



GLOBAL SECURITY
RESPONSE TEAM

Powering Prevention

Lessons Learned from Building a Global Security Response Team

Christopher Clark – Director, GSRT



Many Brilliant People, Many Small Silos

Rapid organic growth in products and customers

Effort duplication, inconsistencies, and internal focus



Connect the dots and deliver holistic prevention

Proactively detect and respond to threat evolutions

Develop countermeasures, reporting, and technical solutions

Pushing the limit.



Faster, Better, and Globally Impactful

Define Mission, Build Processes, Hire Team and Internalize Response in <12 months

250m+ Attacks, 31k+ Customers, 10k+ Engagements, 600+ Threats Identified



Agenda

Building a Global Security Response Team

**Stakeholder
Empowerment**



**Mission over
Metrics**



Strategic Hiring



**Communication &
Collaboration**



Research &
Response



Automation,
Automation,
Automation!

Questions?



FINISH



Stakeholder Empowerment



Education is the MOST important job

Skip the details, tell the story

Be a trusted resource and teach up, down, left and right

No.



Know the “NO” Monster

Leverage expertise to prioritize security resource expenditure

Identify fires before they start and protect the team



Strategic Hiring



Strategic Talent Capture

Start at the core and identify key functional areas

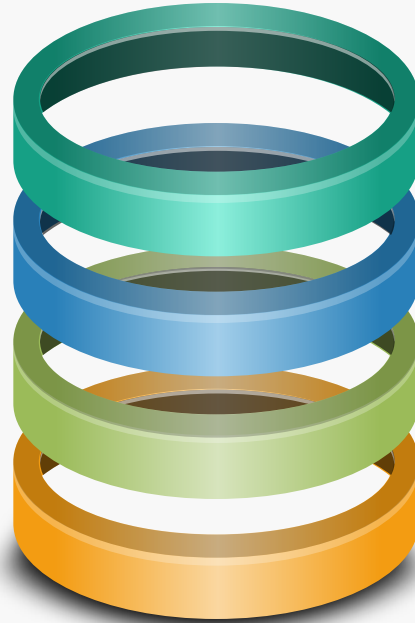
Acquire and empower proven leaders

Functional Teams with Matrixed Deliverables

Threat Analysis Unit
First line of triage, Conducting
Analysis of Adversaries,
Campaigns, and TTPs



**Malware and
Countermeasures Unit**
Provide Actionable Malcode
Analysis and Deployable
Countermeasures

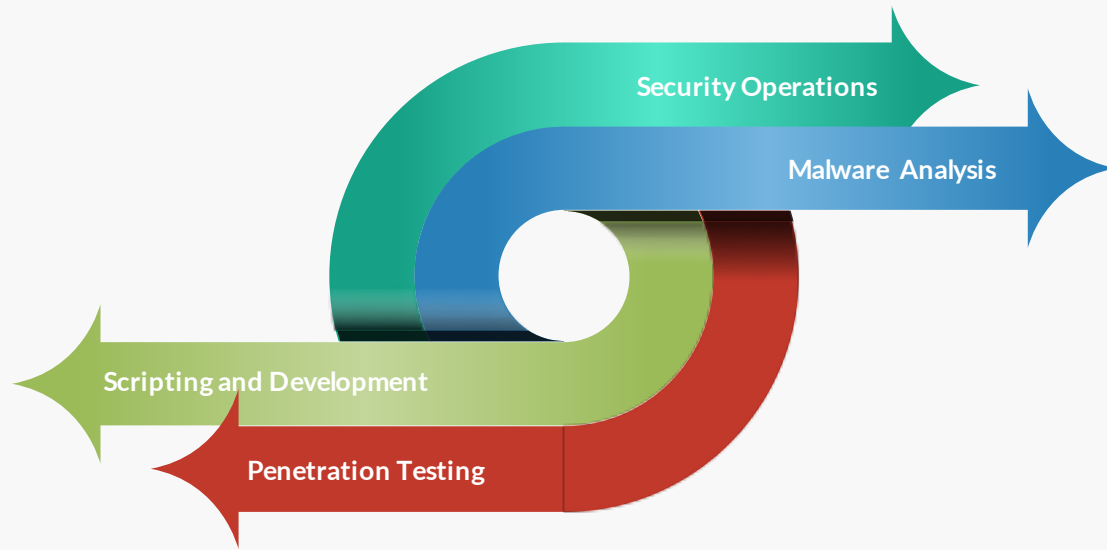


**Vulnerability and Exploit
Unit**
Provide Actionable Vulnerability
and Exploit Intelligence.
Coverage for delivery Methods
and Hack / Post Exploitation
tools.



