소프트웨어공학개론
Network Printing System

Team T5

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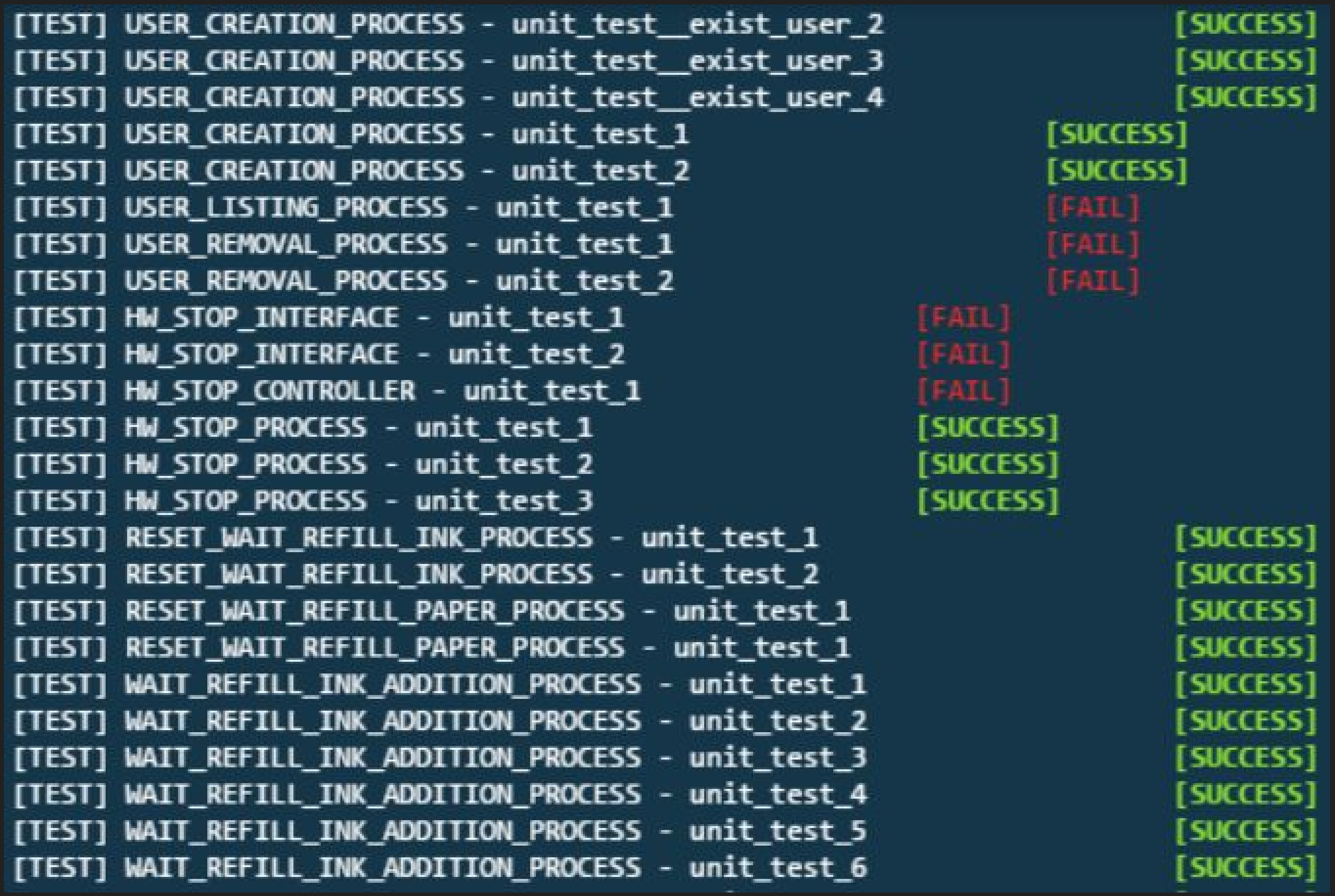
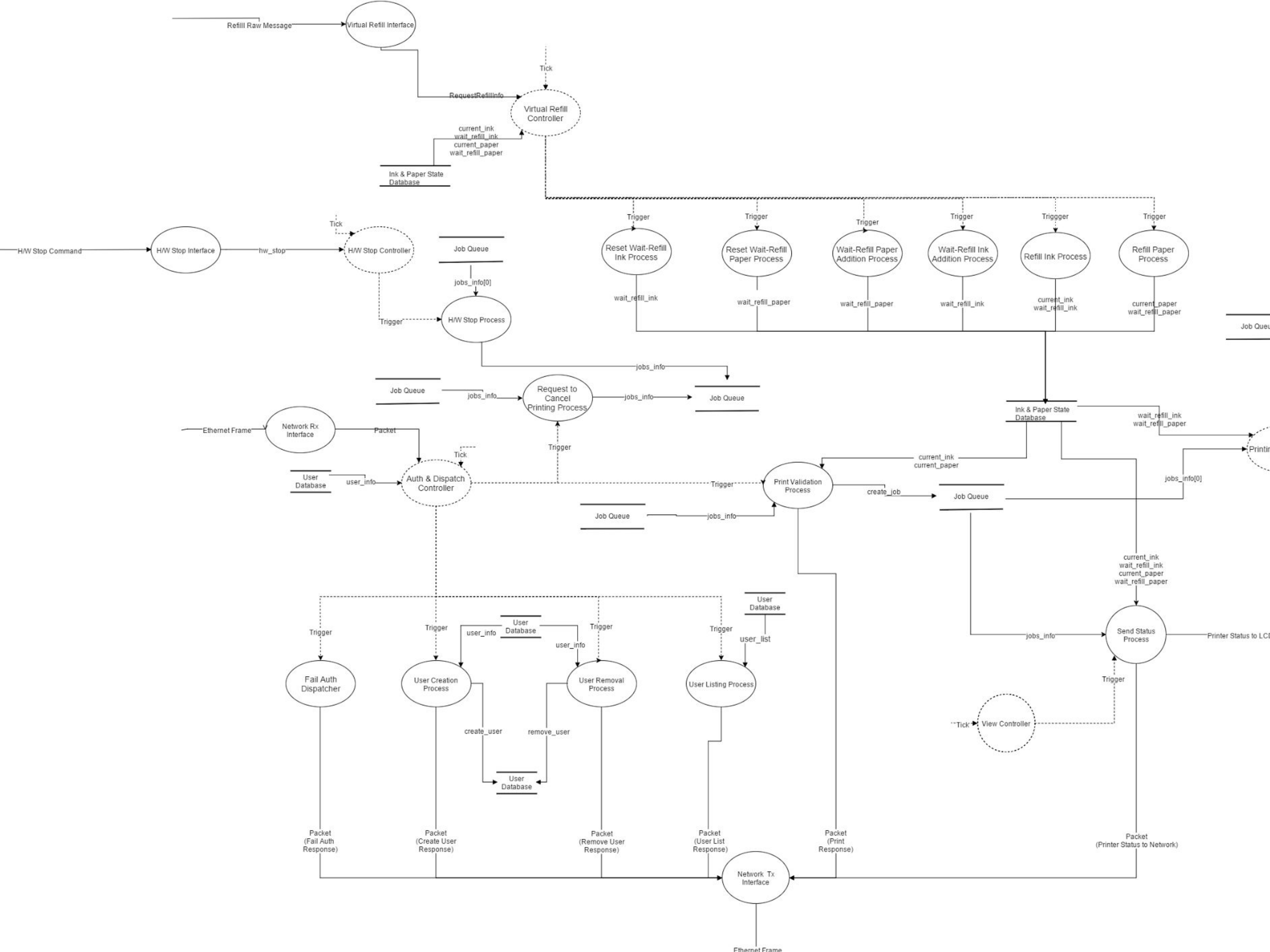
이찬규 정진호

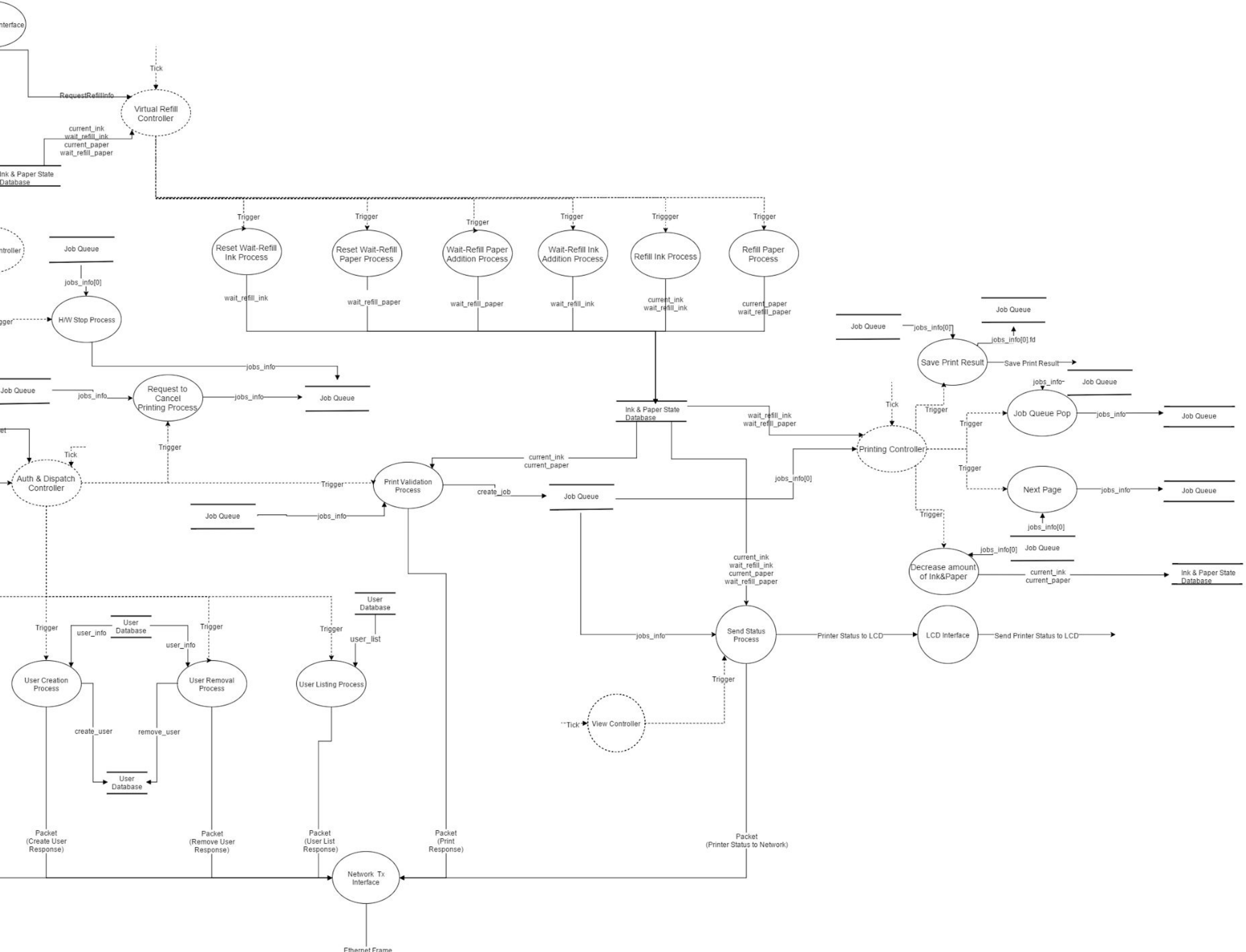
개발 환경

- Github
- Cloud9
- gcc



```
[TEST] USER_CREATION_PROCESS - unit_test__exist_user_2                  [SUCCESS]
[TEST] USER_CREATION_PROCESS - unit_test__exist_user_3                  [SUCCESS]
[TEST] USER_CREATION_PROCESS - unit_test__exist_user_4                  [SUCCESS]
[TEST] USER_CREATION_PROCESS - unit_test_1                      [SUCCESS]
[TEST] USER_CREATION_PROCESS - unit_test_2                      [SUCCESS]
[TEST] USER_LISTING_PROCESS - unit_test_1                       [FAIL]
[TEST] USER_REMOVAL_PROCESS - unit_test_1                       [FAIL]
[TEST] USER_REMOVAL_PROCESS - unit_test_2                       [FAIL]
[TEST] HW_STOP_INTERFACE - unit_test_1                  [FAIL]
[TEST] HW_STOP_INTERFACE - unit_test_2                  [FAIL]
[TEST] HW_STOP_CONTROLLER - unit_test_1                 [FAIL]
[TEST] HW_STOP_PROCESS - unit_test_1                    [SUCCESS]
[TEST] HW_STOP_PROCESS - unit_test_2                    [SUCCESS]
[TEST] HW_STOP_PROCESS - unit_test_3                    [SUCCESS]
[TEST] RESET_WAIT_REFILL_INK_PROCESS - unit_test_1                      [SUCCESS]
[TEST] RESET_WAIT_REFILL_INK_PROCESS - unit_test_2                      [SUCCESS]
[TEST] RESET_WAIT_REFILL_PAPER_PROCESS - unit_test_1                    [SUCCESS]
[TEST] RESET_WAIT_REFILL_PAPER_PROCESS - unit_test_1                    [SUCCESS]
[TEST] WAIT_REFILL_INK_ADDITION_PROCESS - unit_test_1                   [SUCCESS]
[TEST] WAIT_REFILL_INK_ADDITION_PROCESS - unit_test_2                   [SUCCESS]
[TEST] WAIT_REFILL_INK_ADDITION_PROCESS - unit_test_3                   [SUCCESS]
[TEST] WAIT_REFILL_INK_ADDITION_PROCESS - unit_test_4                   [SUCCESS]
[TEST] WAIT_REFILL_INK_ADDITION_PROCESS - unit_test_5                   [SUCCESS]
[TEST] WAIT_REFILL_INK_ADDITION_PROCESS - unit_test_6                   [SUCCESS]
```


