



Xcelerator Auto-Dispatch

v2.0.2

Objective

The Xcelerator Auto-Dispatch system was built to perform precise dispatch decisions based upon user-defined rules, real-time conditions, and artificial intelligence. Auto-Dispatch allows carriers to:

- **Scale** – Handling unforeseen business spikes with ease and fewer resources
- **Improve Accuracy** – Consider scores of metrics and facts in a fraction of a second to make a precise assignment decision
- **Be flexible** – Use Auto-Dispatch for all after hours assignments
- **Delight and Engage Customers** – With optimized dispatch assignments and instant notifications
- **Satisfy Drivers** – With logical assignments that respect each IC's geographical working areas and hours of availability
- **Save Money** – Handle more business, faster, with fewer resources

Architecture

Although options relating to Auto-Dispatch can be found throughout Xcelerator, there are 4 primary components.

1. **Auto-Dispatch Engine** – This is the “brains” of Auto-Dispatch, where the algorithms and logic-blocks are processed. The Engine was built in such a way that the resources can be accessed by background services as well as user-interface components.
2. **Background Service** – An optional process, within Xcelerator, that runs continuously to monitor orders and execute Auto-Dispatch activities using the Engine.
3. **User-Directed Auto-Dispatch** – A user-interface screen that allows a dispatcher to choose one or more orders to have the Engine choose driver assignments. This can be used in addition to, or instead of the *Background Service*. Since this is a UI component, the results of an Auto-Dispatch task are displayed for the user after the assignments have been made, for convenience and review.
4. **Assisted-Dispatch** – A User-Interface screen that allows a dispatcher to choose one or more orders to have the Engine provide driver assignment options. This differs from item #3 because no assignments are made until the user approves.



Components / Options

Delivery Center Options – Auto-Dispatch Tab

Delivery Center Options

Delivery Center: Wall*

General Custom Settings Transaction Codes Multi-Mode OE Req. Fields OE Tab Seq. Online Settings Auto-Dispatch

Auto-Dispatch

Status Enabled

Score Factors

Proximity Multiplier

Proximity Base Points

Vector Multiplier

Vector Base Points

Cargo Capacity Multiplier

Cargo Capacity Base Points

Cargo Class Rank Multiplier

Cargo Class Rank Base Points

Preference Multiplier

Preference Base Points

Tech Capacity Multiplier

Tech Capacity Base Points

Optimization Analysis Multiplier

Optimization Analysis Base Points

Option Del. Center Basis Driver

Background Service User Auto Dispatch [7]

Status – Whether orders within this delivery center should be in scope of Auto-Dispatch

Score Factors – Further along in the document, we will learn how “scoring” is used to determine the best driver option. The score factors provide a “Multiplier” and a “Base Points” option for each of the numeric scoring categories. Users can be creative with negative or positive base points or multipliers to achieve the desired/weighted results. The “logic-block” section will explain these different score categories.

Option Del. Center Basis – A system-wide option chosen only in the **Default Delivery Center*, this determines which score factors to use; those in the order’s DC or those in the Driver’s DC.

Background Service User – For simplicity of logging and audit-trail analysis, a new Xcelerator User must be created and selected for the **Default Delivery Center*. This User should have login “**AutoDisp**” with first/last name “Auto Dispatch”, but no password, nor login access is necessary. This user will be linked to all background Auto-Dispatch services and activities that were not User-directed.



Service Types

Auto-Dispatch			
Status	Enabled ▼	Becoming Late Action	Reassign ▼
Scope Min (Target From)	90	Pickup Stop Dwell Time Sec	120
Scope Min (Target To)		Delivery Stop Dwell Time Sec	180
Becoming Late Min	10	Max Drv Distance Scope Miles	10.00
Unassign non-accepted after (min)	15	Max Seconds Since Drv GPS	180

Status - Whether orders with this service type should be in scope of Auto-Dispatch

Scope Minutes – Target From – The number of minutes prior to “*Pickup Target From*” that orders with this service type will become eligible for Auto-Dispatch.

Scope Minutes – Target To – The number of minutes prior to “*Pickup Target To*” that orders with this service type will become eligible for Auto-Dispatch. Please note, you can enter a value for either of the two fields (From/To) but not both.

Becoming Late Minutes – The number of minutes prior to “*Pickup Target To*” that incomplete Auto-Dispatched orders should be considered late and ready for an action.

Unassign non-accepted after (min) – After this number of minutes have elapsed, the Background Service will unassign any orders that it had previously assigned if the Driver has not yet accepted the order.

Becoming Late Action – The action the Background Service should take when an incomplete Auto-Dispatched order becomes late. (Unassign / Reassign)

Pickup Stop Dwell Time Seconds – The default number of seconds between pickup arrival and departure. This could be in use for addresses that do not have enough history to take an average. Otherwise, each Address has an average dwell time calculated by the system periodically.

