Chorus

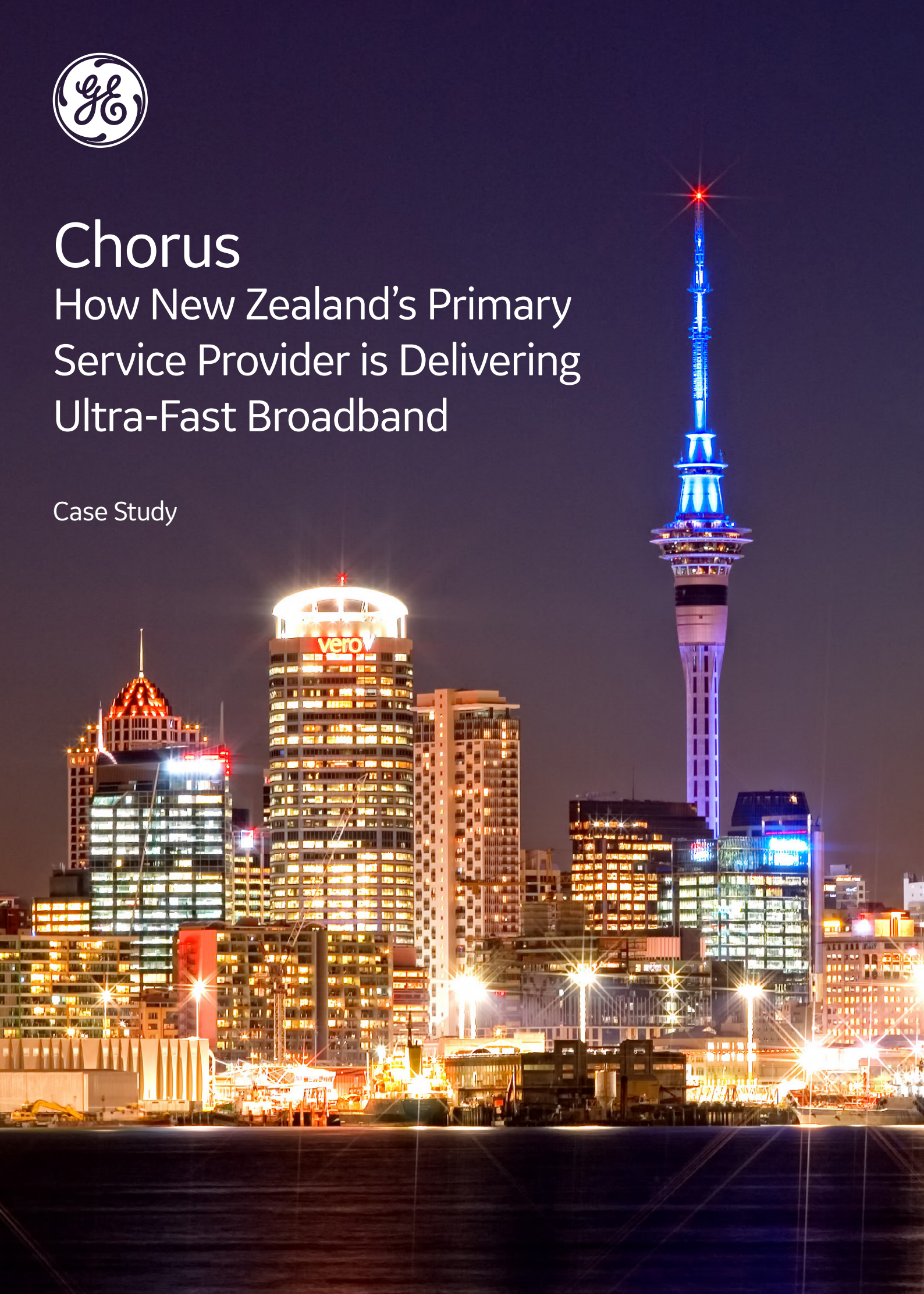## How New Zealand's Primary Service Provider is Delivering Ultra-Fast Broadband

Case Study

Company Background

Chorus is New Zealand's largest telecommunications infrastructure company. Chorus was formed from the separation of the former monopoly Telecoms New Zealand into two companies: Chorus, which manages the network infrastructure, and Spark, which offers services over that network (along with other operators).

Chorus maintains and builds a network predominantly made up of local telephone exchanges, cabinets, and copper and fiber cables. Approximately 1.8 million lines are connected to homes and businesses throughout the country. The Chorus network is termed an open access network, meaning that the services provided over the network can be provided by many different phone and internet providers.

Chorus has laid thousands of kilometers of fiber optic cable and ducting to make broadband available to rural communities and ultra-fast broadband is now available to more than 830,000 homes and businesses across New Zealand. These two large government sponsored initiatives are called the Rural Broadband Initiative (RBI) and the Ultra- Fast Broadband (UFB) initiative.[1]

The majority of Chorus' network design and build activities are outsourced to three different companies, each responsible for a different region. This results in some unique challenges for Chorus to ensure efficient management of these teams and maintain data quality within the inventory.

