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Coordinates: 40.427°N 111.934°W

Utah Data Center

The **Utah Data Center** (UDC), also known as the **Intelligence Community Comprehensive National Cybersecurity Initiative Data Center**,[1] is a data storage facility for the United States Intelligence Community that is designed to store data estimated to be on the order of exabytes or larger.[2] Its purpose is to support the Comprehensive National Cybersecurity Initiative (CNCI), though its precise mission is classified.[3] The National Security Agency (NSA) leads operations at the facility as the executive agent for the Director of National Intelligence.[4] It is located at Camp Williams near Bluffdale, Utah, between Utah Lake and Great Salt Lake and was completed in May 2019 at a cost estimated in 2014 to be $1.5 billion.[5]

NSA's Utah Data Center

The Utah Data Center, code-named Bumblehive, is the first Intelligence Community Comprehensive National Cyber-security Initiative (IC CNCI) data center designed to support the US intelligence community. The "massive data repository" is designed to cope with the large increase in digital data that has accompanied the rise of the global internet.[6]

Contents

Purpose

The data center is able to process "all forms of communication, including the complete contents of private emails, cell phone calls, and Internet searches, as well as all types of personal data trails—parking receipts, travel itineraries, bookstore purchases, and other digital 'pocket litter'."[7] In response to claims that the data center would be used to illegally monitor email of U.S. citizens, in April 2013 an NSA spokesperson said, "Many unfounded allegations have been made about the planned activities of the Utah Data Center, ... one of the biggest misconceptions about NSA is that we are unlawfully listening in on, or reading emails of, U.S. citizens. This is simply not the case."[4] This statement was made two months prior to the document leak that revealed the existence of the PRISM program. Some members of the public question the credibility of official statements like Bamford's in light of the revelations made in the two months following his statement.

In April 2009, officials at the United States Department of Justice acknowledged that the NSA had engaged in large-scale overcollection of domestic communications in excess of the United States Foreign Intelligence Surveillance Court's authority, but claimed that the acts were unintentional and had since been rectified.[8]

Utah Data Center

In August 2012, *The New York Times* published short documentaries by independent filmmakers titled *The Program*,[9] based on interviews with former NSA technical director and whistleblower William Binney. The project had been designed for foreign signals intelligence (SIGINT) collection, but Binney alleged that after the September 11 terrorist attacks, controls that limited unintentional collection of data pertaining to U.S. citizens were removed, prompting concerns by him and others that the actions were illegal and unconstitutional. Binney alleged that the Bluffdale facility was designed to store a broad range of domestic communications for data mining without warrants.[10]

Documents leaked to the media in June 2013 described PRISM, a national security computer and network surveillance program operated by the NSA, as enabling in-depth surveillance on live Internet communications and stored information.[11][12] Reports linked the data center to the NSA's controversial expansion of activities, which store extremely large amounts of data. Privacy and civil liberties advocates raised concerns about the unique capabilities that such a facility would give to intelligence agencies.[13][14] "They park stuff in storage in the hopes that they will eventually have time to get to it," said James Lewis, a cyberexpert at the Center for Strategic and International Studies, "or that they'll find something that they need to go back and look for in the masses of data." But, he added, "most of it sits and is never looked at by anyone."[15]

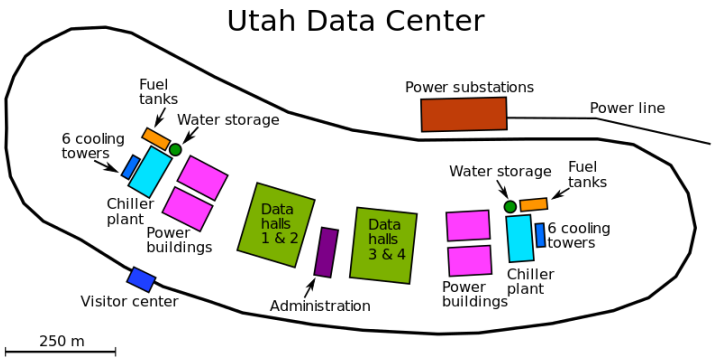
The UDC was expected to store Internet data, as well as telephone records from the controversial NSA telephone call database, MAINWAY, when it opened in 2013.[16]

In light of the controversy over the NSA's involvement in the practice of mass surveillance in the United States, and prompted by the 2013 mass surveillance disclosures by ex-NSA contractor Edward Snowden, the Utah Data Center was hailed by *The Wall Street Journal* as a "symbol of the spy agency's surveillance prowess".[17]

Binney has said that the facility was built to store recordings and other content of communications, not only for metadata.[18]

According to an interview with Snowden, the project was initially known as the Massive Data Repository within NSA, but was renamed to Mission Data Repository due to the former sounding too "creepy".[19]

