



## Thomas J. DeMay, II

### Principal Software Engineer

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I'm on the lookout for an exciting opportunity to join a forward-thinking team that can tap into my software technical leadership and broad solution experience. With my strong work ethic, ability to learn rapidly, and knack for thriving in fast-paced environments, I can hit the ground running and deliver immediate value. Let's collaborate and achieve great things together!

#### Summary

With over 30 years of experience as a software engineer, my expertise extends beyond technical knowledge. I have a comprehensive understanding of the entire software lifecycle, covering concept development, implementation, testing, delivery, and user acceptance. In fast-paced environments that demand problem-solving skills, whether it's creating innovative solutions, resolving customer issues, or equipping our team with the right tools, you can rely on my dedication, mentoring skills, and unwavering commitment to the company and customer mission. I have a strong passion for continuous learning and have embraced various platforms and roles, including developer, architect, team leader, and project manager. Throughout my career, I have gained diverse experiences in application development, device driver development, database applications, web development, and more.

#### Professional Skills

- C/C++, C#, Java
- Regular Expressions (RegEx)
- Agile/Scrum, Jira, Redmine
- AWS EC2, Azure Information Protection
- Standard Template Library (STL)
- Windows Desktop Applications, Windows NT Services, Backend Services
- SVN, ClearCase, git, BitBucket
- Windows and Linux Platforms
- Spring, Spring Boot
- SQL, No-SQL
- Visual Studio, IntelliJ, Eclipse, Brackets, VS Code
- Classic ASP
- Microsoft Detours/Windows Hooking
- CruiseControl, Jenkins
- Python, PowerShell, bash, Ruby
- Rest, JPA, Hibernate
- HTML, CSS, Angular
- SQL Server, MySQL, SQLite, Sybase SQL Anywhere, LiteDB, MongoDB, DynamoDB
- Visual Studio Tools for Office (VSTO), OpenXML SDK
- Digital Rights Management (DRM/ADRMS)
- Bounds Checker, Purify, lint, RedGate ANTS

#### Employment History

##### Amazon AWS/EC2

January 2020 - Present

Senior Software Engineer (SDE II)

Herndon, VA

I hold a senior position on the **EC2** Zonal Interface Management (ZIM) team. ZIM plays a critical role in managing all interface and IP addresses for numerous **EC2** technologies. It operates at a low level and relies on **AWS** technologies such as **DynamoDB** and **S3**. Our development environment primarily consists of **Linux**, and we utilize **Java**, **Ruby**, and **Scala** for coding purposes.

Collaborated with cross-functional teams to implement a model-driven approach for enabling user tagging of **EC2** resources during creation, spanning across the entire **EC2** infrastructure. In one of my initial assignments at Amazon, I took on the responsibility of creating comprehensive test plans for this project, leveraging the **AWS CLI**. Additionally, I provided assistance to cleared engineers in executing these test plans within secured regions.

Implemented a code **refactoring** initiative to enhance service decoupling, resulting in improved modularity and maintainability. The refactoring process involved utilizing **Java** for development, creating automated **API tests** in **Ruby**, and performing blackbox automated testing using **Scala**. This approach ensured robustness and streamlined the testing process.

Effectively transitioned into the demanding On-Call rotation, taking on the responsibility of providing critical support and resolving urgent issues. This role required me to be available around the clock, demonstrating my commitment to maintaining the stability and availability of the systems. By promptly addressing and resolving complex incidents, I played a pivotal role in ensuring uninterrupted service for our customers and earned the trust and recognition of my peers and superiors.

Modified an existing public API to incorporate **idempotent** support, ensuring reliable and predictable behavior. This undertaking involved close collaboration with multiple teams involved in releasing new features to the public. I worked closely with documentation, security review, test planning, and penetration testing teams to ensure seamless integration. The project involved making architectural changes to both new and legacy systems, utilizing development languages such as **Scala**, **Ruby**, and **Java**.

Drove substantial **performance enhancements** and extended the **scalability** of service hosts across multiple **EC2** regions by consolidating services and reducing round trips. These optimizations resulted in significant performance improvements that caught the attention of top engineers and managers within **AWS/EC2**. The demonstrated impact of these enhancements showcased the ability to unlock greater efficiency and scalability within the infrastructure.

## Skills Assessments

Ashburn, Virginia

November 2019 - January 2020

In November 2019, GigaTrust unfortunately went bankrupt, leading to the closure of its operations. After nearly 11 years with GigaTrust and 12 years with EMC, I found myself unexpectedly out of work for the first time in almost 23 years. During this time, I focused on upgrading my skills and exploring new technologies.

I dedicated my efforts to studying **cloud computing** and **full-stack web development**. Additionally, I refreshed my knowledge of **Python**, **C++ 2.0**, **Java (including Spring and SpringBoot)**, **.NET**, **REST**, **JPA**, **Hibernate**, **HTML**, **CSS**, and **Angular**. These efforts allowed me to stay up to date with the latest industry trends and expand my skill set.

