Vexcel - NYPD

Domain Awareness System

IBM Delivery Transition Review (DTR)

February 2011

Questions / Feedback

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Agenda

- Opportunity Summary
- Engagement Overview - Network, Camera, Deployment
- Staffing
- Vendor Overview
- High Level Project Plan
- Deliverables
- Dependencies, Risks
- Financials
- Other

Note:

Onofrio Pirrotta, Mike Sales, Anthony Testa & George Andrews have thankfully led several prior Transition meetings w/the delivery team!

Opportunity Summary: The Four Focus Areas for the Systems Integration Vendor – Client View

#1 – Program/Project Management

- Oversight for Focus Areas
- Program Management Services
  - Planning and Goal Alignment
  - Communications
  - Consolidated Reporting
  - Change and Corrective Action Management
- Project Management Services
  - Appropriate management & reporting for each sub-project within the program
- Vendor Management Services
  - Sub-Vendor selection, Management & Reselling
- Assumption of Program Risk: Management of SLAs, Capacity Planning and Execution

#2 - DAS Upgrades

- *UpGen* - Upgrade General Systems (Core) – 3 Projects
- *UpSpec* - Upgrade Specialized Systems (Complementary) – 5 Projects
- *UpDC* - Upgrade Data Centers - 1 Project
- *UpNet* - Upgrade Network - 2 Projects

#3 - Managed Maintenance Support Services (MMS)

- DAS Break/Fix at defined service levels
- Services to configure and enhance general and specialized DAS functional capabilities, including business process consulting, development/implementation.
- End user support on site and by phone
- Defined response 24x7x365 to identified problems
- O&M Management Support Processes

#4 - Technical Support Services (TSS)

- Monitoring, Tuning, configuration management, storage management, archiving, Patch management, upgrades
- Security Modeling, capacity modeling, DR modeling, with periodic testing of models
- Provide defined response 24x7x365 to identified problems

Engagement Overview

Focus Area	Name	Description
UpSpec 1	**Digital Analytics**	Design, implementation and configuration of the IBM Smart Vision Suite (SVS) video analytics asset for exclusive use by NYPD. This scope includes SVS product training for end users and administrators, and professional services to assist Vexcel with integrating SVS with the CT DAS application.
UpSpec 2	**Connect Stakeholder Cameras**	Design and implement connectivity for up to 70 new stakeholder locations in Manhattan to the CTB video data center for the purpose of ingesting outdoor surveillance video into the DAS application environment.
UpSpec 3	**Connect Argus Cameras**	Design and implement connectivity for up to 525 new Argus video streams from three NYPD Borough Command offices to the CTB video data center for the purpose of ingesting outdoor surveillance video into the DAS application environment.
UpSpec 4	**Connect CTB Cameras & LPRs**	Design and implement two camera configuration types which will provide video streams to the CTB video data center for the purpose of ingesting outdoor surveillance video into the DAS application environment. The two camera configurations consist of: LPODs & LPRs.
UpDC	**Data Center Build & Migration**	Implement the server and storage infrastructure into separate and distinct platform environments supporting the Omnicast Video Management, IBM Smart Vision Suite (SVS) and DAS applications.
UpNet 1	**Network Fiber Infrastructure**	Provide an underlying dark fiber optic network infrastructure to support NYPD's counterterrorism application initiatives. Provide a network infrastructure capable of transporting surveillance video, real-time analytic data and DAS application data across a highly secure and resilient network.
UpNet 2	**Network Design & Equipment**	Design and implement the network edge electronics in support of the fiber infrastructure described in the UpNet 1 workstream. IBM will provide services to complete a detailed design, procure, stage, implement and test the network equipment.
UpNet 3	**Network Fiber Mgt**	Provide remote monitoring services for the deployed CT DAS network equipment.
UpNet 4	**Network Equipment Mgt**	Provide remote monitoring services for the deployed CT DAS network equipment.
MMS	**Mgd Maintenance Svcs**	Provide one full-time technical resource to support IBM's Smart Vision Suite (SVS) video analytics application. This resource will work on NYPD premises, and will provide ongoing product configuration support and mentoring to NYPD technical personnel.
TSS	**Technical Support Svcs**	Provide select Steady State Operation Services for the DAS production infrastructure.

