

Shantanu Narayen

Shantanu Narayen is President and Chief Operating Officer of Adobe, one of the world's largest and fastest growing software companies. Narayen leads the company's day-to-day global operations, sets Adobe's long-term market strategies and oversees all product research and development, corporate strategy and investments, and corporate and product marketing. Together with CEO Bruce Chizen, Narayen spearheaded the USD 3.4 billion acquisition of Macromedia Inc. in 2005, expanding Adobe's software platform and solutions and strengthening the company's presence in key markets ranging from enterprises and vertical industries to mobile devices and multimedia publishing.

Before joining Adobe in 1998, Narayen was co-founder of Pictra Inc. He previously held senior management positions at Silicon Graphics Inc. and Apple Computer Inc.

Narayen holds a bachelor's degree in electronics engineering from Osmania University in India, a master's degree in computer science from Bowling Green State University and a master's degree in business administration from the Haas School of Business.

ISO Focus: Adobe has used innovative technology to bridge the paper-to-digital world, by providing software solutions that enable its customers and employees to interact with information and each other, and businesses to run smoothly. How have ISO International Standards contributed to this innovation?



“Standards are the engine enabling our industry to develop software in a low-risk, cost-effective manner.”

Shantanu Narayen : Adobe is a leading software company and a global business. At Adobe we build software that revolutionizes the way the world engages with ideas and information. Supporting standards is vitally important to our business and to our customers.

Standards are the engine enabling our industry to develop software in a low-risk, cost-effective manner. Even more important, standards help busi-

ness and government by promoting software interoperability, reducing technology complexity, streamlining adherence to regulations, and helping ensure that customers, partners, and employees can exchange information securely and productively. ISO helps ensure that manufacturing processes and associated technologies worldwide are reliable, safe, efficient, and cleaner than ever before.

ISO's efforts are important for maintaining and supporting standards within the software industry. For Adobe in particular, ISO approval helps promote international adoption of file formats and languages that bridge paper-to-digital worlds and advance global commerce and communication.

From its early days, Adobe has had to ensure the openness and interoperability of its technology. PostScript, the page description language that helped drive the desktop publishing revolution, and Portable Document Format (PDF) are open, publicly available specifications. Certain varieties of TIFF as well as

subsets of Portable Document Format (PDF/X for reliable delivery of press-ready, high-end colour documents and PDF/Archive for long-term archiving and preservation) are ISO standards.

Adobe's commitment to promoting standards is as strong today as it was when Adobe PostScript, TIFF and PDF were introduced years ago. The company is currently working with organizations throughout the world to spearhead the development of PDF/E, a proposed standard for reliable engineering documentation and 2D and 3D content, and PDF/UA, a format for universal access of electronic documents for people with disabilities. In addition, Adobe contributes to the development and support of open standards such as U3D for 3D content.

We will continue to work within ISO's network of standards institutes to ensure compliance with existing standards, develop new standards where there is a market need and remain committed to supporting these standards in our products and solutions moving forward.

At Adobe, we fundamentally believe in open standards as a means of attracting developers to our technology platform. Being open needs to be part of your DNA¹⁾.

1) Deoxyribonucleic acid (DNA) is the material inside the nucleus of cells that carries genetic information.

ISO Focus: *Adobe is an active participant in ISO as well as in more than 30 standards organizations and committees worldwide. Why does Adobe participate in the ISO standards-making process? Would you please comment on the benefits of participation in ISO?*

Shantanu Narayen: ISO is the world's most prominent organization for standards development, playing a pivotal role in developing and publishing recognized and formally agreed to International Standards for digital collaboration, communication and commerce.

Adobe's vision is to revolutionize how the world engages with ideas and information—anytime, anywhere, and through any medium. To realize this, Adobe is delivering a platform that provides powerful solutions for engaging people with digital information. This “Engagement Platform” provides the programming model – including open standards such as PDF and Flash (SWF) format, as well as robust application programming interfaces – to create, manage, deliver, and engage people with media-rich solutions. For organizations to accomplish this, information must cross borders and time zones and support multiple languages, mediums and devices on a large scale. This would literally be impossible without published and supported ISO standards.

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Adobe has forged its business around standards and also adopts a holistic view concerning standards, from the technologies and software we develop, to the buildings where Adobe employees work. Adobe is applying to the US Green Building Council (USGBC) for the highest-level “platinum” certification it offers for environmentally-friendly buildings. If Adobe succeeds in winning certification, it would be the first platinum designation under a new Leadership in Energy and Environmental Design (LEED) programme for existing buildings, as well as one of only 11 platinum-certified buildings in the United States. It's interesting to note that USGBC is using Adobe LiveCycle software and PDF to

Overhead view of Adobe System's building and basketball court, Adobe headquarters in downtown San Jose, California, USA.

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streamline the LEED application process, reducing the time to submit LEED application forms by as much as 50% and making it easier for more organizations to seek certification.

ISO Focus: *Acrobat and PDF revolutionized collaboration and information sharing by enabling people around the world to deliver digital documents exactly as intended across computing platforms and applications. How do ISO standards help ensure businesses and government agencies easily and securely exchange information across the enterprise? In what ways is knowledge more effectively managed?*

Shantanu Narayan: In today's business and political environments, ensuring delivery of the right information to the right people at the right time is a complex problem – and solving it is essential. We all live in an information engagement economy that relies on secure information delivery across borders. ISO standards are instrumental in ensuring that global commerce and government interactions and processes are as effective, timely, and secure as possible.

“Press and analyst communities see Service Orientated Architecture as having great potential but with parameters and definitions to be nailed down.”

