bfbs

Next Generation Hub

A request for an Expression of Interest in delivering the future BFBS media and entertainment platform

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Introduction

Who We Are

BFBS (British Forces Broadcasting Service) is a military charity and media organisation that delivers the most up to date broadcast, news, top flight sport, entertainment, movies and music to the United Kingdom's armed forces and their families, wherever they are in the world. We operate in more than 20 countries worldwide and have permanently manned studios in 10 countries, including Bahrain, Cyprus, the Falkland Islands and Canada. First broadcasting in 1943, BFBS has constantly evolved to meet the complex technology challenges that are required to deliver high quality content to its audiences worldwide, regardless of whether they are at home in the United Kingdom, on a Royal Navy ship at sea, or in a remote location in Nepal.

BFBS is considering its next steps to augment and evolve this service to meet the rapidly improving technology available in today's market and to increase its off the shelf content offer. This will likely involve some integration into existing BFBS technology environments as we expand our offer against the needs of our armed forces.

Project Background

Note from the CEO, Ben Chapman

BFBS is always looking to the future and increasingly turning to partners to bring their content catalogues, experiences and innovation to bear on our unique challenge to entertain, inform, connect and champion the UK's armed forces wherever they may be. We are looking to augment and evolve our digital platform harnessing the power of our existing partnerships but critically ensuring the underpinning of our global platform is prepared to deliver the kinds of media experiences young service personnel will demand in the coming years. This expression of interest will allow us to see what our industry is capable of, find those whose purpose meets ours, and identify those who can work with many of our existing partners and in-house teams. We will value a secure technology environment that allows us to be the most trusted media supplier, one that can bring our armed forces together around information and entertainment – finally one that can allow media experiences to happen anywhere in the world in the most austere environments.

BFBS is seeking to develop its ground-breaking digital experience underpinned by a technology platform and service providers who can, with BFBS, maintain, evolve, operate and deliver solutions to UK armed forces personnel and their families, regardless of where they are in the world. As part of its evolution, BFBS seeks to harness greater digital innovation, benefit from rapid time to market through plug-and-play architectures and ecosystems and provide to its audiences powerful rich and simple to use experiences that maximise the value of its content and drive engagement.

It is expected that the solution will, at launch, provide a minimum defined set of functionalities to the most connected audience, building on that solution over time to address the more complex media delivery requirements required. The vendor shall be expected to be able to commit to the initial launch and the delivery of subsequent phases as the solution evolves.

Next generation content includes not only traditional broadcast television and radio, but on-demand audio and video services provided directly from the vendor, BFBS and deep-links to third-party partnerships. A gateway to contemporary, audience-relevant content experiences in parallel with typical UK BVOD, AVOD, SVOD such as, articles, written news, audio books, eBooks podcasts, music, e-learning, fitness and wellbeing, games/gaming platforms, and e-sports engagement. Respondents who currently hold UK and global content partnerships and/or operational agreements with third parties which could be extended to BFBS and thus maintained as part of the proposed solution to BFBS will be considered favourably.

One of the main challenges will be the transport of media and accompanying metadata to end consumers. It is expected that content shall be delivered:

- over both managed and unmanaged IP networks (where the scope includes the provision of CDN and unmanaged delivery services),
- over or in DVB (-S and/or -T and/or -NIP) platforms,
- in a connected or offline environment (which may change over time), or
- a hybrid of any of the previous states.

It is likely that the solution will be required to either be *direct to consumer* or proxied to those consumers via a managed delivery gateway over a local or wide area network or existing DVB platform. BFBS already has effective systems in place and some integration may be required to take us from good to great.

The Platform and Programme of Work

Overview

The focus of the project is to provide a next-generation media and entertainment platform to many users, households and establishments across a variety of client device types. It is expected that the platform supports up to tens of thousands of users. This platform is required to support linear and on-demand access to traditional video and audio media sourced by BFBS as well as deep links to third party providers/experiences, curated by BFBS. In addition, it is expected to provide support for further media types beyond traditional AV, including (but not limited to) audio books, eBooks, standalone articles, wellbeing / learning applications, music, podcasts, representations of magazines and newspapers, data feeds and games/ gaming content. Personalisation, recommendations and loyalty scheme capabilities are expected to be implicit in the promotion and delivery of content to the consumer within a single BFBS UI.

