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Fixing Bad Asset Data Before and After Migration

Asset Hierarchy, Classification, and Deduplication for Teams Moving to IBM Maximo Application Suite

TECHNICAL GUIDANCE PAPER

Fixing Bad Asset Data Before and After Migration is a technical guidance paper for organizations moving to IBM Maximo Application Suite or upgrading from Maximo 7.6.1.

01 — WHY DATA, AND WHY NOW

The Migration Moment Is a Data Reckoning

A move to IBM Maximo Application Suite, or an upgrade from Maximo 7.6.1, is rarely a simple lift and shift. It is the moment your asset data is finally exposed to the full light of day. Every duplicate record, every orphaned asset, every inconsistent naming convention, and every miscoded classification that your team has worked around for years follows you into the new environment unless you address it deliberately. MAS does not repair bad data. It inherits it, and then it amplifies the consequences.

This matters because MAS is built to do far more with your data than a legacy system ever did. Health, Monitor, Predict, and the AI driven capabilities across the suite all depend on a clean, well structured asset foundation. Predictive models trained on duplicated or misclassified assets produce unreliable scores. Reliability strategies built on an incomplete hierarchy miss the dependencies that actually drive downtime. The value you expect from MAS is gated by the quality of the data you bring to it.

At SMS we have completed over 1,000 EAM implementations across oil and gas, life sciences, aerospace, and other asset intensive industries. The single most reliable predictor of a smooth migration, and fast time-to-value afterward, is the state of the asset data before the project begins. This paper sets out how we approach three problems that consistently determine success: asset hierarchy, classification, and deduplication.

02 — ASSET HIERARCHY

Rebuild the Hierarchy Around Function, Not History

The asset hierarchy is the backbone of everything else in Maximo. It determines how costs roll up, how work history accumulates, how failures are traced to their source, and how reliability is measured. In most 7.6.1 systems, the hierarchy has drifted over a decade or more of incremental changes. Assets sit under the wrong parents, locations and assets are used interchangeably, and the structure reflects how the system was built rather than how the plant actually operates.

Common Hierarchy Problems Found Before Migration

- Flat structures where hundreds of assets hang directly off a single site with no functional grouping, making cost roll up and analysis impossible.
- Inconsistent use of the location hierarchy versus the asset hierarchy, so that the same physical reality is modeled two different ways across sites.
- Orphaned assets with no parent, no location, or a parent that no longer exists, which disappear from rolled up reporting.
- Hierarchies that mirror the old org chart or a former CMMS structure rather than the process and system relationships that drive maintenance.

The SMS Approach

We rebuild the hierarchy around function and process. A well-formed hierarchy in MAS should let an engineer trace any asset upward to the system and process it supports, and downward to its components and spares. This is what makes failure analysis, criticality ranking, and reliability strategy possible once you are live.

- 1. Establish a standard.** Adopt a recognized functional location and asset taxonomy, such as an ISO 14224 aligned structure for process industries, so the hierarchy is consistent across every site rather than improvised per plant.
- 2. Separate locations from assets.** Use the location hierarchy to model where work happens and the asset hierarchy to model what is maintained, applying the distinction the same way everywhere.
- 3. Validate against the physical plant.** Confirm parent and child relationships with engineering drawings, operators, and reliability staff rather than trusting the inherited structure.
- 4. Resolve orphans before you move.** Every asset must have a defensible place in the structure before migration, or it will arrive in MAS as a record nobody can analyze.

03 — CLASSIFICATION

Classification Is What Makes Data Searchable and Predictable

Classification is the layer that turns a list of assets into a usable, query-able asset base. It is how you find every pump of a given type across the enterprise, how you compare failure rates between like assets, and how you supply the structured attributes that MAS Health and Predict need to function. A migration is the rare opportunity to impose a consistent classification scheme on data that has accumulated inconsistently for years.

Classification Problems That Undermine MAS

- Free text descriptions doing the work of classification, so that the same asset type is recorded in a dozen different ways and can never be reliably grouped.
- Sparse or empty specification attributes, leaving Health and Predict without the structured data they rely on to model condition and failure.
- Classifications that exist but are applied inconsistently, with assets coded by whoever entered them rather than by a governed standard.
- Inherited code lists from the legacy system that no longer reflect the equipment actually in service.

