

Bose Connected Music – Vision and Strategy
Pre-Read for December 15, 2015 Executive Stakeholder Meeting

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Overview

The Bose Connected Music (BCM) team has been working for about six months to set strategy for the future of SoundTouch and related businesses for Bose. The document spells out our contributions—a vision for a set of Bose products, services, and capabilities that we think can help us win in the marketplace. While the document is high level, most of the sections are backed up by significant background work—we’re always delighted to go deeper with interested readers.

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I. EXECUTIVE SUMMARY: BOSE CONNECTED MUSIC STRATEGY TRIANGLE

Current State

Few people today are realizing the full benefit of Connected Music, because they don't put in the effort necessary to integrate and understand the offerings from multiple music services in order to get the full range of benefits. Bose is a weak second place (10% market share to Sonos' 85%) in WiFi Music Systems. We will deliver about \$150M of revenue from WiFi Music Systems in FY15. Additionally, we are the worldwide leader (30% market share) in Bluetooth mobile speakers, and hold a meaningful second-place (20% market share, to Beats' 50%) in premium headphones.

Our SoundTouch systems work by allowing customers to associate third-party music experiences (Pandora, iTunes, Deezer, etc) with presets for easy one-touch playback. Our current Series II products have strong ratings (4.5 stars) on Amazon.com. We have poor advocacy at Best Buy compared to Sonos.

We have a plan to expand our portfolio in CY15 by adding lower-priced products and Bluetooth capability. The marketing plan for CY15 is still taking shape, but is likely to be dramatically bigger than 2013 and 2014. We do not have an aligned SoundTouch plan for CY16 or beyond, although we aspire to draw connections between our WiFi products and our mobile Bluetooth products. We do not do anything meaningful with customer data.

Future State Status Quo

Based on our current SoundTouch roadmap, we might imagine the following. We will invest significantly in marketing in CY15, including both advertising and retail advocacy generation. In combination with the lower price of **Rhino**, this will bring us to \$500M and a 35% market share compared to Sonos' 55%.

Beyond CY15, we will continue to add features, services, and systems on a one-off basis. The core experience--allowing customers to associate third-party music experiences with presets--will remain the same. We will struggle to gain much more market share from Sonos without a compelling statement of unique value; Sonos will continue to have more services, and will match us on one-touch playback and Bluetooth integration. The SoundTouch business saturates at about \$1B of business.

Desired Future State

Our Bose Connected Music (BCM) aspiration is threefold: (1) to deliver the broadest set of Connected Music benefits to the largest number of mass-market customers; (2) to create a \$3B business by 2025, taking us to 50% market share of a \$6B worldwide category; and (3) to catalyze the creation of new capabilities for Bose.

We become the leaders in music and channel experiences that are Simple, Personal, Ubiquitous, and Engaging, as these are the sources of customer value in Connected Music. We extend our traditional systems-design approach (transducers, electronics, software, all working together) to include the music services and even the sales channels. We win by putting the pieces together in a way that's more compelling and holistic than any other company. As a result, millions more people enjoy the benefits of Connected Music.

Strategy

We will implement a new approach to Connected Music: BCM is the first smart music system that listens along with you, no matter how you listen, what service you choose, or what source you pick. The system is as easy as FM, knows you better than Netflix, and is more personal than Pandora. BCM does the work so you don't have to.

In our channels, Bose will become an omnichannel retailer, remembering all sales interactions and encouraging multi-channel interactions. A customer's BCM music preferences are integrated into sales experiences and marketing messages.

We will do this through focused investment and partnership in critical capability areas: alliances and business development; data science, cloud computing, and connected CRM; information security and privacy, mobile app design and development; channel sales attribution; and personalized offers and 1:1 marketing.

II. INTRODUCTION, SCOPE, AND PURPOSE

After many years of research, advanced development, and false starts, Bose launched the SoundTouch ecosystem of WiFi connected music products in 2013. We have made great strides in 2014 to improve the quality and capability of SoundTouch products, and we have a strong plan for 2015. But we also recognize that in order to compete and win in the marketplace over the long term, we need a long-term framework for Connected Music.

In June 2014, we created a cross-functional team with experts from HED, CIS, and Sales and chartered ourselves to set vision and strategy in this critical business area. We committed to develop six things:

1. A **vision** of how customers would experience Connected Music
2. A **competitive framework** that outlines how Bose can win in the market
3. A Connected Music **strategy** for Bose that draws in product and channel experiences
4. A concrete **three-year plan** with deliverables for 2016 and 2017
5. A **capability assessment** that identifies new capabilities Bose needs to build or acquire
6. An **investment plan** that shows how we need to spend today and what return we can expect

This document is the result of the past six months of work. It speaks directly to the first five of those deliverables, and sets the stage for an organizational conversation about investment and return in the weeks to come.

Terminology – About “BCM*”

We use the term “Connected Music” to refer to the new experiences and benefits customers can get from Internet music sources. These benefits stem from the ability of streaming music services to draw from nearly all music that exists; their ability to personalize and adapt to listeners’ preferences; and the way they move seamlessly between locations and devices.

The reality is that few people today are realizing the full benefit of Connected Music. Even though individual services such as Pandora have millions of customers, the experiences that Pandora offers are only one *type* of Connected Music benefit. Few people put in the effort necessary to integrate and understand the offerings from multiple music services in order to get the full range of benefits—on-demand, personalized radio, curated, social. Our mission is to bring the great benefits of Connected Music to millions and millions of people worldwide.

This is not just a SoundTouch mission. SoundTouch is a product offering specific to HED. We believe that Connected Music has the potential to touch all areas of the company. For example, consider a music experience where you wake up in the morning to a favorite piece of music in your home, that music experience follows you into your car or over headphones during your commute, and over the speakers installed in the coffee shop where you get your morning caffeine fix. In this document, we use the term **Bose Connected Music (BCM)** to refer to the *delivery of unique and delightful streaming music experiences to Bose customers*, regardless of where they are and what devices they are currently using.

Finally, the benefits of streaming and Internet connection go beyond just music. We believe that we can bring great new experiences to spoken-word content such as audiobooks, news, podcasts, and sports. Although many of our discussions in this document will refer only specifically to music, we use the modified term **BCM*** to remind readers that we expect to deliver great benefits for all types of audio entertainment.

