



REPORT ON MEDIWARE'S HEALTHCARE AND HUMAN
SERVICES SAAS SYSTEM RELEVANT TO SECURITY,
AVAILABILITY, PROCESSING INTEGRITY, CONFIDENTIALITY,
AND PRIVACY THROUGHOUT THE PERIOD MAY 1, 2017 TO
APRIL 30, 2018



SKODA MINOTTI & CO.
CERTIFIED PUBLIC ACCOUNTANTS

Delivering on the Promise.

Acronym Table

➤ AD	Active Directory
➤ AICPA	American Institute of Certified Public Accountants
➤ AT-C	U.S. Attestation Standard– AICPA (Clarified)
➤ AWS	Amazon Web Services
➤ ePHI	Electronic Protected health Information
➤ FNTS	First National Technology Solutions
➤ GAPP	Generally Accepted Privacy Principle
➤ HME	Home Medical Equipment
➤ HR	Human Resources
➤ ID	Identification
➤ IDS	Intrusion Detection System
➤ IO	IO Data Center
➤ IP	Internet Protocol
➤ IPS	Intrusion Prevention System
➤ IT	Information Technology
➤ MCO	Managed Care Organizations
➤ MedU	Mediware University
➤ PHI	Protected Health Information
➤ S3	Simple Storage Service
➤ SaaS	Software as a Service
➤ SDLC	Software Development Life Cycle
➤ SFTP	Secure File Transfer Protocol
➤ SLA	Service Level Agreement
➤ SOC	System and Organization Controls
➤ SQL	Structured Query Language
➤ Tier Point	Tier Point Data Center
➤ TSP	Trust Service Principles
➤ UPS	Uninterruptable Power Supply
➤ VPN	Virtual Private Network
➤ WSUS	Windows Sever Update Services

Assertion of Mediuware

We are responsible for designing, implementing, operating, and maintaining effective controls within Mediuware Information Systems, Inc.'s (Mediuware's) Healthcare and Human Services SaaS System (system) throughout the period May 1, 2017, to April 30, 2018, to provide reasonable assurance that Mediuware's service commitments and system requirements relevant to security, availability, processing integrity, confidentiality, and privacy were achieved. Our description of the boundaries of the system is presented in section 3 and identifies the aspects of the system covered by our assertion.

We have performed an evaluation of the effectiveness of the controls within the system throughout the period May 1, 2017, to April 30, 2018, to provide reasonable assurance that Mediuware's service commitments and system requirements were achieved based on the trust services criteria relevant to security, availability, processing integrity, confidentiality, and privacy (applicable trust services criteria) set forth in TSP section 100A, *2016 Trust Services Criteria for Security, Availability, Processing Integrity, Confidentiality, and Privacy* (AICPA, *Trust Services Criteria*). Mediuware's objectives for the system in applying the applicable trust services criteria are embodied in its service commitments and system requirements relevant to the applicable trust services criteria. The principal service commitments and system requirements related to the applicable trust services criteria are presented in section 3.

There are inherent limitations in any system of internal control, including the possibility of human error and the circumvention of controls. Because of their inherent limitations, a service organization may achieve reasonable, but not absolute, assurance that its service commitments and system requirements are achieved.

We assert that the controls within the system were effective throughout the period May 1, 2017, to April 30, 2018, to provide reasonable assurance that Mediuware's service commitments and system requirements were achieved base on the applicable trust services criteria.

/s / Rob Weber, Executive VP General Counsel
Mediuware Information Systems, Inc.
May 3, 2018

Independent Service Auditors' Report

To: Mediware Information Systems, Inc.:

Scope

We have examined Mediware Information Systems, Inc.'s (Mediware's) accompanying assertion titled "Assertion of Mediware" (assertion) that the controls within Mediware's Healthcare and Human Services SaaS System (system) were effective throughout the period May 1, 2017, to April 30, 2018, to provide reasonable assurance that Mediware's service commitments and system requirements were achieved based on the trust services criteria relevant to security, availability, processing integrity, confidentiality, and privacy (applicable trust services criteria) set forth in TSP section 100A, *2016 Trust Services Criteria for Security, Availability, Processing Integrity, Confidentiality, and Privacy* (AICPA, *Trust Services Criteria*).

Service Organization's Responsibilities

Mediware is responsible for its service commitments and system requirements and for designing, implementing, and operating effective controls within the system to provide reasonable assurance that Mediware's service commitments and system requirements were achieved. Mediware has also provided the accompanying assertion about the effectiveness of controls within the system. When preparing its assertion, Mediware is responsible for selecting, and identifying in its assertion, the applicable trust services criteria and for having a reasonable basis for its assertion by performing an assessment of the effectiveness of the controls within the system.

