EMA Radar™ Summary for Network-Based Security Analytics: Q3 2018

An Enterprise Management Associates Radar™ Report

Written by Paula Musich and David Monahan

TABLE OF CONTENTS

INTRODUCTION

Cybersecurity is a fast-paced, dynamic area. Attackers are developing new and innovative attack methods and combining them with older vectors to create nearly infinite methods of attack. Whether an attack is a single packet exploit, a multiphase user compromise, or a low-and-slow attack drawn out over many days, the defenders are responsible for identifying and stopping the attacks as soon as possible. The speed of detection and mitigation are the true issues today. How fast is as fast as possible? Over the last few years, research like the Verizon Data Breach Investigation Report demonstrated that, "as fast as possible" has not been nearly fast enough. Compromises can happen in hours, but identifying an attack may not take place for months or years.

It is this issue that focused innovators on how to identify and respond to security incidents faster. The first challenge is being able to wade through the incessant and overwhelming noise of alerts, and reduce them to a workable volume of real problems that can be clearly defined and addressed quickly.

Over the past several years, numerous startup companies were established to address the gap in analytics and visibility of real issues in the sea of alerts. Security analytics solutions were initially designed to perform one or more of three primary types of security-focused analytics: User and Entity Behavior Analytics (UEBA), Anomaly Detection, and Predictive Analytics. Since their inception, much of these analytics have merged, leaving only a thin line between combined UEBA/ Anomaly Detection and Predictive Analytics.

This report is the second of a two-part series. Part one, released earlier this year, delved into the platforms, solutions, and products supplying log-based security analytics for the express purpose of providing them with fewer actionable alerts without the side effects that can filter out alerts on actual threat activity. This second report focuses on vendors that use network information, such as net flows, deep packet inspection, and forensic packet analysis, to gather telemetry. This report evaluates vendors across five major categories supported by over 120 KPIs. EMA evaluated and scored each vendor under the same documented criteria. Each participating vendor has a profile that outlines their solution, its strengths and weaknesses, and its performance ratings compared to the other vendors evaluated. It also documents key decision-making factors important to the buying process and ultimately depicts the vendors' relationship to each other based on value vs. functionality.

The Foundations of Security Analytics

Anomaly Detection, Predictive Analytics, and UEBA use similar underlying approaches to achieve their end goals of improved visibility into activities and greater accuracy for identifying and prioritizing threats and risk. They are based on new and old algorithms that include supervised, unsupervised, and reinforced machine learning, deep learning, statistical deviation Bayesian analytics, statistical deviations, and other statistical and probability mathematics to create models of unexpected behaviors or unanticipated outcomes. When something occurs that falls outside the model, the algorithms generate an alert and pass it to the relevant operations team. If the report is deemed accurate and actionable, it is handled. If not, the feedback the operations team provides is usually used to adjust the model to be more accurate.

Though out-of-the-box accuracy is generally 80 percent or higher, model accuracy and the outputs are honed through greater data inputs over time and, in many cases, analyst inputs. Thus, the longer the system is used and properly adjusted with new data and user feedback, the more accurate it becomes at identifying expected outliers.

The Evolution of Security Analytics From SIEM

The SIEM market has existed for nearly 20 years. Despite the improvements made in gathering logs into a single repository and creating a single management and operational interface, SIEM has its difficulties. The largest of these ongoing issues has been the inability to analyze and summarize events on its own.

Alert correlation was SIEM's answer to related or chained events, and was a great advancement in alert conglomeration and response. The problem was that correlation depended on knowing what administrators and operators were looking for and creating rules to look for the related events. If they knew what to look for, they could create a strong system and gain a lot of value. It broke down under the ability to draw relationships without the predetermined rules and thresholds. There were so many alerts that people couldn't readily identify the relationships in all of the noise, so "bad" stuff slipped through. On the other extreme, when systems were over-tuned to reduce the noise, the tuning often filtered out some of the important alerts with the noise, once again allowing some "bad" stuff to be missed.

