UNITED STATES DISTRICT COURT FOR THE WESTERN DISTRICT OF TEXAS WACO DIVISION

GREATGIGZ SOLUTIONS, LLC,

Plaintiff

Case No. 6:20-cv-<u>00545</u>

v.

JURY TRIAL DEMANDED

LINKEDIN CORPORATION,

Defendant

ORIGINAL COMPLAINT FOR PATENT INFRINGEMENT

GreatGigz Solutions, LLC ("Plaintiff") hereby files this Original Complaint for Patent Infringement against LinkedIn Corporation ("Defendant"), and alleges, upon information and belief, as follows:

THE PARTIES

- GreatGigz Solutions, LLC is a limited liability company organized and existing under the laws
 of the State of Florida with its principal place of business at 600 S. Dixie Highway, Suite 605,
 West Palm Beach, Florida 33401.
- 2. Upon information and belief, LinkedIn Corporation ("LinkedIn") is a domestic corporation organized and existing under the laws of Delaware, with a principal place of business located in Sunnyvale, California. LinkedIn may be served through its registered agent in the State of Texas at Corporation Service Company, 211 East 7th Street, Suite 620, Austin, Texas 78701. On information and belief, LinkedIn sells and offers to sell products and services throughout the State of Texas, including in this judicial District, and introduces services via its infringing

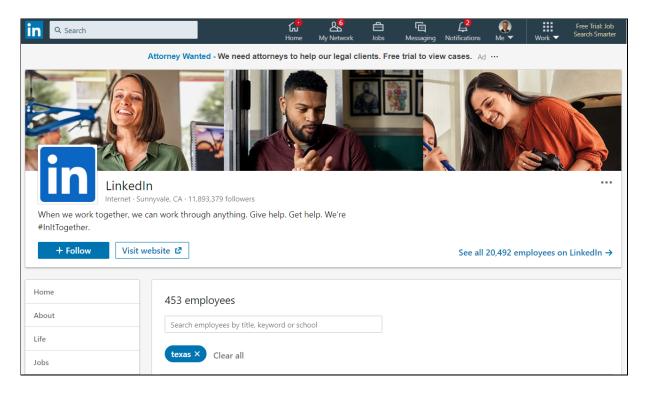
systems into the stream of commerce knowing and intending that they would be extensively used in the State of Texas and in this judicial District. On information and belief, LinkedIn specifically targets customers in the State of Texas and in this judicial District.

JURISDICTION AND VENUE

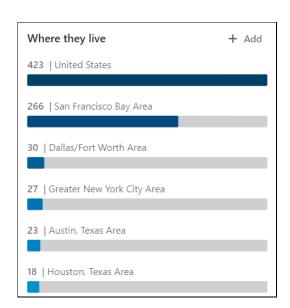
- 3. This Court has subject matter jurisdiction over this case under 28 U.S.C. §§ 1331 and 1338.
- 4. This Court has personal jurisdiction over Defendant. Defendant has continuous and systematic business contacts with the State of Texas. Defendant directly conducts business extensively throughout the State of Texas, by distributing, making, using, offering for sale, selling, and advertising (including the provision of interactive web pages and apps) its services in the State of Texas and in this District. Defendant has purposefully and voluntarily made its infringing systems available to residents of this District and into the stream of commerce with the intention and expectation that they will be purchased and used by consumers in this District.
- On information and belief, Defendant maintains an ongoing and continuous business presence in the State of Texas and specifically within this District, which is illustrated by the fact that LinkedIn has 82 employees residing in Texas, with half of those residing and working in this District. *See, e.g.*, LinkedIn corporate profile page on LinkedIn.com, which lists the location of 453 LinkedIn employees worldwide (including 23 in Austin; 5 in San Antonio; 3 in El Paso; and 1 in Killeen/Temple; plus 30 in Dallas/Ft. Worth; 18 in Houston; 2 in Bryan/College Station; and 1 in Longview). Indeed, nearly 20% of all LinkedIn employees listed reside in the State of Texas, and nearly 10% reside in this District alone. Further, on information and belief, LinkedIn maintains substantial long-term data centers in the State of Texas. On information and belief, such data centers are under the direct control of LinkedIn and are fundamental elements of the infringing system operated by LinkedIn to directly infringe the asserted claims. *See, e.g.*,

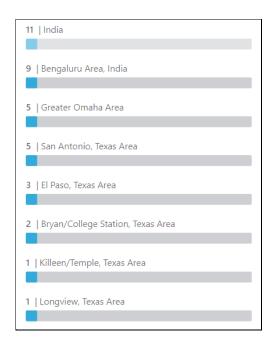
Business Article "LinkedIn Expands With Texas Data Center," excerpted below, available at: https://www.datacenterknowledge.com/archives/2013/11/06/linkedin-expands-with-dallas-datacenter.
center.¹

6. The data center location in Texas is strategic and represents an important business advantage to LinkedIn's business model. *See, e.g.,* LinkedIn Engineering Blog, excerpted below, and available at: https://engineering.linkedin.com/blog/2015/11/introducing-linkedins-west-coast-data-center.



¹ All references to Internet content, unless noted otherwise, are cited as of June 10, 2020, and as accessed from a location in the State of Texas.





LinkedIn Expands With Texas Data Center

LinkedIn, the social network for business, continues to expand its data center infrastructure to support its rapid growth. The company signed a \$116 million, 11-year lease for a large chunk of data center space in Dallas.

Rich Miller | Nov 06, 2013

When our new Hillsboro data center goes online in 2016, we will realize our goal of establishing three regionally diverse data centers within the US. With our other two locations in Virginia and Texas, it was logical to plan our third location on the West Coast. We explored multiple locations and providers, ultimately choosing the Oregon location and Infomart as our provider.

7. The location of the LinkedIn data center in Texas is important to the business of LinkedIn, as explained in the LinkedIn Engineering Article entitled: "A Brief History of Scaling LinkedIn," at: https://engineering.linkedin.com/architecture/brief-history-scaling-linkedin (excerpted below). The LinkedIn article explains how the use of "geographically close data centers"

facilitates and enhances the effectiveness of LinkedIn's business model for the benefit of its customers.

Multi-Data Center

Being a global company with a fast growing member population, we needed to scale beyond serving traffic from one data center. We began an effort years ago to address this, first by serving public profiles out of two data centers (Los Angeles and Chicago). Once proven, we embarked on enhancing all our services to handle data replication, callbacks from different origins, one-way data replication events, and pinning users to a geographically close data center.

Many of our databases run on Espresso (a new in-house multi-tenant datastore). Espresso was built with multi data centers in mind. It provides master / master support and handles much of the difficult replication.

Multiple data centers are incredibly important to maintain "site-up" and high availability. You need to avoid any single point of failure not just for each individual service, but the entire site. Today, LinkedIn runs out of three main data centers, with additional PoPs around the globe.

8. Venue is proper in the Western District of Texas as to Defendant pursuant to at least 28 U.S.C. §§ 1391(c)(2) and 1400(b). As noted above, Defendant maintains a regular and established business presence in this District.

PATENTS-IN-SUIT

- 9. GreatGigz Solutions, LLC is the owner, by assignment, of U.S. Patent Nos. 6.662,194 ("the '194 Patent"); 7,490,086 ("the '086 Patent"); 9,760,864 ("the '864 Patent"); and 10,096,000 ("the '000 Patent") (hereinafter collectively referred to as "the GGS Patents").
- 10. The GGS Patents are valid, enforceable, and were duly issued in full compliance with Title 35 of the United States Code.
- 11. The inventions described and claimed in the GGS Patents were invented by Raymond Anthony Joao.
- 12. The priority date of each of the GGS Patents is at least as early as July 31, 1999.

