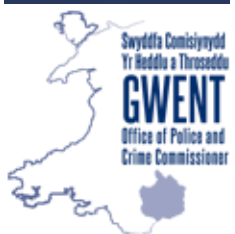
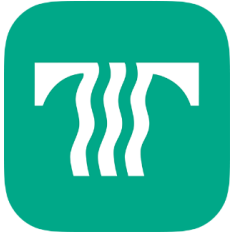




SRS Data Centre Business Case

2020



Mission

To use shared technology platforms to consolidate the demand and broker the supply of all types of services to the Public Sector.

Vision

To be more efficient through the use of technology.

Values

When people are sharing their practice, they add value to the common purpose of the SRS.

Strategic Aim #1

INNOVATING WITH EXPERTS:
improve services to provide a solid foundation upon which partner organisations can operate.

Strategic Aim #2

MODERNISING THE EMPLOYEE EXPERIENCE:
ensure the investment in technology is focused on delivery of the corporate priorities of the partner organisations.

Strategic Aim #3

POWERING UP THE CLOUD:
provide a collaborative platform for public sector organisations to share common ground.



SRS Data Centre Business Case

2020

Audience	List of partners: Blaenau Gwent County Borough Council, Office of the Police and Crime Commissioner Gwent, Gwent Police, Monmouthshire County Council, Newport City Council and Torfaen County Borough Council.
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1. Executive Summary

The SRS Strategy 2020-26 was signed off at the July 21st 2020 Strategic Board and the shared aspirations in the strategy are to move towards cloud based provisions. This means that a reduction in on premise capacity is now a certainty. With a decreasing need for an on premise data centre service and an increasing cost for providing on premise services in Blaenavon, it therefore becomes unaffordable to continue with the current model.

2. Strategic Case

a. Strategic Context

The physical data centre in Blaenavon has been a positive asset to the SRS for ten years and in 2016 and 2017 with the introduction of Blaenau Gwent and Newport respectively to the SRS, two further facilities were added. All partner services delivered out of Blaenavon have been accredited, cost effective and secure for that period.

The world, more importantly technology, has moved on at pace in the last ten years and we find ourselves in a position where others can provide these services over public infrastructure using hyper scale implementations, more securely at a lower cost point.

The original purpose and thinking behind a single, secure, resilient and accredited facility still stands as the right thing to do, even today. However, in our initial outline assessments, the cost to maintain the existing facilities to the current standard is greater than the cost of consuming space in an alternative facility. In addition to this the computer rooms in Ebbw Vale and Newport are both classified as “very high risk” on the Strategic Board’s Risk Register for differing reasons and have different drivers for change compared to Blaenavon.

The purpose of this business case is therefore to document the cost effectiveness of the current combined delivery model and provide options for comparison.



b. Structure of case

This business case has been prepared using the Five Case Model, which comprises the following key components:

- the **strategic case** section sets out the case for change.
- the **economic case** section demonstrates that the SRS has selected the most economically advantageous offer, which best meets the existing and future needs of the service and optimises value for money (VFM).
- the **commercial case** section sets out the content of the proposed deal.
- the **financial case** section confirms future funding arrangements and affordability.
- the **management case** section details the plans for the successful delivery of the scheme to cost, time and quality.

c. “On premise” versus “cloud”

It is important to begin with an explanation of two key terms used throughout this document.

In our context, the phrase “on premise” refers to a set of services delivered from an infrastructure that is installed into a physical data centre or computer room that the SRS partners’ own, in our case Blaenavon, Newport, Ebbw Vale, Fairwater and OPCC HQ. In this model, the infrastructure is typically funded through capital replacement plans and the infrastructure bought is in place for five to seven years and then needs renewing.

In our context, the term “cloud” refers to a set of services delivered from a set of infrastructure that is remote to the SRS, that is set up on massively scaled up basis, that is publicly available and that is shared across many customers yet still secure, accredited and managed by the SRS. In this model, the infrastructure is provided to the SRS, for example Microsoft Azure, and the SRS would manage it in the same way as it does for the on premise infrastructure. The funding mechanism is a revenue charge in relation to the actual usage and requires no capital investment,



i.e. the partners have no assets as they simply pay a subscription cost to access a constantly updated layer of infrastructure.

The Strategic Board direction is clear, the SRS will move from being predominantly “on premise” today to being predominantly “cloud” by 2026. Different services will transition at a different pace based on age, cost and complexity factors of the current applications and infrastructure that each partner has.

A key question has to be, “why not move all services straight to cloud now?”. With the risk categorisation of the services currently delivered from Blaenavon, Ebbw Vale and Newport combined with the age, cost and complexity factors described above in relation to the existing application and infrastructure estate, it is advised that partners should all move to a “safe harbour” first and then transition to cloud services. If there are services that can easily transition to cloud, as the SRS has done with Office 365, then those opportunities will be taken alongside this project.

In summary, what the section above describes, is a see-saw effect, over the period of the 2020-26 strategy, where provision moves from mostly “on premise” to mostly “cloud”.

d. “On premise” Data Centre Specification

SRS partners will always need an “on premise” secure, accredited, centralised location to house shared infrastructure so we need to ensure that any specification is fit for purpose. As confirmed in the new 2020-26 SRS Partnership Strategy the direction has been set as cloud services. However, that is a transition over time and some functions will always remain on premise. It is important that we have a facility that is delivering services to the required standard for our infrastructure in 2020, a decreasing amount from 2020-26 and a minimal amount by 2026.

A full schedule of needs has been put together and they represent the standard that Blaenavon was built to, any changes or improvements to



those standards over the last ten years and the network connectivity that we must have.

It is important to note that this business case focuses on the physical Data Centre standard to migrate the partners to a “safe haven” from which an assessment can be made for the move to cloud services. The assessments of what the cost could be, if partners wished to move services to Azure, are in a separate paper.

e. Overview of the current position

The SRS manages locations in:

- Blaenavon for Torfaen County Borough Council, Monmouthshire County Council and Gwent Office of the Police and Crime Commissioner. The standard of the Blaenavon data centre when it was implemented is captured in appendix one. It was an accredited, certified data centre built to a high standard.
- Ebbw Vale for Blaenau Gwent County Borough Council.
- Newport for Newport City Council.

The provision in these locations would be classed as computer rooms and they would not meet the standard described in appendix one of this document for a data centre. As part of the business case processes in 2016 and 2017 respectively, the migration away from both locations was set as a requirement by the Finance and Governance Board during due diligence.

The original recommendation was a move to Blaenavon for both Blaenau Gwent and Newport services. In light of the direction of travel the move for both partners should still be to align with the wider partnership. This now means that all partners should move to the alternative and Blaenau Gwent and Newport would not take the interim step of moving to Blaenavon first.



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Figure 1 shows an overview of these current facilities described on the previous page. The figure shows that Torfaen County Borough Council, Monmouthshire County Council and Gwent Office of the Police and Crime Commissioner currently share the Blaenavon data centre and that within the data centre Torfaen County Borough Council and Monmouthshire County Council share the same “network”, “storage” and “compute” infrastructure. The figure also shows the separate implementations for Blaenau Gwent County Borough Council and Newport City Council.

