



**EHMS and Umler/EMIS
M.A.R.T.S. 2008 Technical Conference**

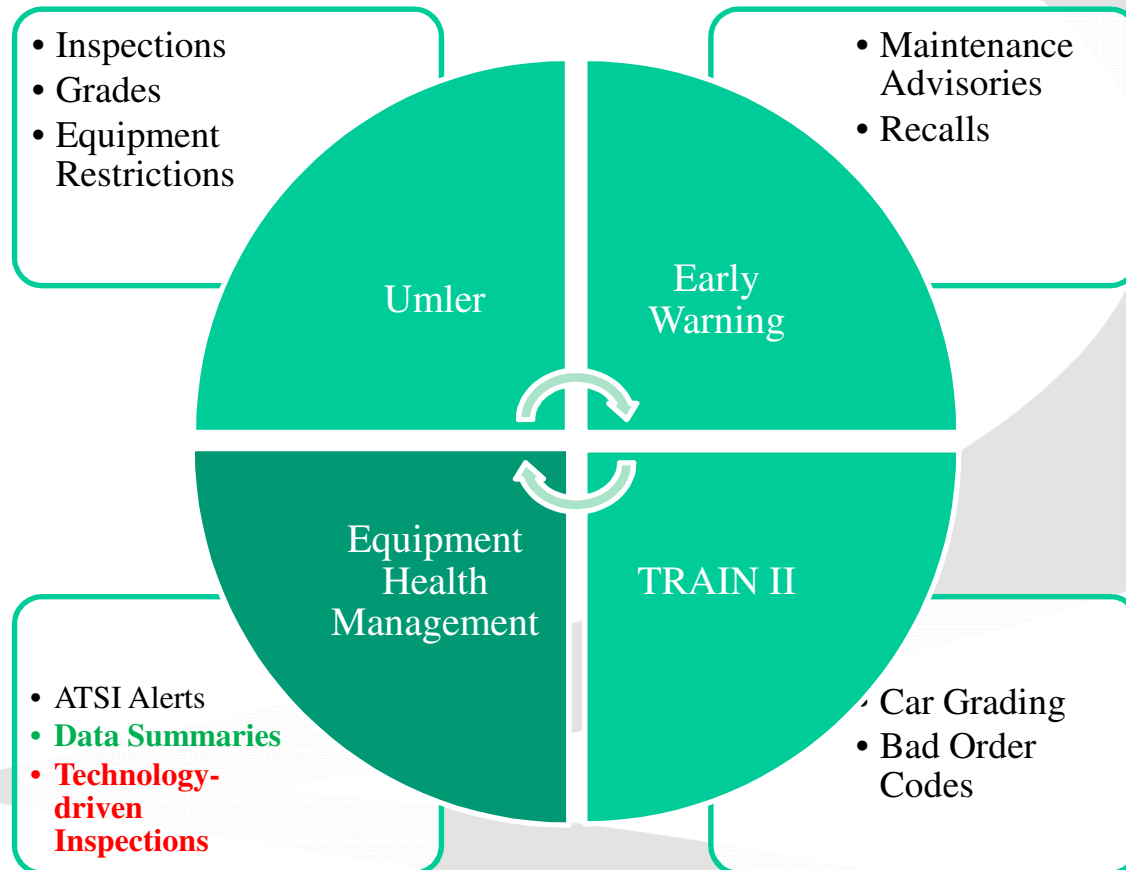
Chicago, September 22nd, 2008

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Derailment Prevention: Sources of Equipment Health Information



EHMS Alerts: First Step in Defect Communication

- “Cautious” approach to dissemination of data
- Tied to AAR rule making process
 - Requires high level of detector maturity
 - Restricts getting information out
- Focus limited to pre-identified problem areas
- Single data-type focus
- Specific meaning is tied to an alert level
- Specific actions required based on alert level
- Intended for proactive planning

