

# Predictive Next Best Action for Marketing Demand Generation and Sales

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3/11/17



# ***Agenda***

- Current state of marketing
- Omnichannel predictive next best action marketing concept
- The plumbing
- The model and how it was made
- Results so far

## ***First up – A better name***

Omnichannel real  
time predictive  
next best action  
marketing



“Machine  
Marketing”

# ***Marketing nirvana***



Right message



Right person



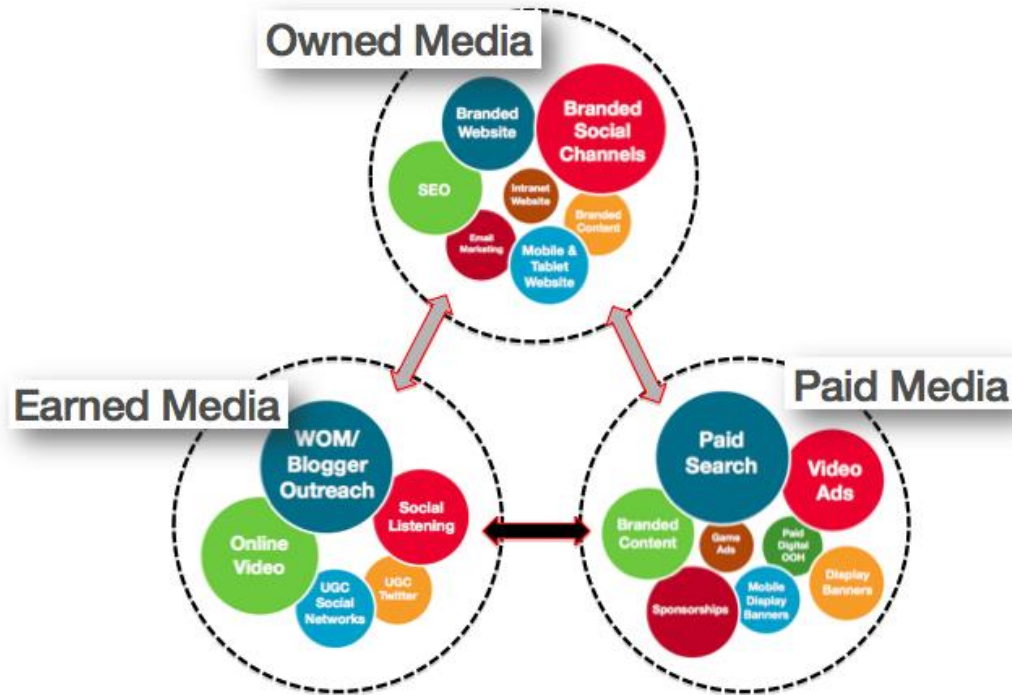
Right time



Omnichannel



# What are “channels”?



# How to reach nirvana?

## Get right message?

Email



A/B testing

Web Personalization



A/B testing

Display/Programmatic



Advanced optimization trained on conversion

## Get right timing?

Test send times, schedule, some have automatic “throttling”

Depends on the prospect

Day parting, frequency capping

## Target the right people?

Segmentation 1-2-1 and audience based


Segmentation 1-2-1 and audience based

Segmentation 1-2-1 and audience based



# Example “Buyer’s Journey”





## Traditional Marketing Automation

- Logic is static
- Content gap, content age
- Coverage is spotty
- Customer journeys are infinite

**VS.**



## Machine Marketing

- Dynamic and adaptive
- Greater coverage of micro-segments
- Predicts best content/offer
- Syncs and optimizes across channels



# ***How would Machine Marketing work?***

# First you need the messages or “offers”

DATE

START:

END:

apply

BY TYPE

White Paper (72)

Best Practice Guide (8)

Dummies Book (4)

Tech & Solution Brief (2)

BY TOPIC

Next Generation Firewall (19)

Network Security (15)

Cybersecurity (10)

Firewalls (9)

Endpoint Security (8)

+ Show More

BY INDUSTRY

Government-Federal (7)

10 things your next firewall

Remove all 10 things your next firewall

Displaying 1 to 30 of 72

White Paper

10 Things Your Next Firewall Must Do

For enterprises looking at the most important consideration is: Will this new technology empo...

July 12, 2016

☆ 1 👁 4290

White Paper

Firewall Buyer's Guide

See the ten critical business requirements that your next firewall should address and how t...