As time went on, the SIEM vendors' promises were falling short. They were not adapting to the need, so other technologists working to solve this problem created a new market called "security analytics." Numerous groups coming from the private sector and government service applied insightful and revolutionary approaches to solving the problem. Most of these solutions providers did not have the legacy baggage the SIEM vendors were carrying, so they could develop their solutions faster. These solutions have been well received and are growing quickly. They created markets like Advanced Breach Detection, which uses security analytics.

Capability Convergence is Driving the Market

EMA sees the security analytics market paralleling the antimalware market. A few years ago, the endpoint detection and response (EDR) and endpoint prevention platform (EPP) markets separated from the antivirus or antimalware markets. However, in the last year, EMA saw market pressures that caused a recombination of these tools. Vendors who once offered solutions or platforms focusing on one are now creating or acquiring and integrating the other solution capabilities into their existing offerings.

EMA expects the same recombination to happen in security analytics. Security analytics evolved out of the SIEM markets' inability to provide true analytics. The smaller, nimbler companies carved out a nice place for themselves delivering enhanced analytics to address the alert fatigue and accuracy problems. However, in 18 to 24 months, the traditional SIEM vendors responded. They have created or acquired the ability to provide better analytics to their solutions to compete with the startups. They also have the ability to process log and network information within their solutions and platforms. This adaptation requires that the smaller companies focused on either log or network analytics to adapt to having both capabilities. This will happen through merger and acquisition activities or through internal development. With this market pressure, technology consumers should see a good change in the next 12-18 months.

CRITERIA FOR SOLUTIONS EVALUATION

Feature Eligibility

Vendors participating in the research were asked to report on capabilities that were publicly available as of January 31, 2018. The primary inclusion criteria were as follows:

- ✓ Does your solution/platform/product use forms of network packet, network flow collection, and analysis of some kind as a primary mode of data ingestion?
- ✓ Does your solution/platform/product provide any means to reduce workloads on security personnel for situations like incident response and investigations?
- ✓ Does your solution/platform/product correlate multiple, seemingly anomalous events into a single security event without rules, policy, thresholds, or other guidance from an analyst/operator/ administrator?
- ✓ Does your solution/platform/product perform threat detection across hybrid IT infrastructures, including both hybrid cloud and hybrid data center environments?
- ✓ Does your solution/platform/product claim to identify previously unknown threats?
- ✓ Does your solution/platform/product provide any of the following: UEBA, Anomaly Detection, or Predictive Analytics?
- ✓ Does your solution/platform/product provide specialized types of visualizations to easily identify threats and/or risks?
- ✓ Does your solution/platform/product offer support for elastic computing to meet demand spikes?

RESEARCH METHODOLOGY

In the entirety of the evaluation, there were over 100 different KPIs that were collected from a combination of publicly-available information, a vendor questionnaire, and customer interviews. The KPIs were parsed into five primary categories: Deployment and Administration, Cost Advantage, Architecture and Integration, Functionality, and Vendor Strength. Each of these categories had multiple subcategories. The ratings for these categories are presented in the vendor profiles as a spider graph, with the total score for the vendor and the mean value across all evaluated vendors. The same is also displayed for each of the five primary categories.

Summary Rankings Descriptions

The profiles also reveal some of the secondary summary values and their ratings based on a five-level scale. In most cases, the values are converted to one of the following, ranked from highest to lowest: Outstanding, Strong, Solid, Limited, and None, listed from most desirable to least desirable. There were several categories that used other rankings. Costs for training and professional services used the rankings Very High, High, Moderate, Minimal, and Very Low, listed from least desirable to most desirable.

INVITED VENDORS AND NOTABLE ABSENCES

There are quite a few vendors that compete in the security analytics space. This Radar only covers those that focus on analysis of security events through network data acquisition. They may or may not collect and analyze information generated by other security systems to create their picture of the monitored environment.

Listed below are vendors that compete in the network-based security analytics space in some manner, but either voiced a decision not to participate or failed to respond to the request to participate. No qualifying organization that wanted to participate and could return the requested information in the project timeframe was denied the opportunity to do so.

