

## Gartner's Hype Cycle Special Report for 2009

Jackie Fenn, Mark Raskino, Brian Gammage

The 2009 Gartner Hype Cycle Special Report evaluates the maturity of 1,650 technologies and trends in 79 technology, topic and industry areas. New Hype Cycles this year include cloud computing, data center power and cooling technologies, and mobile device technologies.

## ANALYSIS

---

Gartner's annual Hype Cycle Special Report provides a detailed look at technology maturity across the IT industry. The 2009 report features 79 Hype Cycles and is our largest to date, as our coverage has expanded to include new topics such as photovoltaic solar energy. Each Hype Cycle provides a snapshot of key technologies and trends in a specific technology, topic, geographic region or industry domain.

The primary value of the Hype Cycle reports is in seeing an overview of each domain or industry in two graphical formats — the Hype Cycle and the Priority Matrix. Hype Cycles and Priority Matrices are management tools that help organizations understand the landscape of technology markets, and to decide which technology innovations to adopt, postpone or ignore, and when is an appropriate time to adopt. Each Hype Cycle report contains an introduction that highlights key trends, such as advances in technological capabilities and changes in the provider marketplace. In addition, each technology or trend featured in the Hype Cycle and Priority Matrix is profiled in more detail, including a definition, assessment of business impact, advice on adoption and example vendors where applicable.

New Hype Cycles for the 2009 Special Report are:

- **Cloud Computing.** Cloud computing is the latest super-hyped concept in IT. Although cloud computing is about a very simple idea — consuming and/or delivering services from "the cloud," there are many issues regarding types of cloud computing and scope of deployment that make the details not nearly so simple. In other words, it is a subject that is ripe for a Gartner Hype Cycle.
- **Data Center Power and Cooling Technologies.** The increase in high-density IT equipment (servers, storage and communication), the growing cost and scarcity of power, and the move toward a greener environment are requiring new technology to meet growing needs.
- **Enterprise Information Management (EIM).** EIM is an integrative discipline for structuring, describing and governing information assets across organizational and technological boundaries to improve efficiency, promote transparency and enable business insight. The Hype Cycle covers the broad range of technologies and capabilities used to effectively manage information as an asset and deliver information as part of a business service inside or outside the enterprise.
- **Media Broadcasting.** The first Hype Cycle published for the television broadcasting industry focuses on technologies that support the digital distribution and monetization of video content. It is relevant to traditional terrestrial broadcasters and other TV service providers, including cable, satellite and IPTV.
- **Mobile Device Technologies.** Advances in key mobile technologies — such as manufacturing processes, wireless, chip fabrication, processors, memory, displays and user interfaces — will dramatically change the size, shape and capability of mobile devices during the next 10 years.
- **Photovoltaic Solar Energy.** Solar energy is an area of great interest and opportunity for enterprises. Growing worldwide demand for clean energy is coming at a time when solar panel prices are declining due to improved manufacturing technologies and less-expensive raw materials. The complete photovoltaic solar value chain is represented in this Hype Cycle.

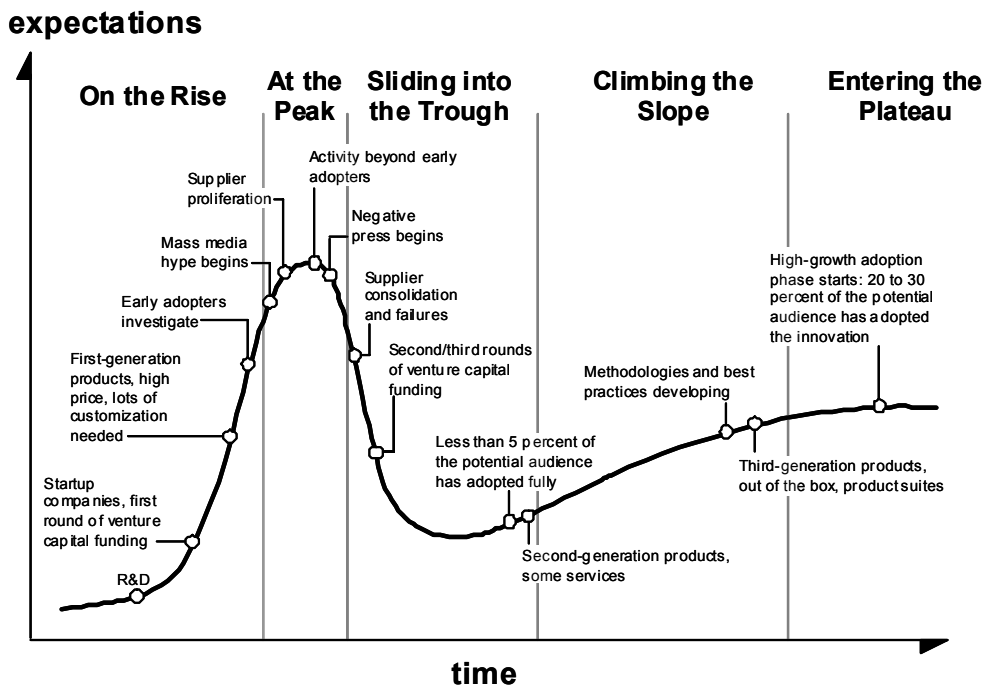
- **Virtualization.** Virtualization is the process of decoupling layers of IT function so the configuration of the layers becomes more independent of each other. Virtualization changes the way enterprises package and deliver computing. It is disruptive to both IT users and providers, leading to significant levels of hype.

