Dynamics 365 Field Service- Customization, Development and Consulting Practice

Cognitive Convergence is Subject Matter Expert in Office 365, Dynamics 365, SharePoint, Project Server, Power Platform: Power Apps-Power BI-Power Automate-Power Virtual Agents.

Our Microsoft Dynamics 365 Field Service Consulting, Development, Customization, Integration services and solutions, can help companies maximize business performance, overcoming market challenges, achieving profitability and providing best customer service.

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1. FIELD SERVICE

The Dynamics 365 Field Service business application helps organizations deliver onsite service to customer locations. The application combines workflow automation, scheduling algorithms, and mobility to set up mobile workers for success when they're onsite with customers fixing issues.

The Field Service application enables you to:

- Improve first-time fix rate
- Complete more service calls per technician per week
- Manage follow-up work and take advantage of upsell and cross sell opportunities
- Reduce travel time, mileage, and vehicle wear and tear
- Organize and track resolution of customer issues
- Communicate an accurate arrival time to customers
- Provide accurate account and equipment history to the field technician
- Keep customers updated with the status of their service call and when it's resolved
- Schedule onsite visits when it's convenient for the customer
- Avoid equipment downtime through preventative maintenance

Here are some examples of the types of organizations that use the application to manage their field service:

- **Manufacturing** - A medical device manufacturer sells machines to hospitals and clinics, and uses the application to manage maintenance services over the lifetime of the machines.
- **Utilities** - A fiber optic cable utility company uses the application to respond to outages by dispatching technicians to problem areas.
- **Health care** - An in-home health care service provider uses the application to schedule and dispatch healthcare workers to administer medicine and other care to multiple patients.
- **Equipment maintenance** - A facilities manager uses the application to deliver maintenance and repair services for heating and cooling equipment.

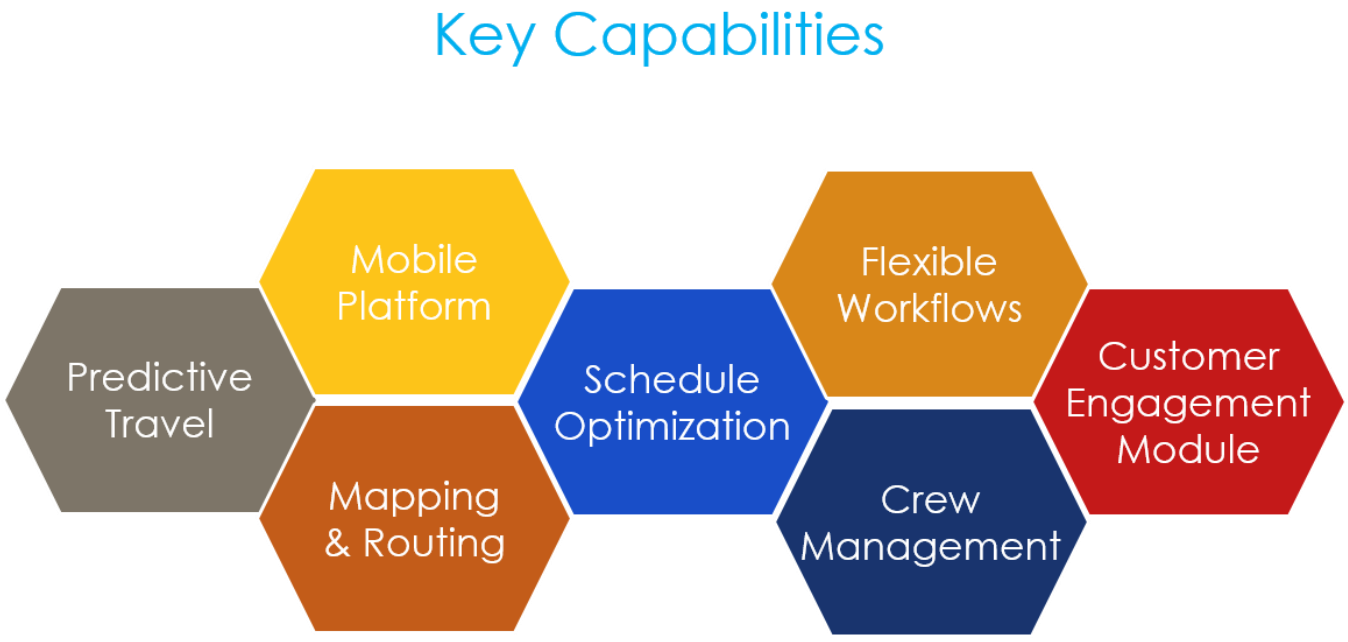
2. KEY CAPABILITIES

Field service capabilities include:

- Work orders to define the service work needed primarily (but not exclusively) at customer locations.
- Scheduling and dispatch tools to manage resources and equipment needed for customer service, visualize onsite appointments, and optimize service schedules with efficient routing and resource skill matching.
- Communication tools to enhance collaboration between customer service agents, dispatchers, field technicians, customers, and other stakeholders.
- An easy-to-use mobile application that guides technicians through schedule changes and service work.
- Asset management capabilities to keep track of customer equipment and service history.
- Preventive maintenance by automatically generating recurring maintenance appointments for equipment.
- Inventory, purchasing, and returns capabilities to manage truck stock, purchase order requests and fulfillment, and product returns.
- Billing capabilities to generate invoices based on products and services delivered to customers.
- Time tracking to help you track how resources are spending their time, whether they're traveling, on break, or working.
- Analytics for reporting on key performance indicators for managing work orders, scheduling activities, and interacting with customers.

3. DYNAMICS 365 FIELD SERVICE ROLES + DEFINITIONS

- Field Service—Resources are designed for frontline workers who carry out work orders for customers on-site primarily via the Dynamics 365 Field Service mobile application. This role only has read and update abilities on work orders. For example, frontline workers can only view and update information on work orders that are assigned to them.
- Field Service—Administrator is designed for IT administrators or service managers. This role has access to all field service entities including work orders, scheduling, and inventory. Additionally, this role has full created, read, update, delete (CRUD) abilities on work orders. For example, a field service administrator can create new work order types for the organization.
- Field Service—Dispatcher is designed for schedulers who are responsible for managing and assigning a group of work orders to a group of frontline workers. It is characterized by limited delete (CRUD) abilities for scheduling related entities within their business unit. For example, dispatchers can edit and schedule work orders to frontline workers in the Washington territory.
- Field Service—Inventory Purchase is designed for inventory managers who are responsible for managing truck stocks, purchasing and reordering inventory, and processing product returns. This role has limited delete (CRUD) abilities for inventory-related entities within their business unit. For example, inventory managers process a product return for one or more lines of business. This security role should be given to a user in addition to the Field Service-Resource or Field Service-Dispatcher security roles.

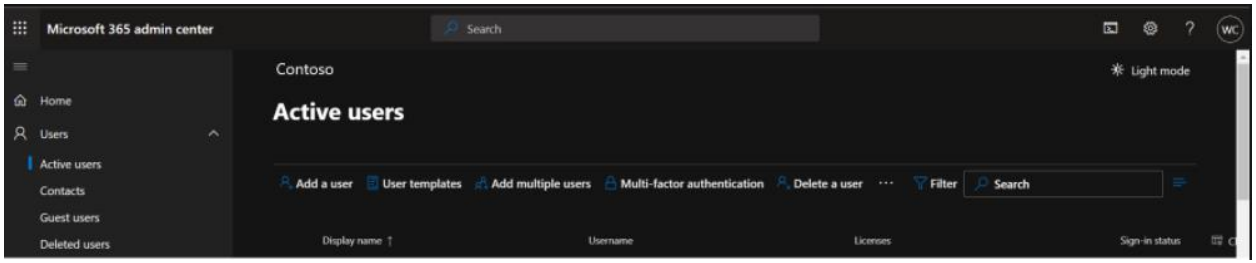


- IoT - Administrator is designed for IT administrators or service managers who are responsible for device registration and device data pulls that are IoTHub operations related to Connected Field Service. This role is characterized by full delete (CRUD) abilities for IoT related entities. For example, a user with these roles may have access to all IoT alerts and devices.
- IoT - Endpoint User is used by Microsoft to connect Dynamics 365 to IoT systems.

3.1 Add users + assign Dynamics 365 Field Service licenses

After the admin has purchased trial or paid Dynamics 365 Field Service licenses for their users, they can now add and assign them licenses.