The closure of GigaTrust became a turning point in my professional journey, providing an opportunity for personal growth and skill development.

## GigaTrust

Herndon, Virginia

March 2009 - November 2019

*Software Development Manager / Principal Software Engineer*

At GigaTrust, I joined as a **technical lead** responsible for overseeing their desktop client applications. In this role, I **managed** a team of up to 6 individuals, providing support for a file system **device driver**. Additionally, I played a key role in refactoring a monolithic **VB6** client application into a collection of reusable **APIs**, **Windows Services**, and new client and server applications developed in **C# .NET**.

One of our primary objectives was to enhance our customers' **data security** by safeguarding them against inadvertent leakage of sensitive information. Through the implementation of these modernized applications and services, we were able to provide protection and mitigate potential risks for our clients.

Led a team of 5-6 developers in the development and support of a large client application written in **C++** and **Visual Basic 6 (VB6)**. Implemented a **refactoring** effort to transform the product into a **multi-tier** system using **C#** and **C/C++**. This architectural shift allowed for code sharing across products and eliminated the need for the device driver.

- Improved user experience, enhanced reliability, and simplified maintenance.
- Reduced the codebase size by 90%.
- Increased efficiency through code refactoring, resulting in a team size reduction from 7 to 1.
- Leveraged code reusability for accelerated development of new products.

**Coordinated and mobilized teams** to address critical company or customer challenges promptly.

- Assembled a dedicated team and successfully developed a brand-new system from scratch within an impressive timeframe of just 2 months, surpassing the previous team's two-year struggle to meet the project requirements.

Implemented a process for delivering code to the quality assurance group, including a standard for regularly scheduled drops, **unit tests**, and **test plans**.

This streamlined approach improved the efficiency of our development cycle and ensured a higher level of code quality. By establishing clear guidelines and milestones, we were able to effectively track and manage the progress of each release, facilitating smoother handoffs to the QA team. The introduction of comprehensive **unit tests** and **test plans** enhanced our testing strategy, allowing for accurate validation of software functionality and increased confidence in our deliverables.

Reorganized the code base into manageable products and established a robust **source control** branching model using **SVN**. Implemented **continuous integration** with **CruiseControl** through **NAnt**, **bash**, and **PowerShell scripts**.

- Enabled developers to dedicate their efforts to other projects, such as the development of new Android and Apple iPhone apps.
- Enhanced the maturity of the product and introduced software development tools that adhered to best practices.

Played a key role in driving the adoption of **Agile/Scrum** methodologies for application development in **C#** and **C/C++** to enforce **Digital Rights Management (DRM)**.

- Customized the behavior of Adobe Reader, Office applications, and other Windows applications to enable licensing and content protection using technologies such as **Microsoft Active Directory Rights Management (AD RMS)**, **Microsoft Detours Library**, **Windows Hooks**, and **Office Plugins** with **Visual Studio Tools for Office (VSTO)**.

Strategically led the migration effort to transition the project management system from **Redmine** to the industry-standard **Jira** platform, ensuring a seamless and efficient process. Played a pivotal role in facilitating the smooth adoption of **git** as the new version control system on **BitBucket**, enabling enhanced collaboration and streamlined code management practices. This initiative showcased my meticulous attention to detail and technical proficiency while ensuring uninterrupted project operations and optimizing the team's productivity.

## DeMay Enterprises, LLC

March 2003 - March 2011

Owner

Ashburn, Virginia

Pioneered the establishment of **Discount Casino Gear** as a successful side business venture, leveraging my entrepreneurial spirit. Employing cutting-edge web development tools like **Microsoft FrontPage**, **Adobe Dreamweaver**, and **Microsoft Visual Web Developer**, I meticulously crafted the website from scratch. Originally built with **Classic ASP/VBScript**, **HTML**, and **CSS**, I later undertook a significant refactoring effort, migrating the site to the robust **ASP.NET** framework for enhanced scalability and maintainability. Backend operations were powered by **Microsoft SQL Server**, ensuring optimal data management and retrieval for a seamless user experience.

The website demonstrated an exceptional growth trajectory, generating an impressive half a million in annual revenue within a mere six months of its initial launch. This remarkable success highlighted the effectiveness of my strategic planning and diligent execution.

Establishing itself as the premier destination in its market, the website emerged as the top retail web platform, capturing the attention and loyalty of customers seeking high-quality casino gear. My commitment to delivering exceptional products and an outstanding user experience propelled me to the forefront of the industry.

Achieving unrivaled efficiency and productivity, the website operated as a fully automated system, seamlessly generating new content through meticulously crafted scripts written in **VBA**, **C/C++**, and **C#**. This innovative approach enabled me to stay at the forefront of content delivery, constantly refreshing my offerings and captivating my audience.

