PSL’s Amazon Web Services Cloud Solutions

AWS Partner ID 7848-5694-9117

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PSL is a minority woman-owned small business, International Organization for Standardization (ISO) registered for 9001-2008 (Quality Management), 20000-1:2011 (Management System) and 27001:2013 (Information Security Management) designations, CMMI Level 3 certified software Development Company; GSA IT 70 contract holder (GS-35F-0411R), 8(a) STARS II contract holder (GS-06F-0865Z), a Certified Microsoft Partner ID 1228362, Oracle Partner ID 317582561382, Amazon Web Services (AWS) Partner ID 7848-5694-9117, FireEye Partner and Hewlett Packard Enterprise (HPE) Partner ID 10332945.
Discussion Areas

• Background
• Cloud Engineering and Migration Services
• PSL AWS Security Framework
• PSL Mobile Collaboration Solution
• Technology Partnership Discussion
PSL Profile – Our Company

• Experts in public, private, and hybrid cloud technology mobility and big data solutions on AWS infrastructure
• Secure Framework for AWS Compliant Solutions
• Our GSA IT 70 Schedule vehicle covers 8000 state, local and education organization and does not require competitive bidding
• Track record in helping companies quickly stand up their Amazon infrastructure- “Time to Market Reduction”
PSL Cloud and Identity Solutions …

Cloud Solutions Leveraging AWS Eco-System and Infrastructure

Cloud Enablement, Cloud Migration, Cloud ID Brokering and Management Services

Target Customers
- Public Sector/SLED
- Commercial Enterprises
- SaaS Solution Providers
- Managed Service Providers

Services

Assess
Operate
On-board
Deploy

Partners
PSL Consulting, Engineering and Migrations

Cloud Engineering Expertise – From Infrastructure to Full Client Solutions

- Cloud Consulting, Migration, and Engineering Services
  - Technical assessment and Proof of Concept
  - Engineering of AWS cloud solutions
  - Infrastructure setup (Production, UAT, Load Testing, etc.)
  - Cloud migration services
  - Infrastructure optimizations

- Application Development and Integration

- PSL Cloud Solutions
  - Secure Virtual Private Cloud (S-VPC) Framework Solutions
  - Secure Mobile Collaboration Solution- Enterprise Drop Box
  - Big Data Solutions on Hadoop, MapReduce, Hive, HBase, Flume, and Sqoop
Migration Strategy

Plan
- Select apps
- Test platform
- Plan migration

Deploy
- Set Up Infrastructure
- Migrate data/components
- Cutover

Optimize
- Embrace AWS Services
- Re-factor architecture

1. Cloud Assessment Phase
   - Assess Cost
   - Assess Architecture
   - Assess Security

2. Proof of Concept Phase
   - Learn AWS
   - Build a Pilot
   - Build Support within organization

3. Data Migration Phase
   - Leverage different storage options
   - Migrate

4. Application Migration Phase
   - Forklift Migration
   - Hybrid Migration Strategy

5. Leverage the Cloud Phase
   - Auto-scaling
   - Automation
   - Elasticity
   - High Availability

6. Optimization Phase
   - Utilization
   - Monitoring
   - Efficiency
   - Performance
   - Re-engineering
# PSL Technology Capability

## Languages
- Java
- .NET
- PHP
- Python
- iOS/Android

## CMS
- WordPress
- Drupal
- Joomla
- Alfresco

## CDN
- CloudFront
- Akamai

## Caching
- ElastiCache
- Memcache
- Membase
- Varnish

## Applications
- Tomcat
- HTTPD
- NGINX
- JBoss
- IIS
- Solr

## Database
- MySQL
- Oracle
- SQLServer
- NoSQL
- Amazon RDS

## OS
- Linux
- Windows

## Public Cloud
- Amazon Web Services
- Microsoft Azure
- IBM SmartCloud

## Private Cloud
- Eucalyptus
PSL Big Data Capability

- Business Intelligence Applications
  - Data Collection & Co-ordination
    - hBase
    - ZooKeeper
    - Chukwa
    - Flume
  - Data Access Framework
    - Hive
    - Pig
    - Sqoop
    - Avro
  - Network
  - Hadoop & Elastic MapReduce
    - Data Storage - HDFS
    - Data Processing - MapReduce

