WHITE PAPER

A NEW PARADIGM IN DIGITAL INVESTIGATIONS

Modernizing your agency's approach to get ahead of the digital evidence challenge

MAGNET FORENSICS®

A NEW PARADIGM IN DIGITAL INVESTIGATIONS

The growing volume of data from digital devices challenges police agencies' ability to keep their communities safe. A modern approach is needed to help complete digital investigations more quickly.

The proliferation of data has made digital investigations a vital part of policing today. Smartphones, computers, tablets, and other connected devices are packed with data that can provide valuable clues to how a crime was committed.

Digital evidence has become integral to investigations. A 2019 European Commission report states that electronic evidence is now needed in around 85% of criminal investigations.[1]

However, growing volumes of data present major challenges to agencies due to the time required to process, extract, and analyze it for key evidence, potentially causing delays in their digital investigations and threatening their ability to keep their communities safe.

A Deluge of Devices and Data

People today use more digital devices and generate more data than ever before. The average U.S. household owns 25 connected devices, including smartphones, laptops, tablets, smartwatches, etc.[2] This number is expected to grow dramatically as more consumers seek out additional conveniences enabled by other connected products like home security cameras and smart speakers.

A tremendous amount of data is generated and stored by these devices. The collective sum of the world's data is expected to grow to 175ZB by 2025, at an average annual rate of 61 percent.[3] If one were to store 175ZB onto Blu-ray discs, you'd have a stack that would reach the moon 23 times over.

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1 European Commission, Security Union: Commission receives mandate to start negotiating international rules for obtaining electronic evidence, June 2019

2 Deloitte, 2021 Connectivity and Mobile Trends Survey, March 2021

3 Network World, IDC: Expect 175 zettabytes of data worldwide by 2025, December 2018

Rise in Cyber-Enabled Crime

The growing prevalence of digital devices is driving cybercrime to hit new highs.

Often, the public sees cybercrime as threats perpetrated by hackers, like phishing and online fraud. But there are many other crimes that fall under this umbrella, including cyber-enabled crimes – more traditional crimes done in the physical world but aided by digital devices and Internet access.

In 2020, the FBI collected data for 791,790 suspected Internet crimes, an increase of more than 300,000 compared to 2019, according to a report released in March, 2021.[4] COVID-19 lockdowns contributed to this growth, as people's interactions with others increasingly occurred electronically through video calls, chatrooms, and apps.

Growing Evidentiary Backlogs are Threatening Investigations and Public Trust

Though digital evidence's role in investigating crime is more important than ever, the biggest barrier to its use is becoming the sheer volumes of devices and data collected.

Officers collect digital devices in nearly every case, with each potentially containing hundreds of gigabytes—or even terabytes—of data. The burden of processing and analyzing this data then falls to the digital forensics lab. Each device can take several hours to process, and potentially even longer to analyze for key evidence.

As forensics examiners struggle to process and analyze an overwhelming number of devices, this has led to major backlogs for agencies. Such delays stall progress in investigations as such evidence is often critical to understanding the details of a crime. More frequently, as officers send digital evidence to the lab, analysts must make difficult choices as to which data gets processed first, or if it gets processed at all. This creates new risks for police agencies as crimes with digital evidence, such as uttering of threats over social media, can escalate to serious crime, including violence, if they are not investigated.

In Virginia, a years-long backlog of digital devices has led to negative press coverage for the state's Department of Forensic Science[5]. It is safe to presume backlogs like these contribute to an erosion of public trust in these agencies.

[4] IndustryWeek, Cyber Crime Is Up – Way Up, March 2021
[5] WUSA9, Years-long backlog of digital forensic analysis stalls investigations in Virginia, November 2019

A Transformative Approach to Digital Investigations is Needed

Overcoming the challenge of data volumes won't be achieved utilizing current approaches. First, available skilled forensics talent is limited, and growth in the sector isn't expected to keep pace with the overall growth in data.[6]

> At some point there simply won't be enough available forensics examiners to handle the huge influx of data facing police agencies.

Furthermore, the current technology employed in most digital investigations today is overly manual and outdated, and agencies are already experiencing breakdowns in their processes as a result. For example, some agencies may be relying on physical media like USB drives to share evidence with remote investigators, who have all the analogue context of the case. This not only involves considerable time and cost to prepare and ship but can also introduce serious security risks to the agency if evidence is lost or stolen in transit.

It's clear that a new, modernized approach is required—one that leverages technologies like automation, remote collaboration, and analytics—to help agencies to maximize their people, hardware and processes to ensure all investigations with digital evidence can be addressed in a timely and effective fashion.

