Pharmacy Information System (PhIS)
and
Clinic Pharmacy System (CPS)

Preventive Maintenance Guideline

Version	**: v1.5**
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Verified and Acknowledged by:

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1.3	(QA) Michelle Foo, (Technical)Ahmas Zahiruddin Mohd Rosni	Update on the contents & checklist Additional Appendix on “Appendix 27”
1.4	(QA) Michelle Foo	Update & revised PM checklist Revised PM process flow - SOP Added Term of Reference (TOR)
1.5	(QA) Michelle Foo	Update & Revised **Appendix 3 - Mapping of Appendix 27 with Report Submitted**

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1. Purpose

This document provides the guidelines for PhIS & CPS Preventive Maintenance at Data Centre (DC), Disaster Recovery Centre (DRC) and facility. It contains activities to be performed at designated location and the required documentation to be filled up before, during and after the activity.

This guideline is recommended to be read and understood by the appointed Facility Coordinator or officer in-charge of IT hardware asset at the facility that managing facility asset, and it should be read together with PhIS and CPS Helpdesk & Maintenance document.

2. Hardware Maintained

The hardware to be maintained at each facility is depending on the approved allocation endorsed by PhIS & CPS project committee. Depending on the approved allocation, the type of hardware being installed at DC,DRC and facility as follows:

No	List of Hardware
1	Server
2	Storage *
3	Uninterrupted Power Supply (UPS)
4	Desktop PC
5	Notebook *
6	LaserJet printer
7	Thermal Transfer printer
8	QMS printer *
9	Mobile Handheld device *
10	Wired scanner *
11	Tablet *
12	Core switch *
13	Distribution switch *
14	Access Point *
15	Wireless Bridge *
16	Load Balancer *
17	Link Controller *
18	Firewall *

Note: Hardware marked with * indicates for selected facility only.

* For complete hardware specification, do refer to Helpdesk & Maintenance Document v1.5.
* For detailed hardware inventory listing, do refer to ConnectManage(CM) in “Asset Management

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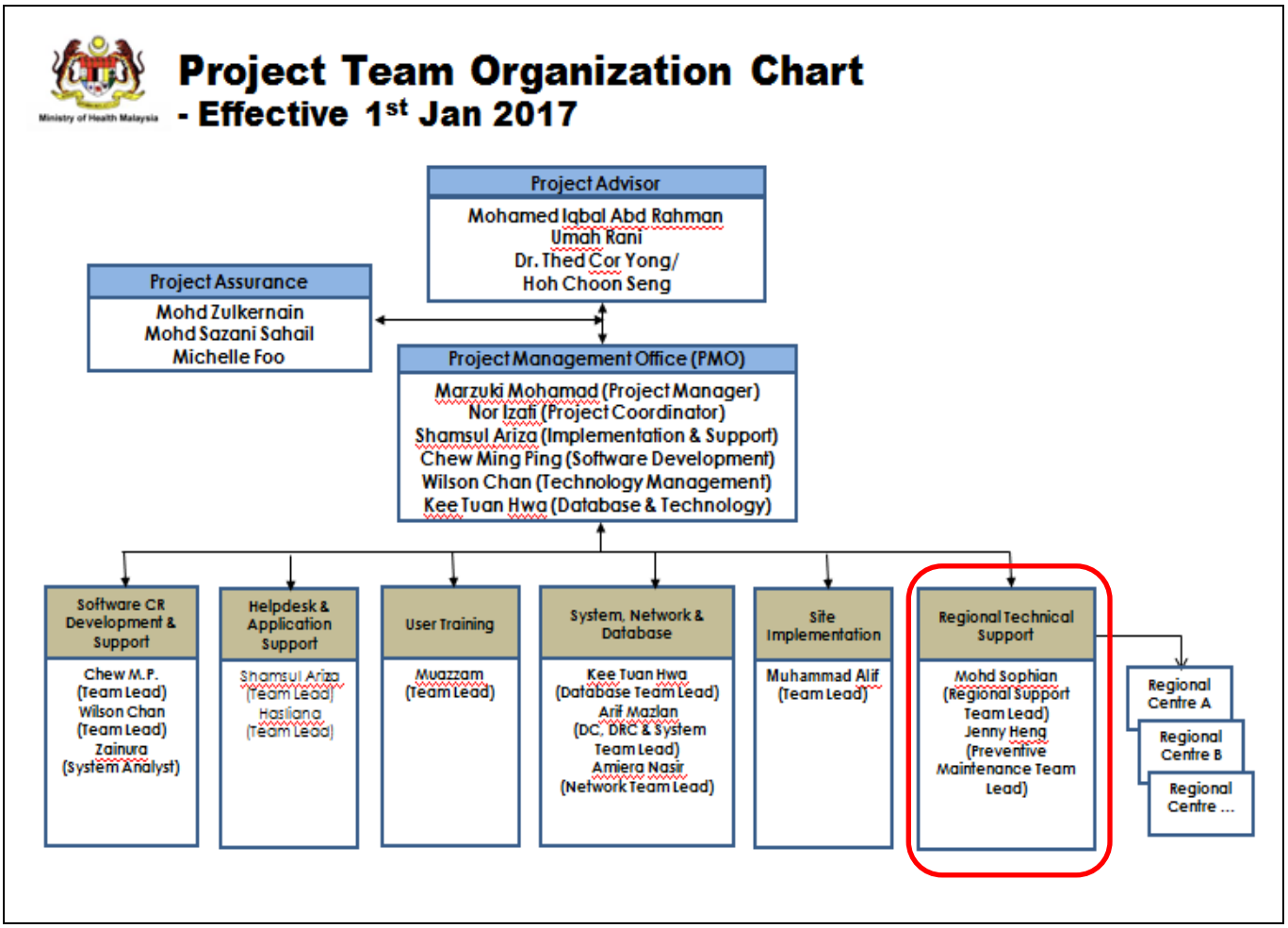
Report”

3. Team Structure and Responsibility

P.M Team is a team formed to be responsible for the P.M including reporting and progress updates and record consolidations of PM findings. There will be a minimum of 2 pax in a team (depend on the facility size). For DC & DRC, the team will conduct the activity under IT BPF supervision, verification and acceptance while for other facility; this will be supervised, verified and accepted by IT or Pharmacist.

The team structure as below and the PM Team is part of the Regional Technical Support.



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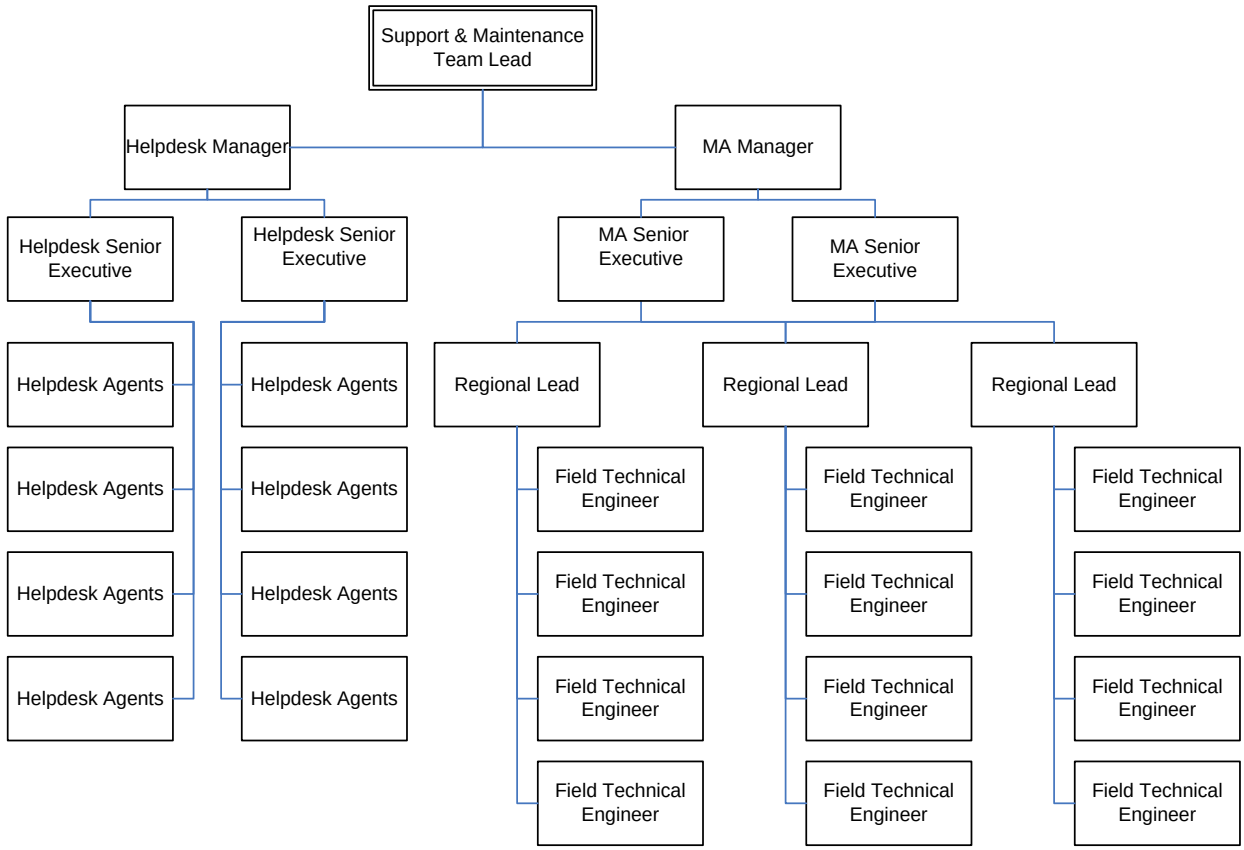

4. Standard Tools and Peripherals

Below is the standard tool & peripherals for every PM activity.

- Hardware Inventory List
- PM Checklist forms
- Anti-static & cleaning cloth
- Screwdriver set
- Portable vacuum cleaner
- LCD & Hardware fluid spray
- Mouth & Nose protective gear (if needed)
- Hand gloves (if needed)
- Ladder (For AP and Network switch physical checking)
- P.M labels (2 P.M per year)
- Asset Tagging labels (If the existing labels have to be replaced)
- Notebook / Tablet (for server, switch, AP & wireless bridge configuration check)

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5. Scope of Work

1. Standard scope of work

The PM team will perform a repeating tasks for every PM as below;

I. Cleanup of physical hardware.
II. Check details and location of the hardware.
III. Capture details of resources.
IV. Check the standard hardening and configurations.
V. Record any relocation or missing hardware.

2. Scheduled scope of work

The PM team will perform a pre-planned activity that is not in the standard scope as for example below;

I. Firmware updates.
II. Application patches and tuning.
III. DB patches and tuning.
IV. Upgrade of OS or any related system application.

6. Preventive Maintenance Procedure

The Preventive Maintenance activity will be done following the below process.

1. Pre Preventive Maintenance

i. A complete P.M schedule has to be presented to facility and the project team.
ii. Facility will then approve the proposed schedule (including the latest Hardware Inventory List) before the activity can take place. If there is a need for changes, facility will propose a new schedule and this will be notified to PLSB and project team.
iii. All hardware summary list and hardware inventory list will be printed out from ConnectManage.
iv. Compilation of all the P.M documents needed beforehand. The documents as below:

- P.M activity letter
- Approved P.M Schedule
- Hardware Summary list
- Hardware Inventory list
- P.M Checklist forms

*Example as in Appendix 1.

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2. During Preventive Maintenance

i. On the 1st day, there should be a quick briefing on the regulation and SOP of the facility by the person in charge –appointed Facility Coordinator (Asset Manager / IT personnel / Pharmacists / Representative) to the P.M team.
ii. PM team should always be in proper attire when conducting the activity.
iii. Facility Coordinator to facilitate the P.M team throughout the P.M activity.
iv. Daily activity update by P.M Team:
    - Update facility before starting the activity in the morning.
    - Update facility on the progress by end of the day / week as mutual agreed.
v. P.M Team must compile the daily progress and update the facility (daily) and the project team (Bi-Weekly Meeting).
vi. Always ask for user permission before attending to the hardware.
vii. End user/Facility representative have to verify the activity being carried out and sign the P.M checklist forms. The checklist has to be filled thoroughly.
viii. P.M team must report any findings on the hardware movements or hardware that is missing and inform the Facility Coordinator responsible to manage facility asset or officer in-charge of IT hardware asset; to update their record and will log the case to Helpdesk (if applicable).
ix. Any hardware fault found during the P.M activity, the P.M team will log the case to Helpdesk and escalate to the support team.
x. The hardware will be tagged as below to ensure that P.M has been done on the particular hardware.

Kementerian Kesihatan Malaysia

Current PM Date	dd/mm/yyyy
Next PM Due	dd/mm/yyyy

Hak Kerajaan Malaysia

3. Post Preventive Maintenance

i. Once the Preventive Maintenance is completed, the below documents will be distributed to Facility:
    - Execution of Preventive Maintenance (EPM)
    - Preventive Maintenance Report including :
        a. Findings during Preventive Maintenance activity.
        b. Recommendations/ actions e.g. any upgrades or tunings required.
    - Compilation of all completed P.M checklist forms.

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ii. Any issue highlighted shall be highlight or report to project team for further action. Asset shall be under the custodial of facility. Any further action in relate to asset shall be the responsibility of facility.

iii. To inform and update project team on the completion of the P.M activity during project meeting.

iv. Facility Coordinator shall be the main contact person for respective facility during PM activities.

*Example as in Appendix 2.

