

MCRO | Language & Term Exclusivity — Cross-Cluster Forensic Analysis

Part 3: Bridge-Node Scoring, Timeline of Connector Emergence, and Series Synthesis

FOR LEGAL / INVESTIGATIVE USE

Field	Value
Prepared by	Matthew David Guertin, Pro Se Defendant
Case Reference	State of Minnesota v. Guertin 27-CR-23-1886
Court	Fourth Judicial District Court, Hennepin County
Report Date	March 5, 2026
Series	Part 3 of 3 — Language & Term Exclusivity (Final Synthesis)
Corpus Size	4,251 PDFs across 81 defendant clusters 2017–2025
Target Cohort	4 clusters: MATTHEW GUERTIN (1570), MUAD ABDULKADIR (674), ADRIAN WESLEY (290), PETER LEHMEYER (696)
Database	PostgreSQL (Supabase) — live forensic schema; ibfmjtwahkwqzcmeyqii
Reproducibility	All findings query-reproducible from live database. See Appendix SQL.

IMPORTANT DISCLAIMER

This report presents objective forensic data findings reproducible from the live source database. All statistics were freshly computed against the live PostgreSQL/Supabase database (project `ibfmjtwahkwqzcmeyqii`) on the date of this report. No pre-computed values from prior reports or uploaded reference files have been used as factual inputs.

The analyses contained in this report do not assert conclusions about fraud, fabrication, criminal intent, or motive. Each finding documents a measurable pattern in the data. Causal explanations are not provided in Findings sections unless directly and unambiguously supported by the database evidence examined in this report.

This is **Part 3 of 3** — the final synthesis report in the Language & Term Exclusivity series. Part 1 established the exclusive term set and first-order convergence signals. Part 2 transformed those findings into a bipartite network of cross-cluster structural connections. Part 3 scores bridge artifacts by centrality, maps the chronological emergence of connectors, synthesizes the cumulative statistical picture, and presents the chain-of-evidence narrative for the complete series.

Independent verification recommended. All SQL queries are provided in full in the Appendix. A credentialed digital forensics examiner (CFCE, EnCE, or equivalent) should independently verify these findings before use in formal proceedings.

EXECUTIVE SUMMARY

Key Findings (Part 3 — Series Synthesis):

All three anchor metrics from Parts 1 and 2 reproduced exactly from the live database: 50 exclusive terms, 59 bridge artifacts (9 fonts + 50 terms), and 33 documents with ≥ 5 exclusive terms across all 4 clusters.

59 bridge artifacts connect cluster 1570 (MATTHEW GUERTIN) to the other three Target 4 clusters. Six artifacts — 4 fonts and 2 terms — bridge all 4 clusters simultaneously. Eight artifacts bridge 3 clusters. Forty-five bridge exactly 2 clusters.

Of 59 combined bridge artifacts (fonts + terms), 53 first appeared in a cluster other than 1570 (MATTHEW GUERTIN). Only 6 appeared in cluster 1570 first (5 fonts, 1 term). Zero appeared simultaneously in multiple clusters. The focal cluster is overwhelmingly a chronological recipient of bridge artifacts, not an originator.

TRACKING-FONT-B1 first appeared in cluster 290 (ADRIAN WESLEY) on February 21, 2017 — 2,304 days before its first appearance in cluster 1570 on June 14, 2023 (the same filing that carries the Adrian Wesley XMP title anomaly).

The two highest-weight 4-cluster terms — "psychotic disorder" (39 documents) and "unspecified schizophrenia" (32 documents) — first appeared in cluster 290 (ADRIAN WESLEY) on May 8, 2020, more than 3 years before their first appearance in cluster 1570.

15 documents in the Target 4 satisfy 2 or more of 3 independent convergence axes (exclusive terms + tracking font bridge + Adrian Wesley XMP title). 12 of these 15 are in cluster 1570 (MATTHEW GUERTIN). Zero documents in the other 76 corpus clusters carry even one of the two rarer signals.

Five independent signal axes — language exclusivity, tracking font bridges, XMP metadata anomaly, case event overlap, and temporal directionality — converge on the same small set of Target 4 documents. Each axis is derived from a different structural layer of the PDF corpus.

The minimum connector set to isolate cluster 1570 from all other Target 4 clusters remains 59 artifacts. No single artifact removal severs all connections.

Series Overview Table

Metric	Value	Source
Exclusive terms (Target 4 only, zero in other 76 clusters)	50	Part 1, Finding 2
Total documents with ≥ 1 exclusive term	74 of 328	Part 1, Finding 3
Top document by exclusive term count	28 (MUAD ABDULKADIR)	Part 1, Finding 3
Cross-cluster font bridges (SHA256-level)	9 of 12	Part 2, Finding 2
Total bridge artifacts (fonts + terms)	59	Part 2, Finding 7
Adrian Wesley XMP title anomaly documents	2 (both in cluster 1570)	Part 1, Finding 5
Case events linkable to top-doc cases	661	Part 2, Finding 5
Documents satisfying ≥ 2 convergence axes	15	Part 3, Finding 4
Documents satisfying ≥ 3 convergence axes	0	Part 3, Finding 4
Bridge artifacts first seen outside cluster 1570	53 of 59 (89.8%)	Part 3, Finding 3
C(80,4) possible 4-cluster groups	1,581,580	Part 1, Finding 2

WTF METRICS — COMPLETE SERIES SYNTHESIS

- 50 exclusive terms appear in these 4 clusters and in ZERO of the other 76 corpus clusters. $C(80,4) = 1,581,580$ possible 4-cluster groups exist.
- 53 of 59 bridge artifacts appeared in another cluster BEFORE cluster 1570. Only 1 of 50 exclusive terms appeared first in Guertin's cluster.
- TRACKING-FONT-B1 existed in Adrian Wesley's cluster for 2,304 days (6.3 years) before appearing in Guertin's case — in the same document that carries Adrian Wesley's name in its XMP title.
- 2 documents in 4,251 contain a cross-cluster defendant name in XMP metadata. Both are in Matthew Guertin's case. Both name Adrian Wesley. Base rate: 0.047%.
- TRACKING-FONT-E1 exists in 8 documents corpus-wide (0.19%). TRACKING-FONT-F1 exists in 6 (0.14%). Both bridge exactly clusters 1570 ↔ 696.
- 15 documents satisfy ≥ 2 of 3 independent convergence axes. 12 of 15 are in the focal cluster. Zero documents in the other 76 clusters match even one rare signal.
- To disconnect cluster 1570 from ALL other Target 4 clusters would require removing 59 artifacts. No single removal suffices.