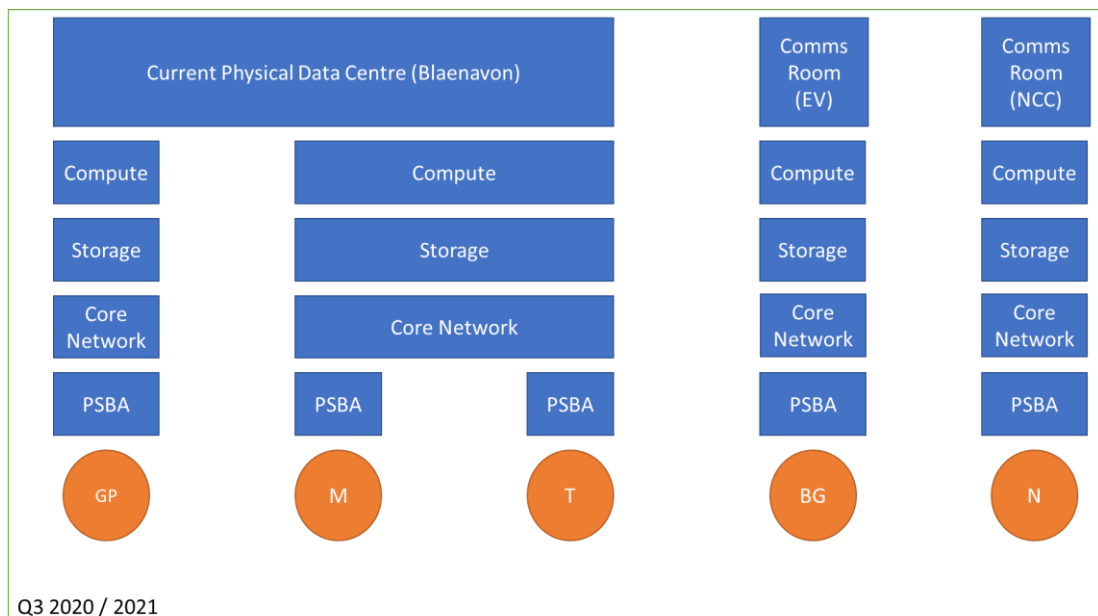


Figure 1 Current Delivery Model



In addition Gwent OPCC has a disaster recovery capability in Fairwater and a new facility being built into the new OPCC HQ in Llantarnam. It is not yet clear whether Gwent OPCC will require space in the new location or if the space in new HQ will be sufficient. For now, the best choice is to ensure all options are covered. These additional facilities are shown in figure 2.

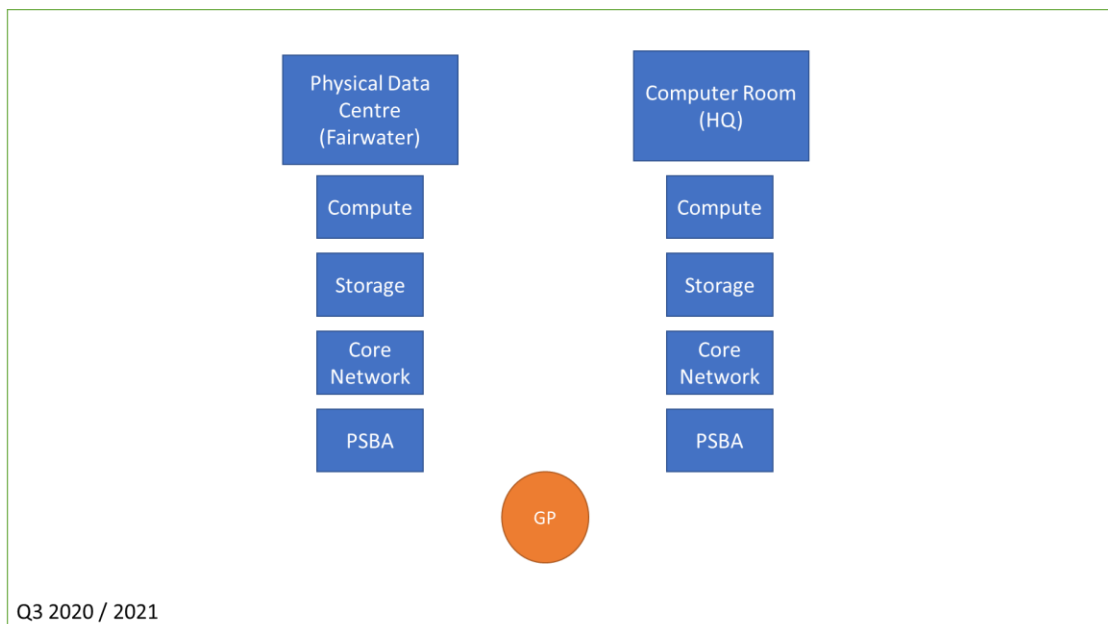


Figure 2 Gwent OPCC additionality

Figure 3, over the page, shows the flow of service to help paint the picture of where the data centre and computer rooms fit into the overall service provision. It shows an “edge site” which is where a typical user would be based, for example this could be a recycling centre, a Police station or a leisure centre through to the data centre. The edge site then connects over the PSBA network to the Blaenavon Data Centre, Ebbw Vale Computer Room or Newport Computer Room depending on which organisation the service is for.

Within the SRS facilities, the request then travels across the core network” and is serviced by a combination of “compute” and “storage” systems. To help understanding, the core network is the cables, wifi, network switches etc that a user connects to, the compute is the processing power that manages the service and the storage is where your



files are stored. Unlike a laptop where all of these things sit in one device, on an enterprise scale these are all split out into separate components.

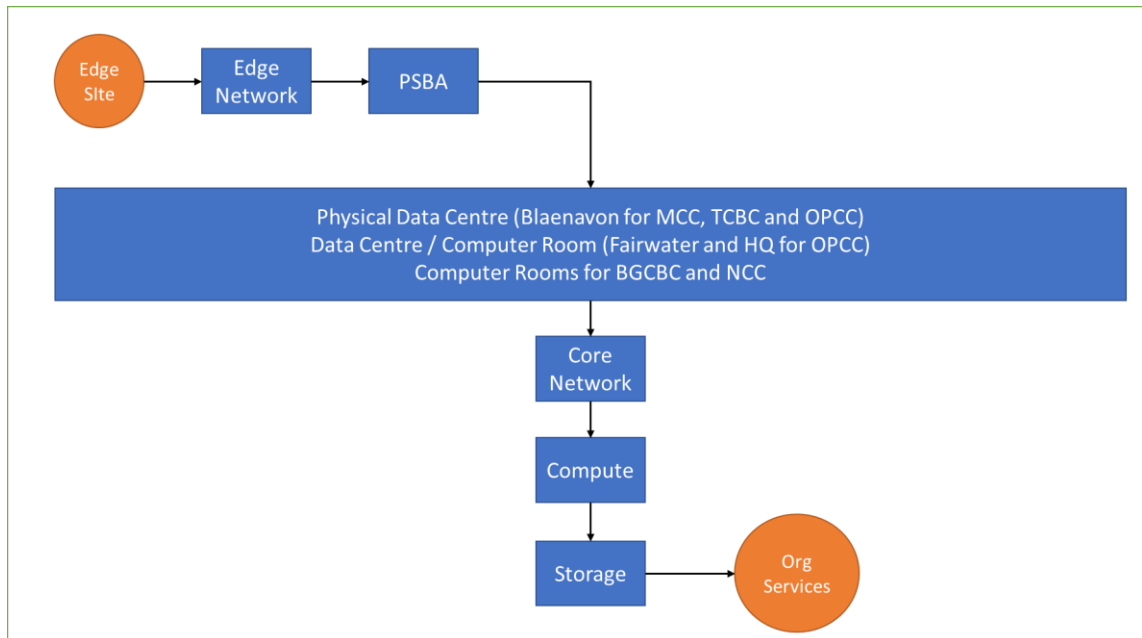


Figure 3 Data Centre Overview

The business case is built using these descriptions above which is why it is important the function of each of the key areas is understood.

f. The role of each current facility

Blaenavon

The data centre has four separate data halls within it. Each hall houses a different set of customers, typically due to historic reasons. Each of our five partners hosts organisational services from the data centre.