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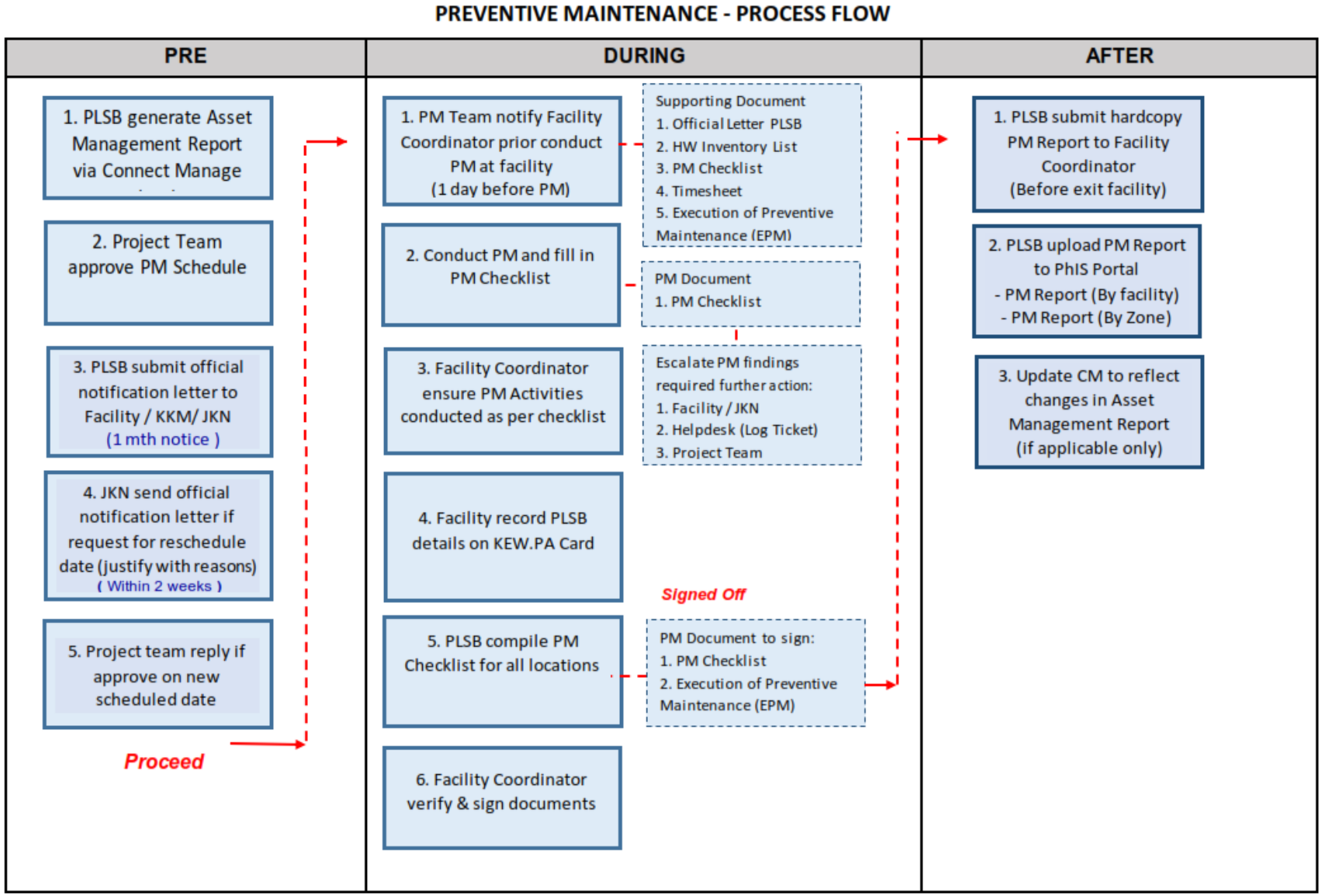
7. Preventive Maintenance Process Flow



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PM Key Resources – Term of Reference (TOR)

	No	Work Process	Responsible By
PRE – PM	1	Generate latest Asset Management Report through ConnectManage(CM)	PLSB
	2	Submit PM Schedule to project team for approval	PLSB
	3	PLSB submit PM notification letter to Facility , carbon copy to KKM & JKN and to be attach with supporting document: • Hardware Inventory Summary List • Approved PM Schedule (By Zone) **Timeline* - 1 month before PM activities start	PLSB
	4	JKN to send official notification letter if any request from facility on change of PM date – to provide reasons and proposed new date. * *Timeline* - within 2 weeks upon receiving PM notification letter	PLSB
	5	Project Team shall reply on top of email notification sent by Project team; if request of rescheduled PM date is approved , otherwise consider rejected and facility has to proceed as per scheduled plan.	MOH / PLSB
DURING - PM	1	PLSB to contact & notify Facility Coordinator prior conduct PM on site. **Timeline* – 1 day before PM activities Facility Coordinator to conduct briefing on the regulation and SOP of facility to PLSB team when on-site.	PLSB Facility
	2	PLSB team require to fill in PM Checklist during execution of PM activities at respective User location. Escalation of PM findings that required further advise or action shall be compile & highlight to below parties accordingly: a. Facility / JKN or b. Helpdesk - Log Ticket (where necessary) or c. Project Team	PLSB
	3	Facility Coordinator to ensure PM activities conducted as per PM checklist	Facility
	4	Facility to update & record PM activities details on KEW.PA card (Rekod Penyelenggaraan Aset Alih)	Facility
	5	All PM Checklists will be compiled by PLSB and submit to Facility Coordinator for verification & Sign off: • Preventive Maintenance Checklist • Execution of Preventive Maintenance (EPM)	PLSB Facility

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	No	Work Process	Responsible By
AFTER - PM	1	PLSB shall submit PM Report (By Facility) to Facility Coordinator (Hardcopy) **Timeline* – before PLSB team exit facility	PLSB
	2	PLSB upload PM Report to PhIS Portal (Softcopy) a. PM Report (By Facility) b. PM Report (By Zone) • All Facilities' summary findings within the zone • *Timeline* – within 2 weeks upon completion of PM by Zone	PLSB
	3	PLSB update CM to reflect changes in Asset Management Report (If applicable only)	PLSB
	4	PLSB update Project Team on PM summary progress in project meeting	PLSB

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8. Report mechanism

PM Report (By Facility) & PM Report (By Zone) will be uploaded into PhIS Portal by PLSB; and shall be accessible by MOH (project team), JKN & Facilities. The hardcopy PM Report (By Facility) shall be distribute to facility before PM Team exit facility.

The timeline for report to upload to PhIS Portal will be 14 Days (2 weeks) after the last sign off date for the said state's zone and not by facility, subsequently within another 14 Days (2 weeks) for facility to verify facility asset vs. PM report.

During the PM execution, a summary of the progress will be presented in PhIS Bi Weekly Meeting.

9. Support

If there are any failures of hardware during the PM, it is advised for PM team or facility user to log a ticket to PhIS & CPS Helpdesk for recording and escalation to support team.

Any problems or issues encountered after the completion of preventive maintenance shall be escalated to PhIS& CPS Helpdesk for recording and resolution.

The toll-free number is 1-800-22-9322.

10. Acronyms

Abbreviation	Definition
MOH	Ministry of Health
PLSB	Pharmaniaga Logistics Sdn Bhd
Facility	Hospital, PKD, KK, JKN, BPM, BPF, MUSN, MUSB, PBFN
PhIS	Pharmacy Information System
CPS	Clinic Pharmacy System
P.M	Preventive Maintenance
EPM	Execution of Preventive Maintenance
QC	Quality Control
CM	ConnectManage (Customer Service & Helpdesk System)
DC	Data Centre
DRC	Disaster Recovery Centre

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APPENDIX 1

1.1 DC/DRC PM Sample Report

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1.1 DC/DRC PM Sample Report

1.1.1 Preventive Maintenance Schedule (Sample)

Location	Hardware						Days
	Pseries	Xseries	Switch	Firewall	Link Controller	Load Balancer	
Server room	5	12	10	2	2	4	Day 1
Servers (pSeries)							
phisdc_apps01	1						Day 1
phisdc_apps02	1						Day 1
phisdc_ db01	1						Day 1
phisdc_ db02	1						Day 1
phisdc_ devdb01	1						Day 1
Servers (xSeries)							
phisdc_nms_clamav		1					Day 2
phisdc_backup_dns 1		1					Day 2
phisdc_web02		1					Day 2
phisdc_ helpdesk		1					Day 2
phisdc_ web01		1					Day 2
phisdc_ trainapps		1					Day 2
phisdc_ traindb		1					Day 3
phisdc_ devapps		1					Day 3
phisdc_ devdb02		1					Day 3
phisdcvmhost001		1					
phisdcvmhost002		1					
phisdcvmhost003		1					
Switches							
phisdc-DMZ-SW1			1				Day 3
phisdc-DMZ-SW2			1				Day 3
phisdc-WAN-SW1			1				Day 3

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Location	Hardware						Days
	Pseries	Xseries	Switch	Firewall	Link Controller	Load Balancer	
phisdc-WAN-SW2			1				Day 3
phisdc-LAN-SW1			1				Day 3
phisdc-LAN-SW2			1				Day 3
phisdc-VM-SW1			1				Day 3
phisdc-VM-SW2			1				Day 3
phisdc-Backup-SW1			1				Day 3
phisdc-Backup-SW2			1				Day 3
Firewall							
phisdc-FW1				1			Day 3
phisdc-FW2				1			Day 3
Link Controller							
phisdc-LC1					1		Day 3
phisdc-LC2					1		Day 3
Load Balancer							
phisdc-LB1						1	Day 3
phisdc-LB2						1	Day 3
phisdc-LB3						1	Day 3
phisdc-LB4						1	Day 3
	5	**12**	**10**	**2**	**2**	**4**	

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1.1.2 List Hardware Specification and Quantity

Item	Abbreviation	Specification	Quantity (Unit)
SWITCH	**LAN**	CISCO CATALYST 4900M Enterprise and core Multi-tiered Network switch Layer 3 capable Minimum of 24-port 10/100/1000 Ethernet switch per slot 40 ports 10/100/1000 Ethernet switch per slot Support IPv6	2
SWITCH	**WAN / DMZ**	CISCO SGE2000 4 RJ-45 connectors for 10/100/1000 with 4 shared Gigabit SFP slots console port Auto medium dependent interface (MDI) and MDI crossover (MDI-X) Auto negotiate/manual setting RPS port for connecting to redundant power supply unit Support IPv6	4
SWITCH	**BACKUP & VM**	CISCO SG500 Enterprise and core Multi-tiered Network switch Layer 3 capable Minimum of 24-port 10/100/1000 Ethernet switch per slot 28 ports 10/100/1000 Ethernet switch per slot Support IPv6	4
Database Server	**SVR**	IBM P770 Redundant/clustering 8 CPU cores 3.6 Ghz Supports multi-tiered environment 64GB RAM with ECC Protection 2x300GB SCSI HDD with RAID capability 1xDVD-RW DL/DVD-ROM drive 4x10GB Internal Ethernet Adapter 4x 8GB HBA Fibre Channel port Pre-installed Operating System with CD P7 Processor with 8 cores 3.5 Ghz Redundant/Clustering – IBM Power HA 7.1 Supports multi-tiered environment 64 GB RAM with ECC Protection 2x300GB SAS HDD with RAID capability 1x SATA Slimline DVD Drive (DVD-RW DL/DVD-ROM drive) 4x10GB Internal Ethernet Adapter 4x 8GB HBA (Host Bus Adapter) Fibre Channel Port Pre-installed Operating System with CD – AIX 7.1	2

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Item	Abbreviation	Specification	Quantity (Unit)
Application Server	**SVR**	IBM P770 4 CPU cores 3.6 Ghz P7 Processor with 4 cores 4.22Ghz Supports multi-tiered environment 32GB RAM with ECC Protection 2x300GB SCSI HDD with RAID capability 1xDVD-RW DL/DVD-ROM drive 1x SATA Slimline DVD Drive (DVD-RW DL/DVD-ROM drive) 4x1GB Internal Ethernet Adapter Installed Operating System with CD – AIX 7.1 Pre-installed Operating System with CD	2
Web Server	**SVR**	IBM x3850 X5 2 x Xeon 6C (total 12 cores) E7-4807 95W 1.86GHz 32GB RAM with ECC Protection 2x300GB 15K 6Gbps SAS 2.5 SFF G2 HS HDD with RAID capability 1xDVD-RW DL/DVD-ROM drive 1x UltraSlim SATA Burner (DVD-RW DL/DVD-ROM drive) 4x1GB Internal Ethernet Adapter Pre-installed Operating System with CD Installed Operating System with CD – SuSe Linux Enterprise Server 11	2
Reporting/Data Mining Server	**SVR**	IBM X3650 M3 Intel 2 x Xeon 6C (total 12 cores) E5645 2.4Ghz 32GB RAM with ECC Protection 4 x 300GB SAS HDD with RAID capability 1xDVD-RW DL/DVD-ROM drive 1 x UltraSlim SATA Burner (DVD-RW DL/DVD-ROM drive) 4x1GB Internal Ethernet Adapter Pre-installed Operating System with CD Installed Operating System with CD – SuSe Linux Enterprise Server 11	1

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Item	Abbreviation	Specification	Quantity (Unit)
Shared Servers (NMS, Directory, Helpdesk, Reporting for DR, etc.)	**SVR**	IBM x3850 X5 4 CPU cores 3.6Ghz 2 x Xeon 6C (total 12 cores) E7-4807 95W 1.86GHz 32GB RAM with ECC 32GB RAM with ECC Protection 4x300GB SCSI HDD with RAID capability 4x300GB 15K 6Gbps SAS 2.5 SFF G2 HS HDD with RAID capability 1xDVD-RW DL/DVD-ROM drive 1x UltraSlim SATA Burner (DVD-RW DL/DVD-ROM drive)	4
Test Development Server (Core Apps and DB) – High End	**SVR**	IBM P720 4 CPU Cores P720 3.0 Ghz Supports multi-tiered environment 32GB RAM with ECC Protection 2x300GB 10K RPM SFF SAS Disk Drive with RAID capability 1xDVD-RW DL/DVD-ROM drive 1x SATA Slim DVD Drive 4x1GB Internal Ethernet Adapter 2xHBA Fibre channel port 2x 8GB HBA (Host Bus Adapter) Fibre channel Port Adapter Pre-installed Operating System with CD Installed Operating System with CD – AIX 7.1	1
Test Development Server (Non-Core Apps) – Low/Medium End	**SVR**	IBM X3650 M3 2 x Xeon 6C (total 12 cores) E5645 2.4Ghz 16GB RAM with ECC Protection 3x 300GB SAS HDD with RAID capability 1xDVD-RW DL/DVD-ROM drive 1 x UltraSlim SATA Burner (DVD-RW DL/DVD-ROM drive) 4x1GB Internal Ethernet Adapter 4x1GB Internal Ethernet Adapter Pre-installed Operating System with CD Installed Operating System with CD – SuSe Linux Enterprise Server 11	2
Virtual Machine Server (VM Server)	**VM SVR**	IBM x3850 X6 3x Intel Xeon 12C E7-4860v2 130W 2.6GHz/1600MHz/30MB 4x 12C 2.6GHz CPU 256GB RAM PC3L-12800 CL11 ECC DDR3 1600MHz LP RDIMM 3 x IBM 300GB 15K 6Gbps SAS 2.5 Inch G3HS R5 HDD	3

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Item	Abbreviation	Specification	Quantity (Unit)
Storage Area Network (SAN)	**SAN**	IBM DS5100 2 x 2 Quad 8GBs Host Port Cards Support iSCSI interface 5 TB RAW Data Support FC, SAT and SAS disk Support RAID 0, 1, 3, 5, 10 IBM Storage Management Software GUI Based management and monitoring tool Support 10Gbps switch of blade server Compatible with Unix, Red Hat LINUX, SUSE Linux, MS Windows Server SAN switch and cables 5 TB RAW Data	2
Storage Area Network (SAN)	**SAN**	IBM STOWIZEV7000 2 x 2 Quad 8GBs Host Port Cards Support iSCSI interface 5 TB RAW Data Support FC, SAT and SAS disk Support RAID 0, 1, 3, 5, 10 IBM Storage Management Software GUI Based management and monitoring tool Support 10Gbps switch of blade server Compatible with Unix, Red Hat LINUX, SUSE Linux, MS Windows Server SAN switch and cables 5 TB RAW Data	2
VM Storage Area Network (SAN)	**VM SAN**	IBM STOWIZEV7000 2 x 2 Quad 8GBs Host Port Cards Support iSCSI interface Support FC, SAT and SAS disk Support RAID 0, 1, 3, 5, 10 IBM Storage Management Software GUI Based management and monitoring tool Support 10Gbps switch of blade server Compatible with Unix, Red Hat LINUX, SUSE Linux, MS Windows Server SAN switch and cables	2

