

NovusDR 7.3

SOFTWARE VERSION ENHANCEMENTS

July 2024 RELEASE Notes

TRADE SECRET

PRODUCT VERSION 7.3

Novus 7.3 | Software Version Enhancements

TRADE SECRET

This July 2024 edition is based on software version 7.3

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NOVUS 7.3 PRODUCT INFORMATION

Novus is an all-in-one solution designed specifically to aid Transit Agencies and Non-Emergency Medical Transportation Brokers, Manage Care Organizations and Providers in the optimization of their Transportation operations. With several optional add-ons agencies can establish even more control over their organization at a modular pace. Novus includes a suite of browser-based applications which provide administrative, scheduling, dispatching and reporting functionalities, as well as in-vehicle mobility application options. Supported solutions include Demand Response, NEMT, Friendly Fixed Route, Brokerage, Volunteer Management, Reports, Complaints, Passenger Portal and Notifications.

About this Release

These release notes summarize the features of the Novus 7.3 Software July 2024 release. This document includes release notes for the following Novus Software Modules:

- ✓ NovusDR
- ✓ Novus 7.3 Minimum System Requirements

Two grey pencils with sharpened tips are positioned diagonally on a bright yellow background. The pencils are oriented from the bottom-left towards the top-right.

NOTE: The purpose of this document is to provide an introduction and brief outline of newly available features and improvements.

For full feature details, please reference the corresponding feature note or User Guide for Novus 7.3.

NovusDR

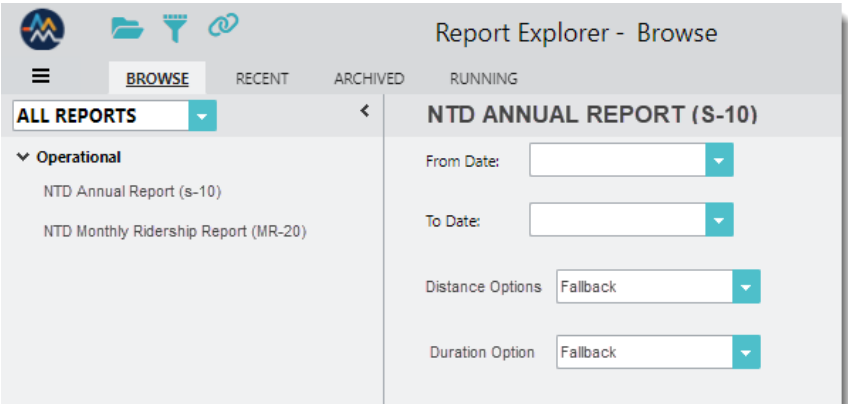
New / Enhanced Features

NEW NTD ANNUAL AND MONTHLY REPORTS

Two new reports have been added to Novus to assist with National Transit Database (NTD) reporting requirements:

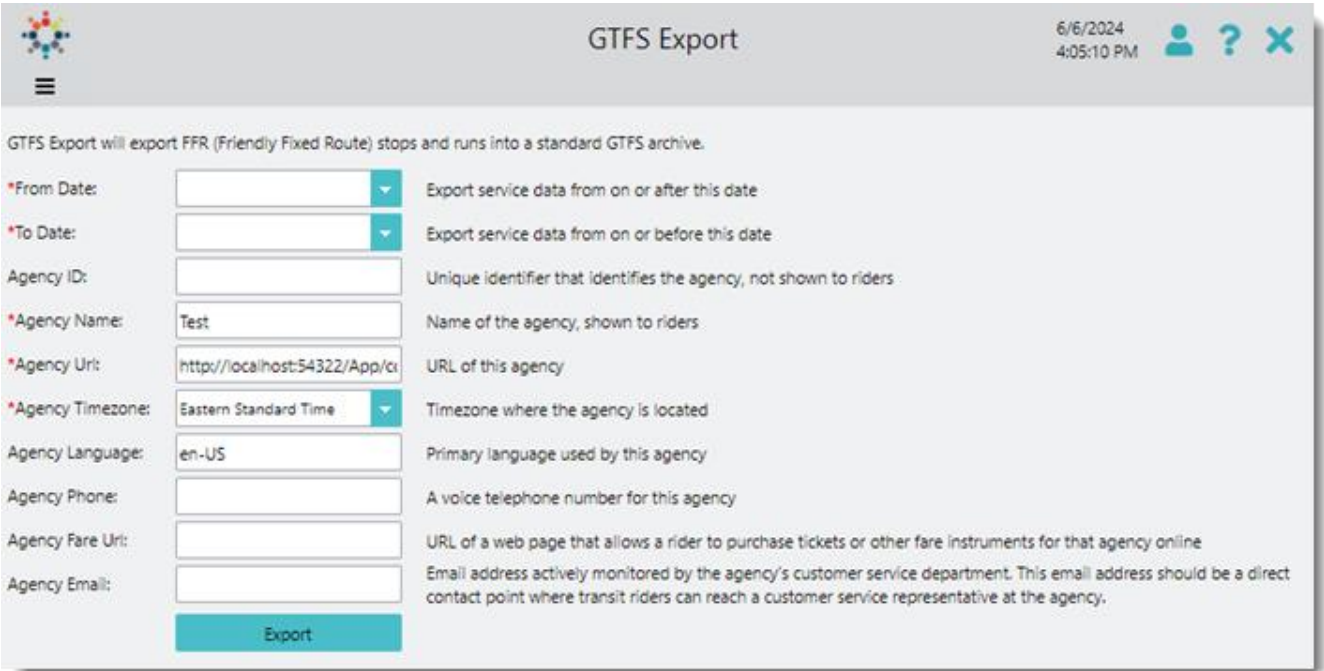
- **NTD Annual Report (S-10):** Omits fields not relevant to DR service or aren't stored within Novus. This report breaks down most of the statistics into Weekday/Saturday/Sunday categories as mandated by the NTD standard.
- **NTD Monthly Ridership Report (MR-20):** Monthly breakdown of a subset of the annual NTD statistics.

Both reports adhere closely to the layout of their corresponding NTD forms for ease of data entry and are aimed to conform to industry standards for accurate and acceptable NTD reporting. Transit agencies will find these NTD reports useful and easy to generate.



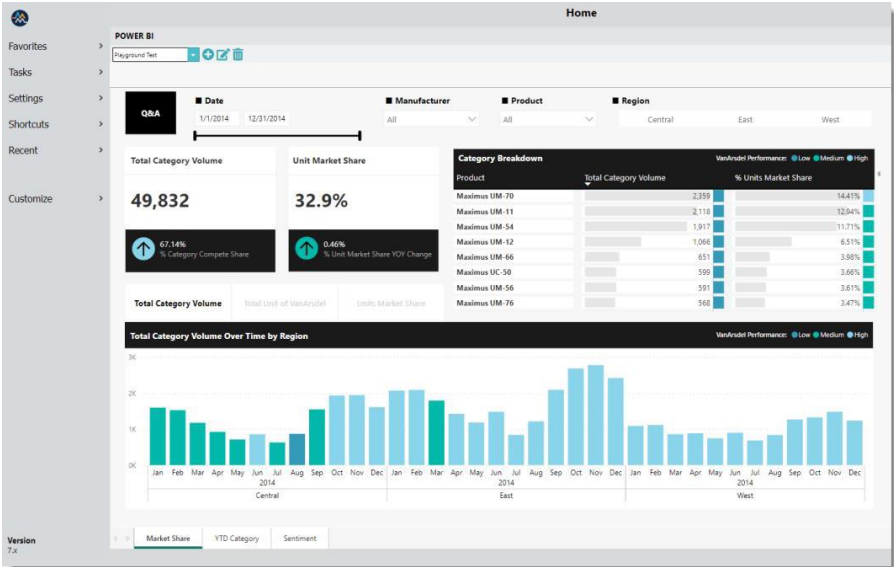
FFR GTFS – STATIC EXPORT

Agencies that offer fixed route services through Friendly Fixed Route (FFR) can now be in compliant with Federal Transit Administration (FTA) requirements by having the ability to export route information that is to be published to General Transit Feed Specification (GTFS). This new feature comes with a new screen called GTFS Export, accessible through **Customize > Menu** in Novus.



