

Chapter 5

Hardware Asset Management

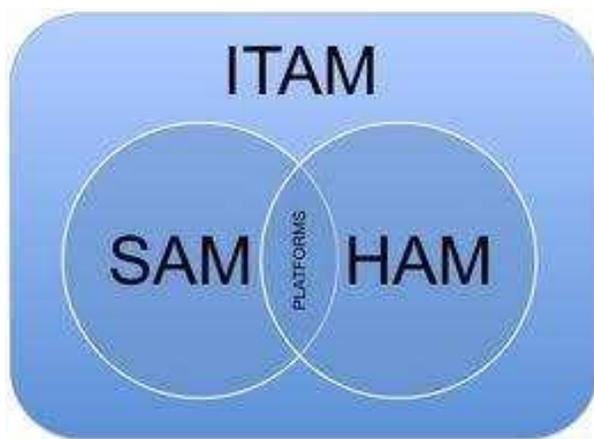
Hardware Asset Management (HAM) is an important aspect of an Corporate's IT asset management practice, but it is often viewed as a cost center. In fact, lifecycle HAM provides numerous benefits, including savings on equipment costs and insurance, gains in service management efficiencies, and the peace of mind that comes with knowing you are meeting regulatory requirements.

Hardware IT asset management entails the management of the physical components of computers and computer networks, from acquirement through the process of disposal. In Common business practices and process which include approval, request and approval process, management, procurement, life cycle management, disposal and redeployment management should be maintained by IT Team. A key component is capturing the financial information about the hardware life cycle which aids the Corporate in making business decisions based on meaningful and measurable financial objectives for the Corporate.

Building a best-fit hardware asset management plan will confirm that you are adequately protected and reduce your overall spend.

A documented set of standards, rules, constraints, and guidelines that apply to the decision making and determination of action, for both present and future state, and for a specific area of interest or concern that relates directly to the discipline known as Hardware Asset Management, based on a set of given inputs, conditions or state.

A documented high level set of steps, rules and constraints that hold to the general plans, goals, principles and acceptable behaviors of a governing entity, as they pertain to the discipline known as Hardware Asset Management.



Hardware Asset Management Process

This article explores the requirements, scope and processes required to provide Hardware Asset Management. There needs to be an understanding of the current processes so that they can be incorporated into the Hardware Asset/Inventory , these include:

- 1) Procurement process
- 2) Build process
- 3) Re-use process
- 4) Disposal process
- 5) Where data is held at present and what is to be used as the master
- 6) Understanding and interpretation of any data collected

The following are the main steps in achieving Hardware Asset Management:

- 1) Definition of scope and deliverables
- 2) Collection of hardware information – make, model, serial number, asset tag
- 3) Definition, and implementation, of procedures/ processes for maintaining the information

It is important to define the scope/type of hardware to registered, this may include a min value of tool. It is stated that no tool under the threshold, say £150 is to be recorded, as the effort to record and keep the information updated out ways any possible monetary benefit.

The following are the main steps in achieving Hardware Asset Management:

Examples of equipment to be recorded:

Networked equipment

- 1) PC's
- 2) Laptops
- 3) Servers
- 4) Mainframes
- 5) Network routers, switches, Firewalls etc

Non-networked instrumentality

- 1) Mobile phones
- 2) Copiers
- 3) article of furniture

The detail of data to be registered is known.

The following area unit obligatory for Hardware Management

- 1) Make
- 2) Model
- 3) Serial range
- 4) asset Tag
- 5) Owner

This list isn't comprehensive, and there area unit numerous different items of data that will be needed by a private consumer. the top deliverable are a hardware asset inventory that features all devices over a planned price, as set by the scope, which will indicate all purchases of apparatus in use, future which has been disposed of.

It is potential to include many sets of data command by numerous groups into one supply assuaging duplication/mismatch of information, and thus having one purpose for updates.

Another thought are United Nations agency and what area unitas of individuals are to use this collected info.

If networked instrumentality is coupled to each a discovery tool, and contract info, this can provides a additional complete read of the IT estate.

A software system discovery tool might already be getting used, within which case exhaustive info of the tool are required to format {the info|the knowledge|the data} offered to filter the relevant hardware information.

Collecting Hardware information

In any organisation there'll be many sources of asset info, an honest place to start out is at the Service table, they will use any of the following:

Spreadsheets, Substructure Management Tools, Network Mapping Tools.

