

## Mielke, James

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**From:** Reynolds, Justin  
**Sent:** Friday, January 21, 2022 1:53 PM  
**To:** ARPA  
**Cc:** Olson, Nathan; Ehlenbeck, Bill; Reynolds, Justin  
**Subject:** Connecting Dodge County  
**Attachments:** Connecting Dodge County.pdf

Afternoon,

Thank you for all your time, effort, and consideration! Attached is a potential initiative related to ARPA and broadband: **"Connecting Dodge County Communities and Service Providers for Citizens and Businesses"**.

Connecting Dodge County communities and service-providers with accessible and affordable broadband is essential for citizens and businesses in the 21st Century, which requires all Dodge County constituents to link together for each other.

*Example name: MARSHMAN – (MAN) Municipal Area Network*

From a County perspective, the County potentially could best help facilitate accessible and affordable broadband by connecting communities and service-providers with a "middle-mile" or "county-mile" infrastructure to bridge the "gap" for communities, citizens, businesses, industrial parks, schools, and libraries to connect to service-providers. The "middle-mile" conduit and fiber could assist service-providers to expand into underserved areas, as the service-provider may leverage a "middle-mile" conduit or fiber arrangement to reduce implementation time and construction build-out costs. The "middle-mile" infrastructure could also connect communities, schools, libraries, and organizations to reduce implementation time and on-going operating expenses. For the "last-mile" and "local-mile" Dodge County broadband infrastructure, the County most likely needs service-providers and communities to bridge the "gap" for citizens, homes, farms, neighbor-hoods, businesses, industrial parks, schools, libraries, and town halls.

From a service-provider perspective, service-providers may leverage a "middle-mile" conduit or fiber arrangement to reach a new service area, new business, public organization, cellular tower, and owned infrastructure cost effectively. As, the cost for conduit and fiber build-out physical construction is eight percent (80%) of infrastructure initial costs.

From a citizen and business perspective, the County could see more service-providers and increased local competition and in a service area, as the "middle-mile" conduit and fiber could assist service-providers to expand into underserved areas. Businesses could see more service-providers and increased bandwidth within industrial parks for growing demands.

From a local government perspective, the public organizations could see a dramatic increase in available bandwidth, dramatic decrease in annual operating expense, and new opportunities for shared local government services. Local government could see additional opportunities for emergency management, public safety, law enforcement, cybersecurity, data security, continuity of operations (COOP), community development, enhance centralized dispatch visibility, school safety, weather conditions visibility, and service provider partnerships. As, conduit and fiber infrastructure has a life span of thirty-plus (30+) years with relatively low maintenance, operating, and locating expenses.

Thank you,  
Justin

Justin T. Reynolds



**TO:** Dodge County Board Supervisors

**FROM:** Bill Ehlenbeck – Dodge Co. Land Resources and Parks Director  
Nathan Olson – Dodge Co. Community Development Administrator  
Justin Reynolds – Dodge Co. Information Technology Director

**DATE:** January 21, 2022

**SUBJECT:** American Rescue Plan Act (ARPA) – Connecting Dodge County

Administration Building  
172 East Oak Street  
Juneau, WI 53039  
920-386-3200

## *Connecting **DODGE COUNTY** Communities and Service Providers for Citizens and Businesses*

### **DODGE COUNTY BROADBAND**

Dodge County is located in southcentral Wisconsin in a triangle between Green Bay, Madison, and Milwaukee. Home to the 32,000 acre Horicon Marsh and known for its lakes, streams and small towns, Dodge County, Wisconsin is an expansive rural county located within an hour's drive of Milwaukee, Madison and Fox Valley metropolitan areas. Covering 892 square miles, Dodge County has an estimated 2020 population of 90,005. A majority of commercial activities and roughly half of the population resides in the 9 cities of the County, with Beaver Dam (16,890), Mayville (5,069) and Horicon (3,768) being the largest cities wholly within Dodge County. The cities of Watertown (23,150), Waupun (10,600), Hartford (14,000) and Columbus (5,000) straddle county borders. The county seat is Juneau (2,634).