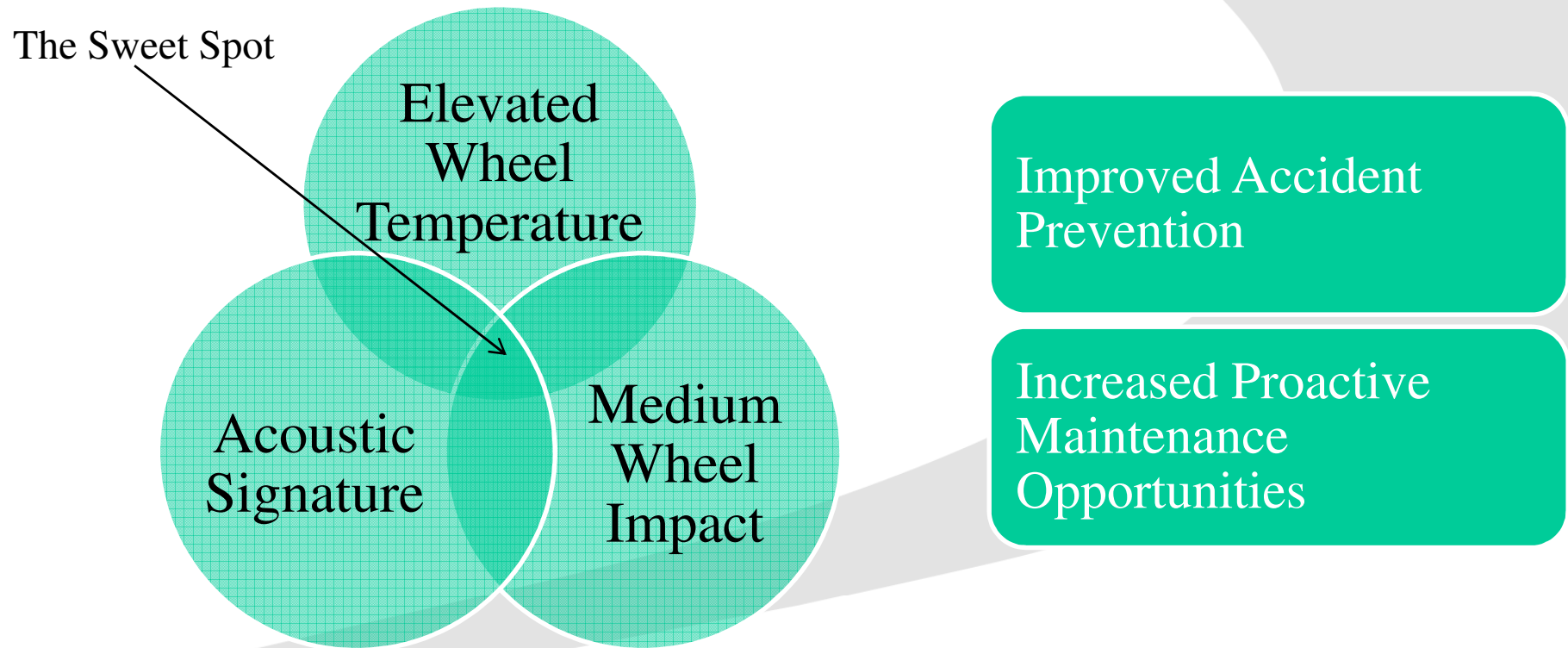
EHMS Data Summaries

Expanding the vision

- Get raw information out as early as possible
 - Even at “experimental” stage
- Allow industry to work with and learn from the data
- Look at the data in a holistic view
- Intended for tactical planning, not routine monitoring

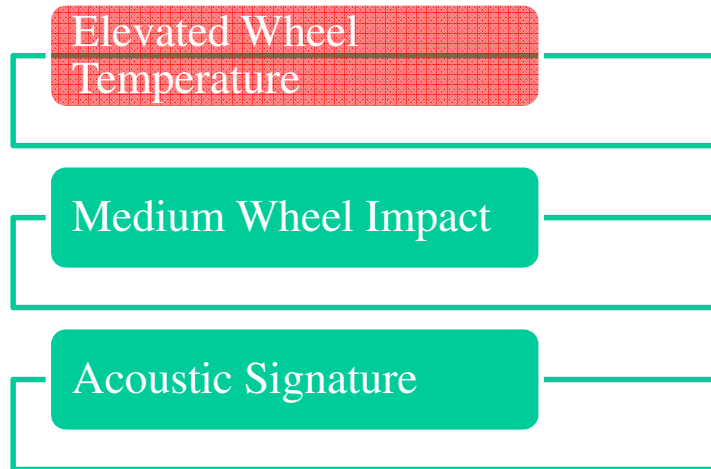
EHMS Data Summary

The Power of Holistic Views



Alert vs. Data Summary

Alerts



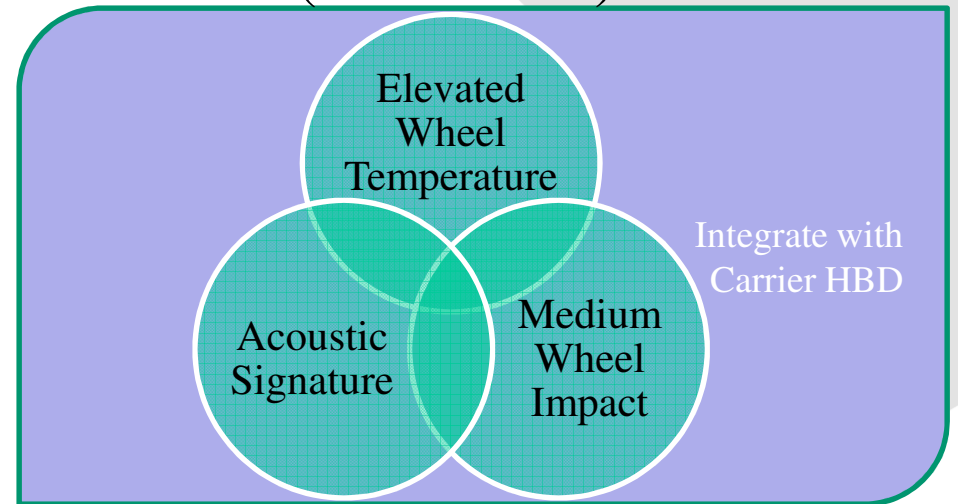
Rule Based

Individual Alert Type

Maintenance Focus, Proactive

Event Driven (Push)

