

ERP-799 Mobility-HU Storage Location Transfer

Introduction

This Data Flow Specification (DFS) defines the end-to-end data flow required to meet the following requirements:

- ERP-xx Business Case
- etc.

[A consolidated view of all the Requirements, KPIs and the supplying views covered by this DFS.](#)



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Source System Extractors

Extractor Name	Build Jira Ref For Extension Information
I_GLAccountLineItemRawData	
I_LedgerCompanyCodeCrcyRoles	
I_LedgerSourceLedger	
I_PlanningCategory	
I_GLAccountHierarchy	

Inbound Layer

Source: I_GLACCOUNTLINEITEMRAWDATA

Properties:

- Delta
- Standard technical fields (load date/time, source system) are added

Harmonisation Layer

2TL_HARM_I_GLACCOUNTLINEITEMRAWDATA

Source: 1TL_S4Hx_I_GLACCOUNTLINEITEMRAWDATA

Purpose:

- Union China with RoW for performance reasons

2VR_HARM_

Source: 2TL_HARM_I_GLACCOUNTLINEITEMRAWDATA

Purpose:

- H

2VR_A2DAMM_PMNotifMaintenanceData

Source: 1TL_S4Hx_Z_I_PMNotifMaintenanceData

Purpose:

- Harmonise notification maintenance data.
- Preserve raw downtime duration (seconds) and malfunction timestamps.
- Align technical object identifiers with order data.

Propagation Layer

3VR_A2DAMM_PlannedDownTime

Source: 2VR_A2DAMM_MaintOrderTech

Transformations/Calculations:

- Planned downtime window derived from Scheduled Basic Start and End date/time.
- PlannedVsUnplanned flag set to 'PLANNED'.
- SourceType set to 'ORDER'.

3VR_A2DAMM_UnplannedDownTime

Source: 2VR_A2DAMM_PMNotifMaintenanceData

Calculation:

- Unplanned downtime duration sourced from MaintObjectDowntimeDuration (seconds).
- PlannedVsUnplanned flag set to 'UNPLANNED'.
- SourceType set to 'NOTIF'.

3VF_A2MAMM_PMNotifMaintenanceData

Source: 2VR_PMNotif

Logic / Adjustments:

- Project the notification-centric reporting grain (1 row per Maintenance Notification).
- Include required dimensions from the FS (e.g., Notification Type/Priority/Origin, Maintenance Plant, Creation Date/Time, Equipment, Functional Location).
- Include raw downtime duration (seconds) and derived hours where required (no pre-aggregation).

3VF_A2DAMM_DowntimeFact

Union:

Purpose: Combine planned and unplanned downtime into a single reusable downtime fact.

Union of: 3VR_A2DAMM_UnplannedDownTime & 3VR_A2DAMM_PlannedDownTime

Target Field Mapping:

- Technical Object fields aligned across both sources.
- Downtime duration stored in hours (conversion applied where required).

No aggregation is performed at this stage.

[Datamodel, calculations and associations.](#)

Projection:

Projection before union. Two objectives:

Create a shared downtime schema.

- SourceType = 'ORDER' / 'NOTIF'
- PlannedVsUnplanned = 'PLANNED' / 'UNPLANNED'
- DowntimeSeconds and/or DowntimeHours
- Normalise Functional Location: I_PMNotifMaintenanceData.RelevantFunctionalLocation & I_MaintOrderTechObjCube.
_LocationAccountAssignment.FunctionalLocation

Standardise time fields

- Planned: map scheduled basic start/end into StartDateTime, EndDateTime
- Unplanned: map malfunction start/end into StartDateTime, EndDateTime

Union:

Common fields

- Equipment
- Functional Location
- MaintenancePlanningPlant
- MaintenancePlannerGroup
- MaintenancePlant

Reporting Layer

4MA_A2DAMM_DowntimeFact

Supports:

- ERP-1012 Asset Down Time Planned vs Unplanned
- ERP-1012 Loss Driver (# breakdown hours)

Includes technical details for:

- Post-aggregation calculations
- Restricted measures
- Time-based analysis and drill-through

