MAY · JUNE · JULY · 2000

THE IrDA BULLETIN

Infrared Data Association SM
www.irda.org

The Smart Wireless Link

Universal Applications as the Missing Link

By: Loring Wirbel, Managing Editor of Communications, EE Times

Infrared Data Association members who witness 400-plus members jump on the Bluetooth SIG bandwagon may be forgiven for seeing a hype element of what Yogi Berra would call "déjà vu all over again." As we waste time arguing about the level of complementarity vs. overlap between Bluetooth and IrDA, we lose sight of the fact that early adherents to both standards have provided visions of what might be accomplished in lightweight serial links. The problem is that both camps have failed to follow through with software developers in making those applications come alive.

IrDA has hit a new level of success in the ubiquity of the 150 million platforms featuring an embedded infrared port. Yet the victory is hollow if most ports remain unused due to a deficit of interesting application software. Bluetooth is in danger of falling victim to the same pattern of under-usage. We hear lofty talk of personal area networks, eventually pared down to more immediate issues of serial synchronization, a trend in RF that is nearly identical to that in the IrDA community in the mid-1990s.

Software developers are bound to be excited by the automated IrDA features present in Windows 2000, but they need more. That is why IrDA's most important initiative in 2000 may be the creation of usage models, incorporating both application profiles

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Who Will Win The Connectivity Battle?

By: Lawrence Faulkner, Executive Director of IrDA

Will Bluetooth kill IrDA? Will USB2 kill 1394? Who will win the connectivity battle? A year ago I was working hard to get the word out that these technologies are not competing, they are complementary. Well, now even I am getting tired of that phrase. It's not that I don't believe it, I do believe it wholeheartedly. The problem I have is that while I say IrDA and Bluetooth complement each other, I have little or no evidence that we are helping each other succeed. It is true that IrDA has allowed Bluetooth to use its OBEX protocol as a common method of file transfer, making it easier for applications to access either the IrDA or the Bluetooth port but this was more of a practical decision to not reinvent the wheel rather than a conscious step down the road leading to adaptable connectivity. My idea of complementary is this. Define a method of dynamically switching from the IrDA port to the Bluetooth port and back again as media conditions change. Bring the devices near each other and they can connect at one speed, point them at each other and they communicate at a higher speed, or point the devices to begin a connection and continue the connection via RF without maintaining alignment. That is complementary.

The question becomes "Why limit this concept to two connectivity protocols?" I believe that IrDA and Bluetooth are great candidates for this kind of cooperative concept but there is no compelling reason to exclude USB or 1394 or HomeRF or the various flavors of IEEE 802.

People like me who worry about connectivity know that the key to better device communications is application support for these new ports, yet there is a basic disconnect between the hardware guys and the software guys. Maybe that's not entirely accurate but here is the issue. The application developers want to write software for the widest possible number of platforms and they must be able to count on a certain port being available. What do they do? They write to the COM port or the parallel port! But the new applications that leverage the features of the new ports are the key to making computing easier. The applications guys are in an awkward position. It takes one or two years to write a new software title, how can they predict which port will be there and in what numbers? So they make a conservative decision and write to the COM port. I would like to see IrDA and the other connectivity organizations cooperate to solve this problem. We all

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Letter From The Executive Director

Dear Members:

IrDA is changing. The original charter of the organization, to create an infrared serial cable replacement, has been fulfilled. Last year we expanded the scope of the organization to extend our specs to the application layer, resulting in the creation of the first Application Profile – Point and Shoot, which defines quick file transfer and requires certain data formats to be supported. We have a test spec and are in the process of updating the IrDA Logo program to include reference to these new documents. The goal is interoperability at the application layer, which is what the user really cares about.

We are changing in other ways too. The two quarterly meetings this year have included a day of public presentations, classes, speeches and demos designed to inform new members, prospective members and the press about the different types of products that have been built to our specifications. We plan to increase this type of content during our meetings to include more market stats, round-table discussions and implementation details. For example during the last meeting the Marketing Committee released its numbers estimating the units shipped by the end of 1999 and forecasting through 2003. The charts included the 1998 projections from Strategies Unlimited and show that we have far exceeded those projections.

