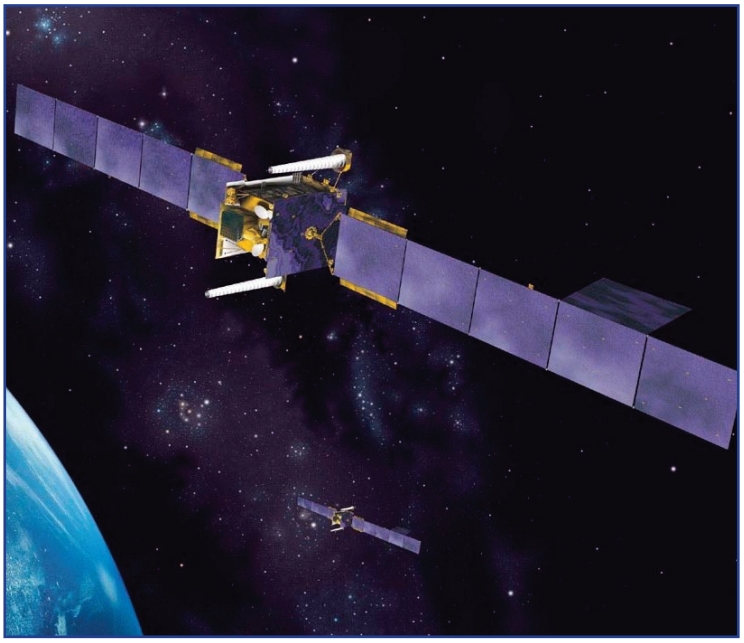
HITS

HIGH INTEGRITY TELECOMMUNICATIONS SYSTEM

HITS Information Pack, Version 1, September 2010

WHY?

There are many potential causes for disruption and failure of national telecommunications, and never before has the UK been so reliant on telecommunications. Since the obsolete Emergency Communications Network (ECN) was decommissioned there has been a need to set up a **resilient and independent** telecommunications system that will still function when the main networks (such as landlines and mobile phones) are unavailable or degraded. HITS is designed to provide this essential service and will allow communication between National, Regional and Local levels of crisis coordination during almost all disruptive events.



WHERE?

The map below shows where the core HITS sites will be located (also see page 2):

WHAT?

HITS is a satellite-based independent communications system based on the advanced military Skynet 5 satellite network. There are also terrestrial connections to increase redundancy at most sites. It is accredited to RESTRICTED and allows digital transmission of both voice and data. Fixed sites are located across the UK, supported by Transportable equipment that can be deployed as required. Most sites will have a satellite dish installed along with the necessary electronics, including laptops and digital phones. The supplier is Paradigm Secure Communications Ltd.

WHO?

The HITS Core Network will be installed mainly in Police Strategic Coordination Centres (SCCs) across England and Wales. There will be one HITS site per Police Force Area. In addition, each of the Devolved Administrations will have HITS installed at an appropriate site. The Core HITS Network will also include the Central Government Crisis Management Facilities, COBR. Expansion of the system in later phases of the rollout is currently being assessed.

FURTHER INFORMATION

Please visit the HITS website for more details:

www.cabinet-office.gov.uk/HITS

If you have any questions please contact the HITS Team at **HITS@cabinet-office.x.gsi.gov.uk**

WHEN? HITS is already available to the first two phases of sites. All 3 Transportable Terminals are also in service and available to responders (see page 4). Rollout of the Core Network will be completed by mid 2012.

HITS LOCATIONS

WHY DO WE NEED HITS?

HITS provides a **resilient and independent** telecommunications network for use by Central Government and Emergency Services, to securely communicate RESTRICTED information when other routine networks networks (such as landlines and mobile phones) are unavailable or degraded.

The HITS Service is being provided to Police Force SCCs and the Devolved Adminstrations **free of charge** - the only costs will be for those calls that "break out" from HITS to other networks and for some of the pre-installation preparatory works services.

WHY THESE SITES?

HITS is designed to be used in extreme events, and its main purpose is to allow emergency responders to communicate with Central Government and each other until routine communications are restored. Most emergency response situations will be led by the Police at their Strategic Coordination Centres (SCCs), so the HITS core Network will be installed in each of the Police Force Areas in England and Wales. In addition, there will be a HITS connection to the Devolved Administrations in Wales, Scotland and Northern Ireland. To complete the Core Network, HITS will also be installed in key Central Government locations such as COBR.

WHERE?

The map shows where the Core HITS sites will be located. In addition to the sites shown here, there will also be a pre-identified fall-back location for each Police Force Area (some may have more than one fallback location). The fallback sites will be used for deployment of the HITS Transportable equipment (see page 4). Unlike the Core HITS Sites however, no installation work will be required for the fallback sites, as there will be no permanent HITS presence. The sites are intended for use only when the main HITS site in an area is unavailable (perhaps because it is inside an incident cordon), and it will help to facilitate deployment if a site has been pre-identified.