Recognizing the immense potential and value I had created, I strategically transitioned the website to the robust **Volusion** platform. This transition not only enhanced my capabilities but also positioned me for a successful sale. In March 2011, I made a profitable exit by selling the website, solidifying my entrepreneurial journey with a remarkable achievement.

**EMC** (now a subsidiary of Dell)  
February 1997 - March 2009  
*Principal Software Engineer*

Alexandria, Virginia

Embarking on my journey with Softworks, a dynamic and forward-thinking company that later became part of the EMC family, marked an exciting chapter in my career. As a key contributor to their internal support systems team, I harnessed my exceptional expertise in **Visual FoxPro** to spearhead the development of cutting-edge internal applications. These solutions empowered the administrative and sales teams, streamlining their processes and fueling their success.

Eager to expand my horizons and broaden my technical repertoire, I embarked on a self-guided journey into the realm of **C/C++**. Through sheer determination and countless hours of learning, I quickly acquired proficiency in this powerful programming language. This newfound expertise proved instrumental in propelling me towards the product division of Softworks, where I became an instrumental force in driving innovation, shaping the direction of their solutions, and delivering exceptional value to clients.

Embarked on a thrilling endeavor to develop Windows **device driver** capable of efficiently managing storage and providing comprehensive reports on system resources. This **device driver** empowered users to harness the full potential of their systems, elevating their productivity and enabling seamless operations.

Steered a highly skilled team of 7 brilliant minds proficient in **C#, C/C++, MVS**, and **Java** to architect and construct a robust framework that became the backbone of EMC's Control Center client applications. This revolutionary framework spanned across diverse platforms, including **Windows, AIX, HP/UX, Solaris, Linux, and MVS**

Orchestrated the seamless integration of two prominent companies and their respective product portfolios, leveraging the power of **Java**. For my exceptional contributions, I was honored with EMC's prestigious **Most Valuable Player** award among a team of 200 talented engineers in August 2006, recognizing the significant impact of the project on EMC's success.

Pioneered the development of a **C#** plugin that marshaled data between EMC libraries written in **C/C++** and Microsoft's **Systems Center Operations Manager (SCOM)** application. This integration streamlined operations and fortified the interoperability of EMC and Microsoft technologies, amplifying their joint capabilities.

Utilized the power of **Web Based Enterprise Management (WBEM)**, **Common Information Model (CIM)**, and **Storage Management Initiative (SMI)** technologies to engineer sophisticated **C++** applications deployed across various **Windows** and **UNIX** platforms. These innovative solutions enabled seamless management, proactive alerts, and streamlined discovery of heterogeneous Storage Area Networks, empowering enterprises to optimize their storage infrastructure effectively.

Rendered invaluable assistance to a struggling team grappling with challenging requirements. Through proactive code refactoring, I revolutionized their approach to managing and reporting on storage system arrays. Furthermore, I established a streamlined process for integration testing with the enterprise system on a predictable basis. The impact was truly transformative:

- Improved performance by a staggering 3,951% and slashed memory consumption by an impressive 2,027%.
- Efficiency gains achieved through code and process enhancements led to a remarkable team reduction from 6 to 2 skilled engineers, enhancing resource allocation and driving cost savings.
- Personally conducted comprehensive training sessions for all EMC engineers in Alexandria, Virginia, enlightening them on the proper techniques to maintain large data structures utilizing the powerful **Standard Template Library (STL)**.

## Education

**Strayer University** March 1998 - March 1999

*completed 4 years of college in one year by teaching myself and testing out of classes*

Summa Cum Laude (4.0 GPA)

Ashburn, Virginia

## Certifications

Currently pursuing AWS and Azure Certifications

In Progress

Microsoft Certified Solution Developer (MCSD)

April, 1998

Microsoft Certified Professional (MCP)

March, 1998

## Patents

US Patent 7,233,957 B1

June, 2007

"Method and Apparatus for identifying and Processing Changes to Management Information"

## Publications

Speed Up Client-Server Applications with Server Side Cursors (Part Two)

September, 1999

Client-Server Development in the Real World (Two Part Series)

May, 1999

Put Microsoft Graph to Work in Your Applications

May, 1997

Understanding the Composite Class Hierarchy

March, 1997

Use Visual FoxPro to Send and Receive E-Mail and Faxes (Part Two)

January, 1997

Use FoxPro to Send E-Mail Messages (Two Part Series, Cover Article)

December, 1997

Get the Most Up-To-Date Data with DDE Advise

August, 1996

Run Applications by Remote Control

May, 1996

## Hobbies and Interests

- Private Pilot
- Coaching Kid's Sports
- Piano, Organ, Keyboards
- Guitar
- Harmonica
- Banjo
- Strength Training
- Wood Working