|  |
| --- |
|  |
| Change in Practice ProgrammeElectronic Enablement of the CAFEvaluation of High-Level Options |
|  |
| Cornwell Management Consultants plcHome Barn CourtThe StreetEffinghamSurrey KT24 5LGTel: 01372 456086Fax: 01372 450950www.cornwell.co.uk251875'v3.0 June 2005 |

1. Executive Summary 1

Introduction 1

Strategic Fit 1

Options Appraisal 3

Conclusion and Recommendations 4

2. Introduction 6

3. Strategic Fit 7

Objectives 7

Current Situation 8

Constraints 10

Strategic Risks 11

Critical Success Factors 12

Strategic Benefits 13

Stakeholder and Practitioner Base 14

Performance Measurement 15

4. Options Appraisal 17

Overall Requirements 17

Options 17

CAF Project and Index Project Dependencies 21

Options Assessment Criteria 22

Summary Weighted Assessment for Base Case 32

Sensitivity of Assessment to Changes in Weighting 34

Do Nothing Option 36

Preferred Option 37

Evolutionary Strategy 37

5. Conclusion & Recommendations 39

ANNEXES 42

A. Individuals Interviewed as part of this Study 42

B. Trailblazer Findings 44

C. Key Findings from Review of Systems Landscape 46

D. Assessment Criteria for Evaluating Options 49

E. Significant Technology Areas 52

F. Potentially Achievable Qualitative Benefits from CIP Programme and Links to Project/Programme Elements 56

G. Methodology and Volumetrics 61

H. Benefits of Electronic Enablement 69

I. How It Might Work 74

cdevwestgate project

# 1. Executive Summary

## Introduction

1. The development and implementation of the Common Assessment Framework (CAF) is a key workstrand within the Change in Practice (CIP) Programme, which itself fits within the Every Child Matters: Change for Children Programme.
2. The CAF and the associated CAF form provide a common assessment for children with additional needs above those satisfied through the provision of universal services. It is intended for use across a wide spectrum of agencies and voluntary organisations. By adopting a standardised and consistent approach, it is hoped to achieve earlier intervention, promote information sharing amongst practitioners, and improve the quality of assessments for children and young people. Following an intensive period of development, the CAF has been launched for initial trialling by first wave local authorities in the period from April 2005.
3. Practitioners, when consulted on the CAF proposals, confirmed electronic enablement of the CAF as being highly desirable and necessary if the full benefits of implementation are to be achieved. This document describes the results of a high-level assessment of options for electronic enablement, together with a recommended route forward for DfES.

## Strategic Fit

1. Before considering potential options for electronic enablement, an assessment was undertaken of the strategic context for proceeding with electronic enablement. The aim was to:
* confirm the importance of CAF electronic enablement for achieving key strategic objectives and supporting current business plans implement the CAF;
* identify the constraints within which the options must be developed;
* confirm whether support can be provided for managing CAF implementation risks;
* confirm the major benefits that can be realised through electronic enablement and its impact in combination with the Index system;
* understand the scale of the practitioner base that would be impacted;
* identify the contribution that can be made to the performance measurement of services.
1. Clear and challenging business objectives have been established for implementation of the CAF in all local authority areas by 2008, as part of the wider change agenda. In turn, these objectives have enabled the ICT objectives for electronic enablement to be confirmed, which include utilisation of existing local solutions where possible, management of strategic interdependencies with the Index project (this forms part of the CIP Programme and its aim is to establish IT-based multi-agency index(es) containing basic details on all children and young people in the country. The index(es) will enable practitioners to identify quickly a child they have contact with, confirm whether the child is getting the universal services to which they are entitled, identify who else is involved with or has a concern about a child and identify whether a child has a common assessment) and recognition of existing budgetary constraints.
2. Key learning has been extracted from work that has been undertaken by Trailblazers, where different approaches to electronic enablement of the CAF are being adopted, and although limited CAF progress has been made, progress made on a range of Index systems has also proved informative. Assessment of the wider stakeholder systems environment has revealed a very fragmented set of systems where few, if any, are able to pass information from one agency to another. Some solutions for information sharing are emerging and the CJIT (Criminal Justice IT), Government Connect, FAME (Framework for Multi-Agency Environments) and RYOGENS (Reducing Youth Offending Generic National Solution) initiatives provide informative models.
3. Other key constraints, in addition to those of no defined investment budget (the very limited funds which could currently be deployed are not centralised nor ring-fenced but are available at a local level and as part of existing national programmes) and interdependency with the Index, include the fact that implementation of the CAF cannot be mandated (such that take-up will be at the discretion of local authorities) and the need to manage issues arising from the political and legislative process, including the Data Protection Act. Strategic risks associated with implementing the CAF have been identified and it has been confirmed that electronic enablement can play a major role in mitigating the potential adverse impacts arising on each area of risk. The potential risks associated with electronic enablement have been considered as part of the options appraisal work, described below. A number of critical success factors for the CAF project have been identified and electronic enablement, besides being a critical success factor in its own right, has a key role to play in ensuring the other project critical success factors can be put in place by the project team. One of the most important roles that electronic enablement will fulfil is to provide the key means by which integration of the various separate initiatives, that form part of the ECM:CfC programme, can be achieved. This includes support for organisational and cultural change activities being undertaken as part of the Supporting Change Programme and by the Integrated Working and Building Capacity projects within the Change in Practice Programme.
4. Electronic enablement of the CAF will deliver a range of strategic benefits, which will make a significant contribution to the realisation of the overall programme benefits. Analysis of the strategic benefits with or without electronic enablement reveals that the scale of potential benefits in a paper-based environment is likely to be very modest. Several Trailblazers have expressed strong views that no CAF benefits would be realised unless electronic enablement takes place. In addition to the likely realisation of a low level of benefits the No Electronic Enablement option is likely to face significant resistance from practitioners in its implementation.
5. On the other hand, with electronic enablement the scale of benefits would be significantly increased over that available under the No Electronic Enablement option. Significant additional benefits can be realised such as a reduction in administrative effort in completing the CAF form, maintaining administrative records and in securing access to them, often when operating to strict statutory reporting deadlines. Feedback from the Trailblazers and work undertaken by the FAME (Framework for Multi-Agency Environments) project, part of the National Programme for Local e-Government, indicates that the enablement of multi-agency working is a major benefit that can only be achieved within an electronic environment. There is also high expectation that electronic enablement will be undertaken and would therefore attract strong practitioner support. The provision of management information at both the local and departmental level will allow improved on-going performance management of the service and support planning for its future development
6. The impact of implementation of the Index has also been considered. With No Electronic Enablement of the CAF, the value of the Index to the CAF process would be restricted to the coordination of the common assessment, enabling practitioners to identify children who have had a CAF, but not providing access to the CAF record. The Index would not enhance the benefits identified under the CAF and significant administrative effort would be required for its update and maintenance. In an electronic CAF environment, the Index can provide significant ways to enhance the scale of the CAF benefits across all the areas identified to a marked degree and will also provide additional benefits, such as a an electronic CAF form with the basic data to identify the child already filled in.
7. Details captured of the wide range of stakeholder groups and practitioner numbers (from the impact assessment work) together with consideration of the performance management environment have influenced development of the options considered and informed the selection of a wide range of individuals interviewed as part of this assessment. In terms of size of the practitioner base anticipated to be producing CAFs the largest is assessed as Health, followed by those in Education and then Social Care.
8. Electronic enablement will allow management information to be made readily available for use at both the local and departmental level. At the local level, this will allow service performance to be monitored on a regular basis, and provide guidance for the future development of these services and to the resources required. At a departmental level, consolidated regional and national management information will enable progress against the overall ECM:CFC objectives to be tracked. In addition, the information will be used for overall policy development, formulation of plans for the future development of services, resource capacity planning, together with overall monitoring of achievement of benefits.
9. The strategic assessment confirms the importance of electronic enablement of the CAF, the benefits it can bring in conjunction with the Index and the clear preference for proceeding over the alternative choice of no electronic enablement. Consideration has therefore been given to alternative ways of undertaking electronic enablement and to identifying their relative merits.

## Options Appraisal

1. Five possible options were identified for CAF electronic enablement which vary from more centralised options (including a single central database option) to more decentralised options (including a strongly decentralised local solutions option, utilising existing case management systems together with a secure messaging system for sharing the CAF - where the RYOGENS system has the potential to provide at least an interim solution). An option for no electronic enablement was also included for comparative purposes.
2. The options have been assessed against a selected range of weighted criteria including fit with requirements (security and access control, information sharing, solution flexibility and ease of use), costs, benefits and risks to evaluate an overall weighted score for each. The criteria and their weightings were developed and confirmed with DfES. Sensitivity of the results produced to changes in weighting for the different criteria and to changes in scoring has also been examined. Assessment against a weighting structure developed using input from Trailblazers was also completed, where the weightings attributed to criteria were significantly different to those used in the base case.
3. Of the five options, three have been identified as a sub-group of preferred options, having scored significantly above the other two. No preferred differentiation between the three has been identified as their relative ranking can be influenced by comparatively small changes in weighting or scoring. The three preferred options are the more decentralised ones, namely the:
* strongly decentralised local solutions option;
* hub and spoke option (mirror of one of the options under consideration for the Index system); and
* moderately decentralised local solutions option, but based on local authority systems rather than individual agency case management systems.
1. Both the single centralised database option and decentralised databases on a regional basis scored relatively poorly, mainly because of the significantly increased costs and risks associated with this type of major IT solution that does not provide significantly enhanced potential benefits.
2. The no electronic enablement option, included for comparison, scores poorly. It scores very poorly on fit with requirements and on delivery of benefits with this being partly offset by the fact that implementation costs are relatively low and also, as a consequence of this, so too are the overall associated risks. The reasonable overall risk score does, however, mask a low score for operational risk where practitioner resistance to this option is assessed as high.
3. The consequences of adopting a do nothing strategy, that is providing no guidance for electronic enablement, are assessed as overwhelmingly negative and any perceived advantages can easily be achieved in adopting a structured approach to confirming one of the electronic enablement options. The strongly preferred route is to do something in terms of developing a recommended solution that secures stakeholder commitment.
4. Selection of a single preferred option at this stage is considered neither appropriate nor necessary as the selection is likely to be influenced by the CAF form and use of it in practice, which may change as experience from the initial implementation period is gained and the level of take-up can be assessed. Whether the Index project proceeds is not considered to be a dependency on the options selected but will influence factors such as the level of benefits that can potentially be achieved. Devolution of Index responsibility to a local level may make other options start to become more attractive, especially if the local solution is a ‘shared’ Index and CAF solution.
5. The options are not necessarily mutually exclusive and a potential evolutionary strategy exists, whereby progress can be made along a route of utilising existing local solutions (either agency case management systems or local authority systems) before deciding on whether sufficient critical mass has been achieved to warrant investing in the hub and spoke option.

## Conclusion and Recommendations

1. Our conclusion is that adoption of a decentralised strategy for electronic enablement of the CAF is viable and desirable. Three main options have been identified and significant further work is required to confirm which should be adopted (and whether an evolutionary strategy should be pursued) and the decision will partly depend on the importance placed by key stakeholders on prioritised decision criteria. The work should result in the presentation of the recommended solution in the form of a business case (Gateway 1 content).
2. Whichever option is ultimately selected, work can proceed by DfES taking a lead in encouraging the piloting and use of secure collaboration environments and in defining standards for interfaces between local authority systems. This should be extended to include definition of data interface standards and schemas in association with other stakeholders, including both XML schemas for CAF forms and transformations to and from other formats.
3. We have made a number of recommendations for a programme of work that needs to be undertaken to reach a definitive recommended solution including:
* the undertaking of a detailed requirements analysis;
* more detailed technical assessments of RYOGENS, FAME and hub technology;
* maximise the potential for the Index to support the electronic enablement of the CAF, for example through an enhanced secure messaging facility;
* work with stakeholders on agreeing standards;
* continued use of Trailblazers and other early adopters to provide learning and implementation experience (pilot implementations should be identified that are representative of the three preferred options);
* work with stakeholders of practitioner systems and their suppliers to secure their commitment to the development of functionality within those systems to support electronic enablement of the CAF, such as production of the CAF form and transfer of data between the CAF and other assessments;
* continue to monitor the progress of the Government Connects authentication project and define requirements for secure data transfer in order to establish whether SSL - enabled email (as in the Criminal Justice IT Secure Email), HTTPS file transfer or S/MIME is most appropriate for DfES needs;
* care needs to be exercised in evaluating benefits separately attributable to the CAF and Index projects as there is a danger that double counting could result. It would be preferable to undertake a single exercise to identify the overall benefits and in the process attribute the appropriate portion to each project. A suggested route forward has been proposed.

# 2. Introduction

1. This document contains the results of an evaluation completed by Cornwell Management Consultants plc (Cornwell) on behalf of DfES into the options for the electronic enablement of the Common Assessment Framework (CAF).
2. The CAF is a national standard approach to conducting an assessment of the needs of a child or young person and deciding how they should be met. The Every Child Matters green paper proposed the development and implementation of a CAF as a central element of the strategy for helping children, young people and their families. Following an intensive period of activity to develop the CAF form, including wide consultation with practitioners, and to develop the policy framework and implementation guidelines, a number of local authorities are starting intensive trialling from April 2005 prior to a national roll-out from April 2006. Electronic enablement of the CAF was confirmed as desirable during the consultation process with practitioners.
3. The approach was to conduct interviews with a wide range of stakeholders (the individuals consulted are listed in Annex A) over the period from mid-March to mid-April and then to analyse, aggregate and evaluate findings, using a structured methodology. In undertaking the evaluation, the following Agency/OGD IT systems, supporting business processes, were identified at the outset as within the scope of the CAF project:
* Integrated Children’s System (ICS, Social Services);
* Connexions Customer Information Systems (CCIS);
* National Index (proposal for IT systems support being developed);
* Youth Justice Board Systems (Young Offender Institutions);
* Identification Referral and Tracking (IRT)/Change in Practice (CIP) Programme Trailblazer Systems;
* NHS Systems (NHS Programme for IT/Connecting for Health), including GP Systems;
* School Systems;
* Local Authority Systems;
* Voluntary Sector Systems.
1. This document is structured in the following sections, and is consistent with that recommended under the OGC Gateway guidelines for development of a strategic business case:
* Strategic Fit;
* Options Appraisal;
* Conclusion and Recommendations.

# 3. Strategic Fit

## Objectives

1. The CAF project is a significant and high profile component of the CIP Programme and is likely to impact the whole practitioner base. The CIP Programme itself fits within the Every Child Matters: Change for Children Programme.
2. The objectives of the CAF project are to:
* Develop a Common Assessment Framework that:
* is a national framework capable of local implementation,
* provides a holistic, overview assessment of a child’s needs,
* draws on established good practice for assessments,
* provides an evidence-base of needs that is credible and transferable across agencies,
* provides a sound basis for decisions about interventions,
* is non-bureaucratic and usable by practitioners of all professions;
* Secure the successful implementation of the Common Assessment Framework, as part of the wider change agenda, by 2008;
* Engage and secure the commitment of key stakeholders who will be expected to implement and use the CAF.
1. DfES conducted a consultation with practitioners over the period from August to November 2004 to obtain views, through a structured questionnaire, on the practical issues surrounding the implementation of a CAF, and on possible solutions. The consultation confirmed that the full benefits of implementing the CAF would be difficult to achieve unless the basic CAF documents are held electronically, and supported by a suitable messaging infrastructure available to the practitioners involved. Detailed comments can be seen in the published consultation response document and the following extracts have been taken from that document and are representative of the feedback provided.
2. 34% of respondents said that the success and ability to share information between relevant agencies needs to consider sharing the information in a readily accessible manner. Computer systems should be used to keep the information in shared areas. Respondents asked how the assessment was to be kept up to date if the information was not kept electronically and the original paper copy was kept by the first professional to be involved. An electronic system would also be needed for checking the involvement of other agencies.
3. 35% of respondents thought there were serious IT implications that have to be addressed before the CAF was rolled out. The CAF process would have to ensure that electronic communications between agencies was routinely available.
4. The CIP Programme objectives for electronic enablement of the CAF are to:
* Provide a solution that can support all practitioners within the stakeholder group;
* Allow development of local solutions within an overall national framework;
* Take full advantage of existing systems (including planned developments to them) used within the wider stakeholder community and interface with them for the exchange of data, where feasible. If possible, this would extend to use of existing practitioner systems for the provision of core functionality for electronic enablement of the CAF (these systems are listed in Section 2 - Introduction and their key features are described in Annex C);
* Complement and support the planned IT system for the Index Project and the shared business process that both solutions enable;
* Provide the best value for money, balancing the costs of implementation with the benefits delivered, whilst recognising the existing budgetary constraints.

