

navis
N4

WHAT'S NEW IN NAVIS N4

Latest features in N4 3.5, 3.6 and 3.7





Navis has been enhancing our core TOS functionality to meet the critical needs of our manual, semi-automate, and fully automated customers. Here are highlights of what the recent versions of N4 can bring to your terminal operations.

Expand your business with General Cargo.

Break bulk cargo is a critical part of terminal revenue for 20% of ports worldwide and the demand is growing. We continue to expand our capability in this space, now supporting Cargo Appointments, Cargo Flex Fields, Direct Load/Unload, and many new gate business tasks that control cargo.

Increase efficiency and visibility for multi-facility terminals.

Our new Multi-Facility Carrier Operations Option enables the multi-facility complex to divert vessels to other facilities, as well as view and plan vessel visits downstream.

Drive up your MPH.

Moves per hour is the gold standard for evaluating the effectiveness of a TOS in managing QC operations. The N4 Automation solution has made significant strides, with some terminals improving MPH by 16% in the past two years.

Leverage operational intelligence.

The BI Portal Analytics and Ops Monitoring dashboards have been enhanced to deliver better operational insights. The BI Portal Ops Monitoring dashboards have also been tuned for better usability and performance.

Use N4 anywhere.

With the N4 HTML UI, you can launch N4 from your phone or tablet without needing to download the application. Use the N4 HTML UI to achieve higher levels of usability, including standard browser usability features, dock/undock tabs, and the ability to search, select and move multiple records at the same time.

Reach new levels of rail productivity.

Extensive enhancements to Rail AutoStow and RGC Scheduler will help handle your growing rail volume with less landside congestion, better crane driving visibility and more efficient truck dispatching.

N4 scales with you.

As our customers continue to grow their terminal business, meeting the technological demands of scaled operations is a top priority. We've made significant investments in optimizing our solutions to support increasing terminal throughput.

NEW FEATURES AND ENHANCEMENTS

SYSTEM IMPROVEMENTS

Improved password protection features

- More frequent password expiration (3.6)
- New dynamically created passwords for default system users (3.6)
- Security for Remote JMX Monitoring (3.6)
- Password encryption (3.7)

Proactive system health monitoring

- Identify XPS bottlenecks with Performance Counter monitoring, which displays the count of different XPS entities, such as containers, work instructions, and work assignments. When XPS slows down or hangs, you can identify which entities are using up memory. (3.6)
- Identify potential ECN4 bottlenecks with the ability to measure the average response time to generate a joblist. (3.6.3)
- Customers can now use their preferred industry standard monitoring tool, provided that it supports JMX monitoring. (3.7)

Performance, Reliability, and Scalability Improvements

Mega-terminal support

- N4 can now scale up to 12MTEU in our performance tests. (3.6)
- The XPS message handler can now maintain XPS client connectivity under mega-terminal load scenarios. (3.6)
- You can now run vessel discharge decking on a dedicated XPS client to minimize the impact of N4 Mobile/CAS vessel discharge decking requests on the XPS server. (3.6.8)

Multiple data purging and archiving enhancements make it easier to maintain overall system performance.

- Added ability to purge archived chargeable marine events, archived chargeable appointment events and archived chargeable unit events. (3.6)
- Added columns to the N4 Monitor Archive/Purge view that display the duration and average speed for each purge query. (3.7)

In Yard Editor, improved performance for applying yard model changes. Also, when a user selects "Apply Yard Model," a progress bar now displays the stage of the commit. (3.5.20/3.6.19/3.7) Expert Decking improvements have made XPS decking up to 5X faster. (3.6.15)

Updated Certifications

N4 now supports Microsoft SQL Server 2016, Microsoft Windows Server 2016 and Oracle Database 12c Release 2 (3.6)

VESSEL OPERATIONS

For multi-facility operations, increase efficiency and visibility across the complex with the Multi-Facility Carrier Operations Option. This new option enables you to:

- Divert a vessel to another facility without data entry overhead, saving time and reducing errors. (3.6.4)
- View containers moving between facilities in a complex. (3.7)
- Plan containers across the complex. (3.7)
- Control which plans and moves are propagated downstream. (3.7)

Optimize vessel load swapping decisions with the ability to enable/disable flexible loading by work instruction. (3.5.15/3.6.2)

GATE OPERATIONS

Expand your gate appointment customization options with Dynamic Flex Fields (DFF) for the create-appointment, update-appointment, create-truck-visit-appointment and update-truck-visit-appointment API messages. (3.5.2, 3.6, 3.7)

