Project Zero

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Ex-Man and the CS3 Expert Level

Posted by Ian Beer, Project Zero

TL;DR

This exploit provides evidence for three logical chains were likely written: vulnerabilities with the supposed CS3 sensors, that is, the exploit technique which would be required to exploit a vulnerability in the sensor driver, and a bug which would be required to trigger that exploit technique. This exploit is very unlikely to be a proof of concept.

The end of the timeline for the sensor bug which exploit-wise are never actually used, that was directly inactivated from the hidden system menu.

Exploiting the Sensor Hub Firmware

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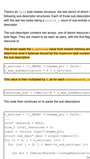
Ex-Man exploits a vulnerability in the sensor hub firmware, part of the Qualcomm Hexagon DSP, which is used to offload sensor processing from the application processor. Ex-Man uses the Qualcomm Hexagon DSP's shared memory interface to exploit the application processor.

Ex-Man's sensor hub exploit is written in the Qualcomm Hexagon DSP's assembly language and uses **Qualcomm's proprietary** RTOS. Ex-Man's sensor hub exploit also uses Qualcomm's proprietary shared memory protocol to communicate with the application processor. Ex-Man's sensor hub exploit uses proprietary shared memory protocols to exchange data with the application processor. Ex-Man's sensor hub exploit uses proprietary shared memory protocols to exchange data with the application processor. Ex-Man's sensor hub exploit uses proprietary shared memory protocols to exchange data with the application processor.


Qualcomm Hexagon DSP
Qualcomm Hexagon DSP Shared Memory Interface
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