

THE STONEWOOD PERSPECTIVE

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StoneWood Interview Series

The Science of Start-Ups

A Discussion with Kaleidescape CEO Michael Malcolm

Michael Malcolm is one of Canada's most successful yet least-known technology start-up entrepreneurs. Over the past twenty-five years, the former University of Waterloo professor has founded four companies and left an indelible mark of innovation on the North American technology scene. His first company, Waterloo Microsystems was a pioneer in operating system design before being sold to Hayes Microcomputer in 1990. His second company, Network Appliance currently has revenues of \$2.8bb per year and employs over 6,500 staff around the world. His third company, Cacheflow (now BlueCoat Systems) had one of the most successful public offerings in the late 90s. His most recent company, Kaleidescape is a market leader in high-end home entertainment servers. Headquartered in Silicon-Valley, and with R&D in Waterloo, Ontario, the fast-growing company employs over 140 professionals and is solidly profitable.

Michael Malcolm discussed his deep and varied start-up career, including the lessons learned along the way, with StoneWood's Bob Hébert.

Let's start with your first company, Waterloo Microsystems. That company is unfamiliar to many today. What was its story?

After completing my doctorate in Computer Science at Stanford, I joined the faculty and founded what became Canada's largest computer science research project, called the Software Portability Group at the University of Waterloo. During the next few years we built the first operating system that was portable from one hardware platform to the next. They were heady times and in short order we found some commercial use for this technology and the university actually began to earn some royalties. As we started our second major project, the university

encouraged us, as they did many others, to spin off our research into a company. Waterloo Microsystems was born.

The early 1980's was a different time to start a business such as this. There were very few venture capital firms in Canada and you could not raise US money as their funds had covenants which restricted their ability to look at deals outside their border. Also, Canadian investors did not really understand tech at that time. I remember investors telling us that they would fund us to get up and running but that once the product was ready they expected us to trim our R&D 'overhead' so that we could get profitable as soon as possible. They did not understand that our human capital was our intellectual property and that cutting engineers was suicide for a firm such as ours.

In any event, we raised a little money and started an operating systems company. While we had success installing our software in some 5000 networks, we were young and learning as we went along, and in hindsight very naïve. We knew little about marketing and sales and if the truth be told, our whole business model was flawed. The PC industry at the time was like the auto industry in the 20's with hundreds of manufacturers. We failed to understand or correctly anticipate how this was going to play out. We were overly ambitious and tried to build a general-purpose operating system that would meet the needs of all of the people all of the time instead of doing one thing very well. I never made that mistake again.

In any event, I was eventually 'resigned' from Waterloo Systems and the company was subsequently sold to Hayes Microsystems.

What happened then?

Waterloo Microsystems taught me, among many things, what I did not know. And while learning what not to do is important, I wanted desperately to learn what to do. So I moved to Silicon Valley. I had marketable credentials in product innovation and engineering management so I consulted with a number of companies for the next five years. I observed and learned from many successful organizations and their leaders.

After a while, however, I was getting anxious to do something on my own. I had consulted with a file server company called Auspex Systems who I thought was optimizing their product for the wrong performance goals. They were all about maximizing throughput and I thought that the real opportunity was in minimizing response time. I could not convince the CEO of this however. About four years later, after watching them fail to exploit this opportunity, I started a company to develop the technology, Network Appliance.

This time I was going to develop a product and company that did one thing well, and only one thing. I would not bite off too much, just a file server. My co-founders and I wrestled long and hard over all the ways this venture could fail, and when we believed we had considered every angle we started the company.

When we went looking for funding we were shunned on almost every front. The only venture capital investors who understood what we were doing were already invested in Auspex and they did not want to touch us. We talked to dozens of VCs and made precious little progress.

In the end we found 31 angel investors who invested a total of \$1.3mm in the business. We were hugely disappointed at the time as we had been trying to raise \$3mm but it was actually the best thing that ever happened to us. It forced us to simplify things and to focus. Plus, we were able to hang onto more equity which I am thankful for to this day. I have come to believe that many start-ups make a big mistake going out for funding too early. Running a business with very few resources is actually very good. It disciplines an organization, and teaches it good habits which come in handy even when it becomes successful.

