2020 Vision:
Legacy vs. Next-Gen Routing Software

Presented by:
Erich Wolters
VP, Wise Systems
Track Your Order

DOMINO'S TRACKER®

Know the status of your order, from the moment it's placed to the second it leaves our store for delivery or is ready to be picked up.

YOUR ORDER IS IN THE OVEN - MD put your order in the oven at 07:01PM.

PATENT PENDING
Track Your Order

DOMINO’S TRACKER®

Know the status of your order, from the moment it’s placed to the second it leaves our store for delivery or is ready to be picked up.

PERFECTION CHECK COMPLETE - MD double-checked your order for perfection at 07:08PM.
Track Your Order

DOMINO'S TRACKER®

Know the status of your order, from the moment it’s placed to the second it leaves our store for delivery or is ready to be picked up.

WE'RE ON THE WAY - Salim left the store with your order at 07:13PM.

POWERED BY POSSIBILITIES.
Track Your Order

DOMINO'S TRACKER®

Know the status of your order, from the moment it's placed to the second it leaves our store for delivery or is ready to be picked up.

MMM, IT'S THERE - We hope you're enjoying your meal!

PATENT PENDING
The customer experience bar has been raised.
Introductions

Erich Wolters
VP, Wise Systems

Speaker email: ewolters@wisesystems.com
Website: www.wisesystems.com
MODEX Booth #6378
What Are Your Operational Goals? For 2020 and Beyond?

- Business growth & flexibility
- Maximum efficiency
- Fleet utilization
- High quality-customer service
Routing plays a critical role in creating capacity and ensuring business growth.

Genuinely successful transportation operations require new enabling technologies.
Industry Trends: Driving New Routing Tech Adoption

Business Pressures

- Rising transportation costs
- Aging workforce and driver turnover
- Traditional systems
- Expanded delivery footprint & SKU proliferation
Industry Trends: Driving New Routing Tech Adoption

Business Pressures
- Rising transportation costs
- Aging workforce and driver turnover
- Traditional systems
- Expanded delivery footprint & SKU proliferation

External Factors
- Surge in urban congestion
- Last-mile complexity
- Rising consumer expectations (The Amazon Effect)
- E-commerce growth
- New regulations (e.g., ELD mandate)
Industry Trends: Driving New Routing Tech Adoption

Business Pressures
- Rising transportation costs
- Aging workforce and driver turnover
- Traditional systems
- Expanded delivery footprint & SKU proliferation

External Factors
- Surge in urban congestion
- Last-mile complexity
- Rising consumer expectations (The Amazon Effect)
- E-commerce growth
- New regulations (e.g., ELD mandate)

Technology Advances
- Abundance of transportation data and analysis tools available
- Ubiquity of mobile devices
- Shift from on-premise software to cloud-based solutions
- AI & machine learning
Typical Delivery Operation

- **Inventory**
- **Depot**
- **Dispatcher**
- **Vehicles**
- **Drivers**
  - 5:00 am - 2:00 pm
  - 8:00 am - 5:00 pm
  - 8:00 am - 5:00 pm

**Shift time**
MIXED DELIVERY DAY

11 scheduled deliveries
3 on-demand orders

POWERED BY POSSIBILITIES.
5:00 PM

6 on time deliveries
8 late deliveries
A SUCCESSFUL DAY

14 on-time deliveries
0 late deliveries
A mix of scheduled and on-demand orders
What is Involved in the Routing Process?

1. Orders
2. Resources
3. Constraints
4. Plans
5. Manage Plan - Day of Delivery
6. Post-Execution Analysis

What is Involved in the Routing Process?
Various Approaches to Routing

1. Manual Routing
2. Legacy Routing Software
3. Next-Gen Routing Software
Various Approaches to Routing

1. Manual Routing
2. Legacy Routing Software
3. Next-Gen Routing Software
Manual Routing

Not software-supported and remains in use due to inertia

What’s involved?

1. Orders
2. Resources
3. Constraints
4. Plans
5. Manage Plan - Day of Delivery
6. Post-Execution Analysis
Manual Routing

Not software-supported and remains in use due to inertia

What’s involved?