Service Auditor's Responsibilities

Our responsibility is to express an opinion, based on our examination, on whether management's assertion that controls within the system were effective throughout the period to provide reasonable assurance that the service organization's service commitments and system requirements were achieved based on the applicable trust services criteria. Our examination was conducted in accordance with attestation standards established by the American Institute of Certified Public Accountants. Those standards require that we plan and perform our examination to obtain reasonable assurance about whether management's assertion is fairly stated, in all material respects. We believe that the evidence we obtained is sufficient and appropriate to provide a reasonable basis for our opinion.

Our examination included:

- Obtaining an understanding of the system and the service organization's service commitments and system requirements
- Assessing the risks that controls were not effective to achieve Mediware's service commitments and system requirements based on the applicable trust services criteria
- Performing procedures to obtain evidence about whether controls within the system were effective to achieve Mediware's service commitments and system requirements based on the applicable trust services criteria

Our examination also included performing such other procedures as we considered necessary in the circumstances.

Inherent Limitations

There are inherent limitations in the effectiveness of any system of internal control, including the possibility of human error and the circumvention of controls.

Because of their nature, controls may not always operate effectively to provide reasonable assurance that the service organization's service commitments and system requirements were achieved based on the

applicable trust services criteria. Also, the projection to the future of any conclusions about the effectiveness of controls is subject to the risk that controls may become inadequate because of changes in conditions or that the degree of compliance with the policies or procedures may deteriorate.

Opinion

In our opinion, management's assertion that the controls within Mediware's Healthcare and Human Services SaaS System were effective throughout the period May 1, 2017, to April 30, 2018, to provide reasonable assurance that Mediware's service commitments and system requirements were achieved based on the applicable trust services criteria is fairly stated, in all material respects.

SKODA MINOTTI & CO.

A handwritten signature in cursive script that reads "Skoda Minotti".

May 3, 2018
Tampa, Florida

Company Overview and Services Provided

Mediware was established in 1970 and is currently headquartered in Lenexa, Kansas, employing an estimated 600 employees in the United States, the United Kingdom, and the Netherlands.

Mediware offers Healthcare and Human Services SaaS solutions that automate and streamline complex, administrative processes as they relate to the medical industry. Mediware combines the collective wisdom of their clients with software expertise to develop technology that is essential for better outcomes. Mediware gives their clients the tools to improve efficiency and safety while measuring outcomes across functions, departments, and processes, while staying compliant.

Mediware offers a range of software solutions for healthcare, human service providers, payers, acute, non-acute, and community based care. Listed below is a brief description of a few of the products offered by Mediware.

Products

Blood

- HCLL – Blood bank and transfusion software that offers real-time reporting to improve blood management.
- LifeTrak – Blood center and donor management software to efficiently manage donor information, eligibility, product testing, manufacturing, and distribution.

Home Care

- CareTend – Business management software utilized to streamline HME, home infusion, and specialty pharmacy operations.
- CPR+ – Business software suite that provides workflows, analytics & reporting, compliance, revenue management, inventory management, document management, patient care management, and data management to specialty pharmacies and home infusion providers.
- Agency Manager – Home health software that handles intake and scheduling, delivery of care, filing claims, and financial reporting.
- Physician Access – Online service specifically designed to streamline the process of ordering and billing of home health services from physicians.
- Therapy Manager – Online service that delivers clinical and business results to therapy companies.
- Hospice – Integrated point-of-care and back-office software solution for hospice.

Medication Management

- Ascend – Pharmacy management software utilized at hospitals and pharmacies.

Human Services

- AlphaFlex – Behavioral health software utilized to streamline billing with complete revenue cycle management.
- AlphaMCS – MCO software for behavioral health. Tracks member demographics, provider performance, applications and contracts, service referrals and provision.
- Harmony – Healthcare and Human Services SaaS solution built specifically for long-term services and supports programs.

Respiratory

- Medilinks – Respiratory software utilized for determining staffing, managing protocols, respirator documentation and reporting tools.

Scheduling

- AppointmentsEverywhere – Web-Based medical scheduling platform.

Infrastructure

The infrastructure supporting the Medware Healthcare and Human Services SaaS System consists of the following:

- Microsoft Windows Server 2008 / 2012 Enterprise
- MS SQL Server
- SUSE Linux Enterprise 11 server
- Oracle production database
- MySQL production database
- Cisco ASA Firewall with FIREPOWER services
- Cisco VPN Gateway
- Palo Alto Networks Firewall and VPN Gateway
- VMWare Hypervisors

The main infrastructure for the Medware Healthcare and Human Services SaaS System are segregated by application. Infrastructure for applications resides at offsite data centers located in Omaha, NE, Phoenix, AZ, McLean, VA, and Austin, TX. The remaining infrastructure that does not reside within these locations is to facilitate the connections to the four main locations or local assets for management of corporate functionality.

