



# St-14 Nurse Call ICT Specifications

Version 2020.2.1- Approved



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# Please Read

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## IMPORTANT COMPLIANCE REQUIREMENTS

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

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This is a controlled document and is reviewed on an annual basis. The last review was carried out in March 2020. If you are viewing this document after March 2021, you will need to contact the sender to confirm you are working from the latest revision.

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 Directorate (ACTHD).

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 Health Digital Solutions Division (DSD) - ICT architect(s), rather than a decision made and a design implemented and based on unclarified assumptions.

These standards are applicable to ALL Canberra Health Services (CHS) and ACTHD sites or any work funded by ACTHD (e.g. Calvary, ACTHD provided NGO sites) unless specifically exempt.

All Greenfield Health sites are expected to be fully compliant with all appropriate standards.

Brownfield Health sites undergoing refurbishment should be fully compliant unless an exemption is provided by DSD Infrastructure Hub.

In the event of any design non-compliance issues, a Departures document must be completed and submitted to DSD Infrastructure Hub. These issues should be resolved, in consultation with DSD Infrastructure Hub, as soon as possible within the project process and explicitly prior to site handover.

While some test cases have been cited within these documents as examples, the list is not exhaustive, and all appropriate test procedures shall be formulated, approved prior to testing and testing shall be performed by the client system administrators before full acceptance can be signed off by the Director of ICT Infrastructure Hub.

**IMPORTANT:**

*Any departure from the standard, whether intentional or in error shall require a completed Departures Document to be submitted to DSD infrastructure 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 review high level

(to review detailed document updates [click here](#))

Version	Summary of Changes	Author	Date
2020.2.0	Initial document by Critical Systems and Infrastructure Hub. Reviewed by Kevin Landale.	Grant Clark, Pat Premnath, Surya Suresh and Kevin Landale	24/01/2020
2020.2.0 (DRAFT)	Transferred to the latest template. Feedback to the original document.	Nitin Saxena	17/02/2020
2020.2.1	Formatting updates following peer review. Released version.	Nitin Saxena	13/03/2020

## Document references

Document	Version	Location
ST-05 Communications Room Standard – Building Infrastructure and ICT requirements		Internal DSD Folders

## Document default review cycle

(to be review every 12 months from the release date)

Date	Version	Comments
Mar 2020	2020 2.1	Original release date
Mar 2021		(Next review date)

## Document Owner

Name	Location
Senior Director, Critical Systems & Infrastructure Hub	Technology Operations, DSD, ACT Health Directorate

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# 1. Document Purpose

## 1.1. Context and background

The Canberra Hospital and its satellite sites provide inpatient and outpatient services to the residents of the Australian Capital Territory (ACT). These facilities are supported by advanced clinical and non-clinical systems to assist clinical staff in providing enhanced patient care to their consumers.

The Nurse Call system is a non-clinical system utilised by both patients and staff to enact time critical workflows. These workflows range from simple calls generated by patients when in need of a nurse, to emergency calls raised by clinical staff when a patient's health deteriorates rapidly.

Due to the criticality of the situations that the system is used in, the Nurse Call system is classified as a **Government Critical** system by ACTHD and CHS.

This document forms part of a suite of documents that describe ICT specifications for the ACTHD support systems. It provides the Nurse Call Systems ICT Specifications applicable to the green-field and refurbished brown-field sites.

## 1.2. Purpose

The purpose of this document is to provide a minimum set of standards which must be met by the nurse call vendor who is tendering for work at ACTHD and CHS sites.

The document will be used to guide both the nurse call vendor and ACT Government staff involved in the assessment and procurement of a nurse call system.

The tendering nurse call vendor will use this document to identify the minimum set of requirements that needs to be met by their system to propose a solution for ACT Health. The ACT Government staff reviewing the tendered Nurse Call System proposal will use this document to evaluate the benefits and risks of deploying a proposed Nurse Call solution.

## 1.3. Vendor Requirements

The head contractors, vendors or their representatives must review these specifications and provide a Departures document for any non-compliance with these specifications. The Departures Document will be reviewed and must be accepted by the Critical Systems and Infrastructure team within the ACTHD before a system can be procured.

The Departures document must be provided prior to the procurement of the system.

## 1.4. Assumed knowledge and document dependencies

Relevant documents are mentioned in References section of the document.