Much of Dodge County is underserved or unserved in terms of sufficient access to broadband. The County is served with a combination of cable internet, DSL, fiber, fixed wireless service and satellite based internet services. While protecting the best interest of the County and its residents, the long-term County goal is to determine the best options available that advance a viable means to bring the highest quality broadband services to a County with limited resources and large geographic area. The County acknowledges that broadband is a critical service for quality of life, as is the case with roads, water, sewer, and electricity. Every home, business, non-profit organization, government entity, and place of education should have the opportunity to connect affordably, easily, and securely. Dodge County should have broadband services that are shaped by the values of the citizens and businesses that take deep pride in our community.

Dodge County requested proposals from qualified firms to conduct a countywide Broadband Assessment Study. The Broadband Assessment Study objectives are to provide an inventory and analysis of the current conditions of broadband infrastructure and services in Dodge County, examine current and future broadband uses and needs and identify strategies available to Dodge County to improve Broadband service. The Assessment Study objectives are to provide Dodge County with the information needed to analyze, select, and implement the best solutions to improve broadband across the entire County. Dodge County is not interested in creating a utility or becoming a service provider. Additionally, large areas of the County have poor cellular coverage. The Broadband Assessment Study may identify these areas and provide options for efficiently locating cellular infrastructure, potentially in conjunction with broadband infrastructure.

During the fall of 2021, a broadband survey was conducted in Dodge County as part of a county wide study in broadband needs. The online (Web) version of the survey was publicized on social media, the County Web site, and a Postal Service mailing to all households. Residents were encouraged to complete the survey online or fill out and return the paper version by surface mail. Businesses were encouraged to complete a separate business-focused survey, and the results of that are included later in this report.

A total of 2,660 responses were collected in the residential survey—roughly 7.6% of all households in Dodge County responded to the survey. Not all responders answered every question. Note that because of rounding, not all percentages sum exactly to 100%. Many comments were received and are included in the appendices.

Some of the key findings from the results are listed below:

- 87% of respondents are interested in faster and more reliable Internet service
- 48% of residents are “dissatisfied” or “very dissatisfied” with current Internet speeds
- 93% of respondents said that they believe the County government should help facilitate better broadband
- 32% of residents have 9 or more Internet-connected devices in their home
- 57% of respondents report they have trouble using common Internet services
- 35% of indicated that availability of broadband Internet is affecting where they choose to live

*Per 2022 Dodge County Broadband Survey Results Report*

## POTENTIAL BROADBAND INFRASTRUCTURE PROJECT SUMMARY

Connecting Dodge County communities and service-providers with accessible and affordable broadband is essential for citizens and businesses in the 21<sup>st</sup> Century, which requires all Dodge County constituents to link together for each other.

*Example name: **MARSHMAN – (MAN) Municipal Area Network***

From a County perspective, the County potentially could best help facilitate accessible and affordable broadband by connecting communities and service-providers with a “middle-mile” or “county-mile” infrastructure to bridge the “gap” for communities, citizens, businesses, industrial parks, schools, and libraries to connect to service-providers. The “middle-mile” conduit and fiber could assist service-providers to expand into underserved areas, as the service-provider may leverage a “middle-mile” conduit or fiber arrangement to reduce implementation time and construction build-out costs. The “middle-mile” infrastructure could also connect communities, schools, libraries, and organizations to reduce implementation time and on-going operating expenses. For the “last-mile” and “local-mile” Dodge County broadband infrastructure, the County most likely needs service-providers and communities to bridge the “gap” for citizens, homes, farms, neighbor-hoods, businesses, industrial parks, schools, libraries, and town halls.

From a service-provider perspective, they may leverage a “middle-mile” conduit or fiber arrangement to reach a new service area, new business, public organization, cellular tower, and owned infrastructure cost effectively. As, the cost for conduit and fiber build-out physical construction is eight percent (80%) of infrastructure initial costs.

