

Reference	Section	Programme	High Level Recommendation	NR capital (year 1) /£k	Recurrent capital /£k	NR revenue (year 1) /£k	Recurrent revenue /£k	Relevant sub recommendations	Management Response (if funded)	Management Response (if not funded)	Priority	Status
8.1	Summary	Inf_Rev	The upgrading / replacement of end-of-life network switches and Wi-Fi networking. This should also include resolving any coverage and performance issues with the Wi-Fi network, and the introduction of enhanced network security using Network Access Control (NAC).	1500	1200	0	0	A significant capital project is therefore required to replace / upgrade the current equipment. It must also be noted that because of the sheer size / complexity of this, any such upgrades will take a number of years to complete. It is also recommended that additional resources are brought in from a suitable third party to assist with some / all of the upgrade works. To support the new network a programme of upgrades to the current IT comms rooms and IT cabling infrastructure are also required. The new network / infrastructure at each of the three acute hospital sites should be based on the following design principals: · Two diversely located core network locations, located in different parts / wings of the site (to be located as far apart as possible.) · A network core that is split in two between the two core network locations. · 10gb uplinks from each edge switch stack to each network core location. · Dual resilient PSBA connections terminated one each at the separate network core locations (ideally following a separate cable route onto site and provided by a different telco if possible.) · The new network should be protected where possible with Network Access Control (NAC) or other	Requires the staff identified in section 8.4, to undertake the rolling replacement of the aged, end of life network components. This will address ongoing performance issues, and also reduce the risk of non-compliance with NIS-D and the consequent potential for significant fines and loss of organisational reputation.	The organisation will need to accept the risk of operating critical services over legacy, end of life network infrastructure, and accept the fines that result from non-compliance with regulations such as NIS-D. Service disruption could include loss of access to digital resources, for varying timescales, and consequent loss of confidence and reputation.	High	On hold
8.1	Summary	Inf_Rev	Complete the detachment of the network and telephony system infrastructure at Bridgend from Swansea Bay.	222	0	0	0	The Swansea Bay detachment of the current Cisco Call manager solution also needs to be undertaken. This has a number of complexities and dependencies that will need to be carefully managed to ensure minimum disruption during the detachment.	Requires the staff identified in section 8.4, to undertake the reconfiguration of the Bridgend telephone network. This is also required to allow the SBU SLA to be ceased, for this service.	The current Bridgend architecture will persist, and there will be no improvements.	High	On hold
8.1	Summary	Inf_Rev	Complete the planned updates to paging systems at all three of the acute hospital sites.	n/a	n/a	n/a	n/a		This was funded during the course of the review from discretionary capital and WG capital (G&FF), to address end of life and other issues. Ongoing costs picked up as cost pressures.	n/a	High	Complete
8.1	Summary	Inf_Rev	Consolidate the existing voice infrastructure in a number of areas such as switchboard consoles and contact centre functionality.	60	0	0	0		Requires the staff identified in section 8.4, to undertake the reconfiguration of the CTM telephone network. This will provide a standard, consistent service across all CTM sites.	The current disjointed architecture will persist across CTM, and there will be no improvements.	High	On hold
8.4	Summary	Inf_Rev	Investment required in additional staff to deliver the recommendations of the Infrastructure Review, as detailed in section 8.4. ***** Note that this does not cover the staffing cost for Citrix realignment and print service reconfiguration *****	0	0	715	715		Allows the department to undertake the improvements required.	In order to undertake the improvements required, other existing work will need to be ceased, to provide that capacity.	High	On hold
8.1	Summary	Inf_Rev	The upgrade / enhancement of location IT comms rooms / IT cabling at all three of the acute hospital sites.	876	696	0	0		This will address the underlying risk of providing services using legacy active and passive network infrastructure.	The underlying risk to service will not be addressed, and a substandard service will persist and get worse.	Medium	On hold

