

**IN THE HIGH COURT OF JUSTICE**  
**BUSINESS AND PROPERTY COURTS OF ENGLAND & WALES**  
**INTELLECTUAL PROPERTY LIST (ChD)**

**Claim No: IL-2021-000019**

B E T W E E N :

CRYPTO OPEN PATENT ALLIANCE

**Claimant**

-and-

DR CRAIG STEVEN WRIGHT

**Defendant**

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WITNESS STATEMENT OF  
HOWARD HINNANT

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I, HOWARD HINNANT, of [REDACTED], will say as follows -

1. This statement has been prepared by Bird & Bird following an exchange by email, though I am told by Bird & Bird that our exchanges are considered privileged. This statement uses my own words and sets out facts and matters that are within my own knowledge unless otherwise stated: Where I refer to facts within my own knowledge, I believe them to be true. Where I refer to information from other sources, I have identified my sources and the information it is true to the best of my knowledge and belief. I have not referred to any other documents than those mentioned and exhibited in this statement.
2. I am a software developer. Between 1984 and 1995 I was an Aerospace Engineer at the US Army Research Laboratory, including working within NASA. I first explored the use of C++ in that period as a replacement for Fortran. Since then I have worked as a Senior Software Engineer at companies including Beam, Freescale, Apple, and I am now a Senior Software Developer at Ripple, although I do not make this statement in that capacity.
3. Between 2005-2010 I was Chairman of the Library Working Group for the C++ Standards Committee. I am the lead designer and author of various standard features of C++ including the <chrono> time utilities, among others. Bird & Bird has asked me whether it would have been possible to use <chrono> or "sleep\_for" in C++ code in October 2007.
4. It would not have been possible. There are a few reasons.
  - a. <chrono> and sleep\_for were standardized in C++11, i.e. 2011.
  - b. Now, it is possible that implementors implemented and shipped parts of C++11 prior to 2011. However,

- c. The paper which first proposed both <chrono> and sleep\_for is at the following URL, N2661: <https://www.open-std.org/jtc1/sc22/wg21/docs/papers/2008/n2661.htm> [Exhibit HH1]
  - d. Note the publication date on it: 2008-06-11.
  - e. Prior to 2008-06-11 implementations of <chrono> were limited to my personal computer. And in that time frame, I did not publish code to the public because it was not nearly as easy and convenient as it is today.
5. One might consider that still, somehow <chrono> escaped to the wild and was picked up as early as October 2007 (8 months earlier). However there also exists in the public record the previous iteration of N2661 (which I was also lead author on and which was called N2498): <https://www.open-std.org/jtc1/sc22/wg21/docs/papers/2008/n2498.html> [Exhibit HH-2]:
  - a. It is dated 2008-01-19.
  - b. And in this iteration, the word "chrono" is nowhere to be found. The namespace chrono, and the header <chrono> had yet to be proposed.
  - c. And sleep\_for is called sleep in this iteration.
  - d. And this iteration is still published 3 months after October 2007.
6. When I published N2498 (Exhibit HH2), <chrono> and sleep\_for did not yet even exist on my personal computer.
7. After I had explained the facts above and agreed to provide a witness statement, I asked Bird & Bird if I could view the source code files that they were discussing. I was provided with three documents named ID\_004707.C++, ID\_004712.C++ and ID\_004713.C++. Bird & Bird explained that the metadata associated with these files was as follows:

Date Created = 08/Oct/2007 06:00:12

Date Last Modified = 31/Oct/2007 03:55:20

Date Last accessed = 15 Oct 2007 02:59:25
8. I've looked over the files and can confirm the use of <chrono> and sleep\_for make the last-modification date of this file not possible. I also checked the following github repository that claims to be a copy of the original bitcoin source code: <https://github.com/Maguines/Bitcoin-v0.1> . I noticed it does not use <chrono>. As my expertise lies more with the C++ standard library as opposed to

digital currency technology, I have no insight on how the files would be related to bitcoin other than noticing what seemed to me like an apparent contradiction.

9. When looking at the ID\_004707.C++, ID\_004712.C++ and ID\_004713.C++ files, I also noticed that the use of the <random> library was suspect as to my own knowledge, that was not yet standardised until C++ 11 in 2011, though it was proposed in 2006.

I have not referred to any documents in the course of preparing this statement other than those referred to above.

### **DECLARATION**

I understand that the purpose of this witness statement is to set out matters of fact of which I have personal knowledge. I understand that it is not my function to argue the case, either generally or on particular points, or to take the court through the documents in the case. This witness statement sets out only my personal knowledge and recollection, in my own words.

On points that I understand to be important in the case, I have stated honestly (a) how well I recall matters and (b) whether my memory has been refreshed by considering documents, if so how and when.

I have not been asked or encouraged by anyone to include in this statement anything that is not my own account, to the best of my ability and recollection, of events I witnessed or matters of which I have personal knowledge. I believe the facts stated in this statement are true. I understand that proceedings for contempt of court may be brought against anyone who makes, or causes to be made, a false statement in a document verified by a statement of truth without an honest belief in its truth.

SIGNED:

DocuSigned by:  
*Howard Hinnant*  
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DATED: 15/11/2023