

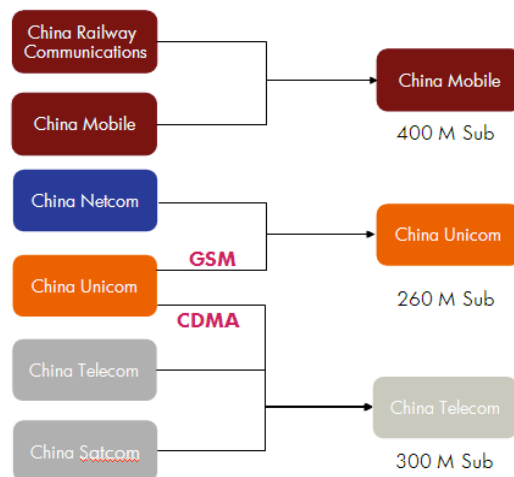
Revenue Assurance Trials in China Telecom

This document provides an overview of how China Telecom implemented trial revenue assurance (RA) implementations in 3 provinces. Subex, cVidya and IBM handled one province each. This was an interesting and challenging project. It totally covered 64 control points, and I'd also like to share the lessons learned and good practices with you.

1. Background

As you may know, China had 6 major telecom operators before May 2008. In order to get 3G licenses, these 6 operators were merged into 3: **China Telecom**, **China Unicom** and **China Mobile**. Each operator has 31 provinces, each with independent BSS/OSS systems. 31 provinces? What does that mean for RA? That means there are a total $31 \times 3 = 93$ RA opportunities in Chinese market, making China one of the biggest, and potentially the biggest market for new RA deployments.

Chinese Telecom Operators Merging

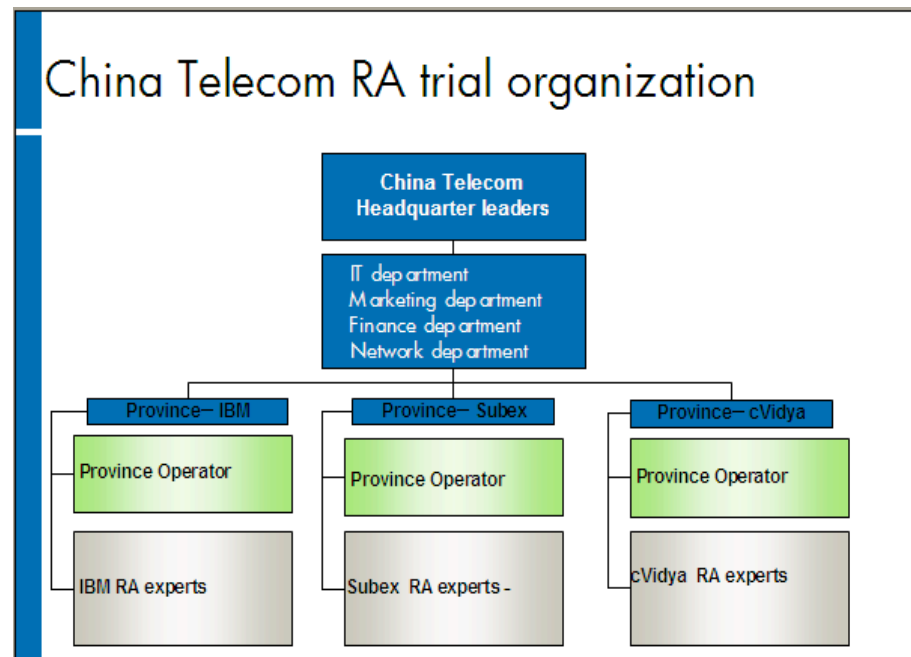


Before the Chinese government released 3G to all operators at the beginning of 2009, **China Telecom** only had a wireline license. They were facing big revenue pressure since they are the only operator does not have wireless (GSM/CDMA) license, so they started to focus on RA.

2. China Telecom RA Trial

This RA trial was led by **China Telecom** Headquarters. Almost all the management departments from headquarters were involved in this project. Each province has a VP as the leader of his province project.

➤ RA organization



➤ RA scope

The RA trial included 3 provinces. Subex, cVidya and IBM each handled one province. The project was divided into 2 phases. The control points of phase 1 were decided by China Telecom. The control points of phase 2 were decided by the RA vendor, with each vendor encouraged to try their best to find maximum revenue leakage.

Phase 1 scope:


- ✧ Subex: SS7-switch reconciliation
- ✧ IBM: provision reconciliation
- ✧ cVidya: switch-mediation reconciliation, rating/price plan reconciliation

The target of this project was to find where are the revenue leakages, how severe they are, and how to prevent them.

