US 20160218935A1

(19) **United States**

(12) **Patent Application Publication**

Cismas et al.

(10) **Pub. No.: US 2016/0218935 A1**

(43) **Pub. Date: Jul. 28, 2016**

(54) **USER INTERFACE AND DASHBOARD FOR HOLISTIC DATA TRANSMISSION THROUGHOUT AN ENTERPRISE**

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(21) Appl. No.: **14/606,756**

(22) Filed: **Jan. 27, 2015**

Publication Classification

(51) **Int. Cl.**

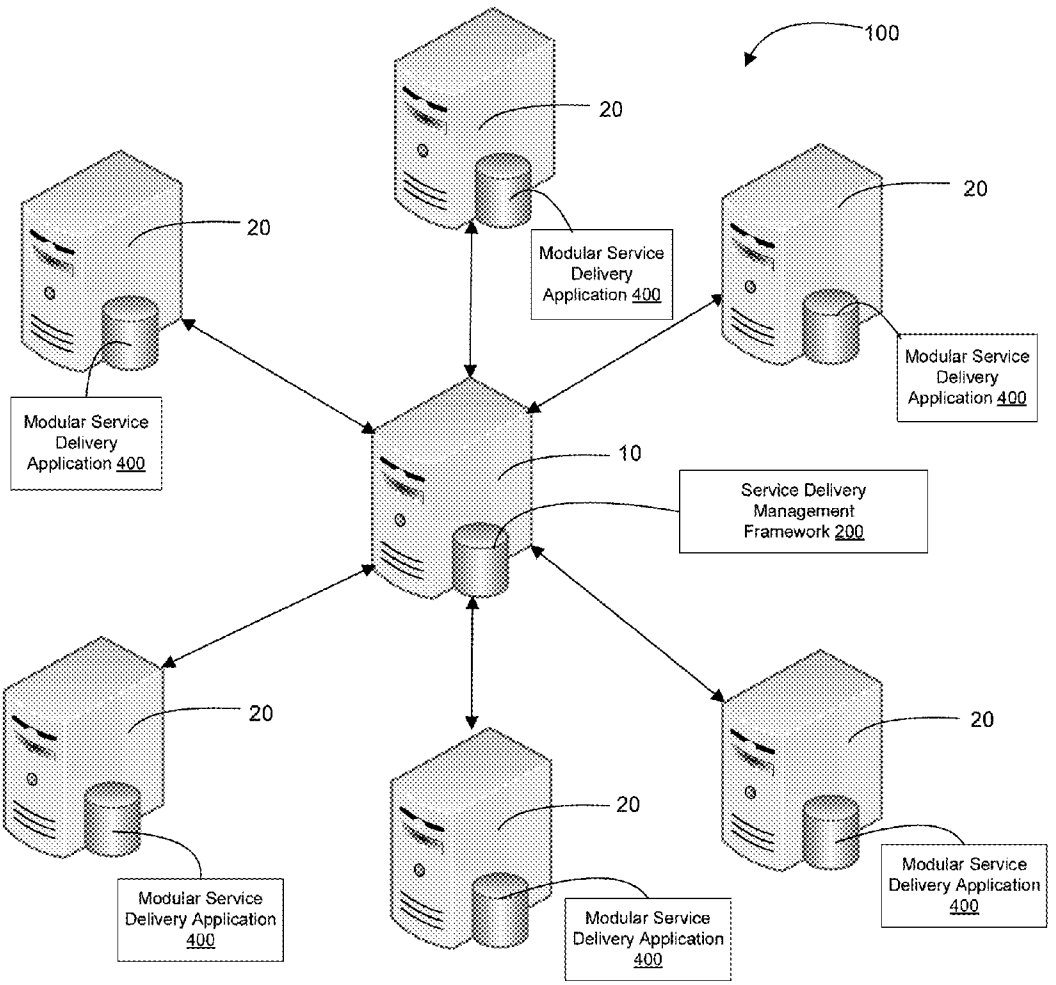
H04L 12/24	(2006.01)
G06F 3/0484	(2006.01)

(52) **U.S. Cl.**

CPC ***H04L 41/22*** (2013.01); ***G06F 3/04847*** (2013.01)

(57) **ABSTRACT**

An enterprise-wide centralized dashboard/user-interface for managing data transfer/movement provided by a technology-agnostic and protocol-agnostic data transfer/movement module. Such management includes controlling the initiation and disablement of data transfers and configuring routing, timing and protocol(s) for data transfers. In addition, the dashboard/user-interface may be configured to provide (i) centralized control over user entitlements at a highly granular level, such as server-level, route-level or the like, (ii) the ability to track data transmission progress, such as by providing users a real-time view of the status/location of enterprise-wide data transmission (iii) centralized management over data transmission records and set logs, such that a user can analyze data transmissions across the enterprise and view full tracking data including transmission errors and (iv) centralized control over security and governance of data transmissions, including approval/denial of data transmissions.



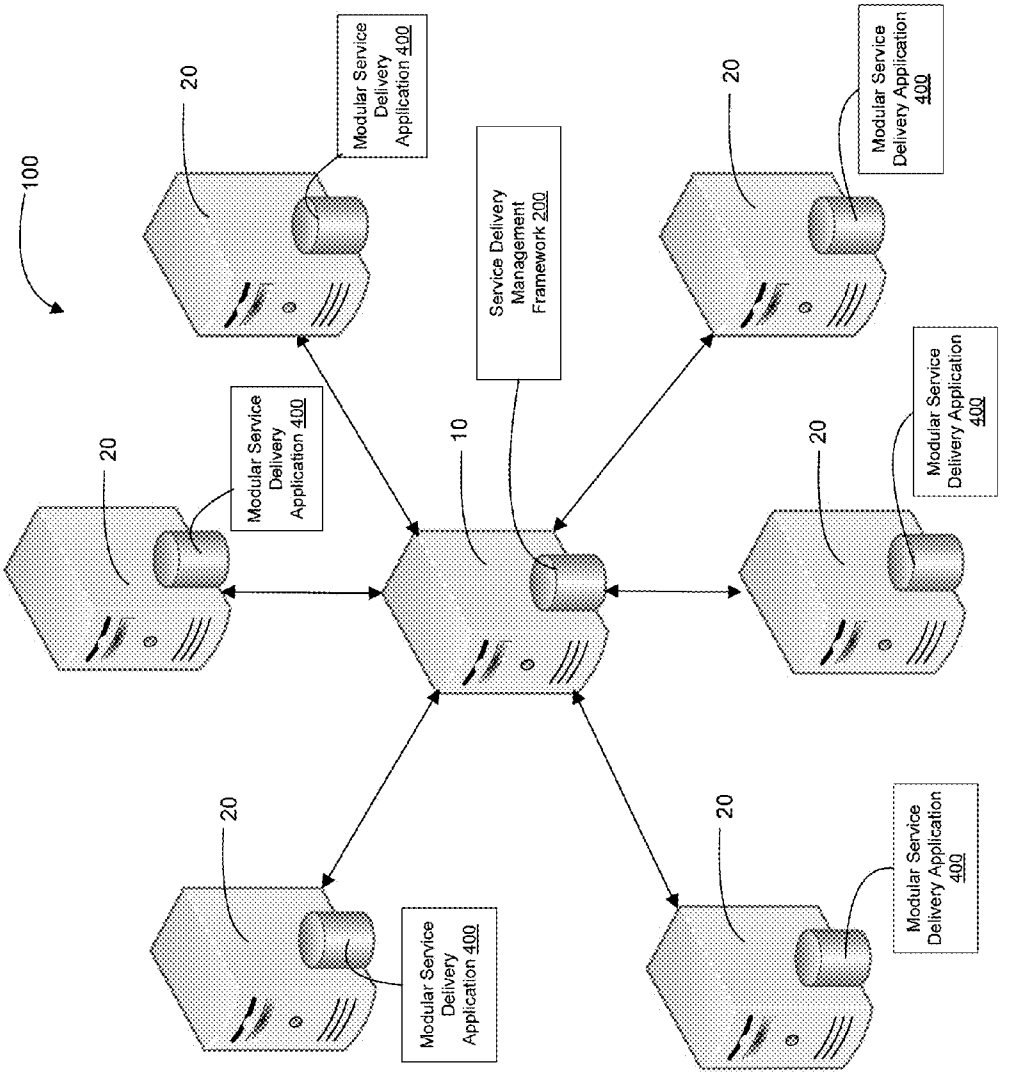

100
10
20
Service Delivery Management Framework 200
Modular Service Delivery Application 400

