Digital Solutions Division

ACT Government | ACT Health

St-21 - Patient Bedside Information Board (PBIB)

Version 2021.1.0 Approved

User Support: 02 5124 5000 | Division Administration: 02 5124 9000

Please Read

IMPORTANT COMPLIANCE REQUIREMENTS

Note: The following instruction applies to all documents in this library.

1. This is a controlled document and is reviewed every two years. The last review was carried out in March 2021. If you are viewing this document after March 2023, you will need to contact the sender to confirm you are working from the latest revision.
2. It is the responsibility of the contractor/vendor to read and adhere to the procedures, processes and guidelines set out in the following document when quoting for or carrying out work for the ACT Public Health System Sites.
3. If you have questions or require clarification of any of the procedures, processes or guidelines in the following document please contact the sender of the document in writing with your questions so that a formal response can be provided. If any specific requirement is unclear, it is expected that clarification will be sought from the ACT Public Health System's Digital Solutions Division (DSD) Critical Systems Infrastructure (CSI) Hub - Information Communications and Technology (ICT) architect(s), rather than a decision made and a design implemented and based on unclarified assumptions.
4. These standards are applicable to ALL ACT Public Health System Sites or any work funded by ACT Health Directorate (ACTHD) (e.g. Calvary, ACTHD provided NGO sites) unless specifically exempt.
5. All Greenfield ACT Public Health System Sites are expected to be fully compliant with all appropriate standards.
6. Brownfield ACT Public Health System Sites undergoing refurbishment should be fully compliant unless an exemption is provided by DSD's CSI Hub.
7. In the event of any design non-compliance issues, a Departures document must be completed and submitted to DSD's CSI Hub. These issues should be resolved, in consultation with DSD's CSI Hub, as soon as possible within the project process and explicitly prior to site handover.
8. It is the responsibility of the contractor/vendor to read and adhere to the procedures, processes and guidelines set out in the following document when quoting for or carrying out work for ACT Health.

IMPORTANT:

Any departure from the standard, whether intentional or in error shall require a completed Departures Document to be submitted to DSD's CSI Hub for approval.
Any non-compliant designs without a pre-approved Departures Document by completion of the project or a nominated milestone or gateway, will require remediation by the Head Contractor at the Head Contractors cost.

Document Control

(to review detailed document updates, click here)

Version	Summary of Changes	Author	Date
2020.0.1	Initial Draft	Dale Ninness	22/10/2020
2020.0.2	Review-made doc consistent with PO's comments	Alkesh Hemrajani	27/11/2020
2021.0.1	Document Review	Dale Ninness	31/03/2021
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Document Next Review

Date	Version	Comments
March 2021	2021.1.0	Original release date
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Document Owner

Name	Location
Senior Director, CSI Hub	CSI Hub, Technology Operations DSD ACTHD

Document References

Document	Version	Location

Contents

1. Introduction

This document forms part of a suite of documents that describe ICT specifications and standards for the ACT Public Health System's, Non-Clinical Critical ICT Infrastructure support systems. It provides the ICT Specifications for Patient Bedside Information Board applicable to Greenfield and refurbished Brownfield sites.

The Patient Bedside Information Boards (PBIB) are an integral part of the health care services provided in an ACT Public Health System's Tertiary Hospital's Ward. A robust and resilient Patient Bedside Information Board installation is mandatory to meet the ACT Public Health System's requirements.

1.1 Purpose

The purpose of this document is to provide the set of standards and outlines the requirements for the Patient Bedside Information Boards at an ACT Public Health System's facility. These requirements include Medical Grade Network (MGN) architecture compliance, Patient Bedside Information Board physical installation requirements and connectivity to the network switches required for a building.

The document is divided into three sections as per the following:

- PBIB architecture;
- PBIB connectivity and redundancy; and
- PBIB installation requirements.

1.2 Disclaimer

The following document provides ICT ONLY specifications and requirements for the PBIB systems at the ACT Public Health System sites and is by no means intended to cover all the comprehensive business requirements for the system. Additional business and user requirements will be presented in project specific documentation such as Business Requirements, Solution and Detailed designs.

2. PBIB Architecture

2.1 Building blocks

The following building blocks are used for the architecture pattern:

- Patient Bedside Information Boards;
- Patient Digital Journey Board system; and
- Site network infrastructure for Patient Bedside Information Board connectivity.

2.2 Standard

The PBIB architecture is intended to be used for the following:

- All ACT Public Health System's Tertiary Hospital's Ward Services

Note: Mental Health Wards are out of scope for this device.

