Bts configuration pdf

1. Description of the service 1) Description of the service during network deployment, prepare an initial configuration scenario for BTSs after installation of the equipment. The original configuration scenario will be delivered during the BTS commissioning. How do I prepare an initial configuration scenario? Data planning: Equipment planning, transmission and radio communications are included. You can plan data based on the original parameters values. For more information, see Station Base Station Controller Planning (GBTS) or base station data planning (eGBTS). 2. Preparing a configuration scenario: Based on the on-site configuration mode and the BTS type, prepare a data configuration scenario following the operations described in the original configuration guide. The MML note is an abbreviation of the human-machine language. CME is a shorthand for the Management Express. For more information on GBTSs and eGBTSs, see GSM base stations and documentation. 2) Description of GBTS eGBTS documentation Regardless of whether MML or CME commands are used, prepare a data configuration scenario after the operations described in the initial configuration guide to the 3900 series base station. For more information see 3) Background Documents This post was last edited 四月星 2019-09-27 18:09. The Basic Trans-Station (BTS) communication equipment is part of the equipment that facilitates wireless communication between custom equipment (UE) and network. UEs devices such as mobile phones (phones), WLL phones, computers with wireless Internet connection. The network can be any of the wireless communication technologies such as GSM, CDMA, wireless local cycle, Wi-Fi, WiMAX or other broad network technologies (WAN). BTS is also called Node B (in 3G networks) or, simply, a base station (BS). The acronym eNB for evolved node B and GNodeB for 5G is widely used to discuss THE LTE standard. In this regard, BTS is part of the development of a base station subsystem (BTS) for system management. It can also have equipment for encrypting and decrypting messages, spectrum filtering tools (bandwidth pass filters) and so on. Antennas can also be considered as components of BTS in a general sense, as they facilitate the functioning of BTS. Typically, BTS will have several transivers (TRXs) that allow it to service several different frequencies and different cell sectors (in the case of sectoral base stations). BTS is operated by the parent base station controller through the base station control function (BCF). BCF is marketed as a discrete unit or even included in TRX in compact base stations. BCF connects to network management the operational state of each TRX, as well as software processing and alarm collection. THE basic structure and functions of BTS remain the same regardless of wireless technology. The overall BTS architecture usually consists of: Transceiver (TRX) provides signal transmission and reception. It also sends and receives signals to and from higher network organizations (such as a base station controller in mobile telephony). The Power Amplifier (PA) enhances the signal from TRX to be transmitted through the antenna; can be integrated with TRX. Combiner combines channels from several TRXs so they can be sent through one antenna. It reduces the number of antennas used. Multiplexer to separate the sending and receiving signals in/out of the antenna. Does send and receive signals through the same antenna ports (cables to the antenna). The antenna is the structure that BTS lies beneath; it can be installed as is or disguised in some way (hidden cellular sites). The alarm system collects the working alarms of various units in the BTS and distributes them to the Operations and Maintenance Monitoring Stations (OMH). The control function controls and controls various BTS units, including any software. On-site configurations, status changes, software updates, etc. are done with the help of the control function. Base receiver unit (BBxx) Jump frequency, DSP signal. BtS Diversity mobile methods are often used to improve the quality of the resulting signal, often using two receiving antennas at a distance equal to the odd multiple of the corresponding wavelength. For 900 MHz, this wavelength is 33 cm. This method, known as a variety of antennas or a variety of spaces, avoids interruption caused by withering path. The antennas can be positioned horizontally or vertically. Horizontal distance requires a more complex installation, but provides better performance. In addition to antenna or cosmic diversity, there are other methods of diversity, such as frequency/variety of time, diversity of antennas and diversity of polarization. Separation refers to the flow of energy within a specific area of the cell known as the sector. Therefore, each field can be viewed as one new cell. Directed antennas reduce LoRa interference (long-range). If the cell is not sectored, it will be served by an omnidirectional antenna that radiates in all directions. A typical structure is a trisector, also known as a clover, which has three sectors served by individual antennas. Each sector has a separate tracking direction, usually 120 relative to the neighboring. Other orientations can be used in accordance with local conditions. Biscector cells have also been implemented. Most often they are focused on antennas serving the sector of division into 180 each other, but again, local variations