



## Virtua Improves Efficiency and Experience of Physicians and Nurses with Integrated Single Sign-On, Patient Context and User Provisioning

Virtua, a comprehensive, non-profit health system based in Marlton, NJ, is well known for high quality patient care. The organization's programs in stroke, spine and total joint replacement have earned special Joint Commission accreditations, signifying these programs meet the highest national standards for quality, safety and patient care. Healthcare consumers have repeatedly named Virtua as having the highest quality and image, according to National Research Corporation, and more consumers choose Virtua than any other healthcare provider in southern New Jersey.

To support its focus on quality, Virtua applies state-of-the-art medical equipment and the most advanced clinical and information technology throughout the organization. Virtua also has distinguished itself as an early adopter of clinical and digital technology by becoming one of the first Six Sigma, Change Management and Lean organizations in healthcare.

### The Challenge

As part of Virtua's commitment to improving the quality and safety of patient care, the organization strives to make it easier for caregivers to perform their jobs. With the proliferation of multiple clinical applications across four hospitals, physicians and nurses were often burdened by the need to remember multiple passwords to log in and out of different clinical applications, as well as search for the appropriate patient record in each one. Navigating information technology could interfere with clinical time.

Provisioning clinicians into hospital systems was also taking valuable time. An average of 25 new users would take approximately two days to provision properly. Even after users were provisioned into clinical applications users would need to click numerous times to share data between clinical applications.

"Single sign-on became a major part of our strategy," said Tom Gordon, vice president and CIO at Virtua. "Our goal is to enable our physicians and nurses to access the right patient data with speed, accuracy and consistency, regardless of the workstation or application they're using. As we transition from a paper-based to a paperless organization, simplicity is vital. We need to allow our caregivers to focus on patient care, enhanced by technology."

With in-room workstations across four hospitals, Virtua's IT staff also sought to strengthen security for IT system access to only Virtua-approved users, as well as enhance the organization's ability to track and log user access to applications. Equally important, IT needed a way to quickly enable, modify or disable user accounts to systems and applications, and to accommodate new requests for access to additional applications through single sign-on.

### CASE STUDY

#### Organization Size

- Virtua employs more than 1,800 physicians and more than 8,000 clinical and administrative personnel.

#### Organization Profile

- Based in Marlton, NJ, Virtua is a comprehensive health system that comprises four hospitals, an ambulatory care center, rehabilitation and long-term care centers, home care, physical therapy and Mobile Intensive Care Units, and health and wellness centers.
- Virtua has distinguished itself as an early adopter of clinical and digital technologies by becoming one of the first Six Sigma, Change Management and Lean organizations in healthcare.
- Virtua is a recipient of the New Jersey Governor's award for Clinical Excellence and has received the Leadership Award for Outstanding Achievement by Voluntary Hospitals of America.



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## The Solution

After exploring options for single sign-on solutions, Virtua turned to a family of Identity and Access Management (IAM) products from Caradigm, the only vendor that offers integrated single sign-on, patient context management and user provisioning designed specifically for healthcare organizations.

“We selected Caradigm’s IAM portfolio because when used in concert with each other, the products were able to easily meet our expectations,” said Gordon. “The products address our requirements for simplifying, managing and tracking access to applications and data across our organization. We found that working with a single vendor brings incremental value as well, including integrated governance, lower total cost of ownership, and simplified support and maintenance.”

## User Provisioning

Virtua implemented Caradigm Provisioning, formerly Sentillion proVision, to automate the provisioning of user accounts to Microsoft Active Directory and eight clinical and productivity applications, and to provide manual provisioning to 16 additional applications. Using proVision, Virtua can define their provisioning requirements using a role management structure that consistently applies a set of application entitlements to a user based on his or her defined role within the organization. Caradigm Provisioning also allows Virtua to automate the creation, modification and termination of user actions in response to triggers from HR applications like PeopleSoft. In addition, the product’s auditing capabilities enable Virtua to store all application access data in a single location.

“Managing user access had become very challenging and time-consuming,” said Virtua Security Manager Vincent Berretta. “Role-based access allows us to automate provisioning according to a person’s job attributes and location, which means our caregivers no longer need to request specific access for their staff. We can rapidly provide new employees with access to the applications they need to perform their specific jobs.”

