

Framework for

ICT Technical Support in Primary Schools

(Primary FITS)

Name of school:

Introduction

This package contains the Framework for ICT Technical Support in Primary Schools (Primary FITS), and provides primary schools, special schools and nurseries with the tools they need to ensure an efficient, effective and reliable ICT service. Designed specifically for these schools, Primary FITS has the following key benefits for them.

- It is suitable for all support models, whether fully outsourced to a service provider (managed service) or whether a combination of full- or part-time, formal or informal staffing is deployed.
- Anyone can use the instructions, whether they are 'technical' or not. This means that schools can use the personnel available to them, making Primary FITS a realistic solution.
- You can use it 'out of the box' with the implementation plan checklist provided. No additional work is required to tailor the instructions; they are ready for immediate use.



Who is this guide for?

Primary FITS is for primary school, special school and nursery headteachers and those involved in ICT technical support, including:

- Administrative staff
- Technical staff or helpers
- Service providers of a partial service
- Service providers of a fully managed service.

Service providers are commercial suppliers, local authorities and any other external organisation involved in ICT delivery. A managed service is when a service provider undertakes to support a school's ICT facilities, leaving the school to concentrate on its core learning and teaching responsibilities.

Benefits of implementing Primary FITS

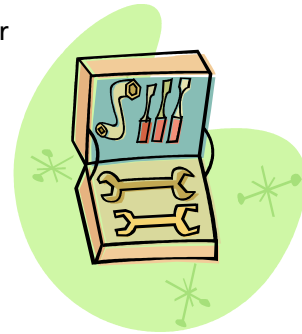
- It ensures that schools address all aspects of ICT technical support.
- It implements a cycle of continuous improvement of ICT services and support.
- It instils a 'prevention rather than cure' culture in ICT management and support.
- It establishes a common procedure for handling ICT technical support for users.
- It establishes a mechanism for managing changes to ICT services.

What is the purpose of this guide?

Primary FITS offers a prescribed way of managing ICT that is suitable for all primary and small schools. It is a practical toolkit matched to the functional areas of ICT service management. It describes what you need to do and why, and includes instructions, templates and examples, plus an implementation plan to help you get the best outcome.

Primary FITS requires no analysis or interpretation before use. Busy teaching professionals who need to make their ICT support their school's curriculum, management and administrative requirements can use it quickly and easily. No knowledge of FITS is required.

The purpose of this guide is to enable you to get maximum value from your ICT with minimum effort.



What is in this guide?

Primary FITS has two main parts: the guidance and the toolkit.

- **Guidance**

This contains all the background information you need to understand and plan what you are going to implement:

- Introduction to the guide
- An understanding of the outcome you should expect
- An overview of the functional areas and the tasks to be carried out
- An introduction to the toolkit section and an implementation plan
- Advice about working with ICT service providers
- Examples of how implementation could work, using different staffing options
- An optional introduction to FITS
- A glossary of terms.

- **Toolkit**

This has the instructions and templates you need to perform each function:

- Details of the tasks to be performed and how to perform them
- CD containing templates and examples.

It is bundled by function for ease of use and dissemination, and you will also find in it some useful links to related Becta material.

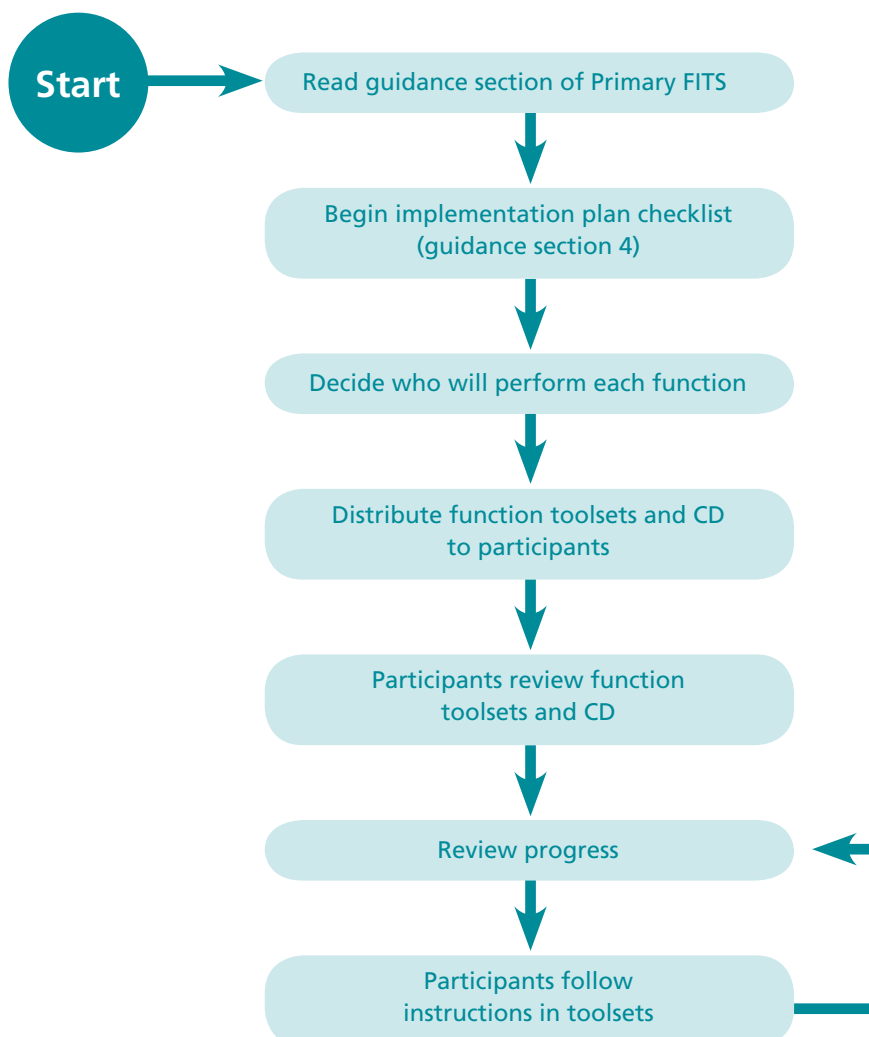
How do I use this guide?

