



File & Serve

E-Filing Solution Overview

Odyssey®

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ODY-FS-210-3187 v.2	Jan 2015	Updates to the diagram and descriptions for the e-Filing Business Processes.
ODY-FS-210-3187 v.3	Sep 2015	Updated Payment Processing section to include e-Checks.
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ODY-FS-210-3187 v.5	May 2016	Updated to reflect support for service in general, not just electronic service.
ODY-FS-210-3187 v.6	Oct 2016	Recommendation to vendors to utilize NTP system clock synchronization
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ODY-FS-210-3187 v.10	Sep 2022	Reference to additional specifications (re:Search CMS, User Authentication, Composable Security, In-App Notifications, and User Preferences) TLS 1.3 support, pending upgrade of underlying systems.

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About this Overview

The *Odyssey® File & Serve Solution Overview* describes Tyler's e-filing solution and its foundation, the solution components, the functionality, and the relationships between them.

Odyssey File & Serve Documentation

The e-filing documents available include:

- *Odyssey® File & Serve Solution Overview*
- *Case Management System (CMS) Specification*
- *Case Management System (CMS) API Reference Guide*
- *re:Search Case Management System (CMS) Specification*
- *E-Filing Service Provider (EFSP) Specification*
- *E-Filing Service Provider (EFSP) API Reference Guide*
- *User Authentication Specification*
- *Composable Security Model Specification*
- *In-App Notification Specification*
- *User Preferences Specification*

Documentation Conventions

This table contains descriptions of the text conventions used in File & Serve technical documents.

Text Style	Description	Example
<u>Underline blue</u>	URLs, links to another section in same document or external document	www.tylertech.com
Bold	Menu, menu item, menu, tab, button, dialog box, element/field, heading, page, pane, panel, section, program names. Options in drop-down lists, system and application messages	Tools > Options > Forms Instances tab
Fixed-Width	Server names, filenames, pathnames, databases, API names, XML settings, scripts, command names, system calls, data structures and types	Run the <code>tables.sql</code> script for the <code>jcpBasketB</code> database
Fixed-Width bold/blue	Command line: Input, operators, code samples	D:\ProgramFiles\neevia.com\docu PrinterSDK\.Net
Bold Fixed-Width	Input typed exactly as shown.	Set <code>odysseycom</code> as the domain user. Run the script <code>DROP TABLE</code> .
<i>Italics</i>	Placeholders in syntax Document titles and emphasis	Type the <i>filename</i> . <i>Deployment Troubleshooting Guide</i>
<i>Quotation marks</i>	Chapter titles	Refer to Chapter 3, "Server Settings."

E-Filing Terms

This table contains descriptions for the terms used in Odyssey File & Serve documentation.

Term	Description
Attachment	Series of bytes in the message stream, after messages, transmitted between MDEs that constitutes, in whole or in part, an electronic document whose conventional equivalent would be a document on paper.
Case Management System (CMS)	Electronic record of court information and documents.
Docketing	Process invoked/triggered when a court receives a plea, order, or notice (error-free transmission and presentation of required content) and records it as a part of the official record.
Document	Electronic equivalent of a hard-copy document.
ECF Architecture Specifications	Core specification: Defines the MDEs and operations and messages exchanged between the MDEs. Service Interaction Profiles: Specifications that describe the communication infrastructure that delivers messages between MDEs. Document Signature Profiles: Specifications that describe the mechanisms for signing electronic documents.
E-Filing Manager (EFM)	Central hub for e-filing operations: Receives e-filing submissions from EFSP, provides a review process for courts, and transmits e-filing data to the appropriate CMS.
E-Filing Service Provider (EFSP)	Primary interface to a filer: Interacts with an EFM to perform e-filing operations.
Filer	Attorney or a pro se (self-represented) litigant acting as an individual who assembles and submits one or more filings (combinations of data and documents).
Filing	Electronic document (with associated data and attachments) assembled for filing into a specified court case.
Major Design Element (MDE)	Logical grouping of operations (Court Policy MDE, Filing Assembly MDE, Filing Review MDE, Court Record MDE, Service MDE, and Court Scheduling MDE) representing a significant business process supported by ECF. Each MDE operation receives one or more messages, returning a synchronous response message (a reaction to a message received) and optionally returning an asynchronous response message later to the originating message sender.
Message	Well-formed XML data structure transmitted between MDEs that can include one or more attachments.
Message transmission	Sending one or more messages and associated attachments to an MDE. Each transmission must invoke or respond to an operation on the receiving MDE, as defined in the ECF specification.
Method	Callable unit (subroutine) that performs a specific task.