## Single Sign-On and Context Management

To simplify and accelerate caregiver access to shared workstations across the health system, Virtua implemented Caradigm Single Sign-On and Caradigm Context Management (formerly Sentillion Vergence) for eight applications, including Soarian Clinicals, McKesson HPF (Horizon Patient Folder), OAS Gold, Physician Portal, NetAccess LCR, MAK, IBEX / ER, and Microsoft Outlook. As a result, caregivers only sign on once to access these systems, and when they switch among clinical applications using quick links on a navigation bar, they do not need to re-select the patient; the right patient record is automatically presented.

## Auditing

Privacy Auditor monitors and logs user access to systems and Medical Record Numbers (MRNs) across multiple applications.

## Benefits

Using Caradigm IAM products, Virtua has enhanced the physician and nurse experience, allowing them to free up time previously spent navigating IT systems and applications and have even more time for patients.

Caradigm Single Sign-on and Context Management have reduced the time and effort required by physicians and nurses to access applications, view their census, and locate specific patient data. Time and motion studies conducted by Virtua testers found the following results:

## Situation

- As part of Virtua’s long-term journey to become a paperless organization, the health system sought to enhance the experience of nurses and physicians by simplifying and accelerating their access to the right patient data across multiple clinical applications.

## Solution

- After exploring many options, Virtua selected an integrated Identity and Access Management (IAM) healthcare suite from Sentillion, now part of Caradigm, which uniquely combines single sign-on, patient context and user provisioning, helping caregivers gain faster, accurate access to patient data.

## Benefits\*

- Significant reduction in clicks and time required by caregivers to access Census and specific patient records
- Significantly faster user account provisioning and de-provisioning based on roles
- Powerful auditing capabilities to track user access, improve processes

\*see Benefits section below for specific results data



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- a 33 percent reduction in keyboard clicks and a 26 percent reduction in access time (in seconds) from a physician's first contact with a clinical workstation until productively seeing his or her Census in Soarian Clinicals
- a 40 percent reduction in keyboard clicks and a 45 percent reduction in access time (in seconds) from a nurse's first contact with a clinical workstation until productively seeing his or her Census in Soarian Clinicals
- a 78 percent reduction in keyboard clicks and 72 percent reduction in access time (in seconds) for a physician, once logged into a workstation, to select a specific patient in Soarian Clinicals and IBEX ED
- a 78 percent reduction in keyboard clicks and 78 percent reduction in access time (in seconds) for a nurse, once logged into a workstation, to select a specific patient in Soarian Clinicals and Soarian MAK

"When you add up the number of physicians and nurses, factor the number of times they log in and out of systems during rounds, and consider the number of patients they're seeing, the time and effort saving is a bonus," said Gordon.

The overall impact, according to Gordon, extends beyond improving the efficiency and experience of physicians and nurses. The system automatically alerts in the event of signature deficiencies, allowing time to review those deficiencies. Moreover, patient safety concerns are addressed by providing caregivers with the same patient active across multiple applications. In addition, IT representatives have built their own connectors, or Bridges, to several applications, including McKesson HPF and Outlook Web Access, allowing them to extend the value of single sign-on for caregivers.

Virtua also has found that Caradigm Provisioning has brought significant benefits to Virtua caregivers and IT staff, including:

- Reducing the time required to provision a user account from 90 minutes to 15 minutes
- Reducing the time to process 25 bulk requests from Lawson from 2 days to 4 hours
- Rapid termination of user accounts in the event of an emergency termination
- Simple process for requesting user access to specific applications
- Implementing an electronic confidentiality form and retiring the paper form

"IT departments are under tremendous pressure to implement solutions that help improve quality and safety while driving down costs," said Jim Campbell, vice president of IAM solutions for Caradigm. "Caradigm is aiming to help health systems meet that goal by providing a comprehensive, integrated solution that manages the clinical workflow — from provisioning of accounts to single sign-on, patient context management and auditing. We're very pleased to see the positive results that Virtua has experienced using Caradigm products."

## About Caradigm Identity and Access Management Solutions for Healthcare

Used together, Caradigm Single Sign-On, Context Management and Provisioning provide a comprehensive identity and access management solution for healthcare. Caradigm Provisioning is an automated, role-based identity access and management solution that automatically performs the creation, modification or termination of access in clinical applications. It works with Caradigm Single Sign-On and Caradigm Context Management to unify single sign-on, role-based application access, patient context management, multifactor authentication and centralized auditing into an integrated healthcare solution.

## ABOUT CARADIGM

Caradigm is a healthcare analytics and population health company dedicated to helping organizations improve care, reduce costs and manage risk through the strategic, timely and compliant use of data generated across the healthcare continuum.

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