Headteachers

- Read all of the guidance section.
- Based on the advice in the guidance section, nominate someone to be the ICT owner. That person will carry out the implementation, including deciding who will fulfil each function (and they will need this pack).
- If you have the time, you may like to familiarise yourself with the toolkit section to understand in more detail what will be asked of the nominated participants.
- The function toolsets in the toolkit and copies of the CD will be issued to the rest of the nominated participants as part of the implementation plan.

Nominated participants

- Familiarise yourself with the contents of the toolset for your function(s) and with the toolkit CD.
- Follow the instructions for carrying out the tasks in accordance with the ICT owner's implementation plan.



Background to Primary FITS

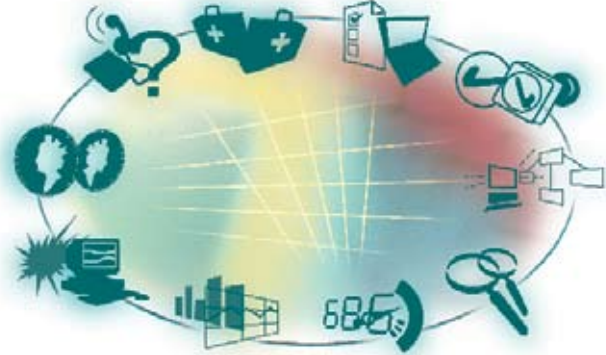
In 2003 Becta launched its Framework for ICT Technical Support (FITS). FITS is a set of processes designed to help technical support staff to manage ICT in schools.

The FITS processes are based on the best-practice processes documented in the IT Infrastructure Library (ITIL). The (now) Office of Government Commerce started ITIL, originally for use in the public sector, but ITIL has since been adopted widely in the private sector, both at home and abroad.

FITS provides tools and examples to help schools to begin implementing best-practice processes. The processes have been tailored specifically for schools, but they still require a certain amount of application to make them work, so they are best suited to schools with full-time ICT technical support staff.

Now that a number of secondary schools have started to work with FITS, some case studies of successful implementations are becoming available. However, aware of a gap in ICT help for smaller schools, Becta has designed the Framework for ICT Technical Support in Primary Schools (Primary FITS). This is based on the FITS processes, but aligned more closely with the support models in common use in smaller schools.

No prior knowledge of FITS is needed in order to be able to use Primary FITS. However, in case you are interested, we have included a brief overview in section 7 of the guidance. You can also find full details on the FITS website [<http://www.becta.org.uk/fits>].



What does successful ICT management look like?

Successful ICT management is the availability, when needed, of the computer hardware and software tools selected to enable users to perform efficiently and effectively the tasks required of them. Underpinning all this is a number of characteristics, such as:

- A focus on preventing ICT incidents before they occur
- Effective prioritisation of incidents when they do occur
- A maintenance and repair programme that is unobtrusive
- Planned implementation of new services that users need and are ready for
- Good communication between ICT staff and users
- Good communication between ICT staff and service providers
- Overall ownership of the ICT service with clear lines of accountability.

We discuss each of these points below.

Preventing ICT incidents before they occur

This means that fire-fighting is less necessary because systems fail less often. When prevention is commonplace, ICT users become confident that they can rely on their tools and ICT staff can devote their time to more proactive work.

Prioritising incidents effectively

This means resolving those incidents that will have the greatest impact first. For instance, knowing about and attending to a network failure affecting a whole classroom, before dealing with a local printing problem, is usually more effective.

Unobtrusive maintenance and repair

This is a programme carried out in consultation with ICT users to ensure that it does not affect their plans to use ICT systems. Advance schedules can often be agreed for routine work, enabling plans to be made confidently. This means that only unexpected urgent repairs cause more immediate disruption.

Planning and preparing users for new services

This means that money is not wasted on unnecessary products and value for money is realised on those products that are implemented, through ensuring that users know how to use them as soon as they are available.

Communicating effectively between ICT staff and users

This means that users are kept informed of progress on incident resolution and of any ICT plans affecting them. It also means that ICT staff listen and respond to the needs of users.

Effective communication between ICT staff and service providers

This means that all those involved in Primary FITS are working towards the common goal of maintaining the availability of ICT services.

Transparent accountability and ownership of the ICT service

This means that someone is ultimately responsible for the service, regardless of the number of staff and service providers involved. This is essential not only to ensure that all parties work together as a team with no overlap or gaps in effort, but also to maintain clear strategic direction.



ICT is a means to an end, not an end itself.
Successful ICT is transparent and dependable.

What does ineffective ICT management look like?

