



February 22, 2001

Dear Media Professional:

Many of you have questions and concerns about the future of radio vis-à-vis the Internet. For some, the interest or concern was heightened when the US Copyright office announced on December 11, 2000 that "terrestrial" radio stations would have to begin paying Webcasting royalties to the RIAA. To provide some answers – and to describe our vision for the future—Live365 CEO Alex Sanford has authored this industry white paper, "Internet Radio: The Future is Now."

"We are at the beginning of the next generation of radio," Sanford says. "Not since radio became portable has there been any technological development that has the potential to revolutionize our industry as the Internet is doing today."

Radio has a long and successful past—and, we believe, a very bright future. Advances in technology will increase the revenue and reach for both "terrestrial" and Internet-only radio stations. We hope "Internet Radio: The Future is Now" answers some of your questions about Internet radio and this emerging industry's key role in radio's future.

If you have any questions for our CEO, Alex Sanford or any member of the Live365 team, please contact me by phone or email. We are also making this document available as an Internet download at <http://www.live365.com/futureisnow>

Sincerely,

A handwritten signature in black ink, appearing to read "Alan Wallace", with a stylized flourish at the end.

Alan Wallace
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Internet Radio:
The Future is Now

February 2001

*“The radio would be
the finest possible
communication
apparatus in public
life, that is to say, it
would be if it knew
how to receive as well
as to transmit, how to
let the listener speak
as well as hear, how
to bring him or her
into a relationship
instead of isolating
him or her.”*

— Bertolt Brecht

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Introduction

*“Internet radio
is flourishing
in a climate of
Splintering genres
and increasingly
diverse tastes.”*

—Chicago Tribune

Understanding Internet Radio

Radio is arguably the most enduring, adaptable and successful entertainment medium to emerge in the past one hundred years. Each new technological advance has strengthened and extended radio’s reach and improved the consumer experience. In 1934, Edwin Armstrong’s creation of a frequency modulation device (FM) vastly improved the sound quality of radio broadcasts. In 1954 Regency and Texas Instruments introduced the Regency TR1—the first transistor radio—and radio became mobile and ubiquitous. In 1961, WEFM in Chicago and WGFM in Schenectady, New York began broadcasting in stereo.

Today, radio is in the midst of another technological revolution—perhaps its largest leap yet. Internet radio, and the promise of a million station universe, is coming. AM/FM Radio as we know it will be relegated to a less important role than it enjoys today.

Radio listenership is declining among 15-to-20 year olds, a key demographic group critical for the continued growth of the medium. Disenchanted with traditional radio fare, people are turning off their car radios in favor of CD or tape players. This trend is likely to continue. Consolidation of ownership in the radio industry is making radio less diverse, less regional, more generic sounding. The radio listening audience, increasingly dissatisfied, is eager for change as evidenced by the rapid growth of Internet radio usage.

By 2005, Forrester Research estimates that 41% of U.S. consumers—118 million people—“will listen to personalized, on-demand audio content at least once a week.”¹ This figure does not even include a vast overseas audience that will routinely access Internet audio via both wired and wireless devices.

Internet radio will radically transform the interrelationships between listener, broadcaster, advertiser and artist. Individuals, groups, associations and organizations that have never before had access to the airwaves will find a global voice in Internet radio. Listeners will have entrée to a vast range of programming choices—and will do so from a variety of in-home and wireless mobile devices. This paper explains why the Internet radio revolution is coming, and Live365’s leading role in making it happen.



Internet Radio: a Million Station Universe

*“For the home,
now, Internet radio is
emerging as an
alternative to over-the-
air broadcasting.”*

— San Jose
Mercury News

A. THE VISION

What will a world of pervasive Internet radio look like? How will it change the texture of everyday life? What does the phrase “million station universe” entail? Consider the following fictional scenarios:

1. **Steve Wilson** is a 20 year old in his sophomore year at a Mid-Western state college. Like a lot of people his age, Steve’s musical tastes turn to Eminem, Foo Fighters and the Wallflowers. Lately, he’s also developed a liking for Calypso and Rapso music. As he makes the 20-mile commute along ice covered highways to his Wednesday morning biology class, Steve tunes his wireless Motorola iRadio to a broadcaster based in Trinidad that specializes in Hot Soca, Calypso and Rapso. He listens to Junior English’s “Ride It” for the first time, and sends the DeeJay an email suggesting the station play more Junior English cuts. Before Steve reaches the campus he’s purchased the latest Wallflowers CD, and sent his girlfriend a link to the Trinidad station.
2. **The Los Angeles Wetlands Committee (LAWC)** is a group of concerned citizens who want to preserve the wetlands around Playa Del Rey in the Los Angeles area. (The wetlands are targeted for development.) Establishing a private label radio broadcast on Live365, the group has been able to get the word out to many Angelinos—particularly members of the entertainment industry (a strong base of support) currently working on location out of the state or country. The LAWC got added distribution by encouraging partner groups and members to “grab” the link to their broadcast and place in on their site, thereby achieving some viral growth. As a result, the LAWC’s membership has grown three-fold and donations have come in from ex-pat Angelinos working in Utah, Vancouver and Toronto.
3. **James Kelley** is an adjunct professor at a State University in New York. He also has a thriving seminar business, teaching marketing principles to small business owners across the country. In years past, Kelley has had to spend an average of 120 days away from home—a terrible burden on his family and his waistline (eating healthy on the road is a challenge). Recently, Kelley became a private label radio broadcaster at Live365 and began conducting some of his courses via Internet radio. Students pay for the course online by credit card and are able to email questions, homework and evaluations directly to Kelley. The station has opened up a whole new market for his seminars—and cut his travel schedule in half.



