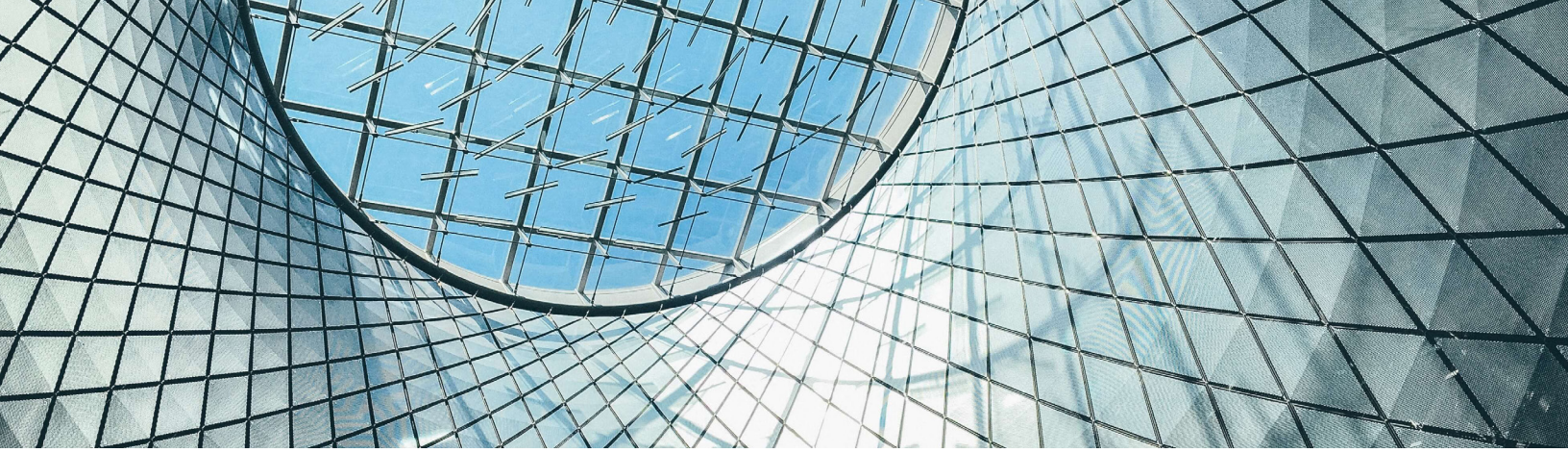

Market Insight Report Reprint

Lightbend unveils Kalix – cloud-native developer PaaS

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by William Fellows

The company has productized its developer PaaS as Kalix, which is designed to be used by development teams at any level of experience. It has polyglot language support for building high-performance cloud-native applications as part of application modernization or greenfield systems.

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Introduction

Lightbend has productized its developer PaaS as Kalix – designed to be used by development teams with any kind of experience – with polyglot language support for building high-performance, cloud-native applications as part of application modernization or greenfield systems.

THE TAKE

Lightbend's Kalix is a developer PaaS for building high-performance, data-centric applications that takes advantage of serverless. Previously in beta as Akka Serverless, the company is foregrounding its managed offering's developer experience, increased velocity of software delivery and simplified operational experience. It consciously moved the serverless infrastructure into the background of its go-to-market efforts in step with the market, which is now more focused on delivering the developer and over-the-top services that take advantage of serverless, rather than the architecture itself.

Context

In its previous marketing cycle, Akka had pragmatically focused on its use of serverless, which at the time had considerable attention as an infrastructure abstraction that reduced operational overhead and cost (pay as you go, or PAYG) and improved efficiency (a focus on business logic not infrastructure). It still does, but the hype around serverless is now going down at the same time as usage is going up, and is becoming an increasingly important option for enterprise workload deployments. The market is now more focused on what can be developed and delivered on serverless, and is why Lightbend has evolved its go-to-market strategy and portfolio to intersect with a developer PaaS offering called Kalix (pronounced kay-licks), which happens to use serverless as its execution venue.

Business model

Lightbend was founded as Typesafe in 2011, and was best known for the combination of open-source projects that are used to create reactive microservices, including the Scala programming language and Akka event-driven middleware. As such, Lightbend was almost entirely focused on open source and the Reactive programming model in its first few years. The current commercial configuration of the company was booted in 2015, and the 100-person firm claims some 150 enterprise subscribers.

