

Hype Cycle for Open-Source Technologies, 2003

Open-source development principles are expanding into new areas. Gartner assesses the maturity of 17 open-source technologies and examines their potential to disrupt software markets and business relationships.

Management Summary

Open-source software is making inroads into standards-based, infrastructure IT. An important, but still unanswered, question is whether the open-source development model can be applied to other technology areas, especially those lacking standards or those requiring large development investments. There seems to be a rising number of developer communities and commercial software vendors willing to bet on a positive outcome for open source. Their efforts, if successful, will mean a reinvention of a broad spectrum of IT according to open-source principles.

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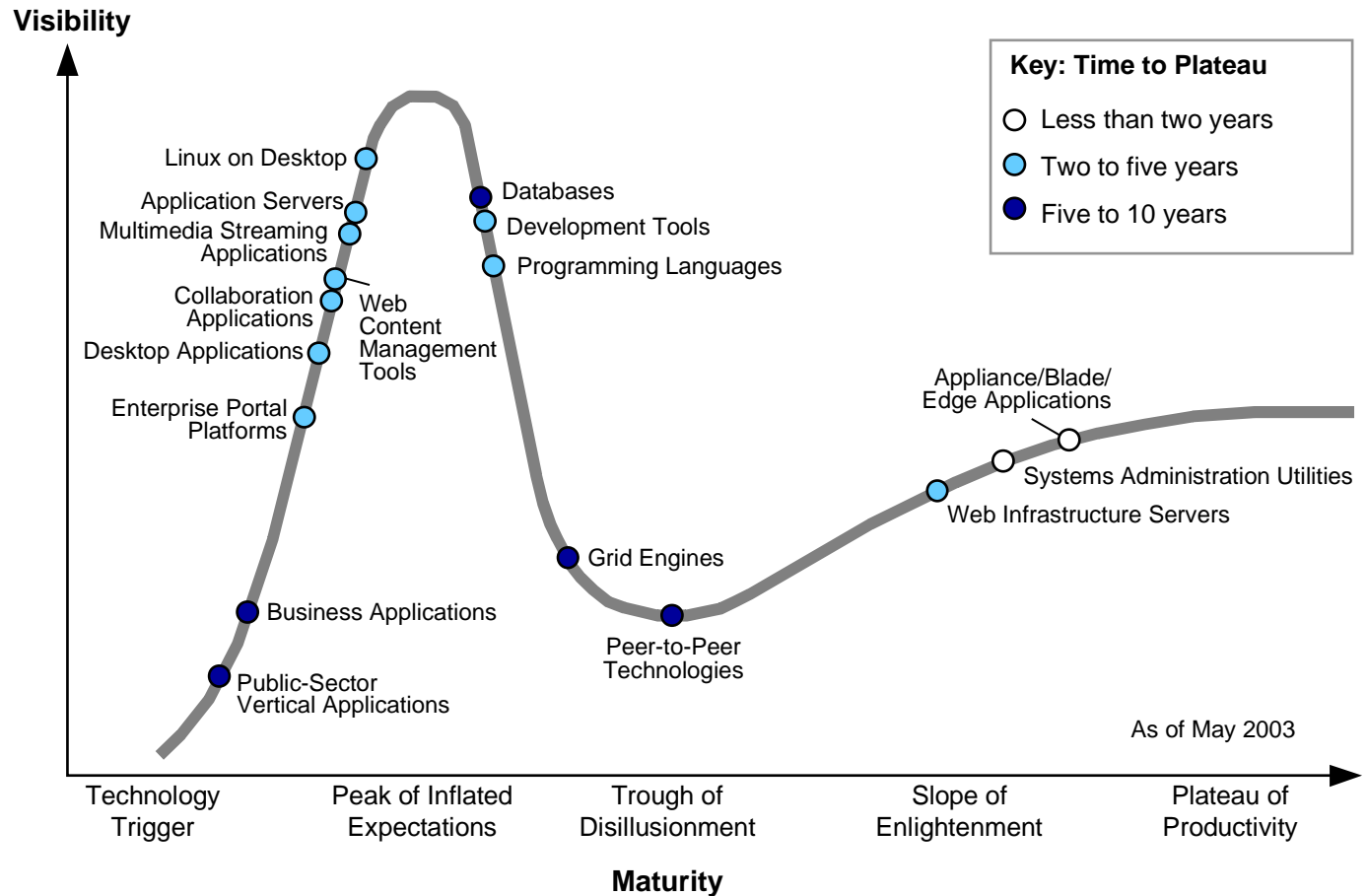
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FIGURES