[6] The Star, Global Shortage of Cyber Security Talent, July 2021

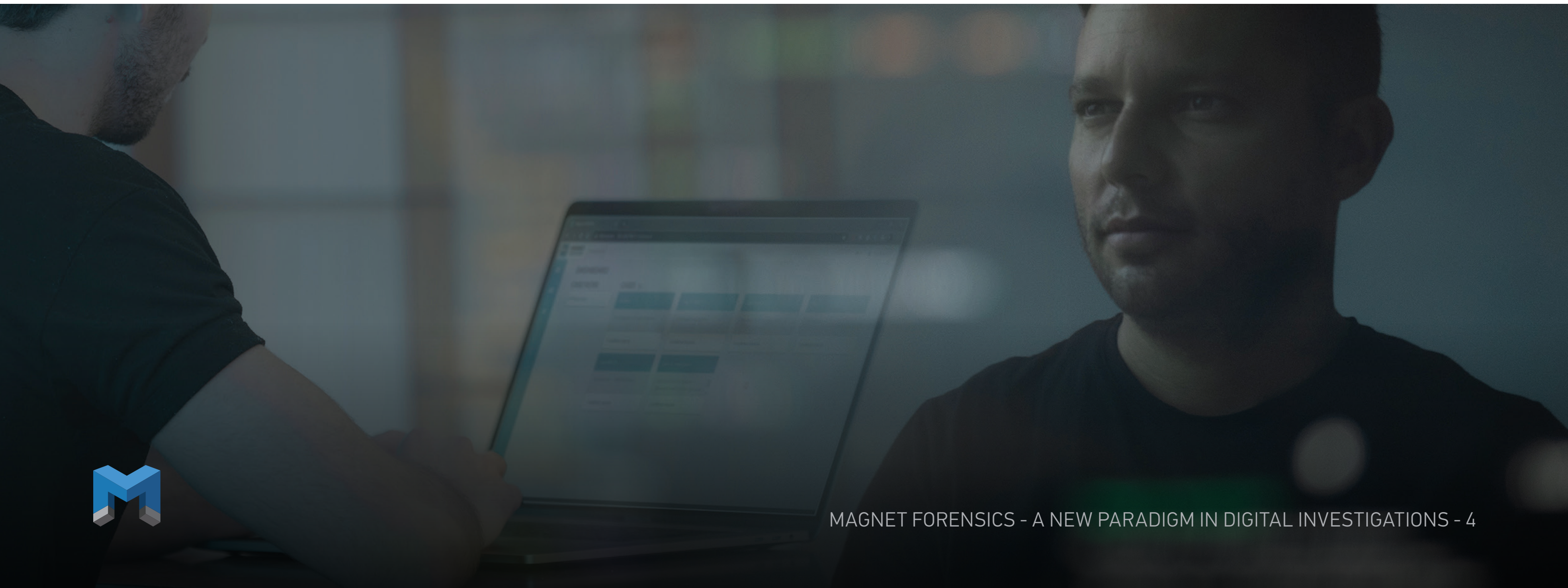
LEVERAGING AUTOMATION, COLLABORATION, AND ANALYTICS TECHNOLOGY TO SOLVE CASES FASTER

The right digital tools can help agencies make more efficient use of their existing technology investments and resources, improving delivery times and helping to get digital evidence into the hands of investigators and other stakeholders in the justice system as quickly as possible.

Supporting digital forensic examiners using automation technology can help to streamline evidence processing across their workflows to dramatically reduce time to evidence and help eliminate data backlogs, while at the same time also help to free up forensic examiner time to focus on more complex analysis.

The new paradigm for managing digital evidence must also fuel greater collaboration at all levels. There are typically many stakeholders involved at various points in a digital investigation, including digital forensics staff and investigators in the agency as well as broader stakeholders in the justice sector, such as prosecutors and defense attorneys. Enabling more effective collaboration between these stakeholders, regardless of their physical location, can help to dramatically improve case turn-around times and quality while containing costs.

Analytics tools can also be powerful means to improve digital investigation efficiency and efficacy. Evidence analytics tools like image recognition technology can help forensic examiners find key evidence much faster than through manual searches. Analytics can also provide agencies with key insights on the overall performance of their digital investigation processes to help them make smarter resourcing and procurement decisions.



Modernize Your Approach to Digital Investigations with Magnet Forensics

Magnet Forensics, a developer of award-winning digital forensics software with over 4,000 customers in over 90 countries, is playing a crucial role in modernizing digital investigations.

With firm roots in policing and government, Magnet Forensics' software has been helping agencies fight cyber-enabled crimes such as child exploitation, human trafficking, and terrorism since 2011.

