

100%合格率のSRAN-Radio-Network-Performance-Optimization問題サンプルと真実的なSRAN-Radio-Network-Performance-Optimization模擬対策

UMTS/HSPA and LTE-A Radio Network Performance Analysis & Optimization , Case of Jimma Town

Abalegn Dagnachew Wubie
Electrical and Computer Engineering
JiT, Jimma University
Jimma, Ethiopia
abalega@gmail.com

Mulugeta Atlabachew Abegaz
Electrical and Computer Engineering
JiT, Jimma University
Jimma, Ethiopia
mulugetaatlabachew@yahoo.com

Sherwin N. Catolos
Electrical and Computer Engineering
JiT, Jimma University
Jimma, Ethiopia
enr.catolos@yahoo.com

Abstract—It is mightily envisaged that cellular networks have often been deployed ensuring seamless accommodation of users growing demand with deep valuation of felicitous usability and feasibility aspects. In this regard, several mobile network operators (MNOs) in low income countries often fall through unabated implementation that imperiled the business due to limitations while evaluating socio-economic status, information communication technology (ICT) literacy status, device eco system, traffic usage trend & other essential technical prompts that are needed to be addressed in pre-deployment stages. This work has brought an allusive and attestation guideline for mobile network operators while executing radio frequency (RF) signal performance evaluation, optimization and upgrading. Moreover, it tips-off economical and an apt RF solutions where the applicability & feasibility are pragmatically justified in addressing existing network problem. An indispensable field reliant drive testing is incorporated to collect real time data of RF environment & logs are analyzed for both third generation (3G) and fourth generation (4G) cellular networks of Jimma town. The analysis & evaluation of both test scenarios depicts that poor coverage, quality and throughput distributions that are observed in numerous parts of the town that are associated with capacity limitations & RF optimization setbacks. Post optimization RF performance and HSDPA peak rate are visualized using Atoll and WinProp simulation tools; a far-reaching optimization & an apt Evolved High Speed Packet Access (HSPA+) release 9 upgrading is adapted & simulated in purpose of picturing improvements in coverage, capacity and quality of the network. Thus, an application of 46 RF adjustments & changes has improved $RSCP$ & E_c/I_c over 39.84% & 27.31% of coverage area respectively.

Index Terms—Cellular network, HSPA+ Release 9, KPI, QoS, QoS

I. INTRODUCTION

Mobile network adoption has shown rapid growth in recent years due to demand driven technological advancements along with the development of internet of things (IoT) and explosive rise of digital ecosystem. The sector has introduced several streamlined features and solutions in the course of its technological evolution.

Ethio telecom, a state-run telecommunication operator started commercial mobile service in 1999 and has massively upgraded and expanded with various vendors that allow to further improvement on capacity, quality and coverage of

978-1-6654-5587-9/22/\$31.00 ©2022 IEEE

its 2G, 3G and 4G network over the last few years [1] [2]. However, the deployment has still been in question to address enduring quality, capacity & coverage problems in the operational counties. Users residing in Jimma town has encountered similar issues regardless of continuous corrective measures taken by an operator. Extensively associated challenges include: Lower smartphone penetration rate and lack of LTE enabled devices [3] [4], limitations on legacy reliant voice service solution (CSFB), very poor consumer profile & poor data usage trend of the region [5], device and service affordability [5] [6], low economic profile residents [7], digital illiteracy [8], poor traffic usage of high speed internet demanding applications and internet gateway limitations [9]. Furthermore, hysterical inflation and foreign exchange scarcity has slumped mobile broadband service utilization celerity along with setbacks alluded.

Thus, the key radio network elements that operators are inevitably needed to consider for optimum service delivery include [10]:

- Radio network RF parameters
- Capacity of the backhaul and backbone links
- Terminal devices, device penetration and subscriber profile & settlement.
- Radio and core functionality features & advancements .

Following a comprehensive RF analysis , this paper depicts suitable optimization and upgrading options that are carried out in purpose of leveraging full potential of a deployed network. HSPA is an upgrade to 3G Universal Mobile Telecommunications System (UMTS) standard and its advanced version HSPA+ have been deployed successfully with remarkable capacity and considerable throughput feats worldwide. According to [13] [14], several operators across the world have implemented evolved versions such as 84 Mbps and 168 Mbps HSPA+ aiming to realize phenomenal benefits and features presented in [15] [16] [17]. Hence, operators have rationalized the following four vital technical and economic advantages:

- 1) It is a cost effective software upgrade.

