SRS Strategic Board
DATE: 15th October 2019

<u>**SUBJECT: SRS Future Recommendations**</u>

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1.   <u>**Area Affected**</u>

1.1   County borough wide for Blaenau Gwent County Borough Council, Gwent Office of the Police and Crime Commissioner, Newport City Council, Monmouthshire County Council and Torfaen County Borough Council.

2.   <u>**Purpose of Report**</u>

2.1   To provide an overview of the current delivery model and to seek a steer from the Strategic Board on:

1. a move to an alternate data centre facility for all services to avoid increasing capital costs.

2. a move to a revenue based, cloud services model for each partner.

3.   <u>**Background**</u>

3.1   The physical data centre in Blaenavon has been a fantastic asset to the SRS for ten years. The original purpose and thinking behind it still stands to this day as something that was the right thing to do at a point in time. All partners have enjoyed accredited, cost effective and secure services from this facility.

The world, more importantly technology, has moved on at pace in those 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 lesser cost.

This paper seeks to inform of those alternatives and it is split into categories and a running order to lead the Board through an end to end discussion to provide the SRS, principally, with a steer on the appetite for the partners to have a cloud first strategy and a physical data centre location in Blaenavon or not.

SECTION 1:

The paper will introduce the current costs of Blaenavon as a location for

providing data centre services and to a certain extent, housing staff delivering those services. The current budgeted revenue costs will be described and the current known capital refresh costs for the data centre mechanical and electrical equipment.

It is important to note that this paper focuses on Blaenavon costs as the SRS does not have costs available to it for Ebbw Vale and Newport computer rooms. The current costing models do not work the same way so whilst it looks very cost effective to be based in Ebbw Vale and Newport, the COO understands that the Board recognises that change is required for both.

SECTION 2:

Section 2 will describe other options, which will have been informed by the paper being presented with Red Cortex at the Strategic Board and with recent discovery meetings held by the COO with alternative data centre providers.

SECTION 3:

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

SECTION 4:

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

SECTION 5:

This final section will break down the decision making required of each partner and seek guidance as to what route and format the papers should take.

4. **SECTION 1: Blaenavon Data Centre**

4.1 The SRS has historically hosted 100% of the services it provides in the Blaenavon Data centre. The Blaenavon facility has a cost of running and maintaining, which is in part charged on a specific individual partner basis and other costs are shared between the four data halls.

For example, the energy required to power the racks for NWIS are charged directly to NWIS at cost, however the energy required to power the backup generators and air conditioning is split across NWIS and all other SRS partners. This is true in the majority of cases, the only difference being SRS BS who currently do not contribute to the shared energy costs.

The data halls are:

Data Hall 1: NWIS
Data Hall 2: Education and LA
Data Hall 3: OPCC
Data Hall 4: LA and SRS BS

This paper deals with halls 2, 3 and 4 only. Hall 1 is in an alternate paper at this Board meeting.

Each hall is different in size and capacity and therefore has a different cost position to run and maintain.

4.2 **The budgeted revenue position**

The annual revenue costs for running the physical Blaenavon facility include:

SRC - DATA HALL/Salaries
SRC - DATA HALL/Building Repair & Maintenance
SRC - DATA HALL/Electricity
SRC - DATA HALL/Rents, Tithes & Easements
SRC - DATA HALL/NDR
SRC - DATA HALL/Building Cleaning
SRC - DATA HALL/IT Hardware (inc Printers & Scanners)
SRC - DATA HALL/Insurance Premiums

The breakdown of these costs for each of the three SRS partner owned halls, excluding energy, are:

Hall 2 @ £63,996
Hall 3 @ £54,941

Hall 4 @ 56,373

The cost of the building in addition to the above hall costs, which are shared across partners in the recent shared costs reallocation exercise, are:

Data Centre @ £115,162

This makes the total annual running costs to partners of all halls (excluding NWIS) and the data centre a total of £290,472 and this number in its totality would .

