



# Team Cloud Connect

Cloud based Device Proxy for On-Premises Hotels



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Mentored by Ana Paula Chaves Steinmacher

# Sponser

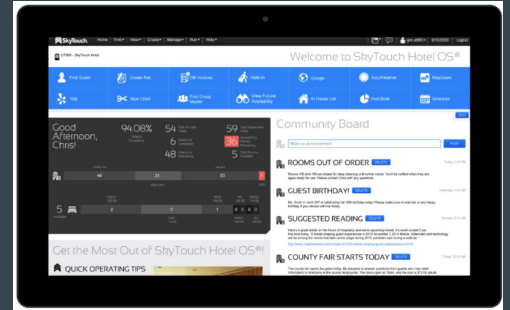


**Tony Pallas**

- VP Product Development At SkyTouch Technology
- A division of Choice Hotels International, Inc.
- Also has been in IT industry for over 15 years



# Cloud



# On-Premises

# Problem



Custom per hotel



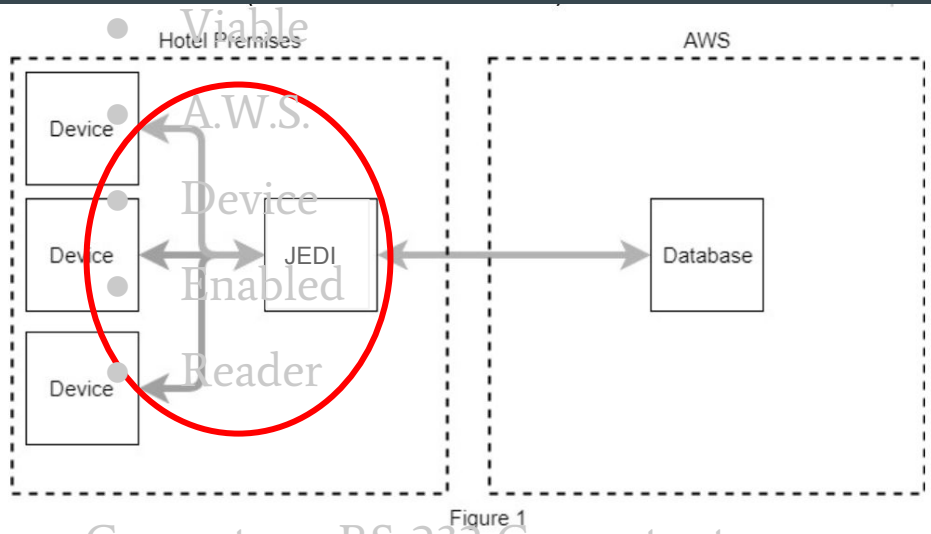
RS-232 = Slow



No option of Ethernet

# Solution Overview(V.A.D.E.R.)

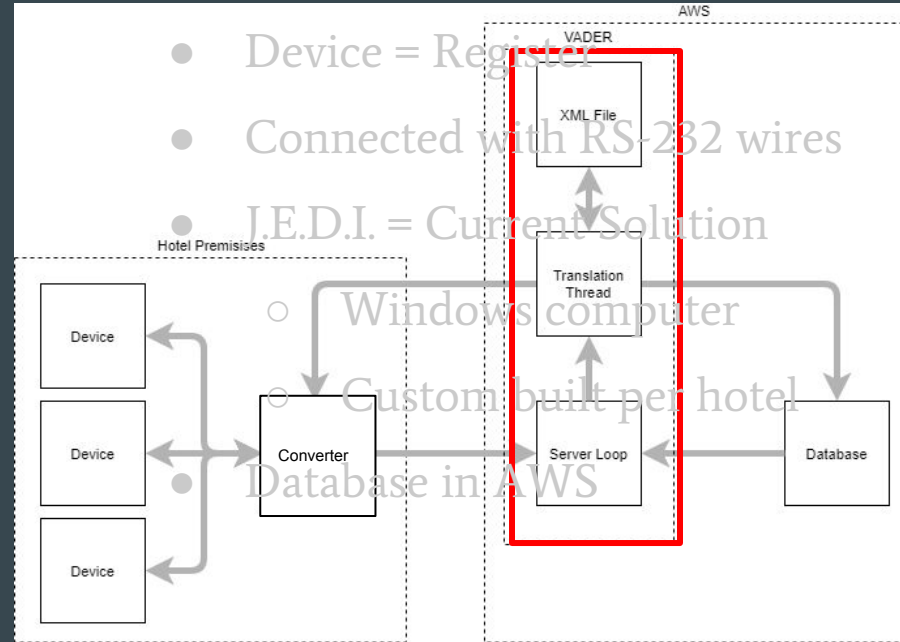
## V.A.D.E.R.