- Log into the Microsoft 365 administrator portal using your organization's admin account.
- In the left navigation bar, select Users > Active Users.
- Select Add a user to add individual users or select Add multiple users to import multiple users via a CSV file.
- If adding individual users, fill out your user's basic information, including first name, last name, and password. If adding multiple users,



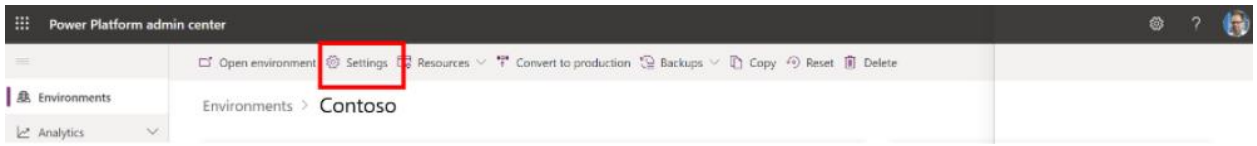
  you will fill out this information in a CSV file and you must upload it.
- Assign your users a product license. Specifically, select the Dynamics 365 Field Service to assign your users this license.
- Fill out the settings of your users, such as job title, mobile phone number, and address. While this may be optional, it is highly recommended! Additionally, you may give administrator access ability to certain users in this section, too.
- Review and select Finish adding to add and assign this user a Dynamics 365 Field Service license.

3.2 Assign security roles and field security profiles

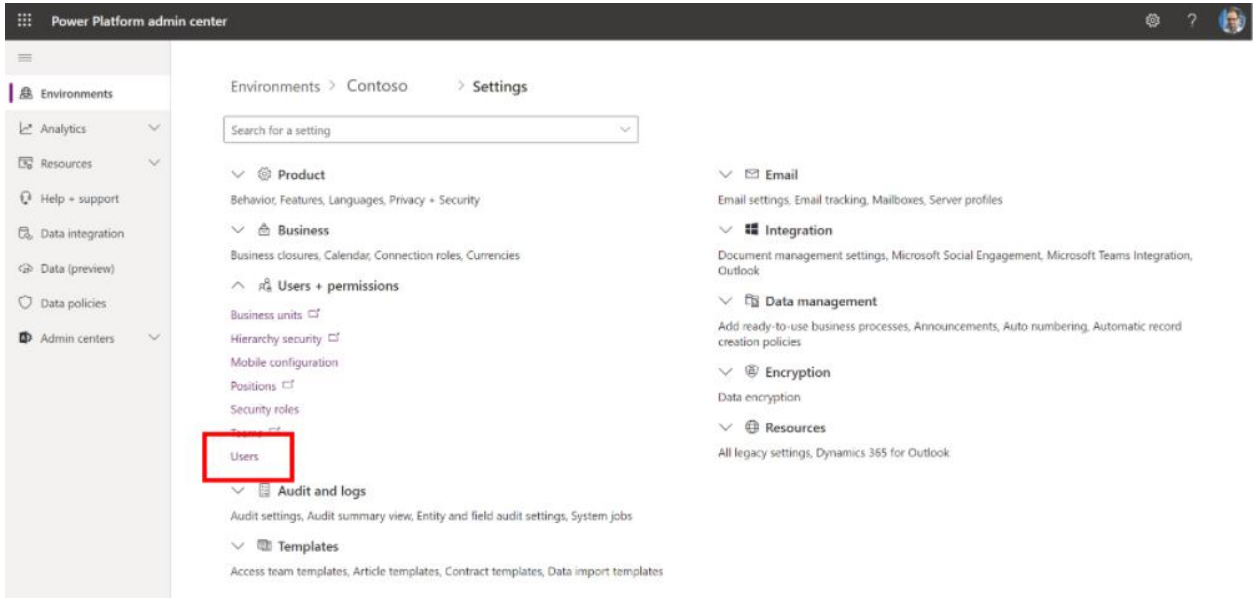
After adding and assigning Dynamics 365 Field Service licenses to your users, you can now assign them specific Field Service security roles and field security profiles. By setting security roles for users, you control the types of data and entities a user can access and edit. By setting field security profiles, you control which fields a user sees for an entity. For example, a user may have

permission to see accounts, but not to see specific fields for an account. Make sure you understand which role to assign your users; view the roles and definitions.

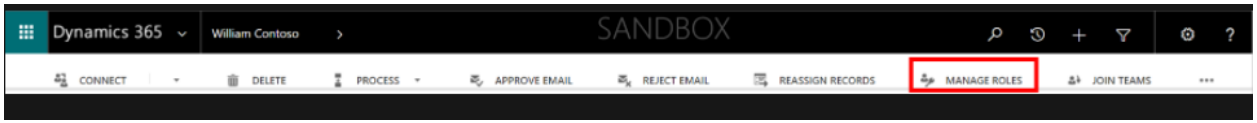
- Sign into the Power Platform Admin Center.
- Select your environment.
- Select Settings.



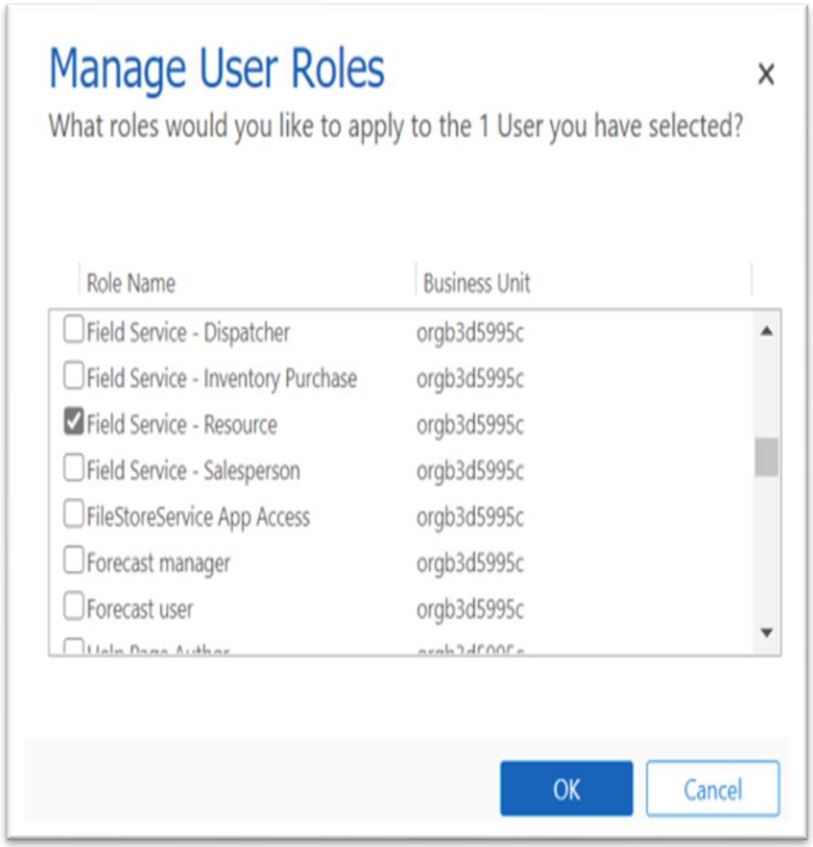
- Select Users + permissions > Users.