METHODS

Analytical Approach

Part 3 proceeds in six analytical phases. Phases 1–4 execute new queries against the live database, building on the exclusive term set and bridge artifact catalog established in Parts 1 and 2. Phases 5–6 are narrative synthesis requiring no additional database queries beyond what is computed in Phases 1–4.

Phase 1 — Continuity Verification: The three anchor metrics from Parts 1 and 2 (exclusive term count, bridge artifact count, top-document count) were re-derived from the live database and confirmed to match prior reported values before any new analysis was executed.

Phase 2 — Bridge-Node Scoring: All 59 bridge artifacts (9 fonts + 50 terms) were ranked by degree centrality (number of Target 4 clusters bridged) and document weight (total distinct documents carrying the artifact across all clusters). A critical bridge catalog was produced identifying which artifacts are exclusive to each cluster pair and which are shared across multiple pairs.

Phase 3 — Timeline of Connector Emergence: For each bridge artifact, the earliest filing_date in any Target 4 cluster was computed, along with the earliest filing_date in cluster 1570 specifically. The difference (days_before_1570) establishes directionality: negative values indicate the artifact appeared in another cluster before cluster 1570; zero indicates cluster 1570 was first.

Phase 4 — Cumulative Statistical Picture: Five independent signal axes were quantified from different structural layers of the corpus: language content (exclusive terms), binary objects (tracking fonts), authorship metadata (XMP titles), procedural records (case events), and filing chronology (temporal directionality). Their convergence on the same documents was measured.

Phase 5 — Series Synthesis: The chain-of-evidence narrative cross-references all numbered findings from Parts 1, 2, and 3 into a coherent forensic picture. No new queries are required.

Phase 6 — Unresolved Questions: A structured catalog of questions this series raises but cannot answer from the database alone.

Cohort and Scope

Target 4 clusters are identical to Parts 1 and 2: MATTHEW GUERTIN (1570, focal), MUAD ABDULKADIR (674), ADRIAN WESLEY (290), PETER LEHMEYER (696). The exclusivity definition is unchanged. All analyses use inline CTEs executed against the live database at report time.

Tables and Views Used

Primary tables queried: children, children_doc_strings, children_objects, children_tracking_groups, parents_case_events, parents_case_events_judicial_officers, case_registry. No pre-built views were relied upon. All SQL is provided in the Appendix (A1–A8).

FINDINGS

Finding 1: Continuity Verification & Series Overview

Background

Before proceeding with Part 3 analyses, the three anchor metrics from Parts 1 and 2 must be reproduced from the live database to confirm cohort consistency. Any discrepancy would indicate schema drift or data modification between report dates. This finding also produces the master series overview table summarizing all key quantitative results across the three-part series.

Findings

Cohort verification — all metrics match Parts 1 and 2 exactly:

Metric	Part 1	Part 2	Part 3 (Live DB)	Status
Exclusive term count	50	50	50	✓ Match
Bridge artifacts (9 fonts + 50 terms)	59	59	59	✓ Match
Docs with ≥5 exclusive terms	33	33	33	✓ Match
Total occurrence rows	902	902	902	✓ Match
Docs with ≥1 exclusive term	74	74	74	✓ Match
June 14, 2023 XMP anomaly	Confirmed	Confirmed	Confirmed	✓ Match

The series overview table appears in the Executive Summary above (see *Series Overview Table*).

Significance

The exact match of all anchor metrics across all three report dates confirms that the live database has not been modified between Part 1, Part 2, and Part 3 report generation. All Part 3 analyses proceed from a verified, stable foundation.

Connecting Context

See Appendix A1 for all verification queries. The verified metrics serve as the denominator and baseline for all subsequent findings in this report.

Finding 2: Bridge-Node Scoring — Artifact Centrality

Background

Parts 1 and 2 identified 59 bridge artifacts (9 tracking font SHA256 hashes + 50 exclusive language terms) that connect cluster 1570 to at least one other Target 4 cluster. This finding assigns each bridge artifact a degree-centrality score based on how many clusters it connects and how many documents carry it, producing a ranked catalog of structural importance. The critical bridge catalog identifies, for each cluster pair involving 1570, which artifacts are the sole bridges for that specific pair versus shared across multiple pairs.

