

Attachment B-3, Evaluation

Value for Money Details

Contract Change Note 050R1, (CCN050R1)

IDENT1-LANTERN Service Expansion—User Authentication

CCN Name: IDENT1-LANTERN Service Expansion	CCN Number: CCN050R1	CCN Date: 31 March 2008
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DESCRIPTION

Capability Summary Benefits:

This Contract Change Note 050R1 (CCN050R1) proposes the price for deployment and support of IDENT1 LANTERN Service Expansion with user level authentication. This attachment describes the value for money from the addition of user authentication to the security solution as requested by the Authority. The proposed approach provides strong security through the implementation of a public key infrastructure (PKI), biometric tokens for each user, administration of users and devices, and mobility expansion for improved secure communications. The capabilities and approach for user authentication are more fully set out in Attachment B-1, Description, IDENT1 LANTERN Service Expansion. The introduction of the user authentication, with its associated infrastructure support, provides significant contributions to securing efficiency gains for the Forces, in support of Government strategies and requirements, such as:

- The devices can more easily be moved between officers, with authentication, and thus the device is back on the street when officers are tied up with an arrest. This multi-use of device and technology is a powerful combination
- The use of expanded Lantern service devices will contribute to reduced bureaucracy in relation to some “stop and search” cases
- The new functionality will be capable of supporting the Flanagan Report recommendations and in particular it reduces bureaucracy by reducing the need for paper, but still creating an audit trail.
- There will be new uses developed for these Lantern devices as their availability is expanded, with particular application to high profile, national security activities.

User benefits:

The purpose and objective of the LANTERN project is to provide police with portable fingerprint capture and search results from the Unified National Collection at the point of decision. It features:

- Efficient capture of fingerprint details suitable for identifying an individual in an operational environment;
- Real-time searching of the unified fingerprint collection held on IDENT1 with fast responses to aid officers in their decision for arrest.

LANTERN saves police officers time by quickly identifying persons of interest at the location where they are encountered, thereby avoiding unnecessary arrests to establish identity. As a result, officers are able to immediately continue on patrol without interruption. LANTERN fingerprint identifications also enhance officer safety by aiding in the recognition of evasion or

falsification of identities by fugitives or other dangerous persons. Anecdotal observation indicates that the mere presence of the LANTERN capability may actually have the effect of inhibiting deceptive behaviour. These time saving and officer safety benefits have convinced Forces not involved in the pilot to request LANTERN services for such uses as: ANPR, anti-terrorism, drug-related crime, street offences, security at public events, fixed penalty tickets, warrants, and more.

CCN014R2 “LANTERN Pilot Phase 2–Implementation Phase” and the follow-on extension of pilot service CCN014R2A proved the viability of the LANTERN Concept of Operations, including its operational human-computer interface and the interface with Central facilities housing the fingerprint collection. It validated the technical approach and business case for LANTERN through the operations of ten (10) pilot Forces equipped with one-hundred (100) hand-held Mobile Fingerprint Readers (MFRs), and assessed workload implications for the fingerprint matching capacity.

Based on positive user feedback concerning usability of the solution and validation of the business process model, an expansion of the scale of the pilot was undertaken and is being implemented under CCN040. Taking into account the fingerprint matching capacity requirements for a larger operational deployment of LANTERN, the pilot expansion is doubling the number of MFRs to two-hundred (200), and deploying them to an additional ten Forces for a total of twenty (20).

Security for both phases of the pilot was limited to the authentication at the MFR level. Anyone with an MFR and the necessary PINs/passwords could anonymously submit a search. Security was highly reliant on physical control of MFR possession. The IDENT1-LANTERN Service Expansion not only deploys a greater number of MFRs to a greater number of users, but also handles additional data that mandates more stringent security measures (PNC Warning Flags). Therefore, the security of LANTERN has been tightened to require user-level authentication, which assures that the MFR user is of known identity, has a valid certificate to access the service, and has a role defined that permits the requested operations. User-level authentication also ensures that each message from a user is effectively signed with that user’s certificate, enabling tracing/tracking of each transaction to its user, ensuring response only to the bona fide user, and prohibiting repudiation.

