

Wow where have these guys been!



MAD DASH

FIELD SERVICES



Utility Program Managers

Mad Dash has long been the premier installation provider for utilities across the country. From EE to DR to smart meter, we know your challenges and we deliver.



Consultants

Our highly trained field staff use meticulous processes to deliver robust, quality data for program evaluation and surveys.



Technology Partners

We connect our technology partners with program success through best-in-class processes and installation management from lab prep to turnkey implementation.



Commercial / Industrial / Hospitality Providers

Corporations nationwide rely on us for energy management, control, and savings from the latest EMS technology.

All the right connections

Unique Aspects of HAN Installations

Joseph O'Malley

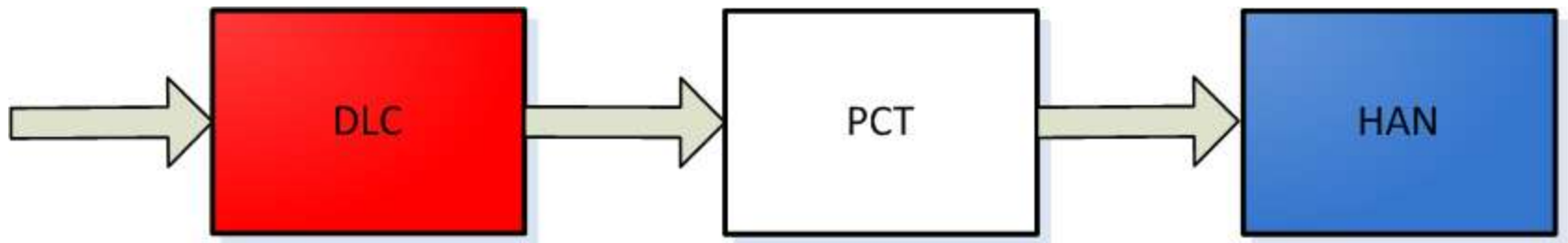
President

Mad Dash, Inc.

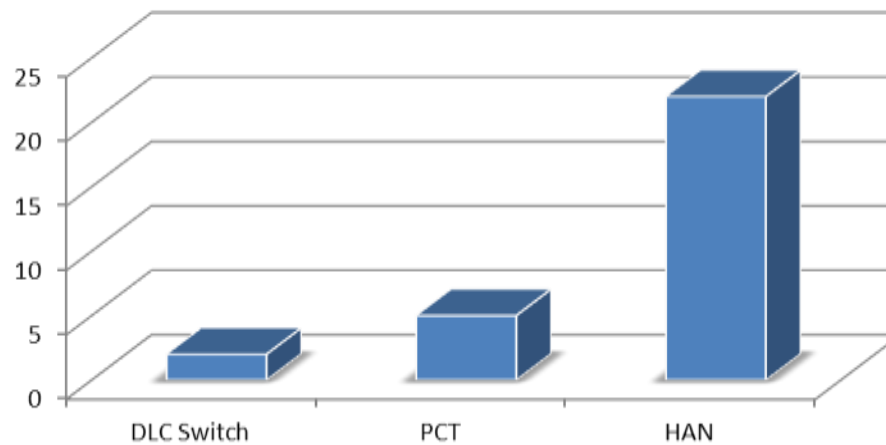
November 16th, 2011



Utility Program Progression

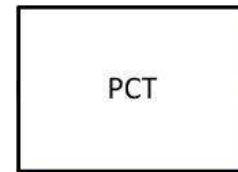


Complexity / Interaction / Opportunity



Common Elements of Installs

1. Equipment
2. Location access
3. Existing conditions
4. Customer interaction
5. Installation
6. Commissioning
7. Training

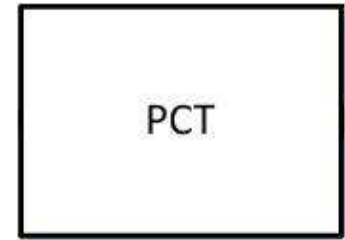


DLC Installation



1. Equipment – Tried and true
2. Location access – No appointment
3. Existing conditions – Well known
4. Customer interaction – Limited
5. Installation – Well known
6. Commissioning – Tried and true
7. Training – None

