

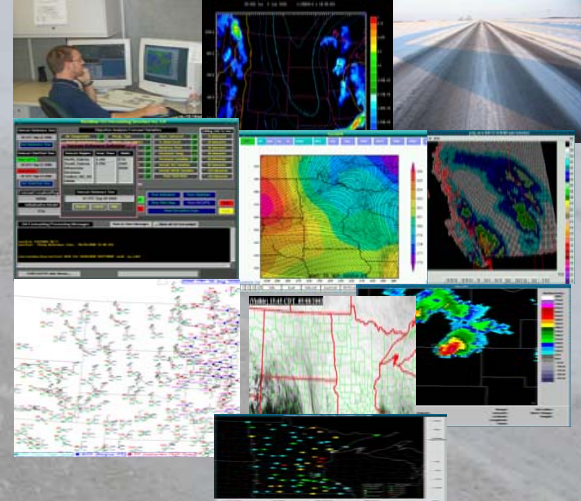


Meridian / PFS
MDSS Overview

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Meridian Environmental Technology, Inc.

Solid Scientific Foundation

- ◆ ***MPower***TM weather forecasts
 - Ensemble-based
 - Meteorologist edited
- ◆ ***HiCAPS***TM pavement forecasts
 - Sophisticated Mass / Energy balance model
- ◆ Enhanced with ***PFS MDSS Modules***
 - Validated with intensive field observation studies



Range of Solutions

- ◆ Web-Based MDSS
 - Offers agencies a simple pathway to full MDSS implementation
- ◆ PFS MDSS
 - Provides full-featured MDSS functionality
- ◆ In-Vehicle MDSS
 - Provides route-specific forecasts, recommendations and radar back into the truck

Web MDSS Solutions

- Provides an easy step up from the traditional maintenance weather service by adding maintenance recommendations & expected results

The Best Practices MDSS view expands upon the Classic view, providing an additional set of columns providing recommended maintenance actions and their alternative outcomes.

															Maint Action	Alt Road Temp (° F)	Alt Road Cond	Time (CST)
Sat 08:00	20	Dry	none	20	Dry	Sat 08:00									none	20	Dry	Sat 08:00
Sat 09:00	22	Dry	Brine NaCl @ 24 gallons	22	Dry	Sat 09:00									Brine NaCl @ 24 gallons	22	Dry	Sat 09:00
Sat 10:00	25	Dry	none	25	Dry	Sat 10:00									none	25	Dry	Sat 10:00
Sat 11:00	25	Snow	none	25	Slush	Sat 11:00									none	25	Slush	Sat 11:00
Sat 12:00	26	Snow	Prewet NaCl @ 120 lbs	26	Slush	Sat 12:00									Prewet NaCl @ 120 lbs	26	Slush	Sat 12:00
Sat 13:00	27	Snow	none	26	Slush	Sat 13:00									none	26	Slush	Sat 13:00
Sat 14:00	27	Snow	Prewet NaCl @ 130 lbs	27	Slush	Sat 14:00									Prewet NaCl @ 130 lbs	27	Slush	Sat 14:00
Sat 15:00	27	Snow	none	25	Slush	Sat 15:00									none	25	Slush	Sat 15:00
Sat 16:00	27	Snow	none	24	Slush	Sat 16:00									none	24	Slush	Sat 16:00
Sat 17:00	28	Snow	Prewet NaCl @ 140 lbs	24	Slush	Sat 17:00									Prewet NaCl @ 140 lbs	24	Slush	Sat 17:00
Sat 18:00	28	Snow	none	22	Wet	Sat 18:00									none	22	Wet	Sat 18:00