It is not only the format of our meetings that is changing. We look forward to the creation of regional Implementers Forums, the first one of which is starting in Taiwan. The purpose of these Forums is not to create new standards but to help those who want to work with the standards that already exist. They will bring together hardware suppliers, software developers and device manufacturers to exchange information on the design and testing of IrDA enabled devices, localization of materials and developing a network of resources to serve the manufacturers of the region.

Finally we are beginning to network with other organizations to develop common solutions to common problems. I believe we have the chance to begin working toward a convergence of connectivity standards.

I would like to hear your ideas regarding these and other changes. Drop me a note if you have content you would like to present or have a suggestion for content that should be presented. Contact Lawrence@irda.org.

Sincerely,
Lawrence Faulkner

Opportunities Available For Exhibiting in the IrDA Pavilion at World PC Expo in Tokyo

There are exhibiting opportunities available for the IrDA Pavilion at the World PC Expo scheduled for October 17th – 21st at Makuhari Big Sight in Tokyo, Japan. IrDA's participation in this event includes a common demo area, meet-ing room, interpreter service. On-site PR and advertising opportunities will include a press tour of the pavilion and conference. Members who are in-terested in participation should contact Rebecca Murray at rebecca@irda.org. **http://publications.asiabiztech.com/wdc**

IrDA Pavilion

WELCOME TO OUR NEW MEMBERS

Ascom AG

Capella Microsystems

Data Dimensions

First Web Bank

fusionOne

Integration Associates

Kawasaki Steel

Link Evolution

Redstrike B.U.

SunPower

Supergold

Symbian

Tatung

Trombley Takenaka Int.

Visa International

Calling for Member Contributions

If you have case studies or news stories about IrDA solutions that could be included in future newsletters, please send them to the editor, Janet Courtenay, jcourtenay@rcn.com, or to Daphne Terrell at daphne@irda.org.

IrDA Featured in Taiwan Events

IIC-Taipei 2000 Conference Focuses on Communications and Networking Technologies

IrDA Speaks at the Open Forum Panel

The International IC - Taipei Conference and Exhibition (IIC-Taipei 2000) was held May 3rd and 4th in Taipei and was attended by more than 500 delegates who participated in the two-day event. IrDA particiapted in this event with a presentation during the Connectivity Track and also on the the Open Forum panel, "Interfacing for the New Millennium."

The Open Forum focused on the current and future trends of interfacing and presented industry views of various interconnect technologies. The panelists included Dr. Keming Yeh, of ACTiSYS Corporation and Test/Interop Committee Chair of IrDA, James Snider (IEEE 1394), Claudia Innes (IEEE 1284), Y.T. Wu (Bluetooth), James Bates (USB 2.0) and Carl Andren (IEEE 802.11).

Dr. Keming Yeh of ACTiSYS Representing IrDA Addresses Audience in The Open Forum Panel

IrDA Announces New Taiwan Implementers Forum

IrDA announced the formation of a Taiwan Implementers Forum at a press conference hosted by ACTiSYS at their Headquarters in Hsin Chu, Taiwan and the Shung-Shan Institute of Science & Technology (CSIST). ACTiSYS, President Dr. Keming Yeh, and IrDA Executive Director, Lawrence Faulkner, discussed the latest developments in IrDA Technology and discussed the purpose of this first Implementers Forum in Taipei.

Taiwan electronic companies are now focusing their efforts on communications equipment and interfacing technology, and the Taiwan Implementers Forum was formed to lead the way in spurring widespread adoption of IrDA as a leading communications technology.

Editors and industry representatives attending the press conference and meeting with IrDA leadership included Techoo.com, DATAFAB, Inforworkstation Co. Ltd, Via Technologies, Photonics Industry & Technology Development Association, DigiTimes Publications, ERA Info, Commercial Times, Wintel, tTimes, cnYES, Economic Daily News, BioAsia Investments and others.

♦ ♦ ♦

Highlights of the April General Meeting

By Daphne Terrell, IrDA Director of Operations

IrDA's second General Meeting in 2000 was held at the Sir Francis Drake Hotel from April 10th through 13th. Sponsors of this event included IrDA member companies Agilent, Calibre, Clarinet Systems, EmbedNet, Link Evolution, Vishay Telefunken. Also featured during the General meeting were the two new programs introduced at the January meeting; the one-day Hardware and Protocol Software Seminar and the Mobile Communications Technology Conference which focused on IrMC technology. The instructors for the seminar, which was attended by engineering design management, designers, implementers and testers were Dr. Charles Knutson of Oregon State University and Dr. Joerg Angerstein of Vishay Telefunken.