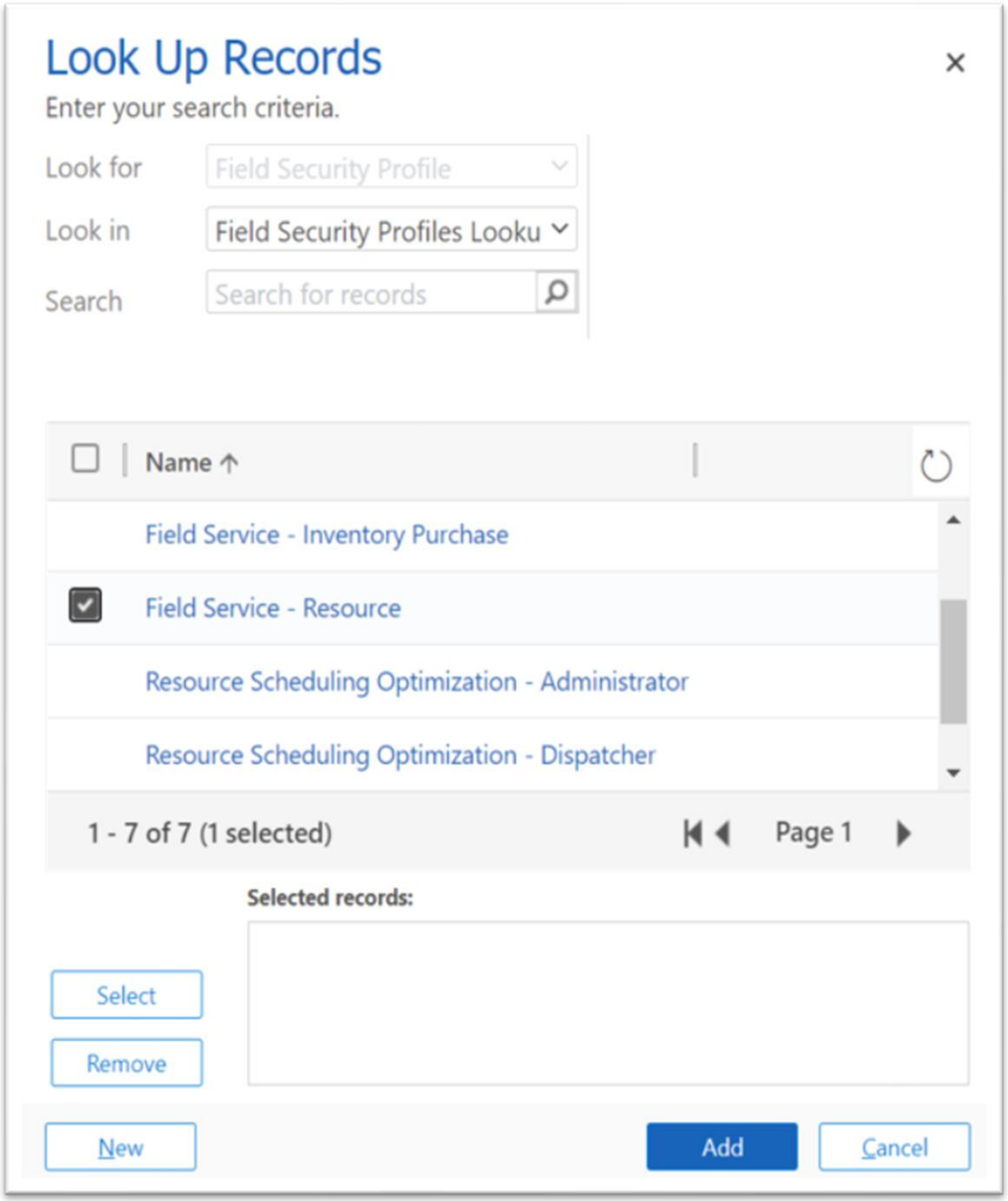


- Find and select your user's name. This takes you to a new page.
- Select Manage roles.



- Select the appropriate role for your user > OK. View the roles and definitions to learn which one to choose.
- Select the > next to your user's name and then select Field Security Profiles.
- Select Add.
- Select the appropriate role for your user > Select > Add. View the roles and definitions to learn which one to choose.





4. LOCATION AND MAPS

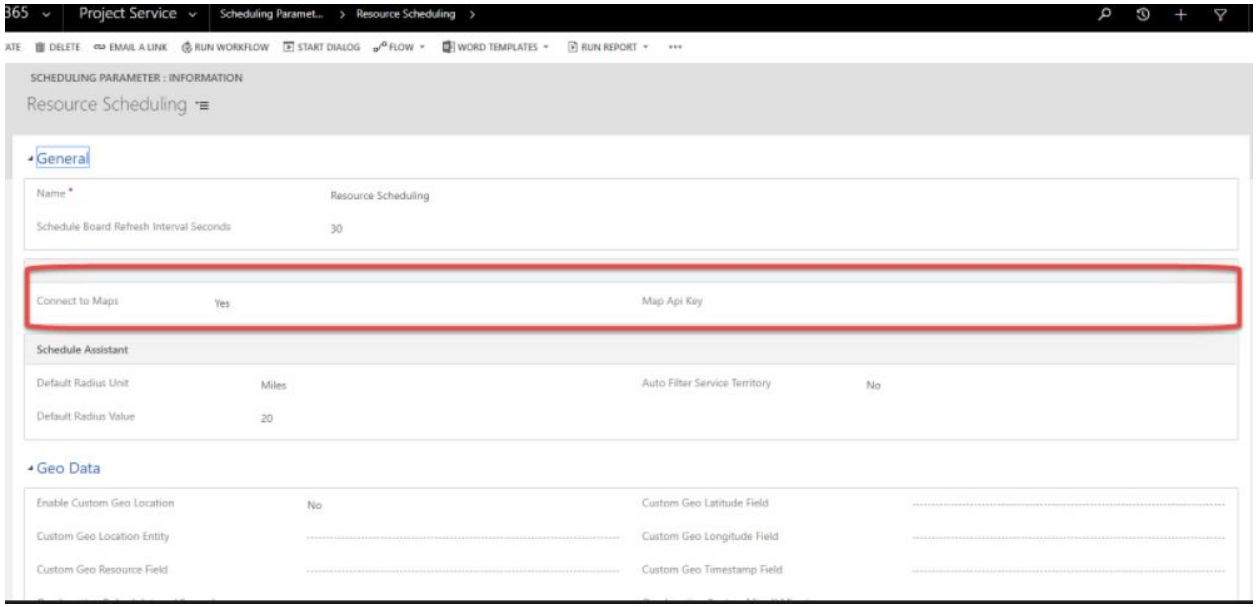
Locations and maps are important for getting the most value out of Field Service. For example, knowing the location of work orders and resources allows the solution to effectively route the closest technician (resource) to the service request (work order).

Enable location and map settings to perform functions like:

- Easily get directions so technicians can arrive on time for service appointments.
- Attach latitude and longitude values to addresses (geocode).
- See work orders on a map.
- Configuring geofencing.

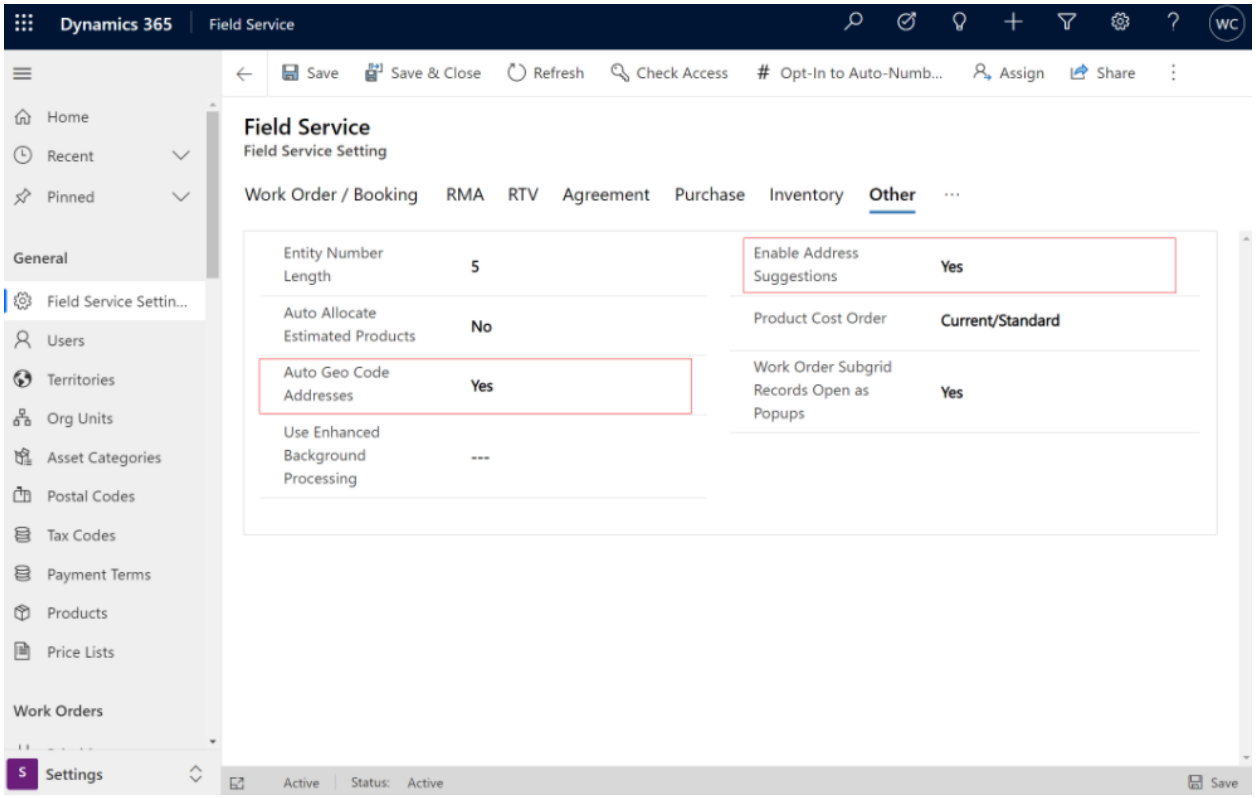
4.1 Connect to maps

- Go to Resource Scheduling app > Administration > Scheduling Parameters.
- Set Connect to Maps to Yes.
- Connecting to Maps is enabled by default for new environments. To confirm your environment is connected to maps - or to disconnect maps - go to to Resource Scheduling app > Administration > Scheduling Parameters.