4. **Jyoti Basu**, Chief Minister of the state of West Bengal, India, wants to create training programs for the heads of the far-flung villages in his state in education, agriculture and administering health care. Rather than pay for each head to travel to Calcutta for a conference, he has his deputies set up a private-label broadcast that includes weekly lectures on topics such as how to set up a school. The village heads, having received Internet connectivity via satellite, tune into this before their weekly meetings while allowing villagers to listen to other stations from around the world during the rest of the week.
5. **Antonio Salamanca** is sitting in the living room of his Torrance, California home, listening to an Internet radio broadcast of a soccer match between his hometown team and an out-of-town challenger. Antonio's hometown is not Torrance—it's Valparaiso, Chile and the challenging team is from Santiago. Antonio checks his watch and realizes he's going to be late to work. He races down to his car, tunes in the station on his iRadio, and continues following the game on his commute to work. The game is in the 3rd quarter when Antonio parks his car at the office. He has already tuned in the game on his Sprint/Samsung Uproar MP3 Cell phone even before he steps out of the car. As he reaches his desk, he seamlessly switches to the Sony eVilla on his desk to finish the game.
6. **Sue Riggs** is a Musicologist who has made it her mission to promote the folk music of the Mississippi Delta. She set up a radio station on Live365, and broadcasts songs from artists like Willie Foster to fans all over Mississippi, the nation and even the world. One fan, Joe Woodward is enjoying Sue's station over a 3COM Kerbango in his backyard on a balmy Carolina afternoon. Riggs is interviewing a 79 year-old Mississippi Blues artist who lives in New York City. Woodward smiles. The Old Blues Man is a friend of his, and he arranged this impromptu interview between Riggs and the artist via email a couple hours before.
7. **Sam Kaiser** is a minister in a small Lutheran Synod based in the Western U.S. Over the years many members of the Synod have moved away to cities and communities in other states—and even in Europe. Kaiser has managed to keep in touch with many of the Church's wayward flock by email and newsletter, but he worries about the Synod's future if its brothers and sisters continue to move away. To strengthen the bonds between parishioners and their church, Kaiser set up a private label Internet radio station and now broadcasts services and Church meetings so that all members of the faith may participate—no matter where they are. Kaiser even set up an e-commerce feature enabling individuals to make donations.
8. **A 7.7 earthquake** strikes in a medium sized city in Japan. Mariko Doi emerges with a Toshiba laptop equipped with a wireless modem. She quickly establishes an Internet broadcast on Live365 and provides first-hand reports on the devastation. Relatives in other parts of the country—and world—send the Mariko emails. "My mother lives in an apartment building on the corner of Yamadaoka and Fuji. Is her building still standing?" She checks out the location and indicates via voice and email that the building is still standing, but has been evacuated. Visitors to the impromptu Internet radio station soon see an ad appear from an International relief organization, indicating where they can get more information or donate money to the search and rescue effort.
9. **Julie Edelman** is spending a lazy, sunny, dreamy Sunday afternoon on the beach in La Jolla, California. She picks a Greek olive from her gourmet lunch basket, sips a mineral water, and plows into the latest Grisham novel. All that's missing, Julie muses, is a little Spanish guitar music—preferably Segovia. She pulls a PDA from her bag and tunes in Live365. Julie keys in "Spanish Guitar," "Segovia" and a few other parameters. Moments later she is listening to a recording of "Malaguena" by Segovia from a broadcaster based in Seville, Spain. She takes a bite of a canapé and continues reading.

These scenarios describe a world in which Internet radio has a personal impact and global reach. Listeners are able to find the audio content they want, anywhere, anytime. Communication among



listeners, broadcasters, advertisers and artists is easy and routine. It is a world where anyone with a properly equipped PC or Internet-enabled wireless device has access to the “airways”, as a listener, a broadcaster, or both.

This vision of Internet radio is not science fiction. Many elements of the vision already exist and others are only months or a very few years away from being a commercial reality. At present, Internet Radio’s biggest competitor is terrestrial or “traditional” broadcast radio. We believe Internet Radio is poised to overtake traditional radio, a US\$20 billion industry, this decade.

B. INTERNET RADIO VS. TRADITIONAL RADIO

Currently, the audience for traditional radio dwarfs that of Internet radio. About 95% of Americans—266 million - are reached by broadcast radio in a given week. A recent Arbitron Internet Radio survey (Internet V, July 2000) indicates 25% of all Americans—45 million - have listened to online radio at least once². One obvious reason for the disparity is that traditional radio has had over eighty years to build up its listenership, while Internet radio is scarcely five years old. Another is that Internet radio has been hampered by limitations on Internet access. Up to now, nearly all listeners have accessed Internet radio from their desktop PCs. This situation is about to change.

Internet Radio will soon be accessible in the car, in PDA’s and cell phones. (Internet radio-enabled In-Home entertainment centers are already on the market.) Many powerful multinational companies are eagerly rushing to market with wireless Internet streaming audio services and devices. These include Nokia, AOL, Samsung, Philips, Thomson, Matsushita, Deutsche Telecom, BT, Vodaphone, Sony, 3Com, Palm, and many others. Wireless connectivity will experience especially rapid adoption overseas, where land-based Internet connectivity is often expensive due to lack of infrastructure. (“They’re not going to be pulling copper cable through the ground in China,” says Robert Tercek, an executive at wireless leader PacketVideo. “It’s a huge country and there are a lot of mountains.”)³ Wireless Internet access will liberate Internet radio from the desktop, just as the transistor freed broadcast radio from the living room.

We believe Internet radio will begin to overtake traditional radio in this decade for the following reasons:

- 1. Global reach.** The reach of a traditional radio station is limited by the power of its transmitter, typically less than 100 miles. Internet radio, on the other hand, knows no geographical limitations and can be heard any place in the world with Internet access. This means that an Internet radio broadcaster is free to scour the world for listeners. Listeners can find an unbelievable variety of content, in any language and from anywhere. A station offering Gregorian chants 24x7 may find a very small audience in Little Rock, but given global reach, can attract passionate, newly introduced fans from Manila to Moscow. Groups, associations, businesses and other organizations can become broadcasters and reach out to their members, customers and adherents anywhere on the planet.
- 2. Limitless “Spectrum.”** In addition to restricted broadcast range, traditional radio is limited in terms of available broadcast spectrum. Spectrum is expensive, and effectively caps the number of broadcasters in a market. A typical radio market will only have a couple dozen stations for listeners to choose from. A listener will seldom find more than one or two stations representing a particular format like Talk, News, Top 40, or Alternative. Spectrum limits the number of broadcasters and, therefore, limits choice.

Internet radio is not limited by the broadcast spectrum; the space available for Internet radio broadcasters is as vast as cyberspace itself. Live365—the largest integrated Internet radio service—already supports over 28,000 concurrent Internet radio broadcasts. Limitless “spectrum” means nearly limitless choice for listeners. And traditional radio will have to compete with Internet radio aggregators to gain meaningful presence on these dials of the future.



3. **Democratization vs. Consolidation.** A recent phenomenon in the traditional broadcast radio industry is the consolidation of radio ownership. In other words, the finite number of radio stations is in the hands of an increasingly smaller number of conglomerates. Formats and content are often shared within radio conglomerates, resulting in the same content being served on different stations within the same markets—and across all U.S. markets. In short, broadcast radio is becoming even less individualistic, less regional and more generic over time.

Internet radio, on the other hand, is opening up the “air waves” to individuals, groups, associations and organizations that have been excluded in the past because they could not surmount the significant economic barriers to entry in the radio industry—licensing, equipment, staffing and associated costs. This “democratization” of the broadcast medium is bringing a diversity and richness to radio that has never before existed.

4. **Multi-Way vs. One-Way Communication.** Traditional radio is a one-way communication medium. Advertisers in the U.S. spent US \$20 billion in 2000 on radio spots in the hope that listeners will remember their message or brand long enough to make a purchase at some indeterminate future date.

In contrast, Internet radio is a multi-way communication medium. Listeners can communicate directly with advertisers, broadcasters, artists and other listeners—and vice versa. Unlike traditional radio, Internet radio broadcasters can offer listeners immediate access to point-of-sale for songs, tickets, products or services they hear or see advertised. In years to come, the ability to establish multi-way communication among Internet radio’s constituencies will be an important competitive advantage.