The sites in this map are colour coded according to their delivery phase - the grey and green sites are in Phases 1 and 2 respectively and have already been installed. The orange sites are in Phase 3 and will be completed by early 2011. The remaining blue sites will be installed by early 2012, in time for the Olympics.

The Cabinet Office is exploring options to expand the system beyond the Core Network. These might include Central Government Business Continuity Sites, some specialised national response centres, and some of the Crown Dependencies.

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HITS HYBRID SITES

WHAT IS A HYBRID SITE?

The HITS network provides an independent and highly resilient telecommunications network which allows emergency responders across the country to communicate with other Police Force Areas and with Central Government in the event of widespread telecommunications failure.

In order to provide this level of resilience, HITS will use the military-grade Skynet 5 constellation of satellites and will connect to them using a 1.2m satellite dish (or VSAT - Very Small Aperture Terminal). This means that HITS is independent of all commercial telecommunications networks, thereby ensuring the necessary resilience. However, most HITS sites will also have a terrestrial (landline) connection for added resilience which will facilitate the break-out of calls onto other networks (such as the mobile phone networks). HITS will therefore be able to fully interoperate with the Public Switched Telephone Network (PSTN, the main landline network across the UK). We refer to HITS sites that will have both satellite and terrestrial connections as Hybrid sites. Most Hybrid sites will use the terrestrial connection by default, but the system will automatically switch to the satellite connection should the terrestrial link become unavailable.

WHAT OTHER TYPES OF SITE ARE THERE?

The majority of HITS sites are expected to be Hybrid sites. However, there are other types of sites in the HITS network:

- Terrestrial only: These sites do not have a satellite connection to the HITS network, mainly for structural or planning reasons. In most cases they will instead have two secure and diverse terrestrial connections to the HITS network. These sites are not as resilient however as the standard hybrid installation.

- Transportable: These are not based permanently at any fixed HITS location, but are maintained in a state of readiness by the supplier (Paradigm Secure Communications Ltd). They will provide a satellite connection to the HITS network when deployed to a HITS fallback location (see page 4).

- Satellite only: for locations where it is not possible to achieve a diverse or resilient terrestrial connection, a satellite-only HITS connection can be installed.

The above image shows a HITS radome. Some Hybrid sites will be fitted with a radome for added weather resistance, although it is not essential. The radome improves the stability of the dish so that the connection to the satellite is more stable during high winds. HITS should be installed with a radome where possible as it will make the system more resilient, although other ways of mounting the dish are available. For example, the dish can be mounted on a non-penetrating mount (which would be weighted down according to the height of the roof), or fixed to the side of a building using a wall mount. The radomes can also be supplied in different colours if required. The dish is 1.2m in diameter and the radome is about 2m square.

WHAT ELSE?

Apart from the satellite dish, HITS sites will need some electronic equipment to provide the necessary system capabilities and encryption (to RESTRICTED). These will require approximately 22 contiguous U of rack space in a secure equipment room (a U is a standard size of height and width in an equipment rack). The dish will usually be within about 100m of the equipment rack.

HITS sites will also require the building to have a minimum level of overall resilience (contact the HITS Team for more information) - generators are particularly important as they will provide power for HITS in the event of a blackout. For example, HITS sites should not be near flood plains and should have plans in place for access to clean water and power for emergency repsonse situations.

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HITS TRANSPORTABLES

WHAT ARE THEY?

The Transportable Terminals add another layer of portable communications resilience to the HITS network. They are deployable and self-contained HITS Terminals that can be set up anywhere in England and Wales - whilst the equipment can operate outside in all but the worst weather, the end-user phones and laptops need to be used indoors. There are three Transportable Terminals contained within Paradigm vans, that will usually be driven by road to their deployment location but can also be carried by boat or helicopter. The Transportables are deployed and operated by Paradigm (the HITS supplier) personnel. The Transportables are at short notice to move, and the first one can be on the road within 6 hours of the Cabinet Office notifying the Paradigm Customer Contact Centre (PCCC).

The Transportable Terminals will usually be deployed to one of the pre-identified fallback locations (see page 2). The Transportables will come with up to ten digital phones and laptops so that a mobile office can be set up where needed. Paradigm personnel will stay with the Transportable during its deployment to ensure that it operates correctly, and to be ready to dismantle the Transportable when normal communications are restored. The Transportables themselves will be Swedish CCT120, shown below:

TRANSPORTABLES - DETAILS

- Three sets of Transportable Terminals
- All Terminals based in the South West of England
- 6 hour notice to move for the first Terminal
- 24 hours notice to move for the remaining Terminals
- 7 days autonomy with their own generators and fuel
- Can connect up to 10 phones and 10 laptops
- Operated by a 2-man Paradigm crew
- Can be deployed to anywhere in England and Wales
- Indoor area required for end-user equipment
- Deployment site needs a clear line of sight south
- There is a list of proposed deployment sites on the NRE (National Resilience Extranet)
- Transported by Paradigm Mercedes Sprinter vans, towing a trailer for the generator and fuel
- To request a Transportable, contact the HITS Team. In an emergency, call the Transportable - EPOC numbers in the HITS online directory