From a citizen and business perspective, they could see more service-providers and increased local competition and in a service area, as the “middle-mile” conduit and fiber could assist service-providers to expand into underserved areas. Businesses could see more service-providers and increased bandwidth within industrial parks for growing demands.

From a local government perspective, the public organization could see a dramatic increase in available bandwidth, dramatic decrease in annual operating expense, and new opportunities for shared local government services. Local government could see additional opportunities for emergency management, public safety, law enforcement, cybersecurity, data security, continuity of operations (COOP), community development, enhance centralized dispatch visibility, school safety, weather conditions visibility, and service provider partnerships. As, conduit and fiber infrastructure has a life span of thirty-plus (30+) years with relatively low maintenance, operating, and locating expenses.

# PROJECT TIMELINE

## DEFINE

Dodge County “Middle-Mile, Local-Mile, & Service-Providers” Broadband Infrastructure Projects: Initial objectives, priorities, scope, governance, & code-of-order/by-laws.

*Example name: **MARSHMAN – (MAN) Municipal Area Network***

## REQUEST FOR INTEREST (RFI)

Gather interest from Internet service providers, municipalities, school districts, & public organizations.

## REQUEST FOR PROPOSALS (RFP) to DESIGN & ENGINEER

Request for Proposals (RPP) for Design & engineer to complete the Infrastructure Specification Sheet, Project Plan, & Construction Build-Out RFP & Project Management Assistance Plan

## DESIGN & ENGINEERING Firm

Complete the Infrastructure Specifications Sheet for “shovel-RFP-ready” and “grant-ready-applications” for construction build-out projects.

## REQUEST FOR PROPOSALS (RFP) for CONSTRUCTION BUILD-OUT

Request for Proposals (RPP) for Construction companies to build-out the requested Infrastructure

## CONSTRUCTION

Construction Company installs conduit & fiber-optic infrastructure per engineered RFP spec-sheet plan.

## CONNECTING

Connecting Dodge County Broadband Infrastructure member organizations to conduit, fiber, service-providers, & networking-devices.

## SERVING

Serving Dodge County Communities and Service Providers for Citizens and Businesses with pre-defined Broadband Infrastructure service agreements. As, conduit and fiber infrastructure has a life span of thirty-plus (30+) years with relatively low maintenance, operating, and locating expenses.

## COMMUNITY DEVELOPMENT

- Job Creation
- Business Attraction & Support
- Research, Tech, & Entrepreneurship
- Telecommuting
- Savings
- Property Values

<https://muninetworks.org/content/municipal-networks-and-economic-development>

# PROJECT FUNDING

## FUNDING SOURCE(s)

ARPA, PCS (*matching grants*), Federal Infrastructure, Capital Improvement, or Sales-Tax  
<https://psc.wi.gov/Pages/Programs/BroadbandGrants.aspx>

## USE OF FUNDS

ARPA, PCS Grant, Federal Infrastructure, local capital improvement, & sales-tax funds could be considered for:

- **STEP-1:** *Design, engineering & specification sheet for construction RFP*
- **STEP-2:** *Construction build-out & project management*
- **PHASE-#:** *future construction build-out of additional infrastructure connections*  
...of a Dodge County conduit & fiber-optic "MIDDLE-MILE" "COUNTY-MILE" broadband infrastructure.

## DESIGN & ENGINEERING COSTS

- *Design, engineering, & infrastructure specification sheet = approximately ~ 6%*

## CONSTRUCTION COSTS

- *materials, fiber, splicing, etc. = ~5%*
- *extra conduit = ~5%*
- *construction = ~78%*
- *project management & construction oversight = ~6%*

## REPAIR & RELOCATING SERVICES

- *fixed rate hourly repair/emergency service agreements = TBD*
- *relocating / adding infrastructure = TBD per request*

