HOW 5G IS CHANGING THE DATA MONETIZATION GAME FOR CSPs

And Why Volt is the Data Platform of Choice for Real-Time Solutions

By now, everyone's heard the "data is the new oil" line. In the context of recent global events and their accompanying surge in oil and other prices, that comparison has taken on a whole new level of meaning.

Data truly is the new (now much more highly valued) oil, but it's also, in many ways, the new gold. Gold is a rare metal that you have to do some pretty serious investigative work to find. Once you DO find it, you need a way to process it, clean it, refine it, and shape it into something with an extremely high market value. It's valuable in its raw form, yes, but really it's what you do with the gold after you find it—and notably, what you spend, or don't spend, on that process—that makes it something you can profit from.

For communication service providers (CSPs), or *digital* service providers, as they're commonly referred to now, it's the same situation with data. CSPs are sitting on a veritable gold mine of real-time data, driven, in large part, by new technologies such as 5G and IoT. But tapping into the true value of this gold mine requires a seismic shift in thinking and doing—from large monolithic services to microservices; from on-prem to cloud; from relatively slow to extremely fast.

Things like network slicing and outcome-based pricing have only recently become a reality thanks to 5G, and 5G's low-latency SLAs are only a technology "challenge" because they now directly impact your bottom line. Having applications with ultra-reliable low latency and doing things in "real time" (now defined as *within 10 milliseconds*) are the standard, so if you can't do this you will quickly lose out to companies that can.

In this paper, we'll look at exactly what 5G is changing, data-wise, for CSPs, and explain how and why the Volt Active Data architecture was designed to very specifically address the real-time pont-solution requirements of modern CSPs in the age of 5G.

First—let's look at how 5G is changing the data monetization game for CSPs.

1. NEW SLAs

Until 5G came around, telco standards largely ignored the rest of the IT world and went ahead with constructing and implementing their own architectures and interfaces between core network components and telco IT systems. One could argue this was a good choice, as the telco world's primary technology challenge of having to deal with millions of highly distributed subscribers in the face of an ever-shrinking definition of "real time"—from sub second to sub-500ms to sub 10ms (where we are today)—pre-dates the digital world and the development of http-based interfaces.

For example, the Diameter Protocol, introduced in 1998, was developed as an authentication, authorization, and accounting framework to replace the RADIUS protocol (which was itself developed in 1991) and has been the core of telco policy and charging control since the dawn of real-time data services management in the 2G days.

But when 5G arrived, the 3GPP standards group began to adopt new interfaces and architectures that are widely used by digital disruptors—namely, a service-based architecture with http-based interfaces. 5G also brought much lower latency SLAs, especially for business support system (BSS) platforms. Add to that the trend for breaking up monolithic applications into cloud-native microservices, and there are many challenges CSPs need to solve.

Ideally, your BSS vendors would already be 5G-ready. Often times, though, that's not the reality. And you may have just finished years worth of BSS-related digital transformation to find there are still 5G-related gaps, in which case you need to look at point solutions to propel your business data needs into the 5G era.

2. THIRD-PARTY EXPOSURES

The real ROI for 5G will come from new and innovative B2B use cases and not just from selling more of the same to traditional telco consumers. These new use cases will likely be new 5G offerings to enterprises or to businesses that sell to consumers themselves (B2B2C).

The 3GPP standards group has recognized the need to commercialize 5G investments (although monetizing network investments has historically been low on their radar) and have included a new core network function call the Network Exposure Function, which aims to expose network data and services to external third parties (such as business customers and partners of the operator).

What this means is that this is the first time non-operator systems can, in theory, directly interact with 5G core components, allowing operators' business customers and partners to innovate on the exposed data and services. This means the potential of 5G—ie, new monetization ideas and use cases—has opened up to an endless number of innovative partners instead of being limited just to the telcos. The telco wins as it can now charge partners for access to the network data and services.