The Hype Cycle for Media Industry Entertainment is renamed as Hype Cycle for Media Industry Content.

### The Hype Cycle Graphic

Gartner introduced the idea of the Hype Cycle in 1995 as a commentary on the common pattern of human response to technology. Since then, the use of Hype Cycles has expanded, within Gartner and by our clients, as a graphical way to track multiple technologies within an IT domain or technology portfolio. Gartner's Hype Cycle characterizes the typical progression of an emerging technology, from overenthusiasm through a period of disillusionment to an eventual understanding of the technology's relevance and role in a market or domain. Each phase is characterized by distinct indicators of market, investment and adoption activities (see Figure 1).

Figure 1. Gartner's Hype Cycle



Source: Gartner (July 2009)

In October 2008, Gartner published a book on the Hype Cycle and the technology adoption process, called "Mastering the Hype Cycle: How to Choose the Right Innovation at the Right Time" (by Jackie Fenn and Mark Raskino, from Harvard Business Press). In developing the book, we explored the nature of the vertical or Y-axis of the Hype Cycle in depth and determined that the variable it depicts is most accurately described as "expectations," rather than the "visibility" label we used when the graphic was first created. Based on this analysis, the Y-axis will be labeled "expectations" in this year's Special Report and in future Hype Cycle reports (see "The New Hype Cycle Y-Axis Measure: Expectations").

Gartner analysts position technologies along the Hype Cycle based on a consensus assessment of hype and maturity. To represent the varying speeds, all technologies on the Hype Cycle are assigned to a "years to mainstream adoption" category (for example, two to five years), representing how long they will take to reach the Plateau of Productivity from their current position on the Hype Cycle — that is, how far they are from the start of mainstream adoption.

Hype Cycles help technology planners to decide when to invest in that technology. A Hype Cycle is a useful educational tool that:

- Establishes the expectation that most technologies will inevitably progress through the pattern of overenthusiasm and disillusionment before proving their real value.
- Provides a snapshot of the relative level and pace of maturity of technologies within a certain segment of the IT world, such as a technology area, horizontal or vertical business market, or a certain demographic audience.
- Has a simple and clear message: companies should not invest in a technology just because it is being hyped, nor should they ignore a technology just because it is not living up to early overexpectations.

For more detailed information on the causes, traps and opportunities of the Hype Cycle, see "Understanding Gartner's Hype Cycles, 2009" and the "Mastering the Hype Cycle" book.

### **The Priority Matrix Graphic**

The Priority Matrix is a tool for prioritizing emerging technologies by forcing technology planners to look beyond the hype and assess technology opportunities in terms of their relative impact on the enterprise and the timing of that impact (see Figure 2). In the Priority Matrix, the vertical axis focuses on the potential *benefit* of the technology (rather than on the expectation levels presented in the Hype Cycle). The horizontal axis groups the technologies according to the same years-to-mainstream-adoption rating used on the Hype Cycle. The years-to-mainstream-adoption rating is a simple measure of risk based on the projected rate of maturation for a technology. High-priority investments appear in the top-left portion of the Priority Matrix, where technologies potentially have a high impact and have reached a reasonable level of maturity.