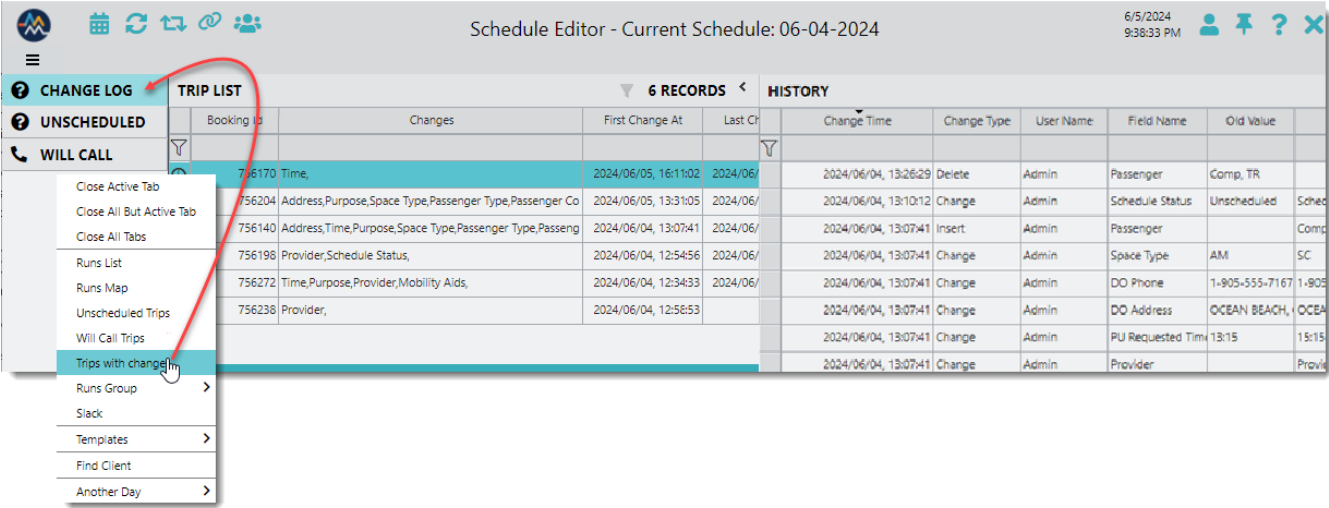
POWERBI PORTLET EMBEDDED INTO NOVUSDR

PowerBI reports can now be embedded into Novus, allowing the ability for users to view the reports from within the Novus portal. A user’s ability to add, edit, and delete reports will be based off their assigned permissions. This new feature comes with a new screen called *PowerBI*, accessible through **Customize > Portal** in Novus.



SCHEDULE EDITOR CHANGE LOG PANEL

Instead of viewing a history of changes to only one booking at a time via the **Audit** tab within *Trip Booking*, schedulers and dispatchers can now view the history of same day changes to multiple bookings within *Schedule Editor* via a new **Change Log** tab. The data in the **History** panel will reflect what values were updated/changed and what entries were added/removed. This enhancement will help improve the way organizations manage their change management processes.



The screenshot shows the 'Schedule Editor - Current Schedule: 06-04-2024' interface. The top navigation bar includes icons for home, calendar, refresh, undo, redo, and user profile. The main content area is divided into three tabs: 'CHANGE LOG', 'TRIP LIST', and 'HISTORY'. The 'CHANGE LOG' tab is active, showing a table with columns for Booking ID, Changes, First Change At, Last Change At, Change Time, Change Type, User Name, Field Name, and Old Value. A red circle highlights the 'Trips with changes' menu item in the left sidebar.