Refilll Raw Message
Virtual Refill Interface
Tick
RequestRefillInfo
Virtual Refill Controller
current_ink
wait_refill_ink
current_paper
wait_refill_paper
Ink & Paper State Database
Trigger
Trigger
Trigger
Trigger
Triggger
Trigger
Reset Wait-Refill Ink Process
Reset Wait-Refill Paper Process
Wait-Refill Paper Addition Process
Wait-Refill Ink Addition Process
Refill Ink Process
Refill Paper Process
wait_refill_ink
wait_refill_paper
wait_refill_paper
wait_refill_ink
current_ink
wait_refill_ink
current_paper
wait_refill_paper
Job Queu
Tick
H/W Stop Command
H/W Stop Interface
hw_stop
H/W Stop Controller
Job Queue
jobs_info[0]
Trigger
H/W Stop Process
jobs_info
Job Queue
jobs_info
Request to Cancel Printing Process
jobs_info
Job Queue
Ink & Paper State Database
wait_refill_ink
wait_refill_paper
Printin
Ethernet Frame
Network Rx Interface
Packet
Tick
Trigger
User Database
user_info
Auth & Dispatch Controller
Trigger
current_ink
current_paper
Print Validation Process
create_job
Job Queue
jobs_info[0]
Job Queue
jobs_info
current_ink
wait_refill_ink
current_paper
wait_refill_paper
User Database
Trigger
Trigger
user_info
User Database
Trigger
Trigger
user_list
user_info
Fail Auth Dispatcher
User Creation Process
User Removal Process
User Listing Process
jobs_info
Send Status Process
Printer Status to LCI
Trigger
Tick
View Controller
create_user
remove_user
User Database
Packet (Fail Auth Response)
Packet (Create User Response)
Packet (Remove User Response)
Packet (User List Response)
Packet (Print Response)
Packet (Printer Status to Network)
Network Tx Interface
Ethernet Frame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Tick
RequestRefillInfo
Virtual Refill Controller
current_ink
wait_refill_ink
current_paper
wait_refill_paper
Ink & Paper State Database
Trigger
Trigger
Trigger
Trigger
Triggger
Trigger
Reset Wait-Refill Ink Process
Reset Wait-Refill Paper Process
Wait-Refill Paper Addition Process
Wait-Refill Ink Addition Process
Refill Ink Process
Refill Paper Process
wait_refill_ink
wait_refill_paper
wait_refill_paper
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Job Queue
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Request to Cancel Printing Process
jobs_info
Job Queue
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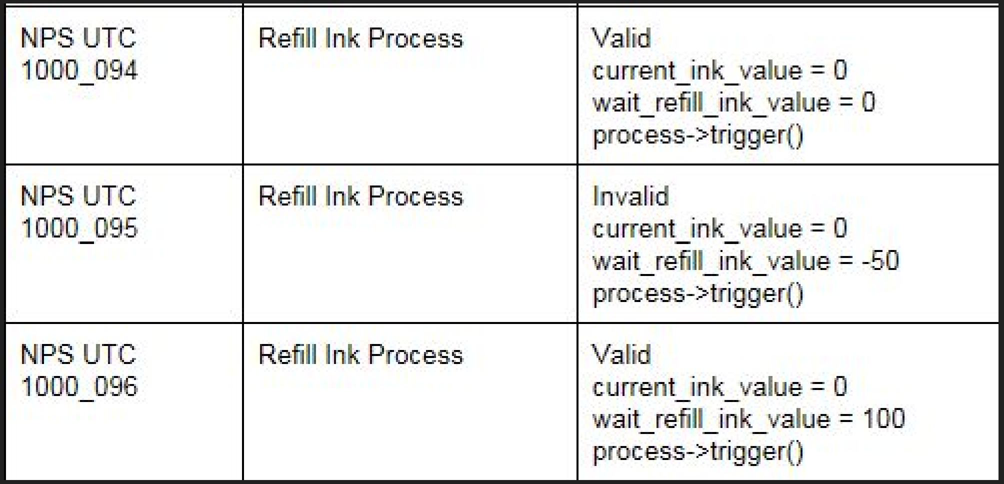
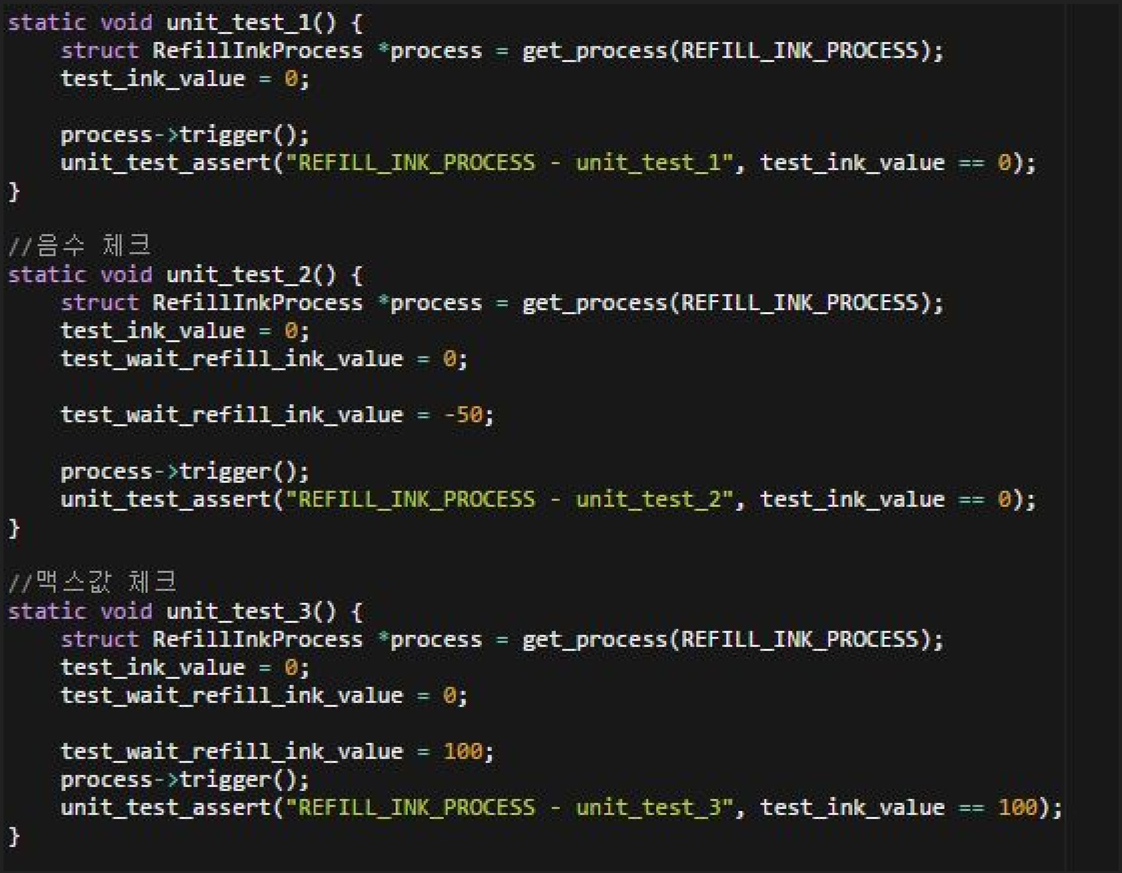
Tick
Trigger
Auth & Dispatch Controller
Trigger
Ink & Paper State Database
wait_refill_ink
wait_refill_paper
current_ink
current_paper
Print Validation Process
create_job
Job Queue
Job Queue
jobs_info
jobs_info[0]
Job Queue
jobs_info[0]
Job Queue
jobs_info[0].fd
Save Print Result
Save Print Result
Tick
Trigger
jobs_info
Job Queue
Job Queue Pop
jobs_info
Job Queue
Trigger
Printing Controller
Trigger
Next Page
jobs_info
Job Queue
Trigger
jobs_info[0]
jobs_info[0]
Job Queue
Decrease amount of Ink&Paper
current_ink
current_paper
Ink & Paper State Database
current_ink
wait_refill_ink
current_paper
wait_refill_paper
Trigger
Trigger
Trigger
User Database
user_info
User Database
user_info
user_list
User Creation Process
User Removal Process
User Listing Process
create_user
remove_user
User Database
jobs_info
Send Status Process
Printer Status to LCD
LCD Interface
Send Printer Status to LCD
Trigger
Tick
View Controller
Packet (Create User Response)
Packet (Remove User Response)
Packet (User List Response)
Packet (Print Response)
Packet (Printer Status to Network)
Network Tx Interface
Ethernet Frame



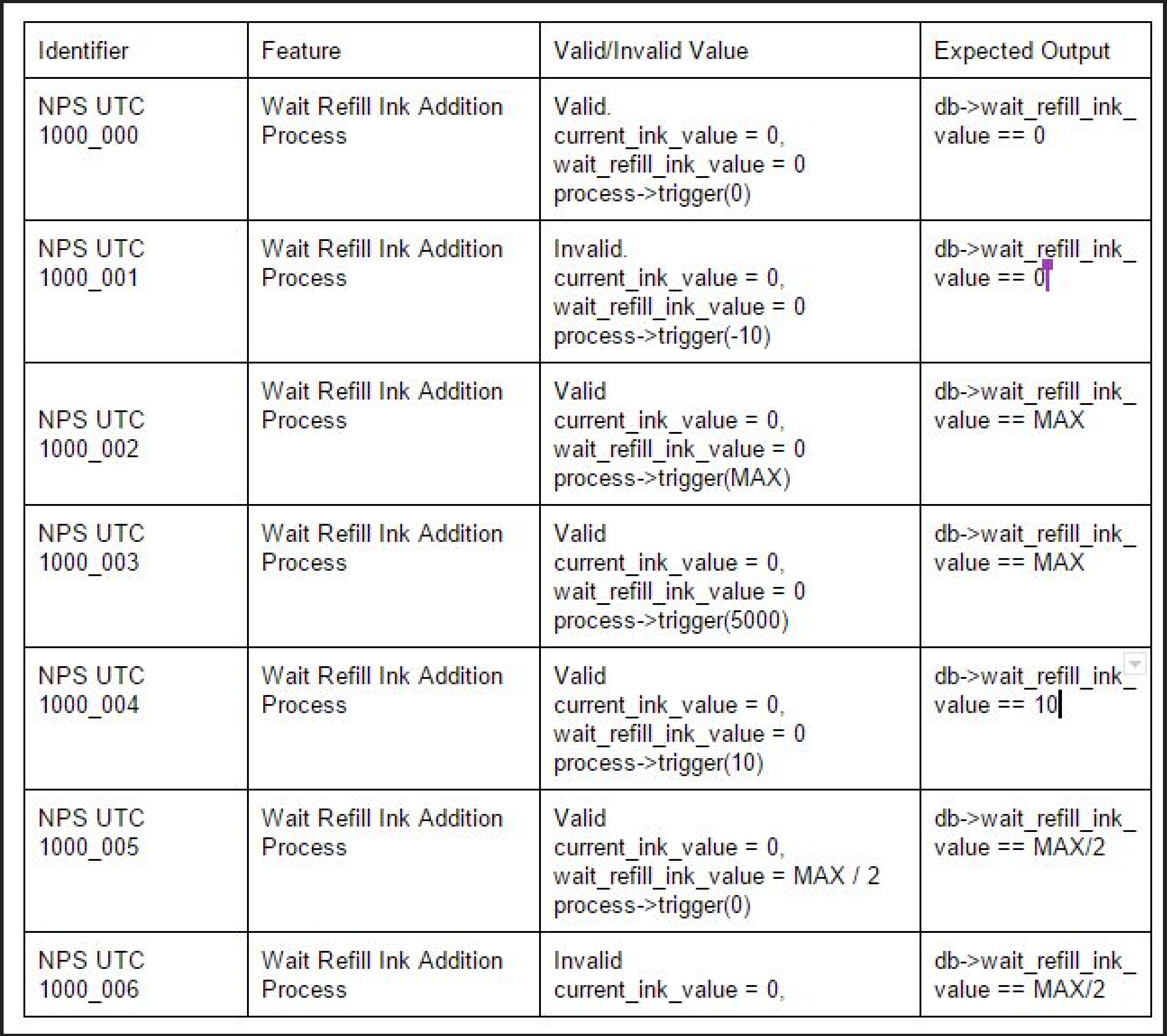
NPS UTC
1000_094
	Refill Ink Process	Valid
		current_ink_value = 0
		wait_refill_ink_value = 0
		process->trigger()

NPS UTC
1000_095
	Refill Ink Process	Invalid
		current_ink_value = 0
		wait_refill_ink_value = -50
		process->trigger()

NPS UTC
1000_096
	Refill Ink Process	Valid
		current_ink_value = 0
		wait_refill_ink_value = 100
		process->trigger()



```
static void unit_test_1() {
    struct RefillInkProcess *process = get_process(REFILL_INK_PROCESS);
    test_ink_value = 0;

    process->trigger();
    unit_test_assert("REFILL_INK_PROCESS - unit_test_1", test_ink_value == 0);
}

//음수 체크
static void unit_test_2() {
    struct RefillInkProcess *process = get_process(REFILL_INK_PROCESS);
    test_ink_value = 0;
    test_wait_refill_ink_value = 0;

    test_wait_refill_ink_value = -50;

    process->trigger();
    unit_test_assert("REFILL_INK_PROCESS - unit_test_2", test_ink_value == 0);
}

//맥스값 체크
static void unit_test_3() {
    struct RefillInkProcess *process = get_process(REFILL_INK_PROCESS);
    test_ink_value = 0;
    test_wait_refill_ink_value = 0;

    test_wait_refill_ink_value = 100;
    process->trigger();
    unit_test_assert("REFILL_INK_PROCESS - unit_test_3", test_ink_value == 100);
}
```



Identifier	Feature	Valid/Invalid Value	Expected Output

NPS UTC 1000_000	Wait Refill Ink Addition Process	Valid.
		current_ink_value = 0,
		wait_refill_ink_value = 0
		process->trigger(0)
			db->wait_refill_ink_value == 0

NPS UTC 1000_001	Wait Refill Ink Addition Process	Invalid.
		current_ink_value = 0,
		wait_refill_ink_value = 0
		process->trigger(-10)
			db->wait_refill_ink_value == 0

