

MEDSYS Hardware Specifications

Database Server Requirements: (High availability, high end processor, medium capacity storage)

Processor : Intel Xeon/Core i7 or higher

Motherboard : Raid Ready, Hyper-Threading Technology (8 or more SATA ports recommended for expansion)

Memory : 16GB or Higher Memory

Hard disk : 4 pcs or more

- 2 HD System Drive / Backup drive 2TB up (RAID 1 – Mirrored)
- 2 to 6pcs SSD Drives 256GB and up (recommended at least 2pcs in Raid 1 Mirror configuration).
SSD provide higher speeds and have a longer lifetime than conventional spin drives. WD, ITEL or Samsung Recommended.
- 2hd 2tb up for Log File
- 1TB or higher USB Drive backup or shared folder on another PC.

LAN : 1 Gigabit LAN or Higher, connected to database server (2 LAN ports in team mode recommended for high load)

Software : MS Windows 2005 Server or higher, Win Server 2012 recommended

Database: MS SQL Server 2008 R2 or latest version

1KVA UPS (APC brand recommended)

PACS Server Requirements: (high capacity Storage, mid range processor)

Processor : Intel Pentium Quad Core or Higher Processor

Motherboard : Raid Ready, Hyper-Threading Technology (8 SATA ports recommended for expansion)

Memory : 4GB or Higher Memory

Hard disk : 3 pcs (or more).

- 1 System Drive 500gb up

- 2 to 4pcs Image Drive 2TB up (recommended at least 2 in Raid 1 Mirror configuration). Raid 6 also recommended. Raid 5 not recommended.
- Recommended USB 2TB and up for backup or shared folder on another PC.

LAN : 1 Gigabit LAN or Higher

Software : MS Windows 2005 Server or higher

1KVA UPS (APC brand recommended)

Application / Web / Backup Server Requirements:

Processor : Intel Pentium Quad Core or Higher Processor

Motherboard : Raid Ready, Hyper-Threading Technology

Memory : 4GB or Higher Memory

Hard disk : 2 pcs or more.

- 1 System Dive 500gb up
- 2 pcs SSD 256Gig (Mirror configuration)
- (This can serve as a backup server for database and images also just add extra 2-4TB drives)

LAN : 1 Gigabit LAN or Higher

Software : MS Windows 2005 Server or higher

500VA UPS (APC brand recommended)

Work Station Requirements:

Processor : Pentium Quad Core or Higher Processor

Motherboard : Serial ATA, Raid Ready, Hyper-Threading Technology

Memory : 2GB or Higher Memory

Hard disk : 1 pc. 500GB or Higher Serial ATA Hard disk

LAN : 1 Gigabit LAN or Higher

Software : Windows XP and Windows 7 Supported

UPS

MAC OS, Linux (Ubuntu, Mint, etc.) supported for Doctors' Offices. (Doctors module).

Network Requirements:

1GBPS Cat6 cabling

UPS

OPTIONAL HARDWARE:

Component	Brand	Approximate Price	Quantity	Supplier
Label Printer	Zebra Label Printer		3	Newton Scanning
Document Scanner	Cannon Epson	60,000	1 to 3	
Patient Card Printer	Javelin	55,000	2	Newton Scanning
Barcode Readers (with Bluetooth for tablets)	Symbol	8,000 1,000	10	Lazada
Fingerprint Scanner	Digital Persona (UrU)	7,500	10	
Webcam for Patient Photo	Logitech	500	4	
USB External Backup drive	Western Digital 1TB USB 3.0	4,000	1	
Tablet PC with autofocus camera for barcode scanning	ACER, Ipad, etc.	8,000 to 30,000	2 to 3 per station	
Video Capture Card for Image Acquire		4,000	2	
SMS MODEM	Wavecomm Fasttrack	4,500	1	Olx.ph
Smart TV System		25,000		
Medical Grade Monitors for Radiologist	Barco / NDSI 2mp up	180,000 up	1 or 2 for historical view	Assurance Controls, Inc.
Touchscreen monitors for kiosk	Dell		2	

