The Defence Core Network Services (DCNS) programme was established to develop and deliver a portfolio of Information Communications Technology (ICT) services that are cheaper, better integrated and more flexible, delivering MOD’s core ICT capability; from videoconferencing and satellites to desktop PCs and mobile phones. In line with the Government ICT Strategy, MOD is looking to implement a coordinated multi-vendor service delivery model, introducing more competition, contracting for shorter and smaller value contracts than at present and utilising up to date Government contracting mechanisms. ITESP is one project within the DCNS programme.

The Information Systems and Services (ISS) Training & Education Services Project (ITESP) was initially set up to generate savings by rationalising spend on Training & Education (T&E) ICT infrastructure across Defence. The project is responsible for establishing the most cost-effective future solution in support of Defence training. The four core stakeholder groups in scope are: Air Training Information Infrastructure Project (ATTIP), Navy Training Information Infrastructure Project (NTIIP), Army Recruitment and Training Division Classrooms Information Infrastructure Project (ACIIP) and Defence Technical Training Change Programme (DTTCP). The COEIA activity performed in support of this project comprised non-financial benefits assessment, an Investment Appraisal and consideration of other contributory factors (OCFs) for each option.

### NON-FINANCIAL BENEFITS ANALYSIS APPROACH

- **Interim Benefits Assessment (Workshop 1)**
  - Workshop with technical SMEs from each TLB
  - Score ICT performance of each option against Interim Benefits

- **Business Benefits Assessment (Workshop 2)**
  - Workshop with business SMEs from each TLB
  - Score current business performance and determine the threshold performance

- **Application of Analysis Rules**
  - Combine output from Workshop 1 & 2
  - Apply a series of rules to produce a Business Benefits RAG status for options

### OPTIONS DEFINITION

- **Option 2: Do Minimum**
  - Extend/re-compete existing contract

- **Option 3: Best of Breed**
  - Use best examples of systems currently in use

- **Option 4: New Service**
  - New Training system procured using ITESP catalogue
    - Option 4a: ‘Local’ (Big Bang)
    - Option 4b: ‘Remote’ (Big Bang)
    - Option 4c: ‘Local’ (Phased)
    - Option 4d: ‘Remote’ (Phased)

- **Option 5: Hybrid**
  - "Middle ground" between 4a and 4b
  - On-site SIAM and desktop support arrangements
  - Blend of more and less costly architectures (e.g. thick and thin client)

### OPTION SCORES

RAG scores are created for each Business Benefit, for each option, for each FLC community, based on the application of the analysis rules applied to the data provided by FLC SMEs.

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**OVERVIEW**

"The timely provision of appropriately trained and motivated personnel"

A benefit is a measurable improvement that contributes to the strategic objective. No single measurement fully covers this objective.

We agreed on measurable Business Benefits with business SMEs to describe what the options offer in terms of non financial benefits that together enable the objective. The Business Benefits are enabled in part by the solution’s technical characteristics.

Measureable Interim Benefits were defined to describe the technical qualities of the options (e.g. availability). These enable Business Benefits above a certain threshold.
**NON-FINANCIAL BENEFITS ANALYSIS**

**ANALYSIS RULES**

We prepared a series of rules to transform the raw data collected at SME workshops into a series of RAG scores for each Business Benefit.

This process was repeated for each option and for each community in the scope of ITESP.

We carried out a series of sensitivity tests in which variants of the rules were applied to ensure that the choice of rule did not influence the result.

**RULE 0**

Rule 0 transforms the data from workshop 1 into a consolidated range for each Interim Benefit.

*The range of values for the Interim Benefits taken from maximum and minimum scores from the technical judges in Workshop 1.*

**RULE 1**

This rule calculates a RAG score for each Interim Benefit Metric.

- **Red** if the Interim Metric **always below** the threshold.
- **Amber** if the Interim Metric **sometimes below** the threshold.
- **Green** if the Interim Metric **never below** the threshold.

**RULE 2**

Business Benefits link to multiple Interim Metrics.

This rule calculates Business Benefit RAGs from Interim Benefit RAGs.

- **The Business Benefit RAG is the Interim Benefit RAG with the largest weighting (from Workshop 2).**
- **If weightings are equal, the lowest RAG is assigned.**

**RULE 3**

Rules 1 and 2 produce Business Benefit RAGs for each Stakeholder.

This rule aggregates the Business Benefit RAGs into an Overall Business Benefit RAG across all Business Stakeholders.

*The overall Business Benefit RAG is the lowest Business Benefit RAG across all business stakeholders.*

**RULE 4**

Rule 3 produced RAGs for each Business Benefit for each option.