III. BCM* PHILOSOPHY AND HIGH-LEVEL VISION

This section describes our overall recommendation for BCM* and how we plan to create customer value, establish a sustainable position in the marketplace, and compete and win. We will start by discussing our True North, which are the sources of customer value we believe to be important in the connected-music marketplace. Then we will describe the vision for a product and music experience, and for an omnichannel experience, that we believe aims us towards this True North.

True North: Sources of Customer Value

Working with our Executive stakeholders early in the project, we identified three goals for Bose Connected Music: (1) Bring the benefits of Connected Music to the mass market (which means reaching aggressively into casual music listeners); (2) Create a sizable, profitable, growth business for Bose (\$3B in FY25); and (3) Become a catalyst for the development of new capabilities within Bose.

In order to attack these goals, and drawing on inspiration from the **Sente** project, which identified the key dimensions of customer value for mobile Bluetooth speakers, BCM* team set to establish a customer-value foundation for Connected Music. We identified four attributes that we are confident represent much of what customers want from connected music experiences:

Simple: Bose simplifies the world of connected music by providing a unified music experience independent from the broader churn of the market. Bose Connected hardware integrates music services in an easy-to-understand, easy-to-use way. It's easier to buy, install, and service Bose connected products than products from other companies. Devices come preconfigured, and apps, services and websites log users in automatically.

Personal: Bose adapts your music experience to your current situation. Bose magically delivers you the right music at the right time, by respectfully keeping track of who you are, where you are, and what music you love. Bose uses connected customer data to deliver targeted offers and intelligent recommendations for products and services that customers find compelling. We serve customers as though we had a 1:1 relationship.

Ubiquitous: Bose Connected Music follows you throughout your life—providing the same music experience at home, in the car, on the go, even inflight. Most Bose products—even many that don't have an Internet connection—participate fluidly in the ecosystem. Anywhere people want to shop for—or learn about—music or audio devices, they find a Bose Connected experience. We remember past interactions with each customer, regardless of channel, by managing persistent customer identities.

Engaging: Right from the start, Bose Connected Music is incredibly fun! Users get hooked right away, and our products and services create the desire to return again and again. The experience gets deeper and richer over time. Music, not just devices, becomes core to our interactions with customers. Customers turn to us not only to buy products, but also to deepen their experience around the music they love.

These pillars are analogies to the size/weight, battery life, and acoustic performance attributes that underpin our mobile speakers. They are less concrete because they are software and experience attributes, not hardware attributes, and because this market space is newer to us. We expect they will become more tangible with time.

We believe that the more our products, services, and channel experiences embody these attributes, the more successful we will be. Fundamentally, we want to extend our traditional systems-design approach (transducers, electronics, software, all working together) to include the music services and even the channels. It's not necessary that we have The One Best music service, or that our personalization is better than that of any other company—we will win by putting the pieces together in a way that's more compelling and holistic than any other company. (SoundLink Mini is not the lightest Bluetooth speaker, nor does it have the longest battery life—it's just the best.)

We also believe that a key competitive advantage that Bose has in this market space is the possibility to integrate Connected Music across our product categories (mobile, headphones, automotive, even possibly Pro systems) and our sales channels (direct and wholesale, online and offline). We are the only company in the world that has the breadth of products and channels we do, and we should try to bring as many of them to bear as we can.

IV. DETAILED APPROACH – PRODUCT AND MUSIC EXPERIENCE

In the 1990s, listening to music meant purchasing CDs, finding them on the shelf, and putting them into a CD player. In the early 2000s, listening to music meant downloading MP3s, making a playlist, and transferring those files to your music player. In the late 2000s, listening to music meant picking an app on your smart phone and then picking a station to listen to.

With Bose Connected Music, listening to music means pressing a single button. BCM* is the first smart music system that listens along with you, no matter how you listen, what service you choose, or what source you pick. The system is as easy as FM, knows you better than Netflix, and is more personal than Pandora. BCM* does all the work so you do not have to. The system gets you, delighting you with the perfect soundtrack for any moment and rekindling your love of music.

We believe that *learning from all sources* is the theme that best delivers the simple, personal, ubiquitous, and engaging experience that will allow us to succeed. In this vision:

- **BCM* makes it simple to get started.** BCM* starts with sources you know and love and helps you discover the rest at your own pace. You can switch to Bose without losing the work you have put in elsewhere, and Bose helps you manage and integrate all of your music sources and choices.
- **Bose recognizes, understands, and respects you.** BCM* learns from everything you play, regardless of source. Whether from Bluetooth streaming, Pandora stations, or the FM tuner, everything you listen to helps us form a detailed profile of your listening tastes and habits. Experiences are personalized while your privacy is respected. Transparency and control allow BCM* to be smart without being creepy.
- **BCM* allows you to easily share your music experiences with others.** Participating in the BCM* community allows you to help others and others to help you. Bose products and music experiences can be given as gifts and shared within a household. We make tools that make your parties and get-togethers more musical.

Through a ten-week collaboration with IDEO, we explored a wide range of themes that build and expand on this high-level vision. Each of the following six themes advances our position against one or more of the four sources of customer value (simple, personal, ubiquitous, and engaging), while also providing strong hardware/device tie-in and mass-market appeal. Although we cannot claim that this list is complete, we believe that these six themes are all necessary to deliver on the high-level vision and that they form a critical mass capable of driving a successful three-year plan.

1. **Fun, Easy Onboarding.** Our most casual customers will be new to streaming music content, and BCM* is the easiest way to experience the benefits of connected music. BCM* customers can start by listening to CDs, FM broadcasts, or even 3rd party smartphone apps, and BCM* will give them easy onramps to streaming services. BCM* provides enjoyable “getting-to-know-you” tools and fun tools for quickly creating rich listening experiences.
2. **Easy One-Touch Access to Great Listening Experiences.** BCM* builds on the promise of SoundTouch’s current bank of six presets with several new ways to gain direct access to music content. By turning the power button into a dynamic, contextually aware 7th preset, “**I’m Feeling Lucky**” delivers on the promise “I just turn it on and it plays music I like”. A new UI element called **Trio** consists of three personalized options automatically selected for the current context: the expected (the most likely choice given past behavior), the suggested (another likely choice, or a nearby recommendation), and the wildcard (a brand new recommendation). **Enchanted Objects** are small tokens or figures that can be imbued with any music experience; simply place the object on the landing pad and the music begins playing. None of these features require use of a smartphone, thereby removing a common barrier to everyday usage.
3. **The System That Listens Along With You.** BCM* takes advantage of Bose’s privileged position as the last step between the music service providers and our customers’ ears, no matter where our customers want to listen to music (e.g., in the home, on the go, in the car, and in public spaces). Each BCM* system is constantly attentive and learning, remembering what is played no matter which service or source is

selected. Feedback options are universally available; they are richer than today's simple thumbs-up and thumbs-down, and they easily distinguish between "not now" and "not ever."

