

ERP-1496 System Interface - Constraint.tab interface to Maestro

Status	Approved
Owner	BROWN-ext, Kevin
Stakeholders	NARAHARI-ext, Bhargavi GARG-ext, Praful
Jira Request ID	 ERP-1213 - Jira project doesn't exist or you don't have permission to view it.
Jira Development ID	 ERP-1496 - Jira project doesn't exist or you don't have permission to view it.

High- Level Specification

Implementing System	Kinaxis Maestro
Invoked by/Invokes	 ERP-1489 - Jira project doesn't exist or you don't have permission to view it.
Business Process Reference	04.04.06.01. Data provisioning ERP to Maestro

Functional Overview

A **Constraint** is an identified limitation on the production process or supply source. This is important as they must be applied to a PartSource. Examples include equipment (such as a WorkCentre or Line, where maximum production per day would be represented), labor or people (such as staff shortages), and agreements (for example, restrictions on purchasing more than a specified amount during a calendar month).

Constraints can be expressed in any UOM (hours, kg, etc.), with conversion handled through Constraint.UnitOfMeasure and PartSource.SupplierUOM via SourceConstraint.ConstraintFactor.

Scope and Objectives

The scope of this interface is between Global Integration Suite and Maestro. This document includes details of the Constraint.tab object.

The objective is to populate the Constraint and it's referenced tables based on the file provided by Global Integration Suite.

Process Flow Diagram



Source page access restriction: Click the link below to check if the page is accessible.

[/display/ER/System+Interface+-+Reference+Specification+for+Maestro](#)

Step	Description
1	Global Integration Suite transfers transformed Composites / Rest of World data from S/4, and performs some formatting, and sends the data to Maestro.
3	Transferred files will be sent to Maestro's Client SFTP server. This sits outside of the Maestro firewall and is accessible by client using a user id/ password. Files are transferred from this component to the Planning Server SFTP by a Kinaxis automatic process once the trigger file has been placed (see below)
4	Files are moved to this SFTP server automatically, where they await loading into Maestro.
5	Maestro uses the configured DSM (Data Sources and Mapping) setup to load the data into the Constraint table, with the load initiated either manually or through a scheduled system task.
6	The Data Tables which store information in Maestro

Assumptions

- Data will only come from Global Integration Suite into the Global Data Source, set up in Maestro.

Dependencies

- (SFTP) SFTP credentials needs to be set up, along with the file transfer mechanism.
- Integration suites should provide data in the format described by the Data Sources and Mapping section of this document.

Security, Integrity and Controls

See [Application Architecture Kinaxis Maestro](#) for security requirements for SFTP/REST based authentication and security.

Configuration Requirements

The Data Sources and Mapping for this interface should be configured once, according to the structure in the Data Structure section below.

The Data Model needs to be configured with the Syway-specific fields shown in the Data Model Custom Fields section below.

Special Requirements

None

Design Rationale

The base of this design has been taken from the existing Maestro implementation, as designed during the Advanced Planning System (APS) Project.

A fit-gap analysis was undertaken within Syway, and changes were identified which have been incorporated into the Syway spec as shown.

API Use

The data object provided by either Integration Suite will be **consumed** by Maestro.

For more information see the [Data Integration Document](#).

Data Structure

The following Maestro fields will be populated by the file provided by Integration Suite:

Column Number	Field Name	Technical Field Name	Data Type	Key	Field Type	Autocreate	Description
0	DataDate	DataDate.Value	String	N	FixedValue	Default	MRP date representing the planning snapshot date for the constraint record.

0	MRPController	SYE::MRPController.Value	String	N	FixedValue	Y	Used for responsibility solution. It will allow responsible users to edit the constraint properties
1	Name	Name	String	Y	ExtractField	Default	Unique constraint (resource) name or code. Acts as the primary identifier for the constraint.
2	Site	Site.Value	Ref String	Y	ExtractField	Default	Plant / site where the constraint (resource) is defined.
2	MRPControllerSite	SYE::MRPController.Site.Value	Ref String	N	ExtractField	Default	Plant associated with the MRP Controller.
3	Description	Description	String	N	ExtractField	Default	Descriptive text providing additional details about the constraint or resource.
4	KeyConstraint	Solutions::KeyConstraint	Boolean	N	ExtractField	Default	Indicates whether the constraint is considered a key or critical constraint in planning logic.
5	Calendar	Calendar.Value	Ref String	N	ExtractField	Default	Calendar identifier used to determine working and non-working time for the constraint. Value sourced via transformation logic (SyWay adjustment).
6	Type	Type.Value	Ref String	N	ExtractField	Default	Constraint type classification. Value derived from source system (work center-related).
7	UnitOfMeasure	UnitOfMeasure.Value	Ref String	N	ExtractField	Default	Unit of measure used for capacity or rate calculations for the constraint.
8	AvailableRate	SYE::AvailableRate	Quantity	N	ExtractField	Default	The rate from ERP that will be used to create the Constraint Rate records for this constraint

File Formats

See *File Formats - SFTP* section in the [Data Integration Document](#).

Data Model Constraint table settings:

Allow Data update to:			Currency	
Insert, Modify and Delete records	Insert and Modify records only	Allow automatic record creation	Determined by Maestro	Expression
Y	-	N	Y	-

Data Model Constraint custom fields:

Field name	Description	Data type	Key
MRPController.Value	Used for responsibility solution. It will allow responsible users to edit the constraint properties	String	N
MRPController.Site	Used for responsibility solution. It will allow responsible users to edit the constraint properties	String	N
AvailableRate	The rate from ERP that will be used to create the Constraint Rate records for this constraint	Quantity	N
InputWeight	Not mapped. This is a user input field to support the constraint group solution. The weight is the ratio of this constraint to the group constraint	Quantity	N
IsGroupConstraint	Boolean marker to identify Group Constraints	Boolean	N
OEE	Not mapped. This is a user input field to support the reliability calculations. This will impact how much to load the constraint in Maestro	Quantity	N

Processing Logic

See *Processing Logic - SFTP* section in the [Data Integration Document](#).

