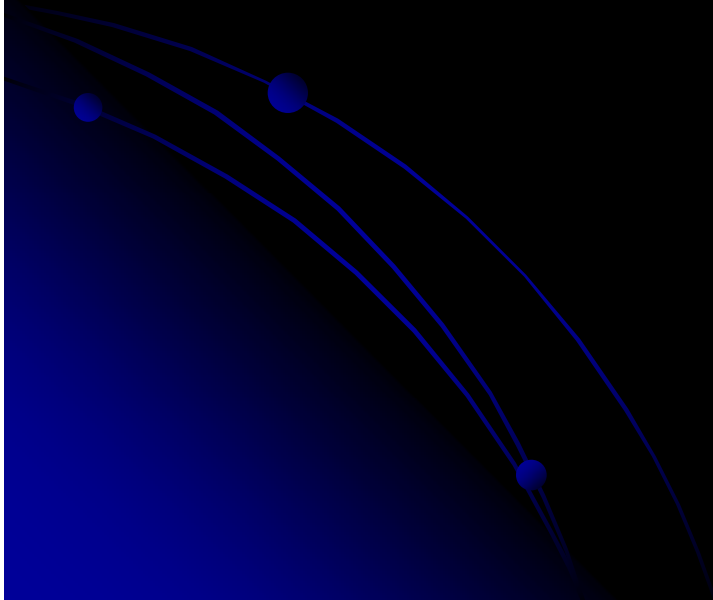# IDAHO
Traffic Management System (ITMS)
Demonstration

What is in the following presentation:

- What is a Traffic Management System?
- What kinds of TMS are there?
- What kind TMS does Idaho have?
- How does the hardware operate?
- What is in the software?
- How does an event driven system work?
- What are our Communication Issues?
- Tour ITMS Graphic User Interface (GUI)

TRAFFIC MANAGEMENT SYSTEMS

- Regional Multimodal Traveler Information Systems (RMTIS)
- Traffic Signal Control Systems (TSCS)
- Freeway Management Systems (FMS)
- Transit Management Systems (TMS)
- Incident Management Systems (IMS)
- Electronic Toll Collection (ETC) Systems
- Electronic Fare Payment System (EFPS)
- Railroad Grade Crossing Warning System
- Emergency Management (EM) Systems

TRAFFIC MANAGEMENT SYSTEMS

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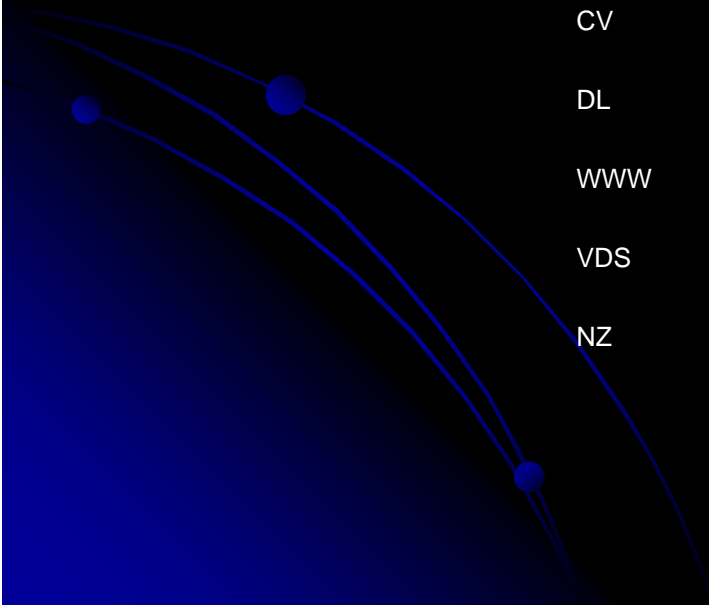- Emergency Management (EM) Systems