8.1	Summary	Inf_Rev	Adopting a future data centre strategy of a virtual data centre that is spread between PCH and PoW.	0	0	68	68	<ul style="list-style-type: none"> Confirm final pricing / commercial agreement for 10gb site-to-site layer-2 circuits to enable inter-site data replication. Conduct space planning at the PoW data centre, and confirm any remedial works required. It may be that the current data centre at PoW is larger than needed to support the future requirements, so it may be advantageous to reduce the overall size of this room. Once the inter-site links are in place, undertake a proof of concept of stretched cluster using Dell VxRail nodes. Over time as the existing server and storage systems become end of life, expand further the Dell VxRail Cluster. Review and update all IT DR and business continuity plans and processes in line with the new data centre strategy. 	This will allow a more resilient and robust service to be provided from the CTM data centres.	The current architecture will persist.	Medium	On hold
8.1	Summary	Inf_Rev	Conduct a number of Unified Communications Pilots to confirm the most suitable platform for the Health Board to move forward with.	0	0	0	0	Alongside this, it is recommended that the Health Board looks to undertake a number of UC pilots to confirm the most suitable UC platform for future use to enable improved communication across the whole organisation.	Requires the staff identified in section 8.4, to undertake the testing and pilots.	There will be no development and evolution of the current telephony solution.	Medium	On hold
8.1	Summary	Inf_Rev	Drive the reduction of printing where possible and consolidate / re-procure all print devices into a single managed print service contract.	0	0	106	106	<p>As detailed in the previous section, it is recommended that the Health Board looks to drive an overall reduction in printing.</p> <p>It is important that this is not just seen as an IT initiative, but as a high-level business driver that needs to be driven by the Health Board at a senior level.</p> <p>It is therefore suggested that the Health Board establishes a steering group / governance board to drive the overall reduction in printing. The board should have board-level sponsorship and have both senior clinical and non-clinical membership / representation.</p> <p>The remit of the steering group / governance board will be to develop and drive a number of suitable workstreams / initiatives to reduce the overall volume of printing.</p> <p>The use of other technologies such as the complete phasing out of fax machines should also ideally fall under the same group / board.</p> <p>The group should also consider the investment in the bi-directional integration between the Health Board and GP servers and the development of clinical e-forms as part of the unified clinical information approach to replace a number of current workflows that involve printing.</p> <p>Alongside this, it is recommended that all budgets for printing are re-allocated to this steering group to ensure that the right roles and skill sets are in place to support the decline in Citrix.</p> <p>Package all applications in SCCM. This will enable non-IGEL users to be able to gain access to some applications that are only currently available on Citrix. (It is noted that the development of the "fat client" estate has been limited for some years but more focus is now on this area and improvements are already being made, however there is still some work left to do to package all applications into SCCM and / or the base 'fat' image).</p> <p>Develop a suitable user education / training and communications plan to promote the move away from Citrix and ensure that all staff are appropriately trained to adopt new ways of working.</p> <p>During the review it was noted that the Health Board currently uses Citrix for accessing a number of national all-Wales applications. It was noted that this may be reliant on the current Citrix licencing. If there was a reduction in Citrix licencing because of the general reduction in Citrix, this may affect the licencing position for accessing national applications. It was not possible to gain clarity around this situation during the review, so it is recommended that this is investigated further.</p> <p>The Windows devices in the Bridgend locality are currently registered against the Swansea Bay SCCM system. These should be migrated onto the CTMUHB SCCM system so that updated and software development</p>	Reallocation of existing costs, to service a managed print service and other benefits. The staffing resources to enable this is based on 2 x B7 for 2 years.	Will need staffing resource to enable the project, otherwise it won't be achieved.	Low to medium	On hold
8.1	Summary	Inf_Rev	A planned reduction in the use of Citrix and IGEL client terminals over the next 2-3 years.	912	912	100	100	<p>Staffing over and above those identified in 8.4 will be required to enable this. The capital cost is required to replace existing devices. The recurrent element will be essential to drive a lower utilisation of Citrix use in the organisation. There will also need to be a degree of handover to users, to smooth the transition from thin to rich client use.</p>		The current of level of Citrix use will be maintained.	Low	On hold

8.1	Summary	Inf_Rev	Consider resilient PSBA connections for other smaller sites, based on the number of staff / services provided from that site, and the impact on the ability to deliver services from this site in the event of a network failure.							This has not been costed and will require further analysis. At present, the risk is accepted.	This has not been costed and will require further analysis. At present, the risk is accepted.	Low	On hold
8.1	Summary	Inf_Rev	Conduct a review to confirm current telephony extensions that are no longer required and can therefore be ceased.	0	0	0	0			Assumes staff funded from 8.4. Users can be migrated.	The telephony estate will continue in its current state.	Low	On hold