



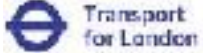













# *Connected Transportation*

# Cisco Validated design pro vaše řešení

 Solutions	Use Cases	Customer
<b>Cisco Connected Rail</b>	<ul style="list-style-type: none"><li>• Positive Train Control (PTC)</li><li>• Wi-Fi pro cestující</li><li>• Stations-as-a-Service (StaaS)</li></ul>	<ul style="list-style-type: none"><li>• Fyzická bezpečnost uvnitř vlaku, na stanicích a na trati</li><li>• Lepší zkušenost cestujících</li></ul>     
<b>Cisco Connected Roadways</b>	<ul style="list-style-type: none"><li>• Real-time monitoring na železnici; počasí a stav trati</li><li>• Proaktivní alerty údržby</li><li>• Traffic Signal Prioritization (TSP)</li><li>• On line monitoring incidentů a video</li></ul>	<ul style="list-style-type: none"><li>• Bezpečnost, rychlejší odezvy</li><li>• Centralizovaný monitoring</li><li>• Lepší využívání infrastruktury</li></ul>   
<b>Cisco Connected Mass Transit</b>	<ul style="list-style-type: none"><li>• Onboard Wi-Fi pro cestující</li><li>• Proaktivní údržba infrastruktury a vozidel</li></ul>	<ul style="list-style-type: none"><li>• vozidla, zastávky a nástupiště</li><li>• video surveillance</li><li>• Vyšší spokojenost cestujících</li></ul>     

Cisco IoT System Provides the Underlying Network Infrastructure

# Příklad nasazení – Městská autobusová doprava (Linz)



# *Connected Transportation*

# Linz

## Řešení obsahuje

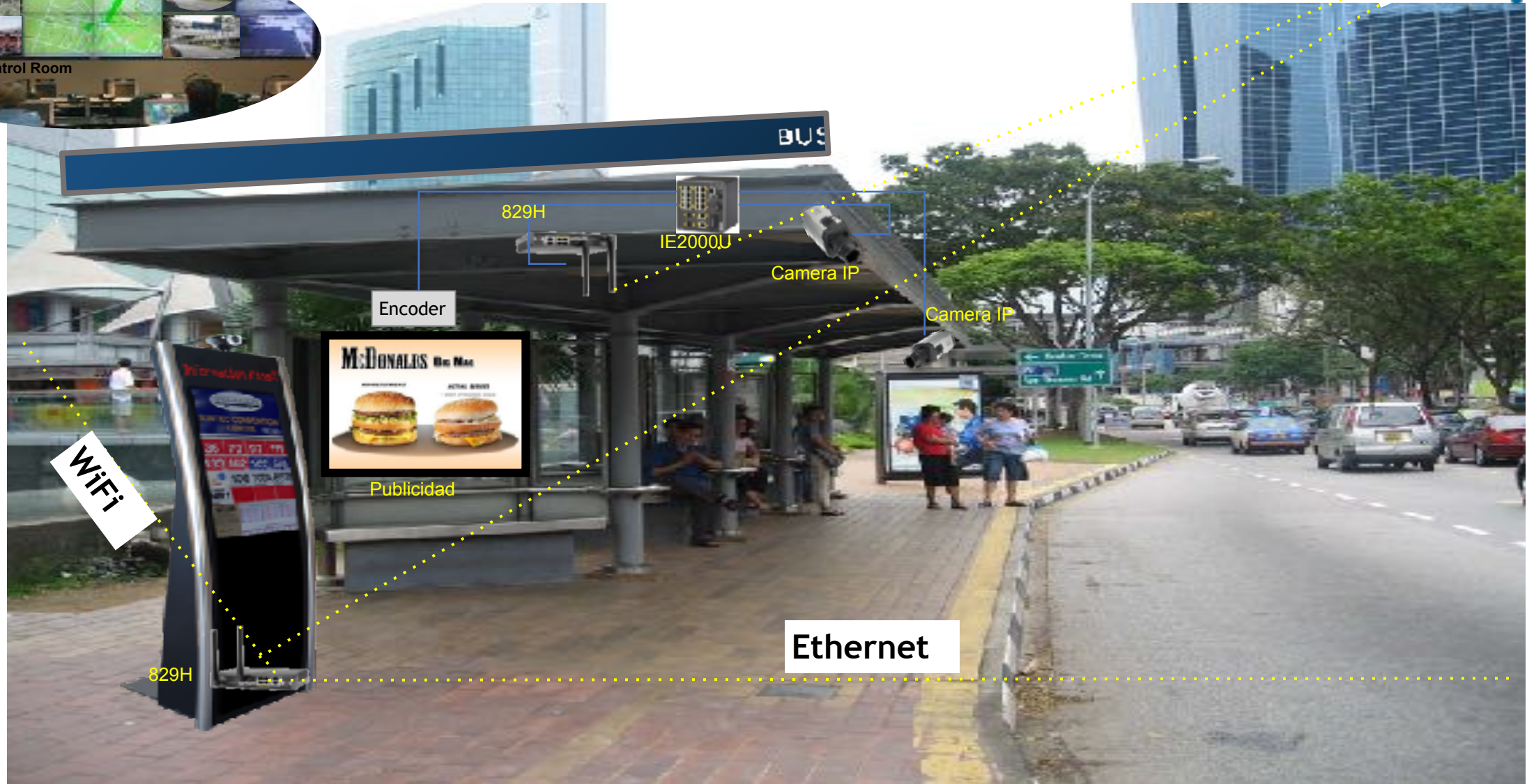
- Chytré řízení křižovatek
- Chytré zastávky
- Online app pro mobilní telefony, včetně navigace, jízdních řádů, plánování trasy atd.
- Dohled a management
- Online připojení tramvají a autobusů včetně telematických služeb a videodohledu
- Reklamní portál a marketing ve vozidlech