The SMS Approach

We treat classification as a controlled vocabulary that is designed once and governed continuously. The objective is that any asset can be found by what it is, not by how someone happened to describe it, and that every asset of a given class carries the same set of meaningful attributes.

- Design a classification hierarchy that reflects the equipment in service, mapped to an industry standard where one applies, and validated with the engineers who maintain the assets.
- Define the required specification attributes for each class, so that condition monitoring, predictive scoring, and warranty tracking have the structured inputs they need.
- Use rules and matching to map legacy free text descriptions to the new classifications at scale, with engineering review of exceptions rather than manual re-coding of every record.
- Establish governance so that new assets are classified correctly at the point of entry, preserving the quality you create during migration.

04 — DEDUPLICATION

Eliminate Duplicates Before They Multiply in MAS

Duplicate and redundant asset records are the most damaging form of bad data because they fracture the very history that makes an asset record valuable. When one physical pump exists as three records, its work history, costs, and failure events are split three ways. No single record tells the truth, reporting overstates the asset count, and any analytics built on top, including the AI capabilities in MAS, learn from a distorted picture.

Where Duplicates Come From

- Multiple legacy systems consolidated into one Maximo instance, each contributing its own record for the same physical asset.
- Manual creation of a new asset when an existing one could not be found, often because classification and naming were inconsistent.
- Bulk loads and integrations that reinserted assets already present under slightly different identifiers.
- Replaced equipment recorded as new assets without retiring or linking the records they superseded.

The SMS Approach

We identify and resolve duplicates as a structured exercise, not a guessing game, and we do it before migration so that consolidated history moves into MAS intact. The goal is one record per physical asset, carrying the complete and combined history of that asset.

- 1. Profile the data.** Use matching on attributes such as serial number, model, manufacturer, location, and normalized description to surface likely duplicates across all source systems.
- 2. Score and review.** Rank candidate matches by confidence so that clear duplicates are consolidated efficiently while ambiguous cases receive engineering judgment.
- 3. Merge history, do not discard it.** Consolidate work orders, costs, meter readings, and failure history onto the surviving record so that nothing of value is lost in the cleanup.
- 4. Prevent recurrence.** Pair the cleanup with the classification and naming standards above, and with search and entry controls in MAS, so duplicates do not silently return.

05 — SEQUENCING THE WORK

Before Migration or After: What Belongs Where

A frequent question is whether to fix data before the migration or after the team is live on MAS. The honest answer is that the highest value work belongs before, because cleaning data once and migrating it clean is far cheaper than migrating problems and untangling them in a production system. The table below reflects how SMS sequences the work on a typical engagement.

Activity	When	Why
Hierarchy redesign and orphan resolution	Before	Structure drives every roll up and analysis in MAS and is costly to restructure live
Classification design and bulk mapping	Before	Health and Predict need governed attributes from day one
Deduplication and history merge	Before	Merging records in a live system risks losing or splitting history
Attribute enrichment from field validation	Before and after	Start with critical assets, then extend coverage as MAS mobile captures data
Governance and data entry controls	After, sustained	Protects the investment so quality does not erode again

A Note on Sustaining Quality

Cleaning data once is necessary but not sufficient. Without governance, the same drift that degraded your 7.6.1 data will return in MAS. We help clients put standardized data entry procedures, naming conventions, and classification rules in place so that the quality created during migration is preserved. This is the difference between a one-time cleanup and a durable asset foundation.

06 — MOVING FORWARD

Clean Data Is the Fastest Path to MAS Value

The organizations that get the most from IBM Maximo Application Suite are not the ones with the most ambitious AI roadmap on day one. They are the ones that arrive with a clean, well structured, well classified, and deduplicated asset base, because that foundation is what every advanced capability in the suite is built upon. Hierarchy, classification, and deduplication are not migration overhead. They are the work that determines whether MAS delivers reduced downtime, lower maintenance cost, and reliable predictive insight, or simply reproduces the problems you hoped to leave behind.

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As an **IBM Platinum Partner** with deep EAM expertise, **SMS** approaches migration as an adviser first. We identify the gaps in your asset data, then deliver the targeted remediation that turns a risky cutover into a foundation for long term reliability. If you are planning a move to MAS or an upgrade from 7.6.1, the right time to assess your asset data is before the project scope is set.