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Item	Abbreviation	Specification	Quantity (Unit)
Link Controller (Front-end and Back-End)	**LC**	BIG-IP F5 LC1600 Support up to 1 Gbps throughput Support 10 Gigabit Ethernet Ports Layer 4 load balancing Supports hardware SSL acceleration Add remove server on the fly Supports hardware SSL acceleration Add/Remove server on the fly Layer 4 load balancing Supports maximum of 10 Gigabit Ethernet Port Supports maximum of 12Gbps throughput	2
Load Balancer	**LB**	KEMP LM5300 8 X GbE and 2x10GbE (SFP+) ports 8.8 Gbps L4 balancer throughput SSL Transactions Per/Second (TPS): 9,300 Servers Supported: 1,000 Physical / 1,000 Virtual Servers Requests per second (HTTP): 110,000	4
Firewalls	**FW**	CHECKPOINT 12407 FIREWALL APPLIANCE Minimum of 10 Gbps throughputs Up to 25 Gbps FW Throughput High availability Support auditing log-in Support SSL for encryption via Web, Support IPV6 4xGigabit Ethernet ports 10/100/1000 Ethernet ports Support 10GB Fibre Channel Ethernet ports Support up to 3,500,000 concurrent sessions Comes with Check Point management software	2

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1.1.3 Hardware inventory list

List of equipment available in the facility as per below table:

i. SERVER

No.	SERVER S/N	ASSET TAGGING	LOCATION
1	0658E47	phisdc-apps01	Server Room
2	0658E57	phisdc-apps02	Server Room
3	0639C6R	phisdc_ db01	Server Room
4	0639BFR	phisdc_ db02	Server Room
5	0639C5R	phisdc_ devdb01	Server Room
6	99B0746	phisdc_nms_clamav	Server Room
7	99B0744	phisdc_backup_dns 1	Server Room
8	99A9941	phisdc_web02	Server Room
9	99B0747	phisdc_ helpdesk	Server Room
10	99B0743	phisdc_ web01	Server Room
11	99Y8639	phisdc_ trainapps	Server Room
12	99Y8654	phisdc_ traindb	Server Room
13	99Y9290	phisdc_ devapps	Server Room
14	99Y8377	phisdc_ devdb02	Server Room
15	06EK012	phisdc_vmhost01	Server Room
16	06EK010	phisdc_vmhost02	Server Room
17	06EK011	phisdc_vmhost03	Server Room

ii. STORAGE

No.	SERVER S/N	ASSET TAGGING	LOCATION
1	78K24K8	SAN Storage	Server Room
2	78K24PC	SAN Storage Expansion	Server Room
3	78226AX	SAN Storage (New)	Server Room
4	78227DC	SAN Storage Expansion (New)	Server Room

iii. VM STORAGE

No.	SERVER S/N	ASSET TAGGING	LOCATION
1	782189C	SAN Storage	Server Room
2	78217BH	SAN Storage Expansion	Server Room

iv. SAN SWITCH

No.	SW S/N	ASSET TAGGING	DEPARTMENT
1	10406DW	SAN Switch 1	Server Room
2	10406GX	SAN Switch 2	Server Room

v. NETWORK SWITCH

No.	SW S/N	ASSET TAGGING	DEPARTMENT
1	DNI1609B347	phisdc-DMZ-SW1	Server Room
2	DNI1609B34N	phisdc-DMZ-SW2	Server Room
3	DNI1609B34C	phisdc-WAN-SW1	Server Room
4	DNI1609B33X	phisdc-WAN-SW1	Server Room
5	JAE161201EN	phisdc-LAN-SW1	Server Room
6	JAE161201F3	phisdc-LAN-SW2	Server Room
7	DNI 19050GLL	phisdc-VM-SW1	Server Room
8	DNI19050GLM	phisdc-VM-SW2	Server Room
9	DNI19050GLQ	phisdc-Backup-SW1	Server Room
10	DNI19050GLG	phisdc-Backup-SW2	Server Room

vi. Network –Link Controller

No.	LC S/N	ASSET TAGGING	DEPARTMENT
1	F5-DSQB-QWUD	phisdc-LC1	Server Room
2	F5-T0UP-RPCB	phisdc-LC2	Server Room

vii. Load Balancer

No.	FW S/N	ASSET TAGGING	DEPARTMENT
1	TSBC08002416	phisdc-LB1	Server Room
2	TSBC07007587	phisdc-LB2	Server Room
3	TSBD08008717	phisdc-LB3	Server Room
4	TSBC08012160	phisdc-LB4	Server Room

viii. Network –Firewall

No.	FW S/N	ASSET TAGGING	DEPARTMENT
1	1149B02516	phisdc-FW1	Server Room
2	1149B02560	phisdc-FW2	Server Room

1.1.4 DC/DRC Maintenance Checklist

a) Storage Checklist

PhIS& CPS PROJECT

pharmaniaga

Facility Name: Data Center Bukit Raja **Date:** 07/09/2016

Server Hostname: phisdcsanstr02

Machine Type/Model: 2076-524/Stowize V7000

Serial Number: SN:78226AX

No	Activity	Checked	Comment
1	Check on LED display for error (Amber light Indications)	/	
2	Collect Hardware Logs via Management Console (if necessary)	/	
3	Storage Server parts and cabling connections a) Check fans and power supplies for proper operation b) Cleaning fan filters c) Clear dust or any foreign materials d) Check network cable connections e) Check fibre cable connections (if any)	/	
4	Verify Components a) Check node canister status b) Check Fibre Channel port status c) Check disk controller status d) Check storage pool status e) Check managed disks (MDisks)	/	
5	Firmware Item: Software Build — Current: 121.22.1512071729000 — Updated: Item: Software Version — Current: 7.6.0.1 — Updated:	/	
6	Resource Allocation Host: DB — Volume Name: Systemvg — Size: 7 TiB Volume Name: Datavg — Size: 5 TiB Volume Name: Backupvg — Size: 7TiB Volume Name: DBCAA — Size: 10GiB Host: APP — Volume Name: APPS_COGNOS — Size: 50GiB Volume Name: APPSCAA — Size: 10GiB	/	

b) Server Checklist

PhIS& CPS PROJECT

pharmaniaga

Facility Name: Data Center Bukit Raja **Date:** 07/09/2016

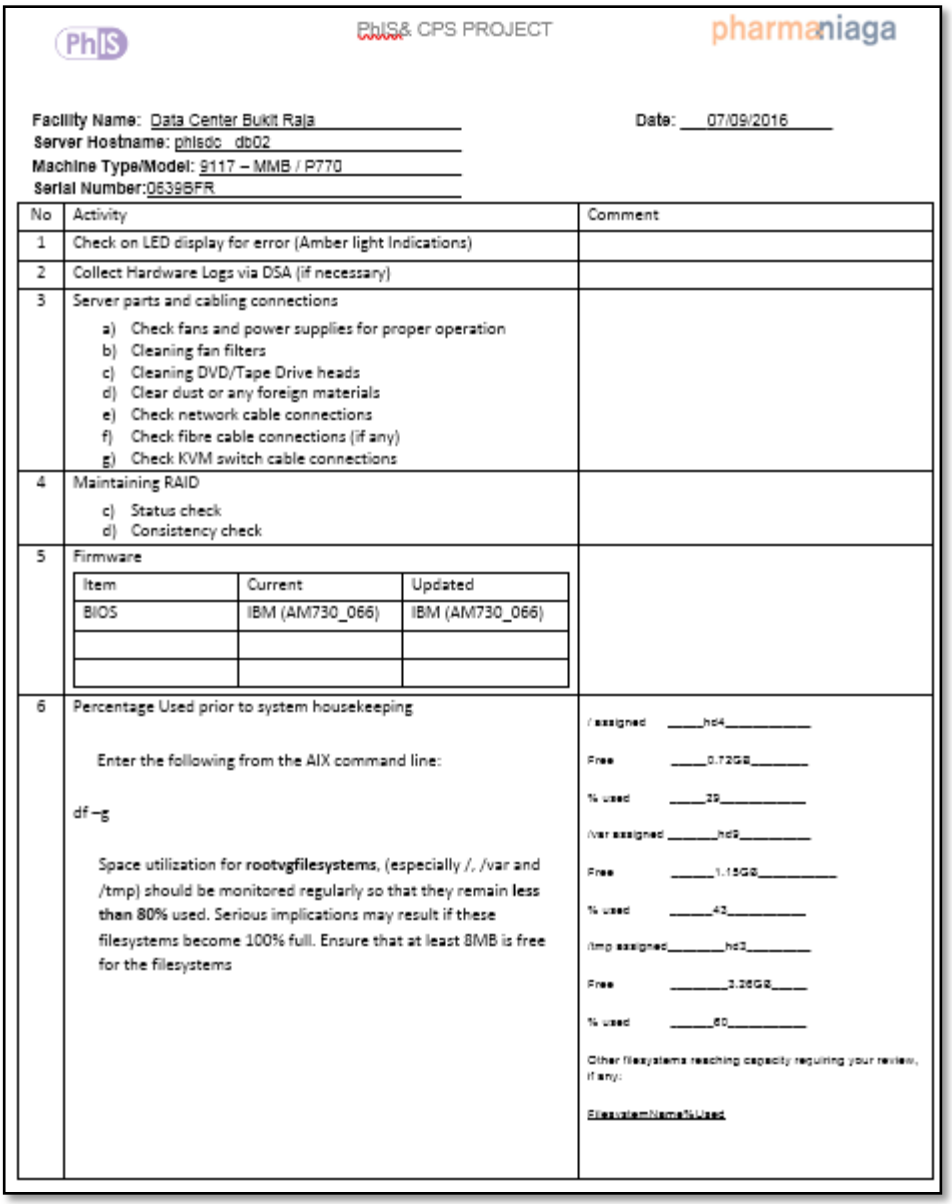
Server Hostname: phisdc devdb02

Machine Type/Model: 7945 - 52A / X3650 M3

Serial Number: 99Y8377

No	Activity	Checked	Comment
1	Check on LED display for error (Amber light Indications)	/	
2	Collect Hardware Logs via DSA (if necessary)	/	
3	Server parts and cabling connections a) Check fans and power supplies for proper operation b) Cleaning fan filters c) Cleaning DVD/Tape Drive heads d) Clear dust or any foreign materials e) Check network cable connections f) Check fibre cable connections (if any) g) Check KVM switch cable connections	/	
4	Maintaining RAID a) Status check b) Consistency check	/	
5	Firmware Item: BIOS — Current: D6E156BUS-1.14 — Updated: D6E156BUS-1.14	/	
6	Resource Item: Hard disk — Used: 7.7 GB — Free: 49 GB Item: Memory — Used: 4 GB — Free: 11 GB Item: CPU Utilization — Used: 0.1 % — Free: 99.9 %	/	

For Server X-series



PhIS PhIS& CPS PROJECT pharmaniaga

Facility Name: Data Center Bukit Raja **Date:** 07/09/2016
Server Hostname: phisdc_db02
Machine Type/Model: 9117 – MMB / P770
Serial Number: 0639BFR

No	Activity	Comment
1	Check on LED display for error (Amber light Indications)	
2	Collect Hardware Logs via DSA (if necessary)	
3	Server parts and cabling connections a) Check fans and power supplies for proper operation b) Cleaning fan filters c) Cleaning DVD/Tape Drive heads d) Clear dust or any foreign materials e) Check network cable connections f) Check fibre cable connections (if any) g) Check KVM switch cable connections	
4	Maintaining RAID c) Status check d) Consistency check	
5	Firmware Item / Current / Updated BIOS / IBM (AM730_066) / IBM (AM730_066) / /	
6	Percentage Used prior to system housekeeping Enter the following from the AIX command line: df –g Space utilization for **rootvgfilesystems**, (especially /, /var and /tmp) should be monitored regularly so that they remain **less than 80%** used. Serious implications may result if these filesystems become 100% full. Ensure that at least 8MB is free for the filesystems	/ assigned ____hd4_____ Free ____0.72GB_____ % used ____29_____ /var assigned _____hd9_____ Free _____1.15GB_____ % used _____43_____ /tmp assigned_____hd3_____ Free _____3.36GB____ % used _____60_____ Other filesystems reaching capacity requiring your review, if any: FilesystemName%Used

For Server P-series

c) DB Checklist

PhIS& CPS PROJECT

pharmaniaga

3 System

3.1 System –Oracle Database

Facility Name: Data Center Bukit Raja **Date:** 07/09/2016

Server Hostname: phisdb01

Operating System: AIX 7.1

Database(RDBMS) Type: Oracle

No	Database Item	Checked	Comment
1	Total server memory and available memory	√	**60 GB, 18 % (usage)**
2	Verify Database Service up and running	√	16-JUL-2016 03:14:55
3	Check database total uptime (from last restart)	√	**16-JUL-2016 03:14:55**
4	Check all database sizing (total Tablespace size)	√	refer report below
5	Check Tablespace location & sizing	√	refer report below
6	Check database archive log mount point	√	refer report below
7	List mount point occupied size and free size	√	refer report below
8	Oracle rman backup	√	refer report below
9	Oracle data guard (replication)	√	refer report below

Remarks:

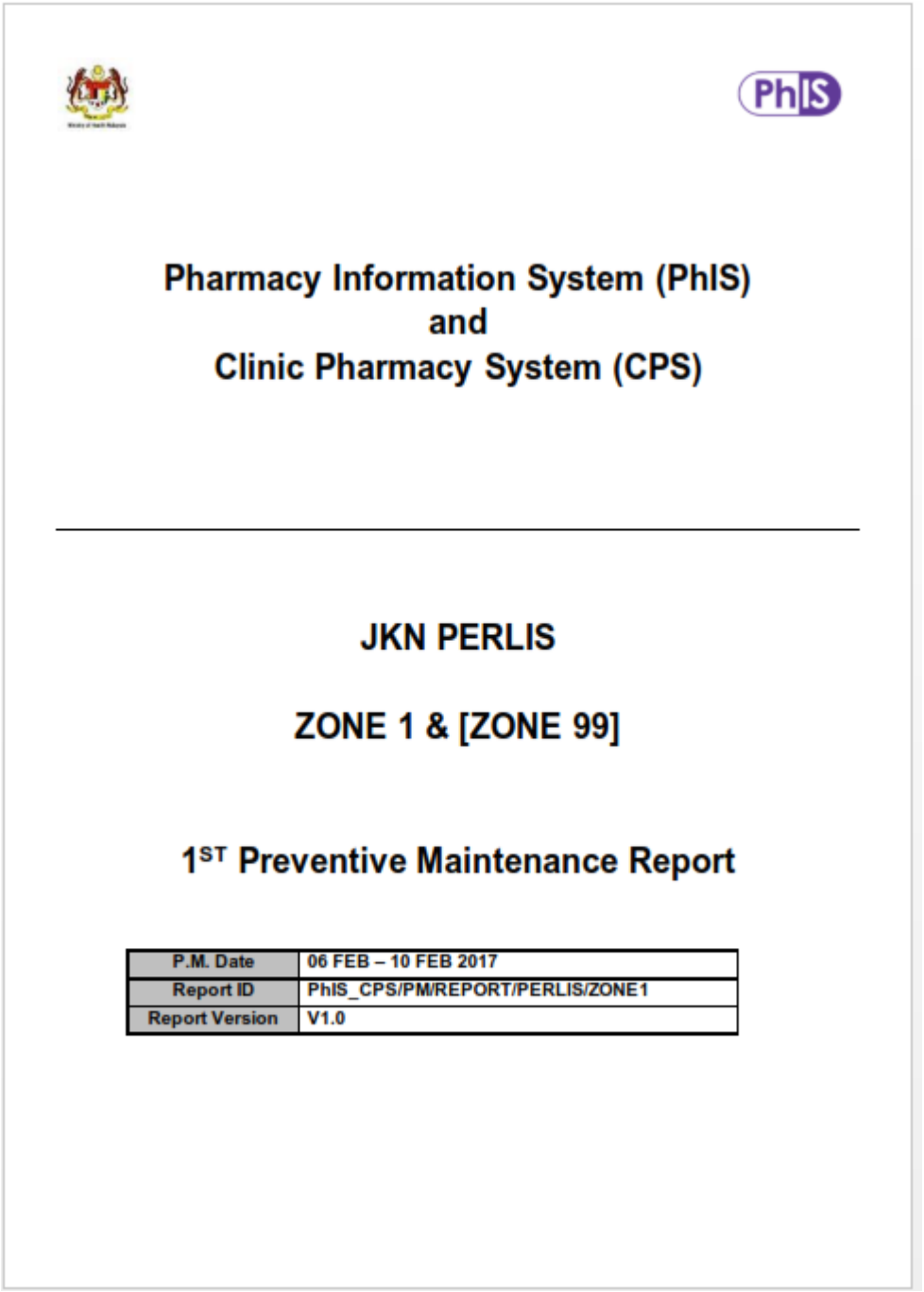
APPENDIX 2

PM Sample Report

2.1 P.M Report (By Zone)

2.2 P.M Report (By Facility)

2.1 Preventive Maintenance Report (By Zone)



Pharmacy Information System (PhIS)
and
Clinic Pharmacy System (CPS)

