THE YELLOW BRICK ROAD OF SPATIAL DATA INFRASTRUCTURES (SDI'S)

Boundaries, Roads, and Address Points, Oh My!

Sheila Steffenson / CEO, 1Spatial Inc.

# Data is an Asset and becomes even more valuable in an SDI

But how do we harness its value to gain Return on Investment (ROI)?

To do so you must step back and understand your data…

➤ What data is available and what is missing

➤ Who all needs access to the data and does it meet all the business needs

➤ Processes for ensuring currency of the data

➤ Is data that needs protection properly protected

➤ **Knowing the current quality of the data and establishing a plan to improve it**
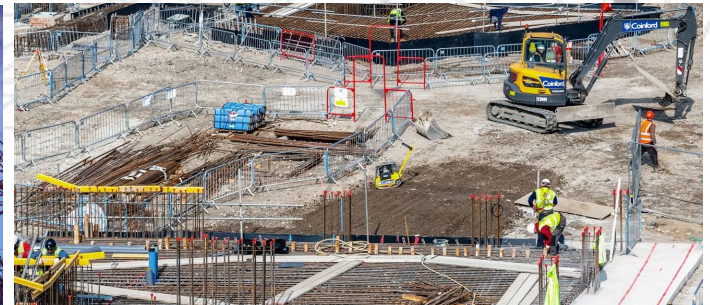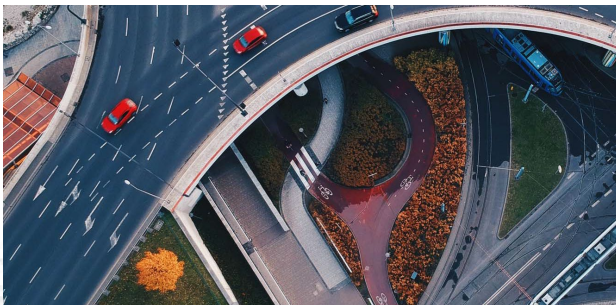
But…IT'S HARD!!!!

It can seem to be a very daunting effort

But it doesn't have to be

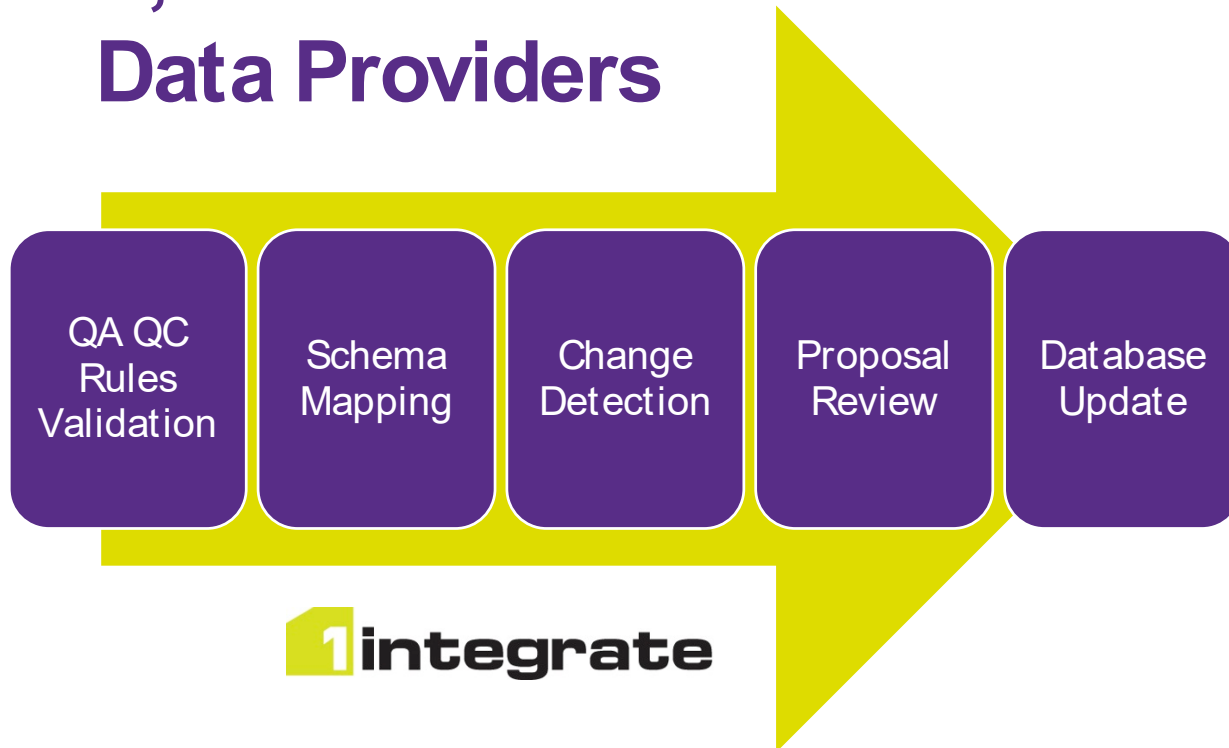Automation is the "Easier" button!