5. **Targeting “Micro-niches” and Individuals.** The growth of Internet radio will be accompanied by the emergence of “micro-communities” centered on specific types of music or audio. In our earlier example, the world’s far-flung Rapso fans like Steve will gravitate toward broadcasters who cater to their specific interests. Micro-communities are passionate and loyal. These community members readily share, discuss and introduce new content, news, tips and other information. Ample evidence of the loyalty of micro-communities can be found on the Web.

Internet radio’s targeting capability isn’t limited to “micro-niches.” Individual listeners can be targeted as well. Steve, the Rapso music lover in our earlier example, can communicate his advertising and informational preferences. “Yes, I want to hear ads for new model autos”... “Yes, please send me college ads”... “No childcare ads, please.” Traditional radio is incapable of this form of precision targeting.

C. FORCES DRIVING ADOPTION OF INTERNET RADIO

Several important social, economic and technological trends are driving the adoption of Internet radio:

1. **On-Demand Media World.** Time-shifting innovations like multi-tier cable TV programming and TiVo, which allows the viewer to control when he or she views a television program, are shaping consumer expectations about how they consume media. “What I wanna see when I wanna see it” is how former Viacom and Universal exec Frank Biondi summed up this twenty-year trend.⁴ People increasingly expect to have control over when and where they consume content. Traditional radio is incapable of offering “Listen On-Demand” to its listeners, who will increasingly turn to the Internet for this feature.
2. **Fragmentation of the Media World.** The media world is becoming increasingly fragmented and complex. The major television broadcast networks have been steadily losing market share over the past decade. In the 1960’s an advertiser like Procter & Gamble could reach most of its target audience (women 18—39) with few “media buys” a week. Now the same advertiser may need to make dozens of media buys scattered across a variety of platforms and time slots to reach the same portion of the target audience. Media fragmentation is a reflection of the complexity of tastes and interests among consumers.



Traditional radio is bucking this trend, offering content that is becoming increasingly generic. Over time, listeners will turn to Internet radio in general, and Live365 in particular, because of the range and depth of choices the medium offers.

3. **Deployment of Wireless Infrastructure.** As we noted earlier, Internet radio—like all Internet content—is today still largely bound to the desktop. Non-desktop Internet radio devices for in-home listening are beginning to appear on the market. The deployment of 3rd Generation wireless networks and Internet-enabled wireless devices will greatly expand the reach and convenience of Internet radio. A large number of manufacturers are preparing to market car radios, PDA's, cell phones and in-home devices that will ensure Internet radio becomes a common feature in consumers' lives.
4. **Pent-Up Demand for Internet Radio.** Internet radio addresses the unmet needs of three large, overlapping groups: (i) The millions of listeners who have become disenchanted with tired radio formats and playlists; (ii) individuals or “ex-pats” worldwide who want to keep in touch with their culture or place of origin, whether a rural Pennsylvanian in Texas, or a Japanese businessman working in the Philippines; (iii) individuals, groups, associations and organizations that don't currently have access to the air waves.
5. **Emerging Role of “Media Aggregators.”** In a fragmenting media world, consumers are drawn to portals like Live365 that can organize media content outlets, editorialize the offerings, and make all available audio content easily navigable. These media aggregators also offer efficiencies of scale in terms of technology infrastructure, the ability to make deals with manufacturers, and brand identity. Smaller Internet radio players—and traditional broadcasters who opt for an Internet presence - will find it increasingly difficult to be successful in a million-station Internet radio universe unless they become affiliated with a super-aggregator like Live365.



Challenges Facing Internet Radio

“Across formats, majority of radio station Web site visitors are ‘over the air’ P1s”

—Arbitron Pop-Up Survey, August 2000

The Internet radio industry faces several important challenges in the coming months and years. *Those challenges are:*

A. RATE OF DEVELOPMENT AND ADOPTION OF KEY TECHNOLOGIES

The pace of evolution of Live365’s service—and Internet radio—is dependent on technological developments largely beyond our control. *These include:*

1. **Rate of Deployment of Wireless Infrastructure.** As we’ve seen, wireless Internet access via a variety of devices will greatly expand the reach of Internet radio. Not surprisingly, the rate at which new wireless infrastructure is deployed will be an important factor in the growth of the medium. Much infrastructure still needs to be funded and built. For instance, 3-G (3rd Generation) wireless networks will be expensive to deploy. The issue of multiple incompatible wireless standards will also have to be addressed before a seamless wireless infrastructure can become a reality.
2. **Bandwidth Availability and Cost.** Internet radio relies on bandwidth, both wired and wireless, to deliver content to listeners. Wireless bandwidth in particular must be at speeds that can support quality Internet audio as well as other activities. As broadband providers continue to build out their networks, the cost of bandwidth—always a significant factor—will fall.
3. **Limitations on Reach and Access.** Just as broadcast radio can be limited by physical impediments like office high-rises, Internet radio has its own restrictions. Some businesses conserve bandwidth by using firewalls and other screening methods to prevent their workers from accessing non-business-related streaming media. Internet radio will need to develop ways of using bandwidth more efficiently, even as more and cheaper bandwidth becomes available to businesses.

B. SCALABILITY ISSUES

The biggest challenge facing any streaming media business is success. As more people go to a site and the variety and breadth of content grow, the number of streams being served increases. Streaming services like Live365 must be capable of scaling up their capacity to accommodate rapid growth in content and audiences. Scalability issues include:

1. **Bandwidth**—The more listeners connecting to the service, the more bandwidth required to deliver streams to them. While the cost of bandwidth has decreased by 50% in the last 12–18 months and is projected to continue decreasing at this pace, it remains a significant expense at this time.

2. **Storage** - Most broadcasters using Live365 employ its Studio365 solution in which their source files are stored on Live365's servers and broadcasts originate with Live365. As more broadcasters use this service they upload more files, and storage requirements also increase.
3. **Streaming servers**—Adding listeners and broadcasters to a service requires additional servers to deliver the streams. In order to scale up effectively, a service needs to be able to handle the addition of both listeners and broadcasters efficiently, as Live365 has done.
4. **Database, Directory and Playlist servers.** The more broadcasts a service fields, the greater the load on its content database, directory and playlist servers. The difference between managing a service of a few hundred broadcasts as opposed to hundreds of thousands of broadcasts is enormous.

C. INTERFACE ISSUES

An obvious challenge facing a world with a million radio broadcasts is how to make all that content easy to navigate, search and select. Creating a “dial” for a wide variety of wired and wireless Internet radio devices is a huge challenge. Developing the “dial” is one issue, but getting one's service onto the dial is another. Small broadcasters will find it very difficult to capture “real estate” on the dial, unless they become affiliated with a larger service. Device manufacturers will not want to broker an endless series of deals with small players many of whom may not be reliably “on air” for extended periods. Live365, one of the largest players in Internet radio, has the heft and presence to ensure its place on emerging Internet radio devices.

