

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

MICROSOFT CORPORATION,
Petitioner,

v.

QOMPLX LLC,
Patent Owner.

IPR2026-00184
Patent 12,231,426

**REPLY OF PETITIONER TO
PATENT OWNER'S PRELIMINARY RESPONSE (Paper 11, "POPR")**

Petitioner submits this authorized Reply to the POPR (Paper 11). *See* EX3001.

PO’s “multidimensional time-series database” (“MDTSDB”) construction should be rejected. Patent Owner (“PO”) seeks to import an ambiguous requirement that the database be “especially suited or optimized” for time-series data or be a “specialized” time-series database. POPR, 10. But PO identifies no boundary for that requirement—no required storage engine, time-based index, timestamp-as-key structure, compression scheme, or down-sampling function. The claims do not recite those features, and PO identifies no lexicography or disclaimer requiring them. PO did not seek this malleable construction in district court and it should be rejected.

PO cannot rewrite the claims based on extrinsic exhibits that post-date the effective filing date by years. These materials appear to date from 2020–2026 (EX2024–EX2031), years after the assumed effective filing date: October 19, 2017 (*e.g.*, Paper 2, 11; EX2023, ¶17). *E.g.*, *Phillips*, 415 F.3d at 1313. Even if considered, those exhibits describe broad time-series-capable implementations, including systems built on general-purpose relational databases, SQL-based systems, NoSQL systems, and systems combining time-series data with relational metadata. EX2025, 5-7; EX2026, 4-5; EX2028, 3; EX2029, 6-7. And they use “time-series data” broadly to include events, clicks, financial transactions, and other timestamped records—not merely fixed-interval samples. EX2024, 4; EX2031, 1-2. PO’s expert testimony rests on those post-dated materials and deserves little or no weight. EX2023, ¶¶37-40.

Intrinsic evidence confirms the point. PO cites only the '147 patent and a sensor-data embodiment that concerns a “specific type of ... multidimensional time series data resultant from sensor data” and “the volume and continuous nature of such time series data.” EX2032, 6:34-39; EX2023, ¶41; POPR, 12-13. The '426 claims differ by storing information about “a request to authenticate a client” and previous access requests. *E.g.*, EX1001, 18:14-16, 18:24-33 (claim 1). Such data need not be continuous or regularly sampled: the '426 patent describes ingesting “irregular” streams and storing “any time series data” (EX1001, 6:39-54), and the ancestor '647 patent describes “time series data” including “a time of an attempted access to a resource ..., an identifier for the resource, and a credential used in the attempted access” (EX1059, claim 1). On the “multi-dimensional” aspect, the '147 patent describes “dimensions” as selected “parameters” (EX2032, 6:45-51, 8:45-48), consistent with Kirti and the Petition (Paper 2, 30-34; EX1003, ¶¶83-85).

Kirti satisfies the claim language. As the Petition explains, Kirti stores timestamped, multi-attribute authentication activity, including usernames or other identifiers, login results, IP addresses, devices, accessed resources, and associated accounts, for use in the historical account/identifier analysis recited in the '426 claims. EX1004, 10:25-50, 12:50-54; Paper 2, 30-34; EX1003, ¶¶83-85. Kirti also generates time-based activity reports (FIGS. 8B-8D) and uses access-request timing to measure login velocity and detect brute-force attacks, confirming it is structured

for time-based security analytics. It thus satisfies even PO's "especially suited" formulation. EX1004, 11:60-12:57, 15:51-53, Paper 2, 31, 33, 39, 41, 46, 58-59.

The intrinsic evidence refutes PO's order requirement. POPR, 15. Method steps are not typically limited to the order written. *Mformation Techs., Inc. v. RIM Ltd.*, 764 F.3d 1392, 1398 (Fed. Cir. 2014). Nor should they be here. The '426 patent states: "Where a method is claimed below, the steps of the method are intended to be construed without any order unless it is impossible to perform a given step before another." EX1001, 18:5-7; *id.*, 4:67-5:17, 5:44-49. PO shows no impossibility and its cited passages do not describe its proposed sequence. Figure 6 describes determining a verification score for the *current* login flow, including determining whether the *current* access request is anomalous, not the claimed historical-information-based determination about a *previous* request involving an identifier not associated with the first user account. EX1001, 12:4-7; *id.*, 10:23-28, 12:26-32. Figure 6 cannot impose an order for a historical-information determination it does not describe. Nor is PO's order the only logical one: pre-analyzing available historical access information avoids performing the full historical analysis during login, when fast risk detection and authentication response matter most. Using pre-analyzed history at login still bases the determination on "the historical information"; the claims do not require generating it from scratch after the request.