Automation is the "Easier Button"

US Census: MAF/TIGER Data Supply Chain/Conflation Process

3,200 Different Data Providers

QA QC Rules Validation

Schema Mapping

Change Detection

Proposal Review

Database Update

1integrate

3,200 Different Data Providers

QA QC Rules Validation	Schema Mapping	Change Detection	Proposal Review	Database Update

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But that wasn't all…

90% Automation through iterative process improvement

➤ Automation of validating and ingesting the data

➤ Improved currency to the data Census shared out to Government and Public entities

➤ Improved quality of the data enabling better decision making

➤ Turned a largely manual process into a mostly automated one

➤ Freed people up to focus on the actual mission of the Census

➤ **Significantly helped reduce the extent and cost of address canvassing for the 2020 Decennial Census**
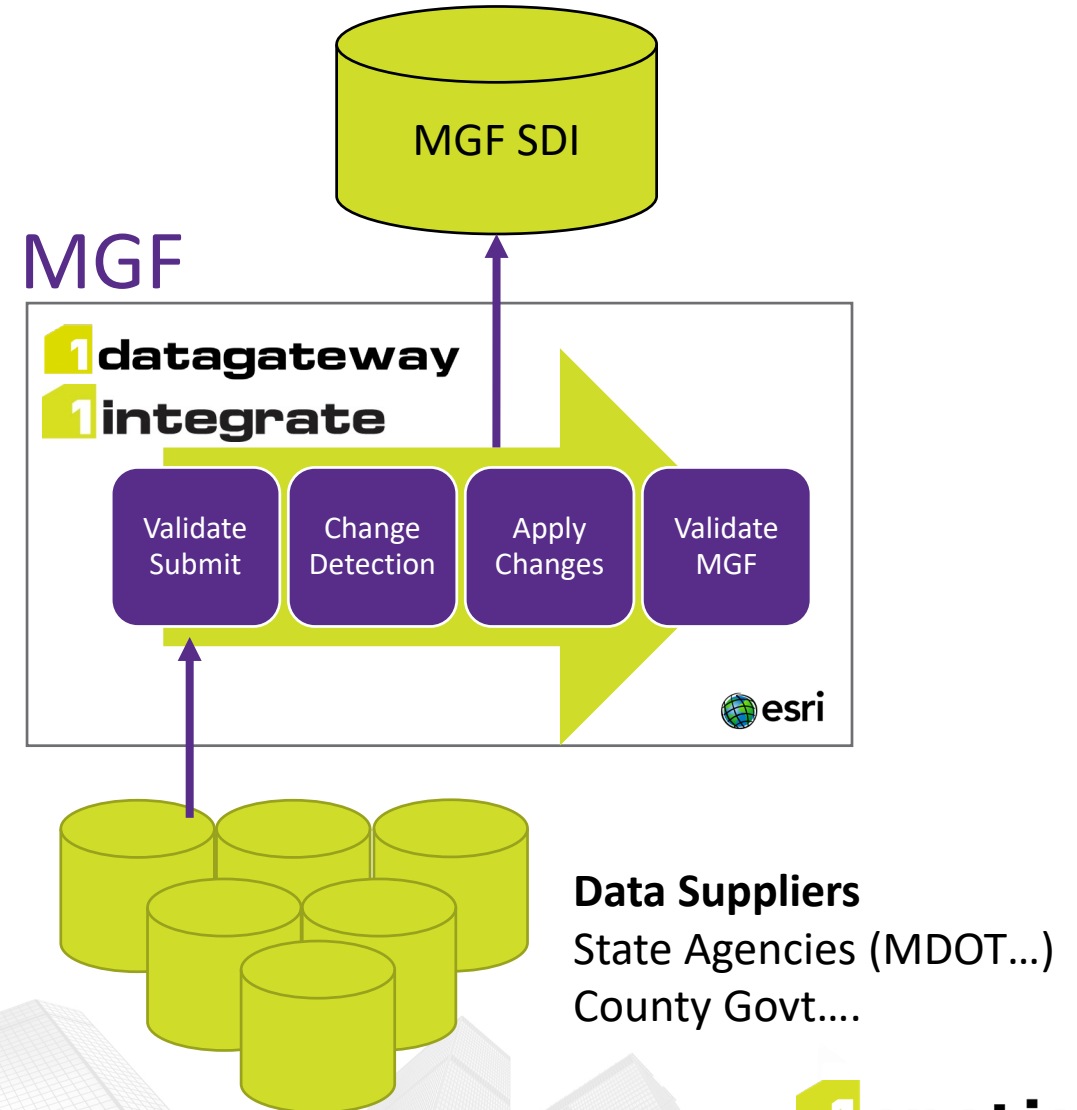
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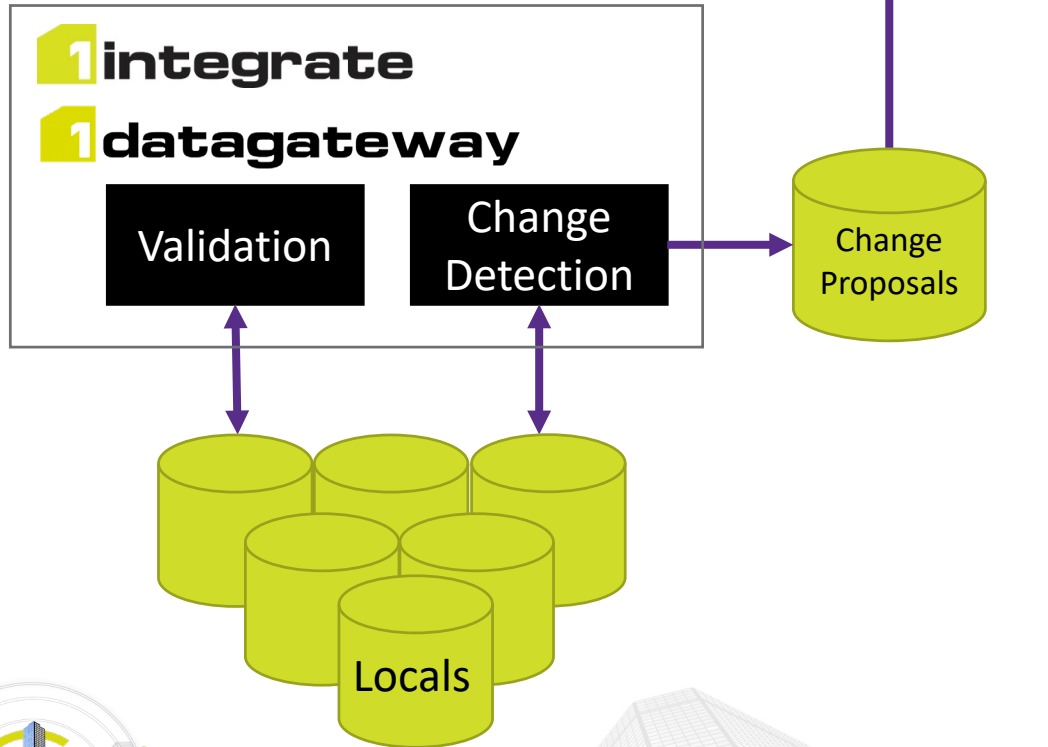# US Census work resonated with Michigan – a repeatable solution