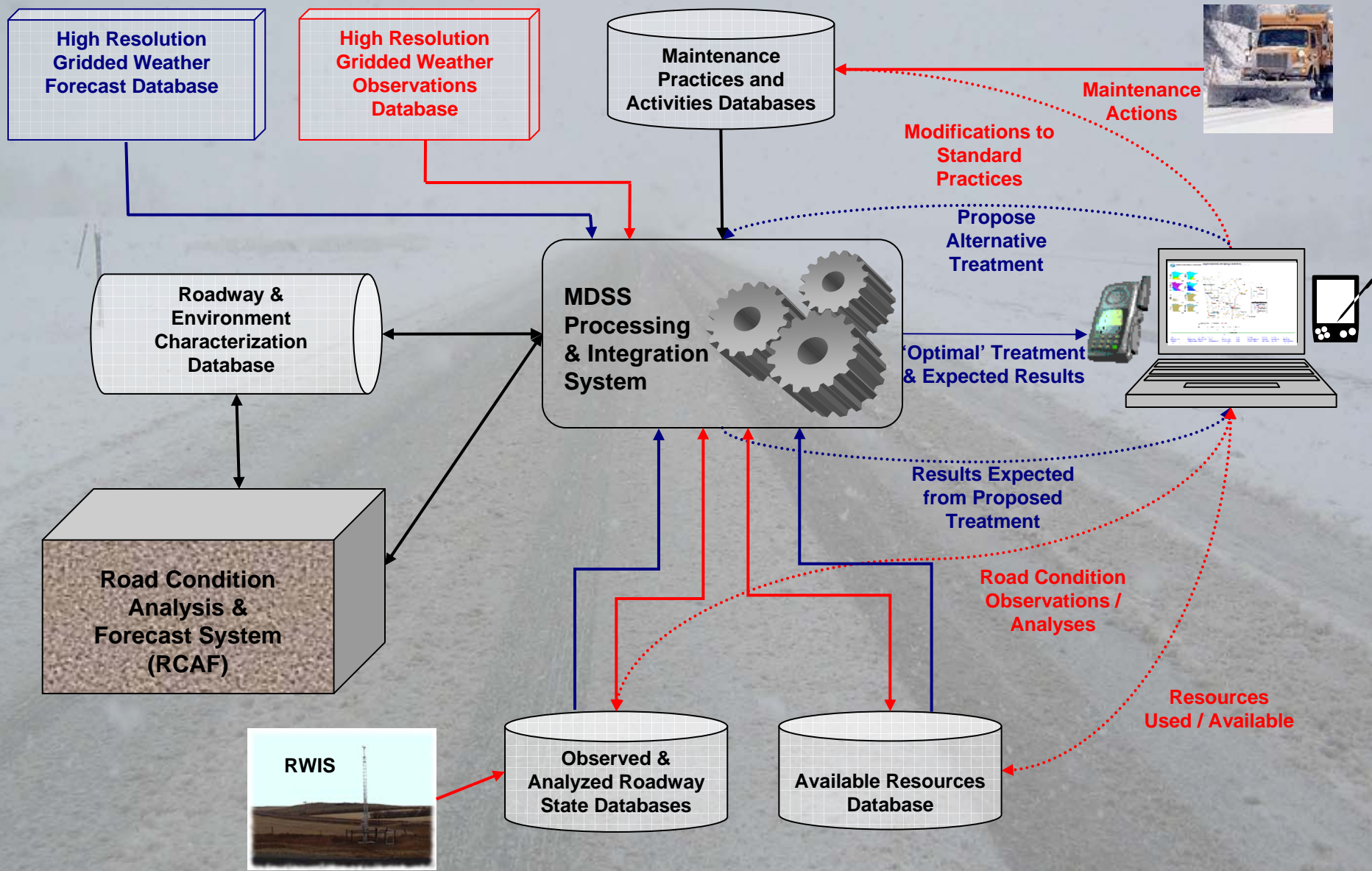
Best Practices MDSS Recommendations and Results

Time (CST)	Road Temp (° F)	Road Cond
Sat 08:00	20	Dry
Sat 09:00	22	Dry
Sat 10:00	25	Dry
Sat 11:00	25	Snow
Sat 12:00	26	Snow
Sat 13:00	27	Snow
Sat 14:00	27	Snow
Sat 15:00	27	Snow
Sat 16:00	27	Snow
Sat 17:00	28	Snow
Sat 18:00	28	Snow

Classic MDSS Conditions

PFS MDSS

- ◆ Integrates past, present & future maintenance actions, weather, and road condition reports
 - ◆ Can function with MDC/AVL systems
- ◆ Adheres to resource constraints
- ◆ Dynamic & 'standard practices' recommendations
- ◆ Features geared toward all levels of management
- ◆ One-stop-shop concept
- ◆ Developed in concert with PFS states



BLUE: Forecast / Theoretical

RED: Real-Time / Actual

BLACK: Applies to Both

SOLID: Automatic or Semi-Automatic Process

DASHED: User-Driven Process

Maintenance Decision Support System - Meridian Environmental Technology v1.80.5

File Report Data Sync Region Options Help

Alerts Next 24 Hours: State Wide (), Current View (●)
 MDSS Weather Alerts: [Progress Bar]
 MDSS Road Alerts: [Progress Bar]

