The Future of Linux and Open Source

As the open-source movement continues to expand, IT decision-makers will face many new issues. Road maps, vendor strategies, accountability and value definitions will all need to be re-evaluated.

One of the most frequent questions from our clients is: When will Linux — and, by implication, all open-source software (OSS) — be ready for mission-critical production environments? Linux is receiving major coverage from the trade press, nearly all favorable, and is being strongly, and proactively, marketed by vendors. The debate about the merits of OSS is now reaching a feverish pitch, with Microsoft defending the commercial software model and arguing that intellectual property rights will be severely threatened by the licensing practices advocated by the Linux community. The advocates of OSS have, in return, hurled abuse at Microsoft, claiming that its practices have been harmful and damaging to the progress of IT and will no longer work in the new era of open, Internet-based infrastructures. Users, developers and software vendors are confused by the claims and counter-claims.

Gartner believes Linux is an evolution — not a revolution promoting new technology. Its growing acceptance by enterprises is, ironically, dependent in large part on the goodwill of Unix platform vendors. Their stake in the enterprise market is now well-established. Gartner sees continued, gradual acceptance of Linux, but with bumps and chasms along the way. Our Hype Cycle model sums up Gartner's position on Linux and open source succinctly:
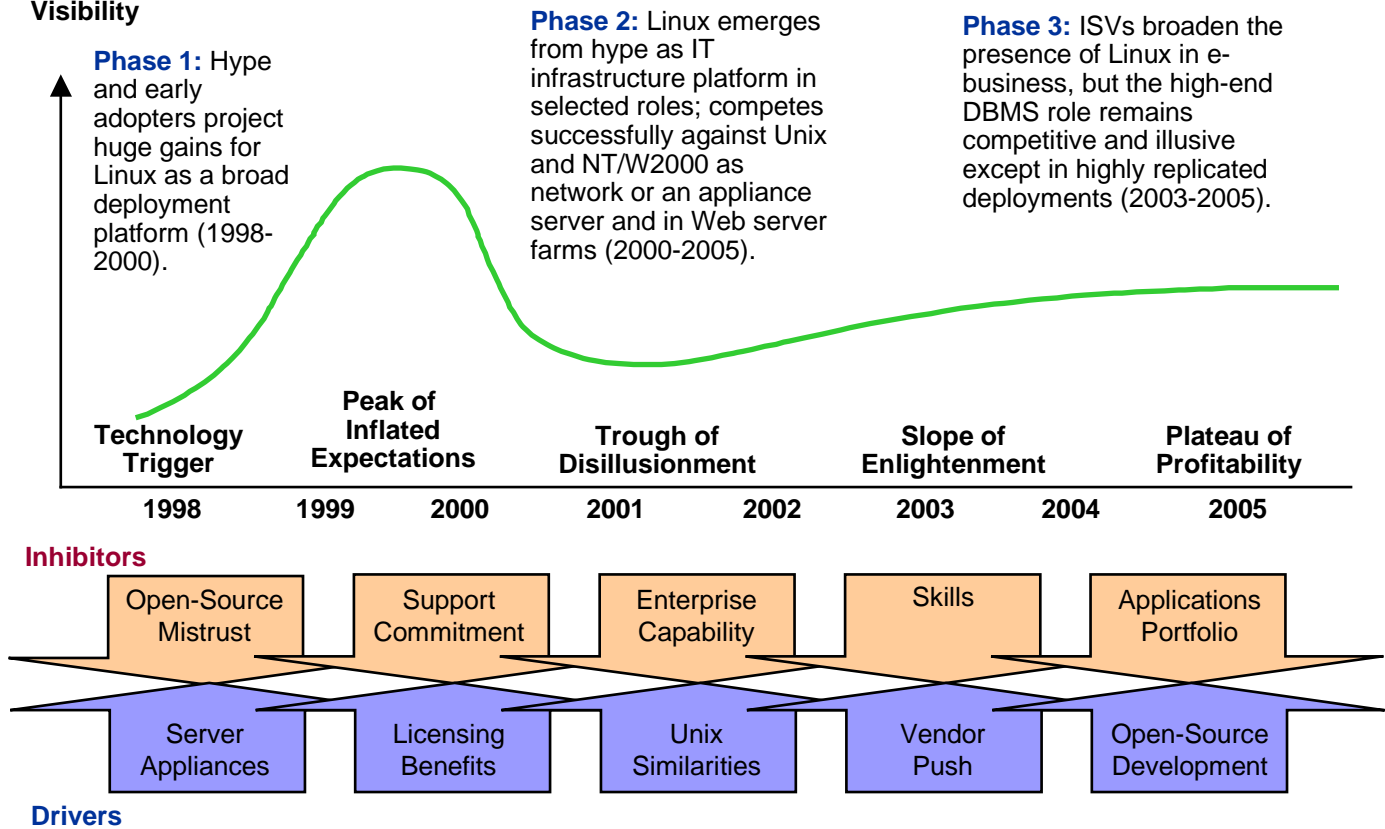
- Phase 1 (1998-2000): Hype, as early adopters projected huge gains for Linux as a broad deployment platform

- Phase 2 (2000-2005): Linux emerges from the hype as an IT infrastructure platform in selected roles; it competes successfully against Unix and NT/Windows 2000 as a network or appliance server and in Web server farms

- Phase 3 (2003-2005): Independent software vendors (ISVs) will broaden the presence of Linux in e-business, but the use of Linux in high-end database management system (DBMS) environments will remain limited, except in highly replicated deployments.