➤ MGF was ready for a refresher

➤ The new process could provide increased efficiencies to validating and ingesting data through greater automation

➤ 1Integrate offered increased processing speeds and management of large data sets

➤ Enabled integration of the data in a more seamless manner

➤ Providing efficiencies to the currency of the data
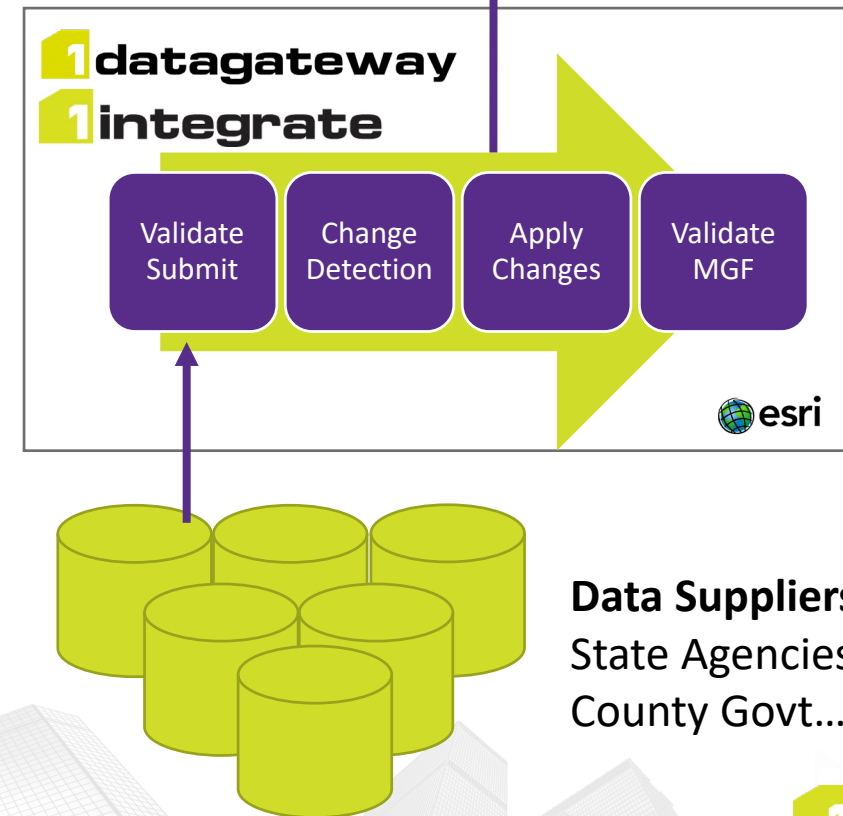
➤ Improved data for better decision making

MGF SDI

MGF

1datagateway
1integrate

| Validate Submit | Change Detection | Apply Changes | Validate MGF |

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Data Suppliers
State Agencies (MDOT…)
County Govt….

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Michigan MGF + NG9-1-1 Implementations

MGF NG911

MGF SDI

NG9-1-1

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1datagateway

Validation

Change Detection

Change Proposals

MGF

1datagateway
1integrate

Validate Submit

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Apply Changes

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Locals

Data Suppliers
State Agencies (MDOT...)
County Govt....

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Providing all the benefits of a Data Supply Chain **PLUS…**