4.3 **Energy costs**

Energy costs are split into two categories. There are energy costs attributable to specific halls and therefore specific racks and customers and there are energy costs for the building that partners share. The breakdown of those energy costs are below:

Hall 2 @ £101,759 (EDU and LA)
Hall 3 @ £66,220 (OPCC)
Hall 4 @ 98,489 (LA and SRS BS)

Data Centre @ £21,235

The energy required to run the equipment within the halls is something that could be used to balance a business case if the service went cloud only and if an alternate location were an option these costs would typically be the same or marginally better due to scale or better energy efficiency.

4.4 **Known five year replacement costs**

The equipment within the data such as air conditioning, UPS etc all have an operational life. They range between five and fifteen years and as you go through those years the costs increase.

The 2020-25 total replacement costs for each hall are described below:

Hall 2 @ £676k
Hall 3 @ £467k
Hall 4 @ £672k

There are also unknown replacement costs such as the generators and the sub station equipment that exists outside the facility but is critical equipment. They are very large investments that we would need to work with our electrical suppliers to build.

4.5 **<u>Annual Data Hall Costs Combined</u>**

If we combine these costs into totals then the costs per year for the next five years, annualising the M&E spend and excluding electricity, would be:

Hall 2 @ £199k of which £64k is current revenue
Hall 3 @ £147k of which £54 is current revenue
Hall 4 @ £190k of which £56k is current revenue
Data Centre @ £115k all of which is current revenue

If we combine these costs into totals then the costs per year for the next five years, annualising the M&E spend and including electricity, would be:

Hall 2 @ £300k of which £165k is current revenue
Hall 3 @ £213k of which £120k is current revenue
Hall 4 @ £288k of which £153k is current revenue

4.6 **<u>COO Advice</u>**

The advice of the SRS COO is that costs of circa £800k a year are unsustainable based on the other options available in the marketplace today.

5. **SECTION 2: The alternatives**

5.1 **Alternative data centre availability**

There are multiple data centre locations available across the UK. The key for our opportunity is that we want that data centre to be an active node on the core PSBA network so that it operates in the exact same way that Blaenavon does.

There are data centres such as this, in close proximity to us that would fulfill all of our requirements and put all partners into a sustainable revenue position. It would also remove the need for capital relating to data centre environment spend.

5.2 **Cost comparison of the racks in Blaenavon to alternative**

The cost of energy from many of the data centre providers matches the average price that the SRS receives through Torfaen Property services. This means that on a comparison basis, we can discount energy as a differentiator and remove energy costs from any assessment going forward. This is why the annualised costs are split out excluding electricity in section 4.5.

The initial discussions with external data centre providers have indicated that a cost of £5k per rack per year is achievable. There are no capital costs on top of that.

A detailed assessment needs to be performed, however, based on this initial offer of £5k per rack per year, the annual cost for all racks associated with LA's, including Education and CCTV, would be £190k and those associated with Policing would be £175k a year. This is for an exact replica of what exists in Blaenavon today, this does not include what could be removed if we moved parts to a cloud service.

Knowing that the capital replacement cost alone for the three halls is over £1.815M over five years a move to an alternate facility on the whole would be covered by that capital cost, i.e. the £175k + the £190k multiplied by five years is £1.825M.

We would also expect to take opportunities to remove entire racks which would give a sliding scale reduction from the £190k and £175k down to much lower levels and repurposing the spend into cloud services.

5.3   **The cloud services paper**

The Red Cortex paper describes a possible future and provides a recommendation to engage in a twelve month program of deep analysis and taking opportunities where they exist.

5.4   **Estimate of what could move into the cloud**

It is difficult to estimate how many racks would removed as a result of a move to cloud services. The SRS for example, has removed the need for on premise email and Skype equipment in Blaenavon having moved partners to Office 365. The advice we would give is that we would seek to move the majority of those racks into Microsoft Cloud Services over a five year period.