PCT Installation



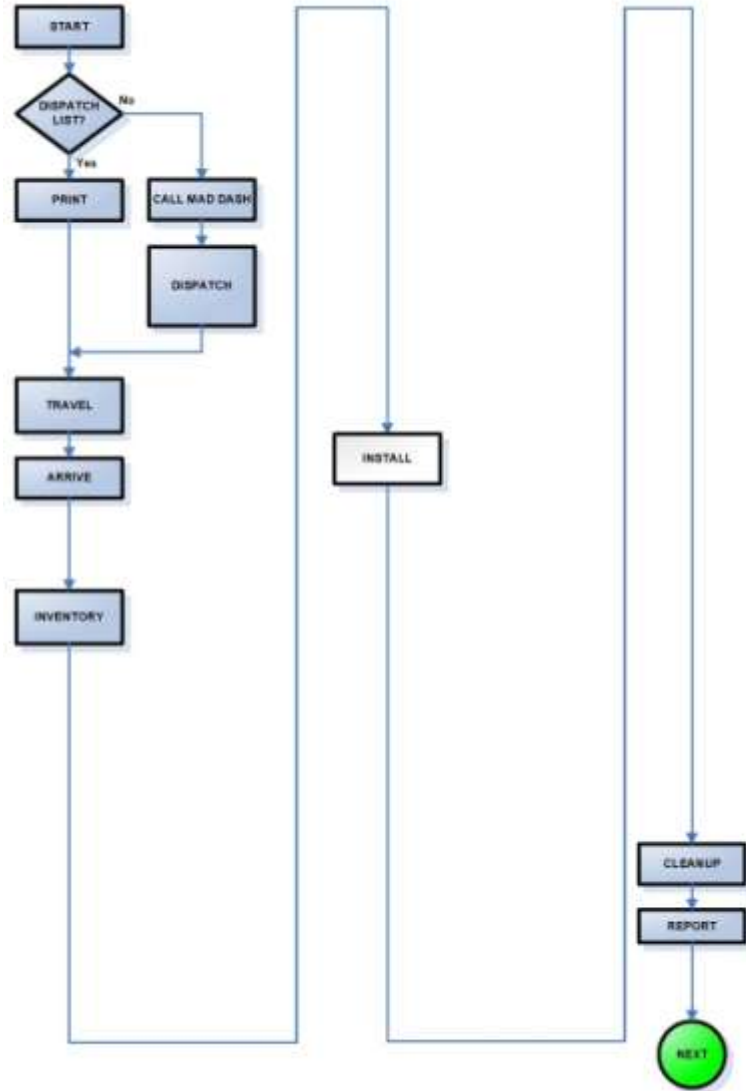
1. Equipment – **Tried and true**
2. Location access – ***Appointment***
3. Existing conditions – **Well known**
4. Customer interaction – ***Increased***
5. Installation – **Well known**
6. Commissioning – **Tried and true**
7. Training – **Limited**