NG9-1-1

1integrate
1datagateway

| Validation | Change Detection |

Local Emergency Data Providers

MGF NG911

Change Proposals

MGF

1datagateway
1integrate

| Validate Submit | Change Detection | Apply Changes | Validate MGF |

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MGF SDI

Data Suppliers
State Agencies
County Govt
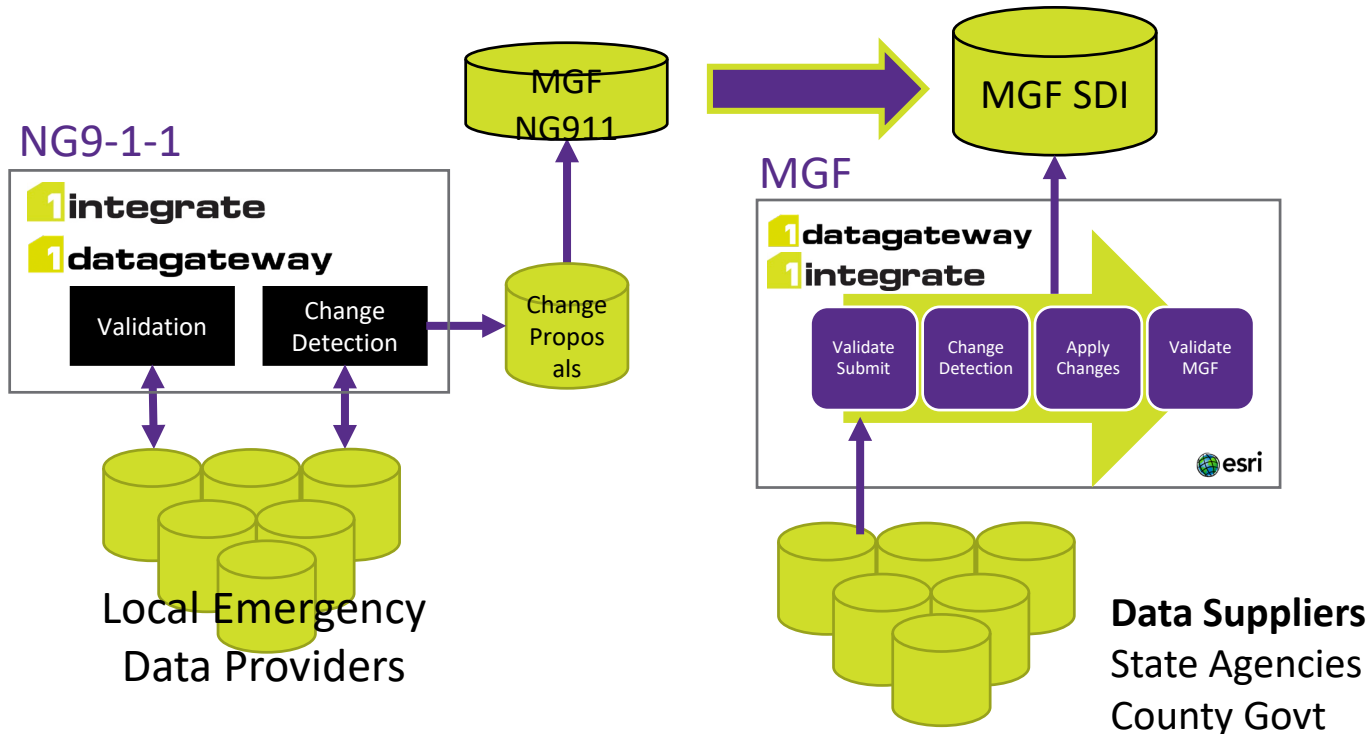
➢ Providing improved currency to the data being shared out to Government and Public entities

➢ Improving quality of the data enabling better decision making

➢ Automating more of the integration process

➢ Freeing people to focus on the actual mission of the State

➢ Reducing cost through efficiencies

Plus…

➢ Providing feed back to the 911 data providers on where their data does not meet NENA requirements

➢ Enabling them to more easily identify and correct any issues

➢ Automating the process for updating/maintaining the Statewide 911 repository

➢ Adding extra value to the MGF with additional data as allowed by the emergency data providers

More than a Data Supply Chain…a true SDI

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Next Generation 9-1-1 Implementation