Engagement Overview

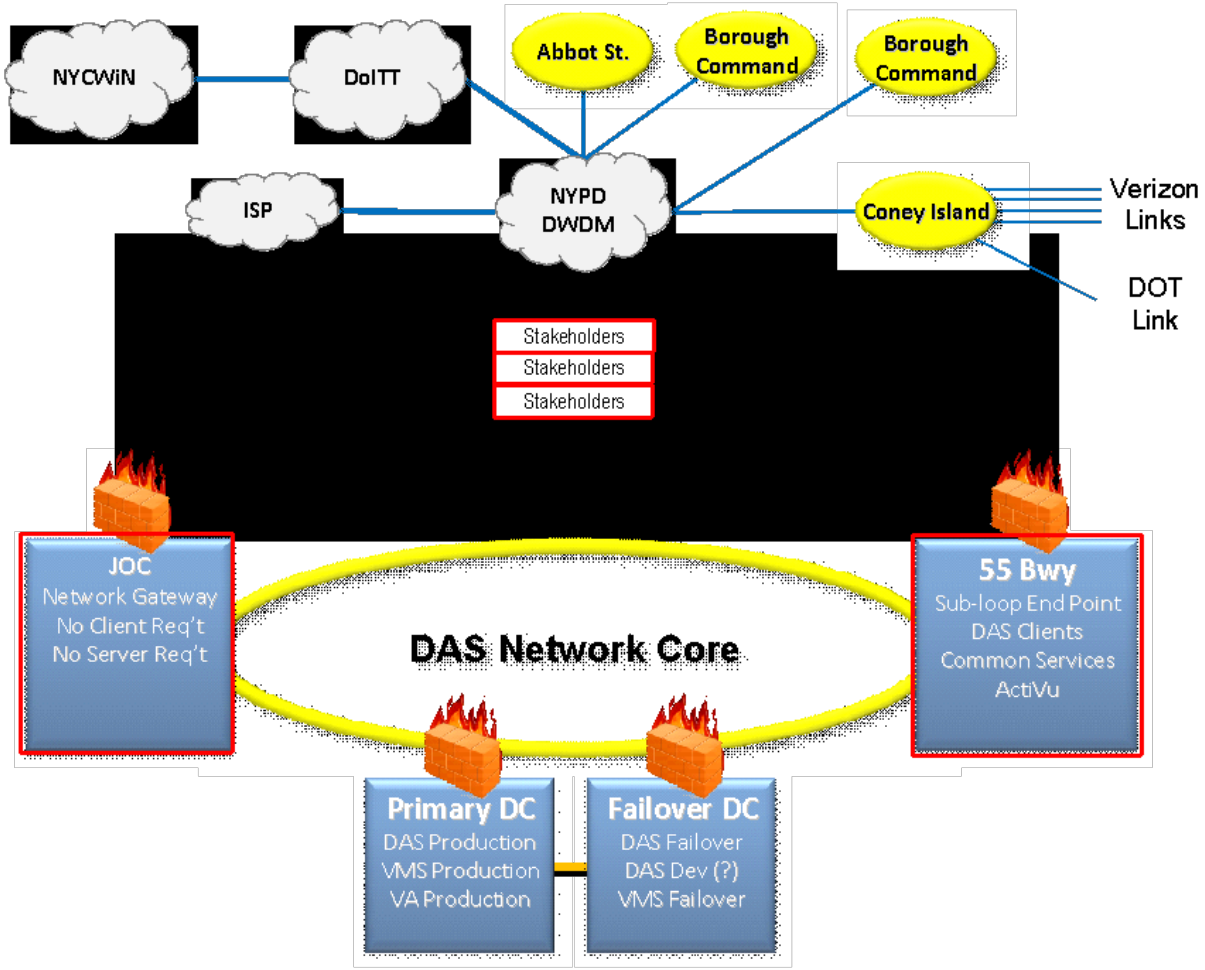
- PMO Personnel **(~ $6.6M @ 30% GP over 6 yrs)**
  - PE/2 PMs
  - Executive Infrastructure Architect:
  - Integrated Steady State Manager (MSS and TSS Coordination):
- DAS Upgrades **(~ $61.4M including IBM HW/SW, @ 15% over 6 yrs)**
  - UpGen #1 – MS Scope
  - UpGen #2 – MS Scope
  - UpGen #3 – MS Scope
  - UpSpec #1 – Video Analytics – Full Scope: **~ $1.6M @ 27%GP**
  - UpSpec #2 – Connect Existing Stakeholder Cameras – Full Scope: **~ $1.2M @ 23%**
  - UpSpec #3 – Connect Argus Cameras – Full Scope: **~ $235k @ 17%**
  - UpSpec #4 – Connect CTB Cameras – Full Scope: **~ $6.6M @ 16%**
  - UpDC – HW/SW/Serv - **$1.2M @ 25%**
  - UpNet #1 – Network Backbone Install – Full Scope: **$14M @ 6%**
  - UpNet #2 – Network Edge Connections– Full Scope: **~ $4.7M @ 18%**
  - UpNet #3 – Network Backbone Support – Full Scope: **~ $4.3M @ 4%**
  - UpNet #4 – Network Edge Connection Support – Full Scope: **~ $2.3M @ 11%**
  - MMS – **~ $1.5M @ 40%**
  - TSS - **~ $18M @ 22%**
- **TOTAL ITS = 60.7M @ ~16% GP over 6 yrs**

