

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

TESLA, INC.,
Petitioner,

v.

THE UNITED STATES OF AMERICA AS REPRESENTED BY THE
SECRETARY OF THE NAVY, AND
INTELLECTUAL VENTURES II LLC
Patent Owner.

IPR2025-00341
U.S. Patent No. 7,181,743

**PETITIONER'S REQUEST FOR REHEARING UNDER
37 C.F.R. § 42.71(d)**

I. Introduction

Petitioner Tesla, Inc. (“Tesla”) requests rehearing under 37 C.F.R. § 42.71(d) of the Board’s Institution Decision dated July 24, 2025 (“DI”) (Paper 14). The Board misapprehended or overlooked the Petition’s identification of Welch’s calculation of “path-level QoS metrics” as teaching “*event correlation capabilities*” in limitation [10.2] and instead limited its analysis to the Petition’s discussion of “aggregation.” DI, 15. Relatedly, the Board overlooked the Petition’s explanation that calculating “path-level QoS metrics” is how the ’743 patent itself describes “*correlation capabilities*.” Petition, 45. It makes sense that the Welch whitepaper describes event correlation in the same way as the ’743 patent—they describe the same system. Four of the five inventors of the ’743 patent are authors of Welch. In other words, the inventors of the ’743 patent had already disclosed the claimed QoS management software in the Welch whitepaper before describing it again in the ’743 patent. Petition, 6, 18, 20. The Board similarly overlooked this important context.

It was thus error to deny institution based on the mapping of “*event correlation*” when the Board overlooked that the Petition mapped to the very thing the ’743 patent describes as “*event correlation*”: QoS metrics calculation. For at least this reason, Petitioner respectfully requests rehearing.

II. Standard of Review

When rehearing a decision on whether to institute a trial, the Board reviews the decision for an abuse of discretion. 37 C.F.R. § 42.71(c). “An abuse of discretion occurs where the decision is based on an erroneous interpretation of the law, on factual findings that are not supported by substantial evidence, or represents an unreasonable judgment in weighing relevant factors.” *Star Fruits S.N.C. v. United States*, 393 F.3d 1277, 1281 (Fed. Cir. 2005). The party requesting rehearing “must specifically identify all matters [it] believes the Board misapprehended or overlooked, and the place where each matter was previously addressed.” 37 C.F.R. § 42.71(d).

III. The Board misapprehended or overlooked the Petition's identification of Welch's “path-level QoS metrics” calculations as teaching the claimed “*event correlation capabilities*” of limitation [10.2].

The Board denied institution by misapprehending or overlooking that the Petition relied on Welch's calculation of path-level QoS metrics as teaching the claimed “*event correlation capabilities*” recited in limitation [10.2]. DI, 12-14. While focusing on the Petition's use of the word “aggregation,” the Board overlooked the Petition's explanation that Welch teaches “correlating” as it is described in the '743 patent. DI, 14-15; Petition, 44-45.

The Petition identifies Welch's calculation of “path-level QoS metrics” as teaching the claimed event correlation. Petition, 44-45. As stated in the Petition:

Welch's software monitors and metrics calculation component aggregate the information received from the real time control systems (RTCS) through the software monitors: "The application programs of real-time control paths send timestamped events to the metrics calculation component, which **calculates path-level QoS metrics** and sends them to the QoS monitor." Ex.1005, 2. Petition, 45 (analysis of limitation [10.2]).

With respect to this passage in the Petition, the Board indicates: "[t]he claim, however, requires 'correlation' not 'aggregation,' and Petitioner provides no basis for conflating those distinct concepts." DI, 15. But the Board misapprehends or overlooks that the Petition relies on Welch's calculation of path-level QoS metrics for the claimed "*event correlation capabilities*," not just mere aggregation. Specifically, as indicated in the above-cited portion of the Petition addressing limitation [10.2], Welch's metrics calculation component "calculates path-level QoS metrics and sends them to the QoS monitor." Petition, 45 (citing Ex. 1005, 2–3). And importantly, the metrics calculation identified in the prior art *is what the '743 patent itself describes as "correlating,"* as also explained in the Petition:

This is similar to how correlation capabilities are described in the '743 patent. *See* Ex.1001, 7:51-54 ("The system also provides grammar-driven capabilities for **correlating**, combining, and reformatting application **data into higher-level metrics**

(composite events) for use by displays or other Resource Management components.”).

