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SHMOOCON 2006 – BUILD IT! – BREAK IT! – BoF IT! (HACKING AND COMPUTER SECURITY CONFERENCE) – 35 DISK SET – Washington, D.C.. Complete conference set includes Shmoo-1801D through Shmoo-1839D. SHMOO-1800D • UPC 8 82917 18009 5 • 33+ hours • 35 DVD Disks • Normally \$459.95 – Now \$399.95

CYBERSECURITY AND ACCOUNTABILITY IN THE DIGITAL AGE (Friday Keynote), presented by Dan Geer. The X Window System and Kerberos (1988), the first information security consulting firm on Wall Street (1992), convenor of the first academic conference on electronic commerce (1995), the “Risk Management is Where the Money Is” speech that changed the focus of security (1998), the Presidency of USENIX Association (2000), the first call for the eclipse of authentication by accountability (2002), principal author of and spokesman for “Cyberinsecurity: The Cost of Monopoly” (2003), and co-founder of SecurityMetrics.Org (2004). Shmoo-1801D • UPC 8 82917 18019 4 • 60 min • DVD Disk • \$19.95

SECURING CIVIL LIBERTIES – OR WHY HACKERS SHOULD RUN THE GOVERNMENT (Saturday Keynote), presented by Jennifer Granick. Our country is in the midst of an eavesdropping scandal, in which the Bush Administration has admitted conducting thousands of warrantless wiretaps and email interceptions without seeking court approval. This is just one of many technologies of control implemented following September 11th. Lawyers, pundits and other talking heads debate whether the wiretaps violate United States law (short answer: they do), and whether mass surveillance is necessary for national security. The debate suffers from a failure of imagination; about the ways technology interoperates, about what living in a surveillance state would be like, and about how terrorists will plan and execute an attack. The debate also suffers from a fundamental lack of information about how to design security systems. It is possible to design an inter-operating technological and legal system that is both secure and free. Hackers have imagination to spare. They know how to ask dangerous questions and think about “what would happen if”. Hackers understand technology. They know the principles of designing secure systems, principles remarkably like the ones constitutionally implemented by our founding fathers. In this talk, the argument will be that hackers are perhaps the best people to design and advocate a system in which national security and civil liberties coexist. Jennifer Stisa Granick is a Lecturer in Law and Executive Director of the Center for Internet and Society (CIS) at Stanford Law

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School. She teaches, speaks, writes and litigates on the full spectrum of Internet law issues including computer crime and security, national security, constitutional rights, and electronic surveillance, areas in which her expertise is recognized nationally. Shmoo-1802D • UPC 8 82917 18029 3 • 60 min • DVD Disk • \$19.95

BEHAVIORAL MALWARE ANALYSIS USING SANDNETS (Build It!), presented by Joe Stewart. The amount of malware being propagated in the wild is growing to staggering proportions. Many people are aware of the problem and would like to help stem the tide, but without significant skills in debugging and assembly language, most are left to simple “strings” analysis or VMWare-based sandbox behavioral analysis. The malware authors have responded by packing their creations with an ever-increasing array of packers, and utilizing sandbox-detection techniques to prevent themselves from running inside a virtual machine. A sandnet extends the concept of a sandbox by giving the malware a “playground” network environment that appears from the malicious code’s point of view to be the whole Internet, much in the same way the concept of a “honeynet” evolved from the simple honeypot. In this presentation, Detailed instructions and a toolkit will be provided to assist attendees in later setting up their own sandnets for malware analysis. Joe Stewart, GCIH - Senior Security Researcher with LURHQ, a leading Managed Security Services Provider. In this role he researches unusual Internet activity to discover emerging threats, new attack techniques and the latest malicious code. He is a SANS Global Information Assurance Certified Incident Handler (GCIH) and has been in the information security field for five years. He is a frequent commentator on security issues for leading media organizations such as The New York Times, MSNBC, Washington Post, Bloomberg and others. Additionally, Joe has published numerous security research papers on Sobig, Migmaf, Sinit, Phatbot and other cyber-threats and attack techniques. Shmoo-1803D • UPC 8 82917 18039 2 • 60 min • DVD Disk • \$19.95

ASTERISK VOIP FOR THE MASSES (Build It!), presented by Damin. Asterisk is both an open source toolkit for telephony applications and a full-featured PBX. Asterisk is quickly following in the footsteps of Apache, sendmail and icecast. This session provides an overview of Asterisk and provides examples of scenarios where Asterisk can supplant traditional, expensive, proprietary PBX technology. It also provides an overview of the Asterisk community and how it has developed over the years. The content is presented in an easy to digest format that is suitable for both beginners as well as sea-

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soned phreaks. Gregory Boehnlein (Damin) is VP of N2Net, a provider of mission critical hosting based in Cleveland, Ohio. In addition to 10 plus years of experience working with telco service providers, Greg is a director on the board of the Linux Users Group of Cleveland, an organizer of the Ohio Linuxfest Conference and an active Asterisk developer. Shmoo-1804D • UPC 8 82917 18049 1 • 60 min • DVD Disk • \$19.95

BLACK OPS OF TCP/IP 2005.5 (Build It!), presented by Dan Kaminsky. Our networks are growing. Is our understanding of them? This talk will focus on the monitoring and defense of very large scale networks, describing mechanisms for actively probing them and systems that may evade our most detailed probes. We will analyze these techniques in the context of how IPv6 affects, or fails to affect them. A number of technologies will be discussed, including: New findings in our worldwide scans of the DNS infrastructure, mechanisms for very high speed reconstruction of IPv4 and IPv6 network topologies, complete with visual representation of those topologies implemented in OpenGL. We will discuss how a graph theoretical approach to network management can (and can’t) solve flow control for massive scans. A temporal attack against IP fragmentation, using variance in fragment reassembly timers to evade Network Intrusion Detection Systems, DNS poisoning attacks against networks that implement automated defensive network shunning, and other unexpected design constraints developers and deployers of security equipment should be aware of. Shmoo-1805D • UPC 8 82917 18059 0 • 60 min • DVD Disk • \$19.95

ADVANCED NETWORK RECONNAISSANCE WITH NMAP (Build It!), presented by Fyodor. While many security practitioners use Nmap, few understand its full power. Nmap deserves part of the blame for being too helpful. A simple command such as “nmap scanme.insecure.org” leaves Nmap to choose the scan type, timing details, target ports, output format, source ports and addresses, and more. You can even specify -iR (random input) and let Nmap choose the targets! Hiding all of these details makes Nmap easy to use, but also easy to grow complacent with. Many people never explore the hundreds of available options and scan techniques for more powerful scanning. In this presentation, Nmap author Fyodor details advanced Nmap usage — from clever hacks for teaching Nmap new tricks, to new and undocumented features for bypassing firewalls, optimizing scan performance, finding free porn, defeating intrusion detection systems, and more. A special Shmoo version of Nmap will be released with new features discussed in the presentation. 1

Fyodor authored the popular Nmap Security Scanner, which was named security tool of the year by Linux Journal, Info World, and the Codetalker Digest. Chicks dig it too, as demonstrated by Trinity in "Matrix Reloaded". He also maintains the Insecure.Org and Seclists.Org security resource sites and has authored seminal papers detailing techniques for stealth port scanning, remote operating system detection via TCP/IP stack fingerprinting, version detection, and the IPID Idle Scan. He is a member of the Honeynet project and a co-author of the books "Know Your Enemy: Honeynets" and "Stealing the Network: How to Own a Continent". He hopes to finish a book on Nmap in time for ShmooCon. Shmoo-1806D • UPC 8 82917 18069 9 • 60 min • DVD Disk • \$19.95

FREEBSD JAIL(8) – A SECURE VIRTUAL MACHINE, (Build It!), presented by Ike. Early unix mainframe computing brought elegant process and resource sharing systems which helped get more application use out of expensive hardware. These concerns have been largely been pushed aside in computing with the rise of desktop PCs, and large farms of ever-shrinking pizza boxes in the data center. Today, as more punch gets packed into 1u than ever, server resources can be further consolidated and abstracted to securely separate complex and sophisticated services in the same hardware server, by running secure virtual UNIX machines. FreeBSD Jails are a time-tested, secure, reliable UNIX virtual machine with endless uses. Isaac Levy, (Ike) is an Open Source web-application developer based in NYC. He runs Diversaform Inc. to make his code feed itself, (and ike). Diversaform specializes in Zope and BSD based solutions. Ike works as a consultant/developer mostly with small and medium sized business, but periodically works within large organizations. Ike's personal passions lie in object-relational data systems, and UNIX hacking, particularly any kinds of internet applications of these. His 'young adult' life in computing has been lived almost entirely in Open Source, as well as on the internet, and ike aspires to give back to the Open Source community that has raised him. Isaac is a proud member and on the board of advisors of NYC*BUG (the New York City *BSD Users Group) <<http://www.nycbug.org/>>, and a long time member of LESMUUG, (the Lower East Side Mac Unix Users Group www.lesmuug.org). Shmoo-1807D • UPC 8 82917 18079 8 • 60 min • DVD Disk • \$19.95

DO IT YOURSELF: BUILDING AN ENTERPRISE CLASS SURVEILLANCE SYSTEM (Build It!), presented by Joel Wilbanks, Cygnus. Building an enterprise class surveillance system (ECSS) is not as complicated as it sounds. Constructing a system with all the bells and whistles only takes a desire to save the company money and the ability to research and evaluate products currently available in the industry. In January 2004 Joel proved this theory by constructing an effective ECSS without any prior knowledge of surveillance. From inception to

project completion, there were several security companies (some VERY large and well known, others local to the area) that were interested in assisting us to meet our goal. After meeting with me and reviewing the RFP we were informed that there was no way possible to provide the specified system within our budget of around \$120,000.00. Of the seven companies that initially demonstrated interest in the project, only one company submitted a bid: for \$360,000.00. This was disheartening to hear, so he began to do more research and found a vendor which would sell us the required surveillance hardware and would let us install it.. Joel has been involved with Information Systems for 8 years, practicing in lines of business such as entertainment, retail, manufacturing, healthcare, media, consulting, and local government. The past 4 years have centered on Information Security. Joel is a regular participant in security groups such as InfraGard. He is an active member in AITP (Association of Information Technology Professionals) and the Jonesboro Arkansas chapter of the Junior Chamber of Commerce. Joel is also a senior staff member of NEALUG (Northeast Arkansas Linux Users Group) were he regularly presents technical and Information Security material Shmoo-1808D • UPC 8 82917 18089 7 • 60 min • DVD Disk • \$19.95

ADVANCES IN SINGLE PACKET AUTHORIZATION (Build It!), presented by Michael Rash. This talk will demonstrate some recent advances in Single Packet Authorization (SPA) as implemented by fwknop. In particular, a working demonstration of code that implements the following new capabilities will be presented: A patch to OpenSSH that integrates the fwknop client directly, integration of GPG key rings as an optional replacement for the symmetric Rijndael algorithm, the ability to require additional authorization credentials such as those required by LDAP and UNIX crypt() on the server side. These new features will be included in fwknop-0.9.6 which will be released at ShmooCon. Single Packet Authorization is becoming an increasingly important method of protecting arbitrary network services through the use of a kernel level filtering mechanism such as Netfilter in the Linux kernel. After all, even OpenSSH, which is developed by some of the best security programmers around, occasionally contains remotely exploitable vulnerabilities from time to time. Michael Rash holds a Master's Degree in applied mathematics with a concentration in computer security from the University of Maryland. Mr. Rash works as a security research engineer for Enterasys Networks, Inc. where he develops code for the Dragon intrusion detection and prevention system. Previous to Enterasys, Michael developed a custom host-based intrusion detection system for USinternetworking, Inc. which was used to monitor the security of over one thousand systems from Linux to Cisco IOS. Michael is the creator of two open source tools "psad" and "fwsnort" that are designed to blur the boundaries between Netfilter and the Snort IDS. More information about Michael and various open source

projects can be found at: www.cipherdyne.org Shmoo-1810D • UPC 8 82917 18109 2 • 60 min • DVD Disk • \$19.95

NETWORK SECURITY MONITORING WITH SGUIL (Build It!), presented by Richard Bejtlich. This talk will introduce the open source network security monitoring suite called Sguil (www.sguil.net). Sguil is a Tcl/Tk interface to alert data from Snort, session data from the Security Analyst Network Connection Profiler (SANCP), and full content data from Tcpdump or a second instance of Snort. Sguil is unlike any Web-based alert GUI used to perform so-called "analysis" of Snort alerts, like ACID or BASE. While products like ACID and BASE are limited to browsing Snort alerts and frustrating analysts with their lack of data, Sguil uses a Snort alert as the beginning of a network-centric investigation — not the end. The author has deployed Sguil in locations under active attack and compromise and used the data to eject real bad guys from victim enterprises. Richard Bejtlich is founder of TaoSecurity (www.taosecurity.com), a company that helps clients detect, contain, and remediate intrusions using network security monitoring (NSM) principles. Richard was previously a principal consultant at Foundstone, performing incident response, emergency NSM, and security research and training. He created NSM operations for ManTech International Corporation and Ball Aerospace & Technologies Corporation. From 1998 to 2001 then-Captain Bejtlich defended global American information assets in the AFCERT, performing and supervising the real-time intrusion detection mission. Shmoo-1811D • UPC 8 82917 18119 1 • 60 min • DVD Disk • \$19.95

COUNTERING ATTACKS AT LAYER 2 (Build It!), presented by Eric Smith, PreSet Kill Limit. Network security at layer two is often overlooked because many administrators do not consider attacks from within to be a credible threat. This philosophy may apply to carefully firewalled data centers, but universities and other institutional settings are particularly vulnerable to attacks at layer two. Furthermore, nearly all wireless networks, even those employing WPA or 802.1x, can fall victim to the inherent trust designs of the underlying ethernet protocols. In this presentation we will demonstrate a number of layer two attacks and give examples of countermeasures that can be employed to minimize the exposure of your network. We will also introduce L2KB, our tool which can respond in real-time to a number of layer two attacks. Eric Smith is the Network Administrator for Bucknell University, located in Lewisburg, PA. Eric has been working in the field of network administration for over ten years and has provided network consultation services in Research Triangle Park and New York City. In addition to a degree in chemistry, Eric holds a number of industry certifications, including RHCE, CCNP, MCSE, and CNE. Eric is a founding member of PreSet Kill Limit, the security research group which won the Wardriving Contest at Defcon 13 this past summer. Shmoo-1812D • UPC 8 82917 18129 0 • 60 min • DVD Disk • \$19.95

