



Approach to Meeting Deliverables

RFP §3.2.4 and 1.3

Team CNSI's Electronic Health Record (EHR) Medicaid Incentive Payment Program (MIPP) solution (eMIPP™) provides the CMS NLR interfaces, provider registration, state work-flow/eligibility determination, and data capabilities to be the system of record for Iowa's EHR MIPP. The solution directly interfaces with CMS to receive and send required federal data. Payments are generated using existing MMIS payment functionality. Team CNSI's eMIPP is web-centric and service-based for interoperability.

Team CNSI's eMIPP solution is a modular design that is a complete product for states to administer the EHR Medicaid Incentive Payment Program. The product is currently in production in two states, Michigan and Washington. In Maryland, Team CNSI is implementing our multi-state eMIPP solution.

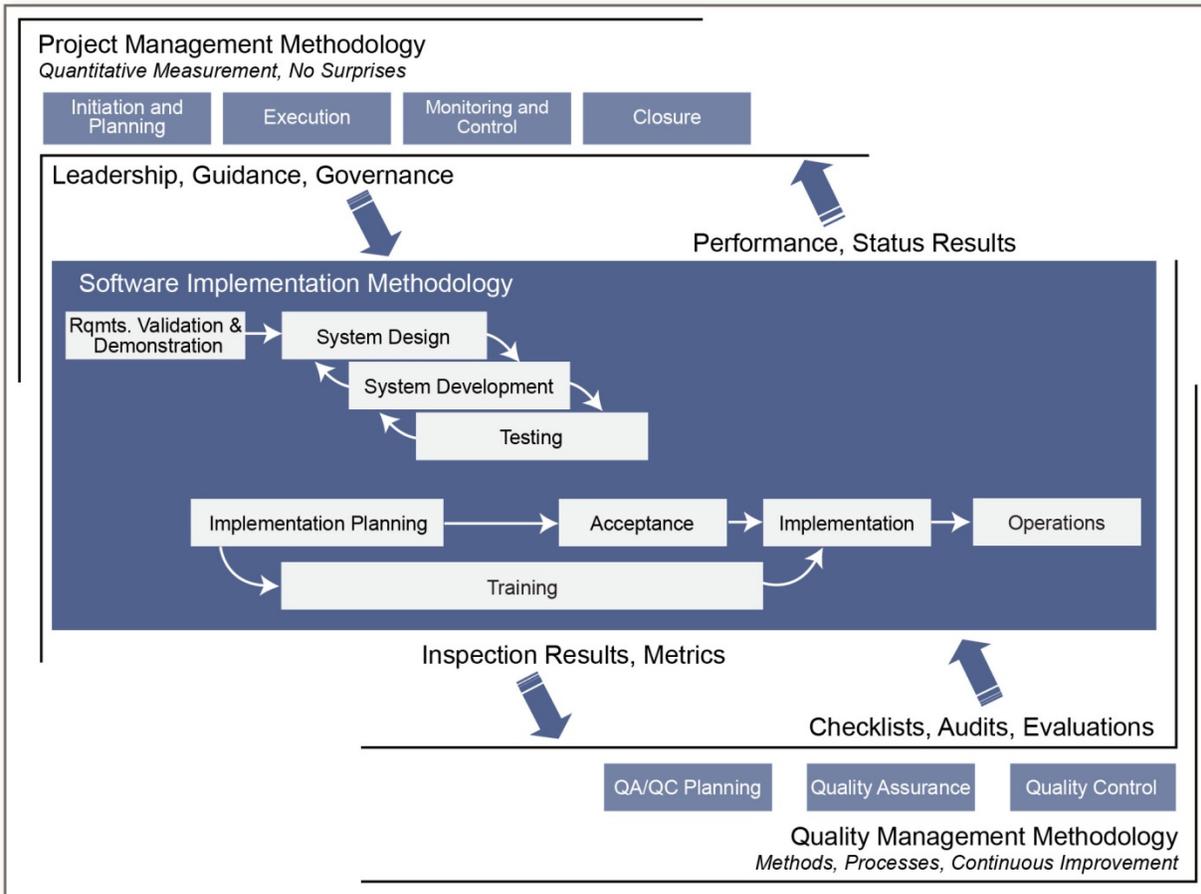
Team CNSI's eMIPP solution is built on J2EE open standard architecture, which provides strong foundation capabilities for developing a services based framework. The configurable modular components provide the ability to support evolving business needs. While some business rules for MIPP are set by federal law and regulation, others vary across states. Team CNSI's solution, eMIPP, is designed to accommodate specific state level requirement.

Every successful software implementation project has clear, concise, and rigorously applied project management skills and tools. The primary focus of Team CNSI's project management approach is to work collaboratively with Agency to ensure that the project remains on schedule and within budget, meets the defined requirements and business objectives, and consistently delivers quality in our project deliverables and overall service. Our approach also ensures roles and responsibilities are clear and resource allocations that are managed efficiently and effectively by our teams throughout the project life cycle.

Team CNSI's approach to managing and controlling the project is based on project management proven standards in the Project Management Body of Knowledge (PMBOK). Our project management processes are part of our overall iVision360 systems development lifecycle methodology (SDLC).

Team CNSI integrates the PMBOK processes with software development life cycle as a robust, comprehensive scalable methodology. We then tailor our standard methodology, based on the project requirements and our lessons learned across multiple implementations for both state and federal entities, to ensure that we are bringing the right solution to the project. Our project management (PM) and quality management (QM) methodologies are integrated with the technical processes necessary to build and deploy the required solution. This integration is accomplished through Capability Maturity Model Integrated (CMMI) processes. As part of project initiation and planning, Team CNSI will work with the Agency to ensure that all parties understand the processes and commit to them, and that processes align with the project plan.

Project and quality management provides the overall framework and environment for executing the project. Figure 3 shows our project and quality management framework, as well as how PM and QM activities interact with the activities of the other project tasks at a high level.



IA eMIPP-017

Figure 3. Team CNSI's Project Management and Quality Management Framework.

By continually improving our project management processes via lessons learned on previous projects, and through the proficiency and continuous education of our program and project managers, senior technical and engineering staffs, and senior and corporate management, Team CNSI is confident it has the right methodology and project framework in place. This ensures that a number of advantages are brought to fulfillment on this project:

- Project management philosophy is firmly entrenched with the entire project team inclusive of Team CNSI and the Agency
- Project management, quality management, and cost management processes are fully integrated and their infrastructure is in place
- Effective reporting on project status is established throughout the project life cycle
- Both project and software development methodologies are well documented
- Project information is communicated continuously to the right people at the right time
- Project performance is continuously monitored
- Quality and delivery excellence are built in

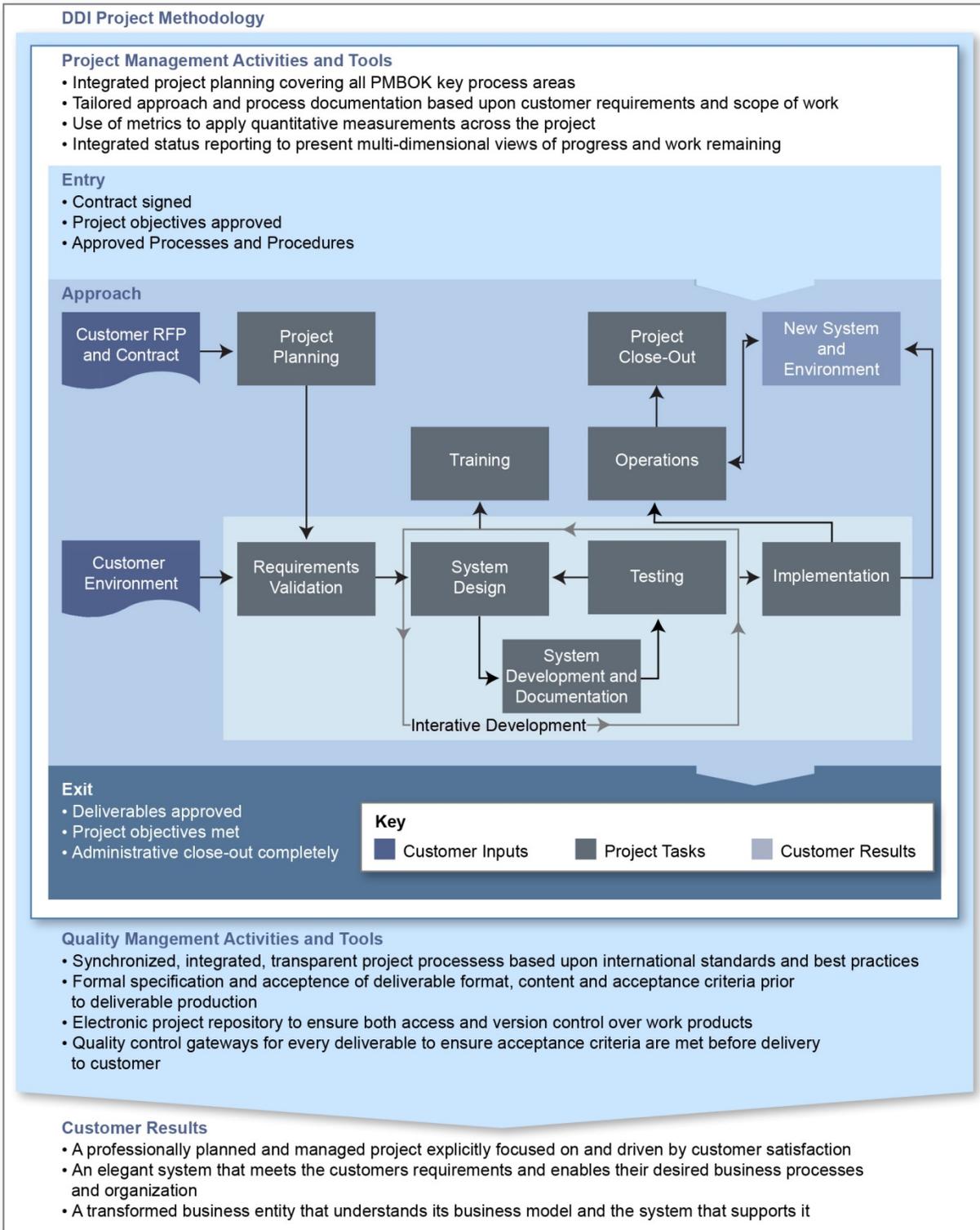
Our methodology is a combination of some of our best delivery assets into one integrated methodology. It provides:

- A scalable integrated collection of assets.
- A consistent level of detail and presentation.



- Support for tailoring to scale, to provide a unique but consistent cost effective delivery approach for the State of Iowa.

In undertaking this project, Team CNSI will employ its iVision360 system development life cycle (SDLC) methodology. In Figure 4 we present a graphical representation of our iVision360 standardized approach as tailored for implementation of eMIPP on this project. This standardized approach, and the processes it contains, will form the baseline for the EHR MIPP project implementation approach we are proposing.



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Figure 4. Team CNSI's Project Methodology.

As previously indicated, Team CNSI's iVision360 is a unique blend of the waterfall methodology, iterative agile development, and rapid prototyping, and offers the following benefits:



- **User is at the Center.** Our primary motivation in implementing iVision360 is to put the user at the center of the entire life cycle. Software projects succeed or fail largely from the level of understanding the developing organization has regarding the customer’s business rules, requirements, and needs. The more insight the developing organization can develop, the greater the quality and likelihood of success of the software project. Successful projects have high interaction with end users and it places the user at the center of the development life cycle. So every phase and task of iVision360 focuses on interaction and collaboration with the user community. We do this by implementing agile techniques and building working software in an iterative fashion with user validation periodic intervals.
- **Common Goals.** Users actively participate in design sessions with an integrated team of developers, analysts, and testers. This method avoids the pitfalls of waterfall development and test methods which leave, for example, test case refinement and execution until the full completion of development. In addition, it provides the team with a sense of purpose, goal, and drive to accomplish the end objective – software that meets the requirements.
- **Early and Often Testing.** It also provides an opportunity to test early and often so that the formal system and subsequent test phases are more likely to meet schedule expectations with a lower error discovery rate.
- **Prototyping to Reduce Complexity.** Prototypes are developed where necessary (if applicable on this project) to model and present complex interactions.

The collaborative and somewhat “free form nature” of iterative, agile development is balanced with the structure and baseline management features of the waterfall methodology. By introducing the baseline management features of waterfall, we minimize the risk of scope creep that is sometimes associated with iterative development. Moreover, implementing and integrating with our project management processes will provide integrated change, issue, and risk management processes.

Team CNSI brings an established and successful set of technical and management governance processes to ensure that Iowa MIPP solution remains aligned with the evolving federal direction and fits within the State's guidelines. The eMIPP transfer solution has been refined and improved over the past few years working with various states.

Team CNSI’s iVision360 applications implementation approach incorporates the architectural design and framework specifications, configuration, and integration using teams. We will complete a series of focused requirements validation and architectural design/framework sessions, followed by a design, configuration, and integration process to establish the overall configuration and implementation of the Iowa MIPP.

iVision360 was built to provide an integrated engineering effort to meet cost, schedule, and technical objectives of our customers. One of the key tenets from our iVision360 methodology is we provide proven standards, procedures, artifacts, and best practices from our previous implementations which can be leveraged on new implementations resulting in a fully functional solution implemented in the required timeline.

To ensure that all RFP requirements and deliverables are met, Team CNSI will systematically manage requirements by establishing the ReqTrace requirement database and tracing each requirement to design, configuration items, and test. Requirements traceability matrices and other reports from ReqTrace will be used as tools to verify and validate each requirement. Our requirements management process is the underlying fabric of our iterative iVision360 applications implementation methodology and is used to conduct the activities configure and integrate our solution to meet the RFP requirements.



As discussed earlier, Team CNSI's methodology and approach is based on having the eMIPP solution available for demonstrations during configuration and integration. We refer to the eMIPP solution during our requirements and design sessions to help Agency staff visualize how a requirement is currently implemented in the system. By doing so, we are able to rapidly achieve agreement on how requirements will be realized in the system and if any gaps exist between the requirements and the transfer solution, or if any gaps exist between our proposed response to a requirement and the Agency's intent for the requirement.

Team CNSI has based our project schedule and implementation plan components including defining the work and estimating duration on our experience of implementing this solution, on time and within budget in two other states.

Team CNSI implements schedule management processes to effectively develop, control, and manage the tasks and activities required to successfully deliver the project. Using our proven processes we have developed a Project Work Plan that provides step-by-step tasks and activities to successfully conduct the configuration and integration phases for the Iowa MIPP. Once the Project Work Plan is approved, it will form the foundation and baseline from which to measure project performance.

Our Work Breakdown Structure (WBS) and project work plan are the basis from which to measure actual progress as compared to planned progress on a timely and regular basis and to take necessary corrective action immediately. Our schedule management process involves regularly gathering data on project performance and comparing it with the planned performance. This process will occur throughout the project. Schedule management is also closely integrated with Team CNSI's cost management, issue management, status reporting, risk management, and other project governance processes.

Team CNSI's issue management process is both reactive and proactive in nature. As a reactive process, issue management responds to incidents reported by the Agency to Team CNSI. Proactive issue management seeks to identify potential problems before they affect the project.

The project manager plays a critical lead role in the Issue Management Process. The project manager will:

- Review all new issues and identify the owner and resolution path (responsible for performing analysis and formulating alternatives, forming a recommendation, and for the final decision) and priority
- Ensure that issues are documented in As-One and documentation is current
- Review all open issues and status weekly
- Approve resolution and closed issues

Issues may also be closed when a final decision is reached by the appropriate decision maker, by changing the issue to a risk, by creating a change request, or by incorporating project tasks and resource assignments into the work plan.

Team CNSI's Risk Management Plan establishes the processes to identify risks and issues, assess them, and develop and review plans to address risks. This plan includes processes for corrective action plans used when significant deviations from the project schedule, requirements, or the contract occur that require greater explanation and documentation than a typical issue needs.

Our approach is to collaboratively involve any relevant stakeholder with aggressively seeking to identify sources of risk, detecting risk triggers, and communicating them to the assigned owner for the project. Once the risk has been identified, the strategy will shift to a simple assessment approach for analyzing and prioritizing the risk, which may include mitigation or contingency plans. Initially, the risk owner will try to speed up the identification of risks by checking through lists of risk sources to find likely risks for a particular type of project.



Given eMIPP’s proven performance in Michigan and Washington, our approach to project management and the skill and experience of our technical and functional staff, Team CNSI will meet Iowa’s performance measures. Figure 5, below provides our responses to Iowa’s performance measures in RFP section 1.3.3.

Performance Measures		Team CNSI’s Response
1	The system will be fully functional by April 2, 2012.	Team CNSI has the management skills and eMIPP experience to meet this measure.
2	The contractor will correct Deficiencies within two business days, or as agreed to by the Agency.	Team CNSI has dedicated eMIPP staff, most with almost 2 years eMIPP experience. As indicated in our responses, Team CNSI has a well developed defect process based on collaboration with our client and a thorough assessment of the severity of each defect. Team CNSI always work with Agency to meet this measure.
3	The system will have 97.5% availability. Availability does not include outages as agreed upon for scheduled maintenance activities.	Team CNSI will ensure that the eMIPP application meets 97.5% availability performance measure. Our experience to date is that the eMIPP system has been operational 100%, except for federal outages and scheduled maintenance.
4	Given a two business day notice, the contractor will be available for meetings 98% of the time.	Team CNSI staff will be available for all meetings, given 2 days notice.
5	The application will receive a satisfaction rate of 80% or higher on the annual provider surveys conducted by the IME.	Informal provider feedback in Michigan and Washington indicates high satisfaction with eMIPP. Team CNSI designed eMIPP to be intuitive and user friendly. CMS chose eMIPP screens to demonstrate EHR MIPP administrative tool solutions. Team CNSI will continue to work to assure user satisfaction with eMIPP and will take corrective action if the rate falls below 80%.

Figure 5, Iowa’s EHR MIPP Administrative Tool performance measures. Team CNSI presents our response to comply with each of these measures.

Team CNSI will apply our proven management approach throughout the lifecycle of our project with the Agency to assure that Iowa’s EHR MIPP is administered effectively, efficiently and accurately. Team CNSI is confident that your target audience, the medical community, will find eMIPP to be an intuitive, quick and user friendly way to apply for, track and research their MIPP registrations every year. Team CNSI looks forward to partnering with the Agency to make this a successful program that has a significant impact on provider adoption of electronic health records in the State of Iowa.



Web Portal

1. Provide a web portal for provider attestation. The portal must:

eMIPP is a web based Electronic Health Record (EHR) Medicaid Incentive Payment Program (MIPP) solution. Providers are able to register, provide Meaningful Use (MU) Stage 1 information, attest to their registration, then track and resolve any issues using the web portal. Features include:

- Maintaining multi-year registrations, giving providers access to current and prior year information at all times. Providers have direct access to all their registration information for every year they participate.
- Supporting online entry and review of MU Stage 1 data, including indicators telling providers the percentage of the required MU responses that are complete.
- Uploading MU Stage 1 data using a predefined template. eMIPP then processes the information and displays it online. Providers have the option of adding information or editing the uploaded information online.
- Providing online attestation functionality.
- Workflow tracking of registrations that allow providers to view where in the process their application is at any time.
- Supporting eMIPP business rule implementation that allows Team CNSI and Agency staff to configure business process rules without changing the code in the portal.
- Initiating a grievance or appeal. Providers can enter information directly into the portal to describe the issue and upload supporting documents. Providers are able to see the resolution, including reasons.

Behind the portal, Team CNSI's eMIPP solution is a modular design that is a complete product for states to administer the EHR Medicaid Incentive Payment MIPP Program (MIPP). Team CNSI's product is currently in production in two states, Michigan and Washington. CNSI is implementing its hosted multi-state eMIPP solution for the state of Maryland.

Team CNSI's eMIPP is built on J2EE open standard architecture, which provides a strong foundation for developing a services oriented architecture (SOA) solution. The configurable modular components provide the ability to support evolving business needs. While some business rules for EHR MIPP are set by federal law and regulation, others vary across states. Team CNSI's solution, eMIPP, is designed to accommodate specific state level requirements. The solution is configurable with respect to business rules.

eMIPP is designed with MIPP program evolution in mind. The provider and state user screen design is inherently flexible, making use of card stacks that can be added to as the program evolves. Data structures have been designed to be extended to provide support for MU Stage 2 and Stage 3.

a. Allow for secure authorization and authentication of the provider.

eMIPP can be configured to allow secure authorization and authentication within the application or using the Iowa Medicaid Provider Application (IMPA) portal secure authentication in addition to eMIPP specific authorization. Figure 6 shows the initial log in screen after the user has been authenticated.

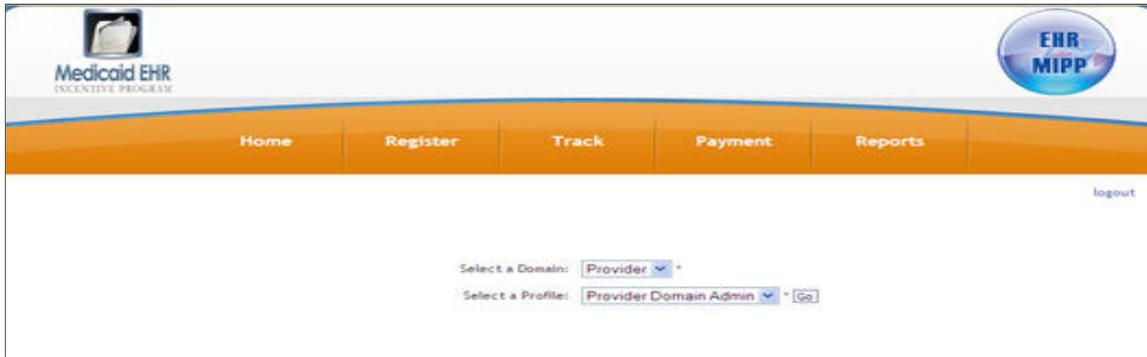


Figure 6. eMIPP Secure Authorization and Authentication Screen.

Figure 7 shows the available options to the provider based on the eMIPP authorization model.