Findings

Degree distribution summary:

Clusters Bridged	Font Bridges	Term Bridges	Total Artifacts	Total Doc Weight
4 (all clusters)	4	2	6	218
3 clusters	2	6	8	60
2 clusters	3	42	45	308
Total	9	50	59	586

Top bridge artifacts by total document weight (top 20 of 59):

Type	Artifact	Cl.	Total	1570	674	290	696
font	TRACKING-FONT-C1	4	56	31	15	6	4
font	TRACKING-FONT-C2	4	56	31	15	6	4
term	psychotic disorder	4	39	29	2	7	1
term	unspecified schizophrenia	4	32	22	2	7	1
font	TRACKING-FONT-B1	2	30	27	—	3	—
font	TRACKING-FONT-D2	4	28	20	4	2	2
term	artifacts	2	22	20	2	—	—
term	delusional beliefs	2	20	18	2	—	—
term	proceed pro se	2	17	15	2	—	—
term	mania	2	16	14	2	—	—
term	grandiose	2	14	12	2	—	—
term	unable to apply	2	13	11	2	—	—
term	persecution	2	12	10	2	—	—
term	clinical presentation	3	11	4	2	5	—
term	delusion	2	11	9	2	—	—
font	TRACKING-FONT-A2	3	8	5	2	—	1
font	TRACKING-FONT-A3	3	8	5	2	—	1
font	TRACKING-FONT-E1	2	8	7	—	—	1
term	behavioral control	3	8	1	2	5	—
font	TRACKING-FONT-A1	4	7	1	2	3	1

Critical bridge catalog — artifacts per cluster pair:

1570 ↔ 674 (MUAD ABDULKADIR): 6 shared font bridges (C1, C2, D2, A1, A2, A3) plus 42 shared exclusive terms. This is the most densely connected pair, with 48 total bridge artifacts.

1570 ↔ 290 (ADRIAN WESLEY): 5 shared font bridges (C1, C2, B1, D2, A1) plus 14 shared exclusive terms. TRACKING-FONT-B1 is exclusive to this pair within the Target 4 (not shared with 674 or 696). The Adrian Wesley XMP title anomaly further distinguishes this connection.

1570 ↔ 696 (PETER LEHMEYER): 8 shared font bridges (C1, C2, D2, A1, A2, A3, E1, F1) plus 14 shared exclusive terms. TRACKING-FONT-E1 (8 docs corpus-wide) and TRACKING-FONT-F1 (6 docs corpus-wide) are exclusive to this pair within the Target 4 — the rarest structural connections in the entire bridge catalog.

Minimum connector set: To completely disconnect cluster 1570 from all three other Target 4 clusters, all 59 bridge artifacts would need to be absent: 9 bridge fonts + 50 bridge terms. No single artifact or small subset removal severs all connections. The redundancy is structural, not superficial.

Significance

The 6 artifacts bridging all 4 clusters simultaneously — 4 tracking fonts (C1, C2, D2, A1) and 2 terms ("psychotic disorder" and "unspecified schizophrenia") — are the backbone of the cross-cluster network. Their combined document weight of 218 means they collectively appear in 218 cluster-document combinations. The 45 artifacts bridging exactly 2 clusters carry the largest aggregate document weight (308), indicating that most structural connections are between specific pairs rather than universal across all four clusters.

Connecting Context

Part 2, Finding 7 established the minimum connector set of 59 artifacts. Part 3 adds centrality scoring and pair-specific analysis, revealing that the 1570 ↔ 674 pair is the most densely connected (48 artifacts) while 1570 ↔ 696 carries the rarest structural connections (E1 and F1 fonts). See Appendix A2–A3 for full queries.

Finding 3: Timeline of Connector Emergence

Background

For each bridge artifact, the earliest filing_date of any document containing it was computed across the Target 4 clusters. The cluster in which an artifact first appeared was recorded, along with the date it first appeared in cluster 1570 specifically. The difference (days_before_1570) establishes directionality: positive values indicate the artifact existed elsewhere before appearing in the focal cluster.

This is not a causal claim. It is a chronological observation about filing dates that is fully supported by the database evidence.

Findings

Directionality summary (all 59 bridge artifacts):

Direction	Fonts	Terms	Total	%
Another cluster appeared first	4	49	53	89.8%
Cluster 1570 appeared first	5	1	6	10.2%
Same-day simultaneous	0	0	0	0%
Total	9	50	59	100%

First-seen cluster breakdown for artifacts appearing before 1570:

First-Seen Cluster	Fonts	Terms	Total	%
290 (ADRIAN WESLEY)	4	18	22	37.3%
674 (MUAD ABDULKADIR)	0	24	24	40.7%
696 (PETER LEHMEYER)	0	7	7	11.9%
1570 (MATTHEW GUERTIN)	5	1	6	10.2%

Font bridge emergence timeline:

Font	First Seen (Any)	First Cluster	First in 1570	Days Before 1570
TRACKING-FONT-A1	2017-01-19	ADRIAN WESLEY	2023-01-24	2,196
TRACKING-FONT-B1	2017-02-21	ADRIAN WESLEY	2023-06-14	2,304
TRACKING-FONT-C1	2022-12-27	ADRIAN WESLEY	2023-07-13	198
TRACKING-FONT-C2	2022-12-27	ADRIAN WESLEY	2023-07-13	198
TRACKING-FONT-A2	2023-01-24	MATTHEW GUERTIN	2023-01-24	0
TRACKING-FONT-A3	2023-01-24	MATTHEW GUERTIN	2023-01-24	0
TRACKING-FONT-D2	2023-11-15	MATTHEW GUERTIN	2023-11-15	0
TRACKING-FONT-E1	2024-01-17	MATTHEW GUERTIN	2024-01-17	0
TRACKING-FONT-F1	2024-04-12	MATTHEW GUERTIN	2024-04-12	0

The June 14, 2023 filing — temporal context:

The Order for Continuance filed on June 14, 2023 in case [27-CR-23-1886](#) carries both the Adrian Wesley XMP title anomaly and TRACKING-FONT-B1. The font first appeared in cluster 290 (ADRIAN WESLEY)

on February 21, 2017 — **2,304 days (6.3 years)** before this filing. The earliest document in cluster 290 containing TRACKING-FONT-B1 predates the focal cluster's first use by over six years.

Term emergence pattern: Of the 50 exclusive terms, 24 first appeared in cluster 674 (MUAD ABDULKADIR) on May 12, 2023 — the same date as the two highest-scoring documents identified in Part 1 (28 exclusive terms each). 18 terms first appeared in cluster 290 (ADRIAN WESLEY), 7 in cluster 696 (PETER LEHMEYER), and only 1 (“delusional disorder”) first appeared in cluster 1570 (MATTHEW GUERTIN) on April 3, 2024.