CARBUS BUS-MASTERING: OWN-ING THE LAPTOP (Build It!), presented by David Hulton. This presentation will introduce an opensource verilog Carbus controller as part of the OpenCiphers project which can allow an attacker to manipulate arbitrary memory on the PCI bus of a laptop that has carbus. Code will be provided to allow FPGAs with on-board processors to read/write memory on the host machine in real-time opening many different attack vectors. Some topics that will be covered include: Locating and downloading passwords and secret keys in memory, unlocking screensavers, tracing and modifying execution flow, taking over other devices on the PCI bus and installing memory-based and firmware based trojans. This talk will include demonstrations and will generate discussion of other useful applications of having a PCI co-processor. David Hulton has been in the security field for the past 7 years and is the main developer of the `bsd-airtools` project, a complete 802.11b penetration testing and auditing toolset, that implements all of the current methods of detecting access points as well as breaking wep on them and doing basic protocol analysis and injection. David has spoken at numerous international conferences on Wireless Security, has published multiple whitepapers, and is regularly interviewed by the media on computer security subjects. David Hulton is one of the founding members of Pico Computing, Inc., a manufacturer of compact embedded FPGA computers and dedicated to developing revolutionary open source applications for FPGA systems. He is also one of the founding members of Dachb0den Research Labs, a non-profit security research think-tank, is currently the Chairman of ToorCon Information Security Conference and has helped start many of the security and unix oriented meetings in San Diego, CA. Shmoo-1813D • UPC 8 82917 18139 9 • 60 min • DVD Disk • \$19.95

WINDOWS VISTA HEAP (Build It!), presented by Adrian Marinescu, Microsoft. All applications and operating systems have coding errors and we have seen technical advances both in attack and mitigation sophistication as more security vulnerabilities are exploiting defects related to application and OS memory and heap usage. Starting with W2k3 and XP/ SP2 Windows incorporated technologies to reduce the reliability of such attacks. The heap manager in Windows Vista pushes the innovation much further in this area. This talk will describe the challenges the heap team faced and the technical details of the changes coming in Windows Vista. Adrian Marinescu, development lead in the Windows Kernel group, has been with Microsoft Corporation since 1998. He joined then to work on few core components such as user-mode memory management, kernel object management and the kernel inter-process communication mechanism. In the heap management area, Adrian designed and implemented the Low Fragmentation Heap, a highly scalable addition to the Windows Heap Manager, and he currently focuses on techniques of reducing the reliability of certain well known heap

exploits. Shmoo-1814D • UPC 8 82917 18149 8 • 60 min • DVD Disk • \$19.95

OUTBOUND CONTENT COMPLIANCE (Build It!), presented by Jim Noble. Outbound Content Compliance is a growing industry within Information Security. This area of control watches traffic and data in networks to scan the content for potential violations of policy. With the increase in visibility of personal data loss, organizations are increasingly coming under fire to tighten their controls, and ensure data privacy to the consumer. Today, several 1st generation products provide the visibility to the “data leakage”, providing the ability to modify existing controls to prevent further data loss. 2nd Generation products are on the immediate horizon, promising the ability to leverage the existing Information Security architectures to not only identify content in violation, but to prevent it’s release into the “wild”. This presentation will define the scope of the product market, the abilities of the products today, and discuss how they will effect not only the consumer, but the enterprise end user, the IT employee, and the InfoSec employee. Lastly, a demonstration of one of the products will also be included. This presentation is not meant to be a sales presentation, but an exploration in how outbound content compliance will effect you and your computer experience. Hack-1. Shmoo-1815D • UPC 8 82917 18159 7 • 60 min • DVD Disk • \$19.95

BREAKING “LANMAN” FOREVER (Break It!), presented by Dan Moniz and Patrick Stach. In late 2004, a few Shmoo, at the suggestion of Beetle, started working in earnest on using RainbowCrack to generate the entirety of the LanMan key-space, with the intent of breaking LanMan once and for all. Chief in this was work done by snax and Dan Moniz, who pooled around 120 CPUs combined at the high point of the collaboration to run rtgen jobs to build the datasets, which was completed by ShmooCon 2005. Further work was done by other Shmoo especially in the areas of sorting and storing the tables and making them available on a website we had set up for BitTorrent-based distribution of the data. We learned a few things in the process. One, we had inadvertently done the wrong rainbow table configuration, including every valid LanMan input character except the space character, ASCII 32 (20h). Two, RainbowCrack’s code had certain deficiencies. Three, RainbowCrack’s method, while based on the time-memory trade-off documented in Philippe Oechslin’s paper, only provided *statistical* coverage of the key-space, not guaranteed complete coverage. Initially we considered a modification to RainbowCrack to optimize certain parts, but in the wake of receiving an angry and somewhat odd letter from the author of RainbowCrack himself, Dan and Patrick decided to go their own way. Harnessing the power of 1024 Itanium2 CPUs and untold gigabytes of addressable unified memory, with the help of many friends, we break LanMan once and for all. Dan Moniz is a member of The Shmoo Group and has worked for a variety of high tech companies and organizations, including Alexa Internet

(an Amazon.com company), the Electronic Frontier Foundation, Cloudmark, OpenCola, and Viasec. He currently spends his time consulting, figuring out new cool ways to play with FPGAs, and tinkering with programming languages of all shapes and sizes. Patrick Stach lives in Houston and reads daily from the Gospel of Knuth. Shmoo-1816D • UPC 8 82917 18169 6 • 60 min • DVD Disk • \$19.95

COVERT CRAWLING: A WOLF AMONG LAMBS (Break It!), presented by Acidus. Web application IDS evasion techniques and countermeasures is a mature area of study. LibWhisker-based apps and Snort have been in a tug-of-war for years. However, the initial reconnaissance of a website or web app has been largely neglected. Its either done by hand (which is tedious) or with a traditional crawler like wget (which is very noisy). An automated crawl appears as an enormous spike in hit count and byte transfer that is well outside the bell-curve for normal users. This presentation will discuss theories and methods to hide an intelligent automated crawl of a target website or application inside the buzz of normal user activity. Some techniques include: Spreading crawl across multiple IPs and time, Following paths to links -vs- deep links., Throttling crawl based on publicly available traffic stats and IP fragment ids, Dynamic creation of fake Google referers to a deep linked pages based on content of that page, Intelligent selection of proxies based on target country and website type, Code for a covert crawler implementing these techniques will be released. Acidus is a security researcher for a web application security company, where he focuses on automated discovery of web app vulnerabilities and crawling technologies. He has presented at Toorcon, O’Reilly’s Emerging Technology Conference, The 5th Hope, Interz0ne, and several other conferences. His work has been featured in Make magazine, Slashdot, G4TechTV and other journals and websites. Topics have included reverse engineering law and techniques, web application security, phishing, and hardware hacking projects. He is a reviewer of white papers for the Web Application Security Consortium. He is creator of Stripe Snoop, a suite of research tools that captures, modifies, validates, generates, analyzes, and shares data from magstripes. Shmoo-1817D • UPC 8 82917 18179 5 • 60 min • DVD Disk • \$19.95

THE CHURCH OF WI-FI PRESENTS: AN EVIL BASTARD, A RAINBOW AND A GREAT DANE (Break It!), presented by Renderman, Thorn, Dutch, and Joshua Wright. The Church of Wifi has been hard at work in the last 6 months. At what, we aren’t sure. When we woke up we found we had some projects lying around we thought we’d share. Breaking WPA-PSK is possible with coWPAtty, but trying to do so onsite can be time consuming and boring. All that waiting around for things to be computed each and every time we want to check for dumb and default passwords. Well, we’re impatient and like to know the password NOW! So we came up with a ‘jdumas’ tool to do this for us. With the help of Joshua Wright, we have come up with a

solution and we also did some of the work for you. Airsnarf is a great proof of concept tool for the danger of spoofed AP's. Rogue Squadron raised the bar even more by creating a simple appliance for snarfing hotspot passwords. Public Hotspots are not the only networks vulnerable to snarfing though. We decided to take this idea as far as we could go, the end result is the 'evil bastard'. Complete with 'Point n' Own' interface, we set out to create the easiest and most evil network appliance available at your local Best Buy. Thorn runs his own technology-consulting firm, Blackthorn Systems, which specializes in wireless networks and security. An interest in Amateur Radio has also helped him bridge the gap between computers and wireless networks. RenderMan has been a fixture in the wardriving community for many years. He never seems to be out of crazy projects and ideas, never very far from wardriving news, often causing it himself. He spends his time working on things like the 'stumbler ethic', Worldwide wardrive, 'the warpack' and the Church of Wifi. J.D. "Dutch" Schmidt - Retired Danish IT entrepreneur, who spends far too much time being badly influenced by Thorn & Renderman's WiFi- Fu at the NetStumbler Forums. Joshua Wright is the author of several papers on wireless security and intrusion analysis and has contributed several tools to the open-source community designed to evaluate the security of wireless networks. Shmoo-1819D • UPC 8 82917 18199 3 • 60 min • DVD Disk • \$19.95

HACKING THE FRIENDLY SKIES (Break It!), presented by Simple Nomad. Simple Nomad is an internationally recognized security expert, and has written and released a wide variety of advisories, tools, and white papers involving computer security. Founder of NMRC, an international hacking group, he also works by day at Vernier Networks where his job is to slice and dice computers and the networks they reside on. He frequently speaks at security conferences, has been quoted in the New York Times, Washington Post, CNN, a bunch of Internet news outlets, and is an outspoken privacy fanatic. He is also paranoid, and believes that Evil Alien Overlords are losing his luggage and misdirecting his mail. Shmoo-1820D • UPC 8 82917 18209 9 • 60 min • DVD Disk • \$19.95

A YOUNG GENTLEMAN'S PRIMER ON THE READING AND EMULATION OF MAGNETIC CARDS (Break It!), presented by Abend. Magnetic cards have been in the wild for years. In that time, there has been lots of talk about how to read them, but most of the information on how to duplicate them has been limited to "Magnetic card writers are too expensive for you." The goal of this presentation is to give an overview of magnetic card technology, demonstrate a way to deceive a card reader into thinking it just saw a card, and demonstrate a cheap card duplicator. The presentation will cover what magnetic cards do, how they are read and written. No prior knowledge of magnetic card data is assumed. The presentation will start with the basics of card manufac-

ture, move on to how the data is formatted and encoded, demonstrate reading the data by both analog and digital methods, and then demonstrate methods for emulating and duplicating cards. Abend's mild-mannered alter ego is a software developer for EMC. When he's not at work, he's torturing electronic devices with hot (soldering) irons to make them do things they shouldn't. He learned software engineering at Worcester Polytechnic Institute and electronics everywhere else. Abend presented on magnetic card (in)security to the WPI ACM SIGSEC, and got some attention from the campus police. He also breathes fire. Shmoo-1821D • UPC 8 82917 18219 8 • 60 min • DVD Disk • \$19.95

ANONYM.OS: SECURITY AND PRIVACY, EVERYWHERE YOU GO (Break It!), presented by dr.kaos, digunix, atlas and beth, from kaos.theory security.research. Privacy and anonymity are hard to come by these days. What's worse, many if not most, of the world's network users don't have the slightest idea of the levels of monitoring to which they are subjected, much less the proper chain of steps necessary to strengthen their communications channels. While there are applications and systems that provide heightened anonymity and confidentiality to users, all require user-knowledge of configuration and proper systems administration techniques. The tiniest error in setting up any of the myriad tools available can lead to disaster. To fill this void, kaos.theory has created the Anonym.OS OpenBSD LiveCD. Anonym.OS provides strong privacy, anonymity, and security in a package suitable to give to your grandmother for use at her local Starbucks. You know, if your grandmother has something to hide... Across the past 8 years, Taylor Banks (aka dr.kaos) has written and delivered training and provided security consultation to thousands of security engineers, architects, managers and executives from hundreds of organizations. Gavin Mead (aka atlas) is the product of a misspent youth hunched over the comforting glow of a green-and-black CRT. Kevin Miller (aka digunix) is one of the founding members of the DC404 group. Having recently moved to Milwaukee, he can be found near many a public access point with tools in hand. Beth Milliken pokes at computers for fun and profit, Beth has been sleeping lately in the wet spot where technology, ethics, and legal issues run together. She is very interested in educating people about protecting themselves on line - from not-so-nice people, as well as not-so-nice legislation. Shmoo-1822D • UPC 8 82917 18229 7 • 60 min • DVD Disk • \$19.95

BITCHSLAPPING WIRELESS IDS/IPS APPLIANCES (Break It!), presented by Eldon Sprickerhoff. Over the last few months Eldon has had the opportunity to test several commercial wireless IDS/IPS on behalf of a client. There are several marketing key points that most products profess to offer and trumpet: Detection of rogue AP's, detection of ad hoc networks, recognize known attacks, identify policy violations, identify physical location of user/AP, capture network

traffic, threat detection (MAC address spoofing, DoS, MiTM) and lock out inappropriate behavior through wireless disassociation and/or through switch activity. These purported capabilities were tested in depth; methods / code / results will be described. Questions to ask WIDS / WIPS vendors, and recommendations to WIDS / WIPS manufacturers will be detailed. Eldon Sprickerhoff has been involved in the Toronto and New York City technology communities for over fifteen years implementing and securing infrastructure. He has consulted for a wide array of corporate and non-profit clients regarding best practices, security vulnerabilities, corporate Internet policy, countermeasures and survivable networks. In 2001, he co-founded eSENTIRE, Inc., a managed security provider and implementor of Collaborative Threat Management systems. Shmoo-1823D • UPC 8 82917 18239 6 • 60 min • DVD Disk • \$19.95

VOIP WI-FI PHONE SECURITY ANALYSIS (Break It!), presented by Shawn Merdinger. This presentation will be a continuation of my presentation at 32nd CSI. My presentation for ShmooCon will build on the Level one analysis outlined at CSI to include more attacks and threat analysis (i.e. Levels two and Level three). Shawn Merdinger is a security researcher based in Austin, Texas. He is currently employed by TippingPoint, a division of 3Com, where he conducts VoIP security analysis. He previously was a Research Engineer with Cisco Systems' Security Technologies Assessment Team (STAT) and Security Evaluation Office (SEO) where he performed vulnerability assessments on a variety of devices, technologies and implementations. Mr. Merdinger holds a master's degree from the University of Texas at Austin where his studies focused on computer and network security. When not breaking stuff, he is an avid supporter of non-profit AustinFreeNet working to bridge the Digital Divide. Shmoo-1824D • UPC 8 82917 18249 5 • 60 min • DVD Disk • \$19.95