Converter = RS-232 Converter to

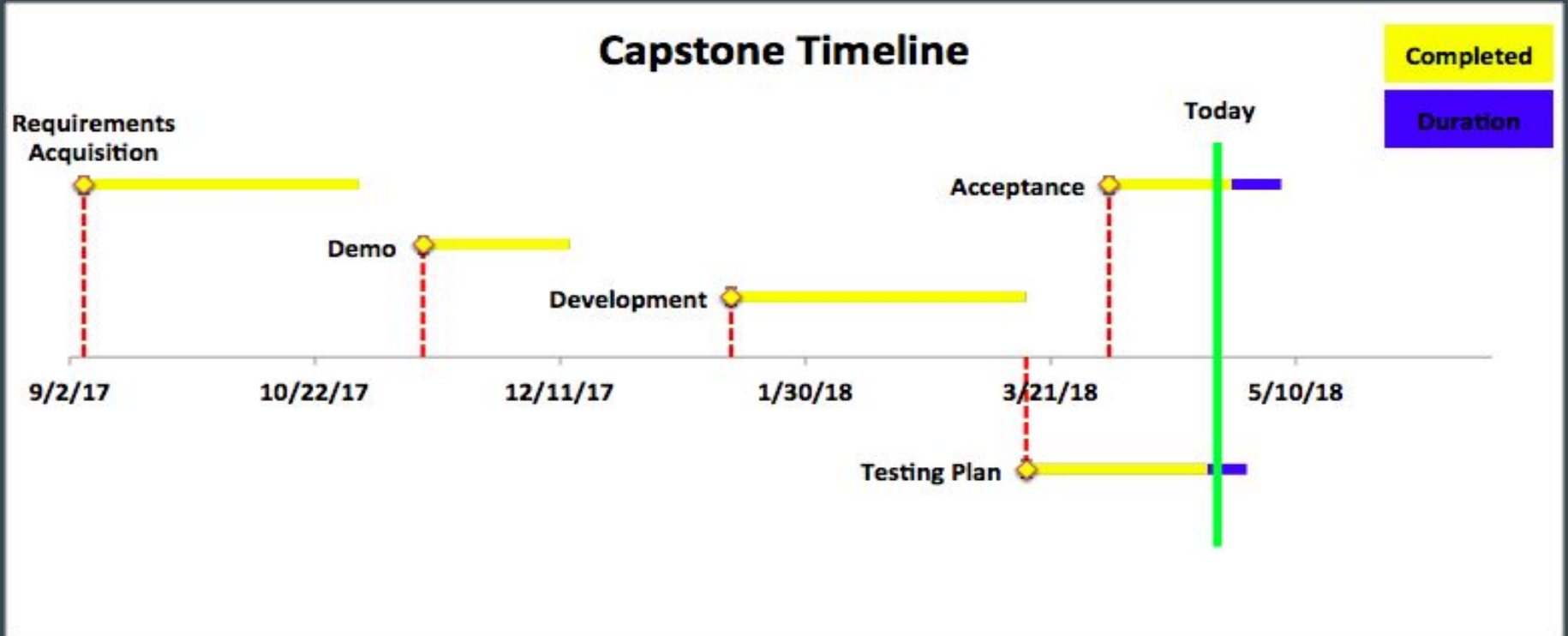
TCP/IP

Current



Future

# Design Methodology



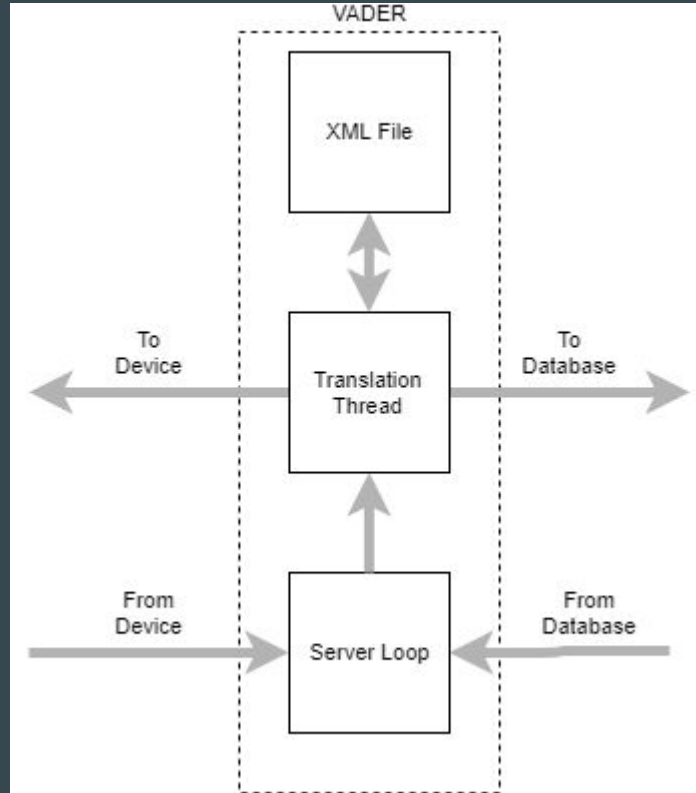
# Requirements

- Java Application
- AWS (Cloud)
- TCP/IP connections
- Will support multiple third party device protocols



# Architecture Overview

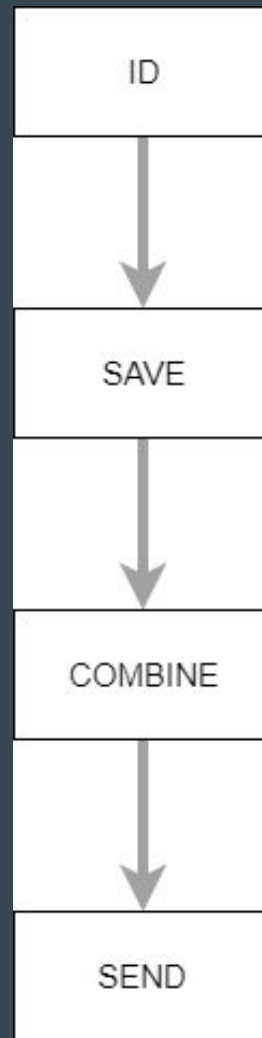
- Three main modules
  - 1. XML File
  - 2. Translation Thread
  - 3. Server Loop



