

# Avago Technologies Overhauls ERP System at Record Speed and on Budget



Avago Technologies  
Singapore  
www.avagotech.com

## Industry:

High Technology

## Annual Revenue:

US\$1.8 billion

## Employees:

6,500

## Oracle Products & Services:

Oracle Advanced Planning Suite  
Oracle Financials  
Oracle Procurement  
Oracle Order Management  
Oracle Shop Floor Management  
Oracle Warehouse Management  
Oracle Logistics  
Oracle Product Lifecycle Management  
Oracle Sourcing  
Oracle Real Application Clusters

## Implementor:

Oracle Consulting

*“Oracle Consulting was in place strategically. They had the knowledge, the expertise, and the management skills to drive the project through to completion. They helped us manage the project and brought leadership to the table. They were strong pillars within our overall business team.” – Hong Siew Lim, Project Manager, ERP Governance and Support Division, Avago Technologies*

Avago Technologies started as HP’s semiconductor arm and was then spun off as part of Agilent Technologies. In 2005 the semiconductor business was purchased by the private equity firms Kohlberg Kravis Roberts & Co and Silver Lake Partners, which changed its name to Avago Technologies.

While it may be fairly easy to change a company name on a paycheck, changing your software to reflect your current company—and severing ties with your previous company—is far from easy. But in 2006 Avago, which manufactures analog mixed-signal and optoelectronic components and subsystems for the industrial and automotive, wired infrastructure, wireless communications, and computer peripherals markets and is co-headquartered in Singapore, and San Jose, California, was trying to do just that.

The company needed to separate out all of its applications and systems from Agilent’s infrastructure while upgrading its software to streamline operations, expand its ERP footprint, and leverage the latest versions of several Oracle applications at the same time.

“Avago’s primary objective was to become totally independent from Agilent’s systems, and improve our own capabilities and system performance,” explained Hong Siew Lim, project manager for the ERP governance and support division arm of Avago, based in Penang, Malaysia.

“We basically had an eight-month implementation plan with a major big bang separation from Agilent—from a system and infrastructure standpoint. We upgraded our software, and at the same time we were expanding our footprint and continuing to

**Key Benefits:**

- Completed rollout ahead of deadline and within budget as a result of thorough project management by Oracle Consulting
- Cut advanced planning time from 12 hours to six hours
- Enabled quick problem resolution by employing pre-emptive thinking and extensive contingency planning
- Implemented global, future-focused solutions in response to local issues

maintain our leadership in supply chain performance.” It would be a tall order, and one the company would need some help with, considering the short time period in which the project needed to be completed.

**A Big Bang**

Avago Technologies began 2006 with Oracle ERP and legacy systems that hosted a significant number of applications. Its New Year’s resolution was to install the latest version of Oracle E-Business Suite, reducing the number of applications to a more manageable size. One of the company’s main goals was to provide real-time information throughout its supply chain, explained Hock-Leng Lee, end-to-end lead at Avago.

“We wanted a single system that could return customer information within a few minutes—inventory, orders, and related documents. We wanted our customers to have the best service possible, no matter how they contacted us,” he said.

While the benefits were obvious, Avago executives knew that it would take a lot of planning, hard work, and more people than they had, so they looked outside the company for additional expertise. They found it, said Lee, with Oracle Consulting.

**Accelerated Learning**

From the first day working with Oracle Consulting on the 2006 project, Lee said he realized they had made a good decision. The consulting team quickly became an extension of the Avago IT team. In fact, when the project managers organized the implementation, they grouped both consultants and employees into 36 functional sub-groups, each with different tasks. Each team was given autonomy to work on their individual pieces of the larger project, but the company also created a cross-functional team that ensured everyone was working towards the same goals. Those cross-functional teams had Avago employees as well as Oracle Consulting employees.

This was necessary given the volume of people and complexity involved. Avago was dealing with more than 20 different partners, including HP and other third-party application providers, over 150 Avago employees, and in excess of 50 Oracle consultants.

“It was a challenge because many of the partners had different backgrounds. We co-located the teams in Singapore and the U.S.,

but we also had teams in Malaysia and Europe. It was a worldwide team that was very much involved in the day-to-day operations of the project,” explained Lim.

If the consultants hadn’t worked as part of that team, everything would have fallen apart. The Oracle Consulting team was both structured and flexible, blending in where needed, and asserting their knowledge when they were called on to support big decisions. They weren’t afraid to ask questions, and they were genuinely curious about the plans that were being put into place by Avago executives, said Lee.

“They weren’t afraid to challenge our approach with another potential solution. That new solution may have been different than what we originally asked for, but it gave us the same functionality and would work better for our business because it was scalable or more user-friendly,” he said.

The Oracle Consulting team was also there when there were issues, ready and willing to not only help solve problems, but also to think ahead to prevent future ones, said Lee.

