Adam Goldberg
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Skills and Services

Technical

Wide ranging digital television-focused technical foundation, including engineering work on audio/video silicon products, real-time operating system development, set-top box development, and audio/video compression systems development and architecture, and internet technologies. Experience evaluating technology products for possible use. Experience with internet architectures, tracking internet technologies and future direction.

Long experience participating in multi-industry forums, chairing and participating in technical standards committees, policy and strategy-forming groups, including international groups, including leadership roles in the ATSC and CEA. Leader in consumer electronics standards-setting, and a member of the NATAS Technical Emmy® Award Selection Committee.

Experience in expert witness and litigation support roles for patent, class action, and commercial/contractual matters.

Government and Policy

Provides the perspective of both an engineering background and government relations to governmental and industry policy and regulatory actors. With my varied background I am able to explain technical topics to both technical and non-technical audiences, such as U.S. federal agencies and trade associations.

Experience

12/08 – Present   Principal
**   AGP, LLC**

Independent consultant specializing in strategic marketing, technical challenges and public policy for the digital television industry. Experience in serving as an expert in legal proceedings, including patent infringement actions and regulatory proceedings.

Named to the FCC Advisory Committee on Downloadable Security (2015). Alternate member to the FCC Video Programming Accessibility Advisory Committee (2011).

6/06 – 11/08   Vice President, Government and Industry Affairs
**   Pioneer North America**

Head of Pioneer's Washington office. Primary Federal representative for Pioneer's home and mobile entertainment divisions. Investigate technologies and their impact on public policy, and public policy's impact on products.

Coordinate and develop technology policy positions with international and domestic internal clients, including legal, senior executives and operations. Coordinate, direct and implement regulatory and lobbying activities to implement those policies. Participate in various industry coalitions and trade groups representing Pioneer's interests. Participate in state and federal government workshops, stakeholder meetings and similar forums representing Pioneer's interests. Initiate, develop, plan and implement technology demonstrations to government decision-makers.

Chaired the Consumer Electronics industry's negotiations with the cable television industry on compatibility of retail devices with cable networks. Pioneer's representative on the Consumer Electronics Association's Video Board, chaired the Consumer Electronics Association's Television Manufacturer's Caucus (TVMC), elected vice-chair of the CEA Technology & Standards Council (2009 term). Member of the Advanced Television Systems Committee (ATSC) Board of Directors.

5/01 – 6/06   Director, Television Standards & Policy Development
**   Sharp Laboratories of America**

Primary standards representative to ATSC, SCTE, and CEA standards developing committees. Co-Chair of the Copy Protection Technical Working Group (CPTWG), and participant in DVB Copy Protection activities and other international organizations.

Coordinate and direct television-related public policy activities, including interaction with the Federal Communications Commission, Federal and State Legislatures, and other government agencies. Coordinate and direct television-related standards activities in the United States, including digital television, cable television and copy protection issues.

Maintain standards library, memberships in standards developing organizations. Provide liaison and education between Sharp Corporation world-wide and United States television and related standards activities (including Copy Protection technical, business, legal and public policy matters).

Significant contributor to the industry "Cable-Ready Plug & Play" technical specifications and negotiations, and to e.g., Enhanced 8-VSB signaling issues.

7/00 – 4/01   Director
**   Exodus Communications (formerly GlobalCenter)**

Built a technical advisory and architectural team to explore new technologies and develop applications of the technologies to new managed service (and other higher value-add) product offerings. Consult with product development organization on implementation details. Mandate included monitoring of relevant standards organizations (e.g., IETF) and industry trends.

3/95 – 6/00   Staff Engineer, Harmonic, Inc.
**   (Formerly C-Cube Microsystems, Formerly DiviCom, Inc.)**

DiviCom division (now Harmonic)

Key member of corporate standards activities. Primary delegate to DVB (chair of DVB Simulcrypt committee) and co-founder of OpenCAS™. Primary architect and editor of the ATSC Standard for Conditional Access (ATSC A/70). Technical repre-

sentative to standards organization, including ATSC, CEA, SMPTE, DAVIC and TVAnytime.

Key member of corporate architectural decision making team. Analysis of end-to-end digital and hybrid television systems (contribution, distribution and emission) including reference model design and critical gap analysis.

Led team developing architecture of event-based scheduling of equipment reconfiguration feature. Internal consultant on end-to-end television system issues and related standards and ongoing standards work.

Consumer Network Products division (acquired by LSI):

Lead of team porting software to new processor and operating system. Planning, schedule, software architecture and design. Also responsible for tracking vendor and subcontractor deliverables and schedule. Participated in contract negotiation.

Member of VLSI team designing a digital set-top integration chip. Tracking copy protection issues for inclusion of copy protection primitives in silicon.

Member of software team successful in bringing a multiple network digital set-top box to production. Duties included system design and architecture, portions of network stacks, MPEG decoder driver, MPEG decoder chip microcode specification, DAC controls (analog-digital switching, Macrovision copy protection issues), lab network design, vendor and customer interaction.

5/92 – 3/95   Sr. Software Engineer, Microware Systems Corp.

Standards Activities

5/01 – present	Deeply involved in various CEA committees, elected to Video Division Board; currently chair R4.3 and R4.8WG11
11/97 – present	Deeply involved in various ATSC activities, elected to ATSC Board of Directors; currently chair TG1/S7 and TG3/S36
11/97 – present	SCTE DVS
11/97 – present	SMPTE various standards efforts
2001 – 2006	CPTWG (consumer electronics co-chair)
11/98 – 6/06	DVB
1999 – 2000	IETF
9/95 – 12/97	DAVIC
3/95 – 9/95	MPEG DSM-CC

Awards
U.S. Patent #6,097,439
IEEE Senior Member

Papers Published
B. J. Lechner, R. Chernock, M. K. Eyer, A. Goldberg and M. S. Goldman, "The ATSC Transport Layer, Including Program and System Information Protocol (PSIP)", *Proceedings of the IEEE Special Issue on Global Digital Television: Technology and Emerging Services,* vol. 94, no. 1, pp. 77-101, Jan. 2006

J. G. N. Henderson, M. S. Deiss, A. Goldberg, B. Markwalter, M. Muterspaugh, and A. Touzni, "ATSC DTV Receiver Implementation", *Proceedings of the IEEE Special Issue on Global Digital Television: Technology and Emerging Services*, vol. 94, no. 1, pp. 119-147, Jan. 2006

Papers Presented
Audio Engineering Society (AES) Convention, October 2011
IEEE Broadcast Technology Society Symposium, October 2009, October 2011
Sports Transmission Forum, May 2009
Korea Broadcast, Audio, Lighting Equipment Show, 2009, 2010
NAB Engineering Conference 2002, 2004, 2006, 2015 (future)
Consumer Electronics Show 2007
IEEE International Conference on Consumer Electronics 2003, 2005
Hollywood Post Alliance Technology Retreat, 2005, 2006, 2009

Education
B.S., Computer Science, Iowa State University, 1992