139

いろいろな人はNokiaのSRAN-Radio-Network-Performance-Optimizationを長い時間で復習して試験のモードへの不応で失敗することを心配していますから、我々Fast2testはあなたに試験の前に試験の真実なモードを体験させます。NokiaのSRAN-Radio-Network-Performance-Optimization試験のソフトは問題数が豊富であなたに大量の練習で能力を高めさせます。そのほかに、専門家たちの解答への詳しい分析があります。あなたにNokiaのSRAN-Radio-Network-Performance-Optimization試験に自信を持たせます。

今競争の激しいIT業界で地位を固めたいですが、Nokia SRAN-Radio-Network-Performance-Optimization認証試験に合格しなければなりません。IT業界ではさらに強くなるために強い専門知識が必要です。Nokia SRAN-Radio-Network-Performance-Optimization認証試験に合格することが簡単ではなくて、Nokia SRAN-Radio-Network-Performance-Optimization証明書は君にとってはIT業界に入るの一つの手づるになるかもしれません。しかし必ずしも大量の時間とエネルギーで復習しなくて、弊社が丹精にできあがった問題集を使って、試験なんて問題ではありません。

>> SRAN-Radio-Network-Performance-Optimization問題サンプル <<

SRAN-Radio-Network-Performance-Optimization模擬対策 & SRAN-Radio-Network-Performance-Optimization試験内容

努力する人生と努力しない人生は全然違いますので、あなたのはんびりした生活だけを楽しみしていき、更なる進歩を求めるのではないかと？ スマートを一方に置いて、我々NokiaのSRAN-Radio-Network-Performance-

Optimization試験問題集をピックアップします。弊社のSRAN-Radio-Network-Performance-Optimization試験問題集によって、あなたの心と精神の満足度を向上させながら、勉強した後SRAN-Radio-Network-Performance-Optimization試験資格認定書を受け取って努力する人生は素晴らしいことであると認識られます。

Nokia MN: NCSS NPS - SRAN Radio Network Performance Optimization Certification Exam | GS40-NPS-SRPER-E-S03-2510 認定 SRAN-Radio-Network-Performance-Optimization 試験問題 (Q28-Q33):

質問 # 28

A slice supporting sensors and smart meters would be categorized as:

- A. URLLC, Ultra-Reliable Low-Latency Communication
- B. eMBB, enhanced Mobile Broadband
- C. DNN, Data Network Name
- **D. mMTC, massive Machine Type Communications**

正解: D

解説:

The correct answer is A .

Sensors and smart meters are typical massive IoT use cases. They usually involve a very large number of devices sending small amounts of data, often with low mobility and low power requirements.

This type of traffic fits mMTC , or massive Machine Type Communications .

Why the other options are not correct:

URLLC is used for very low-latency and highly reliable services, such as industrial automation, remote control, or mission-critical applications.

eMBB is used for high-throughput broadband services, such as video, fixed wireless access, or enhanced mobile internet.

DNN is not a slice category. It means Data Network Name and identifies the data network the UE connects to, similar to APN in LTE.

Therefore, a slice supporting sensors and smart meters is categorized as: mMTC.

質問 # 29

In the context of mmWave deployments , what is the primary benefit of analog beamforming ?

- A. It supports multiple beams per antenna panel.
- B. It increases the number of supported UEs per sector.
- C. It allows dynamic beam switching between different panels.
- **D. It offers low cost and low complexity for coverage at higher mmWave bands.**

正解: D

解説:

The correct answer is A .

In mmWave systems, beamforming is essential because FR2 signals suffer from high path loss and blockage.

Analog beamforming uses fewer RF chains than fully digital beamforming, so it is cheaper and less complex in terms of RF hardware, power consumption, and implementation. Research and industry references explain that analog and hybrid beamforming architectures reduce the number of required ADCs/RF chains compared with fully digital beamforming, lowering cost and power complexity.

However, analog beamforming has limitations. It usually forms one beam, or a limited number of beams, at a time from a panel.