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1.0 The Hype Cycle



Source: Gartner Research (May 2003)

Figure 1. Hype Cycle for Open-Source Technologies, 2003

2.0 On the Rise

2.1 Public-Sector Vertical Applications

Definition: Open-source vertical applications for public-sector use — for example, online tax collection, vehicle registration or fine payment.

Time to Plateau/Adoption Speed: Five to 10 years.

Justification for Hype Cycle Position/Adoption Speed: Open-source applications for the public sector exist, but on a very small scale. If implemented, recent recommendations for "resource pooling" by various governments and the European Union should accelerate open-source development.

Business Impact Areas: Public-sector use of open source could change the relationship between public-sector bodies and their IT services suppliers. Open source will also affect cost, maintenance and support.

2.2 Business Applications

Definition: Open-source business applications for areas such as customer relationship management, sales force automation, enterprise resource planning, human resources, decision support, billing and point of sale.

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Time to Plateau/Adoption Speed: Five to 10 years.

Justification for Hype Cycle Position/Adoption Speed: Open-source development for business applications is limited by a lack of standards and the sizable initial effort required to get a large packaged application off the ground. Some new commercial vendors, such as Compiere, rely on a service business model to get around these obstacles. Struggling commercial software vendors may choose to reveal their code in an attempt to gain market share and cut development costs.

Business Impact Areas: Potentially disruptive to the whole commercial technology vendor ecosystem.

Selected Vendors: Compiere and Ohioedge.

2.3 Enterprise Portal Platforms

Definition: Open-source portal platforms.

Time to Plateau/Adoption Speed: Two to five years.

Justification for Hype Cycle Position/Adoption Speed: Some work has been done on standard portal implementations, along with search and XML processing, but important technology pieces are still missing.

Business Impact Areas: Potential disruption in the portal marketplace if users begin to adopt tactical open-source options.

Selected Vendors: Apache Software Foundation, Red Hat and Zope.

2.4 Desktop Applications

Definition: Open-source productivity suites including word processing, spreadsheets, presentation authoring, messaging and collaboration client software.

Time to Plateau/Adoption Speed: Two to five years.

Justification for Hype Cycle Position/Adoption Speed: Some open-source desktop applications have been enjoying interest from press and users looking for lower-cost alternatives to commercial options. Although maturing fast, trouble-free migration is not a reality for the majority of open-source desktop users.

Business Impact Areas: Mass migration to open-source desktop solutions could change the economics of the desktop. Highly unlikely in the short term, but, potentially, very disruptive.

Selected Vendors: Gnome, KDE, Mozilla, Open Source Applications Foundation (OSA Foundation), Sun Microsystems and Ximian.

2.5 Collaboration Applications

Definition: Open-source applications for e-mail, instant messaging, application sharing and video-conferencing.

Time to Plateau/Adoption Speed: Two to five years.

Justification for Hype Cycle Position/Adoption Speed: There are well-established, widely used open-source technologies for basic e-mail and newer, commercially supported technologies for instant messaging.

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Business Impact Areas: Vendors may begin to package open-source collaboration technology as part of their "smart suite" offerings, creating more options for users.

Selected Vendors: CollabNet, Jabber, OSA Foundation, Red Hat, Sendmail, VA Software and Ximian.

2.6 Web Content Management Tools

Definition: Open-source tools for Web content management (see "Is Open-Source Content Management a Viable Option?" M-17-8439).

Time to Plateau/Adoption Speed: Two to five years.

