

Comcast Residential Services Gateway

RFI Response

29 March 2002

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1 Overview

1.1 Document Overview

This document is meant to serve as a response to Comcast's "Residential Services Gateway Request for Information". The focus of the document is on how BeComm's communications platform, *Strings*, and BeComm's network application SDK, the *RADkit*, can be used to create a platform for residential gateways and other network devices.

To this end, the framework described in this document illustrates how a network operator such as Comcast can use BeComm technology to create managed, semi-open networks that spur the creation of innovative applications and the adoption of new media services within the home.

As a software vendor, BeComm products and technologies are all designed to be hardware, operating system and network independent. *Strings* and the *RADkit* are available on most 32-bit operating systems and chip sets and also support development in a wide variety of programming languages¹. This level of portability provides operators complete flexibility in deciding on hardware and operating system. The decision to use *Strings* and the *RADkit* is therefore largely independent of the underlying hardware and operating system selected for a given solution.

This response is also backed by the support of our world-class service partners who provide BeComm with a wealth of engineering services, technologies, solutions, and platform integration. Each of our partners can provide application and system level integration services for *Strings* enabled systems. Several of our partners, including Bsquare and Wind River Systems, also provide extensive hardware engineering and design services that can be leveraged to quickly bring *Strings* solutions to market. Included you will find additional information on our service partners including datasheets and specifications on relevant offerings.

The following sections are included in this document:

1. **BeComm Overview:** an overview of BeComm Corporation and its related products, services, partners and solutions.
2. **Overall System Architecture:** A detailed description of the overall system architecture of a *Strings* enabled RSG solution.
3. **Vendor Questions:** Responses to Comcast RSG technical requirements and Comcast Vendor Questions.
4. **Supporting Documentation:** supporting documentation on BeComm and our integration partners.

1.2 BeComm Overview

Founded in 1996 and based in Redmond, Washington, BeComm is a privately held company that provides software platforms and tools that enable Operators, OEMs and ISVs to build innovative applications for today's highly networked world. BeComm products provide a complete framework for the rapid development, deployment and management of applications that efficiently share content, media, devices, and resources

¹ See included *Strings* and *RADkit* datasheets for list of available operating systems, chipsets and languages.

in heterogeneous networked environments. By significantly reducing the complexity and cost to build these applications, BeComm enables customers to bring cost effective applications to market that drive increased revenue and provide unparalleled value.

1.2.1 Products & Services

1.2.1.1.1 *Strings™ - A Platform for Managed Network Applications™*

Strings is a platform independent software engine that enables unprecedented access to network data, content, services, and other devices, independent of operating system, network, or application. *Strings* sits between applications and underlying operating systems and facilitates the routing, transformation, and delivery of data to and from resources in heterogeneous networks. *Strings* provides a framework for creating an entirely new breed of extremely lightweight, powerful, and managed network applications. With its advanced data shaping capabilities, namespace management and *Rules-based Mapping* engine for dataflow management, *Strings* enables the rapid deployment of applications in heterogeneous networks without the typical application complexity or compromise in network service.

1.2.1.1.2 *Beads™*

Beads are highly modular software libraries that can be recombined at runtime by *Strings* to manage dataflow through a system. *Beads* provide a myriad of services from wrapping underlying operating system services and hardware resources to implementing network protocols and multimedia codecs.

Since *Beads* can encapsulate underlying OS services and hardware resources in a manner that provides complete separation and runtime reusability of the service, *Strings* can effectively re-map these services in any combination and order. This dynamic *Mapping* capability provides *Strings* with unprecedented flexibility in managing dataflow through the system and enables applications to seamlessly leverage end-to-end system services both locally and remotely in the network.

BeComm has developed several hundred *Beads* to date and in conjunction with our *Bead* development partners Wind River, Bsquare and Wipro we are able to provide new *Beads* to meet virtually any customer requirement.

For more information on *Strings* please see “Using *Strings* to Compose Applications from Reusable Components” and “*Strings* – A Technical Overview”.

1.2.1.1.3 *Features*

- ***Path-based Architecture:***

Strings features a patent-pending *Path-based* architecture that facilitates highly-efficient dataflow management through a system. This architecture also allows *Strings*

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