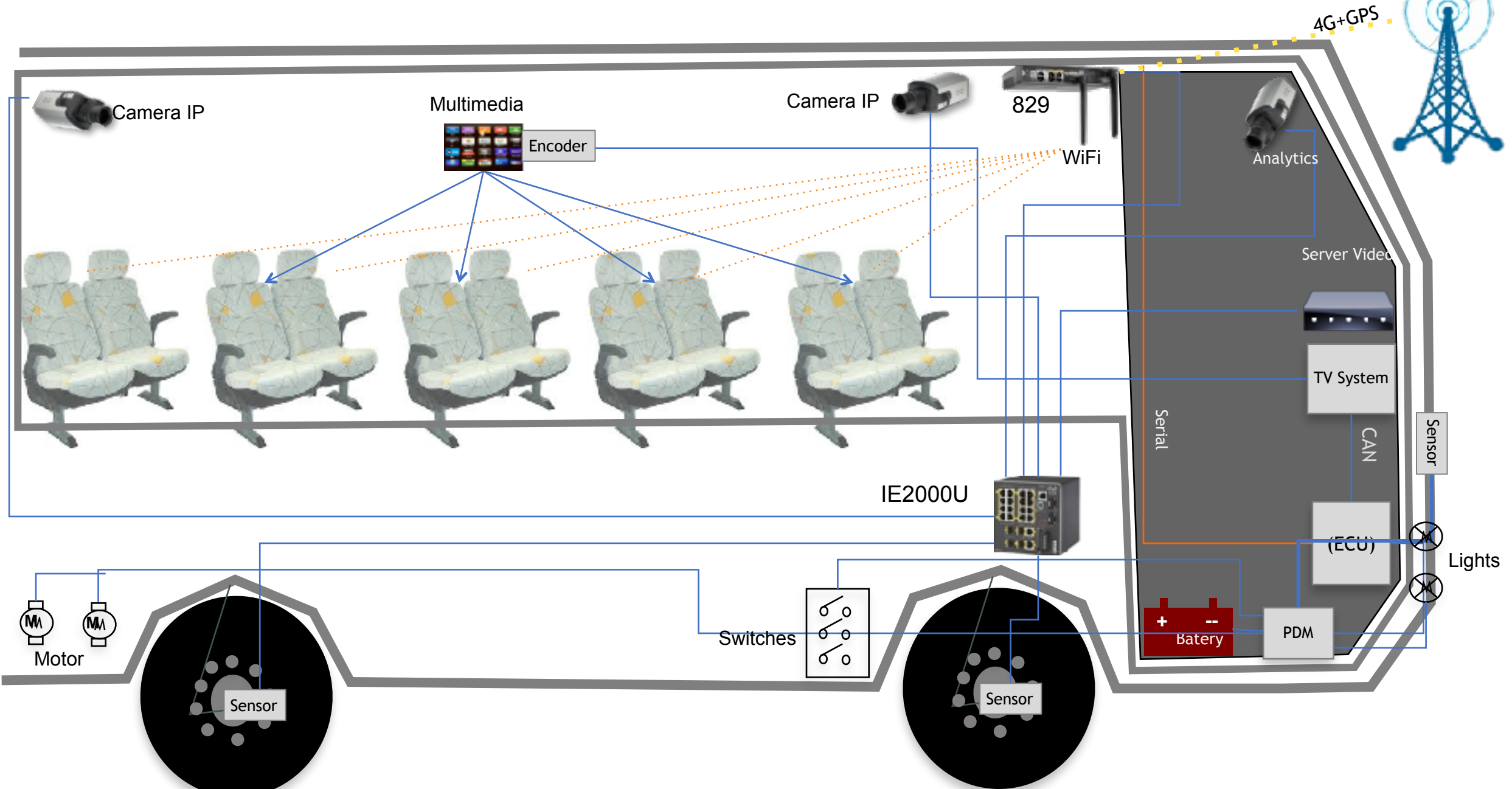
# Smart City of Linz



# Chytré zastávky



# Autobusová doprava: Telemetrie, Internet pro cestující, bezpečnost





# Příklad nasazení – železnice

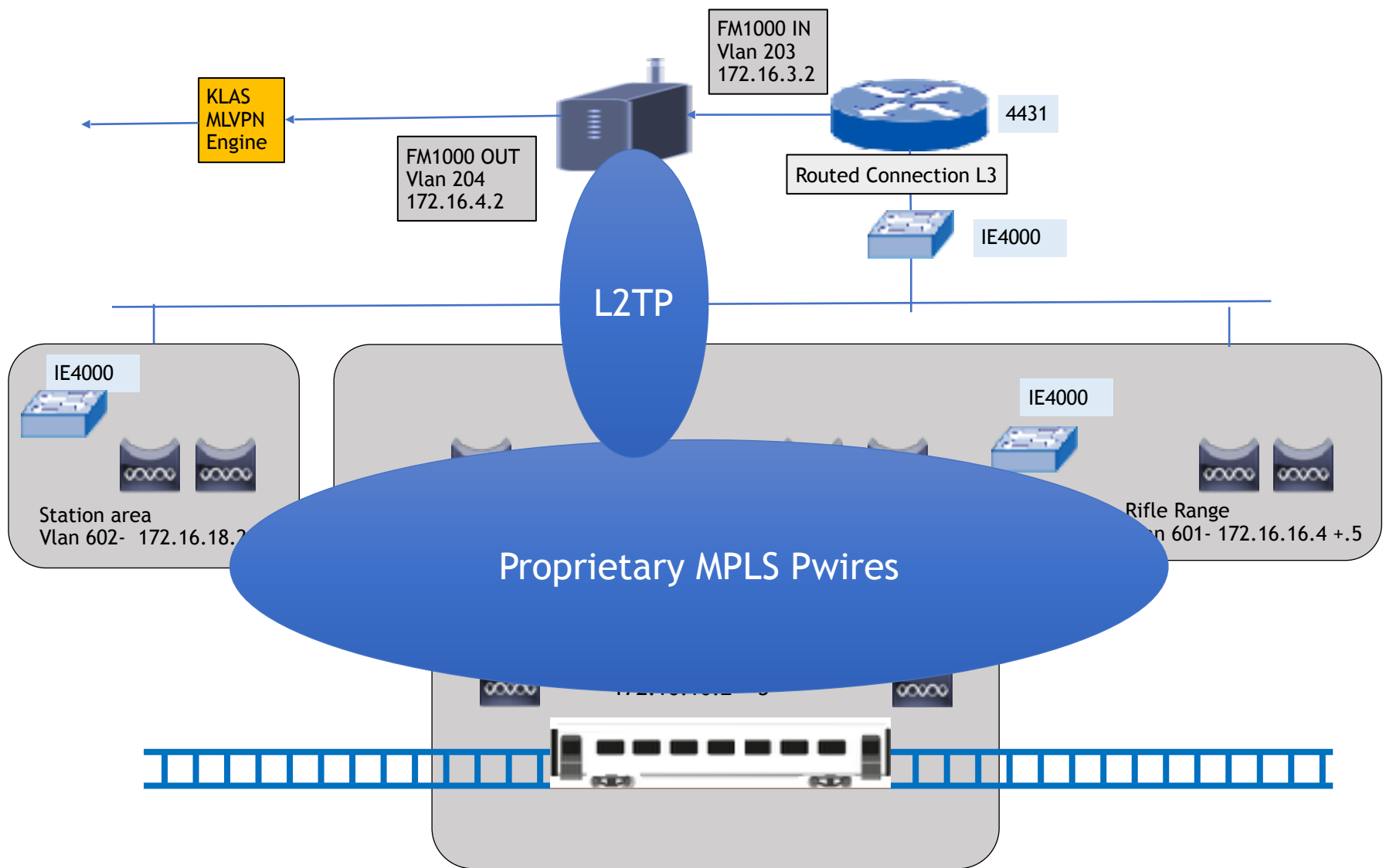
## Vlak (Warwickshire)

Fluidmesh+Klas+Cisco

# Warwickshire

## Řešení obsahuje

- Připojení 3G, 4G do vlaku (Klas Telecom routers)
- onboard WiFi pro cestující (Cisco WiFi)
- V místech se slabým GSM pokrytím nasazení vysokorychlostí outdoor wifi (Fluidmesh technologie) pro pokrytí železničního koridoru
- Dohled a management
- Zábavní a reklamní portál ve vlaku