August 9, 2016

☆ 1 👁 2899

10 Things your Next Firewall Must Do

Learn More >

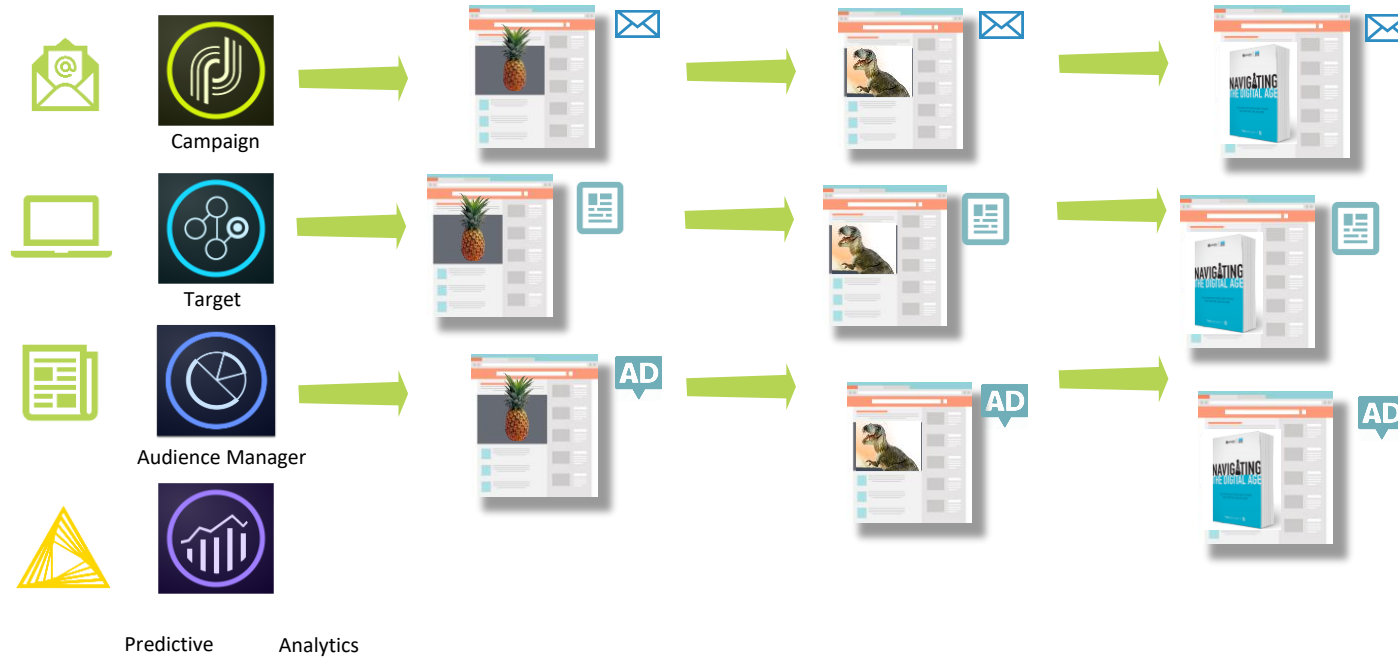
paloalto



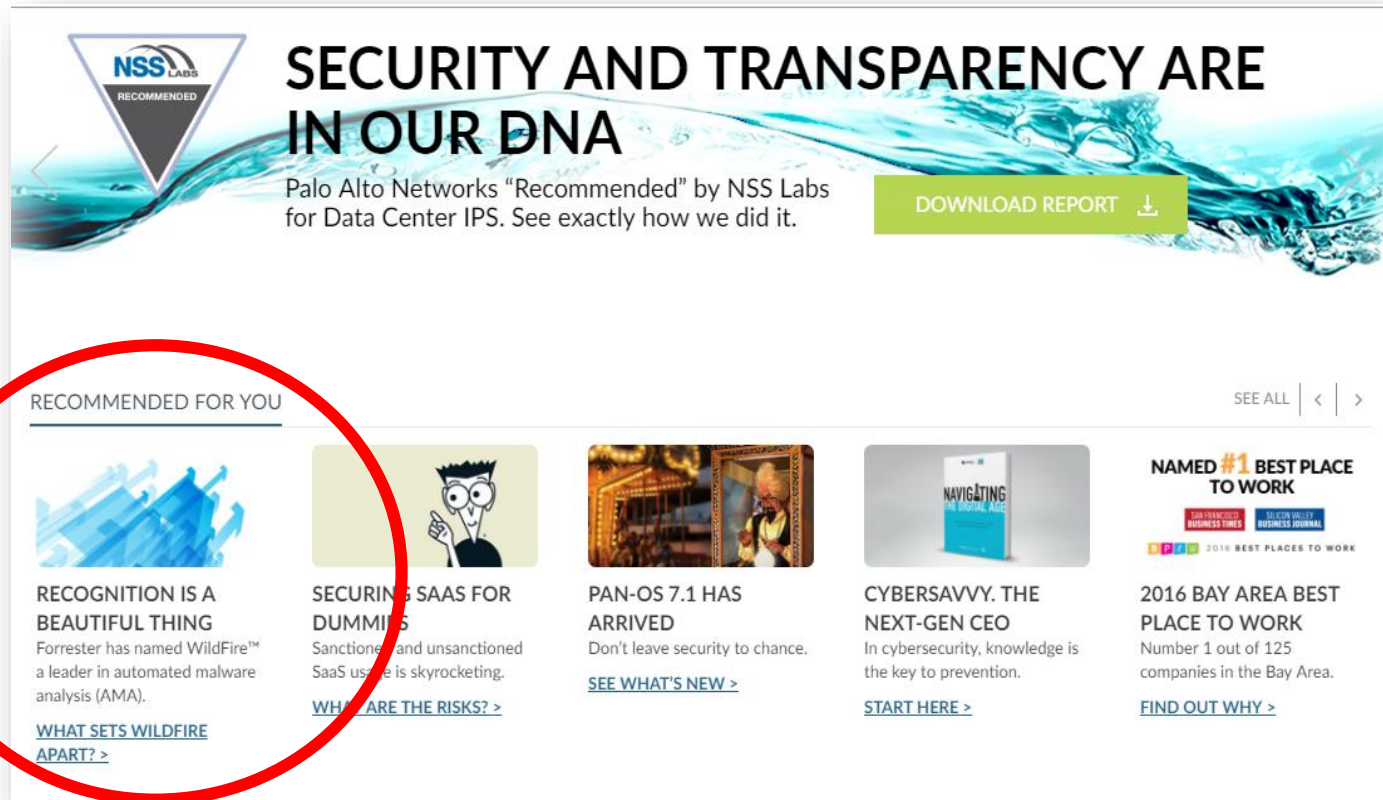
Adobe Experience  
Manager



# ***Then you need to be able to sync messages across channels***



***Then deploy that message on the web....***



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Sanctioned and unsanctioned SaaS usage is skyrocketing.  
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Don't leave security to chance.  
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**CYBERSAVVY. THE NEXT-GEN CEO**  
In cybersecurity, knowledge is the key to prevention.  
[START HERE >](#)



**NAMED #1 BEST PLACE TO WORK**  
2016 BAY AREA BEST PLACE TO WORK  
Number 1 out of 125 companies in the Bay Area.  
[FIND OUT WHY >](#)




....on the display channel....