Delivery Stop Dwell Time Seconds – The default number of seconds between delivery arrival and departure. This could be in use for addresses that do not have enough history to take an average. Otherwise, each Address has an average dwell time calculated by the system periodically.

Max Distance Scope (miles) – The furthest distance away from the pickup stop to consider a driver as an option

Max Seconds Since Driver GPS – The oldest GPS record to still consider a driver as an option

These values can be overridden in Client Master Service Overrides



Vehicle Types

Modifying Vehicle: Truck

Vehicle Display ?	Capacity Settings ?
Vehicle Name Truck	Max Weight (lbs) 50000.00
Vehicle Type Default ▼	Max Cubic Feet 640.0000
Auto-Dispatch Enabled ▼	Pallet Capacity 6
Select an Icon ☒ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐	Weight Warning CargoClass Rank 9 ▼

Auto-Dispatch (Status) - Whether orders with this Vehicle type should be in scope of Auto-Dispatch

Max Weight – Maximum weight in pounds

Max Cubic Feet – Maximum contents capacity of vehicle (L*W*H)

Pallet Capacity – Maximum pallet capacity which relates to package types and the corresponding pallet count of each package type.

CargoClass Rank – Cargo Class Rank score associated with the vehicle type, used as the core of the Cargo Class score to ensure the Driver's Vehicle cargo class is $\geq$ the Order Vehicle's cargo class.



Package Types

Modifying Package Type: Skid

Package Display ?	
Package Name	Skid
Package Type	Default
Package Code	SK1
Optional Default Values ?	
Weight(lbs.)	500.00
Length(in.)	48.00
Width(in.)	48.00
Height(in.)	48.00
Auto-Dispatch	Enabled
Pallets	1

Auto-Dispatch (Status) - Whether orders with this package type should be in scope of Auto-Dispatch

Pallets – Defines the standard “pallet space” this package type requires with integer precision

Fleet

Vehicle Box LxWxH		Max Weight	15000
Vehicle Max Cubic Feet	192	Pallet Capacity	5

Max Weight – Maximum weight in pounds

Max Cubic Feet - Maximum contents capacity of vehicle (L*W*H)

Pallet Capacity – Maximum pallet capacity which relates to package types and the corresponding pallet count of each package type.



Client Master

Company Name:

General	Options	Segment Rules	Communications	OE	Ref #'s	Addresses	Callers	Depts
Added - 1st Order		10/21/2010	8/19/2016	Edit				
Delivery Center		XYZ Express						
Time Zone		Eastern Standard Time						
Market Segment								
Federal ID SIC								
Customer Type Code								
Source of Business Code								
Auto-Dispatch		Enabled						
Priority Ranking		98						

Auto-Dispatch (Status) - Whether orders belonging to this Client should be in scope of Auto-Dispatch

Priority Ranking – 0-100 value giving Auto-Dispatch priority (earlier consideration) to higher ranking customers



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Company Name:

General Options Segment Rules Communications OE Ref #'s Addresses Callers Depts

Client Services

2 Day
7 Day
Auto Dispatch
Auto Override
Exclusive
Hot Courier

>>
<<

*Mail Shuttle

(included in OE) (omitted from OE)

☐ Validate Service/Vehicle Service/Vehicle Combinations

☐ Override Del. Cntr. Service Availability Online

Client Service Overrides

Client Packages

Box
Canvas Bag
*Custom Box
Envelope
Hazmat
Large Box

>>
<<

(included in OE) (omitted from OE)

☐ Block Completion ["C" Status] ☐ QT-Show Ord Prop

☒ Individual Package Items ☐ QT-Ignore Key Req

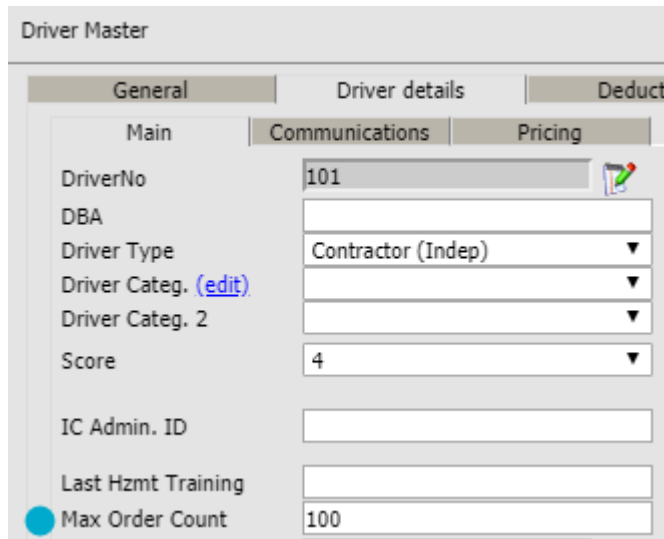
Individual Package Items - must be selected for Auto and Assisted Dispatch to calculate Cargo Capacity