- 13. The GGS Patents each include numerous claims defining distinct inventions.
- 14. During prosecution of the '864 Patent, the patent examiner considered whether the claims of the '864 Patent were eligible under 35 USC §101 in view of the United States Supreme Court's decision in *Alice*. The patent examiner found that the claims are in fact patent eligible under 35 USC §101 because all pending claims are directed to patent-eligible subject matter, none of the pending claims are directed to an abstract idea and there would be no preemption of the abstract idea or the field of the abstract idea.
- 15. GreatGigz Solutions, LLC alleges infringement on the part of Defendant of the '194 Patent and the '086 Patent (the "Asserted Patents").
- 16. The '194 Patent relates generally to an apparatus and method for providing recruitment information, including a memory device for Storing information regarding at least one of a job opening, a position, an assignment, a contract, and a project, and information regarding a job Search request, a processing device for processing information regarding the job Search request upon a detection of an occurrence of a Searching event, wherein the processing device utilizes information regarding the at least one of a job opening, a position, an assignment, a contract, and a project, Stored in the memory device, and further wherein the processing device generates a message containing information regarding at least one of a job opening, a position, an assignment, a contract, and a project, wherein the message is responsive to the job Search request, and a transmitter for transmitting the message to a communication device associated with an individual in real-time. *See* Abstract, '194 Patent.
- 17. The '086 Patent relates generally to an apparatus, including a memory device which stores information regarding a job opening, position, assignment, contract, or project, and information regarding a job search request or inquiry, a processing device which processing the information

regarding a job search request or inquiry upon an automatic detection of an occurrence of a searching event which is an occurrence of a job posting, a posting of new or revised data or information, a news release of a business event, an employment-related event, an economic report, industry-specific news, an event which creates an to fill a position, or an event which creates an interest to seek a position, and generates a message, containing the information regarding a job opening, position, assignment, contract, or project, responsive to the job search request or inquiry, and a transmitter which transmits the message to a communication device associated with an individual. *See* Abstract, '086 Patent.

- 18. As noted, the claims of the Asserted Patents claim priority to at least July 31, 1999. At that time, the idea of launching LinkedIn.com was still several years away.
- 19. The claims of the Asserted Patents are not drawn to laws of nature, natural phenomena, or abstract ideas. Although the systems and methods claimed in the Asserted Patents are ubiquitous now (and, as a result, are widely infringed), the specific combinations of elements, as recited in the claims, was not conventional or routine at the time of the invention.
- 20. Further, the claims of the Asserted Patents contain inventive concepts which transform the underlying non-abstract aspects of the claims into patent-eligible subject matter.
- 21. Consequently, the claims of the Asserted Patents recite systems and methods resulting in improved functionality of the claimed systems and represent technological improvements to the operation of computers.
- 22. The '194 Patent was examined by Primary United States Patent Examiner Franz Colby. During the examination of the '194 Patent, the United States Patent Examiner searched for prior art in the following US Classifications: 705/1, 10, 11, 705/26, 707/104.1, 10, 3, and 103R.

- 23. After conducting a search for prior art during the examination of the '194 Patent, the United States Patent Examiner identified and cited the following as the most relevant prior art references found during the search: (i) 5,164,897, 11/1992, Clark et al.; (ii) 5,832,497, 11/1998, Taylor; (iii) 5,884.270, 3/1999, Walker et al.; (iv) 5,884.272, 3/1999, Walker et al.; (v) 5,978,768, 11/1999, McGovern et al.; (vi) 6,324,538, 11/2001, Wesinger, Jr. et al.; (vii) 6,332,125, 12/2001, Callen et al.; (viii) 6,363,376, 3/2002, Wiens et al.; (ix) 6,370,510, 4/2002, McGovern et al.; (x) 6,381,592, 4/2002, Reuning; and (xi) 6,385,620, 5/2002, Kurzius et al.
- 24. After giving full proper credit to the prior art and having conducted a thorough search for all relevant art and having fully considered the most relevant art known at the time, the United States Patent Examiner allowed all of the claims of the '194 Patent to issue. In so doing, it is presumed that Examiner Colby used his or her knowledge of the art when examining the claims.

 K/S Himpp v. Hear-Wear Techs., LLC, 751 F.3d 1362, 1369 (Fed. Cir. 2014). It is further presumed that Examiner Colby has experience in the field of the invention, and that the Examiner properly acted in accordance with a person of ordinary skill. In re Sang Su Lee, 277 F.3d 1338, 1345 (Fed. Cir. 2002).
- 25. The '086 Patent was examined by Primary United States Patent Examiner Jean M. Corrielus. During the examination of the '086 Patent, the United States Patent Examiner searched for prior art in the following US Classifications: 707/104.1, 707/3, 10, 103R, 1, 2, 4, 5, 705/1, 10, 11, and 705/26.
- 26. After conducting a search for prior art during the examination of the '086 Patent, the United States Patent Examiner identified and cited the following as the most relevant prior art references found during the search: (i) 4,625,081, 11/1986, Lotito et al.; (ii) 5,164,897, 11/1992, Clark et al.; (iii) 5,978,768, 11/1999, McGovern et al.; (iv) 6,370,510, 4/2002, McGovern et al.; (v)

- 6,381,592, 4/2002, Reuning; (vi) 6,385,620, 5/2002, Kurzius et al.; (vii) 6,567,784, 5/2003, Bukow; (viii) 6,662,194, 12/2003, Joao; (ix) 6,873,964, 3/2005, Williams et al.; (x) 7,148,991, 12/2006, Suzuki et al.; and (xi) 2003/020531, 6/2003, Parker.
- 27. After giving full proper credit to the prior art and having conducted a thorough search for all relevant art and having fully considered the most relevant art known at the time, the United States Patent Examiner allowed all of the claims of the '086 Patent to issue. In so doing, it is presumed that Examiner Corrielus used his or her knowledge of the art when examining the claims. *K/S Himpp v. Hear-Wear Techs., LLC,* 751 F.3d 1362, 1369 (Fed. Cir. 2014). It is further presumed that Examiner Corrielus has experience in the field of the invention, and that the Examiner properly acted in accordance with a person of ordinary skill. *In re Sang Su Lee,* 277 F.3d 1338, 1345 (Fed. Cir. 2002).
- 28. The claims of the Asserted Patents are properly issued, valid, and enforceable.

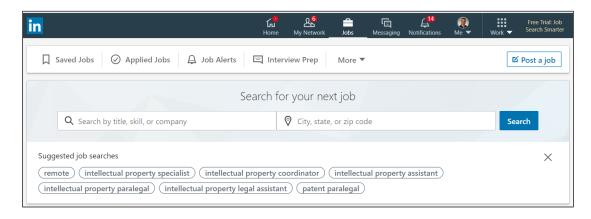
THE ACCUSED INSTRUMENTALITIES

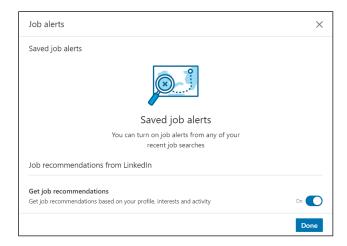
Upon information and belief, Defendant makes, sells, advertises, offers for sale, uses, or otherwise provides the LinkedIn website and its ancillary sites in the United States. The LinkedIn apparatus comprises servers, hardware, software, and a collection of related and/or linked web pages for providing job search services to individuals (including job seekers, recruiters, and employers) in the United States. The LinkedIn system comprises an apparatus with multiple interconnected infrastructures that infringe the Asserted Patents. The public-facing aspect of the LinkedIn apparatus is the LinkedIn website, which is available at www.linkedin.com/talent), the LinkedIn ProFinder Site (www.linkedin.com/talent), and the LinkedIn Talent Solutions

Site (www.business.linkedin.com). Collectively, all of the foregoing comprises the "Accused Instrumentalities."