If a discovery tool is getting used, it's necessary to determine the sort and proportion of apparatus this covers, and the way this is often verified – area unit manual spot audits meted out.

It is potential that solely Desktops, Laptops are coated. Therefore, thought are required for Servers, Mainframes etc. additionally the method for the way, once and by whom all the detail is updated has to be known.

It is typically helpful to conduct manual spot audits to examine the accuracy of the info.

There ar many points through the lifetime of a bit of kit that require to be recorded. it's at now that investigations ought to be administrated to seek out what's on the market at the present and to plug any holes that seem. the most aras to be coated are

- 1) Purchase of kit
- 2) Use of kit – any modifications through life
- 3) Disposal of redundant instrumentality.

Hardware Procurement Process

Focuses on the standards for the Hardware product cluster, the elaboration of the standards in specification texts and a additional careful assessment of the standards, moreover as variety of points for attention within the pre- and post-procurement stages.

The Hardware product cluster contains desktops, laptops and monitors. the merchandise cluster excludes: software package, replica instrumentality, networks and substructure, and servers/data centres. Any services within the space of hardware additionally fall outside the scope.

The criteria during this document ar divided amongst the varied steps within the acquisition method. additional info regarding the steps within the public acquisition method and also the means during which property may be enclosed in this.

Every purchase or demand tender starts with drawing up the inventory of the wants of the interior or external consumer. property may be incorporated into this stage by considering whether or not the acquisition is actually necessary and whether or not a additional property various may be on the market.

Specific points for thought concerning the acquisition of the Hardware product cluster are:

Take into consideration modifications within the Corporate:

When procuring computers, anticipate trends or the restructuring of the company, like ICT trends, the increase in employment and revolution within the workplace surroundings, like the creation of versatile workplaces. speedy revolution inside the company need versatile workplaces and work systems.

- Take into consideration hardware/software expansions: once procuring new computers assess the chances of increasing the hardware and/or software package within the future. Specific trends or restructuring inside the organisation will cause ever-changing software package applications and hardware use. Procure systems with adequate capability for expandability or systems that are simple to adapt. Note: it's tougher to expand laptops or to feature further hardware to laptops.

- Procurement of laptops or small purchasers once ever possible: Procure laptops or small consumer systems rather than desktops and monitors when hardware growth is a smaller amount essential. the common portable computer (notebook) uses thirty eighth less energy than the common desktop. small purchasers use V-J Day less energy on the average than a desktop in these stages. what is more, the raw materials wont to manufacture the general product area unit less.

- tiny monitors: don't procure any larger monitors than necessary. the price of getting 15" flat panels is half-hour not up to the price of 17" flat panels. what is more, the common energy consumption of 15" monitors is or so 25% -30% not up to the energy consumed by the common 17" monitor.

A trend is visible that ICT is being procured ever a lot of usually as a service rather than a product. This development is mentioned as purposeful acquisition and needs a unique criterion formulation in relevancy property. The property criteria don't essentially sit down with the merchandise itself however a lot of on the service. this implies that it's straightforward to line criteria that sit down with the provider. to boot, most energy consumption per geographic point per worker will, for instance, be a criterion within the space of hardware.

Such a property criterion formulation demands an identical calculation methodology that may ensure that totally different provides will be compared with one another. Currently, such a world outlined techniqueology that will embody the scope and calculation method isn't however accessible. this can be the rationale why criteria haven't however been developed within the space of purposeful acquisition of hardware.

If Associate in Nursing company has the aim to acquire hardware (or ICT in a very broader sense) as a service, the tendering laws supply choices to elucidate the property issue. Examples area unit holding a competition-focused dialogue or organizing a market consultation session.

Specification stage

During the specification stage, the requirements of the inner or external consumer area unit translated into a young document. This stage entails the formulation of:

- Award criteria, i.e. desires regarding provides, Services and structure. These square measure entirely applicable once the tendering technique is based on the principle of the foremost Economically Advantageous offer.

The criteria throughout this document square measure immersed to provide support to the client in property acquisition for Hardware.

Schedule of needs

Minimum needs

The desktops and/or monitors to be equipped should meet the Energy Star criteria, version, dated as contained within the tender.

The emptor should insert the relevancy the foremost recent version and also the date thence.

Maximum amount of mercury

Minimum demand

The back lighting of individual Laptops or monitors contains no over three.5 mg of mercury per lightweight on the average.