Start at the beginning
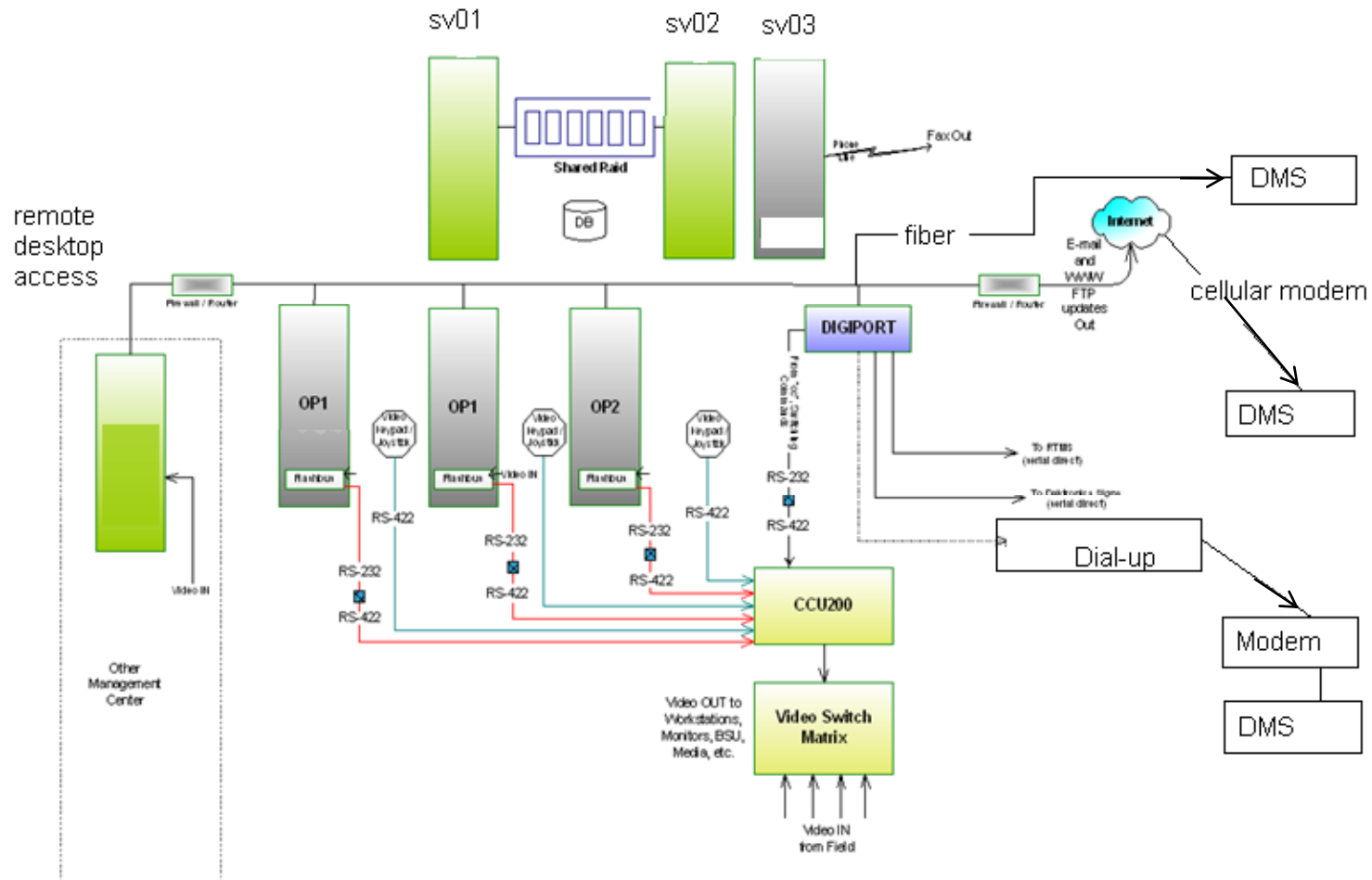
Database Processes
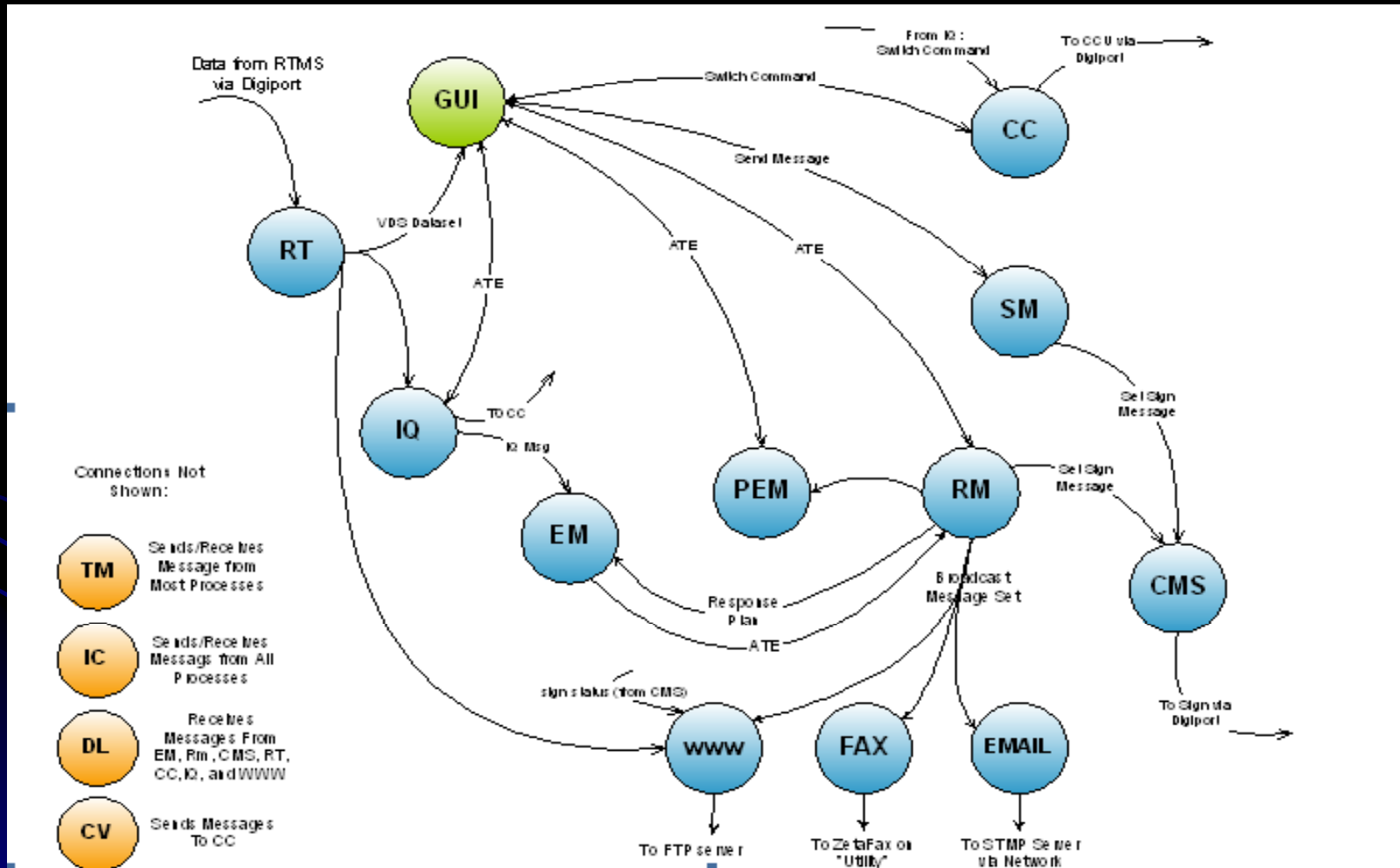
RT	RTMS Communication
IQ	Incident and Queue Detection
EM	Event Manager
PEM	Planned Event Manager
RM	Response Manager
FAX	FAX
EMAIL	E-mail