FIG. 1

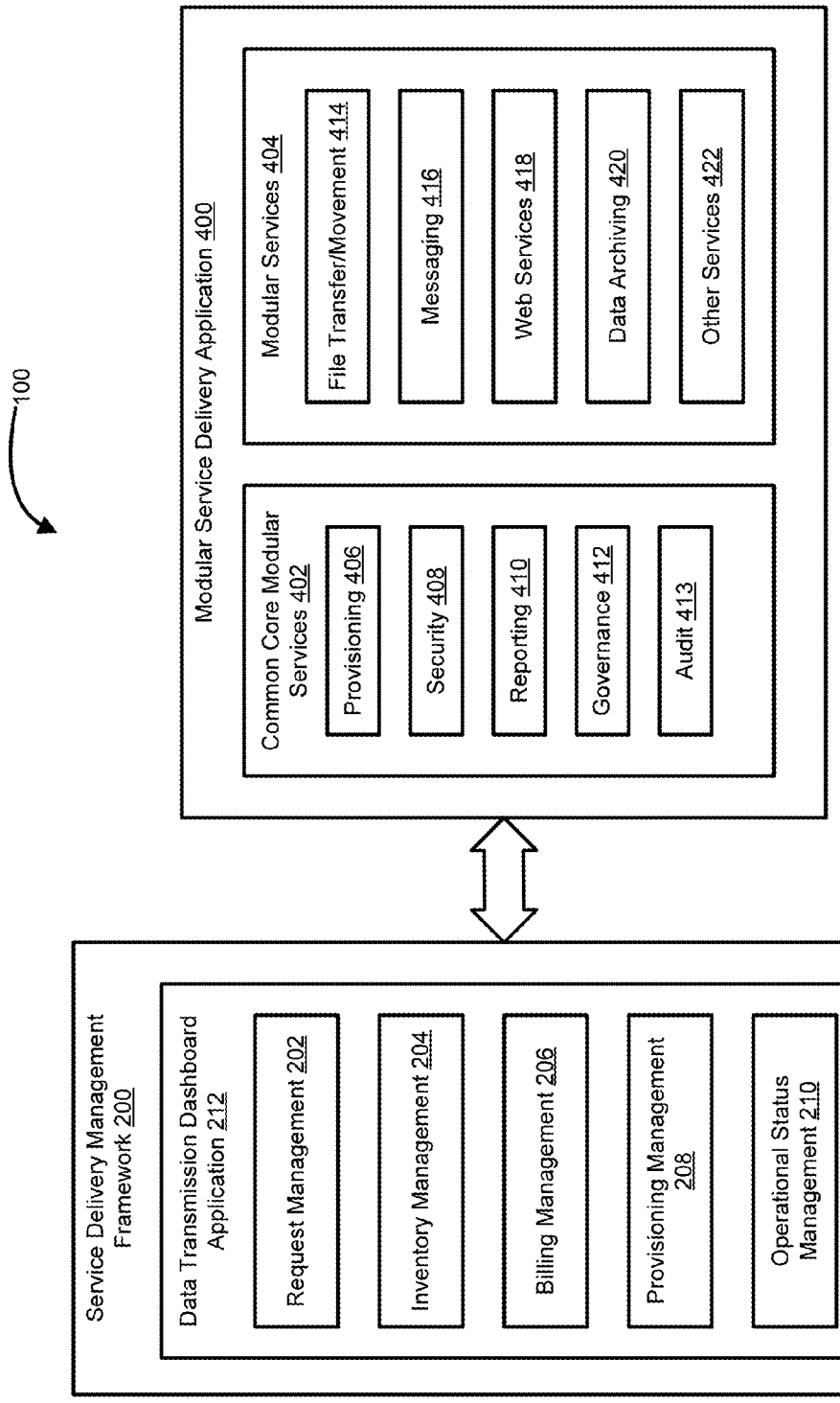
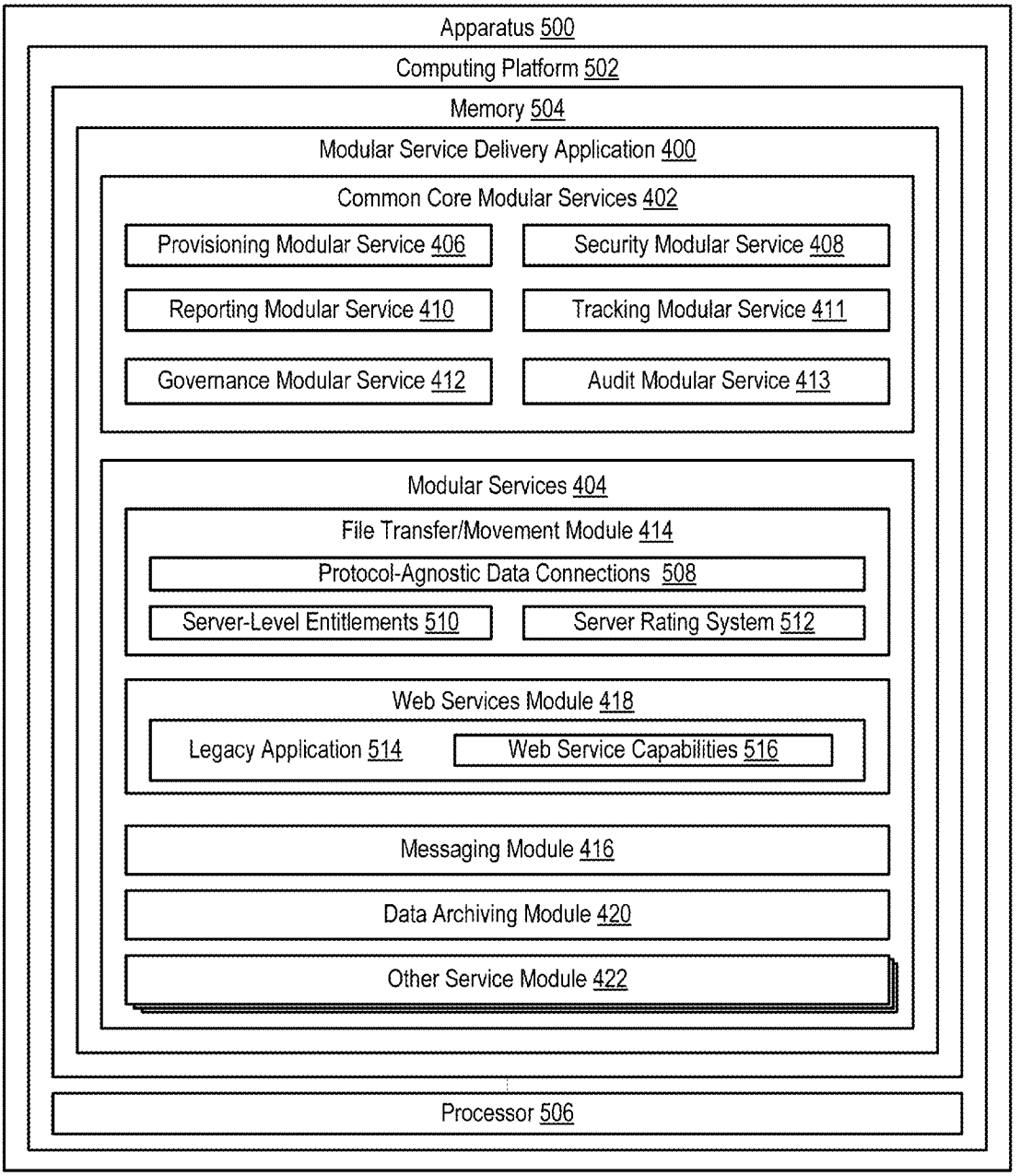

100
Modular Service Delivery Application 400
Modular Services 404
File Transfer/Movement 414
Messaging 416
Web Services 418
Data Archiving 420
Other Services 422
Common Core Modular Services 402
Provisioning 406
Security 408
Reporting 410
Governance 412
Audit 413
Service Delivery Management Framework 200
Data Transmission Dashboard Application 212
Request Management 202
Inventory Management 204
Billing Management 206
Provisioning Management 208
Operational Status Management 210