History of Use of Smallworld* in Chorus

Chorus has used GE's Smallworld* solution for many years. Chorus selected Smallworld* Physical Network Inventory (PNI) in the late 1990s as their physical inventory platform after a rigorous market evaluation. By 2005, a multi-phase project had been completed that successfully migrated data from a number of legacy systems into Smallworld*. This resulted in a single centralized outside plant inventory covering the entire copper and fiber network across New Zealand. This single inventory was able to offer Chorus a number of benefits in a wide variety of areas, including:

- Reducing the time to locate fiber faults to improve customer service through faster restoration of connections and a reduction in the time spent by maintenance teams repairing faults in the field.

- Having accurate fiber records allows Chorus to guarantee geographic diversity of services for major customers.

Since 2005, the Smallworld* solution has been supporting Chorus operations. However, in telecommunications change is ever-present and new challenges awaited the teams.

Broadband & Rural Broadband Initiatives

In 2011, Chorus was awarded two major government sponsored projects. The Ultra-Fast Broadband (UFB) initiative is a government program to expand and develop New Zealand's broadband services. Ultra-fast broadband will bring fiber optic technology to homes, schools, hospitals and businesses. The objective was that by 2020, 75% of New Zealanders would be connected to ultra-fast. In late 2019 Chorus announced that they had successfully met this target, and Smallworld* was a key part of that success.[2]

The second project is to provide broadband to the rural population of New Zealand. The objective is to enable fiber-based connections to 93% of rural schools and put high-speed broadband in reach of thousands more homes and businesses in harder to reach areas. This requires extending fiber further into rural communities, upgrading local telephone exchanges with new equipment and installing or upgrading 1,000 fiber-fed roadside cabinets.[3]

Naturally, these two initiatives resulted in a significant amount of network design and build. GE's Smallworld* solution is at the heart of this network rollout strategy. Like a number of operators, Chorus recognized that it would be necessary to automate the design of the FTTH network deployment in order to meet the government rollout targets.

The Challenge of UFB

Chorus recognized the need for a number of improvements to its operational support system (OSS) landscape as part of its establishment as a standalone entity from Telecom New Zealand and as a consequence of being awarded the majority of UFB contracts. They initiated a major project with the aim of building a "best in class" customer service experience delivered off an inventory and fulfillment stack which would meet the fiber build requirements and, over time, become the heart of the copper broadband operations. This resulted in the COFFII project - Customer Ordering, Fiber Fulfill and Integrated Inventory.

Integrated Inventory

Since Smallworld* already held the physical inventory, this was seen as the obvious choice to continue to manage the fiber network. To meet the needs of the customer ordering part of COFFII, Chorus chose to implement the third party Comptel FlowOne (now Nokia FlowOne) to provide logical inventory and service order management capabilities. Seamless integration between the Comptel and Smallworld* environments was needed to meet the integrated inventory objectives of COFFII. Chorus implemented Comptel Fulfillment and worked with GE and Comptel to proactively develop a solution bringing together their systems to meet the provisioning and integrated inventory requirements. GE and Comptel collaborated to create a joint product solution meeting these needs based on TM Forum standards. The GE half of the solution is based upon Smallworld* Physical Resource Assignment which provides a product based integration between Smallworld* and logical inventory systems such as FlowOne. The goal of the integration is to allow requests for service to be automatically processed. This means that the order can be processed, instructions issued to field crews to install the fiber, and the service activated with minimal manual processes and handovers. This has delivered benefits in quality, speed, and customer experience including:

- Generating customer FTTH connection details from Smallworld* to enforce a regime of quality physical network inventory records.

- With quality records exposed to customers, they know with confidence when ultra-fast broadband will be available for them to order.

- Accurate physical network inventory records lead to greater efficiency for the technician in the field, with less time spent clarifying which customer connects to which distribution point.

- Less time spent on records clarification equals faster install times for customers.

- Providing the foundations for improved fault resolution and asset maintenance.

Summary

Chorus has been using Smallworld* for many years and had already realized a number of benefits from the deployment related to service assurance and service delivery. However, the creation of the UFB and RBI projects has introduced a massive amount of change within the OSS at an unprecedented rate. Indeed, Smallworld* was a key factor in Chorus winning these projects in the first place because without the detailed knowledge of their network, it would not have been possible to build the responses to the government tender as quickly and accurately as was the case. Smallworld* has continued to be a critical element of the solutions that have enabled Chorus to achieve the objectives for these major infrastructure projects and the on-going customer success in delivering new services.

Footnotes

1. Extract from http://www.chorus.co.nz/more-about-chorus-1

2. Extract from http://www.med.govt.nz/sectorsindustries/technology-communication/fast-broadband/ultra-fast-broadband-initiative

3. Extract from http://www.chorus.co.nz/rural-broadband-initiative

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