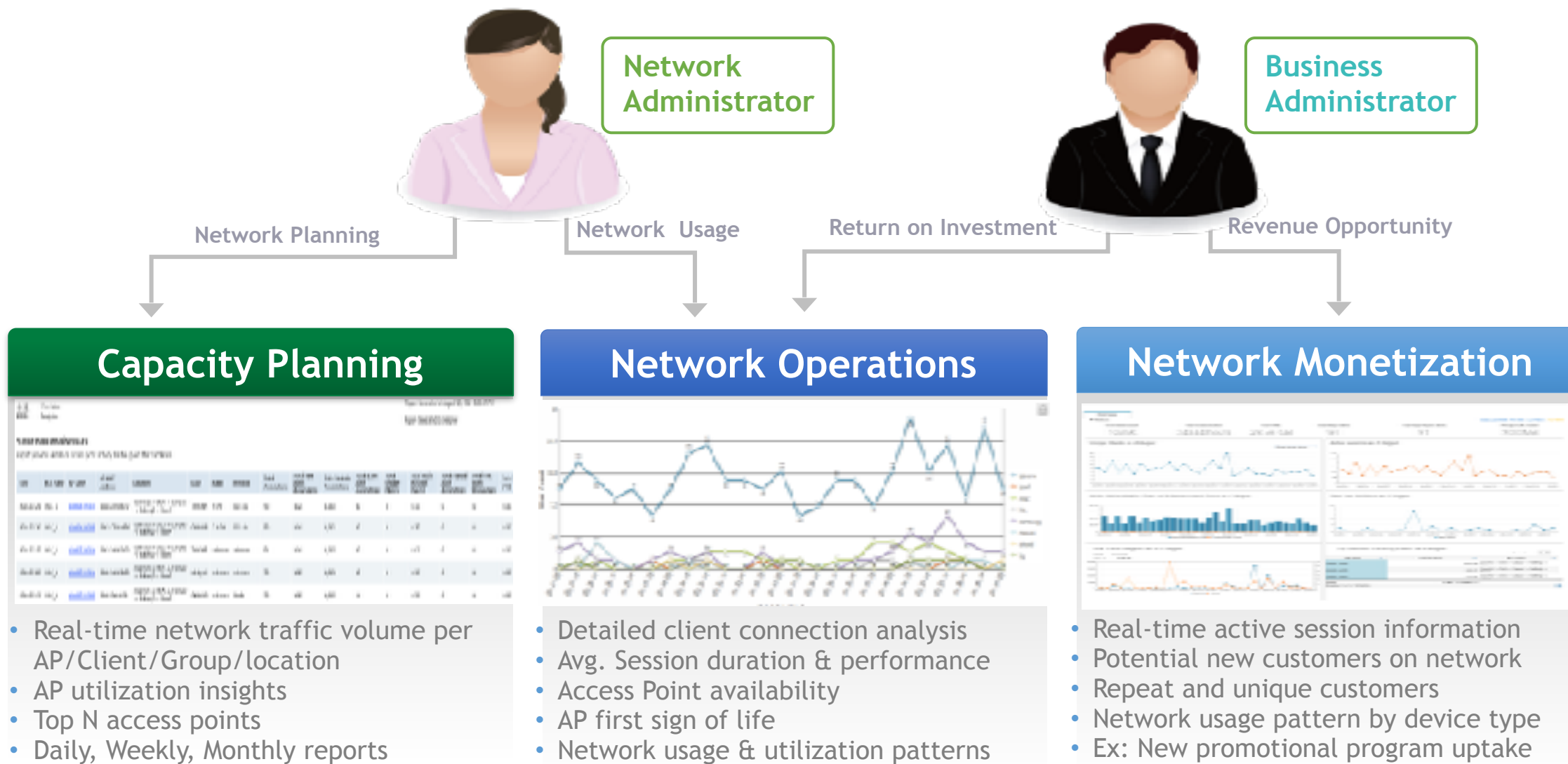


[ 4]	159.00-160.00 sec	38.8 MBytes	325 Mbits/sec
[ 4]	160.00-161.00 sec	40.0 MBytes	336 Mbits/sec
[ 4]	161.00-162.00 sec	42.5 MBytes	356 Mbits/sec
[ 4]	162.00-163.00 sec	43.3 MBytes	363 Mbits/sec
[ 4]	163.00-164.00 sec	42.6 MBytes	358 Mbits/sec
[ 4]	164.00-165.00 sec	43.2 MBytes	363 Mbits/sec
[ 4]	165.00-166.00 sec	43.6 MBytes	366 Mbits/sec
[ 4]	166.00-167.00 sec	43.8 MBytes	368 Mbits/sec
[ 4]	167.00-168.00 sec	43.6 MBytes	366 Mbits/sec
[ 4]	168.00-169.00 sec	43.7 MBytes	367 Mbits/sec
[ 4]	169.00-170.00 sec	43.7 MBytes	366 Mbits/sec
[ 4]	170.00-171.00 sec	42.2 MBytes	354 Mbits/sec
[ 4]	171.00-172.00 sec	42.5 MBytes	357 Mbits/sec
[ 4]	172.00-173.00 sec	40.8 MBytes	342 Mbits/sec
[ 4]	173.00-174.00 sec	41.7 MBytes	350 Mbits/sec
[ 4]	174.00-175.00 sec	42.2 MBytes	354 Mbits/sec
[ 4]	175.00-176.00 sec	32.2 MBytes	270 Mbits/sec
[ 4]	176.00-177.00 sec	36.1 MBytes	303 Mbits/sec
[ 4]	177.00-178.00 sec	32.0 MBytes	268 Mbits/sec
[ 4]	178.00-179.00 sec	26.7 MBytes	224 Mbits/sec
[ 4]	179.00-180.00 sec	33.3 MBytes	279 Mbits/sec
[ 4]	180.00-181.00 sec	18.8 MBytes	157 Mbits/sec
[ 4]	181.00-182.00 sec	31.2 MBytes	262 Mbits/sec
[ 4]	182.00-183.00 sec	35.8 MBytes	300 Mbits/sec
[ 4]	183.00-184.00 sec	19.2 MBytes	161 Mbits/sec
[ 4]	184.00-185.00 sec	30.2 MBytes	253 Mbits/sec
[ 4]	185.00-186.00 sec	34.1 MBytes	286 Mbits/sec
[ 4]	186.00-187.00 sec	28.6 MBytes	240 Mbits/sec