Select Service	Standard Overrides	Auto-Dispatch
☒ Show Available Services Only ☐ Show Overridden Services Only	- Override In Use -	
2 Day 7 Day* Auto Dispatch Auto Override Exclusive Hot Courier Priority Courier Regular Service Rush Same Day UPS Next Day Air	Status: -- Scope Min (Target From): Scope Min (Target To): Becoming Late Min: 2 Unassign non-accepted after (min): Becoming Late Action: Unassign Pickup Stop Dwell Time Sec: Delivery Stop Dwell Time Sec: Max Drv Distance Scope Miles: Max Seconds Since Drv GPS:	Default Auto-Dispatch Properties Status: Enabled Scope Min (Target From): 60 Scope Min (Target To): Becoming Late Min: 5 Unassign non-accepted after (min): 12 Becoming Late Action: Reassign Pickup Stop Dwell Time Sec: 300 Delivery Stop Dwell Time Sec: 300 Max Drv Distance Scope Miles: 10.00 Max Seconds Since Drv GPS: 120

Client Service Overrides – The ability to override the default Service Type Auto-Dispatch Properties

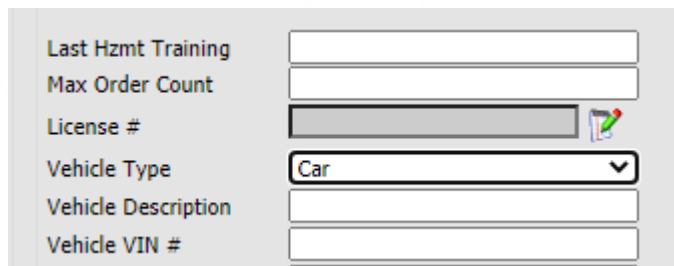


Driver/Agent Master



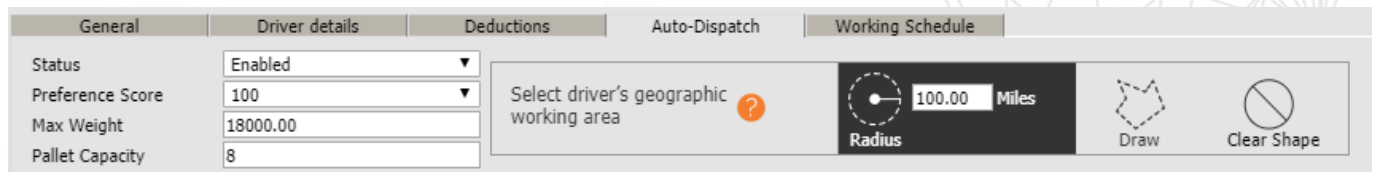
Driver Master	
General	
Driver details	
Deduct	
Main	
Communications	
Pricing	
DriverNo	101
DBA	
Driver Type	Contractor (Indep)
Driver Categ. (edit)	
Driver Categ. 2	
Score	4
IC Admin. ID	
Last Hgmt Training	
Max Order Count	100

Max Order Count – The maximum number of orders a driver should hold at any given time. Please note, a value of 0 or nothing is unlimited, for Auto-Dispatch purposes.



Last Hgmt Training	
Max Order Count	
License #	
Vehicle Type	Car
Vehicle Description	
Vehicle VIN #	

Vehicle Type – Used to assign a Vehicle Type to a driver, to allow Cargo Class Rank scoring to be utilized.



General		Driver details		Deductions		Auto-Dispatch		Working Schedule	
Status	Enabled								
Preference Score	100								
Max Weight	18000.00								
Pallet Capacity	8								
		Select driver's geographic working area		Radius		100.00 Miles		Draw Clear Shape	