## UNDERGROUND LOCATING COSTS

- *infrastructure locating = ~1% per year*

## LOCAL ANNUAL OPERATING EXPENSES

- *increase in available bandwidth = 100Mbps -to- 1,000Mbps -to- 10,000Mbps & MORE for 30+ yrs...*
- *potential decrease in local annual Internet Service expense = 65-90%*
- *networking devices and equipment = TBD*

## MIDDLE-MILE – COUNTY-MILE (red) ~\$6M

- *approximately 60-miles for \$6,000,000 with \$300,000 per extra 2" conduit*
- *connecting the four-corners of Dodge County with existing County Highway Shop locations*

## LOCAL-MILE (purple) ~\$4.5M

- *eleven (11) schools/towns within one to four (1-4) miles of COUNTY-MILE Highway Shop Infrastructure*
- *four (4) schools approximately ten (10) miles of COUNTY-MILE Highway Shop Infrastructure*
- *local/municipal conduit/fiber infrastructure could be consider to extend and connect other buildings*

## INTERNET SERVICE PROVIDERS (pink) ~\$2.5M and/or may vary on locations and arrangements

- *may leverage a "middle-mile" conduit or fiber arrangement to reach a new service area, new business, industrial parks, public organizations, cellular tower, or owned infrastructure cost effectively*

## DODGE COUNTY

### "MIDDLE-MILE" or "COUNTY-MILE"

#### FOUNDATION CONDUIT/FIBER INFRASTRUCTURE

1. Mayville Highway Shop -to- Juneau
2. Beaver Dam (Trenton) Highway Shop -to- Juneau
3. Reeseville Highway Shop -to- Juneau
4. Neosho Highway Shop -to- Juneau
5. Saint Helena Tower -to- Juneau
6. Lomira Highway Shop -to- Mayville
7. Dodge County Airport -to- Henry Dodge Building



AT&T CenturyLink, Inc. Charter (varies)

## DODGE COUNTY

### INTERNET SERVICE PROVIDERS

#### PHYSICAL (LAND) CONNECTIONS

- Astrea
- AT&T
- Bertram
- Bug Tussle
- CentryLink
- Charter Spectrum
- Ethoplex
- Frontier
- Netwurks
- TDS Telecom
- WiscNet

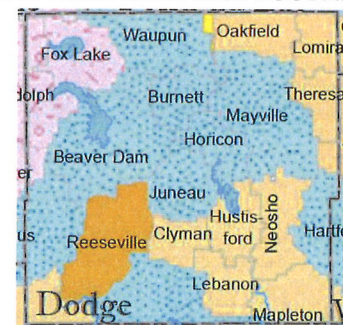
## DODGE COUNTY

### "LOCAL-MILE"

#### PUBLIC EDUCATION / COMMUNITY CONDUIT/FIBER INFRASTRUCTURE

- Beaver Dam School District - 2.5mi
- Dodge Land School District - 0.5mi
- HONOR Elementary - 1.1mi
- HONOR Intermediate School - 4.2mi
- Horicon High School - 1.4mi
- Hustisford High School - 1.0mi
- Hustisford School District - 1.0mi
- Lomira School District - 2.0mi
- Mayville Mid/High School/City 2.6mi
- Randolph High School
- Watertown High School
- Watertown School District & City
- Waupun High School
- Moraine Park Technical College (Beaver Dam) - 2.5mi
- Madison Technical College (Watertown)
- Cities, Towns, Municipalities, Libraries, School Districts, Industrial Parks

#### TELEPHONE EXCHANGE BOUNDARIES



TDS Frontier

## ARPA REQUIREMENTS & GUIDELINES

### **ARPA Eligible Use #4, Making necessary investment in water, sewer, & broadband infrastructure...that increase access over the long term"**