The features required for LANTERN operation have been previously developed under the aforementioned pilot (CCN014R2). The proposed IDENT1-LANTERN Service Expansion makes full use of the existing baseline of capabilities, refining them to ensure robust operation on a larger scale, and expanding their use to a larger user community. In response to the newly defined security requirements, this proposal includes added efforts to implement and support user-level authentication including the following components:

- Biometric tokens to authenticate individual users
- Centralised PKI management to keep track of all necessary data on individual users and integrate the operation with IDENT1 Identity Management
- Administrator Workstations distributed at the Force level to support user-level authentication functions and associated devices (MFRs and bio-tokens)

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- Mobility Expansion for improved communications reliability and speed, consistent with the user level authentication security, with flexibility to be compatible with foreseeable future needs. Makes customer furnished Aventail VPN software from SRAS unnecessary.
- Credant Mobile Guardian clients for the MFRs and CMG policy server. Makes customer furnished CMG software from SRAS unnecessary.

The PKI and the mobility solution together offer a much cleaner path to more general uses of LANTERN services where mobility is necessary (e.g., for British Transport Police, Borders and Immigration Agency, special events such as festivals or Olympics, CRB checks and other high profile missions). With certificate-based authentication and secure Internet access, authorised users could use the LANTERN service and be billed on a per-use basis over the same infrastructure. This potential expansion of services, as a matter of policy and practice, further enhances gains.

This CCN sets up the entire security infrastructure. The cost of adding additional users is not proportional, but is substantially less; i.e., the cost of a certificate license and the credential that holds it.

User-level authentication provides a significant benefit for LANTERN by upgrading the security solution from device-based authentication, as delivered in the pilot, to user-level authentication, where all users have unique and authenticated identities that follow them to any MFR to which they are assigned.

PRICING (BASIS OF ESTIMATE)

The scope of services covered by the User Authentication part of this proposal includes implementation of the features described above and operating them in support of LANTERN user authentication for a period ending three (3) years from start of the contract. Extensions beyond the period of performance will be provided through the change control process upon the Authority's request.

Northrop Grumman has designed its commercial offer with separate pricing for the User Authentication costs, as they represent a substantial addition to the balance of the offer covering services and MFRs. The approach separates the costs into two categories:

- fixed cost—not dependent on MFR quantity
- variable costs—dependent on quantity of MFRs and service

Northrop Grumman provides full project activities, independent of MFR quantity, for technical engineering, development, and program management to support the IDENT1-LANTERN Service Expansion implementation and operation of user authentication over the contract term. The majority of these activities will be expended in the first year to implement the capability and get it accredited. A majority effort associated with User Authentication is independent of MFR quantity and is therefore, fixed rather than variable. The number of users, and has been fixed by the Authority at 12,000 for this CCN. The solution is readily scalable, hence any increases in the number of users will be handled under Change Control upon request by the Authority.

Northrop Grumman will also operate the user authentication support services provided to ensure successful LANTERN operations. These include Service Desk incident response /

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management and trouble ticket escalation needed to resolve incidents arising from user authentication operation.

Whilst this is a separate set of incidents and tickets from those pertaining to MFRs and LANTERN Central functions, they are handled in a coordinated fashion to share Remedy, staffing, and other resources, where appropriate. Through Northrop Grumman and its suppliers, support services related to user authentication operations are fully integrated into an expanded IDENT1 Service Desk providing 24x7 support at Level 2. Additional resource is also allocated to Level 3 support (the Technical Development team). Operations and maintenance are provided from the start of deployment through the end of the contract term.

Changes to the Cable and Wireless (C&W) role are included based on the User Authentication approach and mobility expansion supplanting Aventail and the provision of Credant software directly under the CCN. The Secure Remote Access Service (SRAS) previously provided by C&W through contract with the Authority is no longer part of the approach. C&W connection to the CJX does continue under CCN050 including added bandwidth that will be procured under our framework agreement in PNN3.

The proposed price is based on a CCN acceptance date of 1 May 2008, CCN050R1 Payment Profile and a period of performance of three (3) years concluding on 30 April 2011.