Booking ID	Changes	First Change At	Last Change At	Change Time	Change Type	User Name	Field Name	Old Value
756170	Time,	2024/06/05, 16:11:02	2024/06/04, 13:07:41	2024/06/04, 13:26:29	Delete	Admin	Passenger	Comp, TR
756204	Address, Purpose, Space Type, Passenger Type, Passenger Co	2024/06/05, 13:31:05	2024/06/04, 13:07:41	2024/06/04, 13:10:12	Change	Admin	Schedule Status	Unscheduled
756140	Address, Time, Purpose, Space Type, Passenger Type, Passeng	2024/06/04, 13:07:41	2024/06/04, 13:07:41	2024/06/04, 13:07:41	Insert	Admin	Passenger	Comp
756198	Provider, Schedule Status,	2024/06/04, 12:54:56	2024/06/04, 13:07:41	2024/06/04, 13:07:41	Change	Admin	Space Type	AM
756272	Time, Purpose, Provider, Mobility Aids,	2024/06/04, 12:34:33	2024/06/04, 13:07:41	2024/06/04, 13:07:41	Change	Admin	DO Phone	1-905-555-7167
756238	Provider,	2024/06/04, 12:56:53	2024/06/04, 13:07:41	2024/06/04, 13:07:41	Change	Admin	DO Address	OCEAN BEACH, OCEAN
				2024/06/04, 13:07:41	Change	Admin	PU Requested Time	13:15
				2024/06/04, 13:07:41	Change	Admin	Provider	Provid

IMPROVEMENTS

➔ TNC REQUEST TRIP ENHANCEMENTS

Today the Transportation Network Carrier (TNC) workflow forces the *Update Trip Status* batch to look at every booking in a TNC run and either request the trip or update the trip status if it's already been requested. The TNC workflow has been improved by explicitly separating the batch into two types, *Request Trips* and *Update Trip Status*, consequently causing *Update Trip Status* to no longer request trips. It also provides organizations with better tracking progress for all their batch jobs. This is a performance optimization is especially relevant for organizations who prominently schedule trips to Transportation Network Carriers (TNC) such as LYFT or Uber.

➔ SUSPEND USERS IN USERS AND SECURITY

Novus users can now be suspended in *Users and Security*, making them inactive and unable to log into the system. This eliminates the need to delete users from Novus.

➔ AZURE AD SSO – GROUP SEARCH FILTER IMPROVEMENTS

Azure Active Directory (AD) Single Sign-On (SSO) allows organizations to manage who is allowed access to Novus through the Assure AD framework, making the user login process faster and more efficient. New to Novus 7.3 is the ability to filter the list of groups to obtain from Azure AD based on a CSV list of group names. This improves Novus' efficiency when there are many users/groups, and only a small number of groups in the Azure AD environment, that need access to Novus.

➔ TRACKING STAFF MEMBER COMPLAINTS

In addition to capturing complaints about drivers, Novus can now capture complaints about internal staff members. This improvement will enhance our client's internal process when dealing with staff complaints.

➔ BATCH SCHEDULING - ESCORT INCLUSIVE SPACE TYPE FILTER

The **Space Type** filter used during batch scheduling has been improved to allow Novus to properly find solutions for those trips whose passengers require two different space types (i.e., a wheelchair passenger with an ambulatory escort). This enhanced filter prevents trips from not being scheduled when two different space types exist.

➔ ADDRESS POLYGON ENHANCEMENTS

The Address Polygon Update screen has been enhanced, providing the ability to select only a subset of event and booking data for update. Also, the fields in the tables that are dependent on time zones are properly synchronized when time zone polygons are updated. These enhancements greatly increase performance by the usage of parallel processing, caching, and other techniques.