If you cannot rely on your ICT, it is ineffective. ICT is ineffective when all you can do is constantly fire-fight incidents, which leads to a spiral of increasing delay and frustration. Characteristics of ineffective ICT include these:

- Users who cannot get ICT incidents resolved when they need to
- ICT systems that are out of action until the next routine technician visit
- New equipment that is not installed because technicians are too busy dealing with incidents
- ICT staff and service providers who blame each other for delays and failures
- Underlying problems that get passed around without ever being resolved
- ICT systems that are often unavailable while immediate repairs are made
- Incidents that occur time and time again.

We discuss each of these points below.

Incidents not resolved promptly

Users who cannot get ICT incidents resolved when they need to may resort to trying to fix equipment themselves and unwittingly cause further problems, breach security policies or destabilise standard platforms. Alternatively, they might feel the need to develop a solution that is not dependent on ICT to use when incidents occur, which defeats the object of having the technology in the first place.

Long waits for technician to fix systems

ICT systems that are out of action until the next technician visit are an expensive waste of money. It is important to have a system of spares and other workarounds to hand to keep technology available until a specialist, if necessary, can address the actual fault.

Technicians too busy to install new equipment

ICT users do not get new equipment installed because technicians are too busy dealing with incidents.

A blame culture

ICT staff and suppliers who blame each other for delays and failures are not working together as a team with a common goal. Users become frustrated because they are not sure who is responsible for fixing the incidents and when they will be resolved.

Passing round the problem

Passing round underlying problems without resolving them happens when there is no agreed method for diagnosis and allocating them to the appropriate technician. If no one has overall responsibility for the service, problems will not be properly resolved.

Frequent downtime

ICT systems that are often unavailable while immediate repairs are made indicate a lack of monitoring and preventative maintenance. 'Surprise' failures are time consuming and disruptive to users and ICT staff.

Repeats of the same incidents

Incidents that occur time and time again do so because a workaround or quick fix is applied each time but the underlying cause (problem) is not addressed – usually because everyone is too busy fire-fighting.



ICT should not prevent you from carrying out your job. Ineffective ICT means you can't depend on your tools to achieve your objectives, so you waste time finding alternative solutions.

Continuous improvement

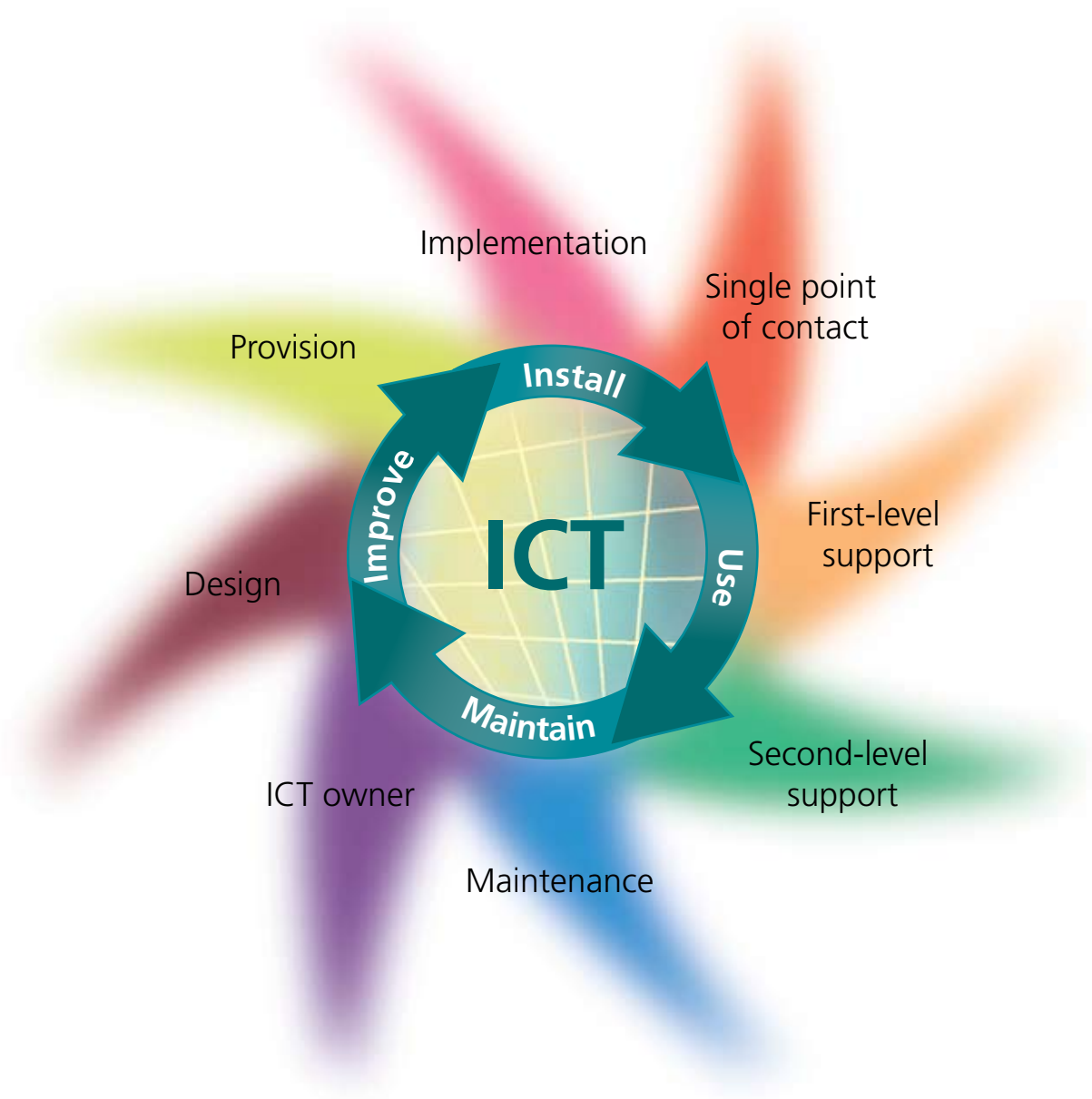
Primary FITS is based on the concept that ICT is a cycle of continuous improvement. We install ICT equipment, use it, maintain it, identify improvements, upgrade it, eventually replace or add to it and so it goes on.