The challenge that differentiates this project from a standard "over the top" IP Media & Entertainment platform is the reliability, availability and form of the transport of that content to the end consumers. Some content may be delivered by existing DVB-S (2) & DVB-T (2) platforms and some by IP. IP delivery may be OTT, or it may be over a managed WAN/LAN. Often the network may not have access to a real time or burst transport mechanism (at least for some of the time). Therefore, it is expected that the user application may have to operate in an offline mode using pre-loaded content available only on that network, or content that is loaded onto that network only when connectivity is available. The number of client devices on this network may be as small as 1, or as large as a few thousand. As a result, it is expected that the proposed solution be capable of implementing a *Hub Gateway* that manages the content retrieval and storage dependent on connectivity to the outside world. When no public connectivity is available, the user's application would consume content proxied by that gateway.

This *Hub Gateway* is only expected to be delivered in a subsequent phase of the program, but the MVP release shall require that applications are capable of operating against the *Hub Gateway* with minimum development effort. For the avoidance of doubt BFBS does not require its existing DVB provision replaced, but the platform under consideration here must interface with and deliver some of its outputs using this existing infrastructure.

BFBS creates, sources, manages and delivers a wide variety of content, often with complex and granular levels of rights and permissions management. A strong content entitlements and enforcement capability will be paramount to the experience. However, it is also expected that the solution will allow consumers access to relevant, contemporary third-party content and media experiences, subject to negotiated partnerships by the vendor and/or BFBS, which could be enabled by deep linking. Where third party content is regionalised, the default, minimum offer from BFBS must always reflect the UK marketplace.

Much of the content can only be made available if the consumers are authenticated and on known and managed IP networks (as content rights restrictions require the content to only be made available on BFBS managed delivery paths). Consequently, management of VPNs, either directly from the user location/equipment or from a network content gateway, is expected to be a core part of the solution. Similarly, the catalogue of content available to consumers will vary dependent on their location, VPN availability, and device on which they are consuming content.

The proposition must incorporate studio grade content protection mechanisms end to end, and support industry leading methods of security throughout. The majority of content, in whatever state (i.e. at rest or in transit) is required to be encrypted. This is regardless of whether the content is stored in the back-end Hub Technology Framework, or Hub Gateway, or whether the content is in transit (whether IP or DVB-S/T/NIP) between the back-end Hub Technology Framework or Hub Gateway and the Hub Clients.

At point of service, there is no initial requirement for user payment for BFBS services, they are provided free of charge to members of the UK armed forces and their families. However, partner billing and voucher codes may become an opportunity to serve key audiences with media deals beyond our free offer. Therefore, it does not necessarily preclude any adoption of content payment or transactions at some time in the future.

Expected Benefits to BFBS

From a consumer perspective, the benefits are seen as providing a single aggregated and personalised next generation platform for access to BFBS managed or owned exclusive content, direct or third-party. This application user experience will be consistent regardless of the device type the service is consumed on or the location that the consumer is in. The user shall be able to use the BFBS application to access content regardless of media type, even if this means launching third-party applications where required.

From a business perspective, BFBS expects to be able to operate a single aggregated media and entertainment platform for delivery of next generation content to all its consumers, regardless of their location, connectivity and circumstance. This will provide economies of scale and should give a much greater opportunity to innovate and evolve on a consolidated platform whilst not being held up by having to support a disparate range of platforms and solutions for different content and networks.

