**REPORT AUTHOR(S):**     **HEAD OF ICT & IMPROVEMENT**

**SUBJECT:**                  **INVESTMENT IN THE SERVICE'S SERVERS AND OTHER ICT INFRASTRUCTURE**

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Background Papers:     Capital Programme 2017/18 to 2020/21

Implications (tick ✓):

| LEGAL | | | FINANCIAL | ✓ |
|---|---|---|---|---|
| HUMAN RESOURCES | | | EQUALITY IMPACT | |
| ENVIRONMENTAL | | | POLICY | ✓ |
| CORPORATE RISK | Known | ✓ | OTHER (please specify) | |
| | New | | CORE BRIEF | |

*Any implications affecting this report are noted at the end of the report.*

**PURPOSE**

To explain the capital investment in the ICT technical estate contained within the Bedfordshire Fire and Rescue Service Medium Term Capital Programme.

**RECOMMENDATION**

That Members receive the report.

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**1.0   Introduction**

1.1   Bedfordshire Fire & Rescue Service (BFRS) in line with other Fire Services relies heavily on its technology capability and infrastructure to carry out its day-to-day operational activities. As such it is vital to ensure that the technological infrastructure remains fit for purpose and maintained, ensuring high availability of services.

The current technical infrastructure has evolved over a number of years with some notable successful upgrades/replacements in recent years. Systems that were once used to assist day to day operational duties have now become essential and vital to be able to carry out and discharge normal duties. As each technology refresh provides more functionality than the last, working practises have evolved and adapted to make better use of the technology, driving forward efficiencies with better deployment of manpower. In many cases the option to be able to revert to a non-technology based working arrangement is no longer viable and the resources required to function as before no longer present.

1.2   Where existing systems become obsolete, or no longer fit for purpose or reach an age where it is no longer cost effective to continue to support the products, organisational risk is introduced which can ultimately have severe consequences unless addressed. Unreliable systems could ultimately undermine public confidence in BFRS where they have an impact on effective deployment or effect the services provided.

1.3   To reduce organisational risk it is recognised that a number of infrastructure improvements need to be made to the technology landscape, these form part of the normal planning cycle for BFRS.
The industry standard is generally to use hardware for approximately five years and replace at around that point. The approach at BFRS is to maximise the use of the infrastructure and 'sweat the assets as much as possible before replacement

is undertaken, meaning each asset is examined and replaced where required. The position taken is to examine the functionality these systems provide and replace with modern supportable systems that take into account where technology and working practises have evolved rather than a simple like for like replacement.

**2.0   Medium Term Capital Plan – ICT Investment Profile**

2.1   The table below shows the planned technology infrastructure upgrades and replacements contained within the medium term Capital Plan. Before proceeding with any replacement the costs are justified and considered as part of the project business case.

| | Project | 2017/18 | 2018/19 | 2019/20 | 2020/21 |
|---|---|---|---|---|---|
| | Scheme | £000's | £000's | £000's | £000's |
| | **IT Developments** | | | | |
| 1 | Server Hardware Renewal (deferred from 2015/16) | | 320 | | |
| | **IT & Communications** | | | | |
| 2 | Renewal of Risk Information, Mobile Data Terminals (GPS Premises Information) | | 211 | | |
| 4 | Primary Network Switch Replacement | | | 100 | |
| 5 | Network Structured Cabling Replacement | | | 60 | |
| 6 | Local Area Network (LAN) Replacement | | | 50 | |
| 7 | Secondary Network Switch replacement | | | | 35 |
| 8 | Renewal of Mobilising System Mobile Data Terminals (who & where resources available) | | | 276 | |

**3.0    Explanation of Infrastructure Upgrades contained in the Medium Term Plan**

3.1    Item 1 - Server Hardware Renewal
There is a sizeable Storage Area Network (SAN) installed in a resilient manner at BFRS premises and Cambridgeshire Fire & Rescue Service premises (CFRS). In addition are a number of hardware servers installed in a similar manner. These items were predominantly purchased or upgraded at the same time and reached their five yearly replacement cycle in 2015. The replacement work has been delayed as it was possible to gain more use of these items, however they are now reaching a point where replacement needs to be undertaken which is planned for 2018/19.