Summary (2008-2009)



Informational; Optional

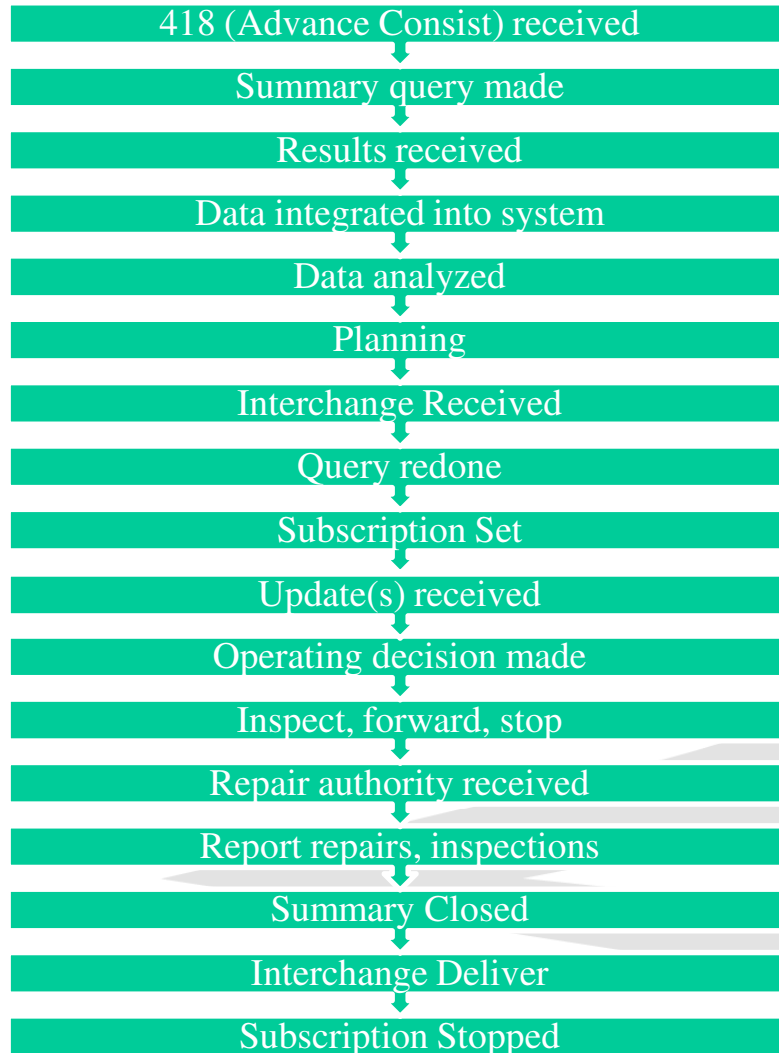
Holistic view

Train Focus, Tactical Planning

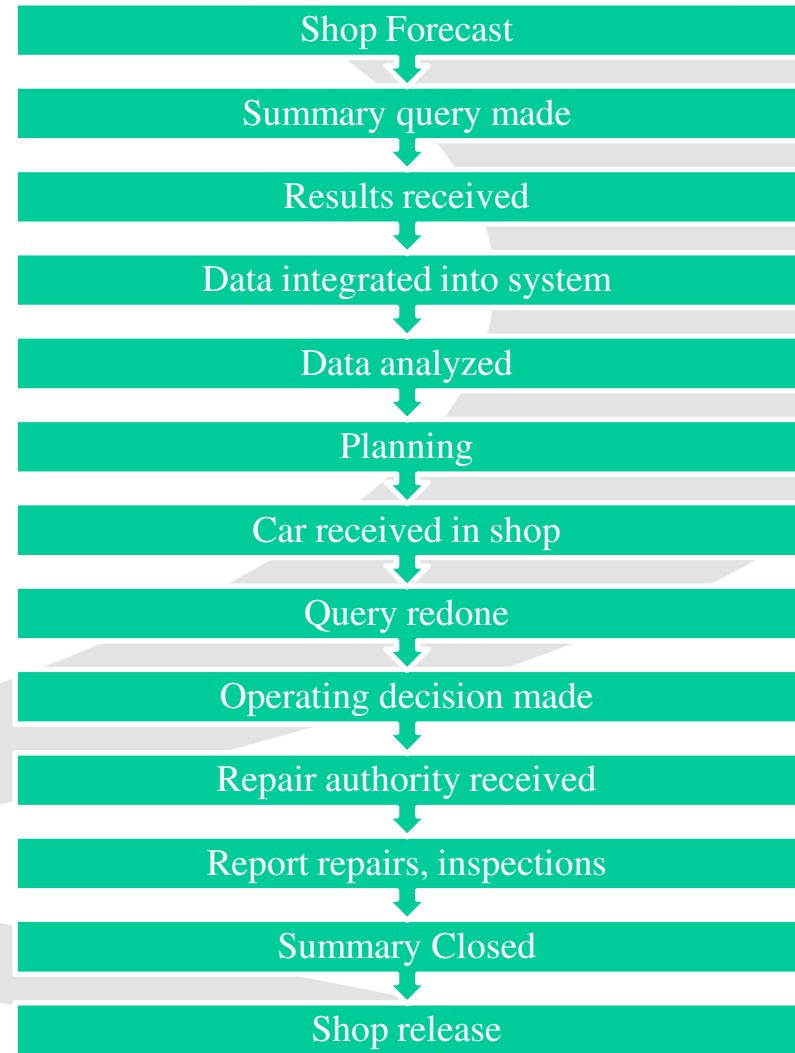
Interchange Pull

Typical Summary Flow

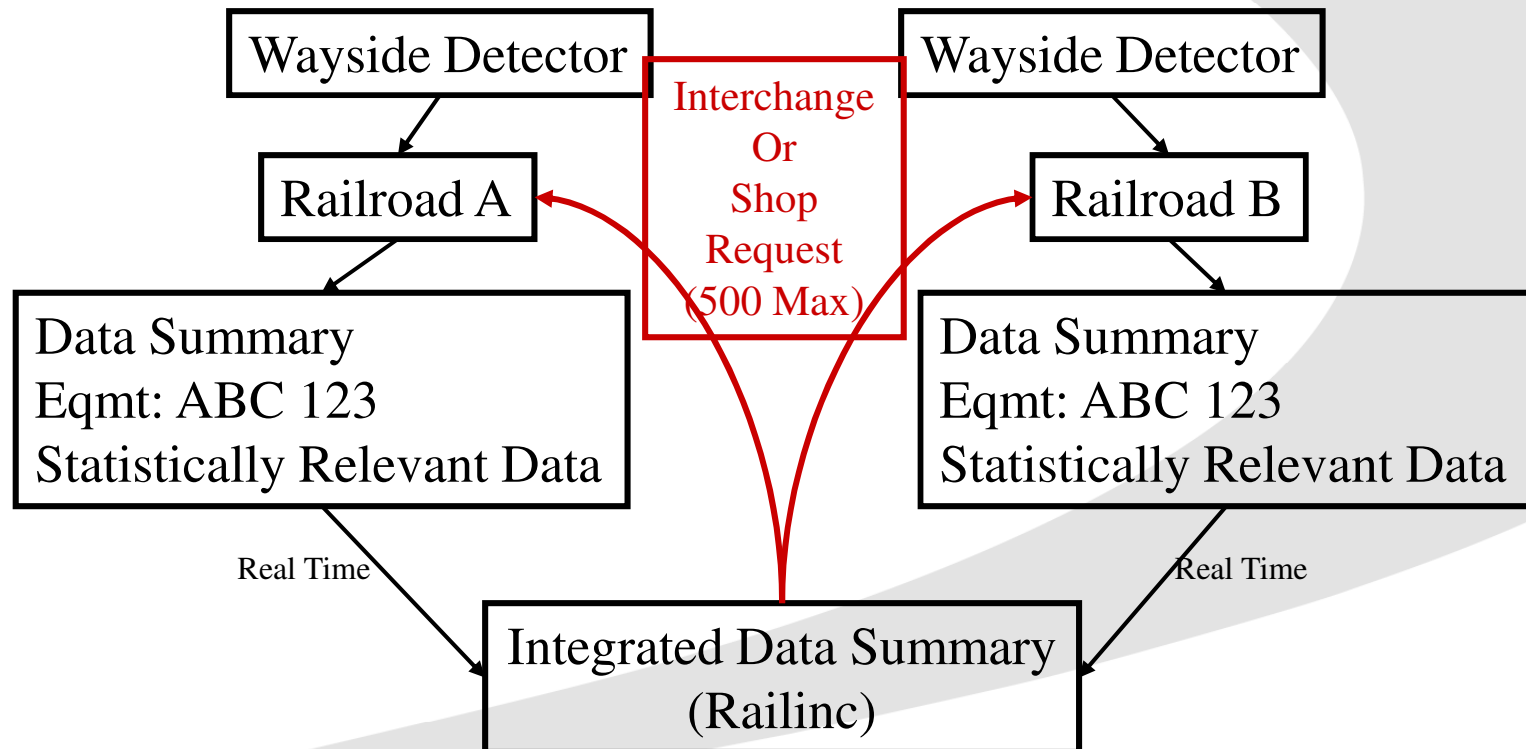
Carrier



Car Owner/Shop



Data Summary Flow



Data Summary and Rollup

Data Summary SALIENT_WHEEL_IMPACT'
Component Wheel 3L
Equipment CSX 0000236704

Owner	NS	CSX	BNSF	UP	'ROLLUP'	
Open Date	5/1/08	6/1/08	8/2/08	8/1/08	5/1/08	Earliest Open Date
Last Event Date	8/4/08	8/3/08	8/13/08	8/15/08	8/15/08	Latest Date
Count					4	Count of D.S.
MAX_RATIO	2	1.5	1.0	0.7	2	Max
MAX_DYNAMIC	70	61	60	62	70	Max
MAX_PEAK	91	83	75	90	91	Max
CNT_WLD_READS	3	2	6	5	16	Sum
CNT_GT_90_PK	1	0	0	1	2	Sum
CNT_GT_80_PK	1	1	0	1	3	Sum
CNT_GT_30_DYN	1	1	1	3	6	Sum
