

2014 소프트웨어공학설계

# System Test Plan & Result

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201111356 박준한

201111360 손준익

201111367 여승훈

# Index



**PTS System & Changes**

**Test Case Specification**

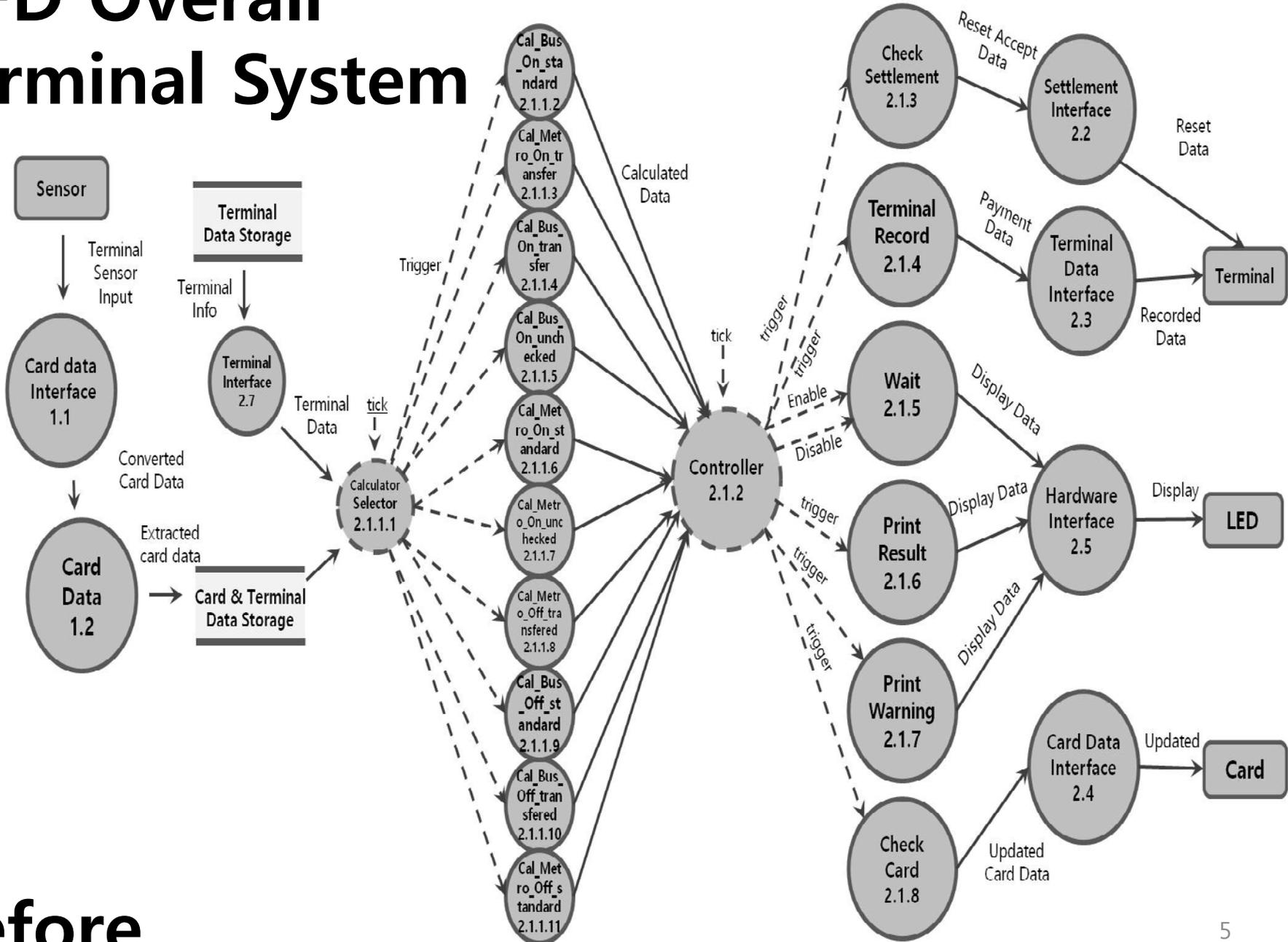
**T1 Test Result**

**T2 Test Result**

# PTS System

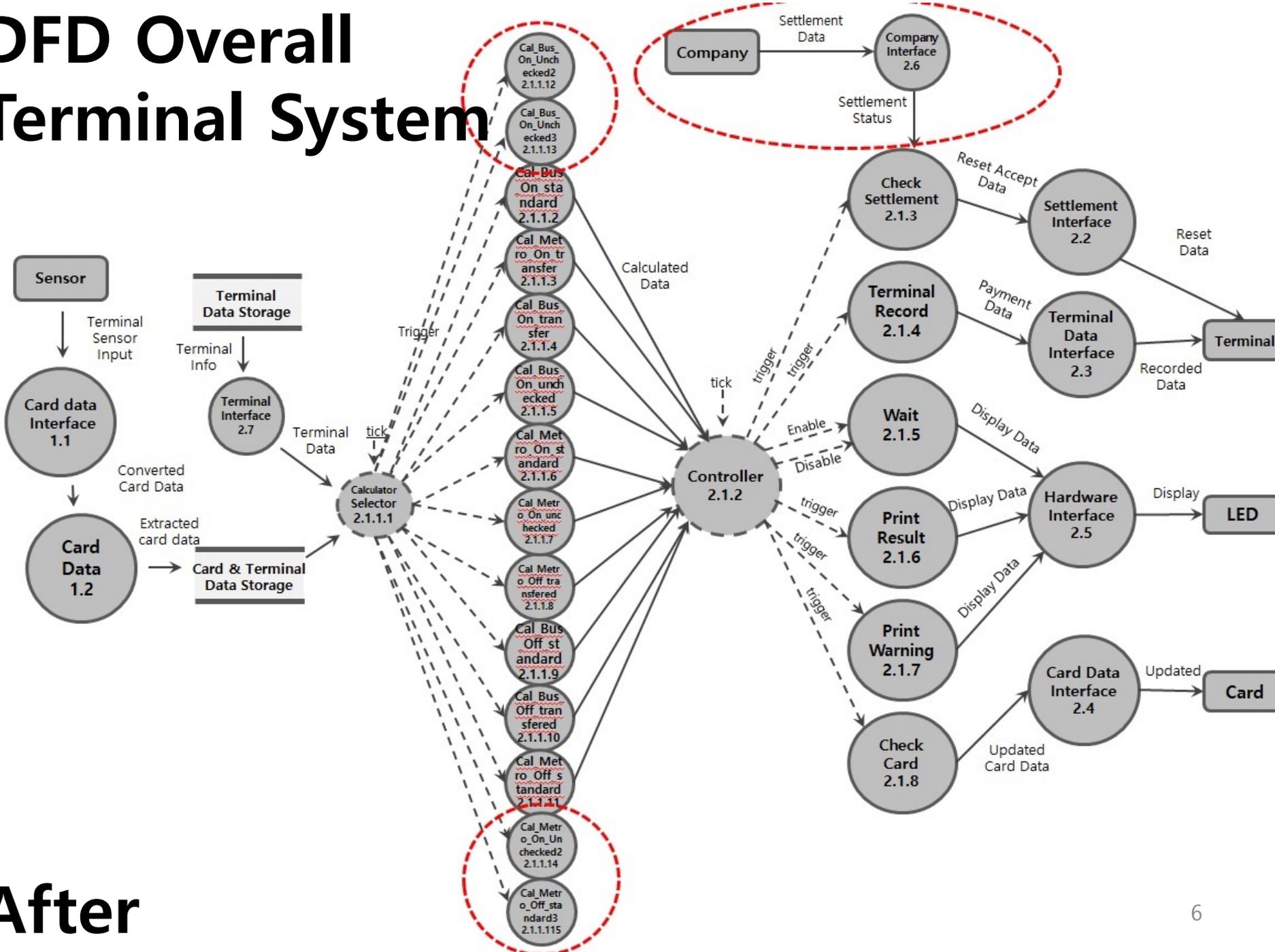
# Terminal System

# DFD Overall Terminal System



Before

# DFD Overall Terminal System



After

# Test Case Specification

# 요금 테스트

# 요금 테스트

- 기본 요금
- 환승 후 하차 요금
  - 지하철 -> 버스 환승  
30초 단위로
  - 버스 -> 지하철  
5개역마다 5개역으로
- 미정산 요금
  - 무단 하차
  - 하루가 지남

Test case identifier	Input specification	Output specification
T1.PTS.STC.000.000	(CardData) M,999050,1_3 (TerminalData) B,1,1050,0_3	(Terminal.txt) YYYYMMDDHHMM,B,1,988900,0_8 (Card.txt)YYYYMMDDHHMM,B,0,988900,0_9
T1.PTS.STC.000.001	(CardData)B,0,988900,0_9 (TerminalData) B,0,0,0_9	(Terminal.txt) YYYYMMDDHHMM,M,1,1050,1_7 (Card.txt) YYYYMMDDHHMM,M,1,987850,1_7
T1.PTS.STC.000.002	(CardData) 201503060008,M,1,736400,1_1 201503060016,M,0,736200,3_1 201503060032,B,1,736200,0_1 (TerminalData) 201503060008,M,1,1050,1_1 201503060016,M,0,200,3_1 201503060032,B,1,0,0_1	(Terminal) 현재요금 : 1050, 잔액 : 98950 (Terminal.txt) 201412010808,B,1,988900,0_8 (Card.txt)201412010808,B,0,988900,0_9
T1.PTS.STC.000.003	(CardData) 201503070056,M,1,733050,1_3 201503070104,M,0,733050,1_4 201503070120,B,1,733050,0_2 (TerminalData) 201503070056,M,1,1050,1_3	(Terminal.txt)201503070616,B,0,100,0_3 (Card.txt)201503070616,B,0,732950,0_3