Lightbend embeds its architects at the customer as part of a subscription, to intersect the need for skills augmentation, developer enablement and knowledge transfer. The target buyer is the enterprise architect, developers and engineering managers. It uses a PAYG model where customers pay for actual execution time. Its business is 90% direct now, with the indirect model driven by global systems integrator referrals. Lightbend's goal is to shift to 40% channel business.

Customers include Capital One Financial Corp. (real-time financial processes), Hewlett Packard Enterprise Co. (IoT), PayPal Holdings Inc. (infrastructure optimization) and Verizon Communications Inc. (application modernization). It has raised about $80 million in several rounds, and claims around $20 million revenue – 65% in North America, 25% EMEA and 10% Asia-Pacific. In its most recent round, it raised $19 million led by Dell Technologies Capital. Previous investors Bain Capital Ventures, Blue Cloud Ventures, Greylock Partners, IBM Corp., Intel Corp., Juniper Networks Inc. and Shasta Ventures also participated.

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Products

Lightbend has two offerings. First, its flagship Akka Platform, which is an on-premises set of frameworks and runtimes based on Reactive's loosely coupled application-design principles (the company's provenance) for building and running cloud-native applications on Kubernetes. The OSS Akka is well established, with some 20 million downloads a year, and is used by the likes of Apple Inc., Starbucks Corp. and Disney Co. It is designed for experienced development teams, and uses JVM-based, Java and Scala languages with high-performance stateful back-end services and APIs. It is 98% of the company's revenue right now.

What had been in open beta as Akka Serverless has been productized as Kalix and has live customers. It offers an easy-to-use PaaS for all server-side developers (not only the experienced), uses PaaS abstractions for application services, is fully polyglot, and uses serverless with managed service and private cloud options. It positions Kalix as a high-performance, low-latency service that takes care of state and distributed databases, and doesn't compete with more general-purpose cloud-based offerings (which it claims typically require the developer to be very familiar with the provider's infrastructure).

It uses GKE and EKS and worked on Google Spanner initially but has now moved to the distributed Yugabyte databases on Google Cloud (Yugabyte and Lightbend are both Dell Technologies Capital investments) and on AWS. It is available in both marketplaces. There are enterprise (multi-tenanted with dedicated parts of the cluster) and dedicated (fully isolated cluster) versions, both of which are managed services. Customers are billed by Lightbend, but can spend from their AWS or GCP accounts, which counts as a percentage to their committed hyperscaler spend and Lightbend collects a margin. Azure support will follow. It hasn't implemented Knative, which it believes too limited in scale and performance for its needs.

Kalix PAYG isn't intended to be a main revenue driver for Lightbend – the PAYG option offers a limited number of projects and team members. Primary revenue is expected from Enterprise and Dedicated deployment options with unlimited number of projects and team members. SLA is 99.5% for PAYG, 99.9% for Enterprise with a custom SLA for the Dedicated option, which also has greater support and a Slack channel. Kalix Enterprise and Dedicated are priced by Execution Cluster Units (ECUs), which is a defined set of capacity that is utilized to run customer-developed services including vCPU, RAM, data operations, persistence and network egress. There are standard and premium ECUs priced at $5,000 and $8,000 monthly, respectively. Kalix Dedicated costs $20,000 per month per region plus ECU charges.

Competition

In addition to the hyperscalers themselves – which all have modern cloud-native application development services taking advantage of their respective serverless environments, including stateful offerings – competitors include Microsoft Corp. Azure Durable Functions, Cloudflare Inc. Durable Workers, Macrometa and Digital Ocean Nimbella, while the likes of Serverless, Pulumi, Stackery and Stackpath are more complementary in that they are focused on the back-end services.

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SWOT Analysis

STRENGTHS

Lightbend already has extensive expertise in application development, distributed computing architecture and microservices. Its proposition is for Kalix to become a polyglot offering for any developers building cloud-native applications deployed on Kubernetes, with serverless as the primary execution environment. It will enable developers to become more productive, and deliver incremental value more quickly.

WEAKNESSES

Lightbend is probably best known as the company behind the Reactive application development platform. So its key challenge is to shift the perception of the company toward being considered a full-service, cloud-native application development shop. This will take time, and is a message best communicated by customer references.

OPPORTUNITIES

The re-platforming to cloud native is underway across the industry as DevOps teams use containers and Kubernetes to enable faster software releases that deliver incremental value more quickly. It's the rise of the developer PaaS, which is now driving the market and where Lightbend plays.

THREATS

With a focus more on the developer experience and PaaS services than the serverless architecture Kalix uses, Lightbend will butt up against more well-established companies that are delivering modern application development services, whether on serverless or not.

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