Figure 7. eMIPP Provider Home Screen. This screen allows providers to access information for a specific registration to which the provider has “rights.”

To view registration specific information the provider selects among “Registration,” “View Status of MIPP Registration” and “Track/Submit Grievance.” When the provider selects a task, eMIPP displays the search page as shown in Figure 8.



Figure 8. eMIPP Registration Search Page. This screen provides Registration ID authentication and user rights validation.

The Registration search page provides eMIPP specific authorization and authentication. The user must submit a valid CMS/NLR registration ID to which the user is associated in the MMIS Provider subsystem. This functionality allows provider staff that is associated with multiple providers (such as a group setting) to authenticate once, then work on multiple EHR MIPP applications, but only applications with a valid association.



b. Display a provider identifier on each screen and printed pages.

The eMIPP application has identifying information on every screen. Figure 9 shows the provider eligibility screen as an example. Although the provider navigates among the “cards” to complete his or her registration, the identifying information is always shown. In this case the provider identifier is shown under the section called “Search Criteria” since the provider navigates to the registration by searching by his or her CMS Registration ID.

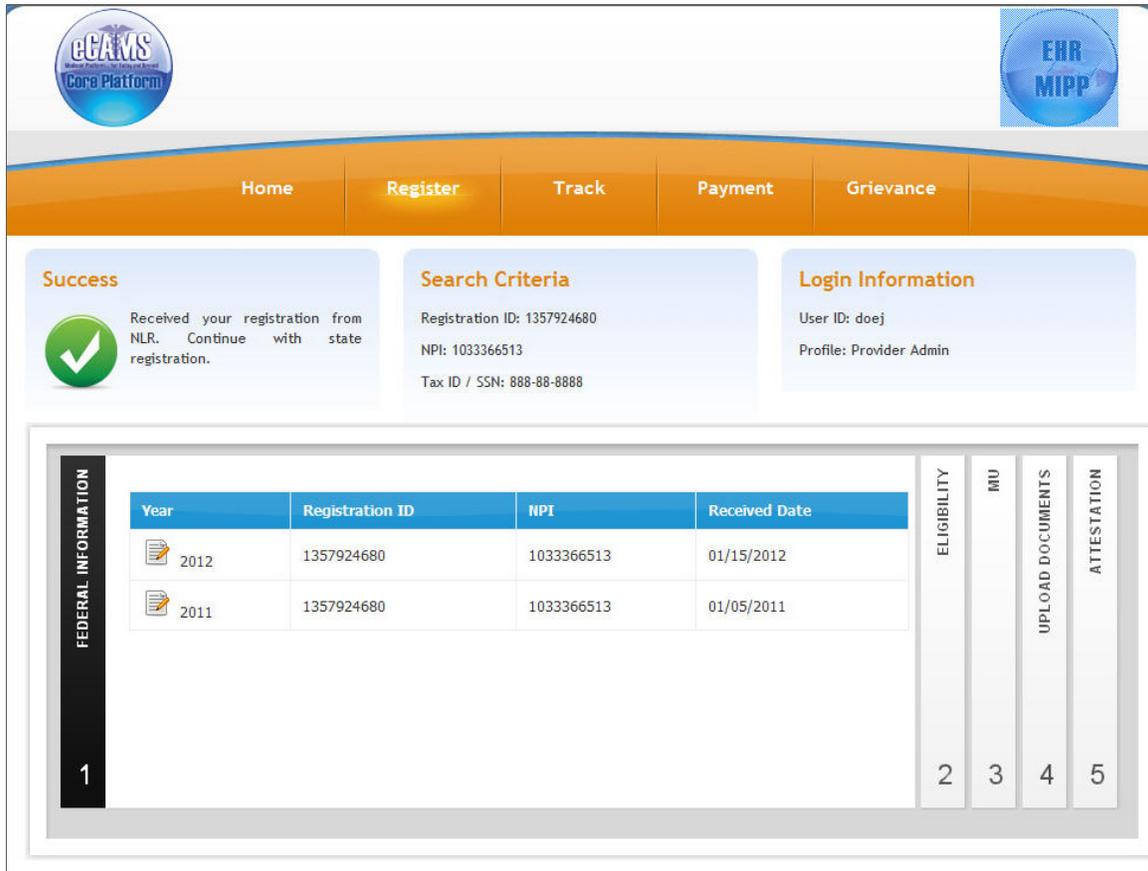


Figure 9. Provider Identifier is Present on Every Screen. After a provider has authenticated his CMS registration ID, every screen shows identifying information.

Screen downloads will show the provider’s identifying information. Team CNSI will work with Agency staff during configuration and integration to personalize the provider attestation download to include identifying information.

c. Pre-populate with information from the CMS national level repository (NLR) and the Medicaid Provider directory.

eMIPP stores and displays all CMS-NLR information received via the daily B-6 interface and D-16 response file sanction or exclusion information in “Federal Information” as shown in Figure 10.



Federal Information

— Personal Info —

First Name: John
Last Name: Doe
Provider Type: Doctor of Medicine
Provider Specialty: Specialty

Personal Information
Information received from CMS

— Address —

Address: 1234 Michigan Ave
Suite 120
City: Lansing
State: MI
Zip/Postal Code: 48897

Address
Address received from CMS

— Identifiers —

NPI: 1033366513
ID: 888-88-8888
ID Type: TAX ID

Identifiers
NPI and TAX ID information

— Exclusions —

Code:
Description:
Exclusions received from CMS

Close

Figure 10. eMIPP Provider Federal Information.

Each year a provider participates a new CMS-NLR Provider Information screen is created, showing the most recent Federal Information.

MMIS Provider subsystem data never overwrites CMS “Federal Information.” MMIS Provider subsystem data is used to confirm that the provider is an active Medicaid provider in the MMIS Provider subsystem throughout the registration process, during state review, and at the time payment is approved.

Assuming the information can be made available Team CNSI can include Provider Directory Information as an enhancement for Iowa. Figure 11, is a sample screen that displays the Medicaid Provider data. Team CNSI will work with the Agency to identify the provider data elements that are available for validation and for display on the screen.



Success
Received your registration from NLR. Continue with state registration.

Search Criteria
Registration ID: 1357924680
NPI: 1033366513
Tax ID / SSN: 999-99-9999

Login Information
User ID: doej
Profile: Provider Admin

Basic Info
First Name : John Last Name : Doe
Middle Initial : A Suffix :
Provider Type : Physician
Date Of Birth : 05/03/1966

Address
Address : 300 Michigan Ave
City : Lansing
State : Michigan
Zip : 48917
Phone : 517-111-2222

Provider Type/Specialty
Specialty : Physician/General Practice
Taxonomy : 208D0000X - General Practice

Type	Number	Expiration Date
MI License	4704232724	12/31/2012
CLIA	14D0413011	12/31/2012
DEA	AA1005461	12/31/2999

Figure 11. Medicaid Provider Data.

d. Allow attestation, based upon the provider type and year of the program participation.

eMIPP allows attestation by provider type and year of program participation. The eMIPP solution tracks each year of provider participation. When a provider enters a Registration ID, the associated provider type determines what eligibility dialog screens will be displayed and attest to. Required eligibility, Medicaid encounter volume, and MU Stage 1 information is determined by provider type. This information is maintained by year of program participation. Eligibility and Medicaid encounter volume data are maintained by program participation year. Figure 12 displays the Registration and Attestation slide deck, Card #2- Eligibility, showing one row of eligibility for each participation year.



Home Register Track Payment Grievance

Success
 Received your registration from NLR. Continue with state registration.

Search Criteria
Registration ID: 1357924680
NPI: 1033366513
Tax ID / SSN: 888-88-8888

Login Information
User ID: doej
Profile: Provider Admin

FEDERAL INFORMATION		ELIGIBILITY				MU	UPLOAD DOCUMENTS	ATTESTATION	
1	2	Payment Year	Start Date	End Date	Certification Number	EHR Status	3	4	5
		2							
		1	10/01/2010	12/30/2010	E123486787	Upgrade			

Figure 12. Registration and Attestation Page. Card #2 ELIGIBILITY. This screen gives access to eligibility information by participating year and provider type.



To access eligibility data for a particular year, the provider clicks on the row for the selected year. Figure 13 is the EP Provider Eligibility Information dialog screen. Note that eligibility questions about Physician Assistants, Hospital Based Providers and providers who render care in FQHC/RHC settings are also captured on this screen. EPs attest to this information. Based on the option the EPs select, additional information will be requested.

Enter Eligibility Information

Bold fields are required.

Reporting Period

Start Date: 10/01/2010 ?
End Date: 12/30/2010 ?

Eligible Patient Volume
Select yes to eligible patient volume option(s) that apply to you. If not applicable, select no.

Practice as a Pediatrician ? Yes No
Practice as a Physician Assistant ? Yes No
Hospital Based Provider ? Yes No
Include Organization Encounters ? Yes No
Render care in FQHC/RHC ? Yes No
Include MCO panel ? Yes No

Total Encounters: 100 ?
Medicaid Encounters: 10 ?

Include encounters outside MI ? Yes No

EHR Certification Information

EHR Status ? Adopt Implement Upgrade

EHR Certification Number: 30000001SVMAEAC

Email: karamsettys@cns-inc.com

Cancel Save

Figure 13. eMIPP EP Provider Eligibility Information. This screen allows the provider to enter all required eligibility information



Eligible Hospitals (EHs) are asked to attest to a different set of eligibility data as shown in Figure 14.

The screenshot displays the 'Enter Eligibility Information' dialog box within the Medicaid EHR Incentive Program interface. The dialog box is titled 'Enter Eligibility Information' and contains the following sections:

- Eligibility Information:** Reporting Period with fields for Start Date and End Date.
- Encounter Information:** Medicaid Encounters and Total Encounters.
- EHR Certification Information:** EHR Status (radio buttons for Adopt, Implement, Upgrade, MU), EHR Certification Number (30000001SVYSEAS), and Email (Devendra.Patel@cns-inc.com).

The background interface shows a navigation menu with Home, Register, Track, Admin, and Logout. A success message is visible: 'Received your NLR. Continue registration.' The interface also features a vertical navigation bar with 'FEDERAL INFORMATION', 'ELIGIBILITY', and 'ATTESTATION' sections.

Figure 14. EH Provider Eligibility Information. Required hospital eligibility information, reporting period and encounter information does not apply to children's hospitals.

Similarly Meaningful Use information eMIPP collects is based on provider type. Eligible Provider (EP) MU Stage 1 has 15 objective measures while EH MU Stage 1 has 14 objective measures, and not all measures are identical. Clinical quality measures also vary by provider type.

Attestations are maintained by participation year and by date. If a provider is tracking a registration, then the provider will select the attestation for the year being tracked to view the attestation. The summary information presented to the provider includes attestation date and participating year. The attestation document does not vary by provider type since it includes an attestation of all submitted information, where the information submitted does vary by provider type.

The provider supplies a new attestation each participating year. Figure 15 shows the provider attestation screen when a provider is registering.



Home Register Track Payment Grievance

Success
Received your registration from NLR. Continue with state registration.

Search Criteria
Registration ID: 1357924680
NPI: 1033366513
Tax ID / SSN: 888-88-8888

Login Information
User ID: doej
Profile: Provider Admin

FEDERAL INFORMATION 1
ELIGIBILITY 2
MU 3
UPLOAD DOCUMENTS 4
ATTESTATION 5

NOTICE: Any person who knowingly files a statement of claim containing any misrepresentation or any false, incomplete or misleading information may be guilty of a criminal act punishable under law and may be subject to civil penalties.

Signature
I certify that the foregoing information is true, accurate and complete. I understand that the HITECH incentive payment I requested will be paid from Federal and State funds, and that any false claims, statements, or documents, or concealment of a material fact, may be prosecuted under applicable Federal or State laws. I hereby agree to keep such records as are necessary to demonstrate that I met all HITECH requirements and to furnish those records to the Medicaid State Agency, Dept. of Health and Humans Services, or contractor acting on their behalf No HITECH

I accept the terms and conditions

Register

Figure 15. Registration and Attestation Page. Attestation Card for all provider type registration submissions.

e. Permit attestation for Adoption, Implementation or Upgrade to certified EHR products.

Eligible Providers (EPs) and Eligible Hospitals (EHs) provide attestation to adoption, implementation, or upgrade to certified EHR products on the eligibility information screens.

When a provider is participating in Iowa’s EHR MIPP program for the first time the provider must indicate whether they adopted, implemented, or upgraded certified EHR products to qualify. The “Enter Eligibility Information” screen (Figure 16) requires first year providers to enter this information.



Enter Eligibility Information [X]

Bold fields are required.

Reporting Period

Start Date: 10/01/2010 [?]
End Date: 12/30/2010 [?]

Eligible Patient Volume
Select yes to eligible patient volume option(s) that apply to you. If not applicable, select no.

Practice as a Pediatrician [?] Yes No
Practice as a Physician Assistant [?] Yes No
Hospital Based Provider [?] Yes No
Include Organization Encounters [?] Yes No
Render care in FQHC/RHC [?] Yes No
Include MCO panel [?] Yes No

Total Encounters: 100 [?]
Medicaid Encounters: 10 [?]

Include encounters outside MI [?] Yes No

EHR Certification Information

EHR Status [?] Adopt Implement Upgrade

EHR Certification Number: 30000001SVMAEAC

Email: karamsettys@cns-inc.com

Cancel Save

Figure 16. eMIPP EP Provider Eligibility Information. This screen allows the provider to enter all required eligibility information.

Like eligibility information, eMIPP captures Adopt, Implement, and Upgrade (AIU) information for screens dedicated to EPs (as shown above) and EHs as shown in Figure 17.



Figure 17. EH Provider Eligibility Information. Although the eligibility information required does vary by provider type the AIU information does not. If a provider is a dual provider, using a Medicare attestation to qualify rather than AIU, the EH may optionally indicate that by clicking on the “MU” button.

After the provider enters the EHR Certification Number eMIPP immediately, in real time, conducts a web call to ONC to confirm that the entered number is valid. eMIPP will not allow a provider to enter and save an invalid EHR Certification Number.

When attesting their EHR MIPP registration, providers are attesting to the truthfulness of all supplied information, including AIU and Certification information.

f. Permit attestation for meaningful use.

When a provider is participating in Iowa’s EHR MIPP program for the second year the provider must submit MU Stage 1 information. There are three components of MU information, MU-Core Objectives, MU-Menu Objectives and MU-Clinical Quality Measures (CQM) core and menu measures.

Team CNSI is committed to supporting the MIPP program and ensures that the eMIPP web portal will be extended to accommodate all Stage 2 and Stage 3 meaningful use provider reporting data. Our model for Stage 1 MU is shown below.

eMIPP solution MU Stage 1 shows how eMIPP supports the additional reporting requirements for MU. From the provider registration base screen, the provider clicks on Card “#3 – MU” and the eMIPP application displays Figure 18. The provider has not begun supplying the MU information; therefore the



MU summary information on the list page portion of the screen is blank other than the paper icon link. Each participating year an additional row will appear, identified by the program year.

The screenshot shows the eMIPPS Core Platform interface. At the top, there are navigation tabs: Home, Register, Track, Payment, and Grievance. Below the navigation are three informational boxes: Success, Search Criteria, and Login Information. The Success box contains a green checkmark icon and the text: "Received your registration from NLR. Continue with state registration." The Search Criteria box lists: "Registration ID: 1357924680", "NPI: 1033366513", and "Tax ID / SSN: 888-88-8888". The Login Information box lists: "User ID: doej" and "Profile: Provider Admin". Below these boxes is a table with columns: Year, Start Date, End Date, Core, and Menu. The table has one row with a paper icon and the number 1. To the left of the table are vertical tabs: FEDERAL INFORMATION, ELIGIBILITY, and MU. To the right are vertical tabs: UPLOAD DOCUMENTS and ATTESTATION. At the bottom of the interface are numbered tabs: 1, 2, 3, 4, and 5. Tab 3 is currently selected.

Figure 18. Provider Registration, Card #3 MU. The provider must choose which participating year’s MU Stage 1 information is to be viewed (only if historical) or edited (current year prior to submission for review by state).

To begin the MU input process a provider clicks on the icon and the eMIPP application displays the initial MU input screen shown in Figure 19.



Figure 19. eMIPP Provider MU Overview. This screen allows the provider to set a reporting period (valid only for year 1 of MU reporting), choose to upload MU information, and see the MU components that are complete.

At the top of the Initial MU Input screen (#1) are tabs to navigate around the MU components:

- MU-Core (MU Objectives)
- MU Menu Set (MU Objectives)
- MU CQM (Clinical Quality Measures).

At the top of the input area (#2) is the meaningful use reporting period, which only applies for the first year of MU MIPP reporting. In the middle of the screen (#3) is the optional MU template upload functionality. This allows the provider to upload all or part of their MU information using a pre-defined template. The eMIPP application will process the information and display it in the application just the same as screen input data. The lower section of the screen (#4) is a series of check boxes showing the provider which of the MU reporting components is complete.

Figure 20 shows the first page from the EP MU upload template.



Meaningful Use Core Measures- EPs must fill out all 15 core measures

#	Measure Information	Measure Values
1	Objective: Use computerized provider order entry (CPOE) for medication orders directly entered by a licensed healthcare professional who can enter orders into the medical record per state, local and professional guidelines Measure: More than 30 percent of all unique patients with at least one medication in their medication list seen by the EP have at least one medication order entered using CPOE Exclusion: Any EP who writes fewer than 100 prescriptions during the EHR reporting period would be excluded from this requirement	
	Does this exclusion apply to you?	Yes <input type="radio"/> No <input type="radio"/>
	Numerator: The number of patients in the denominator that have at least one medication order entered using CPOE	
	Denominator: Number of unique patients with at least one medication in their medication list seen by the EP during the EHR reporting period	
2	Objective: Implement drug-drug and drug-allergy interaction checks Measure: The EP has enabled this functionality for the entire EHR reporting period Note: This measure only requires a yes/no answer	
	Numerator: N/A	<input type="radio"/> YES <input type="radio"/> NO
	Denominator: N/A	
3	Objective: Maintain an up-to-date problem list of current and active diagnoses Measure: More than 80 percent of all unique patients seen by the EP have at least one entry or an indication that no problems are known for the patient recorded as structured data	
	Numerator: Number of patients in the denominator who have at least one entry or an indication that no problems are known for the patient recorded as structured data in their problem list	
	Denominator: Number of unique patients seen by the EP during the EHR reporting period	
4	Objective: Generate and transmit permissible prescriptions electronically (eRx) Measure: More than 40 percent of all permissible prescriptions written by the EP are transmitted electronically using certified EHR technology Exclusion: Any EP who writes fewer than 100 prescriptions during the EHR reporting period would be excluded from this requirement	
	Does this exclusion apply to you?	Yes <input type="radio"/> No <input type="radio"/>
	Numerator: Number of prescriptions in the denominator generated and transmitted electronically	
	Denominator: Number of prescriptions written for drugs requiring a prescription in order to be dispensed other than controlled substances during the EHR reporting period	

Figure 20. eMIPP EP MU upload template. The provider enters the required information then uploads the form. eMIPP populates the provider’s registration with the submitted information.

Entering Stage 1 MU Core information is done by clicking the MU-Core Set tab, and the eMIPP application displays the screen shown in Figure 21. The provider’s progress toward completing this component of MU information is shown in the progress bar, 100% (#1). The user clicks on the caret symbol on the row for the MU Objective to view the objective (#2). Each objective has a definition, standard of measure to successfully complete, and, if applicable, conditions for a valid exclusion (#3). The provider’s data is displayed (or entered) (#4). Specific Tool Tip help with each entry field is on the right (#5). Below are the remaining objectives (#6).

When all required information is submitted, the progress bar shows 100% and the Set Up screen will have a check box next to “MU Core Measures” in the lower part of the screen.



Figure 21. eMIPP Stage 1 MU Entry and Review Screen. The provider enters each measure individually, selecting an exclusion if applicable and provides compliance data.

In addition to providing flexible input of MU Stage 1 data for providers, eMIPP offers a summary MU screen for state user evaluation of the information. eMIPP calculates results for each threshold based objective. The meaningful use reporting period is shown (#1). The provider’s data is shown for each objective, the required threshold percentage, and the provider’s calculated percentage (#3). eMIPP then identifies whether the threshold is met or not with a green or red check mark and indicates when a measure needs additional review with a “!” (#4).

When attesting their EHR MIPP registration, providers are attesting to the truthfulness of all supplied information, including MU information.

g. Have the ability to deem a hospital as meeting meaningful use for Medicare.

The CMS-NLR registration process identifies dually eligible hospitals. The B-6 transaction sends an indicator. When this information is received, eMIPP automatically identifies these hospitals on provider and state user list pages as “Dual Eligible” in the column “Provider Type.”

The state user Hospital Review screen has a read only field labeled “Dual Hospital.” If a hospital is not applying to both Medicare and Medicaid EHR incentive programs the field “Dual Hospital” will say “N/A.” If the hospital is pursuing dual EHR MIPP eligibility the field value is “Yes.” When CMS-NLR sends a C-5 “Dual Eligible Hospital” transaction for this hospital, the status changes to either “Approved”



or “Denied.” When the Dual Hospital field is “Approved,” Medicare has deemed the hospital as meeting meaningful use for Medicare.

In Figure 22 the hospital has attested to and been approved by CMS as meeting the meaningful use requirements for Medicare. The screen shows the “Dual Hospital” status as “Approved.”

Figure 22. eMIPP Dual Hospital Medicare Attestation and Meaningful Use Status.

h. Provide a hospital calculator to determine EHR incentive payment amounts.

eMIPP provides an automated hospital calculator that can be configured for Agency personnel to use or for providers to use depending on the Agency’s business processes. Several components of the hospital calculator must be configured to assure consistency with Agency policies. These components are the number of participating years that hospitals are paid and the percentage of total paid each year, both subject to federal guidelines. Iowa’s EHR regulations indicate that the configuration will be 3 payment years with payment of 40 percent of total incentive in year 1, 40 percent of total incentive in year 2, and 20 percent of total incentive in year 3.