Anyway, we got the product built and it started to sell. I stayed as CEO for 11 quarters during which the company doubled in revenues every quarter. The next round of financing was much easier because all VCs can

understand revenue momentum; so was the 'C' round subsequently.

It was a wild ride, one in which I learned a lot. I was still pretty young and trying to manage a fast growing company where seemingly something new breaks every week. I did some things well and others not so well. At the same time I was trying to manage a board of investors with different agendas and goals. Young CEOs, focused as they are on their businesses, often fail to appreciate the challenges and importance of managing these relationships. Many investors see themselves as experts with strong opinions on a variety of issues, some of them have their stable of executives that they want you to hire, and the politics of the board can have a huge impact on the company.

For a young CEO that is a lot to deal with and for those who try to be heroes thinking they can do it all by themselves, it can be painful. You want someone in your corner, a mentor perhaps, someone who has been there before and can keep you grounded in what to look out for, what to expect, and how to deal with certain issues. There is no honor in going down with a ship that did not need to sink.

I enjoy the early phase which presents the kinds of problems I like to solve. The company is malleable at that stage and can be molded and shaped. It is a fascinating puzzle that plays to my strengths. On the other hand, managing a company going through the kind of growth we had at Network Appliance is an altogether different set of problems calling for a different set of skills. Before Sequoia became an investor in Series "C" we agreed that the firm would be better put in the hands of a seasoned CEO who had experience with such growth. I took part in that process, found the candidate and gladly stepped aside after Don Valentine of Sequoia agreed to become Chairman of the Board. Don really helped guide the company through years of rapid growth.

The firm went public in 1995 and is now one of the blue-chip technology companies.

Did you start CacheFlow right away?

I retired for six months off and then I was asked by one of the angel investors in Network Appliance, Joe Pruskowski, to help with some due diligence on various companies. Joe was interested in finding a company to buy and manage. During that same period I got

interested in network caching which I also viewed as a response-time problem. I developed some technology for dramatically speeding up browsing on the Internet, and convinced Joe that it would be a better idea to start a new company to exploit this opportunity. We raised some angel money and started CacheFlow in Redmond, Washington. We set up an R&D shop in Waterloo. We had to build an operating system and I knew Waterloo had a lot of this expertise so we set up a lab there and it is still alive and well.

I did not run CacheFlow in the beginning, but after 18 months Joe asked me to take over and move the company's headquarters to Silicon Valley where it would be easier to hire executives. A short time later the first beta test failed and I began working feverishly on re-doing the whole technology.

That firm grew quickly, went public in 1999 near the peak of the tech bubble, saw a huge run up of the stock and for a period had a massive valuation. I stayed for a while as CEO and then just stayed on as Chairman until I started Kaleidescape.

Tell me about your current company, Kaleidescape?

Well, in 2000 I started talking to one of my former colleagues at Network Appliance and one of the Waterloo engineers at CacheFlow. They both wanted to start a business and we got together and started what we called 'Next New Gig'. We spent a fair bit of time looking for a product idea. Eventually we focused on home entertainment delivered over the Internet. This led to the idea of developing a home entertainment server, an appliance if you will with proprietary software and hardware that would do a few things very well. I funded it largely myself and we spent 2-1/2 years in stealth mode developing the technology.

It has been a great ride including a high profile lawsuit with the DVD Copy Control Association, which we won. Today we have a market-leading technology which is focused on high end users such as yachts, aircraft and home entertainment centres. We have over 100 dealers around the world and our technology is in some of the most prestigious places you can think of. We employ over 140 people, including a lab in Waterloo, and we are solidly profitable. We have no venture money, all employees have stock options and they all participate in a very healthy profit sharing program. Things are going well.

Why did you fund this business yourself?

Well, for one I guess I had the luxury that I could. More importantly though, I wanted to build a great company, and that takes time. Buying that time requires that the management team to have control of the company, which we do. There is no way we could have found investors who would have waited the seven years it has taken us to get to where we are. I would have been replaced long before now if the company had been funded by venture capitalists. This is an emerging marketplace and there is only so much you can do to push new technologies into a marketplace before it is ready. We called the market correctly, but we needed time for all the pieces to come together.