exist. Gallery BTS device BTS tower. The antenna is on top and housing BTS right mobile BTS BTS BTS installed on the construction electronic equipment box based on BTS See also Mobile cell sites OpenBTS Cell ID Further reading Satoshi Maruyama; Katsuhiko Tanahashi; Takehiko Higuchi (2002). Basic transversity station for W-CDMA (PDF). FUJITSU Sci. Tech. J. p. 7. External links Wikimedia Commons has media related to mobile telephone base stations. U.S. Patent 6,577,878 Links This article needs additional citations to be verified. Please help improve this article by adding quotes to reliable sources. Non-sources of materials can be challenged and removed. Find sources: Basic Station Transiver - News Newspaper Book Scientist JSTOR (May 2008) (Learn how and when to remove this template message) received from View 8 messages - 1 to 8 (out of 8 total) I want to have details of the configuration and connectivity procedures for installing and commissioning GSM BTS. Here I list some of the vendors that provide hardware equipment. I will be grateful if I receive the material with the documentation on the following: Huawei - BTS 3606E Ericsson- 2202,2204,2206 Nortel-8003,8000,12000,18000 Motorola-Horizon Macro, Nokia- Indoor and Outdoor Lucent- CDMA BTS LG-WLL BTS CDMA Add review and help 80 Lakhs JobBuzz users make the best career decision. The JB community will be thrilled if you add one and it won't take more than a minute. The Transceiver base station is otherwise regarded as the smallest unit of the base station structure system. This is the BTS radio area. Elements of BTS are: mast/tower, sectoral antenna, PDH sDH microwave, Waveguide cables, Rectifier, Generator, Radio Base Station, Duplexers, Data Distribution Frame Rack, Transceiver Unit (TRU), Trunking, TX Cabinet and Accommodation. COMPONENTS OF THE BASE TRANSCEIVER STATION Shelter: This is the accommodation in which all installations, equipment configuration and termination are done. These are usually 10'10 feet of kiosks with provision for two air-conditioned units and feeder windows. Mast/tower: The importance of the tower on the BTS is to have a clear line of sight for the PDH/SDH radio and give space for light radio signals by the sectoral antenna. The height of the tower depends on the topography of the ground in focus, but the standard recommended height is between 35-40 m approximately. Sector antenna: This is a broadband antenna capable of multiplexing dual frequency ranges for transmission. In Nigeria, for example, where telecommunications are fast becoming a good substitute for the economic base, a dual range frequency (i.e. GSM 900 and GSM1800) is used to curb the threat of both capacity and coverage. This antenna emits at a 120-degree angle. Three sectoral antennas are used to cover the tower, covering a 360-degree circumference. It also has a distance of about 35 km if you focus on building capacity for urban areas and 121 km when Coverage. The clear edge it has over the omni-directed antenna is that it eliminates the problem of drop calls while roaming. PDH/SDH Microwave: Plesio's Synchronous Digital Hierarchy (PDH) - Synchronous Digital Hierarchy (SDH) is a microwave oven commonly used in a base station system. Point to Point (p2p) - A multi-point transmission point, such as Root/Hub stations to other BTS sites, is facilitated by these radio stations across the line of sight. The PDH microwave oven has a capacity of 16E1, making it mainly used to transmit BTS because it gives space for upgrades, and it is very effective in terms of radio transmission on the BSC on the Abis interface. SDH, on the other hand, has a capacity of 75 E1. It's used mainly at hub stations to transmit bSC to the Ater interface i.e. if you have a BSC and a Transcoder controller (TRC) on one node. It has a transmission length of about 50 km. Waveguides: As a result of the skin effect, wave guides have been invented to eliminate or minimize the loss of electromagnetic signals passing through cables during transmission. This black armored-like cables have connectors at the tips to fit into the duplexes through the feeder box at the shelter. They come in different sizes and have multiple connection tips, such as BNC. Some still refer to it as a cable jumper. Radio Base Station (RBS): Radio Base Stations (RBS) processes speech modulation. Transceiver Unit mainly does basic band speech processing, abis signal processing, RF signal amplification, modulation, and demodiction. The frequency is assigned to the TRU, and the transceiver units are multiplexed in the combine unit, i.e. in the plant distribution unit and distribution (CDU). The combine filters signals from 33.8 kbps to 16 kbps before sending it to PDH from the Abis interface. Because the GSM system uses TDMA technology, multiple speech signals can be transmitted at frequency. Each physical channel has an 8 time interval on this technology. Each logical channel can connect through slots. Ericsson has several versions, but prominent are the RBS 2200 and RBS 2100 versions. The RBS 2216 version has six TRU slots for both the GSM 900 and 1800 frequencies. It has dummy slots to upgrade the purpose of RBS provides an interface for the mobile station on the air interface also it interfaces the BSC on the Abis interface on the Distribution Switch Group (DXU). Rectifier: RBS operates at 48V d.c. Alternating with direct current conversion is supported by the regier, and its output is submitted