D. ATTRACTING ADVERTISERS

Most Internet radio broadcasters will have a difficult time attracting advertisers to their services. Advertisers have little incentive to buy ads on stations with very small audiences—as is the case for most stand-alone broadcasters. To lure advertisers away from traditional radio—where they spent \$20 billion in the year 2000—Internet radio services must have large audiences and a presence on the Internet radio “dial.” The only Internet radio services capable of both are either those that aggregate tens or hundreds of thousands of broadcasts, like Live365, or those with established brands like CNN or ESPN.

Internet radio must also be able to target ads and, for that matter, content, geographically. Listeners tune in to traditional radio in part to consume locally relevant content. These stations are able to tap into the large local advertising market. Internet radio is able to insert locally relevant, syndicated content and advertising based upon a user's location to the extent that it is known or specified by the user, but this is not widely done today. As a result, most Internet radio advertising tends to be national branding campaigns rather than local ones intended to generate incremental commerce for the advertiser.

E. LICENSING/ROYALTY PAYMENTS

Many Internet radio stations operate without complying with applicable law. Others, such as Live365, operate under a compulsory license provided under the Digital Millennium Copyright Act. At present, uncertainty exists over how large a payment rate industry lobbying groups will extract from Internet radio services. The percentage rate will have a direct impact on the bottom-line for businesses like Live365. (We discuss this issue in greater detail later in this paper.)

F. CONSUMER BEHAVIOR

The wider range of possibilities in Internet radio requires new behavior on the part of consumers, advertisers, artists and broadcasters. Traditional radio is passive. Internet radio is interactive. Internet radio invites listeners to search for specific content about which they are passionate. The medium enables multi-way communication—listener-to-broadcaster, listener-to-listener, listener-to-advertiser, and listener-to-artist. Unlike traditional radio, Internet radio presents opportunities for accessing information and conducting transactions—activities that, vis-à-vis radio listening, are new to many consumers—and new to many advertisers, artists and broadcasters as well.

G. FILE-SHARING SERVICES

The rise of file sharing services like Napster, Aimster and Gnutella and the litigation regarding their legality have hurt Internet radio due to the uncertainty and wait-and-see attitude taken by companies and investors. Still, Internet radio has benefited from the large swaths of the public that have been introduced to Internet audio through these services. Internet radio and file sharing or downloading are not mutually exclusive. While both forms of consumption compete for “ears”, they are fundamentally different. The former is a passive, “lean-back” form of consumption while the latter calls for proactive, “lean-in” actions. The co-existence of radio and on-demand listening in the form of CD and tape players in the offline world is an apt analogue. Human nature would have to fundamentally change for either form of consumption to go away.

Some may be surprised to learn that Live365 actually has a larger library of files than Napster, though most are at a lower bit rate. Napster has about 1.1-1.2 million files and 4-5 terabytes of storage in their entire network of file providers. In comparison, Live365 has over 2 million files and 4+ terabytes on its servers. If a file sharing, Napster-like model were to become legal and commercially viable, Live365 would be well positioned to field something comparable if not superior in a short period of time.

IMPORTANT NOTE: *Live365 has no plan to create a peer-to-peer service until and unless the legality and business viability has been confirmed to support such a move.*

H. SATELLITE RADIO

Consumers will be hearing more about Satellite radio in the near future, and many may find the message appealing. Satellite radio will provide some broadcasters with national or even global reach. Satellite radio will be available in the car. Satellite radio, to some consumers, will look like new and improved terrestrial radio.

The fact remains that most of the restrictions of traditional radio still apply to satellite radio. Spectrum is still limited. Consumers will pay for new equipment and a monthly fee, yet only receive about a hundred new stations most of which will not be interesting to any given consumer. Like traditional radio, satellite radio is one-directional. Companies that provide satellite radio services will have to pay for new content month-by-month, year-by-year.

As we’ve noted, Internet radio has global reach and will be accessible in the car—and in a variety of other wireless and in-home devices. Internet radio has virtually limitless spectrum, bringing listeners hundreds of thousands of new broadcasts—requiring no monthly fees and no new equipment beyond what is already used for Internet access. And in contrast to satellite radio, Internet radio enables listeners, advertiser, artists and broadcasters to engage in multi-way communication and transactions.

I. FUNDING

These are rough times for all companies, especially for dot-coms. Layoffs, lower-than-expected quarterly earnings reports, and outright failures are becoming a common feature of the business news. Concern about the industry downturn has made the search for funding challenging for many startups.

Many observers understand that while the dot-com scene appears bleak at the moment, the long-term prospects for the industry are promising. Billions of dollars are being invested in Internet communications infrastructure and enlarging the “pipes” available to users but little investment is taking place on the content side since the bursting of the Internet bubble. These infrastructure companies, however, will need content to fill these “pipes”, drive consumer adoption and justify their investments. For this reason and the others mentioned in this paper, Internet radio and particularly Live365 have bright futures ahead of them.

I. ACHIEVING PROFITABILITY

Although Internet radio is in the investment stage of its development, companies like Live365 must still demonstrate that they can be profitable businesses. Capitalizing on e-commerce opportunities, enabling access to those wishing a communications platform, fostering interaction between listeners and broadcasters, and targeting advertising to individual consumers will enable Internet radio to grow into a profitable business. Until these benefits are demonstrated, traditional radio will continue to attract the lion’s share of advertising dollars and revenue growth will be slow.

IV

Legalities, Licenses, Royalties

Nominated
“Best Overall Music Site”
by Yahoo! Internet Life

Live365 takes legal rights and issues very seriously and has designed the service from the outset to comply with applicable laws. We continue to regularly monitor developments in webcasting law and how they may apply to Live365 and our broadcasters. We also proactively engage the appropriate legal entities concerning corporate structure and funding, general business affairs, Internet music matters, licensing, copyright and royalty advice, international matters, and for working with rights organizations such as the Recording Industry Association of America (RIAA). We are committed to paying any royalty payments due from our service on behalf of our broadcasters (except those in the Private-label Radio program) and we have fully contemplated various scenarios for royalty rates in making our financial projections.

A. COMPULSORY LICENSE TO WEBCAST

Under the Digital Millennium Copyright Act (DMCA) of 1998, certain Internet music services in the U.S. are eligible for a compulsory license to webcast copyrighted music commercially. The compulsory license is available to anyone able to comply with applicable terms and rates. In order to comply with the terms of the compulsory license, a webcasting company (i.e. one streaming audio over the Internet) must abide by certain rules governing the webcasting of copyrighted music content. For example, in any three-hour period, a broadcaster may not program more than three songs - and not more than two songs in a row - from the same recording. In addition, a broadcast may not program more than four songs - and not more than three songs in a row - from the same recording artist or anthology / box set. The program may not be “interactive,” and a broadcaster may not publish his or her upcoming playlists.