## Current Situation

1. The Department for Education and Skills gave ten local authorities, pairings or groups of neighbouring authorities, £1 million each to develop and test new ways of information sharing and multi-agency working through Identification, Referral and Tracking (IRT) projects. These ‘Trailblazers’ are working closely with the national team to refine the longer-term policy for the Change in Practice (CIP) Programme. The Trailblazers were identified in late 2002 and early 2003 and have been working since then to develop and pilot organisational changes, processes, ways of working and supporting IT solutions.
2. A number of the Trailblazers have started piloting IT solutions and have taken a variety of different approaches, as summarised in Annex B. When work started, it was anticipated by Trailblazers that implementation of the Index and CAF would be supported by a single IT solution. As the proposed legislation has been scrutinised and amended during its passage through Parliament, it has been confirmed that the Index and CAF processes would need to be supported by separate IT solutions in order to satisfy data protection concerns. This means that significant changes have been made to a number of the Trailblazers’ approaches; however, in some cases the underlying architecture still reflects the previous model and as a result is not directly transferable to more general CAF solutions. Although useful learning has been gathered from the Trailblazer pilots with regard to the electronic enablement of the CAF, those that have made progress in this area have focused on one particular option ( being the development of a local repository of data) and the other options considered in this study have not been explored.
3. Summary learning from the Trailblazer pilots is as follows:
* There is no one preferred approach for electronic enablement of the CAF with development of a local secure central repository or production of the CAF in local case management systems being the two main options;
* The Trailblazers that have made most progress with electronic enablement have developed a local secure central repository with controlled access. This option has been heavily influenced by their original desire to implement the Index and CAF as a single solution;
* The decision to adopt a route of production of the CAF in local case management systems has been based on local drivers and not necessarily by an analytical assessment. For example concerns over ownership of a shared repository and reluctance to establish a repository because of concerns over responsibilities under the Data Protection Act;
* Transfer of Index data from local case management systems has been achieved for a range of sources including Education, Social Services, PCTs, Connexions and Barnardos;
* Alternatives to the DfES CAF have been used and may continue in the future;
* Security of information is a high priority and a range of measures have been adopted, including role-based access;
* Some Index solutions are believed to have secure messaging functionality but the level of testing that has taken place is believed to be limited, if at all.
1. A high-level review of stakeholder IT systems has been undertaken and the findings are contained in Annex C. In all areas a wide variety of disparate systems exist. Key findings include the fact that although a large number of assessment systems exist, few of these have the requirement of being able to accept assessments from a wide variety of agencies, and only a few (e.g. Connexions) have started to look at the problems of collaboration with non-government and voluntary organisations. In general, the approach taken has been to restrict access to a few trusted agencies, allowing central validation of identity and ensuring consistency of approach. The majority of Trailblazer solutions (especially Leicester, Leicestershire and Rutland) have also taken the approach of centralised access control, rather than integrating distributed systems.
2. The Index Project strategic business case (Gateway 0) was approved in November 2004 and the project is now in its design phase, with the Gateway 1 review, with supporting Outline Business Case, planned for September 2005. While the design and implementation of the Index System is independent to that of the CAF, the requirements for both need to be consistent, as they support a common process and aspects of the technical design for the Index System can inform that for the CAF solutions (by solutions in this context, and throughout the document, it is meant any solution that is adopted for electronic enablement of the CAF and no assumption is implied with regard to the nature of the solution, which may or may not require database technology). While much design work remains to be completed, significant progress has been made and key issues that have an impact on the CAF solutions have been addressed. For example, work has been undertaken to identify the source of a unique identifier (UID) for every child and a preferred option is in the process of being identified. It is likely that the same option would be available to the CAF solutions but this would need to be confirmed.
3. The Index IT system will contain limited information about every child (information to identify the child, including name and address, details of universal service accessed such as school and GP, together with limited information concerning whether and by whom a CAF has been completed for the child). A CAF will be completed where a child has additional needs but it is not clear what they are, or where a child clearly has needs for support from a number of services and completing a CAF would be helpful in planning service delivery for that child. It is not clear at this stage what volumes of CAFs will be completed but it is expected that it will be for a small proportion of the estimated 30% or so of all children who need services additional to universal services if they are to thrive.. The CAF model provides a common format for understanding and articulating the child’s needs, and a common format to help practitioners record the findings from the CAF assessment. The assessment can be made across a number of defined factors within broad categories relating to development, parents and carers and family and environment. Besides summarising needs arising from the assessment, the CAF form will capture proposed solutions and actions to address the needs. As with the Index, the CAF form will also capture similar details to identify the child, practitioner details and agencies involved with the child. It will also record details of the consent provided by the child, parent or guardian (as appropriate) regarding storage of the information and sharing of the information with other agencies. The CAF may contain sensitive information.
4. Although the Index and any systems holding data from CAF forms must be independent of each other, some exchange of data between them may be permissible. However, details of the CAF form cannot be accessed from the Index and can only be represented there by an indicator flag, however, it would be permissible to access the Index system from the CAF solutions, should this prove desirable. Contact details of practitioners involved with the child will be held on the Index system, with the exception of details for practitioners from certain designated sensitive services (such as pregnancy services, sexual health and psychiatric services).
5. Appropriate security will need to be maintained over access to the sensitive information contained in the CAF solutions but this will need to be balanced against the way in which the CAF information will be used. In principle any practitioner who needs access to an individual CAF record should get it as long as appropriate consent has been given. In practice, very few will need it and so individual records should be accessed by very few practitioners.  But the CAF solutions will need to be accessed by very many practitioners, each of whom will have a legitimate interest in at least one CAF record
6. The Index IT system is expected to interface with many of the stakeholder systems that the CAF solutions will also interface with but as yet the nature of these interfaces have not been confirmed. The Index offers scope to provide a secure messaging facility for its users enabling them to transmit CAFs securely between themselves, where they have agreed that this is legal and appropriate. The nature of the data traffic is such that the recommended design will not be suitable for transmission of data from stakeholder systems to the CAF solutions, where a much higher volume and quantity of data will need to be transmitted. Finally, although the commitment to implementation of the Index System is strong, Government approval to implement a specific solution is dependent upon the production of a business case and the identification of the necessary resources. In addition, implementation could not expect to be completed until 2008 at the earliest. These factors will need to be taken into consideration when assessing options for electronic enablement of the CAF.

## Constraints

1. The four key constraints impacting on electronic enablement of the CAF are as follows:
* There is currently no defined investment budget (the very limited funds which could currently be deployed are not centralised nor ring-fenced but are available at a local level and as part of existing national programmes) to support electronic enablement of the CAF. Should any approach be made to secure central funding, it would need to be supported by a very robust business case and represent a compelling case for investment;
* Implementation of the Common Assessment Framework is not a mandatory legal requirement for local authorities and their partners and local areas may decide how to and indeed whether to adopt the approach developed centrally. This also applies to electronic enablement, where any solution cannot be mandated for implementation;
* Proposals for electronic enablement of the CAF will need to recognise the requirements that need to be adhered to as a result of legislation. In particular this applies to the relationship of the CAF with the Index as noted above, where restrictions have been placed on the linkages and type of data exchange that may be permitted between them. The requirements of the Data Protection and Freedom of Information Acts also need to be adhered to;
* Specific constraints may apply in terms of use of an agreed UID (Unique Identifier). An agreed way forward is being pursued by the Index Project.

## Strategic Risks

1. A number of strategic risks have been identified as part of the CAF Impact Assessment work and these are contained in the table below. Electronic enablement can provide additional support for the mitigation of strategic risks and the specific ways in which this may be achieved for each risk is contained in the table below.
2. Electronic enablement carries its own inherent risk, which will vary depending on the solution adopted. The risk associated with each of the alternative options is assessed in Section 4 – Options Appraisal, where risk has been selected as one of the key criteria for evaluation.

| **Potential Risk**  | **Mitigation Impact of Electronic Enablement** |
| --- | --- |
| Practitioner or key agency resistance to using the CAF | Practitioners have identified electronic enablement as a key requirement for achieving the benefits from implementing the CAF Provides support to enable multi-agency working, which can make only limited progress without electronic enablementEvidence from early adopters and Trailblazers will be available to demonstrate a proven solution |
| Practitioners unsure about approach taken by peers in other agencies to effective assessment using the CAF;Practitioners reluctant to use the CAF to share information as they do not trust its confidentiality. | Evidence from Trailblazers is available to demonstrate how security can be enhanced through electronic enablementThe use of proven secure messaging solutions provides additional security over a paper-based option |
| CAF does not work in certain circumstances, e.g. does not interface readily with an existing assessment process or tool. | The recommended electronic enablement solution can utilise existing practitioner systems and enable data to be transferred to and from existing assessments |
| Lack of evidence from initial implementation to inform developments for national implementation from April 2006. | Evidence will be available from Trailblazers and early adopters of electronic implementation, using a variety of approaches from which the best can be selected. |
| Skills shortage – practitioners don’t receive training, not enough practitioners trained. | Electronic enablement will free up practitioner time which will alleviate the impact of skills shortagesTraining requirements for electronic enablement will form part of the approach adopted |
| Children, young people and families reluctant to engage in assessment by CAF. | Electronic enablement will ensure that the most relevant and timely information will be available for assessments and development of solutions. This will increase confidence in making use of the service  |
| IT solutions (local and national) not compatible to support local implementation | The option selected for electronic enablement can ensure that the solution adopted supports local implementation. This will be achieved by learning from pilot implementations at the local level by Trailblazers and early adoptersStakeholders with responsibility for national IT solutions can be engaged to ensure that CAF requirements are incorporated into the future development of national systems |

## Critical Success Factors

1. Development and implementation of the CAF is a complex project for which there are a wide range of critical success factors, being those factors that the project team need to have in place in order to complete the project successfully and achieve the objectives. The following represent the high-level critical success factors for the CAF Project:

| **Critical Success Factor**  | **Role of Electronic Enablement** |
| --- | --- |
| Effective stakeholder management and active involvement from the practitioner base in developing proposals | Electronic enablement has been identified by practitioners and stakeholders during the consultation process as a key requirement |
| Rigorous piloting and testing of the CAF framework and updating of the proposals prior to national rollout | Electronic enablement of the CAF will be part of the piloting process through the Trailblazers and early adopters |
| Wide take-up of the CAF by local authorities and on-going support for its use | Electronic enablement will provide pragmatic proposals that should lead to a higher local authority take-up |
| Effective integration within the wider Every Child Matters: Change for Children Programme and co-ordination of implementation activities | Electronic enablement will support and complement other IT initiatives that form part of the overall programme, including the Index. Other strands of the programme directly supported would include, for example the Integrated Working Project |
| An approach to electronic enablement that secures practitioner approval and enhances use of the CAF | Core role of electronic enablement |
| A CAF process that integrates with and supports existing national and local initiatives | This is a key requirement for the delivery by the electronic enablement solution |
| Appropriate training for use of the CAF and in how to achieve the necessary changes to existing working practices | Training needs to encompass use of the electronic solution, which in turn will support new ways of working |

1. Besides being a critical success factor in its own right, electronic enablement has a key role to play in ensuring the other project critical success factors can be put in place by the project team. One of the most important roles that electronic enablement will fulfil is to provide the key means by which integration of the various separate initiatives, that form part of the ECM:CfC programme, can be achieved. This includes support for organisational and cultural change activities being undertaken as part of the Supporting Change Programme and the Integrated Working and Building Capacity Projects within the Change in Practice Programme. The Integrated Working Project is developing models of multi-agency and multi-disciplinary working, including the role of a lead professional and related leadership and will support cultural change on information sharing. This in turn will support specific service improvements such as the implementation of children’s centres and of extended schools (for both of which there are very ambitious targets to achieve). The Supporting Change Programme is designed to support and challenge the move in every local area to new arrangements under which people work together more effectively at every level to improve outcomes.
2. The principal deliverables of CIP Programme, notably the Index and the CAF, are considered to be key enablers or “levers” for the wider deliverables of the Integrated Working Project and Local Transformation, as well as to other government departments, as both the Index and the CAF are tangible tools upon which process and cultural change in information sharing and multi-disciplinary working practices can be built. Trailblazers have confirmed that electronic enablement is a key enabler of multi-agency working. In practice, it is expected that as all the above projects proceed, there will be increasing synergies and rationale for integrated delivery (e.g. Index and CAF training and guidance built into wider culture change) and this will be explored and exploited where possible.

## Strategic Benefits

1. Electronic implementation of the CAF will deliver a range of strategic benefits, which make a significant contribution to realisation of overall Change in Practice Programme benefits, as shown in Annex F and detailed in the section on Critical Success Factors above.
2. The benefits of electronic enablement have been evaluated and the results are contained in Annex H, which shows the comparison of benefits achieved with the No Electronic Enablement option (introduction of a paper-based CAF). In summary, the scale of potential benefits in a paper-based environment is likely to be very modest. Several Trailblazers have expressed strong views that no CAF benefits would be realised unless electronic enablement takes place. Although feedback from Trailblazers indicates that implementation of the CAF may not necessarily lead to an increase in resource effort, the risk of additional effort is much greater in a paper-based environment. In addition to the likely realisation of a low level of benefits, the No Electronic Enablement option is likely to face significant resistance from practitioners in its implementation.
3. The analysis reveals that were electronic enablement to take place, then the scale of benefits would be significantly increased over that available under the No Electronic Enablement option. Significant additional benefits can be realised such as a reduction in administrative effort in completing the CAF form, maintaining administrative records and in securing access to them, often when operating to strict statutory reporting deadlines. Feedback from the Trailblazers and work undertaken by the FAME (Framework for Multi-Agency Environments) project, part of the National Programme for Local e-Government, indicates that the enablement of multi-agency working is a major benefit that can only be achieved within an electronic environment. Also, the Camden Trailblazer has confirmed that access to and the use of Service Directories is highly valued and this can be enhanced within an electronic CAF environment. Finally, there is a high expectation that electronic enablement will be undertaken and would therefore attract strong practitioner support. The provision of management information at both the local and departmental level will allow improved on-going performance management of the service and support planning for its future development
4. The impact of implementation of the Index has also been considered. With No Electronic Enablement of the CAF, the value of the Index to the CAF process would be restricted to identifying whether a CAF had been completed and, if so, by whom. In an electronic CAF environment, the Index can provide significant ways to enhance the scale of the CAF benefits across all the areas identified to a marked degree and will also provide additional benefits, such as a an electronic CAF form with the basic data to identify the child already filled in.
5. The analysis reveals that, from a benefits perspective the No Electronic Enablement option is unattractive but the electronic enabled CAF offers significant benefits. These benefits can be considerably enhanced with implementation of the Index.

## Stakeholder and Practitioner Base

1. As contained in the Impact Assessment work completed to date, intensive informal consultations have taken place with: managers in local authorities, and with national stakeholders including the following:
* Officials from the Department of Health, the Home Office and the Office of the Deputy Prime Minister;
* DfES: Connexions; Schools Directorate; Children’s Safeguards Unit; The Workforce Agreement Management Group;
* National Association of Connexions Partnerships;
* Special Educational Needs Co-ordinators;
* National Association of Head Teachers;
* Youth Justice Board;
* Association of Chief Police Officers;
* The Metropolitan Police Service;
* Association of Directors of Social Services;
* British Association of Social Workers;
* Royal Colleges of: Nursing; General Practitioners; Midwives; Paediatrics & Child Health;
* National Association of Health Visitors & Community Practitioners;
* Unison;
* Voluntary sector: Barnardos; NSPCC.
1. In terms of the practitioner base, as indicated by the widespread stakeholder groups, this is large and dispersed. Current estimates of practitioners that will need to use the CAF, drawn from the Impact Assessment work, are contained in the table below. Although the number of practitioners who will actually complete CAF forms may be below the number using the Index, the same practitioner base will need to be capable of providing input to the CAF process and many will have access to electronic versions of the CAF. Numbers of practitioners impacted could be considerably higher, for example the number of paid teaching staff across schools, FE colleges and Early Years amounts to 630,000. Details of the systems used by practitioners in each of these areas, and their key features, are contained in Annex C.

|  |  |  |
| --- | --- | --- |
| **Practitioner Group** | **FTE Numbers** | **% of Total** |
| Social Care | 42,600 | 20 |
| Education (including Connexions) | 62,560 | 30 |
| Health | 93,000 | 45 |
| Others (minimum excluding the Voluntary Sector) | 10,000 | 5 |
| **Total** | **208,160** | **100** |

## Performance Measurement

1. The CAF is a new assessment process for which no existing performance measures or targets exist. It supports improved integrated delivery of services to children with additional needs and the performance measures for the provision of these services apply to delivery of specific services, for which existing performance measures apply. In addition, the CAF forms an integral part of the ECM: CFC programme and it supports delivery of the overall objectives of this programme. At this stage, therefore, there are no specific performance targets that have been established for the CAF project but it is expected that these will be developed as the project progresses towards rollout.
2. Electronic enablement will allow management information to be made readily available for use at both the local and departmental level. At the local level, this will allow service delivery targets to be established and progress towards their achievement to be monitored on a regular basis. The information will also provide guidance for the future development of the services provided and to the resources required. The tracking of benefits realisation targeted as part of the implementation will also be facilitated from the management information made available. At a departmental level, consolidated regional and national management information will enable progress against the overall ECM:CFC objectives to be tracked. In addition, the information will be used for overall policy development, formulation of plans for the future development of services, resource capacity planning, together with overall monitoring of achievement of benefits.