Continuous improvement will help you to change ineffective ICT management into successful ICT management. Primary FITS is the tool with which you'll make the changes.

3

The model for successful ICT management



The Primary FITS functions

We have identified the functions that must be carried out for successful ICT management and, using the processes we developed for FITS*, we have matched them to the tasks required to provide a prescriptive toolkit for managing the continuous improvement lifecycle.

- The **ICT owner** is the person in the school with overall responsibility for ICT. Even with a fully managed service there must still be an ICT owner, so that accountability in the school is clear.
- Having a **single point of contact** provides a consistent way for ICT users to make requests and report faults. This is a key method for reducing the amount of time spent on fire fighting, because it means that technicians can be left to prioritise their work without interruption.
- **First-level support** should respond to user requests and incidents in such a way as to get users working again as quickly as possible, with a non-technical solution if necessary.
- **Second-level support** is responsible for revisiting users and implementing a permanent technical solution at a convenient time.
- **Design** is necessary to make sure that the ICT infrastructure is built in a planned and sustainable way. *Ad hoc* growth of ICT infrastructure can lead to availability issues.
- **Provision** is the procurement of ICT equipment, which needs some mechanism for control to make sure that only authorised purchases are made.
- **Implementation** is the new and repeat installation of hardware and software, through planning, testing and the creation of instructions.
- **Maintenance** is necessary to keep equipment in top working order and prevent problems from occurring. ICT equipment is susceptible to wear and tear and needs to be refreshed and replaced from time to time, in the same way as a car needs regular servicing.

We describe these functions in more detail on the following pages.

* No prior knowledge of FITS is required but we have included an optional overview in Primary FITS guidance, section 7

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The toolkit for successful ICT management

Implementation plan checklist

Carry out the following steps in the order listed below.

Plan and prepare		Details
Read the guidance section of this pack fully		<Date done>
Read the toolkit (optional)		<Date done>
Communicate intention to ICT users (eg at staff meeting)		<Date done>
Assign functions to personnel	ICT owner	<Name>
	Single point of contact	<Name>
	First-level support	<Name/Service provider>
	Second-level support	<Name/Service provider>
	Design	<Name/Service provider>
	Maintenance	<Name/Service provider>
Schedule your first team meeting		<Date of first meeting>
Copy the CD for the team members		<Date done>
Meeting 1	Introduce Primary FITS to the team	<Date done>
	Distribute toolsets and CDs	<Date done>
	Agree a start date, allowing time for familiarisation with the tasks	<Start date>
	Schedule second meeting	<Date of second meeting>
Review your own tasks prior to Meeting 2 (and, if possible, the tasks of the others)		<Date done>
Update ICT users on progress (eg at staff meeting)		<Date done>
Meeting 2	Check the team's understanding of their tasks	<Date done>
	Agree date for communications to be in place (Single point of contact task)	<Date agreed>
	Agree date for user support procedure document to be submitted to ICT owner (Single point of contact task)	<Date agreed>
	Confirm start date	<Start date>
	Schedule next meeting (one month after start date)	<Date of next meeting>
Distribute the user support procedure document to ICT users		<Date done>
Confirm start date to participants and users the day before		<Date done>
Do		
Carry out the tasks as described in the toolsets (all participants)		
Review		Details
Solicit feedback from ICT users		<Date done>
Meeting 3 and regular subsequent meetings	Review experiences since start date	<Date done>
	Review service report	<Date done>
	Review ICT user feedback	<Date done>
	Record and issue any actions, including by whom and by when	<Date done>
	Schedule next meeting (monthly)	<Date of next meeting>

5 Working with service providers

Primary FITS and service providers

Primary FITS is an independent support model that can work with any combination of school staff and/or service providers. The functions are designed to work with each other and, provided that the tasks are performed fully, forming a team to manage the ICT should be possible, no matter whether the participants are internal or external to the school.

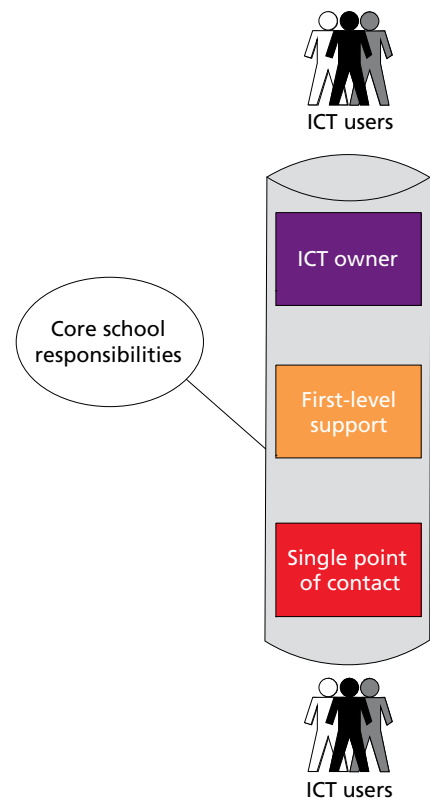
School responsibilities

Responsibility for the ICT service in a school must reside with the school itself, even when it has elected to contract a fully managed service from a service provider. If the school surrenders control completely, there are no longer two sides to the contract. In this case, however good the external provider's service is, without constructive feedback they cannot know whether they are meeting the needs of the school.