Status - Whether this Driver should be considered for Auto-Dispatch

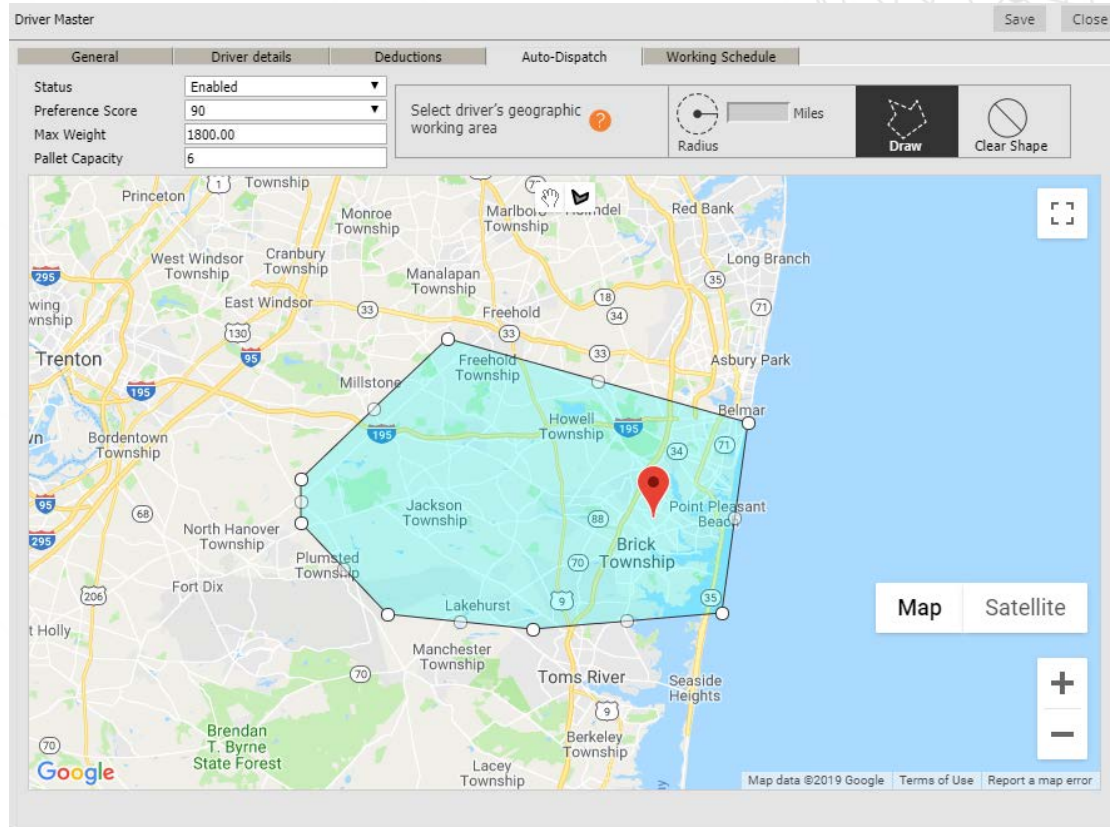
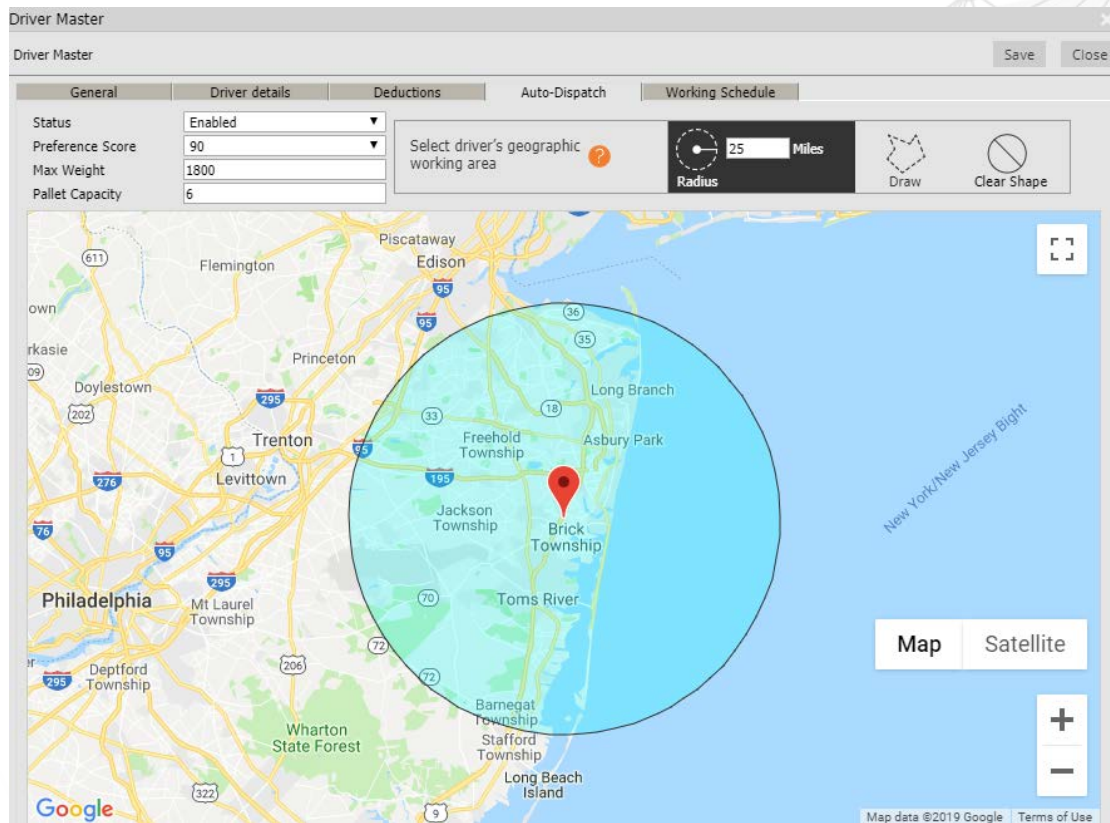
Preference Score – 0-100 value giving priority to higher scoring Drivers