COUNT I Infringement of U.S. Patent No. 6,662,194

- 30. Plaintiff incorporates the above paragraphs by reference.
- 31. Defendant has been on actual notice of the '194 Patent at least as early as the date it received service of this Original Complaint.
- 32. Upon information and belief, Defendant owns and controls the operation of the Accused Instrumentalities and generates substantial financial revenues therefrom.
- 33. Upon information and belief, Defendant has directly infringed and continues to directly infringe at least Claim 1 of the '194 Patent by making, using, importing, selling, and/or, offering for sale the Accused Instrumentalities.
- 34. The Accused Instrumentalities comprise an apparatus for providing recruitment information. The infringing apparatus comprises servers, hardware, software, and a collection of related and/or linked web pages for providing job search services to individuals (including job seekers, recruiters, and employers) in the United States. The Accused Instrumentalities comprise an apparatus with multiple interconnected infrastructures, including but not limited to what LinkedIn refers to as Streams, Search, Data Storage, Feed, and Machine Learning.







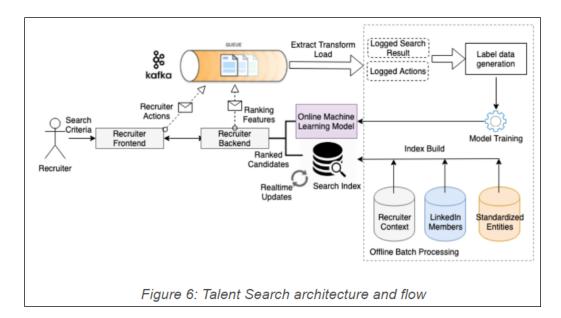
See, e.g., LinkedIn web pages at www.linkedin.com

System Design and Architecture

LinkedIn has built a search stack on top of Lucene called Galene, and contributed to various plug-ins, including capability to live-update search index. The search index consists of two types of fields:

- The inverted field: a mapping from search terms to the list of entities (members) that contain them.
- The forward field: a mapping from entities (members) to metadata about them.

These search index fields contribute to the evaluation of machine learning feature values in search ranking. The freshness of data in the search index fields is also of high importance for machine learning features.



See also, e.g., The AI Behind LinkedIn Recruiter Search and Recommendation Systems, available at https://engineering.linkedin.com/blog/2019/04/ai-behind-linkedin-recruiter-search-and-recommendation-systems

Streams Infrastructure

Developed at Linkedin, Apache Kafka, Apache Samza and Brooklin form a world-class data processing infrastructure that powers our community of more than 660 million members.

Search Infrastructure

Our members use search to find people, jobs, companies, groups, and other professional content. To power these solutions, our search platform brings together information retrieval, machine learning, distributed systems, big data, and other fundamental areas of computer science.

Storage Infrastructure

Our infrastructure must be able to store large volumes of data, while handling a high volume of queries per second (QPS). We've built tools, such as Espresso, Venice, and Ambry, to ensure efficient storage at scale.

Feed Infrastructure

Feed Infrastructure owns multiple large scale distributed systems that power the feeds and many of the search experiences core to our LinkedIn members' experiences. Our technology domain includes information retrieval, machine learning, and distributed datastore.

See, e.g., LinkedIn Engineering Infrastructure Page, available at https://engineering.linkedin.com/teams/data/data-infrastructure



Kafka

Apache Kafka is a core part of our is a core part of our infrastructure at LinkedIn. It was originally developed in-house as a stream processing platform and was subsequently open sourced. Today, it's widely used by the industry, has an active community, and few companies — if any — do so at LinkedIn's scale.

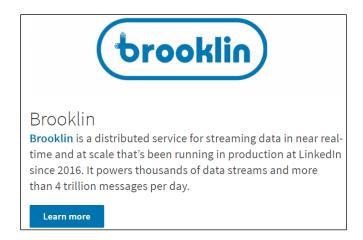
Learn more



Samza

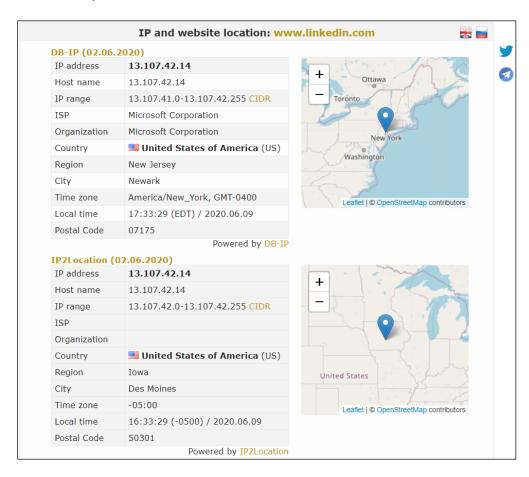
Apache Samza enables data processing in near real-time. At LinkedIn, Samza operates at a massive scale, enabling thousands of applications, tens of thousands of containers to process trillions of messages each day.

Learn more



See also, e.g. LinkedIn Engineering Information at https://engineering.linkedin.com/teams/data/data-infrastructure/streams

35. Upon information and belief, the servers for the LinkedIn Accused Instrumentalities and are in Newark, New Jersey and in Des Moines, Iowa.



See, e.g., Data Obtained from https://check-host.net/ip-info?host=www.linkedin.com

36. Upon information and belief, the LinkedIn Accused Instrumentalities comprises data centers housing memory devices, processing devices, and transmitters. Such data centers are in Oregon, Virginia, and Texas. See, e.g., Business Article "LinkedIn Expands With Texas Data Center," https://www.datacenterknowledge.com/archives/2013/11/06/linkedinexcerpted below. at: expands-with-dallas-data-center. The data center location in Texas is strategic and represents an important business advantage to LinkedIn's business model. See, e.g., LinkedIn Engineering Blog, excerpted available below, and at: https://engineering.linkedin.com/blog/2015/11/introducing-linkedins-west-coast-data-center.

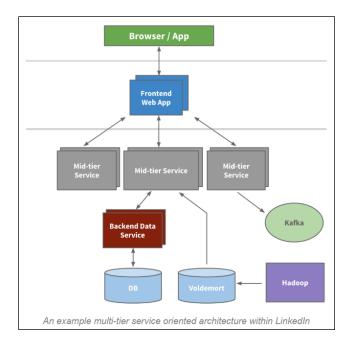
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The LinkedIn Accused Instrumentalities comprises a sophisticated architecture, working together as an apparatus to provide employment and recruiting services to users throughout the United States. *See, e.g.,* LinkedIn Engineering Article entitled: "A Brief History of Scaling LinkedIn," available at: https://engineering.linkedin.com/architecture/brief-history-scaling-linkedin.
The infringing LinkedIn "geographically close data centers" facilitate and enhance the effectiveness of LinkedIn's business model for the benefit of its customers.



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Many of our databases run on Espresso (a new in-house multi-tenant datastore). Espresso was built with multi data centers in mind. It provides master / master support and handles much of the difficult replication.

Multiple data centers are incredibly important to maintain "site-up" and high availability. You need to avoid any single point of failure not just for each individual service, but the entire site. Today, LinkedIn runs out of three main data centers, with additional PoPs around the globe.

- 38. The LinkedIn Accused Instrumentalities comprises a memory device, which stores information regarding at least job openings, positions, assignments, contracts, and/or projects.
- 39. As noted above, the LinkedIn infrastructure comprises a "Storage Infrastructure," which efficiently stores large volumes of data. The "Storage Infrastructure" comprises, *inter alia*, data centers with servers which serve as memory devices for the system. Upon information and belief, the LinkedIn database is maintained in the Espresso datastore.

