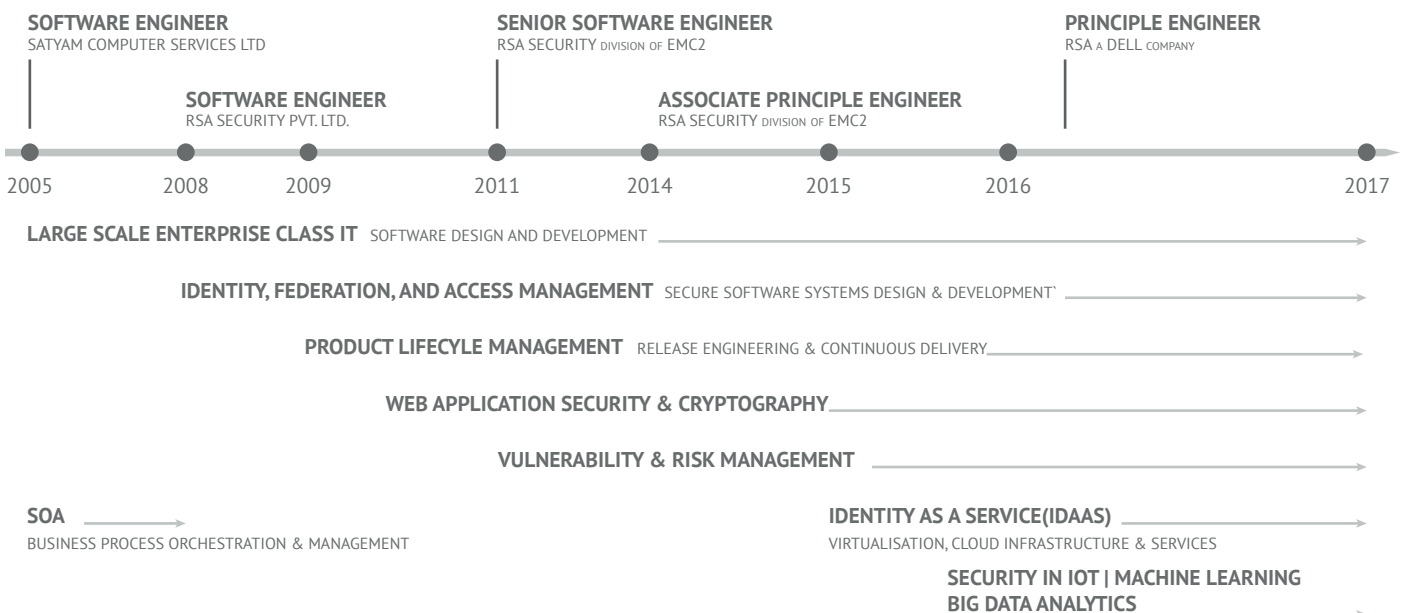# ASWIN ADIREDDY

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⚙ SUMMARY

- Security Architect and Full Stack Developer with proficiency in Rapid Prototype Development, Solution Architecture and Component Integration
- 11+ years experience in full life-cycle secure product engineering & management, from requirements to release, to continuous delivery.
- 6+ years in architecture and developing solutions across multiple cross functional projects with ability to communicate across all levels of development process.
- Certified EMC Proven Professional in Cloud Infrastructure and Services and AWS certified Solution Architect Associate
- Experienced in Identity Federation & Access Management, Web Application Security, Vulnerability & Risk Assessment, Build Automation and Continuous Delivery.
- Delivered over 15 product releases including 5 major and 11 service pack releases handling both intermediate and continuous engineering.
- Member, MUST RESEARCH CLUB - Cognitive Computing Data Science and Advanced Analytics
- **Education:** BE ELECTRICAL AND ELECTRONICS, Anna University, 2001-2005, Chennai, India
- **Interests:** Avid traveller, amateur drummer and photographer. **Languages:** English R'W'S' | Hindi R'W'S' French R'

CAREER TIME-LINE

SOFTWARE ENGINEER SATYAM COMPUTER SERVICES LTD		**SENIOR SOFTWARE ENGINEER** RSA SECURITY DIVISION OF EMC2		**PRINCIPLE ENGINEER** RSA A DELL COMPANY
	SOFTWARE ENGINEER RSA SECURITY PVT. LTD.	**ASSOCIATE PRINCIPLE ENGINEER** RSA SECURITY DIVISION OF EMC2		