CMS	Dynamic Message Sign Communication
SM	Scheduler Manager
CC	CCTV Camera Control
CV	Capture Video
DL	Data Logger
WWW	World Wide Web
VDS	VDS processing (originally part of RT)
NZ	Naztec controller communication
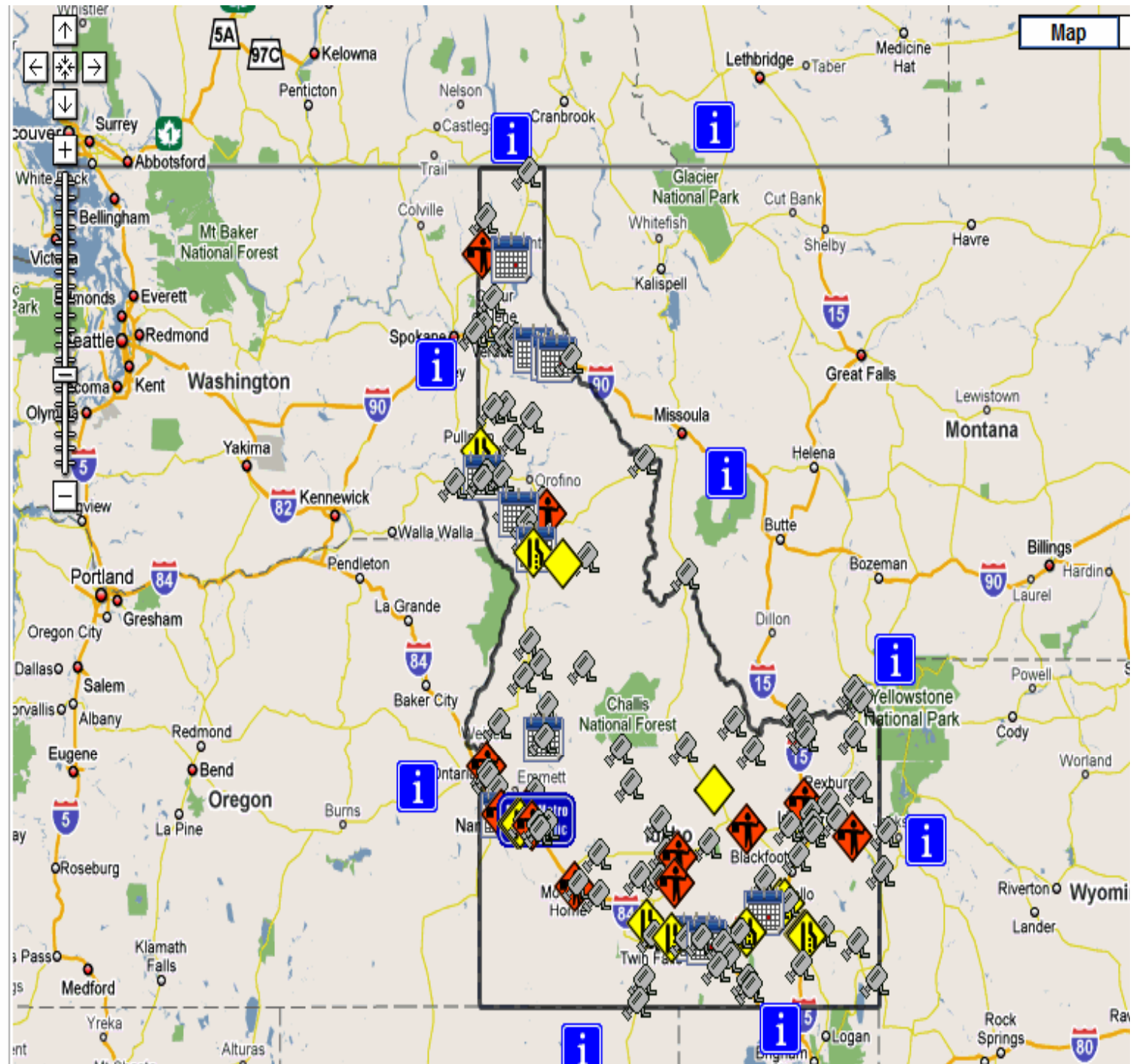
Demonstration