FIG. 2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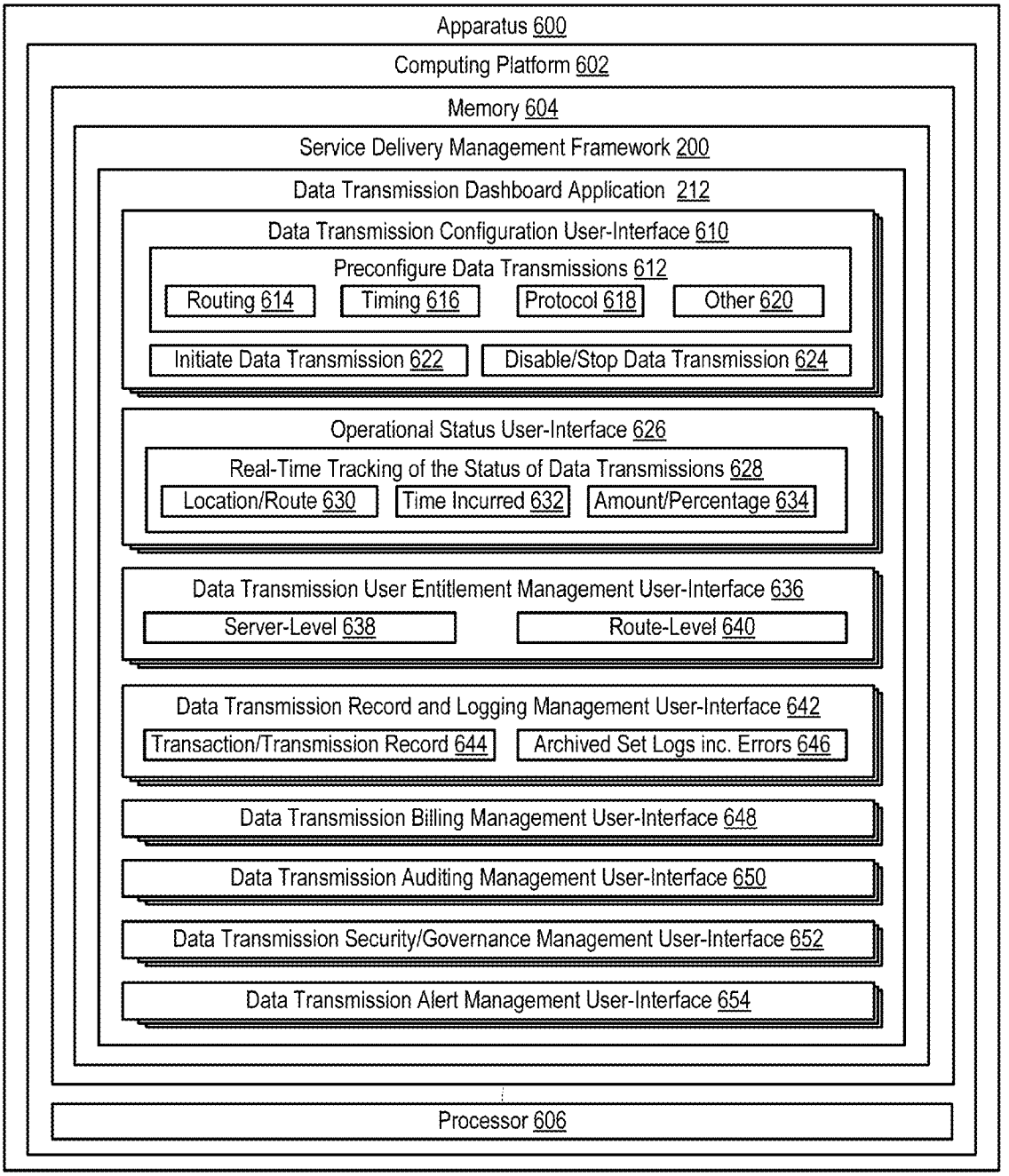
Computing Platform 502
Memory 504
Modular Service Delivery Application 400
Common Core Modular Services 402
Provisioning Modular Service 406
Security Modular Service 408
Reporting Modular Service 410
Tracking Modular Service 411
Governance Modular Service 412
Audit Modular Service 413
Modular Services 404
File Transfer/Movement Module 414
Protocol-Agnostic Data Connections 508
Server-Level Entitlements 510
Server Rating System 512
Web Services Module 418
Legacy Application 514
Web Service Capabilities 516
Messaging Module 416
Data Archiving Module 420
Other Service Module 422
Processor 506

FIG. 3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Computing Platform 602
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Data Transmission Configuration User-Interface 610
Preconfigure Data Transmissions 612
Routing 614
Timing 616
Protocol 618
Other 620
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Disable/Stop Data Transmission 624
Operational Status User-Interface 626
Real-Time Tracking of the Status of Data Transmissions 628
Location/Route 630
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Data Transmission User Entitlement Management User-Interface 636
Server-Level 638
Route-Level 640
Data Transmission Record and Logging Management User-Interface 642
Transaction/Transmission Record 644
Archived Set Logs inc. Errors 646
Data Transmission Billing Management User-Interface 648
Data Transmission Auditing Management User-Interface 650
Data Transmission Security/Governance Management User-Interface 652
Data Transmission Alert Management User-Interface 654
Processor 606

FIG. 4

USER INTERFACE AND DASHBOARD FOR HOLISTIC DATA TRANSMISSION THROUGHOUT AN ENTERPRISE

FIELD

[0001] In general, embodiments of the invention relate to network data communication and, more particularly, a user-interface and dashboard for managing holistic data transmission implemented across a plurality of servers/network devices within an enterprise.

BACKGROUND

[0002] In large enterprise businesses, such as financial institutions or the like, it is imperative that the transfer of essential data occur in a highly secure environment. For example, commercial banking customers routinely communicate payment files and check image files to the financial institution on an ongoing basis and it is necessary to ensure that such data is transferred in a highly reliable and secure manner.

[0003] Currently, such transfer of payment files, check image files or the like requires the commercial customer to execute a transfer transaction using any of the various commercial file transfer applications in existence. These file transfer applications tend to be technology and/or protocol-specific or limited in terms of the technology and or protocols that may be implemented in order to ensure that the transfer of data occurs securely. In a large enterprise, such as a financial institution, which may provide numerous different services to a customer, each service may dictate a different means for transferring data based on the frequency and volume of data transferred, the security/risk associated with transferring the data and the like.

[0004] Further, in a large enterprise environment, the third parties (otherwise referred to herein as external entities) that transfer data to the enterprise will vary in terms of size and information technology sophistication. For example, in the financial institution environment, large commercial customers will generally have extensive information technology support, which is capable of setting-up, maintaining and properly executing all of the different file transfer applications required of the third-party. However, on the opposite end of the spectrum, small commercial customers, most noticeably micro commercial customers, will generally have very limited, if any, information technology support and, as such, face many obstacles in being able to set-up, properly execute and maintain different file transfer applications.

[0005] Moreover, all of the disparate systems that an enterprise implements to conduct data transmission require individual management. Specifically, each system requires separate tools, dashboards and the like to allow the user to view operational status, analyze transaction/transmission records/logs, and perform other related management functions.

[0006] Therefore, a need exists to develop systems, apparatus, computer program products, methods and the like that provide for technology-agnostic and protocol-agnostic means for transferring data between an enterprise, such as a financial institution or the like and external entities, such as commercial banking customers and the like. The desired systems, apparatus, computer program products, methods and the like should provide the user with an off-the-shelf solution that is applicable to all of the different services provided by the enterprise and provides the user/external entity with a streamlined means for transferring data to and from the enterprise. In this regard, the systems, apparatus, computer program products, methods and the like should allow for the external entity to immediately transfer data upon inception of the relationship with the enterprise and/or upon acquisition of a new service provided by the enterprise. Moreover, the systems, apparatus, computer program products, methods and the like should minimize external entity involvement from an Information Technology (IT) standpoint, such that any user can efficiently, effectively and reliably transfer data to and from an enterprise with minimal risk and high confidence. In addition, the desired systems, apparatus, computer program products, methods and the like should provide for unified and centralized management over the data transmission and transaction process.

SUMMARY OF THE INVENTION

[0007] The following presents a simplified summary of one or more embodiments in order to provide a basic understanding of such embodiments. This summary is not an extensive overview of all contemplated embodiments, and is intended to neither identify key or critical elements of all embodiments, nor delineate the scope of any or all embodiments. Its sole purpose is to present some concepts of one or more embodiments in a simplified form as a prelude to the more detailed description that is presented later.

[0008] Embodiments of the present invention address the above needs and/or achieve other advantages by providing apparatus, systems, computer program products, methods or the like for a technology-agnostic and protocol-agnostic system for delivering services including data movement/transfer within an enterprise. The embodiments herein described provide for a modular system that is easy and cost-effective to deploy and is extensible, such that as new services are warranted, additional modules can readily be added to the system. The technology/OS-agnostic nature of the system means that any server, regardless of manufacturer or OS, can be assimilated into the system for the purpose of sending and/or receiving data. Moreover, the protocol-agnostic aspect of the system means that data can be transferred/communicated using any known, or future known, protocol (without requiring a separate application specific to the desired protocol).

[0009] In addition, the system herein described provides for a comprehensive and unified approach to data movement/transfer within an enterprise. As such, the integrated system, in addition to providing for data movement transmissions/transactions, also provides for unified governance control over the movement of data, unified tracking of data movement across the enterprise, unified auditing processes, granularity of control at the file level and the like.

[0010] Moreover, the system herein described provides for a unified and centralized dashboard/user-interface for managing, enterprise-wide, data transmission/transactions. In this regard, the data transmission dashboard is configured to allow users to initiate and disable data transmissions, as well as configure routing, timing and protocols for data transmissions/transactions. Moreover, the dashboard/user-interface is configured to allow users to view operational status of presently ongoing data transmissions, including current routing location of the data and the like. In addition, the dashboard/user-interface is configured to allow users analyze, review transaction records and historical transaction logs for the purpose of conducting audits, performing corrective actions and the like. Other embodiments of the dashboard/user-inter-

face are configured to provide centralized billing for data transmissions across the enterprise, centralized security and governance over data transmissions and/or centralized management over alert functionality.

