

Paragon Interface

Aptean Ltd
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1 Paragon Interface

Note: This guide covers the direct Paragon API interface. There are other more manual interfaces to Aptean Routing & Scheduling - Paragon edition, but these are not covered here.

There are 2 types of direct Paragon APIs:

- Strategic - Fixed Drop Scheduling Engine
- Tactical - creating and optimising routes before or on the day of execution

These can be configured separately, so that either or both can be in use.

1.1 Configuration

1.1.1 System Parameters

System parameters enable the functionality of the Paragon API.

| Name | Description | Usage |
|----------------------------|--|--------|
| PAR_TENANT_KEY1 | Tenant KEY 1 for paragon API | SYSTEM |
| PAR_ENDPOINT_URL | URL for paragon API | SYSTEM |
| PAR_TENANT | Tenant for paragon API | SYSTEM |
| PAR_FREQUENCY | Frequency for PAR Master keys | SYSTEM |
| PAR_START_DATE | Start Date for Master Keys | SYSTEM |
| PAR_KEY_FORMAT | PAR Master key format WKXX, DDMM, DAYX | SYSTEM |
| TK_PAR_USE_RPOXY | Paragon Use Proxy | SYSTEM |
| TK_PAR_PROXY | Paragon Proxy Server | SYSTEM |
| PAR_GROUP_STAGING | Paragon Group Staging Level | SYSTEM |
| PAR_RUN_NUMBER | Is Paragon Planning based on Run Numbers? | SYSTEM |
| PAR_KEY_PROJECT | PAR Project name | SYSTEM |
| PAR_API | Create Control records for Paragon API | SYSTEM |
| PAR_SEND_ALL_LOCATIONS | Are locations sent out via API ('TACTICAL','STRATEGIC','BOTH') | SYSTEM |
| PAR_AUDIT | Include auditing of the import process in the STP version of the Paragon API (Y/N) | SYSTEM |
| HTTPS_WALLET_FILE | | |
| HTTPS_PASSWORD | | |
| AUTO_SCHED_INACTIVE_DEPOTS | | |
| TRM_RETAIN_EMPTY_STOPS | | |

A full list of configurable parameters is available here:

- [System Parameters List](#)

1.1.2 Order and Location Details sent to Paragon

The content of each message sent to Paragon is controlled through internal configuration tables. These are maintained and configured by your Aptean implementation team.

These allow configuration of the various elements that are sent from CTMS to Aptean Routing and Scheduling - Paragon Edition.

Orders

- Any direct field from tables:
 - ◆ SCH_ORD - the order.
 - ◆ SCH_ORDER_LINE - the deliverable types such as Parcels, Tyres, etc.
 - ◆ SCH_ORD_ITEMS - the individual parcels, or quantity of each specific product.



- ◆ GEO_LOCATION GEO_TO - details of the final destination.
- ◆ GEO_LOCATION GEO_FROM - details of the origin.
- Functions can be called for other information:
 - ◆ DP_PAR_API_STP.GET_REF - retrieve any reference against the order.
 - ◆ DP_PAR_API_STP.GET_ORDER_TYPE - retrieve the order type.
 - ◆ DP_PAR_API_STP.GET_FROM_LOC - summarised details of the origin.
 - ◆ DP_PAR_API_STP.GET_TO_LOC - summarised details of the destination.
 - ◆ DP_PAR_API_STP.OPENING_TIMES - opening times of the destination.
 - ◆ DP_PAR_API_STP.CLOSING_TIMES - closing times of the destination.
 - ◆ DP_PAR_API_STP.GET_DROP_NUMBER - the specific drop number.
 - ◆ DP_PAR_API_STP.GET_TOTAL_TYRES - the total tyres (specific to tyre delivery - use the below function for more generic systems)
 - ◆ DP_PAR_API_STP.GET_QTY_BY_DU - the total quantity of a specific deliverable unit, e.g. pallets, parcels, tyres, etc.

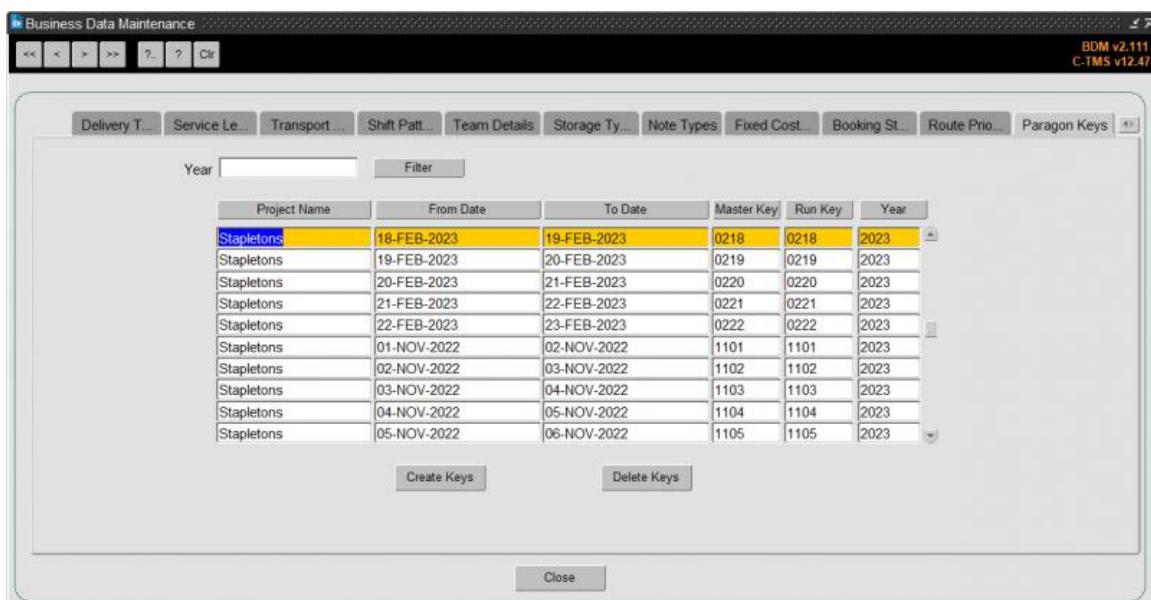
Locations:

- Any direct field from the following tables:
 - ◆ GEO_LOCATION - details of the supplied location.