# 4. Options Appraisal

## Overall Requirements

1. In order to understand the complexity of this assessment, it is useful to restate the requirements as they impact the selection of technical options:
* The CAF form and its data must be held and capable of transmission in an electronic form;
* The data must be kept as securely as possible, so that data held about children can only be accessed by specific practitioners by agreement;
* The data must be capable of transmission to specific practitioners working in a wide range of statutory and voluntary organisations;
* The data should be easy to supply, create or use from existing systems so as to reduce the need for practitioners to learn a new system. CAF forms should be transportable between different systems;
* The data should be kept tightly controlled, preferably with an audit trail showing who changed any data element of the form and under what circumstances;
* It must always be possible for a CAF form to be transmitted (securely) to another authority to allow for movement of individuals, for example due changing of permanent residence or by being a member of a transient population (such as the traveller community) from one authority to another. In some cases, collaboration will be necessary across authority boundaries;
* There should be a single set of CAF data relating to a child (a current version of the CAF form) and versions should not be duplicated in other systems, where possible. If a practitioner feels a CAF assessment should be made, they should only start a new form if they believe one has not already been created by another practitioner.
1. Naturally, some of these requirements are in conflict with each other. Where possible, we have attempted to balance the issues, however in some instances we have taken the view that benefits in some areas outweigh disbenefits in others. We have tried to suggest possible mitigating strategies where this has a significant influence on the selection.

## Options

1. Five high-level strategic options were identified for evaluation, which were compared with the baseline option of undertaking no electronic enablement of the CAF. The options are contained in the table below and are described in the sections that follow.

|  |  |  |  |
| --- | --- | --- | --- |
| **ID** | **Option** | **Implication** | **Similar Solutions** |
| S01 | Single Central Database | One, single CAF-form database with centralised access controls , administered by a large central team | CRBLLR Trailblazer (on a small scale)  |
| S02 | Dedicated Regional Solutions - databases based on DfES-mandated EDRMS or case management solution, possibly a dedicated system | 6-50 regional CAF form databases, run by small dedicated teams, using own secure network to exchange cross-border CAF movements | NHS (NPfIT, ESCR) Connexions |
| S03 | Moderately Decentralised Local Solutions– based on local government EDMS or case management solutions | 150-500 locally-based CAF form databases, each one run by a single coordinator | Social Services (ICS)Education MISRYOGENSNew style GP systems |
| S04 | Strongly Decentralised Local Solutions - forms held by multiple practitioners in an area, based on standard file system. Possible central archive | 100s -1000s of CAF form databases or storage repositories, administered by their users | Older GP/Social worker/Teacher recordsPaper systems |
| S05 | Moderately Decentralised Solutions with Central Hub (Hub and Spoke)  | 150 regional CAF form databases plus one central control database (only holding metadata) | One option currently under consideration by the Index projectEducation S2S plus MIS |
| S06 | No Electronic Enablement  | Paper based system | Baseline option used as a comparator |

1. The breakdown of functionality in each scenario is explored in Annex G. This covers how each scenario could supply the different functions required by CAF, either as part of the overall CAF solutions or by using some external system. With regard to terminology, the words system or systems are used in this document as convenient shorthand to denote any electronic enablement technology used to support a business process or processes that provides some but not necessarily all the functions of capture, storage and transmission of electronic data with a supporting electronic infrastructure. The range of sophistication of the technology can vary considerably from email and office productivity tools through to database, case management and electronic document management solutions. No assumptions should be made with regard to the technology involved as where this is relevant, specific reference will be made in the text. Database (or repository) is used to denote a means of storing electronic data in a structured format such that the data is readily accessible. The database will include supporting technology that will allow capture and transmission of data. It should be noted that a system will not necessarily include database functionality for storage of electronic data unless this is stated.
2. These viable options have been defined taking into consideration the existing systems landscape, key aspects of which are contained in Annex C. As an illustration, a narrative description of how the CAF solutions might operate in practice, for the SO4 – Strongly Decentralised Local Solutions option, is contained in Annex I.

### S01 – Single Central Database

1. This option consists of a single central database, holding all the CAF forms in the country. It has the advantage of being very much more secure than any other option, since all access is under a single point of control, it is also likely to be able to provide better functionality for searching, data mining etc. In addition, it will facilitate development of a standardised approach and business processes. Its defects are that it is likely to be expensive, slow to implement and carries a significant risk of failure.
2. Wherever possible, data capture will be directly into the central repository, preferably by means of a browser interface into a dedicated database. It allows for centralised handling of access and authentication and also removes the problem of establishing audit trails for local documents outside of the database. This type of solution has been adopted by the Leicester, Leicestershire and Rutland Trailblazer and Cornwall County Council. It simplifies the interaction model since there will be only one database and no need to actually move records from one organisation to another. This would need to be a major government IT project, requiring significant initial investment with considerable running costs.
3. The main reason for considering this option, despite it apparently being ruled out on cost grounds, is that it significantly reduces the security problems associated with moving CAF forms around the country and allows centralisation of access control and authentication. It does have significant disadvantages in other areas, for instance in the number of people impacted if the database goes down.

### S02 – Dedicated Regional Solutions

1. This option is based on the NHS model, consisting of a single database in each region, with the regional databases possibly connected to each other by a dedicated data spine. Concentration of processing at a few specialist centres would retain a substantial degree of security while allowing a certain amount of regional independence. If the centres are set up separately, there is the potential to allow for the development of a number of competing models; with the eventual intention of selecting the most efficient to be deployed elsewhere.
2. Again, this is a relatively costly option with a dedicated secure network and specialist teams in regional centres running the database. The main advantages of this configuration are resilience – it would be possible to have overlapping areas so that one region could take up the strain while the adjacent database and system was down – and still retain a level of central control similar to S01- Single Central Database option. Disadvantages with this option are complexity and expense - each separate database and system would have to be more complex than for the S01 – Single Central Database option, even if smaller in size, leading to high development costs.

### S03 – Moderately Decentralised Local Solutions

1. This option would provide for CAF form storage in a database at a local authority level. Storage could be held as an adjunct to existing Integrated Children’s Systems, or alternatively use local EDMS/EDRMS solutions (see [Annex E](#_EDMS/EDRMS) for why EDRMS may not be appropriate).
2. At this level, the requirements for collaboration and data exchange start to cause significant security problems (see Annex E). However, by co-opting existing systems the level of flexibility and usability is much improved. There would still be a problem associated with the communicating and transferring of forms from one authority’s database and system to another. We would envisage this being done by secure email in this scenario since there is explicitly no central hub in this model. Although no general secure email system is presently available, the Government Connect project currently plans to provide this facility to all local government organisations within the timescales envisaged for deployment of CAF.

### S04 – Strongly Decentralised Local Solutions

1. With this option, CAF forms are held within existing practitioner systems (e.g. ICS for Social Services or EMS for Schools) and are distributed by them to, or shared with, colleagues as required. Many of these systems will include local databases for storage but not all. Some areas may choose to delegate this function to CAF co-ordinators. This is the model used in Coventry with RYOGENS deployed in support of CAF forms.
2. This option rates less well for security, auditability and version control. However, since it mirrors the way many practitioners actually work, it has a high usability score and is potentially quite flexible (provided a standards-based mechanism for enabling and encouraging data interchange between practitioners can be made available). The security problems can be overcome at the point of sharing, by using existing multi-agency working products such as those available from Esprit and Liquid Logic. One recommended route forward would be to use RYOGENS as the secure collaborations product. Conversations with Coventry and West Berkshire, both of which are currently investigating the use of RYOGENS with CAF, suggest that this is likely to be a workable model, at least in the short term.
3. We note that there are likely to be hidden costs associated with this model, since the use of a diverse range of practitioner systems will inevitably cause some problems with interoperability. We are unable at present to quantify this exposure; however, the development of standards for data exchange should mitigate the risk.

### S05 – Moderately Decentralised Solutions with Central Hub (Hub and Spoke)

1. Following the example of one of the options considered for the Index, this consists of 150 local databases and systems, tied together with a single central database. With this option, the central database will provide a metadata repository, secure messaging system and central archive. In addition, it could also be a central identity register, allowing a local CAF co-ordinator to confirm that a request for a CAF form has been sourced by a valid user. The advantages to this are chiefly on a national basis, although they do help to reduce the complexities of the local systems down to a manageable level. Local collaboration would take place via the local system, while the movement of CAF information from one authority to another, or collaboration between adjacent/overlapping authorities would be mediated via the hub instead of using point-to-point solutions (in a similar fashion to the CJIT Secure Exchange).
2. The local databases and systems could be case management oriented, possibly with EDMS capabilities. The hub database would initially hold basic metadata only for national searches, but its role could be extended to incorporate archiving and messaging when required. Unfortunately, this would still involve adding an additional layer of case management and the possible duplication of many existing functions.
3. This option has the usual disadvantages of hub-and-spoke database and systems, in that a failure of the central hub may impact the capabilities of the dependent spoke databases (even if they are not actually knocked out). From the point of view of central control and access to data, this configuration makes a good compromise.

### S06 - No Electronic Enablement

1. Considering the high priority placed on low cost and ease of use, we felt it essential to include an option where no electronic enablement is used and a purely paper-based system is introduced.
2. This option suffers from the usual problems of a paper-based solution. It is cumbersome, subject to information-sharing and records management problems, presents a major problem for updating data and does not fit the requirements. It is however relatively cheap and easy to implement. In the long term, the costs of paper storage and filing will inevitably increase, rendering this option progressively less attractive over a period of years.

## CAF Project and Index Project Dependencies

1. A number of possible dependencies exist between the CAF Project and the Index Project. Although it is necessary to propose options for the electronic enablement of the CAF that do not depend on implementation of the Index, if both projects are implemented there will be opportunities for the realisation of synergies between them.
2. For instance, if the Index holds definitive data on a child’s address, parents etc., it would be sensible to use this data to populate a new CAF form, instead of relying on whatever information is held in the system being used to create the form. This could be achieved by means of an interface to the Index, allowing practitioner systems access to the child’s metadata, contact details etc.
3. The Index project technology solution includes the use of a secure messaging system for limited and restricted messages to be sent between users of the Index. As currently envisaged, the specification of the messaging system would not satisfy that demanded for the CAF. The data structure and volume transmission requirements will be significantly different for each. The available technology has been reviewed (see Annex E) and consideration has been given to CJIT and Government Connect applications to determine the potential solution for CAF.
4. The Index provides a number of essential services to the electronic CAF options, namely:
* Identity Management – the use of a unique identifier (UID), to associate CRN with child information in the Index means that, the CAF solutions should not need to worry about establishing the identity of a child, since this can always be done by reference to the Index. Without this, there are always likely to be confusions of identity, especially between children with similar names and dates of birth;
* National-level search – the ability of the Index to track the movement of children around the country, while retaining information on whether or not a CAF has been done, means that this functionality is much less critical than for any CAF solutions;
* Definitive address and other details – the chief advantage of the Index from many points of view is that it can provide a definitive source of information about a child and their essential data. Without the Index, there would be a correspondingly greater requirement to keep CAF forms up to date with data such as the names of GPs and teachers;
* Audit trail of movements – although the CAF and local case management systems will need to keep some audit information, for children who move around the country there is likely to be a reliance on the Index to “connect the dots” whenever they move from one authority to another.
1. In addition, areas such as Data Mining and Reporting are likely to be future requirements at a national level, and these cannot easily be provided by trawling through local systems. The Index will add a national dimension to functions noted as being “local level only” (as identified in the Annex G spreadsheet).
2. Without the Index, it would be considerably harder to add a national dimension to the operation of the CAF. However, on a purely local level the effects will be much less visible if the Index is absent. The most noticeable difference is likely to be an increased level of confusion and effort required to establish the identity of transient children, coupled with loss of records (something that the Index ought to eradicate entirely).

## Options Assessment Criteria

1. The options have been evaluated against a set of agreed criteria, weighted to reflect the relative importance that should be attributed to them in the decision-making process. The criteria and the weighting, as agreed with DfES, are as follows:

|  |  |
| --- | --- |
| **Criteria** | **Weighting (%)** |
| **Fit with Requirements** |  |
| Security & Access Control | 14 |
| Information Sharing | 14 |
| Solution Flexibility | 8 |
| Ease of Use | 4 |
| **Sub-total Fit with Requirements** | **40** |
| Costs | 30 |
| Benefits | 20 |
| Implementation Risk | 10 |
| **Total** | **100** |

1. The above figures represent the Base Case. The weighting figures were also adjusted to determine whether the ranking of options would be sensitive to changes in the percentage allocation from those used in the Base Case and the results are summarised later in this document.
2. Each of the Fit with Requirements sub-criteria (for example Security & Access Control) are underpinned by important Requirements Assumptions, which were developed with CAF project team members. The Requirements Assumptions provide key guidance for assessment of the options against the sub-criteria and define the scope of the requirements in more detail. Details of the Requirements Assumptions are contained in Annex D.
3. For each criteria (or sub-criteria in the case of Fit with Requirements) each of the options was then given a score between 1 and 5, by evaluating the degree to which it could satisfy the criteria in question. For the final summary weighted assessment, the scores were normalised to indicate a percentage fit against all the criteria.

### Assessment against Security and Access Control Requirements Sub-Criterion

1. The importance placed on security has a number of implications on the use of the CAF solutions:
* All users must pass through the same checking process (since otherwise there would be weak points in the CAF solutions that an attacker could exploit);
* All users must be able to prove/authenticate their identity with a high level of confidence (e.g. more than mere passwords);
* All users must be able to prove that they have an interest in the areas in which they are making enquiries (access control);
* The CAF solutions must be regularly audited to ensure that they stay secure.
1. Consideration of the above list would imply that where a high level of security is needed as defined in the overall requirements, this would strongly favour a centralised database solution.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Security and Access Control** | **S01 – Single****Central Database** | **S02 – Dedicated Regional Solutions** | **S03 – Moderately Decentralised Local Solutions** | **S04 - Strongly Decentralised Local Solutions** | **S05 – Hub and Spoke** | **S06 – No Electronic Enablment** |
| Score (max of 5) | 4 | 3 | 2 | 1 | 3 | 1 |

1. With the exception of S01 – Single Central Database option, none of the other options score particularly well in the context of Security and Access Control, largely because the desired focus on enabling information sharing makes them intrinsically poor security risks. Option S01 - Single Central Database scores highly, since the bringing of all authentication and access control under a single authority is made possible.