[SC US](#)  
SC UK


NEWS CYBERCRIME NETWORK SECURITY PRODUCT REVIEWS IN DEPTH EVENTS WHITEPAPERS LOG IN • REGISTER

THE CYBERSECURITY SOURCE



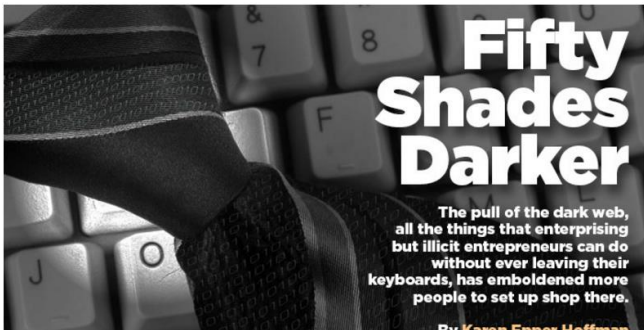


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Businesses Held Hostage:  
Are You Ready for a Ransomware Attack?



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SPOTLIGHT FEATURE



# Fifty Shades Darker

The pull of the dark web, all the things that enterprising but illicit entrepreneurs can do without ever leaving their keyboards, has emboldened more people to set up shop there.

By Karen Epper Hoffman

LATEST HEADLINES


Google Chrome desktop update mends 36 vulnerabilities

Imperva warns of automated registration bots, they're great at concealing fraud

'Avalanche' cyber-crime platform dismantled, EU security forces praised


Technology helping malicious business on the dark web grow

iCloud calendar spammers seize the day, sending bulk invites



10 Things your Next Firewall Must Do


Learn More



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# ..and via email channel

 **Recommended for You**

Thank you for reaching out!

If your request is urgent, you can always contact [Sales](#) or [Support](#).


We've also taken the initiative to recommend some resources you might like:



**Next-Generation Firewall Overview and Demo**

This video is an overview and demo of Palo Alto Networks Next-Generation firewall.


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**VM-Series Specs sheet**

Key features; performance capacities and specifications for our VM-Series.

[LEARN MORE >](#)



**PA-7000 Series Specs sheet**

Key features; performance capacities and specifications for our PA-7000 Series.

[LEARN MORE >](#)

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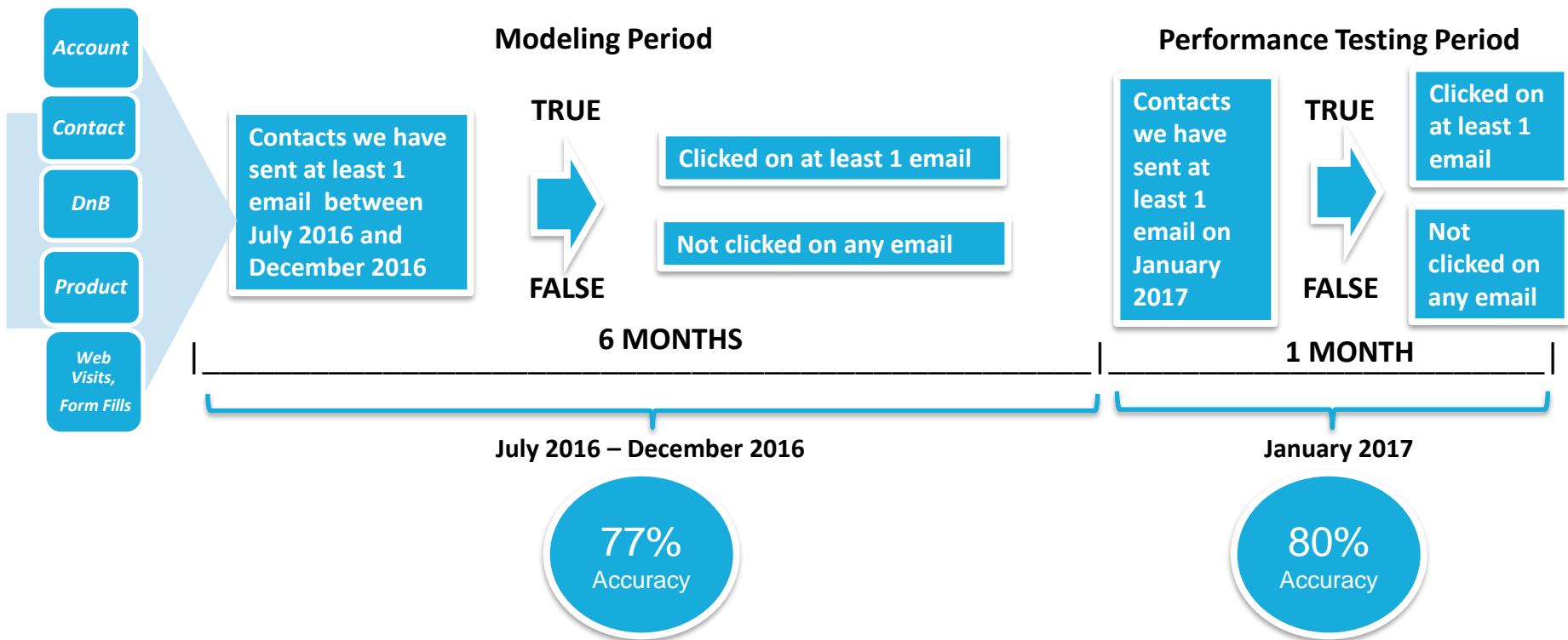