Calculated Measures (Post Aggregation Calculations / exception aggregation etc)

Report Field Description	SAP Table-Field Name / process	Comments / Calculation / Formula / Restriction dimensions and values	Aggregation of data	Example SAP field data
Notification Count	Process: constant 1 per notification row in unplanned projection	Counts maintenance notifications used in the unplanned side of the downtime fact. Supports: (a) Loss Driver # notifications per asset (ERP-1012) where required in dashboards, (b) general notification volume analysis. Implemented as 1 per row sourced from I_PMNotifMaintenanceData (notification grain).	SUM	1
Breakdown Notification Count	Process: CASE WHEN I_PMNotifMaintenanceData.MaintenanceObjectIsDown = 'X' THEN 1 ELSE 0 END	Counts only notifications where the object was truly down (breakdown). Used to restrict unplanned downtime views and support breakdown frequency analyses.	SUM	1 / 0
Downtime Duration (Seconds, Unplanned)	I_PMNotifMaintenanceData.MaintObjectDowntimeDuration	Raw downtime duration in seconds for unplanned breakdown events. Base measure for unplanned downtime calculations (hours) and Loss Driver (# breakdown hours).	SUM	7200
Downtime Hours (Unplanned)	Calculated: I_PMNotifMaintenanceData.MaintObjectDowntimeDuration / 3600	Normalized unplanned downtime in hours derived from raw seconds.	SUM	2
Planned Order Count	Process: constant 1 per planned order row in planned projection	Counts planned maintenance orders included in the planned side of the downtime fact (e.g., by MaintenanceOrderType and/or MaintenanceOrderPlanningCode rules).	SUM	1

Planned Window Seconds	Calculated: (ScheduledBasicEndDateTime - ScheduledBasicStartDateTime) from SAP_PM_HL_MaintOrder date/time fields	Planned outage window duration in seconds, derived from scheduled basic start/end of the maintenance order.	SUM	14400
Planned Window Hours	Calculated: PlannedWindowSeconds / 3600	Normalized planned downtime window in hours derived from scheduled basic dates/times.	SUM	4
Unified Downtime Hours	Calculated: CASE WHEN SourceType = 'NOTIF' THEN DowntimeHours (Unplanned) ELSE PlannedWindowHours END	Core downtime measure in the unified fact: - SourceType='NOTIF': uses unplanned downtime hours - SourceType='ORDER': uses planned downtime window hours Primary input to ERP-1012 planned vs unplanned comparisons and Loss Driver (# breakdown hours) (restricted to UNPLANNED).	SUM	2.0 / 4.0
Total Unplanned Downtime (Hours)	SAC Restricted Measure: SUM (Unified Downtime Hours) where PlannedVsUnplanned = 'UNPLANNED'	Restricted measure in SAC that sums Unified Downtime Hours only for unplanned (breakdown) records. Used directly in ERP-1012 KPI views.	SUM	
Total Planned Downtime (Hours)	SAC Restricted Measure: SUM (Unified Downtime Hours) where PlannedVsUnplanned = 'PLANNED'	Restricted measure in SAC that sums Unified Downtime Hours only for planned maintenance records.	SUM	
Downtime Ratio Planned / Unplanned	SAC Calculated Measure: TotalPlannedDowntime / NULLIF (TotalUnplannedDowntime, 0)	Ratio of planned to unplanned downtime for the selected context. Benchmarking measure.	CALCULATED	
Technical Availability % (optional)	SAC Calculated Measure: (AvailableTime - TotalUnplannedDowntime) / AvailableTime * 100	High-level availability KPI. AvailableTime must be defined by business rule (e.g., 24h days in period, with or without planned windows). Not sourced from CDS.	CALCULATED	