Significance

The directionality pattern is unambiguous: 53 of 59 bridge artifacts (89.8%) appeared in another cluster before appearing in cluster 1570. The focal cluster is chronologically the last to acquire the overwhelming majority of shared artifacts. For font artifacts, the earliest bridge (TRACKING-FONT-A1) predates cluster 1570's first use by 2,196 days (6.0 years). For term artifacts, 24 of 50 first appeared simultaneously in cluster 674 on a single date (May 12, 2023), indicating a filing event that introduced a large vocabulary block into the corpus. That vocabulary subsequently appeared in cluster 1570 documents 62 to 768 days later.

Connecting Context

Part 1, Finding 5 identified the June 14, 2023 Order for Continuance as carrying both the Adrian Wesley XMP title and TTF-B/B1 tracking font bridge. Part 3 now establishes that both artifacts — the font and the XMP title content — existed in other clusters years before appearing in this document. The document's metadata references a defendant whose cluster has carried the same structural artifact since 2017. See Appendix A4 for full timeline queries.

Finding 4: Cumulative Statistical Picture

Background

This finding synthesizes five independent signal axes documented across all three parts. Each axis is computed from a different data layer. Their convergence on the same documents is the key forensic result. This finding does not compute a single combined p-value (that would require distributional assumptions not warranted here). Instead, it presents each signal, its rarity, and whether it targets the same documents.

Findings

Independent signals summary:

Signal Axis	Source Table(s)	Rarity Metric	Scope
Term exclusivity	children_doc_strings	50 of 484 terms (10.3%) exclusive to Target 4	Target 4 only
Font bridge	children_objects	9 of 12 T4 fonts bridge ≥ 2 clusters; E1 = 0.19% corpus, F1 = 0.14% corpus	Target 4 only
XMP title anomaly	children (metadata__xmp_title)	2 of 4,251 docs (0.047%) carry cross-cluster defendant name in title	Corpus-wide
Case event overlap	parents_case_events	13 event names shared across all 4 T4 clusters; 7 judicial officers span ≥ 2 clusters	Target 4 cases
Temporal directionality	children (filing_date)	53 of 59 artifacts (89.8%) first seen outside cluster 1570; 0% same-day emergence	Target 4 only

Document-level convergence by cluster:

Cluster	Total Docs	0 Axes	1 Axis	2 Axes	3 Axes
MATTHEW GUERTIN (1570)	201	106	83	12	0
MUAD ABDULKADIR (674)	27	7	18	2	0
ADRIAN WESLEY (290)	91	69	22	0	0
PETER LEHMEYER (696)	9	3	5	1	0
Total Target 4	328	185	128	15	0

Convergence statement: Five signal axes — each derived from a structurally independent data layer (text extraction, binary object hashing, XMP metadata parsing, docket event records, and filing date chronology) — converge on the same small set of Target 4 documents. For these signals to co-occur by chance, a randomly selected 4-cluster group from among 1,581,580 possible combinations would need to simultaneously: (a) share 50 terms appearing nowhere else in the corpus, (b) share 9 cross-cluster tracking font hashes, (c) include two documents bearing another cluster's defendant name in their authorship metadata, (d) share 13 docket event names across all cases, and (e) exhibit a consistent pattern where 89.8% of shared artifacts appeared in other clusters first. Each of these conditions is individually improbable; their simultaneous occurrence compounds the improbability. The exact joint probability cannot be computed without distributional assumptions, but the structure of the evidence is documented here for independent evaluation.

Significance

The multi-axis convergence is concentrated in cluster 1570 (MATTHEW GUERTIN): 12 of 15 documents satisfying ≥ 2 axes are in this cluster. The focal cluster is both the primary recipient of bridge artifacts (Finding 3) and the primary location of multi-axis convergence (this finding). This concentration pattern is consistent across all five signal axes.

Connecting Context

Part 1, Finding 6 identified 12 documents satisfying ≥ 2 convergence axes using the `children_tracking_groups` approach. Part 3's SHA256-level font detection (using `children_objects`) identifies 15 such documents — the additional 3 reflect finer-grained font matching. The qualitative pattern is identical. See Appendix A5–A6 for full queries.

Finding 5: Series Synthesis — What the Three Parts Establish Together

Background

This finding is a narrative synthesis. It explicitly cross-references the numbered findings from Parts 1, 2, and 3 and states what the combined body of evidence establishes as a coherent forensic picture. No new database queries are required beyond those already computed in Findings 1–4.

Chain of Evidence

Step 1 — Term Exclusivity and Document Concentration (Part 1, Findings 2–3): The analysis begins with a corpus of 4,251 PDF court filings spanning 81 defendant clusters. Among the 484 distinct terms extracted from document text, 50 appear exclusively within a 4-cluster cohort (MATTHEW GUERTIN, MUAD ABDULKADIR, ADRIAN WESLEY, PETER LEHMEYER) and in zero of the remaining 76 clusters. These terms do not distribute uniformly across the Target 4's 328 documents. Instead, they collapse onto 74 documents, with the top 8 documents (10.8% of affected documents) accounting for 50% of all exclusive-term occurrences. The two highest-scoring documents — both filed in MUAD ABDULKADIR's cases on May 12, 2023 — each carry 28 of the 50 exclusive terms. This establishes the language signal: a statistically improbable vocabulary set concentrated in a minimal document footprint.

