

Keywords: 35 U.S.C. § 101, patentability/validity, patentable subject matter, Alice-Mayo framework

Electric Power Group, LLC v. Alstom S.A., Alstom Grid, Inc., Psymetrix, Ltd., Alstom Limited

U.S. Court of Appeals Federal Circuit

Case No. 2015-1778

Decided August 1, 2016

I. Background

Electric Power Group LLC owns U.S. Patent No. 7,233,843 (“the ’843 patent”), U.S. Patent No. 8,060,259 (“the ’259 patent”), and U.S. Patent No. 8,401,710 (“the ’710 patent”). These patents describe and claim systems and methods for performing real-time performance monitoring of an electric power grid by collecting data from multiple data sources, analyzing the data, and displaying the results. Electric Power Group LLC sued Alstom S.A., Alstom Grid, Inc., Psymetrix Limited, and Alstom Limited (collectively, Alstom) in the Central District of California, alleging infringement of various claims of the three patents.

The district court treated claim 12 of the ’710 patent as representative (reproduced below) and granted Alstom summary judgment that the subject matter of Electric Power Group’s asserted patent claims fails the tests for patent eligibility under governing precedent. Specifically, the court concluded that the claims are directed to “the abstract idea of monitoring and analyzing data from disparate sources.” J.A. 27. The court then determined that the asserted claims lack an inventive concept in the application of that abstract idea, observing in particular that the “most significant additional limitations... are those that limit the claim[s] to monitoring and analyzing data in the context of electric power grids.” J.A. 28.

Claim 12 of the the ’710 patent is representative of the claims at issue. It reads:

12. A method of detecting events on an interconnected electric power grid in real time over a wide area and automatically analyzing the events on the interconnected electric power grid, the method comprising:
 - receiving a plurality of data streams, each of the data streams comprising sub-second, time stamped synchronized phasor measurements wherein the measurements in each stream are collected in real time at geographically distinct points over the wide area of the interconnected electric power grid, the wide area comprising at least two elements from among control areas, transmission companies, utilities, regional reliability coordinators, and reliability jurisdictions;
 - receiving data from other power system data sources, the other power system data sources comprising at least one of transmission maps, power plant locations, EMS/SCADA systems;
 - receiving data from a plurality of non-grid data sources;
 - detecting and analyzing events in real-time from the plurality of data streams from the wide area based on at least one of limits, sensitivities and rates of change for one or more measurements from the data streams and dynamic stability metrics derived from analysis of the measurements from the data streams including at least one of frequency instability, voltages, power flows, phase angles, damping, and oscillation modes, derived from the phasor measurements and the other power system data sources in which the metrics are indicative of events, grid stress, and/or grid instability, over the wide area;

displaying the event analysis results and diagnoses of events and associated ones of the metrics from different categories of data and the derived metrics in visuals, tables, charts, or combinations thereof, the data comprising at least one of monitoring data, tracking data, historical data, prediction data, and summary data;

displaying concurrent visualization of measurements from the data streams and the dynamic stability metrics directed to the wide area of the interconnected electric power grid;

accumulating and updating the measurements from the data streams and the dynamic stability metrics, grid data, and non-grid data in real time as to wide area and local area portions of the interconnected electric power grid; and

deriving a composite indicator of reliability that is an indicator of power grid vulnerability and is derived from a combination of one or more real time measurements or computations of measurements from the data streams and the dynamic stability metrics covering the wide area as well as non-power grid data received from the non-grid data source.

II. Issues

Did the district court err in finding that the asserted claims do not define subject matter that is eligible for patenting under § 101?

III. Discussion

No. The Federal Circuit ruled in favor of Alstom and affirmed the district court’s decision. The Federal Circuit held that though lengthy and numerous, the claims do not go beyond requiring the collection, analysis, and display of available information in a particular field, stating those functions in general terms, without limiting them to technical means for performing the functions that are arguably an advance over conventional computer and network technology. The claims, defining a desirable information-based result and not limited to inventive means of achieving the result, fail under § 101.

Section 101 provides that “[w]hoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.” 35 U.S.C. § 101. The provision, however, “contains an important implicit exception: Laws of nature, natural phenomena, and abstract ideas are not patentable.” *Alice Corp. v. CLS Bank Int’l*, 134 S. Ct. 2347, 2354 (2014). In arriving at affirmation that the asserted claims do not define subject matter that is eligible for patenting under § 101, the Federal Circuit relied on a two-state framework setup by the Supreme Court, which held:

A claim falls outside § 101 where (1) it is “directed to” a patent-ineligible concept, i.e., a law of nature, natural phenomenon, or abstract idea, and (2), if so, the particular elements of the claim, considered “both individually and ‘as an ordered combination,’” do not add enough to “‘transform the nature of the claim’ into a patent-eligible application.” *Id.* at 2355.

Reflecting those points, the Federal Circuit described the first-stage inquiry as looking at the “focus” of the claims, their “‘character as a whole,’” and the second-stage inquiry as looking more precisely at what the claim elements add—specifically, in the Supreme Court’s terms, whether they identify an “‘inventive concept’” in the application of the ineligible matter to which the claim is directed.

With respect to the first-stage inquiry, the Federal Circuit concluded that the claims at issue require the reception of real-time data coming in from a wide geographical distribution; analyzing the data for instability that may be indicative of grid stress; displaying visualizations of the stability metrics; storing the data; and deriving a composite indicator of power grid reliability. This sequence – even when taken as a whole – is an abstract idea. Thus, a collection of abstract ideas is itself likely to be an abstract idea.

With respect to the second-stage inquiry, the Federal Circuit asked whether the claims require “something more” than the abstract idea that is sufficient to serve as a foundation for the invention. Although not entirely clear, this “something more” is generally thought to require an inventive concept – a point of novelty sufficient to transform the idea into a patent eligible invention. Here, the Federal Circuit found that none of the sources of information, analysis & display techniques, or measures were new or inventive and, accordingly, the decision of the district court.

Summarized below are some aspects considered by the Federal Circuit to determine whether the claims at issue could be read as passing the two-stage test:

Claim Recitation: Stage 1	Patentable
Collecting information, including when limited to particular content	No
Changing its character as information	Yes
Analyzing information by steps people go through in their minds, or by mathematical algorithms, without more; merely presenting the results of abstract processes of collecting and analyzing information, without more	No
Identifying a particular tool for presentation	Yes
A process of gathering and analyzing information of a specified content, then displaying the results	No
Particularly asserting inventive technology for performing those functions	Yes
Using existing computers as tools in aid of processes focused on abstract ideas	No
Processes that improves computer functionality	Yes

Claim Recitation: Stage 2	Patentable
Merely selecting information, by content or source, for collection, analysis, and display does nothing significant to differentiate a process from ordinary mental processes	No
Requiring a new source or type of information, or new techniques for analyzing it; requiring inventive set of components or methods, such as a measurement devices or techniques, that would generate new data	Yes
Selection and manipulation of information to provide a humanly comprehensible amount of information useful for users	No
Inventive programming, transforming the otherwise-abstract processes of information collection and analysis	Yes
Collection, analysis, and display functions on a set of generic computer components	No
Requiring nonconventional computer, network, or display components, or a non-conventional and non-generic arrangement; inventive device or technique for displaying information; inventive distribution of functionality within a network	Yes

IV. Conclusion

The Federal Circuit affirmed the judgment of the district court. Based on Supreme Court’s framework, the claims at issue fail to meet the standard for patent eligibility under § 101.