### Assessment against Information Sharing Requirements Sub-Criterion

1. The provision of absolute security in information sharing comes at a cost that is beyond the available investment resource. For example, the problem of secure collaboration between unrelated parties is one that is currently receiving a great deal of attention in the area of Defence, where multi-billion pound budgets are being expended by national governments and international aerospace companies in order to solve a very similar problem to the one we have here. Most of the solutions so far identified (see <http://tscp.org> ) depend on a combination of globally unique identification (both of people and things) together with a complex set of “trust bridges” backed by public key infrastructures (PKIs) whereby organisations agree to trust any communication received via the trust bridge from a recognised partner. The approach is backed by frequent audits to ensure that all the parties are keeping to the agreed security regime.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Information Sharing** | **S01 – Single****Central Database** | **S02 – Dedicated Regional Solutions** | **S03 – Moderately Decentralised Local Solutions** | **S04 - Strongly Decentralised Local Solutions** | **S05 – Hub and Spoke** | **S06 – No Electronic Enablment** |
| Score (max of 5) | 4 | 3 | 3 | 2-4 | 3 | 1 |

1. Sharing information within a single repository is intrinsically easier than that in a multitude of small repositories, hence the high score for the S01 – Single Central Database option in this context. The score has however been reduced because some stakeholders suggested that they would be less likely to share information with a single national database (possibly from a civil liberties point of view). Smaller, distributed solutions must overcome the handicap of having to cope with different formats and messaging systems before they can exchange information.
2. Secure information sharing is being addressed within a context that can be applied to CAF electronic enablement. A number of multi-agency working products, focused on the needs of local government, have been developed over the past few years, many as part of the ODPM programme of National IT projects. Of these, the FAME and RYOGENS projects appear to be converging on the requirement for secure sharing of information between schools, police, social services and health services. Other data exchanges are either too specific (e.g. Criminal Justice Exchange or the NHS data spine) and do not generally support information sharing with other agencies or are too generic in that they are geared to the provision of wide access and would not meet the more stringent security requirements that DfES CIP Programme needs for the CAF. The planned roadmap for development of the Government Connect system does include effective levels of security and this should be considered as a possible way forward when it materialises.
3. Although the large number of CAF-capable solutions in the S04 – Strongly Decentralised Local Solutions option should ensure information sharing, past experience suggests that it may tend to foster a silo attitude to forms, with the result that different forms will exist in different solutions and that there will be no synchronisation between them. Hence the initial score of 2. However, the use of suitable inducements (e.g. encouragements of some sort coupled with the existence of legal/regulatory consequences of not cooperating); together with the use of existing multi-agency collaboration tools should improve this score to 4. This would result in the S04 – Strongly Decentralised Local Solutions option being the one preferred overall.
4. The central hub in the S05 – Hub and Spoke option would provide support for a secure messaging system and could be used to support a collaboration service. Experience suggests that problems can arise in this instance with growth in the number of users, and that it would be better to provide local collaboration functionality rather than a central solution. In most situations, a worker will need to collaborate with people in their immediate vicinity. As a result, a collaboration system is more efficient if messaging is localised (e.g. based around spokes or terminal nodes) rather than hub-based, which requires all messages to pass through the central point, even if they are eventually delivered to an adjoining desk. As a system grows larger, reducing the number of transactions that pass through the core becomes an important consideration.

### Assessment against Solution Flexibility Requirements Sub-Criterion

1. The Solution Flexibility requirements are based on the ability of the solution to adapt to the needs of different practitioners with different preferred systems (e.g. ICS, Schools MIS etc.). In essence, this requirement is about the ease of porting assessments from one solution to another.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Solution Flexibility** | **S01 – Single****Central Database** | **S02 – Dedicated Regional Solutions** | **S03 – Moderately Decentralised Local Solutions** | **S04 - Strongly Decentralised Local Solutions** | **S05 – Hub and Spoke** | **S06 – No Electronic Enablment** |
| Score (max of 5) | 2 | 3 | 3 | 3 | 3 | 1 |

1. Any of the options could, in theory, improve their flexibility by adopting a policy of defining standard interfaces (e.g. implementing XML) instead of relying on proprietary document formats such as Word and PDF. To adhere with requirements arising from the e-GIF initiative, the majority of large systems in local government are now set up to both import and export XML. There is likely to be pressure for the remaining systems to follow this lead within a relatively short timescale. Therefore a general recommendation for CAF is the definition of a standard XML schema and its promotion to software vendors as soon as possible (since the lead time required for the adoption of a new schema is likely to be of the order of a year to 18 months).
2. The area of concern for this set of criteria is the desire for provision of a full audit trail that would remain with an assessment form throughout its life, even when being transported from one solution to another. The S01 – Single Central Database option (and to some extent the S02 – Dedicated Regional Solutions option), would be able to provide the audit trail since the document would be held within a single dedicated solution. However, there is currently no universally portable document type that is capable of retaining audit trail information. Cryptographic signing or Digital Rights Management (DRM – see Annex E) could provide some of this functionality at the price of restricting users’ flexibility and ease of use, however, this area is currently being actively developed and present-day solutions are likely to be replaced in the near future.

### Assessment against Ease of Use Requirements Sub-Criterion

1. The Ease of Use assessment is similar to the flexibility assessment in that it looks at the practitioner systems. In this case, however, we are predominantly looking at the ability of practitioner systems to generate CAF forms from their standard reporting interface, together with the availability of standard interfaces such as browser front-ends. There is, however, a need to consider ease of retrieval/search and this is likely to show an inverse relationship in that central databases are well suited to retrieving documents, while distributed systems are not.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Ease of Use** | **S01 – Single****Central Database** | **S02 – Dedicated Regional Solutions** | **S03 – Moderately Decentralised Local Solutions** | **S04 - Strongly Decentralised Local Solutions** | **S05 – Hub and Spoke** | **S06 – No Electronic Enablment** |
| Score (max of 5) | 2 | 2 | 3 | 4 | 3 | 2 |

1. The S01 – Single Central Database and S02 – Dedicated Regional Solutions options are less well suited to meeting the ease of use criterion, although they do benefit from the ability to use a single, browser-based interface and have good retrieval characteristics. The Moderately Decentralised Local Solutions, Strongly Decentralised Local Solutions and Hub and Spoke options (S03, S04 and S05) assume that practitioners will use their own systems for generating forms and will use 3rd party or centralised systems for collaboration. In this case, generating a form would be simple, but it would be necessary to learn another system to carry out the collaboration or retrieval part of the exercise. For this reason, leveraging an existing system for collaboration would make sense rather than requiring practitioners to learn a new collaboration tool.

### Assessment Summary for Fit with Requirements Criterion

1. This summary covers the four ‘Fit with Requirements’ criteria, Security and Access Control, Information Sharing, Solution Flexibility and Ease of Use. The table below contains the sum of the scores for each of the four criteria:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Fit with Requirements****Summary** | **S01 – Single****Central Database** | **S02 – Dedicated Regional Solutions** | **S03 – Moderately Decentralised Local Solutions** | **S04 - Strongly Decentralised Local Solutions** | **S05 – Hub and Spoke** | **S06 – No Electronic Enablment** |
| Score (max of 20) | 12 | 11 | 11 | 11 | 12 | 5 |

1. We carried out a basic requirements prioritisation exercise to support the work of evaluating options; however, we were unable to differentiate the requirements priorities as much as we would have wished. All requirements were considered by the majority of respondents from the CAF project team to be of high priority. Significantly more detailed work on requirements definition and prioritisation would be needed to enable the evaluation against criteria to be completed against a measurement scale that would provide greater degree of discrimination between the options. This would only be possible when experience of using the CAF in practice has been undertaken.
2. Further work on requirements would be required to distinguish those that are critical to the continued working of CAF from those that merely contribute to it. A much more detailed set of requirements would enable the use of Multi-Criteria Decision Analysis with variable scales, rather than the simplified linear scales we have employed here.

### Assessment against Costs Criterion

1. The assessment against costs has been made to provide indicative estimates, by estimating size, complexity, number of users etc. and by identifying similar solutions in the recent past with known costs. Since the market for multi-agency collaboration solutions is rather immature, the selection of comparable solutions has not been straight-forward. Points have been allocated according to the indicative cost, with the most expensive solution attracting a score of 1 and the lowest cost solution a score of 5.
2. As SO6 – No Electronic Enablement is the base case against which the additional cost of electronic enablement is measured, no estimate of costs is appropriate and this option scores at the highest level. The potential saving in operational costs, through saving in practitioner time, is considered as part of the benefits section that follows.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Costs** | **S01 – Single****Central Database** | **S02 – Dedicated Regional Solutions** | **S03 – Moderately Decentralised Local Solutions** | **S04 - Strongly Decentralised Local Solutions** | **S05 – Hub and Spoke** | **S06 – No Electronic Enablment** |
| Score (max of 5) | 1 | 1 | 3 | 4 | 2 | 5 |

1. A fully detailed requirements document, coupled with a formal estimation process such as function point analysis should be carried out before making a firm decision or request for funding based on solution costs. Final costs would depend very much on the details of the solutions chosen, the time required for support and maintenance etc.

### Assessment against Benefits Criterion

1. A number of strategic efficiency benefits, associated with electronic enablement, have been identified as discussed in Section 3: Strategic Fit and these are listed below:
* No need to repeat basic assessment information for subsequent practitioners;
* Fewer inappropriate referrals;
* Earlier identification of optimum services required, (reducing downstream costs).
1. The benefits of electronic enablement over no electronic enablement are significant and are detailed in Annex H. They have been summarised in Section 3 – Strategic Fit under the sub-section on Strategic Benefits.
2. Potential savings, in terms of savings of practitioner time have been considered. Achievement of the strategic benefits requires implementation of the CAF and the associated changes to processes and working practices, in combination with the Index, Service Directories and changes delivered by other projects (such as the use of multi-disciplinary teams). In this environment, attribution of individual benefits to particular projects involves a degree of subjectivity. Consequently, in attempting to quantify potential benefits, there is a significant risk of double counting when attempting to attribute them to individual projects. Initial feedback from the Trailblazers on benefits suggests that in quantifying potential Index benefits, in some cases, electronic enablement of the CAF has also been assumed. Attempting to identify Index benefits first, without considering those attributable to CAF is likely to be problematic. A suggested approach is outlined in Annex G and has been included as part of Section 5 - Conclusion and Recommendations.
3. Quantification of potential savings associated with the Index has proved difficult due to the limited implementation knowledge currently available from the Trailblazer pilots, although further work has started to support development of the business case. Whether any potential saving is re-invested in other worthwhile activities or used as a basis to target hard financial savings must be a decision for local management. The latter option is clearly much more difficult to achieve. 3 Trailblazers (Leicester, Leicestershire and Rutland; Telford, Wrekin and Shropshire; and Lewisham) provided input to an earlier assessment of potential benefits attributable to implementation of the Index. These same Trailblazers were approached to provide an estimate of the potential savings associated with electronic enablement of the CAF and their responses are contained in the table below, together with views from other Trailblazers:

|  |  |
| --- | --- |
| **Trailblazer** | **Potential Benefits from Electronic Enablement of CAF** |
| Leicester, Leicestershire and Rutland | No expected savings from introduction of CAF without electronic enablement. Original savings estimate applied to savings associated with both the Index and the CAF |
| Telford, Wrekin and Shropshire | Do expect significant savings to result from introduction and electronic enablement of the CAF. This cannot be quantified currently as there is no experience of using the CAF. Original estimate of savings covered the Index only |
| Camden | Do expect savings to result from better targeting of children’s needs and reduction of the “scatter-gun” approach. This cannot be quantified at present |
| West Sussex | Have been piloting a proof-of-concept solution that includes assessment functionality similar to the CAF. User response has been surveyed and has confirmed strong benefits for multi-agency working |
| Kensington and Chelsea | Not yet piloted the CAF but do not believe that it will necessarily lead to additional workload. The view is that it will add structure to what currently is an inefficient solution |

1. Significant potential financial benefits available from operating in a multi-agency environment have been assessed as part of the FAME project, including the potential financial benefits attributable to Information Sharing and Assessment for Children. The electronic CAF is seen as a key enabler of multi-agency working and could therefore expect to lead to the realisation of quantifiable financial benefits. Experience in use of the CAF is required before an assessment can be made.
2. The options have been assessed against a number of benefits sub-criteria and the results are summarised in the table below:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Benefits Sub-Criteria** | **S01 – Single****Central Database** | **S02 – Dedicated Regional Solutions** | **S03 – Moderately Decentralised Local Solutions** | **S04 - Strongly Decentralised Local Solutions** | **S05 – Hub and Spoke** | **S06 – No Electronic Enablement** |
| Overall size of benefits | 5 | 5 | 3 | 3 | 5 | 1 |
| Speed to first realisation of benefits | 2 | 2 | 3 | 3 | 2 | 1 |
| Realisation of qualitative benefits | 3 | 3 | 4 | 4 | 5 | 1 |
| **Total Score** | **10** | **10** | **10** | **10** | **12** | **3** |
| **Average Score** | **3** | **3** | **3** | **3** | **4** | **1** |

1. In terms of overall benefits that can be achieved, the S03 – Moderately Decentralised Local Solutions and SO4 – Strongly Decentralised Local Solutions options may fail to reach the full benefits because the information base will not be fully up-to-date at all times, such there will be some measure of inefficiency when compared with the solutions with a more integrated infrastructure. Little or no benefit arises from no electronic enablement. Realising benefits early is valuable and in terms of speed to first realisation of benefits, the lower investment S03 – Moderately Decentralised Local Solutions and SO4 – Strongly Decentralised Local Solutions options will start to realise benefits earlier and those solutions that utilise existing systems will likely gain support from practitioners to realise benefits quickly. The S06 - No Electronic Enablement option will require time before any potential benefit is realised and then the level of benefit is anticipated to be low.
2. The other strategic benefits identified (in Section 3: Strategic Fit) that are not related to efficiency are qualitative in nature and are listed below:
* More holistic assessment;
* Ability to identify other practitioners involved and exchange information;
* All practitioners involved know child is at risk.
1. Achievement of these qualitative benefits has been assessed as one of the benefits sub-criteria. The assessment has been made on the basis that these benefits will be realised more effectively with a close link to existing systems and assessments (as detailed in Annex H). Where the solution is close to that currently favoured for the Index project (S05 – Hub and Spoke), the potential for seamless working is even higher. The S06 – No Electronic Enablement option does not provide support for exchange of information nor the achievement of the other qualitative benefits.
2. Overall each of the electronic enablement options can deliver a reasonable level of benefits but with S05 – Hub and Spoke option showing a slightly higher level than the others. The option for No Electronic Enablement is significantly the worst option, offering the lowest level of benefit to be achieved from the CAF, would enable few if any benefits to be realised in conjunction with the Index, could even add additional cost, as the CAF is an additional requirement to the existing workload and would result in disbenefits in the form of practitioner resistance.

### Assessment against Risks Criterion

1. An important part of the assessment against risks is the problem of implementing IT solutions and the positive correlation between amount of work required and chance of failure. This criterion accords a low score to large IT developments, especially in government, since there is a history in recent years of serious failures, cost overruns with extended development cycles and other problems in this area. It should be noted that recent developments (e.g. greater use of the MSP – Managing Successful Programmes – methodology) may serve to mitigate this.
2. The risk assessment against selected sub-criteria is summarised in the table below:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Risk Sub-Criteria** | **S01 – Single****Central Database** | **S02 – Dedicated Regional Solutions** | **S03 – Moderately Decentralised Local Solutions** | **S04 - Strongly Decentralised Local Solutions** | **S05 – Hub and Spoke** | **S06 – No Electronic Enablment** |
| **Technology**Solution designImplementation | Unproven designComplex and difficult to implement | Unproven designComplex and difficult to implement | Less risk as this is the current solutions development approachSpread risk through more smaller projects | Low risk modifica-tions to existing systemsSecure messaging solution not fully provenSmall projects | Unproven designComplex and difficult to implementCan benefit from Indexdevelopm’t | Low risk with no technology implications |
| 1 | 1 | 4 | 4 | 2 | 5 |
| **Operational**Lack of take-upResistance to implementLack of interface with local systems | More resistance to central designLack of local tailoring | Less central design but still significantLimited local tailoring | Focused at the local level to secure-buy-inTailored to local requirements | Can achieve high level of buy-in with local systems and tailored solutions | Low resistance – Trailblazer evidence | High resistance from lack of electronic enablement |
| 2 | 3 | 4 | 5 | 4 | 1 |
| **External**Stakeholder implicationsDependency on Index | Strong stakeholder resistance to centralisationHarder to implement without Index | Strong stakeholder resistance to central isationHarder to implement without Index | Acceptable to stakeholders as build on current situationNo high dependence on Index | Highly acceptable to stakeholdersNo dependence on IndexOpportunity to benefit from ICS programme and ODPM National IT projects | May be some resistance from stakeholdersFull effectiveness depends on Index | No stakeholder implications in relation to data confident-ialityNo dependency on Index |
| 2 | 2 | 4 | 4 | 3 | 5 |
| **Total Score** | **5** | **6** | **12** | **13** | **9** | **11** |
| **Average Score** | **2** | **2** | **4** | **4** | **3** | **4** |

1. The low risk options are S03 - Moderately Decentralised Local Solutions and S04 – Strongly Decentralised Local Solutions, where the nature of the solution allows risk to be managed effectively, and the option S06 - No Electronic Enablement (there is however a high level of risk associated with practitioner resistance where there is a high expectation from Trailblazers and from the consultation process that an electronic solution will be provided). It also may carry a different risk, that of failing to meet legislative/regulatory requirements. The high cost, more centralised solutions carry a proportionately higher risk of failure across all areas and are likely to meet significant stakeholder resistance. Option S05 – Hub and Spoke carries a medium level of risk where the higher technology risk can be offset by the opportunity to develop a more local solution and to build on the success of the Trailblazers. This solution can benefit from the work progressing on the Index but this does depend on approval for the Index being secured.

