



**PHILIPS**



**BeComm corporation**

Content Management Software  
Project Proposal  
July 31, 2002



## INTRODUCTION

The following proposal is in response to an RFQ (M3P: RFQ Content Management SW 02-07-23) from Philips Components for the development of a Content Management Software application. The goal of the software is to provide a PC-based application that allows users to organize content, interact with content, and access content from a portable device.

This proposal includes the following sections:

- BeComm Overview – Background information on BeComm, BeComm products, and BeComm services.
- Relevant Technology and Experience – Overview of technology and experience relevant to this project.
- Project Overview – Overview of the project including technology overview and suggested directions.
- Schedule – Phase breakdown of project with time and cost estimates.
- BeComm fundamentals – company structure, people, and fundamentals.

BeComm has been involved in the research and development of multimedia solutions for over six years. In addition to our flagship product, Strings, we have explored, developed, and commercially deployed solutions spanning processing of audio and video content to the development of distributed content management systems and user-interfaces for accessing content.

Our mission is to deliver solutions to our customers by focusing our wealth of experience and technology capabilities on customer requirements. We are pleased to have the opportunity to demonstrate our capabilities and expertise in the context of the Philips Content Management Software.

Sincerely,

The BeComm Team.

BECOMM CORPORATION - CONFIDENTIAL

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## BeComm Overview

BeComm Corporation was founded in 1996 with the mission of researching and developing next-generation operating systems for distributed networking. Edward Balassanian, the company's founder, provided seed funding, and the company has grown from cash flow generated by its customers. This represents a combined investment of over \$10 million.

In the course of these efforts the company developed a novel architecture called Strings, which is a platform for enabling distributed applications in heterogeneous network environments. Strings was followed with the Strings Multimedia Kit which focused on enabling media-rich applications in distributed network environments. BeComm continues to do product development work on Strings and will introduce other Strings kits targeted at enabling distributed applications in other markets such as enterprise, networking, gaming and telephony.

In the process of developing Strings, BeComm has had the opportunity to work closely with leading technology companies such as Intel, Gateway, Wind River, Stratos, Frog Design, bSquare and one of the nation's leading defense contractors. The discipline of building systems software and the exacting requirements of delivering commercial solutions for customers has provided the backdrop for BeComm Consulting Services

### BeComm Consulting Services

BeComm Consulting Services marries our tradition of building world-class software with our proven ability to deliver for world-class customers.

BeComm Consulting Services' 15 engineers set the standard for R&D at BeComm and bring a wealth of architecture, design and implementation expertise to bear for clients. Our engineers also enjoy the support of our strong relationships and partnerships with the world's best design and engineering

firms, including bSquare, Frog, Stratos and WindRiver. These companies are eager to work with us and stand ready to be our references.

Whether customers directly leverage our core R&D by licensing Strings or instead leverage our years of experience, BCS engineers can develop virtually any complex network application.

#### Mission

BeComm Consulting Services' mission is to provide our customers the same exacting commitment to product excellence employed internally at BeComm. To this end our goal is to ensure clients business objectives are consistently met and exceeded.

#### Process

Our internal process for engineering stipulates the strictness standards for all aspects of software development including documentation, commenting of code, and development of test code in tandem with feature implementation, frequent and incremental releases, and a commitment to excellence. These processes and traits are rigorously enforced at BeComm and are the backbone of BeComm Consulting Service's ability to deliver projects on time, on budget, and on spec.

#### Facilities

BeComm Consulting Services has complete engineering and testing resources at its disposal. This includes 24 hour, automated build and test servers, over 40 lab machines with ghosting capability (Linux, Windows 98/ME/NT/XP) for usability testing, T1 connectivity for client web sites, production capability with professional quality color printing, and the latest development, testing and, QA tools.

All of this is provided in an environment focusing on engineering and minimizing overhead and hence overall client expenses.



## CULTURE

Processes and facilities alone are not adequate to guarantee quality. As long as the human factor is involved in the development of software, a culture that promotes the appropriate disciplines and ethics is equally important.

To this end BCS hires only those with the right aptitude and the right attitude. All new hires are put through rigorous interviewing and screening regardless of prior experience. All new engineers go through our 8-week boot-camp program. In addition to ensuring engineers start with the right mindset, all employees participate in a mentoring program where they not only learn new skills but also grow, mature, and teach those skills to new hires.

Whether it is our obsession with cleanliness of code or simplicity and elegance in architecture, our culture encourages, demands, and teaches excellence. We hand off software with the pride that comes from knowing that customers will receive solutions that are a maintainable, extensible and most importantly valuable.

## EXPERIENCE

With over 6 years of systems research, product development expertise and a proven track record of delivering for customers, BeComm Consulting Services is an ideal choice for software engineering outsourcing needs.

Our deep experience in R&D as well as our ongoing development of systems software has required us to develop exacting standards, rigorous processes and the highest commitment level to quality and predictability.

In addition to bringing on a team well-seasoned in the art and science of developing world-class, commercial grade software, clients have at their disposal a wealth of development expertise that can deliver everything from high level architectural designs to complete products.

Engineers at BeComm have a diverse background and provide expertise in many areas including:

- **Systems Engineering** – architecture, design and implementation of next-generation operating systems.
- **Web Technologies** – including legacy technologies such as HTTP and emerging technologies such as XML-RPC, SOAP, UDDI and WSDL.
- **Database systems** – including the design of scalable database solutions, distributed database systems, schema design, and experience with a wide variety of database platforms. Extensive experience in the areas of medical/bio informatics and application servers.
- **Distributed Systems** – including peer-to-peer solutions, scalable network files systems and network discovery architectures. Extensive experience with UPnP, GENA, SSDP, and other distributed network architectures.
- **Client/Server** – including deployment of server side and client side technologies, architecture and design of scalable fault-tolerant solutions.
- **Gaming/Multi-user Systems** – including development of gaming and multi-user online systems as well as client side applications and games.
- **Multimedia And Graphics** – including development of multimedia codecs such as MPEG4, MP3, RTP, SIP, H.323, H.264, and OpenGL. Extensive experience with Windows Media Format SDK, Real Networks SDK, and related technologies.
- **Communications Technologies** – including deep expertise in internet protocols, routing technologies, sockets, multicast technologies such as MBONE, and emerging protocols such as IPv6 and UPnP.
- **Embedded Systems** – extensive experience with embedded solutions including: web tablets, set-top-boxes, media gateways, networked stereos, handhelds, residential gateways, routers, and network equipment.

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