4.2 Enable auto geocoding for addresses

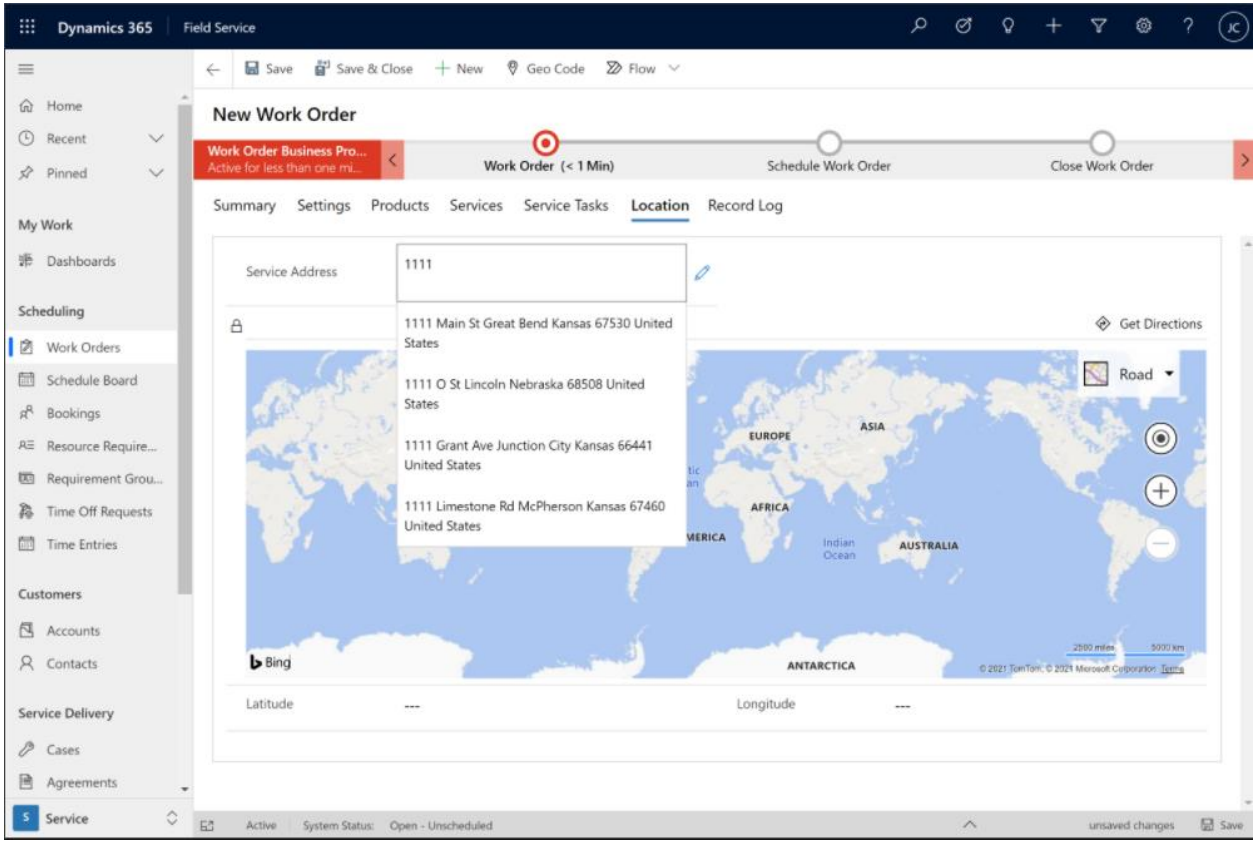
- Geocoding is associating a latitude and longitude to an address. Geocoding allows dispatchers to locate work orders more effectively than providing only an address.
- "Auto geocode addresses" means that after entering an address on records such as accounts, contacts, users, and work orders, the system will automatically attempt to locate the address and populate latitude and longitude values. Disallowing auto geocoding for addresses requires the user to select a geocode option to manually geocode an address.
- From the Field Service App, go to Settings > Field Service Settings > Other tab.
- In the Other section, decide if you would like the application to auto geocode addresses. The recommended setting is Yes.



4.3 Enable address suggestions

Field service users can quickly enter account service addresses using Bing Maps address recommendations. As you enter an address, the system will make recommendations. Using address suggestions helps ensure accuracy and reduces data entry errors.

Address recommendations are also available on the mobile app for technicians with the appropriate security role.
To enable location recommendations in Field Service, go to Settings > Field Service Settings > Other tab.
Address recommendations are on the account, work order, and booking forms.



5. PRIORITIZE WORK ORDERS

- ∅ Improve first-time fix rate
- ∅ Complete more service calls per technician per week
- ∅ Manage follow-up work

Priority records let you prioritize your work orders. You can also assign each priority value a custom color, which will display in the outline of the resource booking time slot on the schedule board. This allows dispatchers to visually distinguish a job's priority while managing the schedule.

- From the main menu, select Field Service > Administration, and then choose Priorities.
- On the Active Priorities screen, select +New in the upper left corner.

- Use the tooltips to help you fill in your information, and then select Save.

6. TAX CODES IN DYNAMICS 365 FIELD SERVICE

Set up tax codes in Dynamics 365 Field Service and specify how much tax will be applied to your products, agreements, and services.

6.1 Enabling tax calculation in Dynamics 365 Field Service

Field Service v8.8.39.37 introduced the Calculate Tax field in Field Service Settings. By default, for all new installations of Field Service v8.8.39.37 or higher, this field will be set to No. For many Field Service organizations, tax calculation is not an important factor because:

- The services are not being provided to an external customer.
- The tax calculation and application rules are complex enough that they are handled in a related ERP system.

When an organization needs to calculate tax and the Field Service tax logic is sufficient, set the Calculate Tax field to Yes for all tax fields to be visible and all calculation logic to be enabled.

When toggled, this will hide/show and disable/enable logic for the following tables and fields:

Table	Fields impacted
Work Order	*Taxable*, *Tax Code*, *Tax Amount*, *Subtotal Amount*
Work Order Type	*Taxable*
Work Order Product	*Taxable*
Work Order Service	*Taxable*
Account	*Tax Exempt*, *Tax Exempt Number*, *Sales Tax Code*
Agreement	*Taxable*, *Tax Code*
Purchase Order Bill	*Tax Amount*, *Tax Code*
Product	*Taxable*
RMA	*Taxable*, *Tax Code*

RMA Product	*Taxable*
Quote Detail	*Taxable, Tax Code*

6.2 Set up tax codes

Each tax code may contain multiple child tax codes; in that case, the tax rate will be determined by the total of all children.

If an area has more than one type of tax, for example, state and county tax, then use the Tax Group option to combine several tax codes into one group.

For example, if the state of California has a state and county tax, then you might have a tax group called "California, Alameda County." The tax group will have two tax codes: one for overall California state tax and one for Alameda County local tax.

- From the main menu, go Field Services > Administration, and then choose Tax Codes.
- On the Active Tax Codes screen, select +New in the upper left corner.
- Use the tooltips to help fill in your information, and then select Save.
- If Act as tax Group is set to Yes:
  - Go to the Tax Code Details section and select +Add Tax Code Detail record.
  - Specify the Tax Code.
  - If the government agency charges tax above the local tax then set Tax on tax to Yes.
  - In the Line Order field, enter the order of how the system should calculate the multiple tax codes.
  - Select Save.

7. TERRITORIES FOR ACCOUNTS, WORK ORDERS, AND SCHEDULING

Territories help you divide your business into geographical regions for work order management, scheduling, and reporting. You can group your customers, work orders, and resources based on city, state, county, postal code, or even define a custom territory such as "West region."

By using territories with work orders and resources, you can make sure dispatchers only schedule work orders to field technicians (resources) with a matching territory. This also means that territories serve as a filter on the schedule board, schedule assistant, and resource scheduling optimization.

Territories are also important for reporting because many organizations want to measure first-time fix rate, work order count by type, and work order invoice revenue by territory.

