



EXPLORERS

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Global Cyber Alliance

Technical Advice and
Technology & Design



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GCA is an international, cross-sector nonprofit dedicated to confronting cyber risks and improving our connected world. We achieve our mission by uniting global communities, by implementing concrete solutions, and by measuring the effects of our actions.

GCA focus on the most prevalent cyber risks individuals and businesses face. We develop and deploy practical, real-world solutions that measurably improve the security of our cyber ecosystem. We make them vendor agnostic and freely available to the global community. In addition to promoting the widespread adoption of our existing solutions, next on the horizon we are investing our resources to securing Internet of Things (IoT) devices and technologies.

READY FOR:



Researchers

Innovators

3 months

x3 CHALLENGES

A NGI initiative

NGI Explorers Program,
part of the
NGI Initiative



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 825183.

Partners





CHALLENGE #19 - GCA-IOT-01

→ Enriching GCA's Automated IoT Defence Ecosystem

GOALS

The main objective of this challenge is bringing added value to GCA's Automated IoT Defence Ecosystem (AIDE) by enriching and correlating the enormous volume of threat and attack data that is being collected by our IoT antennae. The resulting intelligence will be then provided to the security community, ideally, in the form of a data feed suitable for automatic blocking.

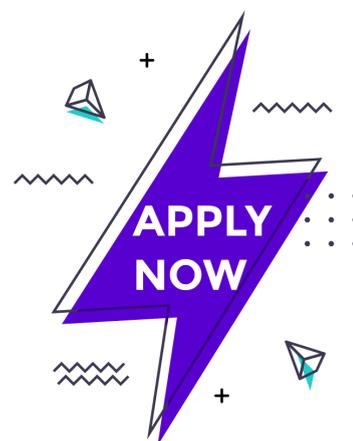
DETAILS

In-line with efforts in the GCA AIDE (Automated IoT Defence Ecosystem) Project, we are collecting a significant amount of IoT threat/attack data. Said data needs to be enriched and correlated with other open source intelligence that can be gathered, then contextual intelligence can be provided to the security community which would provide a more value in this effort. Ideally, the research could help to produce a data feed suitable for automatic blocking. GCA would request a data scientist or equivalent to carry out this challenge.

SKILLS REQUIRED

The best candidates for this challenge would be experienced data scientists with a solid background in cybersecurity or in the design of IoT devices.

Researchers	
Innovators	
Artificial Intelligence	Blockchain
Big Data	Internet of Things
5G	Cybersecurity
Cloud/Edge Computing	Interactive Technology
Future Hyper-connectivity	Human-centric Internet



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CHALLENGE #20 - GCA-HON-02

→ IoT Virtualizer for Honeyfarms

GOALS

The honeyfarms created around the globe to collect threat and attack data against IoT devices are struggling to catch up with the speed by which new devices enter the market. This challenge aims at designing a technology that can help virtualize any IoT device so that it can be used in a large-scale honeyfarm deployment that can mimic real IoT deployments.

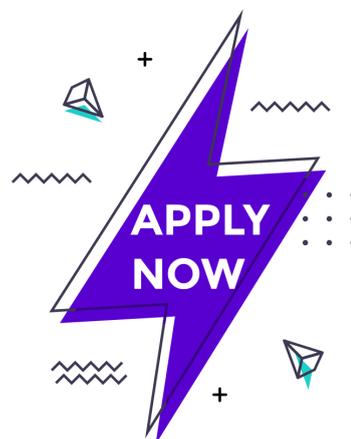
DETAILS

IoT as a whole is becoming more complex as a large number of embedded devices are introduced into our everyday environments. In addition to the data being collected, the need to virtualize physical IoT devices to be used as global resources in the effort to set up honeyfarms is increasing. It is not scalable to use physical devices for honeypots as the number of different IoT devices is growing significantly. GCA has developed the ProxyPot which allows one physical IoT devices to be used by many virtual honeypots, however, this approach also has limitations as it needs physical devices to be installed and maintained throughout the lifecycle of the honeyfarm. Therefore, there is a need for a technology to virtualize any IoT device so that it can be used in a large-scale honeyfarm deployment that can mimic real IoT deployments. GCA would request an OS/Virtualization scientist to help address this challenge.

SKILLS REQUIRED

The best professional profile for this challenge would be an OS/Virtualization scientist.

Researchers	
Innovators	
Artificial Intelligence	Blockchain
Big Data	Internet of Things
5G	Cybersecurity
Cloud/Edge Computing	Interactive Technology
Future Hyper-connectivity	Human-centric Internet



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CHALLENGE #21 - GCA-BGP-03

→ Global Security Study on the Border Gateway Protocol (BGP)

GOALS

The objective of this challenge is the completion of a global study on the risks of the Border Gateway Protocol (BGP) and on the effectiveness of the solutions in place. The final output should include a roadmap with resources and solutions that provide optimal results also in terms of investment.

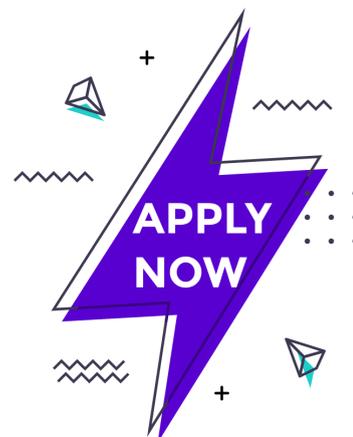
DETAILS

This challenge will consist in completing a global study on specific risks involving Border Gateway Protocol (BGP) to include the overlying issues, existing solutions and whether said solutions are sufficient or not, and under what conditions. Output would include a roadmap on the means and ordering of solution deployment to achieve optimal effectiveness and return on investment.

SKILLS REQUIRED

The ideal profile for this challenge should combine a deep knowledge on gateway protocols with a large experience in cybersecurity analysis.

Researchers	
Innovators	
Artificial Intelligence	Blockchain
Big Data	Internet of Things
5G	Cybersecurity
Cloud/Edge Computing	Interactive Technology
Future Hyper-connectivity	Human-centric Internet



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