Explosive Growth of the Digital Universe

EMC Corporation, the world leader in information infrastructure solutions, announced new findings from the groundbreaking EMC-sponsored research from IDC that measures and forecasts the vast amounts and diverse types of digital information created and copied in the world.

"The Diverse and Exploding Digital Universe: An Updated Forecast of Worldwide Information Growth Through 2011" highlights findings that are newly updated since IDC's inaugural forecast of the digital universe was published in March 2007. IDC's new whitepaper offers updated growth projections and new findings expected to impact business and society based on new data and analysis that indicate:

★ At 281 billion gigabytes (281 exabytes), the digital universe in 2007 was 10 % bigger than originally estimated

★ With a compound annual growth rate of almost 60 %, the digital universe is growing faster and is projected to be nearly 1.8 zettabytes (1,800 exabytes) in 2011, a 10-fold increase over the next five years

★ Your "Digital Shadow" – that is, all the digital information generated about the average person on a daily basis – now surpasses the amount of digital information individuals actively create themselves

IDC's new research shows the digital universe is bigger and growing more rapidly than original estimates as a result of accelerated growth in worldwide shipments of digital cameras, digital surveillance cameras, and digital televisions as well as a better understanding of information replication trends. The digital universe in 2007 was equal to almost 45 gigabytes (GB) of digital information for every person on earth – or the equivalent of over 17 billion 8 GB iPhones. Other fast-growing corners of the digital universe include those related to Internet access in emerging countries, sensor-based applications, data centers supporting "cloud computing" and social networks comprised of digital content created by many millions of online users.

IDC's research also examines how society and the digital universe interact with each another, addressing how individuals actively participate in contributing to the digital universe – leaving a digital footprint as Internet and social network users, email use, through use of cell phones, digital cameras and credit card transactions. The white paper also highlights the fast-growing passive contributions that individuals make to the digital universe, something known as the "digital shadow."

"In the updated study, we discovered that only about half of your digital footprint is related to your individual actions – taking pictures, sending emails, or making digital voice calls," said John Gantz, Chief Research Officer and Senior Vice President, IDC. "The other half is what we call the 'digital shadow' – information about you – names in financial records, names on mailing lists, web surfing histories or images taken of you by security cameras in airports or urban centers. For the first time your digital shadow is larger than the digital information you actively create about yourself."

Enterprise IT organizations that gather the information comprising our digital shadows have a tremendous responsibility – in many cases mandated by law – for the security, privacy protection, reliability and legal compliance of this information.

"Society is already feeling the early effects of the world's digital information explosion. Organizations need to plan for the limitless opportunities to use information in new ways and for the challenges of information governance," said Joe Tucci, EMC Chairman, President and CEO. "As people's digital footprints conti-

nue growing, so too will the responsibility of organizations for the privacy, protection, availability and reliability of that information. The burden is on IT departments within organizations to address the risks and compliance rules around information misuse, data leakage and safeguarding against security breaches."

Due to its vast size and rapid expansion, both consumers and businesses experience the impact of the

attempt to figure out what to do with all the data they're creating.

Other key findings:

★ **The "Visual" Universe** – the information explosion – at least in raw gigabytes – is predominately visual: images, camcorder clips, digital TV signals, and surveillance streams.

★ **Enterprise Responsibility** – The picture related to the source and governance of digital information remains intact: Approximately

packets, tag contents – is growing 50 % faster than the number of gigabytes. The information created in 2011 will be contained in more than 20 quadrillion – 20 million billion – of such containers, a tremendous management challenge for both businesses and consumers.

★ **Information Governance** – To deal with this explosion of the digital universe in size and complexity, organizations will need to

10 % of all still images were captured on film.

★ **Digital Surveillance** – Shipments of networked digital surveillance cameras are doubling every year.

★ **Share by Industry** – The enterprise share of the digital universe is widely skewed by industry, having little relationship to GDP or IT spending. The finance industry accounts for almost 20 % of worldwide IT spending but only 6 % of the digital universe. Meanwhile, media, entertainment, and communications industries will account for 10 times their share of the digital universe in 2011 as their share of global GDP.

★ **"eWaste"** an Environmental Concern – Electronic waste is accumulating at more than 1 billion units a year – mostly mobile phones, but also personal digital electronics and PCs. The switch to digital TV will place a lot more analog TV sets and obsolete set top boxes and DVDs on the waste pile, which will double by 2011.

★ **Energy Use Increases** – Power consumption that was 1 kilowatt (kW) per server rack in 2000

For First Time the „Digital Shadow" * Amount of Digital Information Being Generated About People – Surpasses the Amount They Create Themselves * Digital Universe Bigger Than Estimated Due to Explosion of Digital Cameras, Digital TVs, Surveillance Cameras and Social Networks

digital universe in many profound ways. IDC reports the information explosion creates new complexity for IT organizations charged with managing digital information that is rapidly growing in size and becoming more diverse. Consumers will also struggle with the growth of their own digital information as they

70 % of the digital universe is created by individuals, yet enterprises are responsible for the security, privacy, reliability, and compliance of 85 %.

★ **Digital Diversity** – Because of the growth of VoIP, sensors, and RFID, the number of electronic information "containers" – files, images,

spearhead the development of organization-wide policies for information governance: information security, information retention, data access, and compliance.

★ **Digital Cameras** – In 2007, the number of digital cameras and camera phones in the world surpassed 1 billion, and fewer than