

FEATURE SPOTLIGHT

Kaleidescape: The Ultimate Movie Watching Experience at Home

More than 1,700 dealers in more than 70 countries have installed Kaleidescape Systems in residential projects. The masterminds behind the company talk about how they carved out a market for selling movie servers to families.

By Bryan Pope and Chris Knight

It's hard to resist movie analogies when describing the maverick who invented the movie server category for the consumer electronics industry. If asked the classic *Dirty Harry* question—"Do you feel lucky?"—Kaleidescape CEO Michael Malcolm, who bears a slight resemblance to Clint Eastwood, would grin and humbly say he's been blessed with luck.





Kaleidescape CEO Michael Malcolm (right) and founding partner Cheena Srinivasan



Kaleidescape's corporate headquarters in Sunnyvale, CA

Truth be told, being a serial entrepreneur is a lot of work. Malcolm is driven by a healthy dose of scientific curiosity, a passion for innovation and a relentless desire to discover or create The Next Big Thing. When you consider his dizzying array of accomplishments, it's clear he's also been blessed with a great deal of energy.

Before co-founding Kaleidescape in 2000, Malcolm had launched and led three other companies. As the original founder of NetApp Inc., he pioneered the concept of network appliances (devices that combine purpose-built hardware and software to provide specific services). Traded on Nasdaq and valued at more than \$14 billion, NetApp is the leading developer and manufacturer of high-performance network filers. The second company he founded and led, Blue Coat Systems Inc. (formerly CacheFlow, a Silicon Valley venture), created the category for Internet caching appliances.

Malcolm's beginnings as a pioneering force in Silicon Valley began, like many, in a classroom. Perhaps a late bloomer, his journey didn't start as a student, however, but instead as a teacher. As a tenured associate professor of computer science at the University of Waterloo in Canada, Malcolm directed one of Canada's most prominent research projects and created a new method for structuring computer operating systems that is widely used to-

day. His teachings discussed the technical underpinnings of what would eventually become Kaleidescape's groundbreaking movie server technology.

As an author of numerous scientific papers, and a best-selling textbook on numerical methods for mathematical computation (*Computer Methods for Mathematical Computations*; Prentice-Hall Inc., 1977), Malcolm is a true academic-turned-entrepreneur. He also holds dozens of patents in computing, computer networking and movie server technologies. Knee-deep in his fourth business venture, the restless innovator may finally be settling down.

BUILDING A BUSINESS TO BE PROUD OF

With all of his successful ventures, Malcolm could have retired many times over. In fact, he's tried his hand at retirement twice. Nevertheless, the entrepreneur quickly learned retirement "doesn't work well for me," he says. "When we first began dreaming up Kaleidescape, the founding team's focus was to create a company we would still want to work for after we got it up and running." He worked with founding partner Cheena Srinivasan—a former NetApp marketing executive and Kaleidescape's co-founder and executive vice president—to envision the new company. In the beginning, they struggled to find the right direction.

"We honestly didn't have a business model, technology or product idea that we wanted to pursue," says Malcolm. "We didn't know anything about video or movies, we never worked on consumer products, and we had no experience managing a global-distribution channel."

The product inspiration arrived, however, after Malcolm had a home theater installed in his Colorado residence. DVDs started piling up, and watching movies with the family became frustrating and complicated. He started brainstorming about how to automate the movie-watching experience so it was simpler and more enjoyable for the entire family.

"At the time, it was really cumbersome to watch DVDs at home," says Malcolm. "Finding and safely storing DVDs was a new issue for consumers." In addition, there were larger problems to address, such as the ability to enjoy movies in multiple zones, and the level of technical knowledge needed to use a home theater—from understanding video aspect ratios to lighting control and choosing the right surround-sound audio track. "You couldn't just select a movie, press 'play' and enjoy it."

Soon, Malcolm and his team started researching the motion picture business: digital video, technology licensing and distribution channels. Their idea was to deliver a wide variety of movie titles in a simple way with the same rich audio and



high-definition video quality offered in the best commercial movie theaters.

