Northwest Seaport Alliance Port Community System

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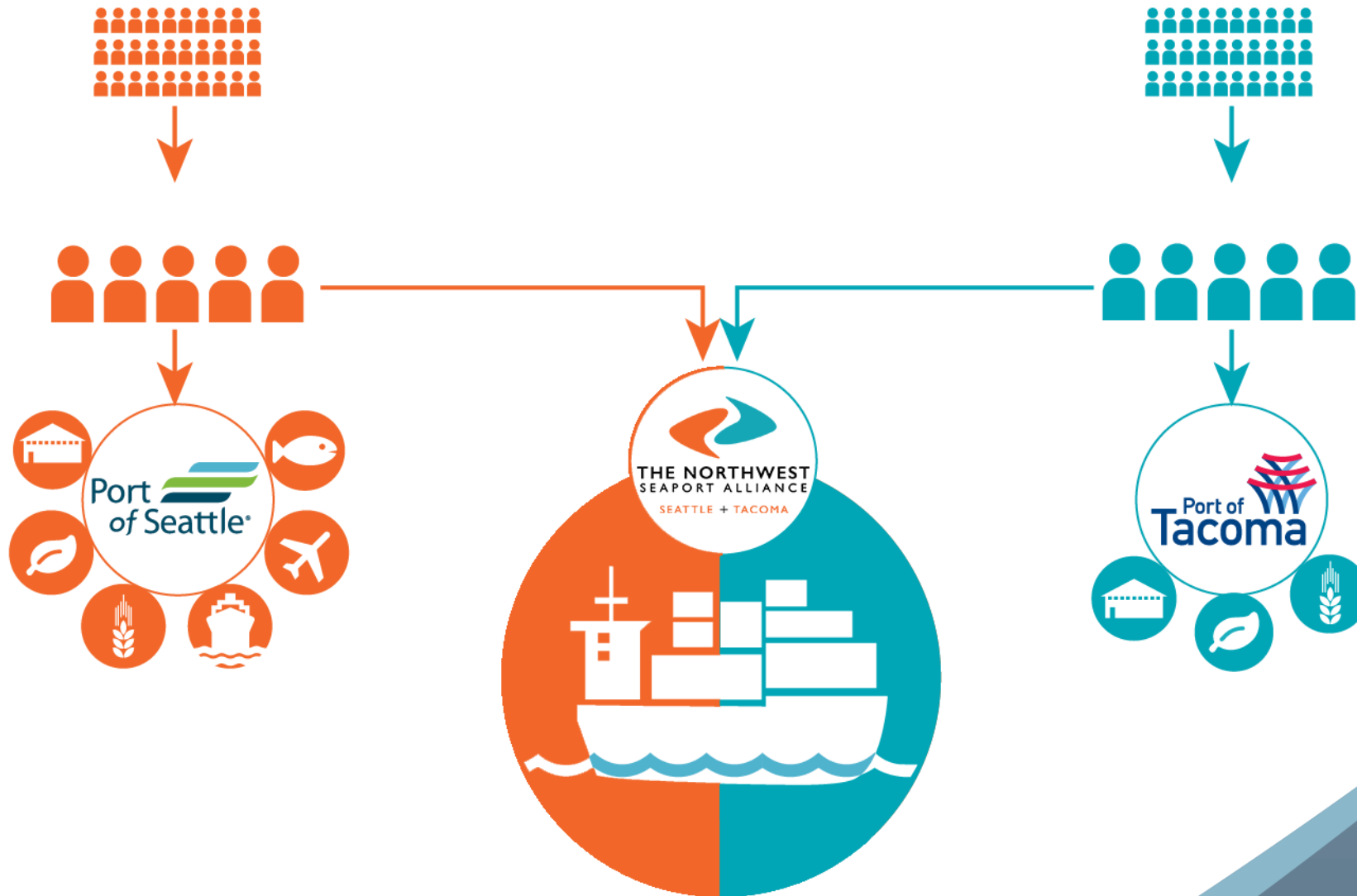
April 26, 2024

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# NWSA: Moving Marine Cargo Together Since 2015

NWSA: Port Community System

- The Port Community System is how the Northwest Seaport Alliance interfaces with maritime cargo terminal operators and the drayage trucking community for day-to-day business.