In order to establish an unambiguous communication path, it is necessary to have a representative of ICT in the school to fulfil this role. This is why the ICT owner function must always be assigned to a member of the school staff. Also, the ICT owner must be a member of the leadership team, so that they can represent the interests of the school at every level.

In an environment where technical support may not be full time, it is important to pick up incidents and requests regularly and to apply temporary solutions. Otherwise a situation might arise where the ICT service itself is only part-time. For consistency, therefore, the Primary FITS model requires the single point of contact to co-ordinate incidents and requests, and the first-level support function to attend to them in the first instance. These two functions must be available for the whole of every school day, so, to ensure that this is the case, it must be school staff who fulfil both these functions.

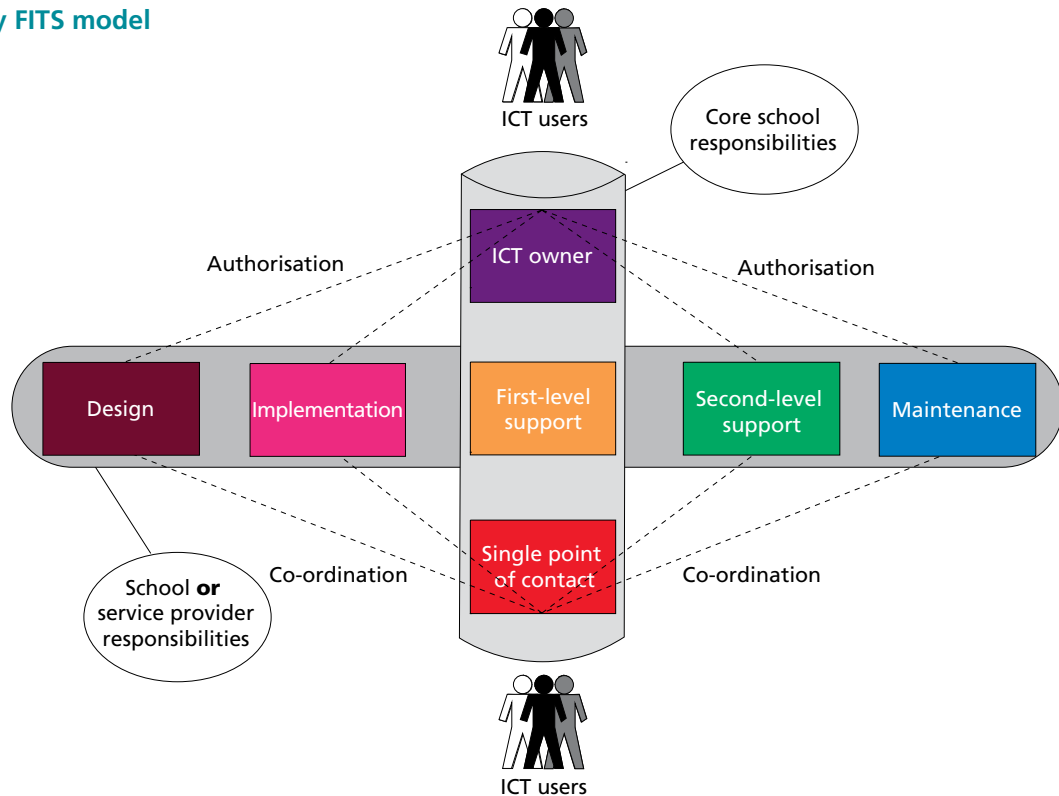
Note that the single point of contact is not intended as a replacement for a service provider's service desk or helpdesk. The single point of contact is the single point of contact at the school and will thus liaise with any similar function provided by a service provider. What this means is that the service provider's service desk would receive calls from only one source at the school, and those calls would normally be made once the urgency of a situation had been removed.



Service provider responsibilities

A service provider's responsibilities will vary, depending on whether they provide a fully managed service or only some services. In the context of Primary FITS, a service provider is responsible for fulfilling any of the four remaining functions assigned to them, and will work as a team with the other participants.

The Primary FITS model



How service providers can help schools to implement Primary FITS

For service providers, working with Primary FITS means working to a standard suitable for all primary schools and it aligns with other Becta initiatives in this area, which you will find mentioned in relation to the Primary FITS design function:

- Functional specification: Institutional infrastructure
- Technical specification: Institutional infrastructure.

Implementing a standard way of working has benefits for primary schools and service providers alike. Primary FITS offers ready-made repeatable tasks, so service providers can supply more than one school using the same methods.

As ICT professionals, service providers will already be familiar with the functions and tasks in Primary FITS and as such are in a head-start position. There are one-off start-up tasks that will be required, perhaps of school staff if you have assigned those functions internally. However, service providers may be in a position to help with start-up tasks and, at the same time, will themselves benefit from doing so. For example, asking them to help create your asset lists, network diagrams and service catalogues may speed up the process by helping to spread the workload, while the service provider will be able to use all that information to make their service more efficient and effective.