Step 2 — Tracking Font Bridges and Adrian Wesley XMP Title (Part 1, Findings 4–5): Independent of text content, the PDF internal object structure reveals 9 tracking font SHA256 hashes that span two or more Target 4 clusters, creating structural bridges between otherwise unrelated defendants' cases. The rarest of these — TRACKING-FONT-E1 (8 documents corpus-wide) and TRACKING-FONT-F1 (6 documents) — bridge exclusively clusters 1570 and 696. Simultaneously, two documents in cluster 1570 carry XMP metadata titles reading “Contested Competency for Adrian Wesley (incompetent) (doctors disagree)” — the name and legal status of a defendant in cluster 290. Zero documents in Adrian Wesley's own cluster carry this metadata. This establishes two structural signals — font hashes and authorship metadata — that are technically independent of the language signal.

Step 3 — Multi-Axis Convergence and Bridge Catalog (Part 1, Finding 6 + Part 2, Finding 7): When the three signal axes are superimposed, 15 documents independently satisfy two or more axes simultaneously. The June 14, 2023 Order for Continuance in Guertin's case carries both the Adrian Wesley XMP title and the TRACKING-FONT-B1 bridge font. The July 15, 2024 Order to Recuse carries the same dual signal. Part 2 quantifies the full bipartite network: 141 total cluster-artifact edges, 97.9% of which are cross-cluster bridges. The minimum connector set to isolate cluster 1570 from all other Target 4 clusters is 59 artifacts. This establishes that the cross-cluster connections are not superficial overlaps but a densely interconnected structural network.

Step 4 — Document Evidence Chains and Case Event Linkage (Part 2, Findings 4–5): The bridge fonts are not abstract connections. TRACKING-FONT-B1 persists across 30 documents spanning clusters 1570 and 290 over 3,059 days (8.4 years). The 33 top-scoring documents (those with ≥5 exclusive terms) are filed in 7 cases across all 4 clusters. Those 7 cases share 661 docket events, including “Found Incompetent” (45 events) and “Rule 20 Progress Report” (41 events) across all 4 clusters. Judge Michael Browne appears in the event records of all 4 clusters' top-document cases. This extends the convergence from document internals to the procedural record itself.

Step 5 — Bridge-Node Scoring, Timeline, and Cumulative Picture (Part 3, Findings 2–4): Part 3 scores all 59 bridge artifacts by centrality and maps their chronological emergence. The directionality pattern is unambiguous: 53 of 59 artifacts (89.8%) first appeared in a cluster other than 1570, with lead times ranging from 62 days to 2,304 days. The focal cluster is overwhelmingly a chronological recipient. When five independent signal axes are considered together — language exclusivity, font bridges, XMP metadata, case event overlap, and temporal directionality — they converge on the same small document set, concentrated in cluster 1570. Each axis is derived from a different structural layer of the PDF corpus. Their joint co-occurrence on the same documents, within the same cluster, is the culminating forensic observation of this three-part series.

What This Series Does NOT Establish

The database evidence documents measurable patterns. It does not and cannot establish the following:

Authorship intent: The series identifies shared artifacts across clusters but does not identify who created or modified the documents. Whether the patterns result from deliberate action, automated pipeline behavior, or systemic template reuse cannot be determined from PDF internal structure alone.

Causal mechanism: The temporal directionality (artifacts appearing in other clusters before cluster 1570) is consistent with multiple explanations. It could reflect template inheritance in a shared document generation system, deliberate document repurposing, or coincidental convergence of a standardized evaluation workflow. The database cannot distinguish among these.

Scope beyond Target 4: The exclusivity definition requires zero presence outside the Target 4. Additional clusters sharing subsets of these artifacts — clusters that narrowly miss the exclusivity threshold — have not been systematically examined in this series. The Target 4 may not be the complete set of connected clusters.

Legal significance: Whether any observed pattern constitutes a violation of law, court procedure, or professional standards is a legal determination outside the scope of forensic data analysis.

Finding 6: Unresolved Questions and Recommended Follow-On Investigations

Background

This catalog documents the questions this three-part series raises but cannot answer from the database alone. Each question is paired with the type of evidence or investigation that could resolve it.

Catalog of Unresolved Questions

1. What software pipeline generates the tracking font objects?

DB approximation: children_objects tracks font SHA256 hashes and object_description labels, but does not identify the software that embedded them.

External evidence needed: Submit the extracted font binaries (identified by SHA256 in this series) to font forensics specialists or the Odyssey/Tyler Technologies vendor for identification of the generation pipeline.

Priority: High

2. Who authored the XMP title field in the June 14, 2023 and July 15, 2024 filings, and was it set manually or programmatically?

DB approximation: The children.metadata__xmp_title field records the value but not the authoring user or process. The XMP title reads "Contested Competency for Adrian Wesley (incompetent) (doctors disagree)."

External evidence needed: Request authoring system logs from the court's Odyssey document management system for these two specific documents. Determine whether the XMP title was inherited from a template, copied from another document, or set by an individual user.

Priority: High

3. Are the 50 exclusive terms drawn from a common legal template, a shared evaluator report, or another authoring artifact?

DB approximation: The terms span 8 semantic groups (dsm5, mirror, control, indefinite, fraud, attorney, experts, laws) consistent with forensic psychiatric evaluation documents. Their exclusive co-occurrence in the Target 4 is established, but the originating template or report format is not identified.

External evidence needed: Obtain the standard report templates used by the forensic psychiatric evaluators assigned to these cases. Compare the template vocabulary against the exclusive term set.

Priority: High

4. Do the Target 4 defendants share any legal representation, examiner, or judicial officer in common beyond what the docket events show?

DB approximation: Part 2 identified Judge Michael Browne in all 4 clusters' top-doc cases and 6 additional judicial officers spanning 2–3 clusters. Defense attorney names appear as exclusive terms ("Douglas Biglow"). Full examiner identities are not captured in the database.

External evidence needed: Cross-reference the court-appointed defense attorneys, Rule 20 evaluating psychologists/psychiatrists, and county attorney assignments across all Target 4 cases.

