

Continuous Counter Inventory Service Calls Database

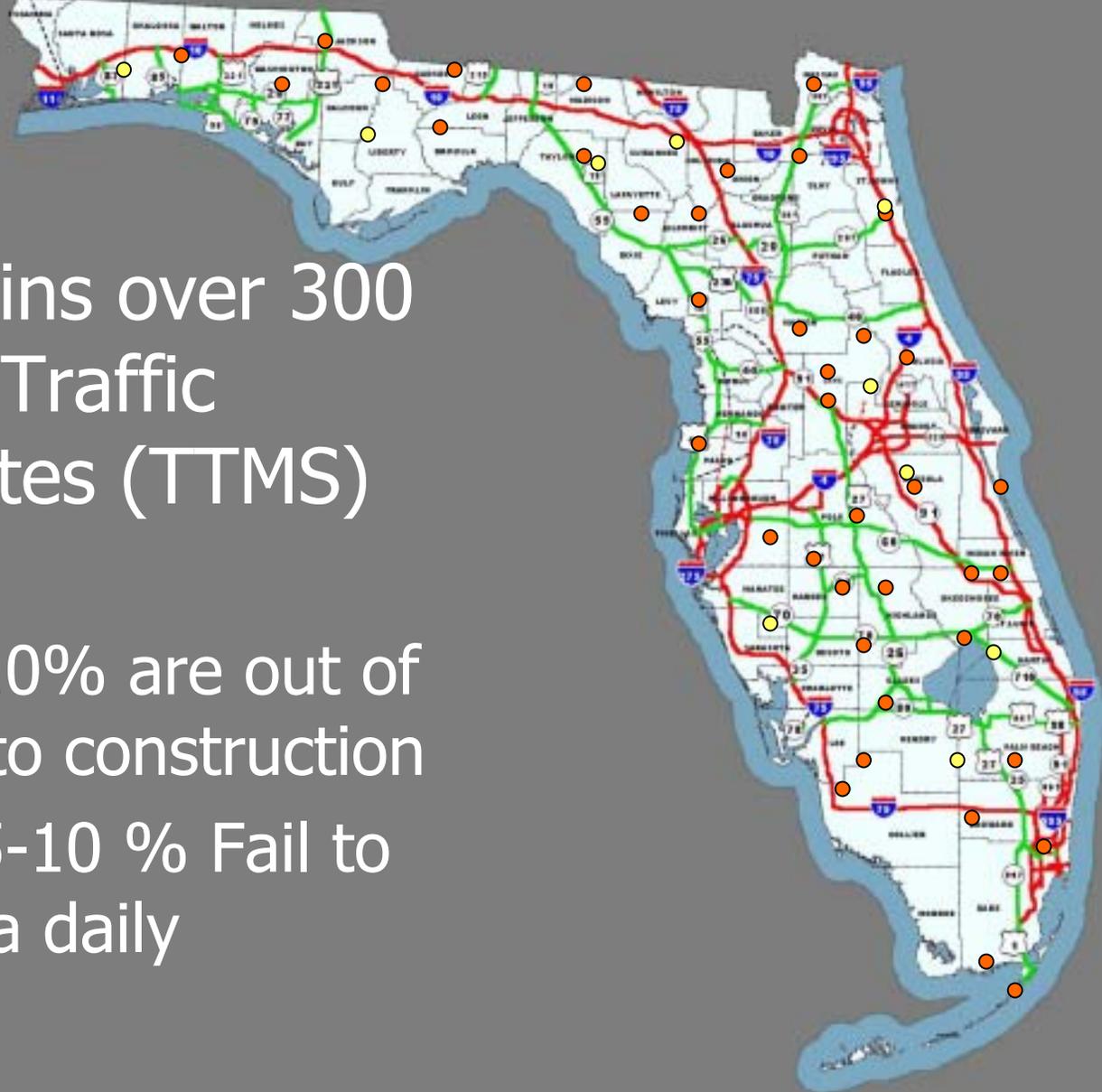
FLORIDA DEPARTMENT OF
TRANSPORTATION
TRANSPORTATION STATISTICS