Figure 1

Linux Advances in Appliance Market — But Faces Corporate Resistance

Gartner

Visibility

Phase 1: Hype and early adopters project huge gains for Linux as a broad deployment platform (1998-2000).

Phase 2: Linux emerges from hype as IT infrastructure platform in selected roles; competes successfully against Unix and NT/W2000 as network or an appliance server and in Web server farms (2000-2005).

Phase 3: ISVs broaden the presence of Linux in e-business, but the high-end DBMS role remains competitive and illusive except in highly replicated deployments (2003-2005).

Technology Trigger	Peak of Inflated Expectations	Trough of Disillusionment	Slope of Enlightenment	Plateau of Profitability
1998	1999 2000	2001 2002	2003 2004	2005

Inhibitors

Open-Source Mistrust	Support Commitment	Enterprise Capability	Skills	Applications Portfolio

Server Appliances	Licensing Benefits	Unix Similarities	Vendor Push	Open-Source Development

Drivers

Source: Gartner Research

In Phase 1, Linux battled for corporate credibility in network services, with early adopters enthused by its robustness and low cost. A global "volunteer army" of programmers and Internet forums established the merits of the open-source paradigm and GNU public licensing terms, which helped position Linux as a readily deployable infrastructure (although mostly by Linux experts). During this phase, Internet service providers (ISPs) demonstrated the value of community developer support, especially in driving many Internet-based innovations.

In Phase 2, Linux has now established durable roots and strengthened its credibility, particularly in Web servers and clustered server farms. The deployment of Linux is broadening, partly at the expense of Windows 2000 and partly in preference to costly Unix/RISC solutions. The Internet's continuing growth is creating increased user pull, which, in turn, is creating pressures on ISVs to respond to Linux.

In Phase 3, ISV enthusiasm for Linux will increase selectively. However, their enthusiasm will be tempered by the entrenched position of Unix, which has already achieved mission-critical scalability and availability, by the strong Windows 2000 upgrades in the pipeline, and by the potentially heavy cost of migrating to Linux. The ISVs that show the greatest interest and willingness to port to Linux are those that tightly integrate applications in e-business frameworks.

In this month's Spotlight, we have assembled the views of Gartner's top analysts to address the OSS technology and deployment issues raised by Gartner clients and the OSS community. Their analyses are based on a dispassionate view of the forces that drive IT deployment, and cover applications, security, vendor strategies, database management systems, licensing, development and platforms, including mainframes. This Spotlight, therefore, considers the pragmatic issues of the IT planner. When considering displacing an existing technology or architecture with Linux and open-source applications, we recommend using the following decision framework to assess the fit with the enterprise's IT environment:

- What changes will the enterprise need to make to its current infrastructure?

- What functional capabilities does the enterprise require?

- What packaged applications does the enterprise require?

- What service-level agreements must be implemented?

- What current tools and technologies can be applied?

- What are the growth plans?

- What benefits and returns will the changes and implementations bring?

Our advice is presented in 10 pieces of research designed to help enterprises streamline the process of deciding whether to deploy OSS and Linux.

In HARD-WW-DP-0044, "Linux Server Market Share: Where Will It Be in 2001 And How Will It Grow?" Jeff Hewitt presents the current market share and forecast for Linux as a server operating system, and projects the probable market share for Linux through 2005.

In COM-13-5574, "The Pros and Cons of Open-Source Software and Linux," Mary Hubley explains where open source makes sense and where it doesn't, even with its attractive low entry price.

Nothing is more controversial and less understood than the licensing practices of the open-source community. Mark Driver exposes the issues and caveats of open source compared with commercially licensed software in SPA-13-7536, "The Future of Open-Source Software."

Is OSS, by its nature, more secure than closed-source software? John Pescatore, in T-13-5678, "Open-Source Software Doesn't Solve the Security Problem," reveals another often-overlooked dimension of assessing the security of software.

In COM-13-7438, "Linux Distributor Positioning," and COM-13-7437, "How to Choose a Linux Distributor," George Weiss provides a detailed framework for assessing and evaluating Linux and OSS providers to minimize potentially poor investments.

Never underestimate Microsoft's understanding of the market. In M-13-5353, "Microsoft's Response to Open Source: The Choices," George Weiss describes the options available to Microsoft and predicts how it will respond to the open-source threat.

Jon Rubin takes a close look at the open-source database market in COM-13-5876, "Survival of Commercial Distributions of Open-Source RDBMS" and shows that open-source RDBMS vendors will struggle to carve out significant shares of the market against the likes of Oracle, IBM and Microsoft.

Are all server vendors equally committed to Linux? Mary Hubley, in COM-13-5575, "Major Server Vendors' Commitment to Linux and OSS," finds significant differences in how various vendors have responded to Linux and OSS.

John Phelps continues this theme by describing IBM's strategy on Linux in P-13-7373, "When and When Not to Consider Linux on the Mainframe."

This Spotlight shows there are no easy answers to the question of whether to deploy OSS and Linux. However, the advice presented in this collection of research will likely help users make intelligent decisions, avoid costly mistakes, maneuver the twists and turns more gracefully, and achieve better returns.