- "recommended that building **"gap networks,"** or broadband networks built at low cost to provide affordable service in areas where it is lacking"
- "Building or constructing new broadband networks is an infrastructure investment and is governed by a separate clause in the statute. Treasury has addressed comments on "gap networks" that require infrastructure build-out in the section Broadband Infrastructure in Infrastructure."
- "Treasury recognizes that there may be a need for improvements to broadband beyond those households and businesses with limited existing service as defined in the interim final rule. Treasury has replaced this specific requirement based on an understanding that broadband investments may be necessary for a broader set of reasons."
- "broadband infrastructure project that involve employment of mechanics or laborers must include a provision for compliance with certain provisions of the Contract Work Hours and Safety Standards Act, 40 U.S.C. 3702 and 3704, as supplemented by Department of Labor regulations (29 CFR Part 5)."
- Treasury interpreted necessary investments in infrastructure as investments **"designed to provide an adequate minimum level of service and [that] are unlikely to be made using private sources of funds."** Treasury explained that, with respect to broadband specifically, such necessary investments include projects that **"establish or improve broadband service to underserved populations to reach an adequate level to permit a household to work or attend school, and that are unlikely to be met with private sources of funds."**
- **FIRST**, Treasury encouraged recipients to prioritize investments in fiber-optic infrastructure wherever feasible and focus on projects that deliver a **physical broadband connection** by prioritizing projects that achieve lastmile connections.
- **SECOND**, Treasury encouraged recipients to integrate **affordability options** into their program design.
- **THIRD**, Treasury encouraged recipients to **prioritize support for local networks owned, operated, or affiliated with local governments, nonprofits, and cooperatives**.
- **FOURTH**, Treasury encouraged recipients to avoid investing in locations with existing agreements to build reliable **wireline service** with minimum speeds of 100 Mbps download and 20 Mbps upload by December 31, 2024, in order to avoid duplication of efforts and resources.
- **FINALLY**, following release of the interim final rule, Treasury provided further guidance clarifying some aspects of broadband infrastructure eligibility, specifically on flexibility for recipients to determine eligible areas to be served, **middle-mile** projects, **pre-project development costs**, broadband connections to **schools** or **libraries**, and the applicability of the National Environmental Policy Act (NEPA) and the Davis-Bacon Act.
- Additionally, recipients are encouraged to require that services provided by a broadband infrastructure project include at least **one low-cost option offered without data usage caps and at speeds that are sufficient for a household with multiple users to simultaneously telework and engage in remote learning**. Recipients will be required to report speed, pricing, and any data allowance information as part of mandatory reporting to Treasury.
- Treasury continues to encourage recipients to **prioritize support for broadband networks owned, operated by, or affiliated with local governments, nonprofits, and cooperatives**.
- Treasury highlights that recipients are subject to the prohibition on use of grant funds to procure or obtain certain telecommunications and video surveillance services or equipment as outlined in 2 C.F.R. 200.216 and 2 C.F.R. 200.471 and clarifies that modernization of cybersecurity for existing and new broadband networks are eligible uses of funds under sections 602(c)(1)(D) and 603(c)(1)(D).
- The final rule incorporates guidance issued by Treasury following the interim final rule on middle-mile projects, pre-project development costs, broadband connections to schools or libraries, and applicability of the National Environmental Policy Act (NEPA) and Davis-Bacon Act.

## ARPA: PUBLIC NETWORKS

- The interim final rule encouraged recipients to **prioritize support for local networks owned, operated, or affiliated with local governments, nonprofits, and cooperatives**. Public Comment: Many commenters voiced their support for Treasury's encouragement that recipients work with governmental or community entities to establish local networks, arguing that they have been shown to effectively provide broadband access to areas that would otherwise be left with unaffordable or insufficient service. These commenters suggested that, since these entities are less driven by financial returns to investment than private providers, in some circumstances they may be able to provide robust service at a lower price as compared to private providers, along with potentially **increasing local competition in a service area**.
- Other commenters argued against Treasury's encouragement, remarking that private businesses have a robust track record of serving hard-to-reach customers. These commenters argued that commercial providers have greater technical and operational expertise in deploying and operating broadband networks and may be able to construct broadband networks with greater efficiency. Additionally, some commenters argued that providing what they considered an unfair competitive advantage for government- or community-owned or operated networks may hurt consumers over time.
- Treasury Response: The final rule maintains the interim final rule's **encouragement for recipients to prioritize support for broadband networks owned, operated by, or affiliated with local governments, nonprofits, and cooperatives**, given that these networks have less pressure to generate profits and a commitment to serve entire communities. This encouragement provides flexibility for recipients to select providers that best fit their needs, while noting the critical role that networks owned, operated, or affiliated with local governments and community organizations can play in providing sufficient coverage, **affordable access**, or **increased competition** in the broadband sector
- The final rule maintains the interim final rule's **encouragement for recipients to prioritize support for broadband networks owned, operated by, or affiliated with local governments, nonprofits, and cooperatives**, given that these networks have less pressure to generate profits and a commitment to serve entire communities. This encouragement provides flexibility for recipients to select providers that best fit their needs, while noting the critical role that networks owned, operated, or affiliated with local governments and community organizations can play in providing sufficient coverage, affordable access, or increased competition in the broadband sector.