Figure 23 shows the list page for state users to access the hospital payment calculator and information for every hospital registered at the federal level. If a calculation is revised, the status will indicate “Revised” and the date of the revision.

Registration ID	NPI	Tax ID/SSN	Provider Name	Status
1357924680	1033366513	999999999	Acute_Care_Hospitals	Completed
1357924682	3333567892	345689903	Childrens Hospital	Initiated
1357924683	4444567891	345689904	Antoine St Hospital	Initiated
135792464	3333567897	345689003	Andrew Hospital	Initiated
1357924685	333356789	345699003	Community Hospital	Initiated
1357924681	2222567893	345689900	Public Hospital	Initiated

Figure 23. eMIPP State User Hospital Calculation List Page. This screen allows state users to access every participating hospital’s payment calculation.

Figure 24 shows the hospital calculation screen. As currently configured, this functionality is reserved for state users and accessed via the state user portal. In the Column “Year 1” the user inputs Total Number of Discharges, Annual Growth Rate, Estimated FFS Medicaid Bed Days, Estimated MCO Medicaid Bed Days, Estimated Total Number of Bed Days, Estimated Total Hospital Charges, Estimated Total Charity Care, and Discharges. eMIPP calculates and shows the total EHR Amount, and the annual EHR payments. In addition, eMIPP’s hospital calculator displays the EHR Medicaid Share, the total EHR Medicaid Share, and the Medicaid Share factor.



Enter Hospital Payment Calculation

Bold fields are required.

Hospital Payment Calculation

	Year 1	Year 2	Year 3	Year 4
Percentage paid each year	50	20	20	10
Medicaid Share	0.668571			
Total number of discharges	100			
Average annual rate of growth	100			
Estimated number of Medicaid FFS bed days	100			
Estimated number of Medicaid MCO bed days	100			
Estimated total number of bed days	100			
Estimated total hospital charges	100			
Estimated total charity care	100			
Base Amount	2000000			
Discharges	1500	1537.5	1575.938	1615.336
Transaction Factor	1	0.75	0.50	0.25
EHR Amount	\$2,070,200.00	\$1,558,275.00	\$1,042,693.80	\$523,316.80
EHR Medicaid Share	\$1,736,441.22	\$694,576.49	\$694,576.49	\$347,288.24
Total EHR Medicaid Share	\$3,472,882.43			
Total EHR Amount	\$5,194,485.60			

Cancel Submit

Figure 24. Automated Hospital Calculation. This allows the user to input hospital specific information and eMIPP calculates the total payment and each annual payment.

eMIPP stores the calculation by provider by date. If the calculation needs to be revised for any reason, such as changes in the base year hospital cost report, the system will display the last calculation and allow the user to edit any of the input fields.

i. Allow the provider to upload supporting documentation.

Providers are able to upload supporting documentation using the Upload Document card in the registration slide deck. This functionality is available prior to submitting their registration for Agency eligibility determination and at any time when a provider initiates a grievance or appeal.

Figure 25 shows Card #4, Upload Documents after a provider has clicked on the file upload icon and eMIPP is asking the provider to locate the document to be uploaded. eMIPP will accept common document formats, including Microsoft Word and Excel as well as Adobe PDF format. When a provider has uploaded the document, the document and all other documents uploaded by this provider will appear on the Document List page section of Card #4.

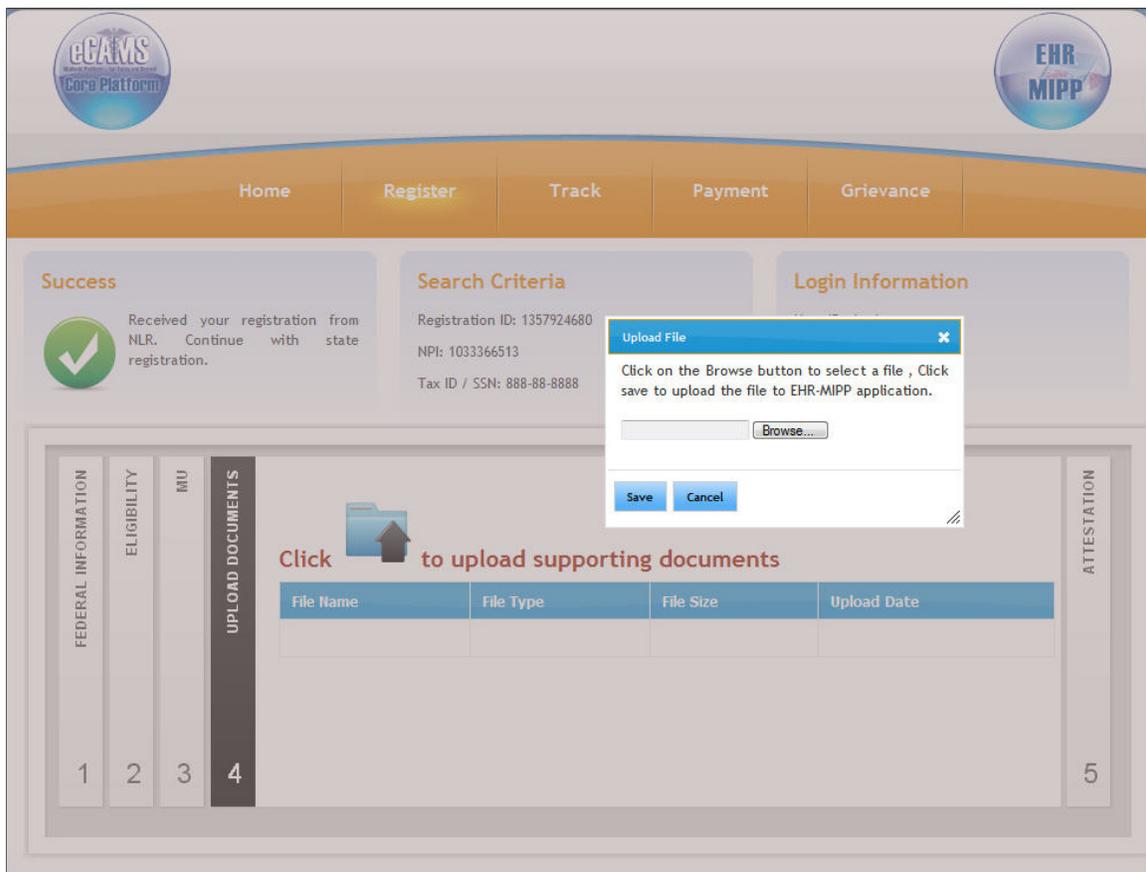


Figure 25. eMIPP Provider Document Upload. Providers are able to upload documents from their local computer.

j. Provide information about application status.

Information on application status is available in many places throughout the eMIPP application.

Provider and state user list pages include eMIPP application status among the summary data on each row of the list pages. Samples of provider and state user list pages may be found in proposal Tab 4, Draft Documents - Screen Shots.

Providers and state users can see provider status when tracking a registration using the track function.

Figure 26 is an example using the state user workflow view of a hospital's application. Figure 27 displays the same information when the registrant is an eligible provider. These screens display the status of the provider registration and allow the state user to review all submitted information. The workflow status is integrated with eMIPP's workflow engine, Activiti. In this case the application has been attested to by the provider and is now in "State Review" status. The status changes when workflow steps are not started, in process and completed. For example, workflow Step 3 has not begun, the step name is "State Approval" (not started). If the registration is submitted for approval by the state reviewer, Step 3 will say "State Approval in Process," and the step icon will change to two gears with a downward arrow, Step 2 will be one gear with a check mark. When the final eligibility determination is made Step 3 will say "Approved" or "Denied" and Step 4 will say "Payment Initiated," and the gears will change accordingly.



Home Register **Track** Payment Grievance

Workflow - Current Status
Provides the current status of the registration. Mouse over each step to get a detailed description of the status.

Tracking Provider
NPI: 1033366513
Tax ID / SSN: 888-88-8888

Login Information
User ID: doej
Profile: Provider Admin

Step-1 Received from NLR
Step-2 Registration Process
Step-3 State Review
Step-4 Approval Process
Step-5 Payment Process
Step-6 Payment Updated NLR

FEDERAL INFORMATION

Year	Registration ID	NPI	Received Date
2012	1357924680	1033366513	01/15/2012
2011	1357924680	1033366513	01/05/2011

1

ELIGIBILITY 2
IMU 3
UPLOAD DOCUMENTS 4

Figure 26. eMIPP Provider Track Registration. The provider is able to immediately see the status of their registration using the workflow icons.



eGAMS Core Platform **EHR MIPP**

Home Administration **MIPP** MHR HIE

Review Workflow
Review Application for registration approval and payment processing.

Selected Provider
NPI: 3333567892
Tax ID / SSN: 345-68-9903
Provider Name: Childrens Hospital

Login Information
User ID: smithj
Profile: Administrator

Step-1 Registration Submitted → Step-2 State Review → Step-3 State Approval → Step-4 Payment Process → Step-5 Paid

Encounter Volume
Year : 2 Type : Acute Care Amount : \$ 2,500,000.00
Year 1 : \$1,250,000.00 Year 2 : \$1,000,000.00 Year 3 : \$ 250,000.00
Qualifying Information
Comments :
Comments History :
Save Submit Deny Reject

Figure 27. eMIPP State User Workflow Registration Status. The State user is able to immediately track the status of a registration using the workflow icons.

k. Issue electronic notices of denial, with information on how the provider may re-apply.

eMIPP provides multiple email notices of eligibility determination and status. Figure 28 is an example of a denial email, in this case from the state of Michigan.



Dear Applicant,

Your Registration ID # 1000000270 requesting enrollment in the Medicaid EHR Incentive Program has been denied for the following reason:

Excluded/Federal

If you have questions regarding this denial or if you wish to appeal, you may contact the Medicaid Incentive Program at (877) 338-7106 or email MDCH-EHR@michigan.gov.

Thank you for your interest in participating with our program.

Sincerely,

Electronic Health Records Incentive Program
Medical Services Administration
Michigan Department of Community Health

Figure 28. eMIPP Example Provider Registration Denial Email. Example of eMIPP email notifications.

During configuration and integration Team CNSI will work with Agency staff to reconfigure this email to meet Iowa's needs. Additional language can be included to give providers direction on how to reapply.

I. Provide information to the provider of how to file an appeal with the Agency.

eMIPP has built in functionality for a provider to enter grievances and appeals, including uploading supporting documentation. Tool Tips will provide guidance to the provider while entering the appeal. eMIPP has functionality for a state user to review, comment, and record the results of the grievance or appeal, and to upload documents. The Appeal and Grievance function is prominently displayed on the Provider Portal Screen. To initiate an appeal the provider chooses "Track/Submit Grievance or Appeal" on the Provider Home Screen, Figure 29.

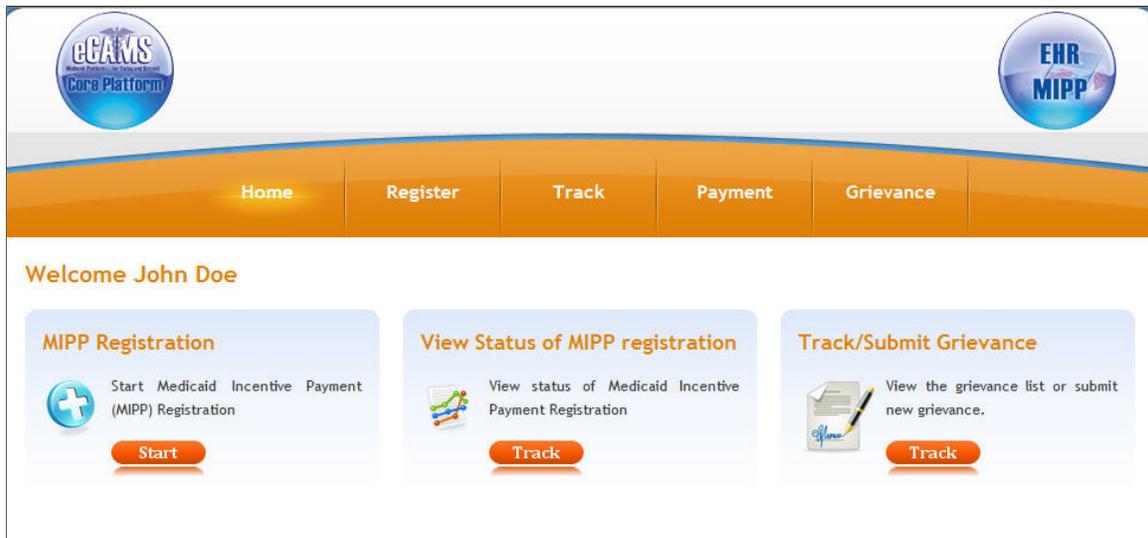


Figure 29. eMIPP Provider Portal. This screen allows a provider to navigate among the provider eMIPP functional components, including grievance and appeal functionality.

Then, as shown in Figure 30, the provider enters the relevant information about the appeal or grievance, with eMIPP pre-populating relevant information. Grievance and Appeals are identified in the workflow as a new work process.

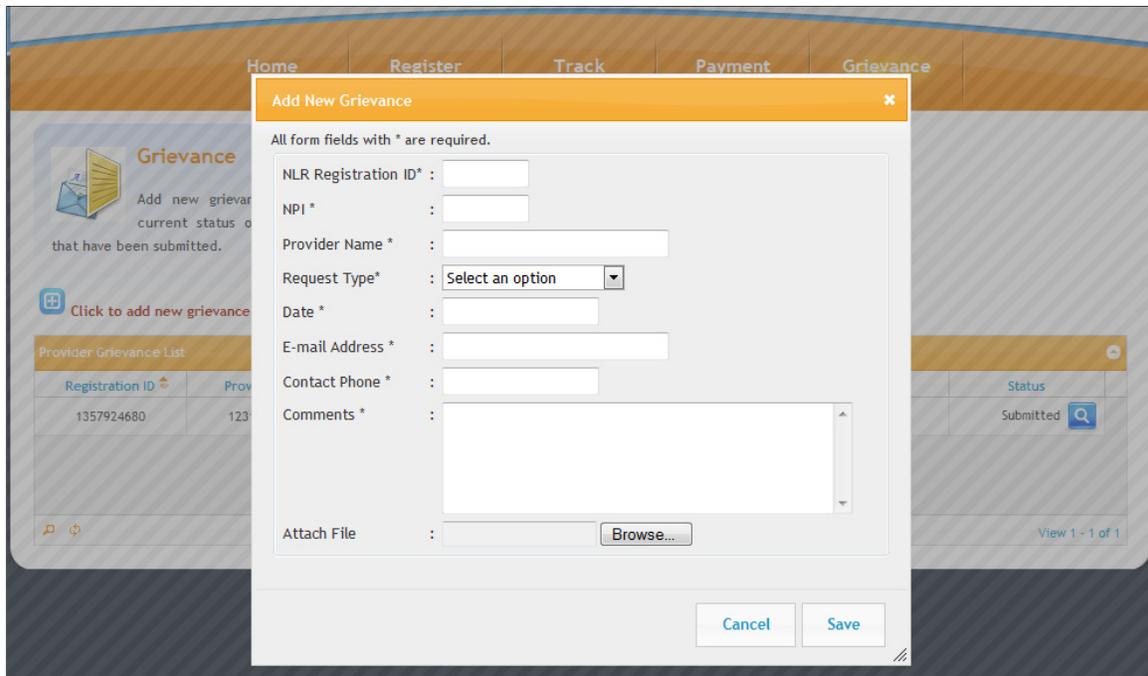


Figure 30. eMIPP Add Grievance or Appeal. This is the information that a provider must supply to initiate a grievance or appeal.



m. Interface to the Certified Health IT Product list (ONC/CHPL) web service for certification verification.

eMIPP has a real time web service interface with ONC/CHPL for the provider's EHR software certification verification. eMIPP makes the call when the provider has entered the certification number and navigated away from the certification number field. eMIPP notifies the provider immediately if the certification is not verified and will not allow the provider to save an invalid certification number.

n. Verify the provider is an active provider with Medicaid.

eMIPP validates that the provider is an active provider with Medicaid during the eMIPP application.

1. Each time a provider is authenticated and provides a CMS registration ID eMIPP checks the provider's Medicaid provider status. If the provider is authenticated the provider moves on to the selected functionality. If the provider is not authenticated eMIPP displays an error message referring the provider to Iowa's MMIS Provider subsystem to resolve the provider status. The provider is allowed to try again, but if not authenticated the provider's only option is to log out of eMIPP.
2. When a state user attempts to approve a registration, eMIPP checks the provider's Medicaid provider status. If the provider's MMIS provider status is active the registration approval process completes. If the provider's MMIS provider registration status is inactive eMIPP displays an error message explaining why the registration cannot be approved (e.g., provider is sanctioned, a license or certification has lapsed, the provider has cancelled his/her Medicaid provider agreement). See Figure 31.

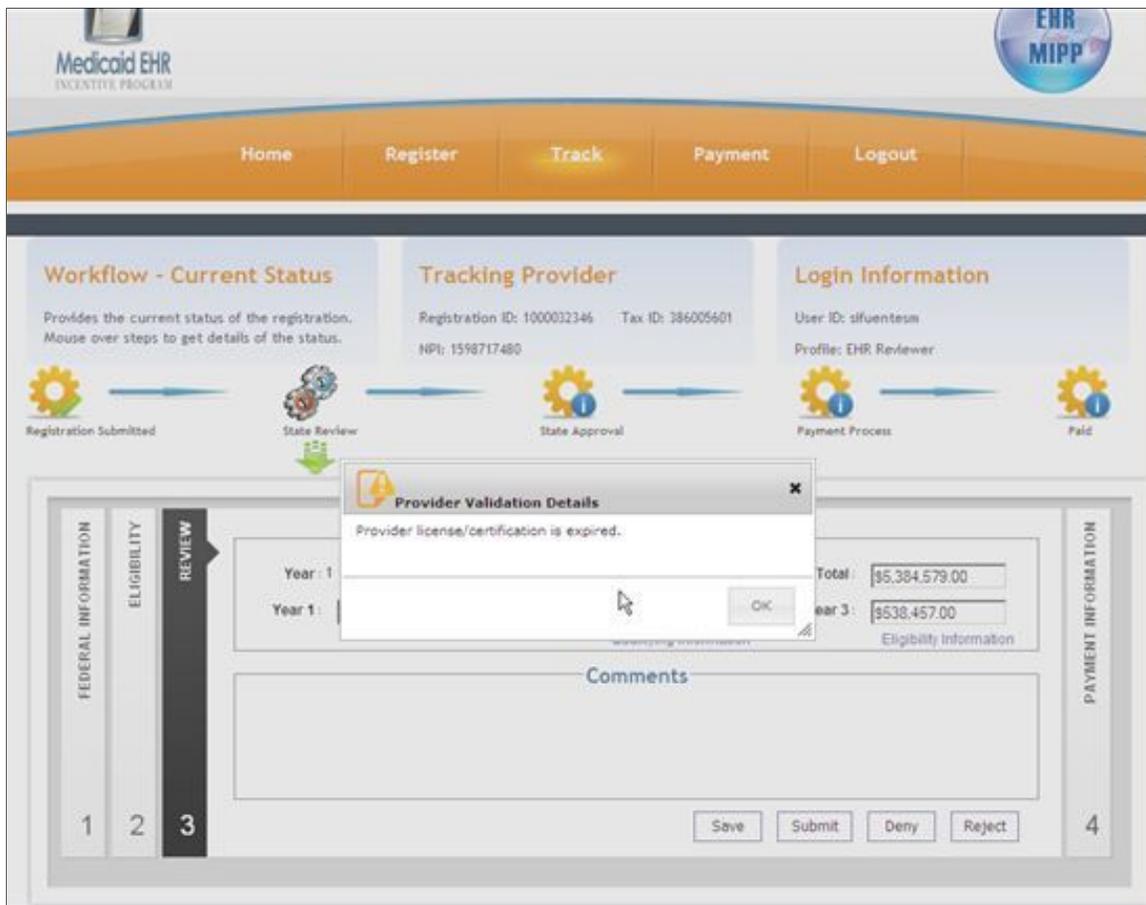


Figure 31, eMIPP State User Notification that Provider is Inactive. If a state user attempts to approve an inactive provider, the error message above is displayed and the user cannot approve the registration until the condition is resolved in the Medicaid Provider Directory.

o. Provide help screens acceptable to the Agency.

Contextual help is available throughout the eMIPP application. Figure 32 shows the Eligibility Information pop-up screen that is displayed after a provider has submitted the registration for state review. State users are prohibited from editing provider submitted information. Each field on this screen has a question mark icon. If the user “mouses over” a particular field’s icon a “Tool Tip” will appear explaining what information is needed for that field.



The screenshot shows a web form titled "Enter Eligibility Information". It contains several sections: "Reporting Period" with "Start Date" (10/01/2010) and "End Date" (12/30/2010); "Eligible Patient Volume" with radio buttons for "Practice as a Pediatrician", "Practice as a Physician Assistant", "Hospital Based Provider", and "Include Organization Encounters" (selected); "Organization NPI" with a tooltip that reads "Select this option to use your clinic or group's eligible patient volume encounters to qualify (optional)"; "Render care in FQHC/RHC" with radio buttons for "Yes" and "No" (selected); "Total Encounters" (100) and "Medicaid Encounters" (50); and "EHR Certification Information" with radio buttons for "EHR Status" (Adopt, Implement, Upgrade) and "EHR Certification Number" (30000001SVMAEAC). "Cancel" and "Save" buttons are at the bottom right.

Figure 32. EP Eligibility screen Tool Tip for “Include Organizational Encounters” Field. Each “?” on this screen has a contextual tool tip to give the provider guidance to answer each question.

If the user clicks the radio button “Yes” and “No” to the other choices, the screen prompts the user for additional information, the organization’s NPI and the related total encounters and Medicaid encounters.

A complete set of “Tool Tip” messages for eligibility information is provided in Figures 33 and 34.



Eligible Patient Volume Tool Tips – Sample

Tool Tips is the contextual help system throughout CNSI's eMIPP application. Every editable field has a corresponding tool tip. Tool Tips are identified with a "?" inside a check box next to the field. To see the tool tip the user just moves the cursor over the "?" and the tool tip is displayed immediately until the user moves the cursor away. The following list presents the tool tips associated with the editable fields in the Eligible Patient Volume screen.