**Figure 2. Gartner's Priority Matrix**

benefit	years to mainstream adoption			
	less than 2 years	2 to 5 years	5 to 10 years	more than 10 years
transformational	Invest aggressively if not already adopted	Conservative (Type C) investment profile	Moderate (Type B) investment profile	Aggressive (Type A) investment profile
high	Conservative (Type C) investment profile	Moderate (Type B) investment profile	Aggressive (Type A) investment profile	Invest with caution
moderate	Moderate (Type B) investment profile	Aggressive (Type A) investment profile	Invest with caution	Invest with extreme caution
low	Aggressive (Type A) investment profile	Invest with caution	Invest with extreme caution	Invest with extreme caution

Source: Gartner (July 2009)

The Priority Matrix answers the questions:

- What level of benefit can an enterprise gain from a technology?
- When will the technology be mature enough for an enterprise to derive this benefit at an acceptable level of risk?

**Hype Cycle Reports**

The Hype Cycle reports are a convenient way to look at a set of relevant technologies and trends. Many of our clients draw from multiple Hype Cycles, augmented with industry- or company-specific topics, to create their own Hype Cycles and Priority Matrices as part of their annual technology planning. For more detailed information about Hype Cycles, Priority Matrices and the contents of each technology profiled, see "Understanding Gartner's Hype Cycles, 2009."

**Technologies**

Technology Hype Cycles provide a snapshot of core technologies, software and infrastructure. Examples include topics in wireless, security, productivity tools, hardware infrastructure and networking. The Emerging Trends and Technologies Hype Cycle provides a view of highly hyped and high-impact trends and technologies from across IT.

"Hype Cycle for Consumer Mobile Applications, 2009"

"Hype Cycle for Consumer Technologies, 2009"

"Hype Cycle for Contact Center Infrastructure, 2009"  
"Hype Cycle for Context-Aware Computing, 2009"  
"Hype Cycle for Content Management, 2009"  
"Hype Cycle for Data Center Power and Cooling Technologies, 2009"  
"Hype Cycle for Data Management, 2009"  
"Hype Cycle for Emerging Technologies, 2009"  
"Hype Cycle for Enterprise Communications Application, 2009"  
"Hype Cycle for Enterprise Information Management, 2009"  
"Hype Cycle for Global Consumer Communications Services, 2009"  
"Hype Cycle for the High-Performance Workplace, 2009"  
"Hype Cycle for Human-Computer Interaction, 2009"  
"Hype Cycle for Identity and Access Management Technologies, 2009"  
"Hype Cycle for Infrastructure Protection, 2009"  
"Hype Cycle for Master Data Management, 2009"  
"Hype Cycle for Mobile Device Technologies, 2009"  
"Hype Cycle for Networking and Communications, 2009"  
"Hype Cycle for PC Technologies, 2009"  
"Hype Cycle for Photovoltaic Solar Energy, 2009"  
"Hype Cycle for Printing Markets and Management, 2009"  
"Hype Cycle for Semiconductors, 2009"  
"Hype Cycle for Server Technologies, 2009"  
"Hype Cycle for Smart Grid Technologies, 2009"  
"Hype Cycle for Social Software, 2009"  
"Hype Cycle for Storage Hardware Technologies, 2009"  
"Hype Cycle for Storage Software Technologies, 2009"  
"Hype Cycle for Telemedicine, 2009"  
"Hype Cycle for Web and User Interaction Technologies, 2009"  
"Hype Cycle for Wireless Devices, Software and Services, 2009"  
"Hype Cycle for Wireless Networking Infrastructure, 2009"

## Topics

Topic Hype Cycles examine technologies and trends that are driving innovation in business applications, IT operations, and software development such as CRM, sourcing strategies,

regulatory issues and open source. Regional Hype Cycles highlight the particular areas of activity within the various geographies, including where the region is ahead of or lagging the global average.

