**3GPP TSG-CT WG3 Meeting #118-eC3-21xxxx**

**E-meeting, 11-15 October 2021 Revision of C3-215031**

**3GPP TSG-CT WG1 Meeting #132-eC1-21xxxx**

**E-meeting, 11-15 October 2021 Revision of C1-215807**

**3GPP TSG-CT WG4 Meeting #106-e** **C4-21xxxx**

**E-Meeting, 11–15 October 2021 Revision of C4-215088**

**Source: China Mobile, vivo, Huawei, HiSilicon**

**Title: New WID on CT aspects of Architecture Enhancement for NR Reduced Capability Devices**

**Document for: Approval**

**Agenda Item: 17.1.1 (CT1, CT3) / 5 (CT4)**

3GPP™ Work Item Description

Information on Work Items can be found at <http://www.3gpp.org/Work-Items>
See also the [3GPP Working Procedures](http://www.3gpp.org/specifications-groups/working-procedures), article 39 and the TSG Working Methods in [3GPP TR 21.900](http://www.3gpp.org/ftp/Specs/html-info/21900.htm)

# Title: CT aspects of Architecture Enhancement for NR Reduced Capability Devices

## Acronym: ARCH\_NR\_REDCAP

## Unique identifier: TBD

Potential target Release: Rel-17

## 1 Impacts

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Affects:** | UICC apps | ME | AN | CN | Others (specify) |
| **Yes** |  | X |  | X |  |
| **No** |  |  | X |  |  |
| **Don't know** | X |  |  |  | X |

## 2 Classification of the Work Item and linked work items

### 2.1 Primary classification

|  |  |
| --- | --- |
|  | Feature |
| X | Building Block |
|  | *Work Task* |
|  | Study Item |

### 2.2 Parent Work Item

|  |
| --- |
| Parent Work / Study Items  |
| Acronym | Working Group | Unique ID | Title (as in 3GPP Work Plan) |
| ARCH\_NR\_REDCAP | SA2 | 930018 | Architecture Enhancement for NR Reduced Capability Devices |

### 2.3 Other related Work Items and dependencies

|  |
| --- |
| Other related Work Items (if any) |
| Unique ID | Title | Nature of relationship |
| 900062 | Support of Reduced Capability NR Devices (NR\_REDCAP) | RAN work item |

## 3 Justification

TSG-SA has approved work item "Architecture Enhancement for NR Reduced Capability Devices ARCH\_NR\_REDCAP)" in TSG SA Meeting #93E (September 2021) to capture the required stage 2 requirements and work to support NR Reduced Capability (NR RedCap) devices.

Considering the above, impacts on protocols and interfaces under CT WGs' responsibilities are foreseen and the related work in CT WGs should be carried out within Rel-17.

## 4 Objective

The objective of the work item is to develop the specifications under remit of CT WGs for the stage 2 requirements agreed under the stage 2 work item ARCH\_NR\_REDCAP. The following areas of work are expected to be covered (non-exhaustive):

**CT1**

1. Enhancement of the NAS protocol to support NR RedCap devices.
2. Potential update of the PLMN selection to support NR RedCap devices.
3. Update of related eDRX parameters and UE configuration parameters.

**CT3**

Note: Some services defined by CT3 will make use of the new NR RedCap RAT type value that will be introduced in 3GPP TS 29.571. Thus these impacts will only require the increase of the OpenAPI version and thus will not be part of this WI.

**CT4**

1. Update the definition of RAT type in common data types for service based interfaces to support NR RedCap.
2. Potential update of SMS service and SM service to support NR RedCap devices.
3. Update of Namf\_Communication service to support NR RedCap devices.
4. Potential update of TS 23.008 to enable access restriction for NR RedCap RAT.

## 5 Expected Output and Time scale

|  |
| --- |
| **New specifications** *{One line per specification. Create/delete lines as needed}* |
| Type  | TS/TR number | Title | For info at TSG#  | For approval at TSG# | Rapporteur |
|  |  |  |  |  |  |

|  |
| --- |
| **Impacted existing TS/TR** *{One line per specification. Create/delete lines as needed}* |
| TS/TR No. | Description of change  | Target completion plenary# | Remarks |
| 24.501 | Enhancement of the NAS protocol to support NR RedCap devices. | TSG#95(Mar. 2022) | CT1 |
| 23.122 | Potential update of the PLMN selection to support NR RedCap devices. | TSG#95(Mar. 2022) | CT1 |
| 24.008 | Update of related eDRX parameters for NR RedCap devices. | TSG#95(Mar. 2022) | CT1 |
| 24.368 | Potential update of UE configuration parameters in NAS configuration MO for NR RedCap devices. | TSG#95(Mar. 2022) | CT1 |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
| 29.571 | Update the definition of RAT type in common data types for service based interfaces to support NR RedCap. | TSG#95(Mar. 2022) | CT4 |
| 29.502 | Potential update of SM service to support NR RedCap devices. | TSG#95(Mar. 2022) | CT4 |
| 29.540 | Potential update of SMS service to support NR RedCap devices. | TSG#95(Mar. 2022) | CT4 |
| 29.518 | Update of Namf\_Communication service to support NR RedCap devices. | TSG#95(Mar. 2022) | CT4 |
| 23.008 | Potential updates to enable access restriction for NR RedCap RAT. | TSG#95(Mar. 2022) | CT4 |

## 6 Work item Rapporteur(s)

Chen Xu, China Mobile, chenxu@chinamobile.com

## 7 Work item leadership

CT1

## 8 Aspects that involve other WGs

Potentially CT6 for UE configuration parameters.

## 9 Supporting Individual Members

|  |
| --- |
| Supporting IM name |
| China Mobile |
| vivo  |
| Huawei |
| HiSilicon |
| ZTE |
| China Unicom |
| CATT |
| MediaTek Inc. |
| Qualcomm Incorporated |
| Xiaomi |
| Nokia |
| Nokia Shanghai Bell |
| Apple |