GILBANE REPORT

An Integrated Infrastructure for Content Services

The Sun ONE Content Services Platform & FileNet's Business Process Manager

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March 30, 2003

Abstract

This paper presents the case for proactively developing a broad content strategy and architecture built upon a "content-capable" infrastructure. Optimizing operational efficiency, leveraging existing technology investments and investing in emerging business opportunities are among the many, often competing, demands on today's businesses. The teaming of the Sun ONE Content Services Platform with FileNet's Business Process Manager presents a solution that illustrates the benefits of an integrated architecture and advanced content management solution.

Sun microsystems

Why an Infrastructure Approach?

Content Volume, Diversity, and Complexity

Today's businesses are faced with an exponential growth in business content. Many companies have deployed enterprise content management systems to control, leverage, and reduce the cost of managing and delivering business critical content. The problem of managing enterprise content however, is too cumbersome for point-application solutions to solve alone. Businesses need to develop a comprehensive content strategy and architecture that is built upon a content-capable infrastructure.

The increase in the volume of content is only part of the problem. Content has become increasingly richer and more complex.

> Content is comprised of multiple data types sourced from disparate repositories and databases.
> The use of rich media content is growing, which adds new requirements in management functionality, bandwidth and storage.
> Businesses are learning the benefits (and difficulties) of more sophisticated use of metadata, which compounds the complexity of content.

Content in the enterprise includes a wide variety of formats, including structured database records, and unstructured text, graphics, audio, video and streaming media. There are a growing number of content application services, including web content management, document management, digital asset management, knowledge management, enterprise search and categorization, collaboration, and syndication that focus on managing either specific content types, or specific aspects of the enterprise content management problem. Many medium to large sized companies now have many of these content services in place, but while these provide important benefits, in most cases, their real value is only realized when the content is integrated with larger enterprise data systems, and when a business has implemented disciplined, yet flexible, business process management.

The good news is that more business content is being managed; the bad news is the growing complexity of integrating and managing all of the systems that manage the content.

Content Accessibility & Integration

Most enterprise content is tightly integrated with one or more business applications (although that is not to say it is integrated with all appropriate business applications). Content plays a critical role in business processes ranging from customer relationship management (CRM), supply chain management (SCM), enterprise resource planning (ERP), business intelligence (BI), and other enterprise applications. In order for these processes to provide value, they must be able to incorporate the right data, in the right process, at the right time. Content often comes from diverse repositories across the enterprise and even between enterprises that have business-to-business relationships. Data exists in structured databases or may exist as unstructured data in numerous content repositories – from the desktop to back-up tapes. Furthermore, many companies already have one or more enterprise systems, and most companies need a strategy for extending the value of, and not replacing, those systems. Yet,

there also needs to be a strategy that allows for a smooth migration to new systems when there is a need for technology change.

Not only is content complexity on the rise, but the integration required to make a content solution provide value for the enterprise has become a daunting challenge. Companies need a strategy that simplifies content accessibility and helps to manage this content complexity throughout the content lifecycle

Content Services Infrastructure

The rise in content complexity means that businesses need to follow an infrastructure approach that enables content services throughout the enterprise. It means that IT managers need to deploy an architecture that ties content and content-based applications together in powerful yet flexible ways. The need to share and integrate content is broad based, and not limited to particular vertical or departmental applications. Therefore, it doesn't make sense to solve the problem only through individual integration efforts – a strategy that is based an infrastructure approach is the only way to meet this challenge head on.

