

## 3.1 Operation Security

*What happens if the super-administrator of your critical systems got hit by a bus?*

### 3.1.1 Critical Systems

**Policy** For any critical systems / applications there must be at least two persons who are well versed with the systems / applications and able to access, modify and operate them competently.

**Standard** Rotation of job must be enforced on operation of critical systems to make sure more than 1 person have the knowledge and ability to operate the systems.

**Procedure** Procedure to rotate job on operation of systems are as follows. Note: Steps (1) to (4) apply only to new personnel identified. Subsequently, only step (5) is necessary.

- (1) Identification and appointment of personnel  
The management identifies and appoints person(s) to be the understudy of main person in charge of system. Identification should take into consideration the following factors: security and background vetting, level of basic expertise, interest, commitment, current workload and gender. This step should be completed within 1 week.
- (2) Adjustment / acclimatisation to role  
The management briefs both the main person in charge of system and the newly appointed understudy on their role, responsibility and time frame, placing specific emphasis on the objective of this exercise.

(3) Training

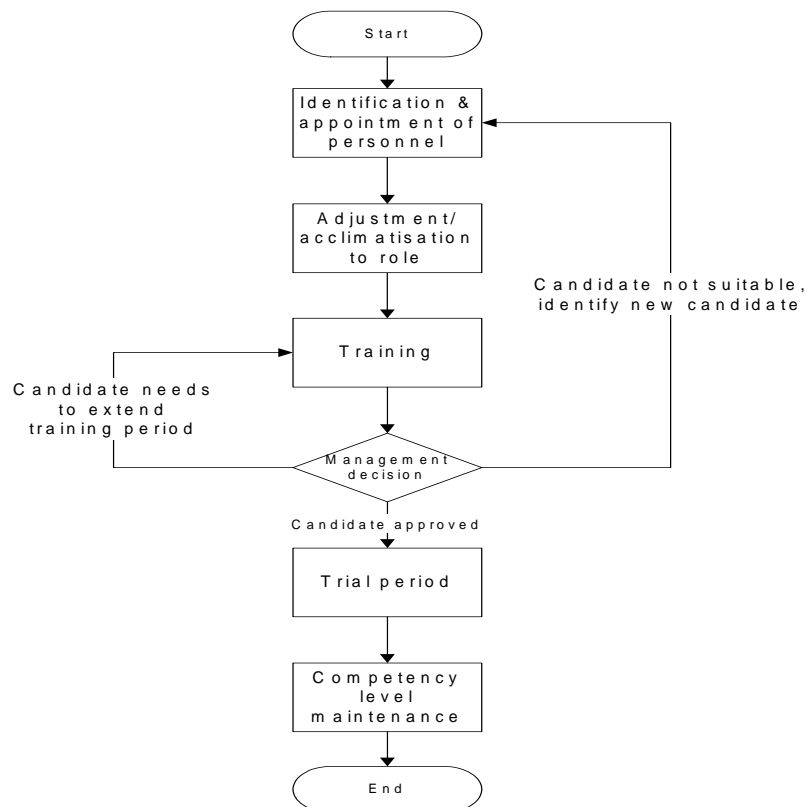
The appointed personnel undergoes intensive relevant training while accumulating on-the-job experience. The person in charge of the system will assess the competency level of the appointed personnel and report to the management on a weekly basis. Should the progress of the competency level of the appointed person not up to expectation within 3 months, the management would decide whether to extend the training period or repeat from step (1).

(4) Trial period

Upon reaching a satisfactory competency level, the appointed personnel handles the system for a period of time (as determined by the management) under the close supervision of the main person in charge of system.

(5) Competency level maintenance

At the end of the trial period, the administration of the critical system will now be rotated at least once a week among the persons in charge.



## **Guidelines**

- (1) Repeat from step (1) of Procedure when there is a change in any of the persons in charge. Change in this case pertains to retirement, transfer, death, medically unfit, contravenes any provisions in Chapter D of Perintah Am Negeri Sabah or any condition which affects the performance of the individual.
  
- (2) The time frame for each step, if not specified, will be determined by the management as it deems fit.

### 3.1.2 Systems Documentation

*Upgrading a server disabled access to SabahNet for everybody unexpectedly at 8.00 am on a Monday morning. What do you have to do to restore operations in the shortest time possible?*

**Policy** Document any changes to any ICT system.

**Standard** All changes on any ICT system including the infrastructure must go through a change control management - recorded, tested, verified and approved - before being implemented. A back-out plan must also be in place to make sure a proper rollback if the need arises.

**Procedure** Procedure for change control management:

(1) Record any planned changes to ICT system

This should be done using a standard form (appendix A). The information should at least cover the following for the "current" and "after" states:

- Name/make/model of all ICT system involved.
- Version/build numbers of all ICT system involved.
- Name of personnel(s) who will carry out change.
- Purpose of change.
- Detailed steps to be taken to implement change.
- Date/time of plan of change.
- Date/time of testing of planned changes to a test system.
- Date/time of testing of back-out plan.
- Date/time of starting of change.
- Date/time of completion of change.

- (2) Verify and approve the request to proceed with test

The immediate superior officer of the personnel who is going to implement the change will decide on the request. If this request is not approved, no changes shall be made.

- (3) Test the planned changes to a test system/environment

This is to ensure operation is not affected in any way.

- (4) Prepare and test back-out plan

This is to make sure that changes can be reversed if the need arises.

The plan should at least cover the following:

- Hardware/software/personnel involved.
- Detailed steps to be taken.

