IOH Spesific MOP

«titlemop»

|  |  |  |  |
| --- | --- | --- | --- |
| **Prepared by:** | **Aktortifan Ridno Prabu Pratama (AWX1014609)** | **Date:** | **«predate»** |
| **Reviewer:** | **Aris (AWX544314)** | **Date:** | **«predate»** |
| **Approver:** | **Goh Kok King**  **(G00493149)** | **Date:** | **«predate»** |

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Contents

[1 Description of Change 1](#_Toc256000000)

[1.1 Description of Site 1](#_Toc256000001)

[1.2 Purpose and Requirements 1](#_Toc256000002)

[1.3 Description of Change and Change Influence 2](#_Toc256000003)

[2 Preparations for Change 3](#_Toc256000004)

[2.1 Composition of Change Team and Responsibility of Team Members 3](#_Toc256000005)

[2.1.1 Change Team of Huawei Company（Customer） 3](#_Toc256000006)

[2.1.2 Huawei On-site Change Team 3](#_Toc256000007)

[2.1.3 Huawei Remote support Team (Optional) 3](#_Toc256000008)

[2.2 Remote Access + Platform & Software Access 4](#_Toc256000009)

[2.3 Check of Equipment Running 4](#_Toc256000010)

[2.4 Change Risks and Countermeasures 4](#_Toc256000011)

[2.5 Check before Change 5](#_Toc256000012)

[3 Operation Steps for Change 9](#_Toc256000013)

[3.1 Overall Description of Change Steps 9](#_Toc256000014)

[3.2 Operation Steps for Change 9](#_Toc256000015)

[3.3 Test and Verification 10](#_Toc256000016)

[3.4 Solution for Changeback In the Case of Failure 12](#_Toc256000017)

[3.4.1 Definition of Change Failure 12](#_Toc256000018)

[3.4.2 Changeback Steps 12](#_Toc256000019)

[3.4.3 Change back flow (optional) 13](#_Toc256000020)

[3.4.4 Equipment Status Check (optional) 13](#_Toc256000021)

[3.4.5 Tests after Changeback 13](#_Toc256000022)

[3.4.6 Changeback Risk Analysis 14](#_Toc256000023)

[3.5 Change of Spare Parts and Emergency Workstation (optional) 15](#_Toc256000024)

[4 Work after Change 16](#_Toc256000025)

[4.1 Observation 16](#_Toc256000026)

[4.2 Provision of Materials (optional) 16](#_Toc256000027)

[4.3 Provision of Software (optional) 16](#_Toc256000028)

[4.4 Training (Optional) 16](#_Toc256000029)

[4.5 Matters Needing Attention (Optional) 16](#_Toc256000030)

# Description of Change

## Description of Site

**Network Topology:**

|  |  |
| --- | --- |
| **NCE Network topology diagram** |  |
| **Key features and business** | Microwave Upgrade Capacity  Change Frequency      Features :  Microwave link configuration, EPLA/PLA/LAG, Ethernet interface, E-LAN, ERPS,SDH/PDH interface reconfiguration, Traffic rebalancing |

**Remote access information: customer agree remote access. The authorization will provided at operation date.**

**Remote Access via VPN**



## Purpose and Requirements

**Change Purpose**: All microwave product activity, microwave upgrade link capacity & change frequency to fulfill project delivery, resolve congestion and etc.

**Change scope:** All microwave activity of microwave upgrade link capacity and change frequency of **«linknum»** DU ID in whole network

**Change time:** **«date»** – **«date»**, **«time»** (All day from 00:00 – 23:59, follow customer approval CR)

## Description of Change and Change Influence

**NE version update information**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **NO.** | **NE ID** | **NE TYPE** | **QTY** | **Current Version** | **Target Version** |
| 1. | NCE (10.70.17.146) | NCE-T | 1 | V100R019C00SPC603 | V100R019C00SPC603 |
| 2. | NCE (10.70.17.148) | NCE-T | 1 | V100R019C00SPC603 | V100R019C00SPC603 |
| 3. | NCE (10.70.17.149) | NCE-T | 1 | V100R019C00SPC603 | V100R019C00SPC603 |
| 4. | NCE (10.70.17.147) | NCE-T | 1 | V100R019C00SPC603 | V100R019C00SPC603 |