JKN PERLIS

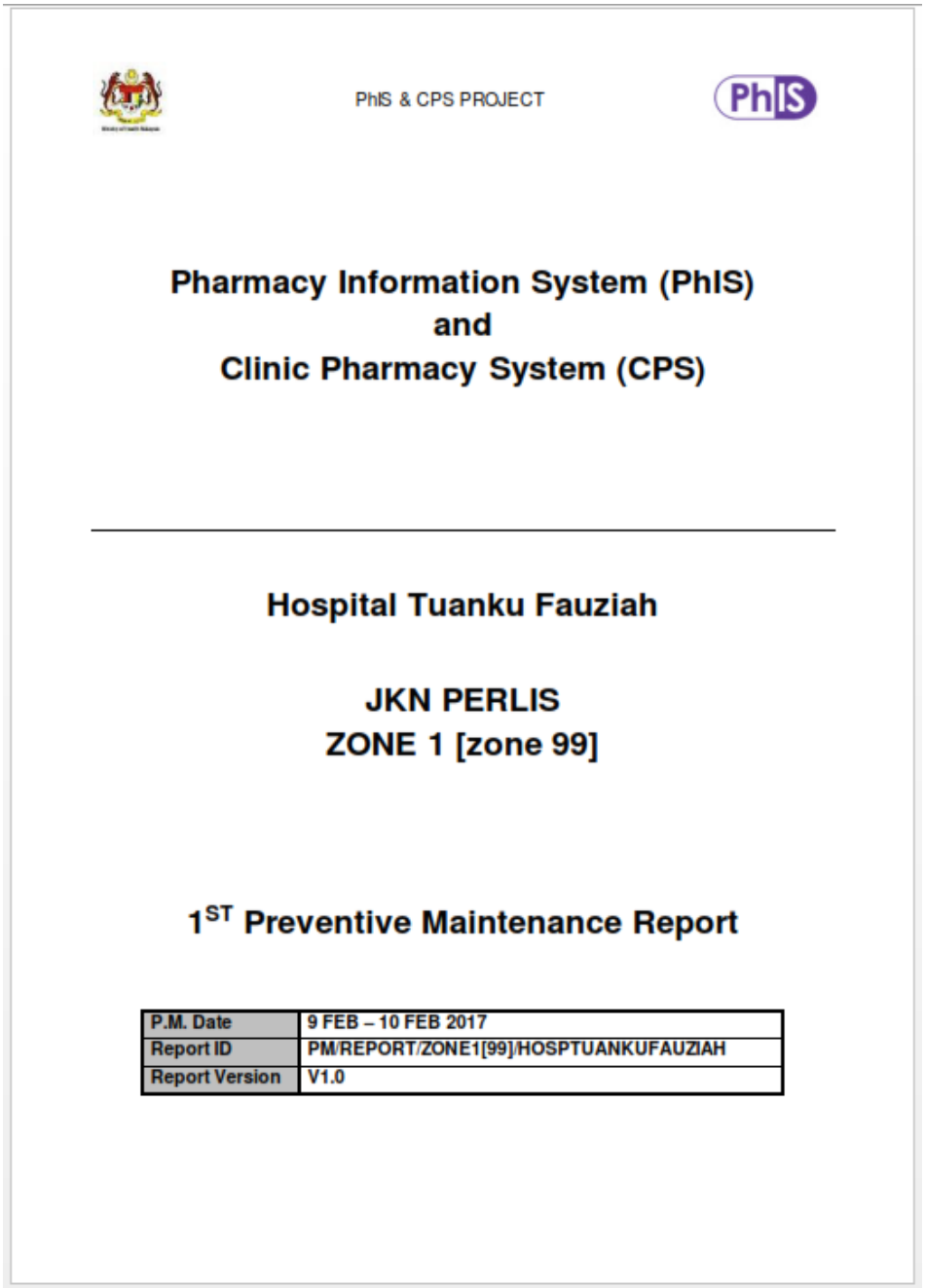
ZONE 1 & [ZONE 99]

1ST Preventive Maintenance Report

P.M. Date	06 FEB – 10 FEB 2017
Report ID	PhIS_CPS/PM/REPORT/PERLIS/ZONE1
Report Version	V1.0

Note:
Please refer to attachment APPENDIX 2A - sample PM Report (By Zone).

2.2 Preventive Maintenance Report (By Facility)



PhIS & CPS PROJECT

Pharmacy Information System (PhIS)
and
Clinic Pharmacy System (CPS)

Hospital Tuanku Fauziah

JKN PERLIS
ZONE 1 [zone 99]

1ST Preventive Maintenance Report

P.M. Date	9 FEB – 10 FEB 2017
Report ID	PM/REPORT/ZONE1[99]/HOSPTUANKUFAUZIAH
Report Version	V1.0

Note:
Please refer to attachment APPENDIX 2B - sample PM Report (By Facility).

APPENDIX 3

Mapping of Appendix 27 & Report Samples

Mapping of Appendix 27 with Report Submitted

No.	Item in Appendix 27	Frequency	Location	Type Of Hw/Sw/Apps	Report submitted	Submitted by	Report Submitted To	PIC / Verified By
1.	Network Trend Analysis	Monthly	DC & DRC	Firewall	Network Activity Report	Network Team	Project Team	BPF IT
2.	Network Utilization	Monthly	DC & DRC	IPVPN	Network Utilization Report	Network Team	Project Team	BPF IT
3.	Performance Monitoring System	Monthly	DC	Server	Zabbix Report	System Team	Project Team	BPF IT
4.	Disk Space Usage Statistics i. CPU Utilization ii. User statistics	Monthly	DC	Server & Database	Zabbix Report on PostgreSQL and Oracle DB	System Team & Database team	Project Team	BPF IT
5.	Helpdesk	Monthly	DC,DRC & Facilities	All	Helpdesk Report	Helpdesk team	Project Team	BPF, BPF IT , BPM & Facility Coordinator
6.	Preventive Maintenance for Hardware	Every 6 month	DC,DRC & Facilities	Hardware & Network	Preventive Maintenance Report	Support Team	Project Team	BPF IT, Facility User/Coordinator
7.	Preventive Maintenance for Software	Every 6 month	DC,DRC & Facilities	Apps & Database	Preventive Maintenance Report	Support Team	Project Team	BPF IT, Facility User/Coordinator
8.	Performance Tuning System	Every 6 month	DC & DRC	Server & Network	Preventive Maintenance Report	System Team & Network Team	Project Team	BPF, BPF IT
9.	Database Tuning	Every 6 month	DC &DRC	Database	Preventive Maintenance Report	DBA Team	Project Team	BPF, BPF IT
10.	Database Utilization	Every 6 month	DC &DRC	Database	Preventive Maintenance Report	DBA Team	Project Team	BPF, BPF IT
11.	Application Tuning	Every 6 month	DC,DRC & Facilities	Application	Preventive Maintenance Report	System Team	Project Team	BPF IT, Facility User/Coordinator
12.	Parameter Checking	Every 6 month	DC,DRC & Facilities	Database & Application	Preventive Maintenance Report	System Team & DBA Team	Project Team	BPF IT, Facility User/Coordinator

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No.	Item in Appendix 27	Frequency	Location	Type Of Hw/Sw/Apps	Report submitted	Submitted by	Report Submitted To	PIC / Verified By
13.	Disk Layout Checking	Every 6 month	DC,DRC & Facilities	Server	Preventive Maintenance Report	System Team	Project Team	BPF IT, Facility User/Coordinator
14.	Disk Fragmentation	Every 6 month	DC,DRC &Facilities	Not Available on SUSE				
15.	Capacity Planning	Yearly	DC & DRC	Server, Network	Minutes of meeting in bi-weekly and PITC	Tabled in meeting by Project Manager	Project Team	BPF, BPF IT
16.	Audit and Security Check Report	Yearly	DC & DRC	Server, Network & Hardware	ISO27001 Audit Review Report	QA Team	Project Team	BPF IT
17.	Database Reorganization	Yearly	DC & DRC	Database	Preventive Maintenance Report	DBA Team	Project Team	BPF IT
18.	Application/software patches/version updates/upgrade report	When necessary	DC & DRC	Application	Release Notes	Development Team	Project Team	BPF & BPM
19.	PhIS and CPS Application Performance Report	When necessary	DC & DRC	Application	Performance Stress Test	System & Development Team	Project Team	BPF & BPM
20.	Hardware, Network Equipment and Software Inventory List	When necessary	DC,DRC & Facilities	Hardware	ConnectManage	Support Team	Project Team	BPF, BPM & Facilities
21.	Standard Operating Procedure (SOP)	3 month after effective	DC,DRC & Facilities	Server, Network	SOP	System Team	Project Team	BPF, BPM & Facilities
22.	Security Management	3 month after effective	DC & DRC	Firewall & Server	ISO27001 Audit Review Report	QA Team	Project Team	BPF IT
23.	Field Service Report	1 week after maintenance	DC,DRC & Facilities	Hardware & Software	Field Service Report	Support Team	Facility	Facility User
24.	Server downtime log reports at each hospital and clinic	Monthly	DC,DRC & Facilities	Server Uptime	SLG Report	Helpdesk team	Project Team	BPF, BPM & Facilities

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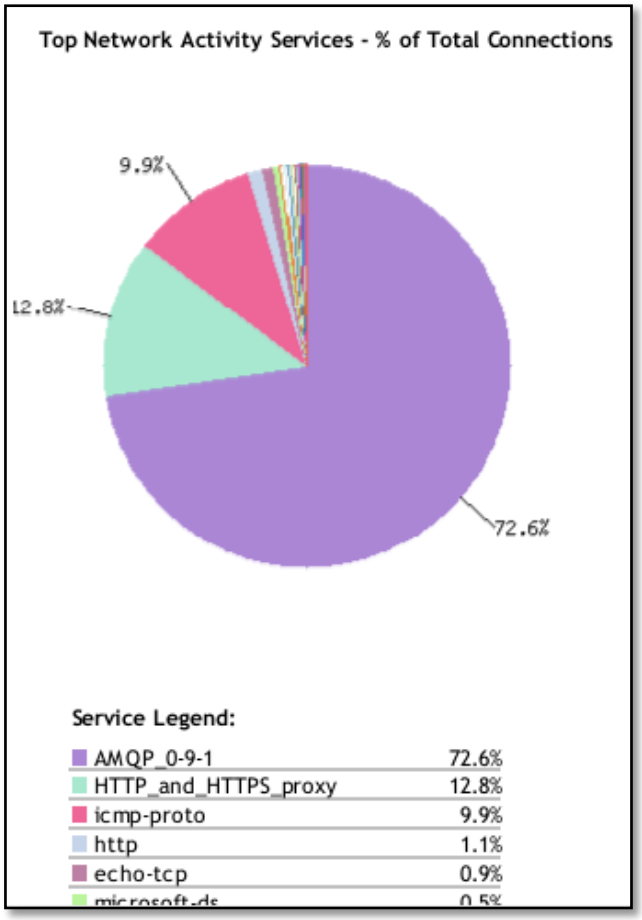
1. Network Trend Analysis

Network Activity (Network Trend Analysis) Report

Report time frame: August 01, 2016 12:00 AM - August 31, 2016 11:59 PM
Gateway: All log sources
Action: Accept, Bypass, Decrypt, Encrypt, Inspect, VPN Routing
Product: VPN-1 Power/UTM, UTM-1 Edge
Report generated at: September 06, 2016 09:39 AM
Database table: CONNECTIONS

This report presents data about traffic accepted by Firewall at PhIS Data Centre. It summarized the overall network activity and trend for the month of AUGUST 2016.
This report can be used to view network activity in order to determine effective usage and normal working condition of PhIS network infrastructure services.

Specific sections include information regarding
* overall traffic characteristics as well as a breakdown by hour and by date
* the top network users
* top services used
* top sources and top destinations of network traffic



Top Network Activity Services			
		Traffic Size	
Index	Service	Number of Connections [Thousands]	% of Total Connections
1	AMQP_0-9-1	84,060.20	72.56%
2	HTTP_and_HTTPS_proxy	14,799.16	12.78%
3	icmp-proto	11,521.22	9.95%
4	http	1,326.84	1.15%
5	echo-tcp	1,003.31	0.87%
6	microsoft-ds	582.74	0.50%
7	https	469.50	0.41%
8	tcp/8686	408.55	0.35%
9	MySQL	302.27	0.26%
10	snmp	283.16	0.24%
11	tcp_8180	248.39	0.21%
12	tcp/657	110.35	0.10%
13	ntp-udp	94.68	0.08%
14	tunnel_test	94.09	0.08%
15	sqlnet2-1521	91.35	0.08%
16	ldap	90.72	0.08%
17	tcp_4848	90.26	0.08%
18	Napster_directory_8888_primary	69.38	0.06%
19	udp/16	55.00	0.05%
20	ssh	39.37	0.03%
	Others (1206)	**102.94**	**0.09%**
	Total (1226)	115,843.46	100.00%
	Average	94.49	0.08%

2. Network Utilization

*Subject: Monthly Network Capacity Planning – **Year 2016***

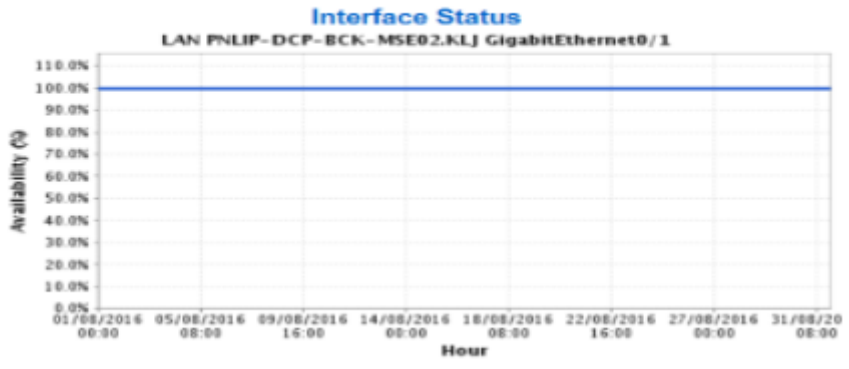
Report time frame: August ,2016

This report can be used in determining network resources required to prevent a performance or availability impact on business-critical applications.