Max Weight – Maximum weight in pounds

Pallet Capacity – Maximum pallet capacity which relates to package types and the corresponding pallet count of each package type.



Geographic Working Area – A screen in Driver/Agent Master which allows the user to define the working area by **center point radius** or by a **custom shape** drawn on the map.





Driver Working Schedule – The general hours of availability for each Driver by weekday. This option can be turned on/off with the “Working Schedule In Use” checkbox.

Driver Master

General

Driver details

Deductions

Auto-Dispatch

Working Schedule

☒ Working Schedule In Use

Sunday		
+Add		
Monday	08:00 - 17:00 EST	
+Add		
Tuesday	08:00 - 17:00 EST	
+Add		
Wednesday	08:00 - 13:00 EST	17:00 - 23:59 EST
+Add		
Thursday	08:00 - 12:30 EST	
+Add		
Friday	09:00 - 18:00 EST	
+Add		
Saturday		
+Add		



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Orders / Scheduled Runs

- **Status** - Whether this order should be considered during Auto-Dispatch. This icon appears in the top, header area of Order Entry, Review Orders and Scheduled Runs.





Dispatch – Unassigned Orders (right-click options)

Dispatch			
Orders [538]			
OrderID	AD	Del Cntr	Company
1207.051019		Shore Transport	Daily Fre
1208.051019		Shore Transport	Daily Fre
1209.051019		Shore Tra	Daily Fre
1210.051019		Shore Tra	Daily Fre
1212.051019		Shore Tra	Daily Fre
1213.051019		Shore Tra	Daily Fre
1216.051019		Shore Tra	Daily Fre
1217.051019		Shore Tra	Daily Fre
1218.051019		Shore Transport	Daily Fre

Order Properties
Open Order
StopOff - HUB
View Order on Map
Auto-Dispatch
Assisted Dispatch

Assisted Dispatch – Uses the Engine and makes score-based recommendations.

Assisted Dispatch			
Apply			
Order	Pickup	Delivery	Assignment
10002.062520 Pcs 2 Weight 0.00 lbs.	Joes Kitchen 06/25/2020 10:00 - 06/25/2020 13:00 220 E Main St Manasquan, NJ 08736-3012	Brave New World 06/25/2020 09:00 - 06/25/2020 18:00 1508 Richmond Ave Point Pleasant Beach, NJ 08742-3055	Assign to driver: Jimmy Smith [3] See Driver Options and Decision Data (2)

By clicking [See Driver Options and Decision Data](#), the user can see the granular details that impacted the decision to choose a Driver or not. These tools can be extremely helpful when initially setting up your system for Auto-Dispatch.



In the grid below, the user can see the scores for each driver as well as the impact of adding this order to their existing route on the dynamic map. Finally, the user can choose the “best” option, another option or exit for no option.

1/06/2020

Driver Options

View the decision data below and select the Assign Driver Button if you wish to assign the driver manually.

Drivers:	James Welshman Driver No. 10	John Smith Driver No. 2	Heather Vacca Driver No. 13
Assign Drivers	Assign Best Option	Assign Driver	Assign Driver
Map Driver Route	☒ Map Route	☐ Map Route	☐ Map Route
Total Score	1254	0	305
Proximity	166	0	72
Cargo Capacity Available	200	0	33
Cargo Class Rank	170	0	0
Preference	200	0	0
Technical Capacity	200	0	100
Vector	200	0	100
Optimization Analysis	118	0	0
Valid	TRUE	TRUE	FALSE
Existing Tour Violations	FALSE	FALSE	FALSE
Added Minutes	219:42	81:53	
Added Miles	78.46	7.57	
Distance To Pickup Stop	35.48	40.61	25.03
Working Area Center To Pickup Stop Miles	2.11	8.21	2.18
Working Area Center To Delivery Stop Miles	9.79	4.83	8.31
Vector Cluster Average Stop Mileage		9.3832	
Vector Cluster Comparison Max Average Stop Mileage			
Passes Optimized Injection Possible	TRUE	TRUE	FALSE
Passes No Previous Assignment	TRUE	TRUE	TRUE
Passes Working Area	TRUE	TRUE	TRUE
Passes Max Order Count	TRUE	TRUE	TRUE
Passes Cargo Capacity Available	TRUE	TRUE	TRUE

Show Dark Map ☒

Show Data Mode ☐

Showing Route For: James Welshman [10]

Pickup [1]

Delivery [2]



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Auto-Dispatch (User-Directed) – Executes the same command with the Engine as the Background Service but specifies those orders in scope. Unlike **Assisted Dispatch**, which asks the user to confirm the recommendations, **Auto-Dispatch** executes the best matches right away and presents a summary screen to the User.

