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<b>Date</b>	2013-03-01	<b>Page</b>	1 (2)	<b>Status</b>	Draft
<b>Document No</b>	PRO-33047	<b>Version</b>	0.2		
<b>Object</b>	50048634				

## Thesis Work – Contact Center Apps

### 1 Introduction

This paper describes a thesis work that is to be carried out at TeliaSonera in Uppsala, Strandbodgatan 1. We are a unit of about 150 people responsible for TeliaSonera's contact center offering to enterprise customers. The thesis work should be performed by 1-2 students from an IT engineering or computer sciences program (M.Sc.).

### 2 Background scenario

In a company, customer service is often handled by a special organizational unit called the *contact center*. The contact center handles a company's customer interactions, such as telephone calls, email, chat, etc. A contact center platform is an application framework to handle customer interaction flows and directing each interaction to the most suitable agent. Agents working in the contact center log in to the framework which is configured with the agent skill, department, and other information which is used by the framework to correctly route interactions. Agents are provided with interaction information when the interaction is delivered, and may also have that information sent to legacy systems automatically to provide the agent with the background information needed to meet customer needs.

More and more customer service is moving to on-line channels, either through web or through special purpose smartphone apps. Due to the large increase in these channels the contact center needs intelligent solutions for handling also those interactions.

### 3 Purpose

The purpose of this thesis work is to examine how to include smartphone apps in the context of the company contact center. The work will be based on a contact center platform from GenesysLabs and aim for building a demonstration prototype in either Android and iOS at the demo/lab at TeliaSonera. Innovative use of smartphones and customer service is to be explored. As a minimum the flow of information from mobile app usage to the contact center agent shall be proven. The following aspects/questions should be taken into account, the first five are the most important:

1. Use cases: Define customer friendly use cases where information collected in an app is good to have transferred to the contact center.
2. Alternative solutions: Define and prioritize between possible solutions to enable apps with communication channels to the contact center. Pros and cons?
3. Multimedia: What customer data can be passed to the contact center as the smartphone is reaching out to the contact center over different channels (e.g. e-mails, SMS, voice, callback)? What is needed?
4. Network integration: Draw the high-level architecture, what are the critical steps to pass, firewalls?
5. Security: Address and suggest solutions to security issues. How is the integrity of business and customer data preserved when the smart phone is accessing the contact center? Risks of scam, hijack etc?
6. Economy: Make a model for calculating investments and maintenance costs and the predicted return of investment for a contact center using this technology.

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<b>Date</b>	2013-03-01	<b>Page</b>	2 (2)	<b>Status</b>	
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7. Market inventory: How are companies exposing their customer service through smartphone apps?

#### 4 Suggested time plan

Following is a rough estimate of the parts the thesis work should consist of and how many weeks each part needs.

A preliminary start date would be in Mars 2013 continuing during 20 weeks.

1-3	Learn about the Contact Center platform and the mobile engagement module
4-14	Define different use cases and implement an example
15-17	Consider the above listed aspects and prepare a summary with conclusions to be included in the report
18-20	Report writing

#### 5 Applications

We look for students from the IT engineering or computer sciences programs (M.Sc.) with an interest in a future career within IT and telecommunications. The candidate should have good experience in Java programming or Objective-C and be fluid in Swedish and English. Good communications skills and working well in a team are also important qualifications.

Your application, consisting of a personal letter and an attended courses register printout, can be sent to [niklas.burvall@teliasonera.com](mailto:niklas.burvall@teliasonera.com) and [fredrik.jansson@teliasonera.com](mailto:fredrik.jansson@teliasonera.com).