4. **A Bose Lean-Back Music Service.** The Bose music service is a globally available, context aware, personalized streaming radio service that provides easy and powerful tools to steer the experience. Bose recognizes that there are many music services, and one service cannot possibly satisfy every listener all of the time. But unique among music services, the Bose Lean-Back Music Service continues to get better even when you listen to competing services; your thumbs-up in Pandora, your play history in Spotify, and your purchases in iTunes all improve your experience.
5. **Plays Well With Others.** BCM* automatically identifies who is using the system by using contextual information (a simple BLE backchannel from BCM* to each user's smartphone is a likely primary signal; other options include **Enchanted Objects** or biometric sensing such as a fingerprint reader). Knowing who is nearby allows BCM* to tailor music experiences to any combination of listeners, and the BCM* app allows the customer to easily steer the shared experience. BCM* provides tools that make it easy for guests to experience the benefits of the system. BCM* also makes multi-device listening even better by providing seamless transitions between devices.
6. **Easy Sharing.** BCM* makes it easy to share connected music with others. The BCM* app allows you to send a song, a playlist, or a custom station to a friend. If a friend sends you music, you are alerted by an inbox beacon on the BCM* device. The Bose music service also sends you relevant, rich, and timely recommendations that arrive periodically in your inbox.

We are working together with the SoundTouch team to turn this into a concrete 3-year plan; some of our current thoughts are outlined in Section VII.

Why launch a Bose-branded music service?

As part of our vision, we plan to augment the range of third-party services we support with a new one, branded and messaged as a Bose music service. It is not necessary that we run this service ourselves (although we think doing so would not be terribly complex), but to deliver on many important aspects of the vision we require the ability to select music on behalf of the customer from a large catalog. This access need not be on-demand; radio-like formats in the DMCA vein are fully sufficient.

We need to control our own service for three key reasons:

1. **There are no internationally available lean-back music services today.** Only US customers have experienced the benefits of Pandora and we need to bring them worldwide. Pandora is almost able to be profitable while paying statutory royalty rates granted by the DMCA, but worldwide royalty rates are higher, and it is only by integrating the service with a hardware offering that the combined business can be profitable.
2. **Third party services are not incentivized to allow us to provide unique-to-Bose value.** Companies external to Bose want to maximize their business, not Bose's. From our experience working with Spotify and others, we see that they want to commoditize the hardware and own the customer relationships.
3. **Existing music services all want to be a complete solution, and none of them integrate or build on the others.** By virtue of our position as the last step before the customer's ear, we can learn from our customers' use of all services, and make their experience within the Bose service better.

We need not build "one service to rule them all". Third-party services will continue to innovate, and we embrace that reality. We will continue to integrate dominant third-party services to afford usage without requiring the smartphone. The industry is moving toward a Bluetooth (or Chromecast-like) model, where primary control is afforded through smartphone apps and the speaker is dumb. We will embrace and support that model, while pointing out that we also provide a much better experience through our hardware UI and Bose music service.

We have begun financial modeling of the impact of running a service on the BCM* business model; you can see initial results of this in Section VI.

V. DETAILED APPROACH – CONNECTED CRM AND OMNICHANNEL EXPERIENCE

The retail landscape is evolving rapidly and establishing new and higher levels of expectations for Bose's customers. Companies like Nordstrom, Home Depot, Burberry, and Apple typify today's best-in-class omnichannel retailers, seamlessly combining virtual and physical experiences to delight and engage consumers. And so the product and music experience vision for Bose Connected Music must be supported by a rapid increase in capabilities within our sales channels. There are two main organizing principles to this: **Connected CRM** and **Omnichannel Retailing**.

Connected CRM (CCRM – a term originated by our sales-analytics vendor Merkle) refers to the use of rich customer data to personalize offers and sales approaches in order to maximize customer life-time value. Within Bose, AST Analytics has taken the lead in moving us towards modern data-driven marketing techniques.

Omnichannel Retail, which builds on CCRM, refers to advanced multichannel retailing in which interactions over time become seamless, and customers use multiple channels as part of their decision journey. Bose "picks up the conversation" wherever we left off with the customer, making the customer feel as if speaking with Bose is like speaking with a single individual 100% focused on their needs. Customers may even engage with multiple online and physical channels at once.

Maximizing the opportunity for BCM* requires Bose to become a successful omnichannel retailer by reaching parity with best-in-class retailers. We believe that doing this will allow us achieve a competitive advantage over our direct competitors in the audio-entertainment space since they cannot match the breadth of our retail footprint (number of channels and global reach), because our direct competitors are mainly not world-class omnichannel retailers, and because we can make use of the rich customer data that comes from the products.

We will realize this advantage by changing our sales approach in several ways:

- **Seamless transitions:** We will use a global customer database to remember every conversation we have with every customer. We will integrate our data with 3rd-party data (i.e., what we learn about a customer from Facebook) as well as 3rd-party user IDs to simplify how users identify themselves to Bose and others.
- **Personalization:** We will personalize all interactions to a consumer's music tastes, purchase history, and segmentation in a way that delights the customer without becoming creepy. Marketing communications and point-of-sale demonstrations (live, kiosk, displays ...) will take advantage of our global customer database to identify and customize our message.
- **Multi-channel attribution:** Consumers will use a variety of virtual and physical channels (including 3rd-parties like Best Buy and Amazon) to learn about and purchase our systems and Bose will become agnostic to where the consumer decides to finally make their purchase. This requires new financial attribution models that move beyond channel silos. Channels options will continue to proliferate around the globe and Bose will take advantage of a new in-app sales and marketing channel.
- **Gifting and Assisted Setup:** BCM* will support the notion of pre-configured systems. This means that users can pre-configure a system for another as a gift (i.e., you gift your parents a BCM* system preconfigured to play their favorite music). In stores, sales associates will use this capability to pre-configure a system before a customer takes it home and, online, consumers will use a simple web interface to prepare the system to automatically install and play their favorite music when they unpack and plug the system in.