NE list:

|  |  |  |  |
| --- | --- | --- | --- |
| **DUID** | **Qty** | **Dependency List** | **Data Source** |
| «duid» | «qty» | «list» | «source» |

**Service influence**:



# Preparations for Change

## Composition of Change Team and Responsibility of Team Members

### Change Team of Huawei Company（Customer）

|  |  |  |
| --- | --- | --- |
| **Name** | **Responsibility** | **Telephone No.** |
| Budi Kudus | Network Operational & Maintenance | +62-895-0105-1133 |
| Sony Wickaksono | Network Operational & Maintenance | +62-8989333691 |

### Huawei On-site Change Team

|  |  |  |
| --- | --- | --- |
| **Name** | **Responsibility** | **Telephone No.** |
| Goh Kok King (g00493149) | Owner for change | +62 897-3607-326 |
| Ajia Leonardo (a00598938) | Team Member | +62 813-6217-4917 |
| Samuel Teguh (WX281796) | Team Member | +62 895-3035-7149 |
| Imar Prasetiono (i00262076) | Team Member | +62 896-3002-1008 |
| Saeful Fadli WX813785 | Team Member | +6289635328746 |
| Pahruroji WX903309 | Team Member | +6287773101536 |
| Amran Rosadi WX826183 | Team Member | +628983906128 |
| Abdul Rosyid WX684665 | Team Member | +6281216960391 |
| Suherman WX999953 | Team Member | +6281214451181 |
| Sigit Wibowo WX903307 | Team Member | +62817293888 |
| Alfian Bayu Nur Aji WX1114445 | Team Member | +62 89521927972 |

### Huawei Remote support Team (Optional)

|  |  |  |
| --- | --- | --- |
| **Name** | **Responsibility** | **Telephone No.** |
| Zhangling z00380621 | Escalation from microwave side | 081219748518 |
| Cheiw Cheong Loon c00742069 | Team member | +6281314862000 |

## Remote Access + Platform & Software Access

|  |  |  |
| --- | --- | --- |
| **Item** | **Preparation status** | **Owner** |
| NCE-T | Prepare 2 remote access solutions to customer network  Main solution 1: VPN using Fixed Broadband  Backup solution 2: VPN using Mobile Broadband    Internet Network Information and Ping test results: | Samuel Teguh S WX281796  Sigit Wibowo WX903307  Saeful Fadli WX813785  Pahruroji WX903309  Amran Rosadi WX826183  Abdul Rosyid WX684665  Suherman WX999953  Alfian Bayu Nur Aji WX1114445 |

## Check of Equipment Running

| No. | Check Item | Check result or steps |
| --- | --- | --- |
| 1 | Alarm | Query and monitor by using NCE server MML Command “browse current alarm”. Check result : **No alarm** |
| 2 | Radio Link Performance (ES, SES & UAS) | Query performance link analysis and coordination with regional Network Performance Management team. Check result : **No Issue** |
| 3 | hardware operation status | Query and monitor by using NCE server. Check result : **Board No alarm** |

## Change Risks and Countermeasures

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **No.** | **Main Issues and Risks Description** | **Countermeasure** | **Possibility** | **Impact** |
| 1 | Service Interruption | if the service interrupted more than 1 hour , we have on-site support | Medium | Low |
| 2 | Data Lost | Data already backed-up in server NCE | Low | Low |
| 3 | NE out of management | Subcon onsite do troubleshooting using WebLCT. | Low | Low |