- The problem is the system is not currently configured to be flexible and adaptable to changes in the field for either drayage truckers or terminal operators.

- The proposed project takes advantage of advances in technology to update this system into a unified portal to improve trucker experience and improve freight fluidity on the road network.
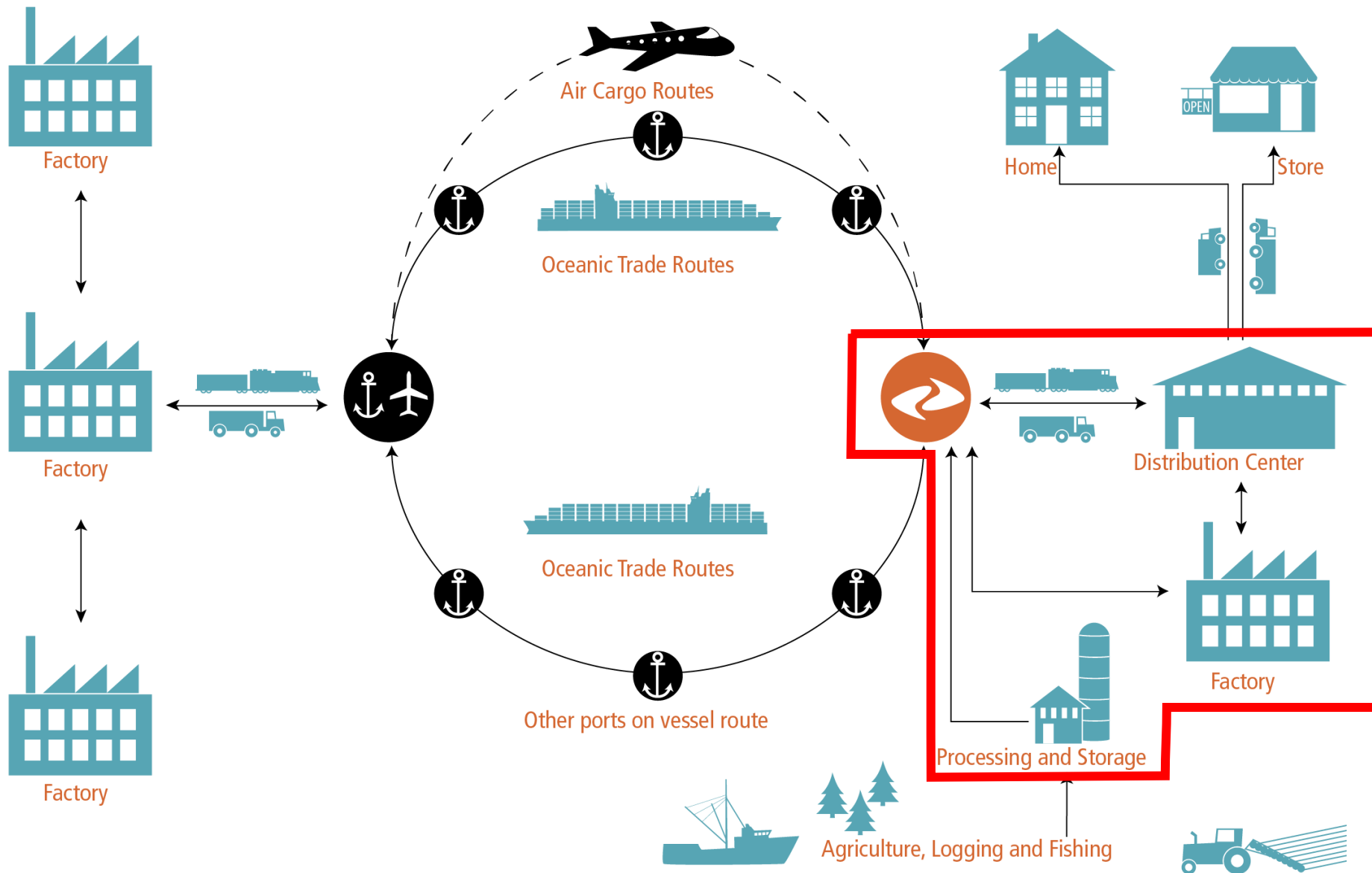
Proposed project supports where the global supply chain interfaces with local and regional landside infrastructure.

