Middleware Evaluation Checklist for Beaker Teams

Use these questions to compare middleware vendors, validate migration risk, and separate operational evidence from vendor assurances.

HOW TO USE THIS CHECKLIST

Ask every middleware vendor, including your current one, to answer these questions with evidence, not assurances. The goal is not to disqualify anyone. It is to surface the gaps before a contract is signed or a cutover is attempted. Labs that skip this step usually discover the answers at the worst possible moment.

SECTION 1 ACK and Delivery Evidence

Can the system prove a result was accepted, not just sent?

- [ ] **Can you show me the raw MSA ACK code returned by the downstream system for any given result?**
  A status flag that says "delivered" is not the same as an application acknowledgment from Epic Beaker or Cerner. If the vendor cannot produce the actual MSA code on demand, they cannot prove the result was accepted.
- [ ] **Can you show delivery attempt count, retry state, and latency for a specific message?**
  Transient failures that retry silently are invisible in most middleware. You need to see attempt history, not just final state.
- [ ] **If a result fails to deliver, who owns the exception, and how does your team find out?**
  The answer should not be "the vendor monitors it." Your team should have an operator worklist, an alert, or a visible queue. Tribal knowledge and email chains are not exception management.
- [ ] **Can I access this delivery evidence without submitting a support ticket?**
  If the answer is no, your team cannot self-serve an investigation during a go-live or critical value event. That is a structural risk, not a vendor limitation.

RED FLAGS IN THIS SECTION

- "The system shows it delivered" without showing the downstream ACK.
- "We can pull that from logs" when vendor involvement is required to answer an operational question.
- No visible retry or exception state for the operator team.

SECTION 2 Routing Transparency

Can you see why a result routed the way it did?

- [ ] **Are routing rules visible and reviewable by your team, not just vendor engineers?**
  Rules locked in config files only the vendor can interpret are a support dependency. Your interface team should be able to read, review, and audit every routing decision.

- [ ] **Can you see the current queue state - staged, held, timed out, or delivered - for in-flight specimens?**
  In a hub-and-spoke network, a specimen waiting for a performing site to arrive should be visible, not silent. Queue-state visibility is the difference between proactive management and reactive firefighting.

- [ ] **If a routing rule is changed, is there an audit record showing who changed it, when, and why?**
  Routing changes without audit trails create liability in CAP inspections and go-live reviews. Every change should produce a record.

- [ ] **How does the system handle a specimen that matches no routing rule?**
  The answer should be a defined exception state with operator visibility, not silent discard or default delivery to an unintended destination.

SECTION 3 Shadow Mode and Migration Safety

Can you prove equivalence before touching production?

- [ ] **Can this system run beside our current middleware in shadow mode without disrupting production?**
  A vendor that requires a production cutover before you can evaluate their system is asking you to trust them before you have evidence. Reject this model.

- [ ] **Can you compare shadow results against DI or current middleware output, row for row?**
  You need to see matching rows, missing rows, value discrepancies, flag differences, and timestamp tolerances, not a summary dashboard.

- [ ] **Can you move one source live at a time, and reverse if needed?**
  All-or-nothing cutover is legacy thinking. A credible middleware replacement supports incremental cutover with a reversal path at each step.

- [ ] **What does a 90% migration confidence score actually mean, and what is the denominator?**
  Confidence metrics are only useful if you understand what they are measuring. Ask for the definition, not just the number.

SECTION 4 Validation Evidence for Go-Live

What proof can you export before you flip the switch?

- [ ] **Can you export a go-live evidence pack without raw PHI, patient names, or MRNs?**
  Validation evidence that requires de-identification as a separate step is a gap. The system should produce PHI-safe exports from the governed data path by design.

- [ ] **Does the validation export cover connectivity, mapping coverage, delivery attempts, ACKs, routing state, QC events, and audit activity?**
  Each of these represents a question a lab director, LIS manager, or CAP inspector may ask at go-live. If any is missing, you will be assembling the answer from screenshots and memory.

- [ ] **Are mapping decisions, including LOINC suggestions and reviewer approvals, auditable?**
  Mapping decisions made during implementation become liability during accreditation. Every suggestion, approval, and rejection should be traceable.

- [ ] **Can clinical rules be tested, versioned, and validated with exportable evidence before promotion?**
  A rule promoted to production without validation evidence is an unsupported change. The system should enforce a review and evidence step, not make it optional.

SECTION 5 Total Cost of Ownership

What does this actually cost over three years?

- [ ] **What is the per-analyzer cost model - license, interface fee, or included in the platform?**
  Legacy middleware often quotes a platform price and adds per-analyzer interface fees later. Get the full instrument-count pricing in writing before signing.

- [ ] **What professional services hours are required to add a new analyzer integration?**
  "Supported" and "included" are not the same. Ask specifically how many PS hours the last three analyzer onboardings required.

- [ ] **What does an upgrade or version change cost in PS hours and downtime?**
  Vendors with strong PS revenue have limited incentive to minimize upgrade complexity. Ask for the upgrade history of your planned version.

- [ ] **What are the contractual data portability terms if you leave?**
  You own your clinical data. Confirm you can export your configurations, mappings, routing rules, and audit history in a portable format, and what that process looks like in practice.

VORIAN HEALTH CONNECT ANSWERS EVERY QUESTION ON THIS CHECKLIST.

We run beside your current middleware in shadow mode, compare result-for-result against DI, and generate a PHI-safe go-live evidence pack before you commit to anything.

Request a pilot at vorian.health

Vorian can prove configured handoffs and returned status up to agreed integration boundaries. Visibility beyond those boundaries depends on downstream system behavior, customer integration contracts, returned status, and site validation.