- Enterprise Data Warehouse
  - Enterprise Data Warehouse Connectors
PSL Cloud Targeted Resources

- Architects: 7
- Security: 5
- Engineers: 15
- Developers: 12
PSL Secure VPC Framework

Built on AWS’s Virtual Private Cloud Architecture

Customer’s isolated AWS resources

Subnets

Internet

VPN Gateway

Router

VPC

EC2

Secure VPN Connection over the Internet

Customer’s Network

Amazon Classic Web Services Cloud

Source: Amazon Web Services VPC Architecture
Our Secure AWS Framework Provides Controls for Compliance

PSL OS/Application Controls + AWS IaaS GSS Controls + Customer Operations and Management = Compliance

• PSL security framework addresses controls required for compliance that are not provided by AWS
  • HIPAA
  • FedRamp/FISMA
  • PCI
  • SOC

• Amazon Web Services provides the necessary paperwork for General Support System (GSS) compliance
  • Compute
  • Storage
  • Network

• PSL framework passed security testing by leading systems integration firm for an International Banking Institution’s
PSL Secure VPC Framework

Controls Necessary to Meet Compliance
Key Features of PSL AWS Secure Framework

- Firewall & Intrusion protection/detection services,
  - Secure virtual private network (VPN) connectivity
  - Packet filtering, and web application firewall protection not available via AWS standard offerings
  - Full access to firewall logs for enterprise-level SOC and compliance reporting
  - Protects against denial-of-service attacks, worms, and hacker exploits; secures email from spam and viruses; filters web browsing; and provides wireless network protection
- Supports remote access via SSL, IPsec and mobile devices such as iPhones or iPads.
- Allows for system administrator access control that supplements the AWS Management Console
- Provides data at risk disk encryption with keys managed by the customer (in their datacenter)
- Deployable in AWS VPC or Gov’t Cloud IaaS
## Security Framework Controls

### End User Layer
- Remote access: SSL, IPsec, iPhone/iPad/Cisco VPN client support
- Intrusion protection using deep packet inspection
- Flood protection using DoS, DDoS, and PortScan blocking
- Site-to-site VPN: SSL, IPSec, 256-bit AES, PFS, RSA, X.509 certificates, and pre-shared key
- Browser-based HTML5 VPN portal requires no plugins or ActiveX for access to remote desktop, SSH, and other programs

### Application Layer
- Leverages pay-per-use and elastic Amazon Web Services infrastructure to deliver secure and highly available collaboration solution
- Encryption of data at rest using AES 256 encryption with on-premise key management
- FISMA (moderate), HIPAA, SOC 1, PCI, and ISO 27001 compliance

### Management Layer
- Zero trust controls to support improved security and compliance
- Unified Policy Management provides clarity regarding which controls are in place and for whom, and reduces TCO
- Integration with key security and network infrastructure: AD/LDAP, X.509/PKI, Authentication systems (Radius, PIV/CAC, etc.)
- Real-time forensics to watch for hard-to-detect patterns of malicious activity that traditional security systems may not register
Add-on Mobile Collaboration Solutions on PSL Secure Framework

“Enterprise-Class Secure Mobile Collaboration Solution for today’s mobile workforce without the fear of data leakage, compliance, and legal risk”

- Key solution features:
  - Identity and access control across the user base
  - Full text search, content version control
  - On-demand elastic environment in AWS high-availability regions
  - Content collaboration-multiple workers have access to documents and the ability to change and update content with instant sharing between all participants anywhere in the world
  - Option to define workflows to direct how and when collaborative support is needed for rapidly changing documentation
  - Security Compliance
Secure Mobile Collaboration Solution

Secure Enterprise Drop Box Architecture

End User Layer

Application Layer

Management Layer
Secure Mobile Collaboration Solution

Cost Per Box Per Month

Existing Business & Enterprise Solutions Start at $15 and $35/month/Box
Business Discussion

Potential Partnering Benefits

• Expansion of product offerings leveraging AWS’s low-cost infrastructure
  • Eliminates the need for future IaaS capital expenditures (cash flow)
  • Pay as used secure AWS global computing infrastructure
• Access to PSL AWS cloud engineering expertise
• Leverage PSL AWS Pricing
• Proven Channel Partner with AWS expertise and relationships
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