Auto-Dispatch			
Order	Pickup	Delivery	Assignment
10002.062520 Pcs 2 Weight 0.00 lbs.	Joes Kitchen 06/25/2020 10:00 - 06/25/2020 13:00 220 E Main St Manasquan, NJ 08736-3012	Brave New World 06/25/2020 09:00 - 06/25/2020 18:00 1508 Richmond Ave Point Pleasant Beach, NJ 08742-3055	Assigned to driver: JimmySmith [3] View Decision Data View Scores



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Auto-Dispatch Trace – A running log of Auto-Dispatch and Assisted-Dispatch activities by the Background Service and Users.

Auto-Dispatch Trace - Work - Microsoft Edge

Not secure | xjen.keysoftwaresystems.net/AutoDispatch/AutoDispatch/AutoDispatchTrace

Options:

Account(s): Driver(s):

Onit: Users(s):

Date/Time	Delivery Cntr	OrderTrackingId	Company Name	AccountNo	Event	Decision Details
08/03/2020 11:21:23					1 Order(s) found for processing...	
08/03/2020 11:21:23					ExamineOrders() started...21.07312	
08/03/2020 11:21:23	Default	21.073120	Courier Services	9	Passed preliminary	
08/03/2020 11:21:23	Default	21.073120	Courier Services	9	Could not find driver match	
08/03/2020 11:21:23	Default	21.073120	Courier Services	9	Completed Driver Search	
08/03/2020 11:22:03					AutoDispatch.Tracer started...	
08/03/2020 11:22:03					Auto-Dispatch.Engine starting...	
08/03/2020 11:22:03					1 Order(s) found for processing...	
08/03/2020 11:22:03					ExamineOrders() started...4.08032	
08/03/2020 11:22:03	Default	4.080320	Courier Services	9	Passed preliminary	
08/03/2020 11:22:03	Default	4.080320	Courier Services	9	Could not find driver match	
08/03/2020 11:22:03	Default	4.080320	Courier Services	9	Completed Driver Search	
08/03/2020 11:23:49					AutoDispatch.Tracer started...	
08/03/2020 11:23:49					Auto-Dispatch.Engine starting...	
08/03/2020 11:23:49					1 Order(s) found for processing...	
08/03/2020 11:23:49					ExamineOrders() started...4.08032	
08/03/2020 11:23:49	Default	4.080320	Courier Services	9	Passed preliminary	
08/03/2020 11:23:49	Default	4.080320	Courier Services	9	Could not find driver match	
08/03/2020 11:23:49	Default	4.080320	Courier Services	9	Completed Driver Search	

```
{
  "OptimizedInjectionAnalysis": null,
  "HuntStatus": "NoMatch",
  "DriverAssignmentOptions": [],
  "AggregateProximitySumDriverDistance": 0,
  "AggregateVectorClusterComparisonSum": 0,
  "AggregateMaxCargoClass": 0,
  "BestDriverOption": null,
  "HasDriverOptions": false,
  "HasDriverOptionsWithPassesPreOptimized": false,
  "HasDisabledPackageAutoDispatch": false,
  "OrderTrackingId": "4.080320",
  "PickupTargetFrom": "2020-08-03T17:38:00",
  "PickupTargetTo": "2020-08-03T17:48:00",
  "PickupETAOffset": "2020-08-03T18:03:40",
  "DeliveryTargetFrom": "2020-08-03T19:00:00",
  "DeliveryTargetTo": "2020-08-03T20:00:00",
  "DeliveryETAOffset": "2020-08-03T18:19:00",
  "TerminalId": 1,
  "DeliveryCenter": {
    "Items": 3
  },
  "DcSegmentId": null,
  "ClientId": 9,
  "Client": {
    "Items": 5
  },
  "Service": {
    "Items": 11
  },
  "Vehicle": {
    "Items": 8
  },
  "Weight": 0,
  "Pieces": 1,
  "PickupAddress": {
    "Items": 9
  },
  "DeliveryAddress": {
    "Items": 9
  },
  "OrderPackage": {
    "Items": 1
  }
}
```