➔ UNPERFORMED PULLIN EVENTS

Previously, a driver would see yesterday's pullin event if it was unperformed. To remedy this, a new property has been created for DriverMate + Ranger organizations that allows work from the previous day to be ignored if the event was unperformed. This improvement allows a time value to be set that will ignore unperformed work outside of the set time window.

➔ NOTIFICATION OPTIMIZATION

NotificationsForPass has been added to the database schema, allowing Novus to access the table directly to get notification configurations for bookings and clients. Notification types are also cached for managing bookings and clients, improving the performance of NovusDR and the Notification product.

MINIMUM SYSTEM REQUIREMENTS (Novus 7+)

NovusDR Hardware Specifications

These specifications serve as a general guideline for current and prospective customers. Our customers use a wide range of operating models that provide different loads on the system, so a detailed discussion to fine tune the proper specs for your operation should be held with TripSpark.

Novus is a browser-based product that runs as a service on a windows operating system. From a workstation perspective, only a computer with network connectivity and a current internet browser is required. The application is typically installed on a dedicated application server, which connects via an ODBC to a database server. If driver MDT's (mobile data terminals) area also in use, that is typically installed on a separate app server. Furthermore, add-ons such as Passenger Portal and Notifications can typically be installed on existing servers (needs to be verified with TripSpark). Below lists recommended + supported hardware and operating server versions. Please reach out to TripSpark for any additional required details.

Recommended Workstation Specifications

Requirement	Supported
Operating System	Windows 7, 8, 10, 11
Browser	Chrome, FireFox, Edge (current versions)
Software for reports	Required: Adobe Reader Optional: MS Word, Excel
Min specs	4GB RAM, 2 CORE, 21" 16 x 9 Monitor that supports minimum 1024 x 768 resolution (dual monitors are recommended)
Network	Network connectivity (to access the Novus application)

Additional Workstation Notes:

- Workstations should have Novus link configured as a trusted site within the browser.
- Pop-up blocker should be disabled within the browser.
- Intel i5 or higher processor is recommended, with a minimum clock speed to 1.5Ghz.

Supported Server Operating Systems

IMPORTANT: As of Novus Version 7, Windows Server 2012 will no longer be supported due to the sunsetting of this version by Microsoft. Please ensure you are operating on the most recent versions of OS/SQL for best performance of TripSpark/Momentm software.

Supported Server OS
Windows Server 2016 (64 bit)
Windows Server 2019 (64 bit)
All Higher OS Versions

Supported SQL Database & ODBC Versions

Database Version	Required Driver
Microsoft SQL Server 2014 (64 bit)	ODBC Driver 11 for SQL Server
Microsoft SQL Server 2016 (64 bit)	ODBC Driver 13 for SQL Server
Microsoft SQL Server 2019 (64 bit)	ODBC Driver 17 for SQL Server
Microsoft SQL Server 2022 (64 bit)	ODBC Driver 17.10 for SQL Server
All Higher SQL Server Versions	

Additional Server Notes:

- Standard (STD) or enterprise (ENT) versions of SQL are supported.
NOTE: Enterprise version includes an 'ONLINE' mode that enables nightly maintenance tasks to be run without locking table access.
- SQL Express, Web, and Developer editions are not supported.
- Reference link for new versions: <https://learn.microsoft.com/en-us/sql/connect/odbc/windows/system-requirements-installation-and-driver-files?view=sql-server-ver16>