KCCI-MEDSYS Clinic Hardware Setup

Area	min units	Hardware	Comments
Servers			
Database Server	1	Raid 1 setup for speed and redundancy Microsoft SQL Server Multiple LAN	
Backup DB Server	1		
Application/Web Server	1		
PACS Server	1		
Shared Hardware			
Card Printer	1	for patient card	can be located at billing (optional)
Network Printer	optional	for backup printing	Dot matrix for internal use / charge slips LaserJet for imaging Inkjet for patient forms and documents
			All units with at least 15" LCD except PACS Reading 1Gig Ram recommended All with UPS and AVR

			USB disabled for protection
Entry Points			
OPD	2	Barcode Reader w/ Printer Laser printer for Data Sheet (optional)	
Administrative			
Medical Records /	2	Barcode Reader Image scanner for Visual Records	
Purchasing	1	Barcode Reader	
Billing	2	2 LaserJet/Inkjet printers	
Cashier	1		
Accounting	1		Wide dot matrix printer (optional)
PhilHealth	1	Laser printer	for computation, processing, and transmittal
HR/Payroll	2		
Timekeeping/Biometrics	1	Fingerprint scanner (water/tamper proof)	
CSR/Inventory	1	Barcode Reader	
Pharmacy / Dispensing / POS	1	Barcode Reader	
Corporate Services/Industrial	1		
Doctors Terminal	1 per doctor		

Hospital Setup

Area	min units	Hardware	Estimated Cost	Remarks
Servers				
Database Server	1	Raid 10 setup for speed and redundancy Microsoft SQL Server Multiple LAN	250,000	16 port KVM switch (Keyboard/Video/Mouse)
Auxiliary Server	recommended	Raid configuration for speed High Memory Applications / Back-up / SMS / Doctors Module / Remote Connection Web Server (static internet line) Antivirus software Multiple LAN	100,000 (optional)	W/ Internet connection
PASC Server				
Shared Hardware				
Card Printer	1	for patient card	100,000 (optional)	can be located at billing
Network Printer	optional	for backup printing	25,000	Dot matrix for internal use / charge slips LaserJet for imaging Inkjet for patient forms and documents

				<p>All units with at least 15" LCD except PACS Reading</p> <p>1Gig Ram recommended</p> <p>All with UPS and AVR</p> <p>USB disabled for protection</p>
Entry Points			90pcs 25,000 /pc	
OPD	4	Barcode Reader w/ Printer Laser printer for Data Sheet		
Admission	2	Barcode Reader w/ Printer Laser printer for Admission		Patient wristband could be used
ER	2	Barcode Reader w/ Printer Laser printer		
Administrative				
Medical Records /	2	Barcode Reader Image scanner for Visual Records		
Touch Screen Inquiry Terminals	1 for lobby 1 for inpatient area	Barcode Reader / Touch screen monitor		Optional at patient areas for bill checking, otherwise bill is sent by SMS
Purchasing		Barcode Reader		
Billing	7	2 LaserJet/Inkjet printers		Patient Card could be printed here
Cashier	3 (1 per cashier)			

Accounting	7			Wide dot matrix printer
PhilHealth	3	Laser printer		for computation, processing, and transmittal
HR/Payroll	3			
Timekeeping/Biometrics	1	Fingerprint scanner (water/tamper proof)		
CSR/Inventory	2	Barcode Reader		
Pharmacy / Dispensing / POS	3	Barcode Reader		
Corporate Services/Industrial	3			
Housekeeping/Gen Services	1			
Information	1			for SMS and patient/room/doctor inquiry
Clinical		(w/ PC Speaker for discharge notice)		
Nursing Stations	at least 1 per station			
Doctors module / clinic terminals	1 per office	Additional for secretary		Prescription slip printing Only web browser is needed
Dietary	1			
Radiology (CT/Ultrasound/etc)	3			
Laboratory	3	Barcode Reader/Printer		
RTS	1			
ICU & NICU	2			
OR/DR	2			
Nursery	2			