FIRST_DATE_GT_90_PK	5/7/08			8/10/08	5/7/08	Min
FIRST_DATE_GT_80_PK	6/10/08	6/10/08		8/14/08	6/10/08	Min
FIRST_DATE_GT_30_DYN	5/1/08	6/9/08	7/9/08	8/7/08	5/1/08	Min
LAST_RATIO	1.75	1.4	0.99	0.6	0.6	Latest
LAST_DYNAMIC	65	57	54	60	60	Latest (based on last event date)
LAST_EQMT_SPEED	43	40	35	32	32	Latest (based on last event date)
LAST_TMST_GE_20_DYN_OR_GE_2_RATIO	5/3/08	6/4/08	7/04/08	8/04/08	8/04/08	Latest (based on last event date)
TMST_LT20Dyn_and_LT2Ratio	8/4/08	8/5/08 8/3/08 ⚠ see below			8/3/08,8/4/08,8/5/08	Distinct Set of All

Getting the Data

- Primarily a “PULL” system
 - Online query; view online
 - Online query; data download
 - XML web service query
 - 500 car max per query
- “Temporary ‘I care’ Subscriptions”
 - Web signup/cancel
 - XML signup/cancel
 - Expiration;
 - NOT intended for ongoing fleet monitoring
 - InteRRIS exists for fleet monitoring

EHMS Data Summary “Care” Table

RAILINC Equipment Health Management System

rganesh is signed on for company **BNSF**

Home | Alert Closures | Equipment History | Notifications | Detector Health | **Equipment** | Admin | Help

Equipment Population Details

Company Mark: BNSF

* Population Name: All BNSF AAXP range

* Population Criteria: Care Table

Cars in Table: 100000

Add Cars to Table:

Remove Cars from Table:

Query Car Table:
BNSF 1000, BNSF 2000, BNSF 3000, BNSF 4000, BNSF 5000, CSXT 2000

Search

Click on the Equipment ID link below to Add to/Remove from the Care Table

Equipment ID	Already in Care Table
BNSF 000001000	✗
BNSF 000002000	✓
BNSF 000003000	✗
BNSF 000004000	✓
BNSF 000005000	✓
CSXT 000002000	✓