Supporting multiple independent simultaneous beams and more UEs per sector is more associated with digital or hybrid beamforming, not pure analog beamforming.

Therefore, the primary benefit is:

Low cost and low complexity for coverage at higher mmWave bands.

質問 # 30

At which mark are all conditions fulfilled for energy saving , so the cell will be switched off? Refer to the image below.

□

- **A. C**

- B. E
- C. D
- D. B

正解: A

解説:

The correct answer is B, which corresponds to mark C in the diagram.

In the diagram, the energy-saving process follows these stages:

Before mark B, the cell is entering the power-saving period, but the required load condition has not yet been satisfied for the required duration.

At mark B, the measured load has gone below the configured threshold, but the cell is not switched off immediately. The system must confirm that the load remains below the required threshold for the configured time.

At mark C, the load has stayed below the required threshold for the required duration, shown as 5 minutes in the diagram. At this point, all conditions are fulfilled, and the cell can be switched off. The diagram also shows the state becoming: energySavingState = energySaving

Marks D and E are already inside or near the later part of the power-saving period. Mark E is associated with operator suspension/exit behavior, not the initial moment when all switch-off conditions are first fulfilled.

質問 # 31

Identify the missing network components X, Y, and Z in the architecture diagram.

- A. X: MME, Y: AMF, Z: IMS
- B. X: AMF, Y: SGW, Z: MME
- C. X: MME, Y: IMS, Z: AMF
- **D. X: AMF, Y: IMS, Z: MME**

正解: D

解説:

The correct answer is B.

In the 5G Core, component X is connected to:

N2 from NG-RAN

N11 toward SMF

N15 toward PCF

N26 toward the EPC mobility entity

These are typical interfaces of the AMF, or Access and Mobility Management Function. Therefore, X = AMF.

In the EPC, component Z is connected to:

S1-MME from eNB

S11 toward the gateway

N26 toward the 5GC AMF

These are typical interfaces of the MME, or Mobility Management Entity. Therefore, Z = MME.

Component Y is outside the core user-plane path and represents the external service network connected through N6/SGi, commonly shown as IMS in voice-service architecture diagrams. Therefore, Y = IMS.

So the correct mapping is:

X: AMF, Y: IMS, Z: MME.

質問 # 32

During an intra-gNB DU handover, what is the role of the RRC Reconfiguration message sent by the gNB-CU to the UE?

- A. It reestablishes the RLC layer and recovers PDCP PDUs for uplink data.
- B. It confirms admission control and suspends UE scheduling in the source cell.
- **C. It instructs the UE to perform handover to the target PCell and provides measurement configuration.**
- D. It transfers user-plane resources and allocates a dedicated preamble index.

正解: C

解説:

The correct answer is A.

During an intra-gNB DU handover, the UE is moved from one cell/DU resource to another under the same gNB-CU control. The gNB-CU coordinates the handover preparation and sends an RRC Reconfiguration message to the UE.

The role of this message is to provide the UE with the required handover command information, such as:

Target PCell configuration

Radio resource configuration

Mobility control information

Random access configuration, when needed

Measurement or reconfiguration-related information

After receiving the RRC Reconfiguration, the UE performs the handover execution procedure toward the target cell and later responds with RRC Reconfiguration Complete.

Option B is incorrect because admission control and source-cell scheduling suspension are internal network-side procedures, not the UE-facing role of the RRC Reconfiguration message.

Option C is not the best answer because user-plane resource transfer is handled between gNB-CU/gNB-DU functions, while dedicated preamble allocation may be part of the configuration but is not the main purpose of the message.

Option D is incorrect because RLC reestablishment and PDCP recovery are lower-layer/user-plane handling actions, not the primary purpose of the RRC Reconfiguration message.

Therefore, the correct role is:

It instructs the UE to perform handover to the target PCell and provides measurement/configuration information.

質問 # 33

.....