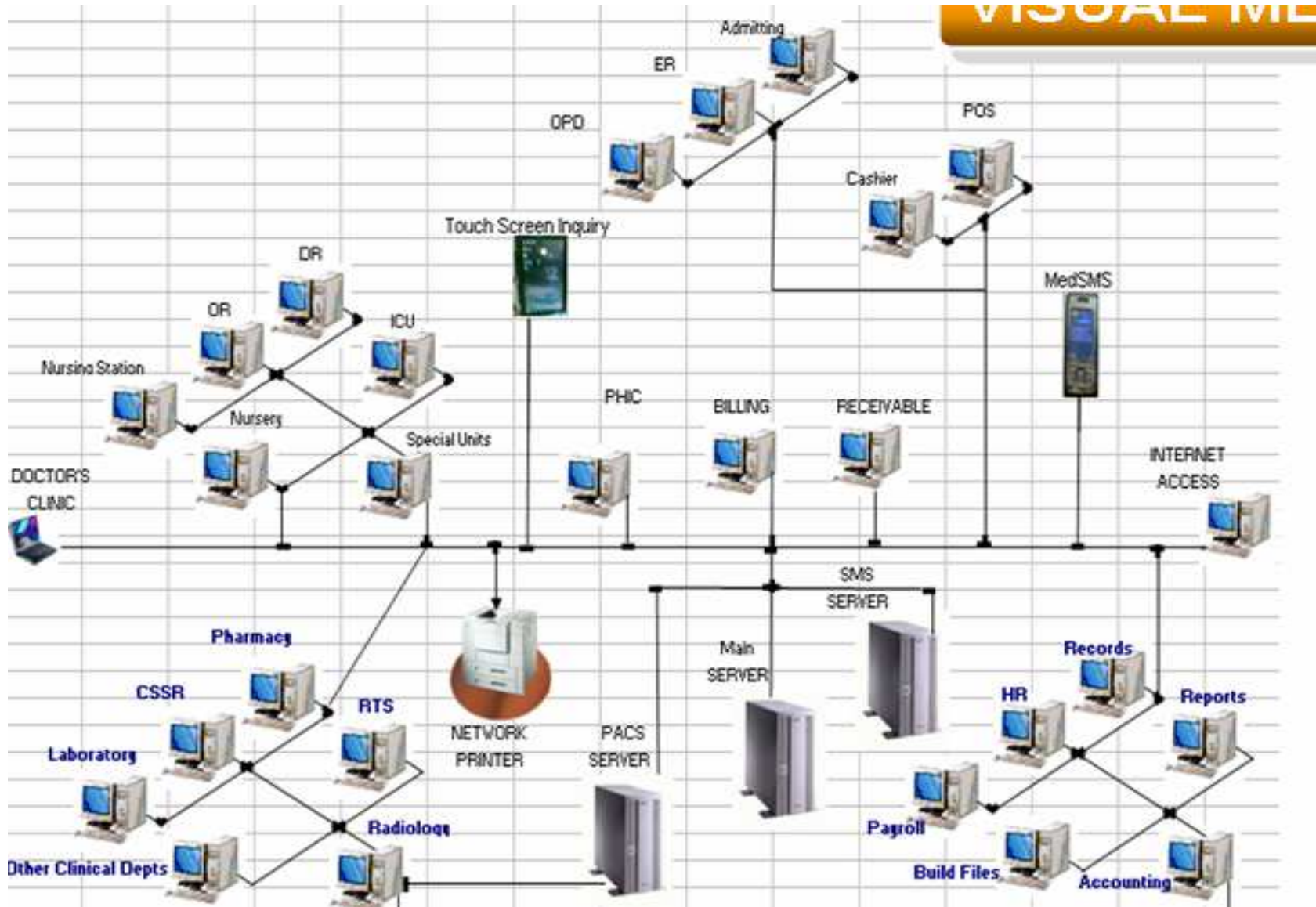
Dialysis	1			
PT	1			
Other Specialty areas		Audiometry, Cath-Lab, Hemo, Nuclear, Neurophysiology		
Network Switches		Gigabit recommended All with UPS and AVR		High quality crimping of RJ45
Computer Department	6	Spare computers (for swapping) Spare good quality: KB/Mouse/Scanners/Printers/Cables/Mousepad		Also for support/programmers Internet connection (PLDT recommended)
Non MEDSYS:				
Marketing		19" LCD		
Administrators/Heads		17" LCD		
Patient Rooms internet access	Optional			
Surveillance System	1 Optional	Raid 0 setup for speed		