WEB APPLICATION VULNERABILITIES AND EXPLOITS (Break It!), presented by Matt Fisher. Web applications by nature are not static. Content is continually being altered and new features are added, in some instances on a very frequent basis. Each time the Web application is changed, a risk is imposed that the application will not be secure. Even the simplest of changes could produce a vulnerability that may pose a major threat to the assets of the company, or just as important, information about a company's customers. By taking advantage of the public access to a company through port 80 and 443 and using it to subvert your applications, hackers can gain easy access into your company's sensitive backend data. Firewalls and IDS will not stop such attacks because hackers using the Web application layer are not seen as intruders.. Watch and learn as our top security experts from SPI Dynamics show you how to defend against attacks at the Web application layer with examples covering recent hacking methods. Shmoo-1825D • UPC 8 82917 18259 4 • 60 min • DVD Disk • \$19.95

LOCKPICKING AND PHYSICAL SECURITY FUNDAMENTALS (Break It!), presented by Deviant Ollam. Physical security isn't just a concern of the IT world. Besides securing server rooms, locks of all sizes and styles are scattered throughout our lives. However, much of the general public is unaware of the insecurities present in many lock designs. Through discussion and direct example, Deviant Ollam will address the strengths and weaknesses of the locks we see everyday securing doors, bikes, guns, computers, and more. Discussion of effective tools, experimental techniques, advanced picking theory, and lesser-known bypass methods will also be covered. This talk is aimed at those who are interested in better security and learning a wide range of picking fundamentals. While always the first to admit that he's no Barry Wels, Deviant hopes to have a good time with this lockpick talk and looks forward to hands-on audience participation. Many styles of practice locks and picks will be made available. While paying the bills as a network engineer and security consultant, Deviant Ollam's first and strongest love has always been teaching. Employed periodically at schools in the greater Philadelphia area, he is presently a student at Rutgers University and the New Jersey Institute of Technology in the hopes of tacking some actual letters to his name and doing the professor gig full time. A fanatical supporter of First Amendment rights who believes that the best way to increase security is to publicly disclose vulnerabilities, Deviant has given lockpick demonstrations at ShmooCon, DefCon, HOPE, and the United States Military Academy at West Point. Shmoo-1826D • UPC 8 82917 18269 3 • 60 min • DVD Disk • \$19.95

NETWORK POLICY ENFORCEMENT / NETWORK QUARANTINE - LATEST SECURITY GIMMICK OR GOOD IDEA? (BoF It!), presented by Steve Manzuik, eEye Digital Security. Steve Manzuik has more than 13 thirteen years of experience in the information technology and security industry, with a particular emphasis on operating systems and network devices. In 2001, Mr. Manzuik founded and was the technical lead for Entrench Technologies. Prior to Entrench, Mr. Manzuik was a manager in Ernst & Young's Security & Technology Solutions practice, where he was the solution line leader for the Canadian Penetration Testing Practice. Before joining Ernst & Young, Mr. Manzuik was a security analyst for a world wide group of white hat hackers and security researchers on BindView RAZOR Team. Mr. Manzuik has co-authored "Hack Proofing Your Network" Second Edition (ISBN 1928994709). In addition, he has spoken at Defcon, Pacsec, and CERT conferences and has been quoted in industry publications including CNET, CNN, InfoSecurity Magazine, Linux Security Magazine, Windows IT Pro and Windows Magazine. As the Founder and Moderator of VulnWatch (www.vulnwatch.org) and a member of the OSVDB Project (www.osvdb.org), Mr. Manzuik has contributed to multiple research projects both in

the public and private sector that have helped increase the security of many products. Shmoo-1828D • UPC 8 82917 18289 1 • 60 min • DVD Disk • \$19.95

RESPONDING TO RESPONSIBLE (OR NOT) DISCLOSURE (BoF It!), presented by Jon Callas, CTO, PGP Corporation. If you build it, someone's going to break it. That's life. If you break it, you want to get someone to fix it. How do we get the builders and breakers to work together, cooperatively? News stories are filled with builders and breakers having bad relationships that cause bad press, law suits, and worse for one, the other, or both. This session is about how to do this better. How to get bug reports and not look like an idiot. How to tell people what you broke without looking like a miscreant. The presenter, Jon Callas, of PGP Corporation, has been on both sides of this and is a Software Diplomat. Come talk about the diplomacy of building and breaking. Jon Callas is currently the CTO of PGP Corporation and has previously served as Chief Scientist at PGP Inc. and as CTO of the Network Security Division for Network Associates Technologies Inc. Jon Callas served as Director of Software Engineering at Counterpane Internet Security Inc. and was a co-architect of Counterpane's Managed Security Monitoring system. Most recently, he was Senior Systems Architect at Wave Systems Corporation. His career includes work at Digital Equipment Corporation, World Benders, and Apple Computer. He is the principal author of the Internet Engineering Task Force's (IETF's) OpenPGP standard and a writer and frequent lecturer on system security and intellectual property issues. Jon Callas has a B.S. in Mathematics from the University of Maryland. Shmoo-1829D • UPC 8 82917 18299 0 • 60 min • DVD Disk • \$19.95

CONCON: A HISTORY OF HACKER CONFERENCES (BoF It!), presented by Jason Scott. "This con sucks. In fact, every con sucks. Every con was better last year, and that con sucked too." While this sort of discussion takes place at hundreds of bars, hotel rooms and meeting spaces every year, it would be a good thing to have a solid body of knowledge about the history of hacker conferences, their roots and pre-roots, and trends they show as both a cultural event and context in the world. Inspired by Beetle's speech on Shmoocon held while at Shmoocon, discussing the not-yet-completed convention, Jason Scott has researched the history of the hacker conference and will present it to an in-progress hacker conference, joining the history of hacker conferences in doing so. The fast-paced talk will go through the decades-long history of hacker conferences, the major players, some of the heights and depths, and a heavy dollop of gossip along the way. Along the way, we will mention Coney Island. Jason Scott is an archivist and historian focusing on the history the BBS, computer scenes, and general technology history. He runs several sites with collections of artifacts, including the textfiles.com family of websites, as well as bbsdocumentary.com and bbshistory.org. He talks entirely way too much. Shmoo-1830D • UPC 8 82917 18309 6

• 60 min • DVD Disk • \$19.95

WI-FI TRICKERY, OR HOW TO SECURE, BREAK AND HAVE FUN WITH WI-FI (BoF It!), presented by Laurent Butti and Franck Veysset, France Télécom R&D. Wireless intrusions like rogue access points, injection and mac spoofing attack are a common way to obtain unauthorized access to corporate or hot spot networks.. In this presentation, we will first do a quick reminder on WiFi attacks (packet injection, rogue AP...). We will then present some new tools, and released them at Shmoocon: Raw Fake AP, Raw Glue AP and Mysterious tool!!! As a conclusion, we will highlight some detection/mitigation mechanisms. Franck Veysset is a network security expert working for France Telecom R&D security labs. His activities are focused on Wi-Fi security, honeypot, and more generally IP security. He has presented at numerous technical and security conferences (ToorCon, Eurosec, First...). Laurent is a network security senior expert at France Telecom R&D labs, where he works on wireless security (IEEE 802.11, IEEE 802.16...), honeypots and worms. He also spoke at numerous security-focused conferences (FIRST, Eurosec, LSM, ToorCon, ShmooCon). Shmoo-1831D • UPC 8 82917 18319 5 • 60 min • DVD Disk • \$19.95

KRYPTOS AND THE CYRILLIC PROJECTOR CIPHERS (BoF It!), with Elonka Dunin. In a courtyard at CIA Headquarters stands an encrypted sculpture called Kryptos. Its thousands of characters contain encoded messages, three of which have been solved. The fourth part, 97 or 98 characters at the very bottom, have withstood cryptanalysis for over a decade. The artist who created Kryptos, James Sanborn, has also created other encrypted sculptures such as the decade-old Cyrillic Projector, which was cracked in 2003 by an international team led by Elonka Dunin. This talk is intended for a general audience with beginning to intermediate cryptographic experience. Elonka will go over how the code was cracked, and the current state of knowledge about the Kryptos sculpture, its own encrypted messages, and its mysterious CIA surroundings. Elonka Dunin is a professional game developer, working at Simutronics (play.net), a provider of massively multiplayer online games. Also an amateur cryptographer, Elonka led the international team that cracked the decade-old KGB Cyrillic Projector Cipher in 2003. Elonka was born in Los Angeles, studied Astronomy at UCLA, and then joined the United States Air Force, where she worked on the SR-71 and U-2 reconnaissance aircraft. Since September 11th, Elonka has been helping out with the war on terrorism by teaching government agents about steganography and what types of codes that Al Qaeda may be using. She is co-founder of the Kryptos Group, an online group of cryptographers and interested hobbyists trying to crack the last part of the code on the famous Kryptos sculpture at CIA Headquarters. She is also webmistress of two popular cryptography-related websites — one on the CIA's mysterious Kryptos sculpture, and another with a list of the world's "Most Famous

Unsolved Codes.” Elonka is one of the world’s foremost experts on the CIA’s Kryptos sculpture, and as of 2005 her elonka.com site has had over 1.3 million page views, many from people researching the link between Kryptos and the international best-seller “The Da Vinci Code.” Shmoo-1832D • UPC 8 82917 18329 4 • 60 min • DVD Disk • \$19.95

REVERSE ENGINEERING FOR FUN AND BoF IT (BoF It!), presented by Pedram Amini, TippingPoint, a division of 3Com and Chris Eagle, Associate Chair, Computer Science, Naval Postgraduate School. Reverse engineering (RE) skills are handy in a number of situations. Determining the behavior of malware, discovery of software vulnerabilities and showing off to your friends are just a few of the benefits that immediately come to mind. Unfortunately reverse engineers are mostly self trained, work in solitude and do not openly work together when developing tools and techniques. This goal of this session is to present some of our ideas and tools (past, present and future) to foster an open discussion on RE tools as well as field suggestions for the continued development of these tools. Pedram Amini currently leads the Product Security Assessment team at TippingPoint, a division of 3Com. Previous to TippingPoint, he was the assistant director of iDEFENSE Labs and remains the reigning foosball champion after an intense final battle with understudy Adam Greene. Despite the fancy titles he spends much of his time developing automation tools, plug-ins and scripts for software like IDA Pro and OllyDbg. In conjunction with his passion for the field, Pedram launched OpenRCE.org, a community website dedicated to the art of reverse engineering. Chris Eagle is the Associate Chairman of the Computer Science Department at the Naval Postgraduate School (NPS) in Monterey, CA. A computer engineer/scientist for 19 years, his research interests include computer network operations, computer forensics and reverse/anti-reverse engineering. Shmoo-1833D • UPC 8 82917 18329 3 • 60 min • DVD Disk • \$19.95

TROJANS AND BOTNETS AND MALWARE, OH MY! (BoF It!), presented by Lance James, Secure Science Corporation. In 2003, the concept of the age-old megavirus changed. Agobot, Sasser, Berbew, Haxdoor, mitgleider, and many more that some will never hear about have been flying across IDS systems for the past two years. This type of malicious software contains certain unique elements and arrive in multiple variants enabling a more clandestine-like activity, as well as prolonging the lifespan of effectivity thwarting detection by AV vendors. Can reasonable [or practical] counter-measures be built? Signature updates are pointless against most of these vendors, as the multiple variants overwhelm resources and AV vendors have become “worn out bandages”. This BoF session will focus on aggressive network defense and practical counter-malware techniques including building auto-analysis methods and automated reverse-engineering to enable incident response

teams to not only prevent malware, but understand and mitigate the impact that these “fraud-focused” trojans inflict by compromising their client-side customers. Lance James is the Chief Technology Officer of Secure Science Corporation (SSC), a company dedicated to providing advanced technology solutions to data security market segment. He frequently lectures at educational institutions throughout the San Diego area on “Security & Cryptography in Data Communications”, and heads SSC’s Global Surveillance Center (GSC) and External Threat Assessment Team (ETAT), specifically focused on forensics that enable tracking of phishers. Additionally, Lance is the creator of InvisibleNet, a distributed pseudonymous framework for real-time communication on the internet. On his off-time, he reads, analyzes protocols, plays music, and enjoys life with his family in Southern California. Lance is finishing up his first book for Syngress Publishing entitled ‘Phishing Exposed’. Shmoo-1834D • UPC 8 82917 18349 2 • 60 min • DVD Disk • \$19.95

SNORT BOSS – BIRDS OF A FEATHER (BoF It!), with Various Presenters. Shmoo-1835D • UPC 8 82917 18359 1 • 60 min • DVD Disk • \$19.95

OWN THE CON 2006 – FINANCES AND FUNDAMENTALS OF THE SHMOO (BoF It!), presented by Beetle, The Shmoo Group. Whether you’ve noticed it or not, there’s a trendy opinion emerging, amongst the folks around you, that the smaller hacker cons are where it’s at. Fewer crowds, more clue. Less traffic, cooler tools. Fewer feds, more friends. ToorCon is the standard. CanSecWest is the cold kick-ass con. Creative genius abounds at CodeCon. LayerOne is the nifty newbie. Notacon, Phreaknic, etc. rock you. And in D.C., for the second year running, we have ShmooCon, which might actually have more feds than any other con, but aims to bring the small-hacker-con-with-clue fad to the nation’s capital. So help us make ShmooCon better. Just like last year, Beetle will bluntly give a breakdown of ShmooCon finances, fundamentals, and fuck-ups, while soliciting your live feedback—and right before we all go and have fun with Johnny! Beetle is a member of the Shmoo Group, holds a BS in Computer Science, and is a D.C.-area computer security engineer. He is a geek, and he is a licensed amateur racecar driver—the perfect combination for successfully working and driving around the nation’s capital. He has presented on a bunch of wireless shtuff at a bunch of hacker / security cons, but more importantly, Beetle organizes ShmooCon, and really hopes to be sober enough to run this BoF. Shmoo-1837D • UPC 8 82917 18379 9 • 60 min • DVD Disk • \$19.95

JOHNNY’S GREATEST HITS: THE BEST OF JOHNNY LONG (Break It!), presented by Johnny Long. The Shmoo Group has decided to play a bit of a prank on Johnny. Come watch him jump through flaming hoola-hoops while dodging high-powered fully-automatic Shmooballs and giving three different presentations in one!

