



Medical Imaging WA Picture Archive and Communications System Downtime Procedure

1. Guiding Principles

Effective: 27 October 2020

A Radiology Information System (RIS) is the administrative element of PACS/RIS that manages the scheduling of patient imaging, examination coding required for billing and the storing of request forms and reports. A Picture Archive and Communication System (PACS) is the application that displays the results of a patient's imaging records and also stores the radiological reports on these examinations.

Numerous metropolitan public hospitals in Western Australia utilise a PACS/RIS provided by Agfa Healthcare known as WAPACS, and this system is frequently used as a temporary or permanent repository for images performed in imaging departments outside Perth based public hospitals where a need exists for patient imaging examinations to be accessible on WAPACS. Reasons for this may include but are not limited to inter-hospital patient transfer (IHPT), subspecialist/specialist medical opinion, previous image comparison or outpatient presentation to a public hospital for imaging or treatment.

WA Country Health Service (WACHS) hospitals utilise various PACS/RIS and the diagnostic imaging examinations performed in WACHS sites are archived on the appropriate PACS/RIS for the given site or region. Access to these PACS is restricted however medical imaging studies archived on these various PACS may be transmitted to WAPACS as required to facilitate the viewing of these studies by metropolitan based clinicians and assist in patient management.

This procedure outlines the impact of a disruption or failure of WAPACS PACS/RIS and the associated workaround (downtime) procedure for key personnel to undertake to facilitate the viewing of diagnostic images performed in WACHS sites without the ability to transmit images to WAPACS for viewing. Included below is the projected maximum PACS/RIS downtimes and key performance indicators for the PACS utilised by WACHS regions for the primary storage, viewing and reporting of radiological studies.

Imaging providers

In WACHS, PACS/RIS support/infrastructure is currently provided by four main providers:

1. Apex Radiology provides radiological reporting and PACS/RIS to the Kimberley, Goldfields, Pilbara, South West and Wheatbelt regions. Apex is required under various contracts to have full disaster recovery systems operational within four (4) hours of failure, 24 hours per day, 365 days per year. Apex are also required to provide contingency frameworks and business continuity planning in case of PACS/RIS and Information and Communications Technology (ICT) failures which is available through each site's Medical Imaging department.

2. Great Southern Radiology (GSR) provides full radiological support and PACS/RIS to Albany Health Campus and reporting services and PACS/RIS to Katanning Hospital and various X-ray Operator (XRO) sites within the Great Southern region. GSR is required under HCNS324310A to have full disaster recovery systems operational within 4 hours of failure, 24 hours per day, 365 days per year. GSR are also required to provide contingency frameworks and business continuity planning in case of PACS/RIS and ICT failures which is available through each site's Medical Imaging department. A GSR RIS failover recovery time is projected to be approximately 15 minutes, with a full PACS disaster recovery failover possible in approximately one (1) hour.
3. Geraldton Radiology (GXR) provides radiology reporting services and PACS/RIS to the Midwest sites of Geraldton, Carnarvon and Exmouth. GXR is required under HCNS121315 to have full disaster recovery systems operational within 4 hours of failure, 24 hours per day, 365 days per year. GXR are also required to provide contingency frameworks and business continuity planning in case of PACS/RIS and ICT failures which is available through each site's Medical Imaging department.
4. Geraldton Hospital (GH) has its own dedicated PACS supplied by Carestream Health with reporting services provided under HCNS121315 by GXR. The WA Health Agfa RIS has a projected failover recovery time of 90 minutes. The Carestream PACS utilised at GH has a service level agreement requiring a guaranteed 97% uptime.

All radiology contractors operating in WACHS provide 24 hour radiological support and reporting services.

In smaller hospitals, approved XROs may undertake a limited range of basic radiographic examinations where basic diagnostic radiography would not otherwise be available; these plain x-rays are interpreted by an on-site doctor or emergency telehealth doctor and reported by a contracted reporting provider at a later date.

RIS disruption

No WACHS regions utilise the Agfa RIS as such there will be minimal impact at sites due to a WAPACS Agfa RIS failure

WA PACS disruption

All official radiological reporting and archiving of images in all WACHS regions would be unaffected by a failure of WAPACS as all reporting and primary image review is performed using systems other than WAPACS.