Repeatable solutions to help states and counties clean Emergency Services data
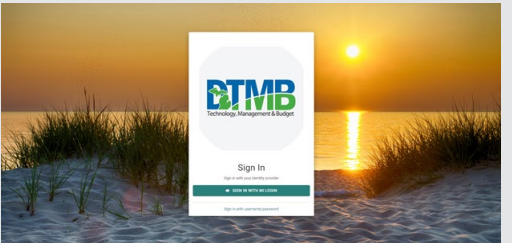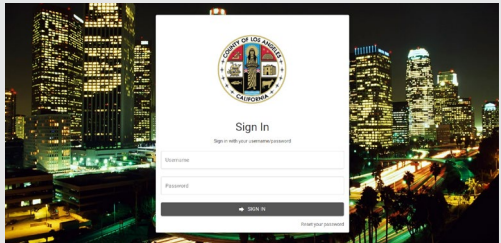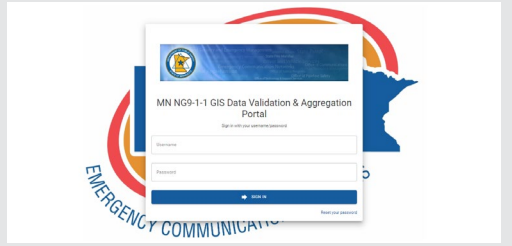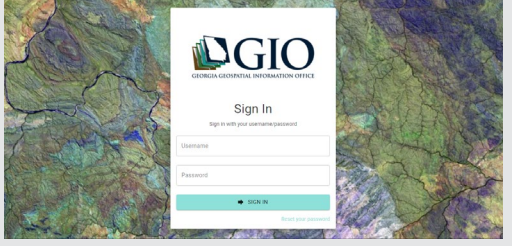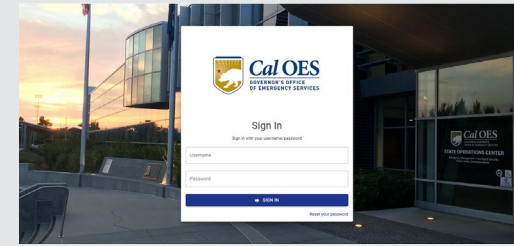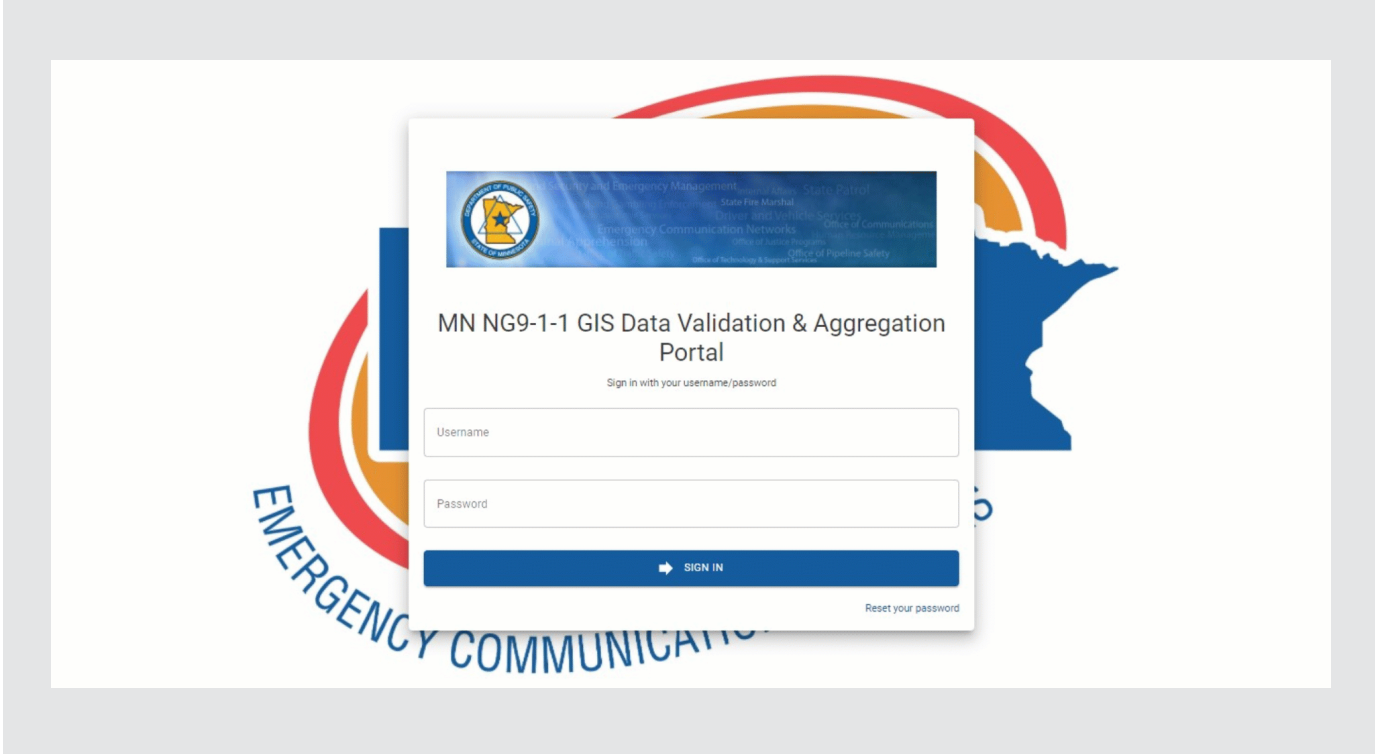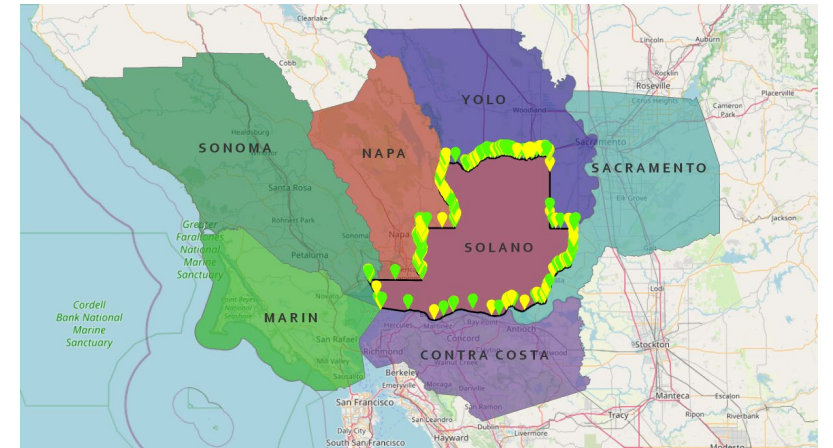
Beyond NextGen 911