The ICT owner should authorise service providers to help, if your school decides to adopt this approach. The service provider should then work under the direction of the person responsible for the function concerned.

Helping service providers to meet the expectations of the school

It will help service providers to meet the expectations of your school if they familiarise themselves with all of Primary FITS so that they understand the whole picture. Everyone involved in its implementation will be brought together to plan and review, but it can only help if service providers first examine the inputs and outputs of the functions and fully understand their role in the outcome.

Your service provider may be responsible for only some of the functions but, as ICT professionals, they will be in a position to advise and help school staff with tasks that may be new to them.

If your service provider is not already familiar with Primary FITS, ask them to read your copy and to share their expertise. It will benefit everyone in the long run.

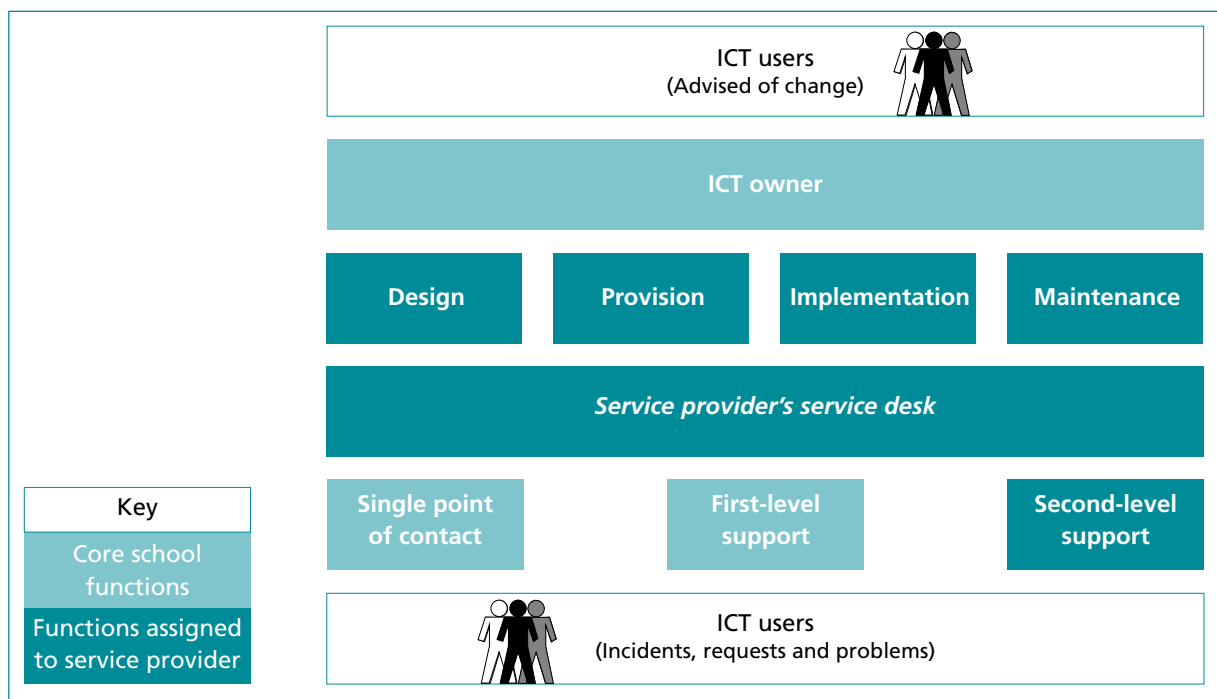
6 Scenarios

These three scenarios aim to demonstrate that the Primary FITS functions are adaptable to a variety of different support models.

Primary FITS with a managed service

Scenario 1 The fully managed service

In this scenario the school has opted to carry out the minimum in-school Primary FITS functions itself. These functions are assigned to the headteacher (or another member of the leadership team), an administrator and a teaching assistant, respectively.



In the context of Primary FITS, the ICT owner, who has overall responsibility for the service, defines the service, controls expenditure and also approves and communicates all changes.

The single point of contact co-ordinates all end-user requirements, passing them in the first instance to first-level support.

First-level support restores functionality and lodges requests with the single point of contact for follow-up visits by second-level support.

The single point of contact calls for second-level support via the service provider's service desk.

The remaining functions are outsourced to one service provider.