to the site's voltage regulator. Four 12V d.c batteries are used as backups on the fix. RBS takes its power directly from the straightener. Transmission Rack: Otherwise known as the TX cabinet, it keeps the PDH/SDH radio contains connectors on which the alarm, the TX/RX installation is made. Truncking: The trunk consists of a ladder and like a rail on which all the installation cables /waveguides run. Duplexes: Duplex makes de-multiplexing functions between sectoral sectoral and RBS. The sectoral antenna has a double frequency input. Waveguides connects the entrance of these frequencies then de multiplexes. Duplexers have two entrances and four exits. Each exit connects to each TRU 1800 card on RBS. A pair of exits on the duplexer for 900 connects to the TRU map. Data distribution framework: Data distribution frame (DDF) or krone box acts as an interface between the distribution switch unit (DXU) and the radio. Its just a connector where all the connections of the E1 and DXU connection are terminated. Radio PDH is held or maintained on the rack. By looking at some of the main components of BTS, we can go further to explore a step-by-step way to install RBS. We are going to use Ericsson RBS as a model for our research. -First, Ericsson RBS comes with a base that keeps it firm and prevents it from any form of corrosion from the cover surface. When placing the RBS base, you should take care because there should be an alignment of the edge between RBS and the base. This can be achieved by plum. The screw at the top of RBS could be turned to keep RBS firmly to its base. -The next thing you need to determine is the length of the cables from the RBS power point to the straightener. Note that the power point for RBS has three points each of which has a position for live and neutral. It is advisable that the power link is done last but it is very good to do all the measurements before making an actual strip of cable. -Alarming cable must be connected to the signaling port on RBS designed for 900 TRUs. The other end of the cable must be delivered to the DDF rack. -On the DXU of 900 RBS, connect the DXU cable to Port A and Port B cards. Ports C and D must be left open. This action should be done on both 900 and 1800 RBS. The other end of the cable is also delivered to the DDF rack. -Fix TRU cards into slots, claiming that the number of cards fixed is a factor in the configuration of the cell. For example, a typical BTS, in the city, will use a configuration from 2/2/2 to 6/6/6, which means that a lot of attention is paid to building capacity through coverage. The configuration of 2/2/2 to 6/6/6 indicates that we will use a total of 3 TRU cards for rbs 900 and 9 CART TRU for 1800 RBS. Understanding the configuration helps determine how many TRU cards we need to use on the cell and even provide bogus slots for upgrade purposes. -Connect a wave guide or jumper to the duplexer entrance from the feeder window and tighten very well. -When connecting to the duplexer input we should note that the double input for the duplexer comes from one sectoral antenna, so that tells us that since we have three sectoral antennas, we will have three duplexers each for the sectoral antenna. The duplexer input has a position for both GSM 900 and 1800 frequencies separately, and this is indicated on duplexers. For the exit port, we'll see that the two ports for the GSM 900 and two for the GSM 1800. Because we use the configuration 2/2/2 to 6/6/6 as a model for our installation. -Connect the dual power of the GSM 900 range from the sectoral with your wave control to one TRU card on RBS and repeat the same for the other two duplexers designed for other sectoral antennas. -In addition, connect the GSM 1800 group exits from duplexers to 1800 TRU cards, but it should be noted that each exit from the duplexers goes to the duplexer. We will note that when performing this installation in this way, achieving our configuration is not possible because Ericsson RBS 2216 has six slots for TRU cards and we must use 9 cards for our 2/2/2 to 6/6/6 configuration. Another RBS should be deployed known as an extension to increase the other 3 TRU cards needed and give space for upgrades during capacity building, but we need to cascade the bus to additional RBS in others to achieve our configuration. -Run the cables from the DXU to the crown connector on the rack, and the connection should be made based on the amount of E1 we actually use on the site. The CAT 5 cable contains 4 twisted paired cables. Let's say we use two E1s on this site; this means that at another DXU cable terminal, we're going to cut off two pairs of twisted cables and use only two pairs. Note that two pairs of twisted cable make E1. The RJ 45 91 is a 1,2,4.5 pin with twisted cables. -Finally we are going to connect the ESB port to DXU. The connection goes this way: ESB1 ESB2 1800RBS Expansion ESB1 ESB2 900RBS ESB1 ESB2 1800RBS Master Equipment Configuration includes the determination of the number of TRU units to be used at RBS, but the software configuration will be done at the base station controller (BSC). Among the configuration to be made is the -Frequency Of Destination Channel -Base Station Identification Code (BSIC) Configuration. We do almost nothing after our configuration, but commission the site launch site on our own local network as it can be. Be. huawei bts 3900 configuration pdf. nokia bts configuration pdf. configuration bts huawei pdf