**PA-7000 Series Specs sheet**

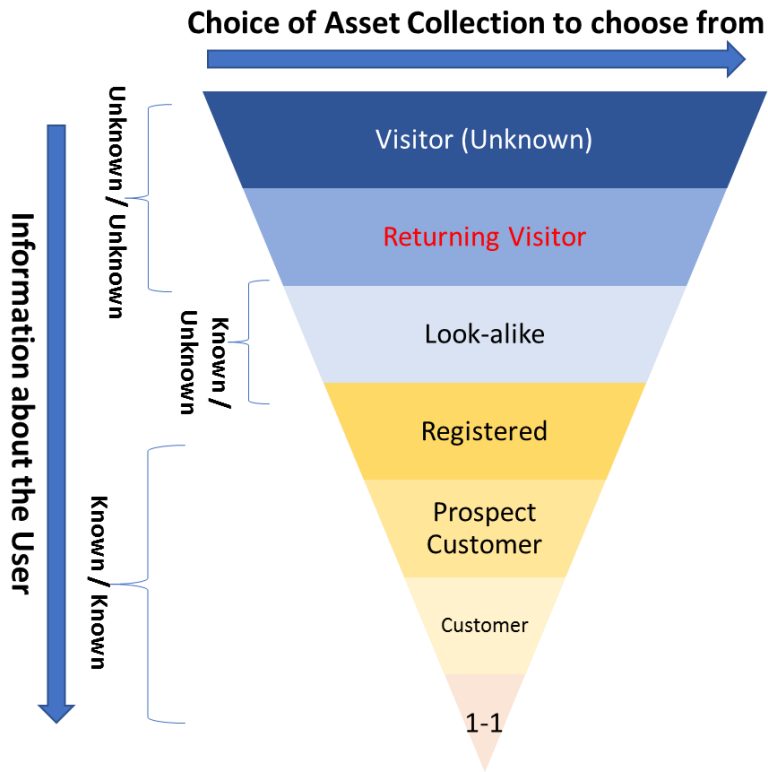
Key features; performance capacities and specifications for our PA-7000 Series.

[LEARN MORE >](#)

