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Thought Leaders in Big Data: Interview with Kon Leong, CEO of ZL Technologies (Part 1)

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Kon Leong is the chief executive officer of ZL Technologies. He studied at the IIT in Bombay, holds an MBA from the Wharton School and a degree in computer science from Concordia University. He spent more than eight years in various IT management and engineering positions and has created several successful startups, such as GigaLabs, a vendor of high-speed networking switches. In this interview Kon goes into detail about the unstructured data space and talks about the trend of merging structured with unstructured data. Furthermore, he shares with us his interesting views of the future of this space.

Sramana Mitra: Kon, let's start with some of your background as well as an introduction to ZL Technologies. What do you do and what trends are you leading?

Kon Leong: In terms of my personal background, it is a little bit unusual, but no so unusual for Silicon Valley. My parents come from China, and we moved to India during the Communist revolution. I was born and raised in India and began my studies at IIT in Bombay. Then I had a chance to go to Canada, and I stayed there for about eight years and became a Canadian citizen. Then I moved to the U.S. and became a U.S. citizen. I started off in IT, although it was called data processing in those days. Then I spent about 10 years on Wall Street. After that, I felt I would be better off back in where I started off, making high-tech products. So I moved to California and started making startups. This is my third one and it is taking a lot longer. We do very big software to manage all of the data in an enterprise. That kind of data is quite large in volume, typically more than most people imagine. A large enterprise would usually have data that is of Google-type volume.

SM: What part of that data management do you do?

KL: We started off in unstructured data management, which is all of the textual data – Word documents, PowerPoint, social media, wireless data, etc. All of this has one commonality: It is unstructured data that is written by humans, generated by humans for consumption by humans. It is quite different from the typical data we are used to seeing under SAP, for example, which is mostly structured data.

SM: How do you differ from Autonomy, for example?

KL: Autonomy was a very good positioning vendor that was in our space at about the same time. They articulated part of a vision, what we can do with unstructured data. However, we executed on the strategy technically. Now our vision is much larger than what Autonomy says, because we are going into the Global 500 and we deploy solutions that are much broader in footprint and that have much more impact in terms of the enterprise needs. Autonomy was a good start in articulating it, but the vision has extended far beyond what they are saying.

SM: Tell us more about the big tree of your customers and specifically about what you do.

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Kon Leong: One customer is in the financial sector – Wells Fargo. All enterprises struggle with unstructured data, and typically they come from various areas to manage the proliferation of data and the duplication of data, which impacts storage, manage data for compliance – regulations require them to keep certain data and to be able to access it and produce it on demand. The SEC certainly has strict requirements on retention and production of data on demand. These agencies all require correspondence between brokers and clients to be readily accessible. That compliance is another need.

Another is for litigation support – to be able to produce as the courts demand it. The demand of the courts keeps rising. Before, software evidence was not the same as hard evidence and now it is. It requires every logical operation to be on top of unstructured data. Litigation can have tremendous consequences, as for example in the recent Samsung vs. Apple litigation. Samsung deleted relevant unstructured data. Some say it has had a huge impact of the loss amounting to $1.2 billion to Apple. There is a great need to manage this unstructured data.

There is an additional field that popped up a few years ago, which is records management. Every business has to maintain business records, but for hundreds of years we have only managed hard copies. However, the world has moved to digital, and the record-keeping policies and practices have not kept up with digital. There is a need for a wholesale movement to understand, retain, and extend record-keeping practices to electronic information. All of this is happening now, and the needs are concurrent.

On top of that enterprises are saying, “OK, we have extended all of this effort to do all of these things – storage management, compliance, e-discovery, records management, etc. How about if we apply analytics on all of this information and actually use it for strategic advantage?” That indeed is what is happening.

SM: Are you playing the role of just data storage, or are you also supplying the heuristics of what to do with that unstructured data?

KL: We provide the entire platform to answer all of these needs. I would hesitate to use the word heuristics because that is extending and implying something beyond simple machine learning into human-type learning. I think that is more in the vicinity of artificial intelligence. No matter what the vendors may claim, I think that is still a decade away.

SM: We have covered unstructured data at length. Autonomy has been on this series. We had lots of stories about unstructured data at various points in our coverage. One of the issues with unstructured data management and organization is that there is a lot of domain-specific structure that needs to be put in to convert unstructured data into something that can be processed reasonably. The question I am asking is if you provide that domain-specific ontology.