Petition, 45 (citing Ex.1001, 7:51-54).

Indeed, the Board appears to recognize that Welch teaches the same type of event reporting and event correlation capabilities described and claimed in the '743 patent. DI, 12. Referring to Welch's events, the Board states that “[t]hose are the types of events contemplated in the system of the '743 patent, which explains that ‘[c]apabilities are provided for collecting and correlating application-provided data’ Ex. 1001, 7:42–45.” DI, 12. In other words, the Board overlooked the Petition's identification of event metrics calculation as the claimed “*correlation*,” despite recognizing that the '743 patent equates event metrics calculation with “correlating.”

For at least these reasons, the Board misapprehended the Petition's showing that Welch's calculation of path-level QoS metrics teaches the claimed “*event correlation capabilities*.” The cited portions of Welch describe “*event correlation capabilities*” as they are described in the '743 patent and for this reason alone, the Petition establishes a reasonable likelihood that the claims are unpatentable.

IV. The Board also misapprehended Petitioner's argument that calculation of QoS metrics teaches “*event correlation capabilities*” because the metrics are for applications that correlate radar data.

The reasons presented in Section III above are sufficient to grant rehearing.

Petitioner presents the following explanation to address the Board's understanding that Petitioner "mischaracterize[d]" the disclosure of Welch. DI, 12. On the contrary, the Board misapprehended how the Petition relies on Welch's "track correlation and filtering algorithms." Petition, 44-45. Contrary to the DI, the Petition does not ascribe these algorithms to the metrics calculation component, but rather to Welch's overall "implementation." Petition, 44-45. The Board thus misunderstood Petitioner's position, which is that by calculating QoS metrics *for* an application that correlates radar data, the metrics calculation component has "*event correlation capabilities*" as broadly claimed. Petition, 41-45.

The Board misapprehended the Petition to be asserting that Welch's **metrics calculation component** includes the "track correlation and filtering algorithms." DI, 12 ("This, we find, mischaracterizes Welch's disclosure, because Welch's metrics calculation component does not perform the identified 'correlation.'"). This finding is a misapprehension of the Petition.

Specifically, the Petition identifies Welch's QoS management software "**implementation**"—not the metrics calculation component—as having the "track correlation and filtering algorithms." Petition, 44-45 ("Welch's metrics calculation ... provides '*event correlation capabilities*' because **the QoS management software 'implementation** includes the following capabilities: ... (2) track correlation and filtering algorithms.'") (emphasis added). Thus, the Petition

showed that because the metrics calculation component calculates path-level QoS metrics **for** RTCS applications that have algorithms for correlating radar data, the metrics calculation component has “*event correlation capabilities*” as broadly claimed. *Id.*