2005   2008   2009   2011   2014   2015   2016   2017

LARGE SCALE ENTERPRISE CLASS IT SOFTWARE DESIGN AND DEVELOPMENT

IDENTITY, FEDERATION, AND ACCESS MANAGEMENT SECURE SOFTWARE SYSTEMS DESIGN & DEVELOPMENT`

PRODUCT LIFECYLE MANAGEMENT RELEASE ENGINEERING & CONTINUOUS DELIVERY

WEB APPLICATION SECURITY & CRYPTOGRAPHY

VULNERABILITY & RISK MANAGEMENT

SOA
BUSINESS PROCESS ORCHESTRATION & MANAGEMENT

IDENTITY AS A SERVICE(IDAAS)
VIRTUALISATION, CLOUD INFRASTRUCTURE & SERVICES

SECURITY IN IOT | MACHINE LEARNING BIG DATA ANALYTICS

SKILL SUMMARY

IDENTITY & ACCESS MANAGEMENT
RSA Federated Identity Manager, Active Directory Federation Services, RSA Access, AuthN Manager RSA Adaptive AuthN, RSA SecurID Access

VIRTUALIZATION / CLOUD INFRA
VMware Workstation, vCloud Director and vSphere, Oracle VirtualBox, Azure, AWS, Docker

LANGUAGES & SCRIPTING
Java, Python, PHP, Javascript, UNIX Shell Scripting

WEB / APPLICATION SERVERS
Apache Httpd Server, IIS, Nginx, Websphere, Weblogic, Glassfish, JBoss, Apache Tomcat, Jetty, TC Server

DATASTORES
RSA Adaptive Directory, Active Directory, MySQL, CouchDB, OpenDJ

WEB TECHNOLOGIES / CRYPTOGRAPHY
JAVA EE, JAXWS, XACML, REST, SAML, WS-FED, OpenID, OAuth, FIDO, RSA BSafe, Bouncy Castle, XML, JSON, CSS, OpenSSL

RUNTIMES
Sun/Oracle JRE, IBM JRE, Weblogic/Oracle JRockit JRE, NodeJS

BIG DATA ECO SYSTEMS
Apache SPARK

WEB-MOBILE FRAMEWORKS
Struts, JSF, Swing, Hibernate, Spring, Foundation, Bootstrap, AngularJS, Ionic, JUnit, Selenium2.0

OPERATING SYSTEMS
Linux - RHEL, CentOS, Ubuntu, AIX, Windows and Mac OS

RELEASE ENGINEERING
Ant, Maven, Ivy, Gradle, Perforce, Subversion, Jenkins/Hudson

PERFORMANCE ANALYSIS
JProfiler, JVisualVM, Wireshark, Fiddler, Eclipse MAT, JMeter, Grinder

DOMAIN : IDENTITY FEDERATION AND ACCESS CONTROL

ROLES :

Lead/Product Owner, Developer

TECHNOLOGIES :

Java, JS, JMX, Struts, LDAP, SQL, SNMP4J SAML,WS-FED, OpenID, OAuth, FIDO, ADFS

AWARDS:

Cause-For-Applause Unified Products Award | 23 MAR 2016

On-The- Spot Award
Archer-SecurID Integration | 14 OCT 2016

PATENT DISCLOSURE:

Out-Of- Band (OOB) Emergency is a secure and trusted way of handling OOB Mobile multi-factor authentication in case the primary registered mobile device is dysfunctional.

PUBLICATIONS:

"Cloud Based FIDO enabled Unified Authentication Server and Access Gateway", aims at providing a FIDO enabled server and an interoperable ecosystem via a common access gateway
– RSA Innovation Conference. 2014

"Evolution of SSO – Identity Federation and Protocols", sheds some light on the different technologies and initiatives used in designing an enterprise scale identity system.
– EMC Knowledge Sharing Program 2015

"FIDO based Physical Security for Cloud enabled IoT Gateways", is a context aware physical security solution using EdgeX IoT Gateway that provides strong AuthN capabilities for sensitive information access through intelligent device & packet analysis, FIDO AuthN and Notification Service.
-RSA Red Challenge 2017

TECH TALKS:

'User-Driven Technologies' demonstrating integration of OpenID and OAuth with RSA AxM
-RSA Summit Talks 2015

'Shibbolizing an application for federation', demonstrating the use of Shibboleth for identity federation using SAML2.0 standard.
- RSA Tech Talks 2016

PROJECTS

- Design, Architecture and Implementation of **RSA Access Manager (AxM) 6.x** features - User Delegated Impersonation, Self Service Module, LDAP Referral Binding, SNMP Instrumentation and IPv6 Support.

