

[Activate your FREE membership today](#) | [Log-in](#)
 TechTarget Data Center Media
 > [CONFERENCES](#) > [WEB SITES](#)

ADVERTISEMENT


[Boost server performance, power desktops, increase mobility and secure client systems- Visit the Intel Resource Center today!](#)
[Home](#) > [Data Center News](#) > Data center site selection goes international

Data Center News:

[EMAIL THIS](#) [LICENSING & REPRINTS](#)

Data center site selection goes international

 By Adam Trujillo, Associate Editor
 04 Dec 2007 | [SearchDataCenter.com](#)

 RSS FEEDS: [IT infrastructure news](#)


As IT departments try to get the most bang for their buck, data center site selection has become increasingly important. This report on data center site selection discusses the advantages and disadvantages of several regions outside the U.S. for data center operations.

As recently as 10 years ago, data center managers didn't worry much about the cost of running servers. But today people are paying close attention not only to the cost of running a server but also to the costs associated with the equipment to cool it, the UPS, application and hardware redundancy. Add in staffing costs, real estate, taxes, and suddenly the total cost of ownership for a data center is far more complex than it used to be.

International data center map

Check out an interactive Google map showing the [pros and cons of each international data center location](#) from this story.

Cheap power and cooling for data centers

At Princeton, N.J.-based [Boyd Company Inc.](#), John Boyd hyped Canada's inexpensive and abundant hydroelectric power supply – it's so inexpensive that Canada actually exports power to the U.S. -- as an ideal location for data centers. Additionally, cooler temperatures help minimize costs, enabling data centers to take advantage of [air/water-side economizers](#).

Iceland would [be] impractical as the main or only data center from a client's point of view.

 Pablo Diantina,
 consultant, BroadGroup

Cheap power and a cold climate recently earned attention for [Iceland as a potential data center hot spot](#). Iceland's abundant geothermal power and hydroelectric power make the Nordic country ideal for powering and cooling backup data centers. Steve Wallage at the London-based data center consultancy [BroadGroup](#), adds that Iceland's eco-friendly power use also helps companies with customer-facing concerns, where businesses can tout their data centers as green-computing hubs.

But cheap and efficient power and cooling aren't the only drivers in data center site selection. "Most data center customers prefer to be relatively close to the data center since they may need some regular access to equipment," said BroadGroup consultant Pablo Diantina. "Hence, Iceland would [be] impractical as the main or only data center from a client's point of view."

Still, if access isn't a concern, you should consider Siberia. Microsoft is considering plans to build a data center in the town of Irkutsk, one of the largest cities in the region. In "[Microsoft plans data center in Siberia](#)," Rich Miller at Data Center Knowledge writes, "The average temperature in Irkutsk is below zero from December through early March, with constant snow cover for most of the winter. The data center could have connectivity from a TransTelecom fiber line, and have power capacity of 50 megawatts, according to Irkutsk region governor Andrei Gubov. The region was attractive to Microsoft due to its stable power supply."

Tax incentives and government subsidies

Data center and facilities managers largely overlook the operational costs that come in the form of taxes and that should be counted into the total cost of ownership. At BroadGroup's Finance and Investment Forum: Investing in Data Centres, presenter Thordur Hilmarsson, who is also a managing director at the nonprofit [Iceland Agency \(IIA\)](#), said that Iceland ranks well among other industrialized nations in low corporate taxes.

According to Hilmarsson's, though, Ireland may top Iceland in terms of low corporate taxes. Diantina concurred with Hilmarsson, saying that Ireland "has attracted a lot of technology companies . . . and also data centers for Google, Microsoft and Amazon" as a result of low corporate taxes. On the less favorable side of the scale are Canada, Italy, Germany, the U.S. and Japan, in order of desirability. Boyd also identified Ireland and Luxembourg as potentially favorable data center locations for tax reasons.

A recent BroadGroup report also cites the British Channel Islands of Jersey and Guernsey and Switzerland as "among the highest ranking for tax efficiency."

