Suricata - Feature #2746

Use Available Instruction Set Specialization (AVX2 and AVX512) in Hyperscan when available

12/14/2018 02:43 PM - booble tins

<table>
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<th>Status:</th>
<th>New</th>
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<td>Priority:</td>
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<tr>
<td>Assignee:</td>
<td>booble tins</td>
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<tr>
<td>Category:</td>
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Description

https://redmine.openinfosecfoundation.org/issues/2010 provides some context.

The Hyperscan API makes the use of specialized instruction sets relatively straightforward. It provides `hs_populate_platform()` which returns an `hs_platform_info`, which can in turn be fed into the various `hs_compile` calls.

It looks like the HS module in Suricata is currently feeding NULL into these functions eg: `hs_compile_multi()`

```c
err = hs_compile_ext_multi((const char *const *)cd->expressions, cd->flags, 
    cd->ids, (const hs_expr_ext_t *const *)cd->ext, 
    cd->pattern_cnt, HS_MODE_BLOCK, NULL, &pd->hs_db, 
    &compile_err);
```

I'm no C programmer, but this looks like an improvement I should be able to add with context from issue 2010. I've assigned it to myself for now and will see if I can get it going. Reading over this presentation makes it sound like AVX2/512 will be beneficial.

Please advise if this is obviously more complicated than it appears to me.

History

#1 - 12/14/2018 03:45 PM - booble tins

booble tins wrote:

Please advise if this is obviously more complicated than it appears to me.

Significantly less complicated than expected. From:
https://intel.github.io/hyperscan/dev-reference/compilation.html#instr-specialization

If this argument is NULL, the database will be targeted at the current host platform.

I missed that on the first read, apologies for the waste of reading time!

#2 - 12/14/2018 03:49 PM - Victor Julien

Maybe it would be nice to see if we can print the used algo/instruction set to the user?

#3 - 06/15/2019 09:52 PM - Andreas Herz

- Target version set to TBD