OFFICE

NATMAC 2002. ORLANDO, FLORIDA

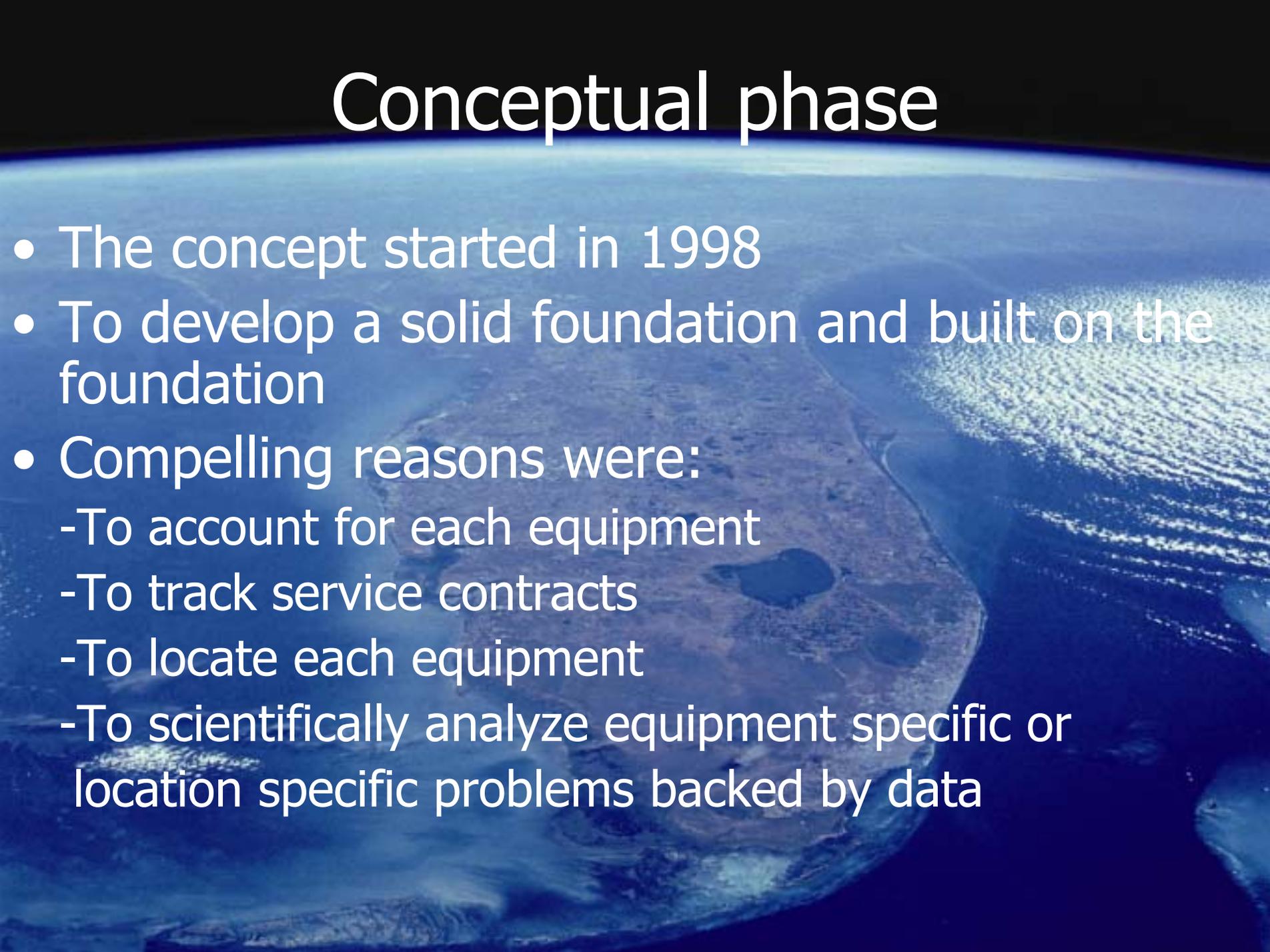
S. Frank Tabatabaee

Florida's Telemetered Traffic Monitoring Sites:

- FDOT maintains over 300 Telemetered Traffic Monitoring Sites (TTMS) state wide
 - Average of 10% are out of service due to construction
 - Average of 5-10 % Fail to transmit data daily



Conceptual phase



- The concept started in 1998
- To develop a solid foundation and built on the foundation
- Compelling reasons were:
 - To account for each equipment
 - To track service contracts
 - To locate each equipment
 - To scientifically analyze equipment specific or location specific problems backed by data

Design and Implementation Phase



- Needed equipment inventory database and interface
- Needed Service call database and interface
- Needed to Integrate/Interact Service Calls with Equipment Inventory database

Key Features of TTMS Service Calls and Equipment Inventory System:

- Allow users to initiate and record equipment and service calls
- Allow integration/interaction of Equipment Inventory and the Service Calls database
- Keep track of location of each TTMS equipment



Key Features of TTMS Service Calls and Equipment Inventory System:(Cont.)

- Use Service Calls status for the service contract upkeep
- Analyze problems based on historical service calls data
- Allow to account for each equipment
- Allow to locate each equipment



Equipment Inventory

Samas 310396

Unit Model 42 PHOENIX

Serial Number 1097EE38573

E-Prom

Location Code 0086 Unit Number 1

Inventory Date 05/04/2002

Inventoried By 502 Jim Martin/TEI

Unique State of Florida ID

Type of Equipment

Software Version #

Location & Unit # code

Date & Tech who visited the site

Date & Operator who entered the transaction

Change Date 05/04/2002

Changed By PL934FT

Service Calls Recording Capabilities:

- Details of Symptom, problem & Solution
- Coded features such as:
 - Initial Symptom
 - Actual Problem(s)
 - Actual Solution(s)
 - Additional Work
 - Automatic update to the Equipment Inventory database
 - Summary of Visit

Service Calls Recording Capabilities:(Cont.)

- Date problem(s) occurred
- Date problem(s) resolved
- Reoccurring problems are spotted
- Allows for Automatic Updates to the equipment inventory database, in Cases of Removal Due to
 - Construction of Roadway
 - Bad Equipment
 - Updated Equipment

Site location, Unit number and Unit model

SERVICE_CALLS_WIN

Service Calls

Site: 0086 Unitno: 1 Unit Model: 22 ADR-3000

Symptom: 15 Bad Classification Serv: 8/2002

Tech: 502 Jim Martin/TEI

Response Date: 02/11/2002 Completion Date: 05/10/2002 SAMAS NO.: 418241

SAMAS Status: S Search UnitMod: 42 Repl. SAMAS NO.: 310396

Comments: Replace PMU board in ADR-3000. Set unit to speed only - piezo in lane 1 is broken. had class

Symptom

Inventory action, Unit model and Samas number code

Problem		Solution		Maint Ind
Code	Description	Code	Description	
D18	Bad PMU board	A14	Replace PMU board	
F03	Bad piezo sensor	F05	Replace Piezo	

Coded Problems and Solutions

Install New Equipment

- The following is illustration of equipment Installation at site location 0023 due to completion of new road construction.



Unit models available

Equipments that are in Warehouse listed to select from

Install Option

Site 0023 Unitno 1 Unit

Response Date 05/01/2002 Completion Date 05/02/2002 SAMAS NO.

SAMAS Status [I] Search UnitMod 42 Repl. SAMAS NO. 310396

Find %

Unit Model	Description
0	UNKNOWN
11	C-1005
12	DAW-200
13	DAW-100
14	AVC-100
19	DAW-190
21	TC-III 241
22	ADR-3000
23	ADR WIM
24	TC241-A
25	ADR-1000
26	ADR-6000 IDRIS
31	VC-1900
41	TT-2001
42	PHOENIX
81	CELLPH-MOTOROLA
82	CELLPH-DL3000
83	CELLPH-SFT
88	RTMS
99	PEEKDLL

Find %

Samas	Site	UnitNo	UnitMod
310396	WHSE	1	42
406702	WHSE		42
416250	WHSE		42
416270	WHSE	1	42
416271	WHSE		42
416714	WHSE		42
416715	WHSE		42
416755	WHSE	1	42
416914	WHSE	1	42
417050	WHSE		42

