

**NATIONAL AGENCY FOR FISCAL ADMINISTRATION
REVENUE ADMINISTRATION MODERNIZATION PROJECT**

„Network Improvement for Data Centers (in two lots) (RAMP/4)”

**Amendment nos.1-3 to the Bidding Documents
Updated on February 8th, 2016**

Change no.	Bidding Document Page no.	Bidding Document Reference Clause	Clause in the Original Bidding Document	Amended Clause
1	44	Section II. Bid Data Sheet B. The Bidding Documents ITB 10.2	Dates, times, and places for the pre-bid meeting: 10.00 hours local time on January 12th, 2016 at 17, Apolodor Street (“Registratura” Entrance (ground floor)), Sector 5, Bucharest	Dates, times, and places for the pre-bid meeting: 10.00 hours local time on <u>January 19th</u>, 2016 at 17, Apolodor Street (“Registratura” Entrance (ground floor)), Sector 5, Bucharest
2	Page 5 Section I. Instructions to Bidders	Invitation for Bids (IFB), par. 4.a. LOT 1 (Acceleration and Protection Subsystem)	The Bidder must document (including reference contact information) the fact that they have successfully completed during the 36 (thirty-six) months prior to the date of bid submission at least one (1) contract for the supply, installation and configuration of <i>Acceleration and Protection Subsystems</i> using F5 Network technologies.	The Bidder must document (including reference contact information) the fact that they have successfully completed during the 36 (thirty-six) months prior to the date of bid submission at least one (1) contract for the supply, installation and configuration of <i>Acceleration and Protection Subsystems</i> using <u>the brand name products bid</u> .
3	Page 6 Section I. Instructions to Bidders	Invitation for Bids (IFB), par. 7	Bids must be delivered to the address below at or before 10.00 hours local time on February 2nd, 2016 . Late bids will be rejected. Bids will be opened in	Bids must be delivered to the address below at or before 10.00 hours local time on March 17th, 2016 . Late bids will be rejected. Bids will be opened in the

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			the presence of Bidders' representatives who choose to attend at the address below at 10.15 hours local time on February 2nd, 2016	presence of Bidders' representatives who choose to attend at the address below at 10.15 hours local time on March 17th, 2016
4	Page 43 Section II. Bid Data Sheet	Section II. Bid data Sheet, ITB 6.1 (a), par. a.	a. The Bidder must document (including reference contact information) the fact that they have successfully completed during the 36 (thirty-six) months prior to the date of bid submission at least one (1) contract for the supply, installation and configuration of <i>Acceleration and Protection Subsystems</i> using F5 Network technologies.	a. The Bidder must document (including reference contact information) the fact that they have successfully completed during the 36 (thirty-six) months prior to the date of bid submission at least one (1) contract for the supply, installation and configuration of <i>Acceleration and Protection Subsystems</i> using the brand name products bid.
5	Page 43 Section II. Bid Data Sheet	Section II. Bid data Sheet, ITB 10.2	Dates, times, and places for the pre-bid meeting: 10.00 hours local time on January 12th, 2016 at 17, Apolodor Street ("Registratura" Entrance (ground floor)), Sector 5, Bucharest	Dates, times, and places for the pre-bid meetings: (1) 10.00 hours local time on January 19th, 2016 and (2) 10.00 hours local time on February 18th, 2016 at 17, Apolodor Street ("Registratura" Entrance (ground floor)), Sector 5, Bucharest

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6	Page 45 Section II. Bid Data Sheet	Section II. Bid data Sheet, ITB 16.3	<p>In the interest of effective integration, cost-effective technical support, and reduced re-training and staffing costs, Bidders are required to offer specific brand names and models for the following limited number of specific items:</p> <p><u>LOT 1 (Acceleration and Protection Subsystem):</u></p> <ul style="list-style-type: none"> • F5 Networks Big-IP 2200s, with GTM feature-set (new) • F5 Networks Viprion 2150 model blades (new; to be installed in existing Viprion 2400 Chassis) • “Software Defined Networking Services” licenses (new; for existing Viprion 2400 Chassis) • Big-IQ provisioning licenses (for BIG-IP instances) • “IP Intelligence Services” subscriptions (new; for existing Viprion 2400 Chassis) <p><u>LOT 2 (Datacenter Fabric Subsystem</u></p>	<p>In the interest of effective integration, cost-effective technical support, and reduced re-training and staffing costs, Bidders are required to offer specific brand names and models for the following limited number of specific items:</p> <p><u>LOT 1 (Acceleration and Protection Subsystem):</u></p> <ul style="list-style-type: none"> • <u>None</u> <p><u>LOT 2 (Datacenter Fabric Subsystem and Datacenter Core Subsystem):</u></p> <ul style="list-style-type: none"> • None.