## Check before Change

|  |  |  |  |
| --- | --- | --- | --- |
| **No.** | **Preparations Before Change** | **Owner** | **Completion Date** |
| 1 | Readiness of Operation team(including no limit: customer/change team/relate vendor team/monitoring team/verification team) | Samuel Teguh S WX281796  Sigit Wibowo WX903307  Saeful Fadli WX813785  Pahruroji WX903309  Amran Rosadi WX826183  Abdul Rosyid WX684665  Suherman WX999953  Alfian Bayu Nur Aji WX1114445 | 1 day before activity |
| 2 | Readiness of Implementation Solution (Including no limit: activity solution/verify solution/rollback solution) | Samuel Teguh S WX281796  Sigit Wibowo WX903307  Saeful Fadli WX813785  Pahruroji WX903309  Amran Rosadi WX826183  Abdul Rosyid WX684665  Suherman WX999953  Alfian Bayu Nur Aji WX1114445 | 1 day before activity |
| 3 | Readiness of Solution verify in test bed(For High Risk Implementation solution) | Samuel Teguh S WX281796  Sigit Wibowo WX903307  Saeful Fadli WX813785  Pahruroji WX903309  Amran Rosadi WX826183  Abdul Rosyid WX684665  Suherman WX999953  Alfian Bayu Nur Aji WX1114445 | N/A |
| 4 | Readiness of Solution Review | Samuel Teguh S WX281796  Sigit Wibowo WX903307  Saeful Fadli WX813785  Pahruroji WX903309  Amran Rosadi WX826183  Abdul Rosyid WX684665  Suherman WX999953  Alfian Bayu Nur Aji WX1114445 | 1 day before activity |
| 5 | Readiness of remote log-in environment | Samuel Teguh S WX281796  Sigit Wibowo WX903307  Saeful Fadli WX813785  Pahruroji WX903309  Amran Rosadi WX826183  Abdul Rosyid WX684665  Suherman WX999953  Alfian Bayu Nur Aji WX1114445 | 1 day before activity |
| 6 | Readiness of Site Enter Permit(If relate) | Samuel Teguh S WX281796  Sigit Wibowo WX903307  Saeful Fadli WX813785  Pahruroji WX903309  Amran Rosadi WX826183  Abdul Rosyid WX684665  Suherman WX999953  Alfian Bayu Nur Aji WX1114445 | 1 day before activity |
| 7 | Explain MOP to customer | Samuel Teguh S WX281796  Sigit Wibowo WX903307  Saeful Fadli WX813785  Pahruroji WX903309  Amran Rosadi WX826183  Abdul Rosyid WX684665  Suherman WX999953  Alfian Bayu Nur Aji WX1114445 | NA. Send to customer for approval including the MOP. |
| 8 | Get 3 approval of RFC | Samuel Teguh S WX281796  Sigit Wibowo WX903307  Saeful Fadli WX813785  Pahruroji WX903309  Amran Rosadi WX826183  Abdul Rosyid WX684665  Suherman WX999953  Alfian Bayu Nur Aji WX1114445 | 1 day before activity |
| 9 | Confirm test solution with customer | Samuel Teguh S WX281796  Sigit Wibowo WX903307  Saeful Fadli WX813785  Pahruroji WX903309  Amran Rosadi WX826183  Abdul Rosyid WX684665  Suherman WX999953  Alfian Bayu Nur Aji WX1114445 | NA. Send to customer for approval including the MOP. |
| 10 | Send email notification of operation to customer | Samuel Teguh S WX281796  Sigit Wibowo WX903307  Saeful Fadli WX813785  Pahruroji WX903309  Amran Rosadi WX826183  Abdul Rosyid WX684665  Suherman WX999953  Alfian Bayu Nur Aji WX1114445 | 3 hours before Activity |
| 11 | Get operation user account permission from customer | Samuel Teguh S WX281796  Sigit Wibowo WX903307  Saeful Fadli WX813785  Pahruroji WX903309  Amran Rosadi WX826183  Abdul Rosyid WX684665  Suherman WX999953  Alfian Bayu Nur Aji WX1114445 | 1 day before Activity |

If no, input **NA** here

# Operation Steps for Change

## Overall Description of Change Steps

|  |  |  |
| --- | --- | --- |
| **No.** | **Main steps** | **Operation time** |
| 1 | Preparation | 23:00 – 00:00 (subject to CR) |
| 2 | Operation | 00:00 – 02:00 (subject to CR) |
| 3 | Verification | 02:00 – 03:00 (subject to CR) |
| 4 | Rollback | 03:00 – 04:00 (subject to CR) |
| 5 | Complete | 04:00 (subject to CR) |