Reference Requirements Framework

The following diagram shows a high-level requirements framework for the anticipated solution.
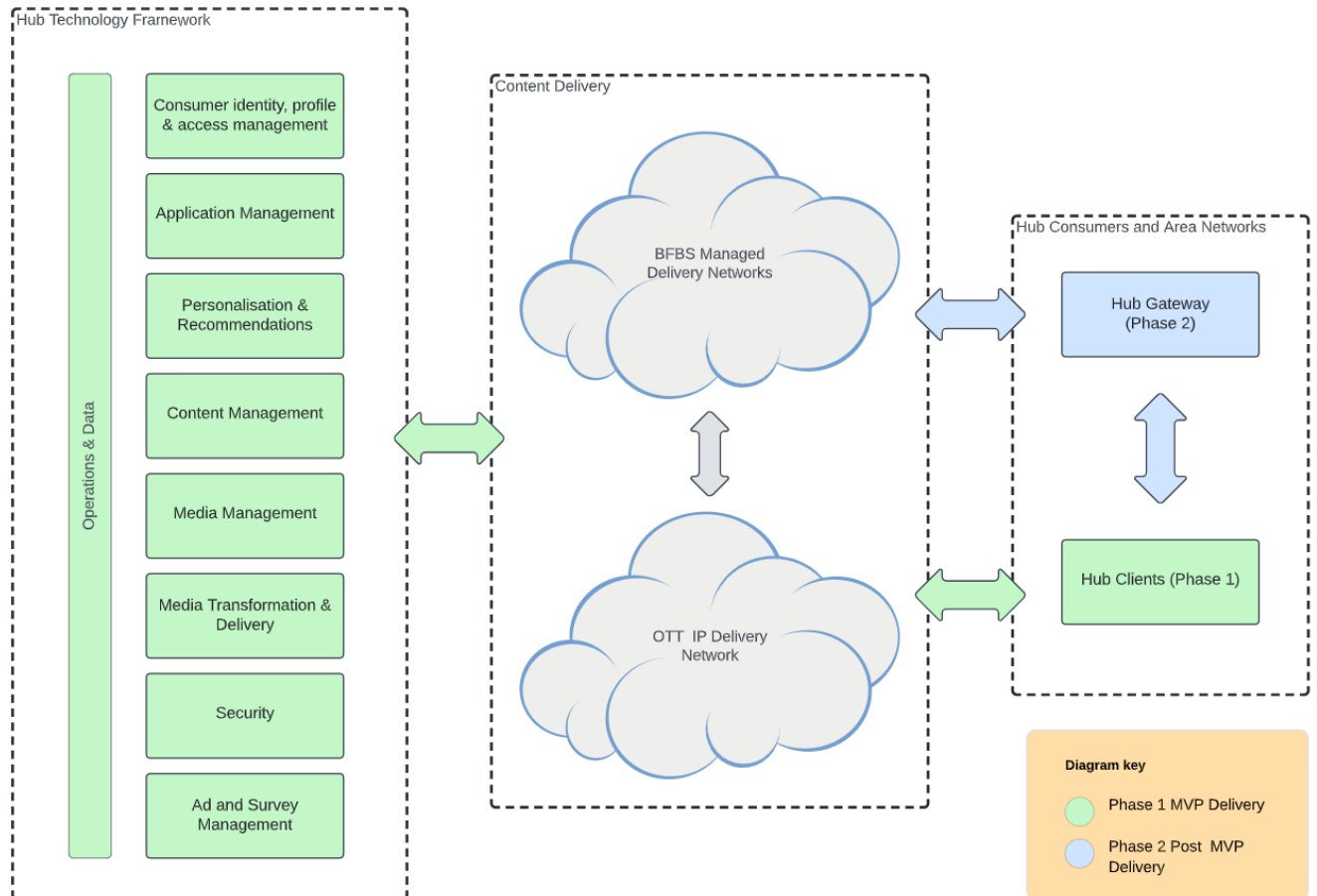
Consumer Identity, Profile and Access Management

The *Consumer Identity, Profile and Access Management* framework is required to:

- Manage, authenticate and authorise registered users on the platform
- Manage registered devices on the platform, and the users with which they are associated
- Manage user specific metadata required for personalisation, preferences and content entitlement
- Voucher provision from supported third parties

Application Management

The *Application Management* framework is required to integrate with content management, media management, security, personalisation and identity solutions to provide all back-end services for Hub Clients and Hub Gateways to access and present content to the consumer.

