

SIMPLYRFID^{US PH CN}

PAWN Inventory System



Pogi

Find your equipment



Aura

Automated Tracking



Wave

Squeeze and update



Nerv

Monitor & Command

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Peel - Stick - Track

Inventory Management Has Never Been Easier.

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PAWN Process Overview

Workflow

1. Tagging

- a. Items are manually tagged with either a permanent adhesive RFID tag or a temporary hanging RFID tag.
- b. Items are associated via an RFID tag ID and an asset ID. The Asset ID originates from a separate solution / property management system as the link between the RFID system (SimplyRFiD) and the ERP / Inventory Management System

SIMPLYRFID ^{US} _{PH} _{CN}		Pogi Server 		Third Party ERP System	
RFID TagID	AssetID	AssetID	Product Data		
1234567890123456789	8888	8888	...		

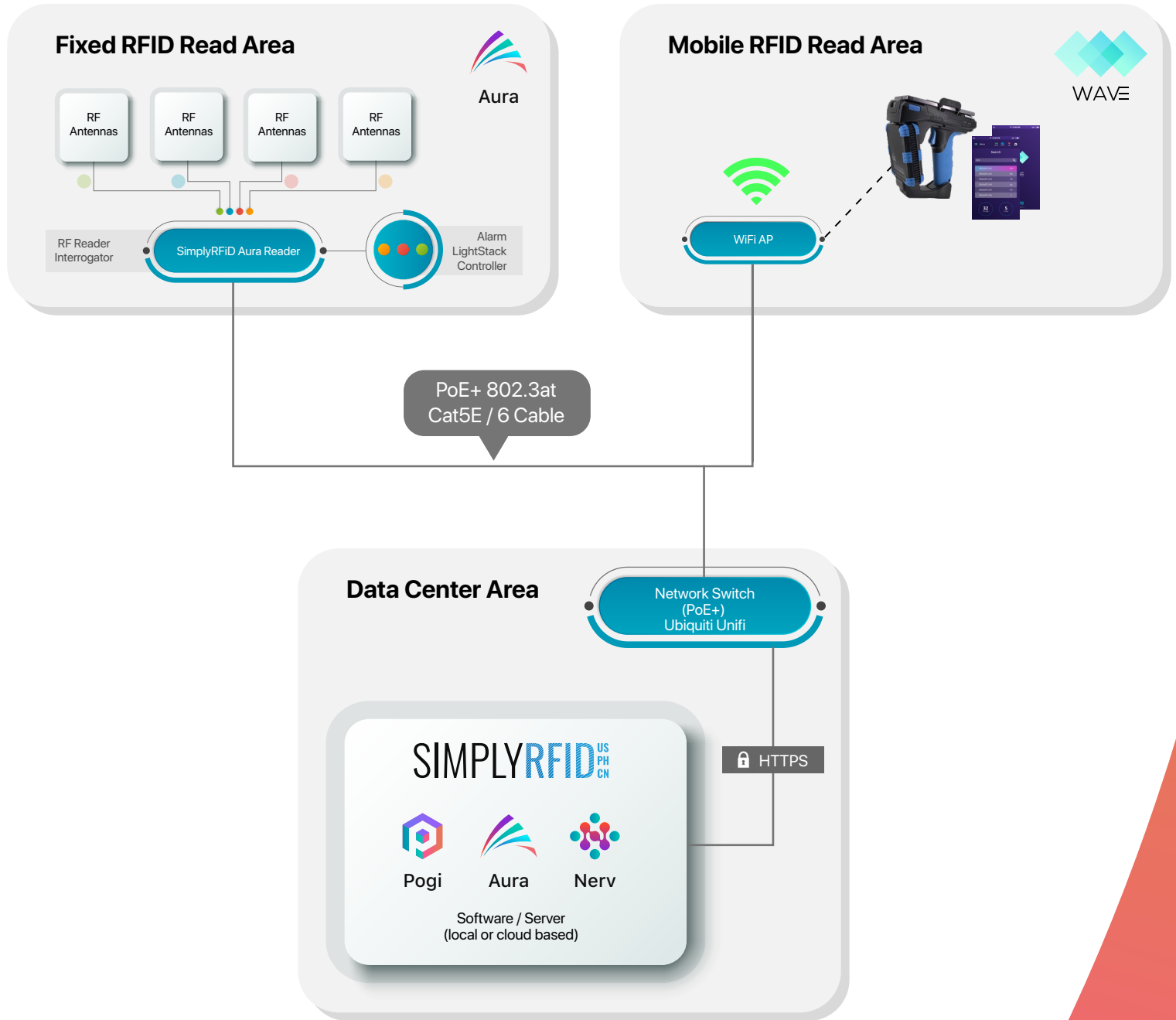
- c. Items can be linked via a manual web page data entry on the SimplyRFiD Pogi server or via the SimplyRFiD WAVE Handheld RFID / Barcode Reader
 - i. Process
 1. Scan AssetID or manually enter
 2. Scan RFID TagID
 3. Save.
 4. Item is now registered for tracking in SimplyRFiD Pogi Server