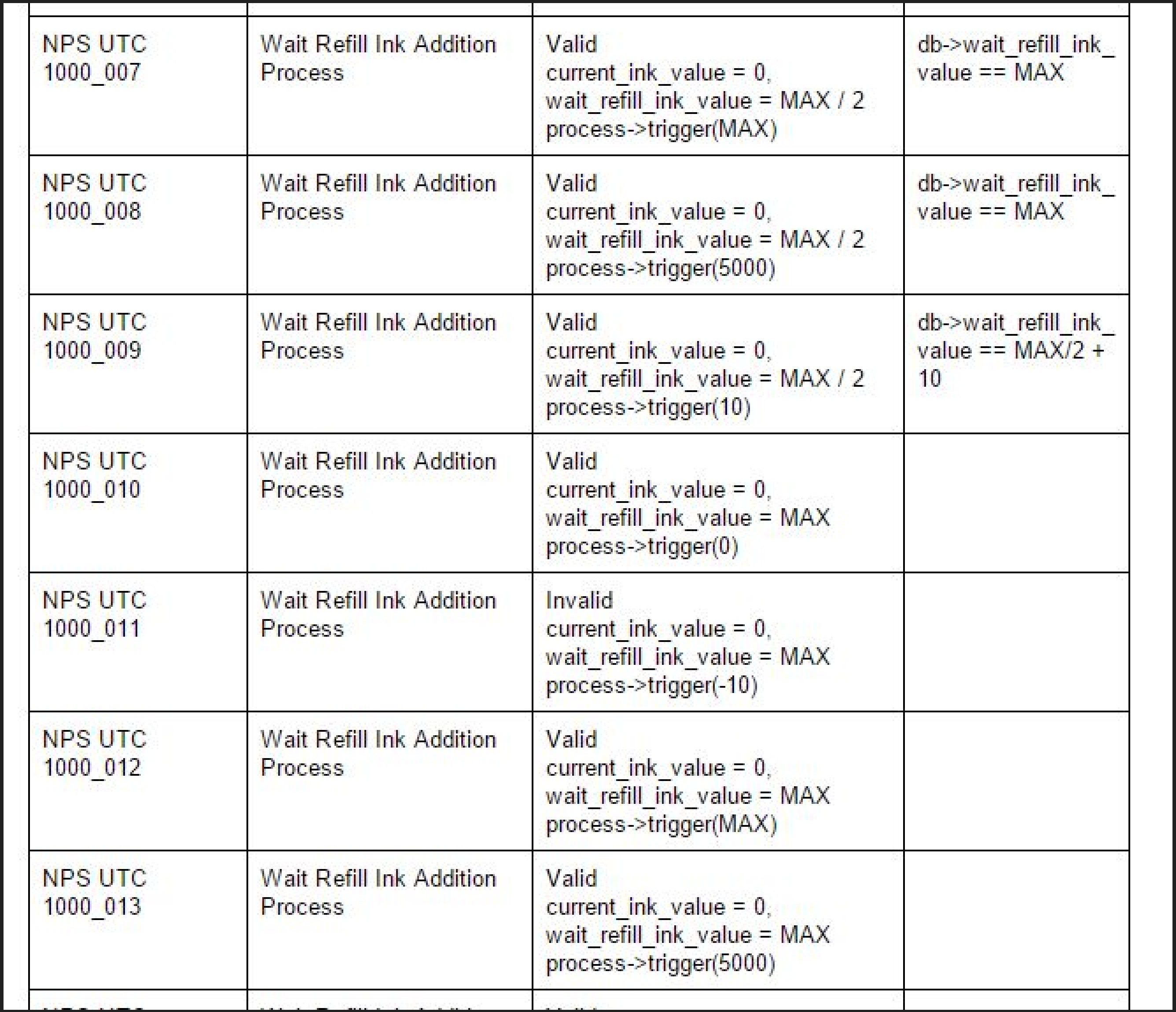
NPS UTC 1000_002	Wait Refill Ink Addition Process	Valid
		current_ink_value = 0,
		wait_refill_ink_value = 0
		process->trigger(MAX)
			db->wait_refill_ink_value == MAX

NPS UTC 1000_003	Wait Refill Ink Addition Process	Valid
		current_ink_value = 0,
		wait_refill_ink_value = 0
		process->trigger(5000)
			db->wait_refill_ink_value == MAX

NPS UTC 1000_004	Wait Refill Ink Addition Process	Valid
		current_ink_value = 0,
		wait_refill_ink_value = 0
		process->trigger(10)
			db->wait_refill_ink_value == 10

NPS UTC 1000_005	Wait Refill Ink Addition Process	Valid
		current_ink_value = 0,
		wait_refill_ink_value = MAX / 2
		process->trigger(0)
			db->wait_refill_ink_value == MAX/2

NPS UTC 1000_006	Wait Refill Ink Addition Process	Invalid current_ink_value = 0,	db->wait_refill_ink_value == MAX/2



NPS UTC 1000_007	Wait Refill Ink Addition Process	Valid
		current_ink_value = 0,
		wait_refill_ink_value = MAX / 2
		process->trigger(MAX)
			db->wait_refill_ink_value == MAX

NPS UTC 1000_008	Wait Refill Ink Addition Process	Valid
		current_ink_value = 0,
		wait_refill_ink_value = MAX / 2
		process->trigger(5000)
			db->wait_refill_ink_value == MAX

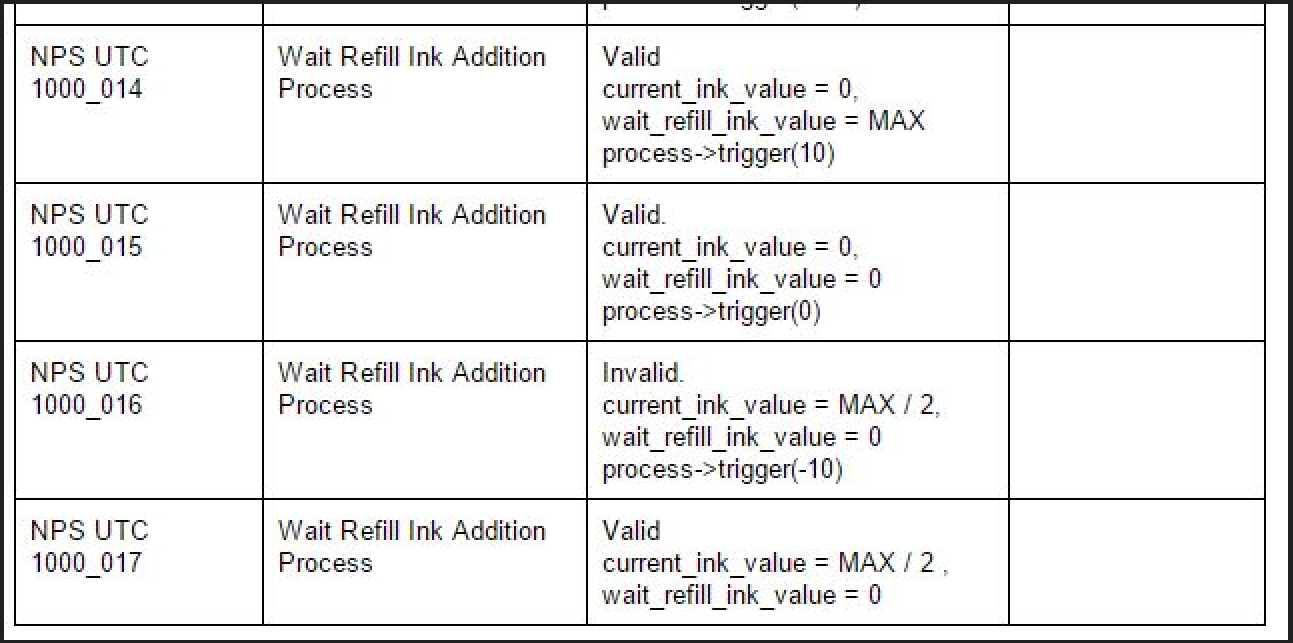
NPS UTC 1000_009	Wait Refill Ink Addition Process	Valid
		current_ink_value = 0,
		wait_refill_ink_value = MAX / 2
		process->trigger(10)
			db->wait_refill_ink_value == MAX/2 + 10

NPS UTC 1000_010	Wait Refill Ink Addition Process	Valid
		current_ink_value = 0,
		wait_refill_ink_value = MAX
		process->trigger(0)	

NPS UTC 1000_011	Wait Refill Ink Addition Process	Invalid
		current_ink_value = 0,
		wait_refill_ink_value = MAX
		process->trigger(-10)	

NPS UTC 1000_012	Wait Refill Ink Addition Process	Valid
		current_ink_value = 0,
		wait_refill_ink_value = MAX
		process->trigger(MAX)	

NPS UTC 1000_013	Wait Refill Ink Addition Process	Valid
		current_ink_value = 0,
		wait_refill_ink_value = MAX
		process->trigger(5000)	

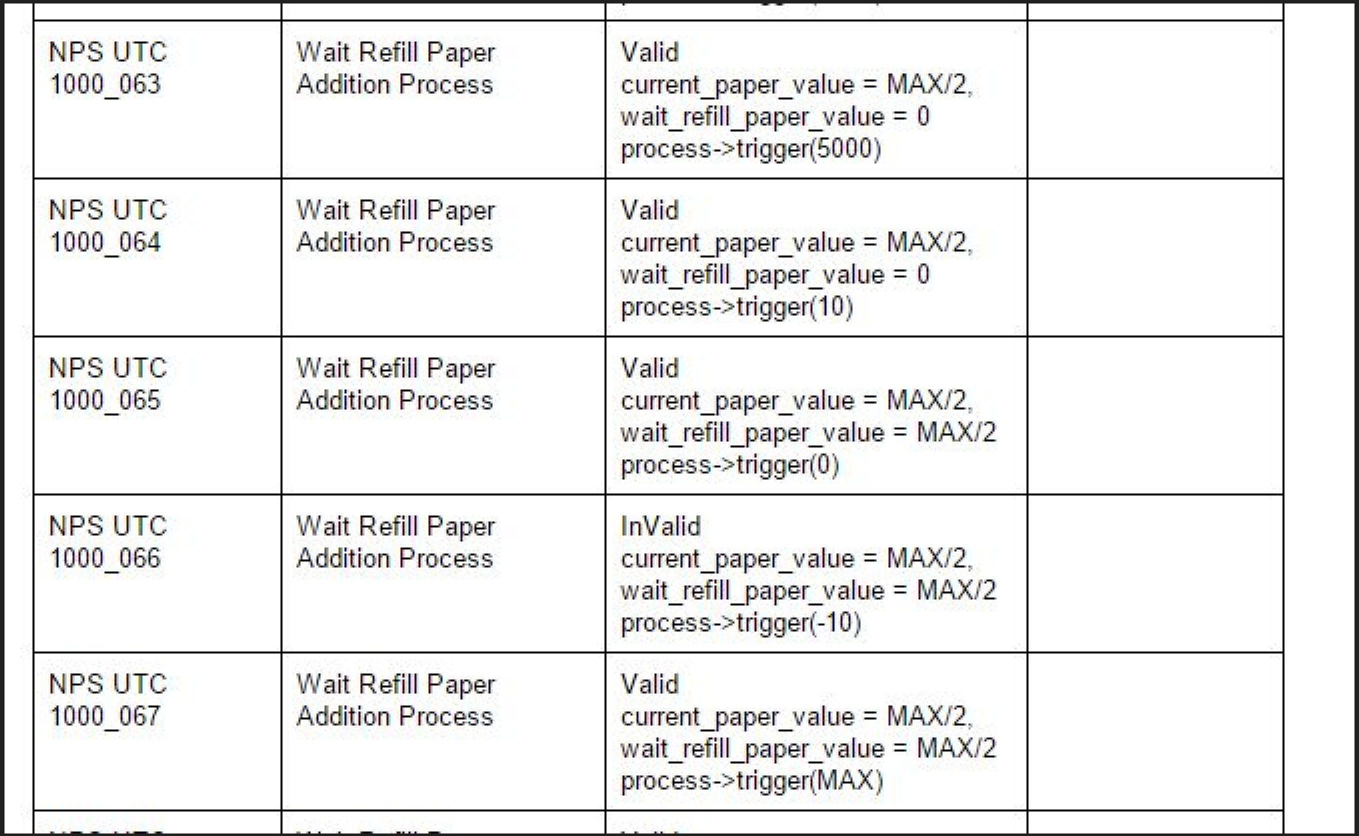


NPS UTC 1000_014	Wait Refill Ink Addition Process	Valid
		current_ink_value = 0,
		wait_refill_ink_value = MAX
		process->trigger(10)	

NPS UTC 1000_015	Wait Refill Ink Addition Process	Valid.
		current_ink_value = 0,
		wait_refill_ink_value = 0
		process->trigger(0)	

NPS UTC 1000_016	Wait Refill Ink Addition Process	Invalid.
		current_ink_value = MAX / 2,
		wait_refill_ink_value = 0
		process->trigger(-10)	

NPS UTC 1000_017	Wait Refill Ink Addition Process	Valid
		current_ink_value = MAX / 2 ,
		wait_refill_ink_value = 0	