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			and <u>Datacenter Core Subsystem</u>): <ul style="list-style-type: none"> None. 	
7	Page 45 Section II. Bid Data Sheet	Section II. Bid data Sheet, ITB 18.1	The bid validity period shall be: 120 days after the deadline for bid submission, as specified below in reference to ITB Clause 21. Accordingly, each bid shall be valid through June 1st, 2016 Accordingly, a bid with a Bid Security that expires before June 29th, 2016 shall be rejected as non-responsive.	The bid validity period shall be: 120 days after the deadline for bid submission, as specified below in reference to ITB Clause 21. Accordingly, each bid shall be valid through July 15th, 2016 Accordingly, a bid with a Bid Security that expires before August 12, 2016 shall be rejected as non-responsive.
8	Page 46 Section II. Bid Data Sheet	Section II. Bid data Sheet, ITB 21.1	Deadline for bid submission is: 10.00 hours local time on February 2nd, 2016	Deadline for bid submission is: 10.00 hours local time on March 17th, 2016
9	Page 46 Section II. Bid Data Sheet	Section II. Bid data Sheet, ITB 24.1	Time, date, and place for bid opening are: 10.15 hours local time on February 2nd, 2016 at 17, Apolodor Street, Sector 5, ("Registratura" Entrance (ground floor)) Bucharest, Romania	Time, date, and place for bid opening are: 10.15 hours local time on March 17th, 2016 at 17, Apolodor Street, Sector 5, ("Registratura" Entrance (ground floor)) Bucharest, Romania
10	Page 157 Section VI. Technical Requirements	Section VI. Technical Requirements, par. 5 on page 157 (not numbered)	The System will be acquired in two lots: <ul style="list-style-type: none"> Lot 1 – <u>Acceleration and Protection Subsystem</u> (to be provided as an extension of the existing F5 Networks brand "<i>Acceleration and Protection</i>") 	The System will be acquired in two lots: <ul style="list-style-type: none"> Lot 1 – <u>Acceleration and Protection Subsystem</u> (with Global Server Load-Balancing and DNS Firewall capabilities, as well as with Application Delivery

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			infrastructure in use by NAFA) and	Controller and Web Application Firewall) and
11	Page 158 Section VI. Technical Requirements	Section VI. Technical Requirements, par. 1, 1.1 and 1.2	<p>1. Requirements – ACCELERATION AND PROTECTION SUBSYSTEM</p> <p>1.1. For each site, the Acceleration and Protection Subsystem must be supplied and configured to extend the existing (F5 Networks brand) “<i>Acceleration and Protection</i>” infrastructure currently in use by NAFA. The existing infrastructure comprises:</p> <ul style="list-style-type: none"> • 2 (two) F5 Networks Big-IP 2200s (one device for each site), with GTM feature-set, in the existing Application Services Front-End Layer; • 2 (two) F5 Networks 	<p>2. Requirements – <u>ACCELERATION AND PROTECTION SUBSYSTEM</u></p> <p>1.1. For each site, the Acceleration and Protection Subsystem, with Global Server Load-Balancing and DNS Firewall capabilities, as well as with Application Delivery Controller and Web Application Firewall Subsystem must be supplied and configured to provide the following integrated functional, technical and transactional performance capabilities:</p> <p>1.1.1. Integrated global application service load-balancing (GSLB) and DNS management and security capabilities, for high availability in the Application Services Front-End Layer, included but not limited to:</p> <ul style="list-style-type: none"> - Active traffic redistribution across sites/datacenters;

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			<p>Viprion 2400 (one chassis for each site) with 2150 model blades (two per chassis) with the LTM/ASM/APM feature-set, in the existing Application Services DMZ Layer.</p> <p>1.2. For each site, the Acceleration and Protection Subsystem must add to the existing (F5 Networks brand) infrastructure the following items:</p> <ul style="list-style-type: none"> • 1 (one) F5 Networks Big-IP 2200s with GTM feature-set (for high availability in the existing Application Services Front-End Layer); • 1 (one) F5 Networks Viprion 2150 model 	<ul style="list-style-type: none"> - Specific server- and datacenter-status aware global traffic redistribution; - DNS management, including DNSSEC support and DNS firewall; - At least 2 hardware modules per site, in active-active redundant (cluster) configuration. <p>1.1.2. The GSLB component must provide the following configuration and minimal transactional capabilities, for each hardware module:</p> <ul style="list-style-type: none"> - 4 Gbps L7 system throughput; - 400,000 L7 HTTP requests/sec; - 4,000 SSL transactions/sec (for 2048 bit key certificates); - 4 Gbps SSL throughput; - 4 Gbps hardware compression throughput; - GSLB and DNS Firewall license;

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			<p>blades, (for extended processing capability in the existing Application Services DMZ Layer);</p> <ul style="list-style-type: none"> • 1 (one) SDN (“Software Defined Networking Services”) and 1 (one) Big-IQ provisioning licenses for 25 BIG-IP instances, (for the integration of the existing Application Services DMZ Layer with the Datacenter Fabric Subsystem); • 1 (one) “IP Intelligence Services” subscriptions (for integration of reputation based security services to the existing ASM features of the Application Services DMZ Layer); 	<ul style="list-style-type: none"> - Up to 8 1Gbps RJ45 ports; - Up to 2 10Gbps SFP+ ports; - 64 bit CPU architecture, with 8 GB RAM and internal HDD; - 2 or more redundant PSUs. <p>1.1.3. Integrated application delivery controller (ADC), identity-based access gateway and Web application services security (WAF) capabilities, for extended processing capability in the Application Services DMZ Layer, included but not limited to:</p> <ul style="list-style-type: none"> - Active traffic redistribution across server nodes inside each datacenter, - Hardware offloading and acceleration of traffic processing; - Accelerated web application session processing; - Application service load-balancing;

