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# Caring for your Digital Health

How Grace Inspired Ministries Transitioned from a High-Risk On-Premises IT Infrastructure to a Secure, Cloud-Based Architecture

Grace Inspired Ministries

ALPINE CYBER
Managed Security, Cloud & IT Services

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Steve Pressman
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# Ellen Hill, RN, BSN

- 5 years CNA working in Personal Care and Skilled Nursing
- 8 years as RN working at the bedside and in supervisory positions in Personal Care and Skilled Nursing
- 6 years working as Director of IT and Informatics overseeing Clinical and Business technology operations, security, budget etc for Grace Inspired Ministries
- Serve as Executive Board member of Greater Harleysville & North Penn Senior Services

# Steve Pressman, CISSP

- 12 years in the defense industry (Lockheed Martin and its subsidiaries) as an IT Architect
- 10+ years as President and CTO of Alpine Cyber Solutions
- Specialist in information security and public cloud technologies
- Leader of the Greater Philadelphia AWS User Group

- Alpine Cyber Solutions
  - Managed Security Services
  - Penetration Tests
  - Virtual CISO
  - HIPAA Vulnerability Assessments
  - Cloud and IT Specialists

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# Agenda

- History and IT Background
- Community Acquisition/Merger Decision
- Challenges
- Solution Overview
- Outcomes
- The Future
- Lessons Learned

# History/Background

How did we get here?

# History

- Lutheran Community at Telford
  - 55-Acre campus in Bucks County boasting Independent Living, Personal Care, and Skilled Nursing Services
  - Independent Living: 260 Apartments
  - Personal Care: 73 Beds
  - Skilled Nursing: 75 Beds
  - Mission:  The Lutheran Community at Telford is a secure retirement community providing a progressive level of care. We are committed to a Christian environment dedicated to the compassionate, loving and spiritual well-being of our residents.

# History

- The Community at Rockhill
  - 44-Acre campus in Bucks County boasting Residential Living, Personal Care, and Skilled Nursing Services
  - Residential Living: 200 Apartments
  - Personal Care: 53 Beds
  - Skilled Nursing: 90 Beds
  - Mission: We are a vibrant community providing purpose, dignity, and compassion, centered in God's love.

# History

- Grace Inspired Ministries
  - January, 2017 brought the new parent company for Rockhill and Telford
    - Over 600 team members
    - Over 800 residents
    - Note: Additional cottage expansion and low-income housing has since been added
- Information Technology
  - All on premises systems
    - Inherently high risk
  - Complex support structure
  - Very little engagement with public cloud providers/capabilities
  - Legacy staff members, challenged to address and keep up with modern solutions
    - Scoping a forward-thinking support plan became increasingly difficult

# Community Acquisition/Merger Decision

Why should we merge?

# Community Acquisition/Merger Decision

- As this audience knows, mergers and acquisitions in the aging services industry are common
- Drivers
  - Healthcare costs rising
  - Reimbursement rates becoming complex to manage
  - Promise of significant cost savings from economies of scale
- Opportunities
  - Gain operational efficiencies by combining capabilities and roles
  - Negotiate new contract terms
    - New leveraged size/user count
  - Reduce operational risk (i.e. old infrastructure)
  - Increase information security stance by outsourcing it

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# Technical Challenges

Nothing worth doing is easy

# Technical Challenges

- Combine two independent facilities (geographically distinct) under one umbrella
  - Retain individual facility/community identities
  - Staff retaining email addresses for home community
  - Distinct websites
  - Distinct marketing
  - Note: Individuality is not necessarily the long-term decision (under review), but at the time was a key tenet
- Prior commitments/decisions added to the challenge
  - Network manufacturer
  - Software licenses
- IT Staffing
  - Difficulties in finding qualified staff
  - "HR" challenges of commitment to hired staff

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# Solution Overview

This is the techy part

# Solution Overview - Infrastructure

- Amazon Web Services selected as the IaaS provider
  - Active Directory/User Identity
    - Password resets 24x7 from anywhere
    - Unified identity across tools (1 account, instead of multiple)
    - Simplified onboarding process
  - Legacy file shares and Data backups
    - Automated backups of data
    - Encryption without effort
    - No infrastructure to maintain
  - EMAR Backups
    - By coding our custom backups for patient data, we made it better
      - Multiple destinations, for tolerance of multiple failures
      - Alerting when EMR availability falters
      - Alerting when available EMAR backups are too old or improper

# Solution Overview - SaaS

- Leverage SaaS across the enterprise
  - Email and Productivity - Microsoft 365
  - Medical Records - Point Click Care (PCC)
  - Finance - Microsoft Dynamics
  - IT Management - FreshService
  - Marketing - MatrixCare
  - Dining Services - eMenu
  - Training - Relias
  - Event Reporting - ViClarity
  - Staff Scheduling - OnShift
  - Printing Management - PrinterLogic
  - Mobile Device Management - IBM MaaS360

# Solution Overview - Information Security

- Alpine Cyber Solutions - Managed Security Suite
  - Patching of endpoints and servers
  - Vulnerability Scanning
  - Legacy and SaaS Data Backups
  - Inbound/Outbound Email Protection and Encryption
  - Phishing and Education
  - Endpoint Detection and Response (EDR)
  - In-Browser Password Management
  - Firewall Management

# Solution Overview - Staff Augmentation

- Leverage Alpine Cyber to provide level 2 and 3 IT support
- Projects are accomplishable, due to the persistent relationship
- Hired staff are able to receive guidance and mentoring from Alpine Cyber staff
- Escalation of issues within Alpine Cyber is frictionless to subject-matter experts, even for otherwise out-of-scope requests

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# Outcomes

So what? What did we get from all this hard work?