The SRS has historically hosted the services it provides in the Blaenavon Data centre. The Blaenavon facility has an annual cost of operating and maintaining services, which is in part charged on a specific individual partner basis and other costs are shared between the four data halls.



Data Hall 1: NWIS (National Welsh Informatics Service) (61 rack capacity).

This hall is managed by the SRS only to the point of data centre management, the internal management of equipment and services is NWIS's and for that they pay an annual sum to the SRS.

Data Hall 2: Education and LA (40 rack capacity).

This hall is managed entirely by the SRS and houses all of the infrastructure required to run the provision for all SLA schools across Newport, Blaenau Gwent, Torfaen and Monmouthshire and it houses part of the infrastructure, split across hall 4, required to run the Local Authority provision for Torfaen and Monmouthshire primarily. The disaster recovery services for Newport are also housed in this hall.

Data Hall 3: OPCC (35 rack capacity).

This hall is managed entirely by the SRS and houses all of the infrastructure required to run the provision for all Gwent Police services managed by the SRS.

Data Hall 4: LA and SRS BS (33 rack capacity).

This hall is managed entirely by the SRS and houses the remaining part, split across hall 2, of the infrastructure required to run the provision for all Torfaen and Monmouthshire services. The hall also contains a number of racks provided to SRS Business Solutions for a private customer, again this is only the data centre provision and the private customer manages all of their own services within the racks.

This paper deals with halls 2, 3 and 4 only as the capital funding required to maintain and improve the NWIS hall, hall 1, is provided by NWIS. The provision of service to NWIS in hall 1 is in an alternative paper that has been to the SRS Strategic Board and we are now aware that NWIS are seeking an additional twelve months term until November 2021.



Ebbw Vale

Blaenau Gwent County Borough Council has a computer room in Ebbw Vale Civic Centre with between five and ten usable racks with equipment spread across them. The room is not built to the data centre standard in appendix two and poses a considerable risk of water issues and building risk around supply of electricity.

Newport

Newport City Council has two computer rooms split across Newport Civic Centre. Neither are built to the standard described in appendix two. The rooms have over twenty racks spread across them but could simply be rationalised down considerably to a smaller number.

Gwent OPCC

Gwent OPCC has two additional facilities, one in Fairwater which operates as the disaster recovery location and one in the current HQ in Croesyceiliog which will move to the new HQ in Llantarnam when finished in April 2022.

g. Target Delivery Model

The original agreed delivery model was for all partners to move to Blaenavon. This was a condition of the business cases both Blaenau Gwent and Newport agreed to on entry to the SRS partnership and Torfaen, Monmouthshire and Gwent OPCC are already there.

However, in light of this business case, the desired model is now one where all partner services are delivered from a new alternative location using as much shared infrastructure as possible.

There are multiple physical and cloud data centre locations available across the United Kingdom which the SRS could use as an alternative. The key requirement is that the SRS need a data centre to be an active node



on the core PSBA network to provide the highest levels of performance for our partners.

Figure 4 shows the target delivery model with all partners sharing the same facility to reduce environmental costs. In addition to this the four Local Authority partners will share all infrastructure and Gwent OPCC, due to national guidelines, will have a separate infrastructure if they are required to take space after the OPCC HQ move.

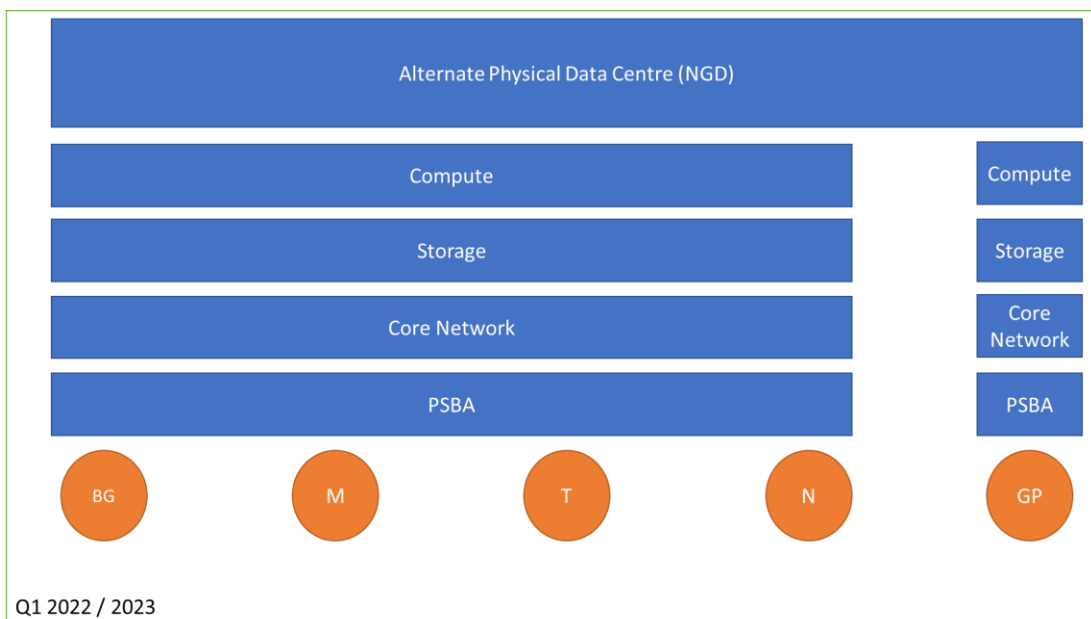


Figure 4 Target Delivery Model

h. The Case For Change

The SRS data centre halls are 10 years old and require many environmental components to be replaced, this includes items such as air conditioning, generators, battery backups and monitoring solutions. Without this investment there is a high risk of the data hall equipment failing due to the underlying environmental facilities. Due to failures in 2019, the company that support the equipment have reduced the useful life of the equipment remaining in the Data Centre which requires an approximate £2.6M spend over four years. Appendix two shows the latest RAG status for the equipment as provided by our external data centre services support provider.



The main objective is that SRS needs to identify the best value for money option for data centre provision going forward. We will do this by:

- reducing the need for capital investment in the current data centre (i.e. refreshing/replacement of the mechanical, electrical and environmental equipment (i.e. Aircon UPS etc.)
- reducing data centre revenue costs (i.e. support and maintenance contracts which includes engineer service, callouts and parts replacements)
- removing the varying risks that are present in the current provision to all partners from all facilities, these are documented in the SRS Risk Register as agreed with the Strategic Board.
- reducing SRS staff time to manage major incidents and day to day operations required from operating a partner owned data centre facility.
- procuring data centre services that avert service failure and provide ICT service continuity to SRS' partners.
- providing a core infrastructure in an alternative data centre location acting as a safe harbour for hosting ICT services and providing the interconnect / stepping-stone to access future cloud services such as Azure.
- removing the risk of providing data centre services to non-core partners in light of the SRS Strategic Board direction.