Justification for Hype Cycle Position/Adoption Speed: Useful technology foundations, but variable quality and maturity. Different implementations depend on different proprietary and open-source products.

Business Impact Areas: Potential disruption of content management marketplace if users begin to adopt tactical open-source options.

Selected Vendors: Red Hat and Zope.

3.0 At the Peak

3.1 Multimedia Streaming Applications

Definition: Open-source servers for audio and video streaming.

Time to Plateau/Adoption Speed: Two to five years.

Justification for Hype Cycle Position/Adoption Speed: The Helix Community, supported by RealNetworks, is a classic example of "repurposed" commercial technology.

Business Impact Areas: More flexibility and potential cost reduction for media owners.

Selected Vendors: RealNetworks and Apple (Darwin Streaming Server).

3.2 Application Servers

Definition: Open-source platform middleware that resides between the operating system on one side and external resources such as database management systems, communications and Internet services on the other. It acts as a host (or container) for a user's business logic and provides middleware services such as security, state maintenance, data access and persistence.

Time to Plateau/Adoption Speed: Two to five years.

Justification for Hype Cycle Position/Adoption Speed: Well-established for small, opportunistic Web applications and starting to be noticed as an alternative to mainstream Java Enterprise Edition, Version 2 application servers.

Business Impact Areas: Will accelerate the commoditization of the application server market and put price pressure on commercial vendors.

3.3 Linux on Desktop

Definition: Enterprise use of Linux for desktop computing, not just servers.

Time to Plateau/Adoption Speed: Two to five years.

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Justification for Hype Cycle Position/Adoption Speed: After several false starts, Linux on the desktop is starting to gain some attention. Increased stability of Linux distributions may help shift total cost of ownership favorably in Linux's direction. Many support issues remain, however.

Business Impact Areas: Reduced costs of operation, increased stability of desktop clients.

Selected Vendors: Lindows.com, Red Hat, SuSe and Ximian.

3.4 Databases

Definition: Open-source relational databases or other structured data stores.

Time to Plateau/Adoption Speed: Five to 10 years.

Justification for Hype Cycle Position/Adoption Speed: Although widely deployed on small to midsize size installations, especially as part of a Web infrastructure, open-source database servers generally lack high-end capabilities.

Business Impact Areas: The use of open-source database technology will continue. It is not highly disruptive by itself, but it is another piece in a broader open-source infrastructure platform. Increasing adoption of open-source infrastructure will disrupt the infrastructure marketplace.

Selected Vendors: MySQL, PostgreSQL and SAP (SAP DB).

3.5 Development Tools

Definition: Open-source tools for developing, testing and debugging programs.

Time to Plateau/Adoption Speed: Two to five years.

Justification for Hype Cycle Position/Adoption Speed: Niche development tools now exist alongside tools from commercial vendors such as IBM, Sun Microsystems and ActiveState.

Business Impact Areas: Openness and flexibility makes it likely that open-source development tools will become viable options for the mass market. However, commercial equivalents are likely to be much more closely aligned with commercial runtime and deployment platforms.

Selected Vendors: ActiveState, Apache Software Foundation, Free Software Foundation, IBM (Eclipse) and Sun Microsystems (NetBeans).

4.0 Sliding Into the Trough

4.1 Programming Languages

Definition: Open-source programming languages.

Time to Plateau/Adoption Speed: Two to five years.

Justification for Hype Cycle Position/Adoption Speed: Useful and dependable programming languages that focus on developer productivity, rather than performance and concept purity.

Business Impact Areas: Used appropriately, open-source programming languages can increase programmer productivity. Used inappropriately, they can hurt performance, quality and maintainability.

Selected Vendors: Apache Software Foundation, ActiveState (Perl, PHP, Python, Tcl), Python Software Foundation and Zope.

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4.2 Grid Engines

Definition: Open-source software for distributed, and possibly multiowned, computing resource management and allocation.

Time to Plateau/Adoption Speed: Five to 10 years.

Justification for Hype Cycle Position/Adoption Speed: The earliest grid applications will be among home users and the academic and scientific communities. Providers of clustered resources will sponsor and promote grids to develop demand for their own offerings.

