

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
(INTELLECTUAL VENTURES II LLC)

Patent Owner.

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

**PATENT OWNER'S AUTHORIZED SUR-REPLY
TO PETITIONER'S AUTHORIZED REPLY**

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I. Petitioner's New Theory Must be Excluded

The Reply asserts:

Welch's system includes "track correlation and filtering algorithms," which are software components that correlate sensor data events. *See* Ex.1005, 4; Petition, 45. *And the Naval Surface Warfare Center High Performance Computing testbed described by Welch is a simulator and thus radar detection events are software "events" that are identified and responded to by Welch's system.* *See* Ex.1005, 4; Petition, 45-46. The Board should thus reject Patent Owner's claim interpretation, which improperly adds limitations to the term "event." Reply, 3 (emphasis added).

The Petition makes no mention of a "testbed" or a "simulator." While the Reply cites to the Petition at 45-46 for the proposition emphasized in the quote above, neither those pages (nor any others) in the Petition make this assertion. This new theory attempts to shift the mapping of element [10.2] from Welch's QoS manager (as argued in the Petition) to the missile-tracking application being monitored, and must be rejected as procedurally improper. *Intelligent Bio-Systems, Inc. v. Illumina Cambridge Ltd.*, 821 F.3d 1359, 1369-70 (Fed. Cir. 2016).

A reply may not introduce a new rationale how the prior art purportedly meets the claims. 37 C.F.R. § 42.23(b). The Petition asserted that the QoS-management software itself "provides 'event correlation capabilities' because the implementation includes ... (2) track correlation and filtering algorithms." Pet. 44-45. Petitioner's expert repeated the point verbatim, mapping the claim's "second function group" to the metrics-calculation component of Welch's QoS service and relying on the single sentence in Welch that lists "track correlation and filtering algorithms." Ex. 1003,

158. Absent from the Reply is any rebuttal to the arguments in the POPR articulating why Welch's QoS management software fails to meet limitation [10.2].

II. Petitioner Fails to Construe “Event” and Offers No Coherent Theory Linking Welch’s Sensor Data to the Claimed Application-Level Events

Relying on the specification's characterization of event reporting and correlation capabilities as being "general-purpose" capabilities, the Reply argues for an expansive interpretation of "event" that goes far beyond anything contemplated by the specification. Reply, 1. As explained in the specification:

... The instrumentation function group provides general-purpose application event reporting and event correlation capabilities. Capabilities are provided for collecting and correlating application-provided data such as application statuses, states, performance, and internally detected errors. Low-overhead (API) libraries are provided for applications to use in sending out key internal event and performance data. This application data is forwarded to other components of the instrumentation subsystem which collect data from applications on hosts throughout the distributed environment. 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. Ex. 1001, 7:40-54 (emphasis added).

When viewed in context, it is clear that the specification uses the phrase "general-purpose application event" as an umbrella term to cover various types of "internal event and performance data" such as "application statuses, states, performance, and internally detected errors." The specification also refers to such

"internal event and performance data" as "application-level" information.¹ As the above-quoted passage makes clear, such information is used by "Resource Management components" which, as explained elsewhere, makes application-level decisions such as "how to respond to host and application failures" and "when and where scalable application should be started or stopped. Ex. 1001, 6:49-59 and 19:62-64 ("application-level information includes where specific applications can be run, which applications are scalable, which applications can be restarted") Petitioner's expansive reading of "events" as including domain-level data like radar signals makes little sense in this context, because radar signals would be of no use in making application-level decisions such as "how to respond to host and application failures" and "when and where scalable application should be started or stopped." Petitioner's expansive interpretation of "general-purpose application events" as including radar signals is divorced from the specification as a whole.

While Petitioner criticizes Patent Owner's construction, Petitioner provides no construction of its own of "event," nor does Petitioner explain how a POSITA would interpret that term in light of the specification. Petitioner invokes the "plain and ordinary meaning" of "event" without ascribing any meaning to the term. However,

¹ Ex. 1001, 21:23-28 ("application-level performance requirements" are monitored to "determine if applications or application paths are meeting their assigned requirements") and 22:51-53 ("application-level instrumentation data indicating current application performance values.")

when relying on its plain meaning does not resolve the dispute, a more specific construction is required. *O2 Micro Int'l Ltd. v. Beyond Innovation Tech. Co.*, 521 F.3d 1351, 1361 (Fed. Cir. 2008). Here, Petitioner fails to offer a coherent theory of how Welch allegedly meets the claim language because it never explains what "event" means. Because Petitioner fails to engage with the specification as a whole, its conclusory invocation of "plain meaning" is inadequate.

III. Even if Considered, the New Theory Still Fails—Radar Track-Filtering is Not Application-Level Event Correlation

Welch's "track correlation and filtering algorithms" indisputably process sensor data to generate refined radar tracks for weapon-engagement logic, as confirmed by "Challenges in Engineering Distributed Shipboard Control Systems" (EX2006). They do not monitor or correlate software-application status events such as performance metrics, error conditions, or deadline misses. By contrast, the '743 patent's second function group aggregates application-generated events—messages emitted by running programs—and interprets them, via a run-time grammar, into composite events that drive dynamic resource reallocation. Correlating external radar echoes into target tracks neither diagnoses nor manages the performance of the radar-tracking application itself, and thus cannot satisfy the claimed limitation.

IV. The Claims Require Monitoring Individually Identifiable Application Programs, Not an Undifferentiated Group

The challenged claims recite "monitoring M managed-characteristic

application computer programs” and later determining the “state and health” of those programs, “where M and N are positive integers and where M may be equal to, greater than, or less than N.” By tying the analysis to the integer M, the drafter made clear that the system treats every one of the M programs as a separately identifiable member of a counted set. *SynQor v. Artesyn*, 709 F.3d 1365, 1375 (Fed. Cir. 2013) (construing “a plurality of ... converters” to require more than one distinct converter, rejecting an interpretation that collapsed them into a single block) and *Apple Inc. v. MPH Techs. Oy*, 28 F.4th 254, 262 (Fed. Cir. 2022) (usage of a plural term may “represent an effort to achieve grammatical consistency with another term.”) Accordingly, the use of a plural noun in combination with an explicit integer variable requires monitoring the state and health of multiple, individually identifiable application programs, not an undifferentiated group. Treating the ensemble of software as a single block would defeat that purpose—one cannot diagnose which program is overloaded or misbehaving if all are lumped together.

Welch’s QoS work observes only aggregate metrics for the entire testbed and never isolates the health of discrete programs. Petitioner’s attempt to collapse the plural “programs” into an amorphous “group” conflicts with the ordinary counting sense conveyed by the integer-based claim language and with Federal Circuit guidance that plural terms, when embedded in a counting framework, demand multiple, individually recognizable entities.

Respectfully submitted,

Dated: June 18, 2025

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CERTIFICATE OF SERVICE

The undersigned certifies that pursuant to 37 C.F.R. § 42.6(e), a copy of the foregoing **PATENT OWNER'S PRELIMINARY RESPONSE** was served via email (as consented to by counsel) on June 18, 2025, to lead and backup counsel of record for Petitioner as follows:

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