Network High Level Topology

All wireless networks will connect to fiber via building-mounted portals on the network

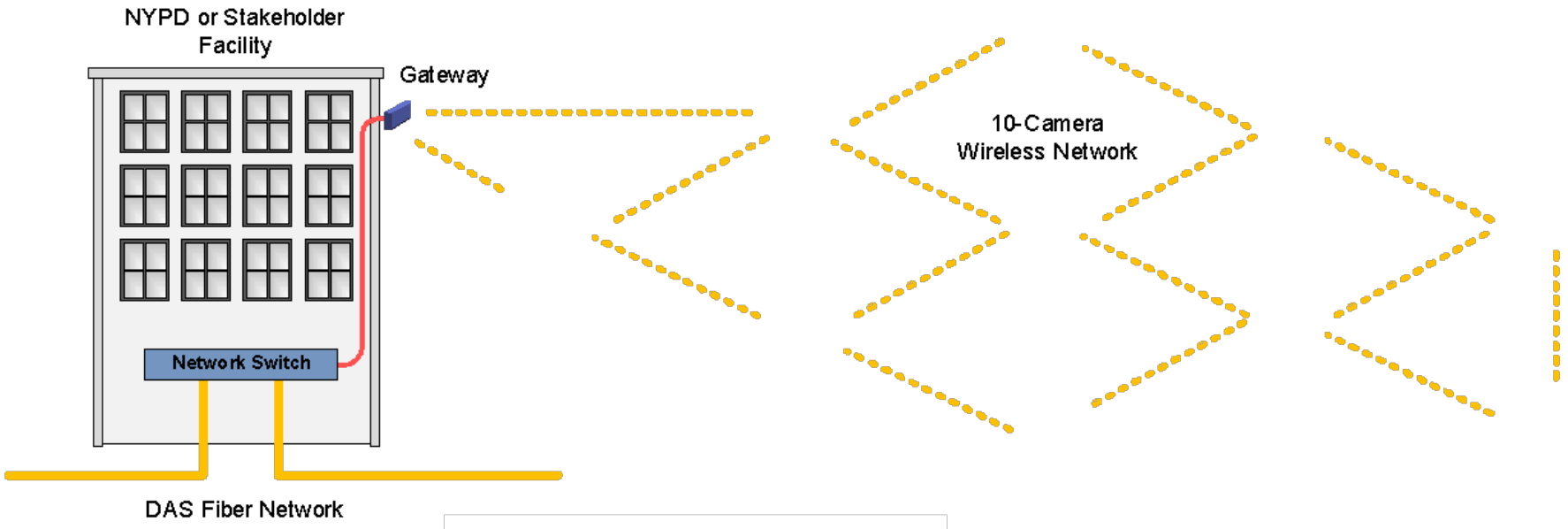
Portals will be mounted on the outside of facilities with access to the DAS network

- Core locations
- NYPD facilities connected through the DWDM network
- Stakeholder buildings on the sub-loops



Lightweight Portable Observation Devices (LPOD)

Building-mounted portals will gateway the wireless networks to the DAS fiber network



License Plate Readers (LPR)

Elsag's Mobile Plate Hunter (MPH-900) system will be configured with two fixed units controlled by a single FCU device. We will deploy 100 of these systems using Elsag's services

ALPR Products and Solutions > Fixed License Plate Reader

Mobile Plate Hunter-900

ELSAG NA's Automatic License Plate Reader (ALPR) system, the Mobile Plate Hunter-900 (MPH-900) can be mounted to bridges, gates, overpasses and other stationary structures to help constantly monitor sensitive areas. Data captured can be reviewed for relevant periods of time assisting with vehicle tracking and other investigative purposes.