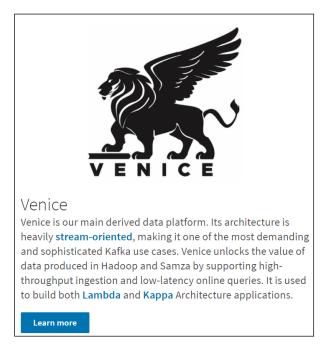


Ambry

Ambry is a distributed immutable object store that acts as our source of truth for media. Created in 2014, it has grown alongside our needs for persistent online object storage. Ambry manages billions of blobs spread across thousands of machines in multiple datacenters, and we've been proud to contribute Ambry to the open source community.

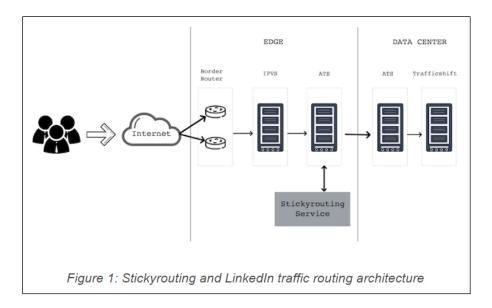
Learn more





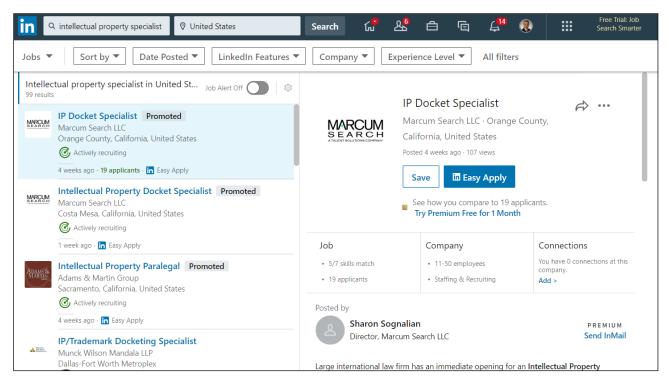
See, e.g., LinkedIn Engineering Information at: https://engineering.linkedin.com/teams/data/data-infrastructure/storage-infra

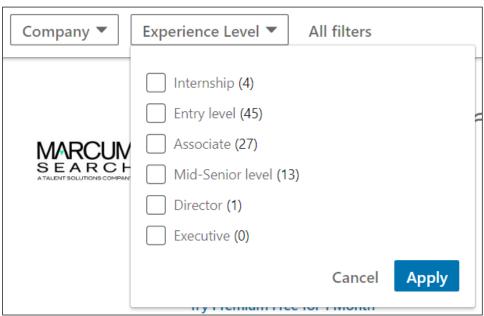
40. Upon information and belief, the LinkedIn Accused Instrumentalities comprises multiple data centers in the United States, and each LinkedIn member is assigned a primary data center, as well as a secondary data center, depending on geographical distance from the member to the data centers.

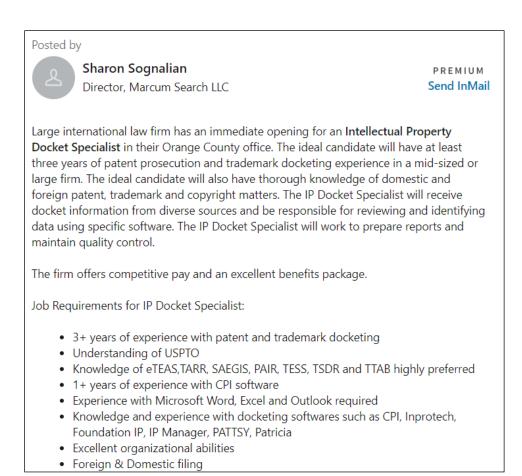


See, e.g., LinkedIn Engineering Blog at https://engineering.linkedin.com/blog/2019/eliminating-toil-with-fully-automated-load-testing

- 41. The LinkedIn infrastructure further comprises a "Search Infrastructure," which provides a means for searching for posted Jobs. Data relating to each such "Job" is stored in memory devices (*e.g.*, servers) under the direction and control of LinkedIn, and responsive data is returned to a user of the LinkedIn system when queried. Upon information and belief, the "Job" information stored by the LinkedIn system includes all the following: job openings, positions, assignments, contracts, and projects.
- 42. The below example, which was conducted in Allen, Texas on June 9, 2020, illustrates the range of "Job" data stored by LinkedIn relating to a search for an "Intellectual Property Specialist" in the United States.









See, e.g., LinkedIn.com search results at: https://www.linkedin.com/jobs/search/?currentJobId=1860548095&keywords=intellectual%20property%20specialist

43. As illustrated, the LinkedIn Accused Instrumentalities stores information regarding at least "job openings," and such information includes at least the date posted, employer name, required

experience level, number of applicants, job requirements, benefits, job description, name of person posting the information, industry, employment type, and an assessment of how the person performing the search satisfies the job criteria as posted.

- 44. The memory device of the LinkedIn Accused Instrumentalities further stores information regarding a job search request or inquiry. Upon information and belief, each individual search performed by users of the LinkedIn Accused Instrumentalities are stored in memory by LinkedIn to generate responsive search results to the user (as illustrated above).
- 45. Further upon information and belief, information regarding each job search performed by users is stored by LinkedIn for improving and informing its internal algorithms and its Search Infrastructure. As advertised by LinkedIn, information regarding job search requests are incorporated into the "Search Infrastructure," which is powered by bringing together "information retrieval, machine learning, distributed systems, big data, and other fundamental areas of computer science."

Search Infrastructure

Our members use search to find people, jobs, companies, groups, and other professional content. To power these solutions, our search platform brings together information retrieval, machine learning, distributed systems, big data, and other fundamental areas of computer science.

Learn more

See, e.g., LinkedIn Engineering Infrastructure Page at https://engineering.linkedin.com/teams/data/data-infrastructure

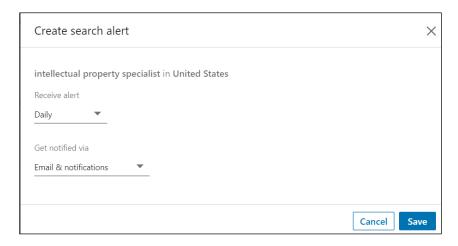
46. Upon information and belief, the LinkedIn Accused Instrumentalities stores information regarding each job search performed, which is evidenced by the fact that individual job postings reflect the total number of times it has been viewed, as well as the total number of applicants for

the position. By way of example, the illustrative job opening cited above (and copied again below) indicates it has been "viewed" 107 times and has received 19 applicants.

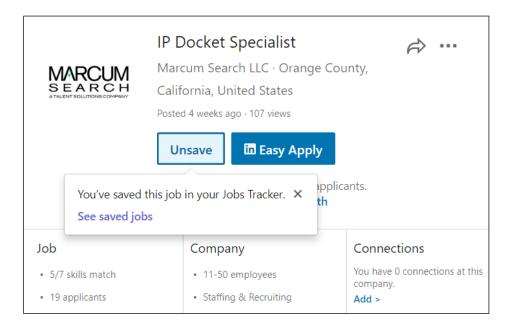


See, e.g., LinkedIn.com search results at: https://www.linkedin.com/jobs/search/?currentJobId=1860548095&keywords=intellectual%20property%20specialist

47. Upon information and belief, the LinkedIn Accused Instrumentalities stores information regarding job search requests and/or inquiries, which is evidenced by the fact that users of the LinkedIn system can set "Job Search Alerts." Upon information and belief, a LinkedIn "Job Search Alert" relies upon stored information regarding the user's job search request or inquiry, which is used to generate responsive emails and/or notifications to the user. By way of example, the above-referenced job search for an "Intellectual Property Specialist in the United States" can be used as the basis for a daily or weekly "Job Search Alert."