“This is where our executives were pretty impressed with the lead Oracle consultant, Mohit Ghatak, who was working with us. He asked questions that didn’t just relate to that particular scenario or problem. He asked how we wanted to use our software in the future,” he explained. “The consultant took the effort to actually expand his questions to encompass global usage. I was impressed that he was not just looking at input for the problem that we had, and then addressing it and coming back with the result. He actually took part in thinking through the whole solution.”

### Talking the Talk

As with any business relationship, Avago’s leadership knew how and when to communicate with the consultants is key to a project’s success.

“It has to be a two-way process,” said Lim. “It’s very important that the company makes sure the commitment and the communication is there or the project won’t succeed.”

Avago had the added issues of time, language, and culture barriers. With teams comprised of so many different nationalities and competencies, everyone had to be willing to adapt and grow. People also had to be willing to get their hands dirty.

“In the past when we had consultants come in from third parties, they would spend a lot of time documenting the process, but most of their time was spent on the technical side,” said Lim. “There was a limit to how far they would go for us. With Oracle Consulting, they were helping us with the solution design, but they were also getting right down to the nitty-gritty, going beyond what was required.”

This led to camaraderie within the team, said Lim. “When there was a problem, there was very little finger-pointing. Instead, people would say, ‘Let’s try to address and resolve it.’ Everyone was trying to learn from the issues and each other so they could avoid having problems happen repeatedly.”

Again, Avago executives contributed to this congenial atmosphere by giving the teams all the tools they needed. The Avago employees didn’t push everything off on the Oracle consultants, and the consultants didn’t mind doing whatever was needed to make the project a success because they could make decisions and act on them accordingly. Everyone had the power to quickly resolve roadblocks, rather than getting mired down in seemingly intractable problems.

“Every team had the ability, whenever there was an issue, to escalate it as high as they needed to,” Lim said. “We kept track of everything to ensure that issues that were escalated were owned by the right people. But we really could address problems quickly because we had contingency plans in place ahead of time and the leadership of Oracle Consulting to put them into play as soon as they saw they were needed.”

### **New Name, New Game Face**

In the end Avago’s team not only hit its deadline ahead of plan, but succeeded in implementing its new infrastructure without going over budget. On August 5, 2006, the company turned off its old legacy systems and went live with Oracle E-Business Suite 11.5.10. The new software and hardware let the company cut its advanced planning run time by 50%—dropping from 12 to 6 hours—and improve productivity by automating processes that were previously done manually or enabling full integration within Oracle ERP. But most importantly, the company is able to maintain its best-in-class delivery and supply chain performance to its customers.

“Oracle Consulting was in place strategically. They had the knowledge, the expertise, and the management skills to drive the project through to completion,” he said. “They ensured that we looked at the project in totality—not just in silo-based functions. They helped us manage the project and brought leadership to the table. They were strong pillars within our overall business team.”

### Why Oracle?

Avago Technologies (as part of Agilent Technologies) chose Oracle Consulting in 2000–2002 when it initially installed several Oracle ERP applications, so they knew the organization had what it took to implement software from the ground up. This time, however, the process would be more arduous, but Avago executives were confident because they knew no other company had as much expertise and experience implementing Oracle products, explained Lim.

“In 2000, we knew that the people who would know the most about Oracle ERP and Oracle E-Business Suite 11*i* would be consultants within Oracle,” he said. “It was decided at that point that we needed and wanted the key consultants who were the most knowledgeable about the ERP modules in Oracle E-Business Suite 11*i*, especially since we were implementing relatively new modules—for example, the Oracle Advanced Planning Suite modules. At that time, in 2000, Oracle Advanced Planning Suite was a very new product, so we really needed someone who had lots of experience installing and integrating it. Since the company handled that implementation so well, engaging them in 2006 was the obvious choice.”

Lee agreed. “We knew we could work faster and smarter if we worked with Oracle Consulting rather than going with a third-party consulting firm,” he said. “We have a rather complex business process that touches almost every function—from customer-facing applications to manufacturing to our employees—so we knew we needed someone who would do things right the first time.”

Company executives also wanted consultants who were familiar with the semiconductor business—how its environment develops and changes, and how its supply chain works. They got that and more, both Lee and Lim said.

This is one of Oracle Consulting's biggest strengths, said Harry Storer, Oracle's senior vice president of consulting in Asia-Pacific.

"We're not just focused on technology or what the customer is doing at that moment. We're thinking ahead; we're interested in what we can bring to the table for future implementation and use," Storer said. "We reach out to them and ask them how they want to run their businesses. We're reviewing their business processes and giving them lifetime support."

*Founded in 1961, Avago Technologies manufactures analog, mixed signal, and optoelectronics components for more than 40,000 customers worldwide. The company is headquartered in California and Singapore and employs 6,500 staff globally.*