Johnny Long is a “clean-living” family guy who just so happens to like hacking stuff. Over the past two years, Johnny’s most visible focus has been on this Google hacking “thing” which has served as yet another diversion to a serious (and bill-paying) job as a professional hacker and security researcher for Computer Sciences Corporation. In his spare time, Johnny enjoys making random pirate noises (“Yarrrrr! Savvy?”), spending time with his wife and kids, convincing others that acting like a kid is part of his job as a parent, feigning artistic ability with programs like Bryce and Photoshop, pushing all the pretty shiny buttons on them new-fangled Mac computers, and making much-too-serious security types either look at him funny or start laughing uncontrollably. Johnny has written or contributed to several books, including “Google Hacking for Penetration Testers” from Syngress Publishing, which has secured rave reviews and has lots of pictures. Shmoo-1838D • UPC 8 82917 18389 8 • 60 min • DVD Disk • \$19.95

PLAYING SERVER HIDE AND SEEK (Break It!), presented by Lasse Overlier. Can you set up a server that anyone can access but no one can find? Yes you can. Since 2004 we have deployed location hidden servers on the Tor network. Anyone can set one up and hide it using Tor. (Tor is a freely available anonymous communication network developed by the Naval Research Laboratory and the Free Haven Project. It is the most widely deployed and used anonymizing network ever in existence. It currently consists of about 250 servers on six continents and has an unknown (hidden) number of users estimated to be in the hundreds of thousands. Tor was named one of the 100 best products of 2005 by PC World.) Hidden services have many uses from resisting server DDoS to anonymous blogging. Undergroundmedia.org has published a guide to “Torcasting” (anonymity preserving and censorship resistant podcasting). And both the Electronic Frontier Foundation and Reporters Without Borders have issued guides that describe using hidden services via Tor to protect the safety of dissidents as well as resist censorship. Lasse Overlier is an employee of the Norwegian Defence Research Establishment (www.ffi.no) where he works on Computer Network Operations. He also lectures security classes at the Master of Science in Information Security program at Gjovik University College (www.hig.no) and at the University Graduate Center (www.unik.no) at Kjeller. He is currently located at the Naval Research Laboratory in Washington DC. Shmoo-1839D • UPC 8 82917 18399 7 • 60 min • DVD Disk • \$19.95

Accelerating Change

2005 Conference

ACCELERATION STUDIES FOUNDATION ACCELERATING CHANGE 2005 CONFERENCE – 19 DISK SET – Stanford University, California. Complete conference set includes ASF-1301D through ASF-1333D. ASF-1300D • UPC 8 82917 13009 0 • 23+ hours • 19 DVD Disks • \$324.95

INTRODUCTION AND SIGNS OF ACCELERATING CHANGE: ISSUES IN ARTIFICIAL INTELLIGENCE AND INTELLIGENCE AMPLIFICATION, with John Smart and Vernor Vinge. Based on raw hardware trends, it's plausible that within thirty years we will create superhuman intelligence — and so pass through a technological singularity. This is a different form of change than imagined by futurisms past. In fact, to think that we can predict beyond this singularity is a bit like expecting a goldfish to understand AC2005. Perhaps this transition will take decades, with the exact beginning and end points the topic of much entertaining debate. *But the transition could take less than 100 hours.* Such a “hard takeoff” is almost certainly a Very Bad Thing. (Illustrations of this assessment will be provided!) Is there any way to prevent a hard takeoff? Perhaps. In this talk, Vernor will explore the virtues — and dangers — of Intelligence Amplification as a strategy for dealing with hard takeoffs. ASF-1336D • UPC 8 82917 13369 6 • 68 min • DVD Disk • \$24.95

THE SINGULARITY IS NEAR: ARTIFICIAL INTELLIGENCE AND INTELLIGENCE AMPLIFICATION, with Ray Kurzweil (Kurzweil Technologies). Early in the twenty-first century, intelligent software will underlie everything of value. The paradigm shift rate is now doubling every decade, so the twenty-first century will see 20,000 years of progress at today's rate. Computation, communication, biological technologies (for example, DNA sequencing), brain scanning, knowledge of the human brain, and human knowledge in general are all accelerating at an even faster pace, generally doubling price-performance, capacity, and bandwidth every year. The well-known Moore's Law is only one example of many of this inherent acceleration. We are rapidly learning the software programs called genes that underlie biology. We are understanding disease and aging processes as information processes, and are gaining the tools to reprogram them. RNA interference, for example, allows us to turn selected genes off, and new forms of gene therapy are enabling us to effectively add new genes. Within one to two decades, we will be in a position to stop and reverse the progression of disease and aging resulting in dramatic gains in health and longevity. ASF-1337D • UPC 8 82917 13379 5 • 59 min • DVD Disk • \$19.95

ARTIFICIAL INTELLIGENCE AND INTELLIGENCE AMPLIFICATION QUESTIONS AND ANSWERS, with Ray Kurzweil (Kurzweil Technologies). The fraction of value of products and services comprised by software and related forms of information is rapidly asymptoting to 100 percent. Within a couple of decades, the bulk of the economy will be dominated by information and software. Once nonbiological intelligence matches the range and subtlety of human intelligence, it will necessarily soar past it because of the continuing acceleration of information-based technologies, as well as the ability of machines to instantly share their knowledge. Intelligent nanorobots will be deeply integrated in the environment, our

bodies and our brains, providing vastly extended longevity, full-immersion virtual reality incorporating all of the senses, experience “beaming,” and enhanced human intelligence. The implication will be an intimate merger between the technology-creating species and the evolutionary process it spawned. ASF-1338D • UPC 8 82917 13389 4 • 57 min • DVD Disk • \$19.95

ACCELERATING CHANGE ARTIFICIAL INTELLIGENCE PANEL, Patrick Lincoln (SRI International), Peter Norvig, Ph.D. (Google, Inc.), Neil Jacobstein (Teknowledge) and Bruno Olshausen (Redwood Center for Theoretical Neuroscience). Patrick Lincoln on the increasing value of the IT portion of products, services, and the entire economy has come increasing reliance on automated computing systems, and decreasing visibility by users and designers into the critical properties of these systems. + Peter Norvig on artificial intelligence and publishing. So far we know of exactly one system in which trillions of facts are transmitted to billions of learners: the system of publishing the written word. No other system comes within a factor of a million of this performance benchmark. This is despite the fact that the written word is notoriously imprecise and ambiguous. + Neil Jacobstein on how since the early 1980's the systematic codification of knowledge in computer languages has enabled a wide range of useful applications in industry and government. These applications may include performing complex tasks such as planning, monitoring, design, risk assessment, diagnosis, training, process control, classification, and analysis. + Bruno Olshausen on how despite the effort in the engineering and mathematics community over the past 40 years, there has been little progress emulating even the most elementary aspects of intelligence or perceptual capabilities found in the animal kingdom. The lack of progress here is especially striking considering the fact that the past two decades alone have seen a 1000-fold increase in computer power (in terms of computer speed and memory capacity), while the actual intelligence of computers has improved only moderately by comparison. ASF-1339D • UPC 8 82917 13399 3 • 77 min • DVD Disk • \$24.95

ARTIFICIAL INTELLIGENCE PANEL: EDUCATING OUR MACHINES, with Marcos Guillen (Artificial Development). Artificial Development's CCorte, a realistic virtual brain simulation presently running on a supercomputer, will soon become a commercial product, targeting medical and cognitive research, security & surveillance, and autonomous systems. CCortex Developer Box, a custom rack-mounted system to be available during the first quarter of 2006, includes a 64 bit Spiking Neural Network Engine. CCortex Development Boxes can also be clustered together, increasing both the speed and the neuron count. A detailed virtual simulation of most of the human brain, excluding the cerebellum, will be available as a single rack system during the second quarter of 2006. The CCortex project began in 2003, and is the world's first virtual brain, a

20-billion neuron simulation of the Human Cortex running on a supercomputer. The main cluster has been running non-stop since September 2003, and has already undergone 7 major revisions. A team of 40 researchers and programmers, headed in India by Dr. Aditya Gudi, have been updating the Cortical DB around the clock for 14 months, extracting, analyzing, and modelling the parameter sets used in the database. ASF-1340D • UPC 8 82917 13409 8 • 48 min • DVD Disk • \$19.95

ARTIFICIAL INTELLIGENCE PANEL: SHRINKING THE PLANET, with Peter Barrett (Microsoft IPTV) and Scott Rafer (Feedster). Peter Barrett discusses the continuing evolution of IPTV and its impact on content developers and distributors in providing consumer entertainment and information services in the networked digital home. He will discuss IPTV's evolution as it helps transform the television set into a central link of the next-generation networked home; how broadband ubiquity is impacting connected consumer services; and describe the technologies underlying the digital lifestyle concept that provides consumers with entertainment and information at home, at the office, and on the go. + Scott Rafer on the dream of AI has been replaced by always-on, broadband connections. Instead of HAL, we've got WordPress. That means constant access to millions of sector experts who can and will add structured text, tags, photos, video, and links to the common store of knowledge where hundreds of no-capital-needed startups are in a race for huge financial prizes awarded to those who slice, dice, filter, and deliver the right knowledge distilled from the ever-growing pool of user-generated information. In other words, RSS and similar formats are now letting people share preferences at a such a scale, scope, level of detail, velocity, and frequency, that AI is rendered unnecessary to generate smartness, at least for the foreseeable future. ASF-1341D • UPC 8 82917 13419 7 • 60 min • DVD Disk • \$19.95

ARTIFICIAL INTELLIGENCE BREAK-OUT: ROBOTS, NANOTECHNOLOGY AND COMPUTERS, with Harold Morowitz (Author), David Fogel (Natural Selection, Inc.) and Esther Dyson (CNet). Howard Morowitz on how self replicating robots and living cells both take up components from the environment and assemble two identical units starting with one unit. As nanorobots become progressively smaller the building blocks and energy sources also decrease in size. + David Fogel speaking on how Intelligence may be viewed as the ability to adapt behavior to meet goals in a range of environments, yet artificial intelligence has focused traditionally on replicating human behaviors in software. + Esther Dyson on how some people think “the government” (or the Internet Corporation for Assigned Names and Numbers, for that matter) should be regulating the behavior of all the entities on the Net. Esther doesn't believe government (or ICANN) is up to that task, especially not on the worldwide Net. But she does believe that the entities on the Net can regulate one another, if systems are set

up properly and if individuals have the information they need to choose the peer-to-peer regulatory system they prefer. Call the whole set-up “the accountable Net.” ASF-1343D • UPC 8 82917 13439 5 • 91 min • DVD Disk • \$24.95

ARTIFICIAL INTELLIGENCE BREAK-OUT: NEUROBIOLOGY, SYSTEMS AND INTERFACE, with Robert Hecht-Nielsen (MIT), John Udell (InfoWorld) and Terry Winograd (Stanford University). Robert Hecht-Nielsen describes the recently announced comprehensive confabulation theory of vertebrate cognition, including the fundamental mathematical principles involved, an illustrative example of a computer implementation of these principles, and an overview of how the theory proposes cognition is implemented by human cerebral cortex. Cognition is starkly alien in comparison with existing neuroscience, computer science, and AI concepts. + John Udell on the explosive innovation triggered by Google Maps produced a shock of recognition. We always knew that our meatspace coordinates would merge with our cyberspace addresses. Now that it’s really happening, familiar topics—identity and privacy, grassroots collaboration and centralized control, ownership and use of data—will be newly refracted through the geospatial lens. + Terry Winograd on how design is an orientation we bring to the activity of creating technological artifacts and embedding them in people’s lives. Although we can label fields of design by the kind of artifact (“product design,” “software design,” “systems design”, etc.) every successful design is more. It is an intervention in the individual and social lives of the people who encounter it. The field of software design has often focused on the software artifact, identifying the design processes, tradeoffs, and decisions that will make the software robust, efficient, and malleable. ASF-1344D • UPC 8 82917 13449 4 • 101 min • DVD Disk • \$24.95

CONVERSATIONAL USER INTERFACES WITH ARTIFICIAL INTELLIGENCE, with Sibley Verbeck (StreamSage), Ron Kaplan (Stanford University) and Marti Hearst (SIMS, UC Berkeley). Ronald Kaplan on how computer interfaces are much better now than they were ten years ago. But they still aren’t very good. Ordinary people count themselves lucky when a machine does what they want or a search engine actually provides useful information (cf. Google’s “I’m feeling lucky” button). It isn’t that the machine is incapable or unwilling to follow instructions or access relevant documents, the problem, after all these years, is a failure of communication. + Marti Hearst on getting to a more natural, conversational user interface for information retrieval will require solving a number of difficult problems in the years ahead. There are clear inadequacies to our current search engines, and we’ll consider several of them, in particular the lack of query assists. Better question answering would be an important step towards a more conversational experience. As

Jean Véronis notes, it would be nice if

of people complaining about their tedious day when the “boring” you are looking for concerns drilling techniques. There are some signs of progress in automatic language processing, and social search is an important and powerful new source of meta data. ASF-1345D • UPC 8 82917 13459 3 • 59 min • DVD Disk • \$19.95

HOW TO BE A TECH FUTURIST, with John Smart (Accelerarion Studies Foundation). Perhaps the most important thing we can do at *Accelerating Change* is to convene a spectrum of thoughtful, open-minded, and passionate folks who care deeply about guiding technology as we move into an ever-faster future. Perhaps the second most important thing we can do is to discover the probable within the simply imaginable future. Futures studies is dangerous territory. Futurists are not immune to drama, and may be guilty of twisting the truth to fit their passions more than many others. In a world of accelerating information we need more than ever to hone our critical capacities and our access to the right data, setting our filters to stay clear-eyed, balanced, and in control. We are beginning to see that a profound transformation is taking place, and are giving ourselves permission to discuss this in the most open and critical way we can. In this talk Smart outlines what has can be called the infopomorphic paradigm, a way to understand ourselves and the universe in information theoretic or computational terms. Here’s what may be the most important point: the very structure of our universe appears organized to drive accelerating discovery and computation in the microcosm, many orders of magnitude faster than in any other domain. ASF-1346D • UPC 8 82917 13469 2 • 67 min • DVD Disk • \$24.95

EXPLORATIONS IN ARTIFICIAL INTELLIGENCE: ON THE CREST, with Jerry Paffendorf (Accel. Studies Found.), Joichi Ito (Neoteny) and Cory Ondrejka (Linden Lab). Jerry Paffendorf is a Director of the Institute for the Study of Accelerating Change. People are creating content of real-world value inside of massively multi-player online environments. In many cases these virtual goods are only useful within the context of the virtual world they come from. User-created virtual worlds like *Second Life* are pioneering the media-rich 3D Web, as in Neal Stephenson’s Metaverse. Searchable, interactive virtualizations of our planet, like Google Earth, are opening the geospatial Web as in David Gelernter’s Mirror Worlds. As an introduction to our Explorations session. + Joichi Ito’s conversation will explore the rise of “amateur” content, open source, fan subs, and remix culture, and watch some video clips supporting these increasingly important ideas. He describes how he thinks the “sharing economy” might work out, and our discussion can go down the blogging/citizen journalist road, the music/movie distribution road, the open source road, or all three depending on which way we want to take it + Cory Ondrejka on how games will save the world. With technology and connectivity exposing everyone to more information and misinformation than ever before, critical

thinking is the most important skill of the 21st century. In a world where Presidents consult astrologers, extremists transform the faithful into weapons, schools choose creationism over evolution, and wars are justified by faulty intelligence, games are teaching hundreds of millions of players how to hypothesize, test, and verify. Games demand action before mastery, forcing gamers to experiment in order to succeed. ASF-1347D • UPC 8 82917 13479 1 • 91 min • DVD Disk • \$24.95