2. Tracking and Reporting

- a. Items are automatically recorded as they pass tracking locations. Movement data is stored in the SimplyRFiD Pogi Server
- b. Items can be manually located via the SimplyRFID WAVE Handheld. The WAVE Handheld can take an offline inventory, and sync that inventory to the Pogi Server to update last known location.
- c. Item movement history is stored in Pogi and may be exported via JSON and CSV or viewed as an HTML page

RFID TagID	AssetID	Last Seen	Location	Status
12345689012345678901234	8888	10/1/2019 9:00am	Property	Present
12345689012345678901234	8888	10/1/2019 9:03am	Product Support	Present

Interconnect Overview 2019





POGI - Data manager for RFID tags

Pogi is a web-based server that stores RFID tag data and tag movement/inventory events. Pogi doesn't act on the data, it is optimized to rapidly store and search data. Pogi produces reports via automation (bots via API) or to an end user running a web UI.

Additional modules query Pogi to run complex reports (real time mapping, alarms, workflow) and may be integrated with cubing or data mining storage for heavily complex queries.

RFID Tag Information stored:

- Tag ID
- Asset ID
- Read Date
- Tag State
- Location

- **OS:** Ubuntu 18.04, Yocto 4.14, Raspbian Buster
- **Languages:** Python 2.x
- **Support Applications:** UWSGI, nginx, MySQL
- **Communications Security:** TLS, fail2ban
- **API:** HTTPS/REST, Push notifications
- **Scale:** Allows split data feeds for infinite scalability

The screenshot shows the POGI web interface with a table of RFID tag data. The table has columns for ID, Asset ID, Date, State, and Location. The data is filtered for 'All' events and 'Location' is selected. The table shows 15 items per page, with a 'FILTER' button. The interface also includes a search bar, a 'Live' indicator, and an 'Admin' link.

ID	Asset ID	Date	State	Location
2F1203535373232000004393		10/26/2019 03:06 AM	present	ZoomZone
2F1203535373232000004394		10/26/2019 03:06 AM	present	ZoomZone
2F1203535373232000004399		10/26/2019 03:06 AM	present	ZoomZone
2F1203535373232000004392		10/26/2019 03:06 AM	present	ZoomZone
2F1203535373232000004395		10/26/2019 03:06 AM	present	ZoomZone
2F1203535373232000004396		10/26/2019 03:06 AM	present	ZoomZone
2F22033424C3434000000A7		10/26/2019 03:06 AM	present	ZoomZone
2F02033424C34340000001D		10/26/2019 03:06 AM	present	ZoomZone
2F1203535373232000004384		10/26/2019 03:06 AM	present	ZoomZone
2F2203447334C310000048E67		10/26/2019 03:06 AM	present	ZoomZone
2F120353537323200000439F		10/26/2019 03:06 AM	present	ZoomZone
2F22033424C3434000000A8	8415016236040	10/26/2019 03:06 AM	present	ZoomZone
2F1203535373232000004385		10/26/2019 03:06 AM	present	ZoomZone



AURA - RFID tag reader and raw data

Aura manages thousands of RFID tag reads per second in a central or distributed environment. Aura runs directly on an edge (at the edge of the network, in the middle of the action) RFID reader to minimize network traffic and reduce central server load.