When we accomplish these goals, we will delight our customers, and the Bose business will benefit in two ways. First, our marketing will become much more efficient – because we are making offers to people that we have an existing, ongoing relationship with, those offers will be more compelling, and therefore more profitable. (Early experiments within AST Analytics have already shown promising results.)

Second, the BCM* data will be a huge asset to Bose's sales operations and effectiveness. BCM* system registrations coupled with location data can give us clarity as to sell-in vs. sell-through for our global wholesale partners. BCM* systems on point-of-sale displays can provide real-time analysis of how many consumers are using a particular display and if there are any problems. More generally, PTS can use global BCM* data to identify issues (i.e., a Verizon network outage in Toledo) and proactively help our customers' issues.

VI. BCM* FINANCIAL ANALYSIS

To support our work on BCM* vision, we have built several financial models. These models examine various financial aspects of the connected-music business, including profitability, growth, competition, and customer payments. We will summarize some of our current conclusions here; more details as well as the supporting Excel spreadsheets are available on request.

1. A Bose Connected Music business with a free music service can be profitable for Bose.

One of our models examines the interrelationships between ownership and profitability. We examined the question “What might a profitable BCM* business look like in 2020?” This model works off of two key factors: (1) The payments (if any) that Bose customers make for basic and premium services, when they are Bose hardware owners or free app users; (2) The efficiency of upselling people into higher levels of service, and into their first hardware, and then more hardware. This model assumes service costs in line with what we believe to be the current market level -- \$12/user/year for a Pandora-like service, and \$70/user/year for a Spotify-like service.

We are pleased with the results of our analysis. Many different approaches with (we think) reasonable assumptions can return 10% NOP. In one scenario, we do not strive for extremely broad reach with the app-only customer, and they pay a nominal charge (\$1/month) for the basic service. In this scenario, the efficiency-of-upsell assumptions don't have to be terribly aggressive (this is the scenario represented in Figure 1). Another type of model is one in which we sweep in lots of people for free and we're very effective at upselling them. This would be profitable too.

| SIMPLE P&L FOR THIS BUSINESS | | | | |
|------------------------------|-----------|----------------------|-----|-----------------|
| | | | | |
| Revenue | | | | |
| Product | \$ | 1,517,500,280 | | |
| Service | \$ | 330,000,000 | | |
| Total | \$ | 1,847,500,280 | | |
| | | | | |
| COGS | | | | |
| Product | \$ | (576,650,106) | 31% | 62% product GM |
| Service | \$ | (367,200,000) | 20% | -11% service GM |
| Total | \$ | (943,850,106) | 51% | net, blended |
| | | | | |
| Gross Revenue | \$ | 903,650,174 | | |
| Mkt Costs | \$ | (261,000,000) | 14% | |
| SG&A Costs | \$ | (369,500,056) | 20% | assumption |
| R&D Costs | \$ | (92,375,014) | 5% | assumption |
| | | | | |
| Gross Profit | \$ | 180,775,104 | | |
| | | | | |
| NOP | | 9.8% | | |

Figure 1: Simple P&L for a profitable BCM* business. This is a business with 10M Bose hardware customers, and an additional 5M users of an app with \$1/month service charge. The efficiency of CCRM marketing to the existing and potential customers offsets the loss we take on the service.

A useful way to think about the financial model is to think of whatever service losses we take as marketing expenses. If we lose \$10/year offering a free service to mobile-app users, we should expect return on that \$10 in line with a \$10/year/customer marketing expense (thus, at \$4 RPM, \$40/year on average, or 1 in 10 customers buying a \$400 product). In building these models, we have not relied on a direct margin structure to increase the profitability. This would be a way for the financial return to be more favorable still; we think it likely that CCRM-based selling will have a higher proportion of direct sales than our current SoundTouch business does.

2. Our current deficit to Sonos will take large near-term marketing investment to overcome.

The foregoing model focused on analysis of a steady-state business, in which we have surpassed Sonos to become the #1 player in the WiFi music marketplace and are focused on profitability. That should not be our focus today, as that is not the situation: Sonos has a sizable lead in households, which causes us concern, because it will be difficult to get a satisfied Sonos owner to switch to the Bose ecosystem. Effectively, Sonos customers are lost as potential targets to Bose; and the greater Sonos' lead becomes, the bigger the problem this is for us.

We built a two-party competitive Bass model to explore this marketplace. That is to say, at all times the world of qualified households is divided into three camps: (1) Bose households, (2) Sonos households, (3) Not yet owners. Using Bass dynamics, the rate of adoption of Bose (or Sonos) is proportional to the fraction of households that already own the brand, and also proportional to the fraction of households that haven't adopted anyone yet. This gives standard S-curve shapes. The fact that there are two parties means that households recruited by one brand are out of reach for the other one.

In addition to the Bass dynamics, we implemented a marketing investment section. Using this section, brands can pay to recruit households independent of the current scale of ownership. We used an RPM model for this – the return is the investment times the achieved RPM. We assumed that the RPM of marketing investment is higher when there are many unrecruited households, and lower when there are few (it becomes inefficient to reach those households through marketing investment).

We think that Sonos may have 3M customers in the USA by the end of 2014. Comparatively, we will have only about 0.5M after this holiday. Therefore, if we act the same as Sonos (for example, by matching the marketing investment of \$150M we expect them to make in 2015), we never catch up to them. (See Figure 2). In fact, they increase their lead due to word-of-mouth dynamics accumulating over time. By the end of the decade, the market mix is 43% Sonos, 27% Bose, and 30% non-owners.

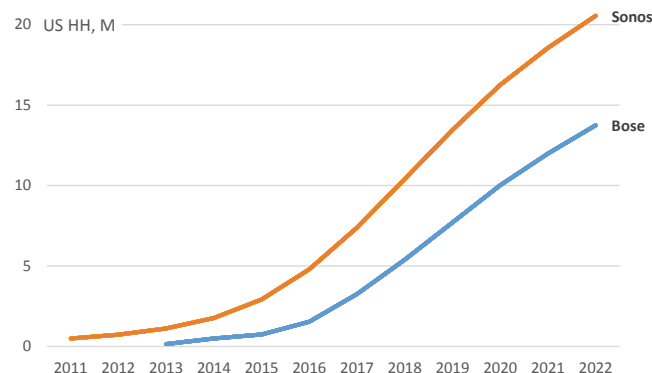


Figure 2: Bose and Sonos household adoption (Future State Status Quo). In this scenario, Bose only spends to the level of Sonos each year (about \$150M in 2015) and is no more efficient in turning spending into households acquired. In order to surpass Sonos, we need to either spend more, or be dramatically more efficient.

