

Report Reference Officer Decision To Replace Bt ISDN30 Telephony With Modern SIP To Microsoft Teams Technology

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Authors: John Higgins and Dan Pobjoy

Executive Summary:

This Officer report details the decision to replace outdated and inflexible (but highly reliable) Bt ISDN30 telephone circuits (encompassing all of our main telephone number range 01255686xxx) with modern, but proven, similarly reliable and resilient Bt managed Session Initiation Protocol (SIP) telephony services - SIP To Microsoft Teams Technology.

Tendring District Council has led SIP trunk service discussions with Essex Online Partnership (EOLP) partners who can each join the framework offering with commensurate user volume pricing reductions.

In addition to value-for-money, key to this decision is the additional call volume capacity and flexibility the new SIP service will provide. It almost doubles our incoming telephone line capabilities. This in turn offers the possibility of flexibly setting up additional/ temporary telephone answering arrangements during known/ predicted (or new) periods of high call volumes e.g. annual council tax bill renewal, or a major emergency planning incident.

The provision of increased telephony services is subject to available council staff resources and a managerial operational decision to resource additional telephony services - all following due consideration to operational costs and the council's customer service channel migration plans to shift service users onto cheaper self-service channels.

From a timeliness perspective, by 2025 all PSTN services, specifically including ISDN30, together with analogue voice and ISDN2 will be switched off permanently.

The contract renewal costs will be £198,360 for a five year period, less any aggregate savings through other EOLP partners adopting the service. This is inclusive of a generous call charges plan. Subject to outgoing call charges variability, this contract should deliver a small saving each year.

The contract renewal is funded through existing budgets. The procurement route is a direct award through the UK government Crown Commercial Services framework (RM3808-L3-BT0193 & BT0006) which is in accordance with the Council's Budget and Policy framework.

Background:

The Council has had a long-standing agreement with BT for the supply of Integrated Service Digital Network (ISDN30) telephone lines (or circuits) for some time. These ISDN30 circuits carry all of our incoming telephone calls from the public calling the council on any of our published or unpublished 01255686xxx telephone numbers.

For simplicity, our ISDN30-based Bt service can be best described as follows;

- One ISDN30 system as 'a telephone cable' with the capacity to carry up to thirty simultaneous calls.

- The council has two separate ISDN30 systems for resilience with thirty eight simultaneous calls maximum capacity.
- We rent 38 Bt ISDN30 circuits each providing one telephone call capacity.
- The 38 telephone line capacity is fixed and can only be changed through going through Bt's ordering/delivery process with minimum rental agreement periods.

To ensure cost effectiveness and value for money whilst ensuring the resilience of this key telephony communications channel our internal telephony has evolved through firstly Cisco Voice Over Internet Protocol (VoIP), then Microsoft Skype on premise telephony and is currently provided through Microsoft Teams supported through the public cloud (both of which use VoIP telephony protocol). Voice over Internet Protocol enables telephony to be sent over the Internet or via data cables as opposed to telephone lines.

Without reproducing and referencing a technical network diagram and going into unnecessary detail, the reader should be aware that our internal MS Teams telephony is linked to our external incoming telephone calling via the Bt ISDN30 circuits. This is all connected via an on-site Session Border Controller (SBC) box which has been inherently reliable but is reaching its end-of-life.

Likewise, Bt have given notice that all non-Internet Protocol telephony services are being withdrawn. The traditional voice services originally provided by BT's PSTN (Public Switched Telephone Network) are being switched off. In 2020, no new orders or amendments to existing services will be accepted. By 2025, all PSTN services - specifically including ISDN30 - together with analogue voice and ISDN2 will be switched off permanently.

This short report and officer decision proposes a telephony rationalisation move from outgoing traditional Bt ISDN30 voice services to consolidate all the council's telephony services onto the VoIP technology services that we have been using internally for around the last fifteen years.

To do so, we will be moving from a very resilient and reliable managed Bt ISDN30 service to a similarly reliable and resilient Bt managed Session Initiation Protocol – SIP service - SIP is a protocol that can be used to set up and take down VoIP calls, in addition to sending multi-media messages over the Internet.

Tendring District Council has been leading Essex Online Partnership (EOLP) partners in a multi-partner, value-for-money, SIP telephony framework offering which all EOLP partners can join as and when their existing telephony contractual arrangements allow.

The framework agreement provides an initial value-for-money Bt fully managed SIP to MS Teams cloud-based service (supported 24/7) with additional pricing volume reductions as EOLP partners adopt the service. Current maximum configured to 2,500 users.

From a resilience and security perspective, the Bt managed service also includes a pair of dedicated Essex EOLP partner-only high availability SBCs. They are eminently Bt programmable to deliver any service variations that EOLP partners require.

Reasons For The Decision:

A number of factors have all lead to this migration form Bt ISDN30 telephony services to a Bt SIP managed service, as follows;

- 1) Our adopted '**Cloud-first' services strategy** i.e. this removes an end-of-life SBC from our diminishing on-site estate.

- 2) **Minimal service disruption and technology change complexity risk** – with Bt managing the ‘porting’ of our telephone number ranges from one Bt service to another we can work with just one supplier to coordinate service outages that suit our operations. Telephony is a key operational council media channel.
- 3) **Value for Money** - this service will initially deliver a small telephony saving compared to our ISDN30 circuit rental costs with hopefully further savings as the service is adopted by EOLP partners. EOLP combined buying power has incentivised Bt to provide an extremely competitive pricing structure.
- 4) **Resilience enhancements** to a critical council communications channel using mature, proven SIP technology.
- 5) **Decision timeliness** – by 2025, all PSTN services - specifically including ISDN30 - together with analogue voice and ISDN2 will be switched off permanently.
- 6) **Call volume capacity and flexibility** – the new SIP service (subject to the final contractual configuration ‘licensing’ agreement) the service will provide a contention ratio of 10:1 or the equivalent of 656 users to 66 telephone lines. This almost doubles our incoming telephone line capabilities giving us the flexibility to set up additional temporary telephone answering arrangements during known/ predicted or new periods of high call volumes e.g. annual council tax bill renewal (or a major emergency planning incident). All obviously subject to available council resources to answer the phones.
Note: In this context, the council’s adopted customer service strategy moving service users onto self-service channels is relevant.
- 7) **Framework agreement procurement** in accordance with our procurement rules of procedure.
- 8) **A managed service supported by the UK’s telephony network market leader** - Bt has many faults as an organisation compared with smaller, more flexible and dynamic service providers. However, and in this regard, they remain the UK market leader in the provision of reliable, value-for-money telephony services and have priced this new framework offering on the basis of it being commercially extremely difficult to match by network service re-sellers. It is worth noting that within Tendring we have a limited network services re-seller market, all of whom use Bt’s network for carrier services. For example, Virgin Media are the only major ISP (internet service provider) who offer broadband without a phone line. This is because they operate their own cable network that’s independent of Openreach (Sept’20).

All of the above factors sign-posted officer thinking that the time was right to migrate from ISDN30 telephony to SIP.

And crucially, delivering this contractual service element within budget during difficult financial circumstances and to arguably the UK’s leading service provider in this regard. This in turn gives confidence and trust in professional competence, confidence in delivering the required technical reliability and resilience this key service requires.

A key qualitative consideration has been given to the very significant and real strategic cyber security risks surrounding the renewal of this contract, together with the potential for catastrophic Council reputational loss should we suffer a large loss of data or cybersecurity breach. Given the level of access to information/ systems necessary to manage this service the Council needs ultimate confidence in the specialist capabilities and knowledge credentials and process management in placing this new contract.

The Council’s IT Technical Operations Manager independently recommended to the Head of IT and Resilience Service that the new contract be awarded based upon the above rationale.

Financial Summary:

The new five year contract will be paid for from within existing IT and Resilience Team Service budgets.

In addition to £8, 200 capital setup costs, the Sip contract will cost £3,306 per month or £39,672 per annum giving a total contract life value of £119,016 for a three year period or £198,360 for a five year period. Less any aggregate savings through other EOLP partners adopting the service. This is inclusive of call plan charges.

Legal:

This proposed investment is in accordance with the Council's Budget and Policy framework. The procurement route will be through the UK government Crown Commercial Services framework ((RM3808-L3-BT0193 & BT0006) which is fully compliant with the Council's Procurement Procedure Rules.

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