Software

The following provides a summary of systems used to deliver the Medware Healthcare and Human Services SaaS System:

- Med-U is powered by Knowledge Track and used as an internal training and documentation communication tool for Medware's employees.
- Salesforce is the old IT ticketing system used to document issues and resolutions that was transitioned out during the current examination period.
- JIRA is the new IT ticketing system used to document issues and resolutions for future reference that was implemented during the current examination period.
- SolarWinds and Paessler are used for network monitoring.
- ADAudit Plus is used for Windows AD auditing.
- Kaspersky is used for antivirus protection.
- RedHat and WSUS is used for patch management.
- Accellion is a private cloud focused on secure file sharing and used to deliver software solutions securely to customers.
- Windows and Linux are both utilized as the operating systems to deliver the Healthcare and Human Services SaaS system and supporting services.
- Microsoft SQL, MySQL, and Oracle servers are used as the database server to store application data.
- Citrix is used as the client gateway.
- AWS S3 is used for storage of backups.

People

The following provides a summary of people involved in the operation and use of the Medware Healthcare and Human Services SaaS System are:

- President and Chief Executive Officer – Who is responsible for lead design and development.
- IT Manager – Who is responsible for oversight of the IT department including security and availability of the Healthcare and Human Services SaaS System.
- Director of Engineering – Who is responsible for product research and development.
- Privacy / Security Official – Who is responsible for security awareness and overall compliance.

Procedures

The following provides a summary of policies maintained and documented by Executive and Operations Management personnel involved in the operation of the Mediware Healthcare and Human Services SaaS System:

- Access Control
- Awareness and Training
- Audit and Accountability
- Backup
- Configuration Management
- Contingency Planning
- Data Classification and Handling
- Identification and Authentication
- Information Security Practices Policy
- Incident Response
- Maintenance
- Media Protection
- Physical and Environmental Protection Planning
- Personnel Security
- Risk assessment
- Security Assessment and Authorization
- System and Communications Protection
- System and Information Integrity
- System and Services Acquisition

Control activities have been placed into operation to help ensure that actions are carried out properly and efficiently. Control procedures serve as mechanisms for managing the achievement of control activities, and are a part of the process by which Mediware strives to achieve its business objectives. Mediware has applied a risk management approach to the organization in order to select and develop control procedures. After relevant risks have been identified and evaluated, controls are established, implemented, monitored, reviewed, and improved when necessary to meet the applicable trust services criteria and the overall objective of the organization.

The Mediware control procedures, which have been designed to meet the applicable trust services criteria, are included in section 4 of this report to eliminate the redundancy that would result from listing the procedures in this section as well.

Data

Mediware's Healthcare and Human Services SaaS System include customizable services and reports to meet the specialized needs of clients as well as automated order and delivery options via the web, secure e-mail, or direct computer communications. Mediware receives customer information via mail, secure e-mail, SFTP, and direct computer communications. Electronic data is protected via logical access controls, encryption, and network protection devices.

Printed documents are handled and stored in secured locations and items requiring disposal are shredded appropriately.

The accompanying Description includes only relevant policies, procedures, and Trust Service Criteria and activities of the Company and does not include policies, procedures, or Trust Services Criteria and activities of the third party service organizations described below. The examination of the Independent Service Auditors did not extend to policies, procedures, or Trust Services Criteria and activities at these subservice organizations. The following subservice organizations are used by Mediware for the following:

Service Provider	Nature of Service Provided
IO	Data center colocation
Tier Point	Data center colocation
Data Foundry	Data center colocation
FNTS	Managed Services

Mediware uses IO, Tier Point, and Data Foundry for their data center services and FNTS for managed services. IO, Tier Point, FNTS, and Data Foundry are responsible for the uptime and management of the IP transit services, physical security, and environmental conditions that provide power and cooling to their devices.

FNTS is also responsible for providing physical security controls, administration of their hardware equipment, and reporting any logical security incidents. In addition, FNTS is responsible for maintaining the Mediware operating systems, storage and backups, and the logical management of network services.

Information Systems

Mediware’s corporate systems reside on-site of its business operations, located in Lenexa, Kansas and are protected by physical and logical security controls to ensure equipment and information is protected from unauthorized access. The production and backup servers are housed at Tier Point, FNTS, IO, and Data Foundry and rely on the physical and logical access controls of Tier Point, FNTS, IO, and Data Foundry to protect equipment and information from unauthorized access.

Customer data and transaction information recorded on Mediware’s systems are backed up according to Management’s backup policy. Backup procedures are in place to ensure that backed up data is secure, available, and verified for the integrity of data to ensure recovery in the event of a failure to primary production systems. Environmental monitoring technology, along with fire suppression devices are monitored by the management and staff of the contracted data centers to help ensure production equipment is protected and issues are identified in a timely fashion.

Confidential data transmitted through Mediware’s Healthcare and Human Services SaaS System is secured and protected using various access control mechanisms. Customizable services and reports are available to meet the specialized needs of clients as well as automated order and delivery options via the web or direct computer communications.