48. In addition, upon information and belief, the LinkedIn Accused Instrumentalities stores information regarding job search requests and/or inquiries, which is evidenced by the fact that users of the LinkedIn system can "Save" a job in a "Jobs Tracker." For example:



- 49. The LinkedIn Accused Instrumentalities comprises a processing device. As noted above, the LinkedIn Accused Instrumentalities comprises servers, hardware, software, and a collection of related and/or linked web pages for providing job search services to individuals (including job seekers and employers) in the United States. The LinkedIn Accused Instrumentalities comprises an apparatus with multiple interconnected infrastructures, including but not limited to what LinkedIn refers to as Streams, Search, Data Storage, Feed, and Machine Learning.
- 50. The LinkedIn "Search Infrastructure" comprises a processing device, which allows users of the LinkedIn system so search for people, jobs, companies, groups, and other professional content. To power these solutions, the LinkedIn Search Infrastructure brings together information retrieval, machine learning, distributed systems, big data, and other fundamental areas of computer science.

Search Infrastructure

Our members use search to find people, jobs, companies, groups, and other professional content. To power these solutions, our search platform brings together information retrieval, machine learning, distributed systems, big data, and other fundamental areas of computer science.

Learn more

See, e.g., LinkedIn Engineering Infrastructure Page at https://engineering.linkedin.com/teams/data/data-infrastructure

51. As explained by LinkedIn, the processing device of the Accused Instrumentalities comprises at least a "Federation Layer," a "Serving Platform," and a "Search Engine." For example:

At the top of the search stack is a federation layer that allows our members to find and discover content across many products. It is the gateway to search at LinkedIn as it is used by all customer-facing products across the company. It also powers critical search capabilities like typeahead, query understanding, spell checking, and results blending.

Domain specific search queries are then handled by the serving platform, which provides a distributed system and operability layer that integrates with LinkedIn's internal cloud. This layer includes mechanisms for cluster management, data distribution, cross-component communications, deployment management, and real-time metrics and diagnostics.

At the core is a search engine that powers our retrieval and ranking. Our architecture combines proprietary and open source technologies to allow us to efficiently scale across thousands of machines, while keeping the searchable data updated in real-time. We also partner closely with data scientists to build and serve performant online scoring models since machine learning is central to returning the best results.

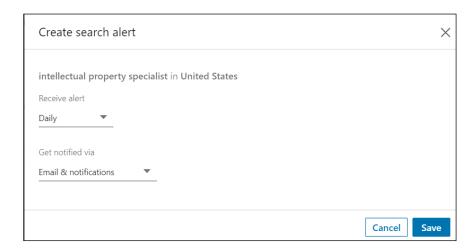
See, e.g., LinkedIn Engineering Infrastructure Page at https://engineering.linkedin.com/teams/data/data-infrastructure/search-and-discovery

52. The LinkedIn processing device of the Accused Instrumentalities processes the information regarding a job search request or inquiry upon a detection of an occurrence of a searching event,

wherein the searching event is an occurrence of, for example, a job posting by an employer or a hiring entity.

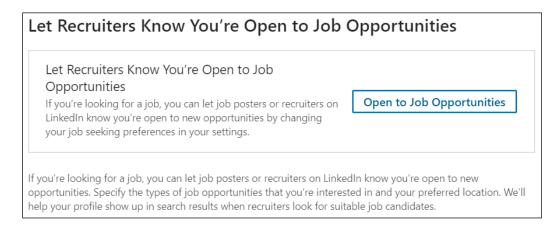
As noted above, the LinkedIn Accused Instrumentalities allows users to set "Job Search Alerts."

Upon information and belief, a LinkedIn "Job Search Alert" relies upon stored information regarding the user's job search request or inquiry, which is used to generate responsive emails and/or notifications to the user. By way of example, the above-referenced job search for an "Intellectual Property Specialist in the United States" can be used as the basis for a daily or weekly "Job Search Alert."



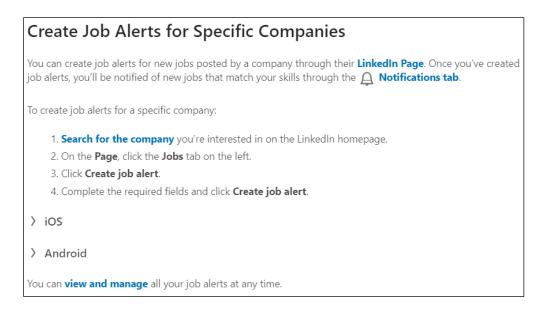
- 54. Upon information and belief, the LinkedIn processing device of the Accused Instrumentalities causes an Email or Notification to be delivered to the creator of the Job Search Alert upon a detection on the part of LinkedIn of, for example, a job posting by an employer or hiring entity. More specifically, when an employer creates a job posting which matches the "Job Search Alert" criteria, the user is notified.
- 55. Likewise, the LinkedIn Accused Instrumentalities allows employers and/or job recruiters to search for potential qualified employees. As part of this service, LinkedIn allows users to inform recruiters of their individual interest in seeking employment opportunities. Upon information and belief, the LinkedIn processing device of the Accused Instrumentalities processes

information regarding a job search request or inquiry (e.g., the notice of a user's interest in seeking employment opportunities) upon a detection of an occurrence of a searching event, wherein such event is, for example, a posting of new information from an individual, or an event which creates an interest by an employer. For example:

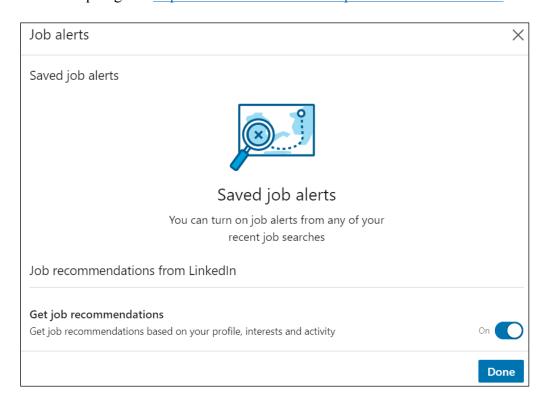


See, e.g., LinkedIn Help Page at https://www.linkedin.com/help/linkedin/answer/67405

- 56. The LinkedIn processing device of the Accused Instrumentalities is programmed to detect the searching event occurrences.
- 57. As noted above, the LinkedIn "Job Search Alert," for example, automatically detects at least a job posting by a hiring entity which meets the criteria established for the Alert, and thereafter delivers a daily or weekly "Job Search Alert" to the LinkedIn user.
- 58. Further, the user can receive notifications of new job openings matching the skills of the user through the LinkedIn Notifications Tab. Job Alerts can be viewed at any time.



See, e.g., LinkedIn Help Page at: https://www.linkedin.com/help/linkedin/answer/97686



See, e.g., LinkedIn Job Search Informational Page at https://www.linkedin.com/jobs/?showJobAlertsModal=true

- 59. The LinkedIn processing device of the Accused Instrumentalities utilizes the information regarding at least a job opening, which is stored in the memory device (as discussed above) in processing the information regarding a job search request.
- 60. As noted above, the LinkedIn "Job Search Alert," for example, automatically detects at least a job posting by a hiring entity meeting the criteria established for the Alert, and thereafter delivers a daily or weekly "Job Search Alert" to the LinkedIn user. In processing the "Job Search Alert," the LinkedIn processing device utilizes the elements of both the "Job Search" as defined by the user, as well as the details of the job posting of the hiring entity. Upon information and belief, when the LinkedIn processing device finds a match between the "Job Search" elements and the corresponding details of the job posting, an Alert is triggered for the user. Upon information and belief, the user can receive alerts within minutes of posting.