Delta or Full Load Requirements

The preference is to do a full load.

For more information on the difference between Full and Delta loads, see the *Full Loads and Delta Loads - SFTP* section in the [Data Integration Document](#).

Interface Alert & Monitoring

See the *Interface Alert & Monitoring - SFTP* section in the [Data Integration Document](#),

Language Requirements

None

User Interface Requirements

Not required.

Sequencing

Reference tables to support Constraint table data have to be either loaded manually before loading the Constraint table or at the same time as the Constraint table is loaded or set to be created automatically in data model or in DSM.

Below tables need to be taken into account before Constraint table data load:

Table	SyWay configuration
ConstriantGroup	
ConstraintType	
Calendar	
MRPController	Set to allow automatic record creation
Site	
PlannerCode	
ConstraintUnitOfMeasure	

Volumetrics

Current APS Volume of Constraint records is 85. Because APS makes up approximately 60% of Syway projected records, an expected estimate for Syway is therefore 140

This value is expected to grow by 1-2% per year.

Performance Consideration

N/A

Error Handling

See Interface Alert & Monitoring section.

Testing

How to Test

Testing of the interface consists of executing the data load into Maestro and validating the results using standard monitoring and validation tools. After each load, the **Data Import and Update** log is reviewed to confirm successful execution and to identify any errors or warnings generated during the load process.

Loaded data is then validated using a **Data Validation** workbook to ensure data completeness and correctness. Validation checks include confirming that required fields are populated, values are displayed in the correct format, and that data quality issues such as blank fields, incorrect quantities, or zero or invalid unit costs are not present. Additional checks may be performed to ensure consistency across key attributes such as part, location, and quantity.

Any errors or data issues identified during testing are documented in the agreed issue tracking mechanism (for example, in Jira or an action log). Most common error types are duplicate errors, missing references, junk values in input fields.

Duplicate errors need further investigation, in case valid data is flagged as duplicate by Maestro during data load and key field combinations have to be looked into for data uniqueness.

Missing references are to be resolved by either providing the missing data that is required to support the file upload (this could be in the form of a file or Maestro settings to allow for the data to be created automatically) or removing the references from the file.

Required corrections are implemented in the middleware (Integration Suite), and the data is reloaded. Validation steps are repeated until no errors are present (or reasons are fully understood).

Test Conditions and Expected Results

Sno	Test Case	Expected Result
1	Data Load Successful	The Data in the data file matches the data in the Maestro table, and there are no errors.
2	Data File contains 0 records	The Data Update should fail with a status of Pending.
3	Data file contains duplicates	Duplicates for Constraint.tab are Not permitted technically as there are key fields, so no duplicate errors should exist, but a manual comparison test should be performed to ensure that no 2 rows are the same.
4	Missing Reference on Constraint Type	Constraint.Tab has field values rereferring to control table values/ tables like ConstraintGroup, ConstraintType, Calendar, MRPControllerSite, PlannerCode, and ConstraintUnitOfMeasure. All those tables and values must exist prior to data load.

There are no Constraint-specific test conditions.

Test Considerations/Dependencies

Dependent files should already be loaded into Maestro for these tests to complete. See Sequencing section above.

Other Information

Development Details

Package

Package Name	Parent Package

Other Development Objects

Object Type	Object Name	Purpose/High Level Logic	Design Rationale Reference

Appendix

See also

File	Modified
No files shared here yet.	

Change log

Version	Published	Changed By	Comment
CURRENT (v. 7)	Apr 02, 2026 14:21	KAVLEKAR-ext, Nihaal	Updated the Delta or Full load Requirement section
v. 6	Mar 19, 2026 14:22	KAVLEKAR-ext, Nihaal	Updated the Assumptions section
v. 5	Mar 12, 2026 09:36	KAVLEKAR-ext, Nihaal	
v. 4	Mar 02, 2026 09:27	GARG-ext, Praful	
v. 3	Mar 02, 2026 09:03	GARG-ext, Praful	
v. 2	Feb 05, 2026 03:26	MOHAMOUD-ext, Ahmed	
v. 1	Feb 03, 2026 21:05	MOHAMOUD-ext, Ahmed	

Workflow history

This view shows the 5 most recent entries. The complete workflow log is available from the 'Document Activity' menu item.

Apr 10, 2026	Actor	Type	Activity	Version
Approved	 NARAHARI-ext, Bhargavi	State	changed state to Approved at 5:26 pm	v7
Lead Approval	 NARAHARI-ext, Bhargavi	State	gave <i>POD Lead Review</i> approval at 5:26 pm	
Apr 07, 2026				
	 JAIN-ext, Dhiraj	State	changed expiry date to '14 Apr, 2026 08:37 am' at 8:37 am	
		State	changed state to Lead Approval at 8:37 am	v7
Tech Review	 JAIN-ext, Dhiraj	State	gave <i>Tech Review</i> approval at 8:37 am	
From Mar 02, 2026 to Apr 02, 2026				
	GARG-ext, Praful and KAVLEKAR-ext, Nihaal	Edit	multiple updates from  GARG-ext, Praful and  KAVLEKA R-ext, Nihaal	