[0011] An apparatus for management of data transmissions within an enterprise defines first embodiments of the invention. The apparatus includes a computing platform having a memory and at least one processor in communication with the memory. The apparatus further includes a modular-based, service delivery application stored in the memory, executable by the processor and including a data transfer module configured to provide data connections between a plurality of servers in the enterprise. In addition, the apparatus includes a service delivery management framework that is stored in the memory and executable by the processor. The service delivery management framework includes a data transmission dashboard application configured to provide a plurality of user-interfaces. At least one of the user-interfaces is configured to allow a user to (1) initiate and disable data transmissions performed by the data transfer module, and (2) configure routing, timing and protocol for the data transmissions.

[0012] In specific embodiments of the apparatus, the data transmission dashboard application further includes at least one user-interface configured to allow a user to manage data transmission-user entitlements (otherwise referred to as permissions, access rights or the like) at a server-level and a route-level. In this regard, entitlement of the user at the server is not required, since the user can be entitled via the data transfer module and, such entitlements can be granular (i.e., at the server-level, the route-level or the like).

[0013] In further specific embodiments of the apparatus, the data transmission dashboard application further includes at least one user-interface configured to allow a user to track, in real-time, a status of ongoing data transmissions performed by the data transfer module. In such embodiments of the apparatus, tracking includes previous routing location(s) of the data, current location(s) of the data, and future routing location(s) of the data.

[0014] In still further specific embodiments of the apparatus, the data transmission dashboard application further includes at least one user-interface configured to allow a user to analyze records of completed data transmissions performed by the data transfer module at a data type-level and a server-level for a purpose of enterprise-wide data transmission auditing. In this regard, the data transmission dashboard application may further include at least one user-interface configured to provide a user access to archival uniform set logs of data transmission records that include full tracking and data transmission errors.

[0015] Moreover, in still further embodiments of the apparatus, the data transmission dashboard application further includes at least one user-interface configured to allow a user to manage an enterprise-wide data transmission billing process for data transmissions performed by the data transfer module. In additional embodiments, the data transmission dashboard application is further includes at least one user-interface configured to allow a user to manage enterprise-wide security and governance of data transmissions performed by the data transfer module, including specific rules based on data types and/connection points/servers.

[0016] Additionally, in further specific embodiments of the apparatus, the data transmission dashboard application is further includes at least one user-interface configured to allow a user to manage an enterprise-wide alert system associated with data transmissions performed by the data transfer module.

[0017] A system for managing enterprise-wide data transmissions comprises second embodiments of the invention. The system includes a plurality of networked servers. Each of the servers includes a first computing-platform having a first memory and at least one first processor in communication with the first memory. The system further includes a modular-based, service delivery application that is stored in each first memory, and executable by the corresponding first processor. The service delivery application includes a data transfer module configured to provide data connections between the plurality of servers in the enterprise. Additionally, the system includes one or more hub servers. Each hub server, which is in communication with networked servers, includes a second computing-platform having a second memory and at least one second processor in communication with the second memory. Further, the system includes a service delivery management framework that is stored in the memory and executable by the processor. The framework includes a data transmission dashboard application configured to provide a plurality of user-interfaces. At least one of the user-interfaces is configured to allow a user to (1) initiate and disable data transmissions performed by the data transfer module, and (2) configure routing, timing and protocol for the data transmissions.

[0018] A computer-program product including a non-transitory computer-readable medium defines third embodiments of the invention. The computer-readable medium includes a first set of codes for causing a computer to provide one or more first user-interfaces configured to allow a user to initiate and disable data transmissions performed by an enterprise-wide protocol-agnostic and operating system-agnostic data transfer module. The computer-readable medium further includes a second set of codes for causing a computer to provide one or more second user-interfaces configured to allow a user to configure routing, timing and protocol for the data transmissions.

[0019] Thus, systems, apparatus, methods, and computer program products herein described in detail below provide for a technology-agnostic and protocol-agnostic means for providing services within an enterprise including data transfer/movement. Additionally, embodiments herein described provide for an enterprise-wide centralized dashboard/user-interface for managing data transfer/movement including controlling the initiation and disablement of data transfers and configuring routing, timing and protocol(s) for data transfers. In addition, the dashboard/user-interface is configured to provide centralized control over user entitlements at a highly granular level, such as server-level, route-level or the like. Moreover, the dashboard/user-interface may be configured to track data transmission progress, such as by providing users a real-time view of the status/location of a data transmission. In addition, the dashboard/user-interface may be configured to provide centralized management over data transmission records and set logs, such that a user can analyze data transmissions across the enterprise and view full tracking data including transmission errors.

[0020] To the accomplishment of the foregoing and related ends, the one or more embodiments comprise the features hereinafter fully described and particularly pointed out in the claims. The following description and the annexed drawings set forth in detail certain illustrative features of the one or more embodiments. These features are indicative, however,

of but a few of the various ways in which the principles of various embodiments may be employed, and this description is intended to include all such embodiments and their equivalents.

BRIEF DESCRIPTION OF THE DRAWINGS

[0021] Having thus described embodiments of the invention in general terms, reference will now be made to the accompanying drawings, which are not necessarily drawn to scale, and wherein:

[0022] FIG. **1** provides a schematic diagram of a system for enterprise-wide service delivery including data movement/transfer and related data transfer management, in accordance with embodiments of the present invention;

[0023] FIG. **2** provides a block diagram of a system for enterprise-wide service delivery including data movement/transfer and related data transfer management, in accordance with embodiments of the present invention;

[0024] FIG. **3** provides a block diagram of the apparatus configured for an extensible module system including technology/OS-agnostic and protocol-agnostic data movement, in accordance with embodiments of the present invention; and

[0025] FIG. **4** provides a block diagram of an apparatus configured for providing service delivery management framework including a data transmission dashboard application, in accordance with embodiments of the present invention.

DETAILED DESCRIPTION OF EMBODIMENTS OF THE INVENTION

[0026] Embodiments of the present invention will now be described more fully hereinafter with reference to the accompanying drawings, in which some, but not all, embodiments of the invention are shown. Indeed, the invention may be embodied in many different forms and should not be construed as limited to the embodiments set forth herein; rather, these embodiments are provided so that this disclosure will satisfy applicable legal requirements. Like numbers refer to like elements throughout. Although some embodiments of the invention described herein are generally described as involving a "financial institution," one of ordinary skill in the art will appreciate that the invention may be utilized by other businesses that take the place of or work in conjunction with financial institutions to perform one or more of the processes or steps described herein as being performed by a financial institution.

[0027] As will be appreciated by one of skill in the art in view of this disclosure, the present invention may be embodied as an apparatus (e.g., a system, computer program product, and/or other device), a method, or a combination of the foregoing. Accordingly, embodiments of the present invention may take the form of an entirely hardware embodiment, an entirely software embodiment (including firmware, resident software, micro-code, etc.), or an embodiment combining software and hardware aspects that may generally be referred to herein as a "system." Furthermore, embodiments of the present invention may take the form of a computer program product comprising a computer-usable storage medium having computer-usable program code/computer-readable instructions embodied in the medium.

[0028] Any suitable computer-usable or computer-readable medium may be utilized. The computer usable or computer readable medium may be, for example but not limited to, an electronic, magnetic, optical, electromagnetic, infrared, or semiconductor system, apparatus, or device. More specific examples (e.g., a non-exhaustive list) of the computer-readable medium would include the following: an electrical connection having one or more wires; a tangible medium such as a portable computer diskette, a hard disk, a time-dependent access memory (RAM), a read-only memory (ROM), an erasable programmable read-only memory (EPROM or Flash memory), a compact disc read-only memory (CD-ROM), or other tangible optical or magnetic storage device.

[0029] Computer program code/computer-readable instructions for carrying out operations of embodiments of the present invention may be written in an object oriented, scripted or unscripted programming language such as Java, Perl, Smalltalk, C++ or the like. However, the computer program code/computer-readable instructions for carrying out operations of the invention may also be written in conventional procedural programming languages, such as the "C" programming language or similar programming languages.

[0030] Embodiments of the present invention are described below with reference to flowchart illustrations and/or block diagrams of methods or apparatuses (the term "apparatus" including systems and computer program products). It will be understood that each block of the flowchart illustrations and/or block diagrams, and combinations of blocks in the flowchart illustrations and/or block diagrams, can be implemented by computer program instructions. These computer program instructions may be provided to a processor of a general purpose computer, special purpose computer, or other programmable data processing apparatus to produce a particular machine, such that the instructions, which execute by the processor of the computer or other programmable data processing apparatus, create mechanisms for implementing the functions/acts specified in the flowchart and/or block diagram block or blocks.

[0031] These computer program instructions may also be stored in a computer-readable memory that can direct a computer or other programmable data processing apparatus to function in a particular manner, such that the instructions stored in the computer readable memory produce an article of manufacture including instructions, which implement the function/act specified in the flowchart and/or block diagram block or blocks.