Are you making a broader comment about investors?

I have come to learn that there are some good investors and a lot of not so good ones, and entrepreneurs need to be more discriminating. Young entrepreneurs get obsessed with wanting the cash. They seek venture capital like it is a good housekeeping seal of approval, validation if you will that you are 'in the game'. I do not believe it is the smartest thing to do in most cases.

For one thing, venture capitalists invest in early-stage companies expecting the founding CEO to fail. They expect to replace the founder and tether him or her to a very short leash. Running these companies can never be a science and mistakes are inevitable. I have made my share. But learning is all about making mistakes, adjusting and moving forward. I think the trigger is often pulled way too fast on many of these CEOs and for many startups the result is fatal.

To make matters worse, many venture investors bring little more than money to the table which can be dangerous. It is one thing to demand more from CEOs but another matter altogether if they themselves add no real value by way of relationships, experience or specific expertise. Entrepreneurs really need to be more discriminating in selecting their investors, they must ask what these people will contribute to their businesses besides money. I know that sounds crazy to a young entrepreneur who does not feel he has many choices, but I assure you that you will pay a very big price if you hook up with the wrong investors. If you can do it yourself, you should. Or look for angel investors. There are lots of angel investors who are former entrepreneurs; they bring real experience, they know better than to interfere with management, and they tend to be more patient than VCs.

Finally, I would again say that timing is important. Venture money makes things easier and harder. It can corrupt just as easily as help. I believe that engineers and managers make better decisions when they are financially challenged. Hunger focuses people, drives them to make efficient decisions, and motivates them. How are we going to get this product out the door with this amount of money? Companies can lose this edge if they are flush with cash.

What is your philosophy today about starting a company?

I used to think it was all about the technology. Now I look for big markets and big problems that require complex technology to solve. That complexity creates barriers to entry and solving those problems creates protectable technology.

I believe companies need to spend more time in stealth mode building their technological barriers to entry. They have to do the basic innovation first. Kaleidescape was in stealth for over two years. We believed that once we came out of stealth we could then focus on building different kinds of barriers to entry and we would mostly lose the ability to build huge new technical barriers because bug fixing and feature creep would consume most of our engineering resources. After coming out of the stealth closet we could build market barriers by developing our brand and our channel, finding partners, alliances, and customers. For example, we now have over 1,200 dealers for our products. This is not an insignificant barrier to entry for would-be competitors.

Why do you keep going back to Waterloo?

Don't take this wrong but there are differences between Canadians and Americans in the tech sector. The US has a stronger culture of entrepreneurial risk-taking, hard driving, ambition and it reflects in the sheer number of start-ups and people like me who do this over and over again. I have found Canadian engineers to be better

long-term team players and more socialist. They value security, stability, and life style.

My companies have all involved complex operating systems, and other huge pieces of software. This kind of work requires teams of very smart people. It requires working together, and really knowing each other. Waterloo is perfect for that as I can put together teams of very bright people who will stay together for a long time, learn to compensate for each other's deficiencies, and produce wonderful things together. We have people working at Kaleidescape that I first met in the early 1970s as students at University of Waterloo. These are very talented people. It is more difficult to do this in Silicon Valley where loyalty is harder to come by and people move around a lot more.

How would you characterize Michael Malcolm?

I love to create things. I always have. When I was a young assistant professor, a long time ago, I actually joined a potter's guild in Waterloo. I learned to throw pots. I loved the whole process, I learned the classic forms and I learned glaze chemistry, and I enjoyed creating and selling hundreds of pots. And I dare say I got pretty good at it. After a while I found that I could make a lot more money from pottery than I was making as a professor and I seriously considered becoming a full-time potter. Fortunately I never made that change!

I get the same satisfaction architecting a new software or hardware product. It's the complexity of the overall system, the problem solving, the many moving parts, the creativity. And companies are no different. They too have many moving parts, many variables which interact. Both require creativity to build and that's what I love to do.

So instead of pots, you now 'throw' technologies and companies?

I guess that's me!