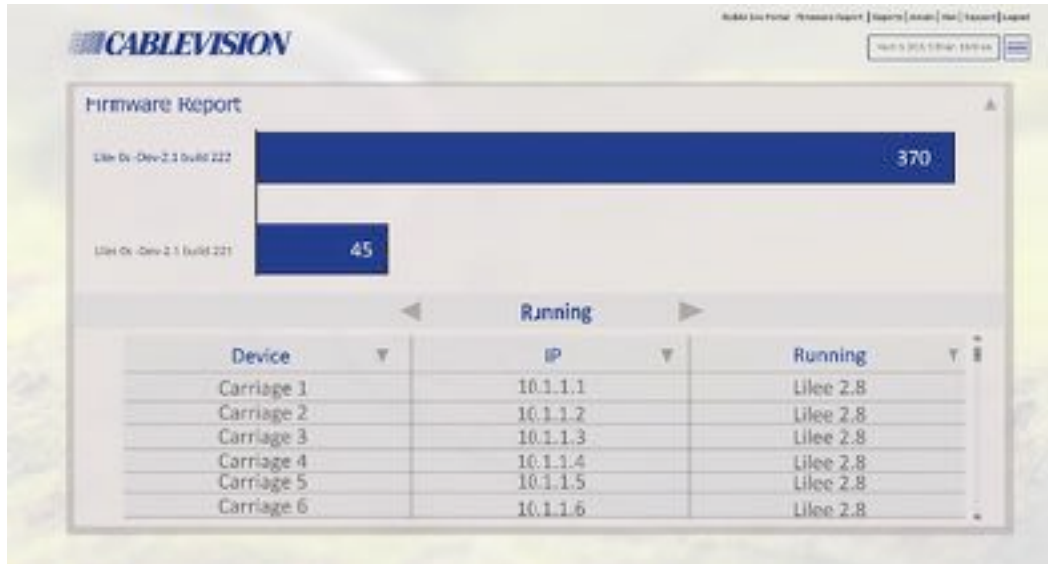


# Dohled a management v dopravě

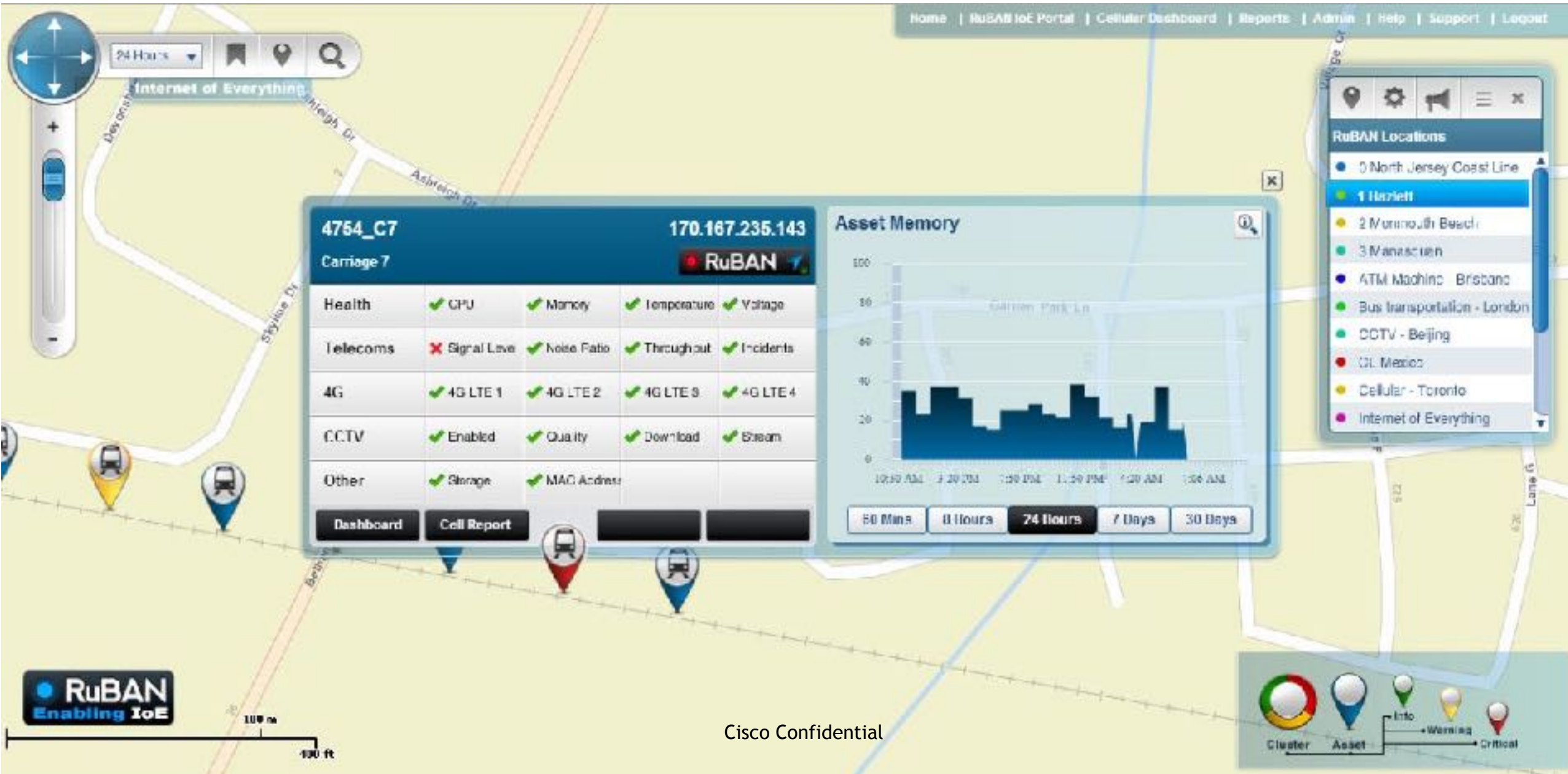
# Management je kritickou součástí řešení



