

# Integrating RBSs On-Site Using ORI

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## OPERATING INSTRUCTIONS

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# 1 Introduction

This document describes how to integrate a Radio Base Station (RBS) by using the On-Site RBS Integrator (ORI). Integrating an RBS on-site is a part of the full process of adding RBSs to the network. For an overview of the full process, see document *Add RBS*.

The integration is normally performed as the last activity of the physical on-site installation. After the RBS has been powered up, the autointegration will follow.

To perform the hardware binding the Ericsson Node Integration Scanner (ENIS) Android application is used, see *Integrating RBSs On-Site Using ENIS*, or a manual binding is performed, see *Add RBS*.

## 1.1 Prerequisites

Before starting the procedure, the prerequisites listed below must be fulfilled.

### 1.1.1 Documents

The following documents are available:

- Site Installation Documentation (SID)

The contents of the following documents are known:

- *Personal Health and Safety Information*
- *System Safety Information*

### 1.1.2 Tools

The following tools are available:

- Laptop that will function as the processing environment for the client
- Ethernet cable to connect the client laptop to the RBS, typically a category 5 patch cable with 8P8C modular connectors (RJ-45) and TIA/EIA-568-A wiring (included in cable package NTM 503 46/100)
- Site Local Area Network (LAN) cable
- User Equipment (UE) with relevant access class and capable of displaying cell used for traffic in progress, recommended alternatives for displaying cell information:



- Physical Cell Identity (PCI), an identity repeated for cells in the network and in other networks; the PCIs in the network must be well distributed during tests to reduce the risk of having traffic in the wrong cell; PCI is broadcast on the synchronization channel
- Carrier frequency and scrambling code

### 1.1.3 Conditions

The following conditions apply:

- The physical installation of the RBS is completed and verified, see *Install RBS*
- The RBS is configured with a software package compatible with the upgrade package in the prepared configuration data.

For troubleshooting, see Section 3.1 Troubleshoot on page 11

- Hardware binding is performed, either through Ericsson Node Integration Scanner (ENIS), or manually using BSIM

For information regarding ENIS, see *Integrating RBSs On-Site Using ENIS*

- An SFTP server installed on the laptop
- Configuration data is stored at Operational Support System Master Server
- An installation file, that is, a Combined file, is stored on the laptop
- The user name and password to the server localhost for accessing ORI. If not received, contact the next level of support for assistance
- The transport network is available for O&M traffic, control plane traffic, and user plane traffic
- The nodes maintaining the control functionality, are installed and enabled
- A DNS server is prepared if integration is expected to use DNS
- The cell identities that the UE can display during user plane traffic are available, for example CGI or PCI




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## Do!



Always use an approved ESD wrist strap when working with sensitive equipment. Damage to components mounted on printed board assemblies can occur if an ESD wrist strap is not used.

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### 1.1.4 Recommended Web Browsers

The ORI application has been tested and found fully working in the following web browsers:

- Google Chrome (21.0+), or higher
- Mozilla Firefox (15.0), or higher

## 1.2 Configuration Data

Configuration data for each individual RBS must be prepared and stored before integration can start. Software updates must be performed by using a software package file. For storage locations, see Table 1.

Files are stored on the OSS-RC or AIWS and automatically distributed when the integration is initiated. The Base Station Integration Manager (BSIM) in Operation Support System - Radio and Core (OSS-RC) handles the automated generation and storage of the files.

*Table 1 Storage Location for Configuration Data*

Type of data or file	Type of Data	Storage Place
Initial configuration file (ICF)	File containing the configuration data	Depending on integration method: <ul style="list-style-type: none"> <li>• AIWS server<sup>(1)</sup></li> <li>• Client laptop<sup>(2)</sup></li> </ul>
Combined file	Contains a Site Installation file and an ICF	Client laptop

(1) For autointegration without laptop

(2) For semi-automated integration







## 2 Procedure

This section describes the activities to be performed at site when integrating an RBS. If the RBS does not respond to actions as described in this document, contact the next level of support for assistance.

**Note:** After an autointegration is successfully ended, an ORI connection is no longer possible. This is to prevent unauthorized access to the RBS.

### 2.1 Power Up RBSs

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#### Danger!



Improper electrical installation may cause fire or electric shock that is likely to be fatal. Only a qualified and authorized electrician is permitted to install or modify electrical installations.

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Power up the RBS. For instructions, see *Install RBS*.

For information on optical indicators, see *RBS Description*.

### 2.2 Check RBS Status

To verify that the RBS is ready for integration, check that the green optical indicator marked ✓ is lit.