So if we want to get ahead of Sonos, something has to favor us: we have to spend more, or we have to be able to reach customers more efficiently, or our word-of-mouth has to be more effective. Or they have to spend less or be less efficient than we have modelled here. Any scenario in which we have similar efficiency and word-of-mouth and we don't spend with them, we stay a distant second in the marketplace to them. At an ASP of \$300, 3M households would be a billion dollars in revenue, which we'd expect to spend \$250M at 4x RPM to attain.

3. We should upsell customers with demand surplus ("whales") in music spending

Over the last six months, there has been an engaged discussion among music and tech bloggers about pricing for music services. One recent article contrasts pricing and revenue in the streaming industry today with those of the CD industry in its heyday. (Let's call that 2000). The price that services charge for a monthly Spotify/etc subscription (\$10/month) is significantly higher than the average amount that a person spent on CDs in 2000,

which was about \$50/year or \$4/month. From that, one blogger concludes that the labels need to relax their pricing to \$4/month in order to bring in more users.

The problem with this argument is that that \$4/month historical average is a population mix – some people were not buying any CDs at all, some buying one CD per year (thus \$1/month), and some buying a lot. So we tried to model the consumption curve, using some facts from CY2000 industry data: (1) The average annual spending on CDs was about \$54/year for the US population or about \$14B in total (this includes all ages); (2) About 35% of people didn't buy any CDs at all in 2000; (3) Thus, the average annual spending among those who spent something was about \$83/year. Finally, while we don't know for sure, we presume that (4) Among group (3), the “80-20” rule applies, with 80% of the spending coming from the 20% most avid consumers.

These four factors are not sufficient to constrain a curve completely, but the Pareto chart of one solution is shown in Figure 3. The interesting thing about this analysis is it changes our sense of what “average spending” means. In this model, 75% of revenue comes from the 16% of customers that spend \$8+ per month. And 25% of the revenue comes from the 1% of customers that spend \$100+ per month!

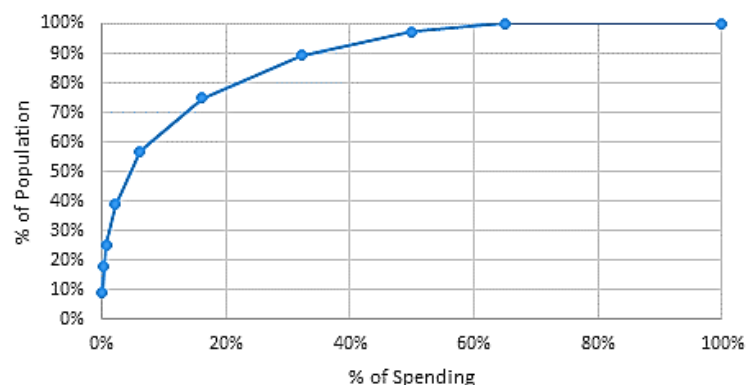


Figure 3: Pareto of Total CD Spending in 2000. The typical “80-20” rule can be observed.

This analysis helps us see the pricing dynamics more clearly. If services select a \$10/month price point, we see that only 6% of people were paying that much. If that is the limit of our target market, and they all adopted services, the industry would make about \$2B per year. If the price is \$4/month instead, 32% of people become interested and the industry makes \$4B. But that's the optimal singular price, and it doesn't get us anywhere near the 2000 CD industry, which delivered \$14B revenue (in 2000 dollars) from the same population of customers.

The problem with a single-price model is that the customers that are willing to pay \$100+ per month—and were doing so with CDs—only have to pay \$4/month. Thinking this way turns the pricing problem on its head – it's not an *accessibility* problem, but a *demand surplus* problem. The problem is that in the streaming world there isn't a good way for the most rabid customers to spend \$100-\$500 per month. At least in the CD world, those customers existed, and were a critical part of the industry's support.

Solving the demand-surplus problem has been the fundamental breakthrough that is transforming the economics of the gaming industry through so-called Free-to-Play (F2P) games (think Candy Crush Saga, or Clash of Clans, or basically any MMORPG except for World of Warcraft). In a F2P business model, many aspects of the game are free to users. There's no upfront cost or monthly service fee. Instead, the player is charged to “unlock” or “accelerate” or “deepen” their gameplay, through impulse purchase, in a way that encourages many small purchases.

And so, the way to maximize revenue coming from a service component of our offering is to identify service techniques for maximizing the extraction of demand surplus—that is, to create a range of impulse offerings that have a reasonable chance of getting 1% of customers to pay \$100/month. Some places we are looking for these offerings are around early access to music, exclusive content, special privileges or usage modes, and club memberships. It seems likely that direct relationships with the record labels will help with this, and it supports their business goals as well.

VII. BCM* CAPABILITIES AND IMPLEMENTATION PLAN

As the most-recent phase of work, the BCM* team has begun looking towards implementation of our vision, including at the new capabilities that we will have to develop at Bose and at the near-term (2-3 year) plans that we should pursue in order to set ourselves up for success in the long term.

1. BCM* Key Capabilities

One of the key goals of the BCM* project is to drive new capabilities for Bose. The reality is that today, we are not prepared to execute on the audacious vision we have set forward. This means that the next year or two must be dedicated to serious investment that helps us build (and partner for) these capabilities. Here, we list some of the key areas that we know that we will need to advance (and there are undoubtedly others):

- **Alliances and Business Development:** We need to be more aggressive about building partnerships with other companies—from Amazon to music services to record labels. We should develop a centralized capability at Bose and augment it by retaining some outside “hired guns” with special domain expertise.
- **Data Science and Cloud Computing:** We expect BCM* to be one of the biggest drivers of company capability in this area, both through the music experience and the CCRM opportunities. Some of this can potentially be outsourced (for example, to Merkle in the CCRM arena), but the technical specialty of Music Information Retrieval (MIR) will need to be built in-house—we expect it to be a key source of technical differentiation, and there aren’t any consultancies in this area since The Echo Nest was acquired.
- **Information Security and Privacy:** We need to keep our customers’ data secure, and keep our customers’ trust. We need a “privacy czar” at Bose that helps us set a clear and consistent path regarding our privacy policies. Recent MRA research on Creepiness has concluded that transparency and control are key requirements in order to avoid the user backlash that plagues Facebook.
- **App Design and Development:** We expect to use a range of best-in-class music apps to help customers train and manage their music experience. We are worried that our current practices for app design and development are not sufficient, particularly as we want to expand the range of supported platforms to include popular smartwatches.
- **Channel Sales Attribution:** As our ability to sell through multiple channels improves, the need emerges to attribute credit for sales back to channels that helped (even if they didn’t close the sale directly). This will likely cascade into important changes in the financial model for Sales in general.
- **Personalized Offers and 1:1 Marketing:** This is a core capability to the CCRM vision. We can learn a lot from Merkle but we think that we should probably develop some of our own capability, as the link to product experience will be unique to Bose.