Other Optional Servers:

- Firewall
- Document Server

Notes

- Hardware Payment Terms: COD
- For the server a SSD option is also provided. SSD drives are faster
- Network Cabling Payment Terms: 85% down payment, 15% upon completion
- Deliverables include training, manuals, and documentation
- _ Years Warranty on Software: Includes free product updates and any updates required by the government (PhilHealth, DOH, etc.). Does not include major new features.
- Requires a hospital department for IT services (at least 2 to 3 people) to handle hardware and software calls such as:
 - Basic hardware troubleshooting: (e.g. keyboard not working, checking network, etc.)
 - Maintaining User Manager System.
 - Verifying successful daily backups
 - Reporting any user concerns to MEDSYS (after implementation period)
 - Learn basic knowledge of the system as a whole
- Internet connection is required for remote support and product updates. PLDT DSL preferred.
- A phone plan is recommended for MEDSMS (p300 per month for unlimited messaging to all networks)



Sample Product Images:

<p>Symbol Barcode Scanner</p>	 A handheld barcode scanner with a black body and a yellow trigger.	
<p>APC 1500 KVA UPS</p>	 Two views of an APC 1500 KVA UPS: a front view showing the APC logo and a rear view showing the power outlets and cooling fan.	
<p>Javelin Card Printer</p>	 A compact, light blue and black card printer with a small color display on the front.	

<p>Cannon high speed document Scanners</p> <hr/>		
<p>Zebra Label Printer</p> <hr/>		
<p>Digital Persona Fingerprint reader</p> <hr/>		