Term	Description
Operation	Function, provided by an MDE upon receipt of one or more messages, represents a significant step in the court filing business process. Filer invokes by transmitting a request with an operation identifier and a set of messages.
Operation signature	Definition of the input message and synchronous response message associated with an operation. Operation gives message a name and type, where type is defined by one of the message structures defined in the ECF specification.
Web Service	Provides a set of functions, where a function is one specific task/operation.

The Odyssey® File & Serve Solution

Odyssey File & Serve, Tyler's e-filing solution, is a platform that serves as both an EFSP and an EFM to achieve interoperability with court case management systems (CMSs). It is based on the [Electronic Court Filing Specification 5.0](#) (ECF) to standardize data, transport methods, and the process of electronic filing between systems.

The key design factors of the File & Serve solution are:

- Support for multiple e-filing vendors (EFSP)
- Support for multiple court case management systems (CMSs)
- Compliance with open standards to support interoperability (ECF)

The integration points supported by the EFM includes:

- Transmission of documents in electronic format from persons and organizations to a court for entry into a specified court management system
- Message notifications to filer
- Queries from a filer to the court regarding court rules and requirements for electronic filing, information (data and documents) held in a court official electronic record, followed by a returned response regarding its query
- Transmission of documents submitted for filing to other parties on a case

ECF Interoperability Compliance

Courts are migrating toward electronic filing (e-filing) systems so their customers (attorneys, litigants, pro se, processors, and so on) can connect to a single web site, enter case information, generate legal documents, and automatically transmit and share information with multiple systems. To ensure that these systems interoperate as a single network, the architecture and transmission messages need to include well-defined, standardized interfaces and operations. Existing technologies serve to integrate different e-filing systems with courts, such as XML, web services, and application programming interfaces (API).

E-filing service providers and CMS vendors implement common filing behaviors and specifications for how data and messages are structured, transmitted, and received. Implementations of Odyssey File & Serve specifications utilize XML to create and transmit legal documents to and from courts and between appropriate parties.

Three major elements of the ECF architecture set the requirements for EFSP and court compliance. These elements are:

- Major Design Elements (MDEs): Six MDEs support the operations and messages involved in the e-filing process.
- Operations: Grouping of logical operations into a single MDE to execute a business operation such as create a filing, or receive and record a filing.
- Messages: Well-formed XML data structure transmitted between MDEs that include one or more attachments.

New Functionality

The EFM operates within many jurisdictions, therefore the use of new functionality is often dependent upon jurisdictional requirements and any associated configuration. Jurisdictional requirements are not represented within this documentation.

Tyler strives to avoid “breaking changes” to the integration APIs (e.g. changing/moving existing schema elements). This includes using existing ECF elements wherever possible, and appropriate per ECF standards. However, the addition of schema is not considered a breaking change. Finally, if any breaking changes are necessary to accommodate e-Filing requirements, we work diligently to minimize the impact to our integration partners.

The entire EFM documentation set include additional details as necessary. As always, rely upon the EFSP Guide and CMS Guide to lead you to relevant artifacts for each API.