Adobe Acrobat and PDF are vital for securing and enabling information flows. Both in the USA and globally, PDF has garnered widespread adoption as the standard for making documents and information accessible in a controlled, secure manner. Password-protection, encryption, locking content and setting viewing limits on documents are only a few of the security measures that can be applied to PDF files.

Acrobat and PDF started as a way to reliably exchange documents, but they have since evolved into a global means of not only sharing, but also actively



Adobe

About Adobe Systems Incorporated

Adobe revolutionizes how the world engages with ideas and information – anywhere, anytime and through any medium. For more than two decades, the company's award-winning technologies and software have redefined business, entertainment and personal communications by setting new standards for producing and delivering content that engages people. From rich images in print, video and film, to dynamic digital content for a variety of media, the impact of Adobe solutions is felt by anyone who creates, views and interacts with information. The company's solutions are used daily by many of the world's leading organizations in a range of industries, such as publishing, government, financial services, telecommunications and education. With a portfolio of many of the most respected and recognizable software brands, Adobe is one of the world's largest and most diversified software companies. For more information, visit www.adobe.com.

interacting with all types of media-rich information. Acrobat and PDF today are important enablers in driving engagement and enabling informed action – an idea to be developed, a business process to execute or an important government decision to make. PDF files can be used as transactional, legally binding documents. And, when combined with XML

code, they can enable business processes beyond firewalls and across multiple platforms.

ISO Focus: *International Standards are an effective vehicle for the dissemination of innovation and may therefore, of necessity, contain patented elements. In such cases, the policy is that any patented material included in the requirements of ISO (or IEC) standards should be made available under 'reasonable and non-discriminatory conditions'. What is your view and your practice, with respect to this policy?*

Shantanu Narayan: Adobe has been very supportive of standards organizations and, in fact, has helped draft the intellectual property rules for many standards bodies, including those for the World Wide Web Consortium (W3C). We believe that companies participating in the creation of ISO level standards should offer licences under patent claims necessary to practise those standards. At a minimum, those licences should include reasonable and non-discriminatory terms.

ISO Focus: *Almost all industries are concerned with security issues today. An important part of software development is to ensure that data is secured and travels when and where it is needed. How can such information security systems benefit from International Standards and which standards does Adobe use in its solutions?*

Shantanu Narayan: Among other security issues, phishing attacks cost consumers USD 500 million in 2004. And, according to an Adobe/Harris poll on security, more than 23% of organizations have had leaks of sensitive information over the last 12 months. As a result of the challenges of securing electronic information, business and government are facing thorny issues associated with protecting privacy, adhering to national and international regulations for privacy and confidentiality, and retaining consumer and constituent trust.

To date, most organizations have focused almost solely on securing the perimeters of their network using tech-

nologies such as firewalls. Increasingly, it's clear that this approach falls short – organizations must secure the content itself.

Adobe works very closely with digital signature, smart card and security companies to ensure there are efficient, safe and effective ways to safeguard content. New information security solutions from Adobe ensure effective rights management for documents, not only created in PDF, but in Office and CAD formats, ensuring that documents are viewed only by those who are intended to view them, that they aren't leaked either intentionally or unintentionally, and that they are indeed authentic and genuine.

The security standards developed through the standards process ensure that organizations can balance between the need to share electronic information and at the same time protect it.

ISO Focus: *How do you see the digital industry evolving in the coming years? What new standards would Adobe like to see coming out of ISO?*

Shantanu Narayen: There are two especially exciting trends driving advancement in the digital industry. One is a new generation of enterprise-class technology called Service Oriented Architecture (SOA) that accelerates the flow of business-critical information by connecting people, documents and processes. Unlike

traditional point-to-point architectures, SOAs comprise loosely coupled, highly interoperable application services. Through SOAs, silos of automation such as enterprise resource planning or customer relationship management systems are repurposed to create a composite set of applications that provides services to customers and constituents, and extends organizations' reach to facilitate international trade. With a combination of SOA, XML and PDF, Adobe is enabling people to participate in business processes anytime, anywhere, on any device.

The press and analyst communities see SOA as having great potential but also as being in a preliminary state, with parameters and definitions still being nailed down. Adobe is actively involved in a standards effort to define a normative reference model for SOA, and other standards activities related to SOA implementations. ISO's efforts in developing and publishing recognized and formally agreed to international SOA-related standards will be necessary to realize this new technology model on a global scale.

Another transformational industry trend is a dramatic shift in the way people are engaging with ideas and information, whether it's a newspaper, a billboard, a Web site, a film, a mobile device, an online meeting, an enterprise application or an electronic document. In today's climate,

people and organizations need to create, manage and deliver information-rich content and applications that enable customers and constituents to have more effective digital experiences. To date, this endeavour has been limited by the complexities of developing, deploying and managing applications across multiple platforms, devices and environments.

Adobe's Engagement Platform provides an integrating framework to simplify the creation and deployment of compelling, actionable applications and content. Unlike point technologies that require complex integration, proprietary solutions that require new skills and infrastructure, or closed platforms that do not provide the breadth of support for content or the reach across operating systems and devices, the Adobe engagement platform builds on existing infrastructure, standards, and skills to integrate complex content and technologies without sacrificing scale or efficiency.

The ability to deliver next-generation functionality extending across applications, enterprises, users, formats and devices will depend upon ubiquitous clients such as Adobe Reader and Flash Player, PDF and SWF formats, and open APIs and standards. As always, ISO will continue to play a crucial role in developing and disseminating the standards needed to engage people with information in compelling yet controlled ways. ■

An average day at Adobe.



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