1. Orders
   - Phone calls
   - Paper & pen
   - Excel sheet
   - Email
   - Text message
   - Fax

2. Resources
   - Vehicles
   - Drivers

3. Constraints
   - Time Windows
   - Vehicle limits
   - Shift hours

4. Plans
   - Pen & Paper
   - Excel
   - Physical Maps
   - One to two core people manage process

5. Manage Plan - Day of Delivery
   - Calls/text to drivers to check on ETA
   - Call/text customers

6. Post-Execution Analysis
   - No easy way to verify delivery execution
Manual Routing

The process

What’s involved?

1. Orders
2. Resources
3. Constraints
4. Plans
5. Manage Plan - Day of Delivery
6. Post-Execution Analysis

Usually takes hours/days to plan
Not streamlined
Relies on one or more people (organizational risk)
Manual Routing

The process

What’s involved?

1. Orders
   - Dispatcher receives orders via calls or an OMS
   - Updates Excel sheet

2. Resources

3. Constraints

4. Plans

5. Manage Plan - Day of Delivery

6. Post-Execution Analysis

Organizational Cost
- Time-consuming
- Dependent on one person’s knowledge
Manual Routing

The process

What’s involved?

1. Orders
2. Resources
   - Dispatcher and/or management evaluate driver and vehicle resources to assign orders
3. Constraints
4. Plans
5. Manage Plan - Day of Delivery
6. Post-Execution Analysis

Organizational Cost
- Inefficient use of time
- Redundant process every week
Manual Routing

The process

**What’s involved?**

1. Orders
2. Resources
3. Constraints
   - Dispatcher manages additional constraints
4. Plans
5. Manage Plan - Day of Delivery
6. Post-Execution Analysis

**Organizational Cost**
- Inefficient use of dispatcher time
Manual Routing

The process

What’s involved?

1. Orders
2. Resources
3. Constraints
4. Plans
   - Dispatcher *may* create stop sequences or route plan for drivers
   - Gives orders (stop sequences) to drivers
5. Manage Plan - Day of Delivery
6. Post-Execution Analysis

**Organizational Cost**
- Dependent on one person
- Time consuming
- Inefficient use of resources
Manual Routing

The process

What’s involved?

1. Orders
2. Resources
3. Constraints
4. Plans

- Communication with drivers and/or customers via phone, email, and texts to solve any routing problems
- Drivers follow paper routes or use own navigation
- Paper signatures for proof of delivery

Organizational Cost
- Not streamlined
- Slow communication
- Lack of driver visibility

POST-EXECUTION ANALYSIS
Manual Routing

The process

What’s involved?

1. Orders
2. Resources
3. Constraints
4. Plans
5. Manage Plan - Day of Delivery
6. Post-Execution Analysis

Organizational Cost
- Insufficient data for process improvement
- Little knowledge transfer
- No way to measure success

● No real post-execution analysis
Manual Routing | Limitations, Costs & Benefits

- Reliability and on-time performance
- Dependent on expert router, very familiar with the industry/market
- Relies on one or more people (organizational risk)
- Inefficient use of resources
- Difficult to measure success
Various Approaches to Routing

1. Manual Routing
2. Legacy Routing Software
3. Next-Gen Routing Software
Various Approaches to Routing

1. Manual Routing
2. Legacy Routing Software
3. Next-Gen Routing Software
Legacy Routing Software

On-premise software that has been in use for 15-20 years.

What’s involved?

1. Orders
2. Resources
3. Constraints
4. Plans
5. Manage Plan - Day of Delivery
6. Post-Execution Analysis
Legacy Routing Software

On-premise software that has been in use for 15-20 years.

What’s involved?

1. Orders
   - Excel sheet
   - API

2. Resources
   - Vehicles
   - Drivers

3. Constraints
   - Time Windows
   - Vehicle limits
   - Shift hours

4. Plans
   - Online map
   - “Manual route smoothing”
   - Business relies on one or more people in operations

5. Manage Plan - Day of Delivery
   - Calling/texting Drivers to check on ETA
   - Calling/texting customers
   - Using a different solution for visibility

6. Post-Execution Analysis
   - Manually track KPIs
Legacy Routing Software

The process

What’s involved?