A disruption to WAPACS will impact on clinicians who are seeking advice from metropolitan hospital clinicians or specialists regarding the management of a WACHS patient who, in order to give advice, may need to be able to review patient images on WAPACS itself. In the event of a WAPACS disruption, WACHS performed images will be unable to be transmitted to WAPACS for viewing at a metropolitan site.

A failure of WAPACS will also affect the ability of WACHS and metropolitan based clinicians to view historical images stored on WAPACS, such as images of patients repatriated or having had previous treatment at a tertiary centre. There will also be an inability for historical images on WAPACS to be transmitted to other PACS (eg Apex PACS) used by WACHS reporting radiologists for comparison purposes.

Network/Internet Disruption

A disruption to the network may cause localised or network wide disruption to image transfer and reporting arrangements depending on the proximity to the PACS/RIS system – the disruption may occur within the Department of Health network, a private imaging provider's network or a network under control of a Telecommunication provider.

2. Procedure

WAPACS disruption

When images cannot be transmitted from to WAPACS, non-WACHS clinicians will require direct access to the primary archive PACS (e.g. Apex, GSR, GXR PACS) or another PACS where the images have been transmitted.

WACHS sites must transmit patient images to GH's Carestream PACS for review by non-WACHS clinicians during any WAPACS downtime. Non-WACHS clinicians will require at a minimum, a PC with an internet connection and relevant PACS log in access. Apex Connect, GXR PACS and GSR PACS may be accessed inside and outside the WA Health Network via a thin client viewer, or via a thick client installed on the PC being used. To access Carestream PACS (and WAPACS) via the relevant thin client viewers the PC used must be connected to the WA Health network.

In the case of a failure of WAPACS/inability to transmit studies performed in WACHS to WAPACS, the following procedure is to be followed to enable image review for offsite clinicians:

1. All WACHS Medical Imaging departments are to ensure any radiological studies that are required to be viewed by metropolitan based clinicians are transmitted to the Geraldton Hospital Carestream PACS either via a Centricity or Voyager workstation, or the external provider's PACS utilised in the specific region. All radiological images performed at GH are archived on GH Carestream PACS by default.
2. WACHS Medical Imaging Technologist (MIT), prior to contacting GH PACS Support below, are to verify the activation of the Carestream Failover account by typing **10.56.108.20** into the address bar of Internet Explorer using a WA Health PC, log in details are in the table below. Should this log in be unsuccessful, refer to step 3 below.
3. WACHS MIT to request the activation of the WAPACS failover account for Carestream Vue Motion by contacting GH PACS Support on 08 9956 2278 (0800-2400 hours) or 08 9956 2222 (0000-0800 hours) and ask to speak to the on-call MIT.

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4. GH PACS Support and/or WACHS MIT to email WACHS Area Chief MIT to notify of the activation of the Carestream Failover account.
5. The PACS log in details for clinicians in metropolitan or other WA Health public hospitals to access the PACS for WACHS regions will be as follows:

PACS	WACHS regions/site where examination was performed	Access	**Username	**Password
GH Carestream	All	Using Internet Explorer type 10.56.108.20 into the address bar, select "Vue Motion"	GHPACS	GHPACS
GXR	Midwest – Carnarvon and Exmouth Hospitals only	Midwest clinicians with a Zedlink account may share via email specific patient studies using current permissions and these studies can be viewed online.	Midwest clinician access already available	
Apex	Wheatbelt, Pilbara, South West, Goldfields, Kimberley	https://connect.apexradiology.com.au/	TBC if required	TBC if required
GSR	Great Southern	https://pacs.gsrاد.com.au	TBC if required	TBC if required

**** Username and passwords are CASE SENSITIVE**

6. The Area Chief Medical Imaging Technologist is to notify GH PACS to deactivate the Carestream Failover account at an appropriate time following the recovery of WAPACS.
7. GH PACS Support to permanently delete unvalidated external studies originating from other WACHS sites at an appropriate time following the recovery of WAPACS.
8. WACHS MITs to transmit examinations to WAPACS as needed following the system's recovery.

9. If the transmission to and review of images on GH Carestream PACS is not possible during a WAPACS downtime, the Area Chief Medical Imaging Technologist, or Executive Director of Medical Services are able to authorise the activation of emergency failover PACS accounts for GSR and Apex through the respective providers. Log in details for these accounts will be provided for these accounts if necessary.