Air Cargo Routes

Oceanic Trade Routes

Oceanic Trade Routes

Other ports on vessel route

Factory

Factory

Factory

Home

Store

Distribution Center

Factory

Processing and Storage

Agriculture, Logging and Fishing

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Things to Consider

- Maritime cargo facilities are immovable.

- The total amount of maritime cargo received depends on external factors beyond our control – geopolitics, level of consumption, export/import point of origin, partnerships between logistic companies, etc.

- The variation in the amount of cargo received both regionally and between NWSA Port Terminals can create inefficiencies that impact the roadway system.

- This project capitalizes on improvements in technology to make our Port Community System more efficient and improve truck fluidity in the maritime harbor areas.

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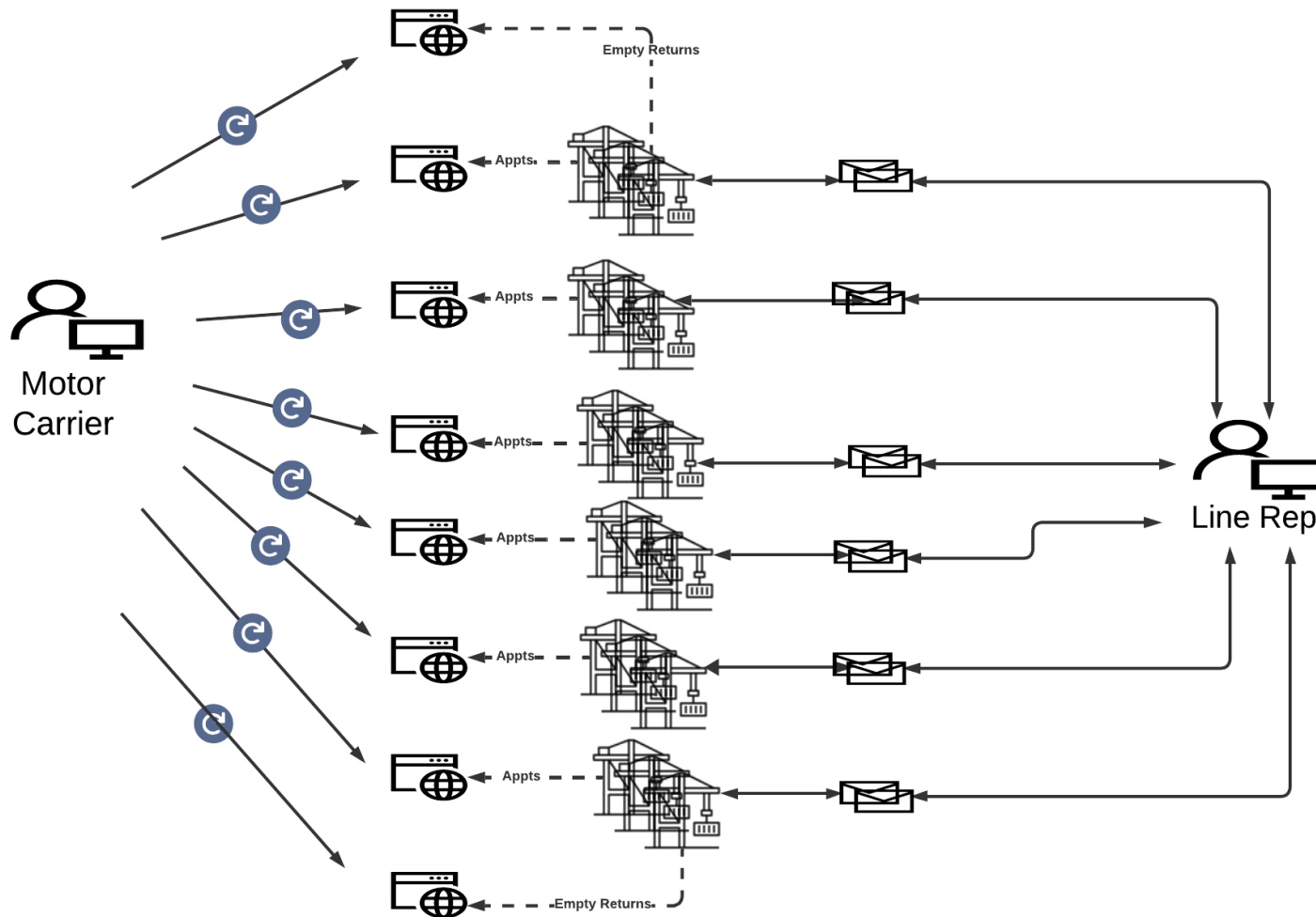
Impacts on the Road Network