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CCN 050R1 –User Authentication	Total Fixed Price: £7,923,108
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HARDWARE, SOFTWARE, LICENSES BILL OF MATERIALS (BOM)			Charge: £3,857,288
Hardware Component / Description	Subtotal:	Model #	Quantity
Misc Hardware & Cabling	████████	AR3100	3
APC Secure Rack 42U	████████	AR3100	3
Power Controller Dual Voltage 32amp Intl w/16 IEC 320 outlet	████████	V70BF3-F-SL-009	6
Sun Fire X4200 M2, Model 2216 2x2.4GHZ CPU, 4x146GB 10K RPM 2.5 SAS Drive, 16GB Memory, DVD, Slide Rails w/SuSE SLES10 for AMD64, 1 Year Support	████████	A87-BV-16GB	25
SecureStack A2 L2 Switch 24 Port 10/100	████████	A2H124-24	3
ModSecurity Management Appliance plus 2 additional years maintenance	████████	ModManager	3
PED-AUTH 2HSMP v4.2 FW4.6.1.	████████	Luna SA	3
Cryptographic Module	████████	PED	3
Cryptographic Module	████████	PED Key Set	4
Cryptographic Module	████████	Luna SA Backup Tokens	10
HP Compaq dc5800 Microtower PC, Intel DualCore E2180 Processor, 1gb 800 MHz DDR2 SDRAM, 80GB 7200 RPM SATA Disk Drive, 16x SATA DVD-ROM, Windows XP	████████	dc5800	125
Samsung 943T Flat Panel Monitor	████████	943T	125
Log Capture Appliance	████████	LS1010, LS2010	3
Log Warehouse Appliance	████████	ST2010, ST3010	3
4000 Series Switching Module, 48x10/100/1000Bas-T LAN	████████	WS-X4548-GR-RJ45	1
Privaris plusID 75 Security Device	████████	PRI-PID-75	13,215
3 years of 4Mb/s increase	████████	Additional CJX Bandwidth	3
3 years @ £515	████████	CJX Internet Access	36
Software Component / Description	Subtotal:	Version #	Quantity
Cisco PIX 515 Firewall Chassis, Unrestricted software(includes FO), 2 FE ports	████████	PIX-515-UR-BUN	3
CMG Shield Perpetual License	████████	Shield Perpetual License	1510
CMG Gatekeeper Perpetual License	████████	Gatekeeper Perpetual License	125
CMG Enterprise Server	████████	Enterprise Server	3
Certification Authority	████████	Entrust Security Manager CA	6
CA License, Administrative Client Software, Administrative Services Server Software	████████	Entrust Security Provider License (unmanaged) for 3 years	61,000
Web Enrolment Server Software	████████	Entrust Authority Enrolment Server for Web	3
Adaptor Software License	████████	Entrust Adaptor for Sun Identity Manager	1

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Client Software	[REDACTED]	Entrust Entelligence Security Provider	125
Windows XP	[REDACTED]		125
NetBackup Server, Linux, SAN Media Server License, plus 1 year maintenance	[REDACTED]	A15985H	18
Device Management Software - Level 2	[REDACTED]	PRI-PIDM-L2	2
Device Management Client Software	[REDACTED]	PRI-PIDM-WC	125
Compliance reporting module for SOX/COBIT	[REDACTED]	SOX/COBIT Module	1
Window 2003 Server R2	[REDACTED]	Window 2003 Server R2	3
Oracle Database Enterprise Edition	[REDACTED]	Database Enterprise Edition	3
Oracle DataGuard	[REDACTED]	DataGuard	2
Oracle DataVault	[REDACTED]	DataVault	12
Maintenance / Description	[REDACTED]	Version #	Quantity
Device Management Software Annual Maintenance	[REDACTED]	PRI-SW-WAR	3
Device Management Client Software Annual Maintenance	[REDACTED]	PRI-SW-WAR	125
Extended Device Warranty per year per device 3yrs	[REDACTED]	PRI-HW-WAR	13,215
Senior Software Engineer (Project management, Windows Mobile 6 minidriver)	[REDACTED]	PRI-LSSE-1	560
Annual Luna Maintenance	[REDACTED]	Luna Maintenance	9
Entrust Services Silver Support	[REDACTED]	Silver Support	2
CMG Annual Maintenance	[REDACTED]	CMG Maintenance	3
Oracle DataGuard Support 1yr	[REDACTED]	DataGuard Support	6
LogLogic Maintenance	[REDACTED]	LogLogic Maintenance	2
Miscellaneous / Description	Subtotal:	Version #	Quantity
MWR Additional external penetration test	[REDACTED]	External Penetration Test	1
Privaris Senior Software Engineer (Project Design & Doc, Mobile Fingerprint Reader, External Intgration Test & Support)	[REDACTED]	Senior Software Engineer	640
Vizuri Application scan penetration test	[REDACTED]	Application scan penetration test	1
Senior Software Engineer (plusID Manager, plusID Device, Internal Intgration Test & Support)	[REDACTED]	PRI-LSSE-1	480
Professional Services (lot)	[REDACTED]	Professional Services (lot)	1
LABOUR:			Charge: £2,560,948
<i>A summary description of the required labour hours by the various labour categories and the basis of estimate required to deliver the proposed solution.</i>			