# Outcomes - Caring for Residents' Data

- Every benefit on the following slides is a direct benefit to the residents
  - Risk Reduction
    - Reduced risk to the organization means reduced risk to the residents – keeping their data safe as it traverses the network
  - Labor Efficiency
    - IT staff are able to focus on quality of life projects, such as WiFi optimization
  - Increased Capability
    - IT can do more without a heavy cost or time impact
  - Security
    - Having a trusted third party means that security issues will be handled quickly and completely

# Outcomes - Risk Reduction

- Increased Network and Service Availability
  - Less downtime of systems due to aging infrastructure
  - Fewer complaints from residents
  - Increased productivity for staff
  - Decreased interruptions to business functions
    - Greater efficiency for clinical staff = greater ability for reimbursement
- Able to do more with less
  - Predictability of outage/fault states
  - Leverage SaaS high availability support models without added cost
  - Junior in-house employees are able to take ownership of support without large overhead costs of senior employment experience
- Reduced on prem server count to 2
  - SARA system
- Kept AWS bill low by purchasing from TechSoup

# Outcomes - Labor Efficiency

- Less IT labor required to keep systems running
  - Shifted service to a managed paradigm
    - Fractionalization of senior resources makes them affordable
    - Outsources the education and training of resources
    - Opens the door for smaller, more junior IT team to learn and grow
  - Existing resources can thrive
    - Resources are freed to do things like documenting issues so they don't happen again, building a knowledge base for future support teams
    - Resources are freed to better manage legacy in house infrastructure to bolster uptime (re: SARA System)
    - Staff complaints have all but disappeared

# Outcomes - Increased Capability

- Quickly and inexpensively try new things
  - Federation of identify allows quick onboarding of new SaaS vendors
  - AWS services are quick to spin up, inexpensive to prove-out concepts, and quick to spin down
    - No capital expenditure or long planning process required
  - For instance: easily able to migrate staff to remote work when COVID hit
    - AWS Workspaces for remote desktops
- Capabilities stay modern with minimal maintenance required
- Managed Security Suite from Alpine Cyber brought us real-time remote support for our end users, too!

# Outcomes - Security

- Everything is encrypted. All the time.
- Information security capabilities are, and stay modern
- Managed service means that knowledgeable eyes are watching for issues
- Ransomware risk is managed with Endpoint Detection and Response (EDR), Email Security, and Backups
- Continuous phishing simulations keep the human firewalls tuned
- Other ancillary capabilities drive down the endpoint risk as well
  - Legacy hardware initially rolled out with self-erasing Linux operating systems
  - Chromebooks and Chromeboxes now leveraged for many shared workstations and resident purposes
- Continuous security patching is essentially a non-issue
- Bottom line – GIM is a safe place to live and work

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## The Future

Forewarned is forearmed

# Future Challenges

- Continued increase in residents bringing Internet-connected devices
- Continued maturation/modification of IT engagement with residents
  - Resident and family expectations don't always match the offering
  - Can be a marketing tool to attract more residents
  - Include IT in resident satisfaction metrics
  - Consider Profit center IT support – Tiers of service
- New and creative security challenges
  - "My computer has a virus, so I called the police" – True story
  - Continue to mature capabilities in the managed security space
    - New tools are added as the technology landscape changes

# More Future Challenges

- Increase in regulatory requirements to keep things secure
  - Cyber Insurance
  - Financial responsibilities
- The future of identity will hopefully reduce complexity for people
  - Biometrics versus passwords…New challenges come with this
- Interoperability
  - Accessibility of patient data across providers will bring new security and capability challenges
- Data/Reporting as a process streamliner and force multiplier
  - Gathering and taking action across data sources will make decisions data-driven instead of instinct-driven

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# Lessons Learned

If I could turn back time…

# Lessons Learned

- General knowledge
  - If you make scalable decisions when you merge, you can continue to scale more easily and efficiently into the future
    - Every new acquisition/merger is faster and less expensive
    - Good network infrastructure uniting campuses makes it easier to onboard new services
  - If you focus on security by default, your residents will benefit
  - Ensure that all changes are made with security by default
    - It's not just about decreasing cost – it's about decreasing risk

- What would I do differently?
  - Make sure the changes you're making are supportable
    - Novel software, hardware, and vendors make finding replacement support a challenge
  - Understand that timelines are usually longer than you expect
  - Understand management challenges, hot-buttons, and proclivities
    - An executive who isn't a champion, will be an impediment

# Lessons Learned

- What would I do again?
  - *The good thing is… we get to do a lot of this with every new acquisition/merger that arises*
  - Embrace the cloud
    - AWS
    - SaaS
  - Build for flexibility and growth
  - Continue to use augmented staff to allow for elasticity and SME availability
  - Have a platform/ticketing system for IT to engage with people and manage their work (i.e. FreshService)
  - WiFi optimization/replacement as a means to improve resident experience, while also improving security posture (i.e. Meraki)