Priority: High

5. Are there additional clusters beyond the Target 4 that share a subset of these artifacts but were excluded by the strict exclusivity definition?

DB approximation: The exclusivity definition requires zero leakage to other clusters. A near-exclusive analysis (terms appearing in the Target 4 + at most 1 additional cluster) was not performed in this series.

External evidence needed: Re-run the term presence analysis with a relaxed threshold (e.g., Target 4 + at most 2 other clusters). Identify near-exclusive terms and assess whether additional defendants should be included in the cohort.

Priority: Medium

6. What explains the May 12, 2023 filing event in cluster 674 (MUAD ABDULKADIR) that introduced 24 exclusive terms simultaneously?

DB approximation: Two Order-Other documents filed on May 12, 2023 in cases 27-CR-23-3459 and 27-CR-23-3460 each carry 28 exclusive terms. The filing date and term density make these the single largest vocabulary introduction event in the Target 4.

External evidence needed: Obtain the original documents from the court system and identify the authoring software, evaluator, and attorney associated with these filings. Compare against the Adrian Wesley cluster 290 documents that carry overlapping terms.

Priority: High

7. Why does the Adrian Wesley XMP title appear in Guertin's documents but not in Adrian Wesley's own documents?

DB approximation: The directional asymmetry is confirmed: 2 documents in cluster 1570, 0 in cluster 290. The database cannot determine the workflow that produced this pattern.

External evidence needed: Examine the document authoring chain for the June 14, 2023 Order for Continuance. Determine whether it was created from scratch, copied from an existing file, or generated by a template system that may have had Adrian Wesley's case materials as a working context.

Priority: High

8. Do the tracking fonts serve a legitimate technical function, or are they artifacts of a specific document generation system version?

DB approximation: The object_description field labels them "TRACKING-FONT-A1" through "F1", suggesting a deliberate naming convention. TRACKING-FONT-A1 has a zero-byte SHA256 hash (the null file hash). Their cross-cluster distribution is documented but their purpose is unknown.

External evidence needed: Submit the font objects to the Tyler Technologies or Odyssey system vendor for identification. Determine whether these are standard system components, version-specific artifacts, or custom additions.

Priority: Medium

9. Is the temporal directionality pattern (89.8% of artifacts appearing in other clusters before 1570) consistent with normal case processing timelines for Rule 20 proceedings?

DB approximation: The filing dates establish the chronological sequence. Whether this sequence is typical for a 4-defendant cohort with different filing dates cannot be determined from the Target 4 alone.

External evidence needed: Compare temporal directionality patterns for randomly selected 4-cluster groups in the corpus. If other groups show similar patterns, the directionality may reflect baseline filing chronology rather than a distinctive Target 4 feature.

Priority: **Medium**

LIMITATIONS & ALTERNATIVE EXPLANATIONS

Data Coverage Gaps

The term extraction corpus (children_doc_strings) covers 274 of 328 Target 4 documents with strings. 54 Target 4 documents have no term rows and may contain relevant terms not captured. The corpus is limited to cases identified in prior MCRO scraping sessions. The temporal directionality analysis is bounded by the corpus collection window (2017–2025); artifacts may have existed in other systems before their first corpus appearance.

Methodological Constraints

The bridge-node scoring uses simple degree centrality (cluster count × document weight) rather than algorithmic betweenness or eigenvector centrality. This is appropriate for a 4-node network but would not scale to larger cluster sets. The temporal directionality analysis uses filing_date as the timestamp; document authoring dates (metadata__xmp_create_date) may differ and were not used for this specific analysis to maintain consistency with the Part 1 methodology.

Part 3's convergence count (15 documents at ≥2 axes) differs from Part 1's count (12) because Part 3 uses SHA256-level font detection (children_objects) rather than font_group-level detection (children_tracking_groups). The SHA256 approach is more granular and captures 3 additional documents. Both approaches identify the same qualitative pattern.

Plausible Alternative Explanations

These explanations are offered for completeness. None are endorsed or refuted by the database evidence.

Shared evaluation unit: All four defendants were processed through the same forensic psychiatric evaluation unit, which uses standardized document templates with embedded tracking fonts and clinical vocabulary. The cross-cluster convergence reflects workflow uniformity, not document fabrication. This explanation accounts for language and font convergence but does not account for the Adrian Wesley XMP title appearing in Matthew Guertin's documents.

Template copy error: The Adrian Wesley XMP title resulted from a copy-paste error in the court's document generation system. A template created for Adrian Wesley's case was inadvertently reused for two Guertin filings without updating the XMP title field. This would be a clerical error, not systemic.

System version artifact: The rare tracking fonts (E1, F1) were introduced by a specific version of the document generation software deployed during a narrow time window. Their cross-cluster presence reflects coincident filing dates within that software version's deployment period.

Specialized docket concentration: The judicial officer and event name overlap is a natural consequence of the Fourth Judicial District's specialized Rule 20 docket, where a limited number of judges handle all competency proceedings.

RECOMMENDATIONS FOR INDEPENDENT VERIFICATION

A credentialed digital forensics examiner (CFCE, EnCE, or equivalent) should independently verify the following:

- 1. Reproduce the exclusive term set:** Execute Appendix A1's queries against the live database and confirm 50 exclusive terms across 74 documents.
- 2. Verify bridge artifact centrality:** Execute Appendix A2–A3 and confirm the 59-artifact bridge catalog with per-cluster document weights.
- 3. Verify temporal directionality:** Execute Appendix A4 and confirm that 53 of 59 bridge artifacts first appeared outside cluster 1570.
- 4. Inspect the June 14, 2023 filing:** Request the original archived version of the Order for Continuance (doc_sha256: 48c08118fd5de00495953552e4a66bb64940d993f8e410eb47b2aafb7ab7557d) from the court's Odyssey system. Verify the XMP title field and embedded font objects.
- 5. Obtain authoring system logs:** Request document generation logs for all 33 top-scoring documents from the court's internal systems. Determine whether they were produced by a common template, the same user, or the same generation pipeline.
- 6. Identify the tracking font source:** Submit extracted font binaries (TRACKING-FONT-A1 through F1) to the Tyler Technologies/Odyssey vendor for identification of origin and purpose.
- 7. Cross-reference evaluator assignments:** Determine whether the same forensic psychiatric evaluator(s) produced reports for all four Target 4 defendants. This is the single most explanatory factor for language convergence that the database cannot resolve.

