Implementation	• Implements new or improved infrastructure designs • Documents installation instructions **Technical skills required** • Network management • Technical ability specific to the scope of the implementation
Who?	Either a **full-time staff technician** or a **service provider**

Important!

- This function must be led by design so that the person fulfilling the design function directs any implementation.
- For example, this may mean that a service provider may fulfil both functions, or a full-time staff technician may fulfil design and direct a service provider in implementation.
- Those carrying out the second-level support and maintenance functions may be asked to help.

Summary of tasks		
Start-up or occasional tasks	**Regular tasks**	**Frequency**
	Create software and hardware builds.	As required
	Deploy software and hardware builds.	As required
	Complete request for change forms and seek approval for the deployment of new software and hardware builds.	As required
	Maintain infrastructure network diagrams.	Following change

Function Implementation

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Function Implementation

1. Create software and hardware builds

Outcomes

Once you have fully completed this task, you will have:

- **Created standard, repeatable instructions for installing ICT services**
- **Made them available to those who may need to install or reinstall ICT services**
- **A way to minimise the amount of time spent making installations work**
- **A way to make sure that installations and reinstallations are done consistently**
- **Contributed to disaster-recovery resources.**

Introduction to task

It is important to implement software and hardware solutions in a structured, repeatable way:

- Create a build – work out the best way of putting the various components together
- Test the build – ensure that it is stable and doesn't adversely affect other ICT services that use the same components
- Accept the build – ensure that it does what it is supposed to do.

You should document these steps and make them available, along with the software, so that future installations can be done using the tried and tested build. A separate build procedure is necessary for each solution or service. For further guidance see the build procedure examples.

The implementer is responsible for creating these build procedures and for giving them, and the associated licensed software, to the single point of contact for filing.

You will need

From the toolkit CD (Primary FITS\ Release Management\)

- **Build procedure template**
- **Build procedure hardware example**
- **Build procedure software example**
- **Build procedure notes for completion**

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Instructions for creating software and hardware builds

1. Download the documents you need from the toolkit CD:
   - *Primary FITS tools\Release Management\Build procedure template.doc*
   - *Primary FITS tools\Release Management\Build procedure notes for completion.doc*
   - *Primary FITS tools\Release Management\Build procedure hardware example.pdf*
   - *Primary FITS tools\Release Management\Build procedure software example.pdf*
2. Create a build procedure document from the template.
3. Use the build procedure as a checklist to carry out the tasks required and enter the details in the build procedure document as you go. For guidance, use the notes for completion. The build procedure hardware and software examples may also be helpful.
4. When you have completed a build procedure, give it to the single point of contact for filing, along with all related licensed software.

Tip

Software may include original media and working copies. Original media will be filed in media storage boxes and working copies filed in a shared area on a fileserver.

Always remember, though, that making any copies of software must be done in accordance with the licence agreement for that product.

2. Deploy software and hardware builds

Outcomes

Once you have fully completed this task, you will have:

- **Ensured that installations are carried out consistently to a standard set of instructions**
- **Minimised the likelihood of incidents resulting from incomplete, non-standard or inconsistent installation**
- **Created a record of the installation for validation purposes**
- **Recorded licence-tracking information.**

Introduction to task

Once a build has been created, tested and accepted, it can be installed for use as required.

The instructions documented in the build procedure are used in conjunction with an installation checklist to ensure that all steps are followed consistently.

You will need

From the toolkit CD (Primary FITS tools\Release Management\)

- **Install build checklist template**
- **Install build checklist example**
- **Install build checklist notes for completion**

From the single point of contact

- **The build procedure required for the install**
- **The software required for the install**

Instructions for deploying software and hardware builds

1. Download the documents you need from the toolkit CD:
   - *Primary FITS tools\Release Management\Install build checklist template.doc*
   - *Primary FITS tools\Release Management\Install build checklist example.pdf*
   - *Primary FITS tools\Release Management\Install build checklist notes for completion.doc*
2. Using the template, create an install build checklist for the specific installation.
3. Using for guidance the notes for completion, complete the install build checklist. The example may also be useful.
4. Give the completed install build checklist to the single point of contact for filing and licence list update. Return the build procedure if you took a hard copy and the software if you used the original media.

Tip

When installing hardware or software it will be necessary to complete a request for change if:

- **A financial cost needs to be approved**
- **The equipment in question is used by more than one person**
- **General user access to ICT services is affected by the installation.**

See task 3 for more information about requests for change.