As the team moved beyond the research phase and into developing the first product, they encountered big engineering challenges. The largest obstacles revolved around designing a user interface that was so simple and intuitive that young children could use it. The team also focused on developing extremely reliable movie servers and creating a modular architecture that could handle large movie collections, as well as multiple viewing zones.

“From a usage perspective, you could flip a TV channel if you didn’t like what you were watching,” Malcolm says. “With DVDs, it was a little more cumbersome. You had to get up, change discs and then wade through advertising, warnings and menus—until we solved the problem by introducing video bookmarks for our movie server.”

In 2001, the team cracked the code. “Kaleidescape devised metadata technology that would detect every time you imported a DVD,” Srinivasan says. The metadata made it possible to create video bookmarks and pinpoint the exact moment a film begins. “That breakthrough allows the Kaleidescape System to recognize the start of the movie, or ‘play movie’ as it’s known in our feature set,” Srinivasan adds.

“After all these years, ‘play movie’ is probably the most useful feature of the Kaleidescape System—that customers can [start the] movie immediately from where the first frame of a movie actually starts,” Malcolm adds. “This is the timesaver that delivers such an important element of the experience and convenience to our customers. It’s what enables my kids to select and play Elmo or Dora DVDs within a few seconds.”

In addition, Kaleidescape’s Movie Guide service is the largest and most comprehensive entertainment catalogue of its type with more than 135,000 titles—and it’s growing by about 2,000 titles per month. The service provides DVD cover art, movie synopses and other details about actors, directors, genres and ratings. The bookmarks enable the movie to start instantly, skipping over trailers and menus. It also provides control triggers for automatically adjusting lighting and screen masking during playback.

Almost 10 years later, Kaleidescape continues to innovate. In May, the company unveiled the world’s first multi-zone solution for Blu-ray Discs—the M500 and the M300 players. Each player, when coupled with a Kaleidescape server, includes support for 1080p video with 24-frames-per-second and bitstream pass-through of Dolby TrueHD and DTS-HD Master Audio.

THE CORE AUDIENCE: FAMILIES WITH YOUNG CHILDREN

Since the company’s inception, dealers around the world have successfully sold Kaleidescape as a lifestyle-entertainment product for the affluent. With time, however, Malcolm and Srinivasan realized Kaleidescape’s core customer base really revolved around families with young children.

“While I’m an avid movie fan, I can’t remember the last time I watched something for grown-ups,” quips Malcolm, a father of six children, three of whom are under the age of 11. “I have my favorite movies, such as *Cinema Paradiso*, but more often I watch a movie that my kids decide to watch.

“My children watch TV episodes and movies on Kaleidescape two, three, even four times a day,” he continues. “It’s a crisis if something is wrong and they can’t watch what they want when they want.”

The evolution of Kaleidescape as a family entertainment system parallels a growing generation that’s accustomed to accessing information and content instantaneously with the touch of a button.

“It’s really interesting to see what draws young children into using the Kaleidescape System,” Malcolm adds. “At the heart of it, they love having easy and instant access to all their favorite stuff.” In the old days, kids would watch the same movie repeatedly on a VHS tape—sometimes until the tape wore out. Today, kids aren’t as content to



The Kaleidescape 1U Server with a 1080p Player



watch the same titles over and over: They enjoy exploring different movies and shows.

“Kaleidescape brings ready access to everything, and kids thrive on that,” he continues, adding that customer-usage patterns prove that families continue to be a key market opportunity for dealers. Company data shows that dealers who demonstrate Kaleidescape to the entire family stand a much better chance of making a sale versus only selling to the head of the household.

“If you do a live demo with a qualified buyer, along with the buyer’s spouse and children, the probability of a sale is close to 100 percent,” Srinivasan adds.

Gramophone, an installer of high-end home theaters in Maryland, has experienced the buying influence of children. “It’s really simple,” says Elliot Wier, customer installations design supervisor. “I sit them down and hand the wife or kids the remote control and I don’t say anything. The kids take over and the parents say, ‘It’s that easy?’ Once they see it, they don’t need someone to show them how to [use] it.”