3. Economic Case

a. Business Needs

Technology infrastructure needs updating at regular intervals, networking typically lasts ten years, storage five years and servers three to five years. The items in the following categories all need replacing whether they are based in Blaenavon or based in a different data centre. Some of the costs seen in this paper are in relation to “overlap” costs where the two infrastructures need to co-exist until we are fully migrated to the new facility.

Figure 5 below shows the current building blocks within the data centre to help understanding of the component parts.

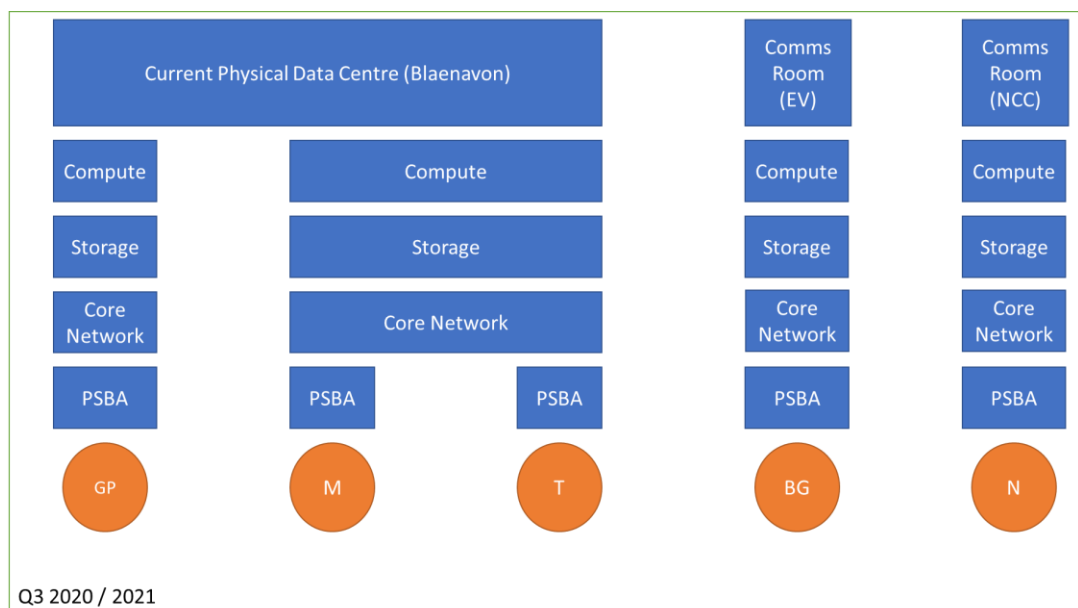


Figure 5 Data Centre Q2 2020

b. PSBA Networking

Whichever route the SRS takes with alternative facilities or cloud provision in Microsoft Azure, there will still need to be a PSBA network that provides external connectivity for partners.



Partners will always require PSBA connectivity and there is a project running nationally to replace end of life PSBA equipment. The proposal is to align this work with that and install the replacement equipment into the new location. However, with PSBA business as usual having been on hold due to COVID-19 issues, the cost of replacement has been built into this case at £116,000 which could be reduced by around £40,000.

This will also be an overlap cost as we will be paying for the PSBA in two locations for a limited period which is included in the costings also.

c. Core Shared Networking

Whichever route the SRS takes with alternative facilities or cloud provision in Microsoft Azure, there will still need to be a core network that provides transit for all partners to access these services and a small amount of on premise infrastructure which enables access to cloud services. This would be a true OneWales shared network that breathes life into the delivery of collaborative technology.

The SRS has worked with our current technology provider to put together the cost of a new shared core network. In progressing this design work, we have also asked for leasing options as well as capital replacement costs to gauge the better option.

The SRS needs a new core network for all partners in 20-21 due to end of life equipment and it being over ten years older in the main. This cost is applicable whether we stay in Blaenavon or not, however, the installation location will be different based on the decision on this paper.

It is important to note that at this time the costs include sharing of core networking across all five partners, initial views from the Home Office seem to suggest Gwent Police will not be allowed to use shared networking which may mean they will not benefit from shared costs in this area and have to duplicate costs.



d. Core Shared Storage

The next layer up in the technology stack of services we would need in an alternative data centre is storage. We will be driving as much of the storage we need into Microsoft Azure and Office 365, but in the meantime, we will need to retain an on-premise Storage Area Network (SAN) to enable the transition of Data Centre locations.

The SRS needs new shared storage for all partners in 20-21 due to end of life equipment in one or more Authorities. This cost is applicable whether we stay in Blaenavon or not, however, the installation location will be different based on the decision on this paper.

e. Core Shared Compute

The next layer up in the technology stack of services we would need in an alternative data centre is compute (i.e. Servers). SRS will be driving as much of the compute capacity we need into Microsoft Azure where cost effective and Office 365, however we will need to retain some on premise. The plan is to buy enough compute equipment to enable the migration to commence to an alternative data centre and then lift and shift equipment and services where that existing equipment is still viable.

The challenge to partners would be to drive usage into Office 365 and after the transition of on-premise data centre locations look to adopt Microsoft Azure to reduce the on-premise compute requirements needs and therefore reduce the future capital investment requirements for replacement compute hardware.

The SRS needs new shared compute every year for all partners due to end of life equipment in one or more Authorities. This cost is applicable whether we stay in Blaenavon or not, however, the installation location will be different based on the decision on this paper and this line item features heavily in the MTFP.



f. What does the data centre look like in 2023?

When the project is finished, figure 6 below, shows the same building blocks and components in the new location. It shows clearly that there is a much greater level of sharing of infrastructure at varying levels.