CUSTOM MDSS ROUTES BACKGROUND METAR RWIS SENSOR
 None Road Condition - No Treatment Vis Sat/Radar None None Pavement

COTAF (Camera 0) 8:11AM Mon Mar 20, 2006
 The image is 39 minutes old (from selected time)



6PM
 Map: None
 MDSS: None
 METAR: None
 RWIS: None
 Web: Last S

CO-01-1: I-25 (MP 150-167, Driving)
 Date & Time: 6:30PM Mon Oct 10, 2005
 Road Temp: 34F
 Road Cond: Wet
 Percent Ice: 1%
 Mobility Index: 70%
 Snow Depth: 0.00"
 Liquid Depth: 0.022"
 Ice Depth: 0.000"
 Frost Depth: 0.000"

Last Maintenance Action Reported:
 Vehicle ID: 2108
 Plow Down
 MgCl₂
 35 gallons brine MgCl₂
 Start Time: 1:35PM Mon Oct 10, 2005
 Midpoint Time: 2:10PM Mon Oct 10, 2005
 End Time: 2:50PM Mon Oct 10, 2005

Last Condition Reported:
 No Recent Condition Report

MDSS ROUTE REPORT
 CO-01: I-25 (USAF Academy to Greenfield Exit)
 Date & Time: 6:30PM Mon Oct 10, 2005
 CO-01-1: I-25 (MP 150-167, Driving) ▶
 CO-01-2: I-25 (MP 150-167, Passing) ▶
 Switch View...

Estes Park, Greeley, Fort Morgan, Akron, Xuma, Boulder, Denver, Bennett, Castle Rock, Woodland Park, Colorado, Gunnison, Salida, Canon City, Lamar

6PM 10PM 2AM 6PM 10PM 2AM 6PM 10AM 2PM 6PM

Processing: looking for image: road_treat/combined/plowdn_nacl_brine.png

Provides an Integrated 'Situation Display' with Drill-Down and Looping Capabilities