Live365 qualifies for, and benefits from, the compulsory statutory license under the DMCA. Live365 encourages compliance by its broadcasters with applicable copyright rules, and actively coordinates this effort with the support and approval of the RIAA. We are now developing software that will automatically detect violations of the DMCA’s rules by a broadcaster on Live365’s system.

B. ROYALTY PAYMENTS UNDER COMPULSORY LICENSE

The DMCA states that copyright holders are entitled to a to-be-determined royalty payment by webcasters. While some webcasters have negotiated royalty rates individually with the RIAA, others such as America Online, RealNetworks and CNN are involved in an arbitration to set the rates payable under the compulsory license. Live365 is also in this latter group, called the Digital Media Association (DiMA).

In December 2000, the U.S. Copyright Office ruled that traditional



radio broadcasters wishing to webcast would have to pay royalties to the RIAA as provided for in the DMCA. Currently, traditional broadcasters pay no such royalties to record labels or the RIAA for broadcasting over-the-air. This is very good news for Live365 and other Webcasters because it levels the playing field and ensures that traditional radio broadcasters are not at a competitive advantage to broadcast over the Internet. The National Association of Broadcasters (the “NAB”), a powerful lobbying group that represents the interests of terrestrial broadcasters, is appealing the decision.

This year will likely be a one of continuing legal battles in regard to the matter of webcasting. The RIAA contends that traditional radio broadcasters are required to pay a royalty payment to broadcast over the Internet, while traditional broadcasters are trying to solidify the same royalty-free arrangement that they currently enjoy. If this latter group were to be successful, it could be argued that any advantage gained would be uncompetitive unless it was extended to pure-play webcasters as well.

C. ROYALTY PAYMENTS TO PERFORMING RIGHTS ORGANIZATIONS

Performing Rights Organizations (PRO’s) administer public performance of rights for the writers of compositions and are entitled to receive royalty payments for such “performances.” The three key PRO’s for radio are (1) the American Society of Composers, Authors and Publishers (ASCAP), (2) Broadcast Music, Inc. (BMI), and (3) SESAC, Inc. Internet radio companies that broadcast musical works must make royalty payments to the appropriate PRO. Royalty payments for such broadcasts are expected to be in the range of 2% - 3% of revenues range in total.

D. COPYRIGHT LAW AND LICENSING AGREEMENTS OUTSIDE THE UNITED STATES

In discussions with both the PRO’s and the RIAA, Live365 has sought licenses that would cover all transmissions from its servers located in the United States. The PRO’s and the RIAA have indicated that they would like to be in a position to offer global licenses, via relationships that they are establishing with their counterpart organizations outside the U.S. While some are able to do this now, others at the present time are unable to do so. However, they are engaged in active discussions with their counterparts in those other countries and expect to be able to offer such licenses in the future. Live365 may negotiate license agreements with certain foreign rights societies until such time as the U.S. organizations are able to offer global licenses.

V

Sustainable Competitive Advantage

“We believe that Internet radio has enormous growth prospects, principally due to the advantages it has over the rapidly growing \$17.7 billion traditional radio industry.”

—Dain Rauscher Wessels

A. INTERNET RADIO'S SUSTAINABLE COMPETITIVE ADVANTAGE OVER TRADITIONAL RADIO

Live365 strongly believes that listeners value choice enormously, regardless of the device on which it is offered. Live365's approach of matching user-generated content with passionate listeners is a cutting edge model for Internet content. Traditional radio aggregators, such as Clear Channel, Infinity and others have invested a great deal in buying spectrum in various markets, building broadcasting towers, hiring professional programmers, and so forth. Traditional broadcasters believe these investments are a buffer against competition. Time will prove them to have been mistaken. As Internet enabled audio devices become increasingly prevalent at home, at work and on the go, traditional radio's dominant position will quickly erode. Consumers have no special allegiance to a particular platform or technology; they will go where their passion leads them—and in most cases that will be to targeted content that is relevant and interesting to them, content on an Internet radio service like Live365.

Broadcast radio is many orders of magnitude larger than the Internet radio industry—larger even than the film business or computer gaming. Broadcast radio will not disappear. But as Internet radio grows, the shortfalls of broadcast radio will become more evident to listeners and advertisers alike. Those shortfalls are:

1. Broadcast Radio—is “Blind”.

Broadcast radio is blind—so blind in fact that its listeners might as well live on the far side of the moon. The medium is incapable of sensing who is listening, when they are listening, when they stop listening, what they listen to next once they change the station, or if any of its listeners are buying the music or products featured in the broadcast. Naturally, advertisers would like to know these things. The only way broadcast radio can address these important questions is through the imperfect methods of survey sampling and estimating.

2. Broadcast Radio—is “Deaf”.

Radio would be “the finest possible communication apparatus in public life,” dramatist Bertolt Brecht once observed, if only it could “bring [the listener] into a relationship instead of isolating him or her.” Broadcast radio is profoundly deaf. Information flows in one direction only, from the broadcaster to the listener. The medium can't hear listener comments, inputs, reactions, and complaints. Nor can listeners communicate with one another through broadcast radio. Internet radio, on the other hand, offers a back channel. Listeners can communicate



directly with broadcasters. We know from past experience on the Web that audience feedback can enrich and dramatically transform Internet content and services. Communication builds relationships and commitment, and leads to rapid improvements in products and services such as Live365.

3. Broadcast Radio—Has “No Hands”.

Broadcast radio cannot deliver anything but audio. You’ll never receive a brochure, a photo or a playlist from your standard radio set. Having “no hands” also means that your radio can’t take an order for the Eminem CD you just listened to, or open the front door to an advertiser’s store. Internet radio, of course, is not simply an auditory medium. Live365 can include a synchronized, visual display along with the audio that it delivers. Internet radio’s multi-way communications capabilities and multimedia format make it well suited to be both a distribution and promotional channel for advertisers.

4. Broadcast Radio—Listeners Are “Never Properly Introduced”.

Broadcast radio collects little or no information on its listeners, except via survey sampling. Essentially no listener-specific data are collected. Even when broadcast radio runs a contest or promotion, it cannot gather any information about anyone unless listeners can be persuaded to fill out a card and mail it in. Few do. Internet radio, in contrast, begins to establish a one-on-one relationship with listeners from their very first visit. Live365 sends requests for information directly to individual listeners. Information garnered from this initial contact is used to reach out to listeners in other ways, such as electronic newsletters, emails, and up-sell offers.

5. Internet Radio is a Powerful Advertising Medium.

Advertisers have few direct means of determining how well their ads are working on broadcast radio. Advertisers on Internet radio, on the other hand, can gauge listeners’ reactions to ads and make adjustments accordingly—and almost immediately. Internet radio’s multimedia format makes it possible to create powerful and rich advertising “spots”—far exceeding what is possible with audio alone in broadcast radio.

Internet advertisers have always wanted to be able to deliver ads to a targeted locality—a capability that would dramatically enhance the power of the Internet as an advertising vehicle. Live365 is building the infrastructure to deliver ads to specific geographical areas and will be able to do so in the not-too-distant future.