- (5) Verify and approve the request to proceed with change

The immediate superior officer of the personnel who is going to implement the change will decide on the request. The officer can also request to repeat from step (3).

- (6) Announce time of change

This should be done well in advance to minimise downtime and effect on users. If need be, this change need to be done outside peak/office hours.

- (7) Implement the change

The start and end date/time of this step should be recorded.

- (8) IF THE NEED ARISES: carry out back-out plan

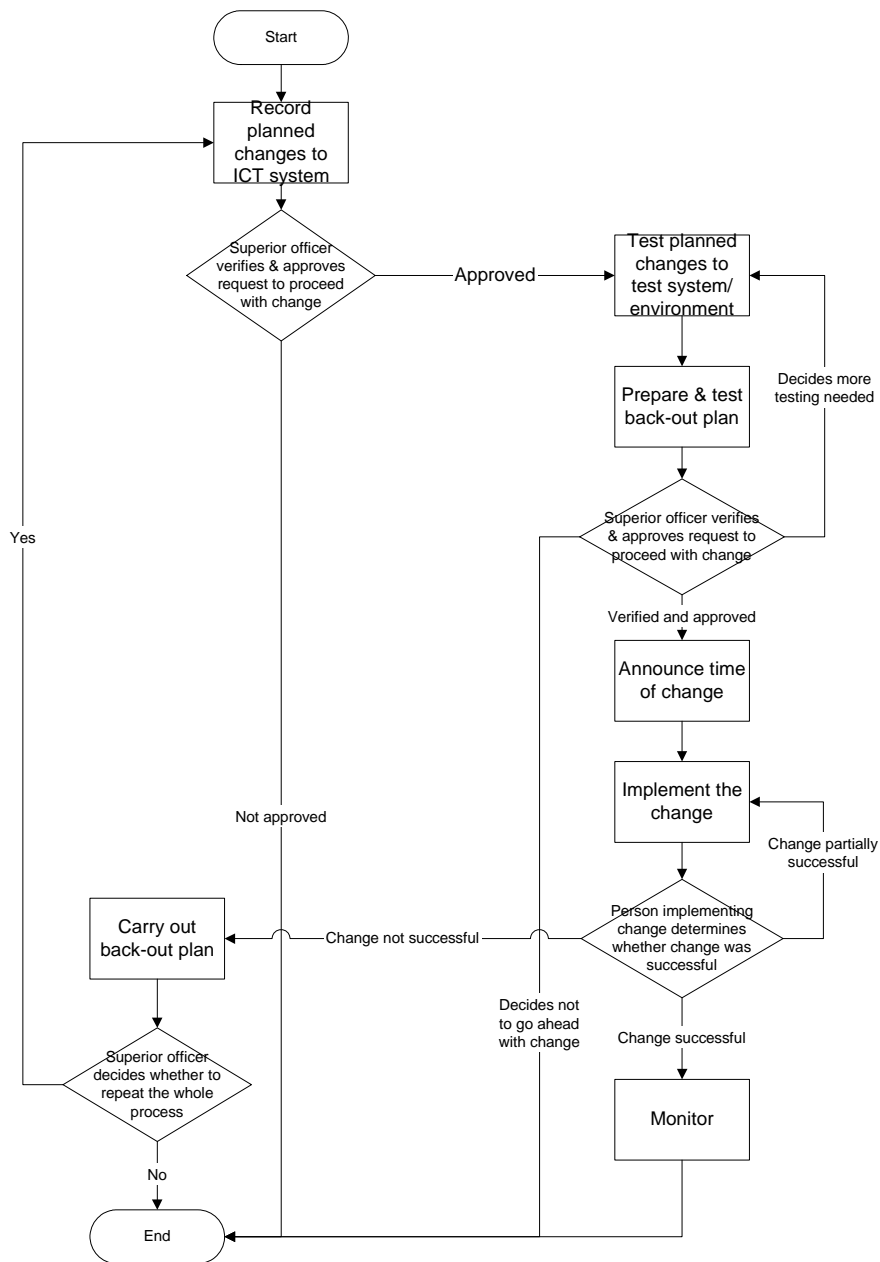
The following should be recorded as well:

- Why the implemented changes did not produce the desired results.
- System error messages.
- Steps to be taken to rectify the problem.

After carrying out the back-out plan, report back to the immediate superior officer to determine whether to repeat step (1).

- (9) Monitor

Monitor the implemented change for any effect it might have had on other related system(s).



## Guidelines

- (1) During the planning stage, if the change is expected to take a long period, it should be broken down into smaller stages to minimise downtime.
- (2) If needed, all implementation of change should be done outside peak/office hours.

### ICT SYSTEM CHANGE FORM

ITEM	STATUS BEFORE CHANGE	ACTUAL STATUS AFTER CHANGE
Name/make/model of all systems involved		
Version/build numbers of all systems involved		
Name of personnel(s) who will carry out change:		
Purpose of change:		
Detailed steps to be taken to implement change:		
Date/time of plan of change:		
<p><b>Approval of request to proceed with test:</b></p> <p>.....</p> <p><b>Name:</b></p> <p>Date:</p>		
Date/time of testing of planned changes to a test system:		
Remarks:		
Date/time of testing of back-out plan:		
Remarks:		
<p><b>Approval of request to proceed with change:</b></p> <p>.....</p> <p><b>Name:</b></p> <p>Date:</p>		

Date/time of starting of change:

Date/time of completion of change:

**Change confirmed successful:**

.....

**(Implementer)**

**Name:**

Date:

.....

**(Supervisor)**

**Name:**

Date: