

# Technology PACER

No. 9

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## A New Encryption Era Might Begin with the Expiration of a Patent

The expiration of a key encryption-algorithm patent marks the end of one era and potentially the beginning of another for cryptography in the US.

US patent No. 4,405,829, entitled "Cryptographic Communications System and Method," was issued in 1983 to the Massachusetts Institute of Technology, which licensed the encryption algorithm exclusively to RSA Security. While the patent was active, only RSA could sell products employing the covered algorithm in the US. The patent became a de facto industry standard, and its popularity enabled RSA to dominate much of the US encryption market. For example, the algorithm has been used in Microsoft Internet Explorer and Netscape Navigator. Now, the patent's expiration will let many companies develop products based on the algorithm, thereby creating more and better products.

COMPUTER magazine  
vol.33, no11, Nov 2000  
<http://computer.org/computer/>



[www.networkmagazine.com](http://www.networkmagazine.com)

Data Communications Magazine merged with Network Magazine in the fall of 1999. The incorporated offering remains focused on providing information technology and network managers with strategic analysis, new technology and product reports, and peer-to-peer information in the form of case studies.

Topics in recent issues

Privacy on the Internet Jun 2000

Messaging Aug 2000

Public Key Infrastructure Oct 2000

Wireless Local Area Networks Nov 2000

## Application Service Providers

Benefits for both short-term business process outsourcing and long-term business relationships

An application service provider (ASP) is a company that offers individuals or enterprises access over the Internet to applications and related services that would otherwise have to be located in their own personal or enterprise computers. Sometimes referred to as "apps-on-tap," ASP services are expected to become an important alternative, not only for smaller companies with low budgets for information technology, but also for larger companies as a form of outsourcing and for many services for individuals as well. Early applications include:

- Remote access serving for the users of an enterprise
- An off-premises local area network to which mobile users can be connected, with a common file server
- Specialized applications that would be expensive to install and maintain within your own on your own computer

Hewlett-Packard, SAP, and Qwest have formed one of the first major alliances for providing ASP services. They plan to make SAP's popular R/3 applications available at "cybercenters" that will serve the applications to other companies. Microsoft is allowing some companies to offer its BackOffice products, including SQL Server, Exchange, and Windows NT Server on a rental, pay-as-you-use basis.

While ASPs are forecast to provide applications and services to small enterprises and individuals on a pay-per-use or yearly license basis, larger corporations are essentially providing their own ASP service in-house, moving applications off personal computers and putting them on a special kind of application server that is designed to handle the stripped-down kind of thin client workstation. This allows an enterprise to reassert the central control over application cost and usage that corporations had prior to the advent of the PC. Microsoft's Terminal Server product and Citrix's WinFrame products are leading thin-client application server products.

Source: article by Stuart Feldman of IBM Institute for Advanced Commerce found in IEEE/ Internet Computing, May/June 2000, (<http://computer.org/internet/>)

## Outsourcing and ASP

Mid-sized companies and those experiencing rapid growth are turning to Business Process Outsourcing (BPO) of non-core functions. To streamline these processes, they need Enterprise Resource Processing software (ERP); but since they don't have the massive capital outlays in their budgets to purchase programs like SAP or PeopleSoft, they are turning to Applications Service Providers to obtain cost effective solutions that grow with their changing needs. Training, installing, and upgrading of software are left to the ASP and hence the re-engineering of their business practices becomes affordable.

### Outsourcing Center Web Site

[www.outsourcing-asp.com](http://www.outsourcing-asp.com) is dedicated to providing strategic outsourcing information and offers a collection of valuable resources. The site covers all outsourcing

aspects, high-lighting best practices and success stories, as well as failures and lessons learned.

Resources on the site include a monthly journal, information on books, definitions, listing of events, online discussions, FAQs, sources for research papers, and a search for related web sites.

### Outsourcing Government

Undoubtedly, government outsourcing is a different phenomenon and much more complicated than outsourcing in the private sector. While the potential benefit is enormous on all levels – federal, state, and local – private sector firms will fail if they go after this work in the manner that they are accustomed.

Government Outsourcing  
[www.outsourcing-government.com](http://www.outsourcing-government.com)  
Application Services Providers  
[www.asp-outsourcing-center.com](http://www.asp-outsourcing-center.com)  
Business Process Outsourcing  
[www.bpo-outsourcing-center.com](http://www.bpo-outsourcing-center.com)



### Federal Computer Week

Federal Computer Week is a timely magazine for influential users and volume buyers of federal IT, who on average are involved in over \$1 million of acquisitions annually.

FCW is produced with an emphasis on desktop, client/server, and enterprise-wide computing.

<http://www.fcw.com/fcw/current.asp>

### civic.com

Civic.com is a hybrid publishing medium, available both in print and online, that is designed to serve as a one-stop source for state and local government IT buyers.

It offers tailored product reviews from FCW Government Technology Group's on-site Test Center, a "how to" section based on actual state and local government applications and technology features addressing key information technologies.

Civic.com also contains columns and grant and funding information.

<http://www.fcw.com/civic/current.asp>

### Background

FCW Government Technology Group is a business unit of 101communications.

101communications is an integrated media company in the business-to-business market aimed at the many specialized targets within the greater information technology community. 101 was founded in 1998 and it's portfolio today comprises 14 magazines, over 30 conferences and extensive digital offerings in the U.S. and Europe in four areas: Software Development, Vertical Markets, Windows Networking, and Enterprise Technology.

[www.101com.com](http://www.101com.com)



# Component-Based Systems

## A Classification of Issues

**Although component-based development offers many potential benefits, such as greater re-use and a commodity-oriented perspective of software, it raises several issues that developers need to consider.**

Developing and using various component forms as building blocks can significantly enhance software-based system development and use. This is why both the academic and commercial sectors have shown interest in component-based software development. Software components are units of independent production, acquisition, and deployment that interact to form a functional system.

An article by P. Brereton and D. Budgen, in Computer Magazine's November 2000 issue, presents a component definition, developed by Stuart Thomason, Keele University, and identifies a set of issues organised within a framework that software developers must address for component-based systems. The framework includes software product and development process issues, as well as business issues, people and skills, and considers these from the component providers', component integrators', and integrated systems customers' perspective.

The following table summarises the findings of the authors.

	Component providers	Component integrators	Integrated systems customers
<b>Product</b>	Predicting limits Component description		Requirements specification
	Granularity Portability	Component selection Interoperability Combining quality attributes Maintenance	
<b>Process</b>	Long-term support/ maintenance Accountability/responsibility for faults/maintenance		
	Internationalization Testing practices	Trade-offs between requirements and component capabilities Tool support Demands for change	
<b>Business</b>	Component redundancy Payment models Distribution execution Security and certification		
	Internationalization Quality control Horizontal versus vertical market Component marketability	New business opportunities Managing a range of contract structures; Developing trust and confidence in suppliers Demonstrating components to potential customers Identifying cost/risk trade-offs Measuring productivity	Long-term maintenance Choosing component suppliers Developing acceptance procedures
<b>People/Skills</b>	Stronger commercial focus		
	Designing reusable components	Home/remote working methods Documentation Training Component evaluation Project management	Assessing risk, future proofing

- Shared issues: all stakeholders
- Shared issues: component providers and integrators
- Special issues

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