IT業種を選んだあなたは現状に自己満足することはきっとないですね。現在、どの業種の競争でも激しくなっていて、IT業種も例外ないですから、目標を立ったら勇気を持って目標を達成するために頑張るべきです。その中で、NokiaのSRAN-Radio-Network-Performance-Optimization試験に受かることも競争力があるモードです。この試験に合格したら、あなたのITキャリアには明るい未来があるようになります。あなたを助けるために、我々のFast2testは真実かつ正確なトレーニング資料を提供します。Fast2testを利用したら、あなたはきっと自分の理想を実現することができます。

SRAN-Radio-Network-Performance-Optimization模擬対策: <https://jp.fast2test.com/SRAN-Radio-Network-Performance-Optimization-premium-file.html>

時折、同じ価格で、彼らのSRAN-Radio-Network-Performance-Optimization試験参考書は1200質問があり、我々は試験のための300質問を持つことを言うかもしれませんが、あなたは自分の望ましいSRAN-Radio-Network-Performance-Optimization模擬対策 - MN: NCSS NPS - SRAN Radio Network Performance Optimization Certification Exam | GS40-NPS-SRPER-E-S03-2510問題集を選らんで、学びから更なる成長を求められます、あなたの試験の準備にまだ自信がない場合に、良いSRAN-Radio-Network-Performance-Optimizationテスト質問を選択することがあなたにとって賢明な決定になり、時間、金銭とエネルギーを節約する経済的な方法です、SRAN-Radio-Network-Performance-Optimization試験ガイドのバージョンは、学習レベルと条件が異なるすべての学習者に適合するように継続的に改善されています、SRAN-Radio-Network-Performance-Optimization模擬対策 - MN: NCSS NPS - SRAN Radio Network Performance Optimization Certification Exam | GS40-NPS-SRPER-E-S03-2510問題集のオンライン版はWindows/Mac/Android/iOS対応です、弊社のNokiaのSRAN-Radio-Network-Performance-Optimization試験問題集を買うかどうかまだ決めていないなら、弊社のデモをやってみよう。

大体みんな、影浦を特別視しすぎているのだと思う、これから、玉の枝を求めての旅に出ます、時折、同じ価格で、彼らのSRAN-Radio-Network-Performance-Optimization試験参考書は1200質問があり、我々は試験のための300質問を持つことを言うかもしれません。

SRAN-Radio-Network-Performance-Optimization試験の準備方法 | 有効的なSRAN-Radio-Network-Performance-Optimization問題サンプル試験 | 最高のMN: NCSS NPS - SRAN Radio Network Performance Optimization Certification Exam | GS40-NPS-SRPER-E-S03-2510模擬対策

あなたは自分の望ましいMN: NCSS NPS - SRAN Radio Network Performance Optimization Certification Exam | GS40-NPS-SRPER-E-S03-2510問題集を選らんで、学びから更なる成長を求められます、あなたの試験の準備にまだ自信がない場合に、良いSRAN-Radio-Network-Performance-Optimizationテスト質問を選択することがあなたにとって賢明な決定になり、時間、金銭とエネルギーを節約する経済的な方法です。

SRAN-Radio-Network-Performance-Optimization試験ガイドのバージョンは、学習レベルと条件が異なるすべての学

習者に適合するように継続的に改善されています、MN: NCSS NPS - SRAN Radio Network Performance Optimization Certification Exam | GS40-NPS-SRPER-E-S03-2510問題集のオンライン版はWindows/Mac/Android/iOS対応です。