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KL: Yes. You said you covered a lot of unstructured data, and you have talked to a lot of companies like Autonomy, for example. I would venture to say that this field has nothing well understood. Because of the misunderstanding, practically all of the implementation of large enterprises is [set up] to fail. This snippet of wisdom is critical and has been missed by practically all of the vendors. I have not heard any of them mention this, and many of the installations are getting burned by this oversight.

This is the oversight: I mentioned to you all of the applications of the storage management, compliance management, e-discovery, litigation support, and record-keeping. The issue here is that all of these applications came in across the last 12 years. They came in as silos, or silo applications that produced silo data. The larger vendors like Autonomy, EMC, Symantec or IBM, seeing the management of unstructured data as a hot space, started acquiring these vendors.

However, if you lift the cover, they are still siloed data and siloed applications. That spells trouble ahead, because the volume of data we are talking about is humongous – one client of ours, for example, was ingesting 50 million documents a day at one point. That compares to the entire storehouse of books in the U.S. Library of Congress, with 22 million documents. Anything that can break will break.

That leads to the second issue, which is that if you had to put together these siloed applications, one typically tries to do that with integration of processes, such as using APIs. Now here is the problem: APIs fail when you talk about Google-type volumes. APIs were never meant for that. If you have APIs that handle Google-type volumes, they will crash and burn. The only way to handle this kind of problem is to have one unified platform that has one data scheme for all of the applications. If you make a change in a document in e-discovery, that is it. That is all you do, because all other applications will see that change instantaneously. Instead, if it is cobbled together through APIs, you do it on one document, and you have to now find the first one in duplicates across the entire enterprise across all silos and then try to do the same kind of update. That is doomed for failure.

SM: What is your solution to that? How do you get data from all these different parts of an organization into one repository that performs at scale?

KL: That is exactly what we say is the long-term approach and we think it is the only approach that works – to have all of the data production systems keeping on producing transactional data. Once it is fixed, it is thrown into one single, unified repository so that all parts of the enterprise can see it and make use of it. That is the vision that is missing from the economies of the world.

SM: Your main differentiation is in the architectural approach of how you handle unstructured data?

KL: That is the first differentiation.

SM: What other ones do you bring to the table?

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Sramana Mitra: It is coherence of the data and coherence of the search engine´s structure as well that operates on that data.

Kon Leong: Yes. The retention policy has to be coherent. If each title is just throwing away data, it is a meaningless system. These are just some of the differentiations. We could go on – there is a huge list. But those are two of the key differentiators.

SM: Tell us more about what you see in the unstructured data management industry in general. What is the current situation, and where do you see the industry going?

KL: As I mentioned, I got started in data processing back in the 1970s. At that time, enterprises bought everything together from big vendors. They were all proprietary. We even had the so called "bunch" – Unisys, NCR, Honeywell, etc. They had the best-in-breed silos, where enterprises would start with inventory management, accounting, general ledger, purchase orders, bill of materials, etc. That was all they knew, and it was all they had. It was a mess. It was batch processing, and the data was out of date by the time it came in.

Then some company out of Europe leaped across the pond and started taking down accounts one by one and pretty much owned it after some time – that was SAP. They had a more holistic approach, the whole thing on one big platform and more unified. So the space became MRP, which then became ERP. Pretty much the same thing has happened in the last dozen years in the unstructured data side, where silos cropped up to solve particular headaches – compliance, e-discovery, storage problems, records management, etc.

But they were all siloed, and now they are suffering the same heartburn from silos. We represent a vanguard of the movement to unify all of it. If you look at the parallelism, it is uncanny. After the ERP/MRP was done, the next thing was to do something with the data, so business intelligence and data warehousing was born. Now you see the same issue and the same turn of events on the unstructured data side, where more textual analytics has come in. You see the same parallelism happening on the unstructured data side. Number one is the unification on the platform, and number two is the analytics side. I am willing to bet that the next move around the corner is to now do a meld between structured and unstructured. I still have not gotten my arms around the full impact of what happens when you merge these two data universes together. If you call me in about six months, I will have a much better answer. But we have already had requests from larger customers about merging them.

SM: Can you give us an example of a use case where customers are asking to merge structured and unstructured data?

KL: Let me say that the world is still getting their arms around what they can do with the unstructured data. We happen to call it corporate e-memory. This basically allows you to extract information from the unstructured side, but to do it across the entire enterprise.

Here is another differentiator that needs to be emphasized. Most of the solutions out there have search engines that are not up to the task of scouring the entire enterprise. It takes too long, and by the time it gets