Business Impact Areas: Limited impact on improving data center resource use by large organizations and "on demand" computing providers.

Selected Vendors: IBM, Hewlett-Packard, Penguin Computing, Sun Microsystems and SuSe.

4.3 Peer-to-Peer Technologies

Definition: Open-source infrastructure technology for distributed computing using a peer-to-peer (P2P) topology.

Time to Plateau/Adoption Speed: Five to 10 years.

Justification for Hype Cycle Position/Adoption Speed: Intellectually stimulating, but lacks showcase applications.

Business Impact Areas: Limited impact in terms of flexibility of application deployment and savings from better resource use.

Selected Vendors: Freenet Project and Sun Microsystems (JXTA).

5.0 Climbing the Slope

5.1 Web Infrastructure Servers

Definition: Open-source infrastructure servers such as Web servers, proxy/caching servers and directory servers (see "Web Server Product Futures: Platform Alignment Is the Key," M-17-4677).

Time to Plateau/Adoption Speed: Two to five years.

Justification for Hype Cycle Position/Adoption Speed: This is the open-source "sweet spot." Many open-source flagship products, such as the Apache Web Server, are in this category.

Business Impact Areas: The use of open-source Web infrastructure will continue. This is another indicator of the emergence of an open-source infrastructure platform. Increasing adoption of open-source infrastructure will disrupt the infrastructure marketplace.

Selected Vendors: Apache Software Foundation, Covalent Technologies, IBM, OpenLDAP Foundation and Zope.

5.2 Systems Administration Utilities

Definition: Open-source utilities for system administrators.

Time to Plateau/Adoption Speed: Less than two years.

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Justification for Hype Cycle Position/Adoption Speed: Already part of most commercial and open-source operating system installations.

Business Impact Areas: Very low impact on operational efficiency.

6.0 Entering the Plateau

6.1 Appliance/Blade/Edge Applications

Definition: Open-source software deployed in computing devices that hide the underlying software beneath an application-specific interface. Examples include firewalls, virtual private networks, caching servers, file servers and storage devices.

Time to Plateau/Adoption Speed: Less than two years.

Justification for Hype Cycle Position/Adoption Speed: Hardware appliances with bundled open-source software are already available. They include server appliances, storage appliances, network appliances and client appliances.

Business Impact Areas: Mainly cost and ease of use.

Selected Vendor: Sun Microsystems.

7.0 Conclusion

An increasing number of developer communities and commercial vendors are applying open-source development principles to many important IT areas. Although the success of these efforts is far from certain, their potential impact is not. In the long term, the introduction of the open-source model to large areas of IT could disrupt the software marketplace and redefine the relationships between users, vendors and service providers. In the short term, users should use our maturity assessments tactically in their software evaluation processes.

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Appendix A: Hype Cycle Definitions

Technology Trigger: A breakthrough, public demonstration, product launch or other event generates significant press and industry interest.

Peak of Inflated Expectations: During this phase of overenthusiasm and unrealistic projections, a flurry of well-publicized activity by technology leaders results in some successes, but more failures, as the technology is pushed to its limits. The only enterprises making money are conference organizers and magazine publishers.

Trough of Disillusionment: Because the technology does not live up to its overinflated expectations, it rapidly becomes unfashionable. Media interest wanes, except for a few cautionary tales.

Slope of Enlightenment: Focused experimentation and solid hard work by an increasingly diverse range of organizations lead to a true understanding of the technology's applicability, risks and benefits. Commercial, off-the-shelf methodologies and tools ease the development process.

Plateau of Productivity: The real-world benefits of the technology are demonstrated and accepted. Tools and methodologies are increasingly stable as they enter their second and third generations. The final height of the plateau varies according to whether the technology is broadly applicable or benefits only a niche market. Approximately 30 percent of the technology's target audience have or are adopting the technology as it enters the Plateau.

Time to Plateau/Adoption Speed: The time required for the technology to reach the Plateau of Productivity.