Engine Logic

Pass/Fail - Simple

The Auto-Dispatch Engine knows which orders to consider, based upon the user preferences in the components/options above. Naturally, that means there are pass/fail checks that will narrow the focus on specific orders to examine further. Those pass/fail tests would be things like a Client Master has Auto-Dispatch set to “Disabled”. Of course, the orders for that Client would be properly omitted from processing. Similar filtering is in place for Delivery Center Options, Service Types, Vehicle Types, and so on. Beyond those many Status (enabled/disabled) fields above, other simple pass/fail checks also enforce:

- Driver/Agent Master is Active
- Driver is Active in Dispatch
- Driver was not previously *Assigned*, then *Unassigned* by Auto-Dispatch



Pass/Fail – Complex

After the simple pass/fail filtering, comes more complex processing and filtering. These processing units are called “Logic-Blocks”. While some are still somewhat simple, others become quite complex.

These Logic-Blocks are:

- Driver’s **Vehicle Cargo Class** $\geq$ **Order Cargo Class**
- Driver’s **Current GPS location** is within a certain number of miles from the pickup stop, as defined by the service type’s **Max Distance Scope**.
- Driver’s GPS is active, and a ping has been received within a certain number of seconds as defined by the service type’s **Max Seconds since Driver GPS**
- One of the following are true:
 - Driver Master has “**Working Scheduled in Use**” unchecked
 - Or
 - Driver **Master Working Schedule Time Spans** include/contain all four Pickup and Delivery Target Times.
- One of the following are true for **Geographic Working Area**:
 - Driver Master is using **center radius** option and both Pickup and Delivery Stops are within that radius
 - Or
 - Driver Master is using the **shape** option and both Pickup and Delivery Stops are contained within that shape
- **Driver’s Cargo Capacity** is not exceeded (Max Cubic Feet, Max Weight, Pallet Capacity) at any point in the route by adding this order. This is a complicated capacity forecasting algorithm which is referred to as “Apex” logic in the granular decision details.
- Driver’s **Max Order Count** is not exceeded
- Driver’s Vehicle can contain all **Package Types** associated with the order
- The **Optimization Analysis** portion of the algorithm includes a pass/fail property, in addition to the Optimization Analysis score. Should the analysis determine that any of the following are true a failure here will result in an overall fail for the Driver.
 - The Driver’s existing tour already violates service time constraints without even considering this new order
 - Or
 - The addition of this new order will cause a violation
 - Or
 - This new order alone would be impossible for driver to complete without a violation



Scoring

After Pass/Fail filtering, the remaining plausible drivers for an order are examined further, compared, and scored to find the most suitable match. Please note, the **Score Factors** in **Delivery Center Options** are applied to these base scores below to result in the final scores.

- **Proximity** – Score based upon comparison between each Driver’s **distance to the pickup stop**.
- **Vector** – Considers each Driver’s existing stops in relation to the order in question. Smarter than a simple “heading” of a driver (based upon GPS), this algorithm favors the Driver who is heading in that same direction for other jobs already. In other words, the engine will look for a Driver who has a concentration of existing orders in the closest vicinity to the order in question. Further, and by design, there may be a closer driver to a pickup stop, but a further driver makes more sense based upon the other orders that further driver has already.
- **Cargo Capacity Available** – After passing the “max” checks mentioned above, this scoring favors drivers with more capacity available (Weight/Cubic Feet/Pallet Capacity).
- **Cargo Class Rank** – This score favors vehicles with a lower cargo class, which are still capable of handling the cargo. (*Lower cargo class typically means lower cost*).
- **Preference** – Based upon Driver/Agent Master value.
- **Technical Capacity** – Favors Drivers with **MobileTek CORE** or **DriverLens** over **MobileTek Web**
- **Optimization Analysis** – This algorithm uses a mapping engine to find the most optimal assignment (by time and distance) which will not cause a service window violation for any of the existing orders assigned to the driver, nor the new order to be assigned. This algorithm also considers both historic and real-time traffic.

Background Service

The Background Service is an optional process that can be configured to run continuously by setting a few Web.Config options.

```
<add key="AutoDispatch.Thread.Ready" value="Y" />
<add key="AutoDispatch.Thread.Loop.Rate.Seconds" value="60" />
<add key="AutoDispatch.Thread.MaxOrderCount" value="100" />
```

- **Ready** – Whether the Background Service is in use
- **Loop.Rate.Seconds** – Seconds between each scan for new orders that can be Auto-Dispatched
- **MaxOrderCount** – Maximum number of orders to consider for each Auto-Dispatch sweep

Once setup, the Background Service will perform two main tasks. **Monitoring** and **Assignment**

Monitoring

Non-Accepted Orders

The Background Service will monitor orders that were previously Auto-Dispatched and have not yet been **accepted** by the Driver. Based upon the service type option labeled **Unassign non-accepted after (min)**, the Service will find any orders passing this threshold and unassign them from the driver after logging this action in each impacted order change log.