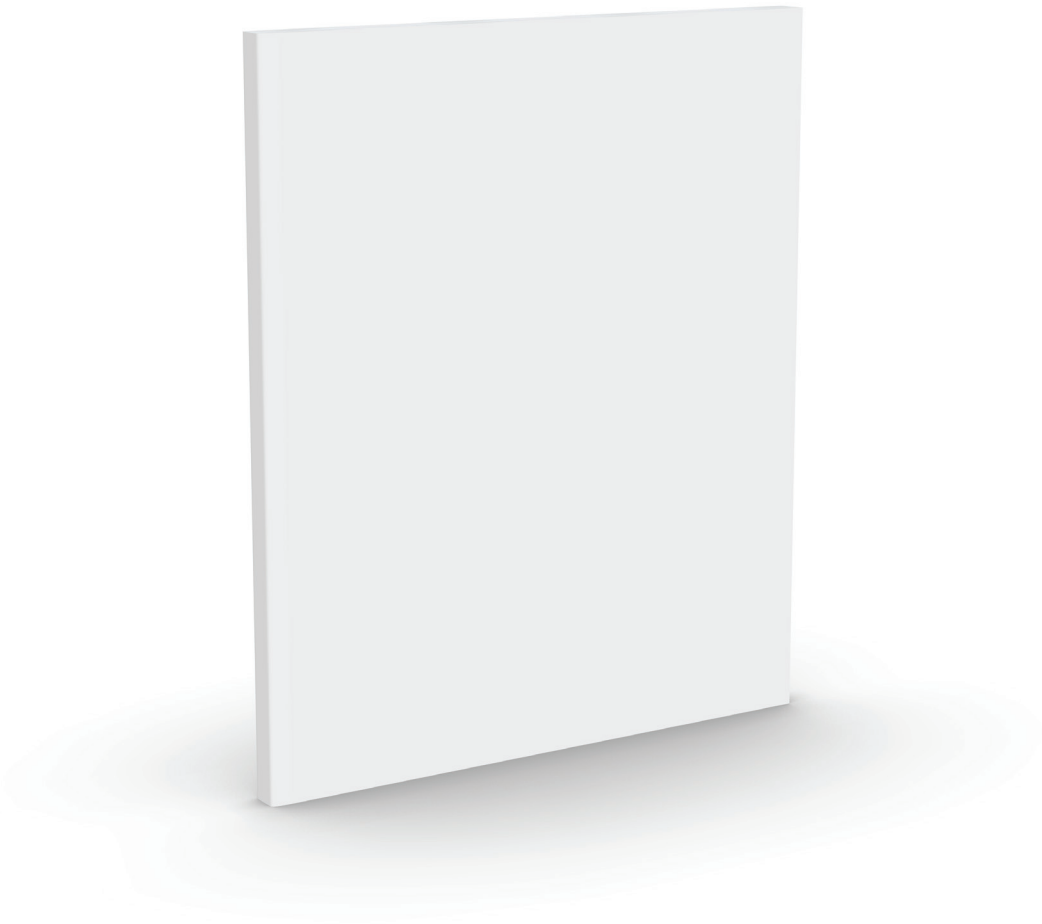
Darktrace did not respond to requests to participate.

FlowTraq was not able to meet requested timelines for data return.

Mantix4 was identified late in the process and was not able to meet requested timelines for data return.

RSA elected not to participate because they were in the middle of a new release and the acquisition of Fortscale, and were not ready to discuss their new features.

LogRythm, QRadar, and Splunk all have analytics capabilities around packets and flows through internal means through partnerships. However, their roots in the log analytics space placed them in the first part of this series, so they were not evaluated in this report.