Monitors and/or laptops with diode lighting area unit, in any case, deemed to be compliant.

No incombustible substances or preparations

This section of the tender are assessed additional extremely if plastic elements heavier than twenty five g don't contain any incombustible substances or preparations to that one in all the subsequent risk phrases has been allotted as determined in Directive 67/548/EEC:

- R45 (may cause cancer)
- R46 (may cause transmissible genetic damage)
- R60 (may impair fertility)
- R61 (may cause hurt to the unborn child)

Computer energy consumption

As the energy consumption of the equipped instrumentation is lower, this section of the tender can receive a better score

Monitor energy potency

If the monitor Energy potency Index (EEI) is smaller than or up to zero.7, this section of the tender are assessed additional extremely.

The EEI is defined as the ratio of monitor energy consumption in the "ON" position (Pon) in watts and the maximum energy consumption in the "ON" position (Pmax) in watts as calculated in accordance with Energy Star, version 5.0 (date of coming into force 30 January 2010) $EEI = (Pon) / (Pmax) M 0.7$

Utilization stage

. Some of the particular points for consideration for this product group are:

Energy efficient use

Encourage employees to make energy efficient use of their computers by limiting the standby time of their computers when they are not in use. frequently turning off computers, as an example, throughout lunch, conferences and once operating hours, saves energy. Communicate this to users.

Encourage recycle

Encourage reuse throughout the complete organisation when computers are discarded or when there's a surasset of computers during a certain department. just in case of reorganisations and employees changes a surasset of computers might arise in sure sectors. Encourage employees/team leaders to classify such surassetes as before long as potential so others will build use of those computers.

Energy management

By setting the correct energy management choices, the energy saving potential of the purchased product is employed. The EU Energy Star® web site conjointly contains tips for managing the energy consumption of computers and monitors. A sensible recommendation is to attach the ability offer of the monitor to the laptop.

No screen savers

With present-day monitors the chances of this are nil. The moving images of a screen saver, particularly 3D animations, consume a lot of energy, more than, for example, a word processor. Therefore do not use screen savers.

This is a method to safeguard these points for consideration within the organisation is to include them in the Corporate contract combined with setting up an annual sustainability check.

To Implement the HAM to improve on Green IT and SAM.

Many corporations contemplate HAM to be Associate in Nursing reserve expense.

Critical Insight

Implementing HAM proves to be valuable for managing laptop computer lifecycle and software system package, inexperienced IT initiatives, and increasing the management and coverage functions for the service table.

1. Build a hardware plus management organize.

Take control of lifecycle & software system package management in addition as cash management of assets.

Develop a Comprehensive Hardware plus Management organize (HAM)

Understand the maturity stages of HAM to ascertain where your company is and where it need to be headed.

Understand the HAM lifecycle stages, from procurement to disposition, and what role each stage plays in optimization.

Learn about the benefits of a lifecycle approach to HAM and therefore the approach you will perceive them.

Examine current HAM policies and modify them to a best-practices model.

Understand but tactically disposition practices mitigate risk and maximize worth.

Hardware plus Management (HAM) may be a important aspect of degree Corporate's IT plus management follow, but it has always viewed as a worth center

The definition of HAM.

however HAM will save cash.

Going inexperienced with HAM.

The IT Service table & HAM.

Building a best-fit hardware asset management arrangement can make sure that you just are adequately protected and scale back your overall pay.

2. perceive however HAM fits into IT processes.

Integrate HAM into the prevailing facilitate table and repair table processes.

Hardware asset Management Request Processes:

. HAM is not a one-area initiative, but encompasses the complete quality lifecycle. The Hardware quality Management Request Processes are designed to:

Integrate HAM into existing processes.

Document revised processes.

Confirm all lifecycle stages are approved, documented, and follow procedures.

This pattern offers a begin line for event HAM into facilitate table processes for the essential functions of adding new users, terminating users, and marking instrumentality for disposal.

3. Build Associate in Nursing end-user contract for instrumentality use.

Inform end users and alter their participation in securing assets.

Equipment Use Contract

Hardware quality management (HAM - further as that that covers data security. The instrumentality Use Contract assists in creating tips for end users around the use and protection of kit and so the data detain that. Specifically, this document will address:

- Contract Purpose
- Contract outline
- Physical Security
- information Security

Use this contract to inform workers and end users of best practices and policies to protect Corporate-owned instrumentality and sensitive data persevere the instrumentality.