To configure and use territories in Dynamics 365 Field Service:

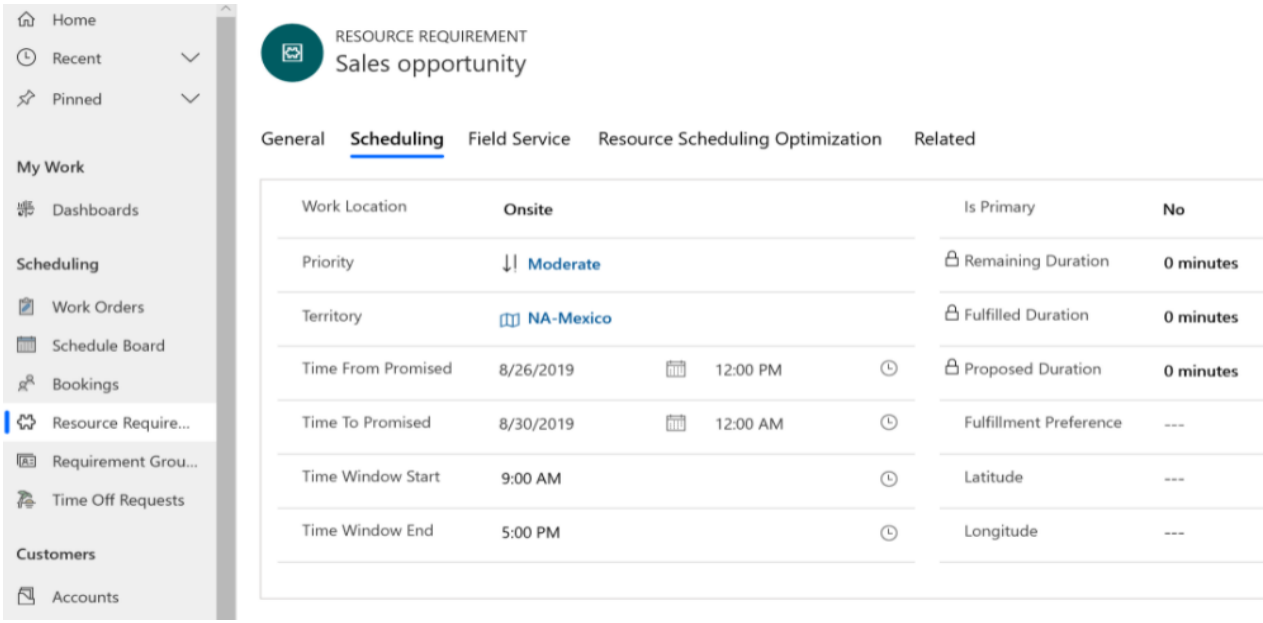
- Create your territories
- Associate territories with resources
- Add accounts to territories
- Use territories during work order scheduling
- Use territories on the schedule board

7.1 Implementation notes

Territories as more than location. Organizations frequently use territories to represent more than location by combining it with the purpose of the resource group. For example, if there are resources who operate in Seattle and some are responsible for maintenance and others inspection, the organization can create two territories: "Seattle - maintenance" and "Seattle - inspection." This is also helpful if different dispatchers are managing each territory because you can have different schedule board tabs for each.

Using territories for non-field service scenarios. Beyond field service, territories can be used for other scenarios. A common example is dividing salespeople into sales territories and scheduling time with leads, quotes, or opportunities. For this scenario, you can use a lookup to the service territory on the Resource Requirement form.

Variable territories. An organization may need resources to belong to different territories during different time periods. One example is during the day a resource may cover a small territory, but at night when demand is low, a resource may be responsible for a larger territory. This is not supported out of the box; however, one option is to use a workflow to add and remove a resource from a territory based on the time of day.



7.2 Other notes

Territories are not hierarchical or associative.

Crews: if a schedule board is filtered to show resources for the Washington territory, and the crew header resource is part of that territory, it will be displayed. This is true even if resource children are not part of that territory. For more information, see the article on enabling an entity for scheduling.

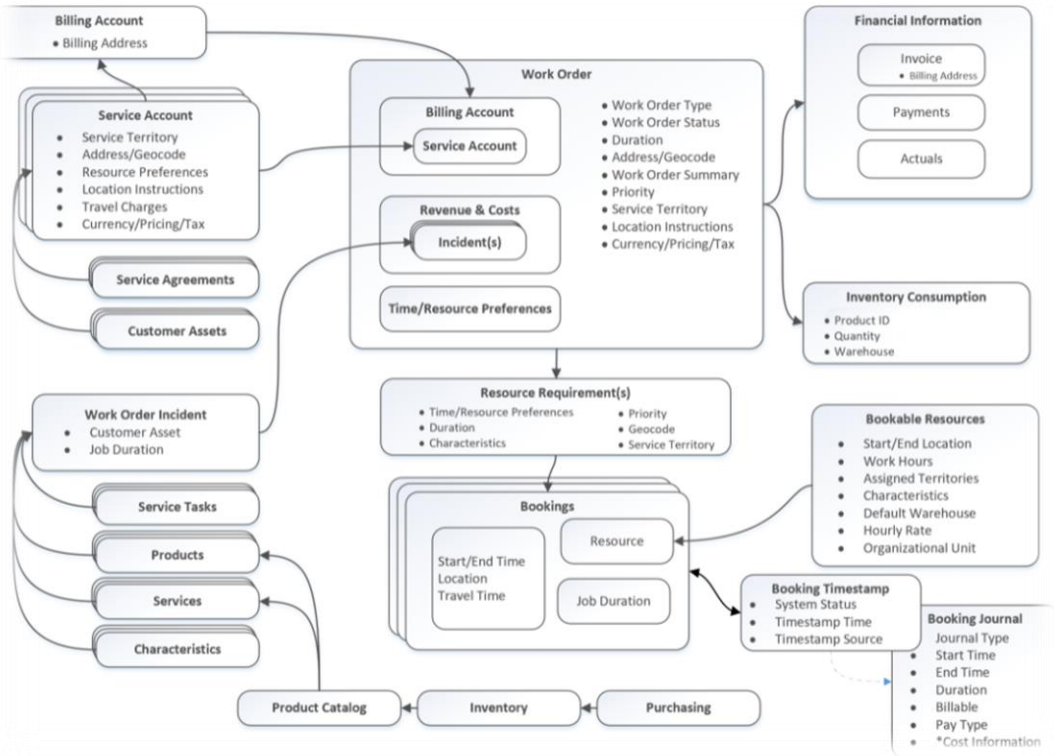
You can't allocate the same user (not resource entity, but user entity) to multiple territories. If you need to assign a user to a large area (more than one existing territory), create a new territory that includes the existing territories, and then assign the user to that new territory.

8. FIELD SERVICE WORK ORDER ARCHITECTURE

The most important process in Field Service is the work order process where work orders are:

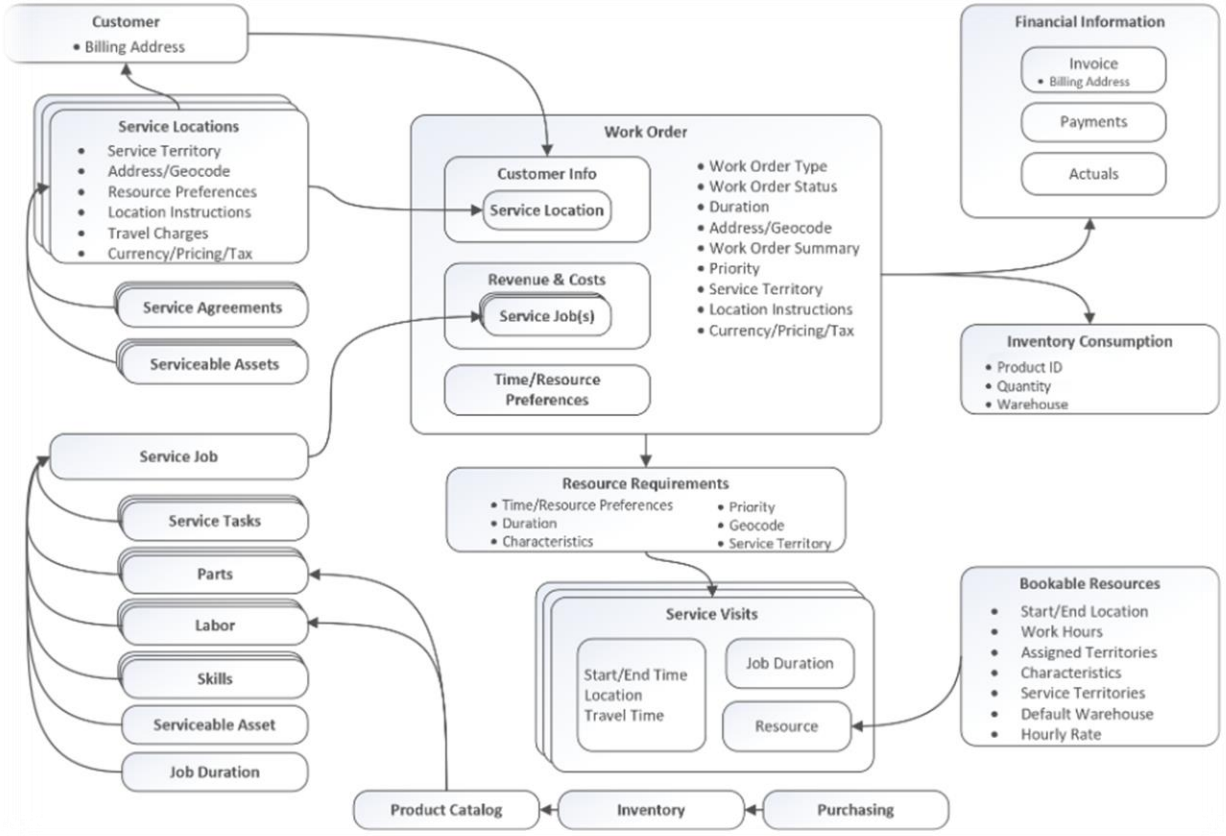
- Created
- Scheduled to resources
- Performed by field technicians
- Completed and reviewed