Becoming-Late Orders

The Background Service will also monitor orders that were Auto-Dispatched and are at risk of becoming late. Based upon the service type choices (**Becoming Late Min** and **Becoming Late Action**), the Background Service will take the appropriate user-defined action (Unassign/Reassign) when the time threshold has been met. As with Non-Accepted orders, every automated action is logged for a rich audit trail.

General

Please note, any orders which are unassigned by the Monitor (for either of the two reasons above) can be picked up by the Auto-Dispatch Engine for reassignment, but it will not reassign to the same driver that previously held the order. Also, reassignment will only be attempted for orders with service having **Becoming Late Action = Reassign**.

Assignment

Using the Engine, this process will run a sweep every few seconds in attempt to find the best matching Driver for each order in scope. Any and all actions are logged for review by a user later. Naturally, all notification systems (Email/SMS/Interconnect/Axis) are in-sync with this assignment service to ensure the entire process is fluid, fast and simple.



Prerequisites

- Address Verification
- Google Maps API (with geocoder enabled)
- Optimization-engine Activated
- MobileTek (GPS-enabled)

Checklists – (after confirming prerequisites)

Driver Eligibility – Confirm each of the following...

1. Driver is Active
2. Driver has AutoDispatchStatus = Enabled
3. Driver is Active on the dispatch board
4. Driver's Vehicle Type has AutoDispatchStatus = Enabled
5. Driver's Vehicle Type CargoClass >= Order Vehicle Type Cargo Class
 - a. If Fleet vehicle is assigned, ensure Fleet Vehicle Type CargoClass >= Order Vehicle Type Cargo Class
6. Driver is logged into device (GPS flowing)
7. Driver's last GPS was within XX minutes (determined by service type)
8. Driver's current GPS location is within XX miles from Pickup Address (XX determined by service type MaxDriverDistanceScopeMiles)
9. Driver's "Use Working Schedule" checkbox is unchecked
OR...
Driver's working times include all 4 target times of Order
10. Driver's Geographic working area (radius or shape) includes Pickup and Delivery stops
11. Driver's Max Order Count, Pallet Capacity, Weight, Max Cubic Feet are not exceeded
12. Time zones set correctly in DC, Client Master, Working Schedule timespans

Order in Scope – Confirm for your test order...

1. Using valid, Google Maps recognized addresses
2. Order's AutoDispatch=Enabled
3. Order's Delivery Center AutoDispatch=Enabled
4. Order's Client AutoDispatch=Enabled
5. Order's Service AutoDispatch=Enabled
6. Order's Vehicle AutoDispatch=Enabled
7. Order's Pickup-Target-From or Pickup-Target-To is within XX minutes from now (and setup appropriately in service types, for this particular Order's Service)
8. Order's Package Types (all associated) have AutoDispatch=Enabled
9. Order's Status = 'N'
10. Order Pickup-Target-From is within the last 7 days (not earlier)
11. No driver currently exists with that order assigned (split orders not considered for AD)

Futures (or considerations)

- **Driver / Package Handling** – In Xcelerator, the ability to specify the types of packages a Driver can/will carry. This is more specific than just a vehicle-type assignment whereby the vehicle-type can be set to handle certain packages.
- **Auto-Dispatch Profiles** – Ability to create Enable/Disable override rules based upon Delivery Center, Client, Service, Vehicle, Package combinations. (actually, this is built-into the Engine already, but not activated in UI yet)

History

- 9.08.2020 – Updated description of Max Order Count of zero to be unlimited
- 9.08.2020 – Added Client Master Individual Package Items option
- 9.08.2020 – v.2.0.2
- 8.24.2020 - Prerequisites – Added Optimization-engine
- 7.27.2020 – Futures – Added Driver/Package handling item
- 7.27.2020 – Pass/Fail Complex – Added Optimization Analysis details
- 7.1.2020 – Cargo Class Rank – New score field added
- 7.1.2020 – Optimization Analysis added to scoring details
- 7.1.2020 – Scoring details updated misc
- 7.1.2020 – Updated Auto-Dispatch (popup) Screenshot
- 7.1.2020 – Updated Assisted Dispatch Screenshot and new functionality details
- 7.1.2020 – Removed optional add-ons section
- 7.1.2020 – Updated DCO screenshot which now includes “Optimization Analysis” and “Cargo Class Rank” fields
- 7.1.2020 – v.2.0.1
- 10.9.2019 – Added Checklists
- 10.2.2019 - Rough Draft, v.1 completed