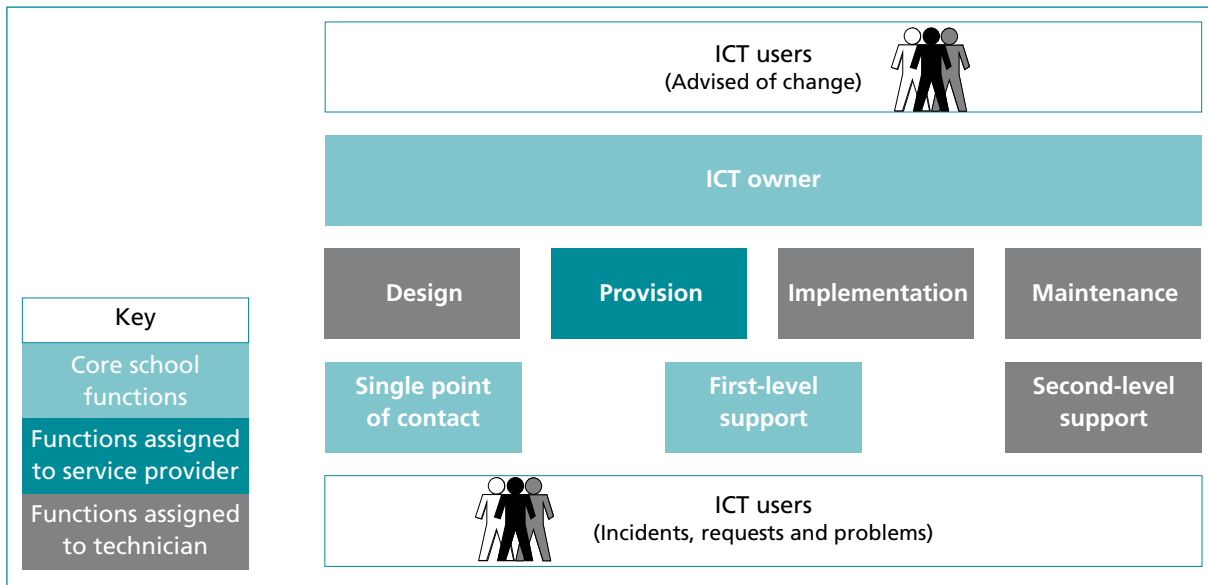
- Second-level support may be full- or part-time, based on or off site, as appropriate, and is responsible for the long-term resolution of users' ICT problems.
- Those responsible for design, provision and implementation work together as required, with authorisation from the ICT owner.
- Maintenance requires an on-site presence, but this may be part time as long as the maintenance tasks are performed at regular intervals.

One service provider can take a holistic approach to design, provision, implementation and maintenance, which can simplify the lifecycle.

Primary FITS without a managed service

Scenario 2 The full-time staff technician

In this, as in the managed service scenario, the school carries out the core in-school functions. As before, too, these functions are assigned to the headteacher or other leader, an administrator and a teaching assistant, respectively. In addition, however, this school has a full-time technician.



In the context of Primary FITS, the ICT owner, who has overall responsibility for the service, defines the service, controls expenditure and also approves and communicates all changes.

The single point of contact co-ordinates all end-user requirements, passing them in the first instance to first-level support.

First-level support restores functionality and lodges requests with the single point of contact for follow-up visits by second-level support.

Second-level support (in this scenario a member of school staff based on site) picks up these requests.

Of the remaining functions, design, implementation and maintenance are assigned to the staff technician, with authorisation coming from the ICT owner as usual. As with a managed service, one full-time technician can take a holistic approach to all these functions.

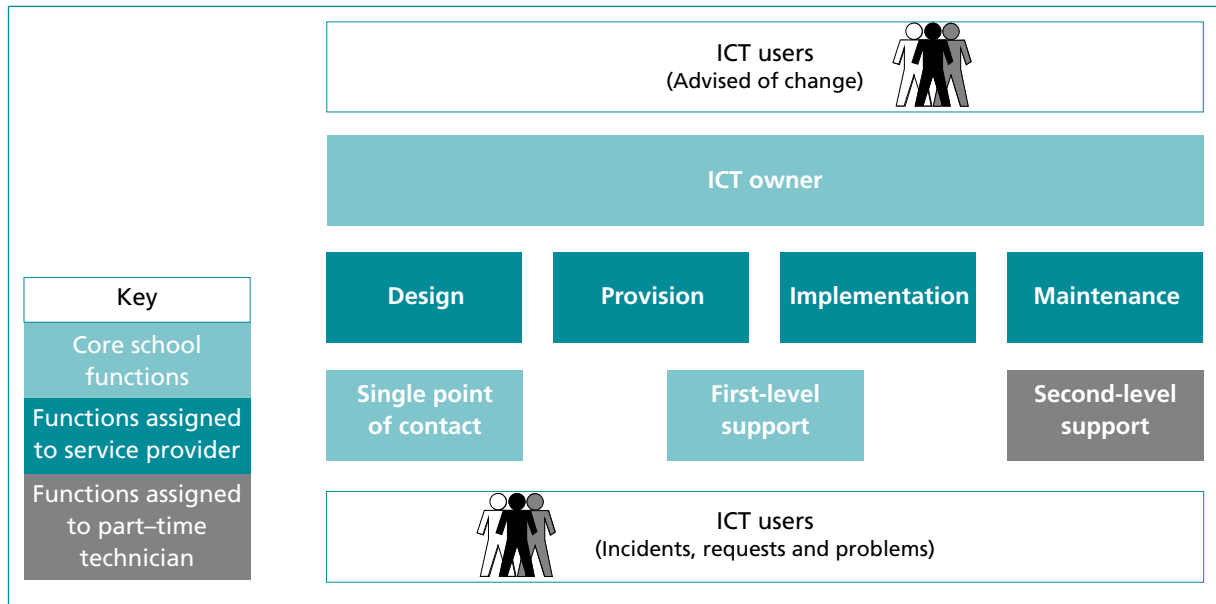
In this scenario it is important to monitor the workload of the technician carefully. If the volume of problems at the school means that tasks from other functions get neglected, it will be necessary to devote a separate (full- or part-time) person or service provider to second-level support.

In this scenario, a service provider would still fulfil the provision function.

Primary FITS without a managed service

Scenario 3 The part-time technician

In this scenario, the school, again, carries out the core in-school functions. As before, these functions are assigned to the headteacher or other school leader, an administrator and a teaching assistant, respectively. In addition to this, the school has a part-time technical member of staff – a support technician.