Providing instant job notifications

We've invested in building a new set of instant job alerts to ensure sure candidates see jobs that are a good fit within minutes of it being posted, and we're making it easier for members to hear directly from their network when someone they know is hiring.

See, e.g., LinkedIn Talent Blog at https://business.linkedin.com/talent-solutions/blog/product-updates/2019/linkedins-products-evolving-support-new-world-of-work

WHAT'S NEW FOR JOB-SEEKERS?

New instant job alerts: Job seekers who are among the first 25 applicants are up to 3X more likely to land the job and LinkedIn want to make sure you see the jobs you want the minute they're posted. Their redesigned job alerts will send members a notification within minutes when job that meets their criteria or experience is posted to give them the best chance of getting the job.

See, e.g., Article re LinkedIn Announcement, dated May 14, 2019, at https://mspoweruser.com/linkedin-announces-new-instant-job-alerts-and-new-recruiter-and-jobs-tool/

- The LinkedIn processing device of the Accused Instrumentalities generates a message containing the information regarding at least the job opening identified via the "Job Search Alert" algorithm. The message is designed to notify the user of the relevant job opening and is sent to the user specifically because of its responsiveness to the job search request of the user (as defined in the "Job Search Alert" setup).
- 62. As noted above, LinkedIn generates various forms of messages to users to alert them of new job openings matching their search criteria, including: (i) Email; and/or (ii) Notifications via the LinkedIn home page of the user.
- 63. The LinkedIn Accused Instrumentalities further includes a transmitter, which functions to transmit the message containing information regarding a job opening to a communication device associated with the individual associated with the "Job Search Alert." As noted above, the message is designed to notify the user of the relevant job opening in real-time and is sent to the user specifically because of its responsiveness to the job search request of the user (as defined in the "Job Search Alert" setup).
- 64. As noted above, LinkedIn generates various forms of messages to users to alert them of new job openings matching their search criteria, including: (i) Email; and/or (ii) Notifications via the LinkedIn home page of the user. The LinkedIn system comprises a transmitter for delivering the email notification to the user. The LinkedIn system further comprises a transmitter for delivering the Notification via the LinkedIn home page of the user.
- 65. The LinkedIn Notifications are delivered to the user in real-time, and it is the express purpose of the Notifications to be "Instant" and received by candidates "within minutes" so that the candidates are better situated to be hired.

Providing instant job notifications

We've invested in building a new set of instant job alerts to ensure sure candidates see jobs that are a good fit within minutes of it being posted, and we're making it easier for members to hear directly from their network when someone they know is hiring.

See, e.g., LinkedIn Talent Blog at https://business.linkedin.com/talent-solutions/blog/product-updates/2019/linkedins-products-evolving-support-new-world-of-work

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• New instant job alerts: Job seekers who are among the first 25 applicants are up to 3X more likely to land the job and LinkedIn want to make sure you see the jobs you want the minute they're posted. Their redesigned job alerts will send members a notification within minutes when job that meets their criteria or experience is posted to give them the best chance of getting the job.

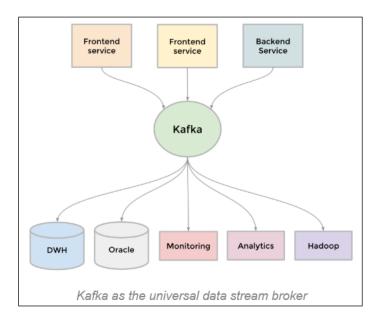
See, e.g., Article re LinkedIn Announcement, dated May 14, 2019, at https://mspoweruser.com/linkedin-announces-new-instant-job-alerts-and-new-recruiter-and-jobs-tool/

66. The LinkedIn Accused Instrumentalities is specifically designed and engineered for real-time responsiveness. Upon information and belief, the LinkedIn Kafka messaging platform of the Accused Instrumentalities is a "universal pipeline" throughout the LinkedIn architecture, provides near real-time access to any data point, allows for real-time analytics, and facilitates the monitoring and alerting capabilities of the site. *See, e.g.*, LinkedIn Engineering Article entitled: "A Brief History of Scaling LinkedIn," available at: https://engineering.linkedin.com/architecture/brief-history-scaling-linkedin (excerpted below).

Kafka

To collect its growing amount of data, LinkedIn developed many custom data pipelines for streaming and queueing data. For example, we needed our data to flow into data warehouse, we needed to send batches of data into our Hadoop workflow for analytics, we collected and aggregated logs from every service, we collected tracking events like pageviews, we needed queueing for our inMail messaging system, and we needed to keep our people search system up to date whenever someone updated their profile.

As the site grew, more of these custom pipelines emerged. As the site needed to scale, each individual pipeline needed to scale. Something had to give. The result was the development of Kafka, our distributed pub-sub messaging platform. Kafka became a universal pipeline, built around the concept of a commit log, and was built with speed and scalability in mind. It enabled near realtime access to any data source, empowered our Hadoop jobs, allowed us to build realtime analytics, vastly improved our site monitoring and alerting capability, and enabled us to visualize and track our call graphs. Today, Kafka handles well over 500 billion events per day.



67. The foregoing infringement on the part of Defendant has caused injury to Plaintiff. The amount of damages adequate to compensate for the infringement shall be determined at trial but is in no event less than a reasonable royalty from the date of first infringement to the expiration of the '086 Patent.

- 68. To the extent Defendant continues, and has continued, its infringing activities noted above in an infringing manner post-notice of the '194 Patent, such infringement is necessarily willful and deliberate. Plaintiff believes and contends that Defendant's continuance of its clear and inexcusable infringement of the '194 Patent post-notice is willful, wanton, malicious, bad-faith, deliberate, and/or consciously wrongful.
- 69. Including because of the foregoing, Plaintiff contends such activities by Defendant qualify this as an egregious case of misconduct beyond typical infringement, entitling Plaintiff to enhanced damages. Including based on the foregoing, Plaintiff requests an award enhanced damages, including treble damages, pursuant to 35 U.S.C. § 284.
- 70. Each of Defendant's aforesaid activities have been without authority and/or license from Plaintiff.

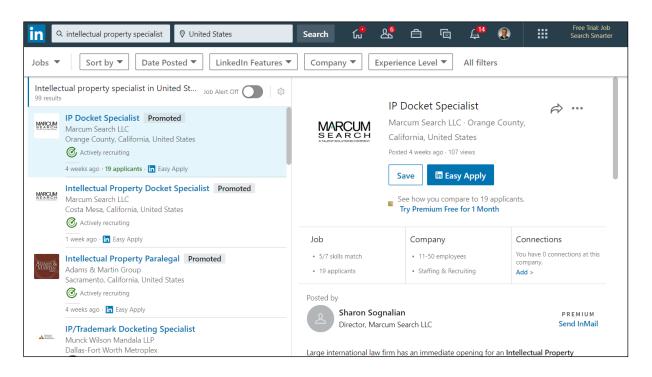
COUNT II Infringement of U.S. Patent No. 7,490,086

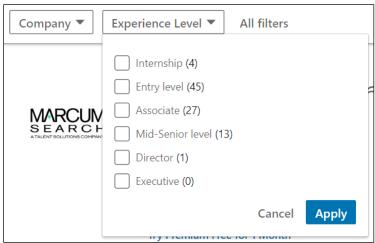
- 71. Plaintiff incorporates the above paragraphs by reference.
- 72. Defendant has been on actual notice of the '086 Patent at least as early as the date it received service of this Original Complaint.
- 73. Upon information and belief, Defendant owns and controls the operation of the Accused Instrumentalities and generates substantial financial revenues therefrom.
- 74. Upon information and belief, Defendant has directly infringed and continues to directly infringe at least Claim 1 of the '086 Patent by making, using, importing, selling, and/or, offering for sale the Accused Instrumentalities.
- 75. The LinkedIn system comprises an apparatus. The LinkedIn apparatus comprises servers, hardware, software, and a collection of related and/or linked web pages for providing job search services to individuals (including job seekers and employers) in the United States. The LinkedIn