Though real estate costs are generally regarded as negligible when considering total data center costs, it's worth noting that large countries like Australia tout cheap land, and this commodity may play a bigger role in the future. According to Robert Rosen, the former president of IBM mainframe user group [Share](#), as far as data center site selection in the U.S., "some companies are buying the land now, even though there aren't immediate plans to build new data centers because they're afraid they won't be able to get it when they need it." But because real estate costs are inextricably tied to taxes and other operational costs, Diantina again cited Ireland and Luxembourg as places for cheap physical space.

Data center disaster

Generally speaking, said BroadGoup's Wallage, island locations, including Iceland, are particularly vulnerable to natural disasters. For this reason, Boyd cited Canada as relatively insulated from natural disaster and potentially preferable. The only real weather concern is the cold, which can be a boon in terms of cooling capacity.

The opposite is true for Australia, where the most threatening natural disaster comes in the form of heat waves that often lead to drought. On average, droughts occur 3 out of every 10 years, according to [Spinney Press' Issues in Society publication on natural disasters](#). This may add to data center cooling costs, but such droughts are unlikely to cause the kind of serious physical infrastructure problems that an event like a hurricane or flood would.

Regardless of the continent in which data centers are located, disaster recovery (DR) and business continuity best practices are essential. "Ideally, a [disaster recovery] site is located sufficiently far away as to be unaffected by the disaster event while at the same time being close enough so that tests can be conducted economically and to allow operations (and the necessary staff) to transition to the site in a timely fashion," [Burton Group](#) senior analyst Eric Maiwald wrote in an email.

Maiwald added that large organizations that can spread out stand to benefit from the advantage of having data centers located offshore. "For the large enterprise that already has facilities and staff around the world, using an existing data center as a DR site for other data centers makes a lot of sense," he said. "The enterprise will have staff at the alternative site, and the movement of staff will be kept to a minimum." At the same time, Maiwald warns against extensive sprawl, which may require moving staff and can wear resources thin.

Data center staffing and cultural climate

Cultural and staffing issues are a major factor for U.S. and European companies

For more on data center site selection:

[Data center locations ranked by operating cost](#)

[Data center construction is booming](#)

[Study ranks cheapest places to build a data center](#)

REFERENCE DESK



Data center room design and location

NEWS, TIPS & MORE

- [Pros and cons of international data center ...](#) (GOOGLE MAP)
 - [Data center site selection goes international](#) (ARTICLE)
 - [Data center construction is booming](#) (ARTICLE)
 - [HP gets into data center design; acquires EYP ...](#) (ARTICLE)
- [VIEW MORE](#)

VENDOR CONTENT

- [Green Data Center, Chapter 4: Energy-Efficient Storage Technologies](#) (WHITE PAPER)



- [Innovation That Matters: Energy & Climate](#) (SOFTWARE DEMO)
 - [Reduce Costs by Simplifying Data Centers & Networks with a Virtual Infrastructure Layer](#) (WEBCAST)
 - [Q&A: Planning for Business Continuity](#) (WHITE PAPER)
- [VIEW MORE](#)

SEE ALSO

- **Related Topics:** [Data center room design and location](#) , [Data center power management](#), [Data center cooling](#)
- **Site Highlights:** [Exclusive Article: SAS 70 Unix Systems Management](#)

GET E-MAIL UPDATES

Submit your e-mail below to receive Data Center-related news, tech tips and more, delivered to your inbox.

Data Center Management

Physical Environment

E-mail:

Not a member? We'll activate your FREE membership with your subscription.

working with offshore data centers. According to Boyd, many European companies have an affinity for Canada because it shares cultural similarities, such as strong socialist policies.

American companies, until the U.S. dollar's decline against the Canadian dollar, also favored Canada's data center capabilities, largely because of the shared time zones and language. Canada also has a strong history of large-scale technology deployments, a result of numerous call centers established in provinces like New Brunswick and Alberta. Boyd suggested that the telco industry's substantial presence in the region provides a suitable technology labor pool and infrastructure, creating a logical transition to a data center environment.