- SRAN-Radio-Network-Performance-Optimization対応資料 ☆ SRAN-Radio-Network-Performance-Optimizationテスト参考書 * SRAN-Radio-Network-Performance-Optimization対応資料 □ 【 www.mogixam.com 】には無料の“SRAN-Radio-Network-Performance-Optimization”問題集がありますSRAN-Radio-Network-Performance-Optimization最新試験情報
- 素敵なNokia SRAN-Radio-Network-Performance-Optimization問題サンプル - 合格スムーズSRAN-Radio-Network-Performance-Optimization模擬対策 | 検証するSRAN-Radio-Network-Performance-Optimization試験内容 □ □ ➡ www.goshiken.com □□□には無料の【 SRAN-Radio-Network-Performance-Optimization 】問題集がありますSRAN-Radio-Network-Performance-Optimization資格準備
- SRAN-Radio-Network-Performance-Optimization試験の準備方法 | 実際のSRAN-Radio-Network-Performance-Optimization問題サンプル試験 | 効率的なMN: NCSS NPS - SRAN Radio Network Performance Optimization Certification Exam | GS40-NPS-SRPER-E-S03-2510模擬対策 □ ▶ www.xhs1991.com ◀に移動し、☀ SRAN-Radio-Network-Performance-Optimization □☀□を検索して、無料でダウンロード可能な試験資料を探しますSRAN-Radio-Network-Performance-Optimization問題集
- SRAN-Radio-Network-Performance-Optimization最新試験情報 □ SRAN-Radio-Network-Performance-Optimization模擬体験 □ SRAN-Radio-Network-Performance-Optimization日本語受験教科書 □ ☀ www.goshiken.com □☀□で《 SRAN-Radio-Network-Performance-Optimization 》を検索して、無料で簡単にダウンロードできますSRAN-Radio-Network-Performance-Optimization受験練習参考書
- 素敵なSRAN-Radio-Network-Performance-Optimization問題サンプル - 合格スムーズSRAN-Radio-Network-Performance-Optimization模擬対策 | 高品質なSRAN-Radio-Network-Performance-Optimization試験内容 □ 《 SRAN-Radio-Network-Performance-Optimization 》を無料でダウンロード ▶ www.xhs1991.com □で検索するだけSRAN-Radio-Network-Performance-Optimization日本語講座
- SRAN-Radio-Network-Performance-Optimization問題サンプル: MN: NCSS NPS - SRAN Radio Network Performance Optimization Certification Exam | GS40-NPS-SRPER-E-S03-2510大歓迎問題集SRAN-Radio-Network-Performance-Optimization模擬対策 □ Open Webサイト☀ www.goshiken.com □☀□検索《 SRAN-Radio-Network-Performance-Optimization 》無料ダウンロードSRAN-Radio-Network-Performance-Optimization模擬試験問題集
- SRAN-Radio-Network-Performance-Optimization日本語認定 □ SRAN-Radio-Network-Performance-Optimization模擬体験 □ SRAN-Radio-Network-Performance-Optimization問題集 □ □ www.jpctestking.com □で ▶ SRAN-Radio-Network-Performance-Optimization □を検索して、無料でダウンロードしてくださいSRAN-Radio-Network-Performance-Optimizationテスト参考書
- SRAN-Radio-Network-Performance-Optimization受験練習参考書 □ SRAN-Radio-Network-Performance-Optimization受験内容 □ SRAN-Radio-Network-Performance-Optimization難易度受験料 □ 時間限定無料で使える □ SRAN-Radio-Network-Performance-Optimization □の試験問題は（ www.goshiken.com ）サイトで検索SRAN-Radio-Network-Performance-Optimizationテスト参考書
- 素敵なNokia SRAN-Radio-Network-Performance-Optimization問題サンプル - 合格スムーズSRAN-Radio-Network-Performance-Optimization模擬対策 | 検証するSRAN-Radio-Network-Performance-Optimization試験内容 □ □ 《 www.xhs1991.com 》に移動し、（ SRAN-Radio-Network-Performance-Optimization ）を検索して無料でダウンロードしてくださいSRAN-Radio-Network-Performance-Optimization対応資料
- SRAN-Radio-Network-Performance-Optimization問題サンプル - 最新 SRAN-Radio-Network-Performance-Optimization模擬対策 「合格保証」を確実にする ☀ 《 www.goshiken.com 》を開き、▶ SRAN-Radio-Network-Performance-Optimization ◁を入力して、無料でダウンロードしてくださいSRAN-Radio-Network-Performance-Optimization合格率書籍
- SRAN-Radio-Network-Performance-Optimization真実試験 □ SRAN-Radio-Network-Performance-Optimization模擬体験 □ SRAN-Radio-Network-Performance-Optimization資格準備 □ ⇒ www.japancert.com ⇐は、 □ SRAN-Radio-Network-Performance-Optimization □を無料でダウンロードするのに最適なサイトですSRAN-Radio-Network-Performance-Optimizationブロンズ教材
- keziaznm774845.bloggerbags.com, www.stes.tyc.edu.tw, nanagyaz937769.blog2news.com, robertpcpb535369.digitollblog.com, elodiebqpy408389.bloggip.com, www.stes.tyc.edu.tw, triplexdirectory.com, brendadbae242015.mdkblog.com, prestonhtqa666054.bloggerswise.com, brendannwj289242.wikiconversation.com, Disposable vapes