Kirti is not merely a periodic alert system (*e.g.*, POPR, 22-24). It teaches using

historical user-activity information to detect anomalous account activity and respond with authentication-based remediation, including “adding additional steps to authentication” and recommending “elevated authentication or OTP validation.” EX1004, 5:27-37, 28:31-36; Paper 2, 38-48. The “different cloud” argument (POPR, 27-28) also ignores Kirti’s SSO context, where a user is identified across clouds using common identifiers or SSO. EX1004, 13:47-51; Paper 2, 27-28. Kirti also discloses real-time handling of high-risk events, including event data retrieved “in real time as events occur” and high-risk activity retrieved “near real-time outside scheduled retrieval.” EX1004, 10:15-24, 10:57-59; *see also id.*, 27:59-28:20. Kirti thus satisfies even PO’s rigid order of steps.

The record refutes PO’s “plurality of verification methods” construction.

POPR, 30-44. Ground 2 does not depend on every Kirti remedial action being a verification method; Kirti supplies the risk-based trigger, and Coffin supplies the plurality of additional verification methods and implementation details. Paper 2, 49-54. PO wrongly argues that Coffin’s email-based and SMS-based access codes are the same method because each uses a code. But the ’426 patent identifies “MFA methods”—plural—as including “one-time use codes sent to a user’s mobile device or email,” and criticizes prior-art “over-reliance on a single method of delivery” that could be compromised. EX1001, 2:23-34. The patent’s alleged solution likewise includes multiple one-time-code approaches, e.g., codes sent by “text message or

email,” generated on-device, or provided as a hyperlink. EX1001, 11:21-27.

’426 Figure 4 does not limit “verification methods” to irreducible categories. For example, the category “sensors 415a” includes multiple methods—fingerprint scans, iris scans, facial recognition, voice recognition, and badge scanning. EX1001, 10:34-40. Similarly, the category “[o]ne-time-use codes 415g” includes multiple distinct code-based verification options—not one monolithic method. EX1001, 11:21-27. Coffin’s email code and SMS code are thus distinct verification methods; one may be available when the other is not (e.g., the user has SMS service but not email access) and each may be independently compromised. EX1003, ¶¶67, 71, 111-112.

Coffin also expressly discloses other verification methods, e.g., biometric scans and personal questions. EX1005, 177; Paper 2, 19, 37. The Petition explained why one would select among such methods based on, e.g., availability, cost, and user preferences. Paper 2, 52. Those methods use the same basic prompt-then-check process as Coffin’s passcode: prompt a user to complete the verification, then check if it was completed correctly. Paper 2, 8 (citing EX1011; EX1019); EX1003, ¶43.

Respectfully submitted,

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By: /Andrew M. Mason/
Andrew M. Mason, Reg. No. 64,034
andrew.mason@klarquist.com
Tel: 503-595-5300
Counsel for Petitioner

**CERTIFICATE OF SERVICE
IN COMPLIANCE WITH 37 C.F.R. § 42.6 (e)(4)**

The undersigned certifies that on April 30, 2026, the **REPLY OF PETITIONER TO PATENT OWNER'S PRELIMINARY RESPONSE** was served on counsel for Patent Owner via electronic mail as follows:

Kenneth Weatherwax
Parham Hendifar
Colette Wu
Lowenstein & Weatherwax LLP
1016 Pico Boulevard
Santa Monica, CA 90405
Email: weatherwax@lowensteinweatherwax.com
hendifar@lowensteinweatherwax.com
Qomplx_IPRs@lowensteinweatherwax.com

By: /Andrew M. Mason/
Andrew M. Mason, Reg. No. 64,034
andrew.mason@klarquist.com
KLARQUIST SPARKMAN, LLP
One World Trade Center, Suite 1600
121 S.W. Salmon Street
Portland, Oregon 97204
Tel: 503-595-5300
Fax: 503-595-5301

Counsel for Petitioner