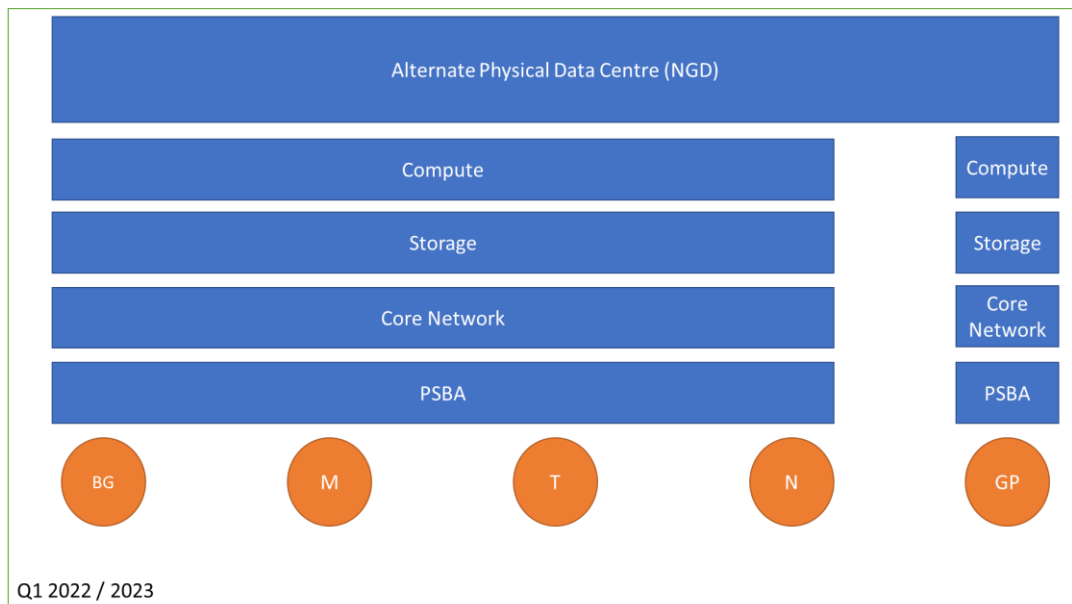


Figure 6 Data Centre in 2023

g. Alternative Data Centre Rack Capacity

The unit of measure for a data centre is typically rack space. A rack is simply a six foot high cabinet that the equipment is installed into and currently in Blaenavon we have a higher capacity of racks than we will need into the future.

Alternative data centre rack space will be procured based on our initial assessment for each LA and although this does not currently take into account any future migration to Azure Cloud, the intention with the relocation is to reduce the current data centre rack footprint for each SRS Partner considerably.



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The table below highlights the estimated number of racks per SRS Partner shown in the table below:

Local Authority	Estimated Number of Racks
Monmouthshire County Council	4
Torfaen County Borough Council	4
Blaenau Gwent	3
Newport City Council	7
Gwent Police	10
Total	28

There are a number of reasons that the Newport and Gwent OPCC rack numbers are higher than the other partner numbers, these include:

- higher volume of equipment virtualised in Torfaen and Monmouthshire. Virtualisation is the process of building multiple services off a single physical piece of equipment, partners have progressed these projects at different rates over the previous years.
- a higher volume of older systems and infrastructure in Newport that is being addressed.
- Gwent OPCC has a higher volume of national critical infrastructure, such as the Airwave radio system which takes up considerable space.



4. Economic Case Options

a. OPTION 1: Business As Usual (BAU)

Description: SRS Data Halls operate without environmental facilities being replaced.

Costs: the costs for this option are unknown as the rate of failure of equipment will change day by day. What we can say is that the rate of failure has been increasing over the last few years and the maintenance budget for the halls has already been spent for 2020-21 by the end of July, i.e. one third of the way through the budget year.

Advantages: No upfront capital costs.

Disadvantages: There would be certain failure of equipment that is not replaced as the months move on causing loss of service for extended periods of time.

Conclusion: The SRS would not support this option as it places the partnership at considerable risk.

b. OPTION 2: Do minimum

Description: Replace all environment facilities within SRS's Data Halls. Critical ones as soon as possible and the remainder within 5 years.

Costs: An annual revenue cost of £1,115,823, rising to £1,322,803, without the income from NWIS and a capital cost of £4,823,200.

Advantages: Puts Blaenavon into a supported position.

Disadvantages: Continues with a funding model that is above and beyond what we need and higher than the alternatives.



Conclusion: This option continues with higher costs than are required but does meet the supportability. However, the Strategic Board also rejected this option as too high cost in January 2020.

This option does not meet the data centre specification put out as part of the tender process. To meet that investment would need to be made into ISO27001 again which the F&G Board have previously agreed should be brought to an end.

c. OPTION 3: Reduce to a single hall in Blaenavon

Description: Replace all environment facilities within a single SRS Data Hall in Blaenavon and move the existing services in Ebbw Vale and Newport to Blaenavon.

Costs: An annual revenue cost of £719,857 and a capital cost of £2,871,522 plus decommissioning costs of £457,700.

Advantages: Puts Blaenavon into a supported position.

Disadvantages: This option would leave the partner services in a single hall in Blaenavon, the hall to be selected, but will require similar work to a shift to an alternative location, i.e. services would need to be moved across halls rather than locations. The level of resilience would need to be discussed as to reduce the capital costs, considerable amounts of the resilience would need to be decommissioned or continue to fund the capital cost for all services supporting the environmental equipment in Blaenavon.

This option does not meet the data centre specification put out as part of the tender process. To meet that investment would need to be made into ISO27001 again which the F&G Board have previously agreed should be brought to an end.

Does one hall in Blaenavon have a long term future? The SRS would advise not and as we move to cloud services, there would not be an ability to flex down the volume of cost. The cost of a hall is the same



whether there are 35 used racks or 10 used racks whereas in a commercial data we only pay for what we consume.

Conclusion: This option continues with higher costs than are required but does meet the supportability. However, the Strategic Board also rejected this option as too high cost in January 2020.

d. OPTION 4: Alternative Provision

Description: Move to an alternative Data Centre

Costs: An annual revenue cost for the four Local Authorities of £550,239 and the OPCC of £266,946 totalling £817,185 for comparison.

There would be a capital cost of £1,442,690 for the four Local Authorities and the OPCC of £810,481 totalling £2,253,171 for comparison, plus decommissioning costs of £610,000.

These numbers are separated out because neither the OPCC nor the SRS currently know with certainty, if the volume of equipment needed for new national systems will fit into the new data centre going into Police HQ or if the extra capacity will be needed.

Advantages: Offers all of the data centre requirements the SRS needs and delivers at a reduced overall cost compared to the current provision.

Disadvantages: There are overlap costs and there is a significant amount of resource required to deliver the project.

e. Recommended Option

The recommended option is therefore option four which is to move to an alternative physical data centre.



5. Commercial Case

a. Procurement Route

The procurement of an alternative physical data centre has been discussed with the appropriate teams through the SRS support services agreement. The advice was to put a specification together and go to market with that specification to see what was available.

During that market testing, it became apparent that there is only one option that the SRS can move to due to the specification requiring a data centre that has the core PSBA network within it. The Head of the PSBA for Welsh Government has confirmed that the only data centre that has this capability is the Next Generation Data Centre (NGD) based in Newport. If the SRS were to advise partners to move to an alternative location that would put the partners into a detrimental position compared to where they are now.

However, there still needs to be a proper process of assessing value for money and fitness for purpose. The SRS provided the data centre specification to the provider and they have completed it as per the process. Appendix three is the full response from the provider.

The location does meet all of the criteria in the specification and more which provides assurance that it could be a suitable location.

b. Value for money

The SRS recognises that a single option is not competitive when seeking a value for money comparison. Therefore a cost was requested from an alternative provider.

The equivalent pricing to be hosted in Manchester and the costs have come in at £875 per rack per month plus power. This is over double the cost from NGD which provides us with assurance that we are receiving value for money.



In addition, we know that SRS Business Solutions, the trading arm of SRS, is charging a higher cost to its current customer base than we will be paying to NGD for our services. This again provides assurance as this was a market test carried out.

c. Decommissioning costs

There are costs associated with the restoration of the facility back to its original state as per the original agreement to occupy with Torfaen of £610,000.

The SRS has had costs worked up for all associated works to return the building back to its original state. However, it is important to note that the decommissioning costs are worst case, they include some items that may not need doing based on agreement with Torfaen and they also do not include the recovery of any monies from the sale of the infrastructure that will no longer be required in Blaenavon, i.e. generators, metals, transformers and so on. All of these items have the potential to reduce the decommissioning costs for the partners.