The technology conference featured keynote speaker, Andrew Seybold of Andrew Seybold's Outlook who provided an update on the latest developments in mobile communications technology and new products.

The Technical Committee addressed a series of items. Three errata items for IrLAP Version 1.1 were discussed, adapted, and closed. As well, modifications and clarifications were recommended to several aspects of the test documents.

The IrDA Marketing Committee activities covered a wide range of topics. Most of the IrDA technical foundation work has been accomplished and developer-oriented content is now becoming foremost on agendas. As a result, the group recommended modifying the meeting format towards more end-use focus. Also as part of this effort, a proposal was brought foreword to provide an Application Note for the use of the Salutation discovery information as part of the IrDA discovery processes. In the general Marketing Session, an update was provided on the current Marketing statistics for IrDA devices. The presentation covered accumulated devices up to the year 1999 and projections for shipments out through 2003.

The new IrFM special interest group activity update was provided. This group is working on development and demonstration of conducting Financial Transactions over an IrDA link to retail systems.

News from the Japanese market finds there are now three cellular IrDA enabled phones available; the Nokia NM207, NM502I, and Panasonics' P502i. The PocketStation is becoming more and more popular with more IR games being played. New CASIO wristwatches feature both USB and IrDA communication, and also one model has a camera built-in.

The Test and Interop Committee worked on completing the IrReady 2000 testing strategy, Point and Shoot profile test specification and test procedure. The committee will finalize by the end of May 2000 the technical specifications, tools and practical procedures for IrReady2000 tests. These specifications have been presented and discussed in the past IrDA meetings and the revised copies will be posted for IrDA internal review.

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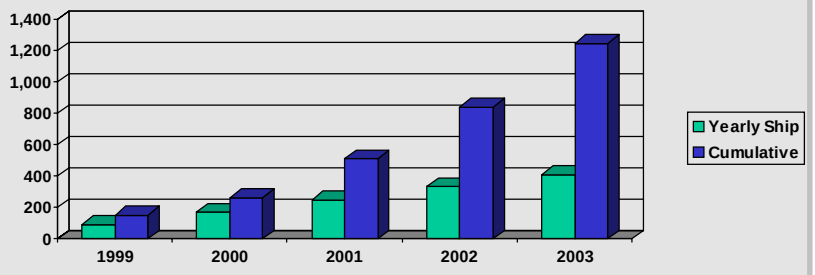

Projections for shipments from 1999-2003(figures in millions)

IrDA's Second Hardware and Protocol Software Seminar

IrDA's Hardware and Protocol Software Seminar was held on April 12th in conjunction with the General Meeting at the Sir Farncis Drake Hotel in San Francisco. Charles D. Knutson, Ph.D. Computer Science Department of Oregon State University led the program which was attended by engineering management, designers, implementers, and testers of embedded systems.

The sessions explored the hardware and software aspects of integrating IrDA into systems and addressed the following areas: in-depth system analysis and usage scenarios, hardware and software requirements, applicability of IrDA standards to particular applications, and a brief intense look at operation of the requirement protocol layers were included.

Instructors for these seminars are Charles D. Knutson, Ph.D. Computer Sience Dept. at Oregon State University, knutson@cs.orst.edu.

Joerg Angerstein, Ph.D. Vishay Telefunken, Heilbronn, Germany, joerg.angerstein@vishay.de.

These day-long seminars will be scheduled during IrDA's quarterly meetings. To attend future sessions, please contact Daphne Terrell at daphne@irda.org.

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IrDA IN THE NEWS

Recent Announcements from IrDA Member Companies

Agilent Technologies:

Agilent announced a new IrDA-compatible infrared transceiver that extends the battery life and increases the portability of personal digital assistants, pagers and mobile phones.

The Agilent HSDL-3202 is the industry's first IR transceiver capable of operating with logic levels as low as 1.8 volts, allowing the transceiver to work with today's most popular low-power microcomputer chip sets and with custom ASICs that operate at 1.4 volt or greater signal levels. Information on Agilent's IR transceiver products is available on the Web at www.semiconductor.agilent.com/ir.