Specific sections include information regarding:

- IPVPN HQ Bukit Raja
- IPVPN DRC Cyberjaya
- IPVPN Hosp Sri Manjung
- IPLite KK. Buntong
- IPLite KK. Kg. Simee
- IPLite KK. Tanjung Rambutan
- IPLite KK. Jelapang
- IPLite KK. Chemor
- IPLite KK. Tronoh
- IPLite KK. Tanjung Tualang
- IPVPN Hosp Miri
- P2P Metro E HQ Bukit Raja- DRC Cyberjaya

IPVPN 10Mbps SLG99.5% : HQ Bukit Raja



3. Performance Monitoring System

Subject: Monthly Monitoring Report

This report presents information about monitoring data for PhIS project. It represents the overall performance and utilization by meaning of CPU and Memory of the server for the current month.

Overall the systems are operating optimally.

Resource Utilization for the month of XXX

Johor						
Hospital Pakar Sultanah Fatimah						
Hostname	CPU Utilization			Memory Utilization		
	Avg	Min	Max	Avg	Min	Max
phishpsfsrv1	2.26%	0.06%	43.62%	17.36%	3.02%	84.92%
phishpsfsrv2	1.21%	0.19%	90.27%	25.24%	3.59%	75.28%
KK Bandar Maharani						
Hostname	CPU Utilization			Memory Utilization		
	Avg	Min	Max	Avg	Min	Max
cpsmaharani	1.42%	0.02%	36.37%	13.66%	4.32%	42.31%
KK Bakri						
Hostname	CPU Utilization			Memory Utilization		
	Avg	Min	Max	Avg	Min	Max
cpsbakri	1.31%	0.26%	49.43%	12.55%	6.78%	67.24%

4. Disk Space Usage Statistics

Subject: Monthly Postgres Database (PhIS & CPS Facilities) Trend Analysis Report – August 2016

This report can be used to view database Utilization in order to determine effective usage of resource.
Specific sections include information regarding

- Database service
- Connection count
- Committed transaction
- Database size

Enclosed is the Monthly Database Utilization Report for August . The report highlights on the following site(s):

No	Group	Facilities
1	HPSF	KLINIK KESIHATAN bakri
2	HPSF	KLINIK KESIHATAN bandarmaharani
3	Johor	Hospital Tangkak
4	Johor	KLINIK KESIHATAN bekoksvr
5	Johor	KLINIK KESIHATAN air tawar2
6	Johor	KLINIK KESIHATAN ayerhitam
7	Johor	KLINIK KESIHATAN bagan
8	Johor	KLINIK KESIHATAN bandar mas

PhIS DC Oracle Database Utilization Monthly Report (Zabbix Data) August 2016

Server	Instance	Database Service		User Transaction Per Second		Cache Hit Ratio > 90%		DB Size		Tablespace		
		Count of DB Service down (date)	Database Uptime (end of the month)	Max (Date)	Min	Max	Min	Start	Last	Tablespace Name	Tablespace Size < 95%	
											start	last
DC Oracle	iphis	0	1m 1d 22m	67.01 (9/08/16)	0.1666	99.99%	99.91%	113.89 GB	40.73 GB	phishq	56.15%	56.52%
	cognosdb	0	6m 4d 22h	7.08 (20/08/16)	0.1666	93.46%	92.85%	119.95 GB	73.29 GB	phisdw	69.55%	75.36%
	pharm	0	4m 9d 5h	1.36K (2/08/16)	0.3499	95.94%	95.53%	2.92 TB	1.97TB	*Refer table below		

5. Preventive Maintenance for Hardware

PhIS& CPS PROJECT

Facility Name: Data Center Bukit Raja **Date:** 07/09/2016
Server Hostname: phisdc_helpdesk
Machine Type/Model: 7143_B1A / X3850 X5
Serial Number: 99B0747

No	Activity	Checked	Comment
1	Check on LED display for error (Amber light Indications)	/	
2	Collect Hardware Logs via DSA (if necessary)	/	
3	Server parts and cabling connections a) Check fans and power supplies for proper operation b) Cleaning fan filters c) Cleaning DVD/Tape Drive heads d) Clear dust or any foreign materials e) Check network cable connections f) Check fibre cable connections (if any) g) Check KVM switch cable connections	/	
4	Maintaining RAID a) Status check b) Consistency check	/	
5	Firmware Item: BIOS — Current: G0E173BUS-1.73 — Updated: G0E173BUS-1.73	/	
6	Resource Item: Hard disk — Used: 225 GB — Free: 294 GB Item: Memory — Used: 31 GB — Free: 4 GB Item: CPU Utilization — Used: 0.7 % — Free: 99.3 %	/	

For DC/DRC

PREVENTIVE MAINTENANCE CHECKLIST
(SERVER / UPS / STORAGE)

(FORM 2)

FACILITY : _____ DEPT : _____ LOCATION : _____

STATE : _____ ZONE : _____

SERVER 1	SERVER 2	UPS
PAT ID :	PAT ID :	PAT ID :
SERIAL NO :	SERIAL NO :	SERIAL NO :
MODEL :	MODEL :	MODEL :

If Alert is tick (√), fill in & elobrate details in FINDINGS / COMMENTS /DETECTION session.

PART I - HARDWARE , CABLING & CONNECTIVITY (INSPECTION & PHYSICAL CHECK)

Standard Task:	SERVER 1				SERVER 2				UPS			
	Function	Not Function & Resolved	Not Function & Unresolved		Function	Not Function & Resolved	Not Function & Unresolved		Function	Not Function & Resolved	Not Function & Unresolved	
			Alert	Ticket No			Alert	Ticket No			Alert	Ticket No
Cleaning ☐	☐	☐	☐		☐	☐	☐					
Verify Condition : N/A					N/A							
Connection via LAN / USB	☐	☐	☐		☐	☐	☐		By pass Test	☐	☐	☐
Fan/ Power Supply	☐	☐	☐		☐	☐	☐		Webcard	☐	☐	☐
Light Path Diagnosis panel ☐	☐	☐	☐		☐	☐	☐		Multilink	☐	☐	☐
UTP Cable connect to switch ☐	☐	☐	☐		☐	☐	☐					
HA Gateway to Core Swtich ☐	☐	☐	☐		☐	☐	☐					
(For Hospital only)												

PART II - SETUP & HEALTH CHECK N/A ☐

Run DSA & collect DSA Log	Function	Not Function & Resolved	Not Function & Unresolved	
			Alert	Ticket No
SERVER 1 ☐	☐	☐	☐	
SERVER 2 ☐	☐	☐	☐	

Software/Firmware Version :	SERVER 1		SERVER 2	
	Current	Updated	Current	Updated
ClamAV ☐				
Zabbix ☐				
Bacula ☐				
Glassfish ☐				
UEFI ☐				
IMM2 ☐				

System Software	SERVER 1		SERVER 2	
	Current	Updated	Current	Updated
SUSE LINUX (OS) ☐				
Kernel ☐				
GCC ☐				

Housekeeping:	SERVER 1	SERVER 2
Clear /tmp folder > 2 weeks ☐	*Screenshot / attachment*	*Screenshot / attachment*
Archive Log Files ☐		

PREVENTIVE MAINTENANCE CHECKLIST
(SERVER / UPS / STORAGE)

(FORM 2)

PAT ID : _____

SERIAL NO: _____

TYPE : STORAGE

PART III - STORAGE N/A ☐

Perform Health Check:	Function	Not Function & Resolved	Not Function & Unresolved	
			Alert	Ticket No
Storage Manager Error Alerts	☐	☐	☐	
Storage events logs	☐	☐	☐	
HDD Indicator lights	☐	☐	☐	
Enable read/write cache	☐	☐	☐	
Enable Media Scan both at controller level and LUN level	☐	☐	☐	

Software/Firmware Version :	Current	Updated
Controller		
ESM		
Driver		

PART IV - FINDINGS / ALERTS / DETECTION	FURTHER ACTION / RECOMMENDATION

PART V - ACKNOWLEDGEMENT	
CUSTOMER	**PHARMANIAGA LOGISTICS SDN BHD (PLSB)**
Customer Signature & Stamp	Engineer & Stamp
Customer Name	Engineer Name
Date	Date

For Facilities

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PREVENTIVE MAINTENANCE CHECKLIST (FORM 1)

(DEVICE)

FACILITY : DEPT : LOCATION : STATE : ZONE :

PAT ID : DESKTOP / NOTEBOOK / LASERJET / THP / BSW / BSM/ MYKAD/ TAB Location :

S/N CPU : MONITOR: KEYBOARD : MOUSE: Loaned Unlocated Relocated

PART I - STANDARD TASK

	Yes	No	N/A
All Device:			
Cleaning	☐		
Desktop/Notebook/TAB:			
* Device is harden	☐	☐	☐
MEMORY : 2 GB	☐		
4 GB	☐		

PART II - STANDARD HEALTH CHECK N/A ☐

Verify Condition :	Function	Not Function & Resolved	Not Function & Unresolved Alert	Not Function & Unresolved Ticket No
Connection via LAN / USB	☐	☐	☐	
Fan/ Power Supply/ Charger	☐	☐	☐	

Hard Disk Utilization (GB) :	Used	Free	Alert	Ticket No
1st Partition			☐	
2nd Partition			☐	
Storage (TAB only)			☐	

PART III - STANDARD SETUP N/A ☐

Verification:	Function	Not Function & Resolved
IWP	☐	☐
KYM	☐	☐
PhIS Portal	☐	☐

Auto update disabled:	Function	Not Function & Resolved	Current Version	Updated Version
(a) Java (JKD 6 update 30)	☐	☐	☐	
(b) Internet Explorer 9 (64bits)	☐	☐	☐	
ClamAv - Ver 0.98.3	☐	☐	☐	
Microsoft Office	☐	☐	☐	
BCP (BCP PC only)	☐	☐	☐	
Backup PC (Bacula Web)	☐	☐	☐	
IOS Version - TAB only	☐	☐	☐	

PAT ID : DESKTOP / NOTEBOOK / LASERJET / THP / BSW / BSM/ MYKAD/ TAB Location :

S/N CPU : MONITOR: KEYBOARD : MOUSE: Loaned Unlocated Relocated

PART I - STANDARD TASK

All Device: Yes No N/A
Cleaning
Desktop/Notebook/TAB:
* Device is harden
MEMORY : 2 GB
4 GB

PART II - STANDARD HEALTH CHECK N/A

Verify Condition : Function | Not Function & Resolved | Not Function & Unresolved Alert | Ticket No
Connection via LAN / USB
Fan/ Power Supply/ Charger
Hard Disk Utilization (GB) : Used | Free | Alert | Ticket No
1st Partition
2nd Partition
Storage (TAB only)

PART III - STANDARD SETUP N/A

Verification: Function | Not Function & Resolved
IWP
KYM
PhIS Portal

Auto update disabled: Function | Not Function & Resolved | Current Version | Updated Version
(a) Java (JKD 6 update 30)
(b) Internet Explorer 9 (64bits)
ClamAv - Ver 0.98.3
Microsoft Office
BCP (BCP PC only)
Backup PC (Bacula Web)
IOS Version - TAB only

PAT ID : DESKTOP / NOTEBOOK / LASERJET / THP / BSW / BSM/ MYKAD/ TAB Location :

S/N CPU : MONITOR: KEYBOARD : MOUSE: Loaned Unlocated Relocated

PART I - STANDARD TASK

All Device: Yes No N/A
Cleaning
Desktop/Notebook/TAB:
* Device is harden
MEMORY : 2 GB
4 GB

PART III - STANDARD HEALTH CHECK N/A

Verify Condition : Function | Not Function & Resolved | Not Function & Unresolved Alert | Ticket No
Connection via LAN / USB
Fan/ Power Supply/ Charger
Hard Disk Utilization (GB) : Used | Free | Alert | Ticket No
1st Partition
2nd Partition
Storage (TAB only)

PART III - STANDARD SETUP N/A

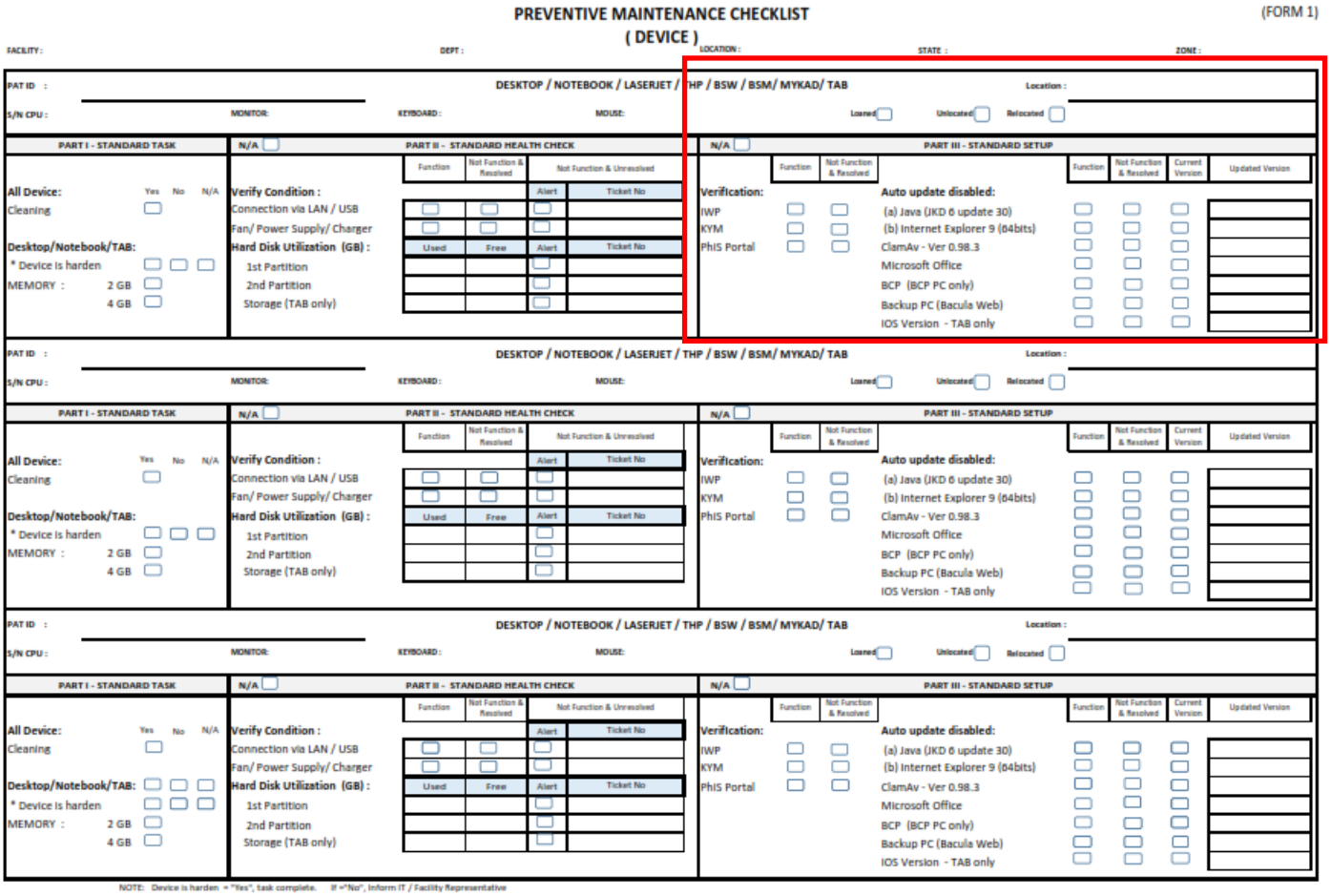
Verification: Function | Not Function & Resolved
IWP
KYM
PhIS Portal