The Magnet Digital Investigation Suite is designed to help police agencies modernize their digital investigations so they can confidently meet capacity demands today, and tomorrow.

The Suite includes three core solutions that enable agencies to streamline digital investigations to increase efficiency, leverage powerful analytics, and collaborate agency-wide, helping to get evidence into the hands of investigators more quickly while at the same time reducing risk:

MAGNET ATLAS™

Empower your entire agency to collaborate on, analyze, and manage all aspects of your digital investigations, while upholding the chain of custody.

MAGNET AUTOMATE™

Complete digital forensics investigations faster by scaling and automating your digital evidence processing 24/7/365.

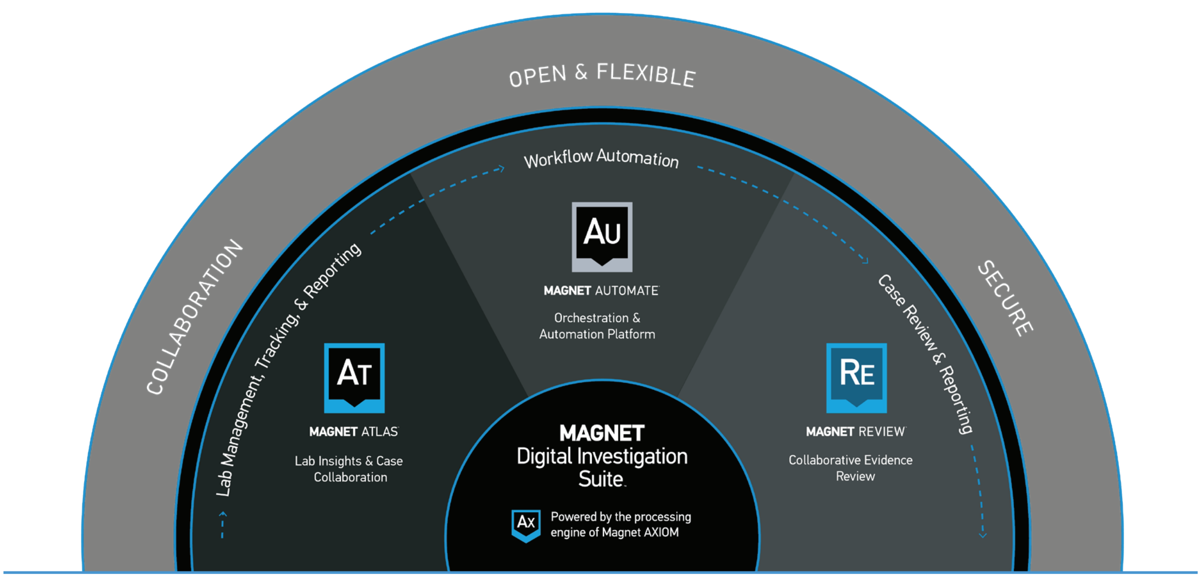
MAGNET REVIEW™

Accelerate digital evidence review agency-wide by enabling investigators and other stakeholders to collaborate easily and securely from anywhere, anytime.

While each solution pillar of the Magnet Digital Investigation Suite can deliver tangible benefits on its own, when integrated together they can help to generate increased value to police agencies and their digital investigations.

Magnet Forensics customers that have implemented one or more of the Magnet Digital Investigation Suite solutions have seen meaningful improvements in their digital investigation workflows. Examples include:

- One of the world's largest police agencies located in the UK noted that Magnet AUTOMATE has "transformed our performance on child abuse cases and reduced backlogs from months to all cases being processed within 72-hours." They are also testing Magnet REVIEW and plan to deploy it to all their investigators.
- The Indianapolis Municipal Police Department (IMPD) reports that Magnet ATLAS "delivers consistent and reliable value for IMPD, saving time in reporting and enabling the examiners and investigators to focus on what matters most — solving cases".



GETTING AHEAD OF THE DIGITAL EVIDENCE CHALLENGE

The growth of data in today's digital investigations is straining police agencies' ability to keep their communities safe. The Magnet Digital Investigation Suite helps agencies to maximize their people, processes, and technology so they can solve more cases, faster.

For more information on Magnet Forensics and the Magnet Digital Investigation Suite, please visit magnetforensics.com.

ABOUT MAGNET FORENSICS

Magnet Forensics is a developer of digital investigation software that acquires, analyzes, reports on, and manages evidence from computers, mobile devices, IoT devices and the cloud used by over 4,000 public and private sector organizations in over 90 countries and have been helping investigators fight crime, protect assets and guard national security since 2011.