Apply | OK | Cancel

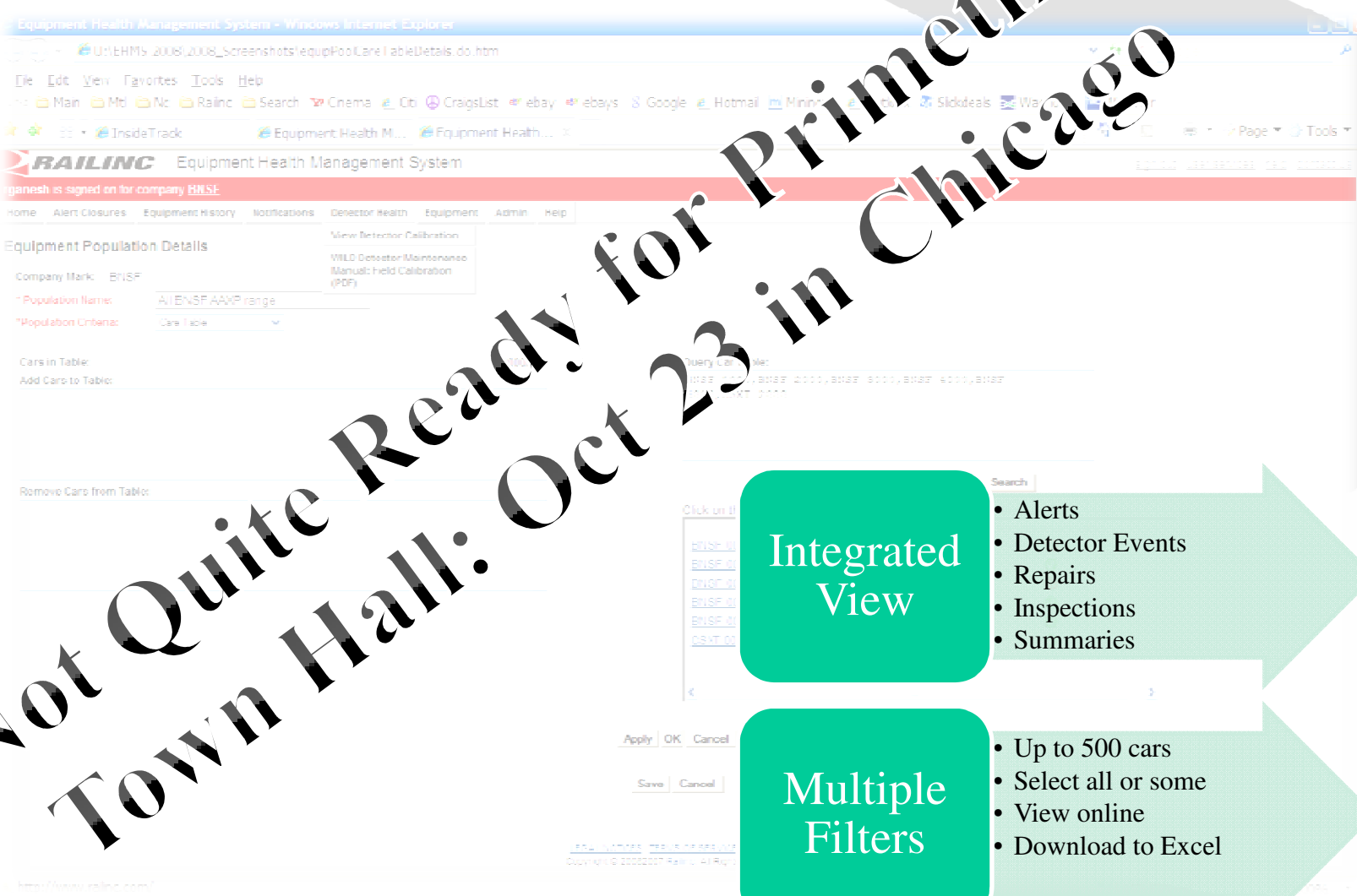
Save | Cancel

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http://www.railinc.com/ Local intranet 100%

EHMS Query

Not Quite Ready for Primetime
Town Hall: Oct 23 in Chicago



Integrated View

- Alerts
- Detector Events
- Repairs
- Inspections
- Summaries

Multiple Filters

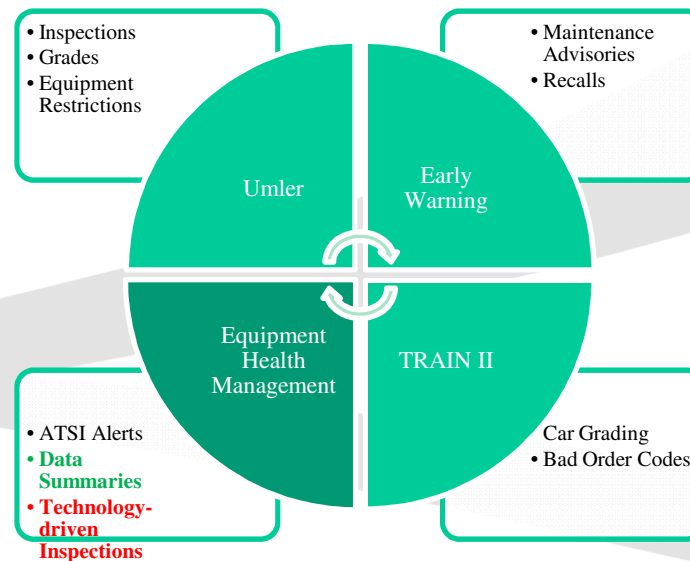
- Up to 500 cars
- Select all or some
- View online
- Download to Excel

Timeline for Summary Implementation

- **Class 1 Deliverables 8/12**
 - Infrastructure
 - Summary type definition
 - XML Web services for summary report
 - Summary roll-up
 - CRH reporting via XML
- **Industry Delivery 10/14**
 - Update Query UI
 - Update CRB UI
- **Town Hall 10/23**
- **Training and communication**
 - TBA – Stand by!

Railinc 2009 preview

- EHMS Alert Disposition Status Indicator
- Disposition Instructions leveraging RAMPED
- Integrated Equipment Health Query
- Various system enhancements



What to do to prepare yourself

- Join Railinc's SharePoint Site:
<https://community.railinc.com/committee/atsi/default.aspx>
 - Get the specs, whitepapers, project plans
- Join Railinc's "Wikitrain"
 - <http://wikitrain/display/Projects/EHMS>
 - Get the details, project deliverables, samples
- Track www.railinc.com for important news