## 1.5. Disclaimer

The following document is by no means intended to cover all the comprehensive business requirements for the system. Additional business or operational requirements will be presented in project specific documentation such as Business Requirements Specifications, Solution and Detailed designs.

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## 2. Executive summary

The specifications provided in this document are based on standardising the architecture and integration for the Nurse Call systems across all ACTHD and CHS sites providing the building blocks for a consistent implementation of this system at Health sites across the Territory. Additionally, it provides the benefit of installations that have standardised configurations within the Directorate, enabling reusable patterns and repeatable system implementations. The consistent architecture shall minimise the risks associated with ongoing support for disparate implementations, simplifying the installations whilst reducing the ongoing maintenance costs.

The Nurse Call System provides management, communication and response to events for the patient and consumer care. The Nurse Call System allows a patient, consumer, staff or member of the public to remotely alert clinical staff or other health care professionals of a need for assistance. The system will comply with the architecture principles such as high level of availability, ability to integrate with other systems, Ethernet based connectivity and adherence to a two-tiered architectural model.

The network infrastructure implemented to support ACTHD critical systems follows the Medical Grade Network (MGN) architecture. The MGN architecture can be summarised as modular, Highly Available (HA) and resilient network which minimises the impact of a network component failure on ACT Health hosted systems. Additionally, the architecture chosen provisions enough capacity to allow for future growth and changes in technologies and the infrastructure supporting ACT Health operations.



## 3. Nurse Call System Components

The Nurse Call system consists of several components that allow it to perform the various tasks and workflows required by the clinical staff and the patients. Different Nurse Call systems have several sets of components depending on the architecture that the system is built upon. Regardless of the architecture, there are some components that are similar in all Nurse Call systems. The below list provides a minimum subset of components that are present in most Nurse Call systems

### 3.1. Head-End Servers

The Head-end servers are the heart of the Nurse Call system. The servers reside in the Data Centres or Communication Rooms. The servers are essential for various core functionality within the system. In most cases, the servers are used for programming, monitoring, logging and interfacing with third party systems.

The Head-end servers are expected to be deployed in a highly available model, whereby a set of primary and secondary systems will be provisioned. The servers must be capable of being deployed in geographically disparate locations. These servers/appliances will support several buildings and must be in separate data centres in geographically disparate locations.

### 3.2. Field Devices

#### 3.2.1. Nurse Call Buttons

The Nurse Call buttons are customisable Human Interface Devices (HID) that are available in a variety of formats for staff and patients to initiate workflows within the Nurse Call system.

The Nurse Call buttons may be connected in series to form a chain of consecutive buttons or set up individually.

These devices preferably should be IP based where they are directly connected to a network switch and powered via Power over Ethernet (PoE)/alternative power or connect back to a proprietary consolidation point.

#### 3.2.2. Nurse Call Handsets

The Nurse Call handsets are an extension of the Nurse Call system. They provide an easily accessible option for patients in beds to call for assistance using the provided buttons on the handsets or the voice capabilities where applicable.

The Nurse Call handsets come in several varieties:

- A simple handset with only a Nurse Call button;
- A basic handset with a Nurse Call button and basic television controls; and
- A complex handset with several Nurse Call workflows and multifunction controls to navigate menus.

The Nurse Call handset also supports other functionality that assists the patients such as providing a small torch light, headphone jack to plug in headphones, etc.

### 3.2.3. Indicator Lights

The indicator lights are customisable colour coded lights utilised by clinical staff to quickly identify the location of a nurse call, staff assist or emergency.

When a call is initiated by pressing a nurse call button, the corresponding indicator light at the bed (in a multibed setting) and/or the indicator light above the entrance to room where the call was initiated from lights up in a colour that corresponds to the call type. When the call is cancelled, all corresponding indicator lights will stop illumination associated with the cancelled call.

The indicator light will always illuminate with the highest priority call.

### 3.2.4. Annunciators

Annunciators are visual indicators that serve as the first and primary means to locating a call raised within an area in most cases. Annunciators come in a Light-emitting Diode (LED) format or a Liquid Crystal Display (LCD) format.

The LED variant are single line displays that support 2 to 4 colours and calls are displayed on them using the colour corresponding to the active call.

The LCD variant support the display of multiple calls at the same time with the highest priority call displayed at the top of the list of calls.

### 3.2.5. Workflow Terminals

Workflow terminals are small touch screen devices that can be used in place of buttons to initiate multiple non-standard workflows from a fixed location. These workflows could include bed clean, room clean, nurse rounding, etc.