- Debugged and Implemented federation use-case enhancements in SAML1.1, SAML2.0 and WS-FED protocols flows for **RSA Federation Identity Manager (FIM)**

- Requirement analysis, design and implementation of modules for **product integrations** - RSA AxM with RSA Adaptive AuthN, RSA Archer, RSA FIM, Sharepoint and Office 365 | RSA FIM with ShibbolethSP, WSO2, ADFS2.0, Salesforce, Office 365

- Designed high-level class model for SAML SP and a skeleton project with necessary interfaces with a backing Gradle build system for **Graphene**, a reverse proxy solution to be implemented as a rails app deployed in Phusion Passenger integrated with Nginx Reverse Proxy Server

DOMAIN : PRODUCT LIFECYCLE MANAGEMENT

ROLES :

Lead, Developer, Release Coordinator

TECHNOLOGIES :

Java, JS, Python , Swing, XML, Selenium, Ant, Maven, Gradle, Make, InstallAnywhere, Perforce, Subversion, Git, Jenkins, JIRA

AWARDS:

Silver Award
AxM-FIM CE/IE Process | 14 MAY 2014

PUBLICATIONS:

C2D2 (R2D2 of CI/CD) is a ML bot with NLP capabilities to identify and classify via interaction with SMEs and actuate error mitigation actions based on product context.

TECH TALKS:

Streamlining CI and CD - Best Practices for RSA AxM/FIM Release Engineering

AxM & FIM CE/IE Process - Designed and implemented a cross function flowchart (RefCard) of AxM Continuous Engineering (CE) and Intermediate Engineering (IE) processes for quick bootstrapping of new joiners at all levels requiring an understanding of RSA AxM and FIM development & release engineering.

PRODUCT TRAINING:

Individually conducted a 3 day onsite (Chennai) product training for HCL Technologies Pvt Ltd as part of CE enablement for RSA FIM

PROJECTS

- Coordinated release and delivery of **5 major** product releases and **11 service pack** releases for RSA AxM Server, Application Server Agents and RSA FIM

PROJECTS

- Designed and Developed **build integration** scripts using Ant, Ivy, Maven and Gradle for RSA AxM, FIM and SecurID Access.

- **Release Engineering** for RSA AxM/FIM - Designed and Developed installer modules using Swing, InstallShield & InstallAnywhere, upgrade of OS specific build scripts to Jenkins, implemented Clover instrumentation for AxM/FIM code coverage and AxM API testing using Selenium

- Simultaneously coordinated **IE/CE** and patch management for RSA AxM/FIM involving periodic qualifications of datastore, runtimes and third party library, code signing and customer escalations.

DOMAIN : **WEB APPLICATION SECURITY & CRYPTOGRAPHY**

ROLES :

Lead/Product Owner, Developer

TECHNOLOGIES :

JAXWS, REST, XACML, JACC, JAAS, JCE, PKI, OWASP, RSA Bsafe, BouncyCastle, Keytool, OpenSSL, JProfiler, JConsole, JMap, JMeter and Grinder

PUBLICATIONS:

"Developing Immunity towards Next Generation Cyber Threats", a solution for stopping data leakage due to cloud burst and side channel attacks - *selected among the top 20 ideas for RSA Innovation Conference 2010.*

TECH TALKS:

Presented a talk on **Application Server Agents for RSA AxM** using JBoss, Glassfishv2, Tomcat, Jetty and TCServer demonstrating On-Prem Web Access Control.

Contributed in "**IMPULSE - Communities of Practice 2015**", manning booths on 'Product Security- Why, What & How?' And 'Performance & Scalability- Why, What & How?

Threat Modelling How-To, a detailed session on applying modelling techniques to identify threats and security bottlenecks in Web Applications

PROJECTS

- Design, Architecture and Development of RSA AxM **Agents** *for* **Jboss, Glassfish, Tomcat, Jetty & TCServer**, UI Configuration Utility, HTTP AuthN and NTLM flows for Websphere and Weblogic AxM Agents, and PKI authentication configuration module for AxM installers using InstallAnywhere.

