Architecture – High Level

Logical Partition Isolation

VP 3 VP 4

VP 1 VP 2

Secure Service Container

Network#1   Network#2   Network#3

High-Security plan user

Other user

LinuxONE platform   IBM LinuxONE™
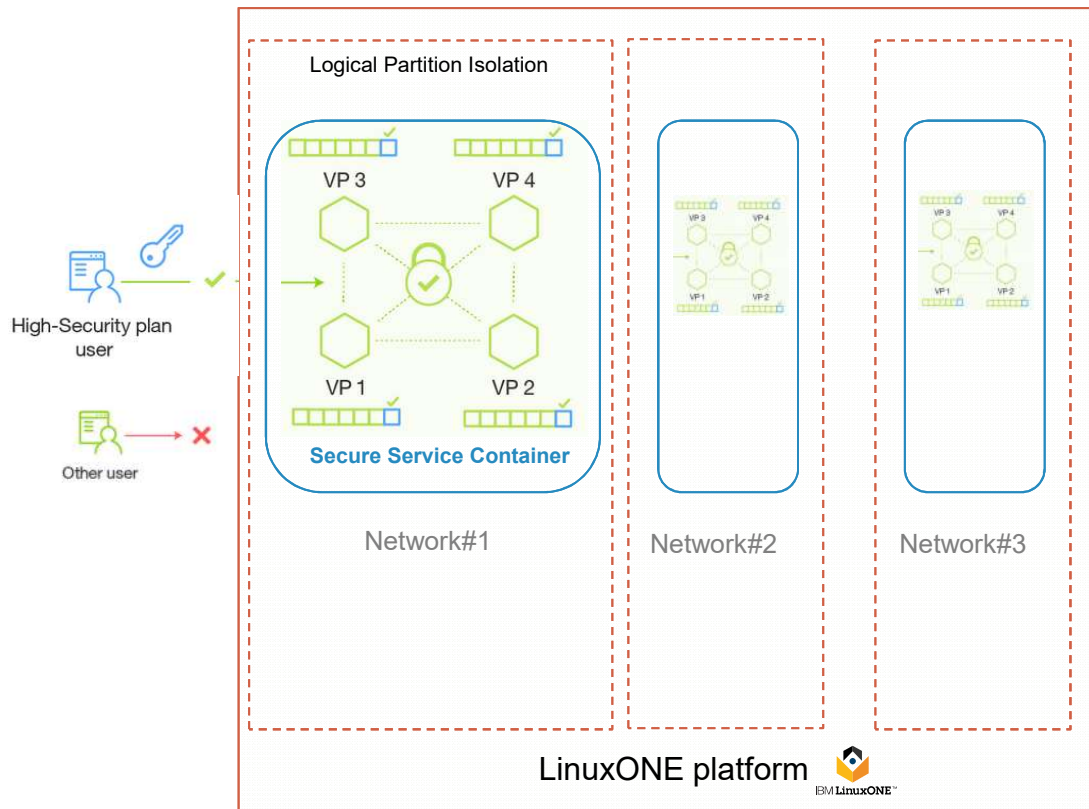
The high security business network is deployed as an appliance into a Secure Service Container, which provides the base infrastructure for hosting blockchain services. The appliance combines operating systems, Docker, middleware, and software components that work autonomously to provide core services and infrastructure with optimized security.