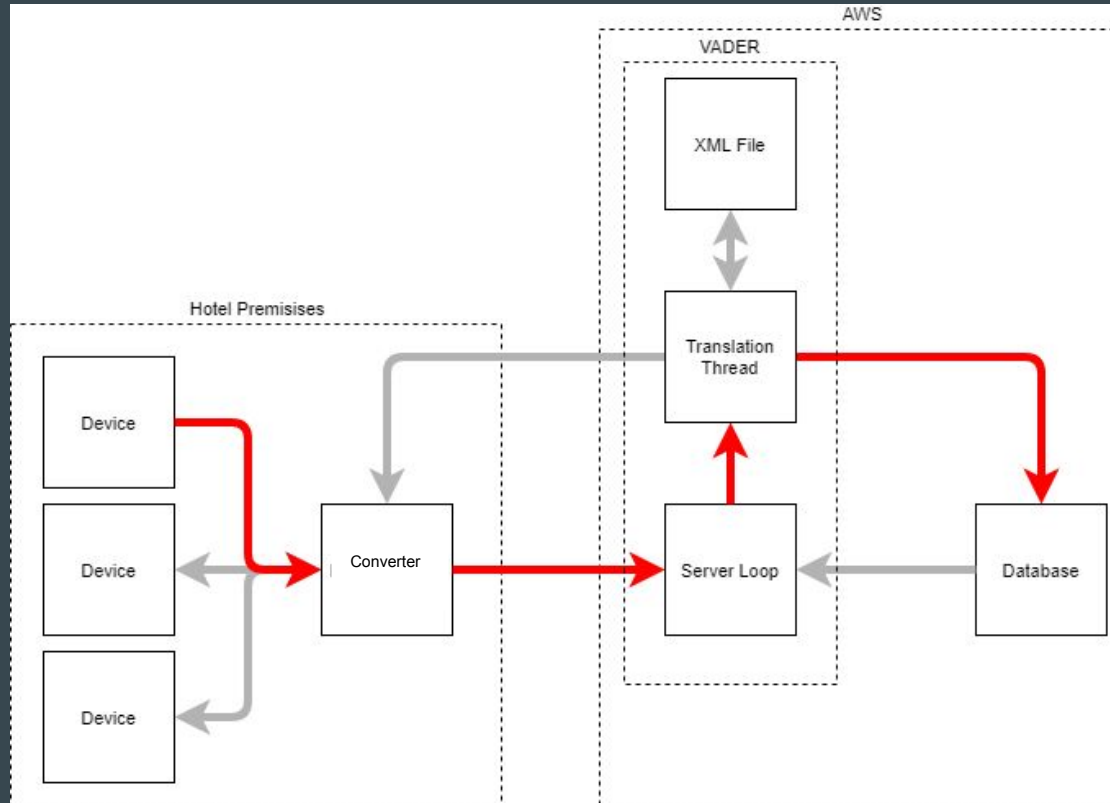


# XML File

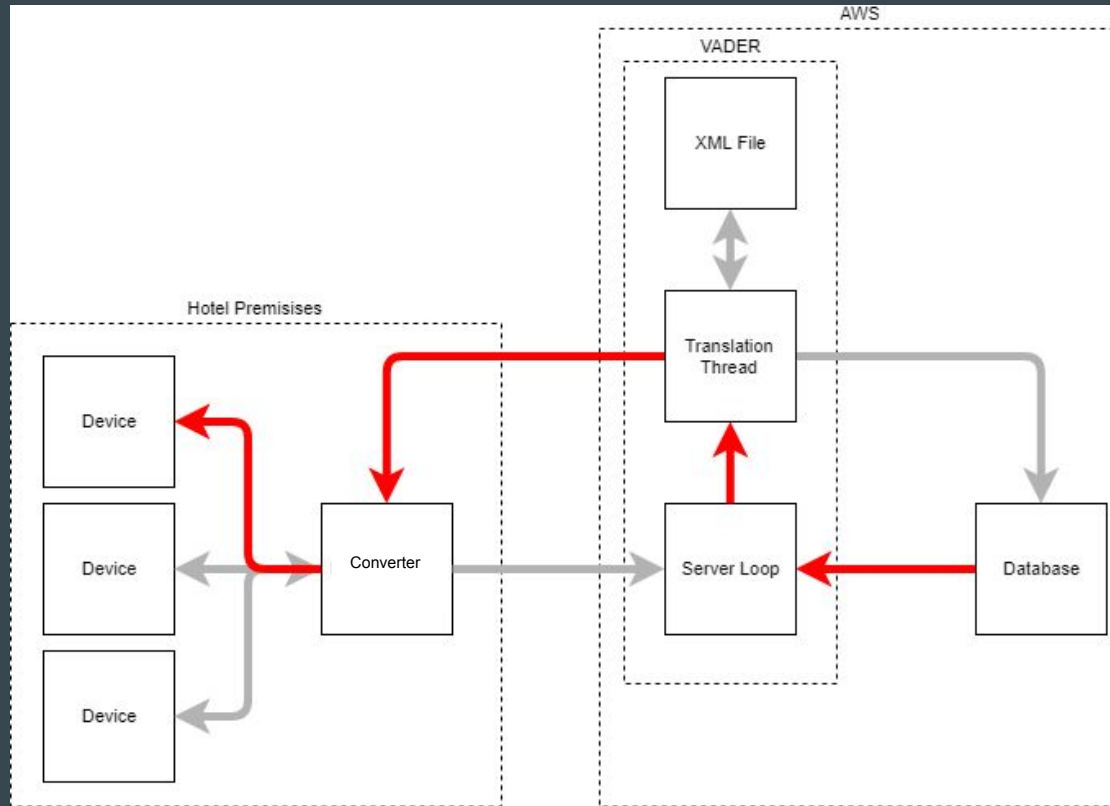
- ID
  - Contains a string that will identify if message is valid
- Save
  - What Bits of the message need to be saved for final message
- Combine
  - Shows the Final message (according to Save values)
- Send
  - Confirms to send the final message from combine field