HAN Installation

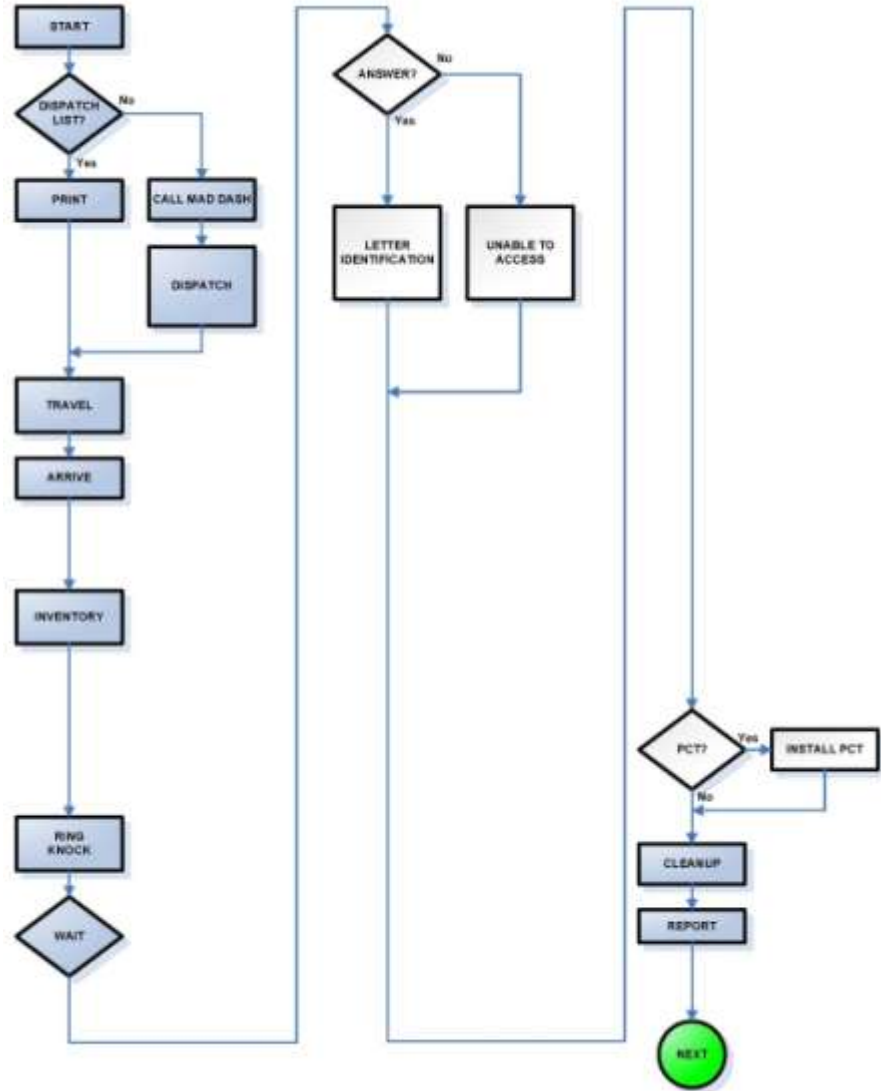


1. Equipment – *Cutting edge*
2. Location access – *Appointment*
3. Existing conditions – *Same as PCT PLUS!!!*
4. Customer interaction – *Significant*
5. Installation – *Complex & Technical*
6. Commissioning – *Bottlenecks*
7. Training – *Significant*