1. Pediatricians are physicians, Nurse Midwives and Nurse Practitioners who see qualifying patients.
2. Only PAs working at an FQHC or RHC meeting at least one of the below requirements:
3. Hospital based eligible professionals must provide less than 90% of their services as inpatient hospital discharging physician or emergency room physician to be eligible for the EHR MIPP.
4. Select this option to use your clinic or group's eligible patient volume encounters to qualify (optional).
5. If you provide 50% or more of all your services in a FQHC/RHC then you can include needy individuals in your patient volume.
6. Primary care providers can include managed care patients who are enrolled with them to qualify.
7. Is the total number of inpatient discharges for whom you were the discharging physician during the reporting period.
8. Is the total number of Emergency Room (ER) encounters for whom you were the billing physician during the reporting period. An ER encounter is all services provided to one person in one day.
9. Is the total number of inpatient discharges for whom you were the discharging physician during the reporting period that Medicaid paid for ANY of the inpatient charges.
10. Is the total number of Emergency Room (ER) encounters for whom you were the billing physician during the reporting period that Medicaid paid for ANY of the ER encounter. An ER encounter is all services provided to one person in one day.
11. Is the NPI of the clinic or group practice you want to use to qualify for EHR MIPP.
12. Is the total number of encounters in all service settings for all payers you provided during the reporting period.
13. Is the total number of Medicaid encounters provided in an FQHC/RHC setting you provided during the reporting period.
14. Is the total number of CHIP encounters provided in an FQHC/RHC setting you provided during the reporting period. A CHIP encounter is an encounter provided for a CHIP enrolled child.
15. Is the total number of Charity Care encounters provided in an FQHC/RHC setting you provided during the reporting period. A Charity Care encounter is a fee-for-service encounter provided for which no payment is received.
16. Is the total number of Sliding Fee Scale encounters provided in an FQHC/RHC setting you provided during the reporting period. A Sliding Fee Scale encounter is a fee-for-service encounter provided at a reduced charge based on the patient's income.
17. Total number of patient encounters in all other service settings for all other payers you provided during the reporting period.
18. Total number of Medicaid encounters in all other service settings for all other payers you provided during the reporting period.
19. Is the total number of encounters for all payers provided ONLY at the clinic or group practice identified above during the reporting period.
20. Is the total number of Medicaid encounters provided ONLY at the clinic or group practice identified above during the reporting period.
21. Is the total number of encounters in all service settings for all payers you provided during the reporting period that are not captured in the five fields below.

Figure 33. Eligible Patient Volume Tool Tips (page 1 of 2).



Eligible Patient Volume Tool Tips – Sample

22. Is the total number of Medicaid encounters NOT provided in an FQHC/RHC setting you provided during the reporting period.
23. The total number of MCO members assigned to you who did not have any encounters during the reporting period but have been seen at least once in the twelve months prior to the reporting period.
24. The total number of encounters provided to both Fee-For-Service and MCO members during the reporting period.
25. The total number of Medicaid MCO members assigned to you who did not have any encounters during the reporting period but have been seen at least once in the twelve months prior to the reporting period.
26. The total number of Medicaid encounters provided to both Fee-For-Service and MCO members during the reporting period.
27. Total number of patient encounters in all service settings for all payers you provided during the reporting period.
28. Total Number of Medicaid encounters in all service settings you provided during the reporting period.
29. If you included encounters provided outside the state of Michigan please indicate in what states.
30. The total number of Medicaid encounters provided in the FQHC/RHC setting to both Fee-For-Service and MCO members during the reporting period.
31. The total number of Medicaid MCO members assigned to you who did not have any encounters during the reporting period but have been seen at least once in the twelve months prior to the reporting period.
32. The total number of Medicaid encounters provided to both Fee-For-Service and MCO members during the reporting period.
33. The total number of encounters provided at the FQHC to both Fee-For-Service and MCO members during the reporting period.
34. The total number of Medicaid encounters provided at the FQHC to both Fee-For-Service and MCO members during the reporting period.
35. The total number of CHIP encounters at the FQHC provided during the reporting period. A CHIP encounter is an encounter provided for a CHIP enrolled child.
36. The total number of charity care encounters at the FQHC provided during the reporting period. A Charity Care encounter is a fee-for-service encounter provided for which no payment is received.
37. The total number of sliding fee scale encounters at the FQHC provided during the reporting period. A Sliding Fee Scale encounter is a fee-for-service encounter provided at a reduced charge based on the patient's income.
38. The total number of encounters at the FQHC/RHC for all payers provided during the reporting period.

Figure 34. Eligible Patient Volume Tool Tips (page 2 of 2).

Tool Tip information is also provided throughout the MU data collection screens. Figure 35 presents an example of the MU-Core objectives input screen. Each field, requiring input has a help box to its right.



Progress: 100%

Objective 1: Computerized Provider Order Entry (CPOE)

Objective
Use computerized provider order entry (CPOE) for medication orders.

Measure
More than 30 percent of all unique patients with at least one medication prescribed was entered using CPOE.

Exclusion
Is excluded if fewer than 100 prescriptions were written during the reporting period.

Measure Exclusion

Exclusion Applies to you?
 Yes No

Exclusion Value:

Measure Compliance

Numerator:

Denominator:

Exclusion
Select yes and enter the number of prescriptions written in the field exclusion value.

Compliance
Numerator: Number of unique patients with at least one medication prescribed using CPOE.
Denominator: Number of unique patients

Objective 2 : Drug Interaction Checks

Objective 3 : Maintain Problem List

Objective 4 : e-Prescribing (eRx)

Objective 5 : Active Medication List

Objective 6 : Medication Allergy List

Objective 7 : Record Demographics

Objective 8 : Record Vital Signs

Close

Figure 35. eMIPP Provider MU Input. Providers have help boxes to the right of each MU input field to explain what data should be input.

Program Administration Tools and Services

2. Provide EHR program administration tools and services, which include but are not necessarily limited to:

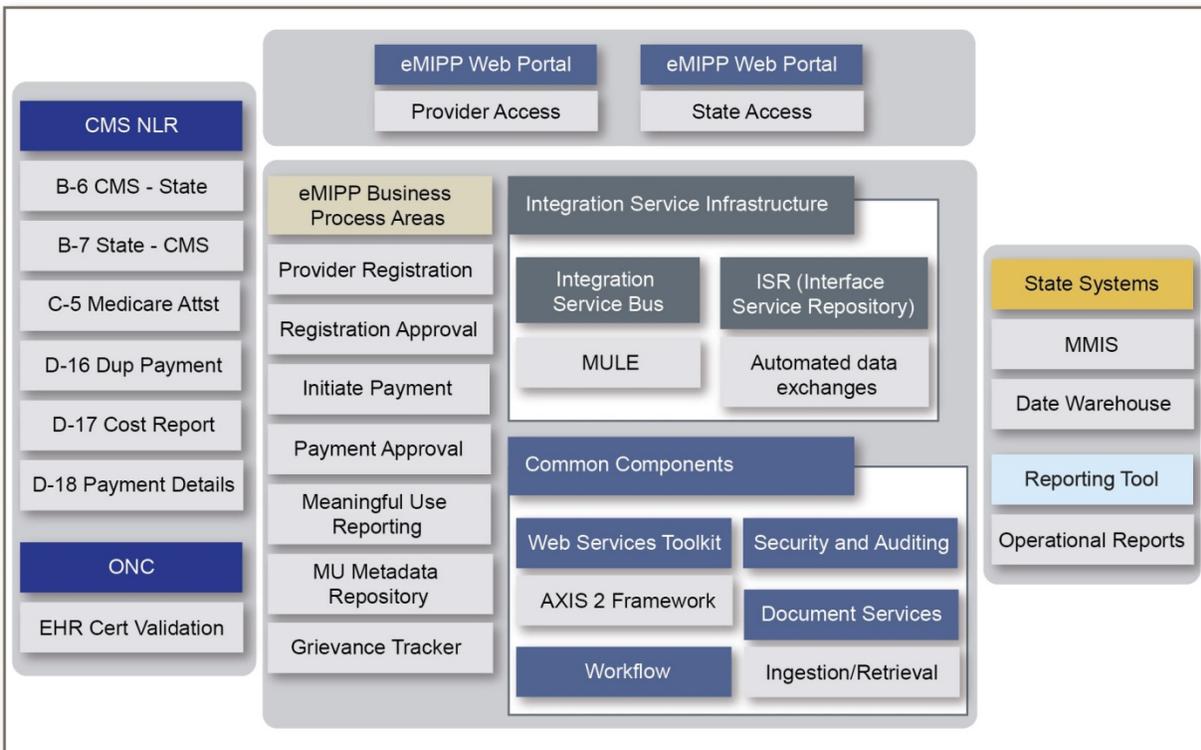
The eMIPP application provides the following services and tools to administer the EHR Medicaid Incentive Payment Program (MIPP), including:

- **Online, secure, real time collaboration with the provider community:** Team CNSI's eMIPP solution provides a complete web based user interface. The web based interface enables eligible providers to register for incentive payments. The providers are able to view, request an update, or track status of their registration and data forms in a self service mode. This not only reduces state administrative burden but also allows the providers and state agencies to communicate in a more effective manner. Providers can only access eMIPP application using security protocol.
- **End-to-End Business Process Automation Workflow Management:** Team CNSI's eMIPP solution not only provides a web-based user interface, but also implements a workflow framework allowing users to interactively navigate through a series of intuitive steps to complete either a partial or entire business process. This feature allows the business processes to be streamlined and flexible for continuous improvement to adapt to changing business needs.



- **Interface with CMS-NLR:** Team CNSI’s eMIPP solution utilizes a powerful repository (ISR) framework to communicate with CMS-NLR to streamline and fulfill the registration requirements of hospitals and eligible professionals.
- **Services Based Integration:** Team CNSI’s eMIPP solution is completely based on MITA initiated Service Oriented Architecture (SOA), which provides the flexibility to be integrated with any existing, state managed provider management applications.

Figure 36 provides a functional overview of the eMIPP solution.



IA eMIIP-005

Figure 36. eMIPP Conceptual Overview.

a. Submitting e-mail notifications to providers with the information and requirements for eligibility upon receiving registration from the NLR.

The eMIPP application has the ability to send an email notification to providers upon receiving the registration information from NLR. Email content is maintained in a configuration file; content can be modified based on state specific needs. Figure 37 illustrates the system generated email notifying providers that eMIPP has received federal notice of their CMS registration. Note that their registration ID is published (per CMS approval) since it is needed to access their registration in eMIPP.



Dear Applicant,

Your Medicaid EHR Incentive Program Registration # 800008005 has been received from NLR. Login in to EHR application to submit and attest your registration.

If you have any questions, please contact our office at (877) 338-7106 or email MDCH-EHR@michigan.gov.

Sincerely,

Electronic Health Records Incentive Program
Medical Services Administration
Michigan Department of Community Health

Figure 37. Email Correspondence. Notification to provider of eligibility to apply for the EHR MIPP.

b. Making all EHR program determination using a rules-based determination system.

The eMIPP application has been developed using industry best practices. The system is developed using Java J2EE specification. eMIPP uses *Activiti*, an open source workflow and Business Process Model (BPM) engine. Business rules are not embedded in the code, instead business rules are decoupled and maintained in configuration files. This modularity allows Team CNSI and the Agency to configure the business rules based on Agency needs. *Activiti* allows users to specify the tasks and services. It allows business users to make changes to existing processes. Figure 38 illustrates eMIPP state user process diagram using BPM notation.

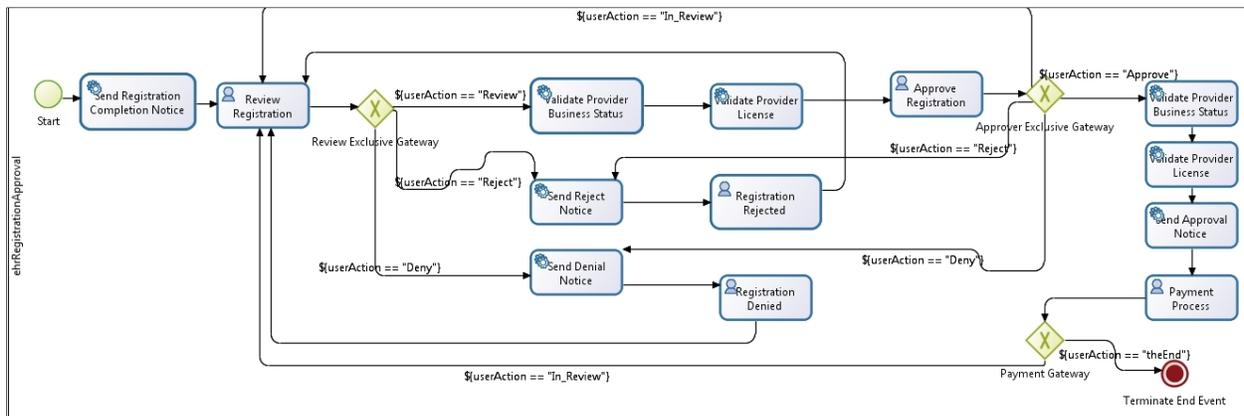


Figure 38. eMIPP Workflow Process Diagram. This diagram shows the business processes associated with state review of an EHR MIPP registration.

c. Tracking payment authorization.

The eMIPP application tracks payment authorization details. eMIPP provides a two-step approval process: (1) Review Registration and (2) Approve Registration. Reviewers and Approvers have the ability to review, reject, deny, and approve the registration. Figure 39 shows how an approver can track the payment authorization by the reviewer.



Figure 39. eMIPP State User Dual Hospital Review. This screen allows the user to track the registration payment authorization.

When the workflow indicates that Step 3 is complete (large gear with check mark), and the gear information says “State Approved” this indicates that the state has approved the registration for payment pending final payment approval from the federal government. When Step 3 is complete and “Approved” then Step 4, will read “Payment Initiated” and the double gears will appear. eMIPP automatically sends a D-16 “Request” transaction for this provider for final federal payment approval the next day. eMIPP waits for a D-16 “Response” transaction from CMS-NLR, usually within 24 hrs. If the D-16 “Response” transaction shows no duplicate payments and no other reasons to deny the provider, such as sanctions or the reported death of the provider, then the workflow status of Step 4 is completed and the large gear with a check mark will appear. The gear information will change to “Payment in Process.” eMIPP sends a transaction to the MMIS with all required payment information to be used to create a gross adjustment, either by auto-filling an adjustment or providing the information to staff to manually create a gross adjustment. This depends on the MMIS configuration. In both cases the payment is subject to all state payment approvals, edits, and standard Medicaid financial subsystem processes. After a HIPAA 835



document is created and eMIPP receives the paid payment information back from the MMIS, then Step 5 moves to a completed status, with the large gear and green check and a label of “Paid.”

Figure 40 provides payment information of the registration.

Workflow - Current Status
Provides the current status of the registration. Mouse over steps to get details of the status.

Tracking Provider
Registration ID: 1000032346 Tax ID: 386005601
NPI: 1598717480

Login Information
User ID: boinapallia1979
Profile: EHR Administrator

Registration Submitted → State Review → Registration Approved → Payment Process → Paid

Payment Year	Payment Date	RA Number	Warrant	Amount	Payment Option
1	09/15/2011	75845823	060943694	\$2,692,290.00	EFT

Figure 40. eMIPP Payment Summary. This screen shows payment details including payment year, payment amount, and identifying warrant and RA numbers.

d. Providing any required audit support.

eMIPP stores all CMS/ NLR data in history tables, including any “Update” records. All the activities and actions performed by the provider or state user are stored in workflow audit fields. Throughout the life cycle, registration information is maintained in an audit log. Any interaction with external systems also is recorded in eMIPP’s database for any future use. This information may be accessed for audit support using reporting capabilities, eMIPP multi-year information available online for each provider, in real time for the complete length of the program.

There are three on-demand reports in the eMIPP application that can be used to provide the Program Integrity team with data to make initial audit selections and then provide supporting data during an audit process. In addition, eMIPP allows Program Integrity staff to request providers to upload documents directly to their registration; similarly, Program Integrity staff can upload data to document audit results if desired.



Team CNSI will work with Agency staff to respond to any audit support questions, both during implementation and during ongoing operations.

e. Providing any support, including testimony, on EHR program decisions before any administrative or judicial tribunal.

The eMIPP application stores and presents information through online web screens. This information can be used to support testimony on EHR program decisions before any administrative or judicial tribunal.

eMIPP staff are available to provide historical and expert testimony if required. eMIPP staff would not be able to testify on Agency eligibility determinations nor Agency interpretation of CMS guidance and regulatory requirements. Staff can testify to the status of the eMIPP system at any point in time, provide system security testimony, and provide demonstrations to support EHR program decisions.

f. Providing access to a system dashboard, with up-to-date information related to all registrations in the system.

The eMIPP application has a Track Registration module, which provides up to date information on each registration. Figure 41 illustrates how eMIPP displays all the registrations in the system. The registration status column of the list page provides each registration’s status. Agency users can drill down to the details by clicking the search icon.

The screenshot shows the 'Track Registration' page in the eMIPP application. At the top, there are navigation tabs for Home, Administration, MIPP (which is highlighted), MHR, and HIE. Below the navigation is a 'Track Registration' section with a sub-header and a brief description: 'List of current status of the registrations. Click the Registration Status to view the workflow approval steps.' The main content is a table titled 'Registration List' with the following data:

Registration ID	NPI	Tax ID/SSN	Provider Name	Registration Status
1357924680	1033366513	888888888	John Doe	State Review
1357924682	3333567892	345689903	Childrens Hospital	State Review
1357924683	4444567891	345689904	Andrew Strauss	State Review
135792464	3333567897	345689003	James Anderson	State Review
1357924685	333356789	345699003	Allan Donald	State Review
1357924681	2222567893	345689900	Kevin Pieterston	Payment Approved

At the bottom of the table, there is a pagination control showing 'Page 1 of 0' and a 'View 1 - 6 of 6' indicator.

Figure 41. Registration List Page. Displays current status of all registrations in the system.



g. Providing workflow management (or interface to the Agency’s OnBase workflow system).

Team CNSI’s eMIPP solution implements a workflow framework allowing users to interactively navigate through a series of intuitive steps to complete either a partial or entire business process. This feature allows the business processes to be streamlined and flexible for continuous improvement to adapt to changing business needs.

eMIPP’s workflow process uses *Activiti*, a workflow and Business Process Management (BPM) platform. Its core is a BPMN 2 process engine for Java. It is open-source and distributed under the Apache license. *Activiti* runs in any Java application, on a server, on a cluster, or in the cloud. *Activiti* integrates perfectly with eMIPP, providing a tight coupling with all components of the eMIPP application. Figure 42 illustrates the state user workflow process using *Activiti* modeler.

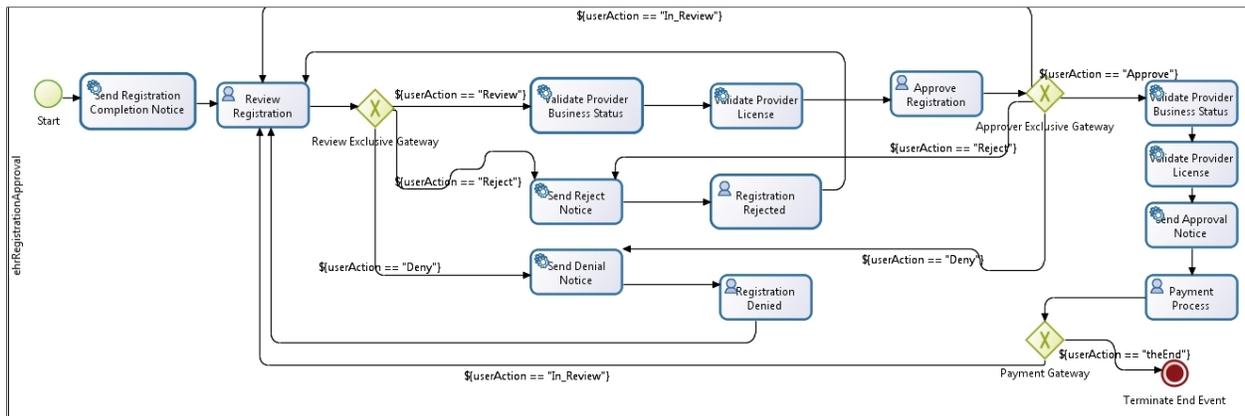


Figure 42. eMIPP Workflow Process Diagram. This diagram shows the business processes associated with state review of an EHR MIPP registration

h. Creating an on-line user manual.

Team CNSI’s eMIPP solution contains online help functionality that can be accessed from every field in which a user enters information. Throughout eMIPP, online help is context sensitive and permits a user to view clarifying information about each field by “mousing over” a “?” icon next to the field in question. Information is drawn from the eMIPP user manual, State and Federal Policy documents, and CMS directives that have been issued. Team CNSI considers online help as part of the complete set of user documentation.

eMIPP includes a user manual that providers can access, download, and print if they choose. Team CNSI will work with the Agency to determine the best way to provide access to the manual in Iowa. Other states have elected to provide access in their provider portal.

The online help, combined with the provider manual, form an integrated, easy-to-understand and follow set of references that enable users to find the right assistance quickly.

From previous eMIPP development experience, Team CNSI has found that the best way to produce the user documentation and online help is incrementally — as the associated software is tailored to Iowa’s specific eMIPP implementation. If the Agency agrees, Team CNSI will continue this process and produce an updated manual for review during UAT. Team CNSI produces and delivers the user manuals in HTML and PDF formats. The HTML format is available for reading online, while the PDF version is available for download.

Figures 43 and 44 show the encounter eligibility page from a sample online provider manual.



Step 2h – Fill out Eligibility Form (Part 1)

Enter Eligibility Information

Bold fields are required.

Reporting Period

Start Date: **1**

End Date: ?

Eligible Patient Volume

Select yes to eligible patient volume option(s) that apply to you. If not applicable, select no.