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Description:		
<ul style="list-style-type: none"> Activities associated with providing the following in the National Lantern Rollout: a strong security through the implementation of a public key infrastructure (PKI), biometric tokens for each user, administration of users and devices, and mobility expansion for improved secure communications. 		
Task Activity	Hours	Basis of Estimate/Labour Mix
Public Key Infrastructure	18,442	<ul style="list-style-type: none"> Work required to acquire, configure, integrate, document, and deploy a dual site (primary and secondary) PKI. Activities include design, implement, validate, deploy, train, enable, operate and maintain. <p>The labour required for this work is a mix of the following:</p> <p>5,332: Technician/Junior Engineer/Operations Specialist 6,521: Senior Technician/Engineer/Senior Operations Specialist 2,086: Master Technician/Lead Engineer/Operations Manager 3,838: Engineering Manager/Product Manager 665: Senior Consulting Engineer/Project Planning Manager</p>
System Engineering	532	<ul style="list-style-type: none"> Define and guide development of the User Authentication infrastructure, including such activities as: <ul style="list-style-type: none"> Define Interfaces and write interface control docs Derive requirements and update database Business process analysis Define workflow TIMs on User Authentication approach <p>The labour required for this work is a mix of the following:</p> <p>20: Master Technician/Lead Engineer/Operations Manager 331: Consulting Engineer/Senior Operations Manager 126: Engineering Manager/Product Manager 55: Engineer Manager/Product Manager</p>
Central Software Integration	7,270	<ul style="list-style-type: none"> Integrate User Authentication into Lantern for National Rollout, including activities: <ul style="list-style-type: none"> Add SSL client server authentication to DWS web server Capture authentication event and add the userid to existing audit logs and messages Change Apache configuration to add security hardening features Review Privaris development of user authentication proxy on MFR. Review Sagem development Add a new user type for Sun IdM. Add workflow for provisioning of Entrust certificates and Privaris plusID devices within IdM. Auditing of User Authentication and rollup of MIS Warehouse. <p>The labour required for this work is a mix of the following:</p> <p>3,016 Master Technician/Lead Engineer/Operations Manager 3,016: Consulting Engineer/Senior Operations Manager 1,238: Engineering Manager/Product Manager</p>

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Validation and Verification	467	<ul style="list-style-type: none"> • Validation and verification of requirements: <ul style="list-style-type: none"> ○ Functional requirements ○ Performance / throughput requirements ○ Load-sharing / failover requirements • Testing of Privaris plusID devices on MFRs <p>The labour required for this work is a mix of the following:</p> <p>315: Senior Technician/Engineer/Senior Operations Specialist 90: Master Technician/Lead Engineer/Operations Manager 62: Engineering Manager/Product Manager</p>
UK Training	594	<ul style="list-style-type: none"> • Work required by training resources in the UK • Update of user guides and training materials • Addition of user authentication to base Lantern CBT <p>The labour required for this work is a mix of the following:</p> <p>540: Technician/Junior Engineer/Operations Specialist 54: Engineer Manager/Product Manager</p>
Apollo Anywhere COTS	630	<ul style="list-style-type: none"> • Work required for integrating the Apollo Anywhere COTS mobility and security platform into the Lantern network architecture. • Activities include engineering, integrating, validating, and supporting. <p>The labour required for this work is a mix of the following:</p> <p>10: Technician/Junior Engineer/Operations Specialist 507: Senior Technician/Engineer/Senior Operations Specialist 45: Consulting Engineer/Senior Operations Manager 68: Engineering Manager/Product Manager</p>
Project Management	Included above	Management is allocated to cover each of the above categories. It provides for monitoring by the Project Manager and Engineering Director. Also included are the required allocations for configuration management, contracts, business, scheduling, procurement, and finance.
Total Labour	27,935	