Solution Components

The specifications for the E-Filing Service Provider (EFSP) and court Case Management Systems (CMS) provide the information needed to integrate with the E-Filing Manager (EFM). The central hub in the e-filing solution is the EFM, as shown in this illustration.

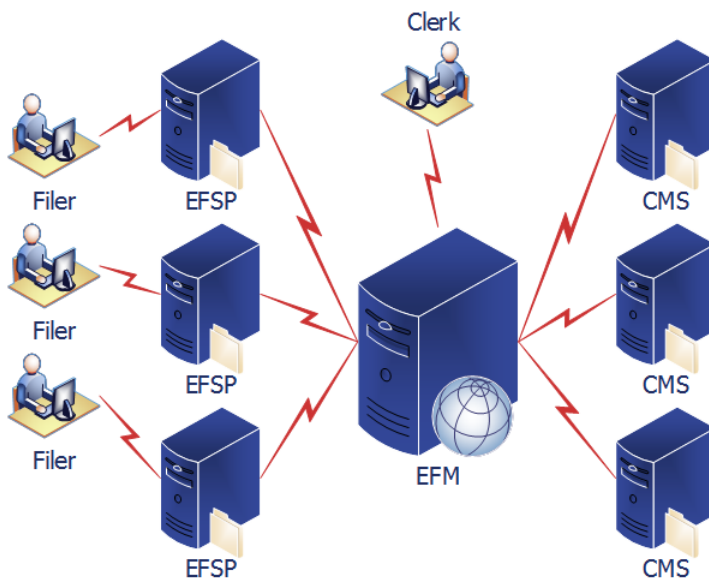


Figure 1 - File & Serve Topology

Service and Electronic Service

The primary means of performing service is via e-service. However, the system does support the capability of utilizing the US Postal Service, subject to agreement between Tyler and the Courts.

Service may accompany a filing submitted to the court or it may take place separate from a filing to the court. In either case, service information is not sent to the court's Case Management System.

Service consists of five business processes:

- **Service Contact Administration:** identifying service recipients and contact information. The EFM provides APIs that enable EFSPs to administer service contacts.
- **Attaching to a Case/Case Party:** associating a service contact record to a given case or party on a case. The EFM provides APIs that enable EFSPs to create and manage these associations.
- **Request for Service:** A filer requests that service be performed. The EFM provides APIs that enable EFSPs to request service, with or without filing into the court.
- **Notification:** electronic notification to a service recipient that they have been served. The EFM emails the service contact this notification along with a hyperlink whereby the associated documents can be retrieved. The EFM tracks the delivery of such notifications to the recipient's email server.
- **Document Retrieval:** the filer accesses the documents by using the hyperlink provided in the service notification email. The EFM tracks whether the documents have been accessed.

In the case of electronic service accompanying a filing with the court, electronic service will occur either before or after clerk review, depending upon site configuration.

Electronic Filing API Business Process

The figure in this section illustrates the primary business process operations—case identification, filing assembly and submission, clerk review, post-review processing & docketing, and notification—of an electronic filing envelope. An envelope can contain one or more filings, but all filings in an envelope must pertain to one and only one court case.