Practice as a Pediatrician ? Yes No **2**

Practice as a Physician Assistant ? Yes No **3**

Hospital Based Provider ? Yes No **4**

Include Organization Encounters ? Yes No

Render care in FQHC/RHC ? Yes No

Include MCO panel ? Yes No

Total Encounters: ?

Medicaid Encounters: ?

Include encounters outside WA ? Yes No

EHR Certification Information

EHR Investment Type ? Adopt Implement Upgrade

EHR Certification Number:

Email: karamsettys@cns-inc.com

Cancel Save

Figure 2h. Fill out Eligibility Form (Part 1)

- 1** Click on the Start Date box, and type in the start date of the 90-day qualifying period for EHR eligibility, then press Tab. The system will automatically calculate the end date and fill it in for you. Note: This start date must be during the previous calendar year and at least 90 days before the end of the previous calendar year.
- 2** If you practice as a Pediatrician, select Yes.



3 If you practice as a Physician Assistant, select Yes. Immediately, the form will expand and ask for more information.

<input type="checkbox"/> Primary Provider at FQHC/RHC
<input type="checkbox"/> Practices at a facility that has PA leadership
<input type="checkbox"/> An Owner at RHC
<input type="checkbox"/> None of the above

Click the appropriate box and continue.

4 If you practice as a Hospital Based Provider, select Yes. Immediately, the form will expand and ask for more information.

Total Inpatient Discharges:	<input type="text"/>	?
Total ER Encounters:	<input type="text"/>	?
Medicaid Inpatient Discharges:	<input type="text"/>	?
Medicaid ER Encounters:	<input type="text"/>	?

Hospital Based Providers are eligible for EHR incentive payments only if a minimum of 10% of their services are provided outside a hospital setting. To enable this calculation, fill in the four boxes in this section.

Figure 44. EP EHR Application User Manual – Sample page 2



i. Creating and distributing training materials.

Team CNSI will provide initial training sessions for the Agency and/or fiscal agent employees for the new system roll-out prior to implementation.

Team CNSI will provide a complete demonstration of the system for all staff, in addition to training, using each of the state user profiles: State Administrator, State Reviewer, and State Approver. EP and EH enrollment processes and tracking will also be demonstrated.

Training will be delivered in a combination of the following methods:

- **Face to face training sessions.** Team CNSI will work with Agency staff to assure that the sessions meet staff needs. The sessions will include additional system demonstrations and an emphasis on eMIPP components for Stage 1 MU plus a thorough review of the differences in system functionality for Year 1 participants and Year 2 participants, and therefore the differences in summary eligibility data that eMIPP provides state users.
- **Weekly support sessions conducted remotely.** Team CNSI will use webinar, telephonic, and video technologies to provide additional training for Agency staff if needed during each program year. (Team CNSI will not provide the Agency with video capabilities. If the Agency does not have video capabilities available for these sessions, then only telephonic and webinar support will be provided.)

Team CNSI will provide ongoing training for each significant update of the system. Any significant updates due to Team CNSI error will also include training as required. Additional updates due to unforeseen CMS changes in the program will be subject to the standard project enhancement process.

j. Providing extensive system messaging to internal staff.

Team CNSI's eMIPP web application provides alerts/messages to users as they are adding or making changes to the data. The application uses JavaScript to perform client side validations and display the errors for the user to correct before the data is submitted

Figures 45 and 46 illustrate how eMIPP provides system messages to authorized staff.

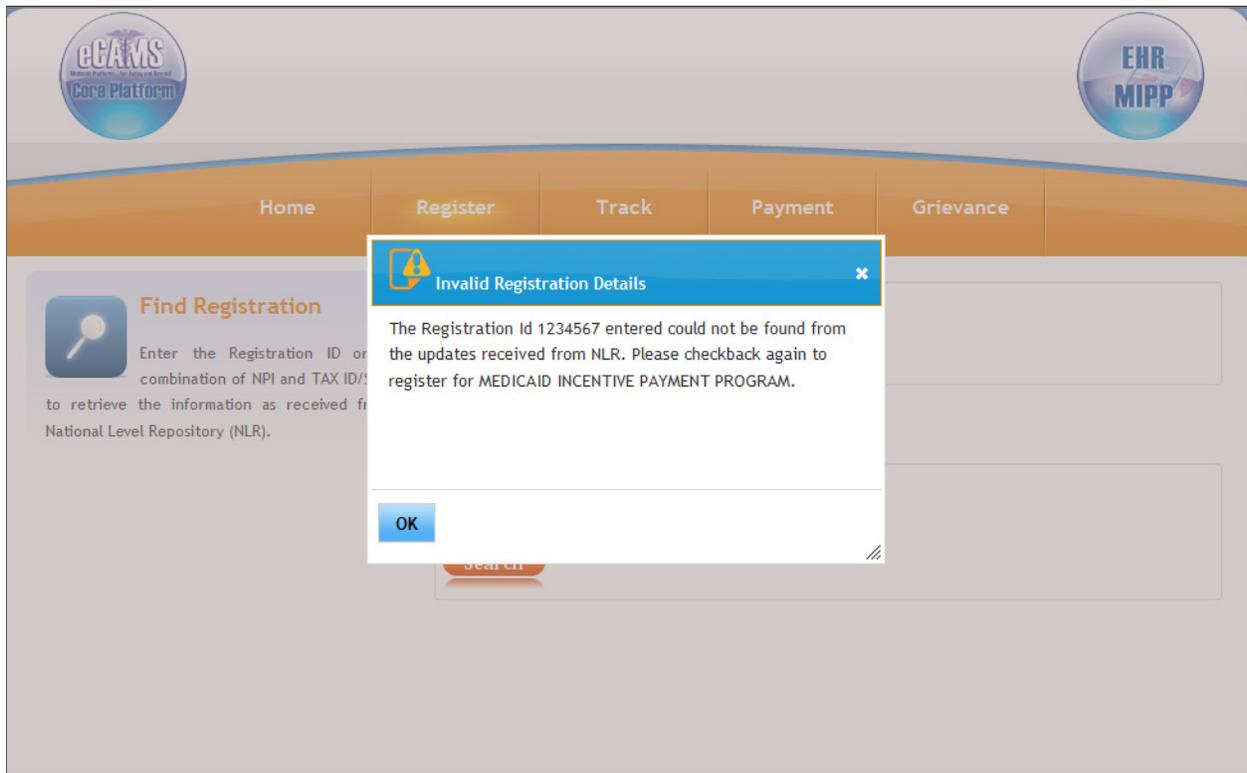


Figure 45. Invalid Registration Message. eMIPP provides system messages to a user.

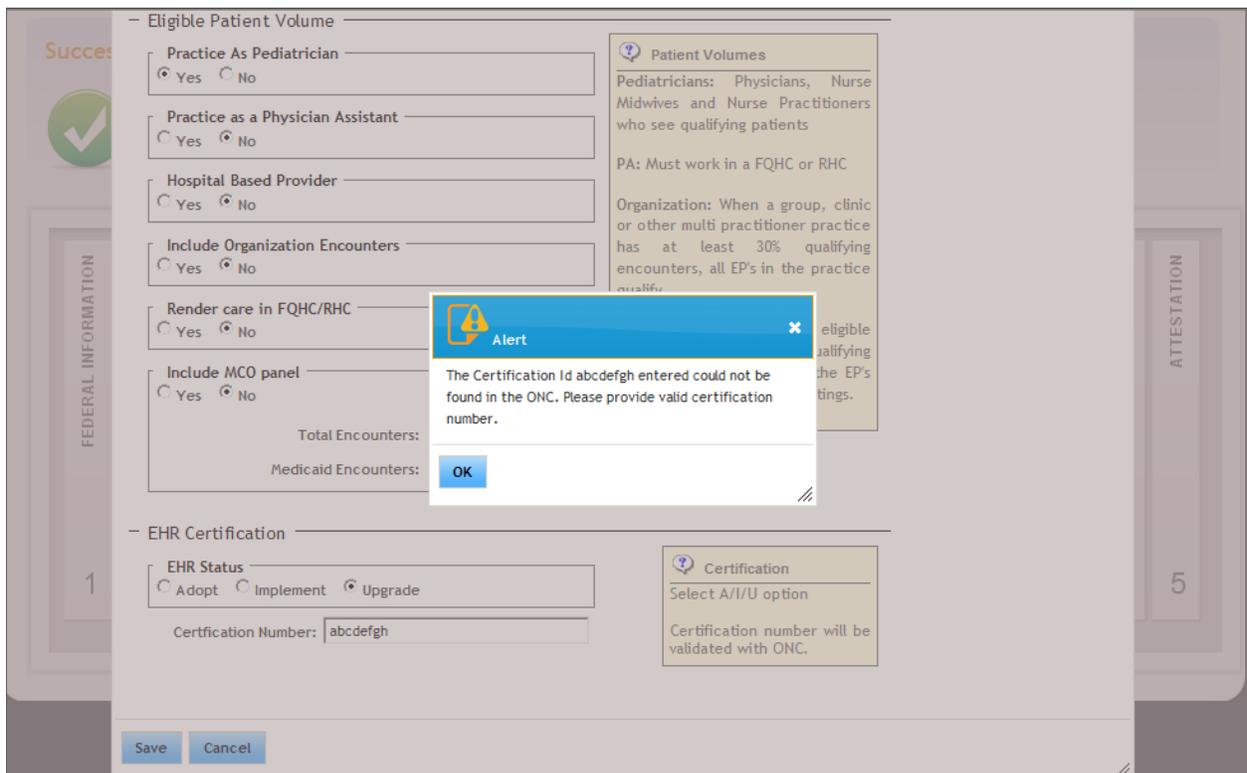


Figure 46. Invalid Certification Number Message. eMIPP provides system messages to a user.



eMIPP provides internal staff messaging. Agency staff receives emails when inactivations are received from CMS via B-6 and D-16 transactions. Staff receives emails when dual hospital attestations are received on the C-5. Staff also receives email notifications whenever a federal interface error condition occurs.

Figure 47 illustrates how eMIPP sends email notifications to the authorized group for completion of D-16 request interface job.

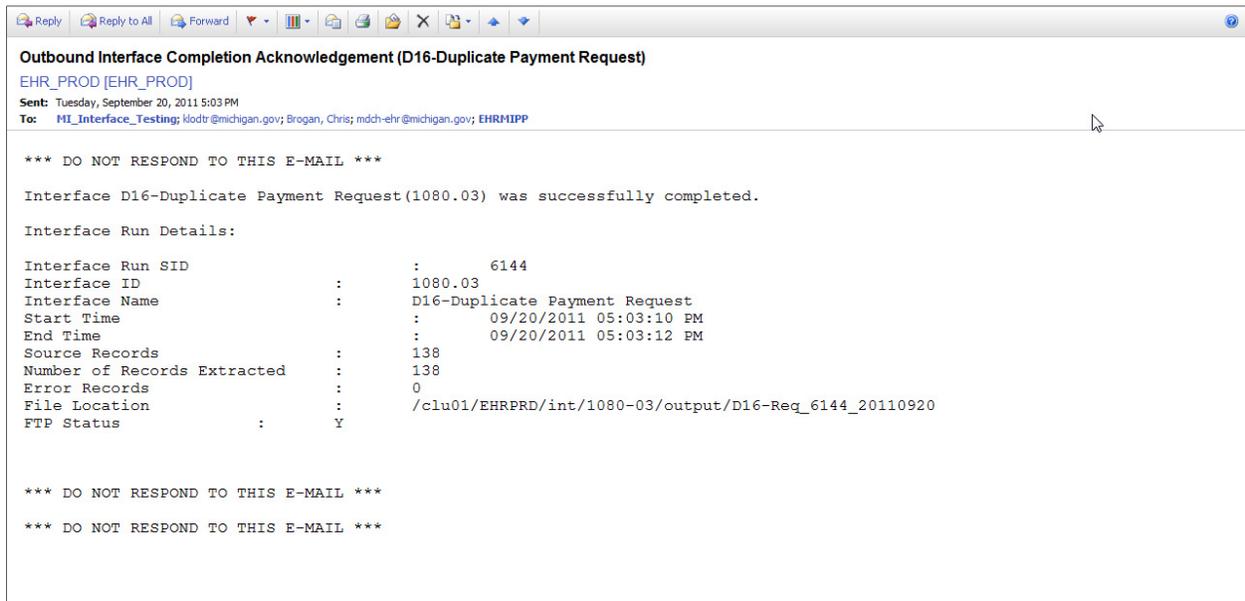


Figure 47. Outbound Completion Notification. eMIPP sends notification to an authorized group for any interface completion.

Team CNSI will work with Agency staff during configuration and integration to assure that the email notifications to staff meet the state’s needs.

Online Administrative Reports

3. Provide reports as required, including the following online administrative reports:

The eMIPP application has several built in reports that are either scheduled or produced on demand. The generated reports can be viewed online in PDF or HTML format, or can be exported to Excel for further processing. Reports can be saved as PDF files and or emailed to any authorized user. Team CNSI develops all reports using JASPER open source framework.

The standard eMIPP reports are:

- List Participating Providers
- Program Expenditures
- Attestation
- Aging Report

Agency staff can use these reports to administer the program. Team CNSI will work with Agency staff during configuration and integration to assure that the current reports are tailored to Iowa’s needs and will provide up to six reports.



a. Provider activity report.

eMIPP’s provider activity report is the “List Participating Providers” report shown in Figure 48. Without using any filtering parameters, the “List Participating Providers” report shows the current workflow status of every registration ID received from CMS for the current program year; October 1 through the following December 31 when both EPs and EHs are reported.

This report is produced on demand. When ordering the report the user has multiple filter options to select subsets of providers. For example, the user may select only EPs who have been approved for payment but are not yet paid.

Depending on the filter options selected, the report indicates any and all of the following statuses:

- Provider ID was received from CMS and the state has generated correspondence to tell the provider how to participate in the EHR MIPP.
- Provider has initiated the EHR MIPP registration.
- Provider has attested and submitted the EHR MIPP registration for state review.
- State approved (or denied) the registration.
- Federal Duplicate Payment check completed.
- Payment in process.
- Paid.

eMIPP stores all the activities and actions performed by the provider. Team CNSI will use this data to produce a provider activity report using JASPER open source framework.

Team CNSI will work with Agency staff to customize the report to meet the program needs.



Report Date: 07/29/2011 10:39:04 AM		List Participating Providers Report							Page: 57			
Provider Type: EP, EH Workflow Status: Denied, In-Process, In-Review, Payment Check Registration Status: Approver Initiated, Correspondence Generated, Duplicate Payment Check Completed, Duplicate Payment Check Initiated, Loading Complete, NLR NLR Registration Transaction Start Date: 01/01/2011 NLR Registration Transaction End Date: 07/29/2011 NLR Registration Transaction End Date: 07/29/2011												
Provider Type	Workflow Status	Registration Status	Registration ID	Provider Name	NPI	NLR Registration Date	Payment Year	Last Modified Date	Paid Date	Payment Amount	Payment Type	Expected Payment Amount
EP	Payment Check	Duplicate Payment Check Completed	1000024302	Mary B. Seger	1518998772	02/24/2011	1	07/15/2011		\$0.00		\$0.00
EP	Payment Check	Duplicate Payment Check Completed	1000024311	Yuan Li Zhang	1790920999	02/24/2011	1	07/15/2011		\$0.00		\$0.00
EP	Payment Check	Duplicate Payment Check Completed	1000029621	David K Klee	1497763809	02/18/2011	1	07/15/2011		\$0.00		\$0.00
EP	Payment Check	Duplicate Payment Check Completed	1000030338	Sarah Jo Pasia	1336122282	02/19/2011	1	07/15/2011		\$0.00		\$0.00
EP	Payment Check	Duplicate Payment Check Completed	1000031191	Ann Patrice Sheehan	1639177983	02/23/2011	1	07/15/2011		\$0.00		\$0.00
EP	Payment Check	Duplicate Payment Check Completed	1000044352	Jay W Eastman	1730172925	03/29/2011	1	07/15/2011		\$0.00		\$0.00
EP	Payment Check	Duplicate Payment Check Completed	1000055856	robert edward schall	1598708638	04/28/2011	1	07/15/2011		\$0.00		\$0.00
EP	Payment Check	Duplicate Payment Check Initiated	1000005705	Steven John Wisniewski	1104851658	02/24/2011	1	07/15/2011		\$0.00		\$0.00
Total Number of Participants, EP and EH			745									
CHAMPS - Report											MDCH	

Figure 48. List Participating Providers Report. This report shows the registration summary information generated by eMIPP.

b. Registration summary.

eMIPP’s List Participating Provider report presented above also serves as a registration summary report. For example, if the user filters for EHS in status “Correspondence Generated” the report will identify all hospital providers that CMS has sent a B-6 federal registration transaction but have not initiated their EHR MIPP registration with the Agency.

With no filters applied, this report provides a summary total of the number of providers registered with the state incentive program and the status of each registration. Team CNSI will work with Agency staff to assure this report is refined to meet your needs.

c. Attestation summary.

The eMIPP application provides an attestation summary report for dual eligible hospitals that have attested for the Medicare Incentive Program. The report is on demand and hospital specific. The user selects a hospital with a Medicare attestation available when ordering the report.



The Hospital Attestation Report is in two sections as shown in Figure 49. Section 1 provides identifying and Medicare registration status information. Section 2 provides one row for each Meaningful Use Objective and Clinical Quality Measure including exclusions submitted to Medicare.

Report Date: 07/29/2011 10:41:35 AM		Hospital Attestation Report						Page: 1						
Section 1														
Attestation Date	Confirmation Number	NPI	CCN	Attest ID	Att Determination	Att Reason	Program Year	Cancel Number	Cancel Date	EHR RPT Start Date	EHR RPT End Date	PYMNT_YEAR		
Section 2														
Cat Description	Cat Comp Determination	Objective Number	Objective Name	Obj Comp Determination	Measure Deferred Indicator	Measure Comp Determination	Cal Percentage Nbr	Boolean Measure Value	Numerator	Denominator	Exc Code	Descr	Start Date	End Date

Figure 49. Hospital Attestation Summary Report. This report provides the attestation summary information received from federal interface.

This report will be revised by Team CNSI during configuration and integration in collaboration with Agency staff to be used for both EP and EH Medicaid attestations for MU Stage 1 reporting.

d. Payment summary report(s).

The eMIPP application provides a payment summary report called the Payment to Date Fiscal Report. As shown in Figure 50, this report displays all incentive payments made by the Agency, by provider type by fiscal year. The report summarizes payments by month, quarter, fiscal year to date, and total since program inception.

Each column is also tallied, meaning that the user will see a total by month, quarter, fiscal year to date, and program to date for all selected provider types.

The Payment to Date Fiscal Report is an on demand report. Any authorized Agency user can create this report and use filters to select a subset of providers. This report can be generated for a provider type, an individual provider, or for all providers.



Report Date: 02/06/2011 3:28:12 PM																	
Paid to Date Fiscal Report																	
																	
Page: 1																	
Provider Type	October	November	December	1st Quarter	Jan	Feb	March	2nd Quarter	April	May	June	3rd Quarter	July	August	September	4th Quarter	Avg Payment Amount This Fiscal Year (After Adjustments)
EH	\$6,288,500.00	\$0.00	\$0.00	\$6,288,500.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$449,178.57
EP	\$248,506.00	\$0.00	\$0.00	\$248,506.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$7,530.48
Combined Total	\$6,537,006.00	\$0.00	\$0.00	\$6,537,006.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$456,709.06

Figure 50. Payment Summary Report. Totals Payments by Month, Quarter, Fiscal Year to Date, and Since the EHR MIPP program began.

e. Dispute and appeals activity report.

The eMIPP online application provides a list of disputes and appeals raised by providers. Agency users can see the status of all disputes and appeals. Providers can see their own appeal status. Figure 51 shows how an Agency user can see all the disputes and appeals in the system.



The screenshot shows the eMIPP application interface. At the top, there are two circular logos: 'eGAMS Core Platform' on the left and 'EHR MIPP' on the right. Below these is a navigation bar with tabs for 'Home', 'Register', 'Track', 'Payment', and 'Grievance'. The 'Grievance' tab is active. Below the navigation bar, there are two main sections: 'Grievance' and 'Login Information'. The 'Grievance' section includes a sub-section with a folder icon and text: 'Add new grievance or view the current status of the grievances that have been submitted.' Below this is a button with a plus icon and the text 'Click to add new grievance'. The 'Login Information' section displays 'User ID: doej' and 'Profile: Provider Admin'. Below these sections is a table titled 'Provider Grievance List'. The table has columns for 'Registration ID', 'Provider NPI', 'Provider Name', 'Payment Year', 'Grievance Type', 'Date', and 'Status'. A single row is visible with the following data: Registration ID 1357924680, Provider NPI 1231231231, Provider Name John Smith, Payment Year 1, Grievance Type Complaint, Date 02/15/2011, and Status Submitted. At the bottom of the table, there is a pagination control showing 'Page 1 of 0' and a search icon.

Figure 51. Appeals and Disputes. This screen presents a summary of all appeals and disputes.

f. Aggregated meaningful use report identifying measures selected by providers.

The eMIPP application displays aggregated meaningful use online as shown in Figure 52. The information can be downloaded in report format, including the supporting data.

The online graphs are intended to provide a snapshot of today’s meaningful use aggregate data. Clockwise, the graphs show the top five MU-Core measures that providers exclude and the associated percentages, the top five MU-Menu measure exclusions, the MU-Core top six measures that did not meet the measurement requirements, and the top six MU-Menu selections by providers.