# 요금 테스트

- 무단하차

- 환승시

- 지하철 -> 지하철 ->

- 버스 -> 지하철

- 버스->버스->

- 지하철->버스

- 기본

- 지하철->버스->버스->

- 지하철

Test case identifier	Input specification	Output specification
T1.PTS.STC.000.000	(CardData) M,999050,1_3 (TerminalData) B,1,1050,0_3	(Terminal.txt) YYYYMMDDHHMM,B,1,988900,0_8 (Card.txt)YYYYMMDDHHMM,B,0,988900,0_9
T1.PTS.STC.000.001	(CardData)B,0,988900,0_9 (TerminalData) B,0,0,0_9	(Terminal.txt) YYYYMMDDHHMM,M,1,1050,1_7 (Card.txt) YYYYMMDDHHMM,M,1,987850,1_7
T1.PTS.STC.000.002	(CardData) 201503060008,M,1,736400,1_1 201503060016,M,0,736200,3_1 201503060032,B,1,736200,0_1 (TerminalData) 201503060008,M,1,1050,1_1 201503060016,M,0,200,3_1 201503060032,B,1,0,0_1	(Terminal) 현재요금 : 1050, 잔액 : 98950 (Terminal.txt) 201412010808,B,1,988900,0_8 (Card.txt)201412010808,B,0,988900,0_9
T1.PTS.STC.000.003	(CardData) 201503070056,M,1,733050,1_3 201503070104,M,0,733050,1_4 201503070120,B,1,733050,0_2 (TerminalData) 201503070056,M,1,1050,1_3	(Terminal.txt)201503070616,B,0,100,0_3 (Card.txt)201503070616,B,0,732950,0_3

# 요금 테스트

- 지하철 -> 지하철
- 지하철 -> 버스
- 버스 -> 지하철
- 버스 -> 버스

Test case identifier	Input specification	Output specification
T1.PTS.STC.000.000	(CardData) M,999050,1_3 (TerminalData) B,1,1050,0_3	(Terminal.txt) YYYYMMDDHHMM,B,1,988900,0_8 (Card.txt)YYYYMMDDHHMM,B,0,988900,0_9
T1.PTS.STC.000.001	(CardData)B,0,988900,0_9 (TerminalData) B,0,0,0_9	(Terminal.txt) YYYYMMDDHHMM,M,1,1050,1_7 (Card.txt) YYYYMMDDHHMM,M,1,987850,1_7
T1.PTS.STC.000.002	(CardData) 201503060008,M,1,736400,1_1 201503060016,M,0,736200,3_1 201503060032,B,1,736200,0_1 (TerminalData) 201503060008,M,1,1050,1_1 201503060016,M,0,200,3_1 201503060032,B,1,0,0_1	(Terminal) 현재요금 : 1050, 잔액 : 98950 (Terminal.txt) 201412010808,B,1,988900,0_8 (Card.txt)201412010808,B,0,988900,0_9
T1.PTS.STC.000.003	(CardData) 201503070056,M,1,733050,1_3 201503070104,M,0,733050,1_4 201503070120,B,1,733050,0_2 (TerminalData) 201503070056,M,1,1050,1_3	(Terminal.txt)201503070616,B,0,100,0_3 (Card.txt)201503070616,B,0,732950,0_3

# 환승 가능 시간 테스트

# 환승 가능 시간 테스트

- 실제 15초 = PTS 2H
- 버스 -> 지하철  
환승 확인
- 지하철 -> 버스  
환승 확인

	(TermianlData) 201503280032,B,1,1050,0_1 201503280032,B,0,0,0_2	201503280136,M,1,0,1_1
T1.PTS.STC.001.003	(CardData) 201503281056,B,1,593550,0_11 201503281120,B,0,593550,0_12 (TermianlData) 201503281056,B,1,1050,0_11 201503281120,B,0,0,0_12	(Card) 201503281320,M,1,593550,1_3 (Terminal) 201503281320,M,1,0,1_3
T1.PTS.STC.001.004	(CardData) 201503281920,B,1,588150,0_19 201503281920,B,0,588150,0_20 (TermianlData) 201503281920,B,1,1050,0_19 201503281920,B,0,0,0_20	(Card) 201503282128,M,1,587100,1_5 (Terminal) 201503282128,M,1,1050,1_5
T1.PTS.STC.001.005	(CardData) 201503290336,M,0,581600,1_8 201503290336,M,1,580550,1_9 201503290344,B,1,579300,0_2 201503290352,B,0,579300,0_3 (TermianlData)	(Card) 201503290408,M,1,579300,1_10 (Terminal) 201503290408,M,1,0,1_10