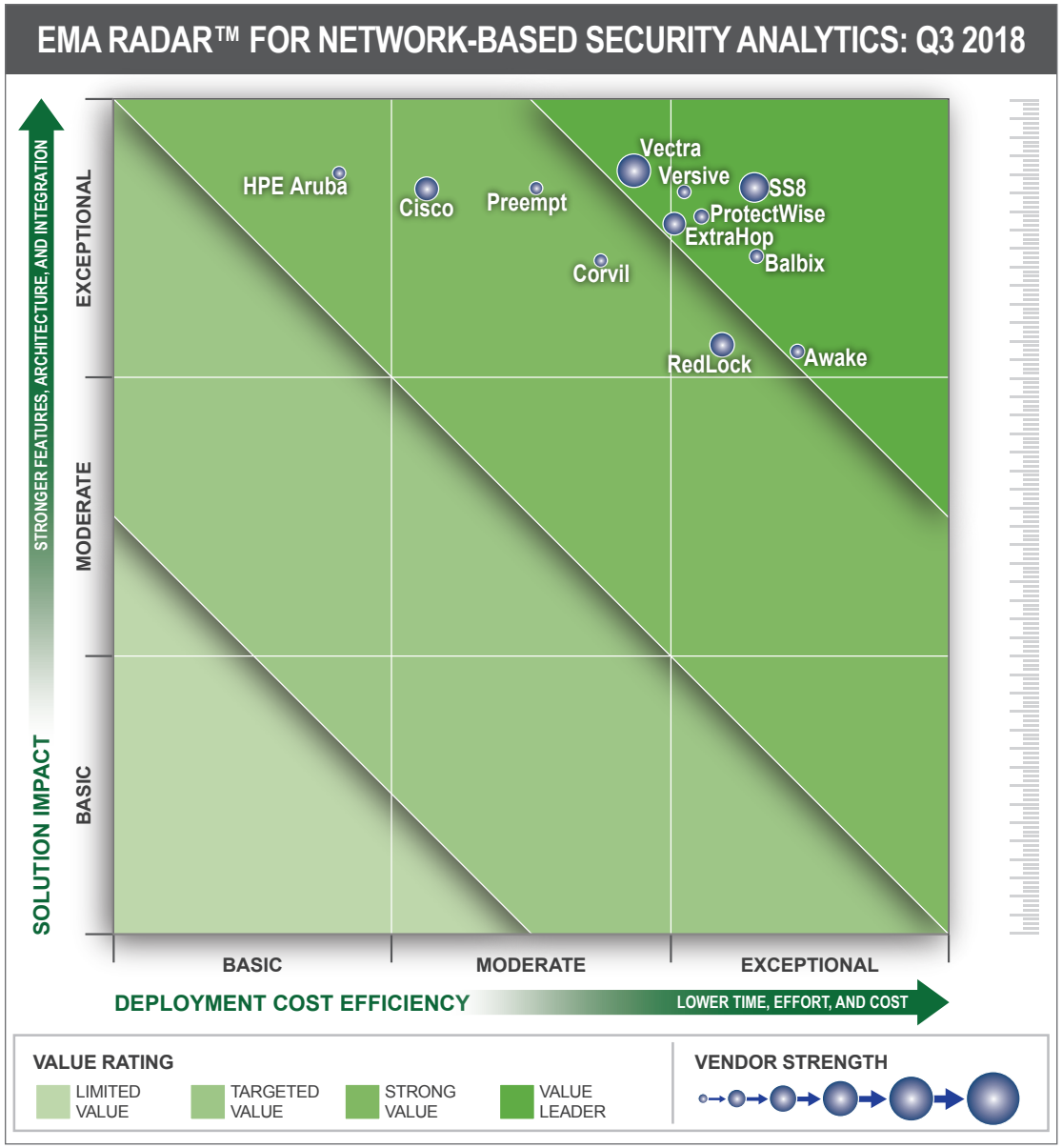


Figure 2: EMA Network-Based Security Analytics Landscape Chart

The EMA Network-Based Security Analytics Landscape Chart provides graphical representations of evaluated industry leader positioning in relation to both critical axes. The Product Strength axis combines evaluation scores for Functionality with Architecture & Integration. Cost Efficiency is calculated by adding the scores achieved for Cost Advantage and Deployment & Administration. The size of each bubble indicates scoring for Vendor Strength in the market.

In every solution, there are tradeoffs to be made. There are two primary approaches to achieving value leadership. Some vendors approach value leadership by trying to create premium solutions that have "all" of the functionality that can be imagined, thus meeting the broadest possible number of use cases in return for commanding premium pricing, thus falling higher on the Y-axis and farther left on the X-axis. The other approach uses the 80/20 rule. This approach means providing somewhere around 80 percent of the features expected to be needed and passing the lower development and maintenance costs on to the customer at a much lower cost, thus landing far to the right on the X-axis and lower on the Y-axis.