3. CLOUD AND LAKE DATA

The 5G core generates millions of events, such as device location and movement; services requested and consumed (if authorized); charging records; policy requests; quality of service expectations; and actual quality of service experienced.

However these events only become extremely valuable when you contextualize them with information the telco has about the device on the network and any humans using it. The telco knows what each device is, who owns it, its historical uses (for trends, upsell opportunities, etc…), and the human owner segment (eg, Is it an IoT device owned by the council such as a parking meter or is it a smartphone owned by a hig- paying post-paid subscriber or a teenage pre-paid subscriber?).

The contextualized historical network events are typically stored in one or more cloud or lake solutions for future use. Many CSPs have a multi-cloud strategy, so they don't commit everything to a single cloud vendor and instead split data across two or more vendors or have some data hosted in private clouds and some on public cloud. Different aspects of the telco business might have different cloud strategies, so the B2B function might have a different cloud strategy from the B2C function, but device users may be using service from both functions (B2B and B2C).

4. VALUE OF DATA TO THIRD-PARTY PARTNERS

Many larger enterprises might implement direct 5G network interfaces via the aforementioned Network Exposure Function and manage network services and events themselves, with their own data platform for contextualizing and monetizing network events. However, many will also choose to rely on the operator to contextual the data the operator stores in the clouds and lakes.

For example, if a small business wants to target its offerings to specific segments of the operator's customer base under specific circumstances, it makes more sense to pay the operator to manage this than to attempt to make sense of the raw network events itself.

To dig even deeper into an example, imagine a small diner that wants to offer a discount to students at 4pm on Fridays, before the dinner rush, and they want to set something up where any user of the 5G network who's in the "student" segment that moves within 2km of the diner from 3:45pm-5:30pm on Fridays gets a notification offering them a 20% discount (or free milkshake or beer) if they pop in and present the code before 6pm. You could, in theory, do this on a 4G network but location information isn't as easily available as it is with 5G.

What This All Means for Monetizing 5G

Clearly, 5G standards are sending CSPs into a "new normal" with data opportunities and also with the challenges around data volume, variety, and velocity and their related latency SLAs.

As a result, technical conversations around latency, concurrency, scale, volume, precision, and security are no longer purely the domain of architects and developers—they've become serious business problems. After all, if you can't act on your data while it still has maximum value, you can't make the real-time business decisions you need to drive revenue or prevent revenue loss. Detecting fraud, for example, is of little use if it's already happened.

Accordingly, updating legacy tech is no longer just a PR or marketing exercise for CSPs. They need an *Active Data Platform* to monetise the 5G data for business customers (and themselves).

An Active Data Platform is one that acts on data before it loses any value. However, you can only do this if you can bring together every data processing component you need to control real-world events and make real-time business decisions at the speed and scale of 5G.

Enter Volt Active Data.

WHAT MAKES THE VOLT ACTIVE DATA ARCHITECTURE DIFFERENT (AND BETTER) FOR CSPS
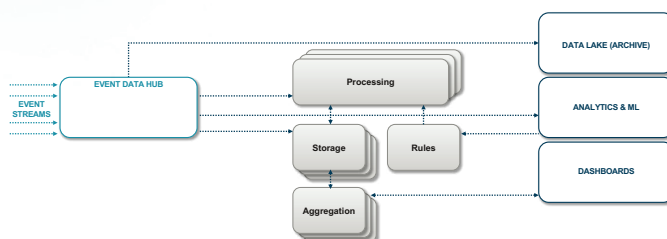

How a typical data platform processes and contextualizes data to fuel business decisions.

A standard legacy data platform typically ingests data by pulling in data from an event data hub via a messaging queue and depositing it into a NoSQL store or a data lake, where it can be used for reporting or operational business intelligence in a non-real time manner.