CUBE

Tablet PC
10.6" Cube Tablet from Lazada
@4700



Wireless Bluetooth scanner,
@1,500 fr Lazada




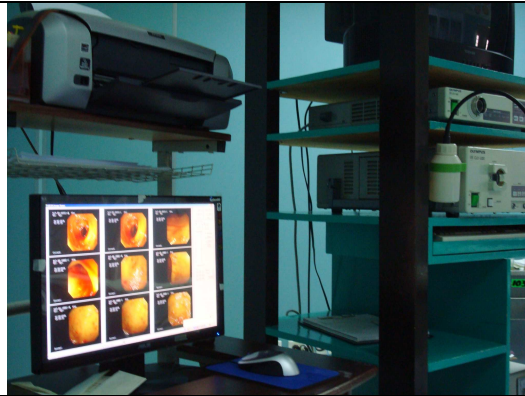
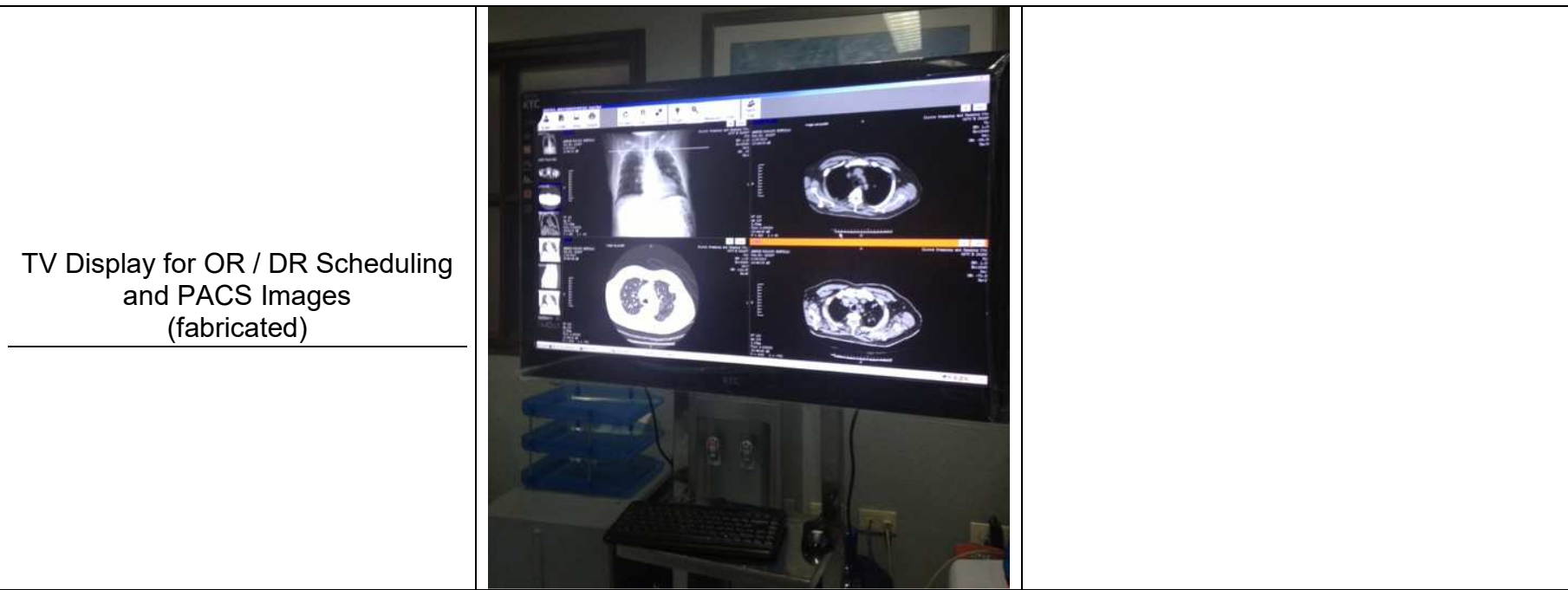
<p>Lab Setup</p>		
<p>Touchscreen Inquiry Setup (fabricated)</p>		
<p>Kiosk setup (fabricated)</p>		

Image Acquisition (endoscopy)



Wavecomm SMS Modem





EPSON I120/I220
Ink tank System
Low Cost Printing



Patient Smart TV Info – connected to PACS, Vital Signs, Administered Meds, dietary, etc

http://192.168.88.88/INFO/PatientAPPS.aspx

Welcome Patient
7/25/2017 10:00:00 AM

Room 517
Your Diet LOW SALT LOW FAT INFO

Your Cell Number 09174792730
Company INTELLICARE INC.
Birthdate 7/17/1979 (38 years old)
Bloodtype
Time: 7/26/2017 2:44:28 PM

Refresh
e-Mail
Address
Class

Home Log Out Admit Date:

Balance Inquiry Menu for the Week Doctor List Appointment Room Rates Availability Feedback News Website Hospital Directons
Patient Facilities Weather Free SMS Facebook Movies and Music Games
Accredited HMOs Directory

Vital Signs

Date & Time	BP	°C	RR	PR	O2Sat	User ID
26 Jul 2017 12:26 PM	110/80	36		68	98	1521
7:10 AM	100/70	36.3		72	97	916
5:26 AM	110/70	36.5		70	98	1274
25 Jul 2017 11:01 PM	110/70	36.6		105	97	1274
1:37 PM	110/70	36.2	19	75	98	586
11:07 AM	130/80	36.2	83	83	97	intern77

Administered Meds Hospital Meds Patient Stock Meds

Date & Time Given	Drug Name
26 Jul 2017 8:18 AM	Rebamipide (MUCOPRO TABLET 100MG)
5:49 AM	Pantoprazole (VUEPAN VIAL 40MG)
1:14 PM	Rebamipide (MUCOPRO TABLET 100MG)
25 Jul 2017 11:03 AM	Pantoprazole (VUEPAN VIAL 40MG)
7:11 PM	Rebamipide (MUCOSTA TABLET 100MG)

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