Rule 4 presents these RAGs in a pie chart. The segment size is equal to the average Business Benefit Weighting.

*The Business Benefit RAG segment size is equal to the average Business Benefit weighting across stakeholders.*

**RULE 5**

In this rule, Options are ranked by the following in descending order of importance. In each case, lower is better:

- The total weight of high priority Red Business Benefits.
- The total weight of high priority Amber Business Benefits.
- The total weight of low priority Red Business Benefits.
- The total weight of low priority Amber Business Benefits.
NON-FINANCIAL BENEFITS ANALYSIS

BENEFITS SCORING MODEL

WORKSHOP 1 DATA

RULE 0

WORKSHOP 2 DATA

RULE 1

RULE 2

RULE 3

RULE 4

RULE 5

ACIIP RESULTS

NTIIP RESULTS

DTTCP RESULTS

ATIIP RESULTS
ISS CAAS have performed an independent verification of all data sources. A large number of data sources were consulted, including:

- Existing framework catalogue prices
- Historical running costs for legacy systems
- Scaling information provided by FLCs
- Open source information (e.g. technical white papers)
- SME workshops

ISS CAAS have performed an independent verification of all data sources.

**COST MODEL OVERVIEW**

**MODEL CONSTRUCTION**

The cost model was built in accordance with JSP 507 on a Whole Life Cost basis, covering a ten year period.

The Net present Value (NPV) of each option was calculated using the recommended Treasury Discount Rate of 3.5% and used to compare options.

The model was built from the bottom up, combining the best available scaling data and costing information with three-point-estimates to handle uncertainty, which were combined probabilistically using @Risk.

Each of the four communities was costed separately across the six categories:

- MOD Costs
- Setup / Integration / Transition Costs
- Legacy Costs
- Equipment Costs
- Operation Costs
- Risk

ISS CAAS independently validated the cost model construction.

**SENSITIVITY ANALYSIS**

Statistical techniques were used to identify the most sensitive data inputs. These were varied to determine how much they influence the NPV ranking.

The plots above show how the total NPV changes as the most sensitive inputs were varied.

The vertical bars show the minimum, most likely and maximum values of the 3 point estimates.

Often the parameters needed to extend far beyond the maximum values of the 3 point estimates.

A count of the NPV ranking in these extreme scenarios is given on the left, which shows that the same options score highly even in at these extremes.
Operational costs are key financial drivers across all options, which are reduced considerably by a thin client solution. Thin client also reduces tech refresh spend. ‘Big bang’ options carry greater risk than ‘phased options’

Options with lowest NPV are 4b, 4d, 5 and 2 but it is difficult to distinguish between them in pure NPV terms. More data is needed to reduce the uncertainty.

Because ACIIP has a higher proportion of sites to access devices compared with other FLCs, there is a relative increase in equipment and service integration costs. Reduced operational costs are achievable using thin client.

Options with lowest NPV are 4b, 4d, followed by 5 and 2. There is some degree of overlap between options and more data is needed to reduce the uncertainty. It is expected that new data will reduce the cost of Option 2 which will increase the VFM of this option (data not included in these figures).

Key areas of spend are similar to other options, except there is no contribution from a legacy system in early years. Also, because DTTCP is confined to one site it has relatively lower integration and network equipment costs.

It is very difficult to say which option definitively has the lowest NPV, although there is a general trend towards Options 4b, 4d and 5.

OVERALL NPV OPTION RANKING

In general most options show some degree of overlap between the 10% and 90% confidence intervals. However the following general trend is seen:

• Option 4b and 4d are typically the best options from an NPV perspective
• Option 5 and Option 2 are typically the next best options and are generally hard to distinguish when the confidence intervals are compared. However Option 5 offers greater potential savings depending on the degree to which thin client is implemented.
• Options 3, 4a and 4b typically have the highest NPV.

GENERAL INVESTMENT APPRAISAL CONCLUSIONS

• Significant potential savings from thin client architecture.
• Modest savings from commodity service providers (partially offset by need for integrator)
• Additional Spend in early years for new architectures.
For DTCP, it is recommended that **Option 5** is taken forward. This will allow the approach to be validated, and the uncertainties identified in the IA to be reduced for the other FLCs.

**EXAMPLE RECOMMENDATIONS**

For **ATIIP and NTIIP**, it is recommended that the legacy arrangements (Option 2) are extended in the short term to allow further information to be gathered by DTCP to determine whether a variant of Option 4 or 5 actually offers better VFM.

For **ACIIP**, **Option 5** appears to offer the best VFM based on the information available. However as this option would require a short term extension of legacy arrangements (Option 2), there is an opportunity for the investment decision to be revisited based on updated data from the DTCP trial.