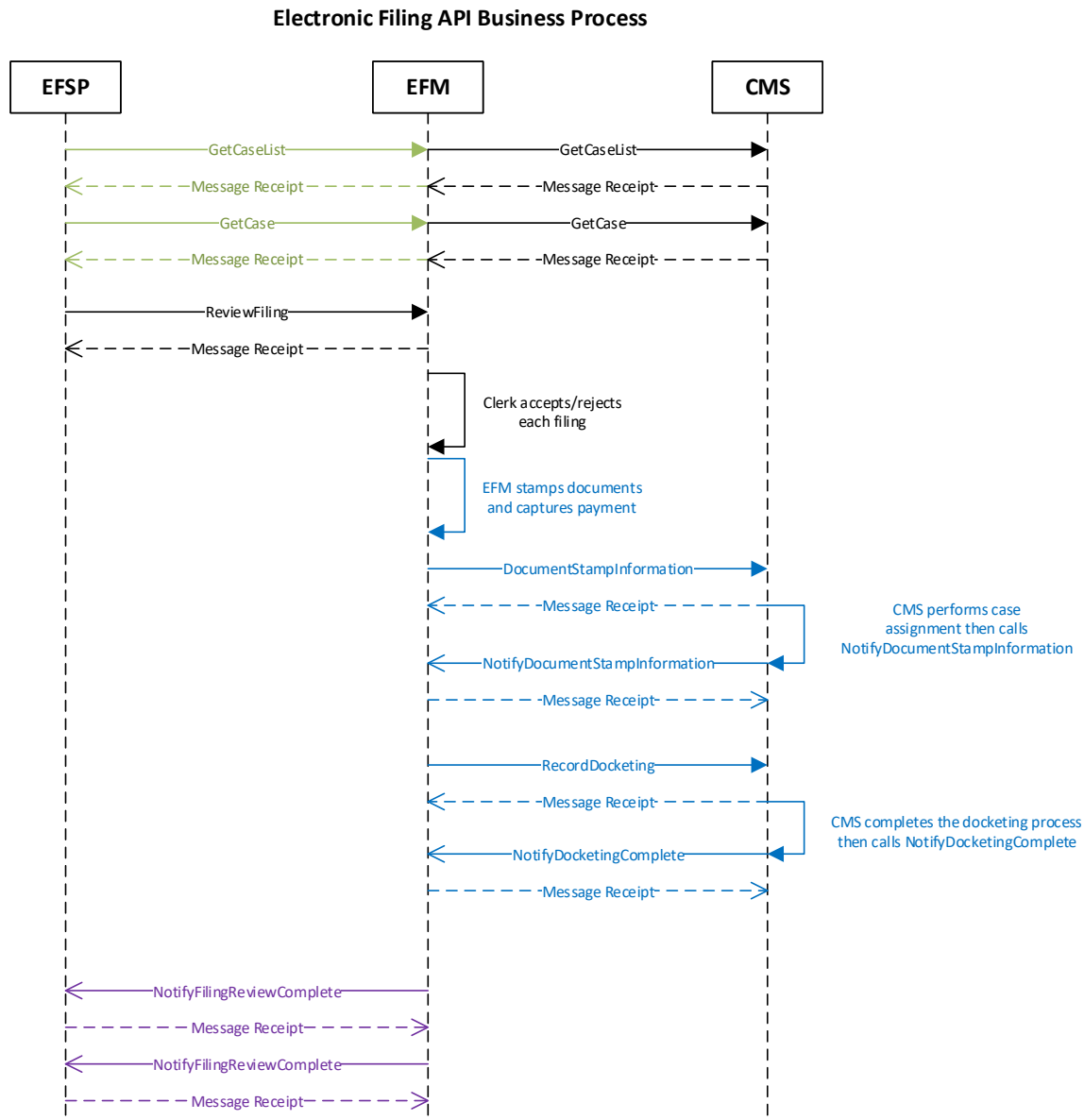


Figure 2 - Electronic Filing API Business Process

Additional details regarding each business process operation are provided below.

Process #1: Case Identification

The first step in the e-filing process is to identify the court case the filer wishes to file into. If the filer is filing a new suit, also referred to as an initial filing, then this activity is moot. However in order to file into an existing case, referred to as a subsequent filing, we must first identify the appropriate case. Two APIs provide for this activity:

- GetCaseList - performs a search operation
- GetCase - retrieves additional details about a specific case

The EFSP initiates these calls to the EFM. If the court's CMS is integrated to the EFM, the EFM will proxy the EFSP's calls to the CMS in order to provide real-time data; otherwise, the EFM will service the call itself based upon any information it has on hand based upon previous activity for the case.

