



DRAFT Advanced Cloud-Based Telephony Solution for General Practice Specification Commissioning Support Pack

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Securing Excellence in Primary Care (GP) Digital Services -The Primary
Care (GP) Digital Services Operating Model v 5**

NHS England Digital Primary Care

GP Advanced Telephony Specification Commissioning Support Pack

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Introduction and Purpose

Integrated Care Boards (ICBs), have delegated responsibility from NHS England to provide GP IT Services in accordance with the NHS obligations in the GP contract and the [CCG-Practice Agreement](#)¹. The GP IT Operating Model ([Securing Excellence in Primary Care \(GP\) Digital Services, 2021-23, 5th Edition](#)) sets out how NHS England will achieve world class digital primary care systems that support flexible, responsive and integrated services for patients, giving them greater control over their health and care. Provision of telephony services for general practices however is outside the scope of these NHS obligations.

Individual general practices receive funding for telephony as part of their overall “global sum” funding for the operation of the practice. The funding of and choice of practice telephony system is the responsibility of the individual practice.

This pack is intended to assist general practices procuring advanced telephony services, and for ICBs or others supporting the practices in this process. It includes a template specification which should be reviewed and updated to meet local requirements.

Telephony is an essential and critical component of a general practice’s ability to deliver its contracted service to patients. It is a public facing function affecting patient experience and practice efficiency and has a key role in business continuity, practice resilience and patient safety. The localised nature of GP telephony has in many cases meant that practice telephony systems have not kept pace with the practice clinical systems in terms of digital systems innovation.

Legacy systems may not offer the capacity or flexibility to service high and peak patient demands. Prior to the Covid-19 pandemic this was recognised as a challenge for practices. The demands arising from and the response to the Covid-19 pandemic across general practice including dramatic increase in home working and telephone consultations further highlighted the limitations in many legacy practice telephone systems.

Telephony systems supporting general practices are now available which are IP technology based, cloud hosted and integrate with the general practice clinical systems. Such systems can help practices manage high and peak demands, support resilience and flexible working (including home and mobile working) and improve patient experiences. Annex D lists some of the benefits (strategic and tactical) which practices may expect from moving to an advanced telephony solution.

¹ The CCG-Practice Agreement has transitioned to the relevant ICB under the CCG to ICB Transfer Scheme.

BT OpenReach and all Communication Service Providers (CSPs) will stop providing PSTN (& ISDN) services by 2025. Practices, and their supporting ICBs, should consider this factor in determining commissioning of future practice telephony systems.

ICBs should encourage practices to benefit from advanced telephony systems which can improve practice efficiency and resilience and provide a better experience for their patients. Although not responsible for providing or funding GP telephony services ICBs will support practices with technical issues which relate to the practice IT infrastructure in particular networking and HSCN connections.

As part of Primary Care Network (PCN) arrangements and other shared and collaborative working which may develop within Integrated Care Systems (ICS) telephony systems which support shared working models can play an essential enabling role.

Joint or community wide procurements may therefore be appropriate as well as offering the potential to secure best value for money and widening the marketplace scope.

In providing procurement and technical support ICBs should ensure where possible the services reduce likelihood of unlawful discrimination and promote Equality of Opportunity by supporting NHS compliance with the nine characteristics in its public sector equality duty as defined by the Equality Act 2010. As a patient facing/interacting service this is applicable to telephony services.

Further useful information is available in *Modernising Primary Care Telephony*. Guidance published by The Health Innovation Network, London, October 2020.

[\(https://healthinnovationnetwork.com/projects/modernising-primary-care-telephony/\)](https://healthinnovationnetwork.com/projects/modernising-primary-care-telephony/)

Key Considerations

This section briefly describes some of the key areas that practices, and ICBs providing support, should consider when developing their telephony service specifications.

Responsibilities

The contracting authority eg practice (or ICB) should ensure responsibilities are established locally at the outset for:

- discovery
- de-commissioning and management of any legacy equipment

- staff training requirements
- local infrastructure requirements
- funding
- reporting and quality improvement

Discovery

Practices should complete an exercise which will:

- understand existing practice telephony provision eg local PBX based, local VOIP etc.
- identify all existing extensions and external lines (PSTN, ISDN, SIP) and numbers and confirm these match current billing. Identify the purpose/usage of each external number eg outgoing calls only, appointments line(s), specific clinics etc. Analyse the activity on each number and extension to identify any unused and any high demand numbers and extensions.
- identify any existing sources of stored patient identifiable data eg call recording, call logs and any requirement to retain this data.
- identify any third party products, not provided directly by your telephony system vendor, integrated with your current telephony system including clinical systems and clinical system integrators, call recording, call logging etc. Identify and understand the contracts with suppliers of these third party products.
- identify any single purpose / dedicated lines and determine if they need to continue in that form eg alarms. (Note other actions, outside the scope of this document, may be needed here as PSTN (and ISDN) lines will no longer be supported after 2025).
- identify any branch sites, however small, as a cloud based VOIP telephony system should be able to support these as part of the same practice telephone service.
- Identify any locations, other than authorised practice premises and home working, where access to the telephony system may be required (eg a dedicated GP hub site or PCN site used for Remote Provision)
- identify if the existing system is shared with or used by any other party (ie multi tenant) and if so on what basis and if there will be any impacts of changing.
- understand any existing practice mobile telephone use and contracts and consider how or if these will be affected by migrating the practice to an advanced telephony solution.

- identify how many staff currently work from home or remotely or may need to do so ?
- identify where fixed IP handsets are needed (ie phone based VOIP) and where a software based phone application (softphone) is installed on an end user device (eg PC, laptop, tablet, smartphone) and connected to the service through broadband internet or wireless data connection. See Emergency Access considerations below.
- examine existing associated contracts and opportunities and exit terms including notice period and costs.
- examine the expected organisational and service model developments expected locally in the future.
- assess existing connections (HSCN or equivalent) and available bandwidth to determine suitability to be used by VOIP. Requesting technical support from the ICB as necessary for this.
- determine with ICB how local IT infrastructure eg networks may be accessed and utilised. It is important to give this consideration prior to issuing a specification and embarking on procurement.