Calibre IrDA Transceiver Is The Smallest On Market for Short-Range Data Links from Cell Phones, PDAs, and Handhelds

Calibre Inc. released the CHX1200, a compact infrared data communications transceiver module with dimensions of 6.8 mm by 2.8 mm by 2.2 mm high. The new CHX1200 is aimed at mobile computing and communications products, where it will enable infrared data connections with minimal board space and minimal effect on battery life. For additional information or a copy of the press release contact Ed Sullivan, ed_sullivan@calibre-inc.com, (408) 573-3921.

Wireless Internet Connectivity for Handheld Appliances

Clarinet Systems, a global provider of wireless connectivity for handheld appliances, has introduced an easy-to-use, one-port, wireless network-access system for connecting users of these appliances to the Internet and corporate network. Instant Access To Remote Information In Private, Corporate, Commercial and

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IrDA Hosts Second Industry Conference Featuring Mobile Communications

IrDA held its second technology event the "Mobile Communications " conference and expo on Wednesday, April 10th at the Sir Francis Drake Hotel in San Francisco. Held in conjunction with IrDA's general meeting, the event also brought in members of the press in addition to IrDA members and other industry attendees.

Lawrence Faulkner, IrDA's executive director kicked off the conference sessions with a review of 1999's activities and a future look at projections for IrDA enabled devices. Lawrence reviewed the market studies that showed that IrDA-enabled devices are expected to experience a healthy growth rate from an estimated 150 million in 1999 to 1.3 billion by 2003.

The range of these products include PCs, PDAs, printers, mobile phones, adapters, toys, watches, and other personal devices and appliances. With the foundation in place for many of these cable-less applications, IrDA's IrMC (mobile communications) group is addressing the fastest growing segment - mobile phones.

Mike Watson Addresses the Audience

The welcome address was followed by the keynote address from Andrew Seybold. Andrew gave an overview of the mobile data services market and how the interest has grown rapidly in a few years. Cellular/PCS prices have fallen which in turn is driving demand for wireless data. He also explored the wireless industry development, the different products and technologies that have emerged, and the wireless applications that are most likely to take off.

Andy also added his opinions regarding mobile data, mobile web browsing, location specific data and the need for interoperability between devices. He expressed support for the recent work IrDA has done to improve application interoperability and applauds the work that Palm has done in making Ir easy to use.

The technology panel featured key executives from businesses that are at the forefront of wireless technologies, and included Ericsson, Microsoft, Motorola, and Nokia. Lars Novak of Ericsson introduced their most connected phone featuring implementation of IrMC 1.1 level 4 Sync, firs WAN IrMC Sync, and first in the world with IrDial support D128. Lars also demonstrated its support of open synchronisation stanard IrMC 1.1, vCard, 2.1, vCalendar 1.0, and auto synchronization. James Scales from Nokia showed how Nokia's wireless data solutions incorporated infrared and internal data for cordless communication between phones, PCs, and printers, etc. Motorola provided a live demonstration of the new PageWriter ® Wireless Two Way Smart Pager.

The Product Pavilion featured demos on cross-brand and platform interoperability, the latest products from cell phones to digital cameras and free IR software for laptops or PDAs. Exhibitors included ACTiSYS, Agilent, Bosch, Calibre, Clarinet , Ericsson, Extended Systems, Infineon, Minicu Sodas Labs, Motorola, Nokia, Siemens, Sharp, and Vishay Telefunken. ♦ ♦ ♦

New IrDA Solutions Make the News

Some recent announcements in trade and business publications highlighted some new applications for IrDA technology.

Banana Republic Features IrDA Technology in their New Flagship Stores.

In an effort to integrate innovative technology into their stores, and appeal to the wired generation, Banana Republic introduced some new personal services that includes IrDA communications using Palm organizers. Two flagship stores at New York's Rockefeller Center and Santa Monica's Third Street Promenade provide sale information and directories of the store and surrounding areas. Customers with handheld organizers from Palm Computing can upload a store directory and map, sales information, and local area information.

IrDA Technology To be Used to Collect Data on Heavy Machinery Operation.