6. Broadcast Radio Lacks Both Personalization and Community.

Broadcast radio cannot deliver the personalization features that Internet radio can such as the ability to “remember” one’s favorite settings or the ability to recommend other stations based one’s preferences using collaborative filtering. Broadcast radio is limited to expensive off-line events and listener call-in in fostering a community around its typically homogenous content. Many of them are now erecting websites with more community features—something Internet radio has been doing all along.

7. Broadcast Radio is a Huge Market That Internet Radio Can Participate In.

Broadcast radio today is the number one promotional tool for music, yet the large music companies do not control radio. Today’s radio industry largely dictates to the record companies who will get airplay and who will not. This explains why the major labels spend millions of dollars marketing music to radio programmers & DJs. Broadcast radio advertising was a \$20 billion industry in 2000, with CD sales around \$15 billion. Internet radio has the opportunity to enter into a market as large as radio, and to do so with a more powerful promotional medium. Record companies are beginning to understand that the Internet is the single most powerful method for driving music sales.



B. INTERNET RADIO'S SUSTAINABLE COMPETITIVE ADVANTAGE OVER SATELLITE RADIO

Satellite radio appears to pose a significant challenge to Internet radio, until the differences between the two—economic and technical—are examined. Satellite radio has already invested billions of dollars in new broadcast infrastructure. To get to where it is today, satellite radio players must also make a large and continuing investment in the development of fresh content to fill the satellite pipeline. Despite all the costs—rebuilding terrestrial radio infrastructure, repeaters and studios - satellite radio still has to contend with the limits of the broadcast spectrum.

As we've seen, Internet radio has virtually infinite “spectrum” and is able to offer far more choice to consumers than satellite radio—as well as the ability to personalized content, multi-way communication, bookmarking, e-commerce and other Internet-related features.

Satellite radio requires significant upfront and ongoing costs for consumers. Additional hardware is required as well as monthly subscription fees. Will consumers pay an additional \$200, plus \$10 a month to gain an extra 100 radio stations when they can gain access to a million stations via Internet devices and services they already use and pay for in any event? We think not.

VI

Live365 vs. “Other” Internet Radio Services

“Just like GeoCities pioneered providing free space for home pages, Live365 gives members everything they need to broadcast a station.”

—Wall Street Journal

Live365 currently enjoys a first mover advantage in the Internet radio space. But what is to prevent a well-funded competitor from moving in, replicating our service and taking the lead? First movers are always vulnerable on this account, but we believe that even a cash-laden competitor would find it difficult to overcome Live365’s lead in this emerging market. We are confident Live365 will sustain a competitive advantage for the following reasons:

1. **Technology.** We have created a significant amount of technology—broadcasting tools, a streaming server, and directory service to name a few - and acquired a lot of the know-how needed to build a large and efficient Internet radio service. We have done so because we had to. Any competitor will face issues similar to those we faced, and would either have to create their own technology (a tall order), or get by with imperfect and often unworkable solutions. Competitors face challenges at each step in the chain, including overall system reliability, efficiency and scalability, user interfaces, ad insertion, and more.
2. **Patents.** We have submitted patent applications to protect a number of the important aspects of our business and its technologies. A competitor that wishes to build an end-to-end Internet Radio service may well run afoul of some of our protected technologies.
3. **Leading Brand.** Live365 is a leading brand in Internet Radio, and the unchallenged leader in the area of user generated audio content. Any competitor entering this space will have to leverage an existing brand that has not been created for Internet Radio, or spend time and money creating a recognized brand in this space. Meanwhile, Live365 continues to use our enormous community of listeners and broadcasters to achieve even greater brand recognition and adoption.
4. **First Mover and Dominant Force.** Live365 has a first mover advantage and a dominant position in Internet Radio, particularly on the broadcaster side and with respect to user generated audio content. As such, Live365 is well-positioned to dramatically increase listenership, community, and revenues, and to put in place strategic business relationships with wireless manufacturers and potential overseas partners.
5. **User Interface and User Experience.** Live365 is working hard to ensure its Internet radio content can be accessed simply and quickly in many varieties of Internet enabled devices. We have learned important lessons for making contact with our service a positive experience for listeners. Competitors entering this space will face substantial hurdles in developing interactions that result in satisfactory user experiences.



6. **Management Team / Technical Team.** It is very difficult, no matter how well financed one is, to rapidly pull together a winning management group and a top-tier technology team. Live365 has been able to achieve both.
7. **Validation.** We would take very seriously any effort by a major player to build a competing Internet radio service. At the same time, the entrance of a significant competitor would validate our model and efforts—and may even spur growth of the industry. The validation that competition brings would facilitate partnerships with competitors, encourage adoption of Internet radio as a mainstream advertising medium, and grow the size of the “space.” Live365 will flourish in a competitive environment as we continue to aggressively develop our service.
8. **Internationalization.** Live365 is already moving forward on a program to localize and internationalize the service, making it available in different languages (for example, Japanese). This entails getting our technology into a form where it can be made available to a third party. We envision setting up joint venture entities for local services, where Live365 maintains a large equity stake and works with leading partners in each location. Potential competitors will need to consider how to expand their service into other languages and locales. Potential partners in those locales will already be familiar with the technology and solutions available from Live365.
9. **Depth and Breadth of Content.** Live365 already fields by far the largest array of streaming audio / Internet radio on the Internet. Even with powerful, easy-to-use tools, active marketing and community, and various viral growth strategies, Live365 has taken some time to build up that volume and variety of content. Any competitor who seeks to repeat what Live365 has achieved will need to build up sufficient, compelling content to be an attractive destination for listeners.

We benefit greatly from our use of user-generated content—that is, content provided by broadcasters who want to use our service to gain an online voice. This allows us to scale up our content offerings without the burden of having to pay for content development. Few competitors have the infrastructure for this kind of arrangement and would find it very expensive to build up their content offerings to the level we currently offer.
10. **Cannibalizing Existing Businesses.** Traditional broadcasters that choose to enter Internet radio in an aggressive way will have difficulty developing a model that doesn’t cannibalize their current businesses, even as they pursue transitioning listeners.

VII

Live365's Technological Achievements

*“Streaming audio has
been one of the most
unheralded success
stories in cyberspace.”*

—Forbes.com

One important lesson we have learned at Live365 is that you don't build the world's largest, high performance Internet Radio service by cobbling together a bunch of off-the-shelf solutions. As we have grown and diversified our service, we have encountered, and solved technical challenges that no other service has yet faced and for which no adequate commercially available solutions existed. As a result, we have developed many of those solutions ourselves—and gained invaluable know-how in the process. Our technological achievements include:

A. BROADCASTING TOOLS

Live365's broadcasting tools are fundamentally changing the landscape of streaming audio on the Internet. Prior to the release of our tools, Internet broadcasting was complicated and accessible only to technologically savvy users. Our tools make it easier for customers to create and launch their own Internet broadcasts. The explosive growth of audio content on our site is largely attributable to the introduction of these simple-to-use, powerful broadcasting tools. Studio365, an important suite of broadcast tools, is already available to broadcasters, and new broadcasting tools like Listen-on-Demand (for private label content) will be available soon.