DLC Installation Process

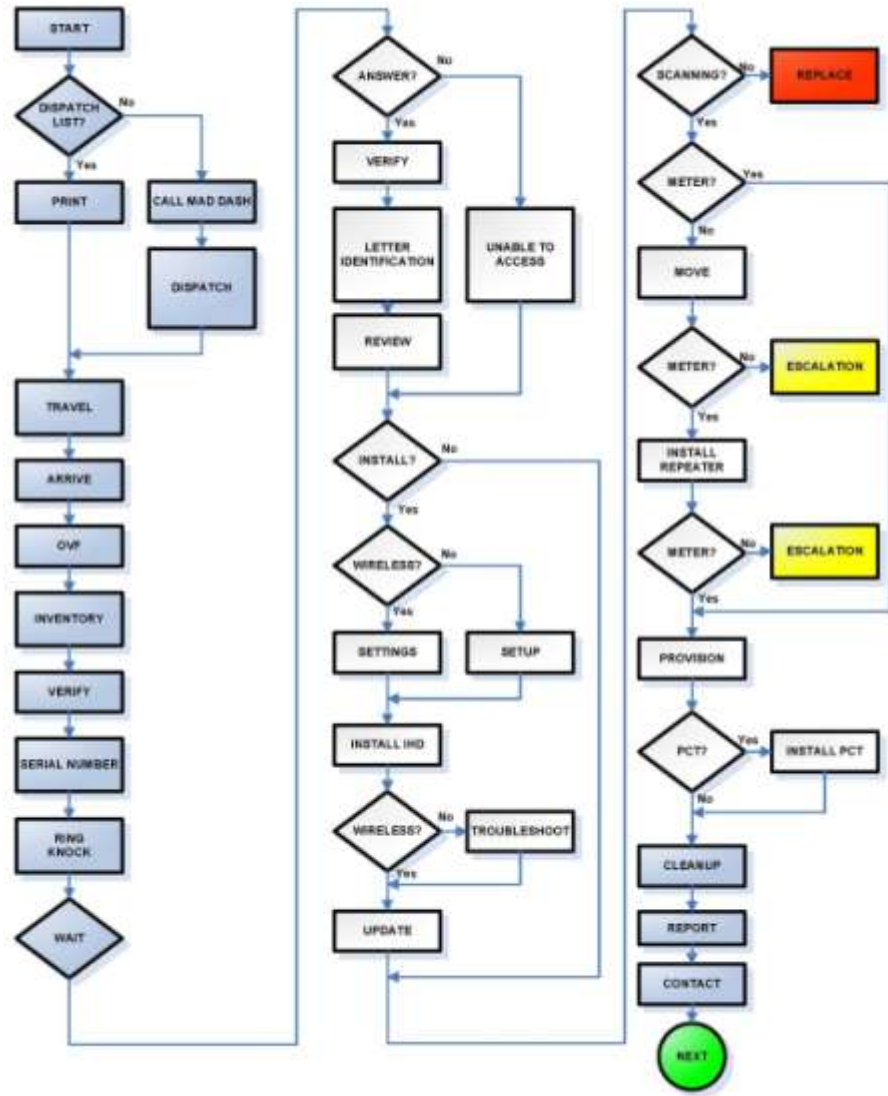


PCT Installation Process



HAN Installation Process

- Workflow
 - More than 40 steps
- Plan for all contingencies
 - Tracking
 - Escalation
 - Follow-up



HAN Installation Results

Case Study

600+ HAN installations

66 unique actions and issues

- Expected and routine
- **Unexpected**



	D	F	S	T	U	V
			Returns trip - additional work	Customer changed mind	No Internet - Clear did not work	Could not provision
1						
2	4G installed	success	1			
3	added PCT to existing rHD	success	1			
4	budget issue - Cust just paid for appt that it was faulty?	success		1		
5	Clear would not work	failure			1	
6	Corrected wiring on PCT	success	1			
7	could not get anything to provision	failure				1
8	could not get provisioned. Tech explained it to Kevin R. Need PV w/ Kevin	failure				1
9	could not provision - Kevin R. researching	failure				1
10	could not provision and found it to be a meter problem that Kevin will take care of	failure				1
11	could not provision tried several rHD - check meter	failure				1
12	cust decided not to have install because no room and she is moving soon	walk away		1		
13	cust did not have display on internet correctly	success	1			
14	cust did not have info for wireless, reschedule	walk away				
15	cust did not want PCT since it cannot be controlled on computer	walk away				
16	cust did not want to allow us access to their internet and decided it was too much effort and did not want the display	failure				

Field Support

- Logistics
- Equipment
- Personnel
- Transportation
- Tools & parts
- Escalation
 - Logistics
 - **Engineering**
 - **Commissioning**



Customer Access

- Fences
- Pets
- Alarms
- Wasps & bugs
- Appointment
 - *Customer availability*
 - *Needed for internet passwords*
- Walkaways
 - Customer not home
 - *Internet not operational*