- GUI Tour
- Event Driven System
- DMS Configuration

Computer

Recycle Bin

Vanguard Shell

Command
Prompt

Shortcut to
Network ...

GUI
Shortcut to
Gui

Security
Configurati...

Vanguard V3

re FTP Lite

Please wait while the Traffic Management System initializes...
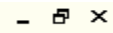
Logon Information

Please enter your user name and password

Username: markblackshaw

Password: ~~~~~~~

OK   Exit

What is on the GUI

- State Map with Highways
- ICONs
  - DMS
  - CCTV
  - RWIDS
  - HAR
  - Events

User Name: markblackshaw   Organization: ITD HQ

TMS Configuration

Table Name

CCTV Password *
CCTV Presets
CCTV Switch Output
Channel Configuration
CV Parameters
Device Configuration
DMS Bitmap Font Character
DMS Component Settings
DMS Configuration
DMS Display Formats
DMS Font
DMS Font Character
DMS Message Bitmap Library *
DMS Message Library *
DMS Parameters *
DMS Word Filter *
Email Parameters *
Event Cause Configuration *
Event Details Configuration *
External Agencies Configuration *
Failover Parameters
File Paths *
GUI Dash Parameters *
GUI Monitor Configuration *
Hamilton
Holidays *

*Blue Items: Online Parameters

Close

DL | EM | EMAIL | FAX | IC | IQ | HAM | PEM | RM | RTMS | RWIS | SM | TM | VDS | WWW | System: PSITMSSV04   x = 1021605 y = 429652

Add Planned Event

Problem ID: 0   Plan --   Owner:

DETECTION

Detection/Update Source: Operator

Notification Source: [Idaho Trans Dept ▼]

Creation Time: 06/05/2009 17:57:38

Last Update Time:

Problem State:

Current Update No: 0

Estimated Duration (min): [<30 ▼]

Access Level
- ● Public
- ○ Agencies
- ○ Internal

Event Properties
- ☐ Is Recurring
- ☑ Has Advance Plan

Start Time: [06/05/2009 ▼] [17:57 ▲▼]
End Time: [06/05/2009 ▼] [18:00 ▲▼]
Recurring Every: [▼]
Activation Notify Period (min): [6]
Termination Notify Period (min): [15]

Time Zone: [MT ▼]   Advance Plan Start Period (d:h:m) [00:00:15 ▲▼]

PROBLEM CLASSIFICATION

Problem Type: [Planned ▼]   Cause/Type: [_Lane Closure ▼]

LOCATION

Downstream

[I-84 Westbound 0.07 miles beyond Exit 46 (Eagle Road)] [...]   [I84W 46.3] [...]   Camera: 47   46
                                                                                      Preset: 4   2

Latitude: 42.4314   Longitude: -114.6994

Upstream

[ ] [...]   [ ] [...]   Camera:
                          Preset:

Latitude: Longitude:

Distance Covered: 0.00 mi   County: [ADA ▼]   Town: [MERIDIAN ▼]

Vehicles Involved	Number
Pedestrian	
Pickup Truck	
SUV	
Tractor-trailer	
Truck	

Victory_Rd_E 1.1

Weather Conditions
Snowing
Sunny
Wet
Windy

DESCRIPTION

Crash at MP 57 I-84 WB

Severity: [medium ▼]

BLOCKAGE/CLOSURE PATTERN

LS   Lane 1   Lane 2   Lane 3   Lane 4   RS

MEDIAN   ↑   ↑   ↑   ↑
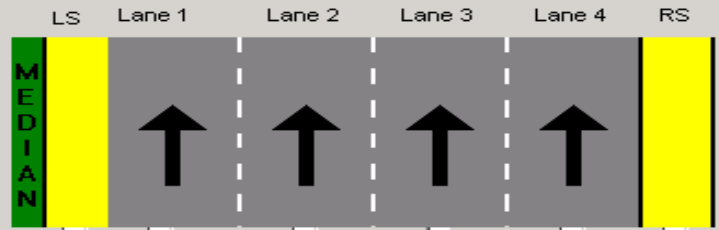
[Config...]