But making good contextual decisions quickly using this type of architecture is extremely challenging because storing the data, reading the data, and processing the data are treated as three distinct activities, each of which adds its own latency.
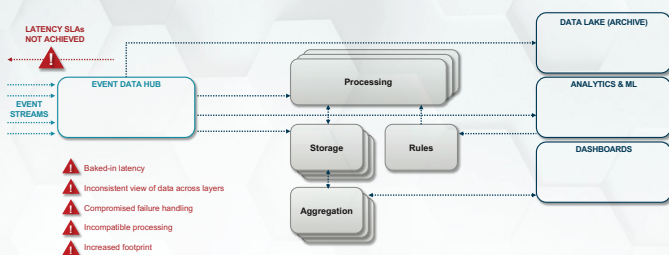
The multi-layer issue typical data platforms run into when companies add components to speed things up or try to make things run smoother.

The limitation of this approach is that the numerous layers inevitably bake in latency and an ever-increasing architectural footprint, leading to a high TCO and critical business decisions based on stale, irrelevant, or inconsistent data.
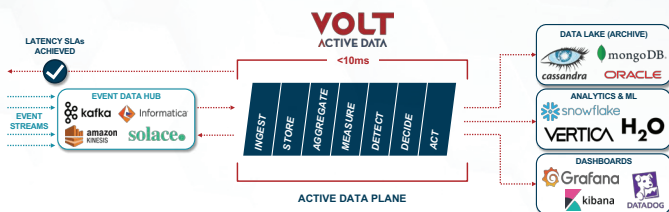
The Volt Active Data Platform consolidates those layers into a single and very fast-moving Active Data Plane that fits seamlessly into your existing tech stack, significantly lowering your TCO by simplifying your architecture.
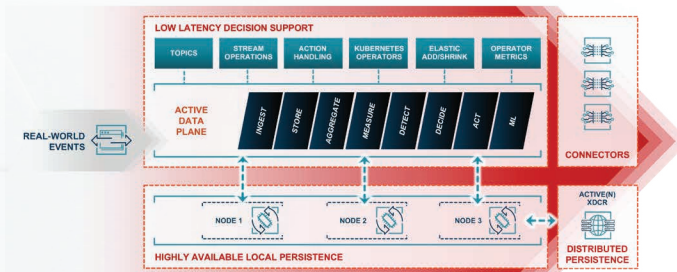
Volt is a cloud-native, edge-ready data platform that delivers every capability demanded by modern real-time business applications to act on data the moment it is created.

The true "secret sauce" of Volt is what we call the "Active Data Plane", which allows CSPs to contextualize and act on massive amounts of real-time data within single-digit milliseconds. Volt Active Data is the only platform capable of doing this.

Underlying the Volt Active Data Platform is a highly reliable, production-tested, telco-grade, in-memory database that currently supports, either directly or indirectly, more than two billion daily end users and entities and has been optimized to maximize throughput for highly concurrent, highly volatile data.

The Volt Active Data Platform uses the Active Data Plane to perform ingest to action in single-digit milliseconds.

Also—while there is a use case for Volt as the foundation of your data stack, Volt was designed to seamlessly fit into your current stack and happily coexist with the technology you're already using—be it other databases, your data warehouse, your data lake, your reverse ETL tool, SaaS applications, and more. This means you don't need to rip and replace and can get started immediately with Volt to support point solutions such as fraud detection, hyper-personalization, geo-replication, and 100% uptime.

Ready to see if Volt is the right fit for your next real-time solution?

Get started with Volt Active Data today.

Contact us here.

ABOUT VOLT ACTIVE DATA

Volt Active Data enables enterprise-level companies to innovate faster, perform better, and create new revenue streams by unlocking the full value of their 5G data. The only data platform built for real-time, sub-10 millisecond decisioning, we empower companies to re-engineer their latency-dependent solutions to process more data than ever before at a faster pace than ever before, allowing them to not just survive but thrive in the world of 5G, IoT, and whatever comes next. By combining in-memory data storage with predictable low-latency and other key capabilities, we can power BSS/OSS, customer management, and revenue assurance applications that need to act in single-digit milliseconds to drive revenue or prevent revenue loss, without compromising on data accuracy. For more information, visit voltactivedata.com.