For the purposes of this document all requirements that relate to buttons would relate to workflows initiated from these terminals.

## 3.3. Exceptions and Exemptions

Any departure from the above Nurse Call components, shall only be accepted when a full assessment of the system has been completed by DSD and has been demonstrated to provide an acceptable alternate architecture model after technical, operational and risk assessments have been satisfied.

A Departure document must be completed by the head contractor and provided to DSD for assessment prior to proceeding with the implementation of the system at the site.

The existing systems will not be required to undergo an assessment, unless they are not compliant with the system components outlined in this document.

## 4. System Specifications

### 4.1. Basic Nurse Call Workflows

The nurse call system must provide the following workflows as a minimum:

- Nurse Call;
- Nurse Presence;
- Staff Assist;
- Emergency;
- Code Blue; and
- Cancel.

These call types and their requirements are summarised in appendix Coding. Nurse Call

A workflow where a patient initiates a call from their patient handset or Nurse Call button to request assistance from a clinical staff member. This will in turn activate the indicator light above the bed and outside the room, produce an audible tone based on the call type and display the location and call type on an annunciator.

#### 4.1.1. Nurse Presence

A workflow where a clinical staff member indicates that they are currently in a patient room attending to a patient by pressing the nurse presence button. This will then activate the indicator light and display the location and call type on an annunciator.

#### 4.1.2. Staff Assist

A workflow where a clinical staff member requests assistance from another clinical staff member in a non-urgent situation by pressing the staff assist button. This will then activate the indicator light, produce an audible tone and display the location and call type on the annunciators across the ward/floors/buildings based on the operational requirements of the clinical areas.

Note that the audible tone for a staff assist call will be more frequent than a nurse call.

#### 4.1.3. Emergency

A workflow that is activated by a staff member in an urgent situation where a patient's condition is deteriorating. The call is activated by pressing the emergency button which in turn activates the indicator light, produces an audible alert tone and displays the location and call type on the annunciators across the ward or the floor based on the requirements of the clinical areas.

Note that the audible tone for an emergency call is more frequent than a staff assist call.

#### 4.1.4. Code Blue

A workflow that is activated when an urgent response is required from the Medical Emergency Team (MET) in a critical situation for a deteriorating patient. The code blue button is activated for the ward when a clinical staff member presses the central code blue button in the ward. This activates an indicator light, produces an audible tone and displays the call type across multiple annunciators. In addition, the nurse call system will send out a message to the hospital Message Integration Engine (MIE) via a High-level Interface (HLI) stating the call type and location.

#### 4.1.5. Cancel

The cancel workflow acts as a reverse workflow for all previously listed workflows. The cancel function is initiated by pressing the cancel button located on each of the previous buttons when the activated call needs to be cleared. When pressed, the cancel workflow will turn off the indicator lights, disable the audible tone and clear the notification from the annunciators.

The standard workflow requirements for various types of rooms is available in Appendix Standard Layouts.

### 4.2. Availability

The system must support geo-redundancy where highly available pair of head-end servers must be installed in geographically separate Data Centres. ACT Government data centres include The Canberra Hospital (TCH) and Hume Data Centres.

The system must support high availability at the server level if it requires the use of central head-end servers for key functions such as monitoring, logging or third-party interfacing.

The servers must support automatic failover from the primary server to a secondary server and support manual fail back. If the servers are identical and set up in an active-passive configuration, the system must support automatic failover from the current active server to the passive server.

The Nurse Call vendor must provide failover times for their systems. The failover time is measured as the time it takes for the system to restore all services on a secondary or standby server (it is not the time taken for the server to be available on the network or for it to finish re-booting).

### 4.3. Hardware Installation, Power and Wiring

All server and non-field devices must be rack mountable in an ACT Government provided lockable 19" rack.

All equipment to be mounted in a 19" rack must support dual power input for redundant power feeds into the device. These devices must be capable of automatically switching between the two power inputs without any loss of functionality. If the device does not

support dual power inputs, the power draw of the device needs to be provided to source an appropriate Automatic Transfer Switch (ATS).

All equipment connected to the ACT Government network switches must use structured cabling that complies with the ACT Government cabling standards as stated in **ST-05 Communications Room Standard – Building Infrastructure and ICT requirements**.