4. Develop a HAM quality disposition contract.

HAM can effectively manage the e-waste and cut back the impact of quality disposal on the atmosphere and so very cheap line.

Hardware quality Disposition Contract

HAM is not a one-area initiative, but encompasses the whole quality lifecycle. The quality disposition contract assists in creating pointers around disposition – the last stage at intervals the quality lifecycle. Specifically, this contract will address:

- Purpose
- Scope
- Responsibility
- Acceptable Practices
- Contract outline

This pattern will facilitate build a HAM disposition contract for the enterprise, additionally as document business justifications for partnership with associate quality disposition partner. The ensuing document is thus meant for each initial project scoping and for employ in future comes.

5. acknowledge what state HAM is in and what components space unit needed.

confirm readiness to initiate a HAM found out.

Hardware quality Management Readiness Assessment:

HAM is not a one-area initiative, but encompasses the whole quality lifecycle. The Hardware quality Management Readiness Assessment assists in decisive your Corporate's current state and where you have to be compelled to be supported your quality management goals. Specifically, it's going to facilitate you:

- value the current HAM follow.
- perceive the potential edges of a complicated HAM follow.
- perceive that state is that the Corporate's ideal supported its HAM goals.

Multiple things and sensitivity analysis are run through the shape simply by modifying previous answers.

IT Asset Management Importance

Estimating prices associated designing an OS upgrade is troublesome while not correct inventory knowledge. associate quality management answer will offer associate manufacturer audit and model and serial range, processor configuration

Software license compliance needs needs associate correct audit of all package applications place in on shopper computers everyplace the network. associate quality management distinctive answer can audit this details and

information quickly thus facilitate associate company to separate primary applications from OS and package package .

Consumer computers could in addition contain package downloaded from the online, which can threaten the protection and integrity of the whole network.

The new regulative landscape

To help meet regulatory wants just like the Sarbanes-Oxley Act, managers would like to form positive that the cash information on their package associated servers is sufficiently safeguarded that they have associate degree adequate cataclysm recovery got wind of in place for each web site.

Sarbanes-Oxley contains a twin have a control on on it quality management methodology and practices. below Section 404 of the law, companies unit required to attest to the inner controls that unit used for cash coverage. These embrace IT-related controls that company have in place to effectively track and monitor hardware, quality package accustomed support cash coverage. companies are also required to disclose heart's contents to regulators all material cash exposures they have, along side IT instrumentation leases and licensing agreements, that need to be half-track closely.

Just but central quality management is to regulatory compliance was underscored by a survey of 220 IT decision-makers written late last year by AMR analysis opposition. AMR found that firms that believe regulatory compliance the very best business issue touching their security outlay cited the need to take a position in auditing and asset-tracking tools as their No. one security budget priority.

Keeping track of the mobile hands

Today's additional and additional mobile hands jointly raises some key quality management issues. As you acknowledge, mobile technologies area unit launching sweeping productivity gains at enterprises across the globe.

Partly that's as a results of extra dense worms and viruses referred to as "blended threats" have gotten the attack of choice among web vandals. Such threats sometimes exploit several utterly totally different flaws to rise the prospect of infecting a system. that's significantly disturbing news for shoppers that often travel outside the perimeter firewall and connect with the network. Why? as a results of homogenised threats specifically target devices outside the firewall thus on understand unauthorized enterprise network access throughout associate ISP association. And once associate infected device establishes a VPN association to a corporation system, your perimeter security system is completely bypassed.

that is all the extra reason to strictly track but any mobile devices area unit accessing your network.

Little marvel, then, that quality management is quick turning into a business-critical IT task.

Associate in Nursing IT quality management program is additionally a got to in today's economic and restrictive atmosphere. do not delay establishing higher controls over your IT assets.

The signs ar there associate economic recovery is on the design.

thus what is going on thereto mean for enterprises?

For many, future twelve months will represent flat capital budgets and lots of of the relentless worth pressures we have got seen throughout the past three years. For others, it will provide opportunities to reinforce the performance of their IT quality management programs.

Successful IT quality management programs would really like a balanced focus on 3 important parts folks, methodology and technology. which may ne'er modify. Enterprises can still got to be compelled to develop quality management plans and classify timelines, risks and business and technology needs. folks can still use processes and quality management technologies to:

- Develop analysis criteria
- Solicit bids
- Validate merchandiser claims
- Calculate and score alternatives objectively
- Conduct negotiations.