# Davra Solution Management - WiFi and Broadband Service Quality

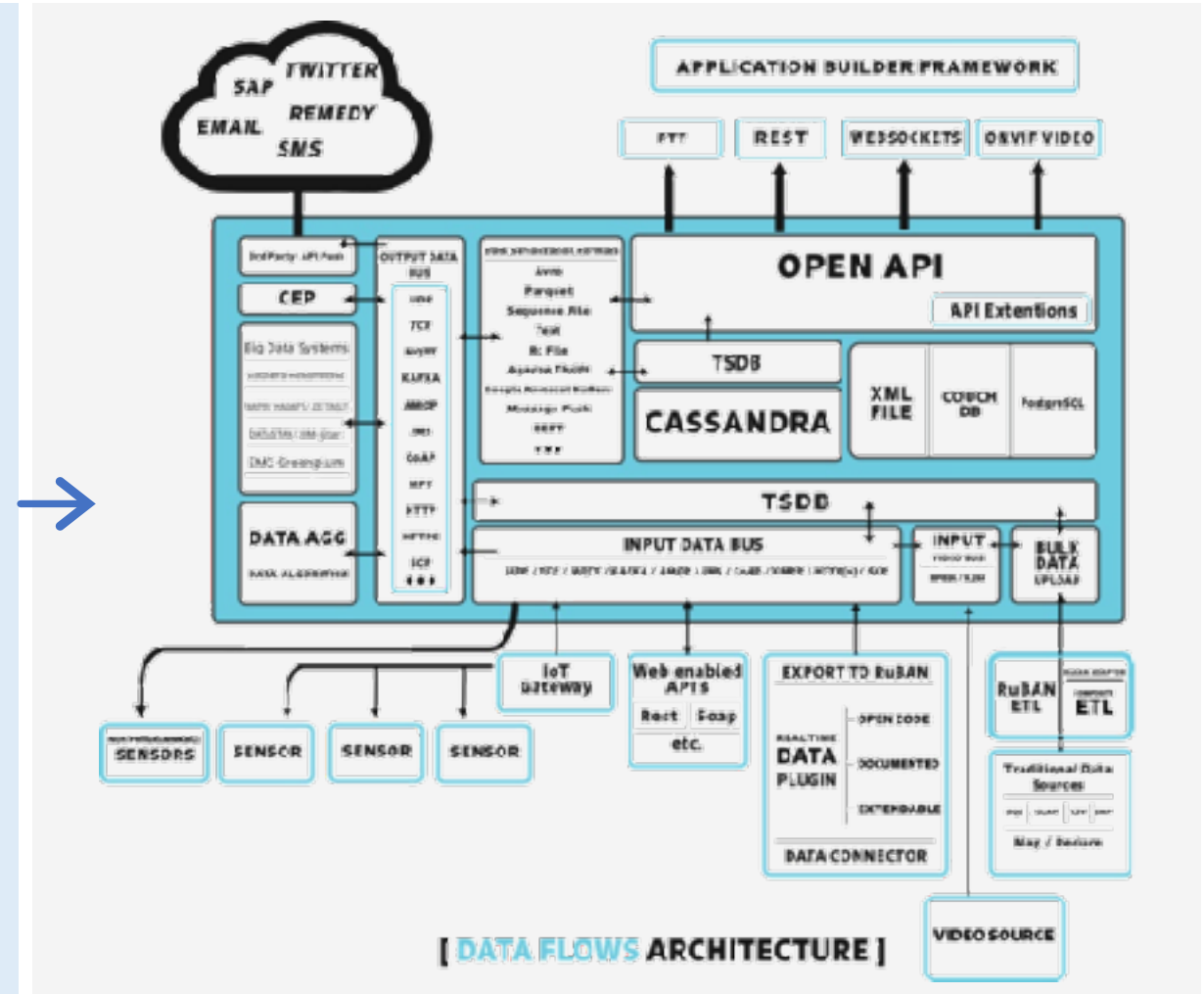


# Davra RuBAN – Přehledový status



# RuBAN: IOT Service Platform

- Network management
- Asset monitoring
  - Sledování uzlových míst, monitoring dopravní infrastruktury, integrace
- Telematické údaje z vozidla
- Optimalizace trasy
- Sledování vozidla a lokační informace
- Aplikační portál
- Reportovací portál
- Management práv a politik



# RuBAN<sup>tm</sup> Vehicle to Vehicle



davra networks  
managing the internet of everything



BusStopAnalysis

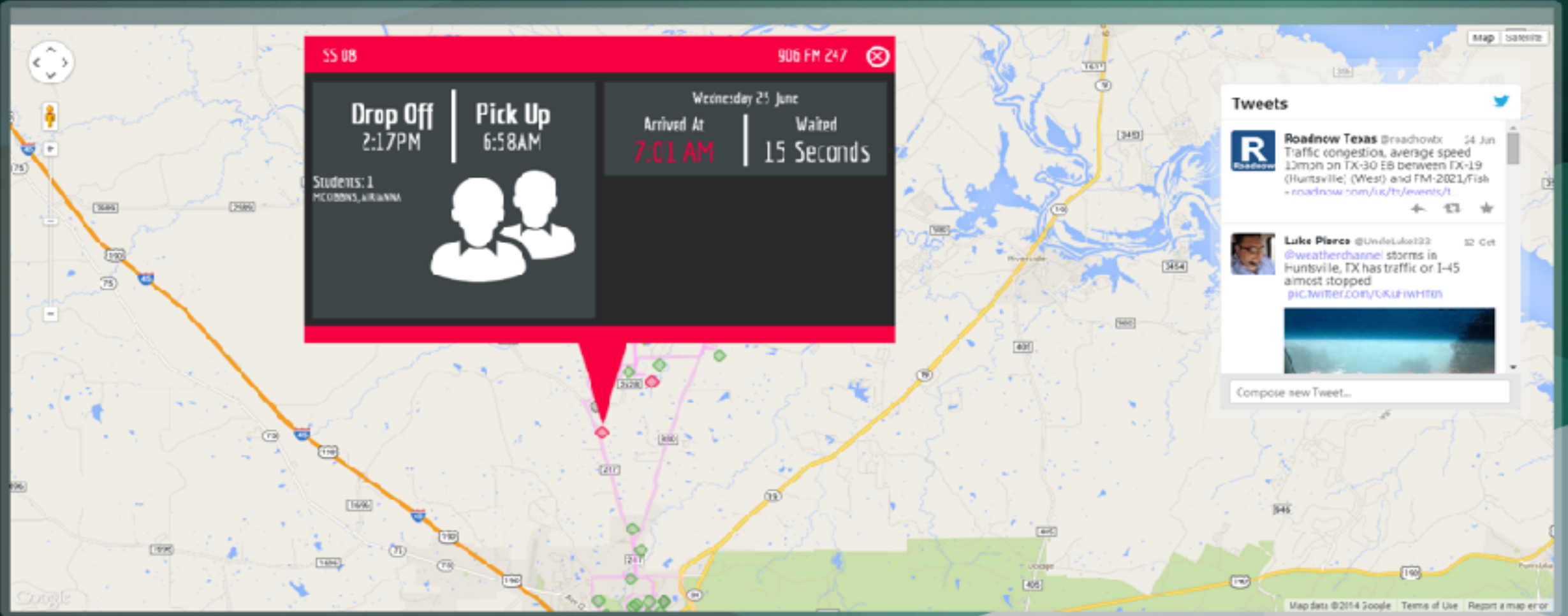
RuBAN IoT Portal | BusStopAnalysis | Reports | Admin | Help | Support | Logout

Device: H-SD-DEWD-4358

June 25, 2014, 12:00pm - 1:00 pm

EDIT

SAVE



# RuBAN™ Driver Management



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Huntsville Independent School District Telematics

RuBAN IoT Portal | Telematics | Reports | Admin | Help | Support | Logout

Device: HESB-D0M3-4058 | June 23, 2014, 12:03 pm - 1:44 pm

### JOURNEYS

	TIME	SPEED	RPM	MPG
96-98 SMITH ... - EZBET QA...	25 JUN 7:22 - 8:18 PM	26	1479	14
101 MARTIN L... - EZBET Q...	25 JUN 12:06 - 1:40 PM	24	1455	18
		22	1375	17
		23	1433	16
		23	1412	17

### AVERAGE MPG FOR SELECTED JOURNEY

**MPG 16.7**

### RPM - MPH - THROTTLE

23-Jun-14 13:31  
engineSpeed: 1616 RPM

### MPH 23

US-190 HUNTSVILLE, TEXAS

### CONNS: 1

### IDLING 10.0% DRIVING 90.0%

NUMBER OF TIMES SPENT IDLING IN EACH DURATION

Duration	Number of Times
0-10 Seconds	12
10-30 Seconds	12
30-60 Seconds	9
60-120 Seconds	1
>120 Seconds	1

# RuBAN<sup>tm</sup> Vehicle Telematics



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springfield<sub>bus</sub> Maintenance Report

Device: [Select Device] July 22, 2014, 11:32 pm - 1:32 pm [id] [save]

### ELECTRONIC CONTROL SYSTEM

<b>SCM</b> Suspension Control Unit 0/100	<b>CTM</b> Central Timing Module 0/50	<b>ACU</b> Airbag Control Unit 0/50
<b>PSCU</b> Power Steering Control Unit 0/50	<b>BMS</b> Battery Management System 1/50	<b>SCU</b> Speed Control Unit 0/50
<b>BCM</b> Body Control Module 0/50	<b>GEM</b> General Electronic Module 0/4500	<b>ECU</b> Engine Control Unit 0/13500
<b>TCU</b> Transmission Control Unit 0/50	<b>BCM</b> Brake Control Module 0/50	<b>CCU</b> Convenience Control Unit 0/500
<b>DCU</b> Door Control Unit 0/100	<b>HMI</b> Human Machine Interface 0/2200	<b>BCM</b> Brake Control Module 0/100

**FAULT: GA4026**  
OVERHEAD LIGHT DEAD  
LOST CONNECTION TO MAIN BATTERY

### TYRE PRESSURE

WARNING

MORE

Coolant Temperature <b>+2°C</b> MORE	Oil Pressure PSI <b>-15</b> MORE	Battery Voltage <b>-2v</b> MORE
Transmission Temperature <b>+3°C</b> MORE	Oil Pressure PSI <b>-15</b> MORE	Oil Pressure PSI <b>-15</b> MORE