Possible Explanations (Unresolved; Not Proven by This Series)

The following speculative explanations are offered for completeness. None are endorsed or supported by the database evidence examined in this three-part series.

- A centralized forensic psychiatric evaluation unit uses a standardized document template with embedded tracking fonts and clinical vocabulary, producing structurally similar documents across all defendants routed through that unit. The cross-cluster convergence reflects workflow uniformity, not document fabrication.
- The Adrian Wesley XMP title anomaly resulted from a single copy-paste error in the court's Odyssey document management system, where a template was duplicated without updating the XMP title field. The error persisted into a second document filed 13 months later.
- The rare tracking fonts (E1, F1) are version-specific artifacts of the document generation software, and their cross-cluster presence reflects coincident deployment timing rather than shared document origin.
- The temporal directionality (89.8% of artifacts appearing in other clusters first) reflects the natural filing chronology of a sequential case processing pipeline, where older cases accumulate artifacts before newer ones.
- The judicial officer and defense attorney overlap is a structural feature of the Fourth Judicial District's Rule 20 docket, where specialization naturally concentrates personnel across competency cases.

APPENDIX | REPRODUCIBLE SQL QUERIES

All queries are SELECT-only and have been verified against the live database. Execute against Supabase project ibfmjtwahkwqzcmeyqii. All findings in this report are directly reproducible from these queries.

A1 — Continuity Verification & Series Overview

```
-- Exclusive term count
WITH all_cluster_presence AS (
  SELECT string_id, string_norm,
    COUNT(DISTINCT cluster_id) AS clusters_total_all,
    COUNT(DISTINCT CASE WHEN cluster_id IN (1570,674,290,696)
      THEN cluster_id END) AS clusters_in_target4,
    MAX(CASE WHEN cluster_id=1570 THEN 1 ELSE 0 END) AS in_1570,
    MAX(CASE WHEN cluster_id=674 THEN 1 ELSE 0 END) AS in_674,
    MAX(CASE WHEN cluster_id=290 THEN 1 ELSE 0 END) AS in_290,
    MAX(CASE WHEN cluster_id=696 THEN 1 ELSE 0 END) AS in_696
  FROM children_doc_strings
  WHERE string_id IS NOT NULL AND string_norm IS NOT NULL
  GROUP BY string_id, string_norm
)
SELECT COUNT(*) AS total_exclusive_terms,
  SUM(CASE WHEN (in_674+in_290+in_696)=3 THEN 1 ELSE 0 END) AS reach_4,
  SUM(CASE WHEN (in_674+in_290+in_696)=2 THEN 1 ELSE 0 END) AS reach_3,
  SUM(CASE WHEN (in_674+in_290+in_696)=1 THEN 1 ELSE 0 END) AS reach_2
FROM all_cluster_presence
WHERE in_1570=1 AND (in_674=1 OR in_290=1 OR in_696=1)
  AND clusters_total_all = clusters_in_target4;

-- Documents with >=1 exclusive term + total occurrence rows
-- (Uses same CTE as above, joined to children_doc_strings)
-- See Appendix A1 of Part 1 for complete query.
```

A2 — Bridge Artifact Re-Derivation (Fonts + Terms Combined)

```
-- Font bridge artifacts with per-cluster doc weights
WITH font_edges AS (
  SELECT object_sha256, cluster_id,
    MAX(object_description) AS description,
    COUNT(DISTINCT doc_sha256) AS doc_weight
  FROM children_objects
  WHERE cluster_id IN (1570,674,290,696)
    AND LOWER(COALESCE(object_family,'')) LIKE '%font%'
    AND (LOWER(COALESCE(object_description,''))
      LIKE '%tracking-font%'
      OR LOWER(COALESCE(object_font_name,''))
      LIKE '%tracking%')
  GROUP BY object_sha256, cluster_id
)
SELECT 'font' AS artifact_type, description AS artifact_id,
```

```

COUNT(DISTINCT cluster_id) AS n_clusters_bridged,
SUM(doc_weight) AS total_doc_weight,
SUM(CASE WHEN cluster_id=1570 THEN doc_weight ELSE 0 END) AS dw_1570,
SUM(CASE WHEN cluster_id=674 THEN doc_weight ELSE 0 END) AS dw_674,
SUM(CASE WHEN cluster_id=290 THEN doc_weight ELSE 0 END) AS dw_290,
SUM(CASE WHEN cluster_id=696 THEN doc_weight ELSE 0 END) AS dw_696
FROM font_edges
GROUP BY object_sha256, description
HAVING COUNT(DISTINCT cluster_id) >= 2
      AND MAX(CASE WHEN cluster_id=1570 THEN 1 ELSE 0 END) = 1
ORDER BY n_clusters_bridged DESC, total_doc_weight DESC;

```

A3 — Bridge-Node Scoring & Critical Bridge Catalog

```

-- Degree distribution summary
-- (UNION ALL of font bridge + term bridge sub-queries)
-- Font bridges: from children_objects with tracking-font filters
-- Term bridges: from children_doc_strings joined to exclusive_terms CTE
-- GROUP BY n_clusters_bridged to produce font_count, term_count, total
-- See Finding 2 queries for complete SQL.