- **Note: For non-integrated courts, filers can still file into pre-existing cases that the EFM has not processed before, but the filer must provide full case information and the court clerk will need to validate such information as part of the review process. Such cases that are unknown to the EFM are referred to as "non-indexed cases". Once the clerk validates the information within the EFM, the case becomes "indexed" and can thereafter be found and accessed by future EFSP calls to both the GetCaseList and GetCase APIs.**

Process #2: Filing Assembly and Submission

Once the appropriate case has been identified, an envelope can be assembled and submitted to the EFM via the ReviewFiling API. The system uses a number of codified fields that are configured per court requirements, therefore the case's court location – the court or office in which the case resides – is important during the assembly process, in order to obtain the appropriate code values.

Each envelope is accompanied by a payment account, which designates the method of payment for the filing(s). Payment accounts are typed, so if the court has agreed to waive fees, the filer can submit the envelope with a waiver payment account and the clerk will accept or reject the filing on its own merit. If the payment account indicates payment by credit card, the EFM will perform what is known as an Authorize transaction through the payment processing system in order to determine whether sufficient credit exists on the credit card.

Process #3: Clerk Review

Once an envelope has been successfully submitted into the EFM for clerk review, the clerk will review each filing in the envelope and determine whether to accept or reject each filing. The Clerk Review process takes place within the Odyssey File & Serve application. The envelope and all of its filings remain in this business process until each filing in the envelope has been either accepted or rejected.

Process #4: Post Review Processing & Docketing

Once every filing in an envelope has been designated as either accepted or rejected, the envelope moves into the post review processing and docketing process. If all of the filings were rejected, this process performs no actions. However, if one or more filings were accepted, the EFM will perform payment processing and document stamping. If a CMS integration exists for the court, the EFM will initiate an exchange with the court's CMS to docket the accepted filings into the CMS. If no CMS integration exists, docketing will be performed manually by the court clerks.

Process #5: Notification

In order to complete the filing process, several notifications must take place.

An integrated CMS will:

1. If the CMS supports the DocumentStampInformation API, it will create the case in the CMS and then call the NotifyDocumentStampInformation API to pass case assignment information to the EFM.
2. Call the NotifyDocketingComplete API to notify the EFM that docketing within the CMS is complete.
 - NOTE: There are two callback models available to CMS vendors; However, this has no direct effect upon EFSPs. CMS vendors: please refer to the CMS specific documentation for additional details.

The EFM will:

1. For each filing in the envelope, call the NotifyFilingReviewComplete API to notify the EFSP of the outcome of each filing.

Integration

Tyler's e-filing solution provides secure communication mechanisms and web services that safely integrate with EFSPs and CMSs.

EFSP Integration

The E-Filing Manager (EFM) provides EFSPs with additional functions that include user accounts, court policy requirements, and payment processing.

Additional EFM Operations

File & Serve provides these EFSP functions in addition to the ECF supported EFM operations:

- User Management: The management of user accounts within the EFM.
- Firm Management: The relationship of users within a firm, ability to manage the firm, identification of attorneys, and management of service contacts.
- Court Configuration: The ability to access court-specific configuration values.
- Payment Account: The management of payment accounts, which facilitates interaction with the payment processing system.

EFSP and EFM Communication

All real-time interactions between the EFSP and the EFM take place exclusively through secure web services.