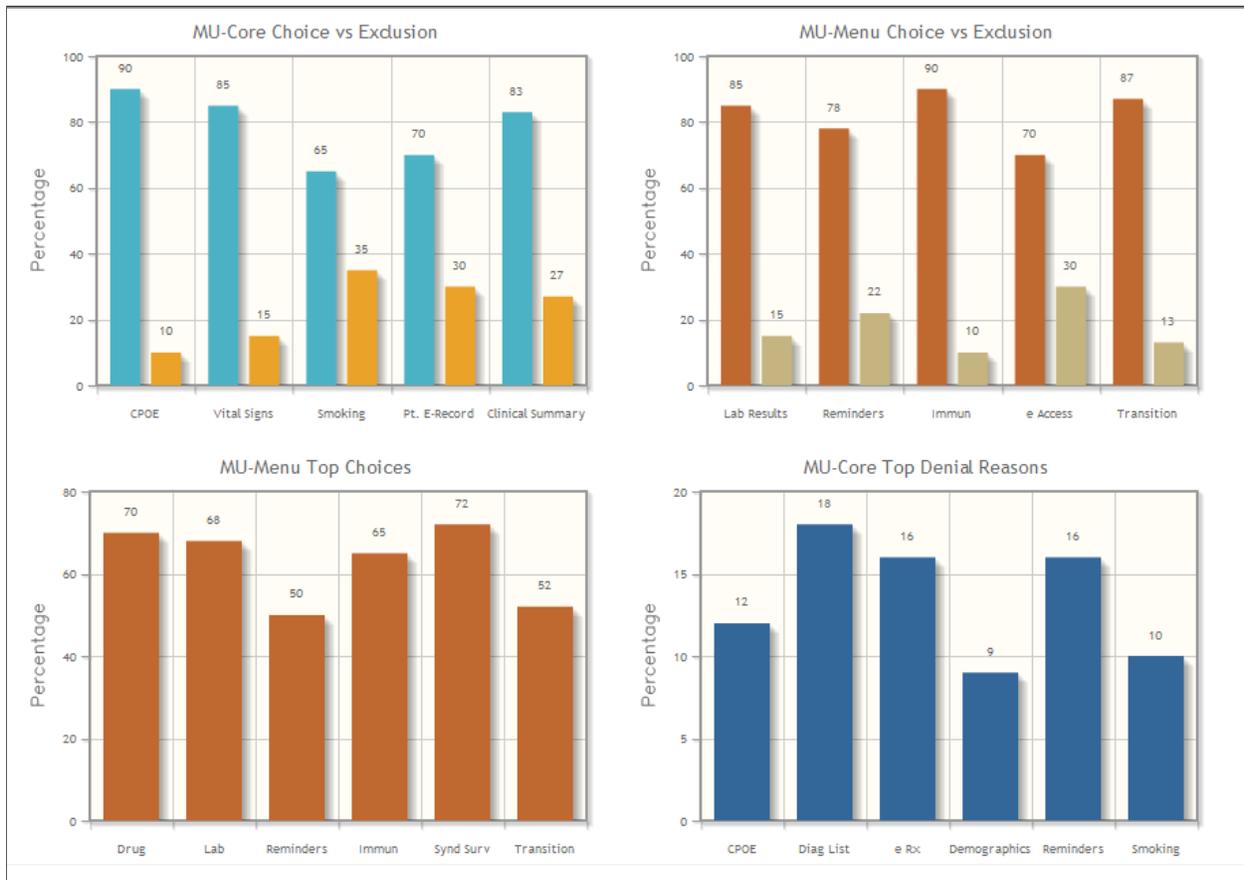


Figure 52. Aggregate Meaningful Use Report. This online view can be downloaded in report format.

Receive EHR Incentive Payment Information from MMIS

4. Receive EHR incentive payment information from MMIS.

eMIPP is designed to obtain incentive payment information from Iowa’s MMIS after the payment has been made and the MMIS has processed the associated HIPAA 835 remittance advice.

Team CNSI will work with Agency staff to confirm this interface during configuration and integration. eMIPP receives the information in a flat file format. eMIPP looks for incentive payment information after every MMIS payment cycle.

eMIPP uses the EHR incentive payment information from the MMIS to maintain the complete audit history of EHR MIPP administrative data, to provide payment information to CMS-NLR, and to make summary payment information available within the eMIPP application. Summary information is displayed for each payment made for each payment year. eMIPP presents both provider and state user views of payments. Figure 53 displays the summary payment information from a state user perspective, showing when payment information was provided to CMS-NLR via the D-18 interface. Multiple payments for a payment year indicate adjustments, voids and recoupments.



Workflow - Current Status
Provides the current status of the registration. Mouse over steps to get details of the status.

Tracking Provider
Registration ID: 1000014719 SSN: 374748801
NPI: 1528032174

Login Information
User ID: boinapallia1979
Profile: EHR Administrator

Registration Submitted State Review Registration Approved Payment Process Paid

Payment Year	Payment Date	RA Number	Warrant	Amount	Payment Option
1	09/15/2011	75845118	060944135	\$21,250.00	EFT

Figure 53, eMIPP State User Individual Provider Payment Summary. This screen shows summary payment information for all eMIPP payments.

Interfaces to CMS NLR

5. Interfaces to the CMS National Level Repository, by:

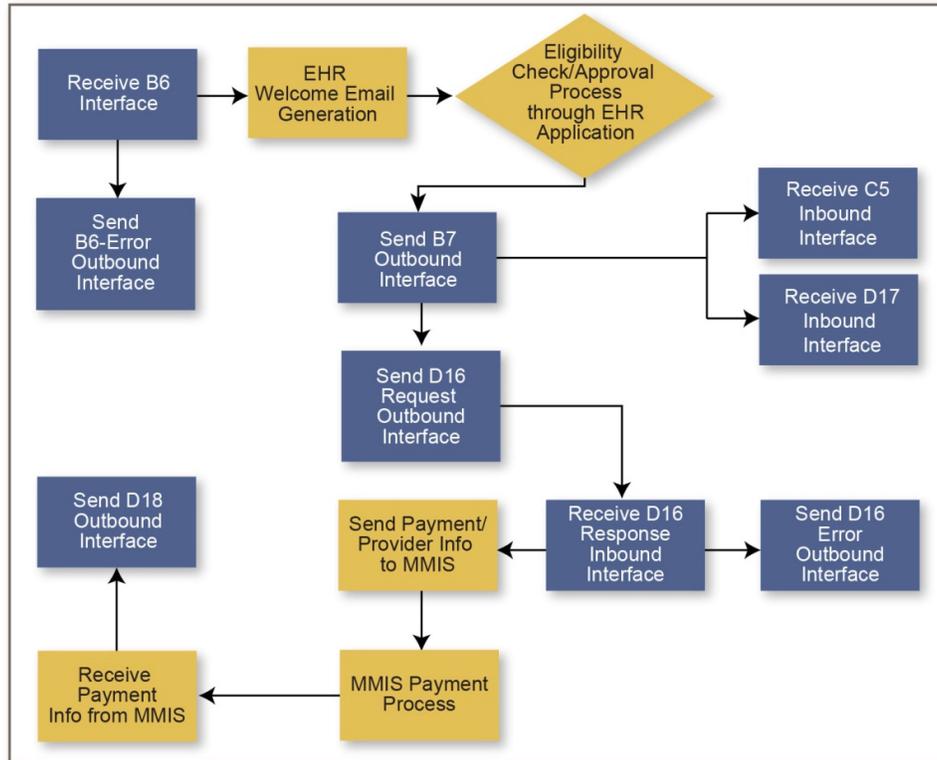
Team CNSI’s eMIPP interface framework solution connects with CMS’ National Level Repository (NLR) to receive daily feeds of registration, hospital cost report, hospital attestation, and duplicate payment check information and to send the updated registration and payment information to CMS. All CMS-NLR eMIPP interfaces are automated using the Mule (ESB) product.

Michigan, using Team CNSI’s eMIPP solution was the first state in the nation to obtain CMS testing approval of all CMS interfaces. Michigan and Team CNSI were chosen to participate in ONC Certification system testing prior to final implementation testing at the state level. Team CNSI has since received CMS interface testing approval for our solutions for the state of Washington and is in the process of obtaining approval for Maryland.

eMIPP depends on the CMS-NLR initial (add) registration data (B-6) to initiate the state level registrations. If any of the federal registration information changes, eMIPP receives an “Update” transaction in the same interface (B-6). When a state level eligibility decision is made, CMS-NLR is informed via the B-7 interface. Then eMIPP automatically confirms with CMS-NLR that the provider is still eligible for MIPP and that the provider has not already been paid by another state for this payment year (D-16 Request and D-16 Response). Finally, when eMIPP receives confirmation from the MMIS that payment is made, eMIPP automatically sends CMS-NLR the payment information (D-18). Together the interfaces provide registration data, confirmation of continued eligibility, and confirmation of payment integrity. All of these add to the overall program integrity of Iowa’s EHR MIPP.



Figure 54 shows the process flow of the various CMS-NLR interfaces. In this figure CMS-NLR interfaces are blue, eMIPP and MMIS related functions are gold. All interface files, inbound (B-6, D-16 Response, C-5, D-17) and outbound (B-7, D-16 Request, D-18) run when scheduled, even if there is no data. Error files are outbound only and run only if an error occurs during inbound file processing. Internal error files are generated if an error occurs during an outbound file process, these are not identified because they are not part of the CMS-NLR interfaces that are tested by CMS.



IA eMIPP-003

Figure 54. EHR MIPP Interface Process Flow. This diagram displays where in the EHR MIPP process each CMS-NLR interface occurs.

Figure 55 lists the inbound and outbound interface exchanges between CMS and the State.

CMS-NLR Interface File Designation	Originator and Recipient of File with Short Description
B-6	CMS to State notification of CMS registration and updates.
B-7	State to CMS notification of State eligibility determination.
D-16	Request - State to CMS request for duplicate payment check. Response - CMS to State response to duplicate payment check.
D-18	State to CMS payment information.
D-17	CMS to State transmission of Medicare Hospital Cost Report information
C-5	CMS to State transmission of Medicare Hospital incentive payment program attestation (Dual Medicare and Medicaid Hospitals Only) including Medicare Hospital MU data.

Figure 55, CMS-NLR File Directory. This is a complete listing of CMS-NLR interface files both inbound to eMIPP and outbound to CMS-NLR.



a. Accepting a daily feed and applying that information to the State repository.

As indicated in the figure above, there are multiple daily interface feeds from CMS. Below is a brief description of each interface fee received from CMS and applied to the state repository.

- **Registration – B-6.** The purpose of this interface is to inform states of new, updated, and inactivated Medicaid registrations. CMS sends states a daily batch file containing zero or more records of new Eligible Professionals (EPs) and Eligible Hospitals (EHs) that signed up for the EHR Provider Incentive Payment Program and selected to participate in the Medicaid Incentive Payment program. Also included in the data are any updates/changes to the EP or EH entries. The types of updates include changes in demographics, ONC certification number, or any other provider input data. An inactivation occurs when a provider:
 - Updates his or her information and is now determined ineligible by CMS
 - Cancels the registration at CMS
 - Informs CMS that he or she is switching registration from Medicaid to Medicare
- **Dually Eligible Attestation Data – C-5.** The purpose of this interface is to receive attestation information for Dual Eligible Hospitals from CMS. Attestation data includes MU Stage 1 information. CMS sends this information only when a dually eligible hospital receives final approval or denial.
- **Duplicate Payment/Exclusion Check – D-16 (Response).** The purpose of this interface is to prevent duplicate payments for providers from more than one state during any single payment year. When preparing this file CMS also checks for federal and state level exclusions and that the provider is not dead. The D-16 is a two-way exchange with a file from the state (D16-Request) to CMS that specifies what provider the state wants to pay and a response from CMS (D16-Response) back to the state approving or not approving payment.
- **Dually Eligible Hospital Cost Report Data – D-17.** The purpose of this interface is to send states the cost report data elements utilized by CMS to determine Medicare hospital payments for dually-eligible hospitals. States can use this information to determine state level, Medicaid Incentive payments if they choose. CMS sends this information only when a dually eligible hospital's eligibility has been approved at the state level and the state has notified CMS via the B-7 batch file.

b. Sending updated daily feeds to CMS.

As previously mentioned, there are multiple interface feeds Team CNSI sends from the Iowa's eMIPP to CMS:

- **Registration Confirmation – B-7.** This interface is to update CMS regarding the final state eligibility determination of EPs and EHs that selected Medicaid. States send CMS the eligibility of new and updated registrations. This is a daily file. There is no response expected back from CMS for inactive registrations.
- **Duplicate Payment/Exclusion Check – D-16 (Request).** The purpose of this interface is to prevent duplicate payments for providers from more than one state during any single payment year. When preparing this file CMS also checks for federal and state level exclusions and that the provider is not dead. The D-16 is a two-way exchange with a file from the state (D16-Request) that specifies what provider the state wants to pay to CMS and a response from CMS (D16-Response) approving or not approving payment back to the state.



- **State to CMS, Incentive Payment Data –D-18.** This interface is used to update CMS records indicating successful incentive payments for Medicaid EPs and Medicaid and Dually Eligible hospitals.
- **State to CMS, Batch Error.** This interface is used to send an error file to CMS if there are any errors encountered when the state is processing one of the CMS batch files sent to the state. The CMS files are the B-6, D16-Response, C-5, and D-17.

Data Extracts for Data Warehouse

6. Provide requested data extracts for the Agency's Data Warehouse.

eMIPP provides Data Warehouse extracts in the two states where eMIPP is in production and will do so for Iowa as well.

Team CNSI will work with Agency staff during configuration and integration to assure that the extract is provided in the proper format for Iowa. The data will be provided in flat file format.

The solution is configured to make all eMIPP data available for the data warehouse extract. This includes:

- A complete history of all CMS/NLR registration data, including updates
- All provider registration information, including modification dates and modified by data
- All payment summary information, including dates, expected and actual payment amounts, and payment reason (Incentive Payment, Adjustment and Recoupment)

Team CNSI recommends a weekly cycle, run after each CMS-NLR D-18 interface file is run, thus capturing the most recent paid information. Team CNSI recommends that registration data be sent after a final eligibility determination is made and, if approved, after the payment is made. Extracts would also be provided whenever additional payments are made.

Team CNSI will work with Agency staff during configuration and integration to configure the extract cycle and registration statuses to be extracted to the data warehouse. Team CNSI understands how data extracts are done currently in Iowa. This knowledge will help us during configuration and integration sessions to expedite this component of the project.

Application Support

7. Provide Application support for the life of the contract.

Team CNSI will provide eMIPP application support for the life of the contract, through October 2021.

As documented in our draft Project Work Plan and Timeline (in proposal Tab 4 – Draft Documents), we have accounted for the known enhancements CMS has planned for Stage 2 and Stage 3 meaningful use, although neither are fully defined at this time. Throughout the life of the project we have provided for operational defect releases every six months after the initial implementation release April 2, 2012 as well as ongoing operational support such as ongoing monitoring and a monthly operations status report.

Team CNSI's proposed staffing plans show ongoing technical and functional staff support has been allocated to assure application support will continue. This includes onsite staff support throughout the life of the project.



Team CNSI provides our overall project monitoring and control methodologies that will be implemented during the Operations Support phase in the Project Work Plan. Our plan is to transition the management tools and staff from implementation to operations support to ensure consistency and continuity of knowledge. Application support planning begins with the development of the Operations Support Plan to provide a roadmap for ongoing application and operations support.

Application Support Planning and Training

The Operations Support Plan is developed as a separate exercise but at the same time as the configuration and integration phase of initial implementation. The development of the support plan has several clearly identified components as follows:

- **Identify Operational Support Processes Required.** In this component Team CNSI will identify support processes that are required from the array of project management and control and quality assurance tools available. The processes will focus on ensuring the ongoing quality of the application throughout its 10 year life cycle.
- **Configure Online Trouble Report System (OTRS) for IA EHR.** Every operational system needs a clear, easily tracked and efficient change control process. This begins with the Online Trouble Report System (OTRS) that will be used to initiate defect and enhancement identification and resolution. To manage these processes Team CNSI depends on an active and collaborative Change Control Board (CCB).
- **Establish Change Control Board.** The CCB is the management review board to review and direct the resolution of defects and enhancements, similar to its role during implementation. CCBs are at the heart of Team CNSI's ongoing collaborative relationship with our clients. Most operational issues are resolved at this level, although unresolved issues can be taken to upper management if no resolution is found. CCB will meet on a regular basis and assure that no defects or enhancements are lost. Team CNSI will provide administrative support to the CCB to document all discussions and decisions. CCB members will be asked to validate and amend as needed all CCB meeting notes.
- **Provide CCB Orientation.** Team CNSI will provide CCB orientation for members prior to going live with the first release of the eMIPP software.
- **Prepare, Submit, and Obtain Approval for Operations Support Plan.** Team CNSI will prepare the Operations Support Plan and submit it for Agency review. Comments will be reviewed and implemented. Ongoing interaction with Agency staff will assure that the final document will meet the application support needs of Iowa's EHR MIPP administration.
- **Conduct Operations Training (Agency and Team CNSI Staff).** Team CNSI will provide operations support training for Agency staff, and provide a refresher session for Team CNSI staff who will be working together during eMIPP's lifecycle. This will include training for when and how to initiate an OTRS document. This training will include the change management process that will be followed during the life of the contract. Team CNSI and Agency staff will be trained in collaborative assessment of OTRS requests, including presenting recommendations to CCB. Our training also includes review of eMIPP processes, performance expectations, and protocols for reporting ongoing eMIPP activities such as the operations dashboard. Training will include security and quality assurance processes and protocols.



Application Support for Major (2012, 2013 and 2014) and Minor (2012 through October 2021) Releases

As displayed in the draft Project Work Plan included in this proposal, Team CNSI's ongoing application support envisions two "Minor" application support releases each year beginning the second half of 2012 and continuing through the end of Iowa's EHR MIPP, except when a "major" release is also scheduled. In those cases there will be one minor and one major release per year. These releases are to assure the application has regular support throughout its lifetime. Major releases are designed to accommodate the currently known program updates for Stage 2 and 3 meaningful use. The following provides the general release process:

- **Review Approved Enhancements Requests and Defect Reports (CCB).** All Enhancements and Defects to be released for the new release are reviewed by Team CNSI staff. Team CNSI, in collaboration with Agency personnel will prioritize and work with the CCB to assure that the release budget constraints, if any, reflect the approved prioritization.
- **Build Release Content Package.** Team CNSI will then create a release package to guide the requirements and design processes to direct development. The objective of this process is to provide the agency with a draft requirements document outlining the requirements to be addressed in this release. Requirements gathering is an artifact of the CCB process for both large and small releases. For large releases Team CNSI will conduct requirements gathering sessions with Agency personnel prior to the validation process.
- **Verify Requirements.** Team CNSI will staff and guide all requirements validation meetings. Team CNSI will provide Agency staff with the requirements to be reviewed prior to each meeting as agreed during initial contract management discussions. Each requirement validation or issue prior to validation will be documented by Team CNSI staff and provided to Agency staff to approve or request changes prior to approval. Team CNSI knows that an emphasis on the requirements validation and the design sessions to follow will yield both cost and time benefits throughout the release process. Agency staff will be asked to "sign-off" on the requirements validation results before moving to the design phase.
- **Design Enhancements and Defect Corrections.** Team CNSI will conduct and document all design sessions as necessary. Like requirements validation sessions, Team CNSI will provide design documents prior to each session to facilitate informed discussion and decisions throughout. All design decisions will be approved by Agency staff prior to final document preparation.
- **Update Documentation.** Team CNSI will update all eMIPP design documents before beginning technical design and development. Document update activities include updating Team CNSI's requirements traceability tool that is used to assure a complete test plan. The Test Plan will be updated for system testing. This includes scripting tests to address all defects and enhancements in the release. Training materials will also be updated, and training scheduled and conducted for Agency staff on testing objectives and eMIPP application changes.
- **Technical Design and Software Development.** Team CNSI will immediately begin the technical design and software development iterations based on the design documentation.
- **Perform System Testing.** Throughout the technical design and software development process Team CNSI will conduct system testing, prior to releasing the software for acceptance testing. Team CNSI will conduct testing within to assure that the defect fixes and enhancements have no unintended impacts in other areas of the application. Team CNSI's testing includes MMIS impact analysis.



- **Perform Acceptance Testing.** Agency staff will conduct acceptance testing for all minor and major releases. Team CNSI will share our system test plans, scripts and results with Agency staff to help with acceptance testing. Team CNSI will provide assistance with test data and creating test scenarios throughout acceptance testing as requested by Agency staff. Defects uncovered during acceptance testing will be addressed quickly and returned to Agency staff for additional review only after thorough testing in the system test environment by Team CNSI staff.
- **Implementation Planning and Approval.** Team CNSI will work with Agency staff to assure that the implementation plan, including the implementation checklist developed by Team CNSI and approved by Agency staff is strictly adhered to. Final approval for implementation in the production environment will follow release protocols developed with Agency staff.
- **Release in Production, Stability Monitoring.** Upon approval by the Agency, Team CNSI will conduct the production release of all defects and enhancements for a release. Post release Team CNSI will conduct stability monitoring prior to returning to ongoing operations. Agency staff will approve final production and stability of the release signifying the release closure.

Implementation Planning Materials

8. Provide project implementation planning materials for the Agency's approval no later than 15 days following execution of the contract, including:

Team CNSI has prepared draft documents for all five artifacts. The draft implementation materials presented in this response will be updated and presented for the Agency's approval within 15 days following execution of the contract.

a. A project work plan.

CNSI prepared the preliminary project work plan included in this proposal with Microsoft Project. The work plan was developed using project Management Institute (PMI) best practices beginning with a work breakdown structure. Team CNSI based this work plan on our eMIPP implementations in production for electronic medical records (EHR) Medicaid incentive payment programs (MIPP) in the states of Michigan and Washington. In our work plan we have accounted for the known enhancements CMS has planned for Stage 2 and Stage 3 Meaningful Use. Our work plan supports successful implementation of eMIPP for Iowa by April 2, 2012. The full details of the work plan are presented in Tab 4 – Draft Documents, Work Plan. The WBS can also be found in that section.

b. A project training plan.