Other Direct Costs, Travel, and Material Subcontractors		Charge: £1,504,873
<i>A summary description of Other Direct Costs required to deliver the proposed solution.</i>		
Description:		
Other Direct Costs (ODCs) and travel are included in this proposal. Sagem costs include software modification and engineering labour to support user authentication. Brand costs include Apollo Anywhere Server, Load Balancer, and Licenses, a database server, and 24x7x365 annual support. Phoenix costs include workstation build, installation of CMG gatekeepers, and 3 years maintenance.		
Other Direct Costs (ODC), documentation and shipping are included in this CCN.		
Other Direct Costs	Approx.	Basis of Estimate/Description

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Documentation	█	Documentation to support internal and external briefs. Updates to drawings and hardware configuration. Test Procedures, TRR, ORR and Test Summary Reports. User Guides and Training Materials.
Shipping	█	Shipping costs
Travel		
	Approx.	Basis of Estimate/Description
International Travel	█	28 Trips from Fairfax to London, 3 Trips London to Fairfax
Local Travel	█	Local UK travel
Material Subcontractors		
	Approx.	Basis of Estimate/Description
Sagem	█	Software modification to support User Authentication, dual chargers and engineering support.
Phoenix	█	Workstation build and install
Phoenix	█	3 years maintenance for workstations
Brand	█	Apollo Anywhere Server, Load Balancer, Licenses and Database server
Brand	█	24x7x365 Annual Support
Total	100.0%	

CCN 050R1 – Variable	Total Fixed Price: £1,551,832
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LABOUR:		Charge: £1,490,175
<i>A summary description of the required labour hours by the various labour categories and the basis of estimate required to deliver the proposed solution.</i>		
Description:		
<ul style="list-style-type: none"> Activities associated with operating and maintaining the public key infrastructure (PKI), biometric tokens for each user, administration of users and devices, and mobility expansion for improved secure communications. 		
Task Activity	Hours	Basis of Estimate/Labour Mix
UK Operations	13,546	<ul style="list-style-type: none"> System monitoring ITIL compliant management of incidents, problems, and change Provision of 24x7 service desk <p>The labour required for this work is a mix of the following:</p> <p>4,105: Junior Technician/Junior Operations Specialist 4,105: Technician/Junior Engineer/Operations Specialist 4,105: Senior Technician/Engineer/Senior Operations Specialist 1,231: Engineering Manager/Product Manager</p>

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System Support	1,287	<ul style="list-style-type: none"> • Activities required by System Support to provide engineering documentation and technical support for the PKI. <ul style="list-style-type: none"> ○ Documentation of hardware/software configuration as part of an engineering drawing package ○ Support for changes to software configurable items such as Operating System software, COTS software, and IDENT1 specific software. <p>The labour required for this work is a mix of the following: 1,287: Engineering Manager/Product Manager</p>
Security	7,021	<ul style="list-style-type: none"> • Work required for security related issues on the User Authentication portion of the Lantern National Rollout. <ul style="list-style-type: none"> ○ Risk Assessment ○ Penetration testing ○ Updating documents (RMADs) ○ Staying current on security-related software updates <p>The labour required for this work is a mix of the following: 7,021: Master Technician/Lead Engineer/Operations Manager</p>
Project Management	Included above	Management is allocated to cover each of the above categories. It provides for monitoring by the Project Manager and Engineering Director. Also included are the required allocations for configuration management, contracts, business, scheduling, procurement, and finance.
Total Labour	21,854	

Other Direct Costs, Travel, and Material Subcontractors		Charge: £61,657
<i>A summary description of Other Direct Costs required to deliver the proposed solution.</i>		
Description:		
Other Direct Costs (ODCs) and travel are included in this proposal, facilities charges for space in Hendon and [REDACTED].		
Other Direct Costs (ODC) and travel are included in this CCN.		
Other Direct Costs	Approx.	Basis of Estimate/Description
Facilities	[REDACTED]	Consultant charges, Internal modifications (HVAC, Power, Data Centre) [REDACTED] and Hendon Rent Charges
Documentation	[REDACTED]	Documentation to support internal and external briefs. Updates to drawings and hardware configuration.

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Total	100.0%	
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Other: N/A	Charge: N/A
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