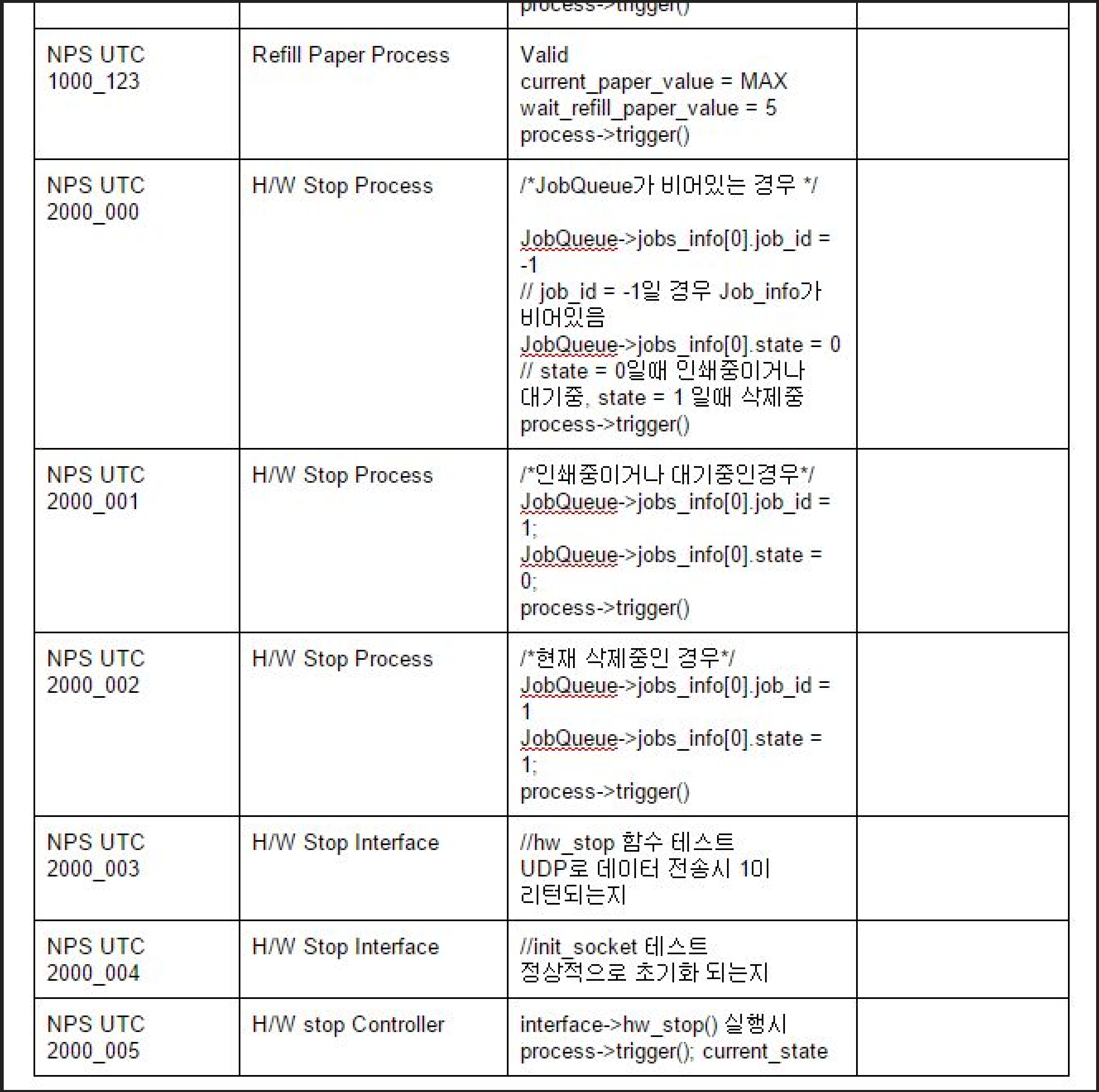
NPS UTC 1000_063	Wait Refill Paper Addition Process	Valid
		current_paper_value = MAX/2,
		wait_refill_paper_value = 0
		process->trigger(5000)	

NPS UTC 1000_064	Wait Refill Paper Addition Process	Valid
		current_paper_value = MAX/2,
		wait_refill_paper_value = 0
		process->trigger(10)	

NPS UTC 1000_065	Wait Refill Paper Addition Process	Valid
		current_paper_value = MAX/2,
		wait_refill_paper_value = MAX/2
		process->trigger(0)	

NPS UTC 1000_066	Wait Refill Paper Addition Process	InValid
		current_paper_value = MAX/2,
		wait_refill_paper_value = MAX/2
		process->trigger(-10)	

NPS UTC 1000_067	Wait Refill Paper Addition Process	Valid
		current_paper_value = MAX/2,
		wait_refill_paper_value = MAX/2
		process->trigger(MAX)	



		process->trigger()	

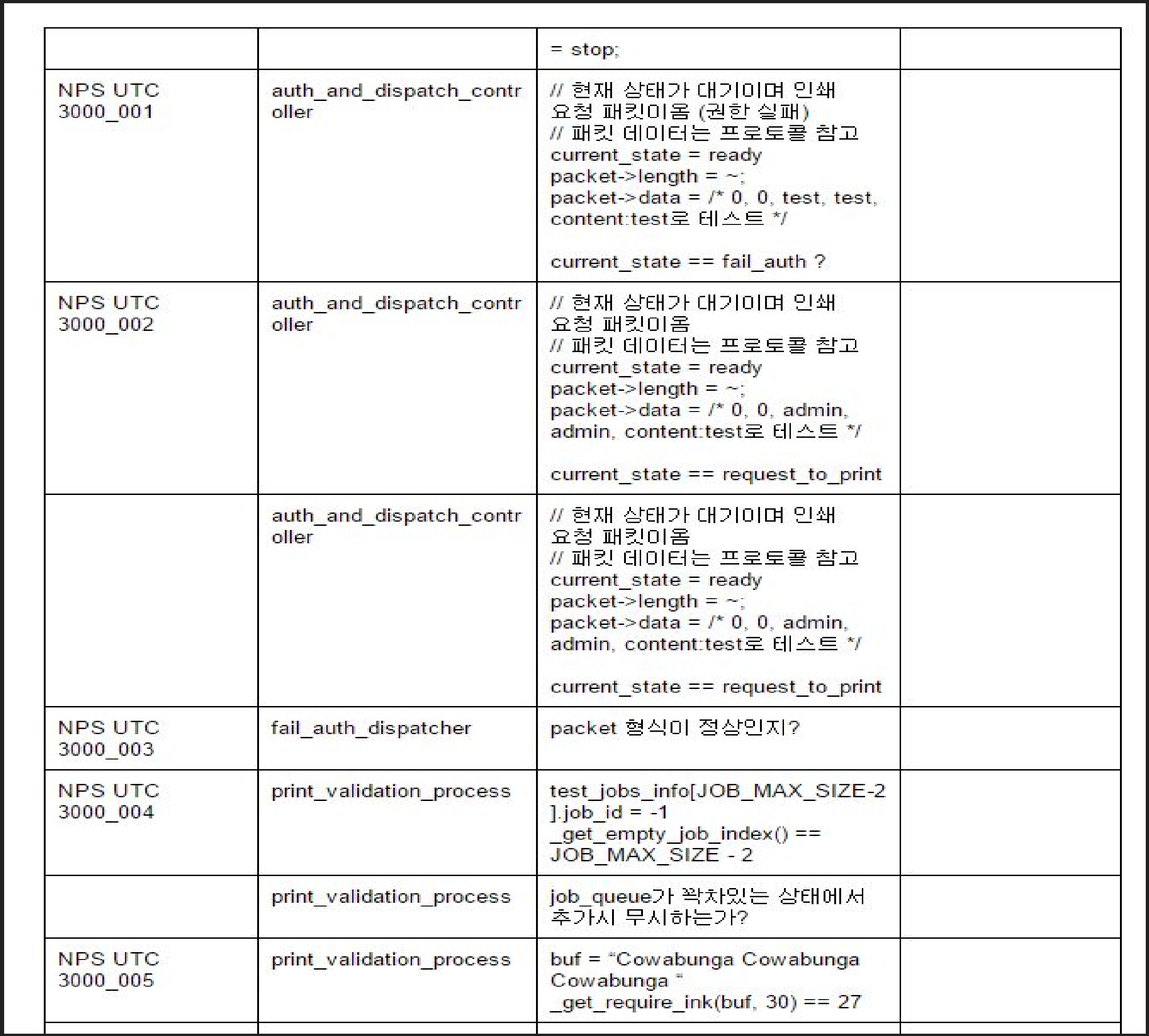
NPS UTC 1000_123	Refill Paper Process	Valid
		current_paper_value = MAX
		wait_refill_paper_value = 5
		process->trigger()	

NPS UTC 2000_000	H/W Stop Process	/*JobQueue가 비어있는 경우 */
		JobQueue->jobs_info[0].job_id = -1
		// job_id = -1일 경우 Job_info가 비어있음
		JobQueue->jobs_info[0].state = 0
		// state = 0일때 인쇄중이거나 대기중, state = 1 일때 삭제중
		process->trigger()	

NPS UTC 2000_001	H/W Stop Process	/*인쇄중이거나 대기중인경우*/
		JobQueue->jobs_info[0].job_id = 1;
		JobQueue->jobs_info[0].state = 0;
		process->trigger()	

NPS UTC 2000_002	H/W Stop Process	/*현재 삭제중인 경우*/
		JobQueue->jobs_info[0].job_id = 1
		JobQueue->jobs_info[0].state = 1;
		process->trigger()	

NPS UTC 2000_003	H/W Stop Interface	//hw_stop 함수 테스트 UDP로 데이터 전송시 1이 리턴되는지	
NPS UTC 2000_004	H/W Stop Interface	//init_socket 테스트 정상적으로 초기화 되는지	
NPS UTC 2000_005	H/W stop Controller	interface->hw_stop() 실행시 process->trigger(); current_state	



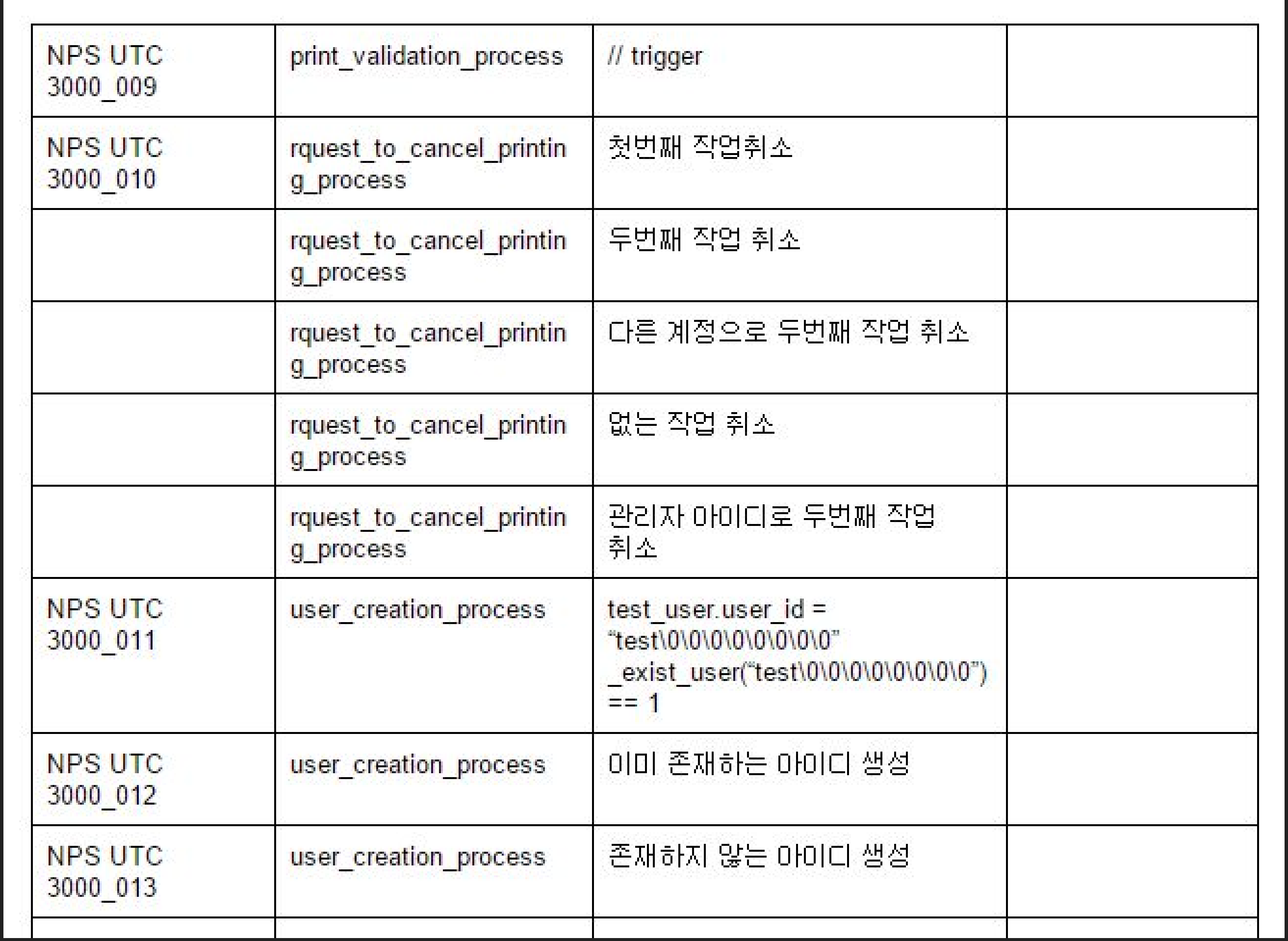
		= stop;	

NPS UTC 3000_001	auth_and_dispatch_controller	// 현재 상태가 대기이며 인쇄 요청 패킷이옴 (권한 실패)
		// 패킷 데이터는 프로토콜 참고
		current_state = ready
		packet->length = ~;
		packet->data = /* 0, 0, test, test, content:test로 테스트 */
		
		current_state == fail_auth ?	