Tools and Technology
Develop and Enhance Collection,
Analysis, and Detection
Capabilities, as well as DevOps
support for existing tools.





Identify and Ensure Critical Skillsets

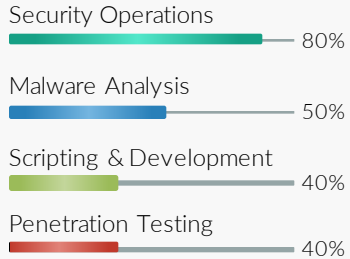
Improved communication and operational efficacy

Eliminate single points of failure

Career progression and cross training

Team Member Critical Skillset Continuum

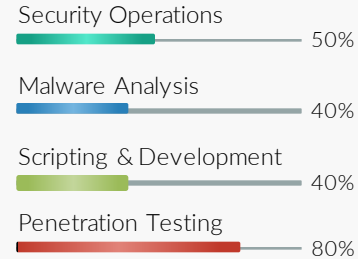
Threat Researcher



Malware Researcher



Vulnerability and Exploit Researcher



Automation Engineer





Regional Threat Expertise

Cultural and Linguistic Knowledge

Improved Response Speed and Quality



Mission over Metrics



Metrics are an indicator, not the goal

Progress is achieved through failure

Culture is the key



PASSION: believe in the mission and what you can do



CAPACITY: learn. share. ask for help



INNOVATION: rules are a finite construct



AGILITY: change is constant, be multi-disciplinary



HUMILITY: ego-less execution

- Bryson Bort, CEO GRIMM



Communication & Collaboration



Great Communication is *required* for Great Security

“Remote by default” ensures expansion, flexibility, and data retention

Trust is formed in person and grows through transparency



Remove (or Connect) Data and Operational Silos

Normalize processes and remove effort duplication

Transparent and accessible data and deliverables



Vertical and Horizontal Status Reports

Deliver regular status reports on both research and response goals

Ensure broad delivery to all team members and stakeholders



Research & Response



Encourage Research and Response from All

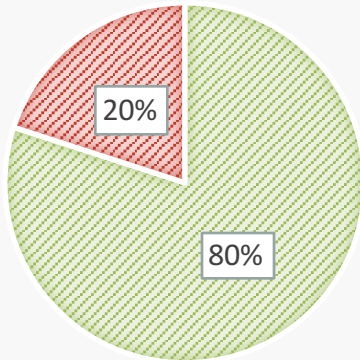
Diversity of experience drives new approaches