The following diagram can help you understand the various entities, attributes, and relationships that enable the work order process. This diagram references the specific entity names in the application. For a diagram showing the more commonly used names, see the diagram at the end of this section.



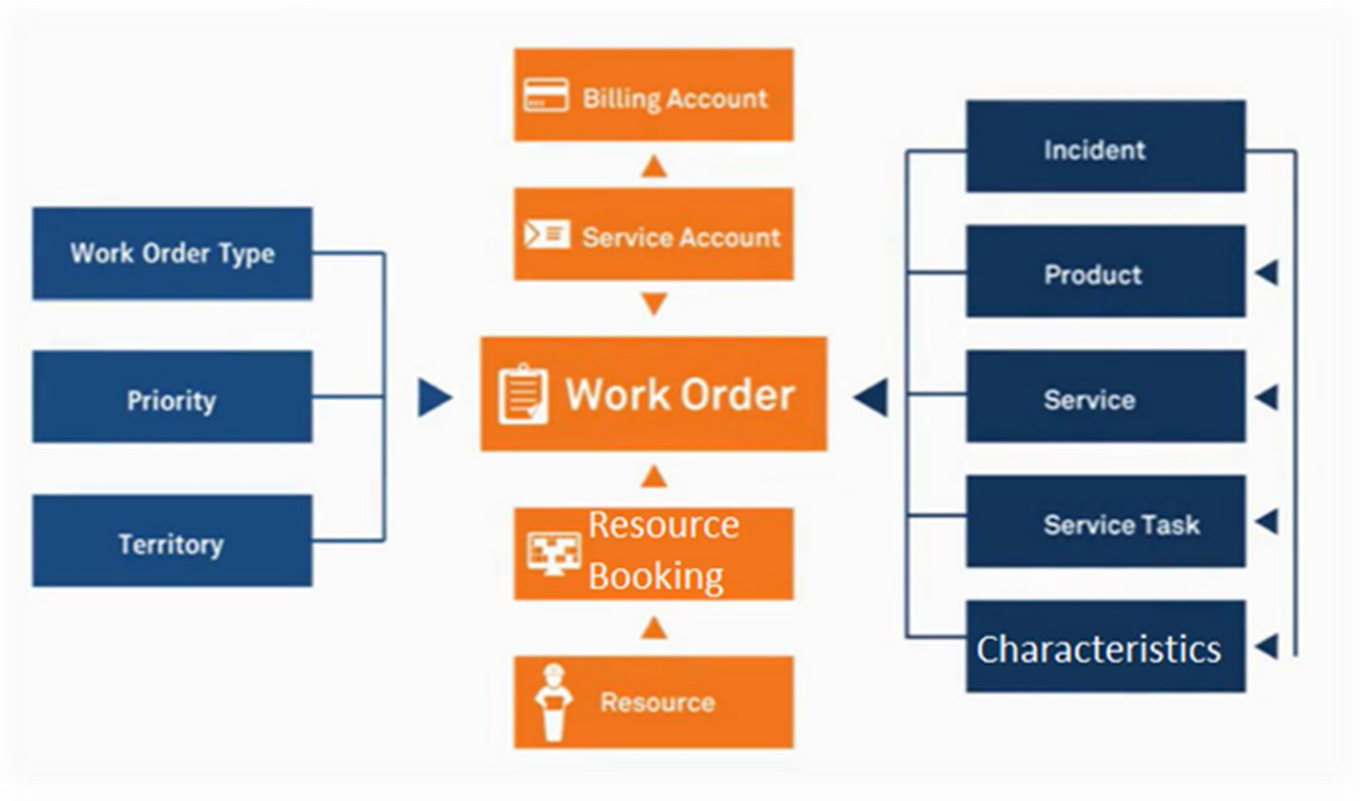
- The **Work Order** entity contains the details of the job that needs to be completed. This includes basic details like work order type, status, duration, priority, and more. Work orders are related to the standard Dynamics 365 **Account** entity in that specifying a **Service Account** on the work order adds related account information like territory, address, geocode (latitude and longitude), price list, and more. For instances where the work order location (service account) is different than the billing location, you can relate a service account to a **Billing Account**.

- Service accounts are also important when creating Service Agreements, which are used to automatically generate recurring work orders. An agreement can only be associated to one service account, which means all work orders generated as part of the agreement will be dispatched to that service account location. The type of work and assets being maintained can vary.
- Service accounts are also important for Customer Assets. Adding a service account to a customer asset implies the piece of equipment is located at the service account location. Work orders related to a customer asset maintenance, inspection, repair should correlate to the asset's service account.
- Beyond adding basic details and an account to a work order, you can add Revenue and Cost items that better define the specific work to be done. Work Order Incidents are a defined package of service tasks, products, services, and characteristics (skills) that are recommended. This makes for quicker work order creation because rather than manually adding service tasks, products, services, and characteristics (skills), you can simply add an incident that effectively serves as a template to populate these details.



- All important work order details that relate to scheduling are passed to an automatically generated related entity called a Resource Requirement. Resource requirements are used to assign the work order to the most appropriate resource (field technician). The resource requirement framework is partly what allows any entity to be scheduled, such as cases, opportunities, or custom entities.
- Before any scheduling can take place, a Bookable Resource must be created that represents an employee, contractor, equipment, facility, or anything that needs to be scheduled. When creating a bookable resource, you can add attributes that distinguish them from each other like location, organizational unit, role, characteristics (skills), and more.
- Finally, when it's time to schedule a work order, you assign a requirement to a resource, and this creates a Booking. You can think of a booking as a scheduled time slot for a specific resource. Requirements can be scheduled by several methods, including:
    - Manually on the schedule board

  - With the schedule assistant
  - Resource Scheduling Optimization
- Field technicians will see their daily, weekly, and monthly bookings on their agenda in the Field Service Mobile app.
- Field technicians can also track the status of the bookings they are working on by editing the status of the booking to traveling, in progress, on break, completed, and custom statuses. Each status change is recorded in the system as a Booking Timestamp and eventually Booking Journals, which are used to calculate the time and labor cost of a booking. For example, a booking timestamp and booking journal help an organization understand the total time a field technician travels to a work order location and this can be leveraged for reporting and billing.
- While performing a work order, field technicians may use products and services indicating that a part or labor was needed. Though these products and services were previously added to the work order, they were originally listed in the Product Catalog. Products that represent physical parts and not labor are tracked in Inventory and are replenished with the Purchasing process that relies on submitting and receiving purchase orders.
- Finally, when the work order is reviewed and closed by a service manager, Inventory Consumption and Financial Information is updated. Inventory consumption at its simplest means the quantity of a product is deducted from a warehouse based on the work order activity. In cases where used products and services must be billed, closing a work order triggers the creation of an invoice for payments and actuals, which are a log of transactions.
- The following diagram references the same work order process diagram in the beginning of this section, but with common names instead of entity names.



8.1 Work order life cycle and statuses in Dynamics 365 Field Service

Work order system statuses, work order substatuses, and booking statuses all work together to help stakeholders stay up to date with work orders from creation to closing. Updating one of these statuses can update the others automatically.