The Finance and Governance Board has agreed that the decommissioning costs are to be split across the OPCC, Torfaen and Monmouthshire as they are the primary users of the facility and have been for the full ten years.

Therefore, decommissioning costs for anything in relation to the Newport or Ebbw Vale computer rooms will be borne by Newport and Blaenau Gwent respectively in full.

It is also important to note that if any of the partners were to remain in Blaenavon at their request, then they would be picking up the costs of the entire facility in addition to their own costs which also makes any option to remain individually, completely unaffordable.



6. Financial Case

a. Revenue Cost Summary

The below table shows the running costs of the Data Halls (based on current prices) for the three options explored, the current model, collapsing all partner racks into one Data Hall and moving racks to NGD.

	<u>Impact to Revenue Costs</u>		NGD		
	Existing	One Hall	LAs	OPCC	TOTAL
-					
Rack Charges	0	0	190,656	105,920	296,576
Maintenance & Support Contracts	401,362	183,000	103,000	80,000	183,000
BG & NCC Computer Rooms**	105,000	-	-	-	-
Shared Building Costs	870,261	536,857	256,857	81,026	337,609
Income	(260,800)				
SRS Controllable Revenue Costs	1,115,823	719,857	550,239	266,946	817,185
Adjust for loss of NWIS income*	206,980	0	-		0
Adjusted SRS Revenue Costs	1,322,803	719,857	550,239	266,946	817,185

*NWIS income will drop out in 21/22

** not part of the SRS budget

b. Revenue Costs of Change (NGD Option)

The move to NGD would be implemented on a phased approach and is expected to take three financial years running from 2021/22 through to 2023/24. Racks will be required at NGD before the Data Halls are fully decommissioned, it is anticipated 15 racks will be required initially rising to 28 by 2023/23 with no racks remaining at Blaenavon.

These additional costs will need to be managed and offset by the savings made in the running costs at Blaenavon. The following table shows the costs of the racks required at NGD offset by the savings from the Data Halls at Blaenavon as the project progresses:



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2020

	2021/22	2022/23	2023/24
NGD COSTS (new racks etc.)	291,022	203,755	367,907
DATA HALL (savings)	(309,598)	(303,038)	(303,038)
	<u>(18,576)</u>	<u>(99,283)</u>	<u>64,869</u>

Overtime costs will be incurred during the transition period and will be funded by the savings identified.

c. One Off Costs Summary

The refresh of equipment is required regardless of any potential move to a new data centre facility.

The following table captures the capital investment required of each option.

ONE OFF COSTS					
Capital Costs					
	Existing	One Hall	LAs	NGD OPCC	TOTAL
Data Centre Infrastructure	2,685,678	734,000	-	-	-
PSBA - replacement equipment	-	-	65,868	49,781	115,649
Shared Network	487,000	487,000	314,000	173,000	487,000
Shared Wifi	142,500	142,500	85,500	57,000	142,500
Shared Firewall	458,022	458,022	277,322	180,700	458,022
Shared Storage	900,000	900,000	600,000	300,000	900,000
Computing	150,000	150,000	100,000	50,000	150,000
TOTAL CAPITAL COST	4,823,200	2,871,522	1,442,690	810,481	2,253,171
Cost of Change					
Decommission Costs (Ty Cyd 1)	0	457,500	406,667	203,333	610,000



d. Capital Sustainability

The equipment required has an expected life of between five and ten years, it would be prudent for partners to build up a capital reserve to fund the future replacement to mitigate substantial Capital outlay. To cover the next 15 years of refresh the partners would need to allocate £397,000 to the capital reserve, this is a split of £61,000 per LA and £135,000 for the OPCC. This reserve can be held either by the partner or the SRS.

The capital replacement costs above provide two further replacement cycles of the infrastructure which is why those costs do not equate to one set of replacement costs.

In addition, Gwent OPCC's costs are higher due to the fact that the infrastructure is Police and cannot be shared.

e. Assumptions

- Number of racks required at NGD are based on SRS engineers assessment.
- Energy Costs at NGD based on current energy costs in Hall 1, Blaenavon
- All other revenue costs based on supplier quotes or existing SRS budget provision
- Assumed partner revenue contributions will remain based on the current funding model until the end of the project.
- Capital costs based on quotations provided by suppliers at a moment in time, these prices can fluctuate.
- Decommission costs based on quotations provided by suppliers in conjunction with TCBC Property Services to ensure the building is reverted to an agreed standard to be returned to TCBC.

f. Risks

Risks applied to the business case finances:

- No consideration has been determined for the effects of Brexit.



- Only those inflationary factors informed in the assumptions have been included, the figures do not take into account any micro or macro economic factors.
- Until the tender is completed there is a risk of unforeseen costs
- No provision is made for ad hoc maintenance required outside of support arrangements.
- Number of racks could be greater than anticipated.
- Delay in hall closures resulting in cost reductions not being realised.
- COVID-19 has had a destabilising effect on supply chains and dollar pricing which all lead to delay and increased cost.

g. Summary and Conclusion

The best option financially would be to significantly rationalise the number of racks and then re-locate to NGD:

- Overall revenue savings of circa £506,000 will be achieved (at today's prices)
- Additional savings can be achieved through an accommodation review.
- No additional revenue contribution will be required to fund the change project, this will be managed from within the existing SRS Controllable budget over the course of the planned 3 year project.
- The capital investment required to relocate to NGD is far less than required to remain in the existing Data Halls. Partners will be required to fund;
 - o £2.3million to move as opposed to £4.8million to remain as the current model.
 - o £610,000 (worst case scenario) decommissioning costs.



7. Management Case

a. Delivery Arrangements

The SRS are delivering:

- the design phase with the Enterprise Architecture team.
- the Project management arrangements: standards, governance arrangements, roles and responsibilities and plans using the Enterprise Architecture TCM for the initial stages.
- Additional project management support may be required as we move through the implementation phases.
- Project assurance (independent and impartial reviews) will be delivered through updates to the SRS Delivery Group.
- Risk management arrangements and plans, including risk register will be managed through the project.
- Contract management arrangements and plans, will be managed via SRS Business Management.
- Additional network, server and application resources will need to be prioritised out of the partner available resource from June/ July onwards. As a Strategic Board agreed strategic priority the SRS assumes this will not be an issue.

b. Delivery Timeline

The timelines for delivery are shown across figures 6 to 10 and they describe the move for each partner to the new alternative location based on the information currently available to the SRS.



The starting position is shown in figure 7.