Some vendors and consumers have the perception that being in the top right corner is the optimal position. However, that is virtually impossible to attain and though optimal for the consumer, it is not optimal for the vendors. If the solution has maxed out in the features needed for its use, it moves to the top of the Y-axis. If it is also pushing the lowest prices then the consumer gets great value, but the vendor is leaving money on the table because, as a premium solution, it should be demanding a higher price. Given its premium status, the market will bear that higher price. The higher price then moves it to the left on the X-axis. This is highly desirable for the

vendor because it maximizes revenue. However, care must be taken in raising the price. If it inflates too much, the number of prospects willing to accept the increase in price drops, and the solution moves out of optimal revenue. This is represented by an even farther move left on the X-axis and a corresponding transition from a Value Leader to a Strong Value or lower.

For the buyer, having maximum functionality is highly desirable, but so is having lowest cost. This convergence rarely occurs in the real world because with cheap pricing, the company revenue is more limited, meaning R&D investment is limited. With reduced R&D there is a reduced capacity to produce features as quickly as others. The pricing choices the company makes, while possibly maximizing the right position on the X-axis, also limits the vertical positioning on the Y-axis.

Despite its lower cost, if the solution does not maintain the roughly 80 percent level of functionality compared to its competitors as they continue development, it will fall into a lower functionality bracket of the graph, dropping from Value Leader to Strong Value or lower. There is no way it can move up faster on the Y-axis than its competitors without external investment to give it a jump in R&D to increase capacity and comparative feature parity.

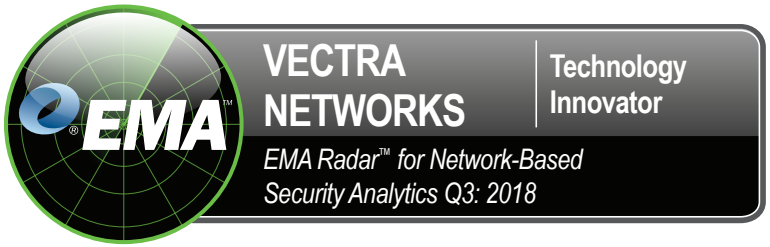
This is why new companies often not only come in at lower prices, but in many cases will provide severely reduced pricing or even free trials to companies designated as “strategic wins.”

In making the decision to buy, desire for features often conflicts with budgetary limitations. Buyers are either forced to spend more than they want to, being pushed outside of their value range, or be willing to sacrifice features and move to another solution at a lower cost. In general, maximum vendor revenue is somewhere around the dividing line between Value Leader and Strong Value at the top left of the Value Leaders triangle. On the other hand, the vendors in the bottom right corner of the Value Leaders triangle usually maximize profit because even though they have lower pricing, they have a lower development cost for the solution and can attract a sizable customer base.

SPECIAL AWARDS

The EMA Radar evaluation process involves a review of many different aspects of platform capabilities and features. During the evaluation process, several reviewed solutions were identified as being worthy of special recognition for specific areas of strength and/or unique areas of innovation. Each of the characteristics discussed in this section contributed significantly to the solutions' overall ratings. The following are the special award winners.

Vectra Networks: Technology Innovator



Vectra Networks emerged on the security analytics scene with a vengeance. Not only has its marketing captured the attention of a large portion of the market, but its technology is delivering solid results. In the analysis, it performed well and received extremely positive feedback. Customers felt that it delivered on its promises without exaggeration. Vectra's overall ability to identify threats, reduce the number of alerts needing human attention, and produce actionable alerts was significant.

VALUE LEADER: VECTRA NETWORKS

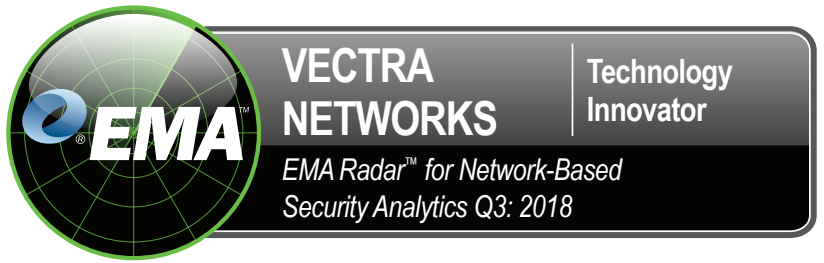
OVERVIEW

Among the privately-held security analytics vendors in this evaluation, Vectra Networks has the longest history in the market. The company launched in 2011, and it first shipped its product, then named the X-Series, in April 2014. Vectra Networks also holds the distinction of amassing the largest venture backing of all the startups at $122.5 million through multiple rounds. Over that time, the AI-driven detection and threat hunting platform was rebranded to Cognito. Industry veterans with a common background in Juniper Networks lead the company. Among its customers are Pinterest and Ticketmaster.