☐ Full Road Closure

SYSTEM RECOMMENDED ACTIONS

[Reject]   [Accept]

Generate Problem Screen For Reverse Direction: [YES]

Templates   [Create...]   [Load...]   [Apply & Plan]   [OK]   [Apply]   [Cancel]

3-12 Eagle Rd. SB / Pine
ROADWORK
EXPECT LANE
CLOSURES

3-16 I-84WB / Locust Grove
ROADWORK
EXPECT LANE
CLOSURES

3-4 I-184W / 24th WB
ROADWORK
EXPECT LANE
CLOSURES

3-3 I-84WB / Airport
ROADWORK
EXPECT LANE
CLOSURES

1 Broadway S/O
ROAD
EXPECT
CLOS

Planned Event 17

DMS Configuration

- Database Tables
- 3 step configuration
  - Device
  - DMS
  - Channel

File   Map   View   Equipment   Reports   Help

User Name: markblackshaw

TMS Configuration

⚠ Table Name

CCTV Password *
CCTV Presets
CCTV Switch Output
Channel Configuration
CV Parameters
Device Configuration
DMS Bitmap Font Character
DMS Component Settings
DMS Configuration
DMS Display Formats
DMS Font
DMS Font Character
DMS Message Bitmap Library *
DMS Message Library *
DMS Parameters *
DMS Word Filter *
Email Parameters
Event Cause Configuration *
Event Details Configuration *
External Agencies Configuration *
Failover Parameters
File Paths *
GUI Dash Parameters *
GUI Monitor Configuration *
Hamilton

*Blue Items: Online Parameters

Close

3 Steps

Accessing the tables
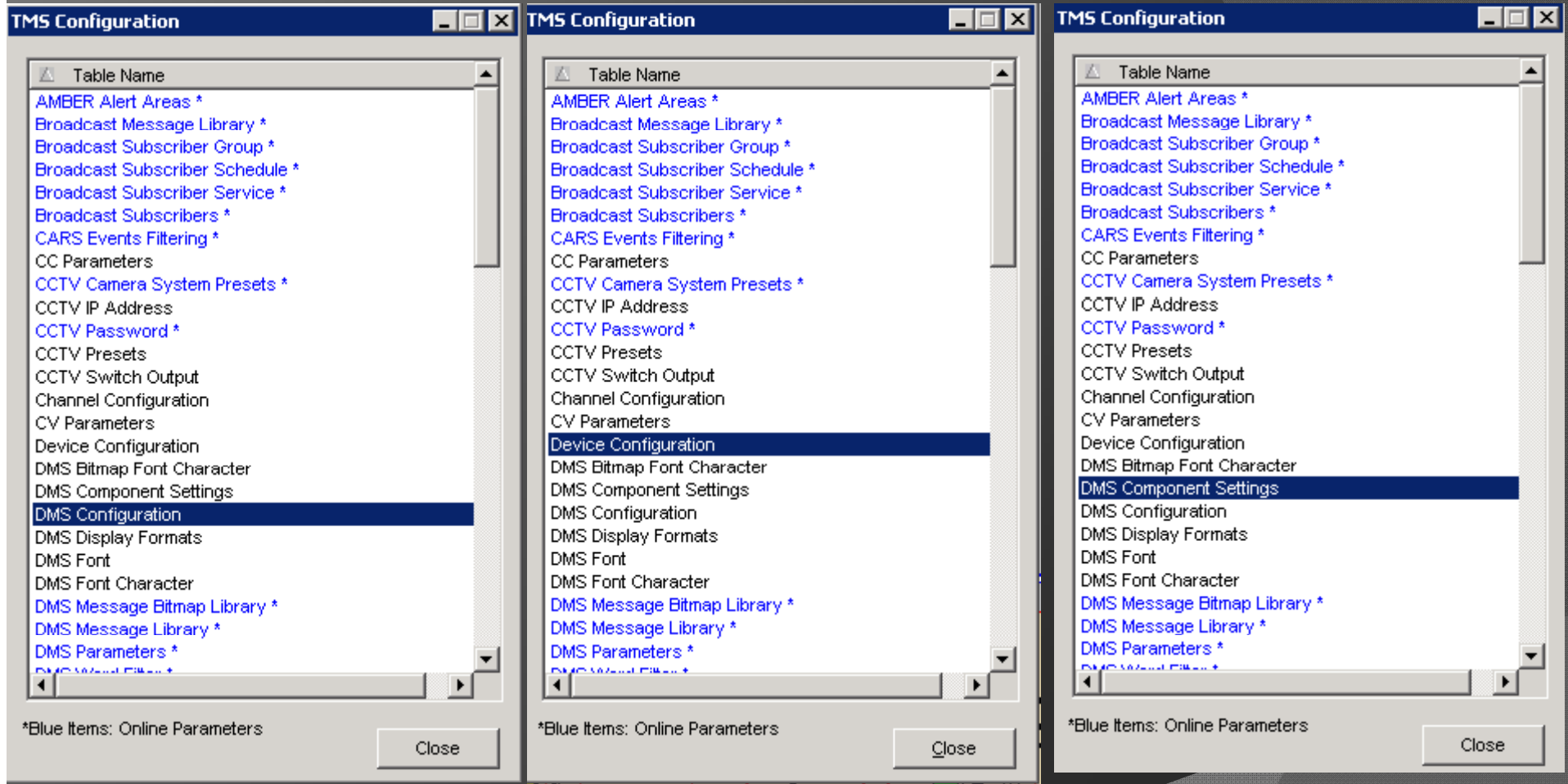
Device Configuration