Business Continuity

- practices should carry out a full review of their business continuity plans as part of advanced cloud telephony implementation in particular reviewing the role of telephony in practice operational resilience and the resilience and contingency arrangements for the telephony service.
- practices should specify the minimum period of time telephony services should remain operational in the event of a power failure eg 45 minutes. This may involve support (eg battery backup) for local IT infrastructure and handsets. Mitigation steps may include call diversions and the use of mobile telephony.

Emergency Access

- the new Advanced Telephony Solution should comply with the current OfCom General Conditions concerning access to national emergency services from fixed locations (condition A3) such as the practice premises.
- practices may rely on their telephony service to enable staff to call for urgent help locally eg in a clinical or physical incident. Rapid access ie without the need to prior authentication steps is required in such circumstances.

- in planning the deployment of access to the telephony solution the practice should assess areas of potential risk to patients and staff particularly within fixed practice premises to determine where phone based VOIP (ie fixed IP handsets) are necessary. This process will be assisted by understanding the capabilities available from system provider's products and utilising the Clinical Safety Assurance service available to practices through the GP IT Operating Model.

Data Security

- cyber and data security capabilities required are covered in Table 1 Section 7. This includes the requirement for a Data Processing Agreement between the supplier (as processor) and the practice (as controller)
- the practice should complete a Data Protection Impact Assessment (DPIA) prior to implementation and regularly review this.

Specification Development

Once the discovery activity has been completed use this information to create a specification document, using the template below and adapting to suit the needs of the practice(s). When composing the Specification, the recommendation is to:

- scope the requirement in terms of organisations (practices and others) and premises.
- engage with the ICB (or it's commissioned GP IT delivery partner) to discuss the use of practice premises HSCN connections and local network infrastructure including any new or upgraded structured data cabling requirements (see 2.8).
- assess and document what processes and ways of working the existing telephone system prevent or hinders. Consider whether these can be addressed with a new telephony solution and if so what business changes would be required to do this ie the new telephony solution will be an enabler but the practice & staff will still need to manage a business change.
- document what external telephone numbers will be needed – existing numbers can be ported but the same quantity of numbers may not be required if moving from a premises based system to a cloud based hosted system.

Template Specification

An Advanced Telephony Solution (the “*Solution*”) is required to meet the needs of the general practice(s) (the “*Practice*”) operating services from registered practice premises (the “*Service Locations*”). These are listed in [Table 2](#).

Local organisations should review each requirement to determine local priority. Solutions available through the *Framework* will meet the mandatory requirements. Where capabilities are listed as multiple options (eg 2.3a, 2.3b, 2.3c) local organisations should select the most applicable option.

Definitions

Practice	The General Practice operating under a GP contract (ie GMS, PMS, or APMS contract)
Practice Premises	The premises where the practice is authorised under the GP Contract to operate from (as listed in ODS data)
Service Location	The location(s) where the practice telephony system will be used. This includes the Practice Premises and any other location agreed by the practice and the ICB eg remote provision premises
Solution	An Advanced Cloud-Based Telephony Solution for general practices meeting the requirements of this specification and procured through the <i>Framework</i>
Bidder	Suppliers offering to provide services meeting this specification (See Table 1)
Clinical System	The accredited foundation solution for patient record management as provided to general practices and sourced through the Digital Care Services Catalogue. Where other organisations, ie not general practices, are included in the scope of this specification (see Table 2) then other clinical records systems may be in use.
ICB	The Integrated Care Board has delegated responsibility to provide GP IT / Digital services to its practices. References to the ICB will include as applicable reference to any commissioned provider of GP IT services
VOIP	Voice Over Internet Protocol. The term IPT may also be commonly used. The International Telecommunications Union (ITU; http://www.itu.int) made distinctions between the following terms: <ul style="list-style-type: none">• IPT – The transmission of voice, fax, and related services over a packet-switched IP-based network. Internet telephony and VoIP are specific subsets of IPT.• Internet Telephony – Telephony in which the principal transmission network is the public internet. Internet telephony is commonly referred to as Voice over the Net, Internet phone, and net telephony, with appropriate modifications to refer to fax as well, such as Internet Fax.

	<ul style="list-style-type: none"> • VoIP – IPT in which the principal transmission network or networks are private, managed IP-based networks.
The Framework	The Better Purchasing Framework

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The *Solution* will:

- for the *Practice*:
 - support practice resilience and flexibility including remote working, home working, hub working and alternative locations (i.e. for business continuity response)
 - support the *practice* manage large workload and demand including growth in telephone consultations
- for patients
 - improve patient experience and access eg with automated attendant and IVR to route calls to the most appropriate service
 - reduce incoming call waiting times and abandoned calls (reducing patient complaints specific to telephone access)
 - support continuity of care for patients eg with automated redirection of incoming calls to hubs, alternative locations and out of hours sites
- secure good overall value for money
- support local and national planning with better information and reporting on telephony based patient interactions
- drive the convergence of GP telephony and general IT/digital services ensuring that general practice can benefit from the latest and most innovative technologies.