Cognito is made up of Cognito Detect, which automates detection of advanced threats in real time, and Cognito Recall, which applies machine learning to help human analysts with deeper threat hunting and incident response. Its combination of AI, machine learning, and behavioral traffic analysis of network data is used to gain a basic understanding of attacker behavior (even with encrypted traffic). Key to the advances Vectra made to the platform is the company's Vectra Threat Labs threat research team, which provides the company's data scientists with new insights into previously unseen threat behaviors to improve machine learning models. Cognito Detect sits on a SPAN port and performs analysis on network traffic, as well as logs gathered from security and authentication systems and SaaS applications. Cognito Recall is a cloud service that uses the network metadata, logs, and cloud events gathered from Cognito Detect to assist human analysts in deeper investigations.

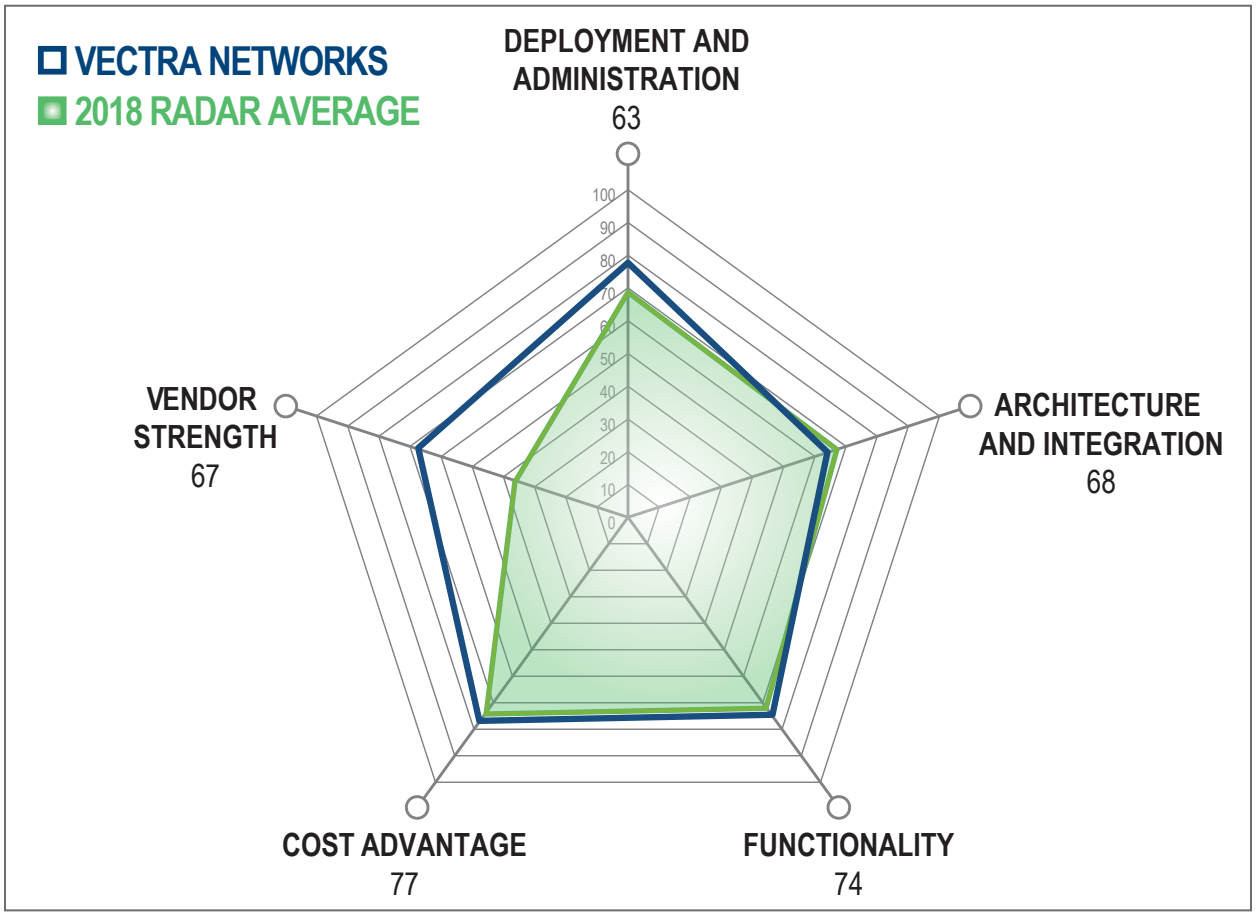
Vectra Networks is one of three vendors that really stand out in this evaluation by their ability to link current events to historical events to identify low and slow attacks. Cognito makes exceptional use of Bayesian networks to identify connections between a range of events, hosts, and detection methods to surface coordinated attacks automatically. This allows it to prioritize behaviors that represent the most serious threats. Reporting is also a strong suit for Cognito, which received one of the highest scores in this evaluation. As a dedicated, privately-held company, Vectra stands out as on par with much larger rivals due to several factors, including its extremely high growth rates, deep venture funding, healthy number of patents, and an unusual amount of market recognition for a small company.