The server hardware contains the software for the applications and systems that are used throughout BFRS. The SAN contains the data that is used by all the applications and is an approach which centralises the data storage to achieve economies of scale rather than have storage on a per individual server basis which would not provide resilience.

3.2    Item 2 - Renewal of Risk Information, Mobile Data Terminals
This project refers to Mobile Data Terminals which are ruggedized laptop type equipment which are used as portable devices at incidents to be able to look at information to deal with the incident. The project has been deferred from 17/18 to 18/19 in order to try and align both the Risk MDT's and the mobilising MDT's through the ESMCP project.  Unfortunately the national ESMCP project has slipped and looks possible to be slipped even further.  We are now looking to begin the replacement programme for Risk MDT's due to a sudden increase in reported defects on the current Risk MDT's.  This work will consider a collaborative approach and will seek to identify any savings on economy of scale.

3.3    Item 4 – Primary Core Network Switch Replacement
BFRS has two major connections to the external network provided through a consortium contract with Cambridgeshire County Council. These connections are set up in a resilient manner and have a sizeable network switch at each connection to distribute data to the correct location on the internal network. These core switches will become end of life in 2019/20 and will need to be upgraded to supportable hardware. Opportunities will be taken at the time of replacement to install modern hardware which has more flexibility and offers a higher degree of stability and protection in line with recent developments.

3.4    Item 5 – Network Structured Cabling replacement
This capital item has been requested to allow for replacement where in certain buildings old cabling infrastructure exists that does not support the throughput required for applications and modern networks. Whilst building cabling has a long life expectancy under normal circumstances, developments over the years have meant a high bandwidth is required, making very

old cabling such as Category 3 redundant, modern cabling above Category 5 standard has a comparative 10 fold increase in bandwidth. Surveys will be undertaken beforehand to ascertain where replacement is required before instigating procurement activities.

3.5    Item 6 - Local Area Network (LAN) Replacement
Network switches are required to distribute data throughout the BFRS sites on the internal network. Switches are required at all locations and at bigger sites multiple switches are required. These local switches will reach end of useful life in 2019/20 needing replacement with new supportable hardware. Opportunities will be taken at the time of replacement to install modern hardware which has more flexibility and offers a higher degree of stability and protection in line with recent developments.

3.6    Item 7 – Secondary Network Switch replacement
This capital item is to install resilient switches at Bedford and Luton fire stations that host Northern Area Office and Southern Area Office. Both sites currently have 2 external network connections, but both connections go into a single switch. By installing a second switch and connecting one of the external connections to the new switch will increase the resilience and remove single point of failure of each site, as should one of the switches fail, the site will still be connected by the resilient link on the second switch.

3.7    Item 8 - Renewal of Mobilising System Mobile Data Terminals
This project refers to Mobile Data Terminals which are installed as fixed items in the Appliances and are used to send and receive deployment information on incidents. The project has been deferred from 2018/19 to 2019/20 due to the delays in going live with the Resque 4i mobilising system. There is a desire to try and align the replacement of these MDT's with ECMCP and the project will be considered when more information emerges regarding the ECMCP rollout and the MDT's available in the market place at the time.

**4.0    Conclusion**

The ICT Infrastructure upgrade items shown within the Medium Term Capital Plan, have been put in place to ensure continuation of a stable and resilient technical environment in order that organisational efficiencies through the use of its technical environment can continue. These items are intended to be replaced as they reach end of life and become increasingly difficult to support or obsolete.
The replacement of these items will continue to provide organisation efficiencies and assurance that BFRS can discharge its operational duties effectively.

## 5.0 Recommendation

That Members receive the report.

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**Implications**

Financial – The Services medium Term Capital Programme is reviewed yearly and presented through the budgetary sign off processes

Risk – known – As part of the functional planning process the risk of ageing equipment, replacement and or sourcing of new equipment/technology is continually considered and reported through to CMT as necessary.