Table 1: Capabilities Required

Ref	Capability	Requirement				Bidder Response			
		Must do	Optional	Not required	Information only	Fully met	Partially met	Not met	Not applicable
1	General								
	The <i>Solution</i> must provide in addition to standard business telephony capabilities								
1.1	As a cloud based hosted telephony service secure access via IP from the <i>Service Locations</i> or from any internet connected device	X							
1.2	Telephone services which support the <i>Practice</i> to comply with the current GP Contract (see <u>Annex A</u>)	X							
1.3	Integration with the <i>Clinical System</i> (see sections 4 & 5)	X							
1.4	Compliance with the standards described in <u>Annex B</u>	X							
1.5	A single service which is wholly operated and managed by the <i>Bidder</i> *. Additional software requiring local installation where required by the practice will be subject to the conditions of the CCG-Practice Agreement for approval of software.	X							
1.6	Fully cloud based infrastructure with only end user devices installed within the <i>service location</i> (see 8.12)	X							
1.7	Access to a regular improvement and development programme available as <i>Solution</i> updates (see 6.9).	X							

* Where the solution has been procured via a re-seller the re-seller is responsible for ensuring the service is wholly operated and managed by one provider. Re-sellers are responsible for ensuring that providers meet the requirements of the specification.

Ref	Capability	Requirement				Bidder Response			
		Must do	Optional	Not required	Information only	Fully met	Partially met	Not met	Not applicable
2	Implementation Requirements								
2.1	Existing phone number porting	X							
2.2	Low impact installation with minimal staff & business disruption during practice working hours. Patient telephone access to the practice and practice ability to contact patients by telephone including conducting telephone consultations must be maintained during implementation through the core GP contracted hours.	X							
2.3	Access to support (online and telephone) and response during and after installation Where the bidder is responsible for onsite infrastructure as part of the <i>Solution</i> support of the onsite infrastructure is included in this requirement. (Solutions available through <i>The Framework</i> will be able to provide all of the following services – local procurement specification to determine which is appropriate)	X							
2.3a	Access to support (online and telephone) and response during and after installation for <ul style="list-style-type: none"> 24/7 hours 	X							
2.3b	Access to support (online and telephone) and response during and after installation for <ul style="list-style-type: none"> core GP as detailed in the GP contracted hours, as detailed in the GP contract (between 08:00 - 18:30, Monday to Friday, excluding Public Holidays – or as amended in any subsequent changes to the GP Contract). enhanced access hours as detailed in the GP contract (between 18.30 – 20.00 weekday evenings and 09.00 – 17.00 on Saturdays – or as amended in any subsequent changes to the GP Contract). 	X							
2.3c	Access to support (online and telephone) and response during and after installation for <ul style="list-style-type: none"> core GP contracted-hours, as detailed in the GP contract (between 08:00 - 18:30, Monday to Friday, excluding Public Holidays – or as amended in any subsequent changes to the GP Contract). 	X							
2.4	High level availability (at least 99.9%)	X							
2.5	High quality audio (HD Voice)	X							

2.6	Primary Connectivity (<i>Solutions</i> available through <i>The Framework</i> will be able to use any of the following connectivity services – local procurement specification to determine which is appropriate)	X							
2.6a	Use existing NHS funded practice premises HSCN connections for primary connection	X							
2.6b	Use a dedicated data connection (not HSCN) for primary connection	X							
2.7	Where fixed IP handsets (ie phone based VOIP) are to be used it is recommended that PoE (Power over Ethernet) is used to provide power to the handsets. This may mean additional or upgraded local cabling eg structured CAT5e/6 and/or network switches may be required. This is to avoid the requirement for installation of additional power outlets. (<i>Solutions</i> available through <i>The Framework</i> will be able to provide all of the following services – local procurement specification to determine which is appropriate)	X							
2.7a	The bidder will be required to provide and install the necessary infrastructure (eg switches) with separate IP address ranges to ensure that the telephony system is logically separated from the managed GP IT network. (See 2.8 and 8.12)	X							
2.7b	The ICB has agreed to provide and support logical network separation through a VLAN. The bidder agrees to work with and comply with all standards and requirements from the ICB (or it's supplier). (See 2.8 and 8.12)	X							
2.8	The bidder will be required work with the ICB and it's supplier(s) to ensure the performance and security of practice infrastructure and essential applications throughout the implementation of the Solution	X							

Ref	Capability	Requirement				Bidder Response			
		Must do	Optional	Not required	Information only	Fully met	Partially met	Not met	Not applicable
3	Standard office telephony capabilities								
	Capabilities considered as standard within typical local systems installed in general practice premises. The following "Business as Usual" capabilities must be provided				X				
3.1	Hunt Groups	X							
3.2	Extensions	X							
3.3	Directory (internal for practice)	X							
3.4	External direct dial numbers (local or non-geographic)	X							
3.5	Call recording - user able to simply disable/enable at start or during a call	X							
3.6	Auto-attendant – basic services as a minimum to direct patients to out of hours services	X							
3.7	Other greetings and holding messages and music	X							
3.8	Line specific greeting messages, menu options and in queue announcements (These should be easy to update locally)	X							
3.9	Voicemail – can be enabled for all extensions with mandatory password/PIN access control – remote and local access	X							
3.10	Call forwarding – programmable & enabled by end user - for extension unattended or when busy forwarding to hunt groups	X							
3.11	Call waiting	X							
3.12	Practice access to a configuration & administration portal or service (free to practice at point of use) which must allow the practice to configure the <i>Solution</i> to meet the needs of the individual practice independently from other practices on the same platform. Bidders to describe the local capabilities (eg recorded announcements) available through this portal/service and any limitations.	X							
3.13	Practice caller ID - Each practice will require to have own Calling Line Identifier (CLI) display for outgoing calls	X							
3.14	Handset conferencing - Conference in a 3rd party from any handset.	X							
3.15	In call functions e.g. Caller hold, transfer, mute, speakerphone and pause recording	X							
3.16	Line specific call flows for main customer line, direct to department, emergency bypass lines and DDI	X							

3.17	Inbound number or departmental timers automatically control the call flow during working hours, out of hours, bank holidays or training days. (see also 5.1.2)	X							
3.18	Call monitoring ("listen in") eg as used in staff training / induction or when dealing with difficult callers	X							