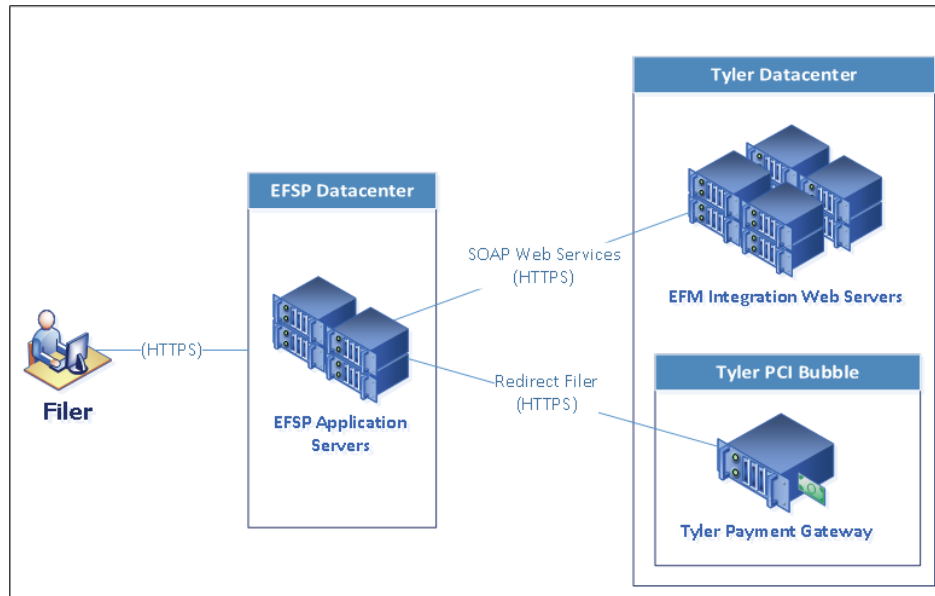


Figure 2 - EFSP and EFM Communication

- **Note: Payment Card Industry (PCI) Security Standard Council supports security standards to enhance payment card data security.**

The EFM provides web services for interacting with the EFSP in each of these areas. The technical requirements of the EFSP web services are in the File & Serve *Electronic Filing Service Provider (EFSP) Specification*.

Communications are encrypted and messages are signed with X.509 certificates, thereby providing for secure communications between the two systems. The enforced security requirements are:

- Transport security where message exchange is over HTTPS.
This ensures encryption of the entire HTTP request that can only be decrypted by the intended receiver.
- HTTPS traffic must utilize TLS 1.2. The 2022.1 release brings support for TLS 1.3; however, this may also require upgrades of underlying systems. Tyler will coordinate TLS 1.3 rollouts within each market.
- Message security where messages contain a digital signature created by the EFSP using a private key.
This ensures the integrity of the message and asserts the authenticity of the EFSP. The digital signature created is in compliance with the *WS-I Basic Security Profile 1.1* specification.
- Tyler recommends that partner systems leverage NTP to synchronize system clocks to avoid message exchange failures.

CMS Integration

The business needs of a court and the capabilities of its CMS determine the choice of an integration model. Key selection factors include the balance between filing volume and technical complexity, which ultimately drives the return on investment for the integration. Usually high-volume courts opt for a more sophisticated approach that offers greater automation and timeliness; whereas, lower-volume courts may opt for less automation and timeliness in order to minimize costs and complexity.

The selected integration model dictates not only the type of servers needed, but also capacity planning. Considerations such as load-balancing and fault tolerance are of elevated importance for any implementation that consists of interactive integrations.

Integration Models

An integration model specifies the timing of an integration operation with respect to user activity. This table contains descriptions of the two available integration models.

Model	Description
Fully Interactive (Web Services) (Preferred and recommended)	File & Serve communicates directly with the CMS during both the filing assembly process and the docketing process. Impact: Preferred and recommended model because it provides the greatest benefit to the courts. It serves to ensure accurate case data from the filer by virtue of <i>real-time</i> access to the CMS, plus immediate, automated docketing once the clerk approves a filing.
Non-Interactive (Secure FTP)	File & Serve relies on its historical data during the filing assembly process and <i>near real-time</i> communication with the CMS during the docketing process. Impact: Docketing is either automated or manual and not immediate. Clerks must validate filer-entered case information for filings that have not previously passed through the EFM .