5.5   **COO Advice**

The advice of the SRS COO is:

- that the Board agree for a detailed financial assessment to be performed and a project agreed, with resourcing, to put together the outline business case for change.
- that a prioritised project be started through Partner Delivery Groups to plan and implement the move required.
- that the SRS adopt a cloud first strategy for all services
- the detailed assessments described in the Red Cortex paper are agreed to be carried out

6.   <u>**SECTION 3: Risks and issues**</u>

6.1   <u>**Blaenavon Environmental Maintenance and Refurbishment**</u>

- The age of the equipment is over nine years and the SRS are starting to see increased failures and therefore an increasing demand on funding to fix those failures and an increased demand on people time to respond to those failures.

- Irrespective of the age of the equipment, a recent failure in the NWIS hall of all air conditioning equipment provided by a third party has highlighted to that the reputational risk associated with this provision is greater than the level of reward.

- A key risk for the COO, relates to core business. The COO believes that filling a generator with diesel, cleaning air conditioning pipes, cabling racks and managing a physical data centre should not be part of core SRS business and that our value is greater placed elsewhere.

6.2   <u>**Infrastructure and Software Refresh**</u>

- The capital planning carried out to feed into the MTFP process is money that could be better spent on putting the Councils into a sustainable position in relation to the procurement of computing infrastructure.

- The physical location has always had a telecommunications limitation and both cloud and alternative provider models would negate this risk. We currently cannot procure a 1Gb connection from PSBA for Newport or Blaenau Gwent as additionality due to the bandwidth limits currently upon us. For this reason, we would only seek alternate data centres that are on the PSBA core network.

6.3   <u>**Costs**</u>

- The five year replacement cost for the internal room mechanical and electrical is over £1.8M, adding in estimates for the generators and the sub-station equipment would conservatively double this number.

- The cost of energy rises each year and is something that we could avoid entirely in a cloud model and consume more efficiently in an alternate provider model.

- There is a carbon cost of being a physical data centre provider that would be removed if the provision were no longer there, the SRS

should aim for carbon neutral services and this would be a step towards that.

6.4   **Cloud / Alternate Location**

- Both the cloud and alternate provider model would come with the appropriate levels of accreditation which would mean the SRS would no longer have to spend time carrying out work associated with it.

- Business Continuity would be greatly simplified as the SRS would not need to focus on the entire wrap around provision, such as generators, buying diesel, checking UPS' and so on. Our role would become the IT delivery which is where our focus should be.

6.5   **National Marketplace contracts**

- Her Majesty's Government (HMG) have recently signed a new Digital Transformation Agreement (DTA) contract with Microsoft for provision of Microsoft licences for Microsoft Office, Windows, Identity and Device Management services. The new DTA came into effect on 1st April 2019 and the SRS has first and experience of this price increase in Newport seeing like for like Enterprise Agreement increases of 300% prior to the SRS engaging with Microsoft.

6.6   **Newport Specific Items**

- The age of the equipment is unknown and the SRS are experiencing regular failures and outages. There is a constant and increasing demand on responding to those failures and a reputational impact on the SRS within Newport when those services fail as result of poor computer room provision.

- Newport have no current data centre budget in the Council and a high risk provision within Newport.

6.7   **Blaenau Gwent Specific Items**

- The age of the equipment is unknown and the SRS are experiencing regular failures and outages. There is a constant and increasing demand on responding to those failures and a reputational impact on the SRS within Blaenau Gwent when those services fail as result of poor computer room provision.

- Blaenau Gwent have no current data centre budget in the Council and a high risk provision within Ebbw Vale.

7. SECTION 4: Benefits and disbenefits

7.1 Major Benefits

Cloud services:

- Scalability: the COO's direction is to remove the low level tasks required of IT staff, such as removing servers and equipment from boxes and racking them. The scalability opportunity drastically reduces the lead time for equipment to hours from weeks.

- Capacity Management: the SRS currently has all equipment powered on all of the time, it buys a specific piece of equipment for a function ad that function may never use all of that power available to it and the SRS sometimes needs to increase capacity which at the moment means buying different equipment. In cloud services all of this can be done "on the fly".