Team CNSI has the product knowledge and professional training expertise to support training for the Agency. Our draft training plan is presented in Tab 4 – Draft Documents, Training Plan. The draft training plan provides an outline of the training proposed for eMIPP as well as an overview of the approach to operations support training. For eMIPP, Team CNSI has recommended a series of three training sessions for a total of seven hours of training. As a part of the draft implementation materials submission, Team CNSI has provided the instructor's guide for conducting eMIPP training. The instructor guide shows the agenda for each training session and outlines the exercises the participants will complete during the session. At the conclusion of the eMIPP training, the Agency staff assigned to manage the Iowa EHR MIP will have the knowledge necessary to use the system and to give support to providers who will use the system. Team CNSI recommends training take place prior to the beginning of the User Acceptance Testing (UAT) activity. Acceptance Testing provides assigned staff with the



opportunity to deepen their knowledge and familiarity with eMIPP so that they are at ease with eMIPP from its first day of production operation. Operations support training is planned a week prior to the implementation date and will provide Agency staff with the information they need to interact with Team CNSI following deployment.

c. A project timeline.

Using the draft work plan, Team CNSI has prepared a series of timelines covering the life of the contract. The timelines provide snapshots of the entire contract term and individual views for the configuration, integration, and implementation leading up to deployment on April 2, 2012 and for each year of operation following initial deployment. Years 2012, 2013, and 2014 are presented at a detail level. Years 2015 through 2021 are summarized at a higher level. The project timeline details are presented in Tab 4 – Draft Documents, Project Timeline.

d. All application screen shots.

Team CNSI has prepared an inventory of the 32 screens in the eMIPP product as of the proposal response date. Refer to Tab 4 – Draft Documents, Screen Shots to view the application screen. Additional screens are currently being developed to support Meaningful Use Stage 1. These screens will be included in the implementation materials to be delivered to the Agency following contract execution.

e. All sample reports to be used.

The eMIPP application is preconfigured with three on-demand reports. eMIPP also includes an online graphical report and an operations dashboard. All reports can be filtered for specific types of details and time ranges, allowing a virtually unlimited number of reports. eMIPP has the facility to export report data into Microsoft Excel for additional analysis. Team CNSI has provided samples of the reports in Tab 4 – Draft Documents, Reports.

Software Updates

9. Provide all available updates to the software as they are released, as well as provide any updates required to meet attestation needs for future stages of meaningful use as defined by the federal government.

After implementation Team CNSI has planned two software releases per year for the life of the contract. For the first two years, software releases will include one minor release and one major release. The major release will include the enhancements necessary for support of Stage 2 and Stage 3 Meaningful Use. Patch releases may be scheduled with approval from the Agency when updates to the software are required outside the planned release schedule.

The planned schedule for maintenance releases can be found in Tab 4, Draft Documents - Work Plan under Work Breakdown Level 1.3.1.1, Perform Periodic Application Updates.

Overall Software Support

Team CNSI's eMIPP solution will use the following software components listed in Figure 56. The listed software components will be installed in CNSI's hosted facility on hardware and operating systems that are licensed and supported by the hardware vendors.



System Software	COTS Software Package	COTS Software Vendor	Software Version
Relational Database Management System	Oracle 11G	Oracle	11.2.0.2
J2EE Application Server	JBOSS	Open Source	4.0.2
Workflow	Activiti	Open Source	5.7
Enterprise Service Bus (ESB)	MULE	Mule Soft	3.1.2
Information Display	Slide Deck	Slide Deck	1.2.5
Version Control	Apache Subversion	Open Source	2.1.7
Defect Tracking	Bugzilla	Open Source	3.6.3
Web Development	Eclipse	Open Source	3.x
Reporting	Jasper	JasperSoft	4.1
Incident Management	OTRS	Open Source	2.4.9

Figure 56. eMIPP Software Components. This figure references the commercial software embedded within eMIPP.

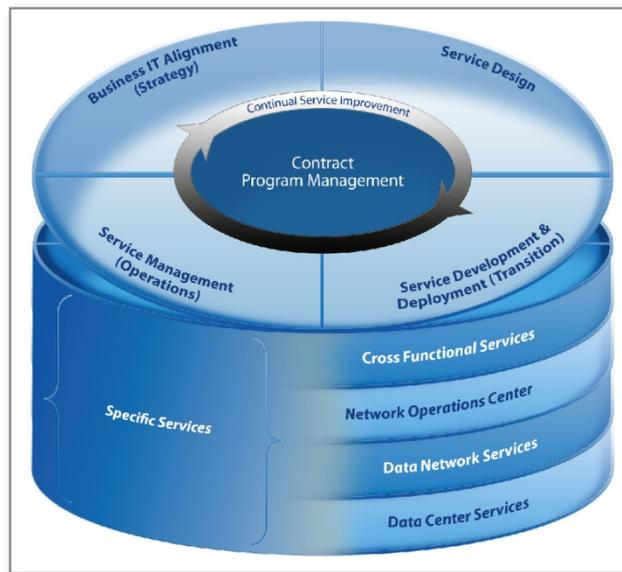
Licensing Strategy

CNSI has partnerships with the vendors producing the software listed above. Our partnerships enable CNSI to have development licenses at a low cost. The development licenses are shared across all eMIPP implementations thus reducing state costs. The eMIPP hosting environment consists of a shared infrastructure. Software costs are licensed based on the total number of cores used to service all of our eMIPP customers. The costs are then distributed based on utilization to our customers. All software is licensed to CNSI. State customers do not pay for any production license costs until the system goes live.

Change Management Processes

Version upgrades are required to ensure optimal system performance. We have a controlled process to test upgrades before they are implemented. Typical upgrade processes consist of testing in the development environment first and then following the normal testing lifecycle, which includes system and user acceptance testing, before deploying to the production environment. Following our processes for upgrades will minimize user disruption due to software version changes in the eMIPP infrastructure.

Team CNSI utilizes an ITIL framework to define the processes to manage and perform system changes. A key part of ITIL involves designing processes or “services” so that changes are introduced into an operations environment in a controlled and systematic manner. Figure 57 provides a high level view of how we have aligned ITIL to support the services required by the Department. Each layer represents a service area. The specific services are mapped to ITIL processes and other constraints. Together they represent a comprehensive set of practices, policies, procedures, and processes that will enable us to focus on business value by providing consistent, predictable, and measurable results. Each required service area is supported, or “wrapped”, by processes for business system alignment, service design and management, service development and deployment, and service operations. By focusing on strategy, design, transition, and operations, we provide a framework from which processes are transitioned to services and services are eventually evolved to business value.



IA eMIPP-012

Figure 57. ITIL Services for eMIPP. CNSI utilizes the industry standard ITIL framework as a basis for performing and managing change.

As shown in Figure 58, five logical promotion levels exist for deploying version upgrades to the following corresponding environments: Development (Dev), Unit Test, System Test, User Acceptance Test (UAT), and Production. Other environments that are implemented for eMIPP will also be upgraded as part of the promotion cycle as required (e.g., when releases are deployed to production the training environment must also be upgraded to ensure end users have access to the code base that is in production).



IA eMIPP-013

Figure 58. Build Promotion Model. Our build promotion model has been successfully used on our Washington eMIPP and Michigan eMIPP projects.

Figure 59 shows our change control framework, which consists of:

- Creating a robust change control process
- Assigning and training staff that will execute the change control process
- Implementing the change control processes and continuously improving it

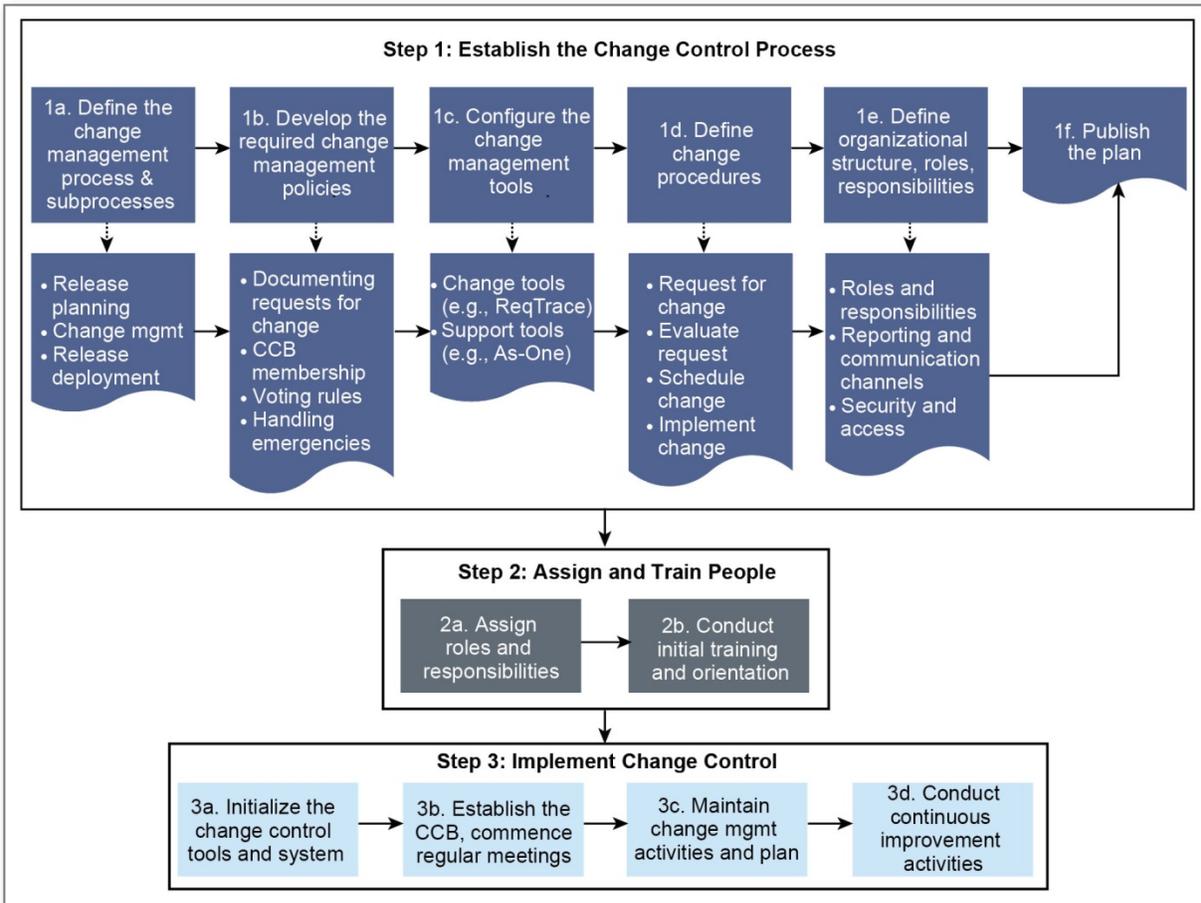


Figure 59. Establishing a Change Control and Management System. Our process creates a firm foundation from which changes are effectively controlled and managed.

Security and Operational Standards to Protect Information

10. Confirm, at all times, adequate security and operational standards to protect all information. All such standards must at all times meet with Agency approval.

Team CNSI proposes a mature security and operations framework that addresses all physical, logical, and infrastructure (IT and hosting) requirements. Team CNSI’s holistic approach to securing information resources hardware, software, and data will not only assist with meeting our security obligations but will do so in the most economical manner to minimize cost to the Agency. This approach addresses administrative, operational, technical, and physical security measures at the CNSI Data Center. Team CNSI follows a security management concept that ensures that the security solutions support our business drivers. Most importantly, Team CNSI brings the staff and corporate experience.

Security has often been seen as (1) a function of technology and (2) an entity unto itself, added onto an organization’s IT structure. For Team CNSI, security is an integral component of the organization’s mission. The Agency can rely on Team CNSI to understand the forces that shape the requirements of this solicitation – the Agency’s functional mission, regulatory constraints, and budgetary limitations. Team CNSI has ensured that our proposed solution meets security policies and Federal Information Processing



Standards (FIPS)/National Institute of Standards and Technology (NIST) guidelines. We propose Cisco security appliances that will provide the required encryption for all VPN users. In addition, we propose to utilize secured socket layer (SSL) for all public facing applications to provide the necessary data encryption, integrity, and non-repudiation. In addition, our firewall implementation will ensure that there are boundaries with various levels of security for internal and external users through the use of demilitarized zone (DMZ) protected interface.

Security Standards

Team CNSI's eMIPP solution is built on J2EE open standard architecture, which provides strong foundation capabilities for developing a services based framework. The application architecture provides a web application framework that supports Light Weight Directory Access Protocol (LDAP) for user authentication and role based access controls for user authorization. All the web transactions are encrypted using the Hypertext Transfer Protocol Secure (HTTPS) protocol and use a secured FTP for file exchanges. The eMIPP application uses Oracle relational database management system (RDBMS) to securely store data.

Team CNSI's eMIPP is a web based solution that uses 128 bit encryption HTTPS protocol to manage the web transactions. HTTPS is a combination of the Hypertext Transfer Protocol (HTTP) with SSL/TLS protocol to provide encrypted communication and secure identification of a network web server.

Team CNSI will develop and host the eMIPP solution at our Center of Excellence in Gaithersburg, Maryland. The eMIPP infrastructure allows for high performing and redundant architecture. It consists of load balancers that provide effective utilization of infrastructure, multiple firewalls for security, and DNS/Dynamic Host Configuration Protocol (DHCP) appliances. Figure 60 is a high level diagram of our overall network infrastructure.

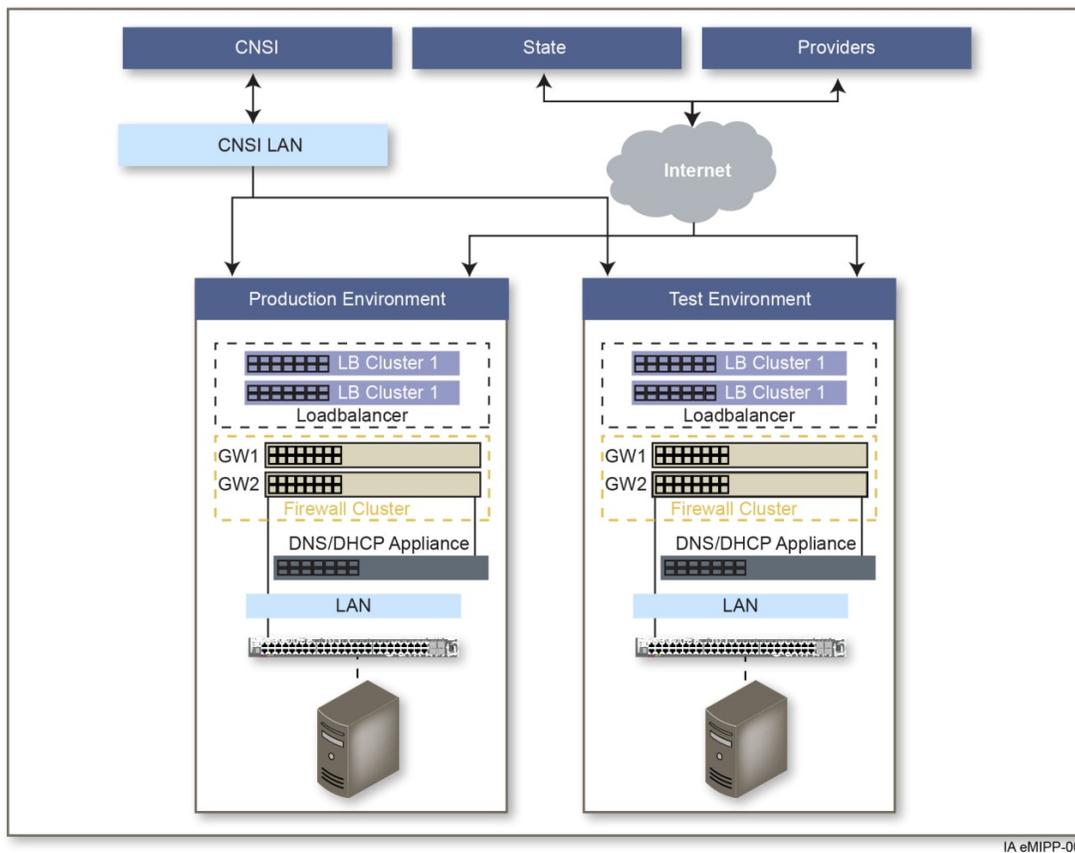


Figure 60. eMIPP High Level Network Infrastructure. Secured access to Production and Test Environments.

Team CNSI's Security Management practices address security policies and procedures that are essential for the management and oversight of information security. Security management standards will include:

- Security Awareness training plans and schedules
- Revocation of access
- Security staff designations, roles, and responsibilities
- Network interconnection and remote access
- Change Management (plan review, authorization, testing)
- Incident reporting and response

Persons granted unescorted access to any or all Team CNSI facilities are issued permanent Team CNSI photo badges. These badges must be carried at all times, and must be presented to front desk personnel upon request. Proximity cards and badges are collected as part of the exit interview process. Records of the badges and the associated proximity access cards are tracked in a database that is checked weekly against a personnel exit list provided by Human Resources.

Operations Standards

Team CNSI's implementation of audit and log controls functions enables eMIPP operations personnel to inspect system and network activities, detect unauthorized access, trace and reconstruct intrusions, and process evidence related to unauthorized activities per Team CNSI policies and procedures. Security personnel review database access logs, and follow up with team leads that are responsible for their



application. System administrators are responsible for reviewing server logs. Network administrators are responsible for reviewing router and device logs.

Authorization to perform specific operational functions or to use specific networked resources will be granted according to the principle of least privilege: granting no individual more authority than reasonably required to perform his assigned duties. The access controls at the operating system and platform configuration levels, together with user account management and security policies and procedures help in maintaining the operations security.

These preventive measures are needed to control eMIPP system access to protect data availability, integrity, and confidentiality.

Among other policies and procedures outlined in various requirements, additional operational security configurations are listed below:

- Identification and authentication (password, token, biometric)
- Default user accounts
- Operating system access controls
- Privilege restrictions
- Unnecessary system services
- Administrative rights
- Administrator accounts and account monitoring
- File system and sensitive system file access
- Network protocols
- Remote access
- Failed logons
- Virus scanning and security patch management
- System boot access
- System maintenance
- Remote system administration and access
- User access administration

Team CNSI’s information system security officer (ISSO) is a subject-matter-expert on federal standards that include NIST Special Publications, Federal Information Processing Standards (FIPS), HIPAA Rule Sets and Federal Information Security Management Act (FISMA) compliance requirements. The ISSO shall work collaboratively with the Agency counterpart to collect, review, and conduct necessary information exchange sessions. These sessions are required to ensure Agency policies are understood and requirements are communicated to Team CNSI’s software engineering staff. Team CNSI will confirm, at all times, that adequate security and operational standards to protect information are in place and that such standards meet with Agency approval.

The CNSI eMIPP solution applies the VeriSign Class 3/RSA 1024 Bits certificate for establishing a Secure Socket Layer (SSL). The CNSI Network Operation Center (NOC), configuration management, system administrators as-well-as network administrators use the CISCO Virtual Private Network (VPN) for a secure and encrypted connection to accomplish the following privileged activities:

Network / Firewall Administrators	<ul style="list-style-type: none"> • Firewall Configuration / Rule Changes • Firewall Log Reviews • Intrusion Detection System Configuration / Monitoring • Router / Switches Configuration / Maintenance
Network Operation Center (NOC)	<ul style="list-style-type: none"> • Server Monitoring (Health Beat) • Performance Reports Generation)



	<ul style="list-style-type: none"> • CPU / Memory utilization
Configuration Management	<ul style="list-style-type: none"> • Release Updates • Operating System / Patch updates verification
System Administrators	<ul style="list-style-type: none"> • Operating System / Patch updates • Server Configuration Changes after Change Control Board

Backup Approach

CNSI will perform hot backups on a daily basis and cold backups on a weekly basis for all databases. Backups not related to a database include the operating system files and application code installed on servers. These files do not change on a daily basis. CNSI will also back up these files before and after applying changes. For example, if an operating system upgrade is to be performed, CNSI will make a complete backup of the server prior to the upgrade and another backup immediately after the upgrade is applied. One set of tapes with the most current configuration will be kept and cataloged for recovery purposes.

CNSI utilizes Oracle Recovery Manager (RMAN) to perform database backups and recovery. RMAN is an Oracle utility that can back up, restore, and recover database files. It is a feature of the Oracle database server. RMAN offers a great amount of flexibility and a variety of options to DBA staff for backup and recovery. RMAN also automates database backup and recovery. Non database backups are taken to tape using net backup.

MITA Standards for SOA and Interoperability

11. Confirm, at all times, the solution meets MITA standards for SOA and interoperability.

Team CNSI’s successful and proven solution, eMIPP, is taking the Medicaid program into the new age of a connected healthcare infrastructure. eMIPP is a modular solution to manage the EHR Medicaid Incentive Payment Program (MIPP). It offers a comprehensive and configurable solution to measure and demonstrate the EHR superior outcomes as outlined by CMS guidelines. Team CNSI’s SOA infrastructure framework facilitates a technology agnostic and interoperable environment in which information and services can be exchanged and shared across the enterprise and with other agencies and partners. Team CNSI’s eMIPP solution is based on MITA initiated Service Oriented Architecture (SOA), which provides the flexibility to be integrated with any existing, state managed provider management applications. The overall solution leverages a set of reusable services (e.g., provider registry, eligibility service) to support state Medicaid agencies in administering the incentive payment program and meet federal audit and control standards. The solution also integrates with external services like CMS’ National Level Repository (NLR) and with the Office of the National Coordinator (ONC).

The eMIPP solution is planned with a modular and forward-looking approach to meet the needs of the Meaningful Use Implementation Stages 1 through 3. This allows agencies to comply with the immediate regulations quickly while laying the groundwork for the future years.

