

## Policy-Based Computing Services: The Future of Computing

Anne Powell

Policy-based computing services (PBCS) is a new computing model that aims to deliver resources as utility services. Some of its abilities are available and can be used to prepare for the full PBCS vision.

## ANALYSIS

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Gartner expects the PBCS vision to be fully realized during the next 10 years as technologies evolve to enable the new computing model. In this model, server, storage and networking capacities will be provided as a service, similar to the way in which utilities such as electricity or gas are provided. PBCS will be delivered from systems that recognize changes in demand and respond accordingly, recognize higher and lower priority needs and act accordingly, and that recognize problems and take corrective actions automatically. The outcome will be improved quality of services through the delivery of computing power when and where it's needed and through reduced downtime. The cost of services will also be reduced through the far more efficient use of available capacity.

The development of PBCS will reverse the trend toward ever greater complexity that has created computing environments in which overcapacity is common and management costs are out of control. Instead, PBCS environments will reflect some of the aspects of the simpler mainframe world. Mainframes provide pointers to what services-led computing environments will look like because they can already provide most PBCS functions — albeit in closed environments. Emerging PBCS technologies and standards will provide the same capabilities in distributed heterogeneous environments.

Donna Scott's "Policy-Based Computing Services: The Vision, The Reality" (AV-16-8545) provides links to the other Research Notes in this Spotlight, and signposts the developments that will lead to an environment in which computing services are delivered as a utility. Dynamic resource allocation and self-healing hardware and software will become the norm, and supply will be driven by service-level agreements set according to business needs.

The leading hardware vendors are working to realize the PBCS vision — for example, Hewlett-Packard's Utility Data Center initiative, IBM's eLiza and autonomic computing initiatives, and Sun Microsystems' N1. In the meantime, some established technologies already provide some level of PBCS, and these can be used to provide benefits and to prepare for the new technologies as they become available.

Anne Powell

Editor-in-Chief

Hardware Platforms

[spotlight.feedback@gartner.com](mailto:spotlight.feedback@gartner.com)

## REGIONAL HEADQUARTERS

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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  
Level 7, 40 Miller Street  
North Sydney  
New South Wales 2060  
AUSTRALIA  
+61 2 9459 4600

Latin America Headquarters  
Av. das Nações Unidas 12.551  
9 andar—WTC  
04578-903 São Paulo SP  
BRAZIL  
+55 11 3443 1509