- Resilience and Security: cloud services such as Azure are more secure than many smaller data centres simply because they operate at such scale in large data centres around the world. They come with may accreditations built in and with greater resilience than Blaenavon could ever have.

- Maintenance: Depending on the type of cloud service, there may be no patching or maintenance required, again moving SRS staff out of non value add work and into value add work.

Alternate On Premise Provider:

- No capital requirement for the items that are described earlier in the paper in section 4.2, these are items included in the rack rental charges described in section 5.2.

- 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 choice would be available to us that simply doesn't 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.

7.2   **Major Disbenefits**

Cloud services:

- The revenue increase required to support the cloud service implementation is greater than the revenue cost today. This can be offset by some of the items in the paper but greater analysis is needed to ensure that the partners are operating at their greatest efficiency.

- This is a different working model than currently deployed to SRS partners and will rely on partners ensuring their workforce are digitally equipped to respond.

- The business change functions within the partner organisations will need to be focused on these pieces of work as well to ensure alignment to Council priorities.

- The work will have to be prioritised for the use of existing resources, the SRS cannot add a program of work this size into what it already has from partners.

Alternate On Premise Provider:

- The upheaval around transition time will create issues around availability and performance for a short period.

- Costs could increase over time and would need to be locked in through a procurement exercise.

- The SRS currently receives just under £190k for SRS BS and NWIS hosted services. Papers at this Board show clearly that the "net profit" is eroding and the payback period on equipment replacement is three and half years to five years. So, whilst losing income is a disbenefit, it is income we would need to spend over £911k to retain.

- 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.

8. **SECTION 5: Decisions Required**

8.1 **SRS Strategic Board Summary**

The SRS Strategic Board need to provide a steer at this meeting on where we now take individual decisions and what format those papers need to be in.

8.2 The advice of the COO is:

- to agree the unsustainable position of Blaenavon
- to approve the Red Cortex paper to move forward to detailed assessment and individual business case submission
- to agree a cloud first direction for the SRS
- to agree to a tender exercise to find an alternative physical data centre location that meets our needs
- to acknowledge the risks and issues are different for each partner
- that Newport and Blaenau Gwent move straight to the new physical data centre location rather than move twice
- that the Board acknowledges the time and resource needed to complete this is not currently available to us with prioritization of existing resource
- that this work be fed into the normal work planning processes of all partners

8.3 **Torfaen Decisions**

What process should the SRS now follow to approve a move from Blaenavon to (i) cloud services or (ii) an alternate data centre location.

Monmouthshire Decisions

What process should the SRS now follow to approve a move from Blaenavon to (i) cloud services or (ii) an alternate data centre location.

OPCC Decisions

What process should the SRS now follow to approve a move from Blaenavon to (i) cloud services or (ii) an alternate data centre location. The SRS is aware that South Wales Police and Gwent are seeking, as part of their business case, a secondary facility to Fairwater. The SRS, for the reasons detailed in this paper, would strongly advise the OPCC not to invest in a data centre of its own but rather look to be part of this work to find a cost effective, secure, accessible and accredited data centre.

Blaenau Gwent Decisions

What process should the SRS now follow to approve a move from computer rooms in Ebbw Vale to (i) cloud services or (ii) an alternate data centre location at pace.

Newport Decisions

What process should the SRS now follow to approve a move from computer rooms in cloud services to (i) cloud services or (ii) an alternate data centre location at pace.

NWIS data centre future

The NWIS future is a paper at this same Board meeting.

SRS Business Solutions data centre future

SRS BS currently brings £100k into the SRS per year for hosting services. The issue with SRS BS is very similar to NWIS, the cost to replace equipment negates a large part of the income, so whilst the income looks positive on paper, and has been to date, going forward it becomes less so.

9. Monitoring and Evaluation

9.1   The process will be monitored by the Strategic Board.

Appendices	None

Background Papers	None

For a copy of the background papers or for further information about this report, please telephone: insert name, job title and phone number of author or responsible officer here