# User Case: Device to Database



# User Case: Database to Device



# Prototype Example (Server)

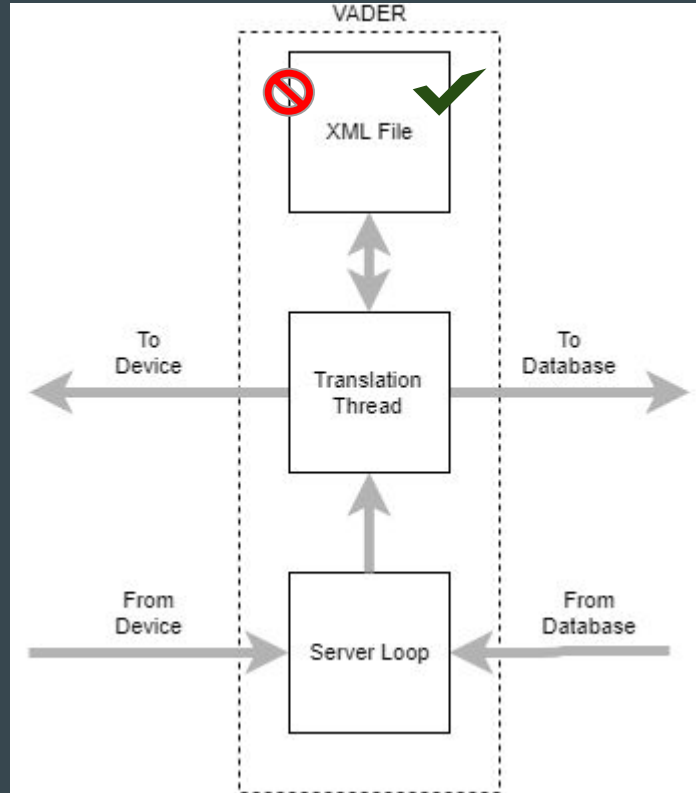
```
[Debug] Server Start.  
[Debug] Incoming data:  
<PosPostRequest>  
  <amount>10.12</amount>  
  <room>2</room>  
  <transaction-number>012345</transaction-number>  
  <source-terminal>2</source-terminal>  
  <destination-terminal>3</destination-terminal>  
  <terminal-number>41</terminal-number>  
  <device-type>2</device-type>  
  <device-code>231</device-code>  
  <approved-code>0</approved-code>  
  <declined-code>1</declined-code>  
</PosPostRequest>  
  
[Debug] Found xml file for data: PosPostRequest.xml  
[Debug] Translation Thread starting.  
[Debug] Finished Translation: SOH 0100000000000000 STX 2 2 41 2 3 231 012345 0 1 10.12 ETX 2138 EOT  
[Debug] Sending data to database: SOH 0100000000000000 STX 2 2 41 2 3 231 012345 0 1 10.12 ETX 2138 EOT  
[Debug] Translation Thread closing.
```

# Prototype Example (XML)

```
<?xml version="1.0" encoding="UTF-8"?>
<PosPostRequest>
  <ID>PosPostRequest</ID>
  <Save>
    <room>5:1</room>
    <terminal-number>16:2</terminal-number>
    <source-terminal>16:1</source-terminal>
    <destination-terminal>21:1</destination-terminal>
    <device-code>12:3</device-code>
    <transaction-number>19:6</transaction-number>
    <approved-code>14:1</approved-code>
    <declined-code>14:1</declined-code>
    <amount>7:5</amount>
  </Save>
  <Combine>SOH 010000000000000000 STX 2 +room+ +terminal-number+ +source-terminal+
    +destination-terminal+ +device-code+ +transaction-number+ +declined-code+ +approved-code+ +amount+ ETX 2138 EOT</Combine>
  <Send></Send>
</PosPostRequest>
```