Seattle, East Marginal Way (left)

Tacoma, Alexander Ave (lower)

o Congestion on the roadway due to truck queuing.

o Increased emissions from truck idling, both on the road and in dedicated queue lots.

o Lost productivity due to missed appointments.

The Problem

- In both the ports of Tacoma & Seattle, all terminals use the same appointment booking platform, but appointment capacity, rules, and configuration are managed by individual terminals.

- As these terminals are independently operated, the experience of booking appointments can vary from terminal to terminal and searching for and booking appointments can be an arduous process.

How Outreach Informed this Project

- After hearing from the truckers of our community in our monthly outreach forums, we learned the appointment system was their biggest pain point.

- While it was a difficult transition into an appointment-only system, the trucking community understands the need to manage flow at the terminal gates and is supportive to see the system grow with their needs and more modern technology.

- Our Marine Terminal Operators also expressed their issues with being able to manage appointment utilization, as unused appointments are lost opportunities for container throughput.

- Soliciting feedback from both Truckers and Marine Terminal Operators influenced the Port Community System roadmap in deciding to prioritize updating and aligning the appointment system across all terminals in the gateway.
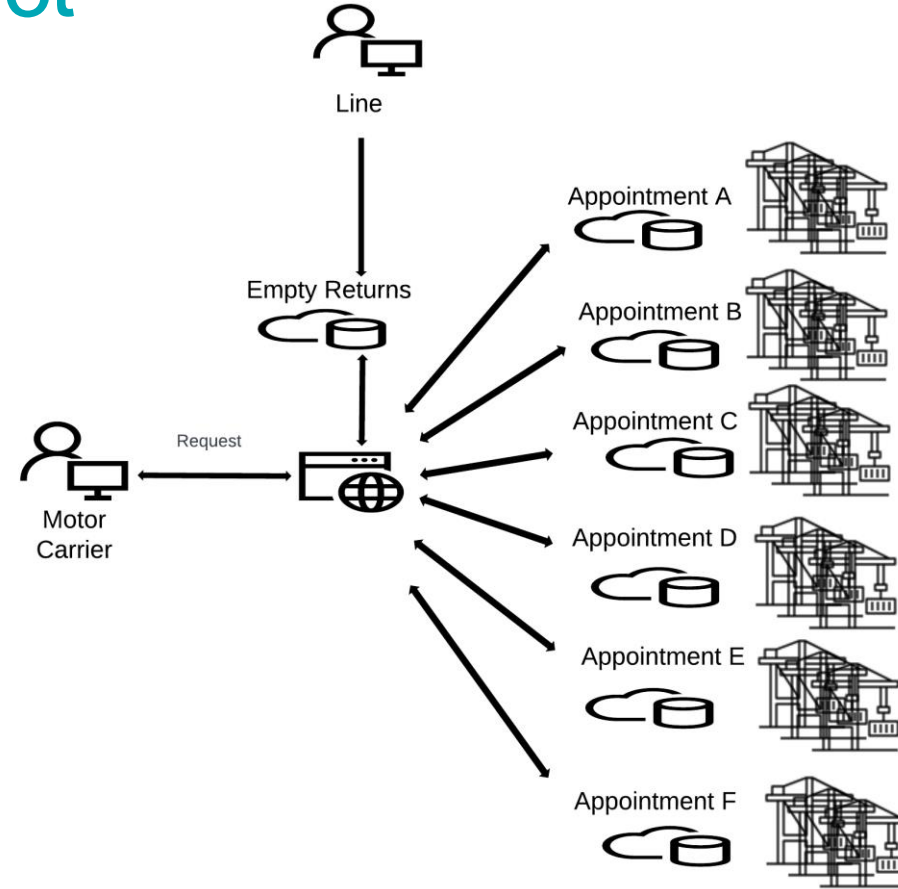
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Proposed Port Community System Improvements