[illegible]

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Ref	Capability	Requirement				Bidder Response			
5	Advanced Capabilities	Must do	Optional	Not required	Information only	Fully met	Partially met	Not met	Not applicable
5.1	Demand Management To support high and variable incoming call traffic – capabilities including								
5.1.1	Auto-attendant	X							
5.1.2	Configurable demand management e.g. rules based re-routing, queue management Configuration must support patient safety considerations in particular ensuring unanswered routed calls are returned to a default eg reception	X							
5.1.3	Locally configurable Interactive Voice Response (IVR) for incoming call handling e.g. patient triage	X							
5.1.4	Cloud based incoming call queuing (no practical limit)	X							
5.1.5	Outgoing call capacity not limited by incoming call demand	X							
5.1.6	Queue position announcement	X							
5.1.7	Call activity & performance logging & reporting – allowing practices to analyse demand across time and days. This should include abandoned calls, caller waiting times, average queue length, busy hour reporting, attendant availability etc	X							
5.1.8	Reporting to meet national access reporting requirements relevant to practice telephony systems as published. Bidders must commit to supporting these reporting requirements when published. Annex C lists the reporting requirements proposed at the time of publication.	X							
5.1.9	Integration for incoming calls with the <i>Clinical System</i> : To identify patients by specified criteria (in clinical system) and accordingly prioritise call queues, route patients to specific teams or resources		X						
5.1.10	Call-back options including SMS call-back	X							
5.1.11	Call Activity & performance forecasting using call activity logs over days, weeks, months and seasonal periods.		X						
5.2	Resilience and Business Continuity To support General Practice Resilience, Business Continuity and Workforce Flexibility								

5.2.1	Management and re-routing of incoming calls both within a general practice and to alternative numbers in general practices and services within the same Primary Care Network or ICB.	X							
5.2.2	Can re-direct incoming calls to other practices if required eg if practice needs to close.	X							
5.2.3	Access to the practice telephony system from any location with appropriate public internet access including domestic broadband and mobile data network.	X							
5.2.4	User Devices supported will include Fixed IP phones	X							
5.2.5	User Devices supported will include Desktop Apps / softphones	X							
5.2.6	User Devices supported will include Mobile Apps	X							
5.3	Models of Care To support effective, efficient and advanced models of primary care								
5.3.1	Supporting multiple practice collaborations e.g. PCNs with telephone access supporting shared functions such as appointment booking, scheduling, triage and out of hours care. A shared “group” directory must be available.	X							
5.3.2	Other local organisations and their staff may use the same telephony <i>Solution</i> because for example they co-locate premises with the practice, or they jointly provide services with the practice. The <i>Solution</i> should be extendable to support those organisations either discretely or with shared functions.	X							
5.3.3	Ability to integrate and federate with other IP telephony systems – to enable collaboration between multiple stakeholder organisations within ICSs where existing IP telephony solutions are embedded and/or under contract.		X						
5.3.4	Integration for outgoing calls to patients with the <i>Clinical System</i> : to support telephone consultations and general administration. This must allow the end user working from any location which has access to both the <i>Solution</i> and the <i>Clinical System</i> using an approved NHS managed device to initiate a call to the patient from the patient record displayed in the <i>Clinical System</i> .	X							
5.3.5	Integration for outgoing calls to patients with the <i>Clinical System</i> : User option to log the outgoing call event in the patient record		X						
5.3.6	Video Conferencing capabilities with appropriate security assurances used for peer-to-peer conferencing and consultations.		X						
5.3.7	Patient video consultations should only be carried out using an <u>accredited solution</u> . Accredited solutions can be sourced by default through the Digital Care Services catalogue OCVF Framework			X					
5.3.8	Single click switch from phone to video consultation using softphone		X						
5.4	Efficiency				X				

5.4.1	Simple user switch between taking calls on desk phone and on mobile		X						
5.4.2	SMS outgoing integration with <i>Clinical System</i>	X							
5.4.3	Integration for incoming calls with the <i>Clinical System</i> : to support general administration automatic identification of patient's record. This should include adequate measures to protect accessing a patient record based on a caller ID which has been spoofed.		X						
5.4.4	Integration for incoming calls with the <i>Clinical System</i> : to log the incoming call event in the patient record		X						
5.4.5	Integration for incoming calls with the <i>Clinical System</i> : to support patient self-serve (using auto-attendant functionality) including appointment booking, repeat prescription request.		X						
5.4.6	Integration for incoming calls with the <i>Clinical System</i> : to support practice QoF data capture. Using IVR or other automated processes patients can provide data as prompted to assist practice QoF or other data capture needs.		X						
5.4.7	Unified Communications including integration with NHS Mail and collaboration platforms e.g. Microsoft Teams		X						
5.4.8	Integration with N365 and Microsoft Teams		X						

Ref	Capability	Requirement				Bidder Response			
		Must do	Optional	Not required	Information only	Fully met	Partially met	Not met	Not applicable
6	Charges								
	Bidders must provide details on the following (6.1 – 6.6)								
6.1	Licensing – where the <i>Solution</i> requires licences for a defined number of users to state whether these are charged per named user or per concurrent user	X							
6.2	Licensing – what is the impact on multiple organisations, groups and hubs on licensing cost (see notes About General Practices).	X							
6.3	Connectivity – how the practice is connected to the hosted <i>Solution</i> i.e. HSCN or other as permitted in this specification and if costs related to this connectivity are included	X							
6.4	Identify components of the <i>Solution</i> which require to be purchased and those which are provided as part of the rental or service charge	X							
6.5	A comprehensive call charging plan should be provided with the <i>Solution</i> . This may either be integrated within the overall revenue cost of the <i>Solution</i> or as a separate tariff. In either case there must be significant sustainable savings available over access to conventional call charges in a locally hosted PBX with ISDN2 circuits.	X							
6.6	Where an inclusive fixed tariff plan is provided allowing unlimited UK landline and mobile calls any limitations, including “fair use policies” must be clearly explained.	X							
6.7	Practices may co-locate with other practices and other health & social care services (organisations) and use the same <i>Solution</i> . Multiple practices and other health & social care organisations may use the <i>Solution</i> at different locations within a local community or ICS footprint. The capability is required to charge these organisations separately (this may be through setting up different virtual user organisations or groups).	X							
6.7a	This should be done at billing stage by supplier.	X							
6.7b	Locally accessible reporting tools will be provided to allow timely internal re-charging to take place.	X							
6.8	On net (no cost) calling within the practice and within practice groups (e.g. PCNs, branch sites) are free	X							
6.9	Future updates and new features (within purchased modules) at no extra charge during contract (see 1.7)	X							