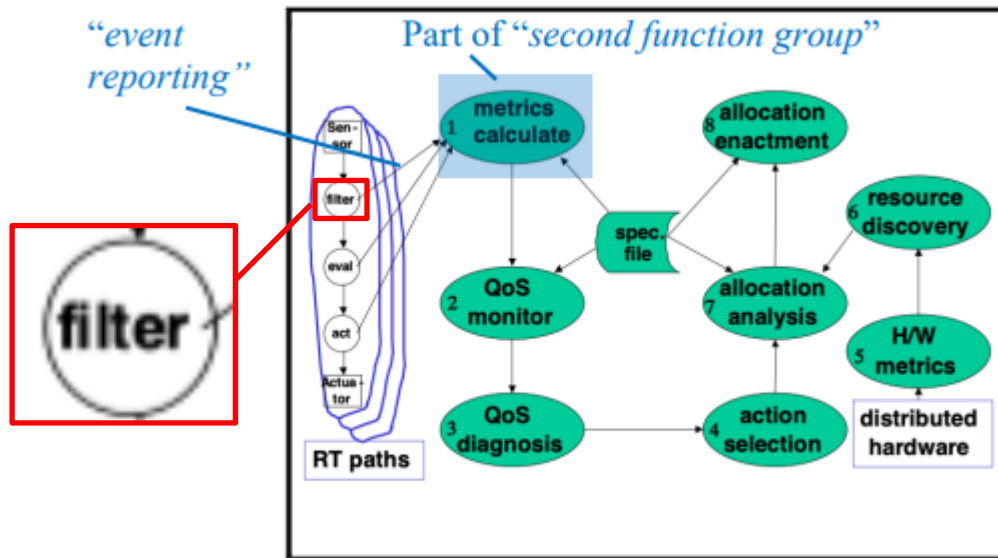
The Board nevertheless found that “Petitioner does not explain, and we do not see, what use a middleware system would have for information such as whether a missile was or was not on a particular path.” DI, 15. But the claims are not limited to “middleware,” as the Board’s decision indicated. DI, 13 (“The **middleware** described and **claimed in the ’743** is concerned with how applications are performing, not what they [are] doing.”). Nowhere do the claims recite the term “middleware.” Instead, the preamble of the claim defines the scope more broadly as “software.” *See* Ex.1001, claim 10 (“*Software stored on at least one host ..., the software comprising:*”); Petition, 28-29 (showing that Welch’s QoS management software teaches the claimed “*Software*”). Considering the proper scope of the claims, the Petition relies more generally on Welch’s overall system implementation.

Welch’s overall software “implementation” includes QoS management software that manages the shipboard anti-air-warfare (AAW) control system

software. Welch explains that its “implementation”—not the testbed¹—includes the “track correlation and filtering algorithms.” Petition, 44-45 (“[Welch’s] QoS management software ‘implementation includes the following **capabilities**:...(2) track **correlation** and filtering algorithms.’”) (emphasis original) (citing Ex.1003, 4); *see also* Ex.1005, 4 (“The technology described in this paper was **evaluated within** the Naval Surface Warfare Center High Performance Computing (NSWC HiPer-D) Testbed, which contains the experimental Navy system described in [10].”); Ex.2006 (Paper [10] referred to by Welch), 2 (describing a “shipboard anti-air-warfare (AAW) control system which has been **implemented within** the HiPer-D Testbed.”)

As shown in Fig. 1 below, Welch’s metrics calculation component receives events from the “filter” application, which refers to the “track correlation and filtering algorithms” of the shipboard AAW control system.

¹ It is the shipboard AAW control system that includes the “track correlation and filtering algorithms” referred to by Welch, and not the testbed as the Board states. DI, 10, 12.



Ex.1005, Fig. 1 (annotated); Ex.1003, ¶152.

Petition, 41 (annotated to enlarge “filter”).

Accordingly, the Petition analyzed Welch’s overall “implementation” and showed that the metrics calculation component calculates QoS metrics for the “track correlation and filtering” algorithms of the shipboard AAW control system. Petition, 41-45. Notably, the QoS management software that manages a shipboard AAW control system in Welch is the same example described in the ’743 patent, as illustrated in Figs. 5A and 5B, shown below.