The eMIPP architecture provides the following key attributes that together bind business processes, information needs, and delivery operations:

- **Adaptable.** The eMIPP infrastructure provides flexible and easily replaceable components that can readily adapt to regulatory changes occurring in the healthcare space. As an example we can replace the Oracle servers with IBM, HP, or another vendor. The network and storage

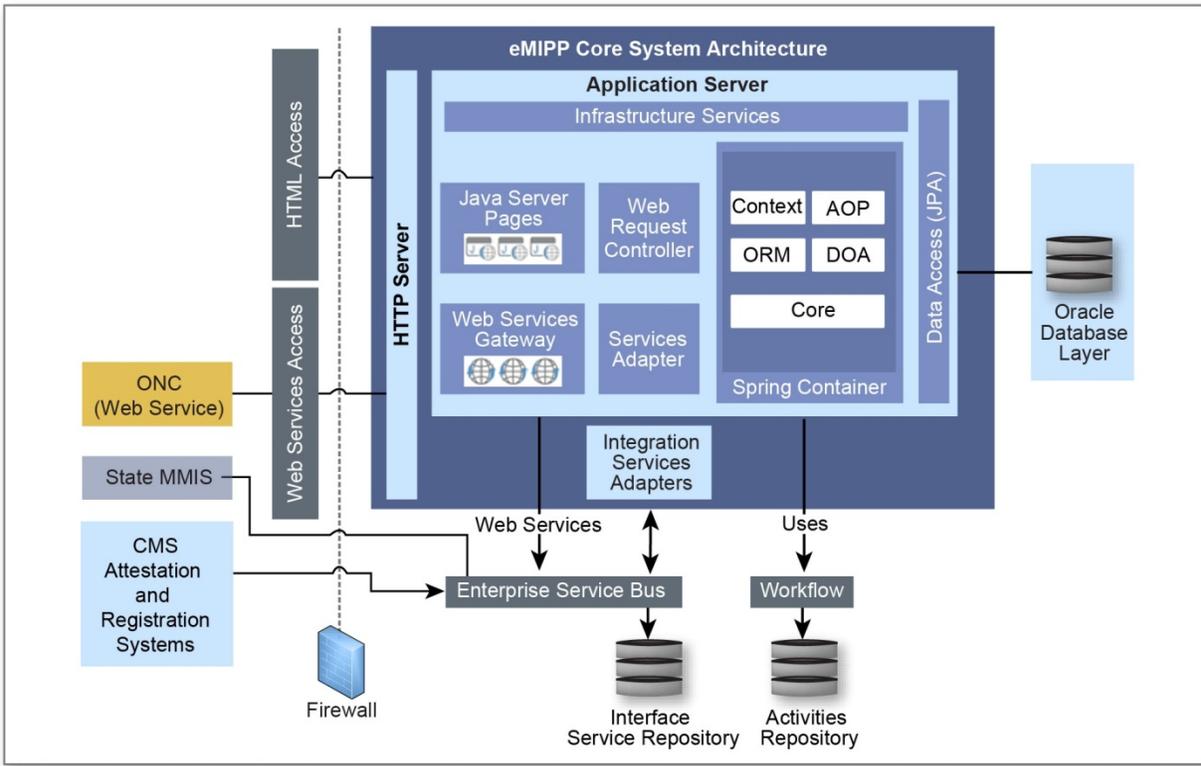


components can also be replaced if the market comes out with another strategy that is adopted by the industry.

- **Accessible.** eMIPP facilitates the user's ability to obtain the right information in the desired form quickly and easily. eMIPP provides different options to satisfy the needs of the various stakeholders (e.g., providers, state staff and other agencies). The eMIPP Web portal offers each stakeholder a tailored interface specific to its need.
- **Interoperable.** The service oriented architecture (SOA) of eMIPP aligns with MITA SOA strategy for services interoperability. Hiding programmatic details and enforcing service interface contacts is at the core of MITA. The Enterprise Service Bus (ESB) integrates these business services.
- **Connected.** The eMIPP architecture uses Web services via the Internet, allowing for data interchange with external sources, partners, and agencies in an efficient and economical manner.
- **Secure.** The eMIPP architecture promotes a security design philosophy at all levels of the technology stack that provides a secure environment for information management and protects against unwanted loss or disclosure of data. Authenticated access and role-based access control (RBAC) enforces security in eMIPP. Access controls and an audit trail support HIPAA Security and Privacy.
- **Maintainable.** eMIPP uses modular, readily available, proven, and cost-effective systems and components to provide a highly maintainable system.
- **Standards Based.** eMIPP makes extensive use of industry standards where relevant and applicable. For example, eMIPP aligns with the Web services standards published by the World Wide Web Consortium (W3C) and the Organization for the Advancement of Structured Information Standards (OASIS). Our standards adoption is based on applicability, maturity, and industry acceptance for each given standard.

At the same time our approach in developing the eMIPP system architecture is to continually focus on the larger frame of reference and not specifically on individual technologies. Technologies change rapidly. A system that focuses on standards, frames of reference, and core architectural principles is by nature more resilient and sustainable for the relatively long life cycle.

Figure 61 provides an overview of the eMIPP technical architecture.



IA eMIPP-004

Figure 61. eMIPP Technical Architecture Overview. The eMIPP solution meets MITA standards for SOA and interoperability.

Monthly Reports

12. Provide necessary monthly reports, including but not limited to:

a. System Availability and outages.

Team CNSI's goal for the eMIPP application is to have 24x7 uptime, excluding the following:

- Any monthly maintenance outages
- Any year end maintenance outage
- Application code releases
- Hardware failures
- Network failures

Team CNSI provides four monthly reports of system availability and outages for the eMIPP application.

System Availability

Team CNSI has a robust approach to monitoring and reporting and will provide reports that address downtime, system issues with resolutions, and summary of user logins.

Figure 62 is a sample Summary Status report with details on the eMIPP application. It includes status on the CMS interfaces processed, the counts of users that have logged in, the incidents that have been reported, etc. This information is displayed in the eMIPP Operational Dashboard.

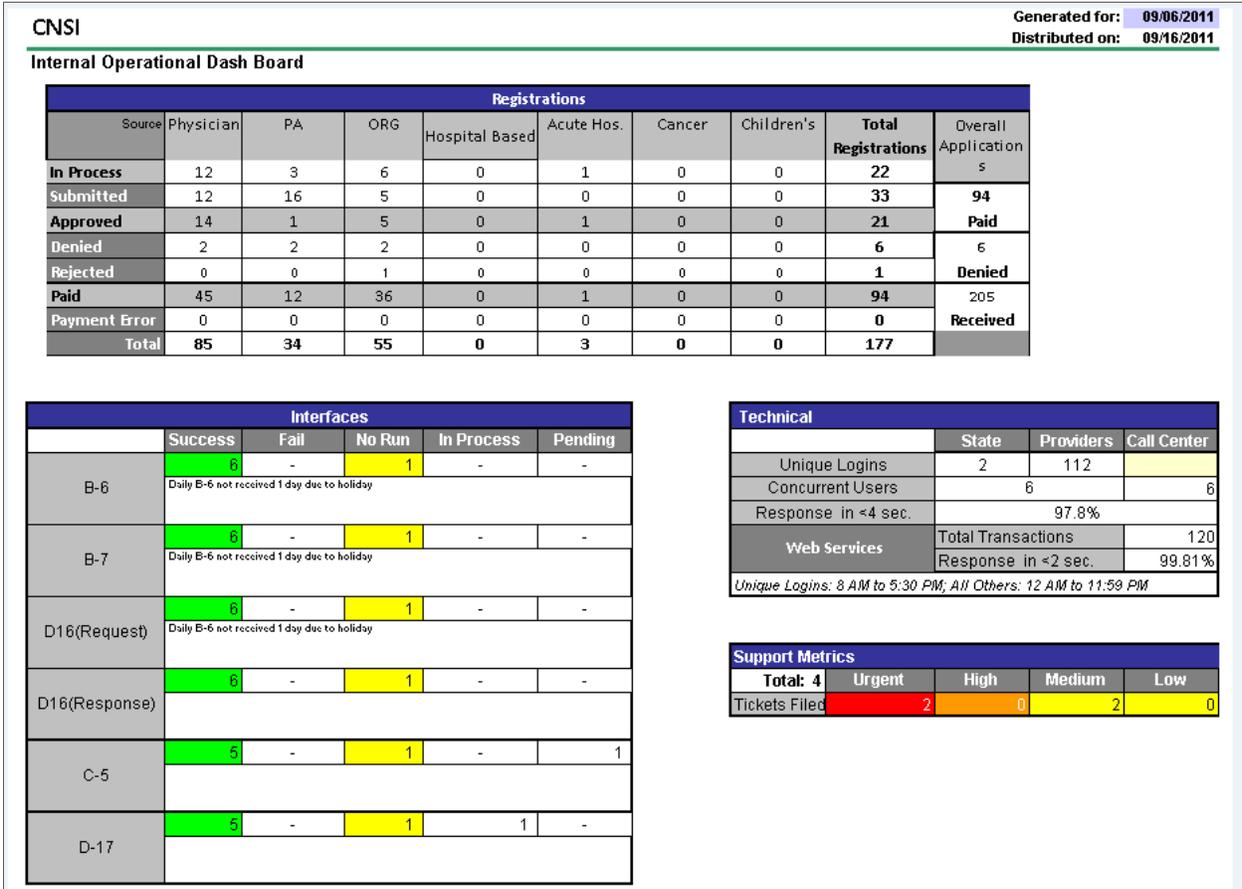


Figure 62. eMIPP Operational Dashboard. Agency users can assess the status of critical functions at a glance.

Figure 63 displays the sample CPU and memory utilization report that is generated by the application monitoring agent deployed on the web servers.

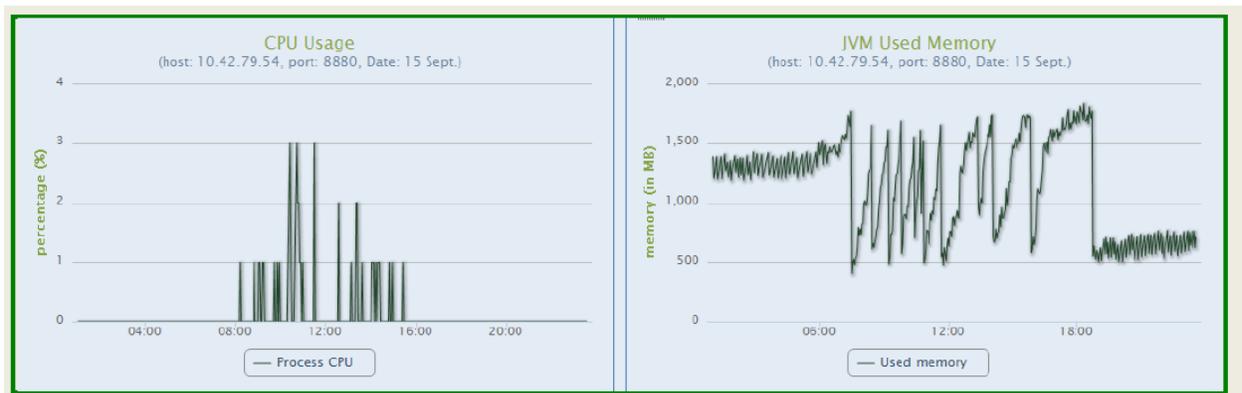


Figure 63. Sample CPU & Memory Utilization report.

Outages

Team CNSI coordinates downtime with all of our customers. Typically these downtime windows are scheduled on weekends when the user activity is low such as on weekends after midnight. In Michigan and Washington we have the eMIPP maintenance outages on the second Saturday of the month between



6.00 PM to 6.00 AM. Team CNSI will work with the Agency to establish an acceptable downtime window for maintenance activities.

b. Activities completed and planned.

Figure 64 is a sample report of the activities that are planned as part of a maintenance outage. Team CNSI provides this report to the Agency each month on an agreed upon schedule.

Maintenance Plan					
Outage Date					7/9/2011
Outage Start					6pm 7/9/2011
Outage End					6am 7/10/2011
Dependencies / Impacts		Owner			
CM Team Tasks	Task	Owner	Duration	Planned Start	Planned End
	Outage Notification	Operations Team	15 minutes	4/8/11 6:00 PM	4/8/11 6:15 PM
	Application Banner	CM Team	15 minutes	4/9/11 5:30 PM	4/9/11 5:45 PM
	Bring Down App Servers and JCAPS	CM Team	1 hour	4/9/11 6:00 PM	4/9/11 6:30 PM
	Bring up App Servers and JCAPS	CM Team	15 minutes	4/10/11 6:00 AM	4/10/11 6:15 AM
	Remove Application Banner	CM Team	15 minutes	4/10/11 6:00 AM	4/10/11 6:15 AM
	Outage Completion Notification	CM Team	15 minutes	4/10/11 6:00 AM	4/10/11 6:15 AM
DBA Team Tasks	Task	Owner	Duration	Planned Start	Planned End
	Archival and Purge	DBA, PL/SQL	4 hrs	7/9/11 6:00 PM	7/9/11 10:00 PM
	Defragment bad segments/tables	DBA, PL/SQL	6 hours	7/8/11 9:00 AM	7/8/11 5:00 PM
	Rebuild bad/volatile indexes	DBA, PL/SQL	6 hours	7/9/11 9:00 AM	7/9/11 3:00 PM
	Gather stats	DBA, PL/SQL	0 hours	7/9/11 6:00 PM	7/9/11 10:00 PM
	Validate App Function	DBA	1 hour	7/9/11 6:00 PM	7/9/11 7:00 PM

Figure 64. Sample of Planned Activities Maintenance Plan.

Upon completion of the maintenance activities Team CNSI operations team sends a maintenance completion report as shown in Figure 65.

Maintenance Plan Completion Report		
Outage Date		7/9/2011
Outage Start		6pm 7/9/2011
Outage End		6am 7/10/2011
Dependencies / Impacts		Owner
CM Team Tasks	Task	Status
	Outage Notification	Completed
	Application Banner	Completed
	Bring Down App Servers and JCAPS	Completed
	Bring up App Servers and JCAPS	Completed
	Remove Application Banner	Completed
	Outage Completion Notification	Completed
DBA Team Tasks	Task	
	Archival and Purge	Not Required
	Defragment bad segments/tables	Not Required
	Rebuild bad/volatile indexes	Not Required
	Gather stats	Not Required
	Validate App Function	Not Required

Figure 65. Sample Report of Completed Activities. Maintenance Plan Completion Report.



Hardware, Software or System Support from the Agency

If the solution is dependent upon hardware, software, or systems support from the Agency, please state that in the proposal.

Team CNSI’s eMIPP solution will be hosted in a CNSI facility in Gaithersburg, MD, thereby limiting the hardware, software and system support needed from the Agency.

The eMIPP application will require the Agency’s MMIS to facilitate a secured transfer of provider data and eMIPP generated payment data. The Agency will need to provide point-to-point file transfer software optimized for high-volume, secure, assured delivery of files. For example, for our eMIPP Maryland implementation we have integrated with the state’s existing CONNECT-DIRECT infrastructure for the secure file transfers.

In the following section, Team CNSI presents the hardware and software that we will provide to support eMIPP for Iowa.

Hardware

The hardware and other associated components that are required to securely manage the hosting environments are listed below.

Development / Test Environments

- Team CNSI will develop the eMIPP at our Center of Excellence in Gaithersburg, Maryland. The development and test environments will be hosted at this facility.
- Oracle Sun X Series Development Application Servers (Linux OS)
- Oracle Sun X Series Development Database Servers (Linux OS)
- Oracle Sun X Series Source Code Repository Server (Windows OS)
- Network and Telecommunications Infrastructure
- Backup Infrastructure

Production Environment

- Production environment will be hosted at CNSI’s Center of Excellence in Gaithersburg, Maryland
- Oracle Sun X Series Application Servers (Linux OS)
- Oracle Sun X Series Database Servers (Linux OS)
- CISCO Firewalls / Routers /Switches
- Partial DS3 Internet Circuit (Max of 9 Mbps)
- N+1 Redundant AC/DC UPS Power
- N+1 emergency generator configuration
- 24/7 staffing and site access

Figure 66 Lists the detailed configurations/specifications for the development, test and production equipment used for the eMIPP implementation.

Vendor	Specifications	Purpose	Quantity
PRODUCTION ENVIRONMENT			
Oracle	<u>X4170 M2 Server</u> <ul style="list-style-type: none"> • 1 Intel Xeon E5620, 2.40 GHz, Quad Core • 8 GB (2 x 4 GB DIMM) DDR3-1333 Low Voltage • 2 x 300 GB 10000 rpm 2.5-Inch SAS 	<ul style="list-style-type: none"> • Application Server • Workflow • ESB 	2



Vendor	Specifications	Purpose	Quantity
	<ul style="list-style-type: none"> • DVD+/-RW • 4 x 10/100/1000 Ethernet, 3 PCIe 2.0 • 1 High Efficiency 760W Power Supply <p>Other Key Features:</p> <ul style="list-style-type: none"> • Compact 1RU enterprise-class, x86-based server • Powered by high performing Intel Xeon processor 5600 series • Supports 18 DIMMs for maximum memory of 144GB • Up to eight 2.5” disk drive bays for HDDs, SSDs • Available with up to two Sun Flash Accelerator F20 PCIe Cards • Hot swappable disks, cooling fans, and power supply units • Optimized to run Oracle Linux, Oracle VM, and Oracle Solaris • Certified to run Red Hat Enterprise Linux, SUSE Linux Enterprise, Windows Server, and VMware 		
Oracle	<p>X4270 M2 Server</p> <ul style="list-style-type: none"> • 2 Six-Core Intel Xeon X5690, 3.46 GHz • 16 GB (4 x 4 GB) DDR3-1333 Low Voltage • 24 Disk Chassis: 1.2TB (4 x 300 GB) 10000 rpm 2.5-Inch SAS Disks • DVD+/-RW • 4 x 10/100/1000 Ethernet, 6 PCIe 2.0 • 2 Redundant, Hot-Swap High Efficiency 1050W Power Supplies <p>Other Key Features:</p> <ul style="list-style-type: none"> • 2RU enterprise-class, x86 server • Powered by the highest performing Intel Xeon processor 5600 series • More than 1TB of Flash storage capacity • Supports 18 DIMMs for maximum memory of 144GB • Up to twelve 3.5” disk drive bays for HDDs or SSDs • Up to twenty-four 2.5” disk drive bays for HDDs or SSDs • Hot swappable disks, cooling fans, and power supply units • Optimized to run Oracle Linux, Oracle VM, and Oracle Solaris • Certified to run Red Hat Enterprise Linux, SUSE Linux Enterprise, Windows Server and VMware 	<ul style="list-style-type: none"> • Database Server • Reports Server 	2
Coyote Point	<p><u>Coyote e350GX</u></p> <ul style="list-style-type: none"> • Intelligent layer 7, application-based load balancing 	<ul style="list-style-type: none"> • Load Balancer 	2



Vendor	Specifications	Purpose	Quantity
	<ul style="list-style-type: none"> • Scales to support hundreds of applications and servers • Extensive real-time and historical reporting • Advanced, intuitive management interface • Provide 100% application availability • Differentiate servers by application type with ease • Meet capacity requirements without changing applications • Improve end user satisfaction 		
Cisco	<u>Cisco ASA 5520</u>	• Firewalls	2
Cisco	<u>Cisco 2960G</u>	• Switches	2
DEVELOPMENT / TEST ENVIRONMENT			
Oracle	<u>X4270 M2 Server</u> <ul style="list-style-type: none"> • 2 Six-Core Intel Xeon X5690, 3.46 GHz • 16 GB (4 x 4 GB) DDR3-1333 Low Voltage • 24 Disk Chassis: 1.2TB (4 x 300 GB) 10000 rpm 2.5-Inch SAS Disks • DVD+/-RW • 4 x 10/100/1000 Ethernet, 6 PCIe 2.0 • 2 Redundant, Hot-Swap High Efficiency 1050W Power Supplies 	<ul style="list-style-type: none"> • Application Server • Database Server • Incident Management • Defect Tracking • Version Control 	2 (Virtualized environments to conduct all development and test activities)

Figure 66. eMIPP Hardware Components.

Software

Team CNSI’s eMIPP solution will use the following software components listed in Figure 67. The listed software components will be installed in CNSI’s hosted facility on hardware and operating systems that are licensed and supported by the hardware vendors.

System Software	COTS Software Package	COTS Software Vendor	Software Version
Relational Database Management System	Oracle 11G	Oracle	11.2.0.2
J2EE Application Server	JBOSS	Open Source	4.0.2
Workflow	Activiti	Open Source	5.7
Enterprise Service Bus (ESB)	MULE	Mule Soft	3.1.2
Information Display	Slide Deck	Slide Deck	1.2.5
Version Control	Apache Subversion	Open Source	2.1.7
Defect Tracking	Bugzilla	Open Source	3.6.3
Web Development	Eclipse	Open Source	3.x
Reporting	Jasper	JasperSoft	4.1
Incident Management	OTRS	Open Source	2.4.9

Figure 67. eMIPP Software Components.



Figure 68 displays the Software Development Tools that are used for the development of eMIPP

Tool	Purpose
Toad	Team CNSI uses Toad to query eMIPP database tables and to develop procedures and functions.
JUnit	Team CNSI uses JUnit to build test cases and integrate in the Java classes to perform unit testing. It's a unit testing framework for the Java programming language.
Soap UI	Team CNSI uses SoapUI to test the web services.
Apache LDAP Studio	Team CNSI uses Apache LDAP studio to define/modify the LDAP structure that is required for the eMIPP application.
Eclipse	Team CNSI uses Eclipse for web development.

Figure 68. Development Tools.

Tools, properly applied within the methodology framework will reduce the time to project completion by providing predefined processes, templates, documents, and training materials. More importantly, the use of appropriate tools helps reduce risk and increases the benefits from the project. Team CNSI has aligned the project requirements with our existing eMIPP solution and identified the tools we will need to manage the Iowa EHR MIPP project. Figure 69 lists the project management software Team CNSI will use to support the project.

Tool	Purpose
ReqTrace	CNSI's requirements database used during requirements validation sessions, configuration and test. Houses the traceability of the State's requirements to the Use Cases and Test Cases that are mapped to the requirement.
Microsoft Visio	Develop use case diagrams, technical architecture diagrams, and support process flows
Microsoft Office	Develop deliverables, presentations, and spreadsheet artifacts needed to support our deliverables
As-One	Repository for all deliverables, formal and informal, produced by the project. As-One also has functions to manage Risk, Issue, and Action Item Management. As-One also has ad-hoc reporting functions to support ongoing risk, issue, and action item management.
Microsoft Project	Provides the ability to schedule, organize, and analyze tasks, deadlines, and resources throughout the configuration, integration, and implementation life cycle.

Figure 69. Team CNSI Project Management Tools.