EXPLORATIONS IN ARTIFICIAL INTELLIGENCE: OVER THE HORIZON, with Jamais Cascio (World Changing). The value of mobile phones with cameras as a way of capturing events in one’s life—as demonstrated in London in early July of this year—will be further enhanced as these devices become more powerful, with better cameras, more capabilities and higher-bandwidth connections. Work now underway at a variety of research groups will allow close to 24/7 coverage of one’s life, with the mobile phone transforming into a “personal memory assistant.” This will be driven initially by personal desires, but will come to play an increasingly important role in collaborative “sousveillance” for security, environmental monitoring, and keeping watch on the watchmen. But these capabilities will not be without a cost — from a staggering lack of privacy to an inescapable collision between what we can remember and what is controlled by intellectual property regimes. ASF-1348D • UPC 8 82917 13489 0 • 41 min • DVD Disk • \$19.95

THE FUTURE OF WORK IN AN ARTIFICIAL INTELLIGENCE WORLD, with Tom Malone (MIT Sloan School of Business). This talk will suggest that we are in the early stages of a profound increase in human freedom in business that may, in the long run, be as important a change for businesses as the change to democracies was for governments. For the first time in human history, information technology now makes it possible to have both the economic efficiencies of large organizations and the human benefits of small ones: freedom, motivation, creativity, and flexibility. To take advantage of these possibilities we need to invent new—more decentralized—ways of organizing work (such as loose hierarchies, democracies, and markets), and we need to think about how these new organizations can be designed to help us get more of whatever we really value as humans. ASF-1349D • UPC 8 82917 13499 9 • 78 min • DVD Disk • \$24.95

NEW MODELS IN NEURAL SCIENCE, with Dileep George. We are at a juncture where great progress has been made in the understanding of the workings of the human neocortex. This gives us a unique opportunity to convert this knowledge into a technology that will solve important problems in computer vision, artificial intelligence, robotics and machine learning. In this talk, based on joint work with Jeff Hawkins, Dileep describes the state of our understanding of neocortical function and the role Numenta is playing in the development of a new technology modeled after the neocortex. ASF-1351D

• UPC 8 82917 13519 4 • 35 min • DVD Disk
• \$14.95

SPECT SCANNING AND THE FUTURE OF MENTAL HEALTH, with Daniel Amen, M.D. (Amen Clinic). According to National Institutes of Mental Health director Thomas Insel, brain imaging is the next major advance in clinical psychiatry. Dr. Daniel Amen has been using brain imaging in clinical practice for the past 14 years. His clinics now have the world's largest database of brain scans related to behavior. The work has given him many insights on better ways to improve patient care and prevent illnesses that are so expensive to our society. In this lecture, Dr. Amen will share the lessons he has learned from imaging, the roadblocks to further progress, and ways to use this technology to benefit society in general. ASF-1352D • UPC 8 82917 13529 3 • 44 min • DVD Disk • \$19.95

INTELLIGENCE AMPLIFICATION PANEL ON REBUILDING EDUCATIONAL SYSTEMS, with Ruzena Bajcsy (CITRIS), Robin Raskin (Digital Mom), Shun-Jie Ji (Journal of Futures Studies), and Sr. Denise Lawrence (Brahma Kumaris Organization). Ruzena Bajcsy on the goal of education is to reach every child/person at their level of cognitive capabilities. This was the basic idea behind the tutoring system at Cambridge and Oxford universities. + Robin Raskin on how technology dominates both education and the workplace, it's time to look at the effect of the tools on a new generation of screen-savvy workers. The newest hires demonstrate great dexterity on the keyboard, but have little sense of the larger implications of living in the digital world. She presented how the cut and paste mentality and the single screen-at-a-time effect on creativity and decision making. + Shun-lie Ji will address the most frequently asked student question at Tamkang University "why do I need courses in Futures Studies?" to receive my degree? Future-oriented education has a long history at Tamkang. Our founder, Dr. Clement C.P. Chang, introduced it here in 1968. It is one of the three pillars of our educational policy: globalization, information-oriented education and future-oriented education. + Sr. Denise Lawrence on the art of meditation, in particular Raja Yoga Meditation, alters the quality and process of thought. Thought processes are influenced by prevailing ideas thus limiting an individual's ability to perform creative thinking and moral reasoning. Intelligent learning needs to come out of the box. Conventional learning is based on the conventional scientific method and relies upon external acquired data. ASF-1353D • UPC 8 82917 13539 2 • 72 min • DVD Disk • \$24.95

INTELLIGENCE AMPLIFICATION BREAKOUT: EDUCATIONAL AND SOCIAL INNOVATIONS, with T. Colin Campbell (Cornell University), Philip Rosedale (Linden Lab) and David Smith (Croquet). T. Colin Campbell on how nutrition is a concept that focuses on the physiological activities of individual food chemicals or nutrients that function through specific reactions to effect change. Such focus specifies the quantities of nutrients to be con-

sumed, the amounts of nutrients present in foods and food products (as in food labels), the chemical structures of nutrients and related analogues, the quantities of nutrients causing disease outcomes and other adverse effects, and the biochemical reactions that explain functionality, among others. + Philip Rosedale on how we all conclude that a digitally created online world inhabited by many - the Metaverse - has finally arrived, what will we say about it's history? What will we agree finally got it started? Will it have been a critical piece of enabling technology, or some specific type of experience or content? Online games, in their striking success, have something to say about the metaverse, but certainly aren't yet there. Some science fiction has suggested that the metaverse starts as a giant analysis and storage tool for the collective data of a host of mega-corporations. This is probably as unlikely as the discovery that we are actually living in a simulated world created for us by evil machines, as another piece of popular science fiction suggests. ASF-1354D • UPC 8 82917 13549 1 • 90 min • DVD Disk • \$24.95

INTELLIGENCE AMPLIFICATION BREAKOUT: ETHICS AND IMPLICATIONS OF OPEN SOURCE TECHNOLOGY, with Beth Noveck (NY University) Steve Jurvetson (DFJ) and Blake Ross (Firefox). Beth Noveck on how the patent system is broken. The United States Patent Office, which was intended to foster innovation and the promotion of progress in the useful arts, instead, creates uncertainty and monopoly. Underpaid and overwhelmed examiners routinely approve petitions without review. They struggle under the burden of 350,000 patent applications per year. + Steve Jurvetson on what the hidden value of open collaborative exchange and network effects in biotech, nanotech, innovation, venture capital, and co-evolutionary dynamics can do for society How do we recognize, collateralize, and amplify that value? He briefly discussed examples from the VC business, Internet entrepreneurship and synthetic genomics (reengineered life forms). + Blake Ross on the Open source and Monopolized market. Microsoftian competitor. There isn't a VC in the world who would have taken that bet. So how did Firefox find 80 million users in 8 months without ever purchasing an advertisement? The Internet has been removing barriers for years. Distribution, development, quality assurance—the cost problem has virtually been eliminated. As usual, the only outstanding issue is the result of human error. ASF-1355D • UPC 8 82917 13559 0 • 103 min • DVD Disk • \$24.95

ARTIFICIAL INTELLIGENCE AND INTELLIGENCE AMPLIFICATION: CLOSING DISCUSSION, with Joichi Ito (Neoteny), Steve Jurvetson (DFJ), George Glider (Glider Technology Report), Beth Noveck (NYU Law), Rudy Rucker and Alex Lightman (Ipv6 Summit). Rudy Rucker on the fact that we are presently in the midst of a third intellectual revolution. The first came with Newton: the planets obey physical laws. The second came with Darwin: biology obeys genetic laws. In today's third

revolution, were coming to realize that even minds and societies emerge from interacting laws that can be regarded as computations. Everything is a computation. Does this, then, mean that the world is dull? Far from it. The naturally occurring computations that surround us are richly complex. + Steve Jurvetson is the Managing Director of Draper Fisher Jurvetson. One of Silicon Valley's leading lights in innovation funding, Jurvetson will discuss DFJ's general approach to the challenge of funding for technology and business innovation. The title of his lecture is Discovering a Renaissance in Innovation. + Alex Lightman briefly discusses how new opportunities and challenges have opened up, even as many of yesterday's innovations are becoming commodities. China and India are rising fast, and there are strategic dangers to be avoided. Practicing good leadership and taking personal responsibility for change are more important today than ever before. ASF-1356D • UPC 8 82917 13569 9 • 86 min • DVD Disk • \$24.95

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MOBILE ROBOTS: SAVING TIME, MONEY AND LIVES, with Helen Greiner (iRobot Corporation). Helen Greiner is a Co-founder and Chairman of the Board at iRobot Corporation. Mobile robots are an emerging technology field, and iRobot Corporation of Burlington MA is leading the way. iRobot's products are not far-flung, far-off science fiction, but robots for the real world. They are practical, reliable, innovative products that answer users needs with creative engineering and design. On the consumer side, iRobot invented and sells the first successful home robot, originally priced at \$199.99. The disc-shaped Roomba finds dirt and cleans it up on all kinds of household surfaces without human intervention. iRobot's Roomba™ Robotic Floorvac is already cleaning floors in more than a half-million homes. iRobot also provides the PackBot™, an unmanned ground robot in use by the United States Government inspecting caves in Afghanistan, and investigating buildings in Iraq. Currently, this tough, mobile, easy to use robot is being used on hundreds of missions a day in Iraq clearing terrorist-set bombs. Ms Greiner's talk will describe this new class of technology, how technology accelerations have affected our field, and how mobile robots will themselves catalyze accelerating change. Under

Ms. Greiner's leadership, iRobot Corporation is delivering robots into the industrial, consumer, academic, and military markets. Recently, she was named the Ernst and Young New England Entrepreneurs of the Year for 2003 (with iRobot co-founder Colin Angle). She holds a B.S. in Mechanical Engineering and a M.S. in Computer Science, both from MIT. For more information visit www.irobot.com ASF-1301D • UPC 8 82917 13019 9 • 60 min • DVD Disk • \$19.95

ACHIEVING ENTERPRISE AGILITY: FLEXIBILITY, INTERCONNECTIVITY, ANALYTICS, AND USABILITY IN THE MARKETPLACE, with Shai Agassi (SAP America, Inc). Shai Agassi is an Executive Board Member at SAP America, Inc. Customers of SAP process roughly 50% of the world's GDP through their systems annually. Flexibility, interconnectivity, analytics and usability are key capabilities that companies need to succeed in today's competitive marketplace. Shai Agassi will illustrate SAP's strategy for enabling the "in-time enterprise" which can rapidly adapt to market demands and increase the velocity of events throughout business networks. Agassi is responsible for SAP's overall technology strategy and execution. In this leadership position he oversees the development of the integration and application platform SAP NetWeaver, SAP xApps, packaged composite applications mySAP SRM, and Business One. Before his appointment to the SAP Executive Board in 2002, Agassi was CEO of SAP Portals and later of the combined company SAP Markets and SAP Portals. Together with the head of the Application Platform & Architecture (AP&A) group, Peter Zencke, Agassi co-leads the Suite Architecture Team, which aligns software architecture across all SAP solutions. Agassi graduated with honors from Technion, the Israel Institute of Technology, where he received a bachelor's degree in computer science. For more information visit www.sap.com ASF-1302D • UPC 8 82917 13029 8 • 46 min • DVD Disk • \$19.95

EVALUATING HORIZONS: WHAT LIMITS OUR ABILITY TO COPE WITH ACCELERATING CHANGE? with David Brin. David Brin is a Physicist, Science Fiction Writer, and Author of *The Transparent Society: Will Technology Force Us to Choose Between Privacy and Freedom?*, 1999. He will be lecturing on *Evaluating Horizons: What Limits Our Ability to Cope With Accelerating Change?* Near-term trends—for example Moore's Law—appear to indicate that progress can accelerate. Complexity theory suggests that both cooperation and competition can have synergistic effects when participants within a system have full and rapid access to information. We can perceive such emergent properties happening whenever nature and civilization pass new thresholds. Such trends suggest that we ought to be embarking on a new era of power, intelligence and wisdom. But there are countless examples of "oughts" that never happened. The logic of SETI suggests that our cosmos "ought" to teem with ancient and advanced intelligences, filling space with educational beacons, yet no Sesame Street

tutorials have been detected. Tendentious wishing may be responsible for prematurely narrowing our view of possibility horizons. Horizon Evaluation is a process for exploring what threats and opportunities may await us beyond the near term. It can suggest plausible scenarios for science fiction stories. It can also suggest ways to minimize threats and maximize opportunities. It may be particularly relevant for determining where to make investments. Our civilization has already developed techniques that work well at exploring some sectors of the Possibility Horizon. For more information visit www.davidbrin.com ASF-1303D • UPC 8 82917 13039 7 • 45 min • DVD Disk • \$19.95

SERVICE SCIENCE: AN EMERGING MULTIDISCIPLINE TO ACCELERATE INNOVATION, with Jim Spohrer (IBM Almaden). Jim Spohrer is the Director of Almaden Services Research at IBM Almaden. This talk first defines what is meant by the coevolution of technology and business innovations, and then relates this type of coevolution to waves of changing work practices now rippling through our workforce. Spohrer then summarizes diverse perspectives on this topic expressed at the Coevolution Symposium (<http://almaden.ibm.com/coevolution>). A proposed collaborative research agenda on coevolution that links academic and business institutions is outlined around the emergence of a new multidiscipline: service science. After defining what services are, the astounding growth of the service economy in the US and around the world is considered. Next, the response of universities to the demand from industry for more highly skilled service practitioners, managers, and scientists is reviewed. Finally, a vision of the future of the service economy is presented, and the critical role service science might play in making that vision a reality. Jim Spohrer is the Director of Almaden Services Research at IBM's Almaden Research Center in San Jose, CA. IBM Global Services (IGS) is a people-intensive, information-intensive business of over 170,000 professionals world-wide, accounting for almost half of IBM's yearly revenues, and innovation for IGS is the focus of the Almaden Services Research group. Human sciences, On-Demand Innovation Services (ODIS), deep industry knowledge of future trends, and operations technology are areas of active exploration. For more information visit www.almaden.ibm.com ASF-1304D • UPC 8 82917 13049 6 • 44 min • DVD Disk • \$19.95