## Operation Steps for Change

I. Preparation Steps

1. Check the alarm before the execution
2. Coordinates with NOC & TOC before starting to execute

II. Implementation Steps.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **No.** | **Change Step** | **Operation** | **Implementation Person** | **Time** |
| 1 | Backup NE database | Backup NE database and capture existing configuration on NCE | Samuel Teguh S WX281796  Sigit Wibowo WX903307  Saeful Fadli WX813785  Pahruroji WX903309  Amran Rosadi WX826183  Abdul Rosyid WX684665  Suherman WX999953  Alfian Bayu Nur Aji WX1114445 | 23:00 – 00:00  (subject to CR) |
| 2 | Hardware  Installation or dismantle & reroute (Depend on Scenario) | **MW Upgrade :**   * Install the additional New ODU & New Antenna * Swap antenna ODU & Antenna * Add/swap the coupler from 6dB to 3dB * Install the additional New IDU * Swap the IDU * Insert new/replace the IF board and Eth board * Add new connection/cascade IDU (reengineering) | Samuel Teguh S WX281796  Sigit Wibowo WX903307  Saeful Fadli WX813785  Pahruroji WX903309  Amran Rosadi WX826183  Abdul Rosyid WX684665  Suherman WX999953  Alfian Bayu Nur Aji WX1114445 | 00:00 – 01:00 (subject to CR) |
| 3 | Configuration | **MW Upgrade :**   * Set up NE Attribute (for new IDU/change control board) * Set Link/Cascading fiber * Set up the microwave link configuration, put all the parameter following the link budget for the new additional channel or new modulation capacity * Scan the frequency to identify the interferences * Set up the VLAN on E-LAN configuration * Check the traffic utilization, do the rebalance if needed     **Change Frequency**   * Choose > **Configuration >Microwave lnk configuration** > from the main menu. * Select new channel Frequency according to LB. * Do frequency scan. If have interference issue, try to find frequency clear of interference. | Samuel Teguh S WX281796  Sigit Wibowo WX903307  Saeful Fadli WX813785  Pahruroji WX903309  Amran Rosadi WX826183  Abdul Rosyid WX684665  Suherman WX999953  Alfian Bayu Nur Aji WX1114445 | 01:00 – 02:00 (subject to CR) |

## Test and Verification

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **No.** | **Test Item** | **Operation Method** | **Owner** | **Time** |
| 1 | Service test | Check actual microwave rate/ throughput link.  For MW LL/LC activity do fail over test to make sure service normal by the protection made | Samuel Teguh S WX281796  Sigit Wibowo WX903307  Saeful Fadli WX813785  Pahruroji WX903309  Amran Rosadi WX826183  Abdul Rosyid WX684665  Suherman WX999953  Alfian Bayu Nur Aji WX1114445 | 02:00-02:15 (subject to CR) |
| 2 | Alarm compare | Check the alarm before and after Change configuration (Note: When finish upgrade check 2G/3G/4G node availability status).  Make sure no alarm related to VLAN looping case, such as VLAN Map Flapping or L2VPN | Samuel Teguh S WX281796  Sigit Wibowo WX903307  Saeful Fadli WX813785  Pahruroji WX903309  Amran Rosadi WX826183  Abdul Rosyid WX684665  Suherman WX999953  Alfian Bayu Nur Aji WX1114445 | 02:15-02:30 (subject to CR) |
| 3 | Check Utilization | Check the actual percentage of utilization, do the rebalancing if the traffic still not balance or the utilization > 80% of capacity | Samuel Teguh S WX281796  Sigit Wibowo WX903307  Saeful Fadli WX813785  Pahruroji WX903309  Amran Rosadi WX826183  Abdul Rosyid WX684665  Suherman WX999953  Alfian Bayu Nur Aji WX1114445 | 02:30-02:45 (subject to CR) |
| 4 | Check Performance | Check Link performance (ES; SES and UAS) | Samuel Teguh S WX281796  Sigit Wibowo WX903307  Saeful Fadli WX813785  Pahruroji WX903309  Amran Rosadi WX826183  Abdul Rosyid WX684665  Suherman WX999953  Alfian Bayu Nur Aji WX1114445 | 02:45-03:00 (subject to CR) |

## Solution for Changeback In the Case of Failure

### Definition of Change Failure

| **Changeback time** | 03:00 – 04:00 (subject to CR) |
| --- | --- |
| **Changeback decision maker** | **Huawei: TD** Zhangling (z00380621) 081219748518  **Customer:** Budi Kudus +62 895-0105-1133/ Sony Wickaksono +62-8989333691 |
| Rollback condition | 1. Link down  2. RSL is low  3. Service not normal/degrade  4. Link have interference  5. New/existing hardware faulty  6. Loss monitor |

