February 14, 2022

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Dear Faculty Search Committee,

It's my pleasure to strongly recommend Jesse Sowell for Lecturer in Science, Technology, Engineering, and Public Policy. My name is Severin Walker, and I am the Director of Provider Products and Services at Vade Secure, formerly Directory of Risk and Policy Intelligence at Comcast, with 22 years of experience in anti-abuse and cybersecurity. Additionally, I serve as the Board Chairman at the Messaging, Malware, and Mobile Anti-Abuse Working Group (M³AAWG), a non-profit industry organization of which Comcast was a founding member.

As the M³AAWG website states, "*The Messaging, Malware and Mobile Anti-Abuse Working Group (M³AAWG) is where the industry comes together to work against botnets, malware, spam, viruses, DoS attacks and other online exploitation. We are the largest global industry association, with more than 200 members worldwide, bringing together all the stakeholders in the online community in a confidential, open forum. We develop cooperative approaches for fighting online abuse.*" The group was initially a closed forum for operators and security researchers to discuss and collaborate on solutions for the problem of email spam. In its 17 year history, the scope of work has expanded as the problem domain of online abuse and fraudulent activity has grown and evolved. It is within this organization that I have had the opportunity to work with Jesse on multiple fronts in cybersecurity.

Nearly 6 years ago I began discussions with Jesse as I began my tenure as Chairman. He was already established as a Senior Advisor, providing valued input to our evolving efforts in global outreach and network anti-abuse initiatives, including our initial focus on the Internet of Things (IoT) and distributed denial of service attacks (DDoS). While Jesse's age and time in the industry was shorter than many of our Senior Advisors, he was provided the title given his unique status as an interdisciplinary researcher that can speak to technical, operational, policy, and organizational aspects of anti-abuse rather than one specific domain or service. This wide breadth of knowledge, as well as exposure to the members of the industry that are integral to the Internet's core functions, made Jesse a natural fit to overhaul our Outreach initiative and organizational development strategy.

While M³AAWG itself is a global organization, with typically more than 25 countries represented at each of our 3 annual meetings, there are obvious roadblocks in many regional operators and researchers' ability to participate in person. These can be the perceived language barrier or a lack of travel budget to accomodate US or European destinations. Jesse recognized this, and the need to potentially bring resources to these regions in order to gain those additional, diverse

voices in the work of M³AAWG. Jesse provided the board with an entire strategy, including short and long-term goals, for consulting with regional Internet organizations to establish their own Anti-Abuse Working Groups. Starting with Latin America, Jesse joined with other M³AAWG subject matter experts to introduce the idea and help establish the Latin America and Caribbean Anti-Abuse Working Group (LAC-AAWG) in 2017 through on-site collaboration in regional meetings. Per his roadmap, M³AAWG now provides resources, including translated best practice documents, training, and speakers to support LAC-AAWG events hosted at these regional operator meetings. In return, LAC-AAWG members committed over a year's worth of effort as joint authors on a new Best Common Operating Procedure document on a topic of global importance, but one that was especially a priority for developing regions: in-home device security.

Still keeping with Jesse's strategy, the successful establishment of LAC-AAWG has led to work in other regions. In November of 2019, the second annual meeting of the Japan Anti-Abuse Working Group (JP-AAWG) was hosted in Tokyo with its official charter being published later that year. JP-AAWG has been going strong since. Taking many cues from M³AAWG and Jesse's consultation, this has turned into a successful area of collaboration for Japanese carriers, vendors, government officials and academics in a business culture that does not typically allow for such. Jesse also worked closely with network operators in Africa to develop the Africa Anti-Abuse Working Group (AF-AAWG). AF-AAWG has now formalizing its charter in collaboration with the major operational groups in the region (AfriNIC, the regional internet registry; AfricaCERT, organizing computer emergency response teams and training across Africa; AfTLD, coordinating top level domains in Africa; and organizations representing Africa's research and education networks). Jesse will be continuing his outreach work as our liaison to AF-AAWG.

So far, since Jesse started his work on it in 2016, M³AAWG has invested approximately $40,000 in support of Jesse's Outreach initiatives. Given the amount of new collaborators it has brought into our own meetings, as well as the obvious results shown in regional work, this is considered a complete success by the M³AAWG board and members. Development work continues in Africa and Southeast Asia, including South Korea, with a unique approach to each as contacts in the region, M³AAWG board members, and Jesse determine the needs and available resources for each.
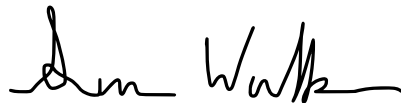
As mentioned before, the scope of work at M³AAWG has evolved to encompass several forms and vectors for online abuse and malware propagation. One that became apparent for M³AAWG to consider is IoT device security and its role in Denial of Service and malware attacks. Unfortunately, while M³AAWG had many of the operators represented that these devices are connected to, the rest of the supply chain, regulatory, and security research elements are not in attendance enough for many elements of the problem domain to be addressed. It was here that the board saw an opportunity for Jesse to utilize his industry resources and experience, and as such was named chair of the IoT SIG to begin steering it towards having great impact.

Shortly after taking on this responsibility, Jesse was able to bring in outside academics and industry speakers to highlight the critical role of the anti-abuse community in IoT. As someone responsible for both M³AAWG's place in the industry and the protection of customers, I believe this is some of the most important work undertaken for the purposes of consumer protection and health of the Internet at large. Jesse has been able to start building a collaborative effort on the idea of a reputation mechanism that fits with ongoing ISP and industry IoT standards development efforts. In my opinion, given the unchartered waters here, this is an intelligent direction to take as it builds on some of the existing subject matter expertise and solutions built by M³AAWG members and should lead to something that operators and security vendors can easily deploy given its analogues in other anti-abuse solutions in production today.

The running thread throughout all of Jesse's work with our organization is his ability to apply a deep understanding of the technologies at play in core Internet services to larger organizational and industry anti-abuse efforts. He often serves as our liaison to C-level and other high-level administrative officials to convey the work that M³AAWG is undertaking and the specific contribution that their organization can make. He is a valued and sought-after advisor because of this unique quality, and would be an asset to any segment of the industry looking to facilitate collaboration for the purposes of cybersecurity and the health of the Internet in general.

If there is any need to clarify my statements here, please do not hesitate to contact me.

Sincerely,

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