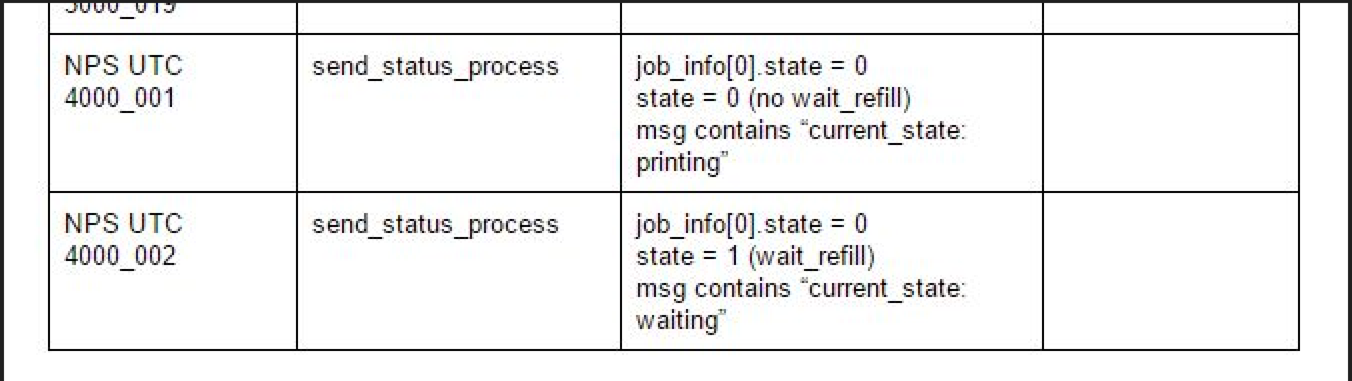
NPS UTC 3000_002	auth_and_dispatch_controller	// 현재 상태가 대기이며 인쇄 요청 패킷이옴
		// 패킷 데이터는 프로토콜 참고
		current_state = ready
		packet->length = ~;
		packet->data = /* 0, 0, admin, admin, content:test로 테스트 */
		
		current_state == request_to_print	

	auth_and_dispatch_controller	// 현재 상태가 대기이며 인쇄 요청 패킷이옴
		// 패킷 데이터는 프로토콜 참고
		current_state = ready
		packet->length = ~;
		packet->data = /* 0, 0, admin, admin, content:test로 테스트 */
		
		current_state == request_to_print	

NPS UTC 3000_003	fail_auth_dispatcher	packet 형식이 정상인지?	
NPS UTC 3000_004	print_validation_process	test_jobs_info[JOB_MAX_SIZE-2].job_id = -1 _get_empty_job_index() == JOB_MAX_SIZE - 2	
	print_validation_process	job_queue가 꽉차있는 상태에서 추가시 무시하는가?	
NPS UTC 3000_005	print_validation_process	buf = “Cowabunga Cowabunga Cowabunga “ _get_require_ink(buf, 30) == 27	



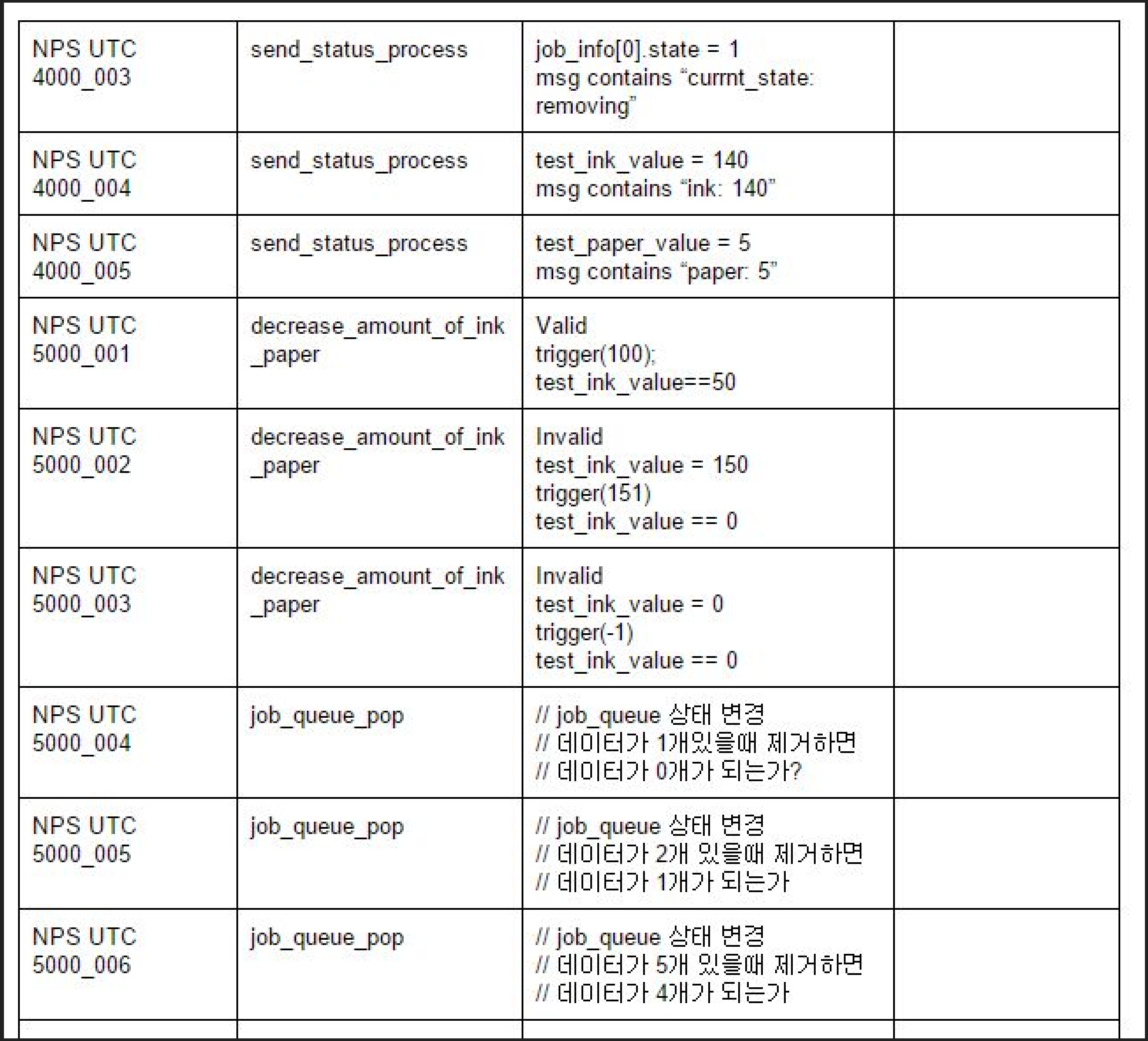
NPS UTC 3000_009	print_validation_process	// trigger	
NPS UTC 3000_010	rquest_to_cancel_printing_process	첫번째 작업취소	
	rquest_to_cancel_printing_process	두번째 작업 취소	
	rquest_to_cancel_printing_process	다른 계정으로 두번째 작업 취소	
	rquest_to_cancel_printing_process	없는 작업 취소	
	rquest_to_cancel_printing_process	관리자 아이디로 두번째 작업 취소	
NPS UTC 3000_011	user_creation_process	test_user.user_id = “test\0\0\0\0\0\0\0\0” _exist_user(“test\0\0\0\0\0\0\0\0”) == 1	
NPS UTC 3000_012	user_creation_process	이미 존재하는 아이디 생성	
NPS UTC 3000_013	user_creation_process	존재하지 않는 아이디 생성	



3000_019			

NPS UTC 4000_001	send_status_process	job_info[0].state = 0
		state = 0 (no wait_refill)
		msg contains “current_state: printing”	

NPS UTC 4000_002	send_status_process	job_info[0].state = 0
		state = 1 (wait_refill)
		msg contains “current_state: waiting”	



NPS UTC 4000_003	send_status_process	job_info[0].state = 1 msg contains “currnt_state: removing”	
NPS UTC 4000_004	send_status_process	test_ink_value = 140 msg contains “ink: 140”	
NPS UTC 4000_005	send_status_process	test_paper_value = 5 msg contains “paper: 5”	
NPS UTC 5000_001	decrease_amount_of_ink_paper	Valid trigger(100); test_ink_value==50	

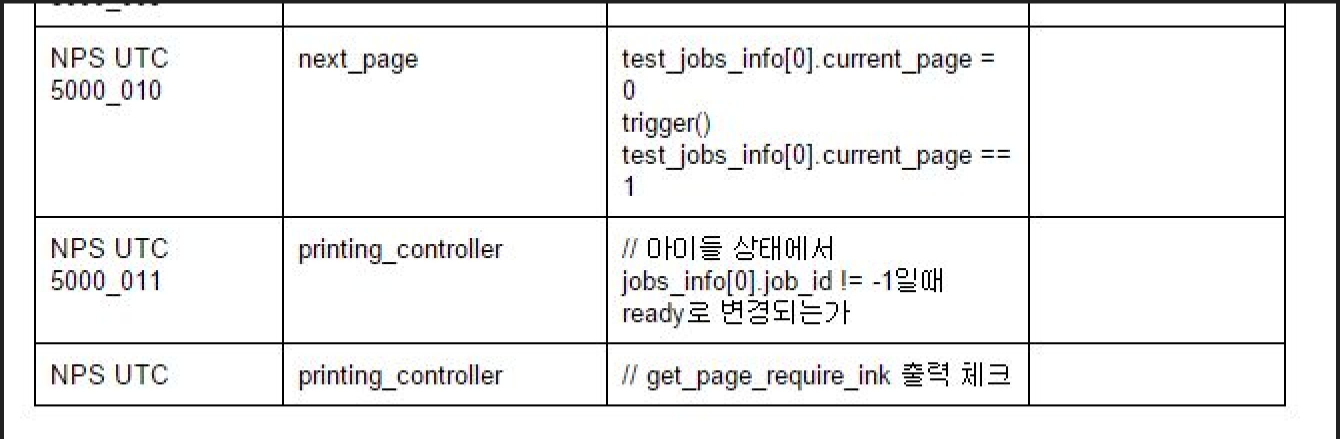
NPS UTC 5000_002	decrease_amount_of_ink_paper	Invalid
		test_ink_value = 150
		trigger(151)
		test_ink_value == 0	

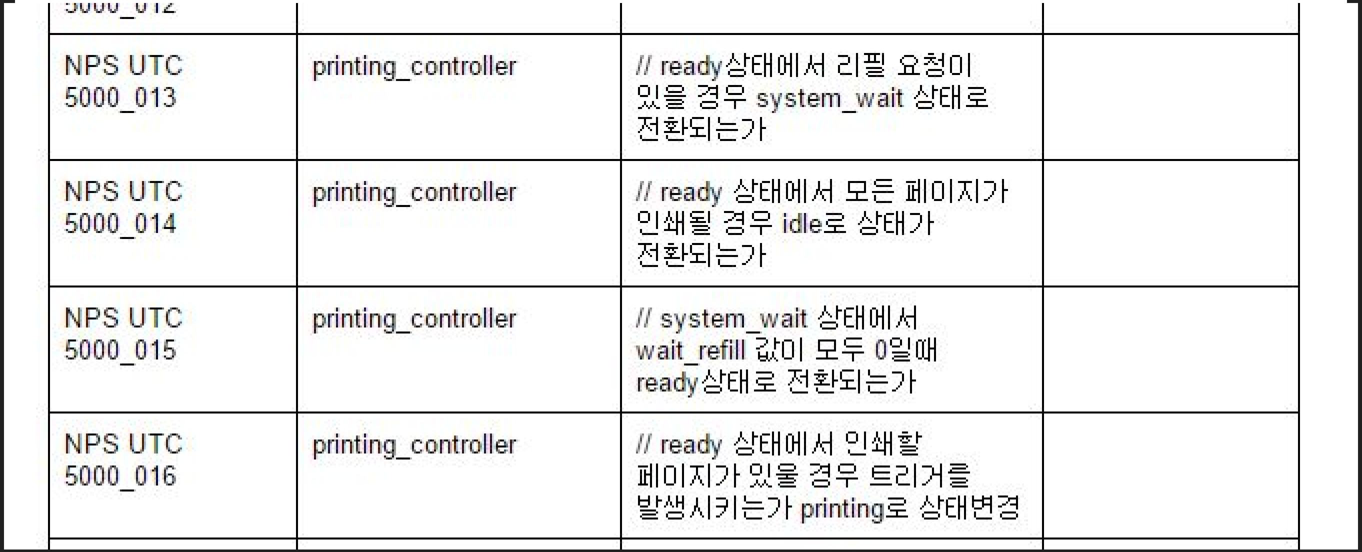
NPS UTC 5000_003	decrease_amount_of_ink_paper	Invalid
		test_ink_value = 0
		trigger(-1)
		test_ink_value == 0	

NPS UTC 5000_004	job_queue_pop	// job_queue 상태 변경
		// 데이터가 1개있을때 제거하면
		// 데이터가 0개가 되는가?	

NPS UTC 5000_005	job_queue_pop	// job_queue 상태 변경
		// 데이터가 2개 있을때 제거하면
		// 데이터가 1개가 되는가	

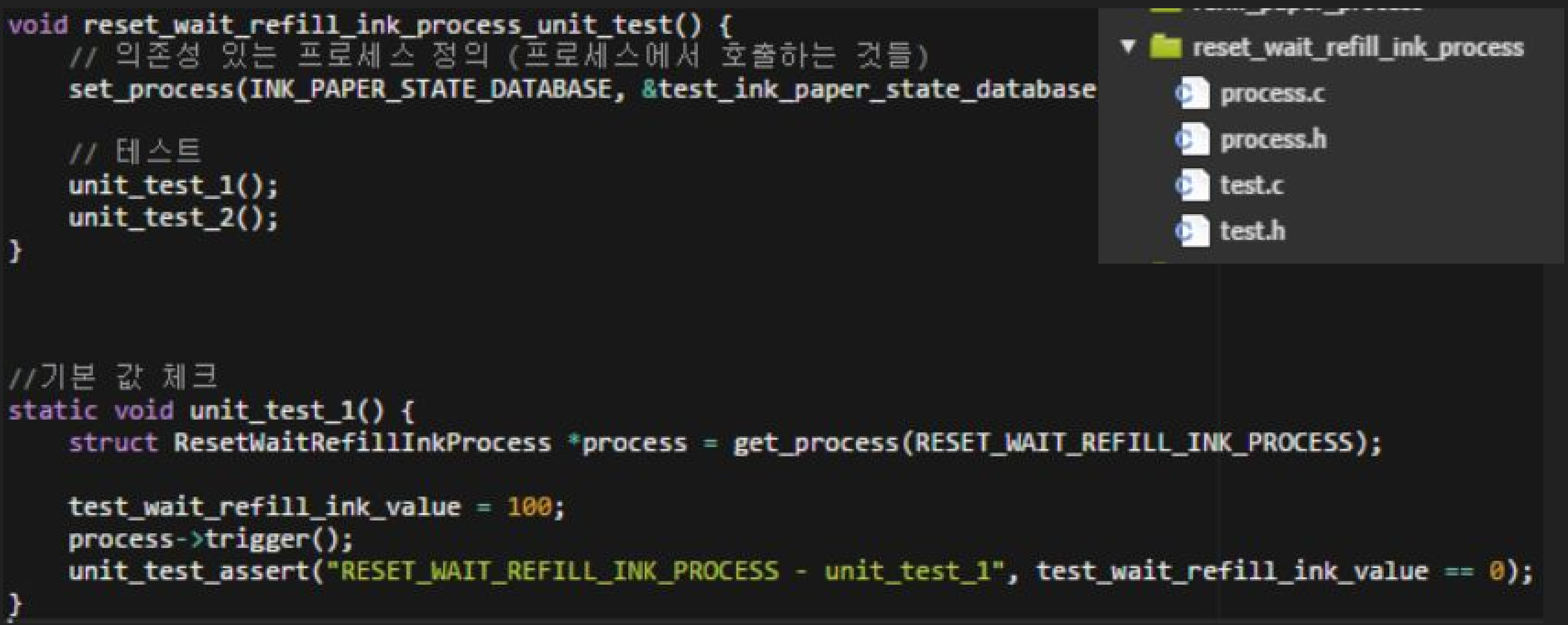
NPS UTC 5000_006	job_queue_pop	// job_queue 상태 변경
		// 데이터가 5개 있을때 제거하면
		// 데이터가 4개가 되는가	