Features:

- **Sticky:** Evaluates tag movement based on how near it is to each antenna for more accurate location information.
- **Muxing:** Combines multiple antennas in to a logical zone for more accurate coverage.
- **Linger / Flicker:** Prevents weak tags from jumping from antenna to antenna ('absent-present-absent').
- Manages edge light stacks, alarms, and buzzers on-reader.

OS: Ubuntu 18.04, Yocto 4.14, Raspbian Buster

Languages: Python 2.x, c

Support Applications: UWSGI

Communications Security: TLS, fail2ban

Hardware: CSL CS463, SimplyRFiD Light Stacks and Alarm System

API: HTTPS/REST, Push notifications



CSL CS463 Reader



WAVE - *Handheld RFID and Barcode for mobile inventory*

Wave allows users to perform audits and inventories. Wave can take multiple inventories offline and sync or inventory and audit in real-time. Multiple Wave handhelds can connect and share data to a Pogi server.

Wave also makes it easy to associate tag items using QT (Quick Tag). A search capability helps narrow down where an item is located.

OS: iOS 13+

Languages: Objective-C

Support Applications: CSL Objective-C library, CS108-2 Handheld

Hardware: iPod Touch, CSL CS108 Handheld

API: HTTPS/REST, Push notifications

Battery Life: 4 hours continuous use, or better





NERV - Monitor, command & control deployed Aura units

Nerv manages and monitors deployed devices. Latency, network health, unit health (memory and CPU) are all managed on a central dashboard. Updates can be pushed to readers, with a single click, making PAWN system management easy.

A. Nerv Server

OS: Ubuntu 18.04, Yocto 4.14, Raspbian Buster

Languages: Python 2.x, MySQL

Support Applications: UWSGI, nginx

Communications Security: TLS, fail2ban

API: HTTPS/REST, Push notifications

B. Nerv Client

OS: Ubuntu 18.04, Yocto 4.14, Raspbian Buster

Languages: Python 2.x

Communications Security: TLS, fail2ban

The screenshot shows the Nerv dashboard interface. At the top left is the Nerv logo and name. Below it are filters for 'From' (09/25/2019 7:51:35 AM), 'To' (09/28/2019 4:23:05 AM), 'Report' (ALL), 'Location' (ALL), and 'Items per page' (15). A search bar is on the right. The main content is a table with the following data:

ReaderID	Firmware	Current Location	Location	Last update	
<input checked="" type="radio"/> 2F22033424C3434000009B	1.0.002	1B-ShelfA32	Hanger	09/30/2019 2:40:42 AM	
<input type="radio"/> 2F22033424C34340000019B	1.0.002	1B-ShelfA32	Hanger	09/30/2019 2:40:44 AM	
<input checked="" type="radio"/> 2F22033424C34340000020B	1.0.001	1B-ShelfA32	Hanger	09/19/2019 2:40:44 AM	

At the bottom, there are buttons for 'Download', 'CSV', 'JSON', and 'Update'.



Installation

Typical Self-installation Plan. Full turn-key installation also available.

End User:

- Provide and install CAT5E/CAT6 cables to each area needing an automatic RFID Aura reader
- Mount the RFID Readers
- Mount the RFID Antennas
- Mount the WiFi Access Point for WAVE access
- Place the server / switches in a secure location

SimplyRFiD:

- Document the location / place to install each antenna, reader, and tag
- Label all equipment for proper placement
- Provide same-day telephone and email support during installation
- Provide primary mounting hardware (brackets). End user may need additional screws/bolts depending on mounting location (drywall, cinder block, cement, or ceiling tile)