- Developed Crypt utility for encryption/decryption of sensitive content in AxM, provided **CSRF Guard** implementation for AxM GUI, **PRNG** algorithm upgrades to support **Forward Secrecy**, provided support for **FIPS-140** standard using the **Crypto-J** API and enhanced RSA FIM Signing and Encryption Policy flows using BouncyCastle API.

- Designed and Implemented **Threat Model** diagrams and **Penetration Testing** scoping documents and reports for RSA AxM/FIM.

- **Performance Analysis** of RSA AxM/FIM - profiling AxM for bottlenecks, memory leaks and threading issues on the JVM, load testing AxM/FIM API using JMeter and Grinder, AxM/FIM JDBC/JPA profiling and concurrency support for AxM MUX layer using JDK7 Executors

DOMAIN : **VULNERABILITY MANAGEMENT AND RISK ASSESSMENT**

ROLES :

Security Architect, Consultant and Champion

TECHNOLOGIES :

OWASP, SANS, NVD, Fortify, Findbugs, PMD

TECH TALKS:

Lecture on **Vulnerability Analysis and Secure Coding** at Maulana Abdul Kalam Azad University of Technology as part of the **Information Security Education and Awareness Project** Phase II, MeitY, Govt of India

AWARDS :

Cause-For-Applause Award
PSAP AM8.2 release | 20 MAY 2016

Bronze Award
MMHC Program LifeCareTM | 14 NOV 2016

PROJECTS

- Chaired and Coordinated the **Product Security Assessment Program (PSAP)** for RSA AxM Server 6.x , AxM Agent v5.x and FIM v4.x. *Responsibilities* - Review Fortify reports and triage issues for release, initiate and review product network scans, assess product code coverage reports and provide necessary enhancements and security fixes.

- **Vulnerability Analysis** - Assessed and mitigated RSA AxM/SecurID/FIM vulnerabilities such as Poodle, Freak, Logjam, Triple Handshake SSL-J and XML External Entity (XXE) Processing with necessary security patches.

PROJECTS

- **EMC LifeCareTM** - Provided architectural guidance for integration of RSA Strong Authentication and OWASP for the Web services Security

- Planning and implementation of proposal for the EMC/RSA '**Digilocker**'(Govt of India Project) initiative.

DOMAIN : **VIRTUALISATION AND CLOUD INFRASTRUCTURE SERVICES**

ROLES :

Security Architect, Scrum Developer

TECHNOLOGIES :

VSphere, AWS, Azure, Vmware Workstation/Client, Oracle Virtual Box, Docker, RSA SecurID Access

AWARDS :

Bronze Medal
SecurID Access SHIB Integration | 14OCT 2016

CERTIFICATIONS :

EMC Proven Professional - *Cloud Infrastructure and Services -Oct 2015*

AWS Certified Solution Architect Associate - *Nov 2016*

PUBLICATIONS:

"V-Fabric Cloud Application Platform with Authorization, Federation and Enterprise Social Security", is an attempt to provide controlled access to data and operations in the cloud with RSA and VMware suite of products – *RSA Innovation Conference 2014*

"Machine Learning enabled Agent to Scale and Secure Cloud Deployments", a solution to manage auto-scaling patterns, firewalls and load balancers of cloud deployments to achieve optimum auto-scaling strategy to ensure security and cost reduction.-*RSA Red Challenge 2017*

TECH TALKS:

'Overview of Micro-services and Architectural Principles', demonstrating the distinctive method of developing software services. -RSA TechTalks 2015

'Dockerizing Application' sheds light on Docker and its features for enablement of software containerisation.

PROJECTS

- Design and Development of **RSA SecurID Access**, Identity as a Service (IdaaS) integration with Office 365 and ShibbolethSP, debugged and fixed issues on the identity router module, provided encryption setting configurations for registration of clients to the identity router.

- Requirement analysis, design and implementation of modules for RSA SecurID Access integration with RSA AxM.