## Summary Weighted Assessment for Base Case

1. The summary weighted assessment for the base case weighting of criteria is shown in the table that follows. It reveals the order of preference for the options, with the highest preference first, as follows:
* S04 – Strongly Decentralised Local Solutions;
* S03 - Moderately Decentralised Local Solutions;
* S05 - Hub and Spoke;
* S06 – No Electronic Enablement ;
* S01 – Single Central Database;
* S02 – Dedicated Regional Solutions.
1. The first 3 options in the above list are relatively close together with respect to the scores, with only 5 points separating them. Although there are differences between all options in assessing Fit with Requirements, the most significant drivers for the difference in scores arises on the Costs and Implementation Risk criteria where the S01 – Single Central Database and S02 – Dedicated Regional Solutions options score poorly. The S06 - No Electronic Enablement option, scores close to these two options and is not preferred. It scores very poorly on fit with requirements and on delivery of benefits with this being partly offset by the fact that implementation costs are relatively low and also, as a consequence of this, so too are the overall associated risks. The reasonable overall risk score does, however, mask a low score for operational risk where practitioner resistance to the No Electronic Enablement option is assessed as high.
2. The highest scoring option, S04 – Strongly Decentralised Local Solutions, scores reasonably well across all criteria, with the exception of Security and Access Control, where it scores lowest of all options.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Criteria** | **Weighting (%)** | **S01 – Single****Central Database** | **S02 – Dedic-ated Regional Solutions** | **S03 – Moderately Decent-ralised Local Solutions** | **S04 - Strongly Decent-ralised Local Solutions** | **S05 – Hub and Spoke** | **S06 – No Electr-onic Enabl-ment** |
| **Fit with Requirements** |  |  |  |  |  |  |  |
| Security & Access Control | 14 | 4 | 3 | 2 | 1 | 3 | 1 |
| Information Sharing | 14 | 2 | 2 | 3 | 3 | 3 | 1 |
| Solution Flexibility | 8 | 2 | 3 | 3 | 3 | 3 | 1 |
| Ease of Use | 4 | 2 | 2 | 3 | 4 | 3 | 2 |
| **Sub-total Fit with Requirements** | **40** | **12** | **11** | **11** | **11** | **12** | **5** |
| **Weighted sub-total** |  | **1.36** | **1.16** | **1.06** | **0.96** | **1.20** | **0.44** |
| Costs | 30 | 1 | 1 | 3 | 4 | 2 | 5 |
| Benefits | 20 | 3 | 3 | 3 | 3 | 4 | 1 |
| Implementation Risk | 10 | 2 | 2 | 4 | 4 | 3 | 4 |
| **Sub total** |  | **6** | **6** | **10** | **11** | **9** | **10** |
| **Weighted sub-total** |  | **1.10** | **1.10** | **1.90** | **2.20** | **1.70** | **2.10** |
| **Total (un-weighted)** |  | **16** | **16** | **21** | **22** | **21** | **15** |
| **Weighted Total** | **100** | **49.20** | **45.20** | **59.20** | **63.20** | **58.00** | **50.80** |

## Sensitivity of Assessment to Changes in Weighting

1. The model has been reviewed to assess whether the ranking of options is sensitive to changes in the weighting or scoring and the results are summarised in the table below:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Change to Base Case Assumptions** | **S01 – Single****Central Database** | **S02 – Dedicated Regional Solutions** | **S03 – Moder-ately Decent-ralised Local Solutions** | **S04 - Strongly Decent-ralised Local Solutions** | **S05 – Hub and Spoke** | **S06 – No Electronic Enablment** |
| Base Case**Ranking** | 49.2 | 45.2 | 59.2 | 63.2 | 58.0 | 50.8 |
| **5** | **6** | **2** | **1** | **3** | **4** |
| Cost criteria reduced from 30% to 20%**Ranking** | 54.0 | 49.0 | 58.5 | 60.0 | 60.0 | 43.0 |
| **4** | **5** | **3** | **1=** | **1=** | **6** |
| Security criteria increased from 14% to 26%**Ranking** | 54.0 | 46.0 | 56.8 | 57.6 | 58.0 | 50.0 |
| **4** | **6** | **3** | **2** | **1** | **5** |
| Cost scores for all except SO4 increased by 1 point**Ranking** | 55.2 | 51.2 | 65.2 | 63.2 | 64.0 | 50.8 |
| **4** | **5** | **1** | **3** | **2** | **6** |
| Weighting on benefits increased from 20% to 30% and security from 14% to 16%**Ranking** | 52.0 | 47.6 | 56.8 | 60.0 | 60.0 | 44.4 |
| **4** | **5** | **3** | **1=** | **1=** | **6** |
| Benefit scores for SO3 and SO5 and security for SO5 increased by 1 point  |  |  | 63.2 | 63.2 | 64.8 |  |
| Trailblazers’ weighting**Ranking**  | 56.0 | 50.0 | 58.8 | 61.0 | 60.4 | 38.8 |
| **4** | **5** | **3** | **1** | **2** | **6** |

1. The results reveal that the ranking of options is sensitive to fairly modest changes to the underlying weighting criteria and scoring against the criteria. This applies to the options that occupy the top 3 places in the ranked list, while the other options, including SO6 – No Electronic Enablement, continue to score significantly below them in all scenarios. For example, a reduction in weighting of the Costs criterion from 30% to 20% (and a commensurate increase in the weighting of Fit with Requirements criterion from 40% to 50%) leads to the S05 - Hub and Spoke option moving from 3rd place in the rankings to equal first. In contrast, the SO6 – No Electronic Enablement option moves to last place. Given the indicative nature of the costings at this stage of the assessment, a change in weighting of this nature would not be unreasonable.
2. When the weighting for the Security and Access sub-criterion is increased from 14% in the base case to 26% (by reducing the weightings for the other Fit with Requirements sub-criteria – namely, Solution Flexibility and Ease of Use – to zero), the S05 - Hub and Spoke option moves to 1st place in the rankings.
3. In addition, when the weighting for the Benefits criterion is increased from 20% to 30% (by reducing the Risks criterion weighting to zero), which makes it the same as for the costs criteria, and the Security and Access sub-criterion is increased marginally from 14% to 16%, the S05 - Hub and Spoke option moves into equal first place in the rankings.
4. By increasing the cost scores for all options except the S04 - Strongly Decentralised Local Solutions option by one point, the S03 – Moderately Decentralised Local Solutions option assumes 1st place, with the S05 - Hub and Spoke option in 2nd place. This adjustment in scoring still leaves the S04 - Strongly Decentralised Local Solutions option with the equal highest score for the cost criteria, so the adjustment is not unreasonable.
5. The model was also examined to determine the minimum adjustment in scoring required (excluding the score for costs) to move an option to first place in the rankings. For the S03 – Moderately Decentralised Local Solutions option this can be achieved by an increase in the benefits score from 3 to 4. For the S04 - Strongly Decentralised Local Solutions option, this can be achieved through a 1 point increase in each of the Benefits and Security and Access scores. Again, these are not radical adjustments.
6. Finally, rather than use the weighting of criteria developed with DfES, the views of Trailblazers were sought. Their preference was to apply a significantly higher weighting to the Fit with Requirements criteria of 65% (compared with 40% in the base case), where the increases applied to the Ease of Use and Information Sharing criteria was most pronounced. In contrast a much lower weighting of 35% (compared with 60% in the base case) was applied to the costs, benefits and risks criteria, where the weighting for costs was reduced from 30% to 11%. It should be noted that allocating such a low weighting to costs in an evaluation of this nature would be considered unusual. Under this new weighting structure, the order of preference did not change, although the gap between SO1 – Single Central Database in fourth place and SO3 – Moderately Decentralised Local Solutions in third place did narrow. The weighting for costs would need to further reduce to 4% before the SO1 – Single Central Database option ties for equal third place. A weighting this low for costs could not be supported as being appropriate.
7. The sensitivity assessment confirms that the three low ranked options, S01 – Single Central Database, S02 – Dedicated Regional Solutions and S06 - No Electronic Enablement, remain in these positions under a variety of changes to weightings and scoring. The SO6 – No Electronic Enablement option occupies a worse position (either last or second from last) under all alternative weightings than in the base case. In contrast the three high ranked options, S04 – Strongly Decentralised Local Solutions, S05 - Hub and Spoke and S03 – Moderately Decentralised Local Solutions, retain the top three positions but the order in which they are placed is sensitive to modest changes in weighting and scores and each of them can be placed 1st, depending on the changes made to the base case.

## Do Nothing Option

1. The Do Nothing Option is where no guidance with regard to electronic enablement is provided by DfES and local authorities are left to progress implementation of the CAF according to local priorities. Superficially there may appear to be some advantages in doing this, such as:
* Stronger local ownership will be developed according to local priorities;
* A period of experimentation will follow and the best solutions will emerge;
* Now is too early to give guidance and any guidance provided will prove to be incorrect;
* The reality is that a solution cannot be mandated anyway so further effort spent on assessing electronic enablement options would be wasted.
1. In practice, however, the consequences of adopting the Do Nothing Option are overwhelmingly negative and the perceived advantages listed above can easily be achieved in adopting a structured approach to confirming one of the electronic enablement options. The negative consequences that would result from adopting the Do Nothing option would included the following:
* Delay to implementation of the CAF during a period of considerable uncertainty with a higher likelihood of the DfES CAF failing to become the de facto standard;
* Authorities are looking for DfES to provide guidance and if none is forthcoming, this would have a negative impact on the department’s reputation;
* With the failure to adopt common standards for the electronic transmission of information, the transfer of data and working across authority (and agency) boundaries would be severely impaired;
* There would be severe adverse impacts for the Index project and to realisation of benefits from this project;
* The overall benefits would be lower and the time to achieve benefits would be delayed significantly;
* Implementation costs would be higher with no standardised recommended approaches and learning from good practice;
* Investment costs would be higher with authorities duplicating approaches that others have already taken, a piecemeal approach taken to modification of existing systems without adopting a single approach to the modifications required to systems with suppliers (this too would lead to delays);
* Without an overall coherent approach, any requests for funding from the Treasury or other Government Departments would be unlikely to succeed;
* Any subsequent decision to recommend a preferred solution would be made more difficult to implement where solutions would already have been adopted.
1. The Do Nothing option is not tenable and carries serious disadvantages. The strongly preferred route is to do something in terms of developing a recommended solution that secures stakeholder commitment.

## Preferred Option

1. The assessment has revealed that there is no single overwhelming clear winner from the options but that there are three preferred viable alternatives, each with their advantages and drawbacks. The S04 - Strongly Decentralised Local Solutions option scores less highly than the centralised options over meeting Security and Access requirements, as does the S03 – Moderately Decentralised Local Solutions option, while the S05 - Hub and Spoke option offers the best solution for meeting requirements but only at the expense of additional cost and risk.
2. We feel that it is neither necessary nor appropriate at this stage to recommend a single preferred option to proceed with but that the decision can be taken later, when more experience will have been obtained from the CAF piloting process. This would be consistent with the OGC Gateway process, where options continue to be assessed up to Gateway 1: Business Justification. It is appropriate to provide guidance now on how to proceed towards the next stage of assessment and this is provided in the form of recommendations in Section 5. The number of practitioners impacted by introduction of the CAF and the associated electronic enablement is very large and the change management implications for the introduction of new processes and systems are considerable, such that a period of testing and learning is highly recommended before any decision is taken.
3. None of the other options are sufficiently attractive in comparison with these three and that the SO6 – No Electronic Enablement option is unattractive under a range of assumptions and is of doubtful validity in combination with the Index project.
4. At the next stage of assessment it would be appropriate, when more accurate information can be developed on costs, benefits and requirements, to undertake multi-criteria decision analysis in order to select between the different options. This is a more refined version of the basic analysis performed here, and should be undertaken with a range of stakeholders who would be able to attach their individual assessment of the importance of each assessment criteria to the overall decision, depending on constituency that they represent. In completing such an exercise, useful software tools are available to support the process and that provide results in a diagrammatic format that can be readily assimilated.

## Evolutionary Strategy

1. At this point in time, the likely outcome from the CAF piloting work is uncertain. Experience drawn from practical application of the CAF could lead to the requirement for significant changes to its format and how it is used. In addition, introduction of the CAF is not mandatory for authorities and the level of take-up is uncertain. Assuming universal take-up, progress towards full implementation is likely to extend over several years. Also as mentioned above, approval for implementation of the Index has yet to be secured and will not be sought until the autumn of 2005.
2. These factors would suggest a flexible route toward electronic enablement could be desirable and a solution that can be scaled to meet a progressive take-up. One route would be to further develop the existing mixture of peer solutions, very similar to S04 – Strongly Decentralised Local Solutions option, and to consciously migrate from this towards S05 – Hub and Spoke option, with its central hub, provided the anticipated benefits justify the additional investment. Once the central hub is in place, more functions can be gathered into it, allowing an increasing degree of control.
3. This strategy could be enabled by a policy of setting interface standards and moving towards a hub-based configuration in all areas. The Government Connect programme is already working towards the adoption of integration hubs and standard authentication interfaces by local authorities. Adopting this route forward should therefore be significantly easier than it would otherwise be.
4. DfES has the opportunity to use the initial implementation period with first wave authorities as piloting and testing phase for assessing the alternative implementation approaches, associated benefits and business processes adopted. Many IT projects have failed as a result of implementation being attempted before their requirements and workflows were properly defined and for the CAF, this can be avoided. This would mean explicitly selecting pilots and defining a programme of benchmarking and comparing progress. For example the Trailblazers can provide the following types of pilots that could be closely monitored:
* SO5 - Hub and Spoke: multi-authority implementations, with a central or hub-type database, such as the Leicester, Leicestershire and Rutland;
* SO3 - Moderately Decentralised Local Solutions: single authority implementations such as West Sussex and Camden;
* SO4 – Strongly Decentralised Local Solutions; development of CAF in local case management systems in multi-authority implementations (such as Gateshead and Newcastle, Telford, Wrekin and Shropshire) or single authority implementations (such as Kensington and Chelsea, which also offers a non-Index comparator);
* SO6 – No Electronic Enablement: selection of a first wave authority that decides to adopt this route. This would enable a base case comparator to be used for assessing benefits as workflow processes are established for paper-based systems, which could extend to the use of Intelligent Character Reading (ICR) technology for the importing of data.

# 5. Conclusion & Recommendations

**Conclusion**

1. Our conclusions suggest that the best course for DfES to take in relation to electronic enablement of CAF would be to encourage the use of secure collaboration environments and to take the lead in working with other key stakeholders to define interfaces between local authority systems. At the present time, a strategy based on a single, central master CAF form database is politically unviable and technically unconvincing. Relying on local authority systems, coupled with a strategy of providing centralised integration functionality would seem to best meet the requirements as presently perceived. The No Electronic Enablement option is equally unpalatable, offering a low level of benefit, anticipated practitioner resistance and is not supportive of the Index project.
2. The best path seems to be to adopt an evolutionary strategy towards achievement of the recommended option, which can only be identified after an assessment of the experience of using the CAF by first wave adopters. This will allow flexible development to take place as part of a scalable solution, as the final format of the CAF is confirmed (along with the business processes) and the level and speed of take-up becomes clearer. The wide range of practitioner systems can be used for producing the CAF initially, but with additional control introduced in the sharing and collaboration aspects of CAF. Although this reduces the capability of extending an audit trail back to the initial creation of the CAF form, it should be possible to track changes once the form enters local authority case management systems. Significant work has been done on multi-agency working in the FAME project and the lessons from this should be made use of.
3. Establishing a new, multi-agency, case management system at a local authority (or greater) level would not appear to be a credible solution, to the requirement for electronic enablement of the CAF, at this time. Although this would provide an audit trail aggregating the actions of all the agencies involved, it would duplicate existing functionality and lead to excessive levels of bureaucracy. CAF should stick to its basic function of providing a common ground for understanding, and not seek to usurp the functions of other agencies.