# Figure out the best time to send an email



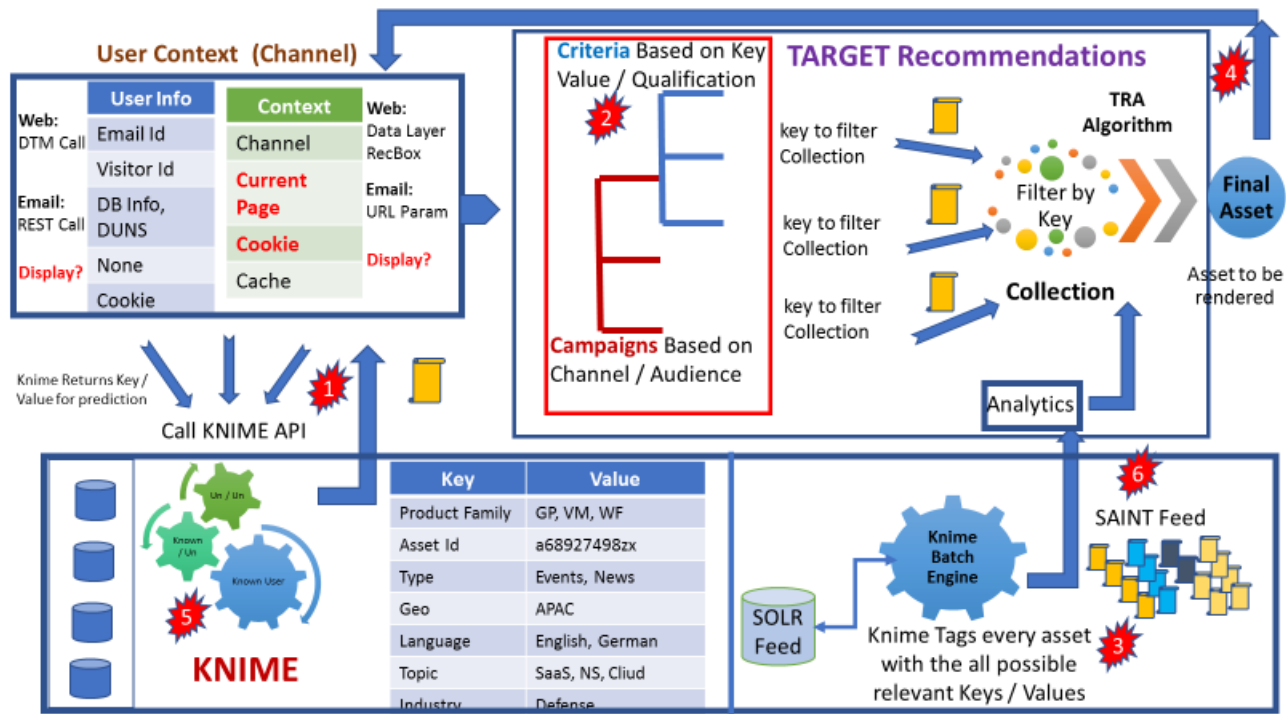
## *But wait there's more*



Identity resolution  
+  
Behavioral data  
+  
CRM data  
+  
Other data



# A bit complicated to pull off

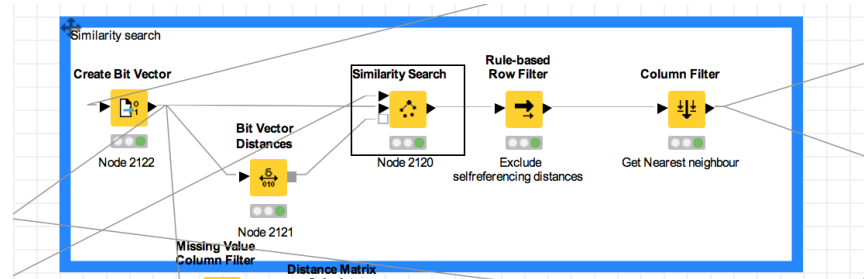


# How the model was built



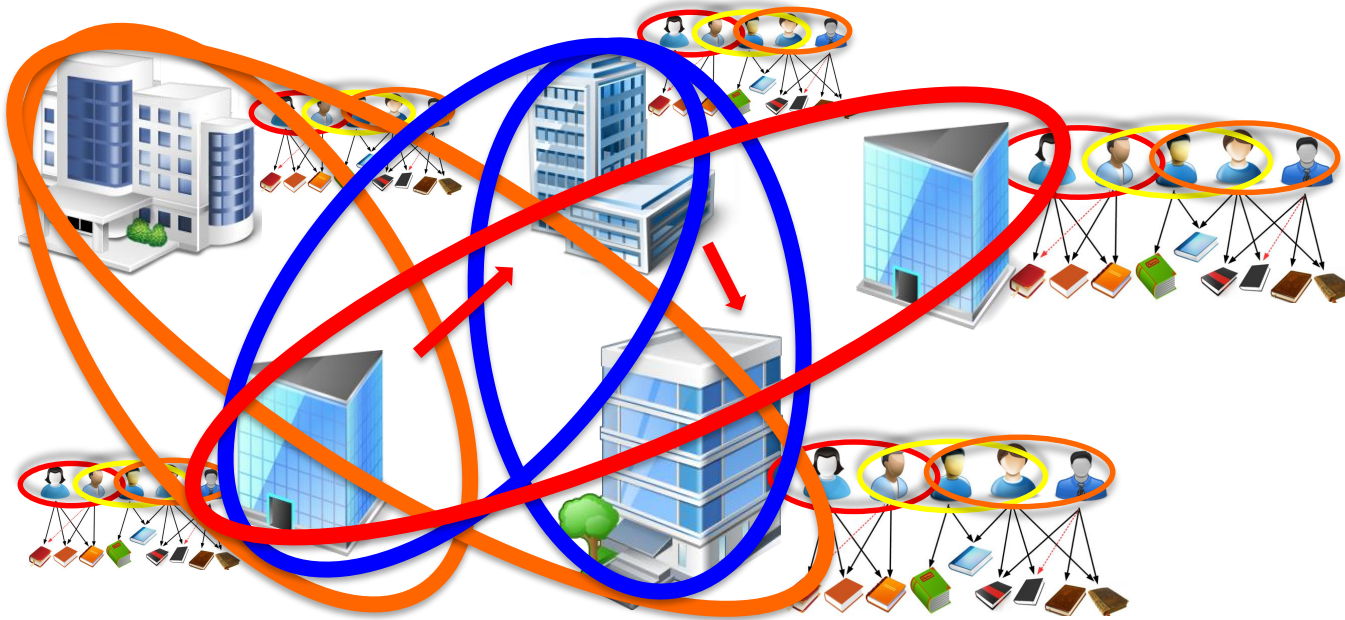
# ***Understand the audience and their preferences***

Lookalike modeling using similarity search to understand user behavior



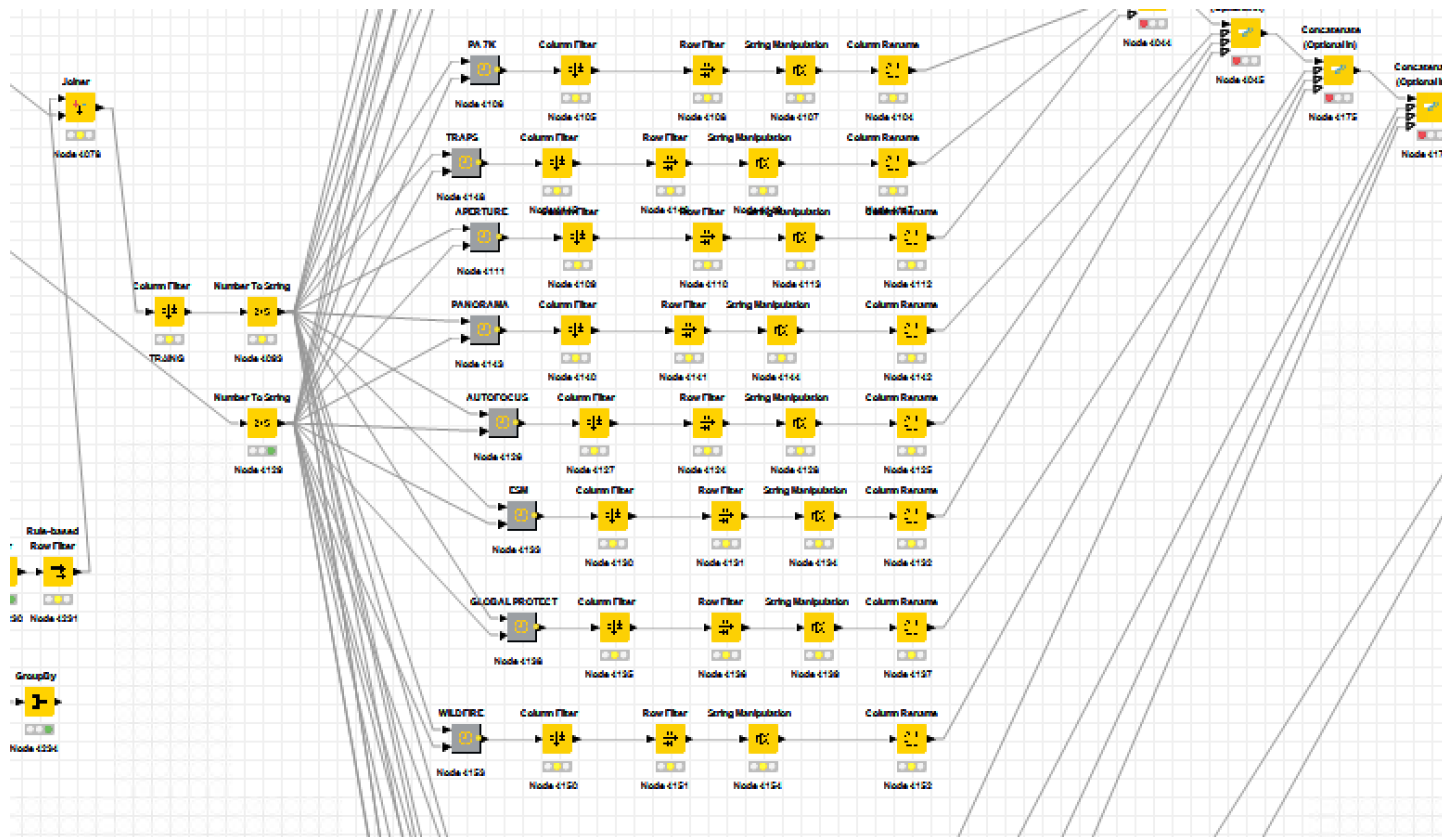
## ***B2B: Understanding account/company behavior***