Part of Kaleidescape’s appeal for parents is it provides a “walled garden” of entertainment content (minus objectionable commercials and content). Kaleidescape also offers different parental control settings in different rooms for younger viewers.

According to Craig Abplanalp, vice president of Definitive Audio in Bellevue, Wash., children are a big part of

the decision-making process. “During the past decade, we’ve seen families becoming more involved. In one of our biggest sales ever made, the whole family had to be present to make decisions as a group.”

Also remember that the Kaleidescape System does appeal to a grown-up’s sense of design. “Kaleidescape makes your TV look great and your speakers sound better—with your own personal movie collection that is now available throughout your home,” Srinivasan adds. “This content has intrinsic value—it’s a manifestation of you and your family.”

UPGRADES AS THE NEW BUSINESS OPPORTUNITY

In the history of home installation services, Srinivasan views custom A/V as the last frontier. “Affluent homeowners and high-end home developments have made great test markets for security systems, climate control and lighting automation,” he says. “A/V control really was the last one added to the list.” But like many other industries, the custom A/V market is in the midst of a tectonic shift—one that’s reeling from the aftershocks of the collapsed high-end real estate market.

“Many dealers have maintained strong relationships with architects, builders and developers,” Malcolm says, “[and] traditionally this group has served as a key source for new projects. But many dealers [have watched] an already small market dry up.”

The new challenge and opportunity lies in selling upgrade projects to existing customers. “Dealers are now increasingly selling into existing homes [where] the home-theater system might be old or needs to be reworked,” Malcolm continues. “This requires a sales strategy that’s focused on building long-term relationships. One key differentiator that custom A/V dealers can maintain is high-quality service.

“Knowing the wants and needs of your customers is critical,” Malcolm states. “The lifestyles of busy professionals and affluent customers are inherently complicated. They tend to be very mobile and they can be in different places on short notice. They’re willing to invest money in anything that simplifies their lives.

“When a person becomes successful, time becomes very important,” Malcolm adds. “Priorities shift to becoming more about spending time effectively. We may not all have the same wealth, but we all have the same amount of time each day.”

Gramophone’s Wier agrees. “Simplicity is key. It needs to be easy to understand, and we find customers consistently saying that they want to keep things simple.”

“From a custom A/V standpoint, Kaleidescape helps dealers maintain and grow relationships with their customers,” says Srinivasan. “The most successful dealers go beyond simply selling the installation. [They’re] paying attention to whether the metadata of films are up to date; [they’re] providing a storage upgrade service when a customer runs out of disk storage; and [they’re] going to know when a product is out of date. It’s all about the ongoing relationship and customer service.”

“Our formula for sales is to build customers for life, which I think is consistent with Kaleidescape,” adds Abplanalp. “Kaleidescape has done an excellent job of creating an online service and management tool that anticipates problems. We personalize our service with check-ins and follow-up calls. [And] the recent introduction of

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The Kaleidescape M300 Player (top) and M500 Player

the M-Class platform has given us a really relevant touch point with our customers.”

To assist dealers and installers with providing exemplary service, Kaleidescape has developed new features and tools to help dealers to continue to manage customer relationships. Software upgrades are downloaded and installed automatically via the Internet, without the need for any dealer or user intervention.

The company also offers online system dashboards for its movie servers, which are coupled with automatic “Kaleidescape Alert” emails that provide immediate notification to a customer’s dealer when service is required. These new dashboards provide a graphical depiction of the status of each component, making it easy to diagnose the problem and schedule preventative maintenance. Dealers can use system dashboards to view current

and historical component temps, remaining storage capacities, disk failures, Internet connection states, and software versions.

“[These] alerts provide another touch point for service,” Wier says. “I can call up a customer and say, ‘Hey, I see your system’s getting full and you might need more disk space. Can I come out and fix it?’ It’s a great way to provide excellent service and stay top of mind with customers.”