The PBIB architecture must comply with the following:

- The head-end servers must be provisioned in a Highly Available (HA) configuration;
- The architecture must support non-disruptive connectivity for the devices during the server failover to a redundant server;
- The PBIB location must be easily accessible by staff and installed as per this standard;
- The PBIB must connect to the site-based Floor Distributor switches;
- Adjacent PBIBs must connect to different switches; and
- The PBIBs must support Power over Ethernet Plus (POE+) or Cisco's Universal Power over Ethernet® (UPOE).

2.3 Rationale

The PBIB architecture intends to achieve the following:

- Provide consistent architecture for all the ACT Public Health System's Facilities.
- Increase the visibility and distribution of real-time information regarding a patient's current location and clinical information.

2.4 Implication and Issues

PBIBs do not consume any space in the data cabinet, but they do require network switch ports which increases the number of switches and data outlets required for the site.

2.5 Benefits

The key benefits are:

- Facilitates improved patient awareness across all staff and ensures proactive planning towards agreed treatment plans and discharge dates through a single architecture approach;
- Patient information can be updated simultaneously via multiple users into the Patient Digital Journey Board desktop application remotely using any computer or PC within the hospital and made available across all devices;
- PBIBs integrate and display information from several key clinical systems; and
- Applicable to ACT Public Health System's brownfield and greenfield sites.

3. PBIB Connectivity and Redundancy

3.1 Standard

Following are the requirements for the PBIB connectivity and redundancy:

- PBIB will be connected to the ACT Public Health System's floor distributor network switches over structured $CAT6_A$ cabling;
- Adjacent PBIBs will be patched to separate switch stacks within the same communications room; and
- In the event there is only one switch stack in the communications room, adjacent PBIBs should be patched to different member switches within a switch stack.

3.2 Rationale

The PBIB connectivity achieves the following;

- Provides PBIB connectivity that will meet the availability requirements, ensuring that PBIBs are connected to the appropriate network switches to provide high levels of resiliency and availability; and
- Redundancy will be provided by physical connectivity of the PBIBs allowing availability of adjacent devices during the failure of a network switch.

3.3 Benefits

The PBIB connectivity will provide the following benefits:

- Minimises the impact of an PBIB failure;
- Minimises the impact of a network switch failure; and
- Provides a consistent approach for the physical PBIBs connectivity to network switches across various ACT Public Health System's sites

4. PBIB Installation Requirements

4.1 Introduction

Currently Philips 10BDL4151T/00 10" Multi-Touch Display are being installed using a 75x75 Tilt and Swivel VESA Mount. These display units are for internal use only.

This section provides the installation standard for installers that will comply with the Work Health & Safety (WH&S) and Infection Control requirements.

Note: These requirements are specific to the Philips 10BDL4151T/00 10" Multi-Touch Display and Digitech Audio Visual Full-Motion Mount. In the event a different model is used, requirements specific to that model must be used. DSD's CSI Hub solutions architects must be consulted to confirm installation requirements.

4.2 Scope

Provide a physical installation standard for mounting of the Philips 10BDL4151T/00 10" Multi-Touch Display which includes:

- Installation specifications;
- VESA mount specification;
- Data outlet type and location; and
- Data port and labelling.

4.3 Physical Specification – PBIB

The physical tablet is illustrated in the following images *Figure 1 – Philips 10BDL4151T/00 Multi-Touch Display Front View* and *Figure 2 - Rear View*.

Figure 1 – Philips 10BDL4151T/00 Multi-Touch Display Front View

Figure 2 - Philips 10BDL4151T/00 Multi-Touch Display Rear View

4.4 Installation Interfaces

- Patch lead connects to LAN port, as illustrated in *Figure 2 - Philips 10BDL4151T/00 Multi-Touch Display Rear View*, which supports POE and 100/1000 Multigigabit Ethernet (RJ-45) – IEEE 802.3af.

Dimensions (W x H X D)

- Tablet dimensions without mounting brackets are 10.28 x 6.58 x 1.14 in (261 x 167.2 x 29mm).

Weight

- 1.57 lb (0.71 kg).

Input power requirements

- 802.3af PoE, Cisco Universal Power over Ethernet (Cisco UPOE ®)

Power draw

- 11W max at the Power Source Equipment (PSE) with full functionality.

Environmental

- Nonoperating (storage) temperature: -20° to 60°C
- Operating temperature: 5° to 40°C
- Operating humidity: 20% to 80%
- Nonoperating (storage) humidity: 10% to 80% @ 40°C
- Operating altitude test: 0 – 3000m

4.5 Physical Specification – PBIB VESA Mount

A Tilt and Swivel VESA mount is required to allow better visibility of the PBIB and to meet CHS infection control requirements.