IT Investment Transformation.

However, the way enterprises browse IT investments will modify. For years, money was lavished thereon with little regard or follow-up to but well the money was spent. a typical misperception was that IT expenditures painted undone costs rather than business investments. Like investments, IT expenditures ought to be painstakingly calculated, measured and scrutinized for price and are available back on investment before outlay. this may be a typical business apply in nondepository financial institution but not unendingly in is corporate. Effective IT quality management programs will facilitate this technique.

Software Variations.

As new code license revenue decreases, code vendor audits area unit expected to rise as vendors hunt for additional revenue from their shoppers. The Business code Alliance (BSA) estimates that cardinal take advantage of code used worldwide throughout 2002 was pirated, inflicting a substantial amount of lost revenue. although you'd presumably

question its estimates, the tip result's that the BSA additionally as totally different business trade groups and code vendors is actively and sharply seeking out code pirates and initiating audits. many enterprises do not appear to remember that {they are} at risk of being audited as a results of they are doing not have Associate in Nursing quality management or code licensing cluster in place to remain executive-level management aware of such issues. If Associate in Nursing enterprise does not have a robust quality management cluster, yet as personnel UN agency area unit robust in code license agreements and use rights, it all told likelihood is at a high risk of being audited throughout future a pair of years, with negative results. Through 2006, 45 of midsize and large enterprises can expect Associate in Nursing external code licensing audit, 0.7 chance.

Vendor Variation.

Modification square measure happening on the vendor landscape. As vendor consolidation continues, new and untested vendors area unit rising many of that is in a position to not survive

Technology Variations

More technological changes area unit ahead smaller devices, extra quality and greater populations of technology assets. throughout 2007, sixty take advantage of recent workstations in enterprises are laptops or notebooks; zero.6 chance. it will even be used in ways in which never notional, that quality managers square measure asked to trace and manage. quality managers will need to decide that devices will matter from Associate in Nursing quality pursuit perspective and whether or not or not their IT quality management systems square measure able to tackle the challenge and quality.

If you have got got already got Associate in Nursing and management created and program, the time is mature the program with technique refinement. If you're starting up to implement Associate in Nursing and management program, improve it with a "grass roots program" that's self-funding in nature, and focuses countless on processes and fewer on implementing and management tools.

As firms begin to review issues{the problems} encompassing compliance with government laws rather like the Sarbanes-Oxley Act of 2002 then the insurance quality and responsibility Act and general laws regarding copyright and possession problems, parallels to year after year. before 2000, firms spent an enormous quantity of it slow and cash to review IT processes and compile and inventories. These activities were sometimes long and big-ticket. However, several enterprises incompressible opportunities by failing to require a grip in their and management tools and processes. making ready for compliance — consecutive "IT fireside drill" is being thought of as a long account IT connectedness. making ready for year wasn't Associate in Nursing various, however rather a compulsory activity.

IT and management's long worth lies in its ability to manage modification, improve the employment of IT assets, head of the technology stream and mitigate risks. IT quality management square measure typically even supported its ability to manage costs and build deals.

The information throughout this focus will alter IT and managers to embrace the broader edges of IT and management.

IT Substructure Definition

In data technology (IT) and on the net, substructure is that the physical hardware used to interconnect computers and users. Substructure includes the Network cabling, transmission media, at the side of phonephone lines, cable tv lines, and satellites and antennas, and in addition the routers, aggregators, repeaters, switches and totally different devices that management transmission ways in which. Substructure in addition includes the package used to send, receive, and manage the signals that ar transmitted official work of the corporate.

In some usages, substructure refers to interconnecting hardware and package and to not computers and totally different devices that ar interconnected through the mailing system and video conference. However, to some data technology users, substructure is viewed as everything that supports the flow and method of knowledge though out the corporate.

The substructure companies play an enormous [*fr1] in evolving Infobahn, every in terms of where the interconnections ar placed and created accessible and in terms of what amount data is carried but quickly and its fulfilling the corporate requirments.

Definitions

Hardware: In data technology, hardware is that the physical aspect of computers, telecommunications, and totally different devices. The term arose because the easiest method to differentiate the "box" and so the electronic equipment and components of a portable computer from the program you set in it to make it do things. The program came to be named because the software system package.