Work Order System Statuses are noted on the work order entity, marking the current point of a work order in its life cycle. They are part of the product by default and should not be edited. Work order system statuses are:

- Open - Unscheduled
- Open - Scheduled
- Open - In Progress
- Open - Completed
- Closed - Posted
- Closed – Canceled

Booking Statuses are noted on the bookable resource booking entity and are updated by field technicians on the Field Service Mobile app to track their progress for a specific work order requirement. Additionally, booking statuses are visualized on the schedule board with a distinct color and icon, and a few booking statuses are part of the product by default, though more custom ones can be added. Out of the box, the booking statuses are:

- Scheduled
- Traveling
- In Progress
- On Break
- Completed
- Canceled

Work Order Substatuses are noted on the work order entity and relate to and provide more detail for work order system statuses. Work order substatuses are created custom for each organization.

8.2 Work Order Types

A work order type in Dynamics 365 Field Service helps you categorize and build different types of work orders, such as installation, preventative maintenance, repair, sales, quote, and so on. When you create a work order type, it also helps separate work order information into views, reports, and dashboards on the schedule board.

- From the main menu, select Field Service > Administration, and then choose Work Order Types.
- On the Active Work Order Types screen, select New in the upper left corner.
- Use the tooltips to help fill in information, and then select Save & Close.

8.3 Product or Services for Work Orders

Dynamics 365 Field Service uses the Dynamics 365 product catalog for on-site service. Field technicians can use the same products for work orders that salespeople use for opportunities, quotes, and orders.

With the product entity, you can create products and services to add to work orders.

- **Products represent** items a field technician may record while completing a work order for which the client may be billed. Products can be physical items, like a battery or a part, or may be non-physical components, like an oil change or a estimate. Both physical and non-physical products are measured and sold in quantity of units. Many physical items are tracked as inventory. Non-physical items will not be tracked as inventory. For more information, see details on the Field Service Product Type field in the Create a product or service section of this article.
- **Services represent** labor a field technician performs and may bill the client for. Services are measured in time duration.

If a field technician uses a product or performs a service while on the job, they can then enter the work into the Field Service Mobile App. Used products and performed services can be invoiced to customers based on the applicable price list or entitlement. Used products can be deducted from inventory levels either in the Field Service inventory module, Dynamics 365 Finance & Operations, or an external ERP system.

8.4 Work order summary reports

Operations managers are responsible for managing work orders to provide timely support for their customers. To better understand what actions may be needed for better field service performance, these managers need to be able to monitor key operational metrics.

Reports in Dynamics 365 Field Service can help you get a birds-eye understanding of ongoing work across your organization, such as:

- The number of open work orders at any given point in time
- Average time to complete a work order
- Average time it takes for technicians to travel to a customer location
- Whether or not you are meeting customer expectations around travel time or other needs
- How an individual technician performs on all key metrics
- Insights around specific territories, from work order volume to travel time and more

8.5 Inspections in Work Orders

Field Service inspections are digital forms that technicians use to answer a list of questions quickly and easily as part of a work order. The list of questions can include safety protocols, pass-and-fail tests for a customer asset, an interview with a customer, or other audits and assessments performed before, during, or after a work order.

With a drag-and-drop interface, inspections are easy to create, and are easier for technicians to fill out compared to paper forms. Inspection answers are stored in Microsoft Dataverse, making it easy to report on results and fit inspections into your automated business processes.

Inspections in Field Service also provide:

- ✓ **Offline support:** Technicians can view and fill out inspections on their mobile phones or tablets without internet access. Answers are synced when connectivity is restored (cellular or Wi-Fi).
- ✓ **Customer assets:** Inspections can be associated with assets, allowing users to see a history of all inspections for a particular piece of equipment.
- ✓ **Version management:** Administrators can continuously update and publish inspections to accommodate changing processes and evolving business needs.

Inspections are easy to create and use, involving the following steps:

- Administrator creates an inspection template.
- Administrator associates the published inspection to a Service Task Type.
- Dispatcher adds the Service Task Type to a Work Order.
- Technician completes the inspection.
- View the inspection results.

8.6 Predictive work duration and resource proficiency suggestions

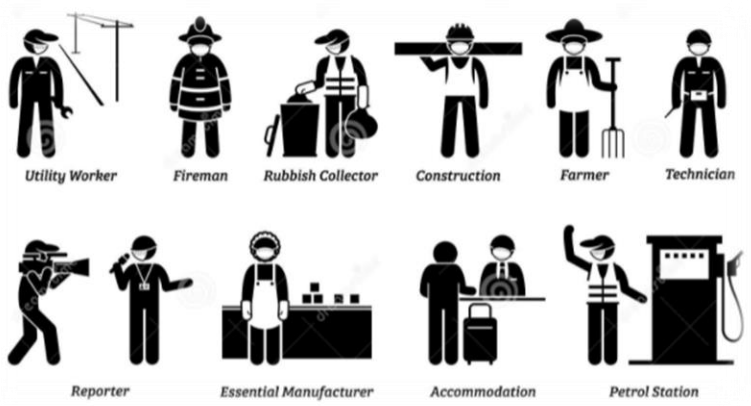
Field service dispatchers often assign a fixed duration for a job type, despite various factors that may impact the time required to complete the work. Using a fixed duration can potentially cause cascading delays or lower utilization, reducing the overall effectiveness of scheduling.
With predictive work duration, dispatchers can predict the duration of any given booking or requirement, based on factors like:

- Resource performance
- Incident type
- Customer (service account)
- Work order type
- Territorial differences
- Time-related changes

Powered by artificial intelligence models, predictive work durations learn from historical booking completion times to compute a more realistic duration.

9. FRONTLINE WORKERS IN ORGANIZATION

Frontline workers in Dynamics 365 Field Service are people in your organization who are primarily scheduled for onsite jobs and who use the Dynamics 365 Field Service mobile app for their work. Quickly getting frontline workers set up in Field Service is critical in order to ensure they can immediately start fixing problems at customer locations and completing service calls.



Admins can now use a single form to set up frontline workers in their organizations with all the required permissions frontline workers need to quickly get up and running with the Field Service mobile app and be scheduled for work orders.

With a single form, admins can:

- Set up one or more frontline workers in their organization with the appropriate characteristics (skills and certifications), territories, time zone, security roles, field security profiles, and mobile offline profile.
- View and update the defaulted security role, field security profile, and mobile offline profile set for their frontline workers, which controls the data their frontline workers can see and access. Admins can update these permissions or add any custom security roles, field security profiles, or mobile offline profile.
- Automatically send an email to their frontline workers with a link to download the Dynamics 365 Field Service mobile app.

After setting up one or more frontline workers, admins can then:

- View a list of all their frontline workers, including names, e-mail addresses, and home addresses.
- View and update details for individual frontline workers on the bookable resource form, including their home address, security role, field security profile, and mobile offline profile.

9.1 Definitions

- **Frontline workers**: People in your organization who are primarily scheduled for onsite jobs, and who use the Field Service mobile app for their work.
- **Characteristics**: Defines a frontline worker's areas of expertise or certifications.
- **Territories**: Defines a frontline worker's geographical regions, such as city, state, county, or postal code, to inform scheduling.
- **Security Role**: Controls the types of data and record types a frontline worker can access and edit. This role should be defaulted to Field Service - Resource.
- **Field Security Profile**: Controls which fields a frontline worker sees for a record type. This profile should be defaulted to Field Service - Resource.
- **Mobile Offline Profile**: Controls what data is downloaded to the Dynamics 365 Field Service mobile application in offline mode. Unpublished profiles will not appear until published. This profile should be defaulted to Field Service Mobile - Offline Profile.

9.2 Bookable Resources

A bookable resource in Field Service is anything that needs to be scheduled. This most commonly includes people, equipment, and physical spaces (facilities).

Each resource can have different attributes that distinguish it from others, including but not limited to:

- Characteristics (for example: Accounting)
- Categories (for example: Manager)
- Territories (for example: Washington State)
- Organizational Unit (for example: Seattle Service Delivery)

- Location (for example: Location Agnostic)
- Resource Type (for example: User)

9.3 Specify Skills for Resources

Characteristics are skills that resources possess. For example, they can be used to indicate a license or certification is needed for certain types of work.

Adding characteristics to work orders allows you to document which knowledge or expertise is needed by a resource to complete the job, and to filter the list of available resources to the resources that have the matching characteristics when scheduling the work order.

9.4 Add characteristics

- From the main menu, open Resource Scheduling and then choose Settings.
- Under the Resource section, choose Skills.
- Select New to add characteristics.

9.5 Assign characteristics to resources

- From the main menu, go to Field Service > Administration, and then choose Bookable Resources. You'll then see the Active Bookable Resources screen, where there's a list of all available resources in the system.

- From the list, select a bookable resource name.
- Go to the Characteristics section, and on the left, select +Add Bookable Resource Characteristics record.
- Find and select the required Characteristics and add a Rating Value for the resource.
- Select Save & Close.