# RuBAN<sup>tm</sup> Physical Security

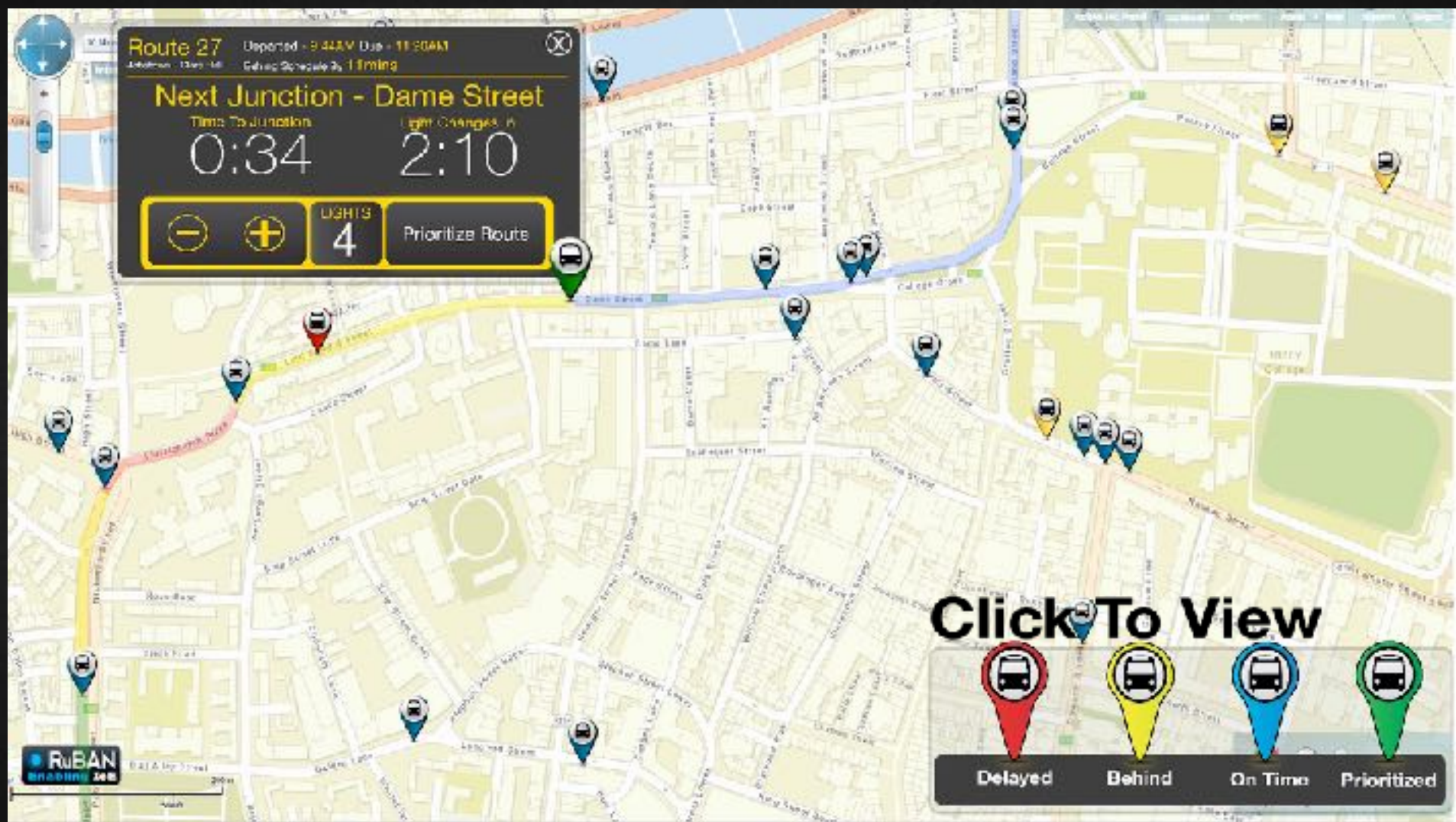


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The screenshot displays the RuBAN Physical Security interface. At the top left, the Davra Networks logo and name are present. The main header area shows the location "Huntsville School District : F-X175430XC" and the time range "July 1st 2014 1:30PM - 4:30PM". The central part of the interface is a video feed of a school bus interior, with a large white play button overlaid in the center. A warning message box is visible in the lower right of the video feed, stating "Mirror Fault : Shutling time, 9.77 seconds". On the left side, there is a map view showing the bus's location with a yellow pin. On the right side, there is a control panel with a person icon, a close button (X), zoom in (+) and zoom out (-) buttons, a directional pad, and a timer showing "00:00".

# Main User Interface



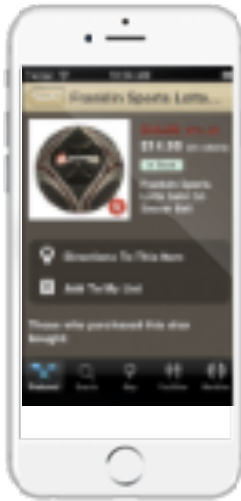
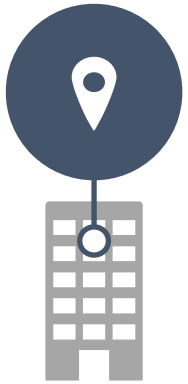
Powered  
By



Zpracování a získávání dat ve veřejně přístupných budovách a lokalitách

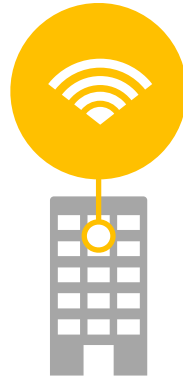
# Cisco CMX

## DETECT



- Presence and location detection
- Visibility (Wi-Fi, BLE)

## CONNECT



- Easy Wi-Fi login, custom or social
- Zone-based, custom splash pages

## ENGAGE



- App-based mobile engagement
- Context-aware in-venue experiences



ANALYTICS

Presence



Location



Social

# Kombinace více technologií



## Wi-Fi

- HW: AP37/3800, module, ant, ...
- SW: CMX
- Apps: navigace, optimalizace trasy., ...
- Partnerships: Phunware, Rifinity, tags vendors (w/CCX), others
- Services: TAC, Advanced Services

