Abstract

The Location Updating procedure occurs when a Mobile Station \User Equipment is switched on in Mobile Switching Center service area or when an idle Mobile Station moves to a new Mobile Switching Center service area or MSC. Location Update can also occur prior to a call set-up. The Location update signaling message coming from the mobile station holds useful information. We can use this information to build a data base that can contain Brand, Make and Model, Radio Support Capability (GSM 850 /900 / 1800 /1900, GPRS, EDGE, UMTS), Application Support Capability (MMS, Presence, PTT…).

In this research standard SS7 protocol analyzer used to analyze the signaling messages coming from the mobile station to the GSM core network and then applied a code using C++ language to extract the required data such as International Mobile Element Identity “IMEI”, Location Area Code “LAC”, and Cell identity “Cell ID”. That information can be used to build applications that can help Mobile operator and service companies to provide new services.

التجريدة

تبداء عمليه تجديد المو قع عندما يبداء مستخدم الموبايل بتشغيل جهاز الموبايل جهاز في مو قع الم قسم او عندما يتجول/ يتحول من مو قع الي مو قع جديد عندها يـ قوم جهازالموبايل بارسال اشارا ت تحكم الي الم قسم. تحتوى تلك الاشارات على بيانات ومعلومات عن جهاز الموبايل يمكن الاستفاده منها لتكوين قاعده بيانات تحمل الاتي: موديل ونوعه وتـ قنيه الجهاز"900/ 850 GSM GPRS, EDGE, UMTS " بالاضافه الى نوع الخدمات المتاحه الى الجهاز" رسال نصيه رسال صوت او صوره .

في البحث استخدم SS7 protocol analyzer لتحيل اشارات التحكم الـ قادمه من جهاز الموبايل وعرضها في ملف وباستخدام برنامج بلغه C++ تم وضعها فى قاعده بيانات. يمكن لشريكات الموبايل و شركا ت الخدمات الاستفاده من البيانات الموجوده داخل قاعده البيانات لتـ قديم افضل الخدمات للمشتركين.

ACKNOWLEDGMENTS

I express sincere appreciation to Dr. Abd Alrasol for his guidance, insight throughout the research, his suggestions and comments. To my wife, Amna, I offer sincere thanks for her unshakable faith in me and her willingness to endure with me the vicissitudes of my endeavors. To my Father and Mother, I thank them for understanding my frequent absences. I also thank my friends in Electronic department for their support and assistants.

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LIST of ABBREVIATION

3GPP	3rd Generation Partnership Project
ATM	Asynchronous Transfer Mode
AUC	Authentication Center
BSC	Base Station Controller
BSS	Base Station System
BSSAP	Base Station System Application Part
CAMEL	Customized Applications for Mobile Enhanced Logic
CAS	Channel Associated Signaling
CCITT	Comité Consultatif International Télégraphique et Téléphonique
CDMA	Code Division Multiple Access
DTAP	Direct Transfer Application Part
DTMF	Dual Tone Multi Frequency
EDGE	Enhanced Data rates for the GSM Evolution
EIR	Equipment Identity Register
ETSI	European Telecommunications Standardization Institute
FNR	Flexible Number Register
GGSN	Gateway GPRS Support Node
GMSC	Gateway Mobile services Switching Center
GPRS	General Packet Radio Services
GSM	Global System for Mobile telecommunication
GSN	GPRS Support Node (GPRS)
HLR	Home Location Register
IMEI	International Mobile Equipment ID
IMSI	International Mobile Subscriber ID
IN	Intelligent Network
INAP	Intelligent Network Application Part
ISDN	Integrated Services Digital Network
ISP	Internet Service Provider
ISUP	ISDN User Part
ITU	International Telecommunications Union
LAPD	Link Access Procedures for D-channel
MAP	Mobile Applications Part
MS	Mobile Station
MSC	Mobile services Switching Center
PLMN	Public Land Mobile System
PPP	Point-to-Point Protocol
PSTN	Public Switched Telephony Network
SCCP	Signaling Connection Control Part
SGSN	Serving GPRS Support Node

TCAP	Transfer Capabilities Application Part