**Recommendations**

1. This study has identified a recommended strategic direction for the electronic enablement of the CAF. As part of this work we have identified a number of recommendations that DfES may wish to consider in taking forward this work that should result in the confirmation of the business case and of the agreed solution for CAF electronic enablement. Our recommendations are as follows:
* Pursue an evolutionary strategy towards introduction and development of the solution for electronic enablement of the CAF, learning from the pilot process for testing of the CAF and from the on-going work being undertaken by the Trailblazers. Much work can progress before a decision needs to be taken on one of the three preferred options identified in this report. Specific pilot implementations should be identified that are closely representative of these options and suggested representative Trailblazers have been identified in the section on Evolutionary strategy in Section 4 – Options Appraisal;
* The model used by the FAME (Framework for Multi-Agency Environments) national IT project warrants further investigation and has the potential to inform development of the solution. We understand the Index project has this approach under consideration. The FAME approach places primacy on establishing governance principles before any technical selection. It is also designed to provide a flexible framework, rather than assuming current organisational structures to be permanently frozen;
* The potential for the RYOGENS technical platform to be used for securely sharing CAF data, at least as an interim solution, is worth further consideration. Current RYOGENS configurations are not optimal, but the product is still under development and the current strategy is very similar to that required by CAF. Progress made by Coventry and West Berkshire in the implementation of CAF with RYOGENS should be monitored;
* DfES seeks to maximise the potential for the Index to support the electronic enablement of the CAF, for example through an enhanced secure messaging facility;
* Likewise, the progress of the Government Connect programme should be monitored. The scope of Government Connect does encompass secure communications between government, voluntary organisations and businesses. However, the programme is still in its early stages, and establishing a dependency on it providing the necessary functionality would be unwise;
* DfES should commission a detailed requirements analysis in addition to establishing actual volumes of forms, transactions, processes and people likely to be involved in the CAF process. It is worth noting that, among the points made by representatives from the Trailblazers, it was emphasised that restricting the breadth of functionality, used to satisfy requirements, appeared to be important in ensuring the success of their IT implementation. Although they started out with the desire to provide a perfect and wide-ranging solution, in fact providing the basic level of functionality was preferable;
* Define data interface standards and schemas in association with other stakeholders, including both XML schemas for CAF forms and transformations to and from other formats. These schemas should be designed to retain audit trail information rather than just holding the form content;
* Work with key stakeholders of practitioner systems to secure their commitment to the development of functionality within those systems to support electronic enablement of the CAF, such as production of the CAF form and transfer of data between the CAF and other assessments;
* Liaise with software vendors and obtain their agreement to support the interface standards and schemas defined above. In particular, efforts need to be made to ensure that the audit information is not discarded (as is commonly the case) when a form is moved to another system;
* Set up a board with members drawn from a variety of stakeholders to agree on a common means of authentication, or alternatively a system of trust bridges. We understand that Government Connect has made progress in this area and DfES should seek to influence the process;
* Pursue the preferred scenarios (e.g. by getting vendors of existing systems to buy in to the CAF and by identifying sources of funding);
* Consider integration hub technology as a way of tying together the variety of different systems likely to be involved in exchanging CAF forms;
* Care needs to be exercised in evaluating benefits separately attributable to the CAF and Index projects as there is a danger that double counting could result. It would be preferable to undertake a single exercise to identify the overall benefits and in the process attribute the appropriate portion to each project. A suggested route forward would be to assess the benefits impact according to the following sequence:
* Establish the base case resource level and performance measures for provision of the current service,
* Assess the impact of introduction of CAF (paper-based system) on the base case,
* Assess the impact of the electronic enablement of CAF on the base case (with paper-based CAF),
* Assess the impact of the implementation of the Index on the base case (with electronic CAF),
* In addition, good practice would be to develop a benefits map showing the linkages between benefits leading to a main measurable strategic benefit and the dependency on enabling changes (CAF, Index and other changes);
* At the next stage of assessment for development of the business case, which is likely to be at Gateway 1 or its equivalent, multi-criteria decision analysis should be used as a mechanism to guide confirmation of the preferred option;
* Confirmation of an agreed solution for electronic enablement of the CAF will not be straight-forward. Our work has confirmed the complexity of the systems environment, a wide range of stakeholders with different viewpoints and a number of constraints and dependencies to be managed. For example, it would be highly desirable to complete a detailed requirements analysis within a timescale that can inform work on the Index solution. A plan needs to be developed to undertake the work with the appropriate resources allocated for its implementation.

# ANNEXES

## A. Individuals Interviewed as part of this Study

| **Individual** | **Role/Organisational Unit** |
| --- | --- |
| Peter Mucklow | Divisional Manager, Change in Practice Programme |
| Stephanie Morgan | CAF Project Manager |
| Leslie Dare | CAF Project Team |
| Gerry Egan | Impact Assessment, CAF Project |
| Paul Watts | CAF Development, CAF Project Team |
| Bill Limond | Interim Programme Director, IS Index Project |
| Terry Knowles | Design Workstrand Lead & Solution Architect, IS Index Project |
| Stephen Nolan | Requirements Analyst, IS Index Project |
| Nigel Gibson | Information Architect, IS Index Project |
| Michael Zola | UID, IS Index Project |
| Patrick Agius | Local Delivery Workstrand Lead, IS Index Project |
| Alan Loivette | Implementation (London), IS Index Project |
| Neil Tupper | Procurement Workstrand Lead, IS Index Project |
| Cordia Roberts-Lewis | Cross Government Liaison, IS Index Project |
| Chris Hirst | Policy & Communications, IS Index Project |
| June Harpley | Business Case & Benefits Management Workstrand Lead, IS Index Project |
| John Adams | Benefits Analyst, IS Index Project |
| Rob Douglas | Costing & Value Analyst, IS Index Project |
| Michael Charles | Project Office Manager, IS Index Project |
| Peter Chester | Project Manager, Leicester, Leicestershire & Rutland Trailblazer |
| James Lynch | Solution Design, Leicester, Leicestershire & Rutland Trailblazer |
| Philip Dyer | Project Manager, Gateshead & Newcastle Trailblazer |
| Anna Wahlstrom | Project Manager, Kensington & Chelsea Trailblazer |
| Mark Virr | Solution Design, West Sussex Trailblazer |
| Cathy Doll | CAF Lead, Camden Trailblazer |
| David Tordoff | Telford, Wrekin and Shropshire Trailblazer |
| Susan Pickerill | School Software Manager, DfES |
| Simon Grigor | Common Basic Data Set for Schools, DfES |
| Terry Keane | Pupil Attendance, DfES |
| John Bertram | School Data, DfES |
| Sue Thomas | Connexions/CCIS |
| Lonica Vanclay | Sure Start, DfES |
| John Rowlands | Integrated Children’s System, DfES |
| Charlie Beaumont | Youth Justice Board |
| Kerry Baker | ASSET |
| Robert Ward | NPfIT/Connecting for Health & GP Systems, NHS |
| Guy Mallison | ALG Systems Review, RSe Consulting |
| Trevor Gordon | Lewisham/RYOGENS and FAME |
| David Valls-Russell | FAME technical infrastructure |
| Alan Barry | RYOGENS, Coventry City Council |
| Louise Tolman | Criminal Justice IT (CJIT) |
| Janice Morphet | ODPM/Government Connect |
| Patrick Curry | Transatlantic Secure Collaboration Project |

## B. Trailblazer Findings

1. Discussions on the approach adopted and progress to date were completed with a representative sample of trailblazers, including those that have made the most progress with implementation of IT solutions to support the Index requirements and CAF.

| **Trailblazer** | **Key Findings** |
| --- | --- |
| Leicestershire, Leicester and Rutland | CAF sharing enabled via a single repository with limited accessRole-based access approach to security of informationTree structure used to identify and classify needsLink to Service Directory to find resources to meet needsApplying a layered consent model to build trust with parentsXML data transfer from Education and Social Services and commitment received from HealthCurrently a combined CAF and Index solution |
| West Sussex | CAF sharing enabled via a single repository with limited, controlled accessProof Of Concept solution with no links to other systemsPiloted multi-agency working through ‘virtual’ Joint Access Teams with own CAF-type documentsStrongly positive feedback to pilot secured through use of a structured user survey |
| Kensington & Chelsea | Encountered problems in establishing an Index because did not want risk of becoming a Data Controller (under Data Protection Act) and did not proceedPlan to produce CAF in case management systemsWill develop in line with local ICS systems developmentPractitioners expressed strong desire for an electronic CAFDo not expect CAF to lead to significant additional workload as implementation will help reduce current inefficiencies |
| Gateshead & Newcastle | Index developed and ready for testing with information links to Education, Connexions, PCTs and BernardosPreference for federated approach to CAF (produced in case management systems) because of perceived problems with ownership of shared central repository (across 2 authorities)Signs of Wellbeing being considered as an alternative to the DfES CAF |
| Lewisham | Integrated solution with RYOGENS and using principles of FAME. Based common assessment on DoH framework with linked service directory.3 tier security with additional role-based access permissions matrix.Federation of multiple data sources in real-time.  |
| Camden | CAF sharing enabled via a single repository with limited access (originally combined with Index functionality, but later split off following the lead of the DfES)Browser interface to a database backend.3-tiered access control approach to security. The practitioner who creates the CAF form is always the owner and can only share the form for read access.Currently only used by Council staff from various services, but plan to extend access to voluntary organisations.Linked services directory appears to be one of the most successful aspects of this implementation. |
| Telford, Wrekin and Shropshire | Index solution produced by developing an existing system, AWARE. Plan to include more than statutory information, if possible, such as notifications of the existence of non-CAF assessments. Solution includes secure messaging functionality contained within the system based on BizTalk, which enables emails to be sent directly from within the application. For security, recipient does not receive the message only an alert and can only subsequently access the details. Other functionality includes management of consent record and conditions surrounding the consent, together with ability to load service directory information into the application. CAF has not been piloted yet but plans are being developed to test with practitioners in the field using ‘tablet’ technology for data capture. Alignment with ICS developments seen as important and anticipate a staged implementation. See potential significant benefits from CAF implementation. Multi-agency working through Team Around the Child meetingsPlan to implement CAF using the same software application but using a separate protected area of the system with a more stringent access control. |

## C. Key Findings from Review of Systems Landscape

| **System** | **Key Findings** |
| --- | --- |
| Schools Systems | 3 or 4 major suppliers but with other local solutionsCould be adapted for production and transfer of CAFTransfer of information achieved currently via XML and secure messaging system S2S handling large volumes of dataSchool Administrator is often systems administrator and will present access control issuesSEN pupils identified by flag on SIMS system, with records held on a separate systemUse UPN (Unique Pupil Number) as identificationStorage of CAFs in the system would be an issue |
| Connexions | Different areas use different solutions, concentrated mainly on the London area that has adopted a single central database (adapted from a pre-existing CCIS system). Connexions includes workers from various agencies, but they work as a single group allowing for a central control of system access. Connexions can import and export data in XML format, it would be possible to generate CAF forms as a report and to attach them to existing case management data.Uses Pupil Number as identification (originally populated via export from PLASC).Consent forms always handled as hard-copy.Currently starting a project to investigate cross-border mobility problems |
| RYOGENS | Although originally targeted at young offenders, the RYOGENS system has become far more generic in application, partly as a result of the influence of the FAME team (e.g. in the Lewisham Trailblazer).RYOGENS provides a “walled garden” environment in which collaborating agencies can share any relevant documents for a case. The principal shortcoming with regard to CAF is that the document remains the property of the original agency, rather than being owned by a central coordinator. This could be mitigated by procedural means, at least in the short term.Implementations of RYOGENS in locations such as Coventry are already integrating the CAF form into the various collaborating systems.  |
| FAME | FAME is the product of one of the ODPM National IT projects, specifically aimed at multi-agency collaboration. FAME does not currently have a technical solution associated with it, having concentrated on governance and related issues. FAME’s academic background means that their recommendations, while dry, have the benefit of rigour and completeness. Conversations with members of FAME indicated that they plan to define a technical solution based on service-oriented architecture and integration hub technology during 2005-6.FAME e noteworthy for having rejected the concept of unique identifiers for 100% of individuals, claiming that this is an unrealistic objective. They believe it is possible to work around this issue.FAME is currently the only group to have started defining formal multi-agency business processes. It would be advantageous for CAF to adopt FAME-compliant processes since the alternative would be vast numbers of separate agreements |
| ICS | All local authorities now possess Integrated Children’s’ Systems for providing case management information covering Social Services interactions with children and young people. These are largely commercial products (including SWIFT, CareWorks and CarFirst), many of which are tightly scoped. However, because they have all been developed recently, there is a high degree of e-GIF compliance among these systems and many are integrated with EDMS. They may therefore provide the best opportunity for integrating case management solutions into the CAF collaboration framework. |
| Health | The systems of most interest in the DoH are the Electronic Care Record and the Single Assessment Programme (SAP). SAP in particular mirrors the CAF in being a common assessment for older people rather than children. The SAP process is now supported by numerous local tools and the assessments are being slowly integrated into a central record, leveraging the NPfIT developments currently under way. The adoption of standard interfaces seems to have improved the ability for systems to become spine-compliant or interfaced with the central systems. The NPfIT (Connections for Health) developments are based along the regional model, with a secure data spine connecting hospitals and other establishments to provide nationwide access to patient records. The high degree of security imposed by the DoH makes sharing of information problematic as anyone connecting to a Health system has to meet stringent security requirements. The dedicated secure data spine removes the need to collaborate/transfer files over open networks and enables a far higher degree of security than is available to other configurations. |
| Government Connect | The Government Connect project is building on the old Government Gateway to provide a single point of authentication and identity management for citizens, government employees and organisations.At present, the functionality of Government Connect is largely based on the relationship between the citizen and their local authority. Plans exist to extend the same mechanism to authenticate workers from one agency to another, in practice this is not yet an offering. In addition, current Government Connect authentication is for the T0 and T1 levels of authentication, based on a simple password level. Extension of the authentication to T2 and T3 levels (requiring additional token-based, biometric or other forms of 2-phase authentication) are included in the Government Connect roadmap, but we are unable to gain any confidence that these will be widespread in the next 2 years. It is noticeable that the current plans require participants to establish their identity by simply being in possession of any one piece of local government paperwork (e.g. council tax account number). Future developments of Government Connect appear to be leading in the direction of the sort of national authentication mechanism that will be able to meet the needs of any solution, such as CAF, requiring identity management and trust between separate agencies. Although Government Connect may eventually evolve into the sort of authentication capability required by CAF, this should be considered a long-term goal. |
| CJIT | Criminal Justice IT is working on two major projects, including a secure email project and a web-services integration hub.The CJIT secure email system allows both people belonging to both Criminal Justice Organisations and external organisations (such as legal firms and victim support units) to exchange 128-bit encrypted email via a central email server. The cost of this system has been quoted as £1.2bn; however we suspect this includes aspects of the Criminal Justice Exchange hub referred to below. We understand that the secure email system uses SSL tunnelling to provide secure transfer for conventional email functionality, together with LDAP authentication of users. This method assumes that the end-points are secure, and therefore does not encrypt information at the end-points (note that the eGIF recommendations would be to combine this with S/MIME 3 – however it would be much less easy to ensure adoption if this were mandatory). The Criminal Justice Exchange hub provides a secure means for applications at different CJOs to exchange data. This is a single hub for the UK, and therefore reduces routing problems while making the network as a whole dependent on the single central system. The hub-based architecture should ultimately be of use to DfES; however it is based on taking very well-defined workflows and converting these to electronic formats. The workflows that will eventually form around the CAF are likely to be less formalised than the CJIT workflows and will be less susceptible to this sort of system. However, the concept of the virtual case file, currently being developed for use with the CJSE ExPoSS system, suggests that this may be of later use for CAF. |

## D. Assessment Criteria for Evaluating Options

1. Options for evaluation were agreed with the project sponsors. The options have been evaluated against a set of agreed criteria, weighted to reflect their relative importance that should be attributed to them in the decision-making process. The criteria and their agreed weighting are as follows:

|  |  |
| --- | --- |
| **Criteria** | **Weighting (%)** |
| Fit with Requirements | 40 |
| Costs | 30 |
| Benefits | 20 |
| Implementation Risk | 10 |
| **Total** | **100** |

1. The weightings were also adjusted to determine whether the decision would be sensitive to changes in the percentage allocation proposed. The remainder of this section covers the Fit with Requirements criterion.