[0032] The computer program instructions may also be loaded onto a computer or other programmable data processing apparatus to cause a series of operational steps to be performed on the computer or other programmable apparatus to produce a computer implemented process such that the instructions, which execute on the computer or other programmable apparatus, provide steps for implementing the functions/acts specified in the flowchart and/or block diagram block or blocks. Alternatively, computer program implemented steps or acts may be combined with operator or human implemented steps or acts in order to carry out an embodiment of the invention.

[0033] According to embodiments of the invention described herein, various systems, apparatus, methods, and computer program products are herein described for a technology-agnostic and protocol-agnostic system for delivering services, including data movement/transfer within an enterprise. The embodiments herein described provide for a modular system that is easy and cost-effective to deploy and is extensible, such that as new services are warranted, additional

modules can readily be added to the system. The technology/OS-agnostic nature of the system means that any server, regardless of manufacturer or OS, can be assimilated into the system for the purpose of providing the services including sending and/or receiving data. Moreover, the protocol-agnostic aspect of the system means that data can be transferred/communicated using any known, or future known, protocol (without requiring a separate application specific to the desired protocol). As such the present invention eliminates the need to utilize, maintain and configure compatibility amongst numerous OS-specific and/or protocol-specific applications for delivering such services, such as numerous data transfer applications and the like.

[0034] In addition, the system herein described provides for a comprehensive and unified approach to managing the services provided by the modular service delivery system. As such, the integrated system, in addition to providing the services, such as data movement transmissions/transactions, messaging, web services and the like also provides for unified governance control over the services, unified tracking of the services across the enterprise, unified auditing processes, granularity of control and the like. Such unified management control over the services eliminates the need to implement disparate security rules/processes, governance procedures, auditing practices and the like.

[0035] Moreover, the system herein described provides for a unified and centralized dashboard/user-interface for managing, enterprise-wide, data transmission/transactions. In this regard, the data transmission dashboard is configured to allow users to initiate and disable data transmissions, as well as configure routing, timing and protocols for data transmissions/transactions. Moreover, the dashboard/user-interface is configured to allow users to view operational status of presently ongoing data transmissions, including current routing location of the data and the like. In addition, the dashboard/user-interface is configured to allow users analyze, review transaction records and historical transaction logs for the purpose of conducting audits, performing corrective actions and the like. Other embodiments of the dashboard/user-interface are configured to provide centralized billing for data transmissions across the enterprise, centralized security and governance over data transmissions and/or centralized management over alert functionality.

[0036] Referring to FIG. **1**, a schematic diagram is provided of a system **100** for providing technology/OS-agnostic and protocol-agnostic delivery of services within an enterprise. The system **100** is configured as a hub-and-spoke model, in which the hub server **10** provides for management of the service delivery system via service delivery management framework **200** and the spoke networked servers **20**, implemented throughout the enterprise, are deployed with a modular service delivery application **400**. The service delivery application **400** is an open source based web services application and, as such, can be deployed and/or executed on any type of server (technology-agnostic) executing any type of operating system (OS-agnostic). The modular nature of the application means that the service delivery system is extensible; as additional services are added new modules within the application **400** may be added/plugged-in into the application **400**. As such, the present invention provides a holistic approach to service delivery that results in an enterprise-wide solution for service delivery. While FIG. **1** illustrates a single hub server **10** in practice the system may comprise a plurality of hub servers **10**, each having multiple networked-servers **20** in communication therewith.

[0037] In specific embodiments of the invention, the service delivery application **400** includes a data movement/file transfer module (shown and described in FIGS. **2** and **3**) that is configured to provide protocol-agnostic file transfer/transactions capabilities throughout the enterprise. Since the file transfer/data movement is configured as an open source application that is protocol-agnostic, deployment and use of data movement/file transfer module throughout most, if not all, of the enterprise's servers eliminates the need to deploy, maintain and configure compatibility amongst multiple different protocol-specific file transfer applications. In specific embodiments of the invention, the data movement/file transfer module relies on File Transfer Protocol Software (FTPS) that adds support for Transport Layer Security (TLS) and Secure Sockets Layer (SSL) encryption protocols.

[0038] Service delivery application **400** provides uniform management for all of the services delivered by service delivery application **400**. In this regard, service delivery application **400** includes core services that act as a unifier to provide umbrella-like management over security, governance (approvals and exceptions), provisioning (new modules and revisions to modules), auditing, tracking, reporting and the like. Such uniformity in management provides efficiency and eliminates the need to resolve conflicts that arise in disparate applications having distinct security, governance, provisioning protocols, rules and regulations. For example, from a security perspective when individual protocol-specific data transfer applications are executed by an enterprise, each application will typically require a separate SSL (Secure Socket Layer) certificate to exist on each server; however, the present invention is configured such that only a single SSL certificate per server and the single SSL certificate can be used to authenticate all of the services delivered by the application **400**. It should be noted that while the system only requires a single SSL certificate per server, the application **400** is configured to accommodate multiple SSL certificates if the application or a module within the application warrants such.

[0039] In accordance with embodiments of the present invention, service delivery management framework **200** includes a data transmission dashboard application that includes various user-interfaces configured to allow a user to centrally and uniformly manage enterprise-wide data transmission. In accordance with embodiments herein described, the data transmission dashboard application includes user-interfaces configured to allow users to pre-configure, initiate and disable data transmissions, including, configure routing, timing and protocols for data transmissions.

[0040] Referring to FIG. **2**, a block diagram is presented of a system **100** configured for providing technology/OS-agnostic and protocol-agnostic delivery of services within an enterprise, in accordance with an embodiment of the present invention. The system **100** includes modular service delivery application **400** that includes common core services **402** and modular services **404**. The core services **402** are common to all of the modular services **404** in the application and provide for unified umbrella-like management of the modular services. The core services may include, but are not necessarily limited to, provisioning **406**, security **408**, reporting **408** and governance/auditing **410**.

[0041] The provisioning service **406** is configured to provide for uniform deployment of new modular services **404** and deployment of revisions/updates to existing modular services **404**. In addition, provisioning service **406** is configured to provide hierarchical ordering of deployment based on criticality (i.e., server level), compliance and the like. Moreover, provisioning service **406** is configured to schedule deployment updates/revision and/or new modules so as to limit the impact of the deployment on production use of the server and/or other associated resources. Additionally, provisioning service **406** is configured to allow for non-compliant versions to be deployed with proper recordation/logging in place and for emerging or non-compliant versions to be declined.

[0042] The security service **408** provides uniform control over the security features applicable to the modular services **404**. In this regard, the security service **408** provides uniform rules, regulations and procedures for security. For example, uniform rules related to authenticating a protocol/module, uniform rules associated with encryption, uniform rules for resolving a security conflict or the like.

[0043] The reporting service **410** provides uniform control over reporting functions associated with the modular services. For example, uniform control over what reporting is required, the contents of reports, parties receiving reports, actions that may result in alerts/notifications, parties receiving notification/alerts and the like.

[0044] The governance service **412** and audit service **413** provides uniform control over governance and auditing features applicable to the modular services. In this regard, the governance service **412** and audit service **413** provides uniform rules, regulations and procedures for rules exceptions, approval chains for granting exceptions, auditing procedures, auditing schedules and the like.

[0045] The modular services **404** provided by service delivery application **400** may include, but are not limited to, file transfer/movement module **414**, messaging module **416**, web services module **418**, data archiving module **420** and any other service module **422**.

[0046] File transfer/movement module **414** provides a unified open-source approach to moving data (e.g., file transfers, conducting transactions and the like) to and from devices (e.g., servers) deployed in the enterprise. The file transfer/data movement module **414** is configured to provide one consolidated methodology for accessing different operating systems and networked devices to move data to and from networked devices. As such, the file transfer/data movement module **414** provides a full-service, holistic approach that can be implemented enterprise-wide; obviating the need to deploy and maintain numerous disparate protocol and operating system-specific file transfer applications. In specific embodiments of the invention, the file transfer/movement module **414** is configured to provide a web-accessible view to manage file transfer/data movement, as well as track/monitor the movement of data within the enterprise in real-time or near real-time.

[0047] In specific embodiments of the invention, the file transfer/movement module **414** is configured to provide for data movement/file transfer at the device-level and/or at the application-level, such that data can be moved from one networked device to another, from one networked device to an application, or from one application to another application. In further specific embodiments of the invention, the file transfer/data movement module **414** relies on the request management **202** function of the service delivery management framework **200** to provide a requisite protocol for file transfer, thus, eliminating the need to locate and implement a secondary network device to perform protocol-agnostic data movement/file transfer. As a result complexity and overhead are significantly reduced.