Hardware implies period and invariability. software system package or programming can merely be varied. you will be able to place a completely new program at intervals the hardware and make it turn out a completely new experience for the user. You can, however, modification the quality configurations that the bulk computers go at the side of by adding new adapters or cards that reach the computer's capabilities.

Like software system package, hardware might be a collective term. Hardware includes not alone the laptop correct but in addition the cables, connectors, power give units, and peripheral devices just like the mouse, keyboard, printers, audio speakers, and audio.

Hardware is often used as a term conjointly describing the physical aspects of telecommunication and telecommunications network substructure.

Computer : a conveyable laptop could be a tool that accepts knowledge (in the shape of digitalized data) and manipulates it for variety of result supported a program or sequence of directions on however the information is to be processed. Dense computers additionally embrace the implies that for storing data at the facet of the program, that is additionally a type of data for variety of necessary length. A program would possibly even be unvarying associated designed into the laptop computer associate degree named as logic instrumentality as a results of it's on microprocessors or absolutely wholly totally different programs would possibly even be provided to the laptop computer loaded into its storage then started by AN administrator or user. Today's computers have each forms of programming.

Satellite: commonly, a satellite factors|are variety of factors } that orbits one factor else, as, as accolade e.g ,the earth. in accolade passing communications context, the moon orbit, a satellite would be a specialised wireless receiver/transmitter that is launched by a rocket and placed in orbit around the earth. There unit of mensuration several satellites presently operative. they are used for such varied functions as prognostication, tv broadcast, amateur radio internet communications, along and communications, the international Positioning System, (GPS).

There unit of mensuration three forms of satellite systems. they are classified in step with the type of orbit they follow.

A fixed satellite orbits the world directly over the equator, around twenty a combine of,000 miles up. At this altitude, one complete trip around the earth (relative to the sun) takes twenty four hours. Thus, the satellite remains over constant spot on the surface at intervals the slightest degree times, and stays mounted at intervals the sky from any purpose on the surface from that it's "seen." supposed weather satellites unit of mensuration typically of this kind. you will browse photos from form of those satellites on web via the Purdue Weather Processor. one mounted satellite can "see"approx forty p.c of the surface.3 satellites, spaced at equal intervals (120 angular degrees), can give coverage of the whole tight world. a troublesome and fast satellite is accessed using a aerial aimed toward the spot at intervals the sky where the satellite hovers.

Router : In packet-switched networks rather like web, a router is a tool or, in some cases, package package throughout a personal computer, that determines serial network purpose thereto a packet got to be compelled to be forwarded toward its destination.

Repeater:

1) In transmission systems, a repeater is also a tool that receives digital signal via degree attraction or optical transmission medium and regenerates the signal on consecutive leg of the medium. In attraction media, repeaters overcome the attenuation caused by free-space electromagnetic-field divergence or cable loss. A series of repeaters modify the extension of a emblem over a distance.

2) in academic degree extraordinarily wireless communications system, a repeater consists of a collection, Associate in Nursing instrumentality, a transmitter, Associate in Nursing isolator, and some of antennas. The transmitter produces a signal on a frequency that differs from the received signal. This supposed frequency offset is significant to forestall the robust transmitted signal from disabling the receiver. The isolator provides extra protection throughout this respect. A repeater, once strategically settled on prime of a highConstruction or a mountain, will greatly enhance the performance of a wireless network by permitting communications over distances exuberant larger than would be potential whereas not it.

3) In satellite wireless, a repeater many usually mentioned as a tool receives transmission signals and retransmits them, usually on absolutely fully totally different frequencies, to destination locations.

4) in academic degree extraordinarily radiotelephone system, a repeater is in an exceedingly veryn exceedinglyll|one amongst|one in every of} a bunch of transceivers in an exceedingly region that on serve a system user.

Aggregator: Like its word concentrator, Associate in Nursing human is associate degree device that serves multiple completely different devices or users either with its own capabilities or by forwarding transmissions in an extremely plenty of targeted and economical approach. a distant access hub is typically cited as Associate in Nursing human. A typical human or remote access hub could also be a tool that handles incoming dial-up imply an online or {different|totally completely different|completely different} network POP and performs different services. Associate in Nursing human is additionally able to handle up to 1 hundred dial-up equipment calls, support a specific form of Integrated Services Digital Network connections, and support employed line and frame relay

traffic whereas put together functioning as a router.