Personalisation and Recommendations

The *Personalisation and Recommendations* framework is required to:

- Provide facilities for analysis of user profile explicit preferences to drive content selection
- Provide facilities to infer profile implicit content preferences from user behaviour to drive content selection
- Based on explicit and implicit user preferences and learning, integrate with the Application and Content Management solution to present personalised content and recommendations
- Based on editorial selection, integrate with the Application and Content Management solution to present operator determined content and recommendations

Content Management

The *Content Management* framework is required to:

- Manage metadata describing the catalogue and availability of content (of any type) on the platform
- Integrate with third party metadata providers and listing solutions to ingest that metadata into the platform
- Ensure the correct catalogue of content is presented to the user + integrate with third party provider(s) as necessary (i.e. the content presentation and consumption rights are defined, dependent on user location, profile and consumer device)
- Provide timed metadata alongside defined content (e.g. sports scores, on-screen cast lists, "now playing" song, artist and album listings, etc.)
- Provide or integrate with a Gamification solution to enhance and excite users consuming content (particularly sports or e-sports)

Media Management

The *Media Management* framework is required to:

- Manage content ingest and acquisition (of whatever media type)
- Manage ingested content and associated media specific metadata (e.g. VMS)
- Manage and store content prior to publishing and distribution (i.e. VAM/DAM functionality, document databases, etc.)
- Ability to enact 'take down' requests for immediate execution (for all content types)

Media Transformation and Delivery

The *Media Transformation and Delivery* framework is required to:

- Ingest content (regardless of media type) from BFBS and third parties
- Manage transcode, segmentation, packaging and encryption of content (integrating with any DRM or encryption platforms as required)
- Support on-demand video, linear broadcast video, and time-shift of linear broadcast video content
- Manage distribution of the content to consumers on the vendor's platform
- Manage syndication of the content to BFBS managed distribution platforms

Security

The *Security* framework is required to:

- Ensure that content, of whatever type, is capable (if required) of being encrypted and secured regardless of whether it being stored or in transit
- Ensure that the platform and supporting infrastructure are secure from a cyber & information perspective and aligned or accredited to a recognised security standard
- Manage the license provision to Hub Gateways and Hub Clients to allow authentication and authorisation for those devices to decrypt received content – in some circumstances where for extended periods no WAN connectivity is available
- Enable VPNs to be provisioned on Hub Gateway and Hub Clients to the back-end Hub Technology Framework to ensure identified content tunnels belonging to BFBS are used to transport content

On-platform Comms Management

The *On-platform Comms Management* framework is required to:

- Provision media assets - whether images, audio or video - as accompanying material to be presented and consumed on Hub Devices when consuming related content
- Present an image asset as overlay content in the Hub Client user experience as and when signalled
- Present video content as pre-roll, mid-roll and/or post-roll whilst consuming video content where required and third-party agreements and functionality permit
- Present and require direct engagement of the users to survey their satisfaction of the service or their wishes and preference for future features. The user may optionally be rewarded for their engagement (e.g. a voucher code)

Operations and Data

The *Operations and Data* framework is required to:

- Provide facilities (including UIs) for BFBS or their nominees to operate and command the platform
- Provide solutions to capture and report on user behaviour (in their interaction with the platform (if possible)
- Provide solutions to capture and report on media reception and consumption (e.g. video QoS reporting, media download metrics, etc.). This can be both online live data capture where the user is connected, or cached usage data that can be uploaded in future when connected for post viewing analysis to improve the services.
- Provide solutions to report on user experience, such as inability to access content, buffering, failed plays and latency etc.

Hub Clients

The *Hub Client* solution is required to provide an application that can:

- Be operated on standard off-the-shelf devices including iOS and Android phones and tablets, most (but not all) connected TVs and common OTT devices such as Fire Stick. Allowing consumption of encrypted and authorised BFBS content whether sourced from the online *Hub Service* or *Hub Gateway* appropriate to device.
- Monitor VPN connectivity and entitlements to access BFBS content from the *Hub Service* appropriate to user profile and location e.g. adherence to rights geo-restriction
- Manage connectivity and local BFBS catalogue access from an available *Hub Gateway*
- If required, action deep linked or deferred deep linked content to consume in third party applications
- Report on user behaviour and quality of service

There is a requirement for a successful vendor to supply user experience and application design services to the program.