Lookalike modeling using similarity search (similar to household in B2C)



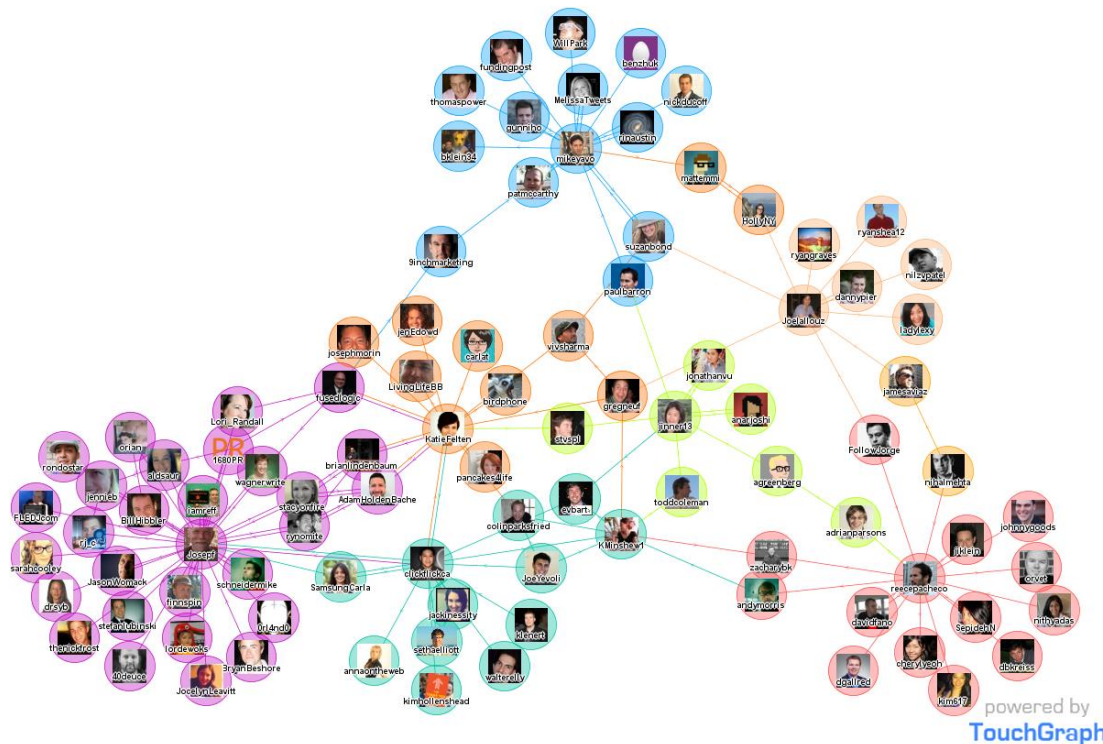


# Hybrid of boosted trees and ensemble trees



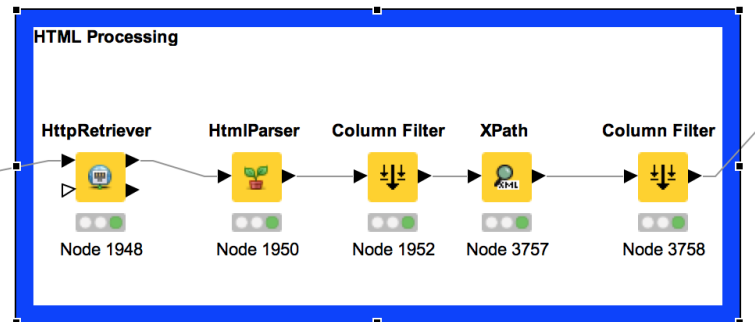
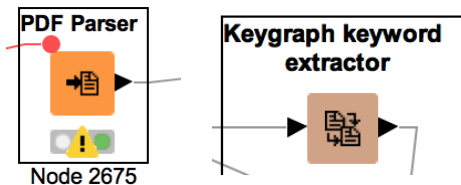
# ***These are the people in your neighborhood***

All that joined together  
forms our neighborhoods  
from where we extract  
knowledge –  
**collaborative filtering**

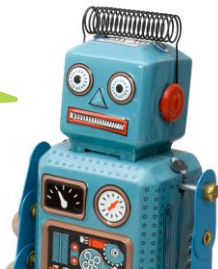


powered by  
**TouchGraph**

# Organizing the messages with keyword mining



Humans got tagging wrong 70% of the time



## FIREWALL OVERVIEW



### Palo Alto Networks Next-Generation Firewall

Fundamental shifts in application usage, user behavior, and complex, convoluted network infrastructure create a threat landscape that exposes weaknesses in traditional port-based network security. Your users want access to an increasing number of applications, operating across a wide range of device types, often with little regard for the business or security risks. Meanwhile, data center expansion, network segmentation, virtualization, and mobility initiatives are forcing you to rethink how to enable access to applications and data, while protecting your network from a new, more sophisticated class of advanced threats that evade traditional security mechanisms.