THE FUTURE OF WIRELESS NETWORKING, with Gee Rittenhouse (Lucent Technologies). Gee Rittenhouse is the Vice President of Wireless Research at Lucent Technologies, Inc. The wireless industry is undergoing a transition. We see the evolution from cellular 2G to 3G standards, the migration from circuit to packet applications, and the procession of voice to data. We also see the industry incorporating new wireless access technologies such as WiFi and WiMAX. All of this is occurring in a market place where voice subscriber penetration levels in many parts of the world are saturating and there is incredible pressure to reduce network capital and operating costs. These con-

ditions present significant technology challenges to further increase network capacity, improve network operating efficiency, and the air-interface spectral efficiency. In this talk Rittenhouse presents several technologies that address these issues and the future applications that will drive this traffic growth. Dr. George ("Gee") Rittenhouse is Vice President of Wireless Research for Lucent Technologies' Bell Labs. Rittenhouse joined Bell Labs as a member of technical staff in 1993 where he developed a high-speed 0.1 um NMOS process for optical networking. He later joined the Wireless Research Laboratory where his research focused on RF front-end radio architectures and cellular system engineering. In 2000 he was promoted to Director of the Wireless Technology Research Department where he led several projects related to Multiple Input/Multiple Output (MIMO) system development, network optimization, wireless IP networks, and fourth generation wireless. For more information visit www.bell-labs.com/org/ ASF-1305D • UPC 8 82917 13059 5 • 39 min • DVD Disk • \$14.95

AUTONOMOUS VEHICLE NAVIGATION AND THE DARPA GRAND DESERT CHALLENGE, with Bruce Hall (Digital Audio Drive). Bruce Hall is in charge of Business Development for Digital Auto Drive. Team DAD (Digital Auto Drive) is known to all who observed the first DARPA Grand Challenge event (GC I) the competition for autonomous vehicles operating in desert terrain from California to Nevada in March of 2004. Team DAD completed the QID course 8 times, was awarded the fourth pole position, and finished third, traveling 6.0 miles before being paused by DARPA, then becoming hung up on a rock. Team DAD was one of the true innovators at Grand Challenge I. By employing a unique high-speed stereo-vision system and exceptionally smooth servo control, Team DAD's technology impressed both the press and DARPA. This presentation recounts Team DAD's experience at the event, describes the technology used, and their plans for the next GC event, scheduled for October 2005. For more information visit www.digitalautodrive.com ASF-1306D • UPC 8 82917 13069 4 • 47 min • DVD Disk • \$19.95

PERVASIVE COMPUTING PANEL PRESENTATIONS: ADVANCES IN INFORMATION TECHNOLOGY, with Dana Blankenhorn (writer and consultant), Joachim Schaper (SAP Research Labs) and Andreas Olligschlaeger (TruNorth Data Systems). DANA BLANKENHORN is a Technology Business Journalist, Consultant, and Author of *The Blankenhorn Effect: How to Put Moore's Law to Work for You, 2002*. The title of his lecture is *The World of 'Always On'*. He'll discuss what it will take to get us to the world of 'Always On', 24/7 connectivity, broadband, wireless, and the secure and scalable standards that will allow the next level of social opportunity and business productivity. Compelling new business models will emerge in this transition. For more information visit www.corante.com/mooreslore/.

JOACHIM SCHAPER is the Vice President Americas at SAP Research Labs. His lecture is titled Smart Items in the Enterprise. SAP Labs is using smart technologies to provide a holistic service-oriented architecture for the seamless integration of real-world data and events with enterprise software. For more information visit www.SAP.com ANDREAS OLLIGSCHLAEGER is the President of TruNorth Data Systems. The title of his lecture is Advanced IT and Security Systems in Law Enforcement. The use of information technology in law enforcement has traditionally lagged behind private industry and increasingly even consumers. This talk focuses on the current state of the art in law enforcement technology as well as new technologies in development. Central to the successful adoption and use of these new technologies is the resolution of privacy concerns by the general public. For more information visit www.trunorthsystems.com ASF-1307D • UPC 8 82917 13079 3 • 43 min • DVD Disk • \$19.95

INNOVATION MANAGERS PANEL PRESENTATIONS: INFORMATION TECHNOLOGY, NANOTECH AND VENTURE CAPITAL, with Cynthia Breazeale (Intel), Steve Jurvetson (DFJ) and Christine Peterson (Foresight Institute). CYNTHIA BREAZEALE is an IT Innovation Strategic Program Manager at Intel. The title of her lecture is Innovation Through IT: Enabling Systemic Innovation. The Intel IT division chartered a small organization to work outside of the traditional roles and responsibilities and empowered them to discover new business value through innovation. For more information visit www.Intel.com/research/ STEVE JURVETSON is the Managing Director of Draper Fisher Jurvetson. One of Silicon Valley's leading lights in innovation funding, Jurvetson will discuss DFJ's general approach to the challenge of funding for technology and business innovation. The title of his lecture is Discovering a Renaissance in Innovation. For more information visit www.drapervc.com CHRISTINE PETERSON is a Co-Founder and Vice President of the Foresight Institute and Co-Author, Leaping the Abyss: Putting Group Genius to Work, 1997. The title of her lecture is Championing Innovation in Nanotechnology: Lessons Learned. Our task at Foresight is to help maximize progress toward and minimize potential problems coming from humanity's ever-increasing control of the structure of matter, down to the level of individual atoms. For more information visit www.foresight.org ASF-1308D • UPC 8 82917 13089 2 • 53 min • DVD Disk • \$19.95

THE COST AND BENEFIT OF TRANSPARENCY (DEBATE): HOW FAR, HOW FAST, HOW FAIR? David Brin vs. Brad Templeton, moderator Steve Jurvetson. DAVID BRIN is a Physicist, a Science Fiction Writer, and the Author of The Transparent Society: Will Technology Force Us to Choose Between Privacy and Freedom?, 1999. As a scientist, Brin was a fellow at the California Space Institute. More recently, he has been a research affiliate at the Jet Propulsion Laboratory and participated in interdisciplinary activities at the UCLA Center for the Study of Evolution and the Origin of Life. For

more information visit www.davidbrin.com BRAD TEMPLETON is the Chairman of the Electronic Frontier Foundation. He asks: can all-pervasive surveillance be avoided? What are the dangers if we don't avoid it? What are the things that always go wrong? How closely tied are privacy and freedom? Can we watch the watchers without them watching us? Author of a dozen microcomputer software projects, he has been active in the computer network community since 1979, participated in the building and growth of USENET and in 1987 he founded and edited rec.humor.funny, the most widely read computerized conference on that network. Brad is chairman of the board of the Electronic Frontier Foundation, the leading civil rights advocacy group for cyberspace. For more information visit www.Templetons.com Moderator STEVE JURVETSON, one of Silicon Valley's leading venture capitalists and innovation experts, is the Managing Director of Draper Fisher Jurvetson. For more information visit www.drapervc.com ASF-1310D • UPC 8 82917 13109 7 • 52 min • DVD Disk • \$19.95

LIVING THE DREAM: BUSINESS COMMUNITY AND INNOVATION AT THE DAWN OF DIGITAL WORLDS, with Cory Ondrejka (Linden Lab). Cory Ondrejka is the Vice President of Product Development at Linden Lab, creators of Second Life. Digital worlds are persistent destinations for fun, productivity, learning, and adventure. Like all frontiers, entrepreneurs are in these worlds, generating real-world profits. Today's digital worlds face important decisions around whether, and how, to embrace these business activities. As their populations grow, digital worlds are drawing from all walks of life. People from around the globe are discovering online worlds where the only limit is human creativity. People, ideas and cultures are interacting in ways never before possible. Sustained economic growth relies on innovation. Historically, innovation has been a function of transportation and communication costs, property rights, belief structures, and capital markets. Digital worlds optimize these factors in ways the real world cannot, allowing significantly higher per capita growth than any terrestrial nation. Over the next decade, visionary entrepreneurs will emerge from the digital melting pot of distributed and connected populations. Innovation and growth will allow digital worlds to capture an increasing share of the global economy. They will soon be in direct economic competition with real-world nations. For more information visit www.lindenlab.com and www.secondlife.com ASF-1311D • UPC 8 82917 13119 6 • 45 min • DVD Disk • \$19.95

MY LIFE BITS: THE MEMEX VISION AND SOME IMPLICATIONS OF STORING EVERYTHING PERSONAL, with Gordon Bell (Microsoft BARC). Gordon Bell is the Project Director of MyLifeBits at Microsoft's Bay Area Research Center (BARC). Within five years, our personal computers will be able to store significant portions of everything we write, hear, and see for sharing and access after the fact. Vannevar Bush outlined such a system, the Memex, in a famous 1945 article. Since 2000, Bell and

associates have been working on MyLifeBits (www.MyLifeBits.com) a project to hold cyberizable items from both personal and professional life including articles, books, email and written correspondence, photos, telephone calls, video files, web pages visited. The project is also capable of capturing 1,000 images per day of ambient surroundings, and samples of psychological data through wearable devices (e.g. the SenseCam from Microsoft's Cambridge Lab, and BodyMedia www.BodyMedia.com). MyLifeBits is currently focused on retrieval including the automatic addition of meta-data (e.g. document type identification, high level knowledge). For more information visit www.mylifebits.com ASF-1313D • UPC 8 82917 13139 4 • 46 min • DVD Disk • \$19.95

SIMULATIONS AND THE FUTURE OF LEARNING, with Clark Aldrich (SimuLearn). Clark Aldrich is a Co-Founder of SimuLearn, Lead Designer of Virtual Learner and Author of Simulations and the Future of Learning, 2003. Six criteria are emerging as critical not just to simulations but to all successful educational experiences. Three are focused on content, and three on delivery elements. A critical property of successful simulations is that they help us understand all educational experiences. Clark Aldrich recently lead the international team that created SimuLearn's Virtual Leader, the first workforce training game to follow the development cycle of a modern computer game. Virtual Leader has been featured on CNNfn, on CNet, in The New York Times, and in U.S. News and World Report, has been sold to some of the largest enterprises in the United States, and is currently being translated into other languages. SimuLearn became an Eduventures 100 company in 2003. Aldrich speaks, writes, and does consulting work on e-learning issues. He authors the popular monthly "Industry Watch" column for Training magazine, and Jossey-Bass published his book Simulations and the Future of Learning, which outlines a new philosophy of immersive e-learning, in September 2003. Aldrich earned a bachelor's degree in artificial intelligence and cognitive science from Brown University. For more information visit www.simulearn.net ASF-1314D • UPC 8 82917 13149 3 • 53 min • DVD Disk • \$19.95

WE, THE MEDIA: JOURNALISM BY AND FOR THE MEDIA, with Dan Gillmor (San Jose Mercury News). Dan Gillmor is a Business and Technology Columnist with the San Jose Mercury News as well as being the author of We, the Media: Journalism By and For the People, 2004. Grassroots journalists are dismantling Big Media's monopoly on the news, changing it from lecture to conversation. Dan Gillmor will discuss the importance of this emerging phenomenon, a deep shift in how we make and consume the news. We the Media is essential reading for all participants in the news cycle: Consumers learn how they can become producers of the news through web journals (weblogs or blogs), Internet chat groups, email, and cell phones. Politicians, business executives, celebrities learn how the top-down controlled world of Big Media has been segmented and

undermined by the Internet Age. Newsmakers are learning how to successfully play by the new rules and shift from control to engagement. Journalists discover that the new grassroots journalism presents opportunity as well as challenge to their profession. One of the first mainstream journalists to have a blog, Gillmor says, "My readers know more than I do, and that's a good thing." He makes the case to his colleagues that, in the face of a plethora of Internet-fueled news vehicles, they must change or become irrelevant. We the Media is a book about people. For more information visit weblog.siliconvalley.com/column/dangillmor/ASF-1315D • UPC 8 82917 13159 2 • 52 min • DVD Disk • \$19.95

DISTANCE INFRASTRUCTURE PANEL PRESENTATIONS: BROADBAND, VIDEOCONFERENCING AND TELEPRESENCE, with Milton Chen (VSee Lab), Jeremy Bailenson (Stanford University) and Dewayne Hendricks (Dandin). MILTON CHEN is the Chief Technical Officer of VSee Lab. The title of his lecture is Visual Communication and Collaboration Software for Afghanistan. He will present VSee, a videoconferencing platform designed for austere environments. VSee is unique in that it allows communication during emergency response when cell phone, telephone and the Internet are not available. JEREMY BAIENSON is Director of the Virtual Human Interaction Lab as well as an Assistant Professor at Stanford University. The title of his lecture is Collaborative Virtual Environments and Transformed Social Interaction. Over time, our mode of remote communication has evolved from written letters to telephones, email, internet chat rooms, and videoconferences. Implications for communications systems, marketing strategies, and behavioral science research will be discussed. DEWAYNE HENDRICKS is a Wireless Activist, CEO of Dandin Group and Director of the Wireless Task Force, GBOB Initiative. The title of his lecture is One Gigabit or Bust™ Initiative - A Broadband Vision for California. It has been generally accepted that the United States has fallen behind other industrialized countries with regards to the adoption of broadband services. Recent estimates show penetration rates of only 35%, comparing poorly to countries such as South Korea, which has adoption rates exceeding 95%, with far greater average bandwidth rates delivered at much lower costs. For more information visit www.warpspeed.com ASF-1316D • UPC 8 82917 13169 1 • 53 min • DVD Disk • \$19.95

VIRTUAL COMMUNITY AND EDUCATION PANEL PRESENTATIONS: LIVING AND LEARNING IN DIGITAL WORLDS, with Nova Barlow (Themis Group), Robin Harper (Linden Lab). NOVA BARLOW is an Online Community Developer with the Themis Group. The title of her lecture is The Art of Community Management. Community management is the critical success factor in determining whether an online game slips into oblivion or grows into a successful, long-lived service. This presentation will touch upon how

community management done right is really a team effort. For more information visit www.themis-group.com ROBIN HARPER is the Senior VP of Linden Lab, creators of Second Life. The title of her lecture is Real Learning in Digital Worlds. What does it mean to try to teach in a digital world? The simulation aspects of digital worlds are enticing. Instant focus groups, real-time collaboration in a physically realistic environment, the elimination of distance, and in a world like Second Life, the ability to work together creatively, all hold tremendous appeal for teachers and students alike. How are people taking advantage of these opportunities? Robin Harper joined Linden Lab in 2002, bringing extensive experience in consumer marketing of innovative software. Since joining she has been responsible for all marketing activities, and more recently has added responsibility for community development and growth. For more information visit www.lindenlab.com and www.secondlife.com ASF-1318D • UPC 8 82917 13189 9 • 45 min • DVD Disk • \$19.95