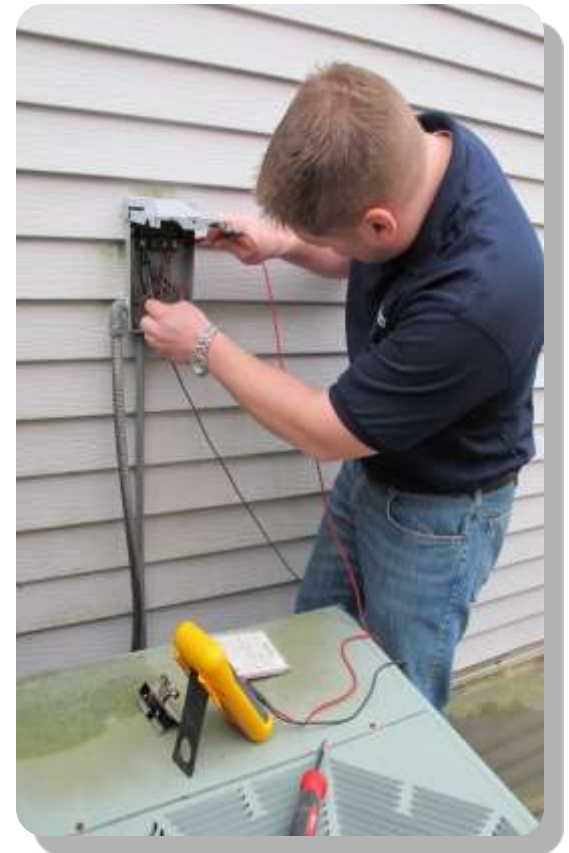
Customer Interaction

- Questions about program
- ***Customer changed mind***
- ***Training***
 - ***WEB portal interactive demo***
 - ***Capture customer interest***
 - ***Keep customer busy***
 - ***Engage customer***



Meter Readiness

- *Smart Meter installed*
- *Meter commissioned*
- *Meter communicating*
- *Meter proximity*



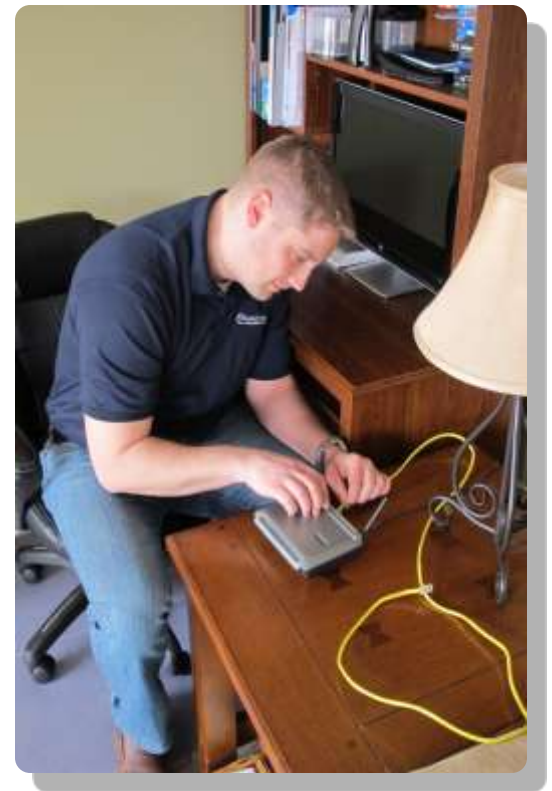
Pre-Existing Conditions: HVAC

- Boiler
- No AC
- Multiple AC
- Window AC
- Add-a-wire
- Pre-install operation
- Post-install operation
- Time & temp settings