"Hype Cycle for Application Architecture, 2009"

"Hype Cycle for Application Development, 2009"

"Hype Cycle for Application Infrastructure, 2009"

"Hype Cycle for Business Continuity Management, 2009"

"Hype Cycle for Business Intelligence and Performance Management, 2009"

"Hype Cycle for Business Process Management, 2009"

"Hype Cycle for Business Process Outsourcing, 2009"

"Hype Cycle for Cloud Computing, 2009"

"Hype Cycle for Consulting and System Integration, 2009"

"Hype Cycle for CRM Marketing Applications, 2009"

"Hype Cycle for CRM Sales, 2009"

"Hype Cycle for Customer Service and Field Service, 2009"

"Hype Cycle for Data and Application Security, 2009"

"Hype Cycle for Governance, Risk and Compliance Technologies, 2009"

"Hype Cycle for Human Capital Management Software, 2009"

"Hype Cycle for ICT in India, 2009"

"Hype Cycle for IT Operations Management, 2009"

"Hype Cycle for IT Outsourcing, 2009"

"Hype Cycle for Manufacturing Product Life Cycle Management and Production, 2009"

"Hype Cycle for Open-Source Software, 2009"

"Hype Cycle for Procurement Applications, 2009"

"Hype Cycle for Real-Time Infrastructure, 2009"

"Hype Cycle for Software as a Service, 2009"

"Hype Cycle for Supply Chain Management, 2009"

"Hype Cycle for Virtualization, 2009"

## **Industries**

In addition to the cross-industry positioning featured in technology and topic Hype Cycles, industry Hype Cycles show how technologies may be at different levels of maturity and adoption in different industries. Industry Hype Cycles also feature technologies and trends unique to that specific industry.

"Hype Cycle for Automotive Demand Chain and Supply Chain Technologies, 2009 "

"Hype Cycle for Banking and Investment Services Customer Technologies, 2009"

"Hype Cycle for Banking and Investment Services Operations Technologies, 2009"

"Hype Cycle for Communications Service Provider Operations, 2009"

"Hype Cycle for Communications Service Provider Infrastructure, 2009"

"Hype Cycle for Consumer Goods, 2009"

"Hype Cycle for Education, 2009"

"Hype Cycle for Financial Services Payment Systems, 2009"

"Hype Cycle for Government Transformation, 2009"

"Hype Cycle for Healthcare Payers, 2009"

"Hype Cycle for Healthcare Provider Applications and Systems, 2009"

"Hype Cycle for Healthcare Provider Technologies and Standards, 2009"

"Hype Cycle for Life Insurance, 2009"

"Hype Cycle for Media Broadcasting, 2009"

"Hype Cycle for Media Industry Advertising, 2009"

"Hype Cycle for Media Industry Content, 2009"

"Hype Cycle for P&C Insurance, 2009"

"Hype Cycle for Retail Technologies, 2009"

"Hype Cycle for Transportation, 2009"

"Hype Cycle for Utility Industry IT and Business Processes, 2009"

"Hype Cycle for Utility Industry Operational and Energy Technologies, 2009"

"Hype Cycle for the Telecommunications Industry, 2009"

"Hype Cycle for Vehicle-Centric Information and Communication Technologies (Vehicle ICT), 2009"

## **RECOMMENDED READING**

---

"Understanding Gartner's Hype Cycles, 2009"

"The New Hype Cycle Y-Axis Measure: Expectations"

"Toolkit: My Hype Cycle, 2009"

"Mastering the Hype Cycle: How To Adopt the Right Innovation at the Right Time," Jackie Fenn and Mark Raskino, Harvard Business School Press, October 2008

## REGIONAL HEADQUARTERS

---

### **Corporate Headquarters**

56 Top Gallant Road  
Stamford, CT 06902-7700  
U.S.A.  
+1 203 964 0096

### **European Headquarters**

Tamesis  
The Glanty  
Egham  
Surrey, TW20 9AW  
UNITED KINGDOM  
+44 1784 431611

### **Asia/Pacific Headquarters**

Gartner Australasia Pty. Ltd.  
Level 9, 141 Walker Street  
North Sydney  
New South Wales 2060  
AUSTRALIA  
+61 2 9459 4600

### **Japan Headquarters**

Gartner Japan Ltd.  
Aobadai Hills, 6F  
7-7, Aobadai, 4-chome  
Meguro-ku, Tokyo 153-0042  
JAPAN  
+81 3 3481 3670

### **Latin America Headquarters**

Gartner do Brazil  
Av. das Nações Unidas, 12551  
9º andar—World Trade Center  
04578-903—São Paulo SP  
BRAZIL  
+55 11 3443 1509