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				<ul style="list-style-type: none"> - Application service high-availability; - Integrated platform virtualization; - Integrated identity gateway and web application security. - Functional integration in Software Defined Networking (SDN) and application service centric infrastructures; - Capability to subsequently add hardware processing power to the configuration without additional licensing being required for the software features; - At least 3 hardware modules per site, in active-active redundant (cluster) configuration. <p>1.1.4. Accelerated web application session processing and service load-balancing:</p> <ul style="list-style-type: none"> - Support for operating in full reverse-proxy mode and in

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				<p>forwarding mode, at Layer 2 and Layer 3;</p> <ul style="list-style-type: none"> - Specific support for service load-balancing at least for: <ul style="list-style-type: none"> - Layer 4 protocols — TCP and UDP; - Layer 5-7 protocols — HTTP/HTTPS, FTP, SSH, TELNET, SQL, SMTP; - Load-balancing using at least the following algorithms: round robin, ratio, least connections, fastest, observed, predictive, dynamic ratio, weighted least connections; - Application service state monitoring using appropriate channels specific for each of the relevant layers of the OSI Model; - Monitoring using third-party channels for custom applications that do not natively provide for direct monitoring;

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				<ul style="list-style-type: none"> - Granular monitoring at application server node level and at application service level; - Support for translation of IP source and destination addresses, as well as of TCP/UDP source and destination ports; - Support for transaction persistence management based on IP source and/or destination addresses, session cookies, SSL or SIP session identifiers, as well as on other user-defined criteria; - Support for dynamic provisioning of additional unallocated application service nodes from a pool of available resources; - Support for concurrent use of IPv4 and IPv6 stacks for service interconnection and for traffic processing; - Specific TCP multiplexing and

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				<p>TCP optimization based on connection type (LAN/WAN/Mobile);</p> <ul style="list-style-type: none"> - LAN/WAN traffic optimization as per RFC2582, RFC1323, RFC3042, RFC2018, RFC3168; - Hardware SSL offloading, integrated support for management of private keys and certificates; - Support for HTTP request and response header manipulation; - Support for cookie insert, cookie rewrite and cookie encryption; - Support for HTTP compression; - Support for traffic manipulation based on user defined policies; - Support for REST based system configuration and for REST based application server integration; - Internal scripting support for event driven traffic processing, based on

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				<p>TCL (or equivalent).</p> <p>1.1.5. Application service high-availability</p> <ul style="list-style-type: none"> - Support for active/active and for active/standby cluster operation; - Support for configuration synchronization; - Support for the use of synchronization services for connection persistence; - Support for synchronization of session tables; - Support for synchronization of security policies; - Support for traffic duplication; - Support for active to standby node hitless failover; - Support for failover state detection based on: <ul style="list-style-type: none"> - Heart-beat signaling over the network;

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				<ul style="list-style-type: none"> - Detection of network segment communication failure; - Detection of internal platform functional module failure. <p>1.1.6. Integrated platform virtualization</p> <ul style="list-style-type: none"> - Multi-tenancy support with integrated platform virtualization and segregation of allocated resources; - Dedicated hypervisor for hardware aware / hardware assisted virtualization of the platform; - Native integration between the hypervisor and the installed functional modules; - Support for concurrently running different versions of the functional modules in different platform partitions; - Support for platform partition

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				<p>isolation, at network access level and at the level of internal allocated resources;</p> <ul style="list-style-type: none"> - Support for containment and impact management of errors occurring at the level or each platform partition; - Support for use of virtual MAC-addresses and VLAN groups; - Support for multi-node clusters and of multi-partition clusters across physical nodes. <p>1.1.7. Integrated identity gateway and web application security</p> <ul style="list-style-type: none"> - Out-of-the-box protection of common application services, at least for: <ul style="list-style-type: none"> - Microsoft Sharepoint, - Lotus Domino, - Oracle Portal; - Multifactor user authentication,

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				including with support for the use of qualified digital certificates; <ul style="list-style-type: none"> - Direct digital certificate status validation via query of relevant CRL and OCSP services; - Protection against web application specific attacks, at least for: <ul style="list-style-type: none"> - "SQL Injection", - "Web Scraping", - "Cross Site Scripting", - "Cross Site Request Forgery", - "Parameter tampering", - "Session Hijacking", - "Cookie Manipulation", - "Forceful browsing", - "Hidden field manipulation", - "Application tampering", - "Code examination", - "Reverse engineering",

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				<ul style="list-style-type: none"> - "Buffer overflows", - "Broken Access Control", - "Request Smuggling", - "Sensitive Information Leakage", - "XML DoS"; - Protection against application level DoS and DDoS attacks; - Protection of AJAX and JSON based application components; - Support for ICAP; - Support for GeoIP based security policies; - Support for security policy staging; - Integration with on-premise and cloud-based vulnerability identification and remediation management services (WhiteHat, Qualys, IBM, Cenzic/Trustwave); - Integrated support for 'threat-

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				<p>intelligence’ services (as related to: botnets, DoS/DDoS, reputation, phishing proxies, scanners, anonymous proxies etc.);</p> <ul style="list-style-type: none"> - Support for automatic update of relevant information pertaining to attack identification and to application of the appropriate countermeasures; - Offer must include subscription to supported ‘threat-intelligence’ services for the duration of the contract; - Support for integration with database activity monitoring services (at least for Oracle Database Firewall and Guardium Database Security); - Support for centralized reporting; - Support for correlation of operational logs as well as of security logs generated;