3. Definitions

Picture Archive and Communication System (PACS)	An application that displays the results of a patient’s imaging records and also stores the radiological reports on these examinations.
Radiological Information System (RIS)	The administrative element of PACS/RIS that manages the scheduling of patient imaging, examination coding required for billing and the storing of request forms and reports
WAPACS	The PACS/RIS system utilised by Metropolitan public hospitals
Carestream PACS	The standalone PACS used by Geraldton Regional Hospital
Carestream Vue Motion	The internet based Carestream PACS thin client viewer accessible by computers only from within the WA Health network by typing 10.56.108.20 into the Internet Explorer address bar and selecting “Vue Motion”
Apex PACS/ Apex Inteviewer	The “Inteviewer” PACS utilised by regions with reporting services provided by Apex, namely the Kimberley, South West, Wheatbelt, Pilbara and Goldfields
Inteviewer	The application/program that can be used to gain access to Apex PACS and GSR PACS. This application IS NOT deployed on every computer within WA Health but is widely available.
GSR PACS/ GSR Inteviewer	The “Inteviewer” PACS utilised by hospitals within the Great Southern Region with reporting services provided by Great Southern Radiology. GSR Inteviewer can be accessed via the internet by individuals with an access account at https://pacs.gsrاد.com.au
Apex Connect	The internet based thin client viewer for Apex PACS accessible by individuals with an access account at https://connect.apexradiology.com.au
GXR PACS	The PACS provided by Geraldton X-ray and currently used by Carnarvon and Exmouth Hospitals accessible by individuals with an access account at https://zedlink.geraldtonradiology.com.au
Modality	A diagnostic imaging machine – e.g. x-ray unit, CT scanner
PACS Administrator	A MIT or other trained person with knowledge and understanding of PACS/RIS

4. Roles and Responsibilities

WACHS Regional Directors and Operations Managers must ensure relevant staff are familiar with the contents of this Procedure.

The **WACHS Area Chief Medical Imaging Technologist** must assist with activation and deactivation of any specific emergency GSR and/or Apex PACS accounts required and created in the case of a WAPACS failure.

The **WACHS Executive Director of Medical Services** is to provide back up to the Area Chief Medical Imaging Technologist as necessary to activate and deactivate any GSR and/or Apex PACS accounts required in case of a WAPACS failure.

Medical Imaging Technologists working in WACHS sites must be familiar with this Procedure, follow downtime procedures as necessary and provide advice and assistance to WACHS and other WA Health/contracted staff as needed in order to maintain patient care.

WACHS Medical Officers must be familiar with this Procedure and be able to instruct clinicians outside of WACHS regions how to access patient images on the Carestream Vue Motion as per access details in contained within Appendix 1. Medical Officers must be aware of the impacts of a WAPACS failure as relates to their duties.

X-Ray Operators are to ensure x-rays they perform are transmitted to the relevant PACS for their site/region and that these images are available to WACHS or Emergency Telehealth Service doctors. XROs are to seek advice from their relevant supervising MIT with any queries relating to a WAPACS failure.

All Staff are required to work within policies and guidelines to make sure that WACHS is a safe, equitable and positive place to be.

5. Compliance

Failure to comply with this procedure may constitute a breach of the WA Health Code of Conduct (Code). The Code is part of the [Integrity Policy Framework](#) issued pursuant to section 26 of the [Health Services Act 2016](#) (WAA) and is binding on all WACHS staff which for this purpose includes trainees, students, volunteers, researchers, contractors for service (including all visiting health professionals and agency staff) and persons delivering training or education within WACHS.

WACHS staff are reminded that compliance with all policies is mandatory.

6. Records Management

All WACHS clinical records must be managed in accordance with [Health Record Management Policy](#).

7. Evaluation

Monitoring of compliance with this document is to be carried out by each site's Chief/ Senior Medical Imaging Technologist following each implementation of the procedure through a correction action procedure.

8. Standards

[National Safety and Quality Healthcare Standards: 1.7, 1.10](#)

9. Legislation

Nil

10. References

Nil

11. Related Forms

Nil

12. Related Policy Documents

Nil

13. Related WA Health System Policies

Nil

14. Policy Framework

[Risk, Compliance and Audit Policy Framework](#)
[Information Management Policy Framework](#)
[ICT Policy Framework](#)

**This document can be made available in alternative formats
on request for a person with a disability**

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