

JSPECTRUM

REAL-TIME PROCESSING, REAL-TIME BENEFITS

I imagine, what all might be possible if a busy airport could predict when its baggage handling system would fail? Or, if a supermarket could know what the sales figures were at any particular time of a day? The answer is simple: It will greatly improve how an organization operates and eventuate into happier customers. Despite the answer, however, achieving the feat is not that simple.

To achieve what are described requires one to analyze streaming data flowing between network nodes in real time to extract situational awareness. However, the ones who can do that efficiently are not quite many. We confabulated with Alfred NG, Founder and CEO of JSpectrum Software, to get a look into and understand what distinguishes his company.

Q Give us a general overview of your company?

We enable our customers to monetize their machine-level traffic for revenue by processing the traffic flowing in their networks.

We focus on correlating low-level network events with the objective of deriving higher level business insights or to identify critical situations. We infer, forecast, and build services that make use of live streams of sensed information. We detect anomalies at cognitive level. For example, we can point out where there are vehicular traffic congestions by looking at the cell update signaling volume in a mobile network.

If you can “see” hidden patterns in the machine traffics flowing between network nodes, you will be able to foresee imminent crisis or opportunity that is about to happen. Such powerful capability can be used for predictive maintenance, financial arbitrage, and even detection of life-threatening situations.

Currently, our key enabler platforms include geo-location, trajectory and mobility processing for mobile network operators (MNO). Today, we process more than 1.8 billion temporal-spatial data points in real-time per day. We expect this figure to grow ten-fold in the next 3 years.

The sheer volume of streaming telemetry and signaling data will continue to increase exponentially. The time value of the data however remains very short. A window of opportunity may only be a few minutes, or even seconds. Much of the data

collected today go unused. In contrast, we capture and process data and trigger appropriate actions on-the-fly.

Q Two of your solutions, NetWhere and NetProbe, are quite popular when it comes to network data analytics. Can you talk about them?

Unlike conventional network-wide monitoring systems which use larger FIFO storage for analysis, we process data in real time and distill meaningful information. In addition, we use a combination of passive-active technology in our data visibility.



Alfred Ng
 CEO



To complement passive probing, we apply minimal load to eliminate latency due to event correlations. This dynamic process is also very useful for active machine learning.

NetWhere's temporal-spatial rules engine monitors location streams and triggers action based on business rules. A generic application of this capability is location-based alerts.

NetProbe and NetWhere enable MNOs to be situation-aware across their entire network; for example, to detect and predict road traffic congestions. NetProbe is truly a fabric for "smart pipes".

Q Why JSpectrum?

We understand return-on-investments comes with solving real problems. We help our customers to traverse the steep learning curve by using the latest technology to solve business problems affordably and with minimal risk.

Q Cite us a real-life example as corroboration to the capabilities you have mentioned?

One of our customers significantly evolved their geo capability from location-based advertising and ge-fencing to creating a series of successful big data analytic business subsidiaries. By adopting JSpectrum platform evolution and with only incremental investment each of these business units is now very profitable.

Q Give us a picture of your roadmap ahead. Any enhancements, or new strategic alliances that might be of interest to our readers?

Always agile in adopting latest open source frameworks, we have built our fast data infrastructure. We have also developed precise mobile positioning sever using hybrid techniques. We are now adding automatic rule-generation and anomaly detection based on unsupervised training.

As for the second part of the question, we are looking for partners who possess domain knowledge within various sectors including railway and airports. Our solutions are particularly applicable to organizations with a role to play in various smart cities initiatives. Using middleware and data abstraction, we can collaborate without the need for system integration.

We are innovating non-stop. Using our real-time processing experience of fast data, we are developing a new breed "situation awareness" platform. By combining deep reinforced learning, pattern recognitions, fusing extraneous data sources such as breaking news or open data feeds and more importantly IoT data streams flowing through the mobile network, our platform will be able to support holistic anomaly detection and automatic "what if" scenarios for decision support. With our product vision, a network will be able to evolve from being a dumb pipe to a smarter pipe and eventually have distributed intelligence like that of the octopuses. **ACO**

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Top 25 Networking Solution Providers - 2017

In recent times, the rapid proliferation of wireless devices has largely influenced work environments, as well as, people's work habits. Wi-Fi being an absolute necessity in offices and public spaces, wireless LAN (or WLAN) equipments—primarily constituting consumer WLAN and enterprise networks—has turned into a key market for telecommunication and networking hardware vendors. Taking networking a step ahead, intent-based network, today, is firmly poised to be a compelling platform that shifts networking topology from legacy hardware to a more agile, software-defined implementation. Despite being in its nascent stages of evolution, intent-driven networking systems are foreseen to become smarter and more predictive with advancements in machine learning and artificial intelligence.

In addition to the significant breakthroughs in networking, there also persists an escalating concern pertaining to network-security issues for today's digital organizations. Gartner predicts the cyber-security market to steadily cross \$100

billion in 2020 from \$76 billion in 2015. And taking advantage, numerous point-products and solutions are flooding the market and solution providers are constantly striving to make enterprise networks more secure without adding too many controls or slowing the network.

To address an ever-increasing spectrum of challenges facing tomorrow's enterprise networking, the present era is observing a significant influx in number of vendors who are impacting every facet of enterprise network—every vertical and every sized business, from the edge to the core. However, a few amongst them have essentially separated themselves from the pack to come out as the 25 most powerful and proficient ones, capable of tackling contemporary business demands. Along these lines, we, the Editorial Board of APAC CIO Outlook, present to you this year's "Top 25 Networking Solution Providers", who are at the forefront in terms of core networking, monitoring and management, WLAN, the edge and even beyond.



Company:

JSpectrum

Key Person:

Alfred Ng
CEO
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CTO

Description:

A mobility analytics company that provides mobile network operators with a complete suite of enablers

Website:

jspectrum.com
