby, Node.js, PHP and mobile platforms that use Android Java and Objective-c programming languages. With this wide range of support for programming languages, you can easily add telephony features to your Web-based application or integrate machine learning or Artificial Intelligence applications with your existing telephony solution. It is essential for any company to manage their resources in the most efficient way, and as Java has become more popular than C++ in the past decade, it's currently easier to find Java developers.

PIKA HMP + X2 takes advantage of both cross-language and cross-platform benefits, allowing developers ultimate flexibility. These benefits allow users to extend high-level APIs and leading-edge telecom low level APIs to seamlessly integrate into telecom architecture. The level of abstraction is entirely up to the developer. PIKA provides all the key components of developing robust software solutions and integration points: gateway-like functionality combined with full flexibility, interoperability and scalability. Not to mention, the HMP + X2 offers first class performance and modern, bi-directional streaming and integration to Google cloud. We will expand on this a little bit later.

Quick Prototyping

It is essential for any API to lend itself to quick prototyping. PIKA HMP + X2 supports Google's protocol buffers, provided with Go Framework. Its interoperability allows it to be quickly compiled into any language. In no time, telecom developers have a new and powerful functionality they can integrate seamlessly into even the most complex current state architecture. Bi-directional streaming also readily allows for the easy monitoring of security and state management as one rapidly develops prototypes to add value to their business and customers.

Quick prototyping also provides for efficiency of design, and allows projects to move towards functional development more rapidly. Quick prototyping allows clients to touch and feel the system functionality early on, and to ensure the road to completion is not met with grave obstacles. PIKA HMP + X2 allows them to bridge this gap where other products often don't. Want to work Agile? Not an issue with PIKA HMP + X2 technology.

Load Balancing and Redundancy

PIKA HMP + X2 allows for the building of reliable systems with high availability. To provide this, the PIKA License Manager includes built-in functions and API calls. When a host fails or goes offline, developers can use these functions to move resources on-the-fly from one media server to another available server, and then auto-recover.

This unique feature provides scalability, too. Coupled with the abstraction layers formed from HMP SDK's solid high-level API foundation, developers can add new resources or re-assign them between applications for efficient growth.

Bi-Directional Streaming

In order to understand how the PIKA HMP + X2 product can benefit developers with bi-directional steaming, we need to first look at gRPC services versus HTTP APIs.

The technology used to provide an API for an app is an important choice, and gRPC offers unique benefits compared to HTTP APIs. Code generation is a key advantage to gRPC. All gRPC frameworks provide first-class support for code generation.

This leads us to a critical point. HTTP/2 also provides a foundation for long-lived, real-time communication streaming. gRPC provides high quality steaming through HTTP/2. It supports all streaming combinations including unary, server-to-client and client-to-server streaming. And, of course, bi-directional steaming.

Deadlines, timeouts and cancellations also allow clients to specify how long they are willing to wait for an RPC stream to complete. PIKA HMP + X2 makes use of all these critical advantages of gRPC, to provide high quality APIs for developers to intenerate with across any platform.

Multi-tenant Architecture

PIKA HMP + X2 allows for multi-tenant architectures. Developers can extend its code base in a truly flexible cross-language, platform-independent environment, and create cloud-based telephone services that align with any progressive company's current IT strategies.

The new features and APIs of HMP SDK provide simple methods to create cloud-based, programmable telephony services. Telecom application developers can separate the users, applications and providers using the simple RESTful API functions provided by swagger tools so they can utilize their hardware to maximize revenue. This is just another way that PIKA HMP + X2 allows developers to rapidly extend and integrate with their architecture using their Telephony APIs, faster and at a higher level of performance.

Seamless Streaming with Google Cloud

With the move to the cloud, PIKA also allows for seamless streaming to and from the Google Cloud platform. And PIKA offers both node lock licensing and floating licensing, where licenses are allocated dynamically on demand and can be returned if not needed. It's all about having the flexibility to meet our clients' needs.

Taking advantage of these technologies, PIKA HMP + X2 allows developers to gain access to functionalities such as the translation of audio to text. They can also utilize emotional analysis. For example, they can forward a call to Google Speech Service to analyze the emotional state of the caller. They can do this in real-time for a call center application.

And this is not limited to Google. Developers can integrate any service that supports gRPC or HTTP/2 streams without any trouble. This can be a sentimental analysis service, call recording service or speech recognition.

Conclusion

To conclude, the next generation PIKA HMP + X2 is proven software, the core of which has been on the market for decades. It comes from a stable base that has now been extended. It is a library-based API that now has network API capabilities. It supports cross-language and platform capabilities, load balancing and bi-directional streaming.

Developers can create cloud, on-premises or hybrid-cloud solutions utilizing this rich set of APIs. PIKA provides support for rapid development via the ability to prototype quickly and get a product to market first. It is also cost-effective, with flexible license offers.

Isn't it time developers allowed their customers to be more flexible and connect on any medium, with total flexibility and high performance?

Welcome to PIKA HMP + X2, the next step in telecom APIs technology.