### Requirements Sub-Criteria and Requirements Assumptions

1. Requirements Sub-Criteria and their associated Requirements Assumptions have been determined by first soliciting the views of key members of the CAF team through a questionnaire process. This was followed by a clarification meeting with Stephanie Morgan and Leslie Dare to confirm the sub-criteria and key assumptions associated with them, resolve queries and assign priorities, The Requirements Sub-Criteria and associated Requirements Assumptions enable the options to be assessed in terms of their ability to meet the CAF business requirements.
2. The following Requirements Sub-Criteria have been agreed, in order of priority, with the highest priority first (the first two being of equal priority):
* Security of data held and control of access to it - of prime importance is to protect the child at all times;
* Information sharing – the solution needs to promote information sharing between practitioners as highly desirable, but with the application of appropriate safeguards;
* Flexibility in its application - the solution needs to be able to cope with variation in LA solutions as well as future development of the CAF and its application;
* Easy to use for practitioners and non-bureaucratic.
1. It should be noted that achievement of a high level of satisfaction for the first priority would tend to reduce that achieved for the other three. Any solution that makes a serious attempt at providing a high level of security would be less supportive of information sharing, would tend to be rigid rather than flexible and be bureaucratic in its application of access controls. We also recognise that security can be augmented through approved processes, procedures and ways of working. Again, we will evaluate an overall result by allocating a weighting to the score achieved under each sub- criterion. We will also note whether each option meets a minimum level of security and any that fails to do this will not be recommended.
2. The agreed weighting of the Requirements Sub-Criteria is as follows and as noted in the previous section we also examined the sensitivity of the result to changes in weighting.

|  |  |
| --- | --- |
| **Requirements Sub-Criteria** | **Weighting (%)** |
| Security and Access Control | 35 |
| Information Sharing | 35 |
| Solution Flexibility | 20 |
| Ease of Use | 10 |
| **Total** | **100** |

1. Requirements Assumptions have been determined and allocated to each Requirements Sub-Criterion as shown below. Options were evaluated under each Sub-Criterion by their ability to meet the Requirements Assumptions listed for each:

**Security and Access Control**

* The CAF and CAF form must be able to exist independently from the Index, although the existence of the Index is considered desirable;
* A mechanism (possibly procedural) exists to allow a practitioner in one area to identify themselves as such to a CAF coordinator or practitioner in another area, in such a way as to confirm (i) their identity and (ii) their interest in a specific child. We assume that this mechanism is not susceptible to “identity theft”;
* Since we have a requirement to audit changes to the CAF form, we assume (i) a need to authenticate any person editing the form and (ii) the ability to embed/associate this information into the resulting document in such a way that it cannot be removed or edited;
* Current secure means of transferring information will continue to be considered secure over the next 4 years (note that security/encryption mechanisms generally only have a life of 5-8 years);
* In cases where CAF forms are required to be sent by secure means, this can be enforced through a procedural mechanism and does not necessarily require a technological solution (e.g. practitioners can be trusted to adhere to procedures and not send CAF forms by ordinary email).

**Information Sharing**

* The CAF form information will continue to consist of basic free-text information and will not change to include (i) additional specialist assessments, (ii) multimedia attachments, or (iii) structured assessments such as that used by LLR;
* A mechanism (possibly procedural) will exist to alert practitioners whenever a child with additional needs moves into their area and that there is no requirement for an “e-CAF” solution to alert those practitioners;
* Despite the requirement for preventing the circulation of out-of-date CAF forms, the ability to provide parents/guardians/children with printed copies of the form takes priority;
* All data protection issues are met by gaining parent/guardian/child consent for sharing of the CAF form. In cases where the CAF information is then reused in other assessments, exported to other systems (e.g. police intelligence systems) or imported from other assessments without obtaining consent, this will be strictly in accordance with the specific provisions contained within the data protection act.

**Solution Flexibility**

* The CAF and the CAF form will be principally a means of communicating information between practitioners, rather than being a case system in its own right;
* Where possible, the CAF form will make up part of the case history for a child, and that therefore the responsibility for archiving the form belongs with the case management system of the appropriate practitioner/lead practitioner with prime responsibility for co-ordinating delivery of additional services to the child;
* There is a requirement to share information between members of various local government functions and other agencies responsible for delivery of services, and non-government voluntary organisations (and possibly private companies). We therefore assume that access to CAF forms cannot be restricted to any single government or agency system or network but must be enabled through secure systems that rely on infrastructure such as the internet.

**Ease of Use**

* Since we have a requirement for ease of use, we assume that the e-enabled CAF form should either use an interface that the user is already familiar with (e.g. Schools MIS for Education users) or one that is in general use (e.g. generic browser, MS Word etc.);
* There will always be a requirement to exchange CAF forms between practitioners using different systems, and therefore the CAF form cannot be guaranteed a consistent appearance.

## E. Significant Technology Areas

1. The following technology areas have been considered when compiling this report.

### Data capture

1. It is a major requirement of CAF electronic enablement that practitioners should be able to create forms in whatever system they feel most comfortable with. This is largely based on a desire to encourage practitioners to use CAF and to reduce any training requirement involved. However, the use of proprietary formats such Microsoft Word and Adobe PDF, no matter how widespread, is likely to lead to contentious issues. Both these formats (though especially Word), have been implicated in significant security breaches over past years. Although the products have been hardened to a certain extent, they are still suspect. A better solution would be the use of a dedicated browser front-end, storing information at a database level (as in Scenario S01); however, we recognise that this may be impractical.
2. In accordance with the recommendations of the e-Government Unit (e-GU) we would suggest that DfES and other stakeholders agree to define an XML schema for the CAF form and that, where possible, forms either be generated from practitioner systems using the XML schema, or else transformed from Word etc. into XML for storage.

### EDRMS

1. The data to be captured in CAF forms undoubtedly should be considered as part of the records of organisations capturing and, in some cases using, that data. If the CAF is electronically enabled, electronic records will be involved. However, the fact that electronic records are present does not necessarily mean that electronic records management software is appropriate.
2. Commercially-available software for electronic records management (usually referred to as Electronic Document and Records Management Systems, or EDRMS) are designed to cope primarily with unstructured records – letters, faxes, e-mail messages, slide presentations etc. The use of record management in this context is based around the storage, retrieval and eventual deletion of essentially static documents (records). Further, to make them manageable, these records are organised into a rich and complex hierarchy of classes (the Business Classification Scheme), possessing inherited characteristics (such as deletion requirements). Much of the complexity and cost of EDRMS packages stems from the requirement to manage such hierarchies.
3. In contrast to this, the CAF requirement is basically for a flat, case management structure, able to cope with millions of current documents, many of which are being updated on a daily basis, shared around a variety of groups (albeit in a secure context) and deleted when no longer required. The recent optional extension to the Records Management standard issued by The National Archives covers case management and workflow; however, it is not yet widely enough adopted for the purposes of CAF. We therefore do not believe we can recommend an EDRMS-based strategy at this time for CAF. At least one leading EDRMS supplier has launched a package which is explicitly intended to support both unstructured and structured records. We recommend therefore that DfES keeps abreast of developments in this area, for future iterations of the CAF form.

### Secure Email

1. Security, in the sense of secure email, has a number of aspects. These include primarily:
* Non-repudiation. This is the ability to verify that the supposed sender of a message is in fact the person that sent the message. It is also used to refer to the ability to prove that a message has been delivered to the address that it was intended to be delivered to;
* Security of transmission. This is the ability to ensure that nobody, except the intended recipient, has read a message while it is being sent. This is normally effected by encrypting the message and sending the key to the recipient by a different (preferably non-electronic) route. There is an additional aspect to this which is showing that the message has not changed since it was sent.
1. Of these, non-repudiation is generally the most difficult to achieve since it involves establishing that both sender and receiver have authenticated identities, that they adhere to a common level of security and do not, for instance, allow a user to know another user’s password (and hence be able to send email under their ID). Security of transmission depends on establishing a level of trust between systems, something that can be done relatively easily with modern encryption techniques, but also trust in the user environment at both ends. It is a trivial act to log everything a user types on a keyboard, thus getting access to a message before it even reaches the email system.
2. The problem of securing email is one that has been around for a while. Unfortunately, the internet-based email standard widely in use today betrays its origins in the earlier, simpler days of the internet. Email protocols such as SMTP assume that all email is sent between two trusted parties, over a trusted network, and that all the parties are who they say they are. As a result, we now have an environment in which over 70% of email is either unwanted, commercial “spam” or else a carrier for an automated, malicious attack on the recipient’s system. All this email has forged addresses and often other data, in an attempt to render it both untraceable and unfilterable. Unfortunately, more secure email protocols (such as X.400) lost out in the market since they were harder to implement and to use. This has introduced a third significant aspect to email security, the ability to be confident that reading or accepting an email is not going to damage the recipient’s system.
3. The simplest way of securing email is to return to the initial state – ensure that all the email is transferred over a secure network and that all users are responsible for what gets sent under their names. The GSI is obviously an example of this kind of setup. The problem here is that once email leaves the secure area, or is received from outside the security zone, it becomes subject to the same problems as before. Some machines, laptops for instance, may be attached both to a secure and an insecure network, resulting in a possible vector for cross-contamination. Unlike some government departments, CAF cannot meet its requirements by insisting that all users be attached to the GSI at all times, with a physical separation between them and any machine connected to the internet. One option is to require that email be sent via encrypted SSL tunnels, and this is the solution adopted by CJIT in its secure email network. This solution has some disadvantages in that it requires the operation of a central secure mail hub, with all the participants having email addresses on that system, plus the ability to provide SSL certificates to all the participating organisations. In the case of CJIT, the system’s ability to audit the transfer of messages through the system (e.g. to confirm delivery and especially time of delivery) outweighs the other considerations.
4. The next method is to encrypt (or cryptographically sign) all email, solutions such as PGP and S/MIME are common implementations of this. The downside to this is that one can only send email to a person who has the key required to decrypt the message. Thus this is primarily a solution for frequent exchanges of email between pairs of people or organisations. It is much less useful for a large and diverse group of organisations, exchanging messages on an occasional basis. One S/MIME implementation we are aware of (from Peapod Systems) circumvents this problem by sending the S/MIME encrypted email only to those systems which it knows are able to decrypt it. Other systems are sent a link to a password-protected website with a one-time password, good for only that message.
5. This brings us to the third option which is to evade the problems of email by simulating the beneficial features of email in other protocols. Pseudo-email messages can be exchanged via common protocols such as HTTP/HTTPS instead of via SMTP (the use of HTTP is based on the fact that almost all firewalls will allow HTTP packets through by default, creating a new protocol would require every firewall to be reconfigured). Either actual email can be passed through this secured route, or an alternative can be used. Message queuing systems such as JMS and MSMQ are designed to exchange messages between systems using any of a number of protocols. The defect here is, like the encryption solution, both parties must be actively co-operating in the message exchange process. However, a common solution can be more easily adopted since the messages are not passed through the email system at all and so do not have to be processed with the same care as real email
6. The best way forward for DfES would be to select a standard and mandate its use for sending CAF forms by email. We would at present recommend S/MIME v3 as the preferred standard, in accordance with the advice of the e-Government Unit. However the security world is subject to rapid change and the current version of the e-GIF technical standards catalogue (Interconnection section - <http://www.govtalk.gov.uk/egif/interconnection.asp> ) should be consulted before making a final decision.
7. The e-GIF technical standards catalogue recommends the use of HTTPS for secure access to mailboxes over an insecure network. We would like to suggest that this should be considered very much second-best and that access to mailboxes containing CAF forms should, if at all possible, not be made over insecure networks.

### Digital Rights Management

1. A number of technologies have emerged recently dealing with the requirement for digital rights management (especially from the entertainment industry). In theory, any file can be encrypted and encoded with information only allowing access by those people entitled to read it. Digital Rights schemes have been implemented by (among others) Microsoft and Adobe, enabling the implantation of DRM information into office documents.
2. In practice, the use of DRM has a number of severe limitations which render it of little use at this time. The most significant problem is the lack of a common interchange standard – all vendors appear to have their own incompatible DRM systems, none of which is portable to any other system. This would completely negate the ability to exchange CAF forms between practitioners using different solutions and would make it impossible to generate CAF forms on anything other than one chosen solution. Secondly, the use of DRM is almost entirely dependent on identity management. At present, each vendor supports their own identity management system, though some are able to use local PKI functionality. In the absence of an agreed identity management and authentication scheme, DRM is best left alone at present.

### Authentication and Access Control

1. Perhaps the most difficult problem facing the electronic version of CAF is that of authentication. While it is relatively easy to establish identity in the real world, in an electronic environment this is not the case. Any person sharing CAF data needs to be sure that the person with whom they are sharing the information (who may be from a different agency and at the other end of the country) is allowed to see that information, and that they are in fact who they say they are. Other government projects requiring collaboration are also encountering this as a serious problem.
2. To quote from a recent paper on this subject: Collaboration requires Trust (and being trustworthy) and a common language of business (to ensure mutual understanding); collaboration fails without these. Collaborative identity management is the cornerstone for establishing Trust, and enables authorisation mechanisms to be established to ensure strong data segregation i.e., a person can only access the information which they are authorised to access. Common language of business is fundamentally about data standards and data tagging so that repeatable and auditable processes can be established to enable authorised users to access data that is under proper control.
3. Experience in the Defence environment suggests that any secure collaborative environment established without strong identity management will fail. The Transatlantic Secure Collaboration Programme (TSCP) is currently defining a network of interacting public key infrastructure systems (PKI) that enables parties from different countries and from private companies to collaborate. A lesser version of this infrastructure is the preferred way by which the primary requirement for CAF can be achieved without compromising security.
4. TSCP is an evolutionary approach to enable people to access data about things to make good decisions in an international secure collaborative environment. It is focused on establishing uniqueness in people, data and things, and auditable metrics for ensuring the data quality that underpins good decisions.
5. In time, any system that involves collaboration must be able to uniquely identify and authenticate its users. In the longer term, we would expect the growth of authentication mechanisms such as Government Connect to enable the establishment of trust between agencies. In the short term, a mixture of solutions, coupled with personal knowledge, must provide a substitute.

### Integration Hub

1. An integration hub is a middleware system that permits other systems to interact by transforming their data files, exchanging messages and generally helping them to co-exist. In general, this works by taking in XML messages and converting them to formats that another system would understand. The central metadata storage hub in S05 could also take on the additional functions of an integration hub and might best be sold to the participating authorities on that basis. The precedent here would be the Government Gateway (now subsumed into Government Connect) DIS box, which provided integration functionality in addition to the authentication and payments functions it is better known for. The FAME project has also expressed a strategic desire for Service-Oriented Architecture (SOA) integration hubs based on the LGOL.Net technology developed for the ODPM’s National IT projects.
2. In an environment such as S03 or S04, the addition of an integration hub would significantly reduce the complexity of inter-authority communications by shifting the model towards that in S05. However, funding would have to be identified in those cases.