www.railinc.com

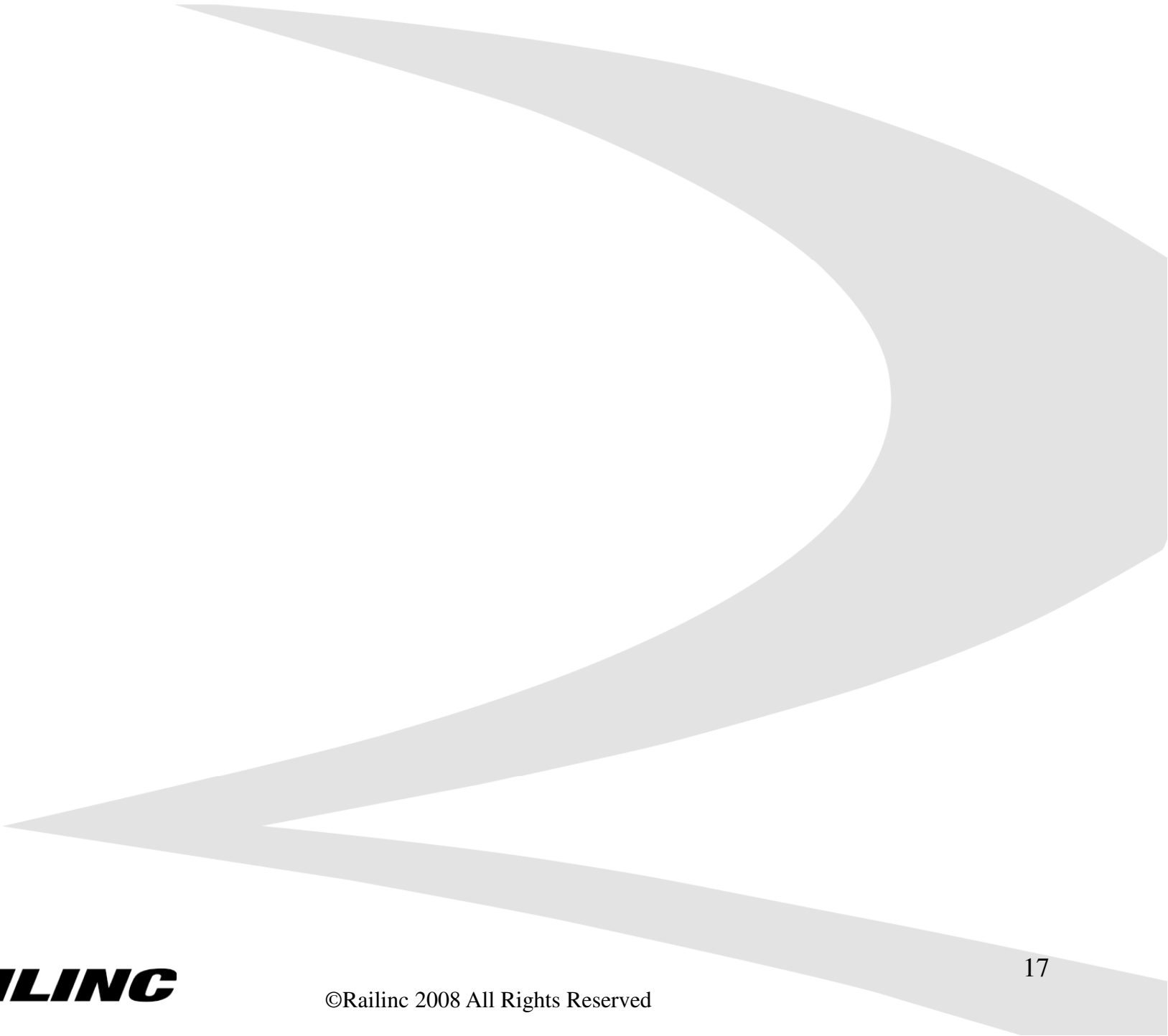
24 Hour Customer Service

800-544-7245

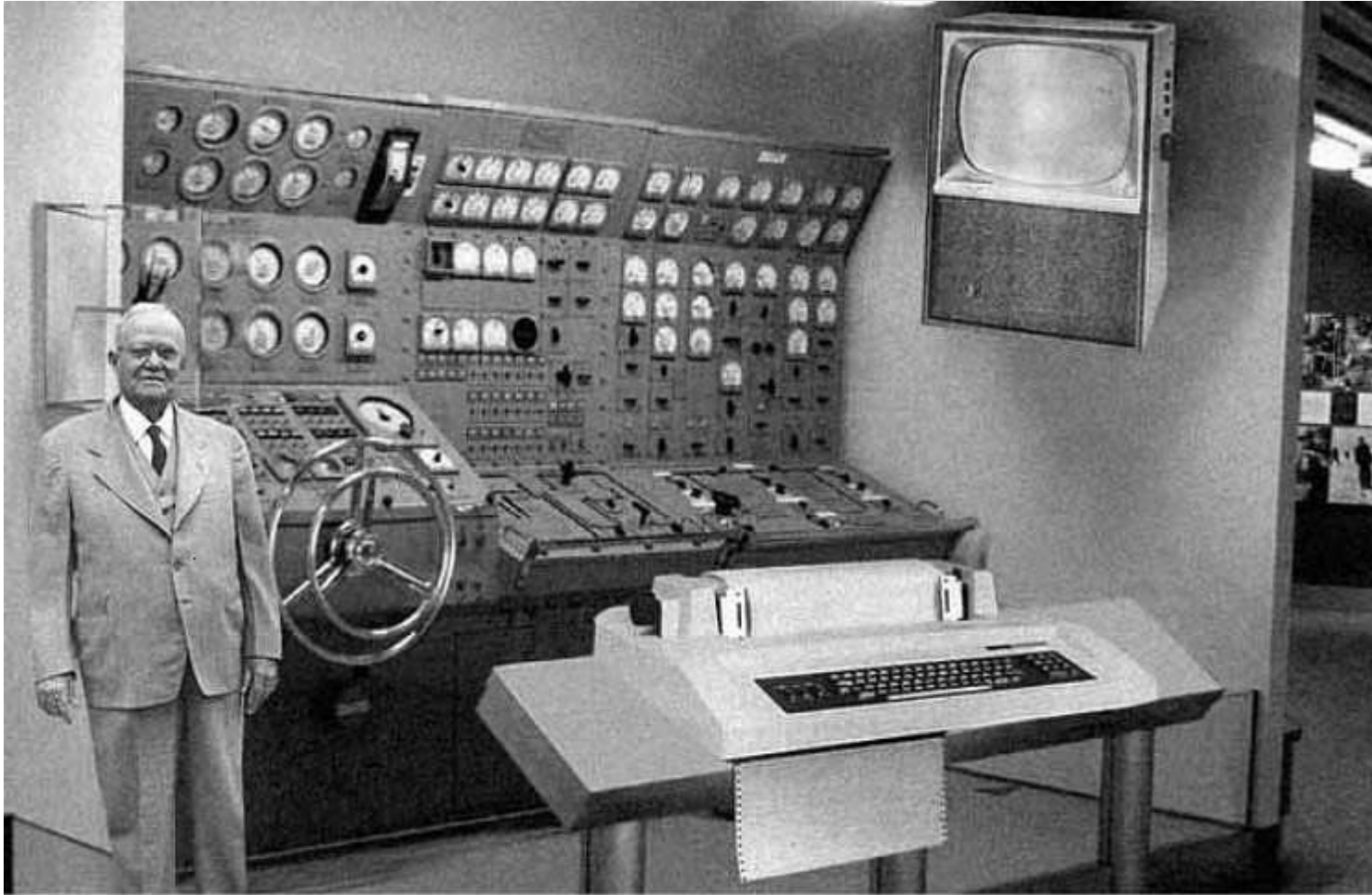
csc@railinc.com

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UMLER



Legacy Umler Laptop Version

July 15, 2009

UMLER becomes Umler/EMIS



- Umler/EMIS is coming – full speed ahead
- Many changes **WILL** affect you
 - Your systems that use UMLER **WILL** have to change
 - Your processes that use UMLER **WILL** have to change
 - History will be severed
- You need to know what those changes are
- You need to know what to do to prepare yourself, your department and your company

New data structure and names

New web system

Error-free strategy

Access to reports and query

New Messaging

Web services opportunities

**...in short,
EVERYTHING**

How does Umler/EMIS affect you?

- Technological Changes
 - Some Umler Data Element will change
 - **Split** into multiple Umler/EMIS data elements
 - Data characteristics **changed** (i.e. length or value)
 - ✓ From feet and inches to inches
 - ✓ From tons and hundredweight to pounds
 - **Elimination** of unused elements from Umler
 - Date elements **decoded**
 - Messaging changes
 - Dynamic EDI (TRAIN II)
 - Support for XML
 - New Web Services
 - Replacement for Query87 Type 22

Umler - Equipment Management Information System | Add Equipment - windows Internet Explorer

C:\Documents and Settings\tdaam01\Desktop\equipmentAdd.htm

File Edit View Favorites Tools Help