SOFTWARE SIMULATION, TECHNOLOGICAL AGENTS AND ACCELERATING CHANGE: PERSONALITY CAPTURE AND LINGUISTIC USER INTERFACE, with John Smart (ASF). One of the most important accelerating transitions occurring today is the emergence of the Linguistic User Interface or LUI. Primitive LUIs exist today in interfaces like Google, but will become dramatically more powerful over the next few decades. What will Windows and the Google Browser of 2015 look like? It seems clear that these will include early software simulations of human beings as part of the interface. Human factors experience suggests many of us will prefer to relate to virtual human beings who display body language responses, as such communication is more efficient than speaking to a disembodied machine. Increasingly, these LUI-equipped virtual avatars will also model and display human emotion, intentionality, and body language, yet probably with a speed and consistency that no biological human being can match. As our favorite digital personal interface (our "Digital Me") gains more capacity, they will carry an ever more valuable record of all the past communication we have had with them, including our preferences ("personality capture"), and increasingly become our professional representatives, coaches, managers, and extended memory for important events. How these developments may impact our political, economic, and social landscapes, as well as our definition of self, will be briefly discussed. John Smart is a developmental systems theorist who studies computational autonomy and the dynamics of change. For more information visit www.accelerating.org and www.singularity-watch.com ASF-1320D • UPC 8 82917 13209 4 • 77 min • DVD Disk • \$19.95

RISE OF THE VIRTUAL-TO-REAL LABOR FORCE: FIVE FREE IDEAS – FROM UNDERWEAR TO ARCHITECTURE, with Jerry Paffendorf (ASF). Jerry Paffendorf is a Director of the Institute for the Study of Accelerating Change. People are creating content of real-world value inside of

massively multi-player online environments. In many cases these virtual goods are only useful within the context of the virtual world they come from. But something of much wider significance is also beginning to happen: items first prototyped in virtual worlds are being manufactured in the real world, and items manufactured in the real world are being reconstructed in and sold through the virtual world. This presentation will quickly introduce some pros and cons of prototyping in massively multi-user versus stand-alone software environments, give examples of virtual world prototyping thus far, examine some emerging technologies that will facilitate this virtual-to-real exchange, and suggest five business ideas dying to be worked on today. Paffendorf has an undergraduate degree in Fine Arts (video and mixed-media installation) from Montclair State University in New Jersey, and an M.S. in Studies of the Future from the University of Houston-Clear Lake. His recent concentration has been in the study of collaborative virtual environments and massively multi-player online games that interact with the real world—a subject he's presented on at four major conferences in 2004. For more information visit www.accelerating.org ASF-1321D • UPC 8 82917 13219 3 • 34 min • DVD Disk • \$14.95

SCULPTING POSSIBILITY SPACE: GAMING, SIMULATIONS AND LANDSCAPES IN THE VIRTUAL WORLD, with Will Wright (Electronic Arts / Maxis). Will Wright is the Founder of Maxis; Creator of Sim City and The Sims. Games and simulations allow us to experience hypothetical situations in fun and intuitive ways. From the designers perspective we need to architect these "possibility landscapes" which players will later explore. Wright discusses some of the informal methods, concepts and tools that he uses to approach this design task. Will Wright, Maxis' Chief Designer, co-founded Maxis with Jeff Braun in 1987. He released his first game SimCity: The City Simulator in 1989, an instant hit that has won 24 domestic and international awards. Sim City brought complex, realistic simulations to desktop PCs, a capability previously only available to military, scientists and academicians. Using an easy graphical interface, Sim City opened the world of simulations to consumers. SimCity 2000, SimCity 3000, SimCity 3000 Unlimited, and SimCity 4 Deluxe have continued the tradition. SimEarth, SimAnt, and other games have explored other facets of the natural world. His social simulation game, The Sims, was released in February of 2000. With over 9 million copies worldwide, 7 expansion packs, and numerous "Game of the Year" accolades, The Sims has become the best-selling PC game of all time. Wright has become one of the most successful designers of interactive entertainment in the world. In 1999 he was included in Entertainment Weekly's "It List" of "the 100 most creative people in entertainment" as well as Time Digital's "Digital 50", a listing of "the most important people shaping technology today." For more information visit www.maxis.com and www.ea.com ASF-1322D • UPC 8 82917 13229 2 • 60 min • DVD Disk • \$19.95

REAL MONEY IN VIRTUAL ECONOMIES (DEBATE): THE FUTURE OF USER-CREATED CONTENT, with **Jamie Hale (Gaming Open Market)**, **Steve Salyer (IGE)**, **Brian Green (NDS)** and **Daniel James (Three Rings)**, moderator **Cory Ondrejka (Linden Lab)**. Virtual worlds are becoming real world economic systems as their currencies are exchangeable through secondary market sellers like IGE and Gaming Open Market. Some innovative persistent worlds, like Linden Lab's Second Life, give users copyright over the content they create. **JAMIE HALE** is president of Gaming Open Market Corp., a Canadian company that has built the world's first foreign exchange website for massively multiplayer online game (MMOG) currencies. For more information visit www.gamingopenmarket.com **STEVE SALYER** is President of Internet Gaming Entertainment (IGE) a leading services provider to the MMOG community. For more information visit www.ige.com **BRIAN GREEN** is a Co-Founder of Near Death Studios. Brian has been an avid gamer for years, and has gained degrees in both Computer Science and Spanish Literature. For more visit www.neardeathstudios.com **DANIEL JAMES** is the CEO of Three Rings and the Lead Designer of Yohoho! Puzzle Pirates. Three Rings is an independent developer of online games based in San Francisco. Yohoho! Puzzle Pirates is a skill-based persistent world based on casual puzzle games. For more visit www.threerings.net Moderator **CORY ONDREJKA** is Vice President of Product Development at Linden Lab, creators of one most rapidly growing online persistent worlds, Second Life. For more visit www.lindenlab.com and www.secondlife.com ASF-1323D • UPC 8 82917 13239 1 • 48 min • DVD Disk • \$19.95

LARGE-SCALE COLLECTIVE IQ: FACILITATING ITS EVOLUTION, with **Doug Engelbart (Bootstrap Institute)**. Doug Engelbart, the Inventor of the Mouse, is a Digital Interface Legend and Founder of the Bootstrap Institute. Engelbart notes that the pace of change is accelerating: the number of aspects of our life that are changing is itself accelerating; the rates of their respective changing are accelerating; the secondary adjustments of each change vector to accommodate the other change-vector changes are accelerating — an expanded “acceleration” perspective seems necessary for appropriately dealing with the modern world. Picture all of the world's humans trundling along in one common “human-society vehicle,” carrying us in semi-separate, national/cultural “compartments” that are each evolving through its accelerating social, technological, economic, political, religious, etc. changes. This vehicle is moving us faster and faster through an ever-more complex, multi-dimensional space — and many places in that “space” are dangerous for our society to stumble into. Are “we humans” in control? Sorry, but none of us could steer the system, individually, even if the path were laid out for us. Do “we” have vision that is clear- and farsighted-enough help us guide, even if we did have “steerage control”? For more information visit www.bootstrap.org ASF-1324D • UPC 8 82917 13249 0 • 54 min • DVD Disk • \$19.95

REALITY GAMES: THE NEXT REVOLUTION, with **Keith Halper (Kuma Reality Games)**. [Note: Due to a technical problem the first 12 minutes of this presentation was not recorded.] Keith Halper is the CEO and Co-Founder of Kuma Reality Games. Kuma Reality Games has gathered tremendous attention with Kuma\War, an innovative PC game delivering accurate recreations of actual events in Operation Iraqi Freedom just weeks after they occur—and set off a storm of controversy. But behind its provocative subject matter is a challenge to traditional game publishers. These ‘Episodic Games’ are building new content demand, new sources of revenue, and competitive distribution. In this talk, Kuma CEO Keith Halper discusses the techniques and technology that make episodic games possible, their cultural and financial impact, and the process of introducing revolutionary change in the buzz-driven market for games. Keith is a recognized leader in interactive gaming with dozens of industry awards and key successes in many of the world's most significant brands, including Shrek, Jerry Seinfeld, Tom Clancy and Star Trek. Keith was formerly President of media services firm, Medium Rare, Inc., where his clients included Viacom, AOL Time Warner, Yahoo and Maxim Magazine. For more information visit www.kumagames.com ASF-1312D • UPC 8 82917 13129 5 • 27 min • DVD Disk • \$14.95

YOU ARE PLAYER ONE: USER INTERFACES IN INTERACTIVE ENTERTAINMENT, with **Richard Marks (Sony Computer Entertainment)**. An interface revolution is coming for computer entertainment. Though graphics have improved tremendously in recent years, interfaces have improved very little. Interactivity is the defining characteristic that separates gaming from other media, and this is the area that will advance the most in the next few years. Richard Marks is Special Projects Manager for Research and Development at Sony Computer Entertainment America. Marks was an Avionics major at MIT before getting his Ph.D. at Stanford in visual sensing for underwater robotics. He then joined Teles Research, a computer vision start-up later acquired by Autodesk. He departed and consulted for a year, before the unveiling of the PlayStation2 hardware inspired him to join PlayStation R&D. His research focus has been studying real-time video input to the PS2, and he now manages R&D Special Projects, which includes Man-Machine Interfaces and Physical Simulation. One of Marks's recent creations is the EyeToy. EyeToy: Play has been a strong commercial success, selling over 4 million copies worldwide since it launched last year. For Sony's upcoming PlayStation platforms, his lab is working on even more direct interaction as well as new natural interfaces. For more information visit www.scea.sony.com ASF-1325D • UPC 8 82917 13259 9 • 52 min • DVD Disk • \$19.95

VIRTUAL MONEY, PRIVACY AND FREEDOM, with **Peter Thiel (Clarium Capital)**. Peter Thiel is a Co-Founder and Former CEO of PayPal, Inc. and President of Clarium Capital. He is Author of The

Diversity Myth: Multiculturalism and Political Intolerance On Campus, 1998. For most of history, citizens and their property have been largely immobile, subject to the tyranny of place and the depredations of governments with virtually absolute power over citizens and their assets. But the past two hundred years have been a remarkable break from the past: wealth has accrued in ever greater proportion not to the tangible world, but to the realm of ideas; advances in transportation and international trade have made people and property more mobile than ever, and the development of unbreakable codes has freed some citizens from the prying eyes of the state. In this new world, the bond between citizen and state is no longer static and cannot be taken for granted. As the power of the state wanes in the face of these trends and the increasing interjurisdictional competition they engender, citizens become clients of states rather than subjects, and the power to decide the special case increasingly falls to newly sovereign individuals. Mr. Thiel is Clarium's President and oversees the firm's research, investment, and trading strategies. For more information visit www.clariumcapital.com ASF-1327D • UPC 8 82917 13279 7 • 39 min • DVD Disk • \$14.95

BULL'S EYE INVESTING: THRIVING IN A SECULAR BEAR MARKET, with **John Mauldin (Millennium Wave)**. John Mauldin is the President of Millennium Wave Advisors and the Author of Bull's Eye Investing: Targeting Real Returns in a Smoke and Mirrors Market, 2004. It is not just in technology that we see accelerating change. The world of economics and finance is evolving to ever more sophisticated platforms. The very growth and even meaning of money is slipping away from the control of governments. And yet, the business cycle is still with us. Innovation cycles still take time to make themselves felt in the world. How will The Next Big Thing affect our economy and lifestyles? What will be the result of all the new wealth that has been and will be created? Who will benefit? And who will be left behind? John Mauldin is the creative force behind the Millennium Wave investment theory and author of the weekly economic e-mail Thoughts from the Frontline and a private letter for accredited investors. For more information visit www.2000wave.com ASF-1328D • UPC 8 82917 13289 6 • 51 min • DVD Disk • \$19.95

WEB SEARCH AS A FORCE FOR GOOD: CHALLENGES IN ARTIFICIAL INTELLIGENCE, with **Peter Norvig (Google, Inc.)**. Peter Norvig is the Director of Search Quality at Google, Inc and Co-Author of Artificial Intelligence: A Modern Approach, 2002, the world's leading textbook in AI. He is a Fellow and Councilor of the American Association for Artificial Intelligence. Previously he directed the Computational Sciences Division at NASA Ames Research Center, where he oversaw a staff of 200 scientists performing NASA's research and development in autonomy and robotics, automated software engineering and data analysis, neuro-engineering, collaborative systems research, and simulation-based decision-making. Before

that he was Chief Scientist at Jungle, where he helped develop one of the first Internet comparison shopping services; Chief designer at Harlequin Inc; and Senior Scientist at Sun Microsystems Laboratories. Dr. Norvig received a B.S. in Applied Mathematics from Brown University and a Ph.D. in Computer Science from the University of California at Berkeley. He has been a Professor at the University of Southern California and a Research Faculty Member at Berkeley. He has over fifty publications in various areas of Computer Science, concentrating on Artificial Intelligence, Natural Language Processing and Software Engineering. For more information visit. www.norvig.com ASF-1329D • UPC 8 82917 13299 5 • 38 min • DVD Disk • \$14.95

CAPTOLOGY: UNDERSTANDING HOW COMPUTERS MANIPULATE PEOPLE, with B.J. Fogg (Stanford University). B.J. Fogg is the Director of Research and Design at the Persuasive Technology Lab, Stanford University, and Author of *Persuasive Technology: Using Computers to Change What We Think and Do*, 2002. Can computers manipulate your thoughts and actions? Can they motivate you to stop smoking, persuade you to buy stuff online, or convince you to join the Army? Yes, they can. For the past ten years he has been studying how computing products can be designed to change people's beliefs and behaviors. More and more, interactive systems are designed to motivate and persuade people. Some applications of captology are beneficial, helping people achieve their own goals (such as exercising more often). However, many promote the interests of organizations at the expense of individuals. He also describes a new mobile phone application created by the Persuasive Technology Lab to change how you access and read digital text. An experimental psychologist, Dr. Fogg teaches courses in persuasive technology for Stanford's Computer Science Department. He's on the consulting faculty for Stanford's School of Education, where he teaches graduate seminars in the Learning, Design & Technology Program. In addition, Dr. Fogg is the Senior Director of Research & Innovation at Casio's R&D Center in Silicon Valley (www.casioresearch.com). For more information visit www.captology.org ASF-1330D • UPC 8 82917 13309 1 • 50 min • DVD Disk • \$19.95

NATURAL INTERFACE PANEL PRESENTATIONS: TEXT ANALYTICS AND TALKING COMPUTERS, with Tim Sibley (StreamSage), Wlodek Zadrozny (IBM Research) and Rich Skrenta (Topix.net). TIM SIBLEY is the Chief Scientist at StreamSage. The title of his lecture is *Language Processing: Is the Acceleration Missing?* While advances in the field of computational linguistics certainly add to the accelerating pace of technological change within society, the field itself is riddled with exponentially hard problems, inefficient development structures and incentives, and disconnected efforts. For more, visit www.streamsage.com WLODEK ZADROZNY is a Technologist for On