FIG. 5A

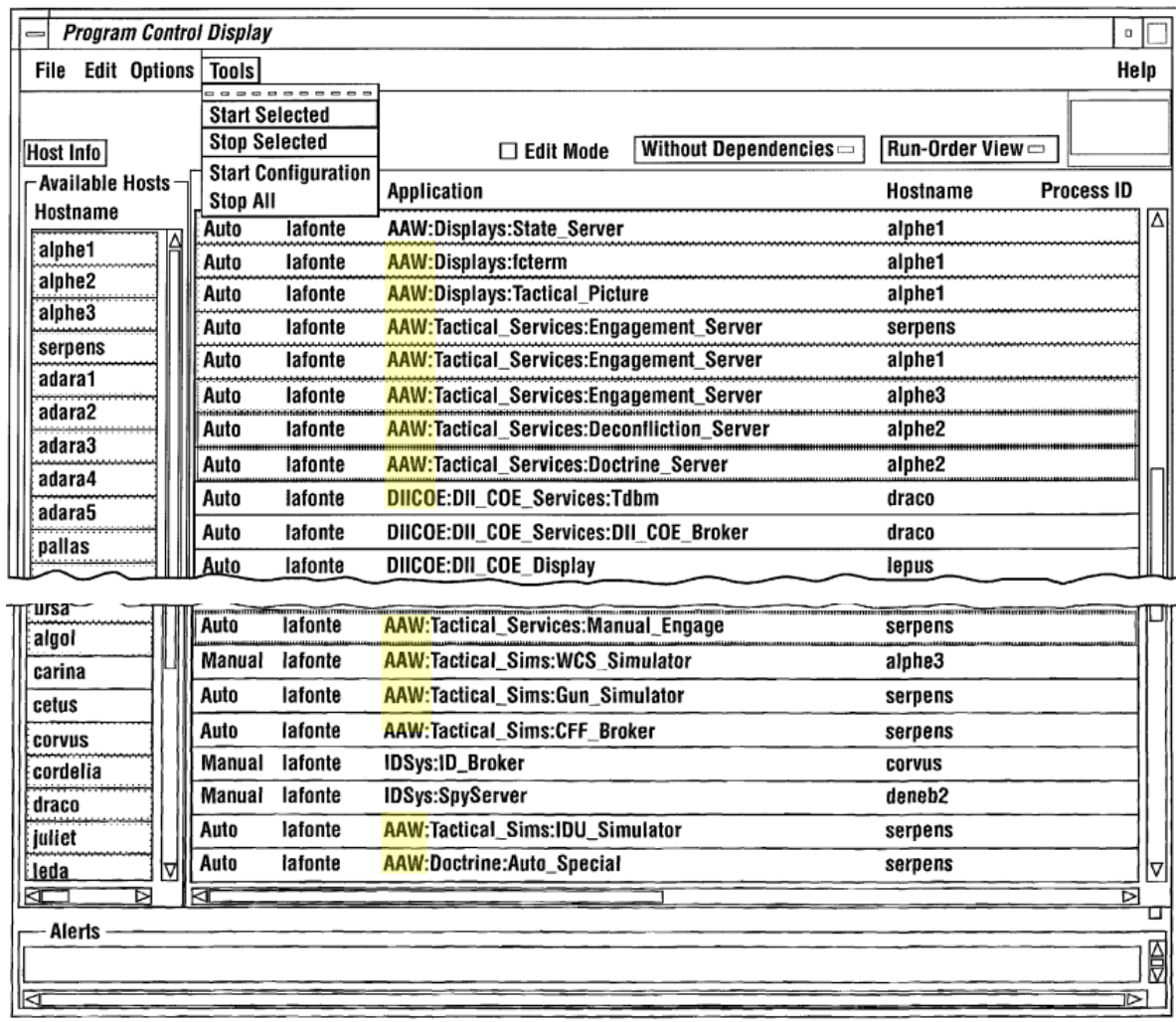


FIG. 5B

Ex.1001, Figs. 5A and 5B; POPR Reply, 2.

Given that Welch describes the same AAW example as described in the '743 patent, there is no reason for the claimed "*event correlation capabilities*" to exclude calculating path-level QoS metrics for applications that correlate radar

data, as Petitioner argued in its reply to the POPR. POPR Reply (Paper 11), 1-3.

For at least these reasons as well, the Board misapprehended the Petition's analysis of how Welch's metrics calculation component has "*event correlation capabilities*" because it calculates path-level QoS metrics for applications that "correlate" radar data.

V. Conclusion

In summary, the Board misapprehended the way the Petition relies on Welch's teachings regarding claimed "*event correlation capabilities*." Welch's metrics calculation component has event correlation capabilities at least because it calculates path-level QoS metrics—which are aggregated and supplied to QoS monitors. Additionally, those path-level QoS metrics are for applications that "correlate" radar data. In either case, Welch teaches "*event correlation capabilities*" in the same way as described in the '743 patent—and the Petition specifically identified those portions of Welch.

Petitioner respectfully requests that the Board reconsider its decision on institution, grant rehearing, and institute trial.

Respectfully submitted,

Dated: August 22, 2025
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CERTIFICATE OF SERVICE

The undersigned certifies that, in accordance with 37 C.F.R. § 42.6(e),
service was made on Patent Owner as detailed below.

Date of service August 22, 2025

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