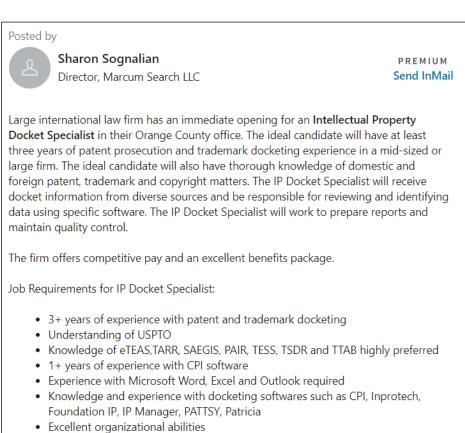
system comprises an apparatus with multiple interconnected infrastructures, including but not limited to what LinkedIn refers to as Streams, Search, Data Storage, Feed, and Machine Learning.

- 76. Upon information and belief, the servers for the LinkedIn system are in Newark, New Jersey and in Des Moines, Iowa.
- 77. Upon information and belief, the LinkedIn system comprises data centers housing memory devices, processing devices, and transmitters. Such data centers are in Oregon, Virginia, and Texas. See, e.g., Business Article "LinkedIn Expands With Texas Data Center," excerpted above, and available at: https://www.datacenterknowledge.com/archives/2013/11/06/linkedin-expands-with-dallas-data-center. The data center location in Texas is strategic and represents an important business advantage to LinkedIn's business model. See, e.g., LinkedIn Engineering Blog, excerpted above, and available at: https://engineering.linkedin.com/blog/2015/11/introducing-linkedins-west-coast-data-center.
- 78. The LinkedIn system comprises a sophisticated architecture, working together as an apparatus to provide employment and recruiting services to users throughout the United States. *See, e.g.,* LinkedIn Engineering Article entitled: "A Brief History of Scaling LinkedIn," available at: https://engineering.linkedin.com/architecture/brief-history-scaling-linkedin. The LinkedIn article explains how "geographically close data centers" facilitates and enhances the effectiveness of LinkedIn's business model for the benefit of its customers. *See* excerpts above.
- 79. The LinkedIn system comprises a memory device, which stores information regarding at least job openings, positions, assignments, contracts, and/or projects.
- 80. As noted above, the LinkedIn infrastructure comprises a "Storage Infrastructure," which efficiently stores large volumes of data. The "Storage Infrastructure" comprises, *inter alia*, data

- centers with servers which serve as memory devices for the system. Upon information and belief, the LinkedIn database is maintained in the Espresso datastore.
- 81. Upon information and belief, the LinkedIn system comprises multiple data centers in the United States, and each member is assigned a primary data center, as well as a secondary data center, depending on geographical distance from the member to the data centers.
- 82. The LinkedIn infrastructure further comprises a "Search Infrastructure," which provides a means for searching for posted Jobs. Data relating to each such "Job" is stored in memory devices (*e.g.*, servers) under the direction and control of LinkedIn, and responsive data is returned to a user of the LinkedIn system when queried. Upon information and belief, the "Job" information stored by the LinkedIn system includes all the following: job openings, positions, assignments, contracts, and projects.
- 83. The below example, which was conducted in Allen, Texas on June 9, 2020, illustrates the range of "Job" data stored by LinkedIn relating to a search for an "Intellectual Property Specialist" in the United States.







· Foreign & Domestic filing



See, e.g., LinkedIn.com search results at: https://www.linkedin.com/jobs/search/?currentJobId=1860548095&keywords=intellectual%20property%20specialist

- As illustrated, the LinkedIn system stores information on regarding at least "job openings," and such information includes at least the date posted, employer name, required experience level, number of applicants, job requirements, benefits, job description, name of person posting the information, industry, employment type, and an assessment of how the person performing the search satisfies the job criteria as posted.
- 85. The LinkedIn system comprises a memory device, which stores information on regarding a job search request or inquiry.
- 86. As noted above, the LinkedIn system comprises a memory device. Upon information and belief, each individual search performed by users of the LinkedIn system are stored in memory by LinkedIn to generate responsive search results to the user (as illustrated above).
- 87. Further upon information and belief, information regarding each job search performed by users is stored by LinkedIn to improving and informing its internal algorithms and its Search Infrastructure. As advertised by LinkedIn, information regarding job search requests are incorporated into the "Search Infrastructure," which is powered by bringing together

"information retrieval, machine learning, distributed systems, big data, and other fundamental areas of computer science."

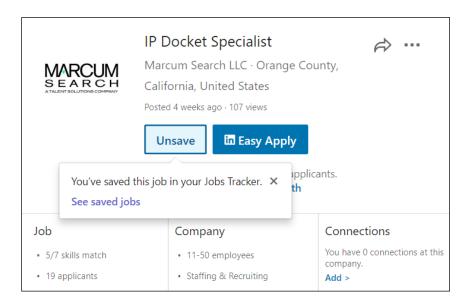
88. Upon information and belief, the LinkedIn system stores information regarding each job search performed, which is evidenced by the fact that individual job postings reflect the total number of times it has been viewed, as well as the total number of applicants for the position. By way of example, the illustrative job opening cited above (and copied again below) indicates it has been "viewed" 107 times and has received 19 applicants.



89. Upon information and belief, the LinkedIn system stores information regarding job search requests and/or inquiries, which is evidenced by the fact that users of the LinkedIn system can set "Job Search Alerts." Upon information and belief, a LinkedIn "Job Search Alert" relies upon stored information regarding the user's job search request or inquiry, which is used to generate responsive emails and/or notifications to the user. By way of example, the above-referenced job search for an "Intellectual Property Specialist in the United States" can be used as the basis for a daily or weekly "Job Search Alert."



90. In addition, upon information and belief, the LinkedIn system stores information regarding job search requests and/or inquiries, which is evidenced by the fact that users of the LinkedIn system can "Save" a job in a "Jobs Tracker." For example:



91. The LinkedIn system comprises a processing device. As noted above, the LinkedIn system comprises servers, hardware, software, and a collection of related and/or linked web pages for providing job search services to individuals (including job seekers and employers) in the United States. The LinkedIn system comprises an apparatus with multiple interconnected infrastructures, including but not limited to what LinkedIn refers to as Streams, Search, Data Storage, Feed, and Machine Learning.

- 92. The LinkedIn "Search Infrastructure" comprises a processing device, which allows users of the LinkedIn system so search for people, jobs, companies, groups, and other professional content. To power these solutions, the LinkedIn Search Infrastructure brings together information retrieval, machine learning, distributed systems, big data, and other fundamental areas of computer science.
- 93. As explained by LinkedIn, the processing device of the system comprises at least a "Federation Layer," a "Serving Platform," and a "Search Engine." For example:

At the top of the search stack is a federation layer that allows our members to find and discover content across many products. It is the gateway to search at LinkedIn as it is used by all customer-facing products across the company. It also powers critical search capabilities like typeahead, query understanding, spell checking, and results blending.

Domain specific search queries are then handled by the serving platform, which provides a distributed system and operability layer that integrates with LinkedIn's internal cloud. This layer includes mechanisms for cluster management, data distribution, cross-component communications, deployment management, and real-time metrics and diagnostics.