1. Orders
2. Resources
3. Constraints
4. Plans
5. Manage Plan - Day of Delivery
6. Post-Execution Analysis

Common in the industry
Outdated
Not streamlined
Lack of innovation
Legacy Routing Software

On-premise software that has been in use for 15-20 years.

What’s involved?

1. Orders
   - Orders come into the routing platform through integration (i.e., API connected to OMS or TMS)

2. Resources

3. Constraints

4. Plans

5. Manage Plan - Day of Delivery

6. Post-Execution Analysis

Organizational Cost
- Time-consuming
- Dependent on one person’s knowledge
Legacy Routing Software

On-premise software that has been in use for 15-20 years.

What’s involved?

1. Orders
2. Resources
   - Drivers and vehicles are set in the routing system
3. Constraints
4. Plans
5. Manage Plan - Day of Delivery
6. Post-Execution Analysis

Organizational Cost
- Time-consuming
- Redundant
Legacy Routing Software

On-premise software that has been in use for 15-20 years.

What’s involved?

1. Orders
2. Resources
3. Constraints
   - Constraints are set ahead of time
4. Plans
5. Manage Plan - Day of Delivery
6. Post-Execution Analysis

Organizational Cost
- Limited constraints available
Legacy Routing Software
On-premise software that has been in use for 15-20 years.

What’s involved?

1. Orders
2. Resources
3. Constraints
4. Plans
   - System creates route plans that are relatively similar from day to day
5. Manage Plan - Day of Delivery
6. Post-Execution Analysis

Organizational Cost
- Not optimized
Legacy Routing Software

On-premise software that has been in use for 15-20 years.

What’s involved?

1. Orders
2. Resources
3. Constraints
4. Plans
5. Manage Plan - Day of Delivery
   - Dispatchers may have to rely on the calls and texts processes from manual routing or use a different software
   - Real-time route adjustments are not possible or are very difficult to achieve
6. Post-Execution Analysis

Organizational Cost
- Lack of visibility
- Not streamlined
Legacy Routing Software
On-premise software that has been in use for 15-20 years.

What’s involved?

1. Orders
2. Resources
3. Constraints
4. Plans
5. Manage Plan - Day of Delivery
6. Post-Execution Analysis

Organizational Cost
- Data does not flow into future route plans
- Lack of understanding of success

Limited reports available
Legacy Routing | Limitations, Costs & Benefits

- Known process
- Little automation
- Multiple tools
- Not cloud-first
- Not real-time
- Outdated user experience
- No continuous improvement
Various Approaches to Routing

1. Manual Routing
2. Legacy Routing Software
3. Next-Gen Routing Software
Various Approaches to Routing

1. Manual Routing
2. Legacy Routing Software
3. Next-Gen Routing Software
Next-Gen Routing Software

Automatically builds route plans to maximize customer service and efficiency using machine learning algorithms to continuously improve fleet performance over time.

What’s involved?

1. Orders
2. Resources
3. Constraints
4. Plans
5. Manage Plan - Day of Delivery
6. Post-Execution Analysis
Next-Gen Routing Software

Automatically builds route plans to maximize customer service and efficiency using machine learning algorithms to continuously improve fleet performance over time.

**What’s involved?**

1. **Orders**
   - Automated process
   - Swift, up-to-date

2. **Resources**
   - Vehicles
   - Drivers

3. **Constraints**
   - Time Windows
   - Vehicle limits
   - Shift hours

4. **Plans**
   - Automated process
   - Stress-free
   - "Auto-pilot"

5. **Manage Plan - Day of Delivery**
   - Complete visibility of team on the ground
   - Automatic updates to customers
   - Automatic updates to sales team following orders

6. **Post-Execution Analysis**
   - Integrated with different steps in the
Next-Gen Routing Software

The process

What’s involved?

1. Orders
2. Resources
3. Constraints
4. Plans
5. Manage Plan - Day of Delivery
6. Post-Execution Analysis

The process what’s involved?
Next-Gen Routing Software

The process

What’s involved?

- Orders flow into system -- ideally via API integration
- System optimizes to match fleet priorities
- Real-time dynamic routing strategies supported

1. Orders
2. Resources
3. Constraints
4. Plans
5. Manage Plan - Day of Delivery
6. Post-Execution Analysis
Next-Gen Routing Software

The process

What’s involved?