## Dle přání uživatele & dle konkrétního nasazení

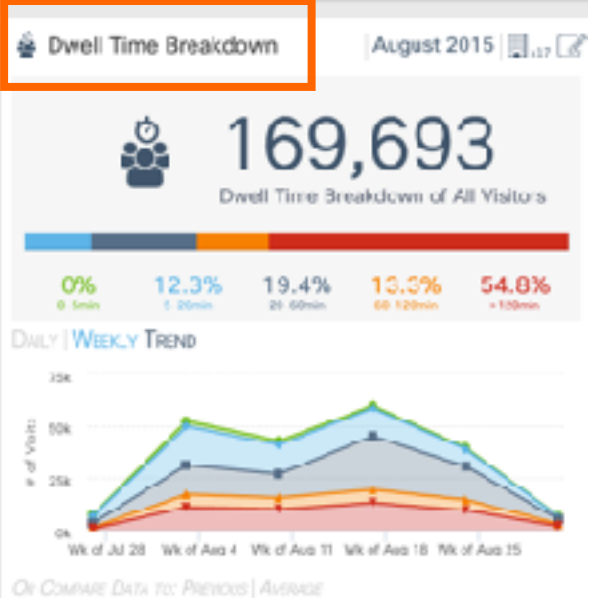
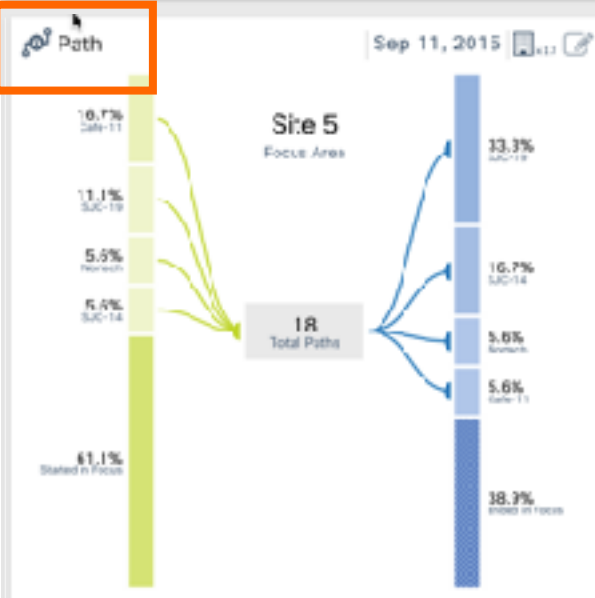
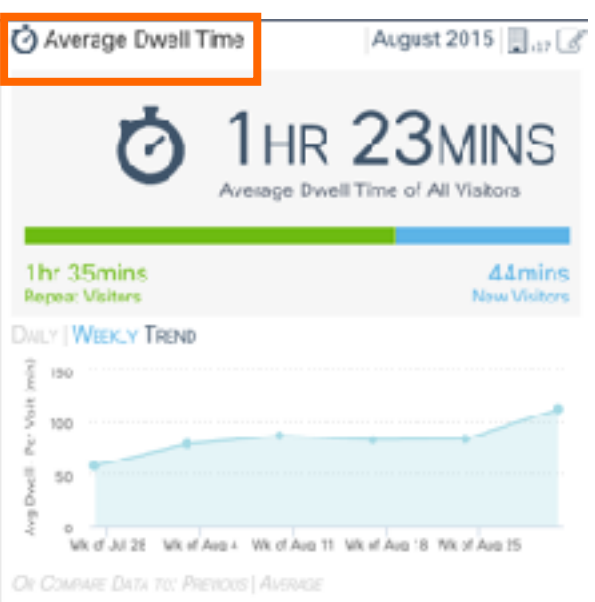
- Navigace a optimalizace trasy
- Marketing
- Analýza a reporty
- Využití lokality
- Sledování návštěvnosti
- Etc.



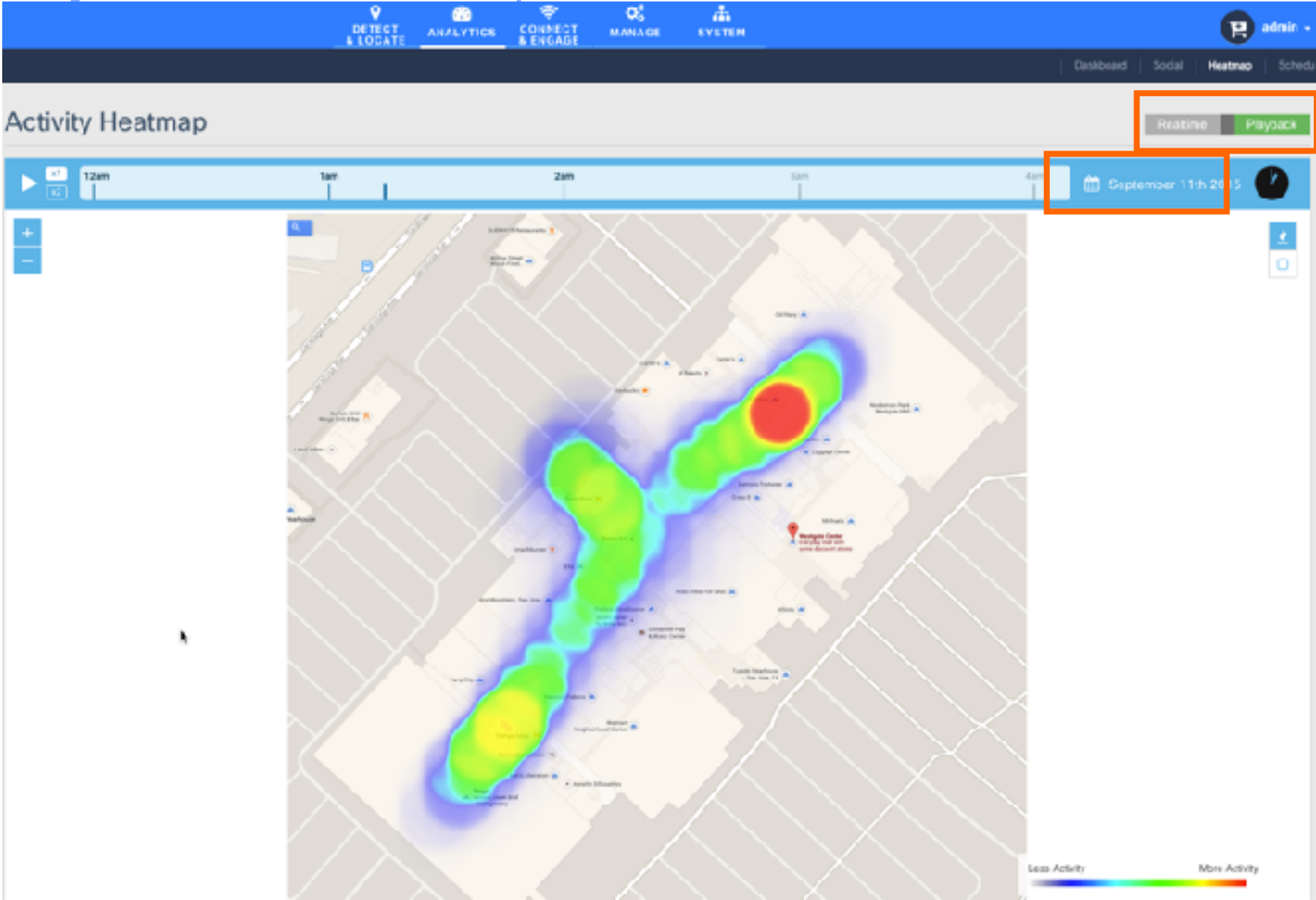
## BLE

- HW: Beacon Point
- SW: CMX Beacon Center
- Apps: navigation & wayfinding, etc.
- Partnerships: Phunware, others
- Services: TAC, Advanced Services