## 4.4. System Functionality

4.4.1 The system must be able to initiate the following workflows as described in 4.1 Basic Nurse Call Workflows.

- Nurse Call;
- Nurse Presence;
- Staff Assist;
- Emergency Code; and
- Code Blue.

For full details of each workflow, please refer to in the [Appendix B – Basic Nurse Call Workflows](#).

4.4.2 The system must be capable of deploying additional customised workflows as required by ACT Health.

4.4.3 The system must provide the patients with the ability to initiate a Nurse Call workflow using a wired Nurse Call handset/pendant.

4.4.4 The system must provide the ability to stand down a workflow from any specified location in the campus.

4.4.5 The system must provide the ability to stand down a Nurse Call when a Staff Presence is initiated for the same location.

4.4.6 System must have the capability to escalate a call to an external system, such as MIE/Security Systems or an annunciator, within the system in the event of a non-answered call. This time period must be configurable within the system software.

4.4.7 The Nurse Call system components including Call Points, room indicator lights and Zone Sounders must be capable of performing their essential functions locally within the clinical area if connectivity to the Head-end system is compromised (often referred to as 'Lifeboat Mode').

4.4.8 Indicator lights must have customisable light colours to indicate various workflows. At a minimum, the indicator lights should support the following 4 colours: Green, White, Yellow and Red.

4.4.9 System must incorporate varying levels of call priority that is customisable and programmable based on operational requirements.

4.4.10 Flash rate of indicator lights where available should be programmable.

4.4.11 The system should provide the ability to configure tones and volume of sounders based on the type of workflow initiated.

- 4.4.12 System can accommodate for hot swapping of Call Points.
- 4.4.13 System must have tamper proof Call Points for special installations in operational areas such as mental health, protective areas and/or secure units.
- 4.4.14 All user programmable functions and system settings must be stored in non-volatile memory.
- 4.4.15 The system should provide annunciator displays with configurable display screens based on workflows initiated.
- 4.4.16 Annunciators must display the current Network Time Protocol (NTP) synchronised time when there are no calls listed on them.
- 4.4.17 LCD annunciators should display the current NTP synchronised time even when there are calls listed on them.
- 4.4.18 LCD annunciators must be capable of displaying customisable backgrounds.
- 4.4.19 System must not have a limitation on the number of simultaneous voice calls.
- 4.4.20 System must always display the high priority calls on the annunciators and not cycle through all the calls raised in the wards.
- 4.4.21 The system must have the capability to display calls on any specified annunciator within the system.
- 4.4.22 Location identifiers within the system must be fully customisable.
- 4.4.23 All end devices must be programmable centrally via the head-end server or over the network and must not require physical attendance at the location to connect to the device to program the device.
- 4.4.24 The system must not have any limitations due to the restriction of layer-2 broadcasting between the buildings at ACTHD and CHS.
- 4.4.25 The system must be capable of initiating a workflow if the Nurse Call pendant or handset is disconnected from the wall socket.
- 4.4.26 If the system has end devices daisy chained in a series on a single data connection, a fault in a device in the chain must not impede the functionality of the other devices in the chain.

## 4.5. System Integration

- 4.5.1 The system must be capable of integrating with 3rd party systems using both high-level and low-level interfaces to send and receive data.
- 4.5.2 The system must be capable of using the following protocols to send data out:
  1. Simple Message Transfer Protocol (SMTP);
  2. Tele locator Alphanumeric Protocol (TAP);
  3. Health Level 7 (HL7); and
  4. ASCII Strings.

- 4.5.3 The system must be capable of interfacing with the ACT Government NTP server to synchronise the system clock of all components of the Nurse Call system which supports any time functionality.
- 4.5.4 The system must be capable of interfacing with the Hospital Digital Addressable Lighting Interface (DALI) via a high-level or low-Level interface for lightning control at the patient bed.
- 4.5.5 The system must be capable of interfacing with the ACTHD IP Television (IPTV) system to control the televisions at the patient bed. The television integration must support the following functions:
  - 1. Turning the television on and off;
  - 2. Increasing and decreasing the channel volume;
  - 3. Moving backward and forward through the television channels; and
  - 4. Any navigational functions used to navigate through the television menus.
- 4.5.6 The system must be capable of integrating with the ACTHD MIE;
- 4.5.7 The system must cater for integration with 3rd party equipment at the patient bed to provide for additional ways to initiate custom workflows such as bed exit sensors, bed wetting sensors and so on.
- 4.5.8 The system must be capable of integrating with the hospital Patient Administration System (PAS) via HL7 to pull or receive basic data.