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				<ul style="list-style-type: none"> - Support for report generation at least for: <ul style="list-style-type: none"> - application level statistics and activity/security reporting; - 'PCI compliance' type reporting. - Support for integration with third-party centralized reporting. <p>1.1.8. The ADC/WAF component must provide the following configuration and minimal transactional capabilities, for each hardware module:</p> <ul style="list-style-type: none"> - 16 Gbps L7 system throughput; - 1,000,000 L7 HTTP requests/sec; - 10,000 SSL transactions/sec (for 2028 bit key certificates); - 8 Gbps SSL throughput; - 10 Gbps hardware compression throughput; - Hardware DDoS defense up to 32

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				<p>Millions SYN Cookies per second;</p> <ul style="list-style-type: none"> - ADC license with full use of hardware capabilities; - Identity gateway and WAF license, including Threat Intelligence subscription; - Up to 8 1Gbps SFP ports and not less than 4 equipped with SR optics; - Up to 8 10Gbps SFP+ ports and not less than 4 equipped with SR optics; - 64 bit CPU architecture, with 32 GB RAM and internal SSD; - 2 or more redundant PSUs. <p>1.2. Wherever applicable, configuration must provide licensed features for not less than 30,000 (thirty thousand) concurrent users across the 2 (two) existing NAFA sites. The Acceleration and Protection Subsystem MUST be upgradable (via additional licenses</p>

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				<p>without full replacement of the delivered equipment) to support, hold and operate with detailed information sets for at least 5 million external users and at least 50,000 internal and extranet users</p> <p>1.3. The requirements for the Acceleration and Protection Subsystem may be achieved by upgrading the existing application delivery and security infrastructure in use at NAFA. The existing infrastructure comprises:</p> <ul style="list-style-type: none"> - 2 (two) F5 Networks Big-IP 2200s (one device for each site), with GTM feature-set, in the existing Application Services Front-End Layer; - 2 (two) F5 Networks Viprion 2400 (one chassis for each site) with 2150 model blades (two per chassis) with the LTM/ASM/APM feature-set, in the existing

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				Application Services DMZ Layer.
12	Page 158 Section VI. Technical Requirements	Section VI. Technical Requirements, par. 1.3	1.3 For high-performance / high-integrity application-service access logging support, the Acceleration and Protection Subsystem in the main datacenter of Bucharest (CDP) must also be extended with:	<u>1.4</u> For high-performance / high-integrity application-service access logging support, the Acceleration and Protection Subsystem , with Global Server Load-Balancing and DNS Firewall capabilities, as well as with Application Delivery Controller and Web Application Firewall Subsystem in the main datacenter of Bucharest (PDC) must also be extended with:
13	Page 159 Section VI. Technical Requirements	Section VI. Technical Requirements, par. 1.4	1.4 <u>Interconnections</u> : The Lot 1 Supplier must provide and configure all data, power and other interconnects necessary for the Acceleration and Protection Subsystem to function at the level of Site-specific Subsystems and as an integrated whole.	<u>1.5 Interconnects and Ancillary Equipment</u> : The Lot 1 Supplier must provide and configure all data interconnections, stabilized electrical power, cooling and temperature stabilizing, rack fixing parts and other interconnects necessary for the Acceleration and Protection Subsystem , with Global Server Load-Balancing and DNS Firewall capabilities, as well as with Application Delivery Controller and Web Application Firewall Subsystem to function at the level of Site-specific Subsystems and as an integrated whole.

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14	Page 160 Section VI. Technical Requirements	Section VI. Technical Requirements, par. 2.1.2	<p>2.1.2. The Implementation Team-Leader must have:</p> <ul style="list-style-type: none"> • At least 5 years of experience as a team-leader for complex ICT systems design and implementation; • Professional certification as a specialist for the F5 Networks products to be implemented; 	<p>2.1.2. The Implementation Team-Leader must have:</p> <ul style="list-style-type: none"> • At least 5 years of experience as a team-leader for complex ICT systems design and implementation; • Professional certification as a specialist for the bid products to be implemented; • Professional certification as a specialist for the existing F5 Networks products to be integrated with the new equipment implemented;
15	Page 160 Section VI. Technical Requirements	Section VI. Technical Requirements, par. 2.1.3	<p>2.1.3. Each of the Datacenter Network Security Specialists must have:</p> <ul style="list-style-type: none"> • At least than 3 years of experience in the implementation of integrated application security, including Global Server Load Balancing (GSLB) and Web Application Firewall (WAF) and of unified multilayer core datacenter network security solutions, including F5 Networks 	<p>2.1.3. Each of the Datacenter Network Security Specialists must have:</p> <ul style="list-style-type: none"> • At least than 3 years of experience in the implementation of integrated application security, including Global Server Load Balancing (GSLB) and Web Application Firewall (WAF) and of unified multilayer core datacenter network security solutions, including the new

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			products; <ul style="list-style-type: none"> • Professional certification as a specialist for the F5 products to be implemented; 	equipment and existing F5 Networks products; <ul style="list-style-type: none"> • Professional certification as a specialist for the bid products to be implemented; • Professional certification as a specialist for the F5 products to be integrated with the bid equipment implemented;
16	Page 160 Section VI. Technical Requirements	Section VI. Technical Requirements, par. 2.2.2.	2.2.2. The Lot 1 Supplier must configure the equipment supplied to meet the requirements stated above and integrate it with the Purchaser's existing systems/technologies, including but not limited to: <ul style="list-style-type: none"> • The common support infrastructures (server room access control and monitoring, general power supply and room-level air conditioning etc.); • The application services "Acceleration and 	2.2.2. The Lot 1 Supplier must configure the equipment supplied to meet the requirements stated above and integrate it with the Purchaser's existing systems/technologies, including but not limited to: <ul style="list-style-type: none"> • The common support infrastructures (server room access control and monitoring, general power supply and room-level air conditioning etc.); • The application services "Acceleration and Protection Subsystem", with Global