9.6 Assign characteristics to work orders

- Open a work order. More information: Create a work order
- From the top bar, select the drop-down arrow next to the work order number, and then select Characteristics.
- On the Work Order Characteristics Associated View screen, select +Add new Work Order Characteristics to this record.
- Find and select the required Characteristics and add a Rating Value.
- Select Save & Close.

10. UNIVERSAL RESOURCE SCHEDULING

Universal Resource Scheduling is a Dynamics 365 solution that allows organizations from different industries with different scenarios to assign resources to jobs and tasks.

Universal Resource Scheduling assigns the best resources to jobs and tasks based on:

- Resource availability
- Required skills
- Promised time windows
- Business unit
- Geographic territory and more

Field service organizations most frequently use Universal Resource Scheduling to schedule mobile resources to location-specific jobs and tasks (known as work orders) as the resources travel to various customer locations. Because work orders are generally performed onsite, Universal Resource Scheduling schedules the resources with closest proximity to work orders, reducing travel time and costs.

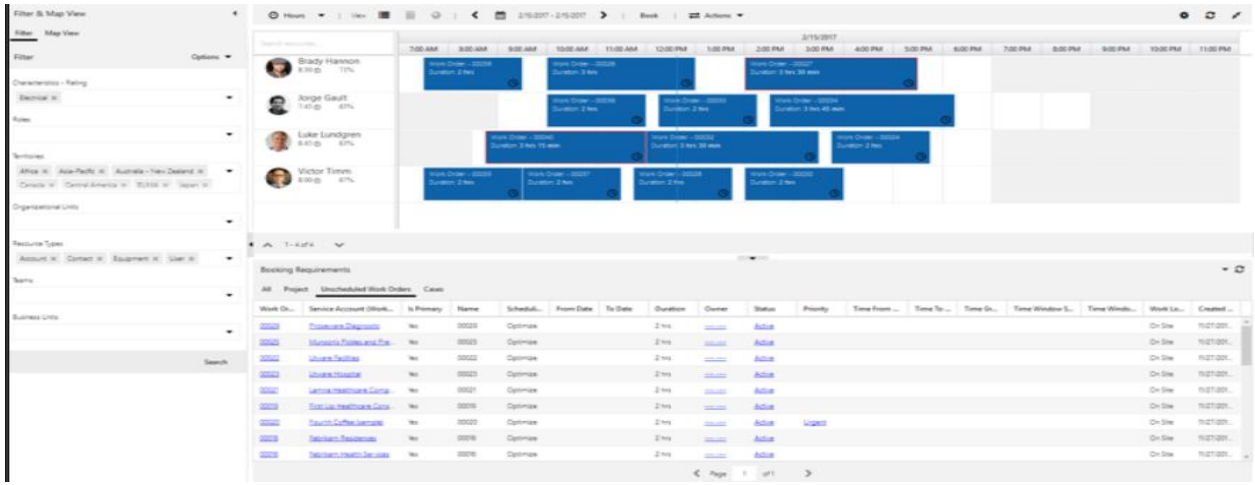
10.1 Manual scheduling

Manual service scheduling means using the schedule board to select requirements and create bookings - in other words, matching a requirement to a resource in a particular time slot.

Manual scheduling works well in the following scenarios:

- As part of a broader adoption to drive learning and understanding during a pilot implementation.

- To handle exceptions like emergency work.
- For less complex requirements or less mature scheduling processes.
- Schedule assistant



The schedule assistant uses requirement details to recommend times and resources for bookings. It works well in the same scenarios as manual scheduling, as well as:

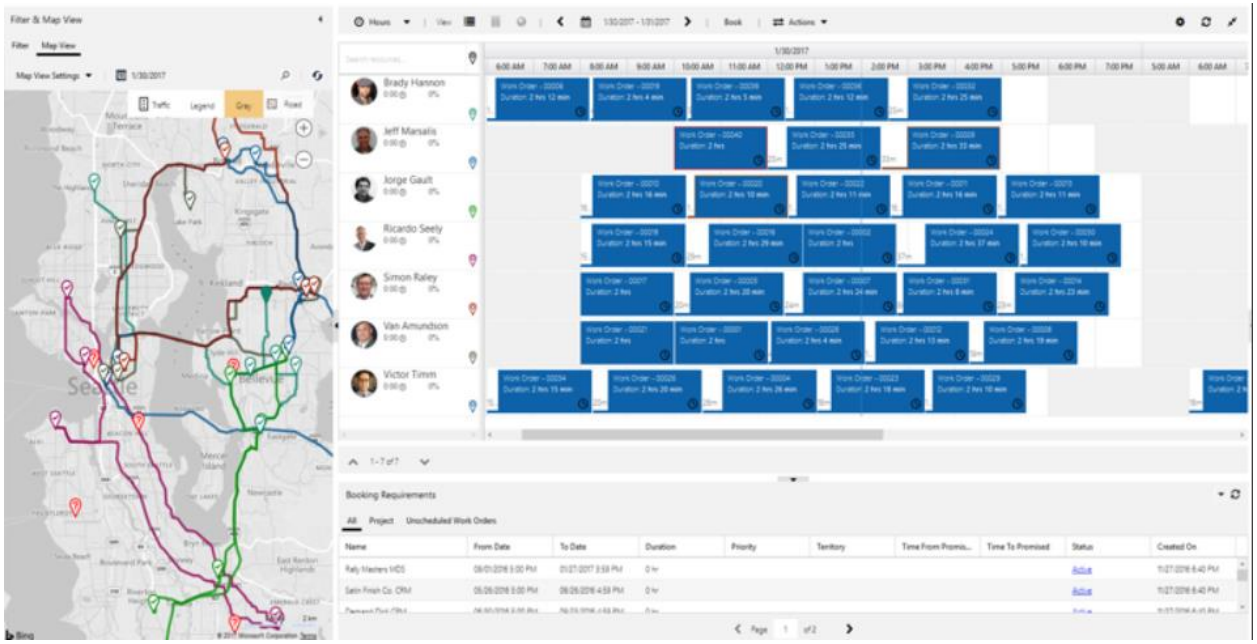
☑ To schedule a subset of requirements that may be less effective for optimization or automated scheduling

☑ To expose scheduling through a case or customer portal.

The schedule assistant is configurable and extensible and can be used from within the schedule board or from within a work order. It can also be embedded on others forms (like case forms).

10.2 Optimized or automated scheduling

Field service includes a set of optimized or automated capabilities called resource scheduling optimization that can be used in various combinations, including in combination with manual scheduling and the schedule assistant.



Resource scheduling optimization provides several different types of scheduling optimizations:

- **Overnight scheduling**: for a given subset of requirements and resources, schedulers may schedule work for the following 1 to 2 days.
- **Single resource optimization**: as changes occur during the work day (like emergency work, cancellations, or delays), a single resource's remaining schedule can be reoptimized. Schedulers typically do this on the schedule board. Single resource optimization can also be used in combination with manual scheduling and the schedule assistant to optimize individual resources.
- **Inter-day optimization**: as changes occur during the work day, subsets of the overall schedule can be reoptimized. For example, a schedule can run every 30 minutes to reschedule those requirements and resources marked for reschedule.

In order to achieve the best scheduling outcomes, use a combination of the following capabilities:

- **Optimization scope**: determines which requirements, resources, and bookings are considered for a given resource scheduling optimization run.
- **Optimization goals**: specifies objectives and constraints that resource scheduling optimization uses to evaluate and determine the best schedule given the optimization scope.
- **Schedule**: specifies the timing and pattern of resource scheduling optimization runs for a particular scope and goal.
- **Simulated runs**: a tool schedule analysts can use to evaluate the results of an optimization run, with the ability to apply or discard results.
- **Analytics**: provides numerical data on resource scheduling optimization runs and helps to determine if business objectives are being met.
- **Workflow**: a general Dynamics 365 capability used to change data values or trigger actions based on events. For example, a workflow could be used to set a "needs re-optimization" attribute on a resource given some business event (like an emergency booking, for instance).
- **Views**: a general Dynamics 365 capability used to select a subset of rows and fields for a given entity (like a requirement or resource).

11. CONCLUSION

Cognitive Convergence is currently helping a handful of clients implement Dynamics 365 Field Service, so we can attest that it is a strong product when used in the right situations. The easiest way to mitigate these risks is to hire an independent, technology-agnostic digital transformation consulting firm such as Cognitive Convergence to help validate your software decision, prepare for implementation readiness, help manage your organizational change program, and provide quality assurance over your system integrator.

Contact Us

Cognitive Convergence

http://www.cognitiveconvergence.com
+1 4242530744
shahzad@cognitiveconvergence.com