[0048] Moreover, in additional embodiments of the invention, the file transfer/movement module **414** is configured to provide entitlements at the server-level or at the data-level, as opposed to granting entitlements at the user-level. In this regard, the file transfer/module **414** looks at whether movement of data is permissible from device-to-device and/or application-to-application. A user is granted access to the file transfer/movement module **414** and may be pre-configured to perform certain actions within the file transfer/movement module **414** (i.e., the user has access at the application/module-level and may be provided granular access to perform specific actions only). If two network devices and/or two applications are configured so to be entitled for data transfer (i.e., entitled for a data connection/file transfer) any module user, pre-configured to use the module and perform the requisite function, can request data movement/file transfer between the devices and/or applications. In this regard, unlike conventional, file transfer applications, the user is not required to have nor are they provided physical access to the devices from which data is communicated and/or received. As a result, the devices from which the data is communicated and received remain secure throughout the data movement/file transfer/transaction process, since the user does not have physical access to the devices and, therefore, does have access to other files/data stored on those devices (e.g., exploit vulnerabilities associated with having to log-on to the servers/devices).

[0049] In additional embodiments of the invention, the file transfer/movement module **414** is configured to implement a device/server rating system as a means of determining whether the devices are entitled for a data connection (e.g., whether the devices can exchange data/conduct transactions or the like). In specific embodiments of the invention, the rating system may be based on the type of data that a device is configured to send or receive (e.g., confidential data, proprietary data, public data and the like). In other specific embodiments of the invention, a secondary rating may be provided to account for the geographic location of the device within the enterprise (taking into account that certain geographic locations/countries may have rules/laws in place restricting the type of data that may be communicated/received within the countries geographic locale/boundaries).

[0050] Messaging module **416** provides a unified open-source approach to message brokering/queuing. The messaging module may comprise message-oriented middleware that supports sending and receiving messages between distributed systems. The messaging module allows application modules to be distributed over heterogeneous platforms and reduces the complexity of developing applications that span multiple operating systems and network protocols. The module **416** creates a distributed communications layer that insulates the module from specifics of operating systems and network interfaces. As such, the messaging module **414** provides a full-service, holistic approach that can be implemented enterprise-wide; obviating the need to deploy and maintain numerous disparate protocol and operating system-specific messaging applications.

[0051] Web services module **418** is configured to provide a unified open-source approach to enabling legacy applications

that do not include web services with web services capabilities. In this regard, the web service module **418** communicates with the legacy application to create a web services interface and/or provide a web browser. The web services module **418** is configured to provide one consolidated methodology for accessing different operating systems and networked devices enable legacy applications with web services capabilities. As such, the web services module **418** provides a full-service, holistic approach that can be implemented enterprise-wide; obviating the need to deploy and maintain numerous disparate protocols and operating system-specific web services applications.

[0052] Data archiving module **420** is configured to provide a unified open-source approach to data archiving. The data archiving module **420** is configured to provide one consolidated methodology for accessing different operating systems and networked devices to archive data. As such, the data archiving module **420** provides a full-service, holistic approach that can be implemented enterprise-wide; obviating the need to deploy and maintain numerous disparate protocol and operating system-specific data archiving applications.

[0053] Additionally, service delivery application **404** may include other known or future-known service modules **422**, which can be configured to provide a consolidated methodology for accessing operating systems and network devices to perform the desired service.

[0054] Service delivery management framework **200** is a web services framework which serves to integrate and connect the services provided by the service delivery application **400**. Service delivery management framework **200** is extensible and may be configured to include data transmission dashboard application **212** that is configured to provide a user management over the data file transfer/movement module **414** via a series of user-interfaces. As shown, the data transmission dashboard application **212** includes request management **202**, inventory management **204**, billing management **206**, provisioning management **208** and operational status management **210**.

[0055] As previously discussed, request management **202** is configured to manage a request to move data/transfer a file or the like. Request management **202** may include configuring the service, verifying security and compliance, verifying/receiving requisite approval chain and the like. In addition, request management **202** provides user-interfaces configured to allow the user to pre-configure, initiate or disable a data transmission. Additionally, request management **202** may provide user-interfaces configured to allow a user to configure routes for data transmission, timing for data transmission and/or protocols to be implemented for the data transmission.

[0056] Inventory management **204** may include user-interfaces that allow the user to access and analyze data transmission records including data types, connection points and the like across the enterprise for auditing purposes and the like. Additionally, inventory management **204** may include user-interfaces that allow the user to view archival set logs in order to see full tracking results including data transmission errors and the like.

[0057] Billing management **206** is configured to automatically determine the volume of data being moved/transferred, apply a billing rate to the data being moved/transferred, determine a billing entity associated with the data and communicate billing data (e.g., invoice) to the billing entity. In addition, billing management **206** may include user-interfaces that allow users the ability to manage the billing process and provide for uniform billing across the enterprise.

[0058] Provisioning management **208** is configured to work in unison with the provisioning service **406** in the common core services **402** of the delivery service application **400** to provide a unified approach to provisioning new modules and updates/revisions to existing modules. Such provisioning management includes determining deployment times and schedules and the like.

[0059] Operational status management **210** includes providing a user-interface that is configured to provide real-time access to tracking data and performance metrics, such as real-time tracking of data movement/file transfer within the enterprise. In this regard, operational status management **210** may include user-interfaces configured to provide users a real-time view of current operational status of data transmissions or any other service provided by the modular service delivery application **400**. Additionally, operational status **210** may include user-interfaces configured to allow a user to manage and configure alerts associated with data transmission and operational status.

[0060] Referring to FIG. **3** a block diagram is presented of the apparatus **500**, which is configured for providing technology/OS-agnostic and protocol-agnostic delivery of services within an enterprise, in accordance with embodiments of the present invention. In addition to providing greater detail, FIG. **3** highlights various alternate embodiments of the invention. The apparatus **200** may include one or more of any type of computing device, such as a server or the like. The present apparatus and methods can accordingly be performed on any form of one or more computing devices.

[0061] The apparatus **500** includes computing platform **502** that can receive and execute algorithms, such as routines, and applications. Computing platform **502** includes memory **504**, which may comprise volatile and non-volatile memory, such as read-only and/or random-access memory (RAM and ROM), EPROM, EEPROM, flash cards, or any memory common to computer platforms. Further, memory **504** may include one or more flash memory cells, or may be any secondary or tertiary storage device, such as magnetic media, optical media, tape, or soft or hard disk. Moreover, memory **504** may comprise cloud storage, such as provided by a cloud storage service and/or a cloud connection service.

[0062] Further, computing platform **502** also includes processor **506**, which may be an application-specific integrated circuit ("ASIC"), or other chipset, processor, logic circuit, or other data processing device. Processor **506** or other processor such as ASIC may execute an application programming interface ("API") (not shown in FIG. **3**) that interfaces with any resident programs, such as service delivery application **400** and routines, sub-modules associated therewith or the like stored in the memory **504** of the apparatus **500**.

[0063] Processor **506** includes various processing subsystems (not shown in FIG. **3**) embodied in hardware, firmware, software, and combinations thereof, that enable the functionality of apparatus **500** and the operability of the apparatus on a network. For example, processing subsystems allow for initiating and maintaining communications and exchanging data with other networked devices, such as hub server (**10** of FIG. **1**). For the disclosed aspects, processing subsystems of processor **506** may include any subsystem used in conjunction with service delivery application **400** and related algorithms, sub-algorithms, modules, sub-modules thereof.

[0064] Computer platform **502** may additionally include communications module (not shown in FIG. **3**) embodied in hardware, firmware, software, and combinations thereof, that enables communications among the various components of the apparatus **500**, as well as between the other networked devices. Thus, communication module may include the requisite hardware, firmware, software and/or combinations thereof for establishing and maintaining a network communication connection.

[0065] The memory **504** of apparatus **500** stores service delivery application **400** that is a modular-based, operating-system agnostic and protocol-agnostic means for providing services throughout an enterprise. In this regard, since the services that are provided are not tied to any one operating system or any one protocol, the service delivery application eliminates the need for the enterprise to execute and maintain a multitude of operating system-specific and protocol-specific service applications. As such, the service delivery application is instrumental in decreasing overhead costs associated with maintaining the multitude of diverse service applications. For example, the data transfer module **414** included in the service delivery application **400** eliminates the need for the enterprise to execute, maintain and ensure compatibility numerous different file transfer applications that may be specific to operating systems/hardware and operating using specific file transfer protocols.

[0066] In addition, the modular-based service delivery application **400** provides for comprehensive and unified management over the services delivered by the application **400**. Such unified and comprehensive management of the services is accomplished by the common core services **402** included in the application **400**. The common core services **402** are common to all of the modular services **404** in the application **400**. The core services may include, but are not necessarily limited to, provisioning **406**, security **408**, reporting **408**, governance **410**, tracking **411** and auditing **412**. These core services may be applied to any of the modular services to which the core service is applicable. The application may be configured such that a user has access to one or more user-interfaces/dashboards that allow for the user to manage and/or view the common core services. The user-interface/dashboard may be configured to be specific to a common core service (e.g., such that each common core service UI/dashboard provides access to and control over each of the modular services **404**) and/or specific to a modular service (e.g., such that each modular service UI/dashboard provides access to and control over each of the common core services for the specified modular service).