Cameras, a processing unit and proprietary software, allow officers to capture images of license plates and instantaneously compare them with millions of Hot List records to identify vehicles of interest. This highly advanced Automatic License Plate Reader system reads plates day or night, from all 50 States and most foreign countries including Arabic characters. It can also read other alpha-numeric identification systems—even from 1500 feet in the air. The MPH 900 LPR system minimizes the guesswork and safety risks that challenge officers every day.

The MPH-900 has unique capabilities that cannot be found in other LPR systems.

Real Time Technology of the Mobile Plate Hunter-900 LPR System

Real time technology of the MPH-900 greatly increases the odds of resolving issues and in severe situations, can be the difference between life and death. Our advanced License Plate Reader system:

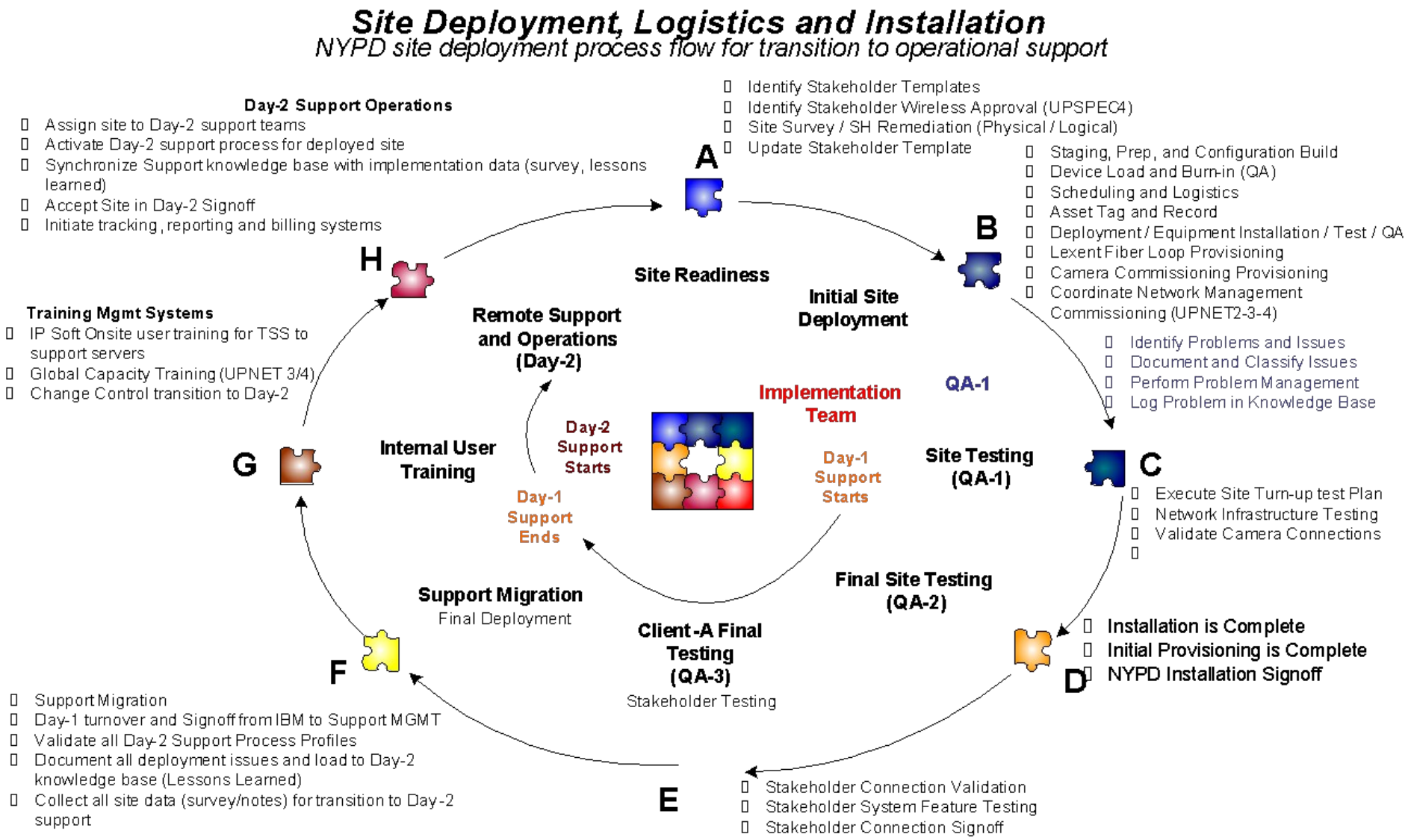
- Captures up to 3,600 license plate reads per minute, day or night, accurately recognizing plates from all 50 states, Canada, Mexico and many Arabic characters
- The recognition rate of generic license plate captures (data collection) is above 95%, based on retro-reflective properties of the plate
- Transit speed up to 75 mph can be easily managed by our License Plate Reader system. It exceeds the normal speed of vehicles through the pathway (due to pathway infrastructure limitations)
- Records date and time stamps, as well as GPS coordinates of the location of the vehicle
- Alerts an Agency's Command Center within milliseconds if a vehicle is suspect
- Hot Lists can be updated manually or wirelessly
- Officers can search LPR system for previous reads at any time in reaction to notification of a suspect vehicle