# CMX: Analytics – Different Widgets



# CMX: Analytics – Heatmap



# Přístupový portál dle lokality a uživatele

○ jednoduchý přístup pro uživatele  
○ vždy jasné terms and conditions



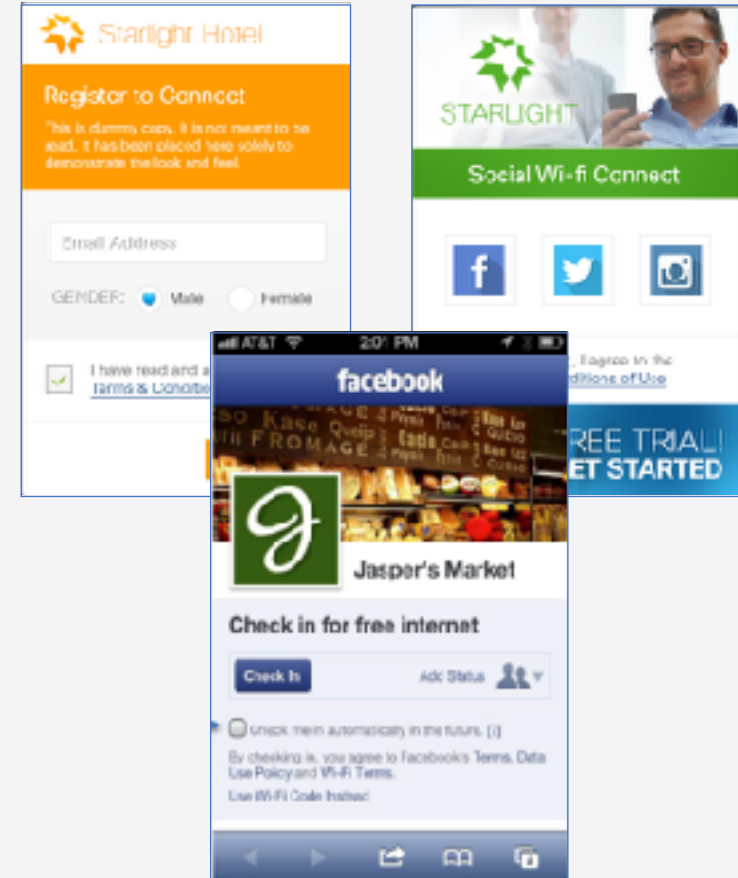
○ různé typy přihlašování  
○ portál nebo sociální síť



○ různý přístup a obsah dle uživatele



○ znalost o pohybu osob v lokalitě







# Použití WiFi pro zaujmutí a navigaci uživatele

○ systém partnerů pro nabídku optimálních služeb



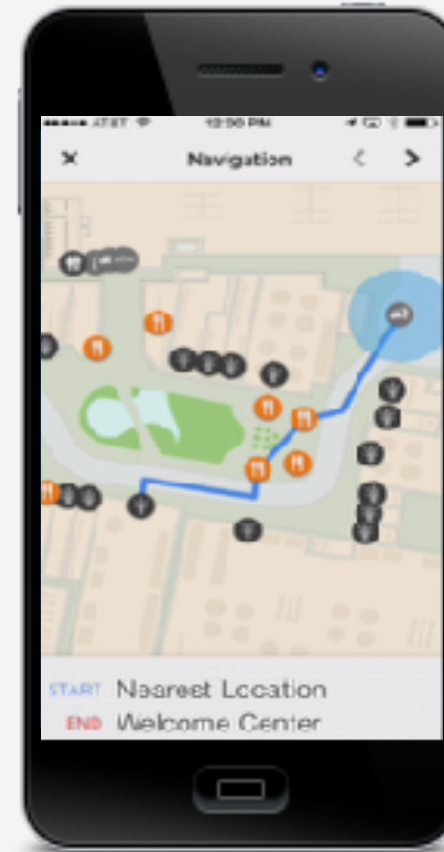
○ editovatelný obsah portálu



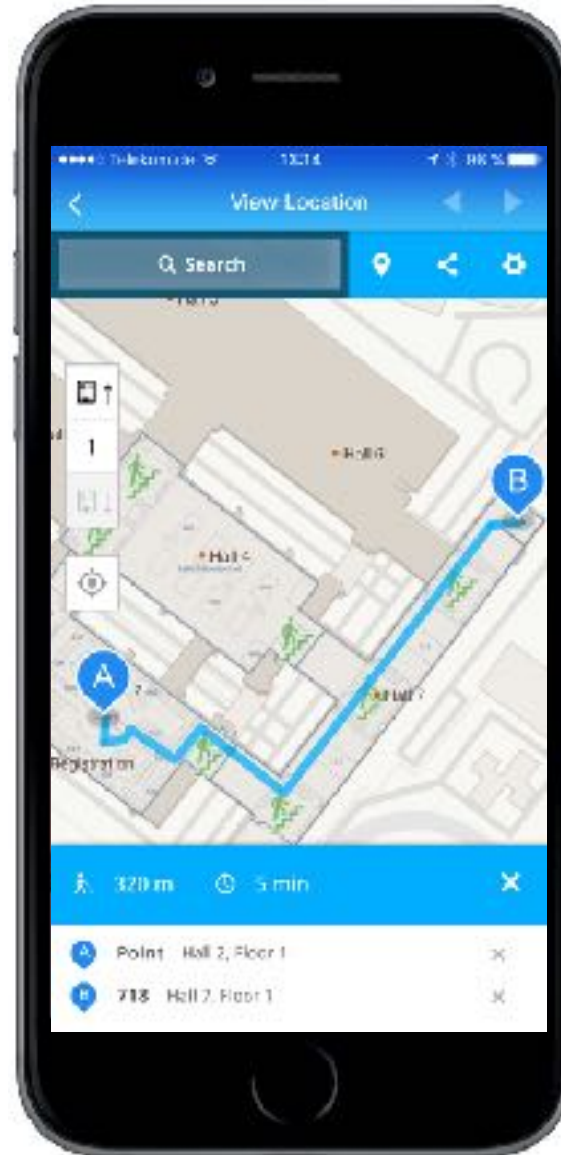
○ navigace dle požadavků nebo inzerce



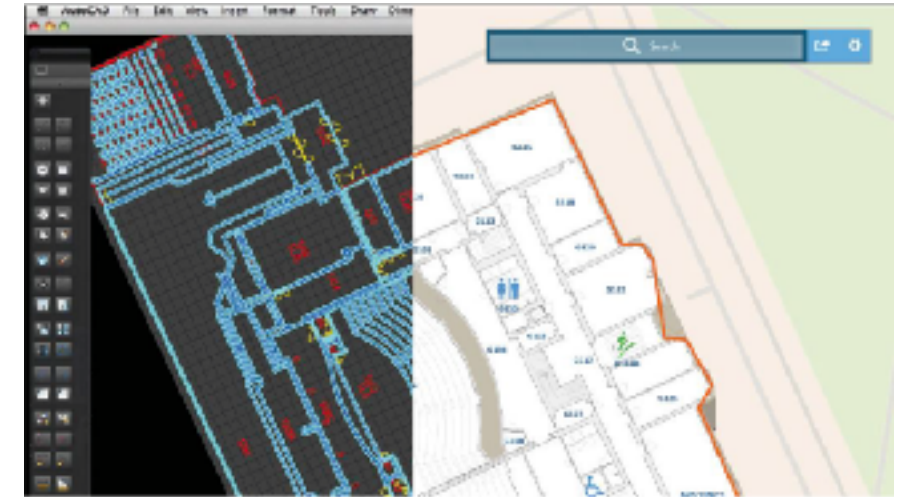
○ integrovaný obchodní model



# Příklad úspěšné spolupráce



[www.mazemap.com](http://www.mazemap.com)





Thank you.