1.1.3 Run Key Configuration

Aptean Routing and Scheduling - Paragon Edition controls all planning through Runs. Runs are normally associated to a schedule within CTMS, but not always. In this case, there is a Run configuration that aligns the dates of jobs within CTMS to the appropriate Paragon run key.

This is achieved through the [Business Data Maintenance](#) screen, on the *Paragon Keys* tab.



| Project Name | From Date | To Date | Master Key | Run Key | Year |
|--------------|-------------|-------------|------------|---------|------|
| Stapletons | 18-FEB-2023 | 19-FEB-2023 | 0218 | 0218 | 2023 |
| Stapletons | 19-FEB-2023 | 20-FEB-2023 | 0219 | 0219 | 2023 |
| Stapletons | 20-FEB-2023 | 21-FEB-2023 | 0220 | 0220 | 2023 |
| Stapletons | 21-FEB-2023 | 22-FEB-2023 | 0221 | 0221 | 2023 |
| Stapletons | 22-FEB-2023 | 23-FEB-2023 | 0222 | 0222 | 2023 |
| Stapletons | 01-NOV-2022 | 02-NOV-2022 | 1101 | 1101 | 2023 |
| Stapletons | 02-NOV-2022 | 03-NOV-2022 | 1102 | 1102 | 2023 |
| Stapletons | 03-NOV-2022 | 04-NOV-2022 | 1103 | 1103 | 2023 |
| Stapletons | 04-NOV-2022 | 05-NOV-2022 | 1104 | 1104 | 2023 |
| Stapletons | 05-NOV-2022 | 06-NOV-2022 | 1105 | 1105 | 2023 |

Note that the enabled in [Access Control](#), accessible tabs, for screen "BDM" tab "PAR_KEYS".

A full list of configurable tabs and functions is available here:

- [Access Control - Accessible Functionality](#)

1.1.4 Turning on the interface

The individual processes for Paragon are controlled through EDI Process Configuration in the [EDI Maintenance](#) screen.

Inbound



Inbound processes are split into 3

- Inbound Tactical Receive per depot
- Inbound Strategic Receive per depot
- Inbound Processing for all staged receipts above

Regardless of the components of the interface that are in use, the latter process must always be running.

Inbound Strategic Route

These processes get the information from Paragon and stage the information on inbound tables, ready for import

This can be configured for all depots or one per depot, depending on how Paragon is configured. For example, if Paragon is configured with different plans per regional depot, then each import process should be configured separately for each depot here. Therefore this should be named appropriately e.g. the name of the depot.

Process: DP_PAR_API_STP.get_paragon_route

Parameters

- DEPOT_KEY - the RDC Location ID

Report Values

- Package PROCESS DP_PAR_API_STP.get_paragon_route
- Process p_process_name the name of the EDI process that has been configured above.

Inbound Tactical

These processes get the information from Paragon and stage the information on inbound tables, ready for import

This can be configured for all depots or one per depot, depending on how Paragon is configured. For example, if Paragon is configured with different plans per regional depot, then each import process should be configured separately for each depot here. Therefore this should be named appropriately e.g. the name of the depot.

Process: DP_PAR_AP_STPI.get_paragon

Parameters

- DEPOT - the EDI Process Name

Report Values

- Package PROCESS DP_PAR_API_STP.get_paragon
- Process p_process_name Get_Paragon

Inbound Processing

This is the general inbound processing job.

This process processes the information from the inbound tables into the CTMS database.

- Name: paragon_in
- PROCESS: DP_PAR_API_STP.READ_PARAGON_IN

Report Values

- Package PROCESS DP_PAR_API_STP.READ_PARAGON_IN
- Process p_process_name paragon_in

Outbound



- Name: Paragon_Outbound
- Process: DP_PAR_API_STP.process_paragon

Parameters

- AUDIT_WS Y/N
- USE_RUN_DEPOT Y/N

Report Values

- Package PROCESS DP_PAR_API_STP.process_paragon_outbound
- Process p_process_name Paragon_Outbound

1.2 Strategic Interface

This interface allows definition of locations onto fixed routes at specific drop numbers.

 **Note:** This is applicable to Fixed Drop Scheduling engine only.

When imported, this deletes any previous configuration against locations and replaces it with the new network map.

 **Note:** Bank Holiday routes will NOT be deleted - these are expected to be managed manually in CTMS.

The data that is sent is configurable, as seen in the sections above.

1.3 Tactical

When orders are received into CTMS, they may be planned on temporary trips using the scheduling engine - these trips should be configured to be prefixed with "TMP" so that they can be easily distinguished.

Orders and Locations are sent to Paragon for planning.

The data that is sent is configurable, as seen in the sections above.

Paragon users then optimise and plans the orders.

When these Paragon routes are frozen, these are exported back to CTMS automatically. This remove any TMP trips, creates RTE trips and sets them to TENDERED status.