Collecting heavy equipment operation data may soon be done with an infrared beam. Keeping an eye on the operational condition of excavators, and other off road equipment may be a lot easier in the near future. Detroit Diesel says it is introducing an infrared light-powered data transmission system to move information from vehicles to fleet management personal computers. While the technology is the first being made available for on-road trucks first, an upcoming test this summer at a group of mining sites will check the viability of using the infrared system for off-road equipment. Using infrared communication to transfer data eliminates the need for operators and technicians to stop what they are doing and plug in cables to get the information in the traditional way.

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COMMITTEE & SIG UPDATE

Marketing Committee

The marketing committee reported new market projections on the total number of IrDA-enabled products: 320 million by year end 2000, 800 mullion-year end 2002, and 1.3 billion-year end 2003. IrDA's web site is generating tremendous interest with record number of hits on the IrDA web site of 318,480 for January through April. More technical content has been added to the site including white papers, reference materials, a press section, shareware, and downloads.

IrDA evangelists have responded to the need to take part in more industry conferences and meetings with participation on a worldwide basis. Presentations were given by members and officers at the Wireless LAN conference in London, Global Sources Conference in Taipei, the Taiwan Implementers Forum, Euroforum Conference on Wireless Connectivity in Dusseldorf in Germany, Intel PET-WG, IBC Conference on Bluetooth in London, the Portable Design Wireless Symposium in San Jose, and Portable Design 2000 in San Diego.

The new technology conferences which are scheduled during the General Meetings are drawing more press and interested industry constituents, and along with the Hardware and Protocol Software Seminars promise to be regularly scheduled events throughout the year.

IrWW – IrDA For Wrist Watches

The IrWW implementation guidelines for interoperability with procedures on handling vCard and bvCard and the new telecom parameters were reviewed. Drafts have been developed on "Watch to Phone" and "Phone to Watch."

The next steps in the IrWW roadmap are to present the Errata proposal at the July General Meeting, demonstrate a prototype model at the October General Meeting in Tokyo. Commercial products are predicted to be available by Spring 2001.

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IrDA Member News

Industrial Environments. The EthIR LAN 101 is targeted at non-dedicated, multi-user environments such as conference rooms and nurse's station where instant data access via handheld appliances and laptops is required. EthIR LAN is platform independent supporting Windows 95/98 and 2000, Windows CE, Palm, EPOC, Linux and MAC operating systems. The ESB101 is available with a transmission speed of up to 4Mb/ps. www.clarinetsys.com.

Extended Systems & Agilent Technologies Team Up.

Extended Systems, a leading provider of wireless connectivity and mobile data management solutions, and Agilent Technologies Inc., the world's largest manufacturer of infrared (IR) transceivers for mobile applications, today announced that they have entered into a sales agreement which will enable the companies to provide an easy and cost-effective solution for building Infrared Data Association (IrDA) standard-compatible devices. Using the IrDA standard, products such as laptop computers can connect without cables to printers, other computers, Windows CE devices, Palm devices, digital cameras, cell phones and other infrared-enabled products. www.extendsys.com www.semiconductor.agilent.com.

Nokia launches First Japanese i-mode phone with NTT DoCoMo.

Nokia has introduced their i-mode phone designed for the fast growing Japanese "internet capable" market. The NM502i is marketed together the NTT DoCoMo, the largest mobile operator in Japan, and is Nokia's first internet capable phone. At just 77 grams it is one of the lightest products in its category while still providing attractive talktime (130 minutes) and standby time (270 hours). In addition to the comprehensive set of advanced features, the NM502i also has a built-in modem and infrared (IrDA) connectivity, enabling data exchange with other IrDA enabled PDAs and PCs as well as other IrMC-compatible phones. Contact Nokia at Tel: +358 10 5051.

Motorola:

CSG Motorola delivers the wireless Internet to the first GSM Tri-band phone "The Motorola Timeport P7389 phone is the first WAP (Wireless Application Protocol) enabled GSM tri-band phone and allows users to receive Internet data almost anywhere in the world. The Motorola Timeport P7389 phone also offers infrared (IrDA) support.