Device Configuration ☒

DEVICETYPE	DEVICEID	DESCRIPTION	DISPLA...	CONTRACTID	ISOUTPU...	X	Y	ROADNAME	ORGANIZATIO ▲
CCTV CAMERA	596	I-84 / McDermott - IP	596	596	NO	301163	304389	I84E	ACHD
CCTV CAMERA	597	I-84 / Robinson - IP	597	597	NO	299813	304389	I84E	ACHD
CCTV CAMERA	598	I-84 / Garrity - IP	598	598	NO	296924	304389	I84W	ACHD
CCTV CAMERA	576	Eagle / Hwy. 44 - IP	73	73	NO	311100	289808	EAGLE_RD_N	ACHD
CCTV CAMERA	590	Fairview / Cloverdale - IP	590	590	NO	313934	305765	FAIRVIEW_AVE_W	ACHD
CCTV CAMERA	522	Overland / Five Mile	33	33	NO	313988	278584	OVERLAND_RD_W	ACHD
CCTV CAMERA	519	Overland / Maple Grove	32	32	NO	315602	278537	OVERLAND_RD_E	ACHD
CCTV CAMERA	516	Overland / Entertainment	31	31	NO	316678	278505	OVERLAND_RD_W	ACHD
CCTV CAMERA	515	Curtis / Fairview	16	16	NO	318946	281605	FAIRVIEW_AVE_E	
CCTV CAMERA	510	Franklin / Milwaukee	4	4	NO	316686	280139	FRANKLIN_RD_W	ACHD
CCTV CAMERA	508	Broadway / Linden	19	19	NO	323674	277080	BROADWAY_AVE_N	
DMS	1	3-2 I-84EB / Locust Grove	1	1	YES	309133	279053	I84E	ACHD
DMS	33	1 Broadway S/O Linden	33	33	YES	323650	276848	BROADWAY_AVE_S	ACHD
DMS	38	6-3 Sunnyside IC I-15 MP ...	38	38	YES	655674	265576	I15S	District 6
DMS	37	2-1 US-95 / US-12 MP 31...	37	37	YES	267676	600037	US95N	District 2
DMS	36	1-8 US-95 SB MP 435.95 ...	36	36	YES	292008	744723	US95N	District 1
DMS	35	1-7 US-95 MP 424.29 NB ...	35	35	YES	286333	728659	US95S	District 1
DMS	5	3-12 Eagle Rd. SB / Pine	5	5	YES	310790	280991	EAGLE_RD_S	ACHD
DMS	39	2-2 Lewiston US-95 SB ...	39	39	YES	267873	600033	US95S	District 2
DMS	3	3-4 I-184W / 24th WB	3	3	YES	321399	281601	I184W	ACHD
DMS	34	1-6 I-90 / Huetter Rd MP 9.1	34	34	YES	287039	735616	I90E	District 1
DMS	12	3-9 SH 21 MP 39 NB	12	12	YES	353469	303646	SH21N	District 3
DMS	11	3-15 Banks-Lowman Hig...	11	11	YES	331512	332706	SH55N	District 3
DMS	10	3-8 WARM SPRINGS SH ...	10	10	YES	331527	272675	SH21N	District 3
DMS	9	1-5 NUCKOLS GULCH I-9...	9	9	YES	351931	710006	I90E	District 1
DMS	8	1-4 WALL HILL I-90 MP 3...	8	8	YES	319258	719533	I90W	District 1
DMS	7	I-3 BLUE CREEK I-90 MP ...	7	7	YES	301014	725872	I90E	District 1
DMS	28	1-2 WASHINGTON I-90 M...	28	28	YES	261851	731866	I90E	District 1
DMS	6	1-1 I-90 MP 10.425 WB	6	6	YES	288910	735521	I90W	District 1
DMS	30	4-1 Glens Ferry I-84 MP 1...	30	I-84 MP 122.206	YES	398034	207523	I84E	District 4
DMS	26	6-2 US 20/26 West MP 25...	26	26	YES	557445	280609	US_20_W	District 6
DMS	25	6-1 US 20/26 East MP 25...	25	25	YES	557174	280338	US_20_E	District 6
DMS	20	3-14 NEW MEADOWS SH...	20	20	YES	320913	431336	SH55N	District 3
DMS	19	3-7 US 95 MP 162.4 NB	19	19	YES	321087	433905	US95N	District 3
DMS	18	3-6 NEW MEADOWS US ...	18	18	YES	320847	432232	US95S	District 3
DMS	17	3-5 US 95 MP 160.2 NB	17	17	YES	319769	431542	US95N	District 3