Team1

# 잔액 부족 테스트

# 잔액 부족 테스트

- 기본요금 부족
- 환승 최대요금 부족

	201504092056,B,0,500,0_6 (TermianlData) 201504092056,B,0,0,0_6	201504092056,B,0,500,0_6 (Terminal) 201504092056,B,0,0,0_6
T1.PTS.STC.002.002	(CardData) 201504110104,B,1,1450,0_1 201504110120,B,0,1450,0_2 201504110136,M,1,1450,1_1 (TermianlData) 201504110104,B,1,1050,0_1 201504110120,B,0,0,0_2 201504110136,M,1,0,1_1	(Card) 201504110136,M,1,1450,1_1 (Terminal) 201504110136,M,1,0,1_1
T1.PTS.STC.002.003	(CardData) 201504111656,M,0,1500,1_2 201504111856,M,1,450,1_3 201504111912,M,0,450,1_4 (TermianlData) 201504111656,M,0,0,1_2 201504111856,M,1,1050,1_3 201504111912,M,0,0,1_4	(Card) 201504111920,B,1,450,0_3 (Terminal) 201504111920,B,1,0,0_3
T1.PTS.STC.002.004	(CardData) 201504120216,B,1,2450,0_1	(Card) 201504120240,B,1,800,0_3

Team1

# 정산 시스템 테스트

# 정산 시스템

- 정산 요금 테스트

	M,1,1050      M,0,0 M,1,1050      M,0,200 B,1,1050      B,0,0 B,1,1050      B,0,0 B,1,1050      B,0,0}	
T1.PTS.STC.003.002	Input=Terminal_Data{ B,1,1050      B,0,0 B,1,1050      B,0,0 B,1,1050      B,0,0 M,1,1050      M,0,200 M,1,1050      M,0,0 M,1,1050      M,0,200}	Output=Settled_Bus_Fee.txt{3150,201412230304,B} Settled_Metro_Fee.txt{3550,201412230904,M}
T1.PTS.STC.003.003	Input=Terminal_Data{ B,1,1050      B,0,0 M,1,1050      M,0,0 B,1,1050      B,0,0 M,1,1050      M,0,200 B,1,1050      B,0,0 M,1,1050      M,0,0}	Output=Settled_Bus_Fee.txt{3150,201412251408,B} Settled_Metro_Fee.txt{3550,201412251736,M}
T1.PTS.STC.003.004	Input=Terminal_Data{	Output=Settled_Bus_Fee.txt{1575,201412270712,B}

# 기타 요구사항 만족 테스트

# 기타 요구사항 만족 테스트

- 정산 완료 신호 테스트
- 정산 시스템 주기 테스트
- 텍스트 파일

T1.PTS.STC.004.000	Input=Clock(YYYYMMDDHHmm	Output=Settled_Bus_Fee.txt{Settled_Fee,Last_Tag,Transportation}
T1.PTS.STC.005.000	Input= Day1{정산완료 신호}, Day2(NULL}	Output=Day1.Terminal_Data 정상 생성 Day2.Terminal_Data 정상 생성
T1.PTS.STC.006.000	Input=Clock(YYYYMMDDHHmm =YYYYMMDD0000) 시스템 상 하루는 180초 이므로, 180초 마다 HHmm는 0000이 된다.	Output=Settled_Bus_Fee.txt{Settled_Fee,Last_Tag,Transportation} Settled_Metro_Fee.txt{Settled_Fee,Last_Tag,Transportation} OK.txt(NULL}
T1.PTS.STC.007.000	Input=Tag	Output=Card_Data.txt{Tag_time,Transportation,On_Board,Balance,TerminalID_Count}
T1.PTS.STC.007.001	Input=Tag	Output=Terminal_Data.txt{Tag_time,Transportation,On_Borad,Fee,TerminalID_Count}
T1.PTS.STC.007.002	Input=Clock(YYYYMMDDHHmm =YYYYMMDD0000)	Output=Settled_Fee.txt{Last_Tag,Settled_Fee,Transportation}

# T1 Testing Result

# Testing Result

- Total Case : 113
- Pass : 110
- Fail : 3

# T2 Testing Result

# Testing Result

- Total Case : 113
- Pass : 65
- Fail : 48

**Q & A**