Innovation is born from operations

Research and Response Mix

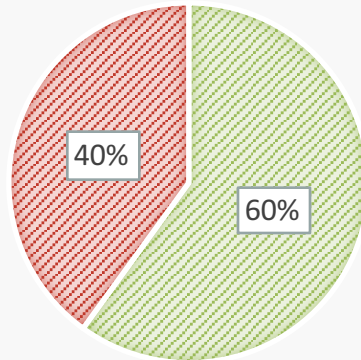
Junior Researcher

■ Response ■ Research



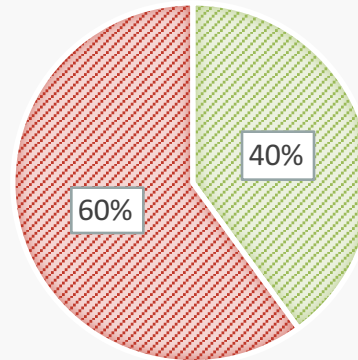
Researcher

■ Response ■ Research



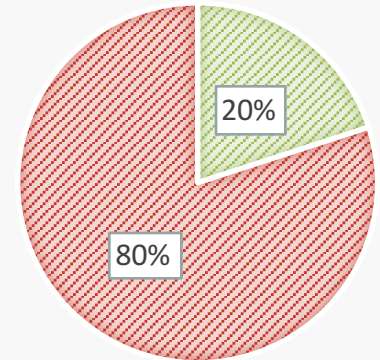
Senior Researcher

■ Response ■ Research



Principal Researcher

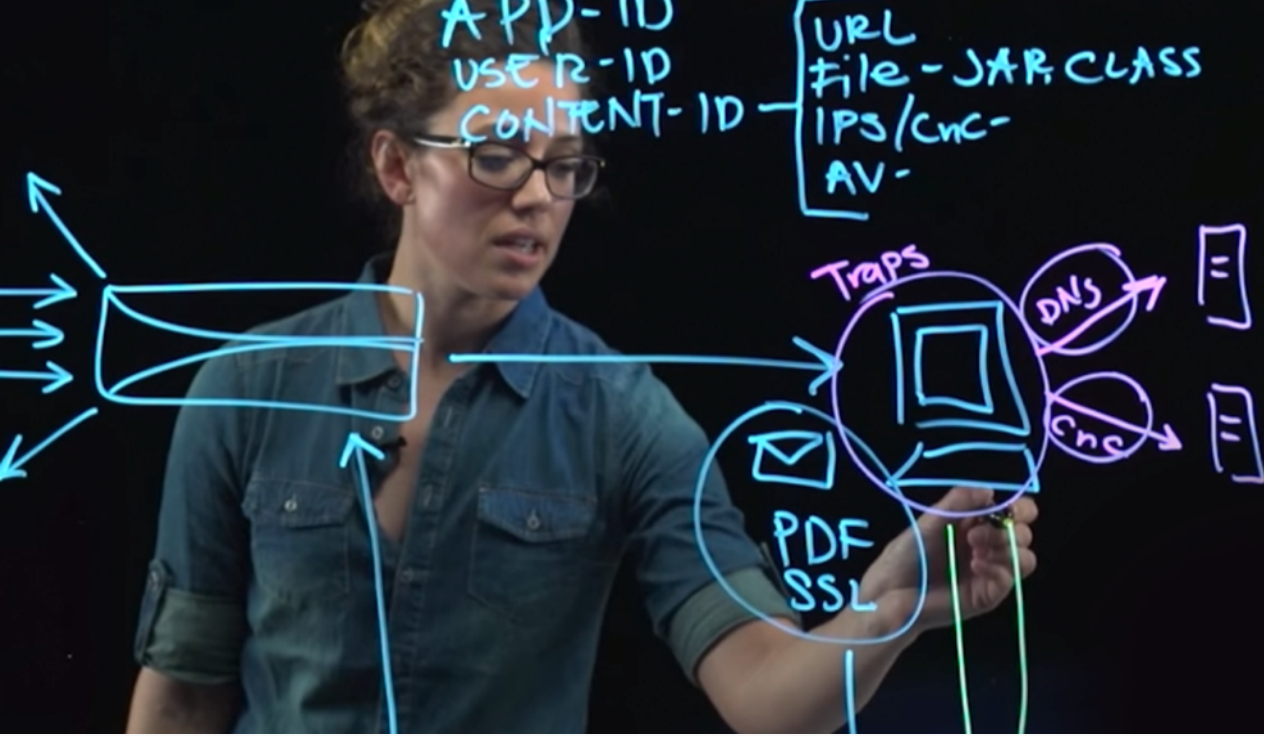
■ Response ■ Research





Response must be efficient, Research must be impactful

Publications (Reports or Code), Presentations, or Products



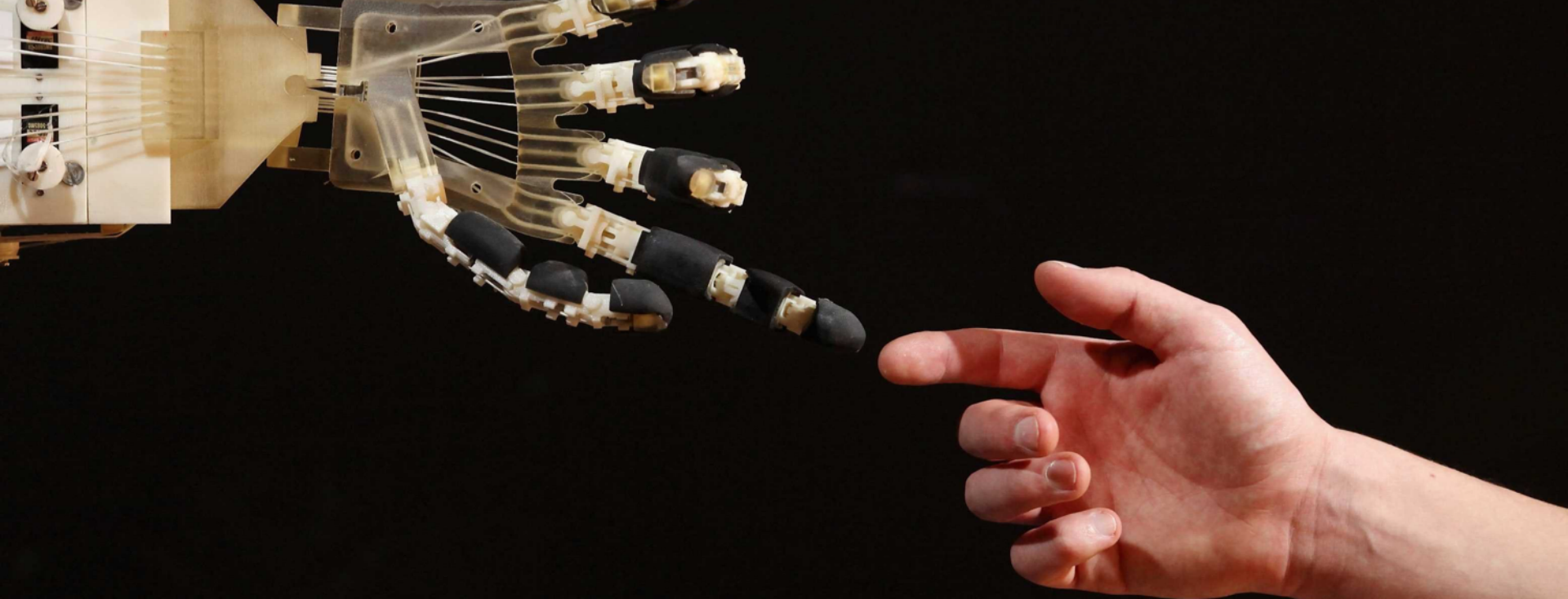
Security Innovation is Distilled Threat Intelligence

Prevention is driven by heuristics refined through research

Targeted research is made possible by intelligent response



Automation, Automation, Automation!



Automation is critical to efficacy and scale

POC by researchers, maturation and upkeep by automation engineers

“Do it three times? Automate it!”

The screenshot displays the Palo Alto Networks AutoFocus Data interface. At the top, the search query is "AutoFocus Data". Below this, the "Basic Analysis Data" section shows file metadata: md5: 95228fdecdd180619d795b5f8f061f5b1, sha1: 9dbe0cc21b8e885dc1dee2c1994d85360f44c098, sha256: 384225e643f6abfc52869be204aee6ff46abb05458e94ea0a3218513318bfd41, Verdict: **malware**, File Type: Adobe Flash File, Created: 2016-06-09 01:39:32, Analyzed: 2016-06-09 01:46:21.

The "Tag Metrics | Changes in tagged samples" section includes a table and a line chart. The table shows the count of samples for different file types and verdicts:

File Type	Benign	Grayware	Malware
PE	1	3	76
Microsoft Word 97 - 2003 Document	13	0	55319
Microsoft Word Document	1026	0	3878
Microsoft Excel 97 - 2003 Document	2	0	1165
Unknown	0	0	22