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			<p><i>Protection</i>" infrastructure (as described above in Subsection 1.1);</p> <ul style="list-style-type: none"> The (site-level and inter-site) data communication facilities as well as, wherever applicable, the Internet access services; 	<p>Server Load-Balancing and DNS Firewall capabilities, as well as with Application Delivery Controller and Web Application Firewall infrastructure (as described above in Subsection 1.4);</p> <ul style="list-style-type: none"> The (site-level and inter-site) data communication facilities as well as, wherever applicable, the Internet access services; Update the existing Detailed Technical Design document describing the existing "<i>Acceleration and Protection Subsystem</i>", with the resulting acceleration and protection solution, including Global Server Load-Balancing and DNS Firewall capabilities, as well as with Application Delivery Controller and Web Application Firewall

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				infrastructure (as described above in Subsection 1.4), that function at the level of Site-specific Subsystems and as an integrated whole.
17	Page 171 Section VI. Technical Requirements	Section VI. Technical Requirements, System Inventory Table – Lot 1 Supply and Installation Table I, Lot 1 Implementation Schedule Line Item 1 – PDC Acceleration and Protection Subsystem, Component no. 1.1	1.1 PDC Acceleration and Protection Subsystem (extension of NAFA's existing F5 Networks brand infrastructure)	1.1 PDC Acceleration and Protection Subsystem (with Global Server Load-Balancing and DNS Firewall capabilities, as well as with Application Delivery Controller and Web Application Firewall)
18	Page 171 Section VI. Technical Requirements	Section VI. Technical Requirements, System Inventory Table – Lot 1 Supply and Installation Table I, Lot 1 Implementation Schedule Line Item 1 – PDC Acceleration and Protection Subsystem, Component no. 1.1.1	1.1.1 F5 Networks Big-IP 2200s, with GTM feature-set (new)	1.1.1 Global Traffic Manager with Global Server Load Balancing, DNS Firewall, Application Delivery Controller and Web Application Firewall (for high availability in the existing Application Services Front-End Layer)
19	Page 171 Section VI. Technical Requirements	Section VI. Technical Requirements, System Inventory Table – Lot 1 Supply and Installation Table I, Lot 1 Implementation Schedule Line Item 1 – PDC Acceleration and Protection Subsystem, Component no. 1.1.2	1.1.2 F5 Networks Viprion 2150 model blades (new; to be installed in existing Viprion 2400 Chassis)	1.1.2 Local Traffic Manager with On-Demand Application Delivery Controller ((for extended processing capability in the existing Application Services DMZ Layer)

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20	Page 171 Section VI. Technical Requirements	Section VI. Technical Requirements, System Inventory Table – Lot 1 Supply and Installation Table I, Lot 1 Implementation Schedule Line Item 1 – PDC Acceleration and Protection Subsystem, Component no. 1.1.3	1.1.3 “Software Defined Networking Services” licenses (new; for existing Viprion 2400 Chassis)	1.1.3 Software Licenses to implement Software Defined Networking Services, to integrate at full capacity the components 1.1.1 and 1.1.2 above
21	Page 171 Section VI. Technical Requirements	Section VI. Technical Requirements, System Inventory Table – Lot 1 Supply and Installation Table I, Lot 1 Implementation Schedule Line Item 1 – PDC Acceleration and Protection Subsystem, Component no. 1.1.4	1.1.4 Big-IQ provisioning license for 25 BIG-IP instances	1.1.4 Software Licenses for 25 device instances (Virtual Engines), to be provisioned in pool (floating licenses)
22	Page 171 Section VI. Technical Requirements	Section VI. Technical Requirements, System Inventory Table – Lot 1 Supply and Installation Table I, Lot 1 Implementation Schedule Line Item 1 – PDC Acceleration and Protection Subsystem, Component no. 1.1.5	1.1.5 “IP Intelligence Services” subscriptions (new; for existing Viprion 2400 Chassis)	1.1.5 Subscription for external, intelligent services to enhance automated application delivery with better IP intelligence and stronger, context-based security, for the integrated configuration of the Acceleration and Protection Subsystem (including updates, releases and versions, as per GCC 23.3), for a period of time of 3 (three) years
23	Page 172 Section VI. Technical Requirements	Section VI. Technical Requirements, System Inventory Table – Lot 1 Supply and Installation Table I, Lot 1	1.2 <u>Interconnects</u> 1 All data, electrical, and other interconnects to achieve a fully functioning Site-specific Subsystem	1.2 PDC Interconnects and Ancillary 1 All data inter-connections, stabilized electrical power, cooling and temperature stabilizing, rack fixing parts and other