B. STREAMING SERVER (NANOCASTER)

For strategic reasons, Live365 decided to develop its own streaming audio server, the Nanocaster, rather than license server technology from another company. In terms of broadcasts served per CPU, the Nanocaster is the world's most scalable streaming audio server. Nanocaster's scalability and resource-efficiency compare very favorably to servers from Microsoft and RealNetworks. We are applying for a patent to cover the technology that allows the Nanocaster to efficiently field multiple broadcasts. We created the Nanocaster to realize our vision of a world in which millions of Internet broadcasts can be run economically on a single service. Some observers may be surprised to learn that Live365 far exceeds RealNetwork's global content network in the number of distinct audio streams available to listeners.

C. DIRECTORY SERVICE

Live365's scalable directory, Directory365, provides easy access and navigation to the largest amount of streaming audio / radio content in the world. The directory is a considerable engineering achievement, given the dynamic nature of the information that it lists. At any given moment, the directory contains tens of thousands of different broadcasts available to the listener. Broadcast information can be easily configured for other formats and designs. Broadcasts that do not originate with Live365, or use Live365 broadcasting tools, can also be listed.



The adaptable and inclusive features of Directory365 will be invaluable as we deliver our content to an increasing number and variety of third parties. The directory will be extraordinarily helpful in our bid to make Live365 the dominant, ubiquitous provider (or portal) for Internet radio stations and content. Broadcasters will be attracted to Live365 because of the ease at which listeners can find the content they want. Directory365 is being adapted for wireless devices, which will open up Internet radio to a vast, mobile audience. Smaller broadcasters will come to Live365 in order to tap into this wireless market—a market that would otherwise be beyond their reach.

D. AUDIO-AD INSERTION

Inserting ads into an audio stream is no trivial task, one of the reasons why few audio-ad insertion servers are available on the market today. Live365 has built an audio-ad insertion server application that can deliver audio advertisements according to pre-specified parameters. This server also enables synchronization of online banner ads with streamed audio ads. We feel our ad server technology further differentiates Live365 from its competitors.

E. DELIVERY TO NON-PC PLATFORMS AND WIRELESS

Live365 has already demonstrated the wireless delivery of Live365 broadcasts to cell phones and a car. We are also creating the very first streaming MP3 player for the PocketPC Platform. We want to adapt the Live365 service for many non-PC platforms—particularly wireless platforms such as NTT's iMode, WAP and 3G. We are also making strides toward development of the optimal user-interface for wireless and other non-PC devices. In a world where millions of broadcasts are available to listeners, ease of navigation is a high priority (see below).

F. IN DEVELOPMENT: “DIAL OF THE FUTURE”

At Live365 we are working very hard on the “Radio Dial of the Future.” What will an Internet radio dial look like? How will it behave? The dial will enable listeners to access millions of individual broadcasts, and do so intuitively. The listener will not become “lost” while using the dial because he or she will know at all times where they are amongst all that content.

The dial will mix together Internet and broadcast radio stations so seamlessly that listeners will be unable to determine which broadcasts are terrestrial and which online. Certain types of audio will be available “on demand,” meaning the listener can hear the content—a speech, meeting, song—from the beginning. Listener preferences—“pre-sets”—made on one device (a home PC, a car radio) will be accessible on any other Internet radio device anywhere. Listeners will be able to interact with advertisers—“send me more information,” “contact me later,” “bookmark this ad.”

Assuming the listener has set up an account beforehand, impulse purchases will be easy. If the listener wants to buy a song or ticket, purchase a product, or enter a contest, he or she can do so, instantly, anywhere within the reach of Internet radio.

The “dial of the future” will do all this—and much more. “Ease” will be the keyword of this device.

G. SOLVING SCALABILITY ISSUES YET TO BE ENCOUNTERED BY OTHERS

Scalability is of obvious importance to anyone seeking to build a large and efficient Internet radio service. The scaling issues involved in supporting a many-broadcasts-to-many listeners service are particularly challenging. Because Live365 carries more broadcasts than all streaming media services combined (28,000 as of mid-February, 2001), we have encountered this issue before our competitors.

This difference of scale has significant structural implications for the development of a robust and low cost infrastructure for delivery of streams. We have spent a great deal of time and resources in making our service the most scalable Internet radio operation on the scene today. The company is seeking patents on many of the solutions we've developed. AOL/Time Warner and RealNetworks, it should be noted, are still following a few-broadcasts-to-many-listeners model (each fields tens of broadcasts at most). We believe Live365's technologies are unique in the streaming media industry.



H. DEVELOPMENT OF AN IMPROVED AUDIO PLAYER (PLAYER365)

We have been dissatisfied with the shortcomings of existing software players on the market as well as the fact that widely-held audio players required users to go through an upgrade before enabling them to listen. In order to improve the listener experience, we have developed and launched the first version of our own “thin” client player, Player365. Player365 is designed for ease of delivery and use. At just 160k it only takes two or three minutes to download on a modem connection and a few seconds on a high-speed connection. Installation takes two clicks. The RealPlayer, in comparison, takes 20 minutes to download and requires over a dozen actions to install and reboot the computer.

Player365 features advanced capabilities not found in other players, even those players that claim to offer an improved Internet radio experience. For example, the current version of Player365 includes a feature that allows automatic re-connection to the user’s stream if the Internet connection is temporarily lost. The Player365 also has an automatic proxy negotiation system to help users behind firewalls and proxy servers. Future versions will include double buffering for rapid station scanning, automatic connection speed monitoring, and more. Player365 has been ported to the Windows CE platform with plans to support the Macintosh platform next. Its small file size makes it perfect for inclusion in embedded systems such as Internet appliances and telematic devices.

I. SYSTEM STABILITY AND RELIABILITY

Live365’s streaming infrastructure currently hosts more than 28,000 broadcasts. The load balancing, system monitoring and other measures that we have taken to ensure an efficient, stable and reliable service are significant technological achievements in and of themselves.

VIII

Licensing
Live365
Technology

“Now it seems clear that if the major radio companies don't grab hold of the Net, they may find themselves in the second-tier, like AM radio.”

— The Industry Standard

Live365 has begun to commercialize its proprietary broadcasting and streaming server technology so that we may license these technologies to other companies.

A. OPPORTUNITY

We began this initiative because of the unsolicited interest of some Asian companies in licensing our technology. This initiative continues in tandem with other development efforts, though we have intentionally avoided including projected revenues from licensing in our business model. We believe that a market exists for our streaming solution.