Links Main Mtl Nc Railing Search Cinema Citi CraigsList ebay ebays Google Hotmail Mininova Outlook Slickdeals Wachovia Weather

Project Support Umler - Equipmen... x

RAILING Umler Equipment Management Information System [sign out](#) | [user services](#) | [help](#) | [contact us](#)

emisadm1 is signed on for company NS - NORFOLK SOUTHERN RAILWAY COMPANY (NORFOLK SOUTHERN)

Home Query Maintenance Upload / Download Account Administration Contact List Help

Add Equipment

Equipment Add transaction validation was successful

Validate Submit Reset Clear Suspend Cancel

**Equipment ID(s):: NS 0000008022

Collapse All Expand All Equipment Group:: BOXC Number of Equipment Units:: 1

[General](#) [Weight](#) [Dimension](#) [Truck_Components](#) [Draft_System_Components](#) [Unit_Segment_Components](#) [Specification](#) [Feature](#) [Door](#) [CarManagement](#) [Train_Service](#) [Miscellaneous](#) [Inspection](#) [Default_Presentation_Group](#)

Element Name	ID	Flag	Value	Error
Mechanical Designation	UMMD		RBL - Box-Refrigerator (Bur)	
Equipment Type Code	UMET			
Built Date (Tk Underfrme)	BLDT		01/01/2000	
Owner	UMOW		NS	
Lessee	LESE			
Sub 19 (Ex Parte 346)	A227			
Rate indicator	A070			
Private Zero Rate	B150			
Rebuilt Date	RBDT			
Rebuilt Flag	RBFL			
Extended Service	A098		E - Built After July 1, 1974; E	
End of Service Date	B078			
Connected Unit Count	A020			
Intermediate Conn Style	B115			
Truck Count	B258			
Axle Count	A024		5	

Done

My Computer 100%



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