## 4.6. System Monitoring

- 4.6.1 The system must continuously monitor all end devices (Nurse Call buttons, indicator lights, annunciators, workflow terminals, etc) and report any faults with these devices immediately to the system's monitoring application.
- 4.6.2 The maximum time taken to detect a fault within the system must not exceed 10 seconds.
- 4.6.3 The monitoring application must be capable of detecting devices that have lost their configuration or have corrupted configuration and raise this as a device fault.
- 4.6.4 If the end devices are connected in a daisy chain over a single data connection, the monitoring application must be capable of identifying the exact unit that carries the fault.
- 4.6.5 The system's monitoring application must be capable of initiating a workflow to inform local staff of a fault with an end device as determined by ACTHD and be capable of displaying this on specified annunciators.
- 4.6.6 The system's monitoring application must be capable of initiating a workflow to inform local staff when the secondary server assumes the role of the primary server.
- 4.6.7 The system's monitoring application must be capable of sending messages via the 3rd party interfaces when there is a system fault including exact information of the device that is at fault, type of fault and time of fault.
- 4.6.8 System should indicate when a loss in communication occurs with integrated 3rd party systems such as telephone system, NTP server, MIE etc.

## 4.7. System Logging and Reporting

- 4.7.1 System must incorporate software to record all calls and systems errors.
- 4.7.2 All log entries must be timestamped with the time acquired from the ACT Government NTP servers.
- 4.7.3 The system must be able to generate customisable reports filtered by any combination of the following. Note that this is not a comprehensive list of all the filters and are included as a minimum criterion.
  - 1. Location of call (ward level reporting);
  - 2. Call types (hospital or ward level reporting);
  - 3. Call duration (hospital or ward level auditing report); and
  - 4. System faults (system wide fault/audit report).

## 4.8. System Configuration Requirements

### 4.8.1 Hardware

There is a requirement within the Shared Services ICT (SSICT) to provision all systems, where available, on virtual systems.

The head-end appliances shall be capable of running on virtual platforms as a first preference. However, physical appliances will be acceptable in the event the system cannot be supported on virtual platforms.

### 4.8.2 Software and Licensing

An enterprise approach should be followed for the licensing requirements. The vendors should provide the ACTHD with the licensing requirements for their systems.



# 5. Vendor Requirements

The following requirements are expected to be supported by the Nurse Call system.

## 5.1 Installation Support

The Health Critical Systems have an element of complexity that necessitates suitable planning for the installation, configuration, integration with other systems and testing. These systems also include several vendors that need to be coordinated to achieve optimal implementation results and the completion timeframes.

The vendor must identify and document the implementation plan including:

- Installation and configuration processes;
- Rollback process;
- Mechanisms for integration with other systems;
- Tools available to verify the system implementation;
- Tools available to assist in system fault diagnosis;
- Processes to upgrade the system software; and
- Processes to upgrade and/or replace hardware.

## 5.2 Detailed Design

A detailed design shall be prepared and submitted four weeks prior to installation of the solution. The design should provide and document all system and connectivity details to enable DSD Infrastructure solutions architect to review and incorporate the information in Conceptual design. Additionally, this information should include enough content for Whole of Government (WHoG) change management approvals.

At the completion of Operational Commissioning, the design document incorporating as-built information must be provided to DSD. All drawings for the system must be provided in both PDF and CAD (if appropriate) format. The documentation must be stored in the Operational Maintenance Manuals (OMM) on completion of the project.

## 5.3 Training

The Health Critical Systems are implemented with an objective that these systems will assist staff with the quality of care they provide to consumers. This implies that in addition to installing, customising and testing the systems, it will be necessary to have relevant core processes and procedures in place to achieve the expected results. Therefore, staff will need training in the use of the systems that will be installed at the site.

The vendor must identify and document the following:

- Initial user training requirements to effectively use the system;
- Initial system administrator training requirements to effectively manage the system;  
and
- The amount of ongoing training for the users and system administrators.

## 5.4 Backup and Recovery Capability

There is mandatory requirement for having consistent and reliable backups for the systems. The systems shall backup key information for recovery purposes in the event of a catastrophic appliance failure. The scope for the backups includes, but is not limited to the following:

- All the folders, files and databases required to recover the system to a state prior to the appliance failure;
- System configuration files;
- System log files; and
- Operating system.