B. COMPETITORS IN STREAMING SERVER SOFTWARE

Currently, there are no low cost, scalable, easy-to-deploy options for streaming audio over the Internet. Interested parties can license and set up a RealServer from RealNetworks, a Windows Media server from Microsoft, a Quicktime server from Apple or engage a third party ISP or ASP. All these options cost thousands of dollars to implement. We believe many companies would flock to a low-cost, scalable server solution. We expect to reach many customers that have thus far been priced out of the market, or who have not yet had a compelling reason to stream audio. Potential customers include traditional broadcast radio stations, businesses, groups, clubs, associations, organizations, sports teams, educational, political, religious and governmental bodies—many of the entities that would be broadcasters on Live365's service.

C. INITIAL STEPS

Our “private label radio” (PLR) effort is the first step in commercializing our technology. In PLR, we are in effect licensing our technology by hosting broadcasts for the customer. Once we are satisfied we have a commercial package suitable for external distribution, our next step will be to pursue third party distributors. Distributors would include JV's, telcos, ISP's, systems integrators and software resellers. Becoming a technology provider is part of our long-range strategy. Technology providers typically command high valuations in the market.

IX

Maximizing Distribution and Proliferation; “Dominating the Dial”

“Personalized Radio
(Spinner [America
Online], Live365, ...)
named #3 “Killer App of
Streaming Media”
— Deutsche Bank

Advances in wireless technology and Internet connectivity (see above) are making it possible for Internet radio to match the “reach” of traditional broadcast radio. Not surprisingly, user interface issues are of key importance for maximizing distribution and adoption of Internet radio on these devices. Our development efforts along these lines are focused on distinct “listener paths” and “listener types.”

A. LISTENING PATHS

Listening paths refers to listening environments or situations where a *radio dial* may be used to access Internet radio content. Each path has its own design challenges.

1. **Home Listening**—includes all devices used in the home such as home computers, in-home audio components, entertainment centers and set-top boxes. Challenge: Creating an interface that is intuitive and consistent from one device to another.
2. **Automobile Listening**—includes any kind of in-vehicle listening device. Challenge: Making an interface that is simple enough to use while driving.
3. **Workplace Listening**—refers to listening while on the job, at one’s usual place of employment. Challenge: Corporate firewalls that limit access to Internet radio.
4. **Other Mobile Listening**—refers to listening on devices while walking, on trains, riding subways other methods of transport. Challenge: Creating interfaces small enough to fit in a PDA or cell phone.
5. **Play Listening**—refers to listening to the radio while engaged in some other activity, such as shopping in stores and malls, or in bars and clubs. Challenge: Creating an interface that is unobtrusive and does not interfere with the listener’s primary activity.

B. LISTENING TYPES

We’ve identified two types of listening: passive and interactive.

1. **Passive Listening**—the listener leaves it to the broadcaster to determine the “playlist,” or what content is presented and in what order. The listener chooses a station that features the kind of music he or she wants to hear, but makes no effort to seek out new CD’s, music files or audio at the chosen station.
2. **Interactive Listening**—a form of radio listening uniquely facilitated by the Internet. Listeners proactively seek audio content “on demand.” Interactive listening includes other online activities such as communicating with other listeners and broadcasters, buying music or advertised products, voting on or rating content, and providing feedback.



The Future

“Companies that we believe are positioned to benefit from the growth of Internet radio include Spinner (America Online), SonicNet (Viacom), Live365.com, and Redband Broadcasting.”

—Dain Rauscher Wessels

Many challenges lie ahead for Live365. But so, too, do great opportunities.

The challenges include: maintaining sufficient funding; generating revenues in line with projections, managing costs prudently, creating valuable business partnerships, improving the user experience of our service, generating continuous increases in traffic and listening time, anticipating and addressing competitor issues, selling our services profitably, incorporating international versions of our service, rapidly migrating our service to wireless and small user interface devices, and more.

Happily, Live365 is making great progress on each of these fronts. The company is results-focused and we are putting new business relationships in place week by week. The distribution of our service is growing rapidly, and user experiences—both for listeners and broadcasters—are improving daily.

Internet radio is as profound a technological revolution for radio as was the transistor or FM. Internet radio is coming, will become ubiquitous and will offer enormous choices to consumers, empower broadcasters and advertisers, and become a dominant part of our experience with radio. We passionately believe that Live365 is uniquely positioned to ride this wave.

Stay tuned!

¹ “The Self-serve Audio Evolution.” Forrester Research Report, May 2000.

² Arbitron Internet Radio Survey (Internet V, July 2000).

³ “A Hollywood Hand Goes Long on Wireless Media,” by John Geirland. *Inside*, February 6, 2001.

⁴ “I’m Ready For My Startup, Mr. De Mille,” by John Geirland. *Wired*, April 2000.



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Live365 is the Premier Internet Radio Service provider.

We offer our technology solutions to Commercial Radio stations and Networks, Organizations and to the consumer. If you are a member of the media, have any remaining questions about either the industry or our technology, or are interested in using our services please feel free to contact any of the following.

To contact Live365 for a **business development** deal:
bizdev@live365.com

For those looking to **advertise** on Live365 contact:
sales@live365.com

For those interested in **private label radio** contact:
plr@live365.com

For **media and public relations**, contact:
Alan Wallace, VP of Marketing
 Phone (650) 345-7400 x130
radio@live365.com

Home Page: www.live365.com

Listening to Live365: www.live365.com/cgi-bin/directory.cgi

Broadcasting on Live365: www.live365.com/broadcast/broadcast.live

Private Label Radio: www.live365.com/plr/index.html

The Live365 Community: www.live365.com/community/index.html

About Live365: www.live365.com/info/index.html

Press Coverage: www.live365.com/info/press/index.html

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INCREASE TOTAL LISTENING TIME AND EXTEND REACH

- More “at-work” listeners tune into radio via the Internet than FM radio tuners
- Nearly half of Americans listen to radio while using the Internet
- The majority of online radio listeners prefer local stations

INCREASE YOUR AD REVENUE

- Webcast listeners pay more attention to streamed online commercials than to banner ads
- On-air advertisers will pay more for links through high-traffic radio station sites
- Streaming makes your site “super-sticky” —visitors stay longer/visit more frequently



CUSTOM TUNER

- Large logo representation
- Matches the “look and feel” of your Web site
- Broadcast launches directly from your site; visitors never have to leave your site to tune in
- Private message boards let your listeners interact with you and with each other

DEVELOP SIDE CHANNELS

- Extend your brand on the Internet by providing different types of related audio programming
- The majority of Audio “Streamies” are interested in side-channels
- Side-channels offer sponsorship and Internet advertising opportunities
- Create your station’s Internet-only program, free from FCC jurisdiction
- Explore niche programming; use side-channels as inexpensive Research and Development for new styles and formats

FEATURES OF LIVE365’S PRIVATE LABEL RADIO SERVICE

- **Rich data access:** measure your popularity and discover your listener behavior
- **Quick and easy to tune in**
 - Player365 lets listeners tune in within seconds
 - Also compatible with all major streaming players, including Real, Windows Media Player, Winamp, Soundjam, etc. – no downloading necessary
- **Flexible broadcasting options**
 - Relay your current FM broadcast over the web
 - Create your own side channel with Studio365 within minutes