### Cabinet for Health and Family Services (CHFS) Standards:

**Category: 8000 Application Development Domain**

## 8000.022 - AUTOMATED TESTING TOOL SOFTWARE

**(Note:** There is no corresponding COT Standard for automated testing tool software.)

**Definition:**

The automated test tool is a software suite capable of stimulating an application in a manner consistent with actual production usage, and measuring critical performance indicators such as response time, hardware utilization, and errors.

**Approved Standard(s) for New Application Development:**

The enterprise criterion for an automated testing tool is that it must support a high level of communication and collaboration among IT teams. Multiple groups throughout CHFS must be able to contribute to the quality process. Provides a consistent, repeatable process and support for gathering requirements, planning and scheduling tests, analyzing results, and managing defects. Provides the ability to test more thoroughly and in less time while catching more defects. Enables non-technical business analysts to quickly build, data drive, and document tests. Reduces testing and test maintenance time, while increasing staff efficiency.

**Approved Product(s) for New Application Development:**

* Microsoft Visual Studio Team Suite (VSTS) with Azure Dev Ops in combination with Selenium when required.

**Justification/Comments:**

Testing is a major component of the software application delivery and management cycle. It is understood that without testing, catastrophic failures in critical enterprise applications will result in significant losses.

In formulating a standard for enterprise wide automated testing tools, the following types of testing were considered:

* Integration Testing
* Usability Testing
* System Testing
* Regression Testing
* Load Testing
* User Acceptance Testing
* Validation
* Unit Testing
* Performance Testing
* Functional Testing
* Security Testing
* Partner integration testing
* Smoke testing

As applications become more pervasive and integral to business processes, quality development is critical. The foundation for developing quality software is through comprehensive manual and automated testing. The enterprise standard for automated testing must provide a complete, web-based, integrated system for performing quality assurance across a wide range of application environments. It must include best-practices as well as an open, scalable, and extensible foundation — all designed to optimize and automate key quality activities, including requirements, test, and defects management; functional testing; and business-process testing.

The CHFS must be able to deploy high-quality applications quickly and effectively. Both approved testing suites will provide a consistent, repeatable process for gathering requirements, planning and scheduling tests, analyzing test results, managing defects and issues, as well as, reducing cost and time to implement.

The enterprise criterion for an automated testing tool is that it must support a high level of communication and collaboration among IT teams. Multiple groups throughout CHFSmust be able to contribute to the quality process. The automated testing products provide:

* Business analysts the ability to define application requirements and testing objectives.
* Test managers and project leads the ability to design test plans and develop test cases.
* Test automation engineers the ability to create automated scripts and store them in a testing repository.
* QA testers the ability to run automated tests, report execution results, and enter defects.
* Developers the ability to review and fix defects.
* Project managers the ability to create application status reports and manage resource allocation.
* Product managers the ability to decide whether an application is ready to be released.

These products have been selected as the automated testing tools of choice for the CHFSfor the following reasons:

* Provides a consistent, repeatable process and support for gathering requirements, planning and scheduling tests, analyzing results, and managing defects.
* Provides the ability to test more thoroughly and in less time while catching more defects.
* Enables non-technical business analysts to quickly build, data drive, and document tests.
* Reduces testing and test maintenance time, while increasing staff efficiency.
* Combines test documentation and test automation into one structured effort.

**Exceptions:**

Any exceptions to this standard must follow the procedures established in CHFS IT Policy #070.203.

**Review Cycle:**

Annually

**Timeline:**

Last reviewed: 9/11/23

Next review: 7/1/24

**Cross Reference**

* CHFS Standard #8100 – Application Development Methodology and Software

**Link to all COT Software Domain Standards:**

[KITS\_Report.pdf (ky.gov)](https://cgp.ky.gov/sites/COTPUBDOCS/Standards/KITS_Report.pdf)

**Link to all CHFS IT Standards:**

[CHFS IT Standards - Cabinet for Health and Family Services (ky.gov)](https://chfs.ky.gov/agencies/os/oats/Pages/itstandards.aspx)

**Link to all CHFS IT Policies:**

[CHFS IT Policies - Cabinet for Health and Family Services (ky.gov)](https://chfs.ky.gov/agencies/os/oats/Pages/ITpolicies.aspx)