[Add New] [Edit] [Delete] [Close]

Device Configuration

Step 3

DMS Configuration

DEVICEID	CMSSUBTYPE	PHYSICALSIGNID	CMSCONTROLLERADDRESS	IPADDRESS	IPPORT	CHANNEL
1	DMS	1	3		161	31
2	DMS	2	2		250	8
3	DMS	1	1		250	24
4	DMS	5	5		161	31
5	ARTERIAL DMS	1	1		161	31
6	DMS	6	1		161	25
7	DMS	7	1		3001	11
8	DMS	8	1		0	24
9	DMS	9	1		0	25
10	ARTERIAL DMS	10	1		300	3
11	ARTERIAL DMS	11	1		0	21
12	ARTERIAL DMS	12	1		0	23
13	ARTERIAL DMS	13	1		0	23
14	ARTERIAL DMS	14	1		0	26
15	ARTERIAL DMS	15	1		300	3
16	DMS	16	1		3001	11
17	ARTERIAL DMS	17	1		0	21
18	ARTERIAL DMS	18	1		0	24
19	ARTERIAL DMS	19	1		0	25
20	ARTERIAL DMS	20	1		0	21
25	ARTERIAL DMS	25	1		161	3
26	ARTERIAL DMS	26	1		161	3
28	DMS	28	1		161	24
30	DMS	30	1		3001	11
32	DMS	32	1		3001	3
33	ARTERIAL DMS	1	1		300	10
34	DMS	34	1		3001	11
35	DMS	35	1		3001	10
36	DMS	36	1		3001	10
37	DMS	37	1		3001	10
38	DMS	38	1		3001	11
39	DMS	39	1		3001	10

Add New   Edit   Delete   Close

DMS Configuration

DMS ID: `16` ▾   DMS SubType: `DMS` ▾

Description: 3-1 CALDWELL I-84 MP 25.65 WB

Display Format: `DAKTRONIC_27X125_BEACON` ▾

Protocol: `NTCIP_UDP` ▾

Channel: `11` ▾

Override Phone Number: `9,1`

Controller Address: `1`

Physical Sign ID: `16`

Message Display Order: `1`

IP Address: `166 . 154`

IP Port: `3001`

| Previous | Next | Save | Close |

DMS Component Settings

DEVICEID	COMPONENTID	STATICTEXT	DEFAULTSTATE	STARTUPSTATE	UNIVERSALUPDATETIME	LOCAL
1	1	I84 E / Locust Grove	Blank - DO NOT EDIT	N/A	2009 March 27 14:33:13	2009 M
2	1	I-84 W / Airport	Blank - DO NOT EDIT	N/A	2009 March 27 14:39:45	2009 M
3	1				arch 27 14:40:01	2009 M
4	1				arch 27 14:40:13	2009 M
5	1				arch 27 14:40:22	2009 M
6	1				arch 27 14:40:31	2009 M
7	1				arch 27 14:40:40	2009 M
8	1				arch 27 14:40:47	2009 M
9	1				arch 27 14:40:54	2009 M
10	1				arch 27 14:41:00	2009 M
11	1				arch 27 14:41:10	2009 M
12	1				arch 27 14:41:17	2009 M
13	1				arch 27 14:41:23	2009 M
14	1				arch 27 14:41:29	2009 M
15	1				arch 27 14:41:37	2009 M
16	1				arch 27 14:41:48	2009 M
17	1				arch 27 14:47:52	2009 M
18	1				arch 27 14:48:00	2009 M
19	1		Blank - DO NOT EDIT	N/A	2009 March 27 14:48:09	2009 M
20	1		Blank - DO NOT EDIT	N/A	2009 March 27 14:48:17	2009 M
25	1		Blank - DO NOT EDIT	N/A	2009 March 27 14:48:23	2009 M
26	1		Blank - DO NOT EDIT	N/A	2009 March 27 14:48:32	2009 M
28	1		Blank - DO NOT EDIT	N/A	2009 March 27 14:47:06	2009 M
30	1		Blank - DO NOT EDIT	N/A	2009 March 27 14:48:45	2009 M
32	1	I84EB / Black's Creek	Blank - DO NOT EDIT	N/A	2009 March 27 14:48:53	2009 M
33	1	Broadway S/O Linden	Blank - DO NOT EDIT	N/A	2009 March 27 14:49:00	2009 M
34	1		Blank - DO NOT EDIT	N/A	2009 March 27 14:49:07	2009 M
35	1		Blank - DO NOT EDIT	N/A	2009 March 27 14:49:15	2009 M
36	1		Blank - DO NOT EDIT	N/A	2009 March 27 14:49:21	2009 M
37	1		Blank - DO NOT EDIT	N/A	2009 March 27 14:49:29	2009 M
38	1		Blank - DO NOT EDIT	N/A	2009 March 27 14:49:36	2009 M
39	1	2-2 Lewiston US 95 SB	Blank - DO NOT EDIT	Blank - DO NOT EDIT	2009 April 29 18:43:14	2009 A