"One Stop Shop" Concept

Alerts Next 24 Hours

Defined View Current View

MDSS Weather Alerts

MDSS Road Alerts

MDSS Blowing Snow Alerts

NWS Alerts

11PM 5AM 11AM 5PM 11PM

Map Views: None

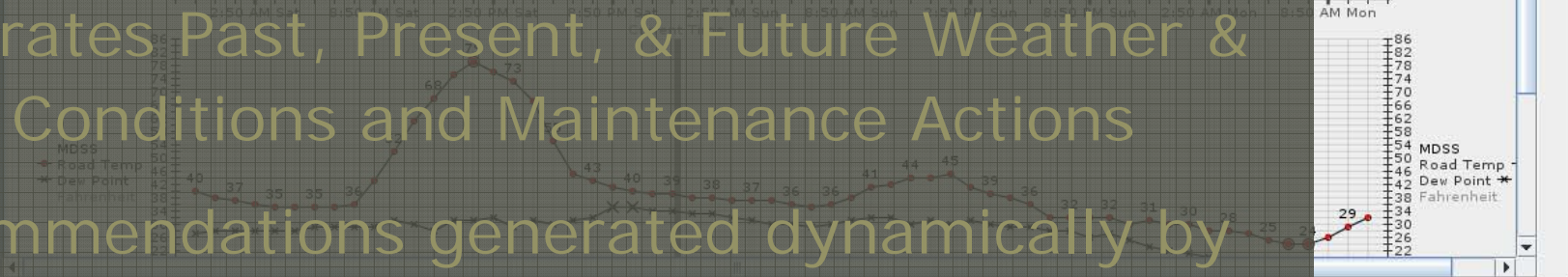
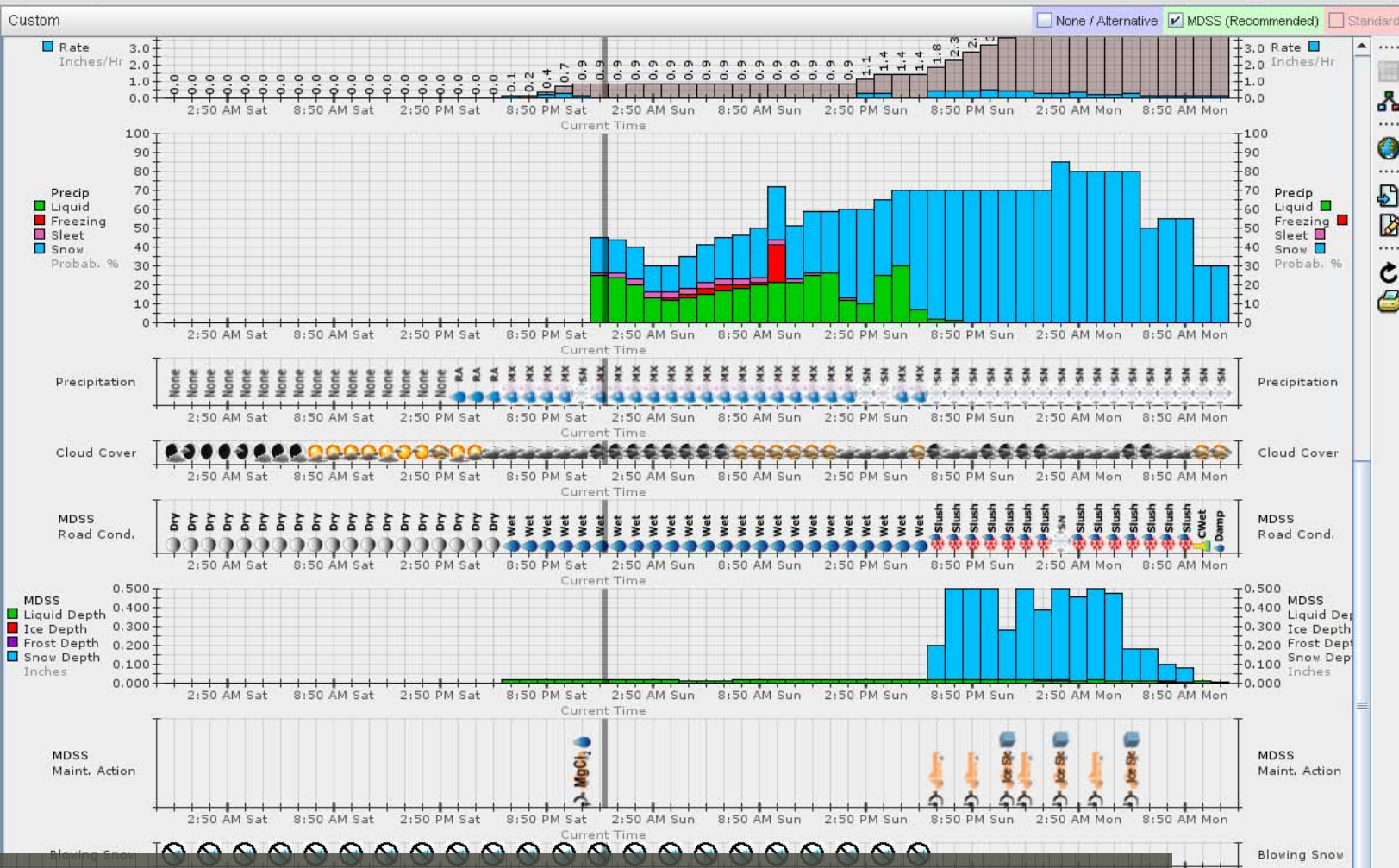
MDSS Route Views: None