Demand Innovation Services at IBM Research. The title of his lecture is *Analytics for Asset Valuation: Tools for Evaluating Intangible Assets are Emerging and Will Change the Investment Landscape.* Intangible assets, such as brand value, customer opinions or management quality, constitute 80% of stock market valuation. Moreover, as a percentage, the proportion of intangible assets is increasing. However, there are few tools for evaluating and comparing intangibles. For more visit domino.research.ibm.com/odis/odis.nsf RICH SKRENTA is Co-Founder and CEO of Topix.net. The title of his lecture is *Text Analytics for News.* In his last position, Rich held a variety of senior roles at Netscape/America Online, including Director of Engineering for Netscape Search, AOL Music, and AOL Shopping. For more information visit www.topix.net ASF-1331D • UPC 8 82917 13319 0 • 58 min • DVD Disk • \$19.95

SOCIAL SOFTWARE PANEL PRESENTATIONS: WEBLOGS, WIKIS AND DIGITAL DEMOCRACY, with Lada Adamic (HP Labs), Peter Kaminski (SocialText) and Zack Rosen (CivicSpace). LADA ADAMIC is a Research Scientist at HP Labs. Her lecture is titled *Implicit Structure and the Dynamics of Blogspace.* The electronic nature of blogs, email, and instant messaging allows us to study the flow of information and the underlying social networks on a large scale. Weblogs link together in a complex structure through which new ideas and discourse can flow. Such a structure is ideal for the study of the propagation of information. For more information visit www.hpl.hp.com PETER KAMINSKI is the Chief Technical Officer and a Co-Founder of Socialtext. The title of his lecture is *Enterprising Social Software: Wikis and Weblogs.* Wikis and weblogs are lean, efficient tools born and bred on the web for working together as we share information. What can we learn from these tools and the way they're used as we adapt them for use within the enterprise? For more information visit www.socialtext.com and www.peterkaminski.com ZACK ROSEN is the Founder and Director of CivicSpace Labs and the Creator of DeanSpace social software. His lecture is titled *Empowering Democracy through Social Software.* Social software will help define the future of our political process and the world's power structure. We've seen great breakthroughs this past year in the United States and glimpses of a radical reshaping in South Korea. For more information visit www.civicspacelabs.org ASF-1332D • UPC 8 82917 13329 7 • 47 min • DVD Disk • \$19.95

FINDING HUMANITY IN THE INTERFACE (DEBATE): CAPACITY ATROPHY OR AUGMENTATION? Jaron Lanier vs. Will Wright, moderator Mark Finnern. As our interfaces get continually smarter, how do we keep them from dehumanizing us? Should we be concerned that U.S. youth have had forty years of declining math, science, and analytical reading skills? Do we need 1960's math skills in a world with ubiquitous calculators, or reading skills in a

world with digital cable? Or thinking skills in a world with intelligent text analytics? JARON LANIER is the Founder of VPL Research and an Advisor to the National Tele-Immersion Initiative; he is also a Computer Scientist, Composer and Artist. Lanier notes: Computer people are sounding a lot like religious people these days. For more information visit www.advanced.org/jaron/ WILL WRIGHT is a Co-Founder of Maxis; and Creator of Sim City. Wright's social simulation game, *The Sims*, has become the best-selling PC game of all time. In 1999 he was included in *Entertainment Weekly's* "It List" of "the 100 most creative people in entertainment" as well as *Time Digital's* "Digital 50", a listing of "the most important people shaping technology today." For more information visit www.maxis.com and www.ea.com Moderator MARK FINNERN manages the Collaboration Area of the fastest growing SAP Community: The SAP Developer Network. Mark is also the founder and host of the Bay Area Future Salon, co-producer of the Accelerating Change 2004 conference, and blogger for the O'Reilly Network. ASF-1333D • UPC 8 82917 13339 8 • 60 min • DVD Disk • \$19.95

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PUBLIC AND PRIVATE DEVELOPMENT OPTIONS FOR SPACE EXPLORATION, with Peter Worden. SFF-1417D • UPC 8 82917 14179 9 • 67 min • DVD Disk • \$24.95

THE POTENTIAL OF COMMERCIAL SPACE VEHICLES PANEL, with Various Presenters. It is by now clear to nearly all that the future of our nation in space lies with the commercial sector. While government activity in space will always be a key aspect of the new frontier, the question we must ask ourselves is who are the operators willing to risk it all to make space a place where normal everyday people live and work? SFF-1418D • UPC 8 82917 14189 8 • 77 min • DVD Disk • \$24.95

BUSINESS OF SPACE – THE FUTURE OF SPACE COMMERCE, with Various Presenters. It has long been argued that the primary barrier to successful active business in space is the prohibitively high cost of accessing space. The purpose of these panels will be to furnish discussions by companies not traditionally associated with space, but which could reap benefits from working in the space environment if the cost of access to space was cheaper. Essentially this panel is meant to be a two part (orbital and sub-orbital) forum featuring potential customers of space access services. The entrepreneurial space community has long pointed to cheap access to orbit as being the keystone of real economic development in space. Until recently however, a clear path to how such access would be achieved was hard to discern. Now

the road is clearer and the question before us is: What will we be doing in near earth space just ten years from now? The ability to regularly access suborbital space is now right around the corner. While some of the markets are very clear others are less obvious. To date the companies that have been developing vehicles have focused on markets which are clear and easy to quantify. Are there other opportunities that can be realized in the short term? SFF-1419D • UPC 8 82917 14199 7 • 86 min • DVD Disk • \$24.95

MARS INDIRECT: PHOBOS AS STEP TO COLONIZING MARS, with Pascal Lee. What's the best way to get to mars? According to Pascal Lee, that would be by landing on the martian moon Phobos as a staging area for eventual landing missions on the surface of Mars. SFF-1420D • UPC 8 82917 14209 3 • 54 min • DVD Disk • \$19.95

EXPLORING FACTORS THAT LIMIT OUR EXPLORATION OF SPACE, with Various Presenters. A new industry is emerging which will be taking adventurers, researchers, engineers, and perhaps even astronauts in training into space on a near daily basis. A future is now clearly discernible where the brave and the brilliant will begin making fortunes and discoveries alike in space. Where will they be operating from? A handful of forward looking states and spaceports have begun working hard to make sure that they can begin reaping the benefits of this new industry. SFF-1421D • UPC 8 82917 14219 2 • 55 min • DVD Disk • \$19.95

COMMERCIAL SPACE EXPLORATION AND THE FEDERAL AVIATION ADMINISTRATION, with George Nield (FAA). Throughout the history of spaceflight, the defining role has been played by NASA. Now however, space is becoming a place where people live and work rather than solely a place where government employees learn, experiment, and push the limits of technology. SFF-1422D • UPC 8 82917 14229 1 • 38 min • DVD Disk • \$14.95

SPACE FRONTIER FOUNDATION ANNUAL AWARDS BANQUET AND SILENT AUCTION, with Various Presenters. SFF-1423D • UPC 8 82917 14239 0 • 72 min • DVD Disk • \$24.95

THE ROLE OF GOVERNMENT IN SPACE DEVELOPMENT PANEL, with Various Presenters. The space industry is going to involve companies beyond vehicles and customers there are a wide variety of infrastructure and support industries. These companies will actually be the backbone of the industry, but will remain on Earth. They enable other companies to actually work in space. They include computer companies, infrastructure builders, information technology, insurance, materials, fuel, ground support, logistics and many more. SFF-1425D • UPC 8 82917 14259 8 • 108 min • DVD Disk • \$24.95

INTERNATIONAL TRAFFIC IN ARMS (ITAR) REGULATION PANEL DISCUSSION, with Various Presenters. The rules and regulations that surround spaceflight at present are critical to the success or failure of new space ventures. As humanity begins to move forward into space this trend will only

become more prevalent. Taking a thorough look at these issues is therefore critical to the success of the next space age. SFF-1426D • UPC 8 82917 14269 7 • 56 min • DVD Disk • \$19.95

COMMERCIAL SPACEFLIGHT REGULATION AND POLICY PANEL, with Various Presenters. SFF-1427D • UPC 8 82917 14279 6 • 44 min • DVD Disk • \$19.95

THE CASE FOR EXPLORING AND COLONIZING THE MOON, with Robert Zubrin, Rick Tumlinson and Henry Vanderbilt. SFF-1428D • UPC 8 82917 14289 5 • 80 min • DVD Disk • \$24.95

DEEP IMPACT: EXPLORATION MISSION TO THE COMET TEMPEL 1, with Mike A'Hearn. SFF-1429D • UPC 8 82917 14299 4 • 46 min • DVD Disk • \$19.95

SPACE TOURISM AND DEVELOPMENT, with Sam Coniglio and Joe Palaia. SFF-1430D • UPC 8 82917 14309 0 • 42 min • DVD Disk • \$19.95

EMERGING TECHNOLOGY AND SPACE EXPLORATION, with Various Presenters. SFF-1431D • UPC 8 82917 14319 9 • 85 min • DVD Disk • \$24.95

SPACE SETTLEMENT AND DEVELOPMENT RESOURCES, with Various Presenters. That this will be a market for the first providers of commercial space access is clear, the details of how it will develop remain to be seen and the speakers in this session will strive to illuminate the issue. SFF-1432D • UPC 8 82917 14329 8 • 117 min • DVD Disk • \$24.95

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6TH ANNUAL RETURN TO THE MOON: LUNAR DEVELOPMENT 2005 CONFERENCE - 16 DISK SET - Washington, D.C.. Complete conference set includes SFF-1416D through SFF-1432D. SFF-1416D • UPC 8 82917 14169 0 • 18+ hours • 16 DVD Disks • \$259.95

GETTING THERE: JOIN THE SPACE REVOLUTION, with Various Presenters. RTM-1451D • UPC 8 82917 14519 4 • 60 min • DVD Disk • \$19.95

HOW DO WE GET TO THE MOON (EARTH ORBIT)?, with Various Presenters. Jeff Belanger - Panel Chair, Jim Voss (t/Space), Debra Lepore (Kistler), Chuck Lauer (Rocketplane Limited). RTM-1452D • UPC 8 82917 14529 3 • 60 min • DVD Disk • \$19.95

HOW DO WE GET TO THE MOON (CIS LUNAR)? with Various Presenters. Jeff Belanger - Panel Chair, Bruce Pitman (), Dallas Bienhoff (Boeing), Charles Miller. RTM-1453D • UPC 8 82917 14539 2 • 60 min • DVD Disk • \$19.95

HOW DO WE LIVE ON THE MOON? with Various Presenters. Brant Sponberg (NASA) - Panel Chair, James Hopkins (SAIC), Dennis Wingo (Orbital Recovery), Ken Stratton (). RTM-1454D • UPC 8 82917 14549 1 • 60 min • DVD Disk • \$19.95

WHAT WILL WE DO ON THE MOON (SCIENCE)? with Various Presenters. Michael Wargo (NASA) - Panel Chair, Larry Taylor (), Wendell Mendell (NASA JSC).

RTM-1455D • UPC 8 82917 14559 0 • 60 min • DVD Disk • \$19.95

WHAT WILL WE DO ON THE MOON (COMMERCIAL)? with Various Presenters. Paul Eckert (Boeing) - Panel Chair, David Gump (t/Space), Hugh Arif (Cisco Systems), Dennis Wingo (Orbital Recovery), David Livingston. RTM-1456D • UPC 8 82917 14569 9 • 60 min • DVD Disk • \$19.95

ENABLING SPACE TECHNOLOGIES, with Various Presenters. Michael Mealling - Panel Chair. This panel is going to be composed of 10 or so entrepreneurs/technology development companies talking (5 min each) about their innovative technologies. The plan is to paint a broad picture of what the private sector could offer and do so quickly. RTM-1457D • UPC 8 82917 14579 8 • 60 min • DVD Disk • \$19.95

LEGAL AND REGULATORY POLICY OF SPACE DEVELOPMENT, with Various Presenters. Tim Huddleston (Aerospace Development Center) - Panel Chair, Jim Muncy (PoliSpace), Marc Schlather (ProSpace), George Whitesides (National Space Society). RTM-1458D • UPC 8 82917 14589 7 • 60 min • DVD Disk • \$19.95

LUNAR AND IN-SPACE BUSINESS MODELS, with Various Presenters. Lon Rains (SpaceNews) - Panel Chair, Michael Mealling - (Masten Space Systems), David Gump - (t/Space), Charles Miller - (Constellation Services International), Rex Ridenoure (Ecliptic). -1460D • UPC 8 82917 14609 1 • 60 min • DVD Disk • \$19.95

INTERNATIONAL PARTNERS FOR THE EXPLORATION OF SPACE, with Various Presenters. Bob Richards (Optech / Intl. Space University) - Panel Chair, Robert Goehlich (). RTM-1461D • UPC 8 82917 14619 0 • 60 min • DVD Disk • \$19.95

PROPERTY RIGHTS IN SPACE DEVELOPMENT, with Various Presenters. Berin Szoka - Panel Chair, Rosanna Sattler, Jim Dunstan, Wayne White. RTM-1462D • UPC 8 82917 14629 9 • 60 min • DVD Disk • \$19.95

NASA INITIATIVES FOR SPACE EXPLORATION, with Chris Shank (NASA). RTM-1463D • UPC 8 82917 14639 8 • 60 min • DVD Disk • \$19.95

NASA'S CENTENNIAL CHALLENGE: SPACE FLIGHT COMPETITION, with Brant Sponberg (NASA Non Traditional Office / Centennial Challenges). RTM-1464D • UPC 8 82917 14649 7 • 60 min • DVD Disk • T/SPACE AND THE EMERGING SPACE ECONOMY, with Brett Alexander. RTM-1465D • UPC 8 82917 14659 6 • 60 min • DVD Disk • \$19.95

BOEING AEROSPACE AND PRIVATE FLIGHT SPACE COOPERATION, with Paul Eckert (Boeing) (Lunar Commerce Roundtable). RTM-1466D • UPC 8 82917 14669 3 • 43 min • DVD Disk • \$14.95

LOBBYING, ACTIVISM, SPACE EDUCATION, REVIEW AND WRAP UP, with Various Presenters. RTM-1467D • UPC 8 82917 14679 2 • 90 min • DVD Disk • \$19.95

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THE COLORS OF MARS AS VIEWED BY PANCAM, with William Farrand and the PanCam Team. Mars-1702D • UPC 8 82917 17029 9 • 51 min • DVD Disk • \$19.95

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