Auto update disabled: Function | Not Function & Resolved | Current Version | Updated Version
(a) Java (JKD 6 update 30)
(b) Internet Explorer 9 (64bits)
ClamAv - Ver 0.98.3
Microsoft Office
BCP (BCP PC only)
Backup PC (Bacula Web)
IOS Version - TAB only

NOTE: Device is harden = "Yes", task complete. If ="No", Inform IT / Facility Representative

For Facilities

6. Preventive Maintenance for Software



PREVENTIVE MAINTENANCE CHECKLIST
(DEVICE)

(FORM 1)

FACILITY : DEPT : LOCATION : STATE : ZONE :

PAT ID : DESKTOP / NOTEBOOK / LASERJET / THP / BSW / BSM/ MYKAD/ TAB Location :

S/N CPU : MONITOR: KEYBOARD : MOUSE: Loaned Unlocated Relocated

PART I - STANDARD TASK

	Yes	No	N/A
All Device:			
Cleaning			
Desktop/Notebook/TAB:			
* Device is harden			
MEMORY : 2 GB			
4 GB			

PART II - STANDARD HEALTH CHECK N/A

Verify Condition :	Function	Not Function & Resolved	Not Function & Unresolved: Alert	Not Function & Unresolved: Ticket No
Connection via LAN / USB				
Fan/ Power Supply/ Charger				
Hard Disk Utilization (GB) :	Used	Free	Alert	Ticket No
1st Partition				
2nd Partition				
Storage (TAB only)				

PART III - STANDARD SETUP N/A

Verification:	Function	Not Function & Resolved	Auto update disabled:	Function	Not Function & Resolved	Current Version	Updated Version
IWP			(a) Java (JKD 6 update 30)				
KYM			(b) Internet Explorer 9 (64bits)				
PhIS Portal			ClamAv - Ver 0.98.3				
			Microsoft Office				
			BCP (BCP PC only)				
			Backup PC (Bacula Web)				
			IOS Version - TAB only				

PAT ID : DESKTOP / NOTEBOOK / LASERJET / THP / BSW / BSM/ MYKAD/ TAB Location :

S/N CPU : MONITOR: KEYBOARD : MOUSE: Loaned Unlocated Relocated

PART I - STANDARD TASK

All Device: Yes No N/A
Cleaning
Desktop/Notebook/TAB:
* Device is harden
MEMORY : 2 GB
4 GB

PART II - STANDARD HEALTH CHECK N/A

Verify Condition : Function | Not Function & Resolved | Not Function & Unresolved: Alert | Ticket No
Connection via LAN / USB
Fan/ Power Supply/ Charger
Hard Disk Utilization (GB) : Used | Free | Alert | Ticket No
1st Partition
2nd Partition
Storage (TAB only)

PART III - STANDARD SETUP N/A

Verification: Function | Not Function & Resolved
IWP
KYM
PhIS Portal

Auto update disabled: Function | Not Function & Resolved | Current Version | Updated Version
(a) Java (JKD 6 update 30)
(b) Internet Explorer 9 (64bits)
ClamAv - Ver 0.98.3
Microsoft Office
BCP (BCP PC only)
Backup PC (Bacula Web)
IOS Version - TAB only

PAT ID : DESKTOP / NOTEBOOK / LASERJET / THP / BSW / BSM/ MYKAD/ TAB Location :

S/N CPU : MONITOR: KEYBOARD : MOUSE: Loaned Unlocated Relocated

PART I - STANDARD TASK

All Device: Yes No N/A
Cleaning
Desktop/Notebook/TAB:
* Device is harden
MEMORY : 2 GB
4 GB

PART II - STANDARD HEALTH CHECK N/A

Verify Condition : Function | Not Function & Resolved | Not Function & Unresolved: Alert | Ticket No
Connection via LAN / USB
Fan/ Power Supply/ Charger
Hard Disk Utilization (GB) : Used | Free | Alert | Ticket No
1st Partition
2nd Partition
Storage (TAB only)

PART III - STANDARD SETUP N/A

Verification: Function | Not Function & Resolved
IWP
KYM
PhIS Portal

Auto update disabled: Function | Not Function & Resolved | Current Version | Updated Version
(a) Java (JKD 6 update 30)
(b) Internet Explorer 9 (64bits)
ClamAv - Ver 0.98.3
Microsoft Office
BCP (BCP PC only)
Backup PC (Bacula Web)
IOS Version - TAB only

NOTE: Device is harden = "Yes", task complete. If ="No", Inform IT / Facility Representative

For Facilities

Preventive Maintenance Checklist
(Glassfish)

FACILITY NAME : _____ **DEPARTMENT** : _____

P.A.T ID : _____ **LOCATION** : _____

Server Name : _____

No	Activity				Checked	Comment
1	**Glassfish Information**					
	a) Glassfish version					
	b) JDK version					
2	**Glassfish Service Account**					
	a) Username					
3	**Glassfish Service**					
	a) Status					
	b) Total uptime					
4	**JDBC Connection Pool**	**Item**	**Config**	**Reading**		
		Initial Size				
		Max Size				
		Idle Timeout				
		Max Wait Time				
5	**HTTP Listener**	Max Connections				
		Timeout				
6	**Thread Pool**	Min Thread				
		Max Thread				
7	**Application Backup**	**Location**	**Size**			
	Date:	/opt/phisesb				
8	**JVM Parameters**	**Item**	**Config**	**Reading**		
		Xms				
		Xmx				

REMARKS:

* Please tick (√) at the checked column and fill in the remark section for any problem detected.

Customer Name :
Date :

Engineer Name :
Date :

7. Performance Tuning System

3 System

3.1 System –Oracle Database

Facility Name: Data Center Bukit Raja **Date:** 07/09/2016
Server Hostname: phisdb01
Operating System: AIX 7.1
Database(RDBMS) Type: Oracle

No	Database Item	Checked	Comment
1	Total server memory and available memory	√	**60 GB, 18 % (usage)**
2	Verify Database Service up and running	√	16-JUL-2016 03:14:55
3	Check database total uptime (from last restart)	√	**16-JUL-2016 03:14:55**
4	Check all database sizing (total Tablespace size)	√	refer report below
5	Check Tablespace location & sizing	√	refer report below
6	Check database archive log mount point	√	refer report below
7	List mount point occupied size and free size	√	refer report below
8	Oracle rman backup	√	refer report below
9	Oracle data guard (replication)	√	refer report below

1. Database Tablespace

Instance IPHIS

Tablespace Name	Seg. Mgt.	Tablespace Size	Free (in bytes)	Used (in bytes)	Pct. Used
PHISHQ	AUTO	36,280,729,600	15,776,219,136	20,504,510,464	56%
PHISHQIDX	AUTO	5,368,709,120	3,018,850,304	2,349,858,816	43%
PHISSUPPORT	AUTO	19,432,210,432	9,278,324,736	10,153,885,696	52%
SYSAUX	AUTO	4,294,967,296	2,841,903,104	1,453,064,192	33%
SYSTEM	MANUAL	35,433,480,192	34,644,426,752	789,053,440	2%
TEMP	MANUAL	107,374,182,400	65,160,609,792	42,213,572,608	39%
UNDOTBS1	MANUAL	10,737,418,240	10,688,987,136	48,431,104	0%
USERS	AUTO	10,737,418,240	2,261,778,432	8,475,639,808	78%
		----------	----------	----------	
		229,659,115,520	143,671,099,392	85,988,016,128	

For DC/DRC (DB)

Preventive Maintenance Checklist
(Postgres DB)

FACILITY NAME : HOSPITAL SUNGAI BULOH

DEPARTMENT : _____

P.A.T ID : _____

LOCATION : _____

UPS S/N : _____

MODEL : _____

No	Activity				Checked	Comment
1	**Database Info**					
	a) Database Used				√	PostgreSQL
	b) Database Version				√	psql (PostgreSQL) 9.1.3
	c) Database Name				√	phisprod
2	**Database User**					
	a) Username				√	ihisblank
	b) Permission				√	Superuser, Create role, Create DB, Replication
3	**Database Service**					
	a) Status				√	running
	b) Login				√	
	c) Total uptime				√	60 days 14:37:03
4	**Datafile Location**	**Location**	**Size**	**Free**		
		/var/lib/pgsql	411M	140G	√	
		/db01/ihis_data	118M	1.1T	√	
		/db01/ihis_index	164K	1.1T	√	
5	**Database Log**	**Location**				
		/db02/pg_log	404K	1.1T	√	
		/db02/backup/wal_archive	24M	3.4T	√	
6	**Database Size**	**Capacity Planning**	**Total**			
		Threshold	**Size**	**Free**		
			117 MB	3.4T	√	
7	**Database Backup**	**Location**	**Size**			
	Date: Mar 23 02:01	/db02/backup/pg_dump	248M		√	
8	**Database Parameter**				√	File attached.
9	**Database Space Clean up**				√	
10	**Archive Mode Status**				√	On

For Facilities

8. Database Tuning

3 System

3.1 System –Oracle Database

Facility Name: Data Center Bukit Raja **Date:** 07/09/2016
Server Hostname: phisdb01
Operating System: AIX 7.1
Database(RDBMS) Type: Oracle

No	Database Item	Checked	Comment
1	Total server memory and available memory	√	**60 GB, 18 % (usage)**
2	Verify Database Service up and running	√	16-JUL-2016 03:14:55
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4	Check all database sizing (total Tablespace size)	√	refer report below
5	Check Tablespace location & sizing	√	refer report below
6	Check database archive log mount point	√	refer report below
7	List mount point occupied size and free size	√	refer report below
8	Oracle rman backup	√	refer report below
9	Oracle data guard (replication)	√	refer report below

1. Database Tablespace

Instance IPHIS

Tablespace Name	Seg. Mgt.	Tablespace Size	Free (in bytes)	Used (in bytes)	Pct. Used
PHISHQ	AUTO	36,280,729,600	15,776,219,136	20,504,510,464	56%
PHISHQIDX	AUTO	5,368,709,120	3,018,850,304	2,349,858,816	43%
PHISSUPPORT	AUTO	19,432,210,432	9,278,324,736	10,153,885,696	52%
SYSAUX	AUTO	4,294,967,296	2,841,903,104	1,453,064,192	33%
SYSTEM	MANUAL	35,433,480,192	34,644,426,752	789,053,440	2%
TEMP	MANUAL	107,374,182,400	65,160,609,792	42,213,572,608	39%
UNDOTBS1	MANUAL	10,737,418,240	10,688,987,136	48,431,104	0%
USERS	AUTO	10,737,418,240	2,261,778,432	8,475,639,808	78%
		----------	----------	----------	
		229,659,115,520	143,671,099,392	85,988,016,128	

INSTANCE : COGNOSDB		
TABLE_NAME	LAST_ANALYZE	CHAIN_CNT
DEPREC_F_ADR	16-Jul-13	0
SUPPLIERS	16-Jul-13	0
PH_METHADONE_MASTER	25-Apr-14	0
DEPREC_F_ADR_DET	25-Apr-14	0
F_PROCUREMENT	25-Apr-14	0
F_CP3METHADONE	25-Apr-14	0
DEPREC_F_INVENTORY_CONTROL	25-Apr-14	0
FACILITIES_OLD	27-Apr-14	0
F_METHADONE_BUDGET_PURCHASE	30-Apr-14	0
F_ADR_DTLS_TRANSCRIBING	10-Mei-14	0
VALUE_ADDED_SERVICES	10-Mei-14	0
USERS	10-Mei-14	0
MV_MEDICATION_COUNSELLING	24-Okt-14	0
PATIENT_AGE_GROUP	12-Dis-14	0
MV_MED_NORMAL_ORDERS	22-Jan-15	0
DISCIPLINES	26-Jan-15	0
DEPARTMENTS	26-Jan-15	0

For DC/DRC

4	**Datafile Location**	**Location**	**Size**	**Free**	
		/var/lib/pgsql	20G	18G	
		/db01/ihis_data	172G	161G(db01)	
		/db01/ihis_index	172G	162(db01)	
5	**Database Log**	**Location**			
		/db02/pg_log	172G	163G(db02)	
		/db02/backup/wal_a	537G	496(db02)	
6	**Database Size**	**Capacity Planning**	**Total**		
		Threshold	**Size**	**Free**	
			3095MB	496G	
7	**Database Backup Date:**	**Location**	**Size**		
		/db02/backup	537G		

Tablename	last_vacuum	last_autovacuum	last_analyze	last_autoanalyze
ph_dmi_admin_routes				2016-05-03 11:34:47.647963
ph_dmi_atc_details				2016-05-03 11:34:48.368904
ph_dmi_brand				2016-05-03 11:34:49.028274
ph_dmi_budget_balance				2016-05-03 11:34:49.226259
ph_dmi_buffer_lvl				2016-05-03 11:34:49.293037
ph_dmi_contract_hdrs				2016-05-03 11:34:49.475959
ph_dmi_counselling_subtopic				2016-05-03 11:34:49.497262
ph_dmi_counselling_topic				2016-05-03 11:34:49.51919
ph_dmi_current_budget				2016-05-03 11:34:49.554324
ph_dmi_department				2016-05-03 11:34:49.578366
ph_dmi_dispense_uom				2016-05-03 11:34:49.610728
ph_dmi_dispense_uom_ds				2016-05-03 11:34:49.929034
ph_dmi_dosage_form				2016-05-03 11:34:49.960553
ph_dmi_drug_extemps				2016-05-03 11:34:50.161467
ph_dmi_drug_frequencies				2016-05-03 11:34:50.942667
ph_dmi_drug_indication				2016-05-03 11:34:50.967655
ph_dmi_drug_iv_characteristic				2016-05-03 11:34:51.002588
ph_dmi_drug_orderable				2016-05-03 11:34:51.038956

For Facilities

9. Database Utilization

3 System

3.1 System –Oracle Database

Facility Name: Data Center Bukit Raja **Date:** 07/09/2016
Server Hostname: phisdb01
Operating System: AIX 7.1
Database(RDBMS) Type: Oracle

No	Database Item	Checked	Comment
1	Total server memory and available memory	√	**60 GB, 18 % (usage)**
2	Verify Database Service up and running	√	16-JUL-2016 03:14:55
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6	Check database archive log mount point	√	refer report below
7	List mount point occupied size and free size	√	refer report below
8	Oracle rman backup	√	refer report below
9	Oracle data guard (replication)	√	refer report below

2. Database Mount Point

Filesystem	GB blocks	Free	%Used	Iused	%Iused	Mounted on
/dev/lv01	1000	761.99	24%	644674	1%	/d01
/dev/lv02	3000	2776.21	8%	57	1%	/d02
/dev/lv05	4000	2570.66	36%	8499	1%	/db03
/dev/lv04	4000	3576.11	11%	345	1%	/db04
/dev/lv03	4000	2341.03	42%	184	1%	/db05
/dev/lv06	3000	1620.22	46%	117	1%	/db06

