# EXHIBIT C

The New York Times
nytimes.com


June 14, 2006

# Hiding in Plain Sight, Google Seeks More Power

By JOHN MARKOFF and SAUL HANSELL

THE DALLES, Ore., June 8 — On the banks of the windswept Columbia River, Google is working on a secret weapon in its quest to dominate the next generation of Internet computing. But it is hard to keep a secret when it is a computing center as big as two football fields, with twin cooling plants protruding four stories into the sky.

The complex, sprawling like an information-age factory, heralds a substantial expansion of a worldwide computing network handling billions of search queries a day and a growing repertory of other Internet services.

And odd as it may seem, the barren desert land surrounding the Columbia along the Oregon -Washington border — at the intersection of cheap electricity and readily accessible data networking — is the backdrop for a multibillion-dollar face-off among Google, Microsoft and Yahoo that will determine dominance in the online world in the years ahead.

Microsoft and Yahoo have announced that they are building big data centers upstream in Wenatchee and Quincy, Wash., 130 miles to the north. But it is a race in which they are playing catch-up. Google remains far ahead in the global data-center race, and the scale of its complex here is evidence of its extraordinary ambition.

Even before the Oregon center comes online, Google has lashed together a global network of computers — known in the industry as the Googleplex — that is a singular achievement. "Google has constructed the biggest computer in the world, and it's a hidden asset," said Danny Hillis, a supercomputing pioneer and a founder of Applied Minds, a technology consulting firm, referring to the Googleplex.

The design and even the nature of the Google center in this industrial and agricultural outpost 80 miles east of Portland has been a closely guarded corporate secret. "Companies are historically sensitive about where their operational infrastructure is," acknowledged Urs Holzle, Google's senior vice president for operations.

Behind the curtain of secrecy, the two buildings here — and a third that Google has a permit to build — will probably house tens of thousands of inexpensive processors and disks, held together with Velcro tape in a Google practice that makes for easy swapping of components. The cooling plants are essential because of the searing heat produced by so much computing power.

The complex will tap into the region's large surplus of fiber optic networking, a legacy of the dot-com boom.

The fact that Google is behind the data center, referred to locally as Project 02, has been reported in the local press. But many officials in The Dalles, including the city attorney and the city manager, said they could not comment on the project because they signed confidentiality agreements with Google last year.

"No one says the 'G' word," said Diane Sherwood, executive director of the Port of Klickitat, Wash., directly across the river from The Dalles, who is not bound by such agreements. "It's a little bit like He-Who-Must-Not-Be-Named in Harry Potter."

Local residents are at once enthusiastic and puzzled about their affluent but secretive new neighbor, a successor to the aluminum manufacturers that once came seeking the cheap power that flows from the dams holding back the powerful Columbia. The project has created hundreds of construction jobs, caused local real estate prices to jump 40 percent and is expected to create 60 to 200 permanent jobs in a town of 12,000 people when the center opens later this year.

"We're trying to organize our chamber ambassadors to have a ribbon-cutting ceremony, and they're trying to keep us all away," said Susan Huntington, executive director of The Dalles Area Chamber of Commerce. "Our two cultures aren't matching very well."

Culture clashes may be an inevitable byproduct of the urgency with which the search engine war is being waged.

Google, Microsoft and Yahoo are spending vast sums of capital to build out their computing capabilities to run both search engines and a variety of Web services that encompass e-mail, video and music downloads and online commerce.

Microsoft stunned analysts last quarter when it announced that it would spend an unanticipated $2 billion next year, much of it in an effort to catch up with Google. Google said its own capital expenditures would run to at least $1.5 billion. Its center here, whose cost is undisclosed, shows what that money is meant to buy.

Google is known to the world as a search engine, but in many ways it is foremost an effort to build a network of supercomputers, using the latest academic research, that can process more data — faster and cheaper — than its rivals.

"Google wants to raise the barriers to entry by competitors by making the baseline service very expensive," said Brian Reid, a former Google executive who is now director of engineering at the Internet Systems Consortium in Redwood City, Calif.

The rate at which the Google computing system has grown is as remarkable as its size. In March 2001, when the company was serving about 70 million Web pages daily, it had 8,000 computers, according to a Microsoft researcher granted anonymity to talk about a detailed tour he was given at one of Google's Silicon Valley computing centers. By 2003 the number had grown to 100,000.

Today even the closest Google watchers have lost precise count of how big the system is. The best guess is that Google now has more than 450,000 servers spread over at least 25 locations around the world. The company has major operations in Ireland, and a big computing center has recently been completed in Atlanta. Connecting these centers is a high -capacity fiber optic network that the company has assembled over the last few years.

Google has found that for search engines, every millisecond longer it takes to give users their results leads to lower satisfaction. So the speed of light ends up being a constraint, and the company wants to put significant processing power close to all of its users.

Microsoft's Internet computing effort is currently based on 200,000 servers, and the company expects that number to grow to 800,000 by 2011 under its most aggressive forecast, according to a company document.

Computer scientists and computer networking experts caution that it is impossible to compare the two companies' efforts directly. Yet it is the way in which Google has built its globally distributed network that illustrates the daunting task of its competitors in catching up.

"Google is like the Borg," said Milo Medin, a computer networking expert who was a founder of the 1990's online service @Home, referring to the robotic species on "Star Trek" that was forcibly assembled from millions of species and computer components. "I know of no other carrier or enterprise that distributes applications on top of their computing resource as effectively as Google."

Google's inclination to secrecy began in its days as a private company in an effort to keep its rivals from determining the profits it was making from Web search advertising. But its culture of secrecy has grown to pervade virtually all of its dealings with the news media and even its business partners.

In the end, of course, corporate secrets have a short shelf life in a search engine age. Entering "Dalles Google" as a Google query turns up plenty of revealing results. But Google Earth, the satellite mapping service, like its rivals, so far shows the 30-acre parcel here quite undeveloped.

*John Markoff reported from The Dalles, Ore., for this article and Saul Hansell from New York.*