EFM and CMS Communication

All real-time (fully interactive) communication between the File & Serve EFM and the court CMS takes place exclusively through web services over HTTPS. Communications are encrypted and messages are signed with X.509 certificates, thereby providing for secure communications between the two systems.

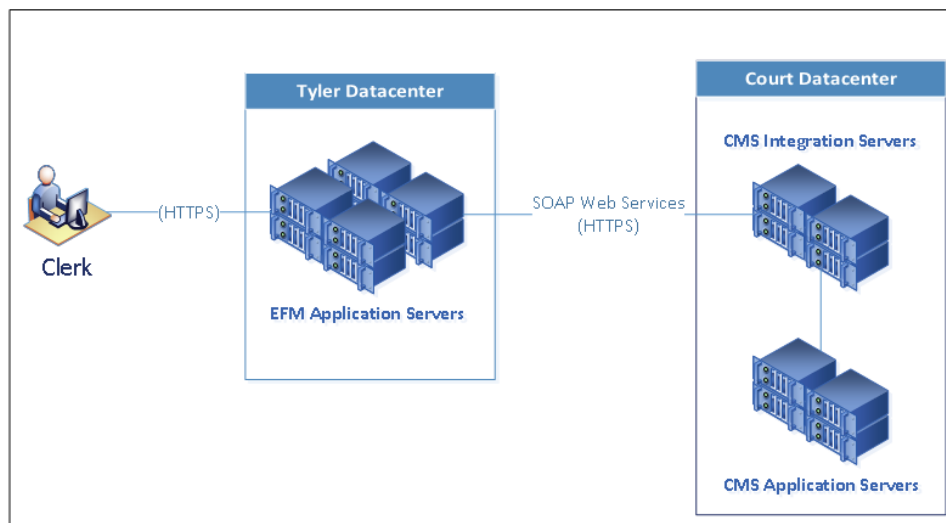


Figure 3 - EFM to CMS Web Services Connectivity Diagram

All near real-time (non-interactive) communication between the File & Serve EFM and the court CMS takes place exclusively through Secure FTP. Messages are encrypted, thereby providing for secure communications between the two systems.

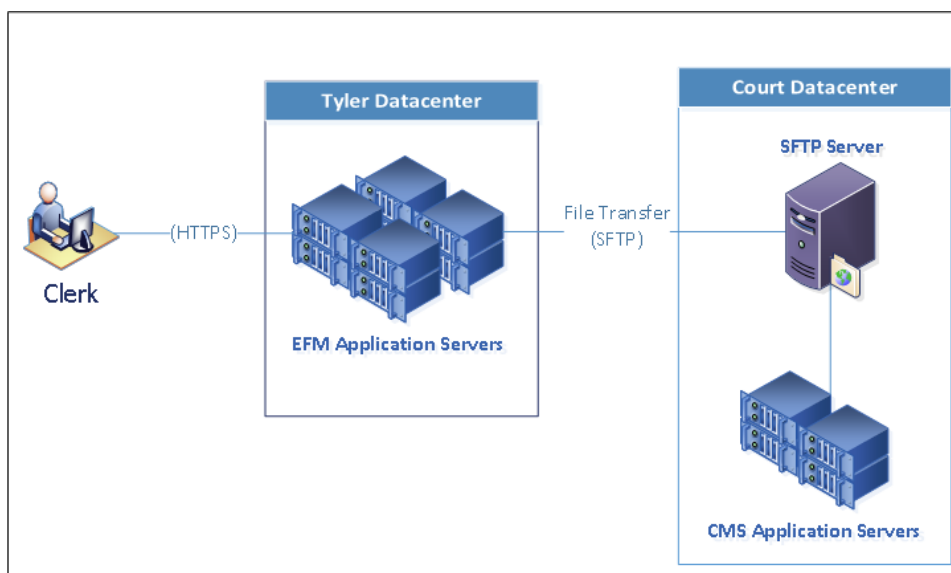


Figure 4 - EFM to CMS Secure FTP Connectivity Diagram

Network and Security Infrastructure

All system interactions with EFM take place through secure web services using SOAP messages. These security requirements apply:

- Transport security: Messages exchange is over HTTPS. This ensures encryption of the HTTP request that can only be decrypted by the intended receiver.
- HTTPS traffic must utilize TLS 1.2. The 2022.1 release brings support for TLS 1.3; however, this may also require upgrades of underlying systems. Tyler will coordinate TLS 1.3 rollouts within each market.
- Message security: Messages contain a digital signature created in compliance with the *WS-I Basic Security Profile 1.1 Specification* using the EFSP private key. This ensures message integrity and asserts the authenticity of the EFSP.
- Tyler recommends that partner systems leverage NTP to synchronize system clocks to avoid message exchange failures.

The [*Electronic Court Filing Web Services Service Interaction Profile Version 5.0*](#) specification (SOAP messages over HTTP/HTTPS) defines the transmission system using the specifications described in the *Web Services Interoperability (WS-I) Basic Profile 1.1*.

Web Services

To employ the web services profile requires the availability of the appropriate web services for each MDE to initiate each of the required operations and submit messages for consumption.

Message Exchange

All messages are exchanged as SOAP 1.1 packages using the Message Transmission Optimization Mechanism (MTOM). The SOAP package contains the SOAP envelope—an XML document—and can contain one or more attached MIME parts containing binary octets.

A message is a well-formed XML data structure with a single root element transmitted between MDEs and valid as defined by one of the defined message structure schemas in the ECF specification. A message can relate to one or more attachments. Its contents are the document metadata, title, type, identifier, parent document identifier, and document sequence number.

Error Handling

Web service calls initiated by the EFM include the use of an automatic retry mechanism in the event of a timeout or failure. Once this retry mechanism expires, the message routes to an exception queue to await manual intervention.

Error Identification

In processing incoming requests, the EFM attempts to identify all applicable errors in one pass rather than stopping after a single error. However, the ability to follow this pattern depends upon the severity and nature of the error encountered. A complete list of errors is available programmatically from the EFM itself.

Payment Processing

Payment processing is performed through the Tyler Online Gateway (TOGA) in partnership with Chase Paymentech. TOGA registers credit card and/or e-Check account information with the Chase Paymentech system for exclusive use with Tyler. When TOGA registers account information with Chase Paymentech, Chase issues a payment token.

The benefits that come from the use of payment tokens are:

- Filer places sensitive account information securely on file with Chase Paymentech for exclusive use with Tyler.
- EFSPs are relieved from collecting and/or storing sensitive credit card information.

Upon receipt of a payment token from Chase, the EFSP sends a request containing the token to Tyler to create a payment account within the EFM. This process is a redirect of the user's browser from the EFSP portal to TOGA, and then back to the EFSP portal after the receipt of the payment token. For more information, refer to the *Electronic Filing Service Provider (EFSP) Specification*.

Test System Trigger Amounts

The Chase test system uses specific amount values to trigger error conditions for testing purposes. Each e-filing envelope where fees apply consists of two Chase transactions:

- primary amount: the amount collected on behalf of the court
- secondary amount: the amount collected on behalf of non-court organizations

While both the primary and secondary amount can trigger the error codes, in practice the secondary amount is well below the first trigger amount of \$100.

Trigger Amounts

100	201	204	249	253	257	258	280	281	282	283	284	301	302
303	304	305	306	307	401	402	501	502	503	508	509	510	521
522	530	531	570	571	572	591	592	594	595	596	602	603	605
606	607	754	802	806	811	813	825	833	902	903	904	999	

NOTE: The trigger amounts above pertain to the dollar portion of the amount. The cents portion of the amount is irrelevant to the trigger mechanism.

Recommendation

Add optional services to your filing(s) to hit/avoid a trigger amount for your testing purposes.