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		Implementation Schedule Line Item 1 – PDC Acceleration and Protection Subsystem, Component no. 1.2		interconnects necessary for the Acceleration and Protection Subsystem , with Global Server Load-Balancing and DNS Firewall capabilities, as well as with Application Delivery Controller and Web Application Firewall Subsystem to function at the level of Site-specific Subsystems and as an integrated whole
24	Page 173 Section VI. Technical Requirements	Section VI. Technical Requirements, System Inventory Table – Lot 1 Supply and Installation Table 2, Lot 1 Implementation Schedule Line Item 2 – SDC Acceleration and Protection Subsystem, Component no. 2.1.	2.1 SDC Acceleration and Protection Subsystem (extension of NAFA’s existing F5 Networks brand infrastructure)	2.1 SDC Acceleration and Protection Subsystem (with Global Server Load-Balancing and DNS Firewall capabilities, as well as with Application Delivery Controller and Web Application Firewall)
25	Page 173 Section VI. Technical Requirements	Section VI. Technical Requirements, System Inventory Table – Lot 1 Supply and Installation Table 2, Lot 1 Implementation Schedule Line Item 2 – SDC Acceleration and Protection Subsystem, Component no. 2.1.1	2.1.1 F5 Networks Big-IP 2200s, with GTM feature-set (new)	2.1.1 Global Traffic Manager with Global Server Load Balancing, DNS Firewall, Application Delivery Controller and Web Application Firewall (for high availability in the existing Application Services Front-End Layer);
26	Page 173 Section VI. Technical Requirements	Section VI. Technical Requirements, System Inventory Table – Lot 1 Supply and Installation Table 2, Lot 1 Implementation Schedule Line	2.1.2 F5 Networks Viprion 2150 model blades (new; to be installed in existing Viprion 2400 Chassis)	2.1.2 Local Traffic Manager with On-Demand Application Delivery Controller (for extended processing capability in the existing Application Services DMZ

Change no.	Bidding Document Page no.	Bidding Document Reference Clause	Clause in the Original Bidding Document	Amended Clause
		Item 2 – SDC Acceleration and Protection Subsystem, Component no. 2.1.2		Layer)
27	Page 173 Section VI. Technical Requirements	Section VI. Technical Requirements, System Inventory Table – Lot 1 Supply and Installation Table 2, Lot 1 Implementation Schedule Line Item 2 – SDC Acceleration and Protection Subsystem, Component no. 2.1.3	2.1.3 “Software Defined Networking Services” licenses (new; for existing Viprion 2400 Chassis)	2.1.3 Software Licenses to implement Software Defined Networking Services, to integrate at full capacity the components 2.1.1 and 2.1.2 above
28	Page 173 Section VI. Technical Requirements	Section VI. Technical Requirements, System Inventory Table – Lot 1 Supply and Installation Table 2, Lot 1 Implementation Schedule Line Item 2 – SDC Acceleration and Protection Subsystem, Component no. 2.1.4	2.1.4 Big-IQ provisioning license for 25 BIG-IP instances	2.1.4 Software Licenses for 25 device instances (Virtual Engines), to be provisioned in pool (floating licenses)
29	Page 173 Section VI. Technical Requirements	Section VI. Technical Requirements, System Inventory Table – Lot 1 Supply and Installation Table I, Lot 1 Implementation Schedule Line Item 2 – SDC Acceleration and Protection Subsystem, Component no. 2.1.5	2.1.5 “IP Intelligence Services” subscriptions (new; for existing Viprion 2400 Chassis)	2.1.5 Subscription for external, intelligent services to enhance automated application delivery with better IP intelligence and stronger, context-based security, for the integrated configuration of the Acceleration and Protection Subsystem (including updates, releases and versions, as per GCC 23.3), for a period of time of 3 (three) years
30	Page 174	Section VI. Technical	2.2 SDC <u>Interconnects</u> 1 All data,	2.2 SDC Interconnects and Ancillary 1

Change no.	Bidding Document Page no.	Bidding Document Reference Clause	Clause in the Original Bidding Document	Amended Clause
	Section VI. Technical Requirements	Requirements, System Inventory Table – Lot 1 Supply and Installation Table I, Lot 1 Implementation Schedule Line Item 2 – SDC Acceleration and Protection Subsystem, Component no. 2.2	electrical, and other interconnects to achieve a fully functioning Site-specific Subsystem	All data inter-connections, stabilized electrical power, cooling and temperature stabilizing, rack fixing parts and other interconnects necessary for the Acceleration and Protection Subsystem , with Global Server Load-Balancing and DNS Firewall capabilities, as well as with Application Delivery Controller and Web Application Firewall Subsystem to function at the level of Site-specific Subsystems and as an integrated whole
31	Page 241-245 Section VII. Sample Forms	Section VII. Sample Forms, Chapter 2.5, Lot 1 – Supply and Installation Cost Sub-Table 1, Line Item 1, Primary Datacenter Acceleration and Protection Subsystem	See original form in the Bidding Document (Single Stage) on pages 241-245	The amended form is available in Annex I
32	Page 246-249 Section VII. Sample Forms	Section VII. Sample Forms, Chapter 2.6, Lot 1 – Supply and Installation Cost Sub-Table 2, Line Item 2 - Acceleration and Protection Subsystem	See original form in the Bidding Document (Single Stage) on pages 246-249	The amended form is available in Annex 2
33	Page 162 – Table of Content	Section VI. Table of Content - Technical Requirements, D. Lot 1 Implementation Schedule – 1 line added at the end of the enumeration	-	Annex I Indicative description of the integration with the existing ANAF Network and applications infrastructure
34	Page 181	Page 181 – Section VI.		Insert the text in “Annex 3” below, which