The physical mount is illustrated in the following images *Figure 3 – VESA Mount Front View, Figure 4 – VESA Mount Side View* and *Figure 5 – VESA Mount Rear View.*

The mount shown below is a **Digitech Audio Visual Full-Motion Mount – Model CW-2853**.

This VESA mount or a mount with similar specifications must be supplied for mounting the PBIB. The mount must be Tilt and Swivel capable.

This mount must be used as per the images and specifications listed below to mount each Tablet Display.

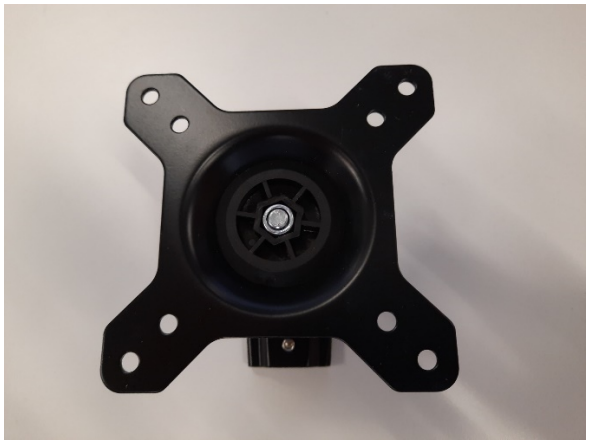

Figure 3 – VESA Mount Front View

Figure 4 – VESA Mount Side View

Figure 5 – VESA Mount Rear View

Figure 6 – VESA Mount Wall Bracket

4.5.1 Mount Specifications

Dimensions with rear wall bracket H x W x D (170 x 120 x 90 mm)

- -15°/+15° tilt
- 60° swivel
- 360° rotation

TV Size 13" – 27" (33 – 69cm)

Max Loading 20kg (40lbs)

Mounting Pattern VESA 75x75 or 100x100

4.5.2 Hardware Requirement

- 2 x Metal Wallmates or similar to fix mount to wall as per *Figure 7 – Metal Wallmate*.
- 2 x suitable length screws to fix mount wall bracket to wall into wallmates as per *Figure 7 – Metal Wallmate*.

NOTE: Possible services behind mounting location must be taken into consideration for the use of Wallmates and length of screws.

- 4 x Plain Button Stainless Steel, Tamper Proof Security Screws, M4 x 6mm as per *Figure 8 – Security Fasteners* to attach tablet display to mount.
- 1 x Tamper Proof Grub Screw of same size to replace supplied Grub Screw in mounting bracket as per *Figure 8 – Security Fasteners*

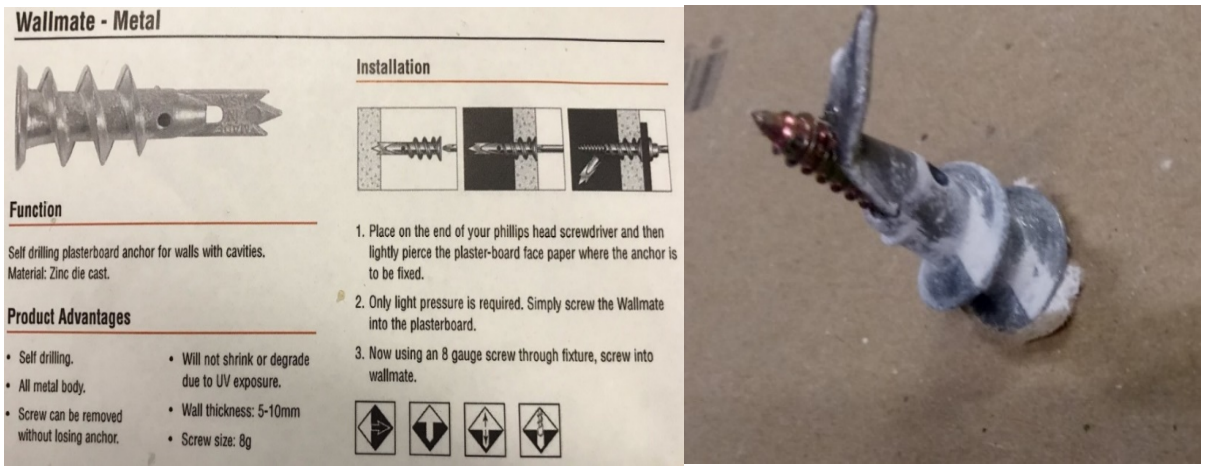

Figure 7 – Metal Wallmate

Figure 8 – Security Fasteners

4.6 Installation

4.6.1 General

The installation of the PBIBs must adhere to WH&S, and Infection Control requirements.