Structure



Utah Data Center area layout

The planned structure provides 1 to 1.5 million square feet (90,000–140,000 m^2),[20][21][22] with 100,000 square feet (9,000 m^2) of data center space and more than 900,000 square feet (84,000 m^2) of technical support and administrative space.[7][20] It is projected to cost $1.5–2 billion.[3][7][20][23][24] A report suggested that it will cost another $2 billion for hardware, software, and maintenance.[20] The completed facility is expected to require 65 megawatts of electricity, costing about $40 million per year.[7][20] The facility is expected to use 1.7 million gallons (6,435 m^3) of water per day.[25] An article by *Forbes* estimates the storage capacity as between 3 and 12 exabytes in the near term, based on analysis of unclassified blueprints, but mentions Moore's Law, meaning that advances in technology could be expected to increase the capacity by orders of magnitude in the coming years.[2]

Toward the end of the project's construction it was plagued by electrical problems in the form of "massive power surges"[26] that damaged equipment.[17] This delayed its opening by a year.[26]

See also

- Big data
- Cyberethics
- Electronic Communications Privacy Act
- FISA Amendments Act of 2008
- Multiprogram Research Facility
- Privacy law
- Secrecy of correspondence
- Texas Cryptologic Center
- Electronic Frontier Foundation

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External links

- "James Bamford: Inside the NSA's Largest Secret Domestic Spy Center, part 1" (https://www.youtube.com/watch?v=2XAznfybYhI). & "part 2" (https://www.youtube.com/watch?v=ZD5Lq4GXU7g).
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Facebook

TECH

Your Facebook Data Is Stored Inside This Beautifully Spartan Warehouse

Lisa Eadicicco
Sep 28, 2016

For many new Facebook employees, their first days begin in front of a computer screen, learning the ins and outs of the company's code. That code, after all, serves as the foundation of the company's gigantic social network, hosting more than 1 billion daily visitors. With that in mind, it may be surprising to hear that Joel Kjellgren's first six months at Facebook were spent working out of a construction trailer.

That's because Kjellgren isn't a traditional software engineer. He doesn't work on the Like buttons, notification icons, or the other tools and buttons Facebook members push and poke on a regular basis. Rather, as the site manager of Facebook's data center in Luleå, Sweden, Kjellgren's oversees the massive facility that processes petabytes of data in the form of photos and stories posted to Facebook. It's one of Facebook's six such facilities that handle the hundred million hours of video watched and two billion photos shared through the social network every day.

"[It] was awesome to see how we turned something that was essentially just a concrete skeleton into one of the places [where] Facebook lives," says Kjellgren of his early days working at the Swedish facility.

Joel Kjellgren Facebook

Facebook's Luleå data center, located near the Arctic Circle, was the company's first such facility outside the U.S. when it opened in 2013. Today, Facebook is offering a closer look inside the facility via the photos published above, which show the center itself as well as some of the people who run it.

The site is comprised of two colossal buildings, each about the size of 17 ice hockey rinks, full of gear that makes it possible for billions of people around the world to upload status updates, photos, and videos each day. As Facebook grows, so does the amount of hardware needed to store its users' data. Since the Luleå facility opened in 2013, Facebook has built similar data centers in Ireland and Texas. It now plans to open one in New Mexico that will come online in late 2018.

Data centers on this scale require immense amounts of energy. Facebook says it's working to make its facilities as clean as possible, aiming to use at least 50% renewable energy at all of them by 2018. The Luleå site is already powered entirely on clean energy, thanks in part to nearby hydroelectric dams that made the site attractive in the first place. The region's arctic air also naturally cools the thousands of servers housed in the center; Facebook says its Luleå warehouses use almost 40% less power than traditional data facilities. (Facebook is far from being the only major technology company with such ambitions. Apple says its worldwide data centers run 100% on clean energy, while Google purchases green power from local wind and solar farms near its data facilities.)

But what gives Facebook a unique edge, Kjellgren says, is that it designs its data center hardware, then releases its work to other developers and engineers. This program, called the Open Compute Project, aims to do with data center hardware what open-source platforms like Linux have done for software. Gartner projects that data center systems' spending will reach $174 billion in 2016.

"We come from a proud hacker background and from a company largely built upon open source philosophy in software," Kjellgren says. "We just couldn't understand why the same principles couldn't

apply to hardware."

Finding efficient ways to manage the vast amounts of data that Facebook handles each day will only become more challenging as new types of media, like 360-degree video and virtual reality footage, rise in popularity. That means the technology used to store data shared to Facebook and operate its network will need to evolve as well. Accomplishing that at such a large scale is a daunting task; in the Luleå center alone, a job as seemingly trivial as routing cables is a full-time job.

"We stress test things that seem to [work] perfectly normal at a small scale," Kjellgren says. "But once you get to a large scale, things might not work the way you expect . . . The types of problems we face, you usually can't Google the solution for them."