Restricted Measures

tbd

Currency Conversions

tbd

Variables

Field	Required /Optional	Scope	Default	Comment
Periods (Weeks / Months / Quarters)	Optional	Interval (Date or Fiscal Period)	Default = last xxxxx	Applied using CreationDate or CreationDateTime
Functional Location (Asset Hierarchy)	Optional	Hierarchy	No default	Filters the dataset based on the asset hierarchy, supported via FunctionalLocation from I_PMNotifMaintenanceData. (Does this hierarchy exist?)
Main Work Center	Optional	Multiple Single Values	No default	(_MainWorkCenter.WorkCenterInternalID).
Planner Group	Optional	Multiple Single Values	No default	Not supported in this Analytical Model because Planner Group is not a field in either I_MaintenanceNotification or I_PMNotifMaintenanceData.
Storage Location	Optional	Multiple Single Values	No default	Not supported in this Analytical Model.
Maintenance Event	Optional	Multiple Single Values	No default	No dedicated "Maintenance Event" field exists. Not supported in this Analytical Model. Potential exists for an alternative.

Data access controls

4MA_A2DAMM_PMNotifMaintenanceData

Supports:

- ERP-1012 Loss Driver (# breakdown hours) – unplanned downtime hours from notifications
- ERP-1012 Loss Driver (# notifications) – notification counts and status-driven slicing
- ERP-1012 Technical Availability (input measures) – unplanned downtime and breakdown flags used in SAC availability calculations
- ERP-1013 MTBF assuming the definition is "Time between failure events".*

*Since this potentially is the difference between two consecutive breakdown records, more calculations may be required in a separate model. Complexity ramps up if it requires actual operating hours between failures.

Includes technical details for:

- Post-aggregation calculations in SAC (e.g., hours conversions, ratios, availability formulas)
- Restricted measures by breakdown / downtime flags and status
- Time-based analysis (malfunction start/end, creation dates) and drill-through to Maintenance Notification

Dimensions & Measures are defined in the Functional Specification under "Dimensions & Measures: Requirements View"; the analytical model exposes those fields at notification grain without pre-aggregation.

Calculated Measures (Post Aggregation Calculations / exception aggregation etc)

Report Field Description	SAP Table-Field Name / process	Comments / Calculation / Formula / Restriction dimensions and values	Aggregation of data	Example SAP field data
Notification Count	Process: constant 1 per record	Base measure for notification-level counting.	SUM	1
Breakdown Notification Count	Process: CASE WHEN MaintenanceObjectIsDown = 'X' THEN 1 ELSE 0 END	Counts notifications where the maintenance object is flagged as down. Used for breakdown frequency KPIs.	SUM	1
Downtime Duration (Seconds)	I_PMNotifMaintenanceData. MaintObjectDowntimeDuration	Raw downtime duration as stored in PM notification (AUSZT). No transformation.	SUM	7200
Downtime Duration (Hours)	Calculated: MaintObjectDowntimeDuration / 3600	Convenience conversion of downtime seconds to hours.	SUM	2
Availability Before Malfunction (%)	I_PMNotifMaintenanceData. AvailyBeforeMalfunctionPercent	Availability percentage recorded before malfunction. Untransformed source value.	AVG	98.5
Availability After Malfunction (%)	I_PMNotifMaintenanceData. AvailyAfterMalfunctionPercent	Availability percentage recorded after malfunction. Untransformed source value.	AVG	75
Availability After Conclusion (%)	I_PMNotifMaintenanceData. AvailyAfterConclusionPercent	Availability percentage after notification completion. Untransformed source value.	AVG	96
System Condition Before Malfunction	I_PMNotifMaintenanceData. SystConditionBeforeMalfunction	System condition indicator before malfunction. Source value, no derivation.	AVG	4
System Condition After Malfunction	I_PMNotifMaintenanceData. SystConditionAfterMalfunction	System condition indicator after malfunction. Source value, no derivation.	AVG	2
System Condition After Completion	I_PMNotifMaintenanceData. SystConditionAfterCompletion	System condition indicator after completion. Source value, no derivation.	AVG	4
Emergency Notification Count	Process: CASE WHEN MaintPriority IN ('0','1') THEN 1 ELSE 0 END	Counts emergency notifications (priority 0 & 1). Used for ERP-1092 KPIs.	SUM	1

Outbound Layer