### Changeback Steps

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **No.** | **Change back Steps** | **Operation content** | **Owner** | **Time** |
| 1 | Rollback the hardware (depends on scenario) | Re-install the existing equipment :    For microwave link, need to install back the existing IDU, ODU, Antenna, IF cables and power cables as previously.    For Ethernet interface, reinstall the eth board existing, change back the connection as previous condition | Samuel Teguh S WX281796  Sigit Wibowo WX903307  Saeful Fadli WX813785  Pahruroji WX903309  Amran Rosadi WX826183  Abdul Rosyid WX684665  Suherman WX999953  Alfian Bayu Nur Aji WX1114445 | 03:00 – 03:30 (subject to CR) |
| 2 | Rollback the configuration (depends on scenario) | Reconfigure all the parameter as same as before execution :    Reconfiguration MW link configuration  Reconfigure Ethernet interface parameter  Reconfigure ELAN service  Reconfigure E1 (SDH/PDH) service  Reconfigure Aggregation service (PLA/EPLA) | Samuel Teguh S WX281796  Sigit Wibowo WX903307  Saeful Fadli WX813785  Pahruroji WX903309  Amran Rosadi WX826183  Abdul Rosyid WX684665  Suherman WX999953  Alfian Bayu Nur Aji WX1114445 | 03:30 – 03:45 (subject to CR) |

### Change back flow (optional)

NA

### Equipment Status Check (optional)

NA

### Tests after Changeback

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **No.** | **Test Item** | **Operation Method** | **Owner** | **Time** |
| 1 | Service test | Check the NE's service :  Microwave Link Interface, check the traffic  E-LAN service -> advance attribute, check the service, and check the self-learn mac address  Microwave Link Performance : check the parameter of RSL, ES, SES & UAS | Samuel Teguh S WX281796  Sigit Wibowo WX903307  Saeful Fadli WX813785  Pahruroji WX903309  Amran Rosadi WX826183  Abdul Rosyid WX684665  Suherman WX999953  Alfian Bayu Nur Aji WX1114445 | 03:45-04:00 (subject to CR) |
| 2 | Alarm | Check the NE clear from alarms or same as before execution | Samuel Teguh S WX281796  Sigit Wibowo WX903307  Saeful Fadli WX813785  Pahruroji WX903309  Amran Rosadi WX826183  Abdul Rosyid WX684665  Suherman WX999953  Alfian Bayu Nur Aji WX1114445 | 03:45-04:00 (subject to CR) |

### Changeback Risk Analysis

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **No.** | **Main Issues and Risks Description** | **Possibility** | **Impact** | **Countermeasure** |
| 1 | Rollback Failed | Low | Low | There is on site team, If cannot solve problem contact with GTAC hotline and coordination to MS team |
| 2 | After rollback, the NE still loss management | Low | Low | Create a new DCN link for this NE.  Go to site to recover the DCN port |
| 3 | BTS service down | Middle | Low | Remote troubleshoot, finding the root cause, if needed create the TT to MS to get on site support |
| 4 | Existing Board Faulty | Low | Low | Coordination with MS to replace the existing board, by raise TT |

## Change of Spare Parts and Emergency Workstation (optional)

N/A

# Work after Change

## Observation

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **No.** | **Observation Item** | **Observation method** | **Owner** | **Observation Time** |
| 1. | Alarm | Check current alarm status, make sure alarm clear (or same condition with before)` | Imar Prasetiono 00262076 | 04:00 – 23:00 (subject to CR) |
| 2. | Query Radio Link BW & Ethernet Capacity Utilization Report | Check whether configuration not match with link budget, by Web LCT/U2000 – Microwave Interface  Check the port capacity has been match with the plan or not, Ethernet interface check | Imar Prasetiono 00262076 | 04:00 – 23:00 (subject to CR) |
| 3. | Radio Link Performance (ES, SES & UAS) | Check the radio link performance, send out the report and then coordination to Regional NPM team to monitor and share the performance result from their side | Imar Prasetiono 00262076 & MS NPM team | 04:00 – 23:00 (subject to CR) |

## Provision of Materials (optional)

NA

## Provision of Software (optional)

NA

## Training (Optional)

NA

## Matters Needing Attention (Optional)

NA