[0067] The provisioning service **406** is configured to provide for uniform deployment of new modular services **404** and deployment of revisions/updates to existing modular services **404**. The security service **408** is configured to provide uniform control over the security features applicable to the modular services **404**. In this regard, the security service **408** provides uniform rules, regulations and procedures for security. For example, the security service **408** provides uniform rules related to authenticating a protocol/module, uniform rules associated with encryption, uniform rules for resolving a security conflict or the like. The reporting service **410** provides uniform control over reporting functions associated with the modular services. For example, the reporting service **410** provides uniform control over what reporting is required, the contents of reports, parties receiving reports, and the like.

[0068] The governance service **412** is configured to provide uniform control over governance including, but not limited to, rules, regulations and procedures for rule exceptions, approval chains for granting exceptions and the like. The tracking service **411** is configured to provide uniform control and management over tracking functions associated with the modular services; such as, but not limited, tracking file transfer/data movement throughout the enterprise. The auditing service **413** is configured to provide uniform control auditing requirements, such as, but not limited to, auditing procedures, auditing schedules and the like.

[0069] The modular services **404** provided by service delivery application **400** are dictated by the needs of the enterprise and, therefore, will vary from enterprise-to-enterprise. In addition, since the system is modular-based additional modules can be inserted into the application **400** on an as needed basis. In specific embodiments of the invention, the modular services **404** included in the application **400** include file transfer/movement module **414** that is configured to provides a unified open-source approach to moving data (e.g., file transfers, conducting transactions and the like) to and from devices (e.g., servers) and/or applications deployed in the enterprise. In this regard, the file transfer/movement module **414** is configured to establish protocol-agnostic data connections **508** between networked devices (e.g., services) or applications residing in networked devices and to initiate data movement, file transfers, transactions via the established data connections.

[0070] As previously noted, the file transfer/data movement module **414** is configured to provide one consolidated methodology for accessing different operating systems and networked devices to move data to and from networked devices. As such, the file transfer/data movement module **414** provides a full-service, holistic approach that can be implemented enterprise-wide; obviating the need to deploy and maintain numerous disparate protocol and operating system-specific file transfer applications.

[0071] Moreover, in additional embodiments of the invention, the file transfer/movement module **414** is configured to provide server-level entitlements **510**, as opposed to granting entitlements at the user-level. In this regard, the file transfer/module **414** looks at whether movement of data is permissible from device-to-device and/or application-to-application. A user is granted access to the file transfer/movement module **414** and may be pre-configured to perform certain actions within the file transfer/movement module **414** (i.e., the user has access at the application/module-level and may be provided granular access to perform specific actions only). If two network devices and/or two applications are configured so to be entitled for data transfer (i.e., entitled for a data connection/file transfer) any module user, pre-configured to use the module and perform the requisite function, can request data movement/file transfer between the devices and/or applications. In this regard, unlike conventional, file transfer applications, the user is not required to have nor are they provided physical access to the devices from which data is communicated and/or received.

[0072] In additional embodiments of the invention, the file transfer/movement module **414** is configured to implement a device/server rating system **512** as a means of determining whether the devices are entitled for a data connection (e.g., whether the devices can exchange data/conduct transactions or the like). In specific embodiments of the invention, the rating system may be based on the type of data that a device

is configured to send or receive (e.g., confidential data, proprietary data, public data and the like). In other specific embodiments of the invention, a secondary rating may be provided to account for the geographic location of the device within the enterprise (taking into account that certain geographic locations/countries may have rules/laws in place restricting the type of data that may be communicated/received within the countries geographic locale/boundaries).

[0073] In accordance with other embodiments of the invention, additional optional modular services **404** may include web services module **418**, messaging module **416**, data archiving module **420** and any other service module **422**. Web services module **418** is configured to provide a unified open-source approach to enabling legacy applications that do not include web services with web services capabilities. In this regard, the web service module **418** communicates with the legacy application to create a web services interface and/or provide a web browser. The web services module **418** is configured to provide one consolidated methodology for accessing different operating systems and networked devices enable legacy applications with web services capabilities. Messaging Module **416** provides a unified open-source approach to message brokering/queuing. The messaging module **416** may comprise message-oriented middleware that supports sending and receiving messages between distributed systems. The messaging module allows application modules to be distributed over heterogeneous platforms and reduces the complexity of developing applications that span multiple operating systems and network protocols. The module **416** creates a distributed communications layer that insulates the module from specifics of operating systems and network interfaces. Data archiving module **420** is configured to provide a unified open-source approach to data archiving. The data archiving module **420** is configured to provide one consolidated methodology for accessing different operating systems and networked devices to archive data.

[0074] Referring to FIG. **4** a block diagram is presented of an apparatus **600**, which is configured managing a data transmission service, delivered by a technology/OS-agnostic and protocol-agnostic service delivery application, through implementation of a dashboard presentation, in accordance with embodiments of the present invention. In addition to providing greater detail, FIG. **4** highlights various alternate embodiments of the invention. The apparatus **600** may include one or more of any type of computing device, such as a server or the like. The present apparatus and methods can accordingly be performed on any form of one or more computing devices.

[0075] The apparatus **600** includes computing platform **602** that can receive and execute algorithms, such as routines, and applications. Computing platform **602** includes memory **604**, which may comprise volatile and non-volatile memory, such as read-only and/or random-access memory (RAM and ROM), EPROM, EEPROM, flash cards, or any memory common to computer platforms. Further, memory **604** may include one or more flash memory cells, or may be any secondary or tertiary storage device, such as magnetic media, optical media, tape, or soft or hard disk. Moreover, memory **604** may comprise cloud storage, such as provided by a cloud storage service and/or a cloud connection service.

[0076] Further, computing platform **602** also includes processor **606**, which may be an application-specific integrated circuit ("ASIC"), or other chipset, processor, logic circuit, or other data processing device. Processor **606** or other processor such as ASIC may execute an application programming interface ("API") (not shown in FIG. **4**) that interfaces with any resident programs, such as service delivery management framework/application **200** and data transmission dashboard application **212** routines, sub-modules associated therewith or the like stored in the memory **604** of the apparatus **600**.

[0077] Processor **606** includes various processing subsystems (not shown in FIG. **4**) embodied in hardware, firmware, software, and combinations thereof, that enable the functionality of apparatus **600** and the operability of the apparatus on a network. For example, processing subsystems allow for initiating and maintaining communications and exchanging data with other networked devices, such as networked servers (**20** of FIG. **1**). For the disclosed aspects, processing subsystems of processor **606** may include any subsystem used in conjunction with service delivery management framework/application **200**, data transmission dashboard application **212**, and related algorithms, sub-algorithms, modules, sub-modules thereof.

[0078] Computer platform **602** may additionally include communications module (not shown in FIG. **4**) embodied in hardware, firmware, software, and combinations thereof, that enables communications among the various components of the apparatus **600**, as well as between the other networked devices. Thus, communication module may include the requisite hardware, firmware, software and/or combinations thereof for establishing and maintaining a network communication connection.

[0079] The memory **604** of apparatus **600** stores service delivery management framework/application **200** that is a web services framework which serves to integrate and connect the services provided by the service delivery application **400** (shown in FIG. **3**). Included within service delivery management framework **200** is data transmission dashboard application **212** which is configured to provide a user the ability to manage all facets of data transmission, delivered by the technology/OS-agnostic and protocol-agnostic service delivery application herein described, throughout an entire enterprise

[0080] The data transmission dashboard application **212** is configured to provide one or more data transmission configuration user-interfaces **610** that allow a user to preconfigure data transmissions **612**. Data transmission parameters that may be preconfigured include routing **614** (i.e., locations/servers within the enterprise that will receive, process (e.g., conduct transaction) and/or store the data), timing **616** (i.e., when data transmissions will occur (e.g., date, time of day), one-time-only, continuous and the like), protocol(s) **618** to implement for the transfer/transmission and other parameter **620** germane to the data transmission process. Additionally, data transmission configuration user-interfaces are configured to allow a user to initiate, on demand, a data transmission/transfer **622** and to disable or otherwise stop, on demand, a data transmission/transfer **624** from continuing. The disablement may be permanent or the disablement may be temporary, with the user-interface providing the user the ability to establish a time for resuming the data transfer/transmission.

[0081] Further, the data transmission dashboard application **212** is configured to provide one or more operational status user-interfaces **626** that allow a user to track, in real-time, the status **628** of any data transmission provided by the data transfer module. Real-time tracking includes the ability of the user-interface **626** to show the location/routing **630** of the data transmission (e.g., where the data is currently

located/being processed, where the data has already been received/processed and/or where the data will subsequently be received/processed), the time currently incurred **632** by the data transmission, and/or the amount **634** (e.g., in terms of percentage, bytes or the like) of data currently transferred/processed at the location.