## WISCONSIN: example PUBLIC NETWORKS

### COMMUNITY AREA NETWORKS

- Appleton Area Metropolitan Fiber-Optic Network (AAMFON) - **Outagamie, Calumet, & Winnebago**
- Brown County Community Area Network (BCCAN) – **Brown County**
- Chippewa Valley Internetworking Consortium (CINC) – **Chippewa County**
- Dodge County Fiber-Optic Ring (Juneau, WI) – **Dodge County**
- Fond du Lac Area Community Area Network (FCLCAN) – **Fond du Lac**
- Green Bay Area Public School District – **Brown County**
- Marquette-Adams County Infrastructure – **Marquette & Adams County**
- Metropolitan Unified Fiber Network (MUFN) – City of Madison – **Dane County**
- Oconomowoc Area School District, Public Utility, & Street Department – **Waukesha County**
- Platteville Community Area Network (PCAN) – **Grant County**
- Reedsburg Utility Commission – **Sauk County**
- Taylor County Middle Mile Network – **Taylor County**
- Tri-County Communication Cooperative, Inc. - **Sauk, Iowa, Richland Counties**
- Watertown City, School District, & Street Department – **Dodge & Jefferson County**
- Waukesha Education & Community Area Network (WECAN) – **Waukesha County**
- Wausau Community Area Network (WCAN) – **Marathon County**
- West Wisconsin Telecome Cooperative – **Eau Claire County**
- WiscNet – **State of Wisconsin**

## Why Local Solutions?

Investment from local government and co-ops improves Internet access

### #1. State and federal government won't solve the problem.

- The federal government has offered billion of dollars to CenturyLink and AT&T, resulting in little infrastructure improvement. Despite funding, speeds still do not meet the FCC definition of broadband
- State government is too focused on Big Telecom. HB 2108 protects large, absentee Internet Service Providers and takes control from communities

### #2. Large telecom companies refuse to invest in rural areas.

- Many ISPs use outdated technology like DSL that doesn't meet current demand for service. These companies do not upgrade infrastructure because they do not have competitors
- Mobile wireless connections are insufficient for long-term use due to bandwidth caps. Fiber-optics are future-proof and affordable with a local business plan

### #3. Local leaders can best resolve local issues.

You know what is best for your community's infrastructure needs. Local leaders can improve Internet access in a multitude of ways:

- **Institutional Networks** connect businesses, schools, libraries, governments, and hospitals
- **Municipal Fiber Networks** come in many models. Open-access networks allow multiple ISPs to operate on publicly-owned infrastructure, creating competition to improve speeds and lower prices
- **Co-ops** are non-profit entities that may already provide utilities like telephone service and electricity
- **Carrier Neutral Locations** promote collaboration between ISPs by acting as a major connection point. CNLs create savings by lowering infrastructure costs