FURTHER INFORMATION

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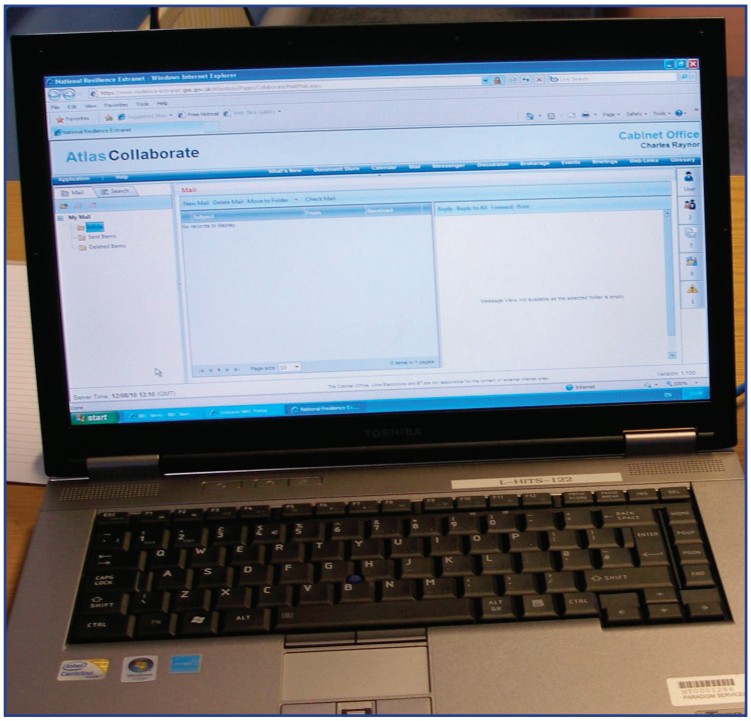
HITS USER INFORMATION

HOW DO I USE HITS?

HITS is a resilient and independent IP-based network that will allow you to make telephone calls and use the internet. It is specifically designed for emergency response situations where the main landline network (such as the PSTN) has been affected or is unavailable. HITS can be used to make calls to the PSTN or other networks where these are available, but in a worse-case scenario users will still be able to call other HITS sites.

To use HITS, you will need a 5-digit account number and a 4-digit PIN to log on to the phone. This will also give you access to the online directory via the phone screen. User accounts for HITS phones are role-based, and you can log onto any HITS phone with your role-based account number and PIN. To access the internet using HITS, you will need separate usernames and passwords for the laptops, and these are specific to each laptop. Two sets are required - for the hard drive encryption on the laptops and for MS Windows.



CAN I USE THE NRE?

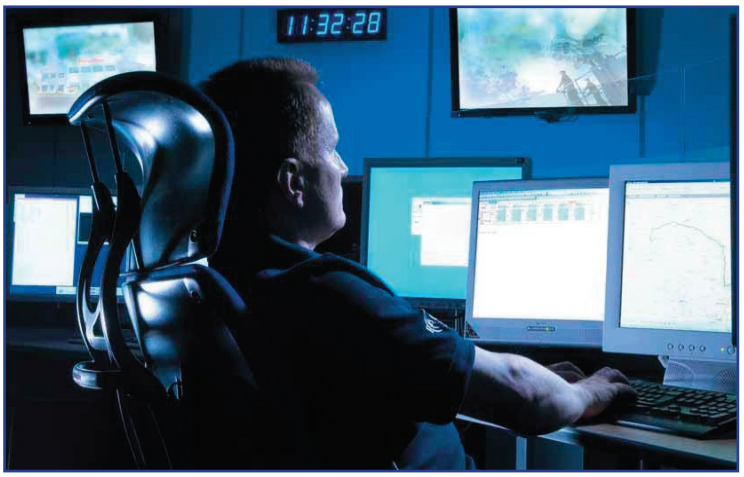
HITS has been designed to work with the National Resilience Extranet or NRE. It is the recommended means to exchange classified material over HITS. The NRE is a subsriber-based system to which responders will need to apply seperately - the NRE can be accessed from almost any internet connection.

Unclassified material can be sent using internet-based email providers. For more information on the NRE please contact the Cabinet Office CCS or the HITS Team.

SERVICE AND USER SUPPORT

The Core HITS Network is monitored and managed centrally by the PCCC or Paradigm Customer Contact Centre. If a user is experiencing problems with HITS, then they can contact the PCCC for advice and remote diagnostics. The PCCC will log your call and will create a service ticket, which will then be passed on to the appropriate technical support team.

The PCCC will not be able to assist however with local site infrastructure issues, NRE support or help with using any Microsoft Windows or Office products.



WHAT DOES HITS LOOK LIKE?

Every HITS installation comes with a number of phones and laptops, usually 3 of each (shown in these pictures). Each site will also have at least 1 networked printer.

HITS has been designed so that it is easy to use and users can quickly be trained by other people at your site who are familiar with the system. In addition, there is an online directory available to all users via the phone. The phones are Cisco 7942 models, and the laptops are Toshiba Tecras.

FURTHER INFORMATION

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