You can now add the Import Delivery Order field to the Appointment gate stage for Deliver Import transactions. (3.5.15/3.6.3)

Added business tasks to support breakbulk cargo transactions. (3.7)

You can now define overweight tolerance. (3.7)

GENERAL CARGO

Increase the efficiency of your cargo operations with the following new capabilities: (3.7)

- Cargo Appointments – Cargo Appointments provides a unified appointment system for all container and general cargo activities, increases predictability of truck turn times, and provides insight into upcoming activities.
- Cargo Flex Fields – Increase configurability and flexibility with the new Cargo Flex Fields feature, allowing for system-provided extensibility to be configured by the terminal.
- Load Cargo Lots to a Vessel – The ability to load specific cargo lots enables you to manage and track your cargo with more granularity.
- Direct Load/Unload – Save time and yard space by carrying cargo directly to the vessel or gate, without handling in the yard.

N4/XPS USABILITY

Now you can view multiple error messages with N4 Mobile. (3.6)

Multiple XPS UI enhancements improve the planning experience, including:

- Display departed vessels from Yard Allocations window (3.3.18, 3.4.13, 3.5, 3.6)
- Color containers by yard block and tier (3.4.12, 3.5, 3.6)
- View planned sequence of work instructions for both loads and discharges in the track plan “Proportional” view. (3.6)
- View containers going through repair process with M&R status field now visible in container filters in XPS.(3.6.13, 3.7)

RAIL OPERATIONS

Optimize your rail operations with rail enhancements that improve rail dispatching, stowage decisions, and visibility.

Rail AutoStow Enhancements

Extensive Rail AutoStow enhancements will improve your rail stowage decisions and help you avoid congestion. New features add the ability to:

- Prioritize loading containers with higher dwell times (3.2.15, 3.6.11, 3.7)
- Set weight restrictions for Tier 2 containers (3.5.3, 3.6, 3.7)
- View rail moves by block (3.6.1, 3.7)
- Minimize rail moves from high-impact blocks (3.6.2, 3.7)
- Promote block dispersal (3.6.9, 3.7)

Optimize vessel load swapping decisions with the ability to enable/disable flexible loading by work instruction. (3.5.15/3.6.2)

RGC Scheduler Enhancements

- Prioritize tracks by setting them to either High Priority or to be completed by a certain time. (3.3)
- Add more predictability to the RGC lift and set pattern by configuring the RGC Scheduler to follow a patterned work instruction sequence. (3.5.1)
- Prevent RGC moves from being reassigned by locking moves from the last RGC Scheduler run. (3.5.1)
- RGC Scheduler can now automatically rebalance assigned moves when it identifies moves that haven't been distributed evenly. (3.5.1)

N4 now supports curved rail tracks if your facility has rail tracks that have curved sections that are not perpendicular to the yard blocks. (3.7)

EDI EDI Xenos tool now supports Windows 10 version.

Improvements to:

- Performance of EDI extract BAPLIE-OUT (3.6.0/3.5.12)
- Loadlist/Manifest (3.5)
- COPRAR Discharge list EDI message D00B version (3.5)

Added the following filter criteria to EDI extract session filters for message classes related to the Unit entity: Restow Type, Transit State, M&R Status, Inbound Actual Visit ID, Inbound Actual Visit Mode, Outbound Actual Visit ID, Outbound Actual Visit Mode, Unit flex and UFV flex string fields

These criteria apply to the following message classes: Activity/Activity By Type/ Activity By CARRIER Inventory, DISCHLIST, VERMAS, LOADLIST, RAILCONSIST, SAUIDIP, STOWPLAN (3.7)

ECN4 & SEMI-AUTOMATION

Added ASC Cached Moves functionality to improve ASC Optimizer scheduling performance. (3.5)

Added AutoStow penalties to optimize the following ASC parallel TZ logic:

- Performance of EDI extract BAPLIE-OUT (3.6.0/3.5.12)
- Distance for Empties
- Distance for Fulls
- Same block twin-carry
- Same block threshold (3.5.16, 3.7)

Added Expert Decking penalties for mixed-TZ ASC block support, which enables both waterside and landside moves to take place in the same TZ:

- Set the threshold for high occupancy in the TZ of ASC parallel blocks.
- Favor decking moves to a TP that is in the closest TZ to the yard slot for discharge moves only.
- Favor decking moves to a TP that is in the closest TZ to the yard slot for load moves only.
- Determine whether to use the CHETZO/CHETZB penalties for non-mixed blocks, or the OPTTZO/OPTTZB penalties for mixed-TZs.