Historically, you were left with two basic choices – either block everything in the interest of network security, or enable everything in the interest of your business. These choices left little room for compromise. The Palo Alto Networks® Next-Generation Security Platform provides you with a way to safely enable the applications your users need by allowing access while preventing cybersecurity threats.

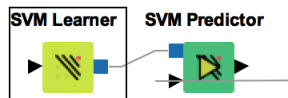
Our Next-Generation Firewall is the core of the Next-Generation Security Platform, designed from the ground up to

address the most sophisticated threats. The Next-Generation Firewall inspects all traffic - inclusive of applications, threats and content – and ties it to the user, regardless of location or device type. The application, content and user – the elements that run your business – become integral components of your enterprise security policy. The result is the ability to align security with your key business initiatives. With our Next-Generation Security Platform, you reduce response times to incidents, discover unknown threats, and streamline security network deployment.

- Safely enable applications, users, and content by classifying all traffic, determining the business use case, and assigning policies to allow and protect access to relevant applications, including software-as-a-service (SaaS) applications.
- Prevent threats by eliminating unwanted applications to reduce your threat footprint and apply targeted security policies to block known vulnerability exploits, viruses, spyware, botnets and unknown malware (APTs).



- + Keyword Clustering (KNN,SVM)
- + Term Grading
- = Keyword – Topic Mapping





# ***Language recognition***

- We want to localize our recommendations but we don't know their language
- Using blend of R script and KNIME we can recognize 32 languages

```
library("textcat");
```

```
xls<- knime.in
```

```
result.detectedLanguage<-textcat(xls$DMText)
```

```
knime.out <-data.frame(xls$"RECSentity.id",result.detectedLanguage);
```