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Ref	Capability	Requirement				Bidder Response			
7	Data Security & Governance	Must do	Optional	Not required	Information only	Fully met	Partially met	Not met	Not applicable
7.1	The <i>Solution</i> in using the practice managed IT infrastructure must not introduce unacceptable risk to the managed practice infrastructure (e.g. by unmanaged bridging to the internet). Bidders must provide detail on their security management arrangements.	X							
7.2	System configuration and the retrieval of any stored patient identifiable information including voicemail, call recordings, call logs must as a minimum require user identification and strong password authentication. Increased security for access to patient identifiable data should if possible be provided (e.g. multi factor authentication or access only over a VPN). Access to patient identifiable data must be recorded in an access audit trail.	X							
7.3	Recorded calls must be held at a quality level which allows the recording to be of legally admissible standard	X							
7.4	<p>The following patient identifiable data may be held within the <i>Solution</i> at cloud level</p> <ul style="list-style-type: none"> - Outgoing number dialled (no other demographic or clinical data) - Incoming number received (no other demographic or clinical data) - Recordings of practice-patient conversations - Voicemail recordings <p>Any other patient identifiable data stored, including temporary storage during processing activities, within the <i>Solution</i> must be disclosed</p>	X							
7.5	Stored data patient identifiable data including call recording and voicemail must be held on encrypted infrastructure in a UK based secure data centre. The <i>Solution</i> must not require the storage (temporarily or permanently) of any patient identifiable data within the service locations.	X							
7.6	Recorded calls must be stored EITHER in a non-proprietary format (eg MP3) OR if stored in a proprietary format a facility is available to decode to a non-proprietary format on demand and at no cost (e.g. in event of termination of service)	X							
7.7	As a default recorded calls must be held securely for a period of a minimum of 1 year with a capability available for retention up to 6 years (where practices consider the recorded conversation may be needed for clinical negligence or other legal purposes).	X							

	Individual practices, as data controllers, will however be able to determine the retention period for recorded calls for their practice. Bidders must describe their arrangements for the destruction, disposal and local archiving (as needed) of recorded call data after the retention period.								
7.8	The bidder must provide clear, accessible and efficient process to manage any security issues raised or identified	X							
7.9	The individual general practice (GMS Contract holder) organisation must be able to exercise its legal responsibilities as data controller with respect to any data accessed by or stored within the <i>Solution</i> , including those patient data items listed above.	X							
7.10	A data processing agreement which provides assurance that the bidder organisation has : <i>“sufficient guarantees to implement appropriate technical and organisational measures in such a manner that the processing will meet the requirements of this Regulation and ensure the protection of the rights of the data subject”</i> as required under the General Data Protection Regulation (GDPR).	X							
7.11	Where the <i>Solution</i> integrates with patient records in the <i>Clinical System</i> it must <ul style="list-style-type: none"> a. be limited to those records which the practice has authority to access. b. be lawful, i.e. is it really compatible with the purpose for which the data was collected? e.g. automatically finding a patient's number to call them for a telephone consultation 	X							
7.12	The individual general practice may be part of a larger group e.g. practice federation or Primary Care Network or GP Hub and other organisations within the group use the <i>Solution</i> . The <i>Solution</i> must support operating across these larger organisations with individual general practices being able to <ul style="list-style-type: none"> a. Allow access by other organisations to stored patient identifiable data (7.4) for the practice held within the <i>Solution</i> b. Where there is integration with the records of registered patients between the <i>Solution</i> and the <i>Clinical System</i> and all organisations use the same <i>Clinical System</i>, to allow this integration to extend to other organisations within the group (where this is supported by the <i>Clinical System</i>) 	X							

Ref	Capability	Requirement				Bidder Response			
		Must do	Optional	Not required	Information only	Fully met	Partially met	Not met	Not applicable
8	Infrastructure & Networking								
8.1	Use of managed GP IT infrastructure for telephony must not negatively impact on the performance of <i>Clinical Systems</i> in the practice.	X							
8.2	HSCN connections may be used to support the <i>Solution</i> (subject to the conditions described in 8.3.a and 8.4). VOIP is not a core HSCN service but HSCN does support the transmission of VoIP solution traffic and offers QoS to support VoIP solutions				X				
8.3.a	Where an HSCN connection is used (see 8.5): The ICB and the local HSCN provider will prior to any agreement to implement the <i>Solution</i> review (i) existing data services e.g. bandwidth (ii) changes required to practice premises network infrastructure to support security and Quality of Service (QoS) for satisfactory performance of both the IP Telephony Service and the <i>Clinical System</i> (iii) with practice any requirements to retain or supplement dedicated line(s) for external breakout for backup purposes.				X				
8.3.b	Where an external data connection other than HSCN is used (see 8.5.c, 8.6): The CCG/ICB will prior to any agreement to implement the <i>Solution</i> review and advise on (i) changes required to practice premises network infrastructure to support security (ii) any security requirements necessary to protect practice IT infrastructure and existing HSCN connections.				X				
8.4	The <i>Solution</i> will be approved for access through HSCN services	X							
8.5	Primary Connectivity at the <i>Service Location</i> (Solutions available through the Framework will be able to use any of the following connectivity services – local procurement specification to determine which is appropriate)	X							
8.5.a	The <i>Solution</i> will be accessed through the primary HSCN connection at the <i>Service Location</i> . The bidder will work with the HSCN supplier and the ICB to ensure the performance and security of practice infrastructure and essential applications.	X							