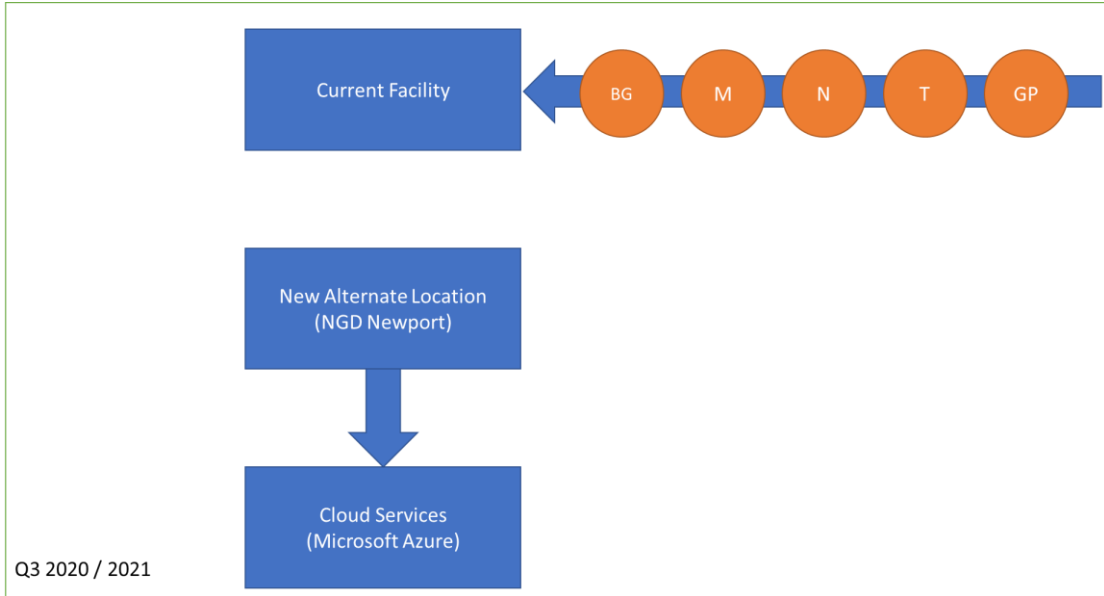


Figure 7 Partner Data Centre Location Q3 2020/21

Figure 8 shows a new shared infrastructure implemented into NGD and the first two partners moving across to the new facility, currently planned as Torfaen and Monmouthshire due to the existing level of sharing.

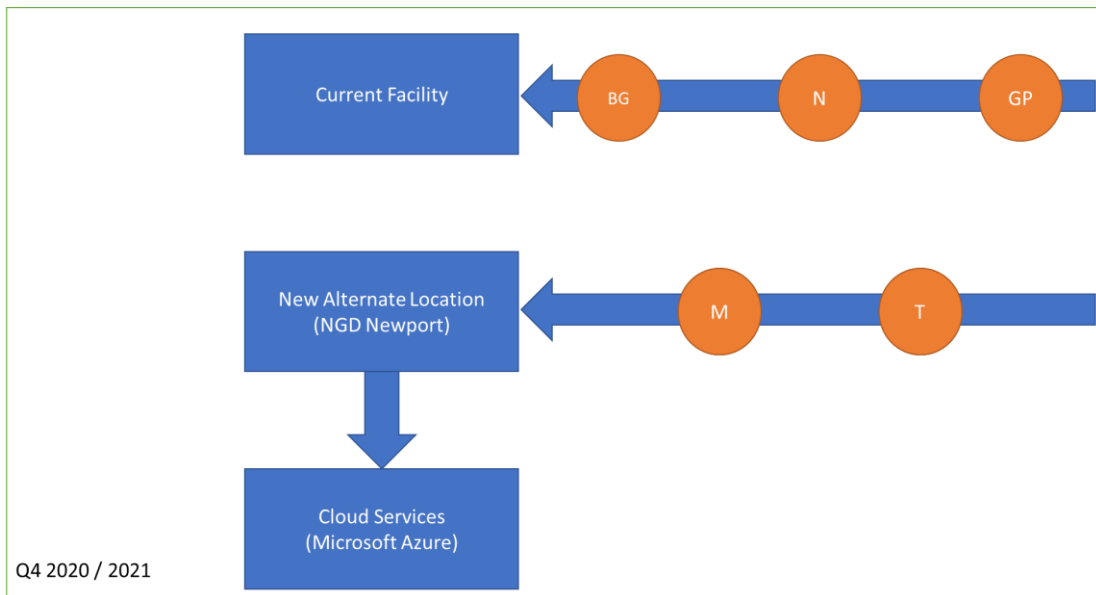


Figure 8 Partner Data Centre Location Q4 2020/21



SRS Data Centre Business Case

2020

Figure 9 shows an additional partner moving across to the new facility, currently planned as Blaenau Gwent.

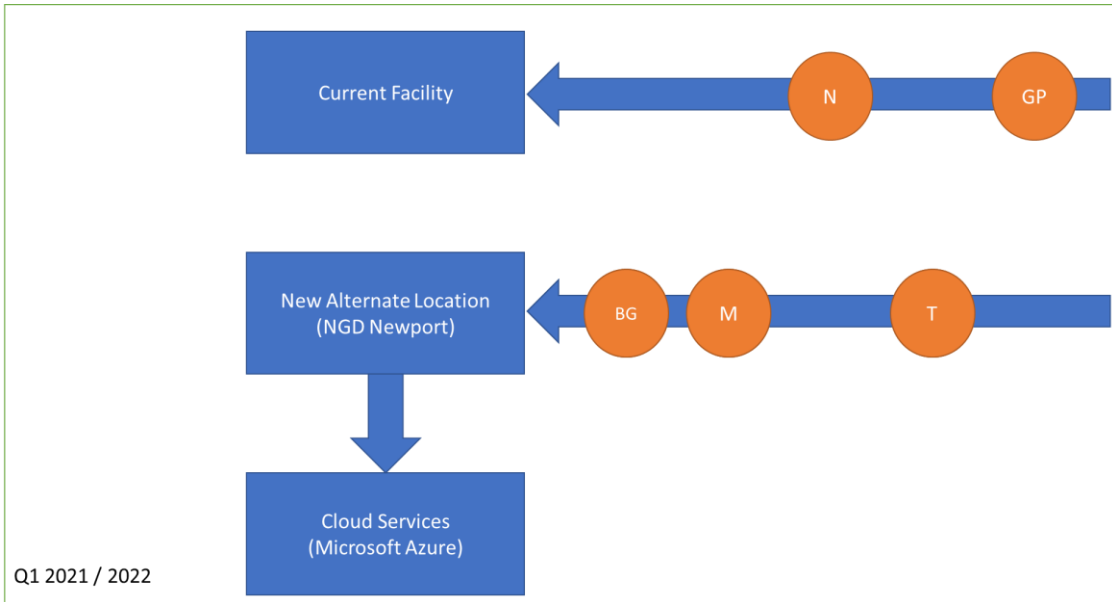


Figure 10 Partner Data Centre Location Q1 2021/22

Figure 9 shows an additional partner moving across to the new facility, currently planned as Newport.