# Testing Plan

- Individual Modules
- User Cases
  - With Proper XML File
  - Without Proper XML File



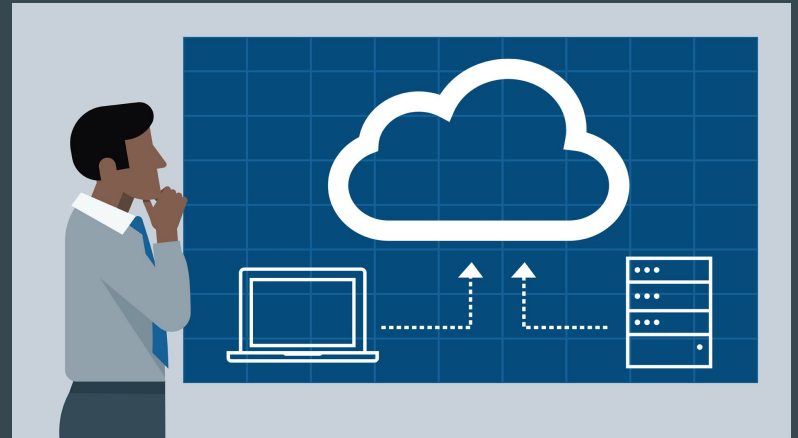
# Risks/Challenges

Hardware device:

- Serial Data
- Converter
- Appropriate Internet Protocols (IP)
- On site hardware

Architecture:

- AWS implemented in Java
- Modular



# Risk/Challenges

AWS integration:

- Security Clearance
- Port Clearance
- Code implementation



Virtual Machine:

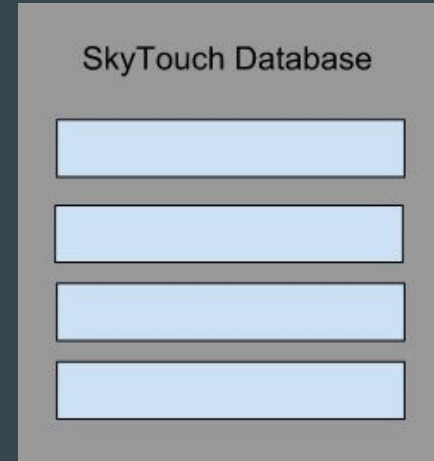
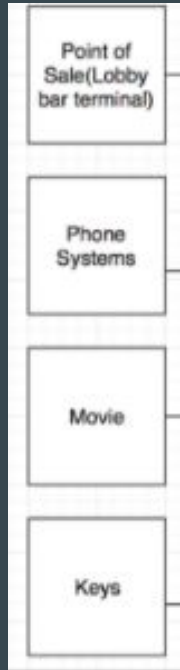
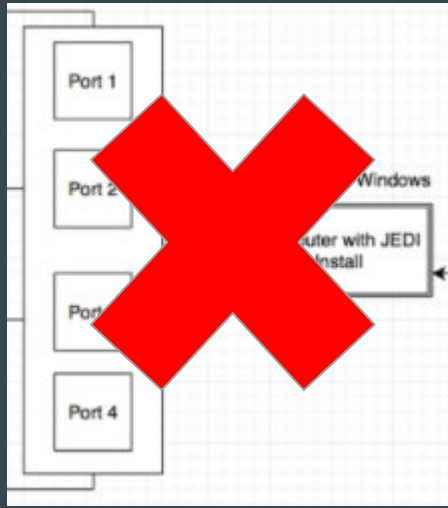
- Slow
- Unreliable





# Future Work

- RS-232 Converter
  - Ethernet
  - Bluetooth
    - Mobile
- Linux VM
- JSON - XML



# Questions/Comments?

Team CloudConnect sponsored by: [SkyTouch Technology](#)

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