[0082] In addition, the data transmission dashboard application **212** is configured to provide one or more data transmission user-entitlement management user-interfaces **636** that allow a user to manage entitlements (i.e., permissions, access rights) for users of the data transmission service (i.e., individuals, users or systems that have a need to transfer/transmit data within the enterprise). The user-interfaces **636** may provide the user the ability to grant entitlements on a highly granular basis, for example, the user-interfaces **636** may be configured to grant entitlements on a server-level **638** (i.e., a user can/cannot transfer data to and/or from a specified network device/server), or on a route-level **640** (i.e., a user can/cannot transfer data via a specified route), or entitlements may be based on any other parameter associated with the data transmission process.

[0083] Moreover, the data transmission dashboard application **212** is configured to provide one or more data transmission record and logging user-interfaces **642** that allow a user to analyze and review transaction records **644** and archival set logs **646** that include transmission errors and the like. The analysis of records **644** and set logs **646** provide for centralized tracking, better look-back and the like.

[0084] Additionally, the data transmission dashboard application **212** is configured to provide one or more data transmission billing management user-interfaces **648** that allow a user the ability to manage how data transmissions are billed out to the various entities within the enterprise. As such, billing management user-interfaces **648** may be configured to allow the user to set the rate for a specified an entity, vary the rate based on transmission times and the like.

[0085] In addition, the data transmission dashboard application **212** is configured to provide one or more data transmission auditing management user-interfaces **650** that allow a user to perform auditing functions required by the enterprise. The auditing, which may implement transactions records **644**, set logs **646** and the like may be granular, specific to a data-type being transmitted, specific to connection points (i.e., network devices/servers), routes or the like.

[0086] Further, the data transmission dashboard application **212** is configured to provide one or more data transmission security/governance management user-interfaces **652** that allow a user to define and manage the rules for security (e.g., type of transfers allowed, protocols required, encryption required and the like) and governance (e.g., approval chains for granting permission to conduct a data transfer and the like). Additionally, the data transmission dashboard application **212** is configured to provide one or more data transmission alert management user-interfaces **654** that allow a user to define and manage alerts that may be communicated through the enterprise based on defined data transmission events (e.g., successful completion of data transfer, failure to complete data transfer and the like). As such the user-interfaces **654** may be configured to allow a user to manage alerts by specifying form of the alert (e.g., email, text and the like), timing of alerts, alert recipients and context of the alerts.

[0087] Thus, systems, apparatus, methods, and computer program products described above provide for an enterprise-wide centralized dashboard/user-interface for managing data transfer/movement provided by a technology-agnostic and protocol-agnostic data transfer/movement module. Such management includes controlling the initiation and disablement of data transfers and configuring routing, timing and protocol(s) for data transfers. In addition, the dashboard/user-interface may be configured to provide (i) centralized control over user entitlements at a highly granular level, such as server-level, route-level or the like, (ii) the ability to track data transmission progress, such as by providing users a real-time view of the status/location of enterprise-wide data transmission (iii) centralized management over data transmission records and set logs, such that a user can analyze data transmissions across the enterprise and view full tracking data including transmission errors and (iv) centralized control over security and governance of data transmissions, including approval/denial of data transmissions

[0088] While certain exemplary embodiments have been described and shown in the accompanying drawings, it is to be understood that such embodiments are merely illustrative of and not restrictive on the broad invention, and that this invention not be limited to the specific constructions and arrangements shown and described, since various other changes, combinations, omissions, modifications and substitutions, in addition to those set forth in the above paragraphs, are possible.

[0089] Those skilled in the art may appreciate that various adaptations and modifications of the just described embodiments can be configured without departing from the scope and spirit of the invention. Therefore, it is to be understood that, within the scope of the appended claims, the invention may be practiced other than as specifically described herein.

What is claimed is:

1. An apparatus for management of data transmissions within an enterprise, the apparatus comprising:

a computing platform having a memory and at least one processor in communication with the memory;

a modular-based, service delivery application stored in the memory, executable by the processor and including:

a data transfer module configured to provide data connections between a plurality of servers in the enterprise; and

a service delivery management framework stored in the memory, executable by the processor and including:

a data transmission dashboard application configured to provide a plurality of user-interfaces, wherein at least one of the user-interfaces is configured to allow a user to (1) initiate and disable data transmissions performed by the data transfer module, and (2) configure routing, timing and protocol for the data transmissions.

2. The apparatus of claim **1**, wherein the data transmission dashboard application further includes at least one user-interface configured to allow a user to manage data transmission-user entitlements at a server-level and a route-level.

3. The apparatus of claim **1**, wherein the data transmission dashboard application further includes at least one user-interface configured to allow a user to track, in real-time, a status of ongoing data transmissions performed by the data transfer module.

4. The apparatus of claim **1**, wherein the data transmission dashboard application further includes at least one user-interface configured to allow a user to analyze records of completed data transmissions performed by the data transfer mod-

ule at a data type-level and a server-level for a purpose of enterprise-wide data transmission auditing.

5. The apparatus of claim **1**, wherein the data transmission dashboard application further includes at least one user-interface configured to allow a user to manage an enterprise-wide data transmission billing process for data transmissions performed by the data transfer module.

6. The apparatus of claim **1**, wherein the data transmission dashboard application is further includes at least one user-interface configured to allow a user to manage enterprise-wide security and governance of data transmissions performed by the data transfer module.

7. The apparatus of claim **1**, wherein the data transmission dashboard application is further includes at least one user-interface configured to allow a user to manage an enterprise-wide alert system associated with data transmissions performed by the data transfer module.

8. The apparatus of claim **1**, wherein the data transmission dashboard application is further includes at least one user-interface configured to provide a user access to archival uniform set logs of data transmission records that include full tracking and data transmission errors.

9. A system for managing enterprise-wide data transmissions, the system comprising:

a plurality of networked servers, each server comprising a first computing-platform having a first memory and at least one first processor in communication with the first memory;

a modular-based, service delivery application stored in each first memory, executable by the first processor and including a data transfer module configured to provide data connections between a plurality of servers in the enterprise;

one or more hub servers, each hub server (i) comprising a second computing-platform having a second memory and at least one second processor in communication with the second memory, and (ii) in communication with a plurality of the networked servers; and

a service delivery management framework stored in the memory, executable by the processor and including:

a data transmission dashboard application configured to provide a plurality of user-interfaces, wherein at least one of the user-interfaces is configured to allow a user to (1) initiate and disable data transmissions performed by the data transfer module, and (2) configure routing, timing and protocol for the data transmissions.

10. The system of claim **9**, wherein the data transmission dashboard application further includes at least one user-interface configured to allow a user to manage data transmission-user entitlements at a server-level and a route-level.

11. The system of claim **9**, wherein the data transmission dashboard application further includes at least one user-interface configured to allow a user to track, in real-time, a status of ongoing data transmissions performed by the data transfer module.

12. The system of claim **9**, wherein the data transmission dashboard application further includes at least one user-interface configured to allow a user to analyze records of completed data transmissions performed by the data transfer module at a data type-level and a server-level for a purpose of enterprise-wide data transmission auditing.

13. The system of claim **9**, wherein the data transmission dashboard application further includes at least one user-interface configured to allow a user to manage an enterprise-wide data transmission billing process for data transmissions performed by the data transfer module.

14. The system of claim **9**, wherein the data transmission dashboard application is further includes at least one user-interface configured to allow a user to manage enterprise-wide security and governance of data transmissions performed by the data transfer module.

15. The system of claim **9**, wherein the data transmission dashboard application is further includes at least one user-interface configured to allow a user to manage an enterprise-wide alert system associated with data transmissions performed by the data transfer module.

16. The system of claim **9**, wherein the data transmission dashboard application is further includes at least one user-interface configured to provide a user access to archival uniform set logs of data transmission records that include full tracking and data transmission errors.

17. A computer program product comprising:

a non-transitory computer-readable medium comprising:

a first set of codes for causing a computer to provide one or more first user-interfaces configured to allow a user to initiate and disable data transmissions performed by an enterprise-wide protocol-agnostic and operating system-agnostic data transfer module;

a second set of codes for causing a computer to provide one or more second user-interfaces configured to allow a user to configure routing, timing and protocol for the data transmissions.

18. The computer program product of claim **17**, wherein the computer-readable medium further comprises a third set of codes configured to cause a computer to provide one or more third user-interfaces configured to allow a user to manage data transmission-user entitlements at a server-level and a route-level.

19. The computer program product of claim **17**, wherein the computer-readable medium further comprises a third set of codes configured to cause a computer to provide one or more third user-interfaces configured to allow a user to track, in real-time, a status of ongoing data transmissions performed by the data transfer module.

20. The computer program product of claim **17**, wherein the computer-readable medium further comprises a third set of codes configured to cause a computer to provide one or more third user-interfaces configured to allow a user to analyze records of completed data transmissions performed by the data transfer module at a data type-level and a server-level for a purpose of enterprise-wide data transmission auditing.

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