Ericsson:

Ericsson demonstrated a new phone at Cebit the world's first WAN remote synchronization service using WAP and the open synchronization technology, IrMC 1.1. Ericsson also joined the SyncML initiative as a founding member to further promote open standards for WAN synchronization. Remote synchronization allows users to quickly update and synchronize applications such as email, calendar, meeting and address book entries wherever they are.

Sharp Microelectronics of the Americas (SMA):

Sharp announced the availability of its IrDA Control Peripheral Engine and its Host Control with USB Interface Evaluation Kits for use in designing Infrared (IrDA Control) wireless data communications interfaces. The SMA KLZ8519PEK Peripheral Engine Evaluation Kit is a support tool to help designers develop IrDA-Control compliant peripheral devices. Included in the package are a PC-based evaluation board and sample software for enabling observation and capture of IrDA-Control infrared communication data packets. This tool may also be used as an engineering reference for the development of user peripheral device software.

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(feature article continued from page 1)

want the application guys to write to our ports, we should make it less risky for them to do so. I am proposing that we collaborate on a common API that would give access to a wide variety of ports, wired or wireless. Now the application guys could take advantage of the new ports without having to bet on a single "winner." Ideally this API would hide some of the complexity of the new ports, complexity that now forces the software developer to learn a lot of port specific information and makes their job that much harder.

Even more value would come from a "port manager" that could dynamically switch from one port to another as the media changes, new connections become available or disappear.

I do realize this is an ambitious project but many elements already exist. Universal Plug and Play, Mobile IP, Salutation are, I believe, each part of the solution. What is needed is a common vision and a spirit of co-operation between these groups.

This seems like a great leap starting from where we are today but to me this is the next step in the evolution of personal computing. The new ports negotiate speeds and all kinds of other parameters to optimize the connection, why can't devices negotiate the best connection available? Please write to me and let me know what you think. lawrence@irda.org. ♦ ♦ ♦

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and test specifications, which will guide application developers in devising new, unique vertical applications. A "point-and-shoot" model for fast image transfers, requiring the use of OBEX and allowing the use of JetSend, is the first such usage model, issued by IrDA in April. This will be followed by usage models for synchronization, IR modems, and printing applications.

A second step in encouraging out-of-the-box thinking may be to show the world why a full TCP/IP stack may be a burden in many in-room applications, obviously a difficult point to put across in an era when every refrigerator and toaster seems destined to have its own IP address. Developers of in-room protocols for both infrared and radio, using efficient transport methods like Tiny Transport, can make common cause with the cellular phone industry developers pushing Wireless Application Protocol.

From a user education standpoint, all of us can show the networked world why lightweight tranport methodologies often are superior to a TCP/IP model. From an independent software vendor standpoint, our organizations can work together to encourage the development of software applications written to a common OBEX object base.

The immediate advantage to the ISV is the ability to write a single application that can be ported to IrDA, Bluetooth, and perhaps WAP systems. Longer term, it would be possible to think of an application that could dynamically search for an available port of any physical layer, and shift transport at will between IR and RF, even during a synchronization action.

The key is to stop thinking of serial point-to-point links in different physical layers as though they were fighting a zero-sum game. All of our organizations need to perform a collaborative effort at making personal-area applications with lightweight transport protocols obvious to the end user. Failure to get consumer software vendors behind such a vision may consign IrDA and Bluetooth alike to the status of the clever physical port on a compute platform that rarely comes to good use. lwirbel@cmp.com

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Beaming Your Personalized Greetings With Pocketgram.

Palmtop Publishing recently announced its innovative website that allows users of Palm OS organizers to create personalized greeting cards. Go to their website: www.pocketgram.com to find out how easy it is to create your own customized application with Internet access, a little imagination, and the ability to complete a simple web-based form. You will be able to create your own personalized greeting card and Sync it, Share it, Post it, E-mail it, and Beam it to friends and family.

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THE IrDA BULLETIN

FUTURE IrDA MEETINGS

IrDA July 2000
General Meeting & Board Mtg.
IrDA Printing & Imaging Technology Conference
Westin Horton Plaza Hotel
San Diego, California
July 18-20, 2000

IrDA October 2000
General Meeting & Board Mtg.
Tokyo, Japan
October 24-26, 2000

For detailed information on location and agenda, go to www.irda.org.

The IrDA Bulletin is published quarterly to keep IrDA members informed about standards developments and the latest news.
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