These requirements are listed below:

- A PBIB must be installed at the bedhead of each bed in an inpatient ward using mount; or alternatively
- Installed on the side of the bed closest to the patient's room/Bay entrance in a ward where possible (most common side of the bed a clinician will approach);
- Not installed on the same side of the use of any Biomedical equipment;
- In sight of clinical staff standing at the foot of the patient's bed;
- Should be where possible viewable from the doorway of a patient's room;
- Secured to the wall and hazard free to staff, patient and visitors;
- Placed at eyelevel to read content; and
- Data outlet for the PBIB must be installed and concealed behind the PBIB closer to PBIB Mount

NOTE: All care must be taken to ensure no damage or interference to any services within wall cavity when installing mount.

Figures below show installation of PBIB and Mounts in Ward 14A.

Figure 9 – PBIB

Figure 10 – PBIB with Mount

Figure 11 – PBIB Mount and Data Outlet

4.6.2 Installation Specifications

Installation of the PBIB Mount should be installed on the wall at the following measurements where possible:

- Floor Level to Top of Mount Wall Bracket – 1800mm
- PBIB Mount Wall Bracket to Data Outlet – 25mm
- PBIB Mount to be secured to Mount wall bracket using Tamper Proof Grub Screw.
- PBIB Mount location must be installed close to the Data Outlet to ensure the data outlet is concealed by the PBIB.
- Refer to *Figures 9 - 11* above as examples.

4.6.3 Data Outlet

Data Outlet needs to be a CLIPSAL 2000 Series Grid Plate Surround 1 Gang Architrave Type – 2031-WE vertically mounted as pictured in *Figure 11 – PBIB Mount and Data Outlet*.

The data port must be installed on the appropriate side of the bedhead wall as per section 4.6.1 at a height of approx. 1750mm from floor level, closer to where the PBIB Mount will be installed.

The data port location must also allow sufficient space for the installation of the PBIB next to a cupboard or adjacent wall.

The data port location must also allow the installation of the PBIB and Mount to be close enough that a 1feet fly lead can be used for network connectivity.

4.6.4 Patching

A CommScope Cat 6A Light Blue “Mino” **fly** lead will connect the PBIB to the data port.

A CommScope Cat 6A Light Blue “Mino” **patch** lead shall be used at the patch panel end to the switch.

4.1 Labelling

A Traffolyte data port label must be installed on the wall data outlet, as per the St-02 Communications Cabling Infrastructure 2021.1.0 standard.

Refer to *Figure 11 - PBIB Mount and Data Outlet for example*.

Appendix A. Document Details

Abbreviated terms and definitions

Acronym	Term	Definition
ACTHD	ACT Health Directorate	An agency of the ACT Government
ICT	Information Communication Technology	Information Communication Technology
CSI	Critical Systems Infrastructure	A section of Digital Solution Division
DDTS	Digital Data and Technology Solution	An agency of the ACT Government
DSD	Digital Solutions Division	A division of ACT Health Directorate
LAN	Local Area Network	Provides network connectivity within a building
MGN	Medical Grade Network	Provides a highly resilient enterprise network architecture for the Health buildings
PoE+	Power Over Ethernet Plus	IEEE Standard 802.3at for a network device to provide up to 25.5W Power over standard Ethernet structured cabling
PoE	Power Over Ethernet	IEEE Standard 802.3af for a network device to provide up to 15.4W Power over standard Ethernet structured cabling
PSE	Power Supply Equipment	
PBIB	Patient Bedside Information Board	Philips 10BDL4151T/00 10" Multi-Touch Display
TCH	The Canberra Hospital	The Canberra Hospital
UPOE®	Universal Power over Ethernet	A Cisco proprietary technology that has the capability to provide up to 60W of power over standard Ethernet structured cabling.
WH&S	Workplace Health and Safety	Required for protecting the health and safety of staff

Amendment history

Version	Summary of Changes	Author	Date
2020.0.1	Initial Draft	Dale Ninness	22/10/2020
2020.0.2	Review -make doc consistent with PO's comments of other docs	Alkesh Hemrajani	27/11/2020
2021.0.1	Document Review	Dale Ninness	31/03/2021
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