We have recently begun to work with organizational leaders to begin to scope and quantify the cost of accelerating these capabilities. We expect to bring a proposal to the CSC in early-to-mid Q4 of FY15.

2. Proposed Implementation Timeline

This section outlines an implementation plan that we think is achievable and coherent—starting today, and moving through 2017. Not all of the vision elements we described earlier will be achievable by 2017; some key aspects are left for future years. For each year, we outline the new capabilities we will build, and the customer-facing benefits and activities that will hit the market.

| | | |
|------|---|---|
| 2015 | We expect to have limited market impact in 2015, which is a year that is primarily about building capability in cloud service, customer data, financial models, and sales & marketing organization/leadership. This includes making a handful of strategic new hires. | |
| | Product & Experience | Omnichannel |
| | <ul style="list-style-type: none"> • Begin collecting usage data from existing SoundTouch clients to support advanced development and exploration of 2016/2017 features. This item is highly urgent because it gates the development of many desirable features, and it will take weeks or months of data collection to acquire a critical mass. • Continue aggressive hiring to build out ACE (RAD's Algorithms and Cloud Experiences group) capabilities in Music Information Retrieval and Machine Learning to increase the parallelism of exploration and build momentum behind new feature development • Make key hires and fund budget for: music label relationships, information security, privacy and experimental methods for customer research. | <ul style="list-style-type: none"> • Begin investment in customer data by (1) understanding all sources of global customer data, (2) selecting tools and partners, and (3) creating & deploying a customer data strategy. • Create customer-centric financial attribution model • Create customer-centric sales & marketing organization and leadership structure. |
| | Market Facing | <ul style="list-style-type: none"> • Continued prototyping of personalized marketing. • Explore additional fulfillment models/channels that target near-instant delivery, agile selling (i.e., pop-up stores, ...), and in-home/on-the-go trials. |

| | | |
|------|---|--|
| 2016 | 2016 is about delivering new customer-facing features that do not require a new hardware platform. These features lay the groundwork for launching a new, fully coherent, product story in 2017. Channels will have limited access to customer data using a series of ad-hoc tools. Personalized marketing based upon purchase history will be the norm and Bose will begin multi-channel experiments. Bose begins to pursue whales. Sales operations will begin to use BCM* data. | |
| | Product & Experience | Omnichannel |
| | <ul style="list-style-type: none"> • Collect and store a user's play history across all SoundTouch audio sources. • Provide universal ratings and bookmarking using the remote control thumbs up/down buttons and an in-app interface. • Begin collecting smartphone proximity data by monitoring the connection strength between the SoundTouch BLE radio and nearby phones with the installed SoundTouch app. | <ul style="list-style-type: none"> • Master customer database created. Customer database used to optimize marketing spends. • Sales operations use BCM* data to improve sell-through models and optimize distribution. BCM* systems installed in displays and kiosks provide data to optimize effectiveness and diagnose field issues. |

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|------------------|---------------|--|--|
| 2016 (Continued) | Market Facing | <ul style="list-style-type: none"> • Add Personalized Featured Stations to the SoundTouch app. This personalized list of recommended stations from Pandora, vTuner, Spotify, and iHeartRadio are based on a customer's personal usage data, along with aggregated usage data from other customers and content-based data from Rovi and DAR.fm. • Add the Trio user interface to the SoundTouch app. By providing targeted, contextual content recommendations, this feature relieves the paradox of choice for the customer. • Change the behavior of the power button to act as a context-aware 7th preset with the "I'm Feeling Lucky" feature. • Add "Whizzy" as a powerful, engaging experience-creation tool in the SoundTouch app. This feature will allow Spotify, Deezer, and stored-music customers to experience their music in a new and delightful way. • Offer Enchanted Objects as an accessory option for SoundTouch. A BLE landing pad with a basic set of objects will augment or replace presets for many customers. • Bring the SoundTouch experiences to SoundLink Bluetooth products by providing playback capabilities in the SoundTouch app when the app is connected to a SoundLink product. • Release a Smartwatch app for contextual control of SoundTouch. | <ul style="list-style-type: none"> • Personalized marketing executed on a global scale. Targeted messages and offers to create and support "whales" (i.e., multi-system households, ...) • Sales channels have full access to customer purchase and service history, regardless of channel. Sales associates incorporate this knowledge into customer engagements. • Prototyping of multi-channel sales experiments at global, regional, and local levels. Example: mobile bose.xx sites use location data to optimize in-store experiences (support for showrooming, model comparison, and searching for lowest price). • In-app purchases via BCM*, enhanced gifting and point-of-purchase product setup support, and support for personalized enchanted objects. • Integration of BCM* sharing/social tools with social media presence and integration of Bose account/ID with 3rd-parties |
| | | | |