3. Complete request for change forms

Outcomes

Once you have fully completed this task, you will have:

- Planned changes consistently
- Gained approval to carry out changes at the scheduled times
- Given users an opportunity to object to the scheduling of changes
- Thought through the steps to be taken to execute changes
- Considered the impact of changes on other ICT services
- Considered what may need to be done if a change causes a problem with other ICT services
- Contributed to monthly service reports, enabling trend analysis of change success and failure.

Introduction to task

The purpose of a request for change form is to ensure that all changes to ICT services are approved and planned consistently before they are implemented. A change may be:

- The replacement or introduction of any shared hardware or software
- Anything that will incur a financial cost
- Anything that may affect general user access to one or more of the school's ICT services.

A request for change is completed in three steps and approval by the ICT owner is required for the first two.

Step 1: Approval to proceed with a change

Step 2: Approval to implement a change

Step 3: Outcome of change

You will need

From design

- Request for change forms with step 1 approved by the ICT owner

From the toolkit CD (Primary FITS tools\Change Management\)

- Request for change example
- Request for change notes for completion

Step 1

This is completed when a change has first been identified and approval is sought to develop the change and incur any necessary costs. Minimal information is required at this stage:

- **Unique identifier(s)** – asset references of all affected equipment
- **Name(s) of item(s)** – names of all affected equipment
- **Brief description of change** – a summary proposal
- **Reason for change**
- **Cost of change** – if there is a cost
- **Originator name** – the name of the person completing the request for change form.

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Step 2

This is completed when approval for step 1 has been granted. This step adds detail about the change and seeks approval to implement the change as described:

- **Full details of change** – a detailed plan of the change
- **Impact on services and users** – how the implementation of the change will affect existing ICT services and users
- **Impact and risk of change failure** – what the implications would be if the change failed
- **Fallback plan** – how service would be restored if things went wrong
- **Date and time of change** – the proposed date and time of implementation
- **Implementer name** – the name of the person who will carry out the change.

Step 3

This is completed following implementation of the change to indicate the outcome:

- **Implementation successful, unsuccessful, partially successful** – for monthly service report statistics
- **Notes on outcome** – to provide details of asset changes, failure or partial failure of the change.

Instructions for completing request for change forms

1. Download the documents you need from the toolkit CD:
   - *Primary FITS tools\Change Management\Request for change example.pdf*
   - *Primary FITS tools\Change Management\Request for change notes for completion.doc*
2. Wait for design to pass you request for change forms with step 1 approved.
3. Complete the step 2 of the request for change with details of the plan – for guidance see the notes for completion.
4. When step 2 has been completed, pass the request for change to the ICT owner for approval to implement the change.
5. When approval to implement the change has been granted and the request for change returned to you to confirm this, you can go ahead and implement the change.
6. Following implementation, complete step 3 of the request for change form, using for guidance the notes for completion.
7. If the change executed resulted in a change to the network topology, you must update the network diagrams (see task 4 below).
8. Give the completed request for change to the single point of contact for filing.

4. Maintain network diagrams

Outcomes

Once you have fully completed this task, you will have:

- **Accurate network topology information to help technical support to:**
  - **Resolve incidents and problems**
  - **Understand the impact of changes**
  - **Identify risks**
  - **Identify design improvements.**

Introduction to task

The technician or service provider responsible for maintenance is required to create a diagram of the network topology to help all those involved in technical support to understand how the ICT infrastructure fits together. This helps them to:

- Resolve incidents and problems
- Understand the impact of changes
- Identify risks
- Identify design improvements.

Design is responsible for initiating changes to the network topology and those changes will be carried out by the implementer.

All other changes, made by maintenance or second-level support, should be 'like-for-like' changes as a result of maintenance or repair, thus not altering the design of the network topology itself. The implementer is therefore best placed to maintain network diagrams, since it is only the implementer who may alter the network structure.

You will need

From design

- **Completed request for change forms**

From the single point of contact

- **Baseline network diagram created by the maintenance function**

Instructions for maintaining network diagrams

1. Identify requests for change detailing changes to the network topology.
2. Get the latest network diagram from the single point of contact.
3. Use the information recorded in step 3 (outcome of requests for change) to update the network diagram.
4. Return the updated network diagram to the single point of contact.