Hub Gateway

Note: the *Hub Gateway* is a phase 2 solution, and is not expected to be deployed at launch

The *Hub Gateway* solution is required to:

- Terminate reception of encrypted content from the back-end Hub Technology Framework - this may be received via DVB-T (2), DVB-S (2), DVB-NIP, or IP over VPN
- Store for later distribution received encrypted content, prioritising the capture of content to the local content library by signalling from the back-end Hub Technology Framework and/or local configuration or settings (those settings may be determined by behaviour or actions of attached *Hub Client* devices, e.g. to allow consumers to vote for their preferred content)
- Store pre-encrypted content made available at the origination time as on-demand content, making the gateway available for managing local content distribution to connected *Hub Devices* even when there is no external network or media source (i.e. the *Hub Gateway* is offline)
- Securely stream encrypted and DRM protected stored content to *Hub Devices* that are attached on network
- Provide an API utilised by the end user app on *Hub Devices* that are attached on network that requires little or no modification to those *Hub Devices* should they be consuming from the *Hub Service* or the *Gateway* (i.e. the goal is to have a single application that is capable of operating transparently and without modification regardless of whether connected to the *Hub Gateway* only, or the *Hub Service* only.

Systems Integration and Knowledge Transfer

BFBS has mature and well-defined broadcast facilities and metadata sources. This includes a complex network of video contribution and distribution platforms, both from the BFBS UK site and from remote broadcasting operations. These involve contribution feeds of SDI over fibre and MPEG transport stream over DVB-S/T. Metadata is sourced from several locations but is aggregated into a BFBS managed platform.

The successful vendor shall be required to manage the system integration of their platform into the existing BFBS estate where necessary. This includes full end to end testing of the platform.

The successful vendor is also expected to be able to offer full knowledge transfer that allows BFBS staff to support and maintain any remote aspects of the solution where vendor staff may have difficulty in gaining access (given these remote sites may be military facilities). There is also a requirement for the solution implementation to be well known by BFBS staff to allow security audits to be completed successfully before adoption.

Agile Delivery and Architecting for Change

The respondent is expected to operate in an agile (i.e. rapid and flexible development and deployment) manner, and provide solutions, technologies and operational capabilities that fit within these criteria. A core tenet of the project is to benefit from rapid market innovation and be able to develop and deploy quickly to meet late changes or requests for functionality or capability that may be deemed time sensitive.

The responding organisation and its proposed solutions are expected to be built and architected to support rapid and low-cost change. Software solutions that adopt microservice based architectures and ensuring services in the technology framework are loosely coupled will be considered favourably.

It should be expected that BFBS wish to drive change, contribute to product roadmaps, and where required, engage in professional services to drive features and capabilities to support nuanced capabilities that may be deemed either beneficial or required / mandated.

Programme Structure and Timelines

Key Stakeholders

- Shabana Dossa, BFBS Hub Programme Manager
- Ben Chapman, BFBS CEO
- Nick Beer, BFBS Director of Development and Strategy
- Jenny Andrews, BFBS Head of Product
- Ryan Lambert, BFBS Director of Technology
- Lisa Mitchell, BFBS Director of Editorial Content
- Adam Hardwick, BFBS Deputy Director of TV & Cinemas
- Nicky Ness, BFBS Director of Broadcast & Entertainment

Timelines and Milestones

EOI (Expression of Interest) – LIVE 6th Feb 2025

EOI Closes – 28th Feb 2025

Successful Vendors Informed – w/c 24th Mar 2025

ITT (Invitation to Tender) – LIVE 28th Mar 2025

Procurement Process Details

Procurement Process Overview

BFBS has engaged its strategic technical partner, Spicy Mango, to support this "invitation to tender" and steer its future technical strategy. This ITT leverages a two-step procurement process; an open Expression of Interest process followed by a closed Competitive Dialogue and Request for Proposals.

We will shortlist vendors based on their responses to the expression of interest.

Once the shortlist is determined, the RFP will be issued to those vendors selected, with accompanying documentation and compliance matrices. A detailed analysis and score of the response of this RFP will be completed, alongside possible closed dialogue and a possible request for presentation of the proposed solution to BFBS. The RFP response shall include details on technical compliance to the requirements, timelines for estimated delivery of the solution, estimated operational impact and ongoing expenditure, and pricing for the proposed solution. A finalist shall then be selected, at which point contract negotiations shall commence.

Pre-Conditions

Each EOI response shall adhere to the following pre-conditions. Not meeting these conditions will result in the vendor being excluded from the process.