In the context of Primary FITS, the ICT owner, who has overall responsibility for the service, defines the service, controls expenditure and also approves and communicates all changes.

The single point of contact co-ordinates all end-user requirements, passing them in the first instance to first-level support.

First-level support restores functionality and lodges requests with the single point of contact for follow-up visits by second-level support.

These are collected by second-level support when on site.

You will see from the model that the remaining functions have been assigned to a (full- or part-time) service provider. This would be necessary to fulfil all the requirements of Primary FITS where the only technical person is a part-time technician. This is because the part-time technician would need to give their limited time to problems in the first instance, and are unlikely to have time to attend to other functions, which must not be neglected. It is also possible that a part-time technician may not have sufficient skills to carry out some of the other functions.

FITS overview – optional reading

FITS (Framework for ICT Technical Support) is based on the IT Infrastructure Library (ITIL). ITIL is derived from the collective experiences of ICT technical support providers all over the UK. It represents their learning curve over the last 20 years and has been distilled into a set of common processes applicable to any establishment using ICT. Becta has tailored FITS specifically for schools.

FITS emphasises proactive tasks as well as reactive ones. FITS views technical support not just as a function responsible for fixing faults, but as a service provider whose main objective is to prevent faults from occurring in the first place.

The FITS processes are built around the concept that ICT is a cycle of continuous improvement. We install ICT equipment, use it, maintain it, identify improvements, upgrade it, and so on. The processes give us an effective way to manage this lifecycle.



The FITS processes

- Change Management – to ensure that new installations do not have an adverse impact on the existing ICT infrastructure or user access to it
- Release Management – to plan, test and issue instructions for the installation of all ICT equipment
- Configuration Management – to keep accurate records and diagrams that show how the ICT infrastructure fits together
- Service Desk and Incident Management – to give ICT users access to effective support when they need it
- Problem Management – to follow up initial support with long-term solutions to the root causes of failure
- Availability and Capacity Management (better known as Network Monitoring and Preventative Maintenance) – to make sure that the ICT infrastructure is robust enough for your needs
- Service Continuity Management – to plan for disaster recovery and to minimise risk
- Financial Management – to plan budgets and record money spent on ICT
- Service Level Management – to monitor the performance of ICT, and to identify and initiate improvements

Find out more about FITS on the Becta website [<http://becta.org.uk/fits>]

Note that we have explained these terms specifically in relation to the FITS processes and functions.

Asset	Component of a school's process: people, accommodation, computer systems, networks, paper records, fax machines, etc
Availability Management	To keep ICT services available for use consistently as agreed
Baseline	A snapshot of a position that is recorded (Although the position may change, the baseline remains unchanged and available as a reference of the original state)
Build	The final stage in producing a usable ICT configuration
Capacity Management	To ensure that all ICT processing and storage provision matches present and evolving needs
Change Management	The managed and recorded introduction of changes to hardware, software, services or documentation to minimise disruption to ICT operation and maintain accurate configuration information
Change	The addition, modification or removal of approved hardware, network, software, desktop build or associated documentation
Configuration item	ICT asset, either hardware or software
Configuration Management	Creating and maintaining up-to-date records of ICT hardware, software, services and documentation and showing the relationships between them
Design	The provision of services to learning institutions to design appropriate solution(s) to their ICT requirement
Device	Any computer or component that attaches to a network
Financial Management	To ensure that the ICT and technical resources are implemented and managed in a cost-effective way
ICT	Information technology, telecommunications and data networking technologies
Implementation	Services that cover the implementation of local area network infrastructure and equipment, including end-user devices
Incident Management	To detect, diagnose and resolve ICT incidents as quickly as possible and minimise their adverse impact on normal operation
Incident	Any event which is not part of the standard operation of a service and which causes an interruption to the quality of that service
Infrastructure	The total configuration of ICT hardware and software in the school: network, servers, computers, printers, software and so on
ITIL	The IT Infrastructure Library: a set of guidelines on the management and provision of operational IT services

Managed service	Support from an external service provider for school ICT facilities
Maintenance	The provision of operations management and proactive monitoring of ICT systems
Network	A group of two or more computer systems linked together – the two types of computer network applicable to the school are the LAN (local area network) and the WAN (wide area network).
Problem	The underlying cause of an incident or incidents
Problem Management	The detection of the underlying causes of incidents together with their resolution and prevention
Provision	The supply of a solution to meet the identified needs
Records	Documents or electronic data logging evidence of past events (for example completed request for change forms or incident sheets)
Release Management	The planning, testing and management of the implementation of software and hardware, including the definition of the release policy and central safeguarding of the master copies of all software
Request for change (RFC)	Form (paper or on-screen) used to record details of a request for a change to any configuration item in an infrastructure or to procedures and items associated with the infrastructure
Risk	The combined effect of the probability of occurrence of an undesirable event and its consequence
Risk assessment	To identify threats that represent risks to the ICT service and rank them to determine the priorities for risk reduction
Server	A workstation or device on a network that manages network resources (for example, a file server is a computer plus storage device dedicated to storing files)
Service Continuity Management	Minimising the impact on ICT services of an environmental disaster and putting in place a plan for recovery
Service Desk	The single point of contact at the school between all users of ICT and the services provided by technical support
Service Level Management	The process of defining, agreeing and documenting the service levels required and ensuring that these levels are met
Service provider	An organisation providing a managed service