10. Application Tuning

FACILITY NAME : _____ DEPARTMENT : _____

P.A.T ID : _____ LOCATION : _____

Server Name : _____

No	Activity				Checked	Comment
1	**Glassfish Information**					
	a) Glassfish version					
	b) JDK version					
2	**Glassfish Service Account**					
	a) Username					
3	**Glassfish Service**					
	a) Status					
	b) Total uptime					
4	**JDBC Connection Poo**	**Item**	**Config**	**Reading**		
		Initial Size				
		Max Size				
		Idle Timeout				
		Max Wait Time				
5	**HTTP Listener**	Max				
		Timeout				
6	**Thread Pool**	Min Thread				
		Max Thread				
7	**Application Backup Date:**	**Location**	**Size**			
		/opt/phisesb				
8	**JVM Parameters**	**Item**	**Config**	**Reading**		
		Xms				
		Xmx				

Server Type 2 | Total Memory 24GB		
GlassFish Parameter		
JVM Settings|JVM Options	**Logger Setting|Log Level**	**Network Config**
-XX:+UnlockDiagnosticVMOptions	All should be **'WARNING'**	**Network Listener**
-XX:+UseParallelOldGC		**http-listener-1|HTTP tab**
-XX:MaxPermSize=1024m	**General|File Rotation Limit**	-Max Connections=900
-XX:+DisableExplicitGC	20,000,000	
-XX:PermSize=256m		**http-listener-2|HTTP tab**
-XX:+CMSPermGenSweepingEnabled		-Max Connections=900
-XX:+UseTLAB		
-XX:+AggressiveOpts		**Transports |tcp**
-XX:NewRatio=2		Acceptor Threads=3
-XX:SurvivorRatio=4		
-XX:+UseCodeCacheFlushing		**Threads Pool |http-thread-pool**
-XX:+UseParallelGC		Max Thread Pool Size=300
-Xms9g		
-Xmx9g		**Threads Pool |thread-pool-1**
-XX:+LogVMOutput		Max Thread Pool Size=300
-XX:LogFile=jvm.log		
-XX:+PrintGCTimeStamps		
-XX:+PrintGCDetails		
-Xloggc:glassfish_gc.log		

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11. Parameter Checking

<table>
<tr><td>4</td><td>Maintaining RAID
a) Status check
b) Consistency check</td><td>/</td><td></td></tr>
<tr><td>5</td><td>Firmware
<table>
<tr><td>Item</td><td>Current</td><td>Updated</td></tr>
<tr><td>BIOS</td><td>G0E173BUS-1.73</td><td>G0E173BUS-1.73</td></tr>
<tr><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td></tr>
</table></td><td>/</td><td></td></tr>
<tr><td>6</td><td>Resource
<table>
<tr><td>Item</td><td>Used</td><td>Free</td></tr>
<tr><td>Hard disk</td><td>329 GB</td><td>191 GB</td></tr>
<tr><td>Memory</td><td>30GB</td><td>1 GB</td></tr>
<tr><td>CPU Utilization</td><td>3.5 %</td><td>96.5 %</td></tr>
</table></td><td>/</td><td></td></tr>
</table>

For DC

12. Disk Layout Checking

6	Resource Allocation			
	Host	Volume Name	Size	
	DB	Systemvg Datavg Backupvg DBCAA	7 TiB 5 TiB 7TiB 10GiB	
	APP	APPS_COGNOS APPSCAA	50GiB 10GiB	

For DC

3	**Firmware**	**Item**	**Used**	**Free**
		UEFI		
		IMM2		
4	**Software / Application**	**Item**	**Current**	**Updated**
		ClamAV		
		Zabbix		
		Bacula		
		Glassfish		
		DB Server		
5	**System Software**	**Item**	**Used**	**Free**
		OS		
		Kernel		
		GCC		
6	a) Clear /tmp folder older than 2 weeks			
	b) Archive Logfiles			
	c) Record disk layout and utilization after performing housekeeping with "df-h"			
7	a) Where does the server UTP cable is being connected to? (Core/Distl/User switch)			
	- Is all the server UTP cable is connected to the same switch? If no, raise a CM ticket.			
	- Record the Asset Tagging of the connected switch in remark column.			
	b) Configure HA gateway to point to Core switch/UPS/Storage (Only for Hospital Environment)			

For Facilities

13. Disk Fragmentation

5	Firmware Item / Current / Updated BIOS / G0E173BUS-1.73 / G0E173BUS-1.73	/	
6	Resource Item / Used / Free Hard disk / 329 GB / 191 GB Memory / 30GB / 1 GB CPU Utilization / 3.5 % / 96.5 %	/	
7	Disk Fragmentation (if needed)	X	

For DC

14. Capacity Planning

MINIT MESYUARAT
***PROJECT IMPLEMENTATION AND TECHNICAL COMMITTEE* (PITC)**
BAGI PEMBANGUNAN PROJEK *PHARMACY INFORMATION SYSTEM* (PhIS) DAN *CLINIC PHARMACY SYSTEM* (CPS) KEMENTERIAN KESIHATAN MALAYSIA
BIL.5/2016

Tarikh : 19 Ogos 2016 (Jumaat)
Masa : 9.00 pagi – 12.00 tengahari
Tempat : Bilik Mesyuarat Utama,
Bahagian Pengurusan Maklumat,
Aras 5, Blok E7, Kompleks E, KKM
Putrajaya.

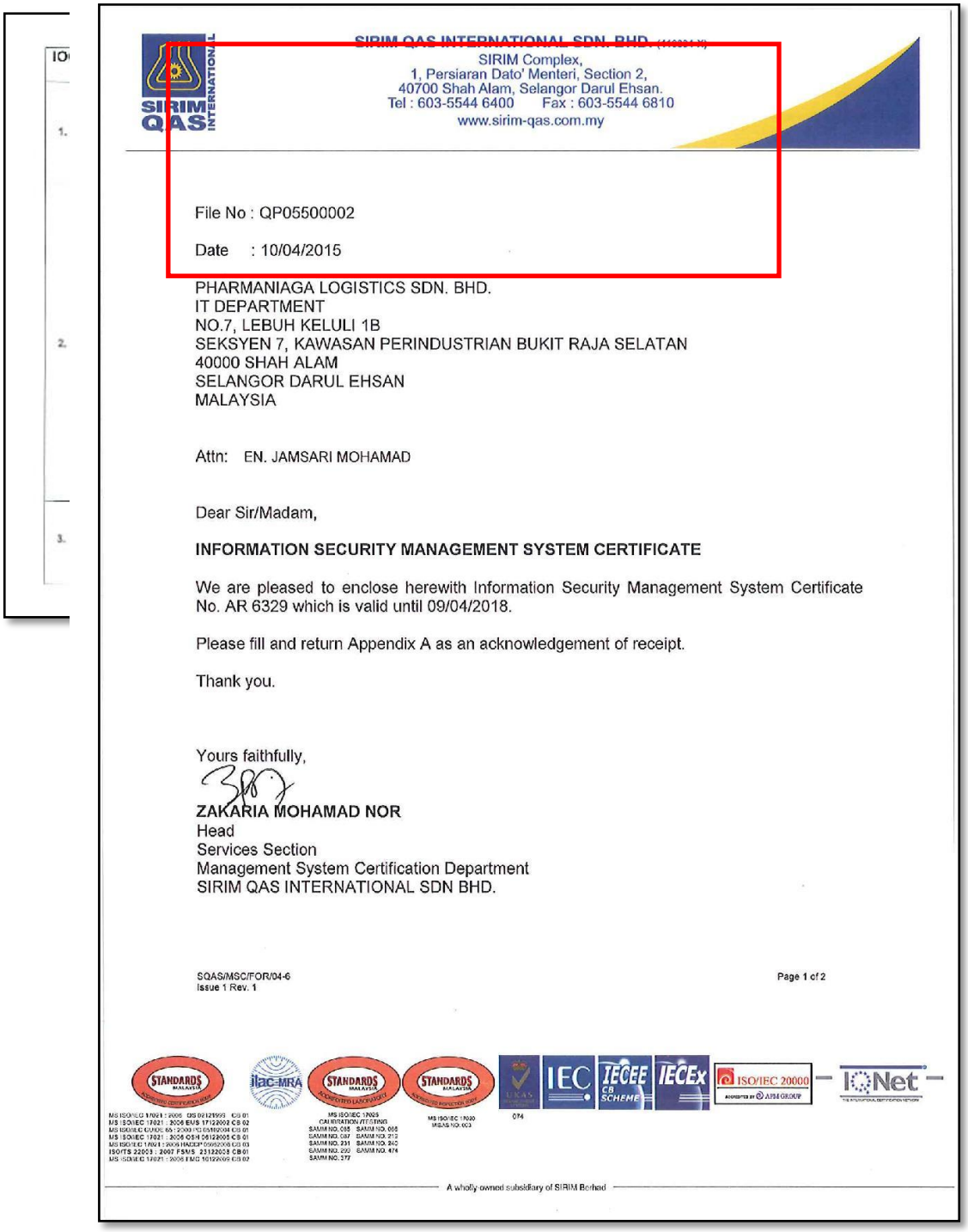
5.5 Pembentangan *Capacity Planning* Projek PhIS dan CPS

Mesyuarat dimaklum bahawa pihak PLSB sedang menyediakan maklumat *capacity planning* projek ini untuk dibentangkan dalam mesyuarat akan

Mesyuarat memutuskan PLSB membentangkan *capacity planning* projek ini dalam Mesyuarat PITC Bil.6/2016 yang akan datang.

Tindakan: PLSB

15. Audit and Security Check Report



SIRIM QAS INTERNATIONAL SDN. BHD.
SIRIM Complex,
1, Persiaran Dato' Menteri, Section 2,
40700 Shah Alam, Selangor Darul Ehsan.
Tel : 603-5544 6400 Fax : 603-5544 6810
www.sirim-qas.com.my

File No : QP05500002

Date : 10/04/2015

PHARMANIAGA LOGISTICS SDN. BHD.
IT DEPARTMENT
NO.7, LEBUH KELULI 1B
SEKSYEN 7, KAWASAN PERINDUSTRIAN BUKIT RAJA SELATAN
40000 SHAH ALAM
SELANGOR DARUL EHSAN
MALAYSIA

Attn: EN. JAMSARI MOHAMAD

Dear Sir/Madam,

INFORMATION SECURITY MANAGEMENT SYSTEM CERTIFICATE

We are pleased to enclose herewith Information Security Management System Certificate No. AR 6329 which is valid until 09/04/2018.

Please fill and return Appendix A as an acknowledgement of receipt.

Thank you.

Yours faithfully,

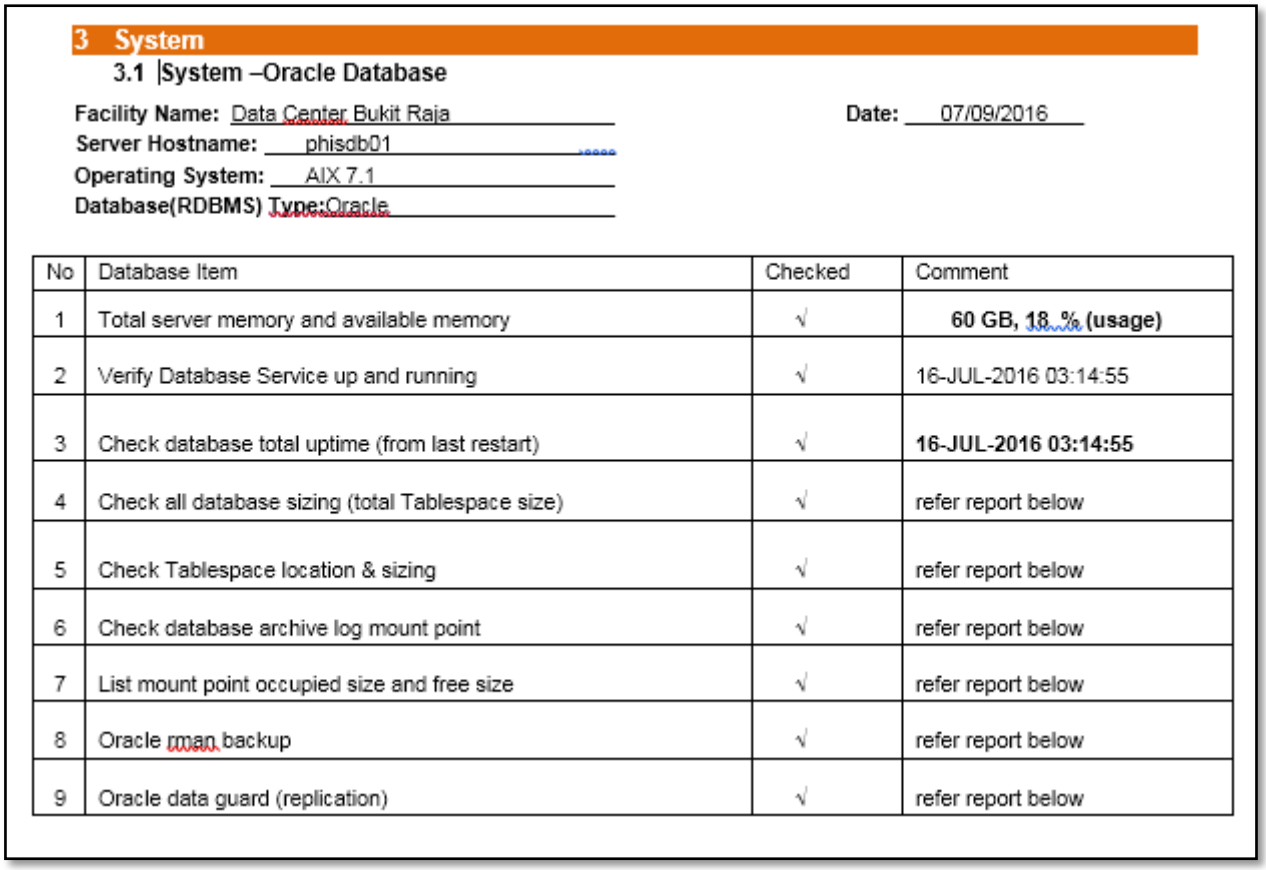
ZAKARIA MOHAMAD NOR
Head
Services Section
Management System Certification Department
SIRIM QAS INTERNATIONAL SDN BHD.