- The response is expected to be brief. Long or onerous responses, or those which require any discussion or clarification from the vendor, will be excluded.
- The vendor shall be able to demonstrate the supply, integration and (if appropriate) operation of a media and entertainment platform worth at least £5M in customer costs in the last 3 years.
- The vendor shall be able to provide first line support for their solution 24/7, and second/third-line support must be available during UK working hours.
- The vendor shall be able to provide key support services on-site at BFBS premises in the United Kingdom.
- BFBS follows the following UK guidelines: https://www.gov.uk/guidance/uk-sanctions regarding dealing with vendors who supply technology or services.

Completing the Expression of Interest Response

The intention of the Expression of Interest is to shortlist possible vendors before a more rigorous and complex dialogue and RFP process. Therefore, the response to this document must be *brief*. It must present concise responses to the respondent requirements asked below. If these are not answered, or where the answer is spread across multiple parts of the response, then that response may be excluded from the process.

The response must be a supplementary to the document (i.e. not inline). It shall be in a Microsoft Word or PDF format and be submitted by the date indicated in the Timelines and Milestones section above to the following address: **hub.eoi-itt@bfbs.com**.

The response *can* be accompanied by additional marketing material, but this will not be considered in determining the successful response to the questions/statements asked below.

Requirements for Respondents

1. Please state the company name, address (registered office), website and countries where the main development and operation and management of the solution would occur.
2. Please state the size of the respondent's organisation that would be responsible for delivering the solution, (annual revenue and/or number of personnel)
3. Please state the respondent's main point of contact
4. Please describe what aspects of the presented solution in the Reference Requirement Framework section above would be delivered by the respondent's organisation, by the respondent's organisation sub-contractors, or by a third party contracted by BFBS
   a. If respondent sub-contractors are required, please name and describe the purpose of those that would be part of the vendor's solution
5. Please describe the respondent's track record.
   a. Specifically, give at least 1 case study of the respondent delivering solutions of this size and complexity and with the same focus on media and entertainment, including:
      i. The client's name that received the solution
      ii. A ballpark cost that the respondent received for delivering that solution
      iii. A description of the nature and scope of the services that you provided the client
      iv. Information on cost, scale, duration and whether the project was delivered on time and on budget
      v. If/How the project changed or transformed the client business
      vi. A brief description of the approach used in the design/architecture of the solution
      vii. A brief description of the Systems Engineering and Management Plan used to deliver the program
      viii. What third party subcontractors you included in the project, their role, and how you managed the relationships between the subcontractors, yourselves and the client
      ix. The size of the audience and customer base of the solution.
6. Please briefly describe what aspects of security and data protection that the respondent's solution offers, including:
   a. Managing content encryption and decryption in transit and at rest
   b. Managing customer data and ensuring personally identifiable information would meet UK regulations and laws
7. Please provide reference information (and screenshots / renders where appropriate) of the respondent's digital and creative design capabilities, including examples of user interfaces and experiences that you have developed as part of your solution.
8. Please briefly describe your experience in delivering "brownfield" solutions where incumbent solutions and systems are still in place and may operate alongside the respondent's proposed solution.
9. Please present what options the respondent's proposed solution has for operation of the platform (e.g. is it fully operated by the respondent (SaaS) or is the platform operated by the respondent but configuration and feature control by BFBS (PaaS), etc.)
10. Please briefly describe your experience in managing the system integration the respondent's proposed solution in a customer's platform.
11. Please briefly describe how the respondent would build the solution to allow agile delivery and to support future (yet unknown) change in the business requirements, third-party applications and evolution of deployed customer device types.
12. Please briefly describe the variety of media types (e.g. traditional video, music, eBooks, podcasts, newspapers, magazines, etc.) that the respondent has experience and capability of managing on the platform, whether just be linking to third-party applications, or directly managing the secure distribution and consumption of that content.

13. Please describe your experience in managing application and creative user experience design in your products.
14. Please provide a high-level list of the features and capabilities the respondent's technology provides over and above that required for this solution.
15. Please describe (where relevant or supported) details of any relationships or content provider agreements that are held with the respondent, where that content may be supplied as part of the proposition. For the avoidance of doubt, content may include Podcasts, Audiobooks, eBooks, e-Sports and not necessarily be limited to traditional video and audio, BVOD and SVOD.