8.5.b	The <i>Solution</i> will be accessed through an additional (secondary) HSCN connection at the <i>Service Location</i> . The bidder will work with the HSCN supplier and the ICB to ensure the performance and security of practice infrastructure and essential applications.	X							
8.5.c	The <i>Solution</i> will be accessed through a dedicated external data connection other than HSCN at the <i>Service Location</i> . The bidder will work with the ICB to ensure the performance and security of practice infrastructure and essential applications.	X							
8.6	The <i>Solution</i> will support automated fail over access through alternative IP connectivity at the practice <i>Service Location</i>	X							
8.7	All <i>Service Locations</i> must be able to access same <i>Solution</i> allowing call transfers throughout the practice and access to all practice locations & services through same public facing telephone numbers	X							
8.8	To facilitate remote working (including home working) or working from a location outside the Service Location the <i>Solution</i> should securely extend the practice telephony for access outside the <i>Service Location</i> in such a way as to emulate the in-practice experience. The <i>Solution</i> must enable remote working either by any of the following methods <ul style="list-style-type: none"> • HSCN circuits where available • a public internet broadband connection using a means of secure VPN access to HSCN • through softphone within an approved VDI platform (used to access <i>clinical system</i> and other data services) • via mobile phone using an encrypted softphone app using mobile data or wifi. Bidders should give details of remote working facilities provided in their proposal	X							
8.9	The <i>Solution</i> will be able to operate within a VDI environment without additions or system changes	X							
8.10	The <i>Solution</i> must support the practice business continuity arrangements, as a minimum allowing the practice to operate from a location outside the <i>Service Location(s)</i> using one or more of the remote working connectivity approaches described in 8.8.	X							

8.11	<p>As a cloud based <i>solution</i> installation of equipment and software at <i>service locations</i> should be minimal.</p> <p>The following may be installed in <i>service locations</i> subject to the agreement of both the practice and the ICB.</p> <ul style="list-style-type: none"> • Fixed IP handsets (ie phone based VOIP). These should be power over ethernet (POE) enabled to avoid the requirement for additional power outlets • Softphone applications for end user devices • Dedicated network infrastructure (switches) with separate IP address ranges to ensure that the telephony system is physically separated from the managed practice IT network. NB Alternatively logical network separation (VLANs) may be used if agreed and supported by the ICB. <p>The following is not permitted to be installed at <i>service locations</i></p> <ul style="list-style-type: none"> • Tools which allow the bidder to remotely access any part of the practice managed IT infrastructure including end user devices • Databases or other applications which store patient identifiable data • Additional processing hardware and software eg Middleware to support the Solution or it's integration with the Clinical System 	X							
8.12	<p>The bidder will be required work with the ICB to ensure the performance and security of practice infrastructure and essential applications during the use of the Solution</p>	X							

Table 2: Practices, Organisations & Locations

Practices may operate from more than one *practice premises* eg branch sites and some services may be provided from other locations directly by the practice or by a sub-contracted organisation. *Practices* may co-locate with other *Practices* and/or provider organisations eg multi-function health centres. If other organisations not providing GP services are to be included in scope they are also listed here.

	{Practice}	{Practice}	{Practice}	{Practice}	{Practice}	{Practice}
{Location} {Name} {Postcode}	{Extensions Required} {is this a registered practice premises ?}					
{Location} {Name} {Postcode}						
{Location} {Name} {Postcode}						
{Location} {Name} {Postcode}						
{Location} {Name} {Postcode}						
{Location} {Name} {Postcode}						
HOME/REMOTE WORKING	{number staff}					

Annex A: GMS contract (extract)

Telephone services

7.3.1. The Contractor must not be a party to a contract or other arrangement under which the number for telephone services to be used by:

(a) patients to contact the Contractor's practice for any purpose related to the Contract; or (b) any other person to contact the Contractor's practice in relation to services provided as part of the health service, starts with the digits 087, 090 or 091 or consists of a personal number, unless the service is provided free of charge to the caller.

7.4. Cost of relevant calls

7.4.1. The Contractor must not enter into, renew or extend a contract or other arrangement for telephone services unless it is satisfied that, having regard to the arrangement as a whole, persons will not have to pay more to make relevant calls to the Contractor's practice than they would to make equivalent calls to a geographical number.

7.4.2. Where it has not been possible to ensure that persons will not pay more to make relevant calls to the Contractor's practice than they would to make equivalent calls to a geographical number, the Contractor must consider introducing a system under which if a caller asks to be called back, the Contractor will do so at the Contractor's own expense.

7.4.3. For the purpose of clause 7.4: (a) "relevant calls" means calls: (i) made by patients to the practice for any reason related to services provided under the contract, and (ii) made by persons, other than patients, to the practice in relation to services provided as part of the health service.

Annex B: Standards

- Conditions for practice telephony systems required under GMS contract (see [Annex A](#))
- Demonstrate compliance with all mandatory assertions in the NHS Data Security and Protection Toolkit (DSPT) for the relevant organisation type (or any successor assurance assessment).
- Accredited to ISO 22301 requiring that a Business Continuity Management System (BCMS) is in place
- Accredited to Cyber Essentials Plus
- Compliance with UK relevant legislation on security – see Ofcom guidance on security requirements in sections 105A to D of the Communications Act 2003
- Compliance where applicable with Ofcom General Conditions of Entitlement for communications providers including
 - Condition A3 - availability of services and access to emergency services
 - Condition C5 - measures to meet the needs of vulnerable consumers and end-users with disabilities

Note: Organisational standards may apply to whole organisation and all services it provides internally and externally or may be defined in more detail e.g. within the ISMS scope or BCMS scope. Any compliance with standards or certification must apply to the scope of the services being procured.