- Developed the POC and participated in discussions with cross-functional teams to evaluate the feasibility of RSA SecurID Access integration with **Shibboleth SP**, and documented findings by creating a detailed 'how-to guide' wiki for perusal of product teams working on identity federation

DOMAIN : **IOT SECURITY , BIG DATA ANALYTICS AND MACHINE LEARNING**

ROLES :

Security Architect, Developer

TECHNOLOGIES :

Python, Apache Spark, Weka, Balie, OSQA, EdgeX IoT Gateway

TECH TALKS:

"Identity in IoT" a discussion and demonstration on integrating User Managed Access (UMA) flows using OAuth for IoT devices - *RSA Summit Talks 2015*

PUBLICATIONS:

"Secure Online-Offline Data Analytics and Computing Platform" is a framework based on Apache Spark for EMC to leverage structured/unstructured data for use in text analytics and social enablement in Business to Business (B2B) to identify actionable customer insights. *-RSA Innovation Conference 2015*

"Securing IoT", describes a gateway centric approach leveraging PKI for addressing non-repudiation, secure communication & trust establishment, CoAP over DTLS for device-device (M2M) communication OAuth for provisioning & access control, RSA strong authentication and RSA Security Analytics to securing, monitoring and managing IoT devices - *RSA Innovation Conference 2015*

"User-centric federation of access to IoT devices- A valet key for IoT", describes a user-centric identity and access management solution for securing IoT devices that will qualify users and devices securely anywhere on the Internet – *International Conference on Circuits, Control, Communication and Computing, MSRIT 2016*

Cloud based Data Analytics, Multi-Factor Authentication and Network Analysis for IoT Devices is a gateway centric approach that will be capable to support multiple device authentication methods via user centric federation (UMA) flows with context aware multi-factor authentication capabilities to control device enrolment, association, delegated authorization flows for device to device sharing. - *RSA Red Challenge 2017*

PUBLICATIONS

"Gateway Centric Authentication for Wireless IoT using RADIUS" is a IoT network infrastructure solution with strong Authentication, Authorization and Accounting capabilities, by using the 802.1x via Radius Authentication Server integrated with RSA SecurID Access to provide Identity Assurance, Rules Engine and Cloud AuthN Service - *RSA Red Challenge 2017*

"Identity Assurance & Multi-factor AuthN (MFA) for IoT Devices", describes a solution that integrates RSA SecurID Access MFA REST endpoint with OAuth aware MQTT bridge allowing IoT devices to securely communicate with low weight protocols. - *Winner RSA Red Challenge 2017*

PROJECTS

- Designed and Developed **FPLYNY**(Find People Like You Near You), a GitHub pySpark tool demonstrating the use of Apache Spark for querying over 10 million records to adhere to a certain criteria.

- Architected and Developed **Machine Learning enabled Slack Bot**, a module enabling users (SMEs & Stake Holders) to interact and accept input based on a trained model to get insights and feedback on the project build system.

- **RSA AxM and FIM Q&A and Weka Machine Learning System**, a robust CE dashboard with machine learning capabilities to identify and classify product queries and display them in Q&A dashboard-Implemented an interface to strip user details from query and add question, answer and accept answers functionality for OSQA platform.

- Investigated on IoT protocol stack, network & security challenges, as part of the feasibility study of **RSA AxM integration with IoT** and implemented a POC using HiveMQ callback architecture to integrate with AxM for authentication & authorization & verified the same using HiveMQ's WebSocket client.

DOMAIN : **BUSINESS PROCESS ORCHESTRATION AND MANAGEMENT**

ROLES :

SOA Consultant and Developer

TECHNOLOGIES :

WebSphere Process Server, WebSphere Business Modeller, WebSphere Integration Developer, SonicESB, GlassFish ESB, TIBCO

TECH TALKS:

Presented a talk on '**Java Business Integration using Glassfish ESB & RSA AxM Agent**' demonstrating integration of identity and access management capability in BPEL workflows.

CERTIFICATIONS:

IBM certified Solution Developer in WebSphere Integration Developer v6.x

PROJECTS

- Requirement analysis, use-case specification, detailed design, component development, integration of application server and process server, deployment scripts, testing and documentation for **Next Generation Banking Systems, CITCO** is a Custodial Services application that can cater to the growing demands of the online banking and custodial services industry

- Design, Architecture and Development of subsystem interfaces and modular reusable logging & exception handling utilities for **UniFy, Emirates Bank Group**.