At the core is a search engine that powers our retrieval and ranking. Our architecture combines proprietary and open source technologies to allow us to efficiently scale across thousands of machines, while keeping the searchable data updated in real-time. We also partner closely with data scientists to build and serve performant online scoring models since machine learning is central to returning the best results.

See, e.g., LinkedIn Engineering Infrastructure Page at https://engineering.linkedin.com/teams/data/data-infrastructure/search-and-discovery

94. The LinkedIn processing device processes the information regarding a job search request or inquiry upon a detection of an occurrence of a searching event, wherein the searching event is an occurrence of at least one of the following: (i) a job posting by at least one employer or at least one hiring entity; (ii) a posting of new or revised data or information from at least one individual or a group of individuals; (iii) an event which creates an interest by at least one employer or at

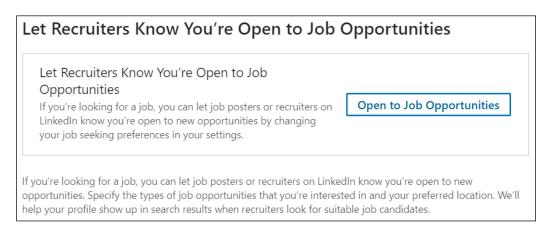
least one hiring entity to fill a position; and/or (iv) an event which creates an interest by at least one individual to seek a position.

As noted above, the LinkedIn system allows users to set "Job Search Alerts." Upon information and belief, a LinkedIn "Job Search Alert" relies upon stored information regarding the user's job search request or inquiry, which is used to generate responsive emails and/or notifications to the user. By way of example, the above-referenced job search for an "Intellectual Property Specialist in the United States" can be used as the basis for a daily or weekly "Job Search Alert."



96. Upon information and belief, the LinkedIn processing device causes an Email or Notification to be delivered to the creator of the Job Search Alert upon a detection on the part of LinkedIn of one or more of the following: (i) an occurrence of a job posting by an employer or hiring entity; (ii) a posting of new or revised data or information from at least one individual or a group of individuals; (iii) an event which creates an interest by at least one employer or at least one hiring entity to fill a position; and/or (iv) an event which creates an interest by at least one individual to seek a position. By way of example, when an employer creates a job posting which matches the "Job Search Alert" criteria, the user is notified.

97. Likewise, the LinkedIn system allows employers and/or job recruiters to search for potential qualified employees. As part of this service, LinkedIn allows users to inform recruiters of their individual interest in seeking employment opportunities. Upon information and belief, the LinkedIn processing device processes information regarding a job search request or inquiry (e.g., the notice of a user's interest in seeking particular employment opportunities) upon a detection of an occurrence of a searching event, wherein such event is at least one of the following: (i) a posting of new or revised data or information from at least one individual or a group of individuals; and/or (ii) an event which creates an interest by at least one employer or at least one hiring entity to fill a position. For example:



See, e.g., LinkedIn Help Page at https://www.linkedin.com/help/linkedin/answer/67405

- 98. The LinkedIn processing device automatically detects the searching event occurrences.
- 99. As noted above, the LinkedIn "Job Search Alert," for example, automatically detects at least a job posting by a hiring entity which meets the criteria established for the Alert, and thereafter delivers a daily or weekly "Job Search Alert" to the LinkedIn user.
- 100. Further, the user can receive notifications of new job openings matching the skills of the user through the LinkedIn Notifications Tab. Job Alerts can be viewed at any time.

- 101. The LinkedIn processing device utilizes the information regarding at least a job opening, which is stored in the memory device (as discussed above) in processing the information regarding a job search request.
- 102. As noted above, the LinkedIn "Job Search Alert," for example, automatically detects at least a job posting by a hiring entity meeting the criteria established for the Alert, and thereafter delivers a daily or weekly "Job Search Alert" to the LinkedIn user. In processing the "Job Search Alert," the LinkedIn processing device utilizes the elements of both the "Job Search" as defined by the user, as well as the details of the job posting of the hiring entity. Upon information and belief, when the LinkedIn processing device finds a match between the "Job Search" elements and the corresponding details of the job posting, an Alert is triggered for the user. Upon information and belief, the user can receive alerts within minutes of posting.

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See, e.g., Article re LinkedIn Announcement, dated May 14, 2019, at https://mspoweruser.com/linkedin-announces-new-instant-job-alerts-and-new-recruiter-and-jobs-tool/

- 103. The LinkedIn processing device generates a message containing the information regarding at least the job opening identified via the "Job Search Alert" algorithm. The message is designed to notify the user of the relevant job opening and is sent to the user specifically because of its responsiveness to the job search request of the user (as defined in the "Job Search Alert" setup).
- 104. As noted above, LinkedIn generates various forms of messages to users to alert them of new job openings matching their search criteria, including: (i) Email; and/or (ii) Notifications via the LinkedIn home page of the user.
- 105. The LinkedIn system further includes a transmitter, which functions to transmit the message containing information regarding a job opening to a communication device associated with the individual associated with the "Job Search Alert." As noted above, the message is designed to notify the user of the relevant job opening and is sent to the user specifically because of its responsiveness to the job search request of the user (as defined in the "Job Search Alert" setup).
- 106. As noted above, LinkedIn generates various forms of messages to users to alert them of new job openings matching their search criteria, including: (i) Email; and/or (ii) Notifications via the LinkedIn home page of the user. The LinkedIn system comprises a transmitter for delivering the email notification to the user. The LinkedIn system further comprises a transmitter for delivering the Notification via the LinkedIn home page of the user.
- 107. The foregoing infringement on the part of Defendant has caused injury to Plaintiff. The amount of damages adequate to compensate for the infringement shall be determined at trial but is in no event less than a reasonable royalty from the date of first infringement to the expiration of the '086 Patent.
- 108. To the extent Defendant continues, and has continued, its infringing activities noted above in an infringing manner post-notice of the '086 Patent, such infringement is necessarily willful and

deliberate. Plaintiff believes and contends that Defendant's continuance of its clear and inexcusable infringement of the '086 Patent post-notice is willful, wanton, malicious, bad-faith, deliberate, and/or consciously wrongful.

- 109. Including because of the foregoing, Plaintiff contends such activities by Defendant qualify this as an egregious case of misconduct beyond typical infringement, entitling Plaintiff to enhanced damages. Including based on the foregoing, Plaintiff requests an award enhanced damages, including treble damages, pursuant to 35 U.S.C. § 284.
- 110. Each of Defendant's aforesaid activities have been without authority and/or license from Plaintiff.

PRAYER FOR RELIEF

WHEREFORE, GreatGigz Solutions, LLC respectfully requests the Court enter judgment against Defendant as follows:

- 1. Declaring that Defendant has infringed each of the Asserted Patents;
- Awarding GreatGigz Solutions, LLC its damages suffered because of Defendant's infringement of the Asserted Patents;
- 3. Awarding GreatGigz Solutions, LLC its costs, attorneys' fees, expenses, and interest;
- 4. Awarding GreatGigz Solutions, LLC ongoing post-trial royalties; and
- 5. Granting GreatGigz Solutions, LLC such further relief as the Court finds appropriate.

JURY DEMAND

GreatGigz Solutions, LLC demands trial by jury, under Fed. R. Civ. P. 38.

Dated: June 17, 2020 Respectfully Submitted

/s/ Thomas Fasone III Thomas Fasone III Texas Bar No. 00785382 tfasone@ghiplaw.com M. Scott Fuller Texas Bar No. 24036607 sfuller@ghiplaw.com René A. Vazquez Pro Hac Vice Anticipated rvazquez@ghiplaw.com Randall Garteiser rgarteiser@ghiplaw.com Pro Hac Vice Anticipated Christopher Honea chonea@ghiplaw.com Pro Hac Vice Anticipated

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