# ***Deploy to Adobe Marketing Cloud***



Understand the audience  
and their preferences



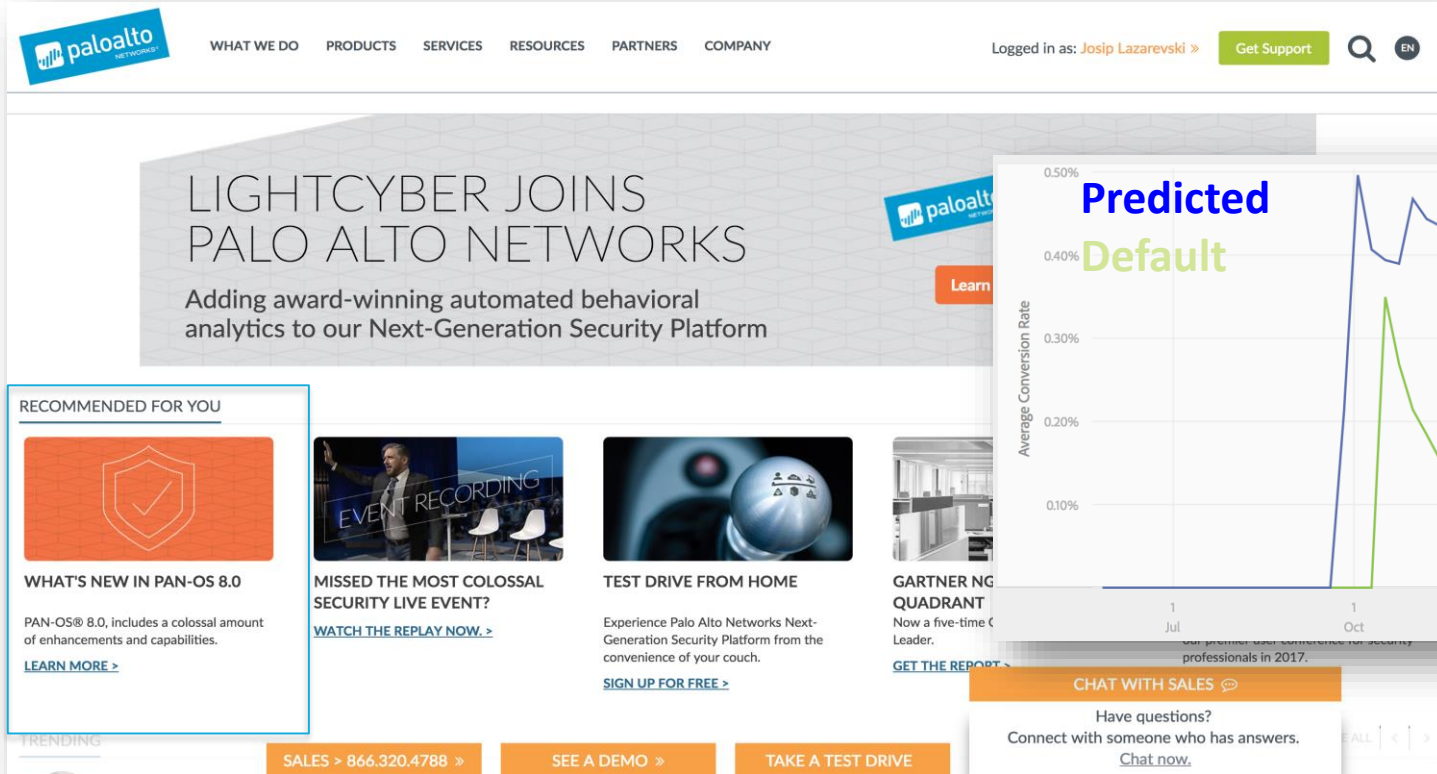
Understand the content  
of assets



# ***Results so far***



# Homepage “King of the Hill” results



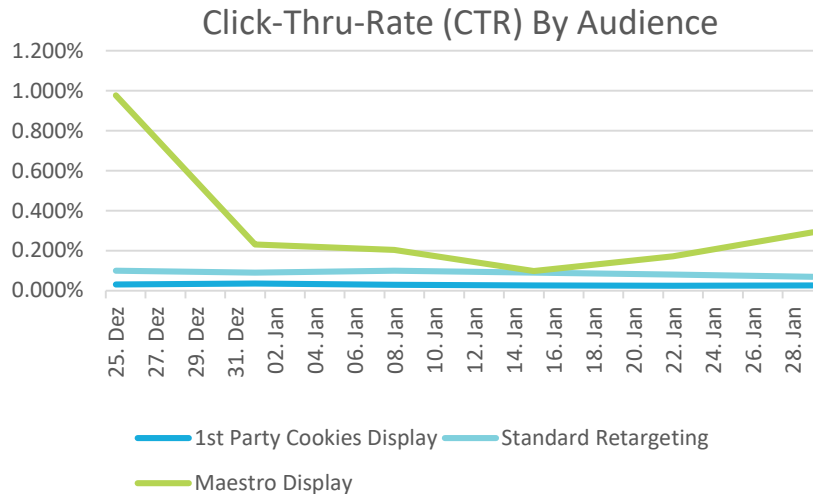
+1300%

# Programmatic in Doubleclick results

**Dynamically Populated**

The diagram shows a sample ad with the headline "10 THINGS YOUR NEXT FIREWALL MUST DO", a "Learn More" button, and a Palo Alto Networks logo. Arrows point from the text labels to the corresponding elements in the ad.

- Headline
- Button
- Exit URL



Ad  
Populates  
on 3<sup>rd</sup> Party  
Sites

The screenshot shows a news website with various articles. The ad for "10 THINGS YOUR NEXT FIREWALL MUST DO" is displayed on the right side of the page. A blue arrow points from the text "Ad Populates on 3<sup>rd</sup> Party Sites" to the ad.

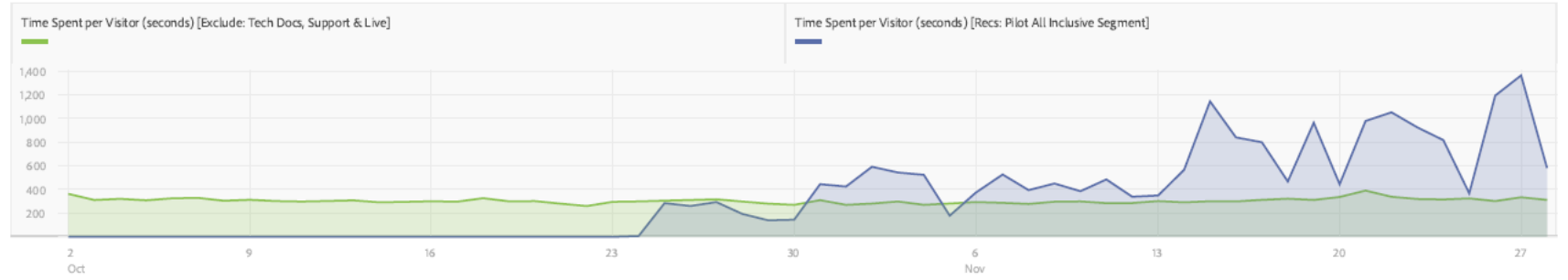
Standard Display CTR: .027%  
Retargeting CTR: .080%  
Maestro Display CTR: .351%  
**+338% Increase in Engagement**



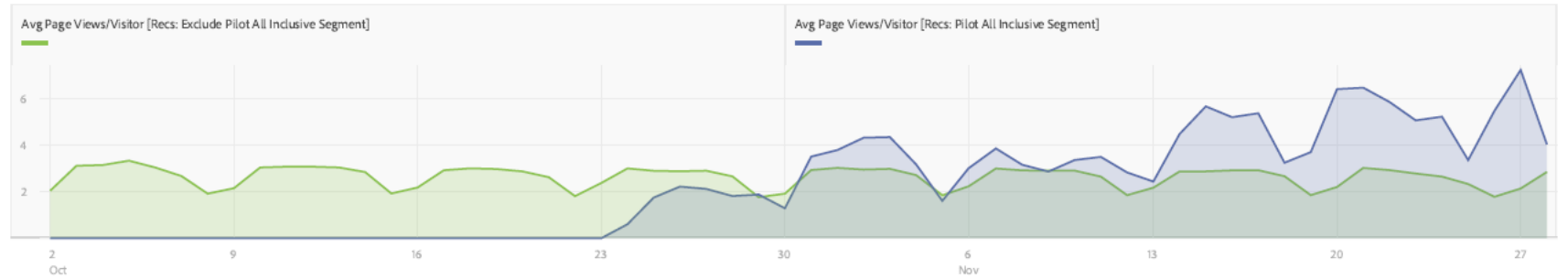
# Early signs are positive

Oct 2 2016 - Nov 28 2016

## Time Spent (Recs vs. No Recs) - Marketing Website



## Engagement - PV/Visitor (Recs vs. No Recs)



***If you are a marketing person, don't worry.....***

I'm not going  
to take your  
job



No really