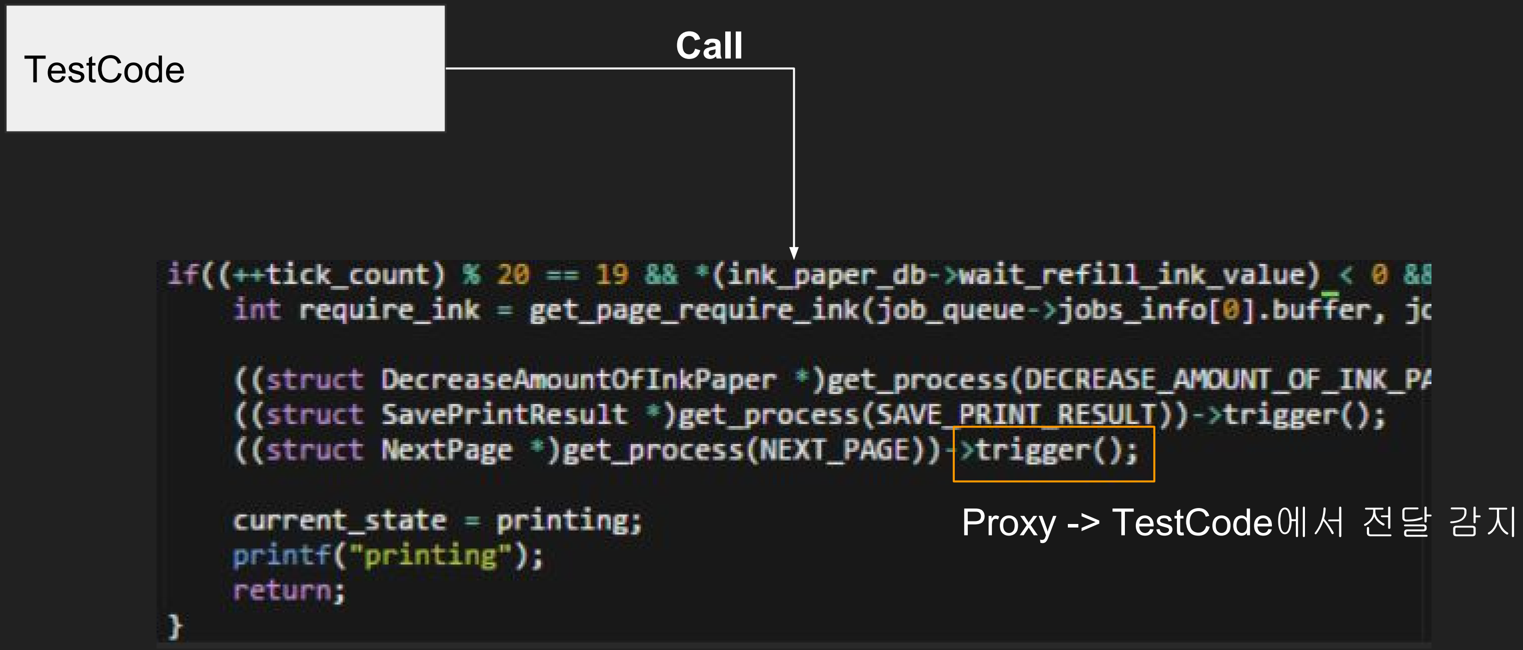
NPS UTC 5000_010	next_page	test_jobs_info[0].current_page = 0
		trigger()
		test_jobs_info[0].current_page == 1	

NPS UTC 5000_011	printing_controller	// 아이들 상태에서 jobs_info[0].job_id != -1일때 ready로 변경되는가	
NPS UTC 5000_012	printing_controller	// get_page_require_ink 출력 체크	
NPS UTC 5000_013	printing_controller	// ready상태에서 리필 요청이 있을 경우 system_wait 상태로 전환되는가	
NPS UTC 5000_014	printing_controller	// ready 상태에서 모든 페이지가 인쇄될 경우 idle로 상태가 전환되는가	
NPS UTC 5000_015	printing_controller	// system_wait 상태에서 wait_refill 값이 모두 0일때 ready상태로 전환되는가	
NPS UTC 5000_016	printing_controller	// ready 상태에서 인쇄할 페이지가 있을 경우 트리거를 발생시키는가 printing로 상태변경	



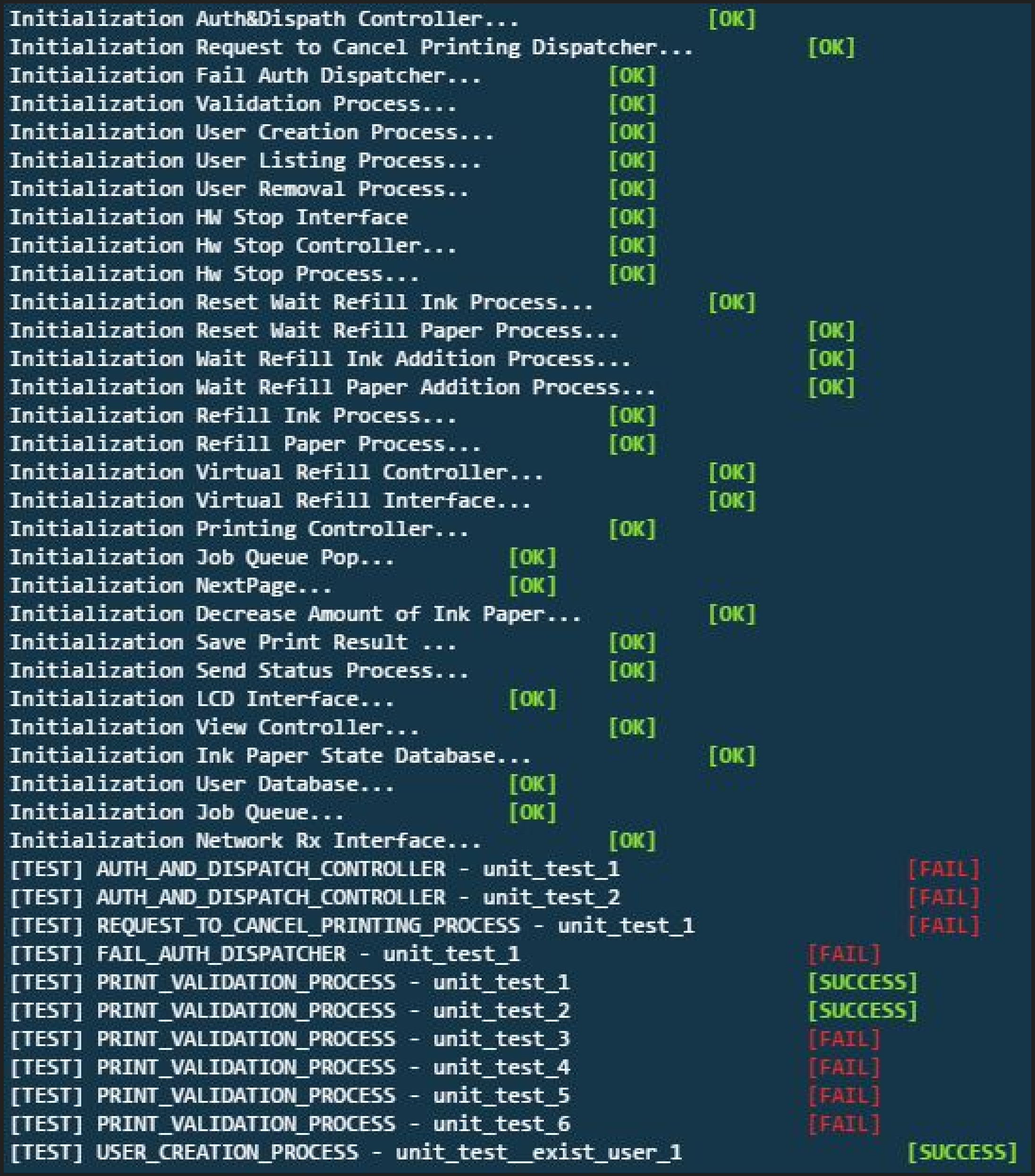
```
void reset_wait_refill_ink_process_unit_test() {
    // 의존성 있는 프로세스 정의 (프로세스에서 호출하는 것들)
    set_process(INK_PAPER_STATE_DATABASE, &test_ink_paper_state_database

    // 테스트
    unit_test_1();
    unit_test_2();
}



//기본 값 체크
static void unit_test_1() {
    struct ResetWaitRefillInkProcess *process = get_process(RESET_WAIT_REFILL_INK_PROCESS);

    test_wait_refill_ink_value = 100;
    process->trigger();
    unit_test_assert("RESET_WAIT_REFILL_INK_PROCESS - unit_test_1", test_wait_refill_ink_value == 0);
}
```

테스트 과정

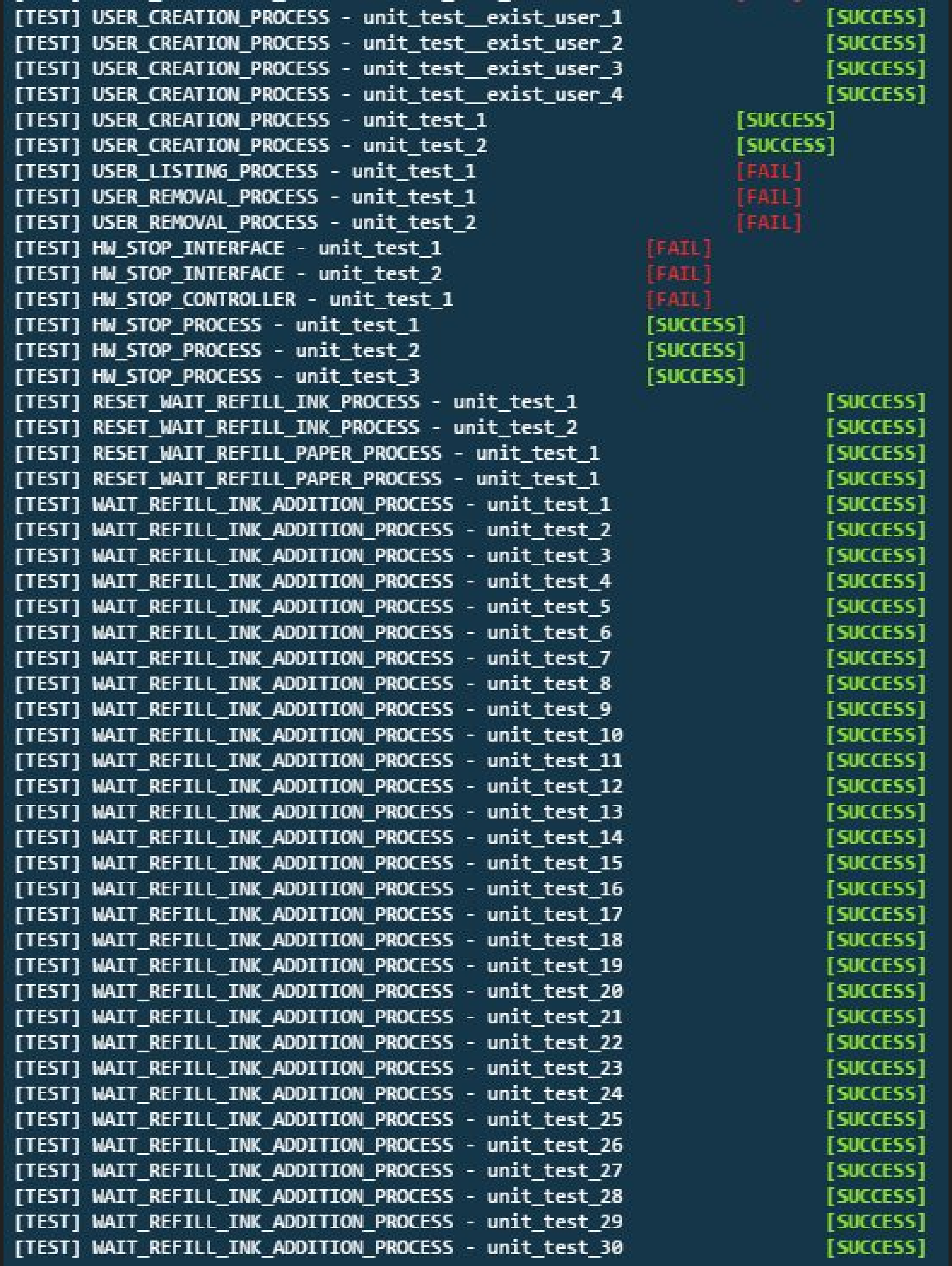


```
if((++tick_count) % 20 == 19 && *(ink_paper_db->wait_refill_ink_value) < 0 &&
    int require_ink = get_page_require_ink(job_queue->jobs_info[0].buffer, jo

    ((struct DecreaseAmountOfInkPaper *)get_process(DECREASE_AMOUNT_OF_INK_PA
    ((struct SavePrintResult *)get_process(SAVE_PRINT_RESULT))->trigger();
    ((struct NextPage *)get_process(NEXT_PAGE))->trigger();

    current_state = printing;
    printf("printing");
    return;
}
```