Recommended Server Specifications

Trips Per Day	Database Server (RAM / PROC / DATA)	Novus Application Server (RAM / PROC / APP) (if separate)	MDT Server (if applicable)
< 500	16GB / 4CORE / 100GB / STD	8GB / 4 CORE / 100GB	8GB / 2CORE / 100GB
500-1000	16GB / 4CORE / 250GB / STD	16GB / 8 CORE / 100GB	8GB / 2CORE / 100GB
1000-2000	32 GB / 8CORE / 500GB / STD	16GB / 8 CORE / 100GB	16GB / 4CORE / 100GB
2000-5000	48 GB / 12 CORE / 1TB / ENT*	App 1: 16GB / 16 CORE / 100GB* App 2: 16GB / 16 CORE / 100GB	16GB / 4CORE / 100GB
5000-10000	64 GB / 16 CORE / 1TB / ENT*	App 1: 24GB / 24 CORE / 100GB* App 2: 24GB / 24 CORE / 100GB	16GB / 4CORE / 100GB

*Agencies above 2000 trips per day (or agencies with high map density using internal maps) require 2 application servers for optimal performance as noted in the above grid.

**SQL Server Enterprise version is recommended which supports regular index rebuilds, and index statistics recalculations, without locking tables.

***Supporting modules are defined as: XGATE (used in conjunction with our mobile apps), Notifications, or Passenger Portal

Additional Server Notes:

- Each Service/Application server should have a dedicated RAID-1 storage for redundancy.
- Novus can run in a virtualized environment, but performance may be adversely impacted at high trip volumes. For agencies that operate >1000 trips per day, the database server should be on a physical server with an SSD (Solid-State Drive), but the application server can be virtualized as long as the specifications are met.
- Additional processing cores and RAM should be allocated if you plan to host additional software on the Novus application server. Additional RAM should be allocated for sites with high numbers of concurrent users. TripSpark must be consulted if high numbers of concurrent users are expected to assess usage characteristics to determine suitable RAM requirements.
- The number of cores shown is for the number of processor sockets on the motherboard.
- All server processor cores must be Xeon 2GHz or processors of equivalent performance.

Network Requirements

Novus can be configured to be accessible over the internet or internal network.

Network requirements
High speed internet connection – minimum 10MB download, 2MB upload
100Mbps minimum NIC cards in all hardware (1Gb recommended)

Additional Requirements:

- Reverse proxy: IIS or Apache (with a certificate purchased by the agency) for SSL configuration (TLS 1.2 minimum)
- The agency must setup nightly backups & maintenance plans on the SQL server.
- Remote access (especially during the deployment phase) for TripSpark/Momentm staff is recommended.

Cloud Based Solutions

Novus works on Windows Server environments for the application so long as the hardware specs meet the physical server specifications and Microsoft SQL Server specifications previously outlined in this document.

Novus has not been tested in Amazon’s AWS at this time. TripSpark/Momentm does use Microsoft’s Azure for QA and testing purposes only, so if a cloud-based tool is used, Azure is our recommendation. Novus does not support any AWS or Azure native tools, and no development has been done specifically for either platform.

- The database server is typically the most important to have on a physical machine once trip volumes exceed a few thousand trips. If using a cloud-based solution, TripSpark recommends using the next hardware tier above the recommend one (so if a site falls within the 1000-2000 tier, the 2000-5000 tier should be used). This is only needed for the database server.
- Cloud based solutions are ‘elastic’, meaning that server configurations can be easily changed. When a customer grows to another tier of trip count, the servers will need to be updated to reflect the change (more CPU/RAM added).

- When deploying on a cloud-based solution, a region closest to the agency must be selected (so if in the eastern US, this region must be selected).
- TripSpark/Momentm supports LDAP using internal servers; however, cloud-based LDAP uses a different protocol that has not been tested by TripSpark. Only Novus authentication will be supported at this time when using a cloud-based solution.
- TripSpark/Momentm strongly suggests using a dedicated host model on cloud solutions, so that hardware resources are using only for our applications, ensuring performance is maximized.
- TripSpark recommends using **managed disks** for storage.
 - Standard-SSD or regular disks for PROD, TEST, and XGate (*E10 and up)
 - Premium-SSD for SQL (*P10 and up)

**E = Standard SSD / P = Premium*