- Certified to BS EN ISO 9001:2015: Quality Management Systems
- Compliance with BS7858:2012 Security screening of individuals employed in a security environment. Code of Practice
- Certified to BS EN 15713:2009 Secure Destruction of Confidential material code of practice
- Compliance with [Digital Technology Assessment Criteria \(DTAC\)](#)
- Accredited to [The Interoperability Toolkit \(ITK\)](#)

- Compliance with NHS and social care data: off-shoring and the use of public cloud services
- Although Alarm Transmission Equipment (ATE) is outside the scope of this specification where the solution is required to form part of an ATE System e.g. connectivity then it should support the [LPS 1277 standard](#) or equivalent standard as required by the ATE provider in the service location(s)

The ITU standard for voice quality measurements is based on:

- the CODEC used by VoIP to compress voice across the WAN is G.729a
- Mean Opinion Score (MOS) algorithm. MOS is rated on a scale of 1 (noise) to 5 (perfect quality). Minimum MOS score of 3.7 "Toll Quality" generally accepted as 4 or better.
- jitter of no more than 25 ms
- packet Loss of no more than 0.5%
- round trip delay of less than 150ms

There are no other NHS standards specifically relating to telephony applicable. However telephony solutions which process patient information, support clinical diagnostic activities or integrate with patient clinical IT systems will require compliance with

- DCB0160: Clinical Risk Management: Its Application in the Deployment and Use of Health IT Systems in development and manufacture
- DCB0129: Clinical Risk Management: its Application in the Manufacture of Health IT Systems in implementation

Annex C: Reporting

As part of the establishment of a the *Framework*, suppliers will be required to support the General Practices and the national programme with a reporting functionality. The programme and regional leads are drafting a set of metrics that supplier solutions must be able to report.

The following is the current proposed list: -

- Call abandoned
- Time period abandoned
- Missed call volumes
- Call backs requested
- Call backs made
- Average call length times
- Call times to answer (time taken for a patient to reach their required destination or speak to a member of staff)
- Call volumes
- System outage reports

This is subject to further discussion with the profession and the final list will be shared with suppliers.

Annex D: Benefits

Existing/legacy system scenario & limitations	Advanced Telephony Enabling Functions	Outcome or Benefit
Incoming & outgoing lines are limited to the fixed service delivered to the practice premises and the capacity of the local PBX & onsite infrastructure	Incoming and outgoing lines are dynamically drawn from cloud pool so that lack of in/out line availability Automatically offer patients alternative services when contacting primary care out of hours or when 'line busy' can ensure patients receive timely attention Cloud based VOIP telephony will be "service" based (not equipment based) and will be readily scalable (up or down)	Support major increase in telephone consultations Practice able to handle peaks in demand Improved patient experience Meet needs of organisational change including growth, collaborations, mergers, splits, and closures
Redirection on incoming calls for out of hours/extended hours may be very limited functionally or at worst based on a pre-recorded voice mail redirection message	Automated (programmed) or manual direction of incoming calls to hubs, alternative locations, out of hours sites etc Use of automated attendant and IVR to route calls based on need and availability	Better and safer patient experience Reduced (clinical) risk esp out of hours
Expensive to maintain, upgrade (capital) and operate (line rental and call charges)	Outgoing calls on cheaper at scale tariff – may be built into fixed service charge Internal calls (on-net) should be at no-cost	Significant savings on operating costs expected even with increased activity
Legacy PBX analogue systems may not be well supported or not supported by future development work ie a "burning platform"	Cloud based VOIP will be centrally maintained and should expect investment in support and development in line with the scale of use	Security for practices and supporting business continuity
Reporting capabilities very limited. No understanding of failed or abandoned access	Reporting outputs from the telephony solution to better understand demand patterns, system capacity and expected patient behaviour	Better practice resource planning Improved patient experience Comply with national reporting as it develops

Premises based telephony means practices within same PCN and even branches of same practice cannot benefit from using same telephone service	Automated and manual redirection to staff, teams and practices anywhere within the group (PCN) Single directory No cost easy conference calls for teams	Improve efficiency with easy access to all staff and teams Improved patient experience
Legacy systems may only be readily accessed within the practice premises	Access from locations outside the practice ie mobile, community and home	More efficient use of estates future as practice staff able to work from a range of locations Reduce travel time for staff Improve staff recruitment and retention with flexible working capability
Local practice premises hosted telephony infrastructure (lines and PBX) creates critical dependency on the premises remaining operationally viable. At risk from floods, fire and access incidents.	Telephony services (and clinical system) not dependant on presence of infrastructure hosted within general practice premises Access from locations outside the practice ie mobile, community and home	Can offer a cornerstone for business continuity plans and practice resilience
No integration with practice OC and VC systems	Integrate with practice OC and VC systems	Practice efficiency improvements Improved patient experience
No standard facility or integration to support peer-to-peer VC and collaboration activities. Where happens usually needs a separate technology	Integrate with MS Teams for peer-to-peer VC and collaboration activities such as case conferences	Improved quality of care Better clinical risk management Reduce travel time for staff
No integration with practice clinical system	Cloud based telephony-clinical system integration	Practice efficiencies Time saving for clinical staff eg one click dial up Supports telephone consultations Improved patient experience
Integration with practice clinical system based on locally installed middleware applications which require interface to	Clinical System integration managed at cloud level (as both telephony and clinical system are "cloud" based)	Reduced cost No local cyber security issues from infrastructure boundary issues

local infrastructure with complexity and security challenges	Opportunities for more advanced telephony-clinical system integration benefiting from at scale deployment and centralised interfaces	No local management overhead More efficiencies but also quality and data improvements
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Annex E: Glossary

ATE - Alarm Transmission Equipment

CLI – Calling Line Identifier

CSP – Communication Service Provider

DCS – Digital Care Services Catalogue – managed by NHS England

Foundation Clinical System – GP Clinical electronic health care record system provided to all practices through the Digital Care Services Catalogue

GMS - General Medical Services

GP Contract – the GMS, PMS or APMS contract held by the general practice

GP IT Futures – A Framework providing access to accredited clinical systems for general practices through the Digital Care Services Catalogue. Managed by NHS England.