Boundary Management

Parcel Data

Broadband

Elections

Hydrography (Conflation, PAI)

And beyond...

Rules Engine Approach Return on Investment (ROI)

➢ **Huge time savings thru process automation**
  - ➢ Freeing people up to focus on their business purpose rather than mucking around with the data
  - ➢ Automated cleanup or spatial report with location and description of the data anomaly for review/cleanup

➢ **Eliminates the subjectivity of manually cleaning the data**
  - ➢ Not everyone sees the "data fix" the same way which can lead to further introduction of error
  - ➢ Rules are based on actual business requirements as set out by the Subject Matter Experts (SME's)

➢ **Steel threading of data across organizations**
  - ➢ Ensuring spatial and non-spatial data systems are in sync
  - ➢ GIS and CAMA systems, Bridges and Pavement Databases, **WHAT 2 911 SYSTEMS EXAMPLES**, etc. reflect the same accurate information

➢ **Maintenance of the data moving forward utilizes those same rules to ensure the data quality continues**
  - ➢ Not a point in time fix as is done when data cleanup is outsourced
  - ➢ A solution for the full life-cycle of the data

➢ **Increase end user confidence in the data**
  - ➢ Ensuring data is fit for decision making
  - ➢ Everyday decisions and lifesaving decisions

Spatial Data Infrastructure Return on Investment (ROI)

- ➤ **Creates an authoritative, statewide set of data layers**
  - ➤ Emergencies, pollutants, roads, etc. don't stop at boundaries
  - ➤ Data funnels from the locals (who are the SME's on their locales) to the state

- ➤ **Makes the data more accessible**
  - ➤ Increasing the value of your data ssets
  - ➤ Build once, use many

- ➤ **Reduces duplication of efforts**
  - ➤ Data development efforts
  - ➤ Data sharing efforts

- ➤ **Drives collaboration**
  - ➤ Between Local entities
  - ➤ Between Local and State entities

- ➤ **Economic benefits**
  - ➤ Data available for businesses to make decisions on location (NYS example)

- ➤ **Potential to lay the groundwork for a TRUE National Spatial Data Infrastructure**
  - ➤ Data flows from locals to state to fed

THANK YOU!

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