Overview: https://console.ng.bluemix.net/docs/services/blockchain/etn_ssc.html

Reference Architecture

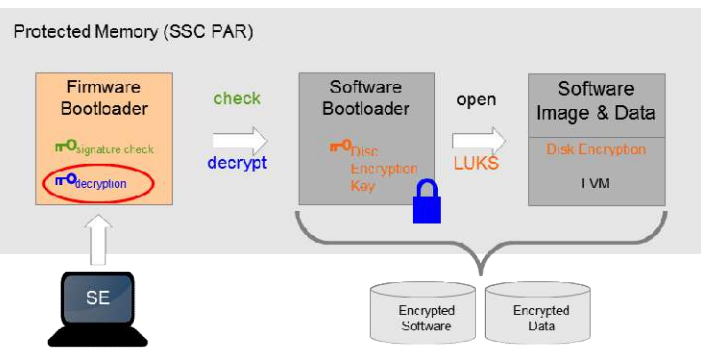# Secure Service Container

High Security Business Network
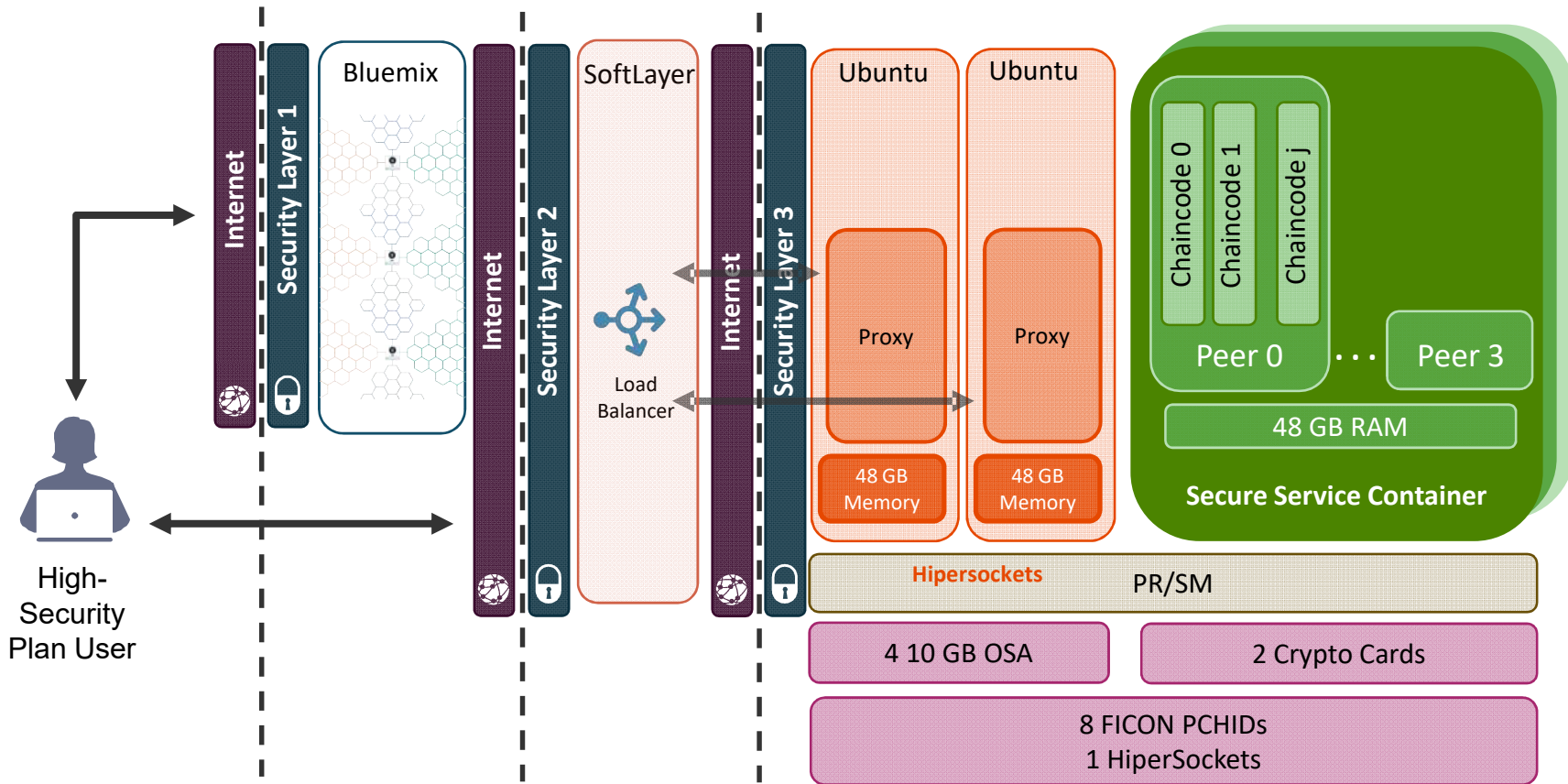
Secure Service Container ensures…
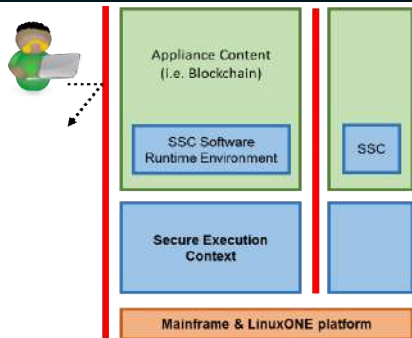
No system admin access, ever
- Once the appliance image is built, OS access (ssh) is not possible
- Only Remote APIs available
- Memory access disabled
- Encrypted disk
- Debug data (dumps) encrypted

How the Secure Service Container boot sequence works…

Boot sequence
1. Firmware bootloader is loaded in memory
2. Firmware loads the software bootloader from disk
   i. Check integrity of software bootloader
   ii. Decrypt software bootloader
3. Software bootloader activate encrypted disks
   i. Key stored in software bootloader (encrypted)
   ii. Encryption/decryption done on the flight when accessing appliance code and data

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