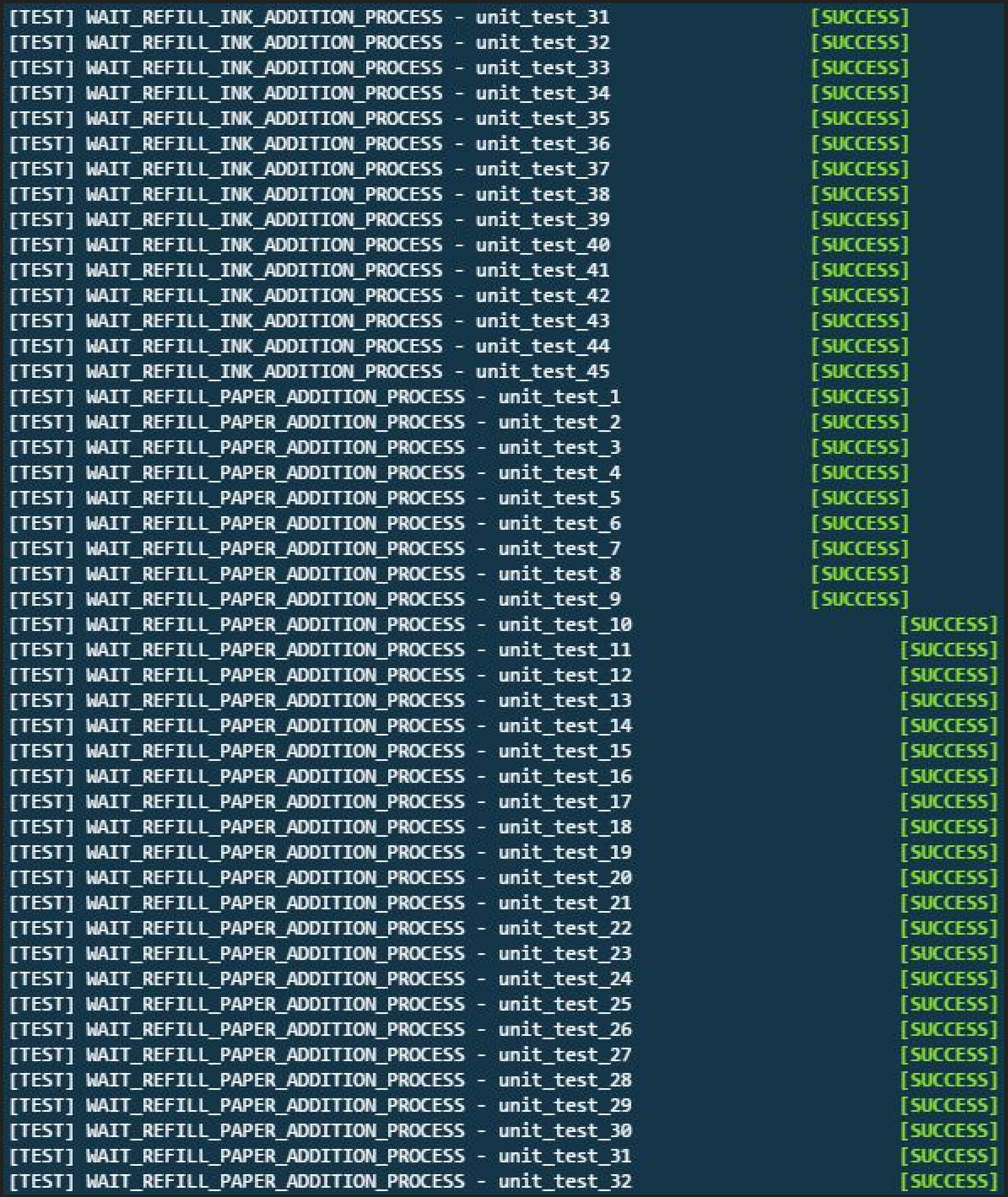
Proxy -> TestCode에서 전달 감지



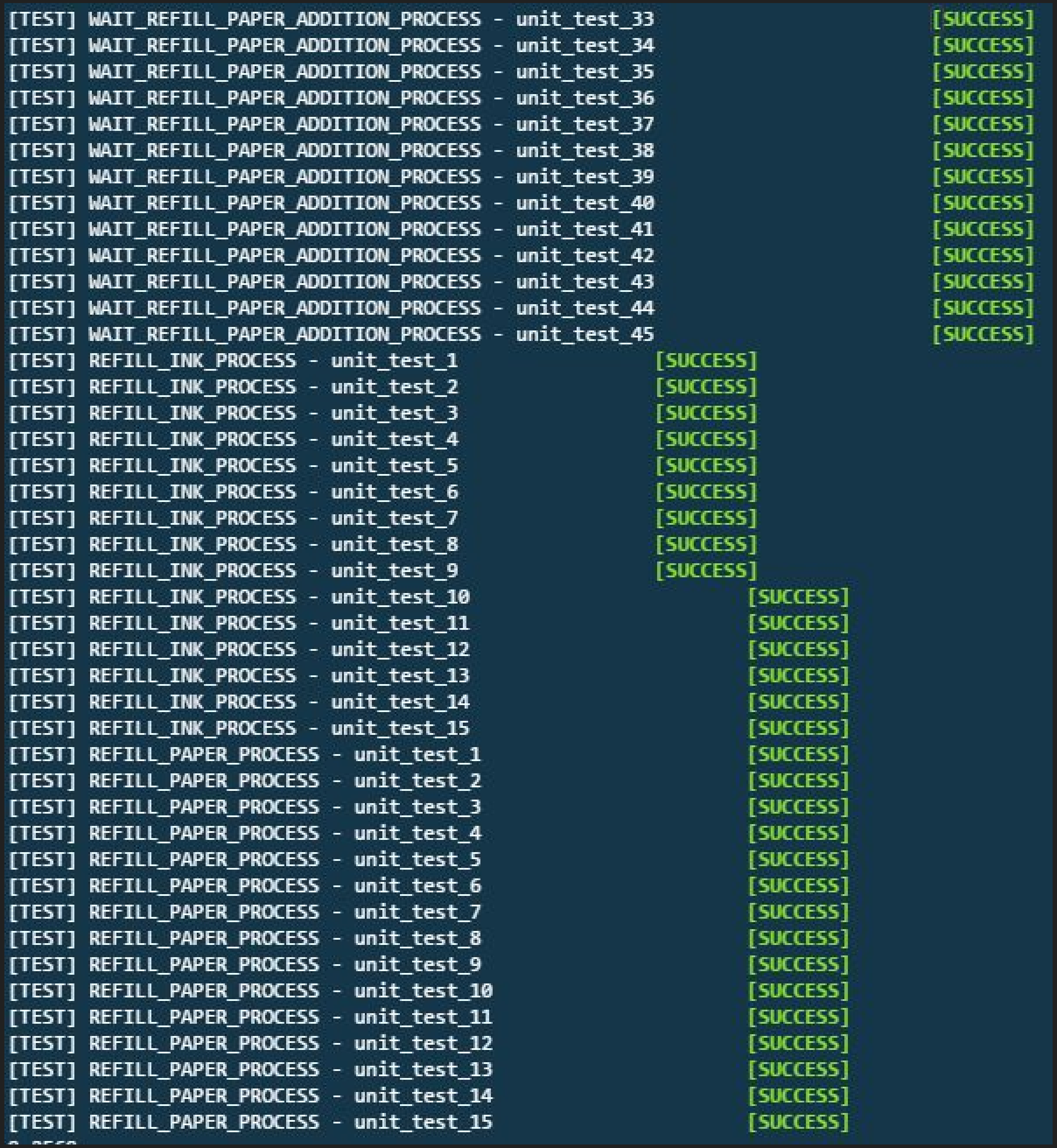
```
Initialization Auth&Dispath Controller...               [OK]
Initialization Request to Cancel Printing Dispatcher...         [OK]
Initialization Fail Auth Dispatcher...          [OK]
Initialization Validation Process...            [OK]
Initialization User Creation Process...         [OK]
Initialization User Listing Process...          [OK]
Initialization User Removal Process..           [OK]
Initialization HW Stop Interface                [OK]
Initialization Hw Stop Controller...            [OK]
Initialization Hw Stop Process...               [OK]
Initialization Reset Wait Refill Ink Process...         [OK]
Initialization Reset Wait Refill Paper Process...               [OK]
Initialization Wait Refill Ink Addition Process...              [OK]
Initialization Wait Refill Paper Addition Process...            [OK]
Initialization Refill Ink Process...            [OK]
Initialization Refill Paper Process...          [OK]
Initialization Virtual Refill Controller...             [OK]
Initialization Virtual Refill Interface...              [OK]
Initialization Printing Controller...           [OK]
Initialization Job Queue Pop...         [OK]
Initialization NextPage...              [OK]
Initialization Decrease Amount of Ink Paper...          [OK]
Initialization Save Print Result ...            [OK]
Initialization Send Status Process...           [OK]
Initialization LCD Interface...         [OK]
Initialization View Controller...               [OK]
Initialization Ink Paper State Database...              [OK]
Initialization User Database...         [OK]
Initialization Job Queue...             [OK]
Initialization Network Rx Interface...          [OK]
[TEST] AUTH_AND_DISPATCH_CONTROLLER - unit_test_1                       [FAIL]
[TEST] AUTH_AND_DISPATCH_CONTROLLER - unit_test_2                       [FAIL]
[TEST] REQUEST_TO_CANCEL_PRINTING_PROCESS - unit_test_1                 [FAIL]
[TEST] FAIL_AUTH_DISPATCHER - unit_test_1                       [FAIL]
[TEST] PRINT_VALIDATION_PROCESS - unit_test_1                   [SUCCESS]
[TEST] PRINT_VALIDATION_PROCESS - unit_test_2                   [SUCCESS]
[TEST] PRINT_VALIDATION_PROCESS - unit_test_3                   [FAIL]
[TEST] PRINT_VALIDATION_PROCESS - unit_test_4                   [FAIL]
[TEST] PRINT_VALIDATION_PROCESS - unit_test_5                   [FAIL]
[TEST] PRINT_VALIDATION_PROCESS - unit_test_6                   [FAIL]
[TEST] USER_CREATION_PROCESS - unit_test__exist_user_1                  [SUCCESS]
```