Hilmarsson's case for Icelandic data centers includes a rising young and well-educated workforce, political stability and political integrity. According to Hilmarsson's data, Iceland surpasses India and the U.S. on these points. According to BroadGoup's Wallage quoting Nasscom, the Indian software association, "Indian companies will handle 30% of U.S. banking transactions by 2010," suggesting that at least some banking transaction processing models are seemingly well suited to India's data center infrastructure industry.


Regulatory compliance and offshoring data centers

While there are advantages to an international data center, some companies can't offshore some data because of regulatory compliance requirements.

According to Richard Jones, DCS VP and service director at Burton Group, "In some instances, it may be illegal for certain data to reside outside the companies' home country, which would prevent those services from being offshored."

Maiwold agreed, adding that "there may be regulatory or legal constraints on data such as financial or health information in the U.S." and that "there are significant privacy laws in many EU countries so that certain data on employees or customers should not be transferred out of the country of origin."

Let us know what you think about the story; email [Adam Trujillo, Associate Editor](mailto:Adam.Trujillo@BurtonGroup.com).

Sound Off! -  Be the first to post a message to Sound Off!

Share - [Digg This!](#)  [Bookmark with Del.icio.us](#)

RELATED CONTENT

■ Data center room design and location

- Pros and cons of international data center locations
- Data center construction is booming
- HP gets into data center design; acquires EYP Mission Critical Facilities
- Data center cooling and humidity control: CRAC or AHU?
- Sun, Rackable mobile data centers still raise eyebrows
- Server vendors promise density, but only in two dimensions
- Data center facility control systems
- Sun's data center consolidation reduces space, servers
- Visual effects firm turns server room into data center
- Data center infrastructure: Too soon for liquid cooling
- Data center room design and location Research

■ Data center power consumption and savings

- Data centers must stay agile, Gartner analyst says
- Intel vs. AMD? HP vs. IBM?: Survey of x86 server buyers tells all
- IBM issues data center energy credits
- Green technology still ranks low for data center planners
- Green data centers are about money, not the environment
- The green data center: Energy efficient computing in the 21st century
- The Green Data Center: Energy-efficient server technologies
- EPA promises data center efficiency metrics for 2008
- Cassatt power management software turns off idle servers
- AISO.net data center slideshow

RELATED GLOSSARY TERMS

Terms from WhatIs.com – the [technology online dictionary](http://technologyonline.com)

- [data center](#) (SearchDataCenter.com)
- [Electric plugs for each country](#) (SearchDataCenter.com)
- [green data center](#) (SearchDataCenter.com)
- [grumble line](#) (SearchDataCenter.com)
- [infrastructure](#) (SearchDataCenter.com)
- [plenum](#) (SearchDataCenter.com)
- [TIA-942](#) (SearchDataCenter.com)
- [tin whiskers](#) (SearchDataCenter.com)
- [water cooling](#) (SearchDataCenter.com)

- [zinc whiskers](#) (SearchDataCenter.com)

RELATED RESOURCES

- 2020software.com, trial software downloads for [accounting software](#), [ERP software](#), [CRM software and business software](#) systems
- Search Bitpipe.com for the latest [white papers](#) and [business webcasts](#)
- Whatis.com, the online [computer dictionary](#)

[HOME](#) | [NEWS](#) | [TOPICS](#) | [ITKNOWLEDGE EXCHANGE](#) | [TIPS](#) | [BLOGS](#) | [ASK THE EXPERTS](#) | [WEBCASTS](#) | [WHITE PAPERS](#) | [EVENTS](#)

[About Us](#) | [Contact Us](#) | [For Advertisers](#) | [For Business Partners](#) | [Site Index](#) | [RSS](#)

SEARCH

TechTarget provides enterprise IT professionals with the information they need to perform their jobs - from developing strategy, to making cost-effective IT purchase decisions and managing their organizations' IT projects - with its network of [technology-specific Web sites](#), [events](#) and [magazines](#).

[TechTarget Corporate Web Site](#) | [Media Kits](#) | [Reprints](#) | [Site Map](#)



All Rights Reserved, [Copyright 2005 - 2007](#), TechTarget | [Read our Privacy Policy](#)