Today, this means deploying a stack built on a network-computing infrastructure foundation. It also means an architecture that can support legacy applications, but is designed to optimize the use of web services for both content and application integration.
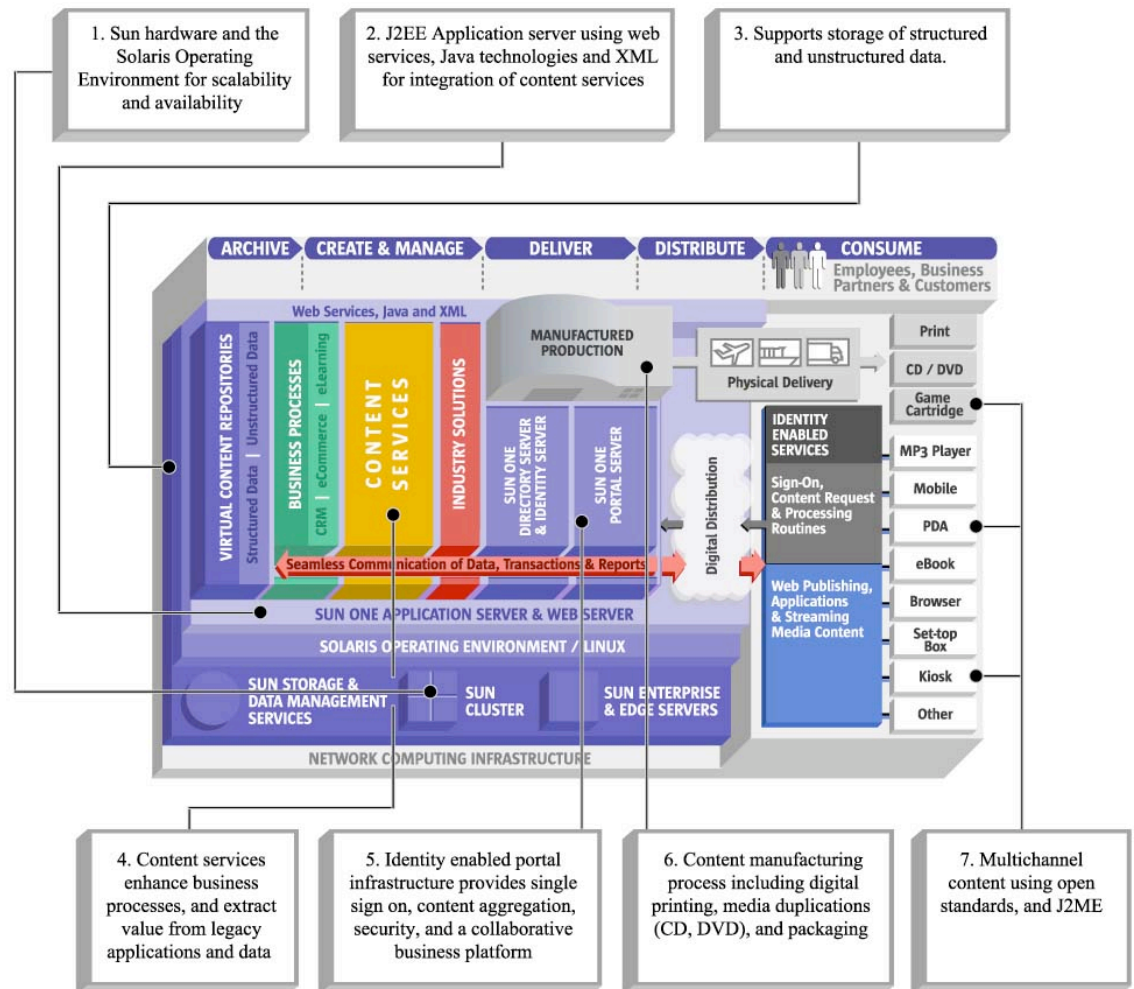
Sun ONE Content Services Platform

The Sun Open Net Environment (Sun ONE) Content Services platform in Figure 1[1]. is an example of what we mean by an integrated infrastructure for content services. The figure illustrates the way business content and processes fit into infrastructure stacks both vertically and horizontally. This requirement for an integrated content services approach cuts across various industries such as financial, manufacturing, retail, healthcare, government, media and entertainment, and others.

Figure 1 is designed to show the range of solutions that Sun provides, from servers, storage and operating system, to application server, identity management, and portal technologies. On top of this network computing infrastructure, Sun partner technology can be integrated into this modular architecture. This illustration also suggests how one could incorporate other component technologies into an integrated infrastructure. Note that if you think of an infrastructure in this way, light is shed on the relationship and scope of the components, which is very useful given the extensive functional overlap between many of the functional categories. It is important to understand the functions and features of the various components, so as to be better able to make your own choices to match your business requirements, and to be able to substitute components with minimal effort, and cost.

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[1] Diagram courtesy of Sun Microsystems, Inc.

1. Sun hardware and the Solaris Operating Environment for scalability and availability

2. J2EE Application server using web services, Java technologies and XML for integration of content services

3. Supports storage of structured and unstructured data.

4. Content services enhance business processes, and extract value from legacy applications and data

5. Identity enabled portal infrastructure provides single sign on, content aggregation, security, and a collaborative business platform

6. Content manufacturing process including digital printing, media duplications (CD, DVD), and packaging

7. Multichannel content using open standards, and J2ME

One Architecture, Multiple Choices

Paradoxically, the one-to-many relationship between an architecture and the suppliers that populate that architecture is both the root of the value proposition, and often the cause of anxiety for businesses that must assimilate and build out that architecture. This anxiety often results in avoidance strategies that rely unnecessarily upon service-laden "one-stop" solutions at the high-end or simpler, more proprietary solutions at the low-end.

A compelling characteristic of the Sun ONE Content Services platform is that it provides the foundation upon which content technology providers can build out their solutions. Vendors and customers alike can focus limited resources on their areas of expertise by building their solutions upon a scalable and reliable architecture, while maintaining access to critical portal, networking and data storage management services.

The following section illustrates the value of this approach by taking a closer look at the synergistic characteristics of the combined Sun ONE Content Services platform and FileNet's Business Process Manager (BPM) solution.

The FileNet BPM Solution

Business Process Management across the Enterprise

Just as Sun has considered the complete solution as it delivers a "content capable" infrastructure, FileNet has also anticipated the broad requirements an enterprise will have in order to manage content throughout their organizations and to effectively automate and streamline business processes.
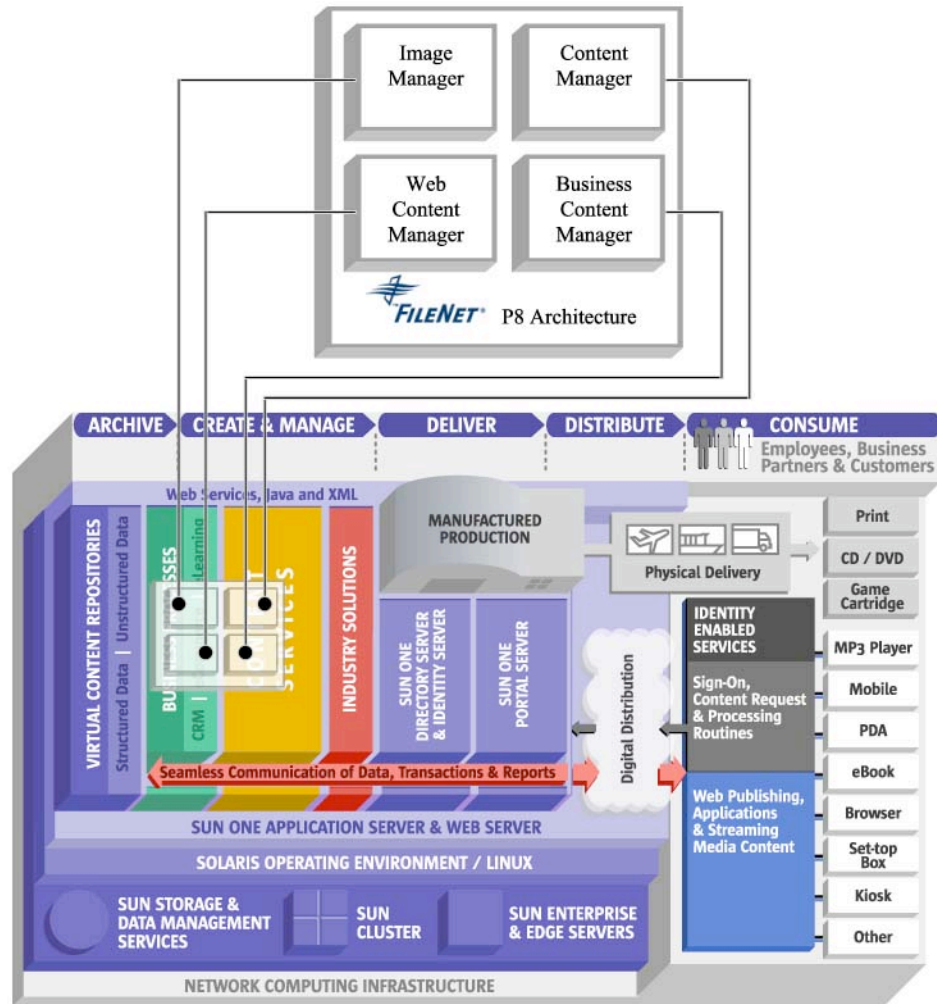
FileNet's P8 offering is differentiated by its Business Process Management capabilities, which include integrated process simulation, reporting and analytics. The FileNet P8 architecture features four pre-packaged suites including the Business Process Manager suite,

designed for applications that automate complex business processes to improve process performance and reduce cycle times. FileNet's real time and historical tracking of these processes combined its process analysis and simulation capabilities place a premium on utilization of resources and process optimization.

FileNet's P8 architecture hosts and integrates each of its enterprise content management offerings including its Business Process Manager, Content Manager, Web Content Manager and Image Manager as shown below. The standards-based FileNet P8 architecture ensures that each of FileNet's ECM components work well together. In addition, FileNet's approach ensures that their family of ECM offerings can leverage an open systems, network infrastructure like the Sun ONE Content Services platform.

A Case in Point: The State of New Jersey Division of Revenue

The State of New Jersey Division of Revenue processes tax returns and payments from New Jersey taxpayers totaling more than 8.5 million total returns and remittances each year. Prior to deploying the Sun and FileNet image-enabled processing system, the cost to the state and its citizens included a combined permanent and seasonal staff of 700 and mounting delays in revenue collection. The "heads down" method of processing returns increased repetitive strain injuries resulting in increased medical expenses, lost time and lawsuits.

Today, the Division of Revenue's image-enabled processing systems handle in excess of 1 million pages per day during peak periods, while more than 250 users in seven state agencies retrieve more than 23,000 documents each day. Taxpayers now receive more timely responses to their inquiries and, on average, are sent their refunds one week earlier. Seasonal staffing and tax processing costs have both been reduced by 50 percent and storage costs have been cut in half.

The State of New Jersey success story is powerful for a number of important reasons. First, in order to achieve their objectives, legacy technology *and* practices (processes) had to be upgraded simultaneously. Second, the sheer scale and time-sensitive nature of the project illustrates how critical it is to be able to build on a broad and deep architecture that facilitates complex integrations of technology components and workflows.

The fact that the respective product lines and architectures from Sun Microsystems and FileNet can be developed independently and deployed concurrently can be seen as a positive indication that large, complex and mission-critical deployments can be built upon a modular technology stack.

Further, the New Jersey case study shows how a solid, scalable content-driven infrastructure can effectively integrate key business processes, content services, and government agency industry solutions all into one system.

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