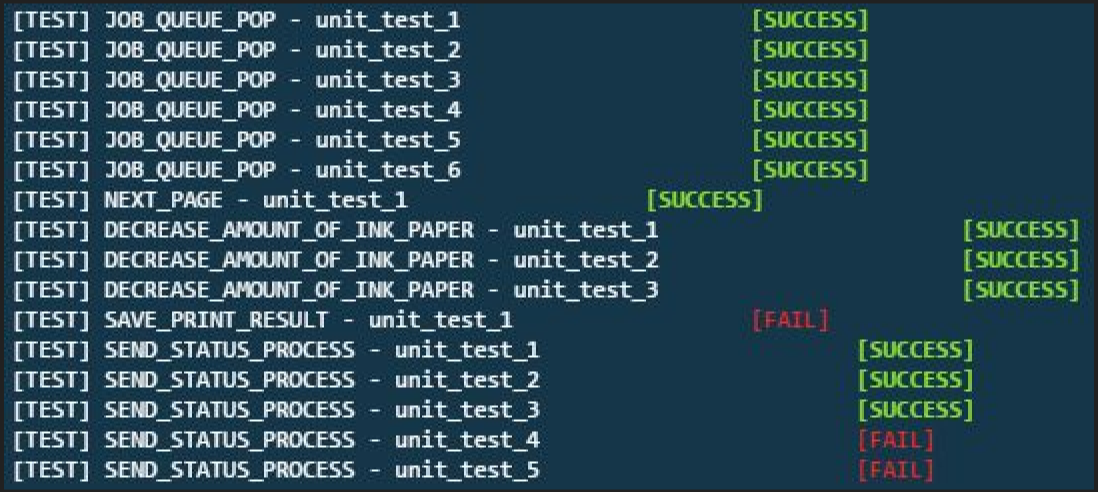
```
[TEST] USER_CREATION_PROCESS - unit_test__exist_user_1                  [SUCCESS]
[TEST] USER_CREATION_PROCESS - unit_test__exist_user_2                  [SUCCESS]
[TEST] USER_CREATION_PROCESS - unit_test__exist_user_3                  [SUCCESS]
[TEST] USER_CREATION_PROCESS - unit_test__exist_user_4                  [SUCCESS]
[TEST] USER_CREATION_PROCESS - unit_test_1                      [SUCCESS]
[TEST] USER_CREATION_PROCESS - unit_test_2                      [SUCCESS]
[TEST] USER_LISTING_PROCESS - unit_test_1                       [FAIL]
[TEST] USER_REMOVAL_PROCESS - unit_test_1                       [FAIL]
[TEST] USER_REMOVAL_PROCESS - unit_test_2                       [FAIL]
[TEST] HW_STOP_INTERFACE - unit_test_1                  [FAIL]
[TEST] HW_STOP_INTERFACE - unit_test_2                  [FAIL]
[TEST] HW_STOP_CONTROLLER - unit_test_1                 [FAIL]
[TEST] HW_STOP_PROCESS - unit_test_1                    [SUCCESS]
[TEST] HW_STOP_PROCESS - unit_test_2                    [SUCCESS]
[TEST] HW_STOP_PROCESS - unit_test_3                    [SUCCESS]
[TEST] RESET_WAIT_REFILL_INK_PROCESS - unit_test_1                      [SUCCESS]
[TEST] RESET_WAIT_REFILL_INK_PROCESS - unit_test_2                      [SUCCESS]
[TEST] RESET_WAIT_REFILL_PAPER_PROCESS - unit_test_1                    [SUCCESS]
[TEST] RESET_WAIT_REFILL_PAPER_PROCESS - unit_test_1                    [SUCCESS]
[TEST] WAIT_REFILL_INK_ADDITION_PROCESS - unit_test_1                   [SUCCESS]
[TEST] WAIT_REFILL_INK_ADDITION_PROCESS - unit_test_2                   [SUCCESS]
[TEST] WAIT_REFILL_INK_ADDITION_PROCESS - unit_test_3                   [SUCCESS]
[TEST] WAIT_REFILL_INK_ADDITION_PROCESS - unit_test_4                   [SUCCESS]
[TEST] WAIT_REFILL_INK_ADDITION_PROCESS - unit_test_5                   [SUCCESS]
[TEST] WAIT_REFILL_INK_ADDITION_PROCESS - unit_test_6                   [SUCCESS]
[TEST] WAIT_REFILL_INK_ADDITION_PROCESS - unit_test_7                   [SUCCESS]
[TEST] WAIT_REFILL_INK_ADDITION_PROCESS - unit_test_8                   [SUCCESS]
[TEST] WAIT_REFILL_INK_ADDITION_PROCESS - unit_test_9                   [SUCCESS]
[TEST] WAIT_REFILL_INK_ADDITION_PROCESS - unit_test_10                  [SUCCESS]
[TEST] WAIT_REFILL_INK_ADDITION_PROCESS - unit_test_11                  [SUCCESS]
[TEST] WAIT_REFILL_INK_ADDITION_PROCESS - unit_test_12                  [SUCCESS]
[TEST] WAIT_REFILL_INK_ADDITION_PROCESS - unit_test_13                  [SUCCESS]
[TEST] WAIT_REFILL_INK_ADDITION_PROCESS - unit_test_14                  [SUCCESS]
[TEST] WAIT_REFILL_INK_ADDITION_PROCESS - unit_test_15                  [SUCCESS]
[TEST] WAIT_REFILL_INK_ADDITION_PROCESS - unit_test_16                  [SUCCESS]
[TEST] WAIT_REFILL_INK_ADDITION_PROCESS - unit_test_17                  [SUCCESS]
[TEST] WAIT_REFILL_INK_ADDITION_PROCESS - unit_test_18                  [SUCCESS]
[TEST] WAIT_REFILL_INK_ADDITION_PROCESS - unit_test_19                  [SUCCESS]
[TEST] WAIT_REFILL_INK_ADDITION_PROCESS - unit_test_20                  [SUCCESS]
[TEST] WAIT_REFILL_INK_ADDITION_PROCESS - unit_test_21                  [SUCCESS]
[TEST] WAIT_REFILL_INK_ADDITION_PROCESS - unit_test_22                  [SUCCESS]
[TEST] WAIT_REFILL_INK_ADDITION_PROCESS - unit_test_23                  [SUCCESS]
[TEST] WAIT_REFILL_INK_ADDITION_PROCESS - unit_test_24                  [SUCCESS]
[TEST] WAIT_REFILL_INK_ADDITION_PROCESS - unit_test_25                  [SUCCESS]
[TEST] WAIT_REFILL_INK_ADDITION_PROCESS - unit_test_26                  [SUCCESS]
[TEST] WAIT_REFILL_INK_ADDITION_PROCESS - unit_test_27                  [SUCCESS]
[TEST] WAIT_REFILL_INK_ADDITION_PROCESS - unit_test_28                  [SUCCESS]
[TEST] WAIT_REFILL_INK_ADDITION_PROCESS - unit_test_29                  [SUCCESS]
[TEST] WAIT_REFILL_INK_ADDITION_PROCESS - unit_test_30                  [SUCCESS]
```



```
[TEST] WAIT_REFILL_INK_ADDITION_PROCESS - unit_test_31                  [SUCCESS]
[TEST] WAIT_REFILL_INK_ADDITION_PROCESS - unit_test_32                  [SUCCESS]
[TEST] WAIT_REFILL_INK_ADDITION_PROCESS - unit_test_33                  [SUCCESS]
[TEST] WAIT_REFILL_INK_ADDITION_PROCESS - unit_test_34                  [SUCCESS]
[TEST] WAIT_REFILL_INK_ADDITION_PROCESS - unit_test_35                  [SUCCESS]
[TEST] WAIT_REFILL_INK_ADDITION_PROCESS - unit_test_36                  [SUCCESS]
[TEST] WAIT_REFILL_INK_ADDITION_PROCESS - unit_test_37                  [SUCCESS]
[TEST] WAIT_REFILL_INK_ADDITION_PROCESS - unit_test_38                  [SUCCESS]
[TEST] WAIT_REFILL_INK_ADDITION_PROCESS - unit_test_39                  [SUCCESS]
[TEST] WAIT_REFILL_INK_ADDITION_PROCESS - unit_test_40                  [SUCCESS]
[TEST] WAIT_REFILL_INK_ADDITION_PROCESS - unit_test_41                  [SUCCESS]
[TEST] WAIT_REFILL_INK_ADDITION_PROCESS - unit_test_42                  [SUCCESS]
[TEST] WAIT_REFILL_INK_ADDITION_PROCESS - unit_test_43                  [SUCCESS]
[TEST] WAIT_REFILL_INK_ADDITION_PROCESS - unit_test_44                  [SUCCESS]
[TEST] WAIT_REFILL_INK_ADDITION_PROCESS - unit_test_45                  [SUCCESS]
[TEST] WAIT_REFILL_PAPER_ADDITION_PROCESS - unit_test_1                 [SUCCESS]
[TEST] WAIT_REFILL_PAPER_ADDITION_PROCESS - unit_test_2                 [SUCCESS]
[TEST] WAIT_REFILL_PAPER_ADDITION_PROCESS - unit_test_3                 [SUCCESS]
[TEST] WAIT_REFILL_PAPER_ADDITION_PROCESS - unit_test_4                 [SUCCESS]
[TEST] WAIT_REFILL_PAPER_ADDITION_PROCESS - unit_test_5                 [SUCCESS]
[TEST] WAIT_REFILL_PAPER_ADDITION_PROCESS - unit_test_6                 [SUCCESS]
[TEST] WAIT_REFILL_PAPER_ADDITION_PROCESS - unit_test_7                 [SUCCESS]
[TEST] WAIT_REFILL_PAPER_ADDITION_PROCESS - unit_test_8                 [SUCCESS]
[TEST] WAIT_REFILL_PAPER_ADDITION_PROCESS - unit_test_9                 [SUCCESS]
[TEST] WAIT_REFILL_PAPER_ADDITION_PROCESS - unit_test_10                        [SUCCESS]
[TEST] WAIT_REFILL_PAPER_ADDITION_PROCESS - unit_test_11                        [SUCCESS]
[TEST] WAIT_REFILL_PAPER_ADDITION_PROCESS - unit_test_12                        [SUCCESS]
[TEST] WAIT_REFILL_PAPER_ADDITION_PROCESS - unit_test_13                        [SUCCESS]
[TEST] WAIT_REFILL_PAPER_ADDITION_PROCESS - unit_test_14                        [SUCCESS]
[TEST] WAIT_REFILL_PAPER_ADDITION_PROCESS - unit_test_15                        [SUCCESS]
[TEST] WAIT_REFILL_PAPER_ADDITION_PROCESS - unit_test_16                        [SUCCESS]
[TEST] WAIT_REFILL_PAPER_ADDITION_PROCESS - unit_test_17                        [SUCCESS]
[TEST] WAIT_REFILL_PAPER_ADDITION_PROCESS - unit_test_18                        [SUCCESS]
[TEST] WAIT_REFILL_PAPER_ADDITION_PROCESS - unit_test_19                        [SUCCESS]
[TEST] WAIT_REFILL_PAPER_ADDITION_PROCESS - unit_test_20                        [SUCCESS]
[TEST] WAIT_REFILL_PAPER_ADDITION_PROCESS - unit_test_21                        [SUCCESS]
[TEST] WAIT_REFILL_PAPER_ADDITION_PROCESS - unit_test_22                        [SUCCESS]
[TEST] WAIT_REFILL_PAPER_ADDITION_PROCESS - unit_test_23                        [SUCCESS]
[TEST] WAIT_REFILL_PAPER_ADDITION_PROCESS - unit_test_24                        [SUCCESS]
[TEST] WAIT_REFILL_PAPER_ADDITION_PROCESS - unit_test_25                        [SUCCESS]
[TEST] WAIT_REFILL_PAPER_ADDITION_PROCESS - unit_test_26                        [SUCCESS]
[TEST] WAIT_REFILL_PAPER_ADDITION_PROCESS - unit_test_27                        [SUCCESS]
[TEST] WAIT_REFILL_PAPER_ADDITION_PROCESS - unit_test_28                        [SUCCESS]
[TEST] WAIT_REFILL_PAPER_ADDITION_PROCESS - unit_test_29                        [SUCCESS]
[TEST] WAIT_REFILL_PAPER_ADDITION_PROCESS - unit_test_30                        [SUCCESS]
[TEST] WAIT_REFILL_PAPER_ADDITION_PROCESS - unit_test_31                        [SUCCESS]
[TEST] WAIT_REFILL_PAPER_ADDITION_PROCESS - unit_test_32                        [SUCCESS]
```



```
[TEST] WAIT_REFILL_PAPER_ADDITION_PROCESS - unit_test_33                       [SUCCESS]
[TEST] WAIT_REFILL_PAPER_ADDITION_PROCESS - unit_test_34                       [SUCCESS]
[TEST] WAIT_REFILL_PAPER_ADDITION_PROCESS - unit_test_35                       [SUCCESS]
[TEST] WAIT_REFILL_PAPER_ADDITION_PROCESS - unit_test_36                       [SUCCESS]
[TEST] WAIT_REFILL_PAPER_ADDITION_PROCESS - unit_test_37                       [SUCCESS]
[TEST] WAIT_REFILL_PAPER_ADDITION_PROCESS - unit_test_38                       [SUCCESS]
[TEST] WAIT_REFILL_PAPER_ADDITION_PROCESS - unit_test_39                       [SUCCESS]
[TEST] WAIT_REFILL_PAPER_ADDITION_PROCESS - unit_test_40                       [SUCCESS]
[TEST] WAIT_REFILL_PAPER_ADDITION_PROCESS - unit_test_41                       [SUCCESS]
[TEST] WAIT_REFILL_PAPER_ADDITION_PROCESS - unit_test_42                       [SUCCESS]
[TEST] WAIT_REFILL_PAPER_ADDITION_PROCESS - unit_test_43                       [SUCCESS]
[TEST] WAIT_REFILL_PAPER_ADDITION_PROCESS - unit_test_44                       [SUCCESS]
[TEST] WAIT_REFILL_PAPER_ADDITION_PROCESS - unit_test_45                       [SUCCESS]
[TEST] REFILL_INK_PROCESS - unit_test_1                [SUCCESS]
[TEST] REFILL_INK_PROCESS - unit_test_2                [SUCCESS]
[TEST] REFILL_INK_PROCESS - unit_test_3                [SUCCESS]
[TEST] REFILL_INK_PROCESS - unit_test_4                [SUCCESS]
[TEST] REFILL_INK_PROCESS - unit_test_5                [SUCCESS]
[TEST] REFILL_INK_PROCESS - unit_test_6                [SUCCESS]
[TEST] REFILL_INK_PROCESS - unit_test_7                [SUCCESS]
[TEST] REFILL_INK_PROCESS - unit_test_8                [SUCCESS]
[TEST] REFILL_INK_PROCESS - unit_test_9                [SUCCESS]
[TEST] REFILL_INK_PROCESS - unit_test_10                       [SUCCESS]
[TEST] REFILL_INK_PROCESS - unit_test_11                       [SUCCESS]
[TEST] REFILL_INK_PROCESS - unit_test_12                       [SUCCESS]
[TEST] REFILL_INK_PROCESS - unit_test_13                       [SUCCESS]
[TEST] REFILL_INK_PROCESS - unit_test_14                       [SUCCESS]
[TEST] REFILL_INK_PROCESS - unit_test_15                       [SUCCESS]
[TEST] REFILL_PAPER_PROCESS - unit_test_1                      [SUCCESS]
[TEST] REFILL_PAPER_PROCESS - unit_test_2                      [SUCCESS]
[TEST] REFILL_PAPER_PROCESS - unit_test_3                      [SUCCESS]
[TEST] REFILL_PAPER_PROCESS - unit_test_4                      [SUCCESS]
[TEST] REFILL_PAPER_PROCESS - unit_test_5                      [SUCCESS]
[TEST] REFILL_PAPER_PROCESS - unit_test_6                      [SUCCESS]
[TEST] REFILL_PAPER_PROCESS - unit_test_7                      [SUCCESS]
[TEST] REFILL_PAPER_PROCESS - unit_test_8                      [SUCCESS]
[TEST] REFILL_PAPER_PROCESS - unit_test_9                      [SUCCESS]
[TEST] REFILL_PAPER_PROCESS - unit_test_10                     [SUCCESS]
[TEST] REFILL_PAPER_PROCESS - unit_test_11                     [SUCCESS]
[TEST] REFILL_PAPER_PROCESS - unit_test_12                     [SUCCESS]
[TEST] REFILL_PAPER_PROCESS - unit_test_13                     [SUCCESS]
[TEST] REFILL_PAPER_PROCESS - unit_test_14                     [SUCCESS]
[TEST] REFILL_PAPER_PROCESS - unit_test_15                     [SUCCESS]
```



```
[TEST] JOB_QUEUE_POP - unit_test_1                      [SUCCESS]
[TEST] JOB_QUEUE_POP - unit_test_2                      [SUCCESS]
[TEST] JOB_QUEUE_POP - unit_test_3                      [SUCCESS]
[TEST] JOB_QUEUE_POP - unit_test_4                      [SUCCESS]
[TEST] JOB_QUEUE_POP - unit_test_5                      [SUCCESS]
[TEST] JOB_QUEUE_POP - unit_test_6                      [SUCCESS]
[TEST] NEXT_PAGE - unit_test_1                  [SUCCESS]
[TEST] DECREASE_AMOUNT_OF_INK_PAPER - unit_test_1                       [SUCCESS]
[TEST] DECREASE_AMOUNT_OF_INK_PAPER - unit_test_2                       [SUCCESS]
[TEST] DECREASE_AMOUNT_OF_INK_PAPER - unit_test_3                       [SUCCESS]
[TEST] SAVE_PRINT_RESULT - unit_test_1                  [FAIL]
[TEST] SEND_STATUS_PROCESS - unit_test_1                        [SUCCESS]
[TEST] SEND_STATUS_PROCESS - unit_test_2                        [SUCCESS]
[TEST] SEND_STATUS_PROCESS - unit_test_3                        [SUCCESS]
[TEST] SEND_STATUS_PROCESS - unit_test_4                        [FAIL]
[TEST] SEND_STATUS_PROCESS - unit_test_5                        [FAIL]
```