DMS Component Settings

Device ID: 32

Component ID: 1

Description: I84EB / Black's Creek

Default State: Blank - DO NOT EDIT

Startup State: N/A

[Previous] [Next] [Save] [Close]

[Add New] [Edit] [Delete] [Close]

Why we have comm. problems
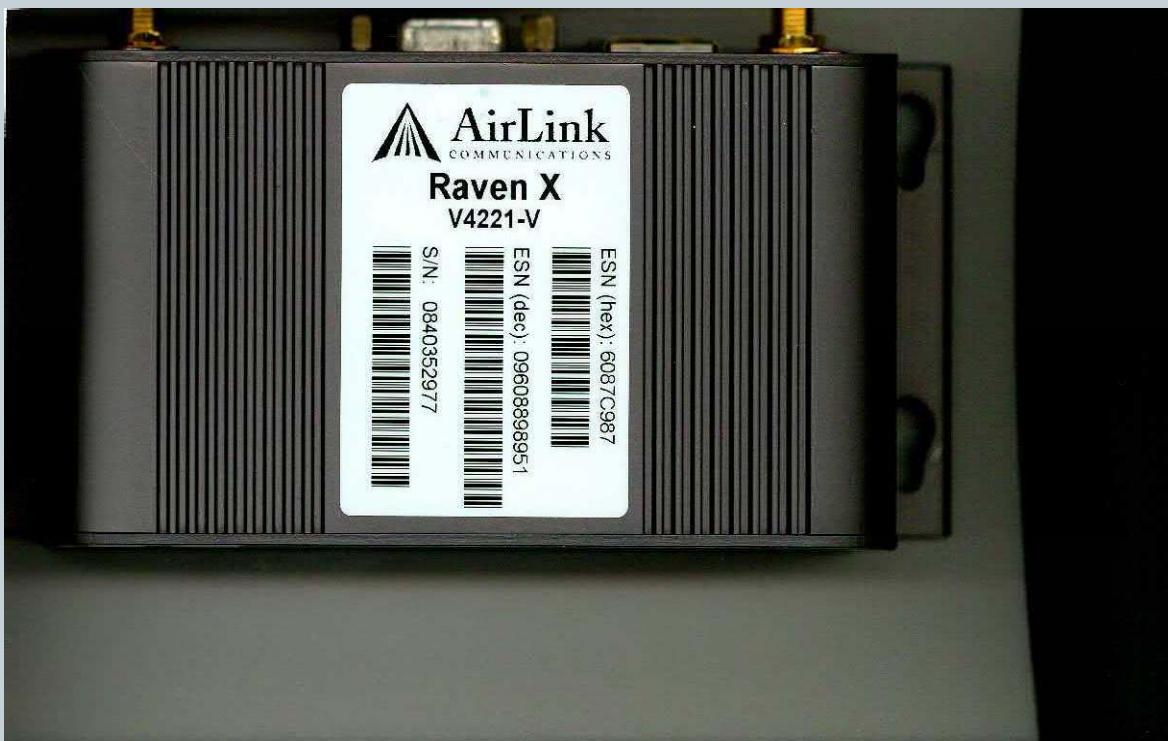
Communication

- Problems
  - analog modems (50% of the time they fail to communicate)
    - 49 year old technology
      - in the summer of 1960, the name **Data-Phone** was introduced
      - in 1962 a full-duplex service at up to 300 baud was introduced
    - line voltage
    - line static
  - limited wireless coverage in rural states
- Solutions
  - Wireless Broadband (90% connection success)
    - very effective on interstate and urban areas
    - no rural coverage
  - Digital Subscriber Line (DSL)
    - untested
    - becoming more widespread
  - Fiber (100% connection success)
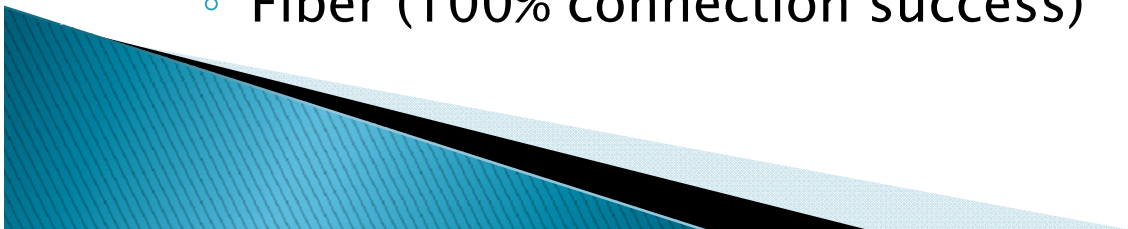
What we are doing to fix the problem

Recap

- **Traffic Management Systems:**
  - Allow us to access ITS devices
  - Help us manage traffic
  - Event driven integration with CARS and 511
- **Communication problems**
  - Dial-up modem are a problem
  - Cellular has made a big difference
  - Fiber is great but expensive to install
  - DSL in may be another good option