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

**Category: 8000 Applications Development Domain**

**[8100](#a024001) - Application Development Methodology and Software**

[**8200**](#a024001) **- Application Development Platform**

[**8300**](#a024001) **- Application Development Quality Management Software**

Definition:

As per COT Standard #8100:*IT System Development / Integration Support includes the software services enabling elements of distributed business applications to interoperate and the software development necessary to facilitate such integration. These*

*elements can share function, content, and communications across heterogeneous computing environments.*

As per COT Standard #8200:

*Software that provides comprehensive facilities*

*to computer programmers for software*

*development.*

As per COT Standard #8300:

*Software tools that check web pages for accessibility and syntactical correctness of code.*

Rationale:

As per COT Standard #8100, 8200 and 8300:

*Need a limited product set for: economies of scale with respect to procurement, skills transferability required by a mobile workforce, data interchange between state government agencies, skills requirements for a competency team development environment.*

Approved Standard(s):

Approved Products: (For NEW Application Development, some exceptions for legacy mainframe)

CHFS has selected a subset of KITS development tools that match CHFS technology development skills along with additional tools required for Cabinet needs. Commonwealth or vendor hosted and managed applications should adhere to Commonwealth standards with exceptions granted by Commonwealth as applicable. Cloud solutions should adhere to KITS approval process.

**Development Tools:**

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| ADA Compliance: | HiSoftware Compliance Sheriff |
| JAWS |
| Barcode Generation: | TechnoRiversoft barcode / Zxing |
| Business Intelligence: | See CHFS Standard #2310 |
| Business Rules Modeling and Rules Engine Software: | Corticon Business Rules Engine – Business Rules Modeling and Execution |
| Corticon Business Rules Modeling Studio – Business Rules Creation & Modeling |
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| Data Management: | VisionWare’s MultiVue for MDM – not for new development |
| IBM Initiate for MDM/InfoSphere MDM Standard Edition |
| Data Modeling and Design: | Microsoft Visio |
| Microsoft Visual Studio.NET |
| ERWIN |
| Database: See CHFS Standard #2400 | Microsoft SQL Server |
| Microsoft SQL Server Management Studio |
| Enterprise Collaboration and Document Repository: | SharePoint |
| Forms Generation: See CHFS Standard #2340: | InfoPath |
| OpenText Exstream Server – Dynamic Forms Generation |
| Microsoft Word – Open XML |
| Graphic Conversion and Creation: | Photoshop CS3 |
| Photoshop Elements |
| Scanning and Imaging Software: | KnowledgeLake Capture  Knowledge Lake Capture Server  Knowledge Lake Cloud |
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| Integrated Development Environment (IDE): | Microsoft Visual Studio |
| Integration Brokers, Workflow and Rules Engines: See CHFS Standard #4350 | BizTalk/ Azure Logic Apps |
| Windows Workflow Foundation |
| K2 for workflow |
| Corticon for rules |
|  |
| Job Scheduling and Workflow: | Dollar Universe – Batch Scheduling |
| Dollar Universe |
| Univiewer |
| K2 Workflow |
| Programming Languages: | ASP.NET (C# or VB) |
| Microsoft .net core and .NET   * + ASP.NET Core   + C#   + Razor Pages   + Web API core |
| CSS  Bootstrap  jQuery  IIS |
|  | Mainframe Z/OS (Legacy apps)   * Cobol |
| Reporting: | Microsoft SQL Reporting Services |
| SAP Business Objects |
| Power BI |
| Tableau |
| ETL: | Microsoft SQL Integration Services |
| SAP BODS |
| Talend |
| Add-in Controls: | Silverlight – not to be used for new development |
| Silverlight SpellCheck Control (Karamasoft) |
| skmControl2 |
| skmValidators |
| Application Security, Code Scanning, Vulnerability Scanning and Detection Tools: | AppScan Enterprise Edition (IBM) – Application Vulnerability Scanning |
| DataPower – SOA Security Appliance |
| Fortify Static Code Analyzer – Security Code Analysis Tool |
| IBM Integration Appliance - XI52 |
| Kentucky Online Gateway (KOG) |
| Metascan – AV/API |
| Qradar/ Exabeam – SIEM Tool |
| QRadar – Log Manager – SIEM Tool |
| Checkmarx Code Scan |
| AppScan |
| Automated Testing Tool Software: See CHFS Standard #8000.022 | Microsoft Visual Studio Team Suite (VSTS) with Team Foundation Server (TFS) |
| SeleniumHQ Web Driver |
| Code Management and Version Control: | Microsoft Team Foundation Server (TFS) - Azure Devops, TFS Git |
| Encryption Tools: | Bouncy Castle for encryption |
| Libraries and Frameworks: | Entity Framework |
| Microsoft Enterprise Library |
| Microsoft .NET Framework |
| Newtonsoft.Json – Used to convert Class Object to JSON |
| MVC |
| WCF |
| Monitoring | Idera |
| DynaTrace |
| BizTalk 360 |
| SCOM |
| PerfMon |
| Salesforce | Gov Cloud |
| Service Cloud |
| Customer Community |
| ViewTrac AppExchange product |
| Chatbots |
| Einstein Analytics |
| Live Message – now replaced with Marketing Cloud |
| Salesforce Developer Console |
| Salesforce DataLoader |
| Ant Scripts |
| Salesforce Optimizer Report |
| Salesforce HealthCheck |
| Salesforce Community Page Optimizer - Browser plugin |
| Marketing Cloud |
| WAVE Chrome Browser Plugin |
| Shield Platform |
| Copado |
| OwnBackup stack |
| Rebrandly for URL Shortening |
| Shield Event monitoring |
| Simba Adapter for BODs/ SF connectivity |
| VS Code |
| Mulesoft |
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| Data Analytics | R, Python |
| Help tools | Robo Help, Walk me |
| Other tools including open source | Style Cop  HearPlay app  DrFirst  Postman  Charts.js  RedCap  Blazemeter  Reflector  DynamicPDF  apache http Reverse Proxy  Ajax Control Toolkit (maintained by Dev Express)  ionic zip library  JQuery and JQuery UI  Enterprise Library  Nunit  PRISM (For Silverlight design)  newtonsoft json  BlueZone Emulator  Neodynamics Barcode Professional  PowerShell  CodeSmith Generator – not recommended for new development  IBM Infosphere Optim – for Data Masking  RedGate SQL DataCompare  Aspose Words for .NET  Burp Suite  Microfocus Foritify  Wacom  Granicus  MoveIt  Fiddler  SOAP UI  Google Analytics  Google APIs bundle, Google Maps, Google Captcha  Log Parser  Debug Diagnostic  Oracle rightnow - CRM  SeleniumHQ Web Driver  Nlog  QIAcuity Software Suite |
| Azure / Microsoft | Cognitive Services  Power platform  Teams Services  Logic Apps  Integration Services |

**Comments:**

Please follow KITS approval process for any cloud initiatives

**Exceptions:**

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

**Review Cycle:**

Annually and as needed

**Timeline:**

Last reviewed: 09/11/2023

Next annual review: 01/22/2024

**Cross Reference**

COT Standard #8100 – Applications Development Methodology and Software

COT Standard #8200 – Applications Development Platform

COT Standard #8300 – Applications Development Quality Management 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)