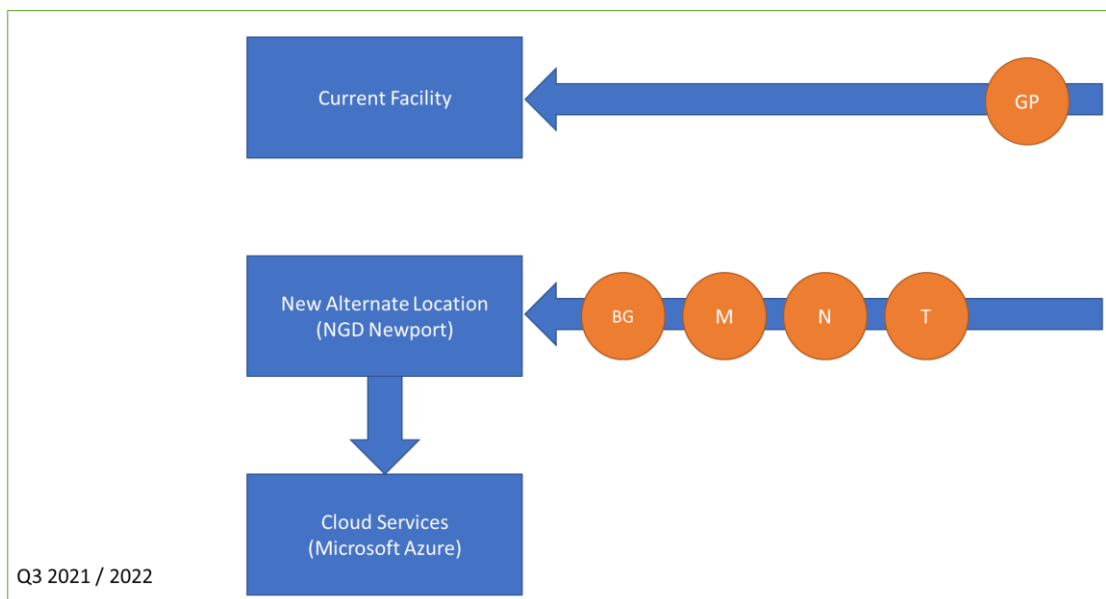


Figure 9 Partner Data Centre Location Q3 2021/22



Figure 11 shows the final partner moving across to the new facility, currently planned as Gwent OPCC to align with the new HQ work, this may not be required if all of the Gwent OPCC capacity can be housed into the new HQ.

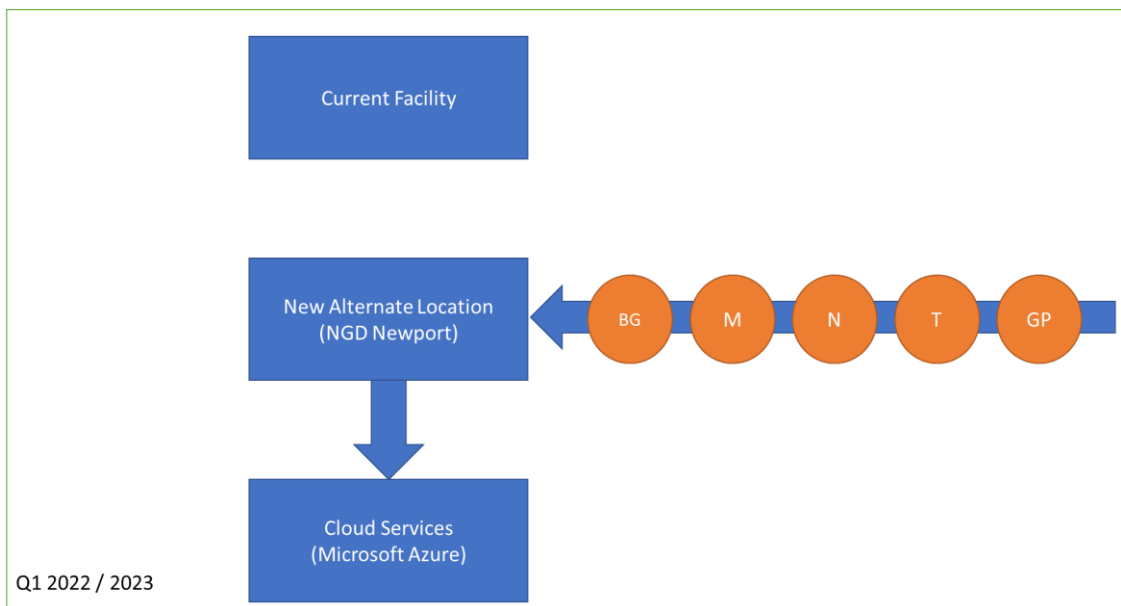


Figure 10 Partner Data Centre Location 2022/23

c. Main Benefits

This section will seek to inform of the major benefits and major disbenefits of the various options.

- No capital requirement for the items that are described earlier in the paper, these are items included in the rack rental charges quoted by NGD.
- All risks around data centre provision are backed off to a provider who is the expert in the market.
- Telecomms providers flock to hyper scale data centres and choices would be available to us that simply do not exist today.



- The providers also offer agile working spaces for staff to be located close to the equipment. These working spaces are at a much lower cost than our current costs.
- Sharing of centralised infrastructure costs across partners requiring less investment overall moving forward.

d. Main Risks

The Business Case will describe the major risks currently associated with each partner's provision and why a decision is required at this time.

- SRS's current data halls are 10 years old and require the environmental facilities to be replaced. Without this being done there is a high risk of the ICT equipment failing due to the underlying environmental facilities (i.e. Air Conditioning Unit) failure.
- The upheaval around transition time from SRS Blaenavon to an alternative location will create issues around availability and performance for a short period.
- Operating costs at an alternative location could increase over time and would need to be locked in through a procurement exercise.
- There will be decommissioning costs that Torfaen would expect the SRS to pay to return the building to a state is able to market. That would mean removing all the internal data halls and the external generators etc.

e. COVID-19 Risks

COVID -19 has created many complicating factors in this work, including the below, however there will be unknown issues relating to COVID-19 that we are yet to understand:

- Dollar rate fluctuations are occurring by the day and prices keep changing.



- Nightingale installations take priority over business as usual for many suppliers which has created delay in costing and design work and will continue to do so.
- The PSBA stopped work on business as usual (BAU) in March and only recently started accepting BAU work again which has delayed our costings and design work.
- The firewall supply chain has dried up and the costs have increased considerably, probably due to the considerable reliance on remote and home working since March 20th.
- The social distancing measures will undoubtedly cause complications in the implementation phases of the work.

f. Constraints

There are certain constraints on the selection of an alternative physical data centre:

- Any alternative location must have PSBA core network backbone access
- In a location that is easy accessible to SRS staff and minimise the amount of travel time when day to activities are required within the data centre location.

These constraints have led to a single location and provider being the only option.

g. Dependencies

There are dependencies for this work which include:

- The resources required to move the work forward will start to need to be prioritised within partner resource, one network person in the Enterprise Architecture function is not enough capacity.



- The previous decision by the Strategic Board in January 2020 concerning surplus will need to be supported in order to fund the work or the costs will fall to partners on an annual basis.

h. Critical Success Factors

Reduced operating costs

- Remove the need for increase/additional capital funds for replacing the existing environment facilities at SRS's Data Centre in Blaenavon
- Transition from the existing data centre to the alternative location
- Minimal duration for transition of ICT services between the two locations
- Minimise the running costs of having two data centre running during transition
- Minimise disruption for the partners. Though it must be noted that there will be a period of time when services will be unavailable during transition.



8. Summary recommendations

The summary of the recommendations are:

- Option four is agreed as the recommendation for the Strategic Board to select.
- Next Generation Data (NGD) are agreed as the single supplier as a result of the business case specification of requirements.
- That Torfaen, Monmouthshire, Newport and Blaenau Gwent commit to the funding model agreed by the Finance and Governance Board of equal costs of the shared infrastructure.
- That the OPCC commits to the funding model of Police only for their infrastructure, if after HQ is completed, data centre space is still required.