Getting the Most out of Business Process Outsourcing and Offshoring Initiatives with Desktop Virtualization

WHITE PAPER
# Getting the Most out of Business Process Outsourcing and Offshoring Initiatives with Desktop Virtualization

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Outsourcing Market Trends

One of the first major outsourcing initiatives came in 1989 when Eastman Kodak outsourced all its information technology to IBM in order to cut costs. While this was considered a groundbreaking move at the time, it also had its share of doubters. History has revealed that for many, outsourcing is a highly beneficial business strategy as shown by the growth in outsourcing since 2000.

As developments in information technology have enabled a truly global economy, many more businesses have looked at offshoring as a way to further cut costs. Sometimes there is confusion about outsourcing versus offshoring and how they mix with each other. Outsourcing and offshoring are two different strategies that are sometimes used together to meet corporate goals. The table below shows a matrix highlighting how the two can be used:

<table>
<thead>
<tr>
<th></th>
<th>DOMESTIC</th>
<th>OFFSHORING</th>
</tr>
</thead>
<tbody>
<tr>
<td>INTERNAL</td>
<td>Company employees work in the same offices as the business</td>
<td>Company employees are located in a different geographic location/country</td>
</tr>
<tr>
<td>EMPLOYEES</td>
<td></td>
<td></td>
</tr>
<tr>
<td>OUTSOURCED</td>
<td>Third-party employees are located within the same geographic area as the business</td>
<td>Third-party employees are located in a different geographic location/country</td>
</tr>
<tr>
<td>EMPLOYEES</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 1: Outsourcing and Offshoring Comparison
Whether a company function is located offshore or is outsourced or both, IT must ensure that the user experience is good, corporate data is secure, and the system doesn’t fail.

This white paper highlights the key drivers of outsourcing and offshoring, the requirements for ensuring a successful deployment, and the VMware® Horizon View™ Business Process Desktop™ (BPD) solution reference architecture that addresses these requirements. It also presents a case study highlighting the real-world experience of deploying the BPD solution.

**Key Drivers for Outsourcing and Offshoring**

There are many benefits to outsourcing or offshoring functions, and the reasons for doing so really depend on the use case. For example, one company that has no expertise in mobile application development may outsource this work to a third-party vendor to gain their expertise, while a different company may outsource and offshore their contact center function to save on labor costs. Below is a list of common benefits businesses realize due to outsourcing or offshoring:

- Cost savings
- Focus on core competency
- Reliance on outside expertise
- Workforce scalability
- Reduced time to market
- Improved quality

The type of function outsourced is typically task-oriented and one-dimensional. There are several functions that fit this profile, which businesses have been outsourcing for years. Examples include

- Customer support
- Technical support
- Data entry
- Application development
- Application testing
- Accounting
- Telemarketing

The drive to fully realize the benefits of outsourcing or offshoring can only be achieved if a proper infrastructure is in place for both workers and IT administrators.
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Outsourced Desktop Requirements

The desktops used by outsourced and offshore workers should be set up to ensure maximum productivity. There are several common requirements for all types of use cases, although the degree of importance for each requirement may vary from function to function.

**Simple Easy-to-Use Desktops**

Many outsourced functions are task-oriented and employ workers with limited skill sets. For example, application testers may only interface with a specific test application to perform their job. In order to increase productivity, desktops should only include the tools necessary to perform the outsourced function, without the distractions of other applications. IT administrators should be able to control access to applications and have policies for which workers are able to install new ones.

**Multi-Site**

Outsourced functions are located outside corporate business offices and are often located offshore as well. Performance over a WAN should provide a good end-user experience with limited latency. If performance doesn’t meet user expectations, productivity will diminish.

At a Web 2.0 conference in 2006, then-Google Vice President Marissa Mayer presented a good example of the value of speed. Google asked a group of Google searchers how many search results they wanted to see. The users said the more, the better. So Google increased the number of search results from ten to 30. However, they found that traffic and revenue from Google searchers in the “30 result” experimental group dropped by 20 percent. Google found that the page with ten results took 0.4 seconds to generate while the page with 30 results took 0.9 seconds. Users noticed the half-second difference and adjusted their behavior accordingly. The conclusion is that speed matters to the end user.

**High Availability**

Workers at outsourcing firms are often paid by the hour for the time they spend on their task. For example, contact center workers are asked to work specific shifts of time during the day. If their desktop becomes unavailable due to a datacenter outage, their productivity drops to zero. Having a redundant datacenter with load balancing is essential to keep outsourced workers productive. Load balancers can detect if a datacenter is down and efficiently direct traffic to where resources are available.

Power outages such as the massive blackouts in India in July 2012, which affected 620 million people, illustrate the need for high availability and redundant systems. With increased globalization and dependence on communications, a virtualized desktop environment should ensure uptime in the event of a natural disaster or outage.

**Remote Technical Support**

The cost of troubleshooting a remotely located outsourced desktop can quickly bite into the savings of outsourcing. If an outsourced desktop is located offshore, it is almost impossible to service unless remote technical support measures are in place. Whether it’s a systems crash or a virus, IT administrators should be able to address outsourced and offshore desktop issues remotely.

**Remote Management**

Management of outsourced or offshore desktops is important to ensure that productivity of workers is optimized. If a call center agent located in India needs access to a new application, an administrator should be able to grant that access without having to be on site. Building a solution with remote management capabilities up front will ensure lower management costs over time.
Security
The cost savings of outsourcing or offshoring do not come without risk. Some functions such as call centers require third-party handling of sensitive data, and there have been cases where security has been compromised.

For example, in 2005 three outsourced call center workers were arrested in India on charges of defrauding four Citibank account holders in New York of approximately $300,000. Measures such as disabling file copying or cutting and pasting should be instituted to ensure that data remains secure.

Compliance
Many industries such as financial services and healthcare require security and privacy compliance when handling sensitive data. For example, when dealing with credit cards, the Payment Card Industry Data Security Standard (PCI DSS) ensures that credit card data is securely handled by businesses. Lack of compliance with PCI DSS can damage a firm’s reputation and result in fines of up to $500,000 per incident. To minimize this risk, the infrastructure for an outsourced desktop dealing with credit cards should be made compliant with the PCI DSS regulatory standards. Similarly, outsourced and offshore desktops should be in compliance with other regulations such as Sarbanes-Oxley and HIPAA where appropriate.

Data Backup and Restore
Data and applications used by outsourced workers should be stored centrally and backed up in case a disaster occurs. No one can predict when a natural disaster will occur, and measures to ensure preservation of data are often taken too late. In 2012, for example, “superstorm” Sandy hit the east coast of the United States and knocked out many datacenters. Those businesses with disaster recovery plans were able to preserve their data while those who weren’t prepared suffered the consequences of lost data.

Flexible Scalability
Some outsourced functions require fast provisioning and de-provisioning of workers as business scales up or down. This is especially important when workloads are variable or seasonal. For example, if a business runs a promotion for their product, they may encounter a spike in call center activity. To quickly and flexibly adjust resources at different sites, provisioning and de-provisioning should be fast and easy.

Low Cost
One of the major drivers for outsourcing is cost savings. In addition to upfront costs, ongoing costs can quickly add up if administrators spend too much time deploying and managing outsourced desktops. Outsourced desktops should not only have a low upfront cost, but also be easy to deploy and easy to manage.

Antivirus
The behavior of outsourced workers is unpredictable and requires use of antivirus software to ensure that data is not corrupted. However, installing and maintaining antivirus software for each outsourced or offshore client can be costly and time consuming. A centralized antivirus solution should be used since it is much easier to implement and maintain.

Unified Communications
Some outsourced functions require constant communication and collaboration with other workers. For example, if application development is outsourced to a third party, design reviews may be needed that require video collaboration. Depending on the use case, a unified communications solution can be implemented.
VMware Horizon View Business Process Desktop Reference Architecture Solution

The VMware Horizon View Business Process Desktop (BPD) solution is a reference architecture designed to meet the needs of businesses that are outsourcing or offshoring functions to various locations or third parties. The reference architecture models a deployment where there is a corporate headquarters, a remote corporate colocation center within the same internal network, and a third-party datacenter that is outside the internal network.

![Figure 2: VMware Horizon View Business Process Desktop Reference Architecture](image)

**Solution Components**

The BPD solution reference architecture includes a variety of VMware and partner technologies that have been pre-tested and pre-configured to work together.

Capabilities addressed by the reference architecture include:

- Virtualized desktops
- Centralized endpoint device management
- Security and compliance
- Data backup and restore
- Flexible scalability
- Unified communications

**VMware Components**

The BPD solution reference architecture includes a variety of VMware technologies that have been pre-tested and pre-configured to work together.
**VMware Horizon View**

At its core, BPD leverages VMware Horizon View technology to provide virtual desktops to end users. Features included in Horizon View that are used in the BPD solution reference architecture are detailed in the following table:

<table>
<thead>
<tr>
<th>Horizon View Feature</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>VMware Horizon View Manager™</td>
<td>Creates new desktops, automates provisioning, sets group policies, and manages security and troubleshooting</td>
</tr>
<tr>
<td>Horizon View Persona Management</td>
<td>Maintains personalization between sessions on virtual and physical desktops</td>
</tr>
<tr>
<td>VMware ThinApp®</td>
<td>Decouples applications from an OS</td>
</tr>
<tr>
<td>VMware Horizon View Composer™</td>
<td>Separates the base operating system image from user data and applications</td>
</tr>
<tr>
<td>VMware vSphere® Enterprise Plus Edition™</td>
<td>Hypervisor that enables virtual machines on the server</td>
</tr>
<tr>
<td>VMware vShield Endpoint™</td>
<td>Enables secure and encrypted endpoint access</td>
</tr>
<tr>
<td>VMware vCenter™</td>
<td>Centralizes management of virtualized hosts and virtual machines</td>
</tr>
</tbody>
</table>

Table 2: Horizon View Features Used in BPD

**Other BPD VMware Technology Components**

The BPD solution also incorporates several other VMware technologies including those listed below.

<table>
<thead>
<tr>
<th>Technology</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>VMware vCenter Operations Manager™ for Horizon View</td>
<td>Provides end-to-end monitoring of desktops, users, and networks through dashboards. Ensures the health and performance of the stack. Enables proactive alerts</td>
</tr>
<tr>
<td>vCenter Operations Manager for vSphere</td>
<td>Monitors the health, risk, and efficiency of the virtualized infrastructure</td>
</tr>
<tr>
<td>vCenter Configuration Manager™</td>
<td>Monitors configuration compliance for security best practices; vendor hardening guidelines; and regulatory mandates such as HIPAA, PCI DSS, and Sarbanes-Oxley</td>
</tr>
<tr>
<td>VMware vCloud® Networking and Security Edge™</td>
<td>Provides a firewall for virtual datacenters as well as integrated gateway services such as NAT, load balancer, VPN, and DHCP</td>
</tr>
<tr>
<td>VMware vCloud Networking and Security App™</td>
<td>Provides an application-level firewall</td>
</tr>
<tr>
<td>ThinPrint</td>
<td>Enables driverless printing from a Horizon View client</td>
</tr>
</tbody>
</table>

Table 3: Additional VMware Technologies in BPD Solution
**Third-Party BPD Validated Components**

In addition to VMware technologies, the BPD reference architecture relies on third-party technologies to provide a complete solution for businesses wishing to outsource or offshore functions.

**Infrastructure Components**

The BPD solution has a set of core infrastructure functions that are common to all business process outsourcing or offshoring architectures. Below is a list of the functions as well as an example list of partner technologies that have already been validated with the BPD solution.

<table>
<thead>
<tr>
<th>FUNCTION</th>
<th>EXAMPLE PARTNERS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data backup and restore</td>
<td>• EMC Avamar</td>
</tr>
<tr>
<td></td>
<td>• CommVault Simpana 9</td>
</tr>
<tr>
<td>Single sign-on with RADIUS</td>
<td>• Safenet Authentication Manager</td>
</tr>
<tr>
<td></td>
<td>• Indigo Identityware – InSession</td>
</tr>
<tr>
<td>Desktop antivirus</td>
<td>• McAfee MOVE antivirus</td>
</tr>
<tr>
<td></td>
<td>• Trend Micro Deep Security</td>
</tr>
<tr>
<td>Replication</td>
<td>Microsoft DFS Replication</td>
</tr>
<tr>
<td>Load balancer</td>
<td>F5 BigIP GTM LTM APM</td>
</tr>
</tbody>
</table>

Table 4: Third-Party Infrastructure Components Used by BPD

**Application Components**

BPD validated application components are optional applications available for businesses to use depending on their use case. These applications have been pre-tested with the BPD architecture to ensure fast, reliable deployments. Below is a list of different functions and a list of partners who have already validated their application with the BPD solution.

<table>
<thead>
<tr>
<th>FUNCTION</th>
<th>EXAMPLE PARTNERS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unified communications</td>
<td>• Avaya VDI Communicator</td>
</tr>
<tr>
<td></td>
<td>• Cisco VXC 4000</td>
</tr>
<tr>
<td></td>
<td>• Microsoft Lync</td>
</tr>
<tr>
<td></td>
<td>• Mitel Unified Communicator Advanced</td>
</tr>
<tr>
<td>Contact center</td>
<td>• Cisco</td>
</tr>
<tr>
<td></td>
<td>• Mitel Contact Center Solution</td>
</tr>
</tbody>
</table>

Table 5: Optional Third-Party Validated Components
Case Study

A good example of how a business can leverage the Business Process Desktop (BPD) solution to meet their outsourcing and offshoring needs is Amway. Amway offers leading nutrition, wellness, beauty, and home care products through a network of more than three million individual business owners worldwide. Based in Ada, Michigan, in the United States, the company employs some 13,500 people worldwide in more than 50 affiliate offices.

Previously, each country Amway was located in had its own site and used its own processes for handling functions such as accounts payable, accounts receivable, treasury, procurement, financial analysis, forecasting, and taxes. To save costs, Amway decided to consolidate the finance processes of the company’s Americas operations—formerly spread across dozens of countries—into one enterprise process center in Costa Rica. The challenge was to provide end users with high-performance desktop access to applications residing in Amway’s datacenter in Ada, Michigan.

After the decision was made to move forward with the consolidation, Amway chose the VMware BPD solution to meet their needs. Amway was already familiar with VMware datacenter virtualization and was able to deploy a desktop virtualization solution under a tight 16-week timeline.

Soon after deploying the solution in Costa Rica, Amway experienced a power outage that helped magnify the advantages of using a BPD solution. Employees were sure they had lost all the data they had been working on. However, their data was still safe in the Michigan datacenter and when the power came back on workers resumed work on their desktops exactly where they had left off.

The results of the BPD deployment have been great for Amway. They were able to save costs by aggregating financial operations, centralize data and applications to simplify management, and give users in Costa Rica the performance they need to get their job done without noticeable delays.

“We’ve been able to build a system that is completely dynamic, manageable, and scalable, and deliver it thousands of miles away.”
– Josiah Becker, Systems Support Analyst, Amway
Summary

Business process outsourcing and offshoring are strategies that are here to stay. From outsourcing contact centers to consolidating financial operations offshore, the benefits of cost savings, flexibility, and increased productivity are being realized around the globe. However, ensuring a good user experience, high availability, and security are key concerns that IT departments must address. The VMware Horizon View Business Process Desktop solution reference architecture is a pre-tested, pre-validated, end-to-end solution that was designed from the ground up to quickly and efficiently meet the needs of businesses wishing to outsource or offshore functions.