- To streamline and make the process more accessible, the NWSA requests funds to enhance our Port Community System by creating a unified portal with a web and mobile application to include a new feature set that increases terminal transactions, lowers truck congestion, and decreases wait time.

- Through this unified portal, truckers will be able to easily manage their appointments with features like terminal-agnostic appointment setting, real time appointment availability, and appointment merging to encourage efficiency with dual transactions in a single visit.

- A mobile application will allow truckers to add or change cargo information on the fly, and location services would enable features such as auto check in, container preparation, turn time measurement, congestion measurement, and more.

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Key Benefits of the Project

- Create a terminal-agnostic shared portal.
  - Better appointment utilization
  - More equal system for smaller trucking companies or independent operators

- Increased appointment utilization
  - Improved truck fluidity
  - Greater and more efficient terminal throughput

- Decreased drayage congestion
  - Less truck idling
  - Clearer roadways around the gateway

- Standardized, low-barrier platform for appointment booking
  - Ease of use for the trucking community
  - Flexible and real time appointment management

Next Steps and Timeline

Task #	Description	Length of Time
Analysis and Discovery		
1.1	Analysis & Design	Ongoing
1.2	Prototyping	3 months
1.3	Market Validation	1 month
Capability Launch and Support		
2.1	Engineering & Integration	
2.2	Testing	
2.3	Market Outreach	
2.4	Regression Testing	8 months
2.5	Final Sign Off	
2.6	Launch	
2.6	Adjustments	

- After funding and procurement, work is expected to take one year.

- NWSA staff is constantly evaluating operational needs and the market's ability to offer solutions.

- Cost estimate is based on similar projects at other container ports.

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Opportunities for Future Development

- Coordination with other major traffic events with location-based services.

- Operational alignment to ensure identical appointment windows are configurable across all terminals.

- Better utilization and/or repurposing of queuing and staging lot real estate at each port.

- Faster terminal transactions with the additional data this system can provide to longshoreman.

- Improved communication and coordination with drayage truckers across the NWSA Gateway.

- Better data collection on trucks that come to NWSA cargo terminals.

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Summary

- Maritime cargo facilities are a keystone part of the supply chain for the whole region. They cannot be physically relocated so we must optimize them in their current locations.

- Trucks are the direct connection from the maritime terminals to the regional distribution system for the consumer as well as factories and agriculture for their exports.

- The Port Community System improvements will decrease truck idling through reduced queuing, increase terminal throughput container transactions, and simplify workload planning for the trucking community, especially for small business or independent operators.

- The new technology will be a step toward future development and communication opportunities.

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