The vendor must identify and document the following:

- The information that must be backed up for system recovery following a catastrophic failure of the system appliance;
- The frequency of the backups;
- Whether full backups or incremental backups will be completed;
- How the system will be recovered from the data that has been backed up; and
- The length of time taken to recover the system from the backup data and for the system to be ready for production.

# Appendices

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## Call Types and Colour Coding

Call Type	Indicator Light	Audible Sound*	Annunciator
Nurse Call	Light Green Solid	Yes	Call location on a Light Green background
Nurse Presence	Dark Green Solid	No	Call location on a Dark Green background
Staff Assist	Yellow Flashing	Yes	Call location on a Yellow background
Emergency	Red Flashing	Yes	Call location on a Red background
Code Blue	Blue Flashing	Yes	Ward name on a Blue background

\* - Audible tones must be customisable. Base tones need to match the AS3811 standards.

# Call Types and Colour Coding



## Standard Layouts

	Patient Call	Staff Assist	Emergency	Patient Call Pendant	Bed Indicator Light	Door Indicator Light
<b>Single Bedroom</b>	1 x Service Panel	1 x Service Panel	1 x Service Panel	Required	Not Required	Required
<b>Multi Bedroom</b>	1 Per Bed	1 Per Bed	1 Per Bed	1 x Per bed	Required	Required
<b>Bedroom Ensuite</b>	Toilet x 1	1	1	Not Required	NA	Required
	Shower x 1					
<b>Treatment/Procedure Room</b>	1	1	1	Optional	NA	Required
<b>Consultation Room</b>	Not Required	1	1	Optional	NA	Required
<b>Family/Visitor Room</b>	Required	Required	Required	Not Required	NA	Required
<b>Toilet</b>	Required	Required	Required	Not Required	NA	Required

## References

Following is a list of Standards applicable at the time of writing this document. However, it is incumbent on the vendors to use and comply with the latest Standard in each category prior to system implementation.

- AS/NZS 3000:2000 - Electrical Wiring Regulations (AUS/NZ);
- AS 3200.1.1990 - Medical Electrical Equipment Part 1 General Requirements for Safety;
- AS 3811 - Hard wired patient alarm systems;
- AS-3902 part 2 – Quality Assurance;
- AS 4252.1.994 - EMC General Emission Standards;
- IP65 Certification for stations used in ensuite and common bathrooms;
- Restriction of Hazardous Substances in Electrical and Electronic Equipment (RoHS);
- EN50082-1 Electromagnetic Compatibility – General Immunity Standard;
- UL 1069 - Hospital Signalling and Nurse Call Equipment;
- C-Tick Electromagnetic Compatibility;
- The supplier should be ISO9001 Certified – Quality Management System; and
- Any other Australian Standards, not listed above, that are relevant to this system.

## Abbreviated terms and definitions

Term	Definition
ACT	Australian Capital Territory
ACTHD	ACT Health Directorate
ATS	Automatic Transfer Switch
CHS	Canberra Health Services
DALI	Digital Addressable Lighting Interface
HA	High Availability
HID	Human Interface Devices
HL7	Health Level 7
HLI	High Level Interface
ICT	Information and Communications Technology
IP	Internet Protocol
IPTV	Internet Protocol Television
LCD	Liquid Crystal Display
LED	Light Emitting Diode
MET	Medical Emergency Team
MGN	Medical Grade Network
MIE	Message Integration Engine
NTP	Network Time Protocol
OMM	Operations Maintenance Manual
POE+	Power over Ethernet Plus
SMTP	Simple Message Transfer Protocol
TAP	Telelocator Alphanumeric Protocol
TCH	The Canberra Hospital

**Table 1: Glossary**

Note: other terms not listed here can be found in the Shared Services ICT Glossary of Terms.

## Amendment history

Version	Author	Summary of Changes	Date
1.4	Raj Mohan	Template update	26/04/2018
1.5	Raj Mohan	ACT Health template	19/11/18
1.6	Andrew Heldon	Minor changes to several section	26/11/18
1.7	Raj Mohan	Document name change	26/04/2018
2020.2.0	Grant Clark, Pat Premnath, Surya Suresh and Kevin Landale	Initial document by Critical Systems and Infrastructure Hub. Reviewed by Kevin Landale.	24/01/2020
2020.2.0 (DRAFT)	Nitin Saxena	Transferred to the latest template. Feedback to the original document.	17/02/2020