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|------|---|---|---|
| 2017 | 2017 delivers a new hardware platform that reinforces the customer benefits that were delivered in 2016 and provides a coherent customer-facing story centered on a new device user interface. In 2017 we shift from being the SoundTouch platform to being the BCM* platform. Bose becomes an omnichannel retailer, remembering all sales interactions and encouraging multi-channel interactions. A customer's BCM* music preferences are integrated into sales experiences and marketing messages. | | |
| | New Cap | Product & Experience | Omnichannel |
| | | <ul style="list-style-type: none"> • Through a software update and a BLE backchannel to the BCM* app, SoundLink Bluetooth products begin capturing listening history from non-Bose audio sources whenever a customer plays audio from their smartphone. | <ul style="list-style-type: none"> • BCM* data fully integrated into customer database. Customer database available to all divisions within Bose. • BCM* begins experimenting with gaming and loyalty concepts (known to be effective ways to monetize whales) |
| | | <ul style="list-style-type: none"> • Trio and Enchanted Objects are fully integrated into the device user interface. • Bose launches a new "lean-back" personalized streaming radio service. This service is differentiated from other services in that it is available globally, and it improves each customer's listening experience by listening and learning even when the customer is using a competing service. • Audio Inbox (with top level UI integration) and the ability to send songs/playlists/experiences to friends, coupled with periodic personalized recommendations sent from Bose to the customer. • Easy gifting. Online and in-retail tools allow customers to deeply personalize BCM* as a gift and to perform setup and configuration before they even receive their BCM* device. | <ul style="list-style-type: none"> • Sales interactions are seamless and BCM* usage data is used to personalize and customize experiences. Sales associates trained to engage customers using their music preferences. • Multi-channel sales optimizations fully implemented on a global scale. Examples: bose.com encourages customers to visit Amazon to read reviews, order on-line/pick-up at Target • Kiosks and displays recognize customers and personalize demonstrations. • Marketing (in-app and on-line) targeted at customer's music preferences (i.e., offer to buy concert tickets for a favorite artist) • BCM* sharing/social tools used to support crowd-sourced experiences (i.e., trending music, 3rd-party enhancements) • BCM* data from multiple systems is used to identify problems (i.e., Internet outages) and allow Bose to proactively help customers. /on-the-go trials. |
| | Market Facing | | |

2018 and beyond

Summary: The 2015-2017 roadmap delivers much of the promise of the BCM* Product Experience Vision. There are several areas we have identified that we believe can deliver considerable additional value, and we recommend that continued exploration be performed to identify concrete features, services, and benefits for 2018 and beyond.

- **More social.** The **Audio Inbox** and **Easy Gifting** features begin to deliver on the promise of social networking as a way to make BCM* “go viral”. We believe there is much more value to be found in social connectivity.
- **Artists & Live Music.** Through our collaboration with IDEO, we identified great potential value in changing the conversation from being about the *technology* to being about the *music*. By virtue of being primarily a hardware company, we are well positioned to work with music labels to make stronger connections to artists and the music business.
- **Extensibility (open APIs).** In 2014, we launched our first open API to allow third parties to control SoundTouch products. Additional investment in this area can unlock new partnerships and accelerate the growth of BCM*.
- **Loyalty/Gamification.** The 2015-2017 roadmap makes BCM* more *Engaging*, but we believe this is an area that can be pushed much further.
- **Curation.** One way to make BCM* more *Personal* is to foster deeper connections between the customer and music. Features like a personal music shopper or tools that help a user make a killer “mixtape” to load onto an enchanted object gift may also drive *Engagement*.
- **Broader Internet-of-Things support.** SoundTouch is Bose’s first IoT device—a complex set of sensors embedded in our customer’s homes and connected back to Bose via the cloud. There may be great value in adding more sensor capability and in making ties to other IoT devices.

APPENDIX: BCM* USER STORIES

In the course of our work on the BCM* vision, we developed four personas and many user stories to help us think about how different kinds of people will enjoy BCM* experiences. In this section we present five examples, to help readers envision the exciting benefits we hope to deliver.

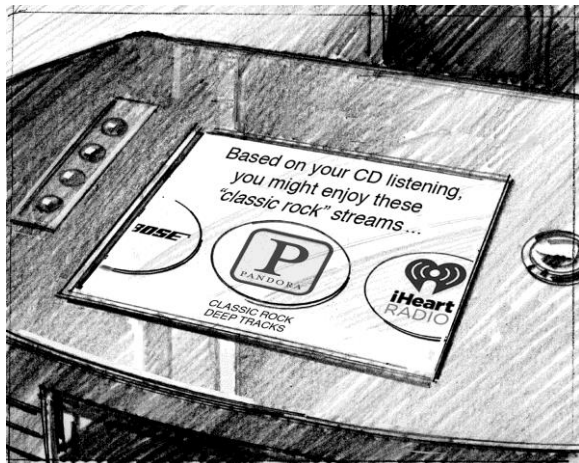
Ed (Uncomplicated Enthusiast)

Ed was a music enthusiast back in his college days, but with the demands of small children and a full time job, he has fallen behind. He owns more than 200 CDs, but the most recent is more than a decade old. Ed recently purchased a Wave BCM* system because it would allow his young kids to stream music from YouTube, while still giving him the option to enjoy his CD collection.



At first, Ed just uses the BCM* system to play CDs, but after a few days of use, the screen on the top of the BCM* displays a message: “Based on your CD listening, you might enjoy these ‘classic rock’ streams...”

Below the message are three circles—a Trio—containing recommended streaming stations from Bose, Pandora, and iHeartRadio. Ed taps the Pandora “Classic Rock Deep Tracks” button and enjoys a personalized radio experience for the first time.



Over the next few weeks, Ed begins re-engaging with music: “I haven’t heard that song in forever! ... I had no idea that Dave Grohl played drums on that album! ... My CD collection is so stale!”

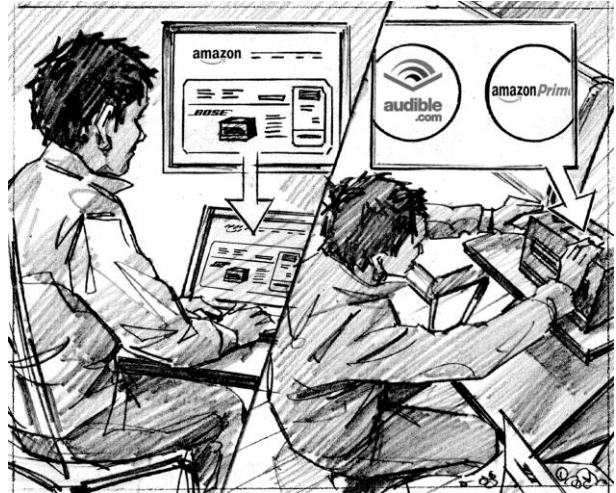
Ed finally installs the BCM* app on his iPhone. A “getting started” pop-up explains that the app allows you to take pictures of CDs or LPs to add music to a virtual collection. On his way home from work, Ed stops in at Newbury Comics for the first time in years. He flips through a rack of CDs and finds a Nirvana rarities collection that he doesn’t own and takes a picture. Before long, Ed is like a kid in a candy store, snapping photos of dozens of CDs that he wished he had the money to buy back in the day.



Cassie (Satisfied Social) – Scenario I

Cassie is a Satisfied Social. She loves listening to music, particularly music recommended to her by a friend, and she doesn't care much about having the best sound quality. Cassie listens to Spotify, SoundCloud, and her own stored music on Amazon, but usually she puts on Songza because it's easy.