In addition to helping dealers build longer customer relationships, Kaleidescape also helps set the tone for entertainment equipment upgrades.

“We’ve always viewed Kaleidescape as the perfect product for helping dealers to get in the door and sell upgrades,” says Malcolm. “Once you have the Kaleidescape System, it quickly dawns on you to replace that old projector so that you can enjoy your movie

collection in HD, or get a new surround processor so you can enjoy the lossless soundtracks on Blu-ray Discs. It’s like those small home improvement projects that turn into so much more.” In fact, when Malcolm upgraded to a new M-Class player, it triggered a variety of upgrades to his own home theater, including a DPI Titan projector, a Krell surround processor and amps, and JBL Synthesis speakers.

Gramophone is experiencing a great deal of success in using Kaleidescape to sell in broader upgrades. “Kaleidescape is future-proof,” says Wier. “We’re preparing to upgrade [a customer’s system] by adding the latest M-Class players. Because of that, everything is getting a complete upgrade.

Kaleidescape’s Golden Rules for Dealer Success

- Don’t love ‘em and leave ‘em: Sell to your existing customer base. The survivors create customers for life.
- It’s a service business: Providing great service to your customers can easily turn a \$15,000 project into a much larger one.
- Think from the outside in: Analyze everything you do from your customer’s perspective, not just from your own internal point of view.
- Listen and learn: “Our greatest opportunity is to listen and learn from customers, and update internal policies and procedures based on that,” says Abplanalp. “Make sure your customers feel comfortable in the process. Put yourself in their shoes. The magic happens when you treat customers the way you would treat yourself!”
- Quick response is important, but prevention is paramount: The best customer service is a system that never breaks. Kaleidescape’s dashboards and alerts are built on this principle.
- Never underestimate word-of-mouth referrals: “This is a word-of-mouth business,” says Srinivasan. “It’s extremely important for dealers to maintain and grow customer evangelists.”
- Create the user interface for the home: As more devices become networked, dealers must understand how software and interfaces can connect throughout the home to create an elegant, simple experience.



The Kaleidescape Mini System

“Kaleidescape creates a reason to talk to people [and] interest [them] in stepping up to a richer digital experience.”

LOOKING FORWARD IN THE CUSTOM A/V MARKET

For the future of the custom A/V market, Malcolm envisions a move beyond the project-to-project-based cycle. “There’s a shrinking opportunity for large home installs,” he says. “The industry has historically thrived on one-off projects at large margins, but the future lies in extending sales beyond that first landmark installation.”

Put another way, the most simple systems will win out. “Customers [are shunning] the highly integrated installs that were popular in the last decade,” Malcolm says. “Dealers know how to deliver quality, and this market will always demand that. The tricky part is delivering simplicity.”

Top 10 Most-Played Movies on Kaleidescape

To appreciate Kaleidescape’s popularity with families and children, look no further than its list of top 10 most-played movies. Not surprisingly, many of the films on this list are geared toward kids.

- Iron Man (2008)
- Transformers (2007)
- Ratatouille (2007)
- Cars (2006)
- Planet Earth (2006)
- The Incredibles (2004)
- Finding Nemo (2003)
- Monsters, Inc. (2001)
- Gladiator (2000)
- Toy Story (1995)

So what’s the future of Kaleidescape? Malcolm maintains that the company will continue to develop leading products to create a rich cinematic experience at home. Kaleidescape plans to release a disc vault for Blu-ray Discs, which will house a large number of discs, making these movies instantly playable from hard disk. The vault will also provide bulk import, and simplify the process of locating and retrieving a disc.

“While technology and innovation are at the heart of Kaleidescape,” says Malcolm, “our real satisfaction comes from seeing the impact we have on customers’ lives. They enjoy more time with their families. They reconnect with their favorite movies and music. And they truly enjoy the experience that Kaleidescape delivers. It’s all about knowing that we help deliver this experience that matters to us most.” ●

Kaleidescape: 650.625.6100, kaleidescape.com

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