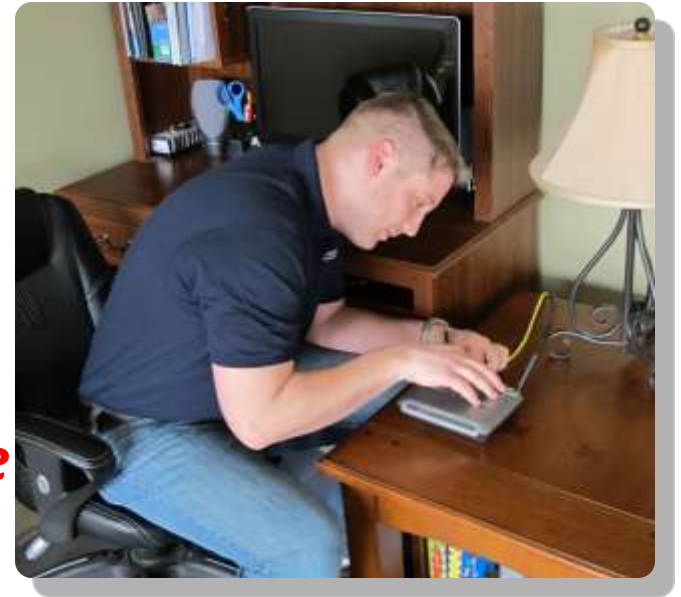
Pre-Existing Conditions: Internet

- *No internet*
- *Internet not operational*
- *Wireless not available*
- *Protocol & encryption*
- *Security & passwords*



Equipment

- Storage
- Delivery
- On hand versus on order
- Testing
- Repair
- **Reliability**
- ***In waves to ensure firmware – time***



Installation

(3) installations

1. Internet

- **Install wireless router if not existing**
- **Work through security, passwords, & encryption**

2. IHD

- **Wireless connectivity to Internet**
- **Pairing with Smart Meter**

3. PCT

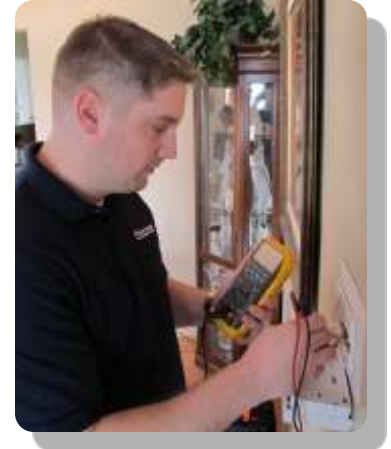
- **Mounting, wiring, & *aesthetics***
- **Temperature drift**
- **Set-point configuration**
- **Pairing with IHD**

After Meter installation



Commissioning

- **Communication verification**
 - *Verify communication w/ Smart Meter*
 - *Verify IHD communication w/ host portal*
- **Repeaters**
 - Proximity issues require installation of repeater
 - "Midpoint" repeater location requires 120VAC power
 - **Repeater requires configuration**
 - **Repeater requires commissioning**
 - **Assuming repeater commissions, IHD commissioning issues can be encountered**



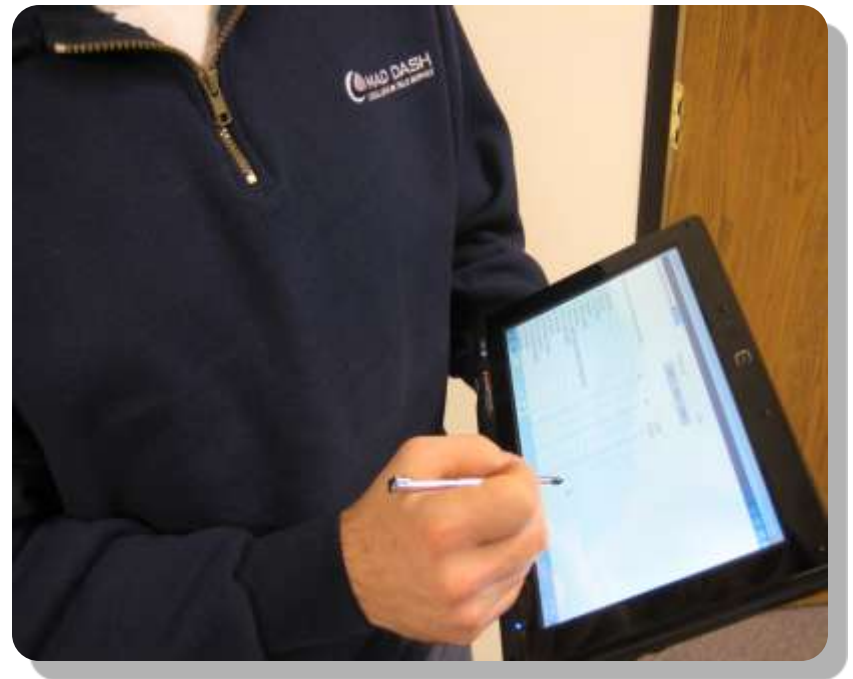
Training

- ***Customer operational training***
- ***Problem reporting process***



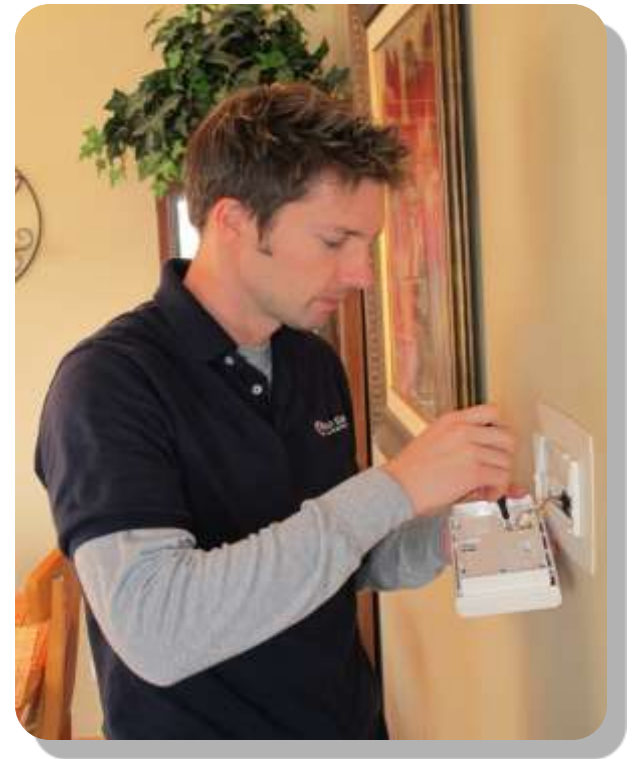
Documentation

- ***Model & serial numbers***
 - *IHD*
 - *PCT*
 - *Router*
 - *Wireless access*
 - *Repeaters*
- ***Internet type***



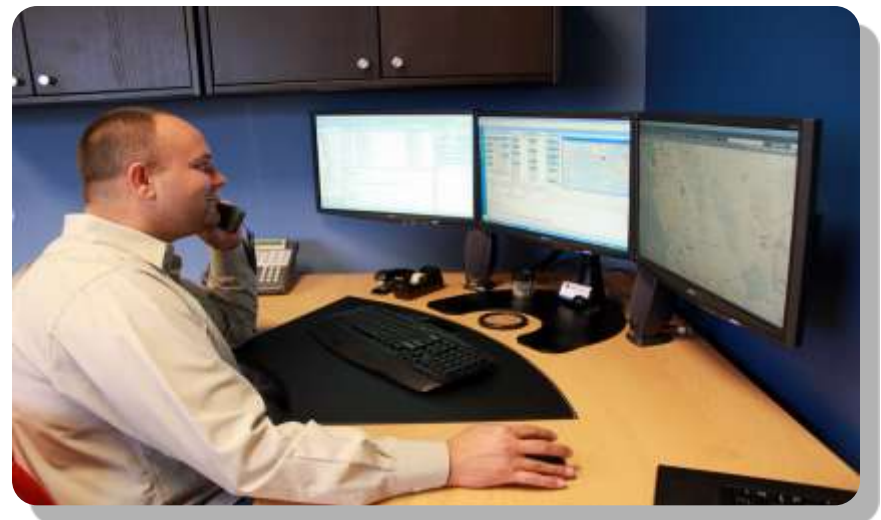
Quality Control

- ***Project management review***
 - *Field deliverables*
 - *Customer feedback*
 - *Field feedback*
 - *Inventory*
- ***Return trips***
 - *Follow-up*



Ongoing

- ***Operational monitoring***
- Problem reporting process
- ***Repair process***
 - ***Back to the swim lanes***



Joseph O'Malley

Mad Dash, Inc.

jmomalley@maddash.com

(o) 847-458-7600

(c) 847-226-2063