This functionality only applies when using Parallel ASC functionality. (3.5.15, 3.6.4, 3.7)

Enhanced ECN4 decoupled truck flows to support dispatching and loading of 2x20 containers originating from different ASC blocks. (3.6)

Improved PR-TT performance as part of ongoing PR-TT refactoring. (3.6.4)

CHE operators can now assign themselves to a new block-level yard zone using the "Assign Yard Zone " button, which you can add to the Home screen of the ECN4 CHE Operator program. (3.7)

N4 BILLING

Manage invoices more effectively with N4 Billing's expanded functionality:

- Tariff Rates
- Credit Items
- Payment Items
- Invoice Items
- Payment Flexfields

These fields are supported for UI, Webservice API, SNX, as well as invoice extraction. (3.5)



N4 AUTOMATION

N4 Decking Improvements

- Added diagnostics for the Intrablock and Rehandle Deckers. (3.6)
- Added support for multiple Expert Decking Strategy Sets and for differentiating transshipment containers from exports.
- Added the following Intrablock and Rehandle Decking penalties (measures): ROWOPT, TIMRHR, TIMRHO, TIMFFE , SLTGHT (3.6)

BIM (Block Impact Minimizer) Improvements

- Enabled BIM swapping for tandem moves (3.6.8).
- BIM is no longer dependent on the Live Data Cache (LDC). It will use the Live Data Cache if present; otherwise it will retrieve data from the database.
- Additional constraints have been added to BIM to exclude containers affected by Men Working stacks, hazardous containers, live reefers, damaged containers or containers that are part of a twin pair.

Pushrate Timing for AGV Fleet Utilization

Improve your AGV fleet utilization with an enhancement that enables AGVs to be dispatched based on the pushrate time and expected AGV drive time. (3.7)

The pushrate enhancement:

- Provides a steady flow of AGVs being sent to the QC.
- Reduces the laden wait times at the parallel buffer and the QC.
- Is more reactive to the current state at the QC, both in terms of platform occupancy and the number of AGVs already servicing the QC.

Now you can deck twins with the same stacking factors to the same stack. (3.6.1)

Horizontal transport has been improved to reduce AGV idle time with the ability to swap AGVs at the ASC transfer zone. (3.6)

In the Crane Team UI, for automated terminals only, load moves are now colored by move stage. (3.5.14/3.6.1, 3.7)

BUSINESS INTELLIGENCE PORTAL

The following enhancements have been implemented as of 3.6:

- **BI Portal Analytics:** Navis has redesigned standard gate and yard dashboards for better insights, redesigned gate and yard data models for optimal query performance, and redesigned the ETL to optimize metric calculations.
- **BI Portal Ops Monitoring:** Navis updated the data model and the dashboards for better usability and performance.

All changes meet performance criteria of <10 seconds rendering time per dashboard.

N4 HTML UI

The N4 HTML UI, now generally available as of 3.6, offers features that improve N4 usability, such as browser usability features, dock/undock tabs, and the ability to search, select and move multiple records at the same time.

The HTML UI also provides a more cost efficient option for using N4, since the ULC client now requires Java licensing.

Recent HTML UI Enhancements

Now when you update the filter criteria for a Saved Filter, N4 adds the word “edited” before the name of the Saved Filter to indicate that you have made changes to the filter criteria and it is now different from what is saved in the database. (3.6.3)

Added a new Re-run Filter button next to the Saved Filter list. You can use the Re-run Filter button to re-apply a filter with new parameter values without opening the Filter pane to access the Apply Filter button. (3.6.3)

Implemented the Credit Card Readers and Workstations options. (3.6.8)



WWW.NAVIS.COM
55 HARRISON STREET, STE. 600, OAKLAND, CA 94607, USA

Navis is a provider of operational technologies and services that unlock greater performance and efficiency for the world's leading terminal operators and ocean carriers. Navis combines industry best practices with innovative technology and world-class services to enable our customers to maximize performance and reduce risk. Whether tracking cargo through a port, automating equipment operations, or managing multiple terminals through an integrated, centralized solution, Navis provides a holistic approach to operational optimization, providing customers with improved visibility, velocity and measurable business results.