Cognito is highly effective and has gained numerous industry accolades, but also has one of the highest costs of the platforms in this evaluation. Vectra tied with one other company for the number of analysis techniques used to identify threats. Cognito does not provide an internal case management system, but prefers to integrate with the in-use ticketing system. Cognito reporting capabilities were rated as one of the highest in the comparisons.



VALUE LEADER: VECTRA NETWORKS

RADAR CHART EVALUATION



STRENGTHS AND WEAKNESSES

VECTRA NETWORKS STRENGTHS:

- Fast search results turnaround and unlimited data store that can be search and managed
- Extensive support services, along with a relatively quick-response SLA
- Deep venture backing

VECTRA NETWORKS WEAKNESSES:

- Cognito Recall only offered as cloud-based SaaS
- Cognito Detect offered on-premises only
- Analysts cannot change the assigned priority, severity, or risk levels of an alert

RATING SUMMARIES

DEPLOYMENT & ADMINISTRATION: STRONG	
Deployment Flexibility	Strong
Ease of Administration	Strong
Need for Professional Services	High Cost

ARCHITECTURE & INTEGRATION: STRONG	
Architecture	Strong
Integration	Solid
Detection, Identification, and Analysis of Threat Types	Strong
Data Searching	Outstanding

FUNCTIONALITY: STRONG	
Workflow Management	Solid
Incorporating Historical Threat Details	Strong
Feature Differentiation	Strong
Data Capture and Processing	Solid
User Interface	Outstanding
Out-of-Box Reporting	Solid

VENDOR STRENGTH: OUTSTANDING	
Vision, Strategy, and Roadmap	Outstanding
Business Strength	Outstanding

COST ADVANTAGE: STRONG	
Pricing	Strong
Value	Strong

About Enterprise Management Associates, Inc.

Founded in 1996, Enterprise Management Associates (EMA) is a leading industry analyst firm that provides deep insight across the full spectrum of IT and data management technologies. EMA analysts leverage a unique combination of practical experience, insight into industry best practices, and in-depth knowledge of current and planned vendor solutions to help EMA's clients achieve their goals. Learn more about EMA research, analysis, and consulting services for enterprise line of business users, IT professionals, and IT vendors at www.enterprisemanagement.com or blog.enterprisemanagement.com. You can also follow EMA on Twitter, Facebook, or LinkedIn.

Corporate Headquarters:
1995 North 57th Court, Suite 120
Boulder, CO 80301
Phone: +1 303.543.9500
Fax: +1 303.543.7687
www.enterprisemanagement.com

3752-VectraNetworks-Profile.072518

EMA™ *IT & DATA MANAGEMENT RESEARCH, INDUSTRY ANALYSIS & CONSULTING*