1. Orders

2. Resources

3. Constraints

4. Plans

5. Manage Plan - Day of Delivery

6. Post-Execution Analysis

- Day-of driver shift times and available vehicles considered
Next-Gen Routing Software

The process

What’s involved?

1. Orders
2. Resources
3. Constraints
4. Plans
5. Manage Plan - Day of Delivery
6. Post-Execution Analysis

- Many constraints and settings available
- Ability to align route creation to business objectives
Next-Gen Routing Software

The process

What’s involved?

1. Orders
2. Resources
3. Constraints
4. Plans
5. Manage Plan - Day of Delivery
6. Post-Execution Analysis

- Automatically creates optimized route plans
- Planners can easily adjust and analyze impact of route alternatives
- Machine learning analyzes historical data to inform the route building
Next-Gen Routing Software

The process

What’s involved?

1. Orders
2. Resources
3. Constraints
4. Plans
5. Manage Plan - Day of Delivery
6. Post-Execution Analysis

- Real-time fleet visibility
- In-route optimization;
- Drivers can make route adjustments on their own
- Driver-specific tools streamline drivers’ tasks
Next-Gen Routing Software

The process

What’s involved?

- Full analytics report
- Machine learning continuously improves efficiency of future route plans

1. Orders
2. Resources
3. Constraints
4. Plans
5. Manage Plan - Day of Delivery
6. Post-Execution Analysis
Next-Gen Routing | Limitations, Costs & Benefits

- Fully automated all-in-one platform
- Optimized, efficient routing
- Real-time dynamic routing
- Supports on-demand operations
- Continuous improvement through machine learning
Next-generation routing features are no longer 'nice to haves' -- they are essential:

- **Cloud-based architecture**
- **Machine learning/AI**
- **Advanced automation & Dynamic solutions**
- **Real-time visibility**
- **Friendly UX & streamlined mobile experience**

An In-Depth Look: Next-Gen Routing Software
Cloud-Based Architecture

- Ensures continuous availability and automatic updates
- Supports dynamic fleet management and app-based driver tools
- Enables in-route optimization
- Offers real-time visibility
Machine Learning/AI

- Automate data collection
- Predict accurate service times
- Build routes that better match the day of delivery
- Understand drivers’ preferred routes and sequences
- Create routes that are more efficient and better suited for drivers
Advanced Automation & Dynamic Solutions

Autonomous Dispatch & On-Demand

- Automatically dispatch to the optimal drivers in the most efficient slots in their route sequences
- Eliminate manual route edits for dispatchers and drivers
- Dramatically reduce the time from order to delivery
Advanced Automation & Dynamic Solutions

Real-time Dynamic Optimization

- Automatically update a driver's sequence if the algorithms identify potential route issues
- Prevent late deliveries via automatic re-routing
- Manage on-demand orders
- Avoid day-of delivery route problems
Real-time Visibility

- Full visibility for ultimate efficiency
- All details of drivers’ progress including any schedule changes, without wasting time calling or waiting for them to arrive
Friendly User Experience & Streamlined Mobile Experience

- Easy-to-use, modern experience
- Driver training
- Driver retention
- Streamlines dispatchers’ and drivers’ interactions with the software.
- Gives delivery recipients simple, clear delivery notifications, telling them when their driver will arrive and other key details of their order.
- Reduces the risk that a company’s distribution operation is only controlled by one or two expert dispatchers.
Let’s recap
Manual/Legacy Routing

- Manual, lots of guesswork
- Call drivers with changes
- No idea how your team is performing during the day
- Looking for ways to increase inefficiency

Next-Gen Routing

- Automated
- Faster route planning
- Dispatch in real-time
- Stay connected via GPS tracking & collect proof of delivery to stay up-to-date
- Conserve fuel, reduce mileage on vehicles
Routing Success

- High-quality customer service
- Business growth & flexibility
- Maximum efficiency
- Fleet utilization - more orders, same resources, less vehicles
- On-time customer arrivals
- Visibility -- knowing where drivers are & order status
THANK YOU

For more information:

Speaker name: Erich Wolters | VP, Wise Systems
Speaker email: ewolters@wisesystems.com
Website: www.wisesystems.com

Or visit MODEX Booth #6378