These models help communities take control of their digital destiny

Looking for more information? [MuniNetworks.org](http://MuniNetworks.org) offers

*MuniNetworks.org – Why Local Solutions?*



**TO:** Dodge County Board Supervisors  
**FROM:** Justin Reynolds – Dodge Co. Information Technology Director  
**DATE:** January 21, 2022  
**SUBJECT:** American Rescue Plan Act (ARPA) – Cyber Alarm 24/7/365 Monitoring Service

**Administration Building**  
**172 East Oak Street**  
**Juneau, WI 53039**  
**920-386-3200**

## *Cyber Alarm*

### *Safeguarding **DODGE COUNTY***

#### **DODGE COUNTY BROADBAND**

Dodge County is researching "Security Operations Center (SOC) as a Service" solutions for our external/internal cyber alarms, vulnerability management, SEIM, syslog, client monitoring agent, and cyber security agents 24/7/365.

#### **PROJECT TIMELINE**

- **DEFINE**
  - Dodge County Cyber Alarm Specifications, Features, & Service Requirements
- **REQUEST FOR PROPOSALS (RFP) to MANAGE DETECT & RESPOND PROVIDERS**
- **PROPOSAL & LEGAL REVIEW**
- **IMPLEMENTATION**
- **24/7/365 MONITORING**

#### **PROJECT FUNDING**

##### **FUNDING SOURCE(s)**

ARPA, Federal Cyber Funding, or Sales-Tax

##### **USE OF FUNDS**

- Pre-paid annual service agreement (*suggest 36-60 month agreement*)
- Approximately ~\$100,000+ per year
- Alternative to 8:00am - 5:00pm dedicated IT Security Staff

#### **SOLUTION SUMMARY**

Managed detection and response (MDR) is a cybersecurity service that combines technology and human expertise to perform threat hunting, monitoring, and response. The main benefit of MDR is that it helps rapidly identify and limit the impact of threats without the need for additional staffing. MDR services provide remotely-delivered modern security operations center capabilities focused on quickly detecting, investigating and actively mitigating incidents. Security and risk management leaders should use this research to understand the MDR market and its dynamics.

## **SOLUTION SUMMARY – continued**

### *Business Drivers for MDR Adoption – Cybersecurity 101 (MDR)*

#### **Driver #1: Staffing/Resources**

Organizations that were already struggling to keep their security teams fully staffed are facing even greater challenges as they adopt innovative security technologies to address the evolving threat landscape.

#### **Driver #2: Alert Fatigue**

Another challenge is managing massive numbers of alerts from all these new security technologies. This isn't a new problem, but it's growing by orders of magnitude as endpoints proliferate in the forms of IoT, remote workers, connected supply chain partners, and hybrid networks.

Determining how to respond to each alert requires more manpower and expertise than is typically retained in-house — and when a threat is determined to be significant, the organization needs to have the relevant skills to remediate it and return the endpoint to a secure status, and do it quickly before the intrusion can become a serious breach.

#### **EXPERT TIP**

Even if an organization has the resources and organizational will to build a security team that can handle all aspects of all threats, it should expect to spend at least months, and more likely years, to build a mature detection and response program. In the interim, the business remains vulnerable.

MDRs have emerged to fill these gaps. Organizations can quickly stand up an MDR solution that remotely accesses a network to provide 24/7 coverage and access to expertise that would be extremely difficult to find and staff independently. These experts are on call around the clock, so they can rapidly respond based on their knowledge of every aspect of endpoint security, from detection to restoring the endpoint to a known good status to preventing further compromise.

#### **What are the Benefits of MDR?**

Organizations using an MDR solution can immediately reduce their time-to-detect (and therefore, time to respond) from the typical 280 days to as little as a few minutes —thereby dramatically reducing the impact of an event.

But reducing time-to-detect from months to mere minutes is not the only benefit.

Organizations can also:

- Improve security posture and become more resilient to potential attack by optimizing security configuration and eliminating rogue systems.
- Identify and stop hidden, sophisticated threats through continuous managed threat hunting.
- Respond to threats more effectively and restore endpoints to a known good status through guided response and managed remediation.
- Redirect staff from reactive and repetitive incident response work toward more strategic projects.