SQAS/MSC/FOR/04-6
Issue 1 Rev. 1

Page 1 of 2

A wholly-owned subsidiary of SIRIM Berhad

16. Database Reorganization



3 System

3.1 System –Oracle Database

Facility Name: Data Center Bukit Raja **Date:** 07/09/2016

Server Hostname: phisdb01

Operating System: AIX 7.1

Database(RDBMS) Type: Oracle

No	Database Item	Checked	Comment
1	Total server memory and available memory	√	**60 GB, 18 % (usage)**
2	Verify Database Service up and running	√	16-JUL-2016 03:14:55
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5	Check Tablespace location & sizing	√	refer report below
6	Check database archive log mount point	√	refer report below
7	List mount point occupied size and free size	√	refer report below
8	Oracle rman backup	√	refer report below
9	Oracle data guard (replication)	√	refer report below

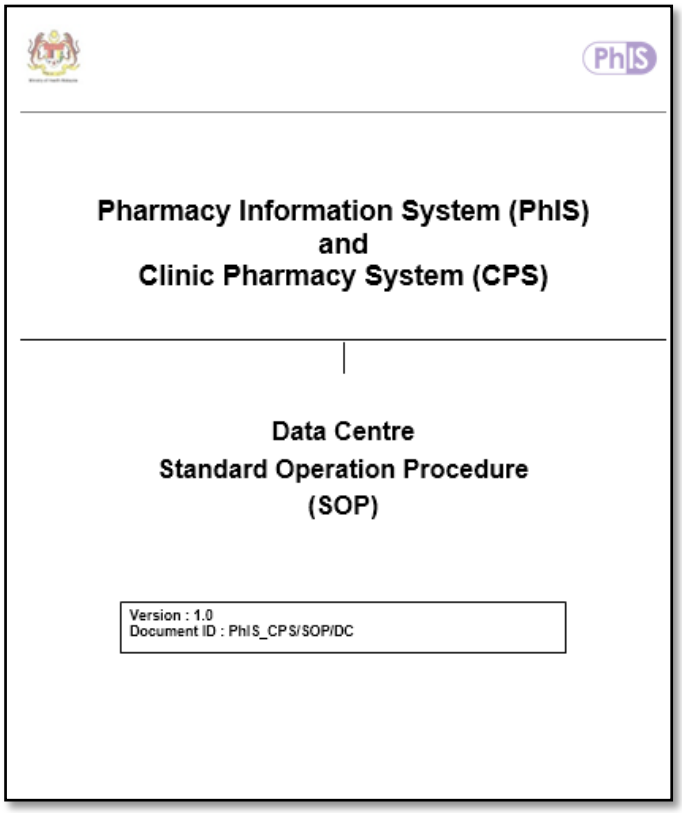
17. Hardware, Network Equipment and Software Inventory List

ASSET MANAGEMENT REPORT

Project	: Pharmacy Information System (PhIS)	State	: Kedah	Date Printed	: 10/10/2016
Main Category	: Hardware	Facility	: Hospital Kulim	Time Printed	: 2:59 pm
Category	: All Category			Page	: Page 1 of 4
Sub Category	: All Sub Category				

NO	ASSET TAGGING	SUB CATEGORY	LOCATION	PC S/N	MONITOR S/N	KEYBOARD S/N	MOUSE S/N
1	PhIS/KDH-08/HSP-01/PCD-001	Lenovo Thinkcentre M72	Main Store	PB5K09G	V3GD231	54Y94000005584	3A54502440B
2	PhIS/KDH-08/HSP-01/PCD-002	Lenovo Thinkcentre M72	Main Store	PB5K14H	V3GC556	54Y94000005643	3A544D1772B
3	PhIS/KDH-08/HSP-01/PCD-003	Lenovo Thinkcentre M72	Outpatient Pharmacy	PB5K67P	V3GC686	54Y94000005702	3A54502306B
4	PhIS/KDH-08/HSP-01/PCD-004	Lenovo Thinkcentre M72	Outpatient Pharmacy	PB5K59V	V3GD218	54Y94000005551	3A545B3770B
5	PhIS/KDH-08/HSP-01/PCD-005	Lenovo Thinkcentre M72	Outpatient Pharmacy	PB5K10A	V3GD327	54Y94000005488	3A545B3813B
6	PhIS/KDH-08/HSP-01/PCD-006	Lenovo Thinkcentre M72	Outpatient Pharmacy	PB5K06D	V3GC674	54Y94000007749	3A545B3591B
7	PhIS/KDH-08/HSP-01/PCD-007	Lenovo Thinkcentre M72	Outpatient Pharmacy	PB5H95P	V3GC539	54Y94000001790	3A544D1952B
8	PhIS/KDH-08/HSP-01/PCD-008	Lenovo Thinkcentre M72	Outpatient Pharmacy	PB5K11G	V3GC563	54Y94000005722	3A54502337B
9	PhIS/KDH-08/HSP-01/PCD-009	Lenovo Thinkcentre M72	Outpatient Pharmacy	PB5H99F	V3GD286	54Y94000001793	3A544D1841B
10	PhIS/KDH-08/HSP-01/PCD-010	Lenovo Thinkcentre M72	Outpatient Pharmacy	PB5K00T	V3GD341	54Y94000001490	3A544D1760B
11	PhIS/KDH-08/HSP-01/PCD-011	Lenovo Thinkcentre M72	Outpatient Pharmacy	PB5H92T	V3GC591	54Y94000003337	3A54502564B
12	PhIS/KDH-08/HSP-01/PCD-012	Lenovo Thinkcentre M72	Outpatient Pharmacy	PB5K09F	V3GD930	54Y94000003129	3A54502488B
13	PhIS/KDH-08/HSP-01/PCD-013	Lenovo Thinkcentre M72	Emergency & Trauma	PB5K03D	V3GC596	54Y94000005554	3A545B3797B
14	PhIS/KDH-08/HSP-01/PCD-014	Lenovo Thinkcentre M72	Emergency & Trauma	PB5K01P	V3GD333	54Y94000001492	3A544D1701B
15	PhIS/KDH-08/HSP-01/PCD-015	Lenovo Thinkcentre M72	Ward Supply Pharmacy	PB5K75A	V3GC414	54Y94000003343	3A545B3652B

18. **Standard Operating Procedure (SOP)**



19. Security Management

SIRIM QAS

CERTIFICATE

SIRIM QAS International hereby certifies that

PHARMANIAGA LOGISTICS SDN. BHD.
IT DEPARTMENT
NO.7, LEBUH KELULI 1B
SEKSYEN 7, KAWASAN PERINDUSTRIAN BUKIT RAJA SELATAN
40000 SHAH ALAM
SELANGOR DARUL EHSAN
MALAYSIA

has implemented an Information Security Management System complying with

ISO/IEC 27001:2013
Information Technology – Security Techniques – Information Security Management Systems – Requirements

Scope of Certification

ISMS FOR MANAGEMENT AND OPERATION OF DATA CENTRE COVERING PHARMACY INFORMATION SYSTEM (PhIS) AND CLINIC PHARMACY SYSTEM (CPS) AT BUKIT RAJA DATA CENTRE.

THIS IS IN ACCORDANCE TO STATEMENT OF APPLICABILITY: VERSION 2.0, 26 JANUARY 2015

REMOTE SUPPORT FUNCTIONS COVERED BY THIS CERTIFICATION ARE LISTED IN THE ANNEX TO THIS CERTIFICATE

Issue date : 10 April 2015
Validity period : 10 April 2015 - 09 April 2018
Certification No. : AR 6329

Khalidah Mustafa
Managing Director
SIRIM QAS International Sdn. Bhd.

IQNet
THE INTERNATIONAL CERTIFICATION NETWORK

CERTIFICATE

IQNet and SIRIM QAS International hereby certify that

PHARMANIAGA LOGISTICS SDN. BHD.
IT DEPARTMENT
NO.7, LEBUH KELULI 1B
SEKSYEN 7, KAWASAN PERINDUSTRIAN BUKIT RAJA SELATAN
40000 SHAH ALAM
SELANGOR DARUL EHSAN
MALAYSIA

has implemented and maintains a

INFORMATION SECURITY MANAGEMENT SYSTEM

which fulfils the requirements of the following standard

ISO/IEC 27001:2013

for the following activities

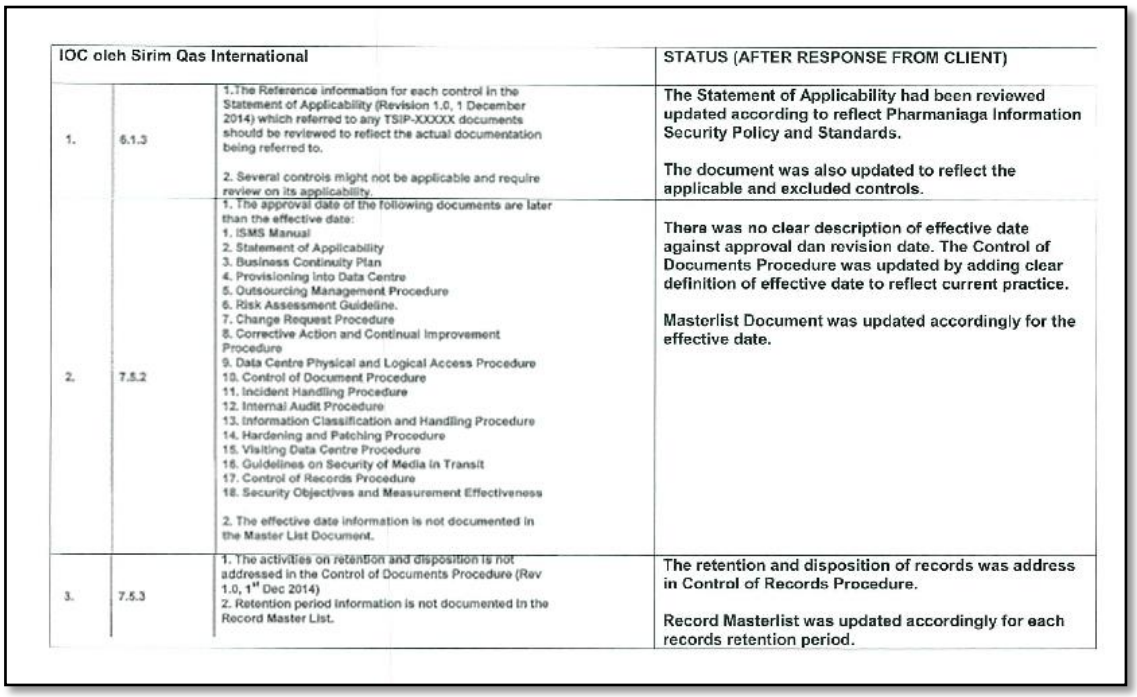
ISMS FOR MANAGEMENT AND OPERATION OF DATA CENTRE COVERING PHARMACY INFORMATION SYSTEM (PhIS) AND CLINIC PHARMACY SYSTEM (CPS) AT BUKIT RAJA DATA CENTRE.

THIS IS IN ACCORDANCE TO STATEMENT OF APPLICABILITY:
VERSION 2.0, 26 JANUARY 2015

Issued on : 10 April 2015
Validity date : 09 April 2018
Certification Number : MY- AR 6329

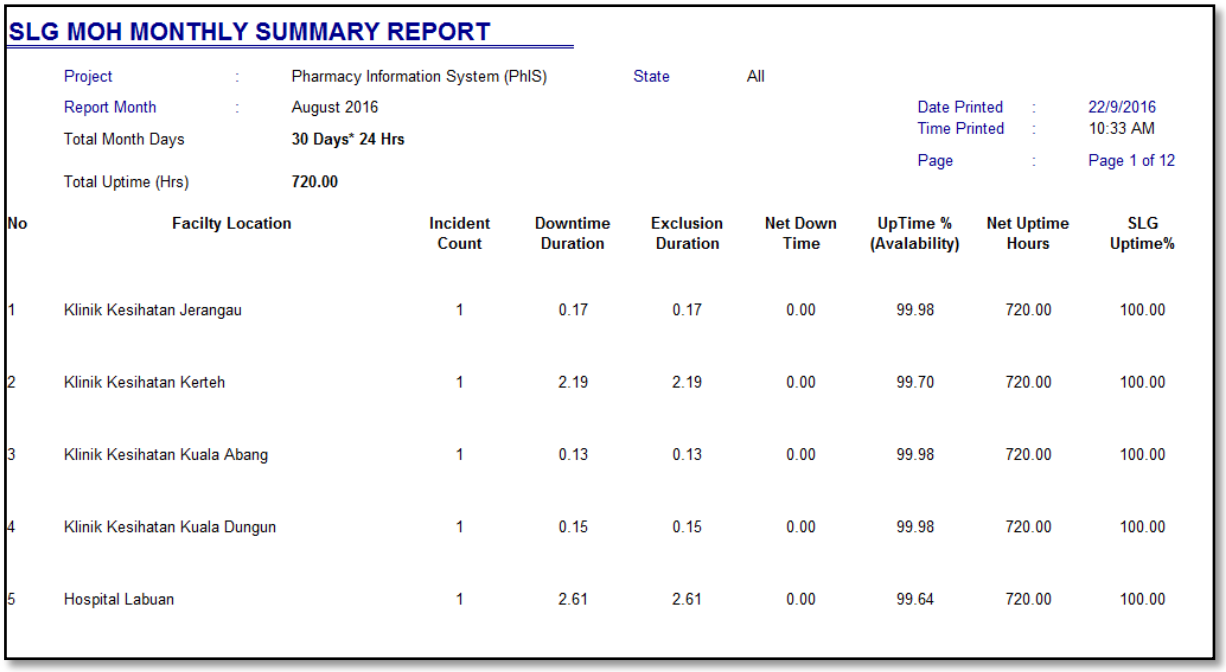
Michael Drechsel
President of IQNet

Khalidah Mustafa
Managing Director
SIRIM QAS International Sdn Bhd



IOC oleh Sirim Qas International			STATUS (AFTER RESPONSE FROM CLIENT)
1.	6.1.3	1.The Reference information for each control in the Statement of Applicability (Revision 1.0, 1 December 2014) which referred to any TSIP-XXXXX documents should be reviewed to reflect the actual documentation being referred to. 2. Several controls might not be applicable and require review on its applicability.	The Statement of Applicability had been reviewed updated according to reflect Pharmaniaga Information Security Policy and Standards. The document was also updated to reflect the applicable and excluded controls.
2.	7.5.2	1. The approval date of the following documents are later than the effective date: 1. ISMS Manual 2. Statement of Applicability 3. Business Continuity Plan 4. Provisioning Into Data Centre 5. Outsourcing Management Procedure 6. Risk Assessment Guideline. 7. Change Request Procedure 8. Corrective Action and Continual Improvement Procedure 9. Data Centre Physical and Logical Access Procedure 10. Control of Document Procedure 11. Incident Handling Procedure 12. Internal Audit Procedure 13. Information Classification and Handling Procedure 14. Hardening and Patching Procedure 15. Visiting Data Centre Procedure 16. Guidelines on Security of Media in Transit 17. Control of Records Procedure 18. Security Objectives and Measurement Effectiveness 2. The effective date information is not documented in the Master List Document.	There was no clear description of effective date against approval dan revision date. The Control of Documents Procedure was updated by adding clear definition of effective date to reflect current practice. Masterlist Document was updated accordingly for the effective date.
3.	7.5.3	1. The activities on retention and disposition is not addressed in the Control of Documents Procedure (Rev 1.0, 1st Dec 2014) 2. Retention period information is not documented in the Record Master List.	The retention and disposition of records was address in Control of Records Procedure. Record Masterlist was updated accordingly for each records retention period.

20. Server downtime log reports at each hospital and clinic



SLG MOH MONTHLY SUMMARY REPORT

Project : Pharmacy Information System (PhIS) State All

Report Month : August 2016

Total Month Days **30 Days* 24 Hrs**

Total Uptime (Hrs) **720.00**

Date Printed : 22/9/2016

Time Printed : 10:33 AM

Page : Page 1 of 12

No	Facilty Location	Incident Count	Downtime Duration	Exclusion Duration	Net Down Time	UpTime % (Avalability)	Net Uptime Hours	SLG Uptime%
1	Klinik Kesihatan Jerangau	1	0.17	0.17	0.00	99.98	720.00	100.00
2	Klinik Kesihatan Kerteh	1	2.19	2.19	0.00	99.70	720.00	100.00
3	Klinik Kesihatan Kuala Abang	1	0.13	0.13	0.00	99.98	720.00	100.00
4	Klinik Kesihatan Kuala Dungun	1	0.15	0.15	0.00	99.98	720.00	100.00
5	Hospital Labuan	1	2.61	2.61	0.00	99.64	720.00	100.00