Find OK Cancel

Only unit models 42 in warehouse is displayed

Equipment Inventory

Samas 310396

Unit Model 42 PHOENIX

Serial Number 1097EE38573

E-Prom

Location Code WHSE

Unit Number

Inventory Date 01/14/2002

Inventoried By 106 Jonathan Headings/DOT

Comments

[Comment field (256 characters)]

Equipment with Samas number 310396 is in Warehouse location

Date and Tech who Inventoried Equipment

Date & Operator who entered equipment in database

Change Date 01/14/2002
Changed By OPS\$SP_ADMIN



Service call is closed

SERVICE_CALLS_WIN

Service Calls

Site Unitno Unit Model PHOENIX

Symptom None

Tech Jerry Maxwell/DOT

Response Date Completion Date Serv. call Stat Report Date

SAMAS NO. Repl. SAMAS NO.

UnitMod

Equipment is now installed at site 0023

Installed new equipment

Problem Code	Description	Solution Code	Descr

Samas number assigned from Equipment Inventory and stored in Service Calls DB for historical purposes

Equipment Inventory

Samas 310396

Unit Model 42 PHOENIX

Serial Number 1097EE38573

E-Prom

Location Code 0023

Unit Number 1

Inventory Date 05/02/2002

Inventoried By 101 Jerry Maxwell/DOT

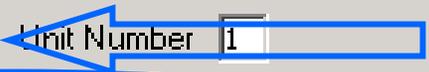
Comments

Location for Samas
310396 is automatically
updated to 0023 from
Service Calls

Date & Tech.
Who Installed
the equipment

Date and Operator who
made the change.

Change Date 05/03/2002
Changed By PL934FT



Equipment Removal

- The following is illustration of equipment Removal at site location 0023 due to start of road construction project.



I've fallen and I can't get up!



Equipment to be Removed
from site 0023



Service Calls

Site: 0023 Unitno: 1 Unit Model: 42 PHOENIX

Symptom: 9 Stopped Recording Serv. call Stat: C

Tech: 104 Frank Curtis/DOT Report Date: 05/05/2002

Response Date: 05/06/2002 Completion Date: 05/07/2002 SAMAS NO.:

SAMAS Status: R Search UnitMod: 42 Repl. SAMAS NO.: 310896

Comments
Removed equipment due to failure.

Unit Model 42 is selected

Problem Code	Description	Solution Code	Description	Maint Ind
D01	Counter not working	H02	Remove Equipment	

Samas number for site 23 is selected form the Equip Inv.

Equipment Inventory

Samas

Unit Model

Serial Number

E-Prom

Location Code

Unit Number

Inventory Date

Inventoried By

Comments

Equipment with Samas number 310396 is at location 0023

Date & Tech. Who inspected the equipment last

Date and Operator who logged data.

Change Date
Changed By



Equipment Inventory

Samas

Unit Model

Serial Number

E-Prom

Location Code Unit Number

Inventory Date

Inventoried By

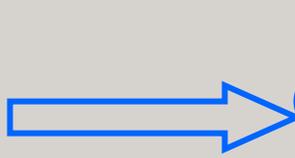
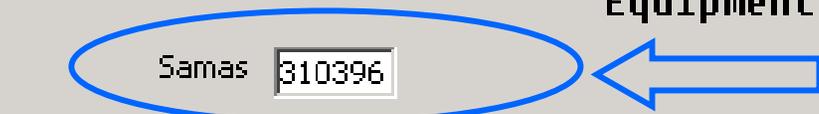
Equipment with Samas number 310396 is now in Warehouse location as a result of equipment removal in Service Call and inventory date is updated

Technician who removed the equipment

Date & operator who updated data

Change Date

Changed By





Service Call is Closed

SERVICE_CALLS_WIN

Service Calls

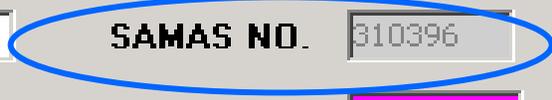
Site 0023 Unitno 1 Unit Model 42 PHOENIX

Symptom 9 Stopped Recording Serv. call Stat C

Tech 104 Frank Curtis/DOT Report Date 05/05/2002

Response Date 05/06/2002 Completion Date 05/07/2002 SAMAS NO. 310396

SAMAS Status Search UnitMod Repl. SAMAS NO.



Samas number is saved for this service call for historical purposes

Comments
Removed equipment due to failure.

Problem		Solution		
Code	Description	Code	Description	Maint Ind
D01	Counter not working	H02	Remove Equipment	

Swap Equipment

- The following is illustration of equipment Swap at two locations. One on site location and the other in warehouse.



Equipment Inventory

Samas

Unit Model

Serial Number

E-Prom

Location Code Unit Number

Inventory Date

Inventoried By

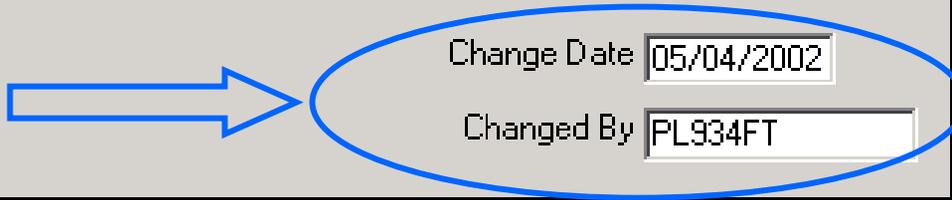
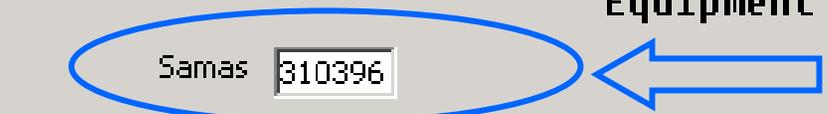
Equipment with Samas number 310396 is in Warehouse location

Technician who inspected the equipment last

Date & operator who updated data

Change Date

Changed By



Equipment Inventory

Samas

Unit Model

Serial Number

E-Prom

Location Code Unit Number

Inventory Date

Inventoried By

Equipment with Samas number 418241 is at site location 0086



Date and tech. who visited the site last



Comments

Comment field (256 characters)

Change Date

Changed By



Equipment with Samas # 418241 is to be replaced with Samas 310396

Code for equipment to be swapped

Service Calls

Site: 0086 Unitno: 1 Unit Model: 22 ADR-3000

Symptom: 15 Bad Classification Serv. call Stat: C

Tech: 502 Jim Martin/TEI Report Date: 02/08/2002

Response Date: 02/11/2002 Completion Date: 05/10/2002 SAMAS NO.: 418241

SAMAS Status: S Search UnitMod: 42 Repl. SAMAS NO.: 310396

Comments: Replace PMU board in ADR-3000. Set unit to speed only - piezo in lane 1 is broken, bad class.

Unit model 42 and equipment with Samas # 310396 from Warehouse is selected

Equipment 418241 will be in Warehouse status and equipment 310396 will be at the location 0086 status

Problem Code Description

D18	Bad PMU board
F03	Bad piezo sensor
F05	Replace Piezo

Equipment Inventory

Samas	310396		
Unit Model	42 PHOENIX		
Serial Number	1097EE38573		
E-Prom			
Location Code	0086	Unit Number	1
Inventory Date	05/04/2002		
Inventoried By	502	Jim Martin/TEI	
Comments			

Equipment with Samas number 310396 is updated to location 0086 as the result of Service Call Swap transaction

Date & Tech who made the Swap transaction

Date & Operator who entered the transaction

Change Date	05/04/2002
Changed By	PL934FT

Equipment Inventory

Samas

Unit Model

Serial Number

E-Prom

Location Code Unit Number

Inventory Date

Inventoried By

Comments

Equipment with Samas number 418241 is updated to location Warehouse as the result of Service Call Swap transaction

Date & Tech. Who made the Swap transaction

Date & Operator who entered the transaction

Change Date
Changed By

Summary

- **Equipment can be evaluated based on their merit backed by historical data**
- **Equipment failures can be tracked and resolved timely, minimizing loss of data**
- **Sites visited during the year need not be visited for the purpose of annual inventory**

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