GPSoC – GP Systems of Choice Framework (preceded the current GP IT Futures Framework and now decommissioned)

HSCN – Health & Social Care Network

HSSF – Health Systems Support Framework

ICS – Integrated Care Systems

IP – Internet Protocol

ISDN - Integrated Services Digital Network

IVR - Interactive Voice Response

ITU - International Telecommunication Union

OCVC Framework – the Online Consultation & Video Consultation framework available through the Digital Care Services Catalogue

PBX - Private Branch Exchange

PCN – Primary Care Networks

POE – Power over Ethernet

Practice – The General Practice organisation (holding a GMS, PMS or APMS contract)

PSTN – Public Service Telephone Network

Service Location – the authorised premises from which the practice operates under its contract

Solution – The Advanced Telephony Solution

Supplier Asserted Integrations – Interoperability interfaces prepared by a supplier and not specified or assured by the NHS

VDI – Virtual Desktop Interface

VOIP – Voice Over Internet Protocol

Annex F: About General Practices

Background information for bidders ~~(optional)~~

There are 6795 general practices operating in England at time of writing. 1675 of these operate branch sites in addition to their main surgery location with a total number of 2506 branch sites which range from very small rural village branches to large city premises formed as branches following practice mergers. Some practices will operate from shared locations i.e. Health Centres co-locating with other practices and other health & social care services. Each general practice is an independent organisation operating under a GMS contract with the NHS. As such they have a large degree of autonomy particularly on operational and administrative functions. Practices vary considerably in size and so instances may vary from 2-3 users in a small rural branch site to hundreds of users in a super-practice health centre. All general practice sites (main and branch) will have an HSCN (Health and Social Care Network) connection.

Practices are also grouped under Primary Care Networks (PCNs) and may be supported by local Practice Federations (collaborations). These groups will operate to share back office functions e.g. appointment booking and certain clinical services such as out of hours care.

Practices are responsible for provisioning their own telephony systems paid for using the “global sum” which is allocated to each practice by the NHS to run its service. Many practices use legacy telephone systems (local PBX & ISDN lines) locally procured and often not offering good overall value for money. Note some practices (estimate 10%) may already have deployed VOIP systems.

General Practices however are not required to provide their own IT/digital services – this is provided to GPs by the NHS (the local ICB commissions this) as required under the GP contract and CCG-Practice Agreement and as detailed in the GP IT Operating Model.

Each practice will operate an instance of an NHS accredited hosted patient management and clinical records system known as the Foundation Clinical System and sourced through the Digital Care Services Catalogue.

General Practices remain responsible for the selection and funding of their telephony system.

Annex G: References & Further Resources

GP IT Operating Model

<https://www.england.nhs.uk/digitaltechnology/digital-primary-care/gp-digital-services-operating-model-21-23/>

[https://www.england.nhs.uk/coronavirus/wp-](https://www.england.nhs.uk/coronavirus/wp-content/uploads/sites/52/2020/03/C0165-remote-working-in-primary-care-gp-practices-during-covid-19-v1.2.pdf)

[content/uploads/sites/52/2020/03/C0165-remote-working-in-primary-care-gp-practices-during-covid-19-v1.2.pdf](https://www.england.nhs.uk/coronavirus/wp-content/uploads/sites/52/2020/03/C0165-remote-working-in-primary-care-gp-practices-during-covid-19-v1.2.pdf)

<https://digital.nhs.uk/services/health-and-social-care-network/hscn-technical-guidance/business-applications-guidance/appendix-b-voice-and-ip-telephony>

<https://digital.nhs.uk/services/health-and-social-care-network/hscn-technical-guidance/business-applications-guidance/appendix-a-video-conferencing>

[https://www.ofcom.org.uk/ data/assets/pdf file/0021/112692/Consolidated-General-Conditions.pdf](https://www.ofcom.org.uk/data/assets/pdf_file/0021/112692/Consolidated-General-Conditions.pdf)

[https://www.ofcom.org.uk/ data/assets/pdf file/0021/51474/ofcom-guidance.pdf](https://www.ofcom.org.uk/data/assets/pdf_file/0021/51474/ofcom-guidance.pdf)

GP_Connect

<https://digital.nhs.uk/services/gp-connect>

GPSOC IM1 Pairing

<https://digital.nhs.uk/services/future-gp-it-systems-and-services/im1-pairing-integration>

Integrated Urgent Care Specification

<https://www.england.nhs.uk/wp-content/uploads/2014/06/Integrated-Urgent-Care-Service-Specification.pdf>

Records Management Code of Practice 2021

https://www.nhs.uk/media/documents/NHSX_Records_Management_CoP_V7.pdf

NHS Safety Standards

[DCB0160: Clinical Risk Management: Its Application in the Deployment and Use of Health IT Systems.](#)

[DCB0129: Clinical Risk Management: its Application in the Manufacture of Health IT Systems.](#)

Guidance: Modernising Primary Care Telephony. The Health Innovation Network, London, October 2020.

<https://healthinnovationnetwork.com/projects/modernising-primary-care-telephony/>

LPS 1277 standard <https://www.redbooklive.com/download/pdf/LPS-1277.pdf>