METAR Views: None

RWIS Views: None

Web Browser Links: Last Selected

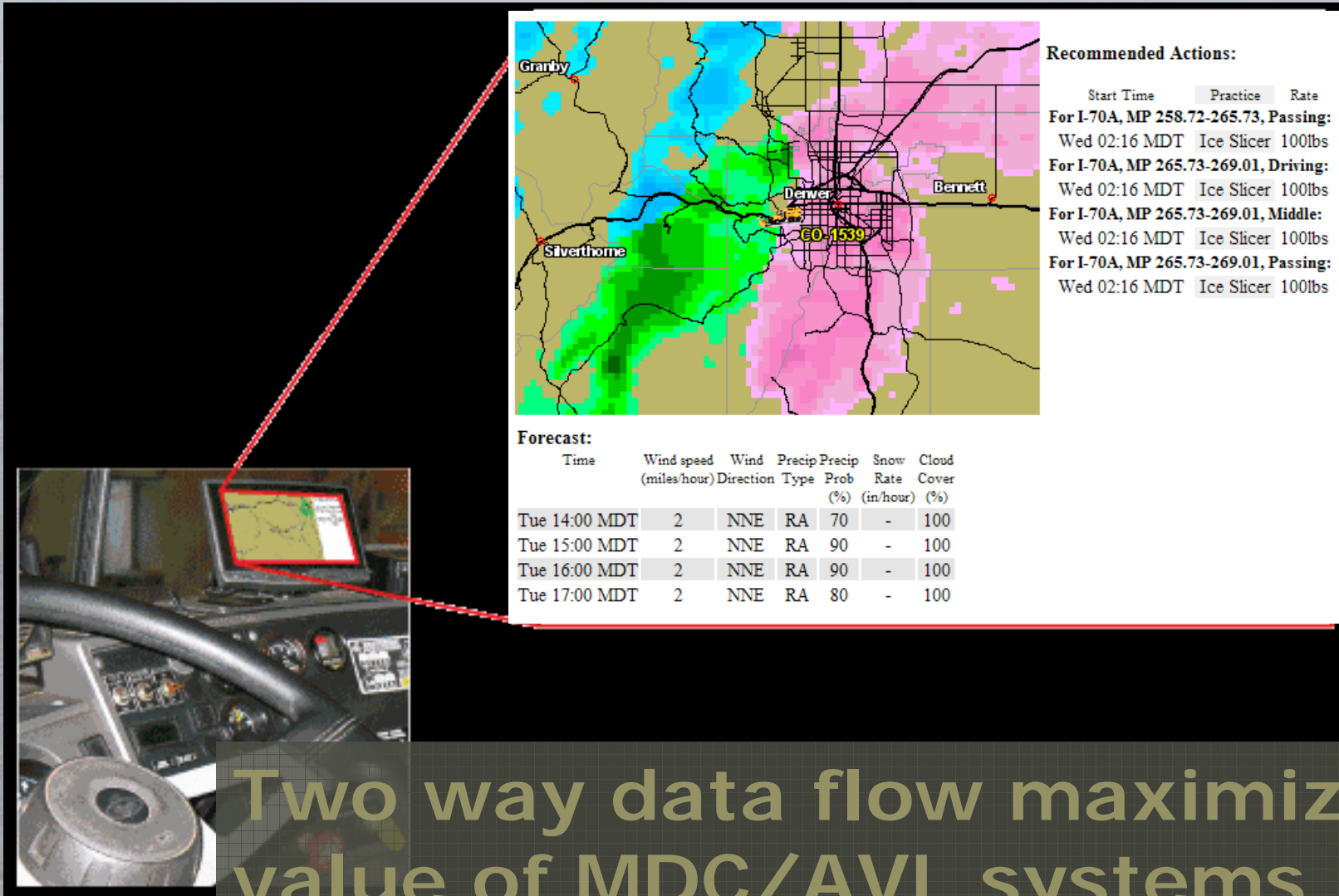
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 Peers (Recv): ---
 Peers (Sent): 0 KB
 Files Sync'd: 6398/6398 (100%)
 Peer Count: 0 (online)



Integrates Past, Present, & Future Weather & Road Conditions and Maintenance Actions

Recommendations generated dynamically by MDSS or using customizable best practices

In-Vehicle MDSS



The image displays a weather map of the Denver area with color-coded precipitation and temperature zones. A red dashed line connects the map to a forecast table and recommended actions. An inset photo shows a vehicle's dashboard with a navigation screen displaying a map.

Forecast:

Time	Wind speed (miles/hour)	Wind Direction	Precip Type	Precip Prob (%)	Snow Rate (in/hour)	Cloud Cover (%)
Tue 14:00 MDT	2	NNE	RA	70	-	100
Tue 15:00 MDT	2	NNE	RA	90	-	100
Tue 16:00 MDT	2	NNE	RA	90	-	100
Tue 17:00 MDT	2	NNE	RA	80	-	100

Recommended Actions:

Start Time	Practice	Rate
For I-70A, MP 258.72-265.73, Passing:	Ice Slicer	100lbs
Wed 02:16 MDT	Ice Slicer	100lbs
For I-70A, MP 265.73-269.01, Driving:	Ice Slicer	100lbs
Wed 02:16 MDT	Ice Slicer	100lbs
For I-70A, MP 265.73-269.01, Middle:	Ice Slicer	100lbs
Wed 02:16 MDT	Ice Slicer	100lbs
For I-70A, MP 265.73-269.01, Passing:	Ice Slicer	100lbs
Wed 02:16 MDT	Ice Slicer	100lbs

Two way data flow maximizes value of MDC/AVL systems