Because she wants to play music when her friends come to her apartment, she decides to buy a BCM* system. Cassie purchases her BCM* system from amazon.com because she is a Prime member. So, when Cassie receives her system, it already knows her email address and Amazon account information. To her delight, Cassie's Amazon Prime music and her Audible audiobooks are immediately available to play with no additional setup.



During the first week, Cassie uses the BCM* system like a Bluetooth speaker, usually streaming Songza from her phone. The BCM* system identifies each song and learns her routines. Most evenings, a light on the system starts to pulse. On one such evening, Cassie approaches the system and presses the Audio Inbox button to listen to a song recommended by Bose. While the song is playing, the BCM's screen asks Cassie to reflect on her listening: "You skipped Jason Mraz this morning. Do you... dislike the artist? dislike the song? not in the mood?"



At the end of the week, the BCM* system's display explains: "We had a great week. Here are some trends I observed. We are ready to make some great music suggestions for you." The display shows three options—a Trio. Cassie picks some dance music to get her energy up for going out to dinner with friends. She uses the BCM* app to steer the station to play a little more pop and a little less dubstep.

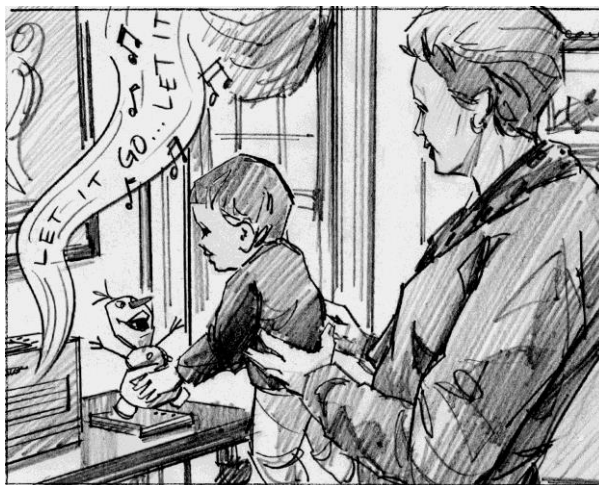


Vicky (Quality Plug and Player)

Vicky is a fortunate grandmother. She spends two afternoons per week at her daughter's house with her two-year-old grandson, Owen. One day, while eating a snack in his high chair, Owen, mouth full and just learning to speak, tries to tell Vicky that he wants to listen to a song, but Vicky can't understand him. It sounded like Owen said "Olaf," but Vicky isn't sure.



Owen gets frustrated and eventually says "up," a word Vicky understands. She picks him up and puts him down on the floor, and as soon as Owen's feet hit the ground, he bolts to his stuffed Olaf doll, and with Vicky's help, he places it next to the Bose system. It plays the song "Let It Go" from the Frozen movie soundtrack, and Owen starts dancing. Vicky joins in, too.



Later, Vicky tells her daughter about the wonderful afternoon with Owen. For Vicky's next birthday, her daughter gifts her a similar system and a framed picture of Owen and Vicky. When Vicky places the frame on the BCM* landing pad, the system plays the lullaby that she used to sing to her daughter, and that her daughter now sings to Owen.



Earl (Avid Enthusiast)

Earl wakes up before his alarm on Thursday morning, excited about a presentation at work. On his way to the kitchen to make himself breakfast, he presses the "On" button on his BCM* system, which has learned his routines and plays a jazz station (Earl's favorite genre for a weekday morning). After breakfast, Earl receives an alert on his smartwatch that he has an audio message from a friend. A similar indicator is glowing on the BCM* system. Earl taps his watch and the system plays a recorded message from a friend: "Hi Earl. Here's a song from the Diva Squad. We miss you." And a Justin Timberlake song plays. Earl laughs and forgets about his presentation for a moment. When the song is over, the previous jazz station continues, and Earl finishes getting ready for work.



On his way out the door, Earl turns off the system and puts on his Bose headphones. His BCM* system knows that he likes to listen to talk radio on his commute to work, so the headphones immediately start to play his favorite station. Earl walks across the street to a coffee shop. He pulls the headphones off his head and the talk radio station automatically pauses. Earl hears a song playing on the store's BCM* Pro system over the rush-hour din. Earl takes his phone out of his pocket and looks at the Bose app to see what is playing. The queue is short and the app recommends three smart choices to add to the queue that fit both Earl's tastes and the filters the coffee shop manager has set. Earl selects the same Justin Timberlake song his friend recently sent to him, and he listens to it while enjoying his coffee and working on his presentation.



Earl leaves the coffee shop and puts his headphones back on. The talk radio station resumes. Earl's car is parked a few blocks away. When he gets into his car, the audio automatically transitions from the headphones to the car's audio system for his drive to work. When Earl arrives at his desk in his office, he pulls out his phone and the Bose app presents him with a Trio of three options that he likes to listen to while working: classical thunder for focus and concentration, soft rock for relaxation, and movie soundtracks for an energy boost. Earl picks the classical music station to maximize his productivity until his presentation.



Cassie (Satisfied Social) – Scenario II

Remember Cassie? She's having some friends over in the evening and she wants to set the mood for the party with some music. It's not one of her usual routine activities, so she has to teach the BCM* system a little about what mood she is looking for. Using the BCM* app, Cassie seeds a station with an artist, and Bose recommends a few more to pick from. Then, Cassie adjusts the energy level and sets the station to play mostly songs her guests would recognize. Cassie labels the music experience with a hashtag: #divasquad. The entire process takes less than two minutes, so Cassie can get back to her party preparation.



When the guests arrive, the Bose music system identifies each guest's mobile phone. For guests who have the Bose app installed, the system adjusts the music experience to match their tastes. For guests—like Lisa—who do not have the Bose app, the BCM* system still identifies their phones, remembering that they were at the party and what they listened to. When Lisa asks Cassie if she can play a particular song, Cassie instructs Lisa to download the Bose app and make the request herself.



Music is one of the prominent conversation topics during the evening as the friends listen to, discuss, and recommend music. When a Justin Timberlake song plays, Cassie suggests they all share the song with Earl, a close friend in another city. She records a short voice message and sends it to Earl's BCM* system along with the song.



When Lisa has to leave the party early, Cassie tells her that she can continue to listen to the music. Using the Bose app, Lisa tunes into Cassie's #divasquad "frequency" and listens live on her headphones as she walks home.