2STON™ SPN v3.0
IoTSec : 2ip IoT Security Solution
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1. 2ip Technology(1) – Our History

Step1
2STON Core
API (Library), UDP only
P2P only – Hole Punching & Relay

Step2
2STON SPN
Tunnel, IP encryption
Security Gateway, Clients

Step3
2STON IoTSec
LoRa, Bluetooth, Zigbee, ModBus
Let's connect IoT securely ~

NOW!

We Secure the Internet of Things with 2STON™
1. 2ip Technology(2) – SPN Technology

Motto: Let’s connect IoT securely!

- Fast
- Secure
- Easily Connected

2STON SPN = L3, L2 SPN and P2P SPN

Motto: Let’s connect IoT securely!
1. 2ip Technology(3) – IoT Platform w/ SPN(1)
1. **2ip Technology(3) - IoT Platform w/ SPN(2)**

- **Gateway (SPNBox)**
  - IP Camera
  - Medical Equipment
  - Industrial IoT
  - Home IoT
  - LoRa

- **Connectivity**
  - Embedded Linux
  - Access Point
  - Web based UI

- **Management**
  - 2ip Viewer
  - WebUI/Android/iOS app

- **Security**
  - SPN Technology
  - Mesh
  - L3
  - P2P
2. SPN v3.0 Plan(1) – New Features

- **SPN v3.0 (IoTSec)**
  - **LoRa Security Solution**
    - Node/Gateway/Server/Viewer
  - **IIoT Security Solution**
    - Industrial IoT Gateway & Sensors
    - 2ip Viewer
  - **SPN Upgrade**
    - New SPNBoxes(1000, LoRa Gateway …)
    - SPNiOS Client
    - WebUI improvements
    - Client improvements
    - SPNBox improvements ..
  - **MGMT Console**
    - Remote Management Console for SPNBoxes & SPN Clients
    - Access Control
    - 2ip Viewer
2. SPN v3.0 Plan(2) – Overall Architecture

Direction of SPN v3.0(IoTSec): Security + Easy Connection + IoT Device Management
2. SPN v3.0 Plan(3) – LoRa Security Solution(1)

- **LoRaWAN**
- **LoRa**
- **LoRa Nodes**
- **SPNBox-L500** (based on MatchX MX1702)
- **Secure Connection**
- **Ethernet/LTE**
- **LoRaServer**
- **2ip Viewer** (based on ThingsBoard)
2. SPN v3.0 Plan(3) – LoRa Security Solution(2)

- SPNBox-L1000 (based on RAKWireless RAK7249)
- LoRaWAN
- Ethernet/LTE
- Secure Connection
- 2ip Viewer (based on ThingsBoard)
2. SPN v3.0 Plan(3) – LoRa Security Solution(3)

- MatchX MX1702 (Indoor/Outdoor)
  - KR920/LBT supported/max. 20km +
- RAKWireless RAK7249 (Outdoor)
- MultiTech MultiConnect Conduit (Outdoor)
  - KR920/LBT supported

SPNBox-L500, L1000, L1500 for LoRa Gateway
2. SPN v3.0 Plan(4) - Remote Management Console

IP Camera

SPNBox-200

10.1.1.1

spndog

IP Camera

SPNBox-200

10.1.1.2

spndog

SPNBox-200

10.1.1.3

spndog

SPNBox-200

10.1.1.100

SPNBox Remote Management Console

Web Page

SPNBox Control (Reboot, Simple Commands)
3. Our Vision(1) – We Secure the Internet of Things

[1] IP Camera Security Solution [SPN v2.0]

[2] ColdChain/Medical Equipment Security Solution

[3] LoRa Security Solution (LoRa Node/Gateway/Server/Viewer + SPN)
3. Our Vision(1) – IP Camera Security Solution
3. Our Vision(2) – CC/ME Security Solution(1)

- CC: ColdChain
- ME: Medical Equipment

RS485 (USB_2_RS485)
SPNBox-200 (based on GL-iNet MT300N-V2)
L3
Wi-Fi

Cloud

2ip viewer
3. Our Vision(2) – **CC/ME Security Solution(2)**

- **CC**: ColdChain
- **ME**: Medical Equipment

**Diagram:***
- **LoRaServer**
- **Cloud**
- **RS485**
- **Libelium Waspmote**
- **SPNBox-L500** (based on MX1702)
- **2ip viewer**
3. Our Vision (2) – **CC/ME Security Solution (3)**

- **CC**: ColdChain
- **ME**: Medical Equipment

**Diagram:***

- **OpenVPN (Server)**
- **Cloud**
- **UrsaLink UR32**
- **Wi-Fi**
- **LTE**
- **OpenVPN (Client)**
- **RS485**

**Additional:**

- **2ip viewer**
- **OpenVPN (Server)**
- **OpenVPN (Client)**
3. Our Vision(3) – LoRa Security Solution

- **LoRa Node (Device)**: Libelium Wasp mote Plug & Sense

- **LoRa Gateway**: SPNBox-L1000 / L1500 (Outdoor LoRa Gateway)

- **LoRa Server/App Server**: Secure Connection

- **IoT Viewer**: Ethernet/LTE

- **Secure Connection**

- **2ip viewer**
Thank You

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