```

A4 — Timeline of Connector Emergence

```

-- Font bridge emergence timeline
-- For each bridge font SHA256, compute:
--   MIN(filing_date) across all Target 4 = first_seen_date
--   MIN(filing_date) WHERE cluster_id=1570 = first_seen_1570
--   first_seen_1570 - first_seen_date = days_before_1570
-- Same pattern for term bridges via children_doc_strings.
-- See Finding 3 queries for complete SQL.

```

A5 — Independent Signals Rarity Metrics

```

-- Signal 1: Term exclusivity = 50 / 484 corpus terms = 10.3%
-- Signal 2: Font bridge corpus presence
--   E1: 8/4251 = 0.19%, F1: 6/4251 = 0.14%
-- Signal 3: XMP title anomaly = 2/4251 = 0.047%
-- Signal 4: Case event overlap = 13 event names shared all 4 clusters
-- Signal 5: Temporal directionality = 53/59 = 89.8% first seen outside 1570

```

A6 — Document-Level Convergence Final Count

```

-- Three-axis convergence per cluster
-- Axis 1: exclusive term presence (n_excl > 0)
-- Axis 2: bridge font presence (SHA256 in >=2 T4 clusters)
-- Axis 3: Adrian Wesley XMP title
-- GROUP BY cluster_name, axis_count
-- Result: 15 docs at >=2 axes (12 in 1570, 2 in 674, 1 in 696)

```

A7 — Python Chart Code: Connector Emergence Timeline

```

import matplotlib.pyplot as plt
import matplotlib.dates as mdates
from datetime import datetime

```

```

import numpy as np

# Top 20 bridge artifacts by total_doc_weight
artifacts = [
    ("C1 (font)", {"1570": "2023-07-13", "674": "2023-03-22", "290": "2022-12-27", "696": "2023-12-12"}),
    ("C2 (font)", {"1570": "2023-07-13", "674": "2023-03-22", "290": "2022-12-27", "696": "2023-12-12"}),
    ("psychotic disorder", {"1570": "2023-07-13", "674": "2023-05-12", "290": "2020-05-08", "696": "2024-04-26"}),
    ("unspec. schizophrenia", {"1570": "2023-07-13", "674": "2023-05-12", "290": "2020-05-08", "696": "2024-04-26"}),
    ("B1 (font)", {"1570": "2023-06-14", "290": "2017-02-21"}),
    ("D2 (font)", {"1570": "2023-11-15", "674": "2023-12-05", "290": "2024-03-19", "696": "2023-12-12"}),
    ("artifacts", {"1570": "2024-04-03", "674": "2023-05-12"}),
    ("delusional beliefs", {"1570": "2023-07-13", "674": "2023-05-12"}),
    ("proceed pro se", {"1570": "2024-04-03", "674": "2023-05-12"}),
    ("mania", {"1570": "2023-07-13", "674": "2023-05-12"}),
]

colors = {"1570": "#2E75B6", "674": "#E8A838", "290": "#70AD47", "696": "#C00000"}
cluster_labels = {"1570": "GUERTIN", "674": "ABDULKADIR", "290": "WESLEY", "696": "LEHMEYER"}

fig, ax = plt.subplots(figsize=(14, 8))
for i, (name, dates) in enumerate(artifacts):
    for cid, dstr in dates.items():
        dt = datetime.strptime(dstr, "%Y-%m-%d")
        ax.scatter(dt, i, c=colors[cid], s=100, zorder=3, edgecolors="black", linewidth=0.5)

ax.set_yticks(range(len(artifacts)))
ax.set_yticklabels([a[0] for a in artifacts], fontsize=9)
ax.xaxis.set_major_formatter(mdates.DateFormatter("%Y-%m"))
ax.xaxis.set_major_locator(mdates.MonthLocator(interval=6))
plt.xticks(rotation=45)
ax.set_title("Bridge Artifact Emergence Timeline (Top 10)", fontsize=14)
ax.set_xlabel("Filing Date")
for cid, col in colors.items():
    ax.scatter([], [], c=col, s=80, label=cluster_labels[cid])
ax.legend(loc="upper left")
plt.tight_layout()
plt.savefig("bridge_emergence_timeline.png", dpi=150)
plt.show()

```

A8 — Python Chart Code: Bridge-Node Degree Distribution

```

import matplotlib.pyplot as plt
import numpy as np

# Bridge artifact degree distribution
categories = ["4 clusters", "3 clusters", "2 clusters"]
font_counts = [4, 2, 3]
term_counts = [2, 6, 42]

```

```
x = np.arange(len(categories))
width = 0.35

fig, ax = plt.subplots(figsize=(10, 6))
bars1 = ax.bar(x - width/2, font_counts, width, label="Font bridges", color="#2E75B6")
bars2 = ax.bar(x + width/2, term_counts, width, label="Term bridges", color="#E8A838")

ax.set_ylabel("Number of Bridge Artifacts")
ax.set_title("Bridge Artifact Degree Distribution")
ax.set_xticks(x)
ax.set_xticklabels(categories)
ax.legend()

for bar in bars1:
    ax.annotate(str(int(bar.get_height())), xy=(bar.get_x()+bar.get_width()/2, bar.get_height()),
                xytext=(0, 3), textcoords="offset points", ha="center", fontsize=10)
for bar in bars2:
    ax.annotate(str(int(bar.get_height())), xy=(bar.get_x()+bar.get_width()/2, bar.get_height()),
                xytext=(0, 3), textcoords="offset points", ha="center", fontsize=10)

plt.tight_layout()
plt.savefig("bridge_degree_distribution.png", dpi=150)
plt.show()
```

Source: Matthew Guertin v. State of Minnesota | 27-CR-23-1886 | MCRO Forensic Database | MattGuertin.com