The chart shows the "Sample Count Malware" over time, with a significant spike in late 2016. The legend indicates: Malware 45,979, Benign 1,002, and Grayware 3.

The "Overwatch" table lists file samples with columns for Create Time, Checksum (sha256), Current Verdict, Assignee, and Filename. The table contains 10 entries, with the first entry being a malware sample and the others being benign.

At the bottom, there is a "Max Version:" section with a bar chart showing "Change Requests by Source" over time. Below the chart, there are buttons for "Download Package" and "Resubmit".

Enable and Liberate Researchers

Centralize response tool stack and maximize data density

Ensure complete auditable transparency



Develop Integrations and Orchestration

Connecting existing detection, analysis, workflow and collaboration platforms



Powering Prevention - Review

Building a Global Security Response Team



Stakeholder Enablement

Actively engage with all stakeholders, understand their needs. Educate non-security teams, and protect your resources.



Strategic Hiring

Identify required talent and proactively recruit it. Ensure all team members possess key skills.



Mission Over Metrics

Culture is the most important part of the team, never compromise on fit and ensure Metrics are a guide not a target.



Communication & Collaboration

Leverage technology to expand coverage, improve efficacy, and reduce effort duplication.



Research & Response

Ensure staff is focused on short and long term research projects as well as operational triage.



Automation!

Dedicate resources to automating processes and tools once they have been proven.

Questions?

cclark@paloaltonetworks.com
<https://www.linkedin.com/in/cybersec>