Between them, the 3 vendors almost covered all the revenue streams of **China Telecom**, covering more than 98% of **China Telecom** revenue.

RA Control Points

| No. | Revenue Chain | RA | Control Points |
|-----|------------------------------|--|----------------|
| 1 | Product/service design/order | Product/service design Subscriber registration at CRM | 4 |
| 2 | Service provision | Data consistency between BSS and network | 21 |
| 3 | Network | SS7- switch | 8 |
| 4 | Mediation, billing | Switch – migration reconciliation Price plan reconciliation | 6 |
| 5 | Interconnect | Interconnect reconciliation | 2 |
| 6 | Collection | BSS- finance reconciliation Bad debt management | 19 |
| 7 | Others | Recharge card management | 4 |
| | Total | | 64 |

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- 1. Covered almost all the revenue management chain
 - 2. Revenue coverage is more than 98%

➤ Example of revenue leakage:

RA finding example

- **IDD calls to one of Indonesia operator lost**
 - Date of Finding: 1st March 2007
 - Root Cause: IDD Calls to one of Indonesia operator are found in SS7 but not available in switch. This was due to backward message (ACM) indicated “NO-CHARGE” signal returned from the terminating international operator. Switch not produce the CDRs hence no CDRs at all to bill subscribers.
 - Fix Status: Fixed
 - Date of Fix: 12th March 2007
 - Fix Type: Permanent
 - Average Daily Leakages: CNY 4000
 - Yearly Leakages: CNY 1.5million

This is just one RA leakage that was found. The revenue increase for this operator from this leakage was about 1.5million CNY (220,000 USD) per year. Including all the revenue leakage findings at this operator, the ROI for this project was about 6 months.

3. Lessons Learned and Good Practices

- Is it a good idea to cover 98% of the revenue stream?

The project covered many control points, but is it a good idea to cover such a wide scope in a single project? To answer this question, we need to talk about the purpose of this RA trial.

The target of this project was:

- ◆ Scan all China Telecom revenue streams to find potential leakage points.
- ◆ Compare leakage points from 3 provinces to find the most severe leakage points, other provinces will start their RA practice from these points.
- ◆ Show the vendor's RA capacity and local support resource
- ◆ Show the vendor's RA product.

Since this is a look-for-future project for the RA vendors, so all the vendors invested lots of effort into this project. Actually, the money they got from China Telecom did not cover these efforts.

- What is the biggest challenge for this project?

In this project, I found the biggest challenge is as follows. The operator's managers have revenue and management pressure. They are eager to do RA activities, but the employees think RA's role is to find fault with their daily work, and they are afraid of the consequences if their manager knows that revenue leakage happened in their work scope.

I think the top managers should make all the employees know that they will not be blamed for any revenue leakages found, if it is just a historic problem. So, support from top managers is very important for a RA project.

- What is the biggest revenue leakage point in **China Telecom**?

You may not know, but **China Telecom** is the oldest operator in China. They have lots of services (PSTN/PHS/Broadband/Resource Leasing etc) and lots of systems, and they also have some manual activities involved in some revenue streams. The data synchronization between systems is their biggest problem for them; it also is the root cause for most of the revenue leakage we found. For example, **China Telecom** provides fiber connection for corporations; some fibers provided to customers were not charged in the billing system.

- What is the most challenging control point in this project?

You may not believe, almost every Chinese operator has thousands of price plans (this is decreasing since operators now know this is valueless and hard to maintain), and some of the

price plans are very complicated. It is very difficult to verify the accuracy of these price plans.

Actually, in one of Subex's project in **China Mobile**, Subex did lots of modifications for their price plan engine to do the price plan reconciliation, but the RA finding was small.

In the **China Telecom** RA trial, cVidya was assigned to do price plan reconciliation. They also spent lots of effort on that, but the RA finding is also very small.

I don't know how other countries perform price plan reconciliations. If you have this experience, I am glad to learn from you.

Author profile:

- **Name:** Hongtuan He
- **Work Experience**
 - 3 year middleware (EAI) development
 - 3 years in BSS/OSS vendor
 - 3 years in RA at Subex
 - From 2008, RA/FMS principal consultant at HP
- **RA project experience**
 - Jiangxi **ChinaMobile**
 - Fujian **ChinaUnicom**
 - Inner Mongolia **ChinaMobile**
 - Fujian **ChinaTelecom**
 - **Maxis** Malaysia