Change no.	Bidding Document Page no.	Bidding Document Reference Clause	Clause in the Original Bidding Document	Amended Clause
		Technical Requirements, D. Lot 1 Implementation Schedule, after the Holidays and Other Non-Working Days		becomes Annex 1 of the Technical Requirements for Lot 1
35	146	SCC for GCC 17.5	[none]	<p>The GCC 17.5 shall be appended with the following sub-clause:</p> <p><i>“(d) is compelled to be disclosed by law, pursuant to the requirement of the competent bodies or order of the Court, provided that, where possible, the Receiving Party shall provide the Disclosing Party</i></p> <p><i>(i) prior written notice of such obligation</i></p> <p><i>and</i></p> <p><i>(ii) the opportunity to oppose such disclosure or obtain a protective order.”</i></p>
36	131	SCC for GCC 41.2.4	<i>There are no Special Conditions of Contract applicable to GCC Clause 41.</i>	<p>The GCC 41.2.4 shall be prepended with the following text:</p> <p><i>“Upon issuance of the termination notice by Purchaser,”</i></p>

				Unit Prices / Rates					Total Prices				
				Supplied Locally	Supplied from outside the Purchaser's Country				Supplied Locally	Supplied from outside the Purchaser's Country			
Component No.	Component Description	Country of Origin Code	Quantity	[insert: currency]	R O N	[insert: foreign currency A]	[insert: foreign currency B]	[insert: foreign currency C]	[insert: currency]	R O N	[insert: foreign currency A]	[insert: foreign currency B]	[insert: foreign currency C]
			Requirements, including, but not restricted to project management, logistics, packing/unpacking, configuration, trouble-shooting, testing, documentation, cleanup, etc.										
Subtotals													

Name of Bidder:	
Authorized Signature of Bidder:	

				Unit Prices / Rates					Total Prices				
				Supplied Locally	Supplied from outside the Purchaser's Country			Supplied Locally	Supplied from outside the Purchaser's Country				
Component No.	Component Description	Country of Origin Code	Quantity	[insert: currency]	<i>R O N</i>	[insert: foreign currency A]	[insert: foreign currency B]	[insert: foreign currency C]	[insert: currency]	<i>R O N</i>	[insert: foreign currency A]	[insert: foreign currency B]	[insert: foreign currency C]
			shooting, testing, documentation, cleanup, etc.										
Subtotals													

Name of Bidder:	
Authorized Signature of Bidder:	

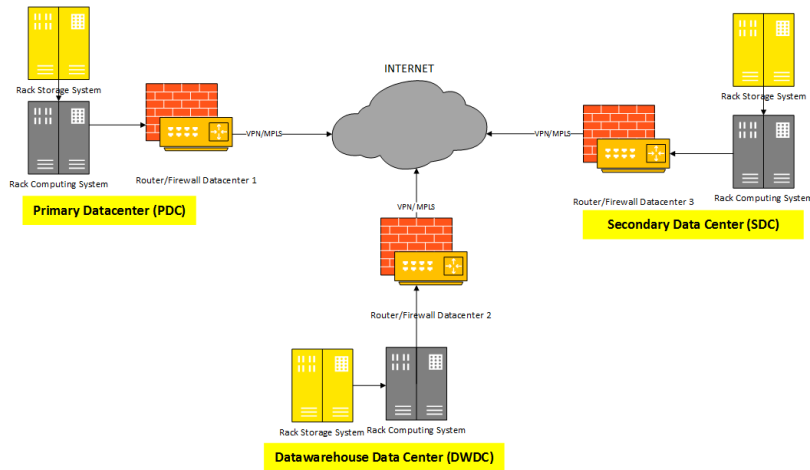
Annex 3

Annex I Indicative description of the integration with the exiting ANAF network and applications infrastructure

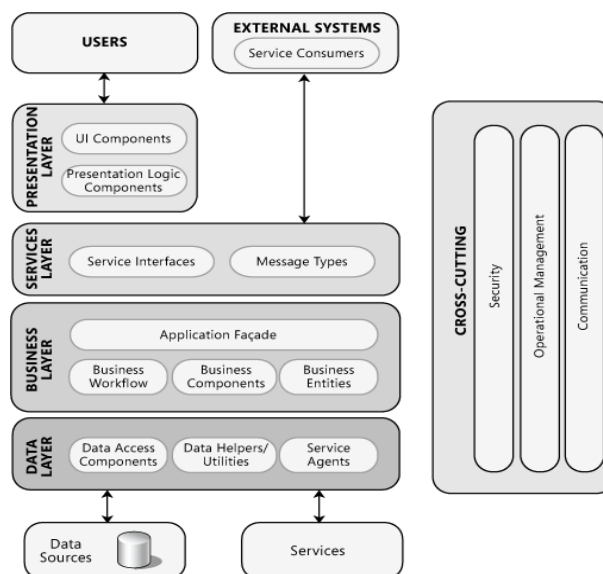
NAFA is presently modernizing its ICT platform as part of a comprehensive Revenue Administration Modernization Project (RAMP). Central to the ICT platform modernization is the development of three data centers (Primary, Secondary, and Data Warehouse Centers) at two physical locations (in Bucharest and Brasov).

NAFA needs to implement a datacenter network to glue these servers (and NAFA’s legacy data processing systems) together in a modern “private cloud” type system.