## F. Potentially Achievable Qualitative Benefits from CIP Programme and Links to Project/Programme Elements

1. The following table summarises the potential benefits that can be achieved under the Change in Practice Programme, which consists of a number of supporting projects and programmes. Each high level benefit can be further analysed into a number of supporting benefits, shown in the second column of the table. The third column shows the changes that will be introduced through the various projects and programmes that will enable the supporting benefits to be realised.
2. The supporting benefits, that depend on implementation of the CAF (with no electronic enablement) to be realised, have been highlighted. These have been further analysed in Annex H to determine the impact of electronic enablement of the CAF on the benefits potential.
3. Key to highlighted text: CAF Supporting benefit

| **High level benefit** | **Supporting benefit** | **Project/programme features** |
| --- | --- | --- |
| More efficient services delivery – less time wasted | Practitioners can find and contact other practitioners involved (current and historic) easily | Accurate, universal Index implemented and usedAll practitioner involvement recorded and retainedTraining, guidance and process change around use of IndexCross border processesIntegrated inspection to cover use of Index |
| Increased ease of uniquely identifying child and matching record | Accurate, universal Index implemented and usedTraining, guidance and process change around use of IndexEffective Index search functionsCross border processesUnique identifier |
| Ease of identifying appropriate additional practitioners/services | Service Directories Service Directories accessible outside LA area |
| No need to repeat basic assessment info for subsequent practitioners | Incremental, common assessment frameworkIT-enabled CAFCompletion of common assessment flagged on IndexTraining, guidance and process change around use of CAFEffective cross-border working processes |
| Fewer inappropriate referrals | Rigorous handover processesCross border processesEffective cross-border working processesTraining, guidance and process change around use of CAFService Directories Service Directories accessible outside LA area |
| Earlier identification of optimum services required, (reducing downstream costs) | IT-enabled CAFCompletion of common assessment flagged on IndexTraining, guidance and process change around use of CAFService Directories Service Directories accessible outside LA areaUse of multi-disciplinary teamsAppointment of Lead Professional |
| Continuity of service on moving | Rigorous handover processesUnique identifierCross border processesTraining, guidance and process change around use of IndexAccurate, universal Index implemented and used Service Directories Service Directories accessible outside LA area |
| Children receive services better targeted to their needs | More holistic assessment | IT-enabled CAFCompletion of common assessment flagged on IndexTraining, guidance and process change around use of CAFEffective cross-border working processes |
| Ability to identify other practitioners involved and exchange information | Accurate, universal Index implemented and usedAll practitioner involvement recorded and retainedTraining, guidance and process change around use of IndexCross border processesIntegrated inspection to cover use of IndexIT-enabled CAFCompletion of common assessment flagged on IndexMessaging infrastructure |
| Earlier identification of optimum services required  | IT-enabled CAFCompletion of common assessment flagged on IndexTraining, guidance and process change around use of CAFService Directories Service Directories accessible outside LA areaUse of multi-disciplinary teamsAppointment of Lead Professional |
| Ease of identifying appropriate additional practitioners/services | Service Directories Service Directories accessible outside LA area |
| Continuity of service on moving | Rigorous handover processesUnique identifierCross border processesTraining, guidance and process change around use of IndexAccurate, universal Index implemented and used Service Directories Service Directories accessible outside LA area |
| Fewer children miss out on universal services | Ability to identify children with no service delivery points | Accurate, universal Index implemented and usedAll practitioner involvement recorded and retainedTraining, guidance and process change around use of IndexCross border processes |
| Continuity of service on moving | Rigorous handover processesUnique identifierCross border processesTraining, guidance and process change around use of IndexAccurate, universal Index implemented and usedService Directories Service Directories accessible outside LA area |
| Less stressful experience for children and families | No need to repeat basic assessment info for subsequent practitioners | Incremental, common assessment frameworkIT-enabled CAFCompletion of common assessment flagged on IndexTraining, guidance and process change around use of CAFEffective cross-border working processes |
| Earlier identification of optimum services required  | IT-enabled CAFCompletion of common assessment flagged on IndexTraining, guidance and process change around use of CAF Service Directories Service Directories accessible outside LA areaUse of multi-disciplinary teamsAppointment of Lead Professional |
| Fewer inappropriate referrals | Rigorous handover processesCross border processesEffective cross-border working processesTraining, guidance and process change around use of CAFService Directories Service Directories accessible outside LA area |
| Continuity of service on moving | Rigorous handover processesUnique identifierCross border processesTraining, guidance and process change around use of IndexAccurate, universal Index implemented and used Service Directories Service Directories accessible outside LA area |
| Children at risk identified earlier | Earlier identification of optimum services required  | IT-enabled CAFCompletion of common assessment flagged on IndexTraining, guidance and process change around use of CAF Service Directories Service Directories accessible outside LA areaUse of multi-disciplinary teamsAppointment of Lead Professional |
| Ability to identify other practitioners involved and exchange information | Accurate, universal Index implemented and usedAll practitioner involvement recorded and retainedTraining, guidance and process change around use of IndexCross border processesIntegrated inspection to cover use of IndexIT-enabled CAFCompletion of common assessment flagged on IndexMessaging infrastructure |
| Practitioners can find and contact other practitioners involved (current and historic) easily | Accurate, universal Index implemented and usedAll practitioner involvement records and retainedCross border processesTraining, guidance and process change around use of IndexIntegrated inspection to cover use of Index |
| Increased ease of uniquely identifying child and matching record | Accurate, universal Index implemented and usedTraining, guidance and process change around use of IndexEffective Index search functionsCross border processesUnique identifier |
| More holistic assessment | IT-enabled CAFCompletion of common assessment flagged on IndexTraining, guidance and process change around use of CAFEffective cross-border working processes |
| Children at risk better safeguarded | Increases focus on children at risk | Dissemination of concernsTraining, guidance and process change around recording concernsTraining, guidance and process change around use of IndexAppointment of Lead ProfessionalUse of multi-disciplinary teamsIntegrated inspection |
| All practitioners involved know child is at risk | Dissemination of concernsTraining, guidance and process change around recording concernsTraining, guidance and process change around use of IndexIT-enabled CAFCompletion of common assessment flagged on IndexTraining, guidance and process change around use of CAF |
| Earlier identification of optimum services required | IT-enabled CAFCompletion of common assessment flagged on IndexTraining, guidance and process change around use of CAFService Directories Service Directories accessible outside LA areaUse of multi-disciplinary teamsAppointment of Lead Professional |
| Practitioners can find and contact other practitioners involved (current and historic) easily | Accurate, universal Index implemented and usedAll practitioner involvement records and retainedCross border processesTraining, guidance and process change around use of IndexIntegrated inspection to cover use of Index |
| Continuity of service on moving | Rigorous handover processesUnique identifierCross border processesTraining, guidance and process change around use of IndexAccurate, universal Index implemented and used Service Directories Service Directories accessible outside LA area |
| More holistic assessment | IT-enabled CAFCompletion of common assessment flagged on IndexTraining, guidance and process change around use of CAFEffective cross-border working processes |
| Increased ease of uniquely identifying child and matching record | Accurate, universal Index implemented and usedTraining, guidance and process change around use of IndexCross border processesEffective Index search functionsUnique identifier |

## G. Methodology and Volumetrics

### Methodology

1. In examining the requirements for electronic enablement of the CAF and specifically the CAF form, it became obvious that a complex set of interacting solutions were required in order to make the CAF function. Some of these may be supplied as part of the CAF; others may be separate central government functions depending on the operating model selected. The CAF functions fall into 4 main areas:
* Data capture
* Data sharing
* Data storage
* Infrastructure



1. Each of these areas was then broken down into technical services according to the following scheme and the various scenarios were analysed according to how well they could provide these services.
2. The spreadsheet below shows 42 necessary services, some of which occur in more than one logical area. Note that this is very much a preliminary, high-level analysis and should not be considered final in any way.





1. Please note that this should not be considered a definitive list of components. An analysis such as this would normally be carried out when the requirements have been developed to a much greater degree. More than one of the stakeholders we interviewed remarked that “policy on CAF is still immature” and this is reflected in the ambiguity of some of our results. As such, one of our recommendations is to carry out a more detailed requirements analysis.
2. The level of complexity of the CAF, which exists to promote engagement and collaboration between professionals from different backgrounds, is likely to be considerably in excess of the Index which merely enables awareness. A large amount of architectural groundwork has been carried out on the Index and CAF will require a similar or greater effort. For this reason, keeping the scope of the CAF as narrow as possible, with functionality provided by other areas, is an important aim.



1. The services were examined at a high level to see how they could be implemented in each of the main 5 scenarios. In some cases this involved providing the services through existing local solutions, in others they would need to be developed as central functionality. The following spreadsheet indicates a suggested functional distribution for each scenario:



###

### Volumetrics

1. A CAF will be completed where a child has additional needs but it is not clear what they are, or where a child clearly has needs for support from a number of services and completing a CAF would be helpful in planning service delivery for that child. It is not clear at this stage what volumes of CAFs will be completed but it is expected that it will be for a small proportion of the estimated 30% or so of all children who need services additional to universal services if they are to thrive.
2. Volumetric assumptions made during this study have therefore, of necessity, been tentative in nature and have had only limited impact on the assessment of options. As experience is gained in use of the CAF it will be necessary to develop robust volumetric assumptions (such as numbers of CAFs, numbers of users of CAFs, frequency of update, transfers/access across authority administrative boundaries, changes to practitioner details and so on) in order to be able to identify a single recommended option with confidence.

## H. Benefits of Electronic Enablement

1. It has been identified in Annex F (Potentially Achievable Qualitative Benefits from CIP Programme and Links to Project/Programme Elements), that achievement of the strategic benefits requires implementation of the CAF and the associated changes to processes and working practices, the Index, Service Directories and other changes delivered by other projects (such as the use of multi-disciplinary teams). Annex F illustrates the fact that realisation of individual benefit will depend on the combined implementation of each of the individual projects.
2. In this environment, attribution of individual benefits to particular projects involves a degree of subjectivity. Consequently, in attempting to quantify potential benefits, there is a significant risk of double counting when attempting to attribute them to individual projects. Initial feedback from the Trailblazers on benefits suggests that in quantifying potential Index benefits, in some cases, electronic enablement of the CAF has also been assumed. Attempting to identify Index benefits first, without considering those attributable to CAF is likely to be problematic.
3. A suggested route forward would be to assess the benefits impact according to the following sequence:
* Establish the base case resource level and performance measures for provision of the current service;
* Assess the impact of introduction of CAF (paper-based system) on the base case;
* Assess the impact of the electronic enablement of CAF on the base case (with paper-based CAF);
* Assess the impact of the implementation of the Index on the base case (with electronic CAF).
1. In addition, good practice would be to develop a benefits map showing the linkages between benefits leading to a main measurable strategic benefit and the dependency on enabling changes (CAF, Index and other changes).
2. The following table examines the benefits available from implementation of the CAF as a paper-based system (no electronic enablement) with those available under the electronic enablement options. It also seeks to identify the impact resulting from implementation of the Index in either a paper-based CAF environment or one where electronic enablement of the CAF has been introduced.
3. Taking implementation of the paper-based CAF first as shown in the second column of the table. Benefits numbered 1-6 have been identified as those that could be realised from implementation of the CAF as a paper-based system. The scale of benefits in a paper-based environment is likely to be very modest. Several Trailblazers have expressed strong views that no CAF benefits would be realised unless electronic enablement takes place, as described under benefit 7. Benefit 8 suggests that implementation of the CAF will not necessarily lead to an increase in resource effort. Benefits 9-13 are either attributable to electronic enablement or are significant disbenefits associated with a paper-based system. In summary, this option is likely to realise a low level of benefits and to face significant resistance from practitioners in its implementation.
4. The first column shows the position with the electronic enablement of the CAF. It confirms that benefits 1-6 are much more likely to be achieved and will be significantly larger in scale. Significant additional benefits can be realised as described benefits 8-13. Feedback from the Trailblazers indicates that the enablement of multi-agency working is a major benefit and that the use of Service Directories (Camden Trailblazer) is highly valued. There is a high expectation that electronic enablement will be undertaken and would attract strong practitioner support. The provision of management information at both the local and departmental level will allow improved on-going performance management of the service and support planning for its future development.
5. The impact of implementation of the Index has also been considered as shown in the lower part of the table. It confirms that an Index with a purely paper-based CAF reduces the benefits of the Index.
6. Benefits achievable in an electronic CAF environment would be enhanced by implementation of the Index, if done in a way deliberately designed to support the CAF. The Index can provide significant benefits 13-14 as detailed, which will enhance the scale of the CAF benefits across all the areas listed to a marked degree. It will also provide the additional benefits, highlighted in yellow, which would not be available without the Index.
7. On the contingency that the Index were not to proceed, the requirement and solutions for electronic enablement of the CAF would need to be revisited and could well be different.

| **Benefit Location** | **Ref** | **Electronic Enablement of CAF** | **No electronic Enablement of CAF (paper-based system)** |
| --- | --- | --- | --- |
| CAF | 1 | Increased benefit as the information will be shared in a tighter timeframe and with a higher level of confidence that it will be receivedBasic information from the CAF will be available electronically for inclusion in subsequent more specialised assessments with an associated saving in practitioner time | No need to repeat basic assessment information for subsequent practitioners |
|  | 2 | Increased benefit as further reduction in inappropriate referrals with more information available within a shorter timescale (report timescales can be dictated by statutory requirements) | Fewer inappropriate referrals |
|  | 3 | Increased benefit as practitioners will be working with the most up to date set of information at the optimum time | Earlier identification of optimum services required (reducing downstream costs) |
|  | 4 | Increased benefit as the most current and relevant information will be available at the optimum time. Effective version control can be provided in an electronic environment | More holistic assessment |
|  | 5 | Increased benefit as information can be shared more readily and will be the most up to date | Ability to identify other practitioners involved and exchange information |
|  | 6 | Enables more rapid and comprehensive communication of changes to the status of a child. For example, this could be further enhanced by providing an automatic alert functionality | All practitioners involved know the child is at risk |
|  | 7 | Feedback from the Trailblazers is that benefits cannot be achieved unless electronic enablement of the CAF is introduced. Electronic enablement will significantly increase the potential for realising worthwhile benefits | Although the range of benefits numbered 1-6 above (efficiency and qualitative) has been identified from introduction of the CAF, there is a high risk that they cannot be realised without electronic enablement |
|  | 8 | Saving in practitioner time for completing the CAF as a form with the basic details completed (child address, school and parent or guardian) will be made availableReduction in administrative effort of maintaining paper files and sharing of information by photocopying paper documentsSaving in time associated with updating and amending paper documents | Although overall implementation could lead to an increase in practitioner resource effort to complete this new requirement, initial evidence from Trailblazers suggests that this may not be the case. The CAF will enable current activities to be completed in a more structured and efficient manner. There could be an increase in practitioner resource effort in individual agencies (Education is regarded as an area where this could happen)  |
|  | 9 | Key enabler for effective multi-agency working as confirmed by the Trailblazers. Review meetings focus on the development of action plans not sharing information. Seen as a major benefit | Provides no support for multi-agency working. Sharing of information is slow and cumbersome |
|  | 10 | Faster access to electronic Service Directories and to selection of most appropriate intervention, where there is an electronic interface with the CAF solutions | Service Directories accessed as separate systems with no electronic linking possible |
|  | 11 | Electronic enablement will significantly increase the likelihood of a successful implementation | Practitioner resistance likely if no electronic enablement. Through the consultation process, practitioners have identified electronic enablement as a necessary requirement and this has been confirmed in feedback from the Trailblazers |
|  | 12 | Provides greater security that the CAF only shared with authorised practitioners, in particular across agency boundaries | Paper-based system provides less security for sharing information |
|  | 13 | Potential to provide management information at the local and departmental level that can be used for the ongoing monitoring of service performance and for future planning, service development and to identify resource capacity requirements | Can only provide management information through time-consuming ad hoc information gathering exercises |
| Index | 14 | Automatic updates of index:to confirm CAF has been completed (and flags of concern)for practitioner contact detailsfor changes to child contact detailsReduction in effort required to ensure the Index remains up to date. Ensures that practitioner confidence in the system is maintained and will promote usage. | Index updated from manual submissions of CAF information. The result would be additional costs for processing information and a significant reduction in the benefits that can be realised from the Index |
|  | 15 | The Index information will be ‘synchronised’ with the CAF information such that the details of the CAF and contact with the practitioner(s) involved can be secured rapidlyMore accurate information contained on the Index (and CAF) with the child uniquely identified in the same way on both solutions | Details held on the Index are likely to be incomplete, incorrect (where child not uniquely identified) and out of date |

## I. How It Might Work

### SO4 – Strongly Decentralised Local Solutions Option

1. In accordance with the CAF requirement to use solutions that are familiar to the users, there are many possible ways in which a CAF could be produced. A teacher may generate one from their usual school systems, or may ask the operator of the Schools MIS system to generate one, a Children’s Services practitioner may use the Integrated Children’s System and a GP may use their own case system.
2. They then need to communicate the existence of their CAF to the person nominated as the CAF coordinator and either send the CAF to them via a secure messaging system or make it available to them at a secure location. The CAF coordinator can then determine who else needs to see the CAF. Transmission of the CAF may be by a route as crude as email or even printing it out and posting, but more likely it will eventually be via some sort of XML messaging transfer between systems. Messaging queuing systems (sometimes called email for computers) allow information to be transferred directly from one system to another, sometimes by way of an integration hub, but without the security issues associated with email transfer. Provided a standard format for the file has been agreed, there is no reason why the same file should not appear to the teacher as part of SIMS, to the social worker as part of the ICS and to the GP as part of their medical case management system.
3. The next stage in the process will be collaborating on the case and establishing what the needs of the child are. There may well be a regular face-to-face meeting at which new and current cases are discussed, however the use of online collaboration may be beneficial, especially in areas where practitioners are widely separated and cannot afford travel time. Existing multi-agency collaboration systems, such as RYOGENS, are mostly based around the concept of a secure area hosted by a trusted third party. This “walled garden” approach allows practitioners to share a small part of their files (e.g. specialist assessments) without the risk of exposing more than they intended. These collaboration systems also offer other facilities for collaborative working, some of which may be useful to those practitioners who are comfortable with this way of working. For the next couple of years, use of these existing systems would seem to provide the best forums in which to share CAF forms, since many practitioners are only just starting to come to terms with them. In the longer term it may be preferable to establish separate secure areas, once the requirements of CAF sharing are better understood.
4. Once the child’s needs have been established, the normal processes and procedures take over. The exception comes when a child is moving from one area to another. In this case, the current CAF forms, and possibly other, specialist assessments will need to be transferred to systems in the new area. It may also be sensible to include practitioners from the old area in case conferences initially. This implies the use of a collaborative facility accessible from anywhere, rather than a purely local one.