

# SASHIMONO

---

## *A Daemon to Coordinate HotPocket Clusters From “Layer 1” Blockchains*

by

Scott Chamberlain, Richard Holland, and Ravin Perera

21 June 2021

---

### **1. Proposing Sashimono**

- 1.1 Sashimono (named after the Japanese woodworking technique for building without nails or visible joins) is a daemon that makes it as easy as possible to spin up a “layer 2” network of HotPocket nodes coordinated from layer 1 infrastructure, like XRPL multi-sig accounts or XRPL Hooks.

#### **The Promise of HotPocket**

- 1.2 The HotPocket is a UNL consensus engine that converts any number of Linux machines into a mini-blockchain capable of cheaply and speedily running any dApp in any language at any scale.

#### **The Problem with HotPocket**

- 1.3 Coordinating the rollout of a Hot Pocket smart contract currently requires manual server setup and configuration for each and every HotPocket node in the contract. From a production-system standpoint it is desirable to dedicate a selection of servers for the collective purpose of running logical nodes from various different HotPocket contracts from time to time, and then coordinate these from a unified and decentralised command point.

#### **Sashimono’s Solution**

- 1.4 To make HotPocket truly useful we need a daemon like Sashimono. The Sashimono daemon runs on each server that will host HotPocket nodes in the user’s network and would:
  - (a) Listen to a “layer 1” message board of which all its companion Nodes are members.
  - (b) Encrypt messages to companion Nodes and post them to on the “layer 1” message board.
  - (c) Manage all the Docker instances seamlessly.
- 1.5 Sashimono would be configured so that any “layer 1” blockchain could be the message board. That is, all Nodes would be listening to a single point of truth that could be any layer 1 blockchain. Sashimono is summarised diagrammatically in Figure 1.

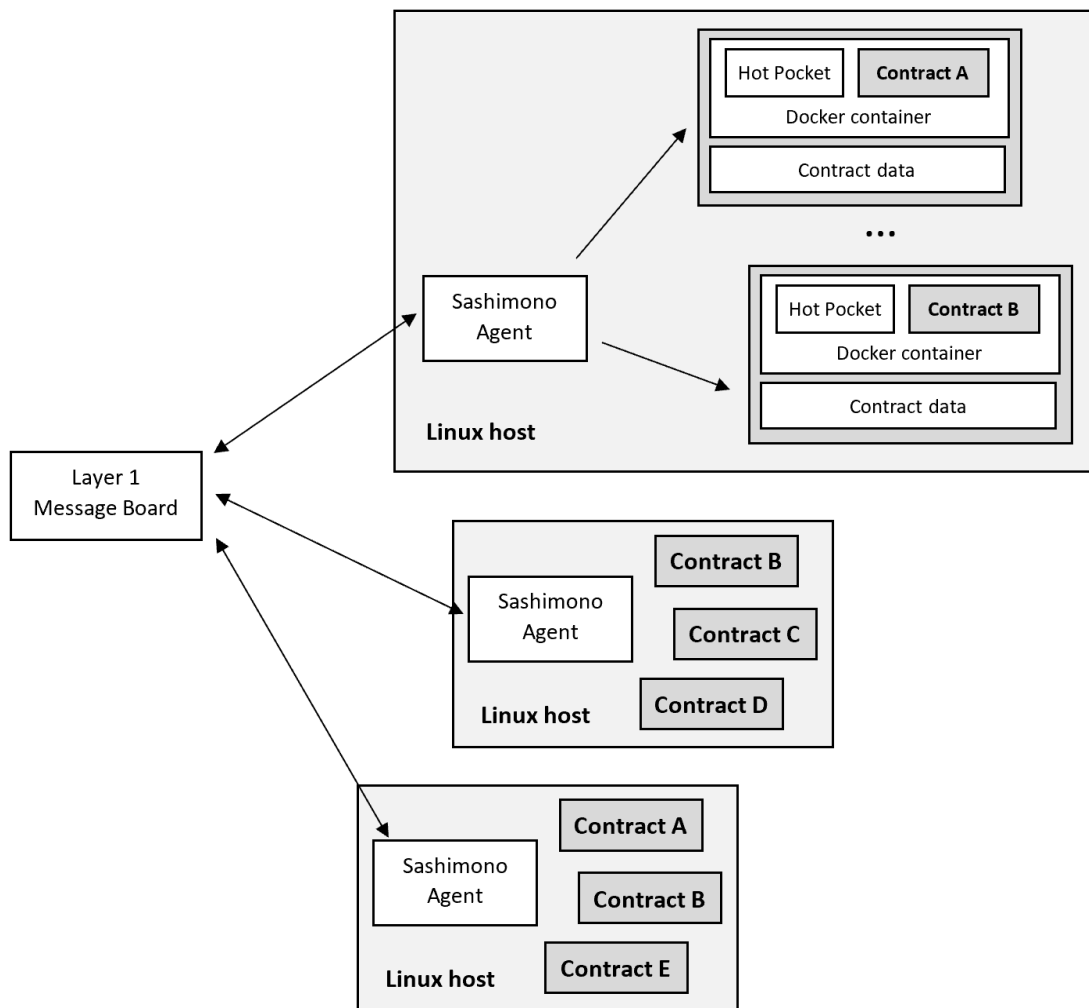


Figure 1-Sashimono Design

## Benefits of Sashimono

- 1.6 Without Sashimono, HotPocket is an inherently centralised smart contract solution. Generally, a single actor would be required to spin-up and configure the relevant nodes in a HotPocket cluster.
- 1.7 Sashimono overcomes this problem by making it as easy as possible to coordinate a HotPocket cluster through any layer 1 blockchain that supports smart-contracts. All that is needed is infrastructure that can function as a message board. It does not matter that the message board is public because all the messages will be encrypted.
- 1.8 In effect, Sashimono is a way of “nailing” a HotPocket cluster to a layer 1 public blockchain, providing a bolt-on smart contract functionality to almost any blockchain.

## An XRPL Native Proof of Concept

- 1.9 In its first implementation, Sashimono would listen to a multi-sig XRPL Account as the message board and then an XRPL Hook when Hooks are on the public TestNet. The first proof of concept should be iXRPL Self-KYC running on a network of HotPocket Nodes using a multi-sig XRPL Account as the daemon's message board.