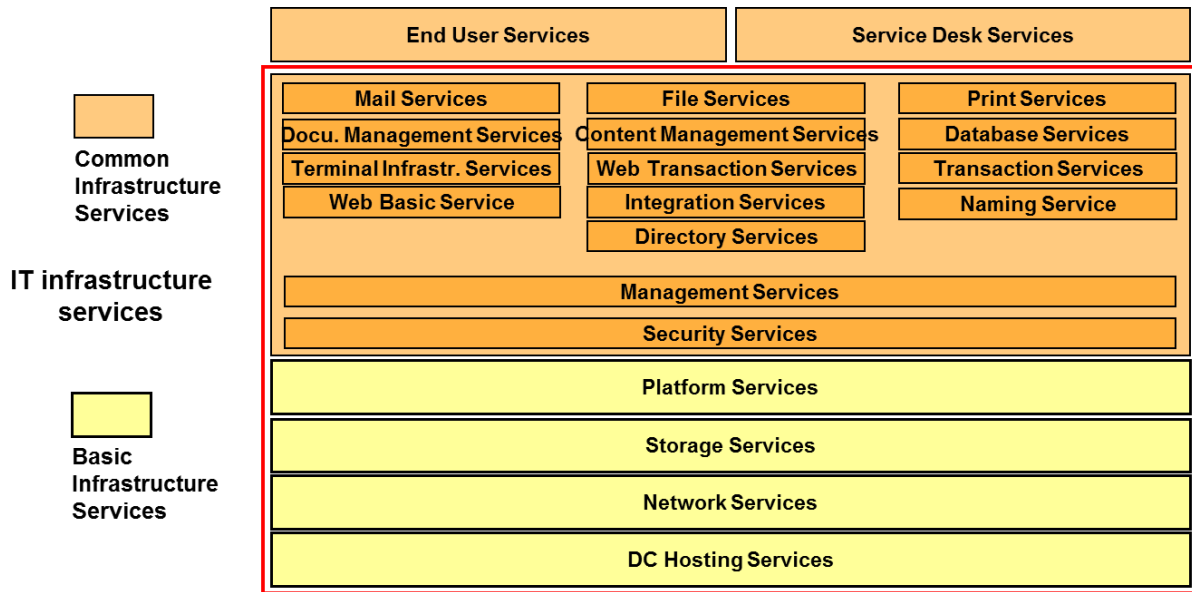
Accordingly, NAFA seeks to purchase a System comprising an integrated datacenter network for two physical sites.



The integrated datacenter network has to provide interoperability in the Communication layer for the ANAF Common Application Architecture, described in the diagram below:



The existing integrated data center network integrates with the following IT infrastructure services that must be supported by the data communication services:



The requirements for the basic infrastructure services are described in the technical specifications for Lot 1 and Lot2, respectively. All the technical details regarding the implementation of the existing infrastructure and of the applications will be provided to the Supplier after the contract signature.

The Common Infrastructure Services are implemented by ANAF with existing:

- Security Services – Identity Management and Access Management, including provisioning – with IBM Tivoli ® Identity Management and Access Management (IBM TIM/TAM), web and mail protection – F5 Networks solution,
- Web basic services – with IBM WebSphere ® Portal, deployed in three portals – ANAF Internet portal (public), ANAF Extranet Portal and ANAF Intranet Portal
- Web Integration Services – with IBM WebSphere ® Application Server, Oracle Application Server 10g, Oracle WebLogic ® Application Server, JBOSS, other (specific to certain applications, but with limited use)
- Mail and Document Management Services – with IBM Lotus Domino® and Lotus E-mail® solution
- Content Management Services – with IBM Enterprise Content Manager ® (ECM), IBM WebSphere ®, Oracle BPEL, other
- Web Transaction Services – with IBM WebSphere 6.1 and Microsoft .NET
- Database services – with Oracle Relational Database Management System, Enterprise Edition, versions 8.0.5, 9, 10g and 11i, IBM DB/2, IBM Lotus embedded databases
- Distributed Name Services (DNS) – implemented with existing Cisco equipment, intended to be transferred to existing F5 Networks equipment or equivalent solution, to improve performance
- Distributed directory information services – implemented over an Internet Protocol (IP) network, with LDAP services from Microsoft (Active Directory Services), IBM Lotus ® LDAP, Oracle LDAP services
- Terminal Services – based on telnet on Unix, AIX. Linux, on Citrix Terminal Services, and on Microsoft Windows Terminal Services (Windows 7, etc.)
- Other as per the case

The Infrastructure Services do provide support and interoperability to a catalog of application services that includes 323 applications (as on July 2015), including:

- 140 applications, that need interoperability, but expected to be replaced by the new COTS Revenue Management System (RMS), serving the ANAF functions, out of which 94 are implemented as web services – all portal-ized, developed in Java, PL/SQL, C/C++, Unix scripts, Jasper Reports, or equivalent technologies
- 100 applications – all portal-ized, developed in Java, serving the Ministry of Public Finances functions, developed in Java, PL/SQL, C/C++, Unix scripts, Jasper Reports, or equivalent technologies
- 37 legacy applications that need interoperability, developed in legacy technologies, including but not limited to Oracle PL/SQL, Oracle Forms, Oracle Reports (8.0.5), IBM Lotus Domino, etc.
- 37 legacy applications to be retained (only data transport services), including but not limited to Oracle PL/SQL, Oracle Forms, Oracle Reports (8.0.5), IBM Lotus Domino, etc.
- 9 legacy applications, to be dropped from the catalog

- **End of the document** -