### 2.3 Prepare and Connect Client Laptop

To prepare the client laptop for the on-site integration, do the following:

1. Set the laptop Ethernet interface IP-address to 10.1.1.12

Set the subnet mask to 255.255.255.0

Leave the default gateway empty.

2. Use the site LAN cable to connect the LAN to the RBS local access port. Depending on RBS model, the port is marked the following way:



- **WAN A** (RBS 6401)
- **WAN A / PoE** (RBS 6402)

**Note:** As an alternative to a 48 V DC power supply, Power over Ethernet (PoE) can be used to power the RBS 6402. In that case, the client laptop must be connected to the **WAN A / PoE** port through a **PoE injector**. See *RBS Description*.

3. Use the RJ-45 cable to connect the client laptop to the RBS local access port. Depending on RBS model, the port is marked the following way:

- **Chain** (RBS 6401)
- **WAN B** (RBS 6402)

**Note:** For connecting the cable to the **WAN B** port, an **SFP module** must be used. See *RBS Description*.

## 2.4 Integrate RBS

To perform an integration with the ORI application, do the following:

1. On the laptop, start a web browser. For recommended browsers, see Section 1.1.4 on page 3.
2. In the Browser's address bar, enter the RBS IP address 10.1.1.11 to access ORI.
3. The **Username and password for the SFTP Server** dialog box opens. See Figure 1.



**Username and password for the SFTP Server**

Username\*

Password\*

Site Installation File\*  **Browse...**

**Download Files** **Intergrate** **Cancel**

L0001010A

Figure 1 Dialog Box

4. Enter the following credentials:

- **Username:** <username>
- **Password:** <password>
- **Site Installation File:** <file name> or click **Browse...** to select the file.

**Note:** If **Browse...** is used, the installation file needs to be placed in the root folder of the SFTP server running on the laptop.

After the **Username** and **Password** are entered, the **Download files** key is enabled.

5. Click **Download files**. The download procedure starts.

This step cancels the ongoing autointegration process. There is no need to prevent autointegration from proceeding using other methods.

6. When the download procedure is finished, a message is displayed in the **Autointegration log**. See Figure 2.

The **Integrate** key is enabled.



## Autointegration log

Table|Raw

2010-01-01 00.01.51	Site installation file succesfully validated
2010-01-01 00.01.51	Site installation file data:
2010-01-01 00.01.51	data.installationData.aiwsData.FQDN: aiws.com
2010-01-01 00.01.51	data.revision: K1
2010-01-01 00.01.51	data.untrustedNetworkData.outerIpconfigurationData.initialSeGW. FQDN: SEG.com
2010-01-01 00.01.51	Combined file succesfully handled. Waiting for intergration command or pRBS power off.
2010-01-01 00.01.51	ORI command handled succesfully

Export log...

Help

Close

L0001009A

Figure 2 Autointegration Log

7. Click **Integrate**. The integration starts.
8. During the integration process, the RBS performs a restart.

Wait a few minutes and check that the green optical indicator is lit and not blinking. When the green indicator is lit, the autointegration is finished and the RBS is up and running.

9. Disconnect the cable from the RBS local access port.

The integration procedure can be cancelled by using the **Cancel** key. If the user wants to start a new integration, the installation file needs to be downloaded again. The procedure then proceeds from Step 5.

If the user wants to start an autointegration instead of a semi-automated integration, a factory reset of the RBS must first be performed. See document *Recovering a Node on Site*.

### 2.4.1

#### Verify the Integration

To verify that the integration is successful, do the following:

1. Call the OSS-RC or Operation and Maintenance Center (OMC) and verify that the integration is completed.
2. Perform a test call through the actual RBS.



## 2.5 Check Hardware Status

Faults are indicated with the red **Fault** indicator marked **!**

If the **Fault** indicator is lit, make a visual inspection of the hardware unit.





## 3 Additional Information

This section describes details about the ORI application and deviations from the procedure as described in Section 2 on page 5.

### 3.1 Troubleshoot

This section provides information about:

- Log file to use for troubleshooting

#### 3.1.1 Log File

If encountering problems during integration, the log file can provide information. The file can be saved in the form of a table or a raw data file and be sent to the next level of support.

The log file lists all events that occur during the integration process. Logs are activated when integration starts and deactivated when integration ends successfully or unsuccessfully.

When the integration process is completed, the log file can be collected from an OSS-RC connection to the RBS. See document *Data Collection Guideline* for instructions and locations of different log files.