The MPH-900 captures thousands of license plates during a shift. Data recorded for each includes date and time stamp, photo of the vehicle and its immediate area, and GPS coordinates. After–action analysis of this data from relevant periods of time can lead to:

The initial design approach is to mount two LPR cameras and one FCU per intersection or area of interest

- The FCU is a wireless device that will connect to NYPD through the NYCWiN network
- All LPR communications will route from NYCWiN through the NYPD DWDM network into the DAS Network at the JOC and 55 Broadway entry points
- This system will utilize the servers from the existing operating Elsag system

Deployment Process



Staffing

Bob Collier
Project Executive

➢ Overall IBM responsibility for Project delivery, client relationship, client satisfaction and IBM financial performance

Glen Stewart
Executive Architect

➢ Overall responsibility for architecture, design and related deliverables

Mike McGrath
Project Manager
UpNet 1-4, UpDC

UpNet 1: **Lexent** (Courthouse)

UpNet 2: **Architect**, Tony Virk (Courthouse) **Engineer**, Russ Battle

Engineer, George M (Apr)

UpNet 3/4: **Global Capacity**

UpDC: **Server,** _____ (Mar-May)

Storage, _____ (Mar-May)

Cluster, _____ (Mar-May)

Vendors:

DiNi, ELSA

Genetec, Global Capacity,

IBM, ICP, Lexent, MS

Bill LaFerrera
Project Manager
UpSpec 1-4; Courthouse

UpSpec 1: **Analytics,** Ted Rodriguez (Apr)

Analytics, _____ (Apr)

UpSpec 4: **Wireless,** Sarah Heck, Ph.D. (Courthouse) **Wireless,** Gregg Talewsky (Mar)

UpSpec 1-4 **Vendors:** (Courthouse) **Anixter, Big Wireless,**

Cisco, DiNi, ELSAG, Genetec, ICP, TKM

Derrick Brantley
Project Manager
TSS, MMS, PMO

PMO: **CPST,** Bill Muskopf

TSS: **Transition,** Rod Rahe

Transition, _____ (Mar)

Ops Mgr, _____ (Feb)

MMS: **IT Specialist - Security**

IBM Account Team

Andy McCadden
Client Executive, NYPD

Onofrio Pirrotta
Services Sales Leader

Anthony Testa
Physical Security Svcs

Mike Sales
Tech Solution Architect

Vendor Support

Vendor Support

Hardware / Software

Vendor	US1	US2	US3	US4	UN1	UN2	UN3	UN4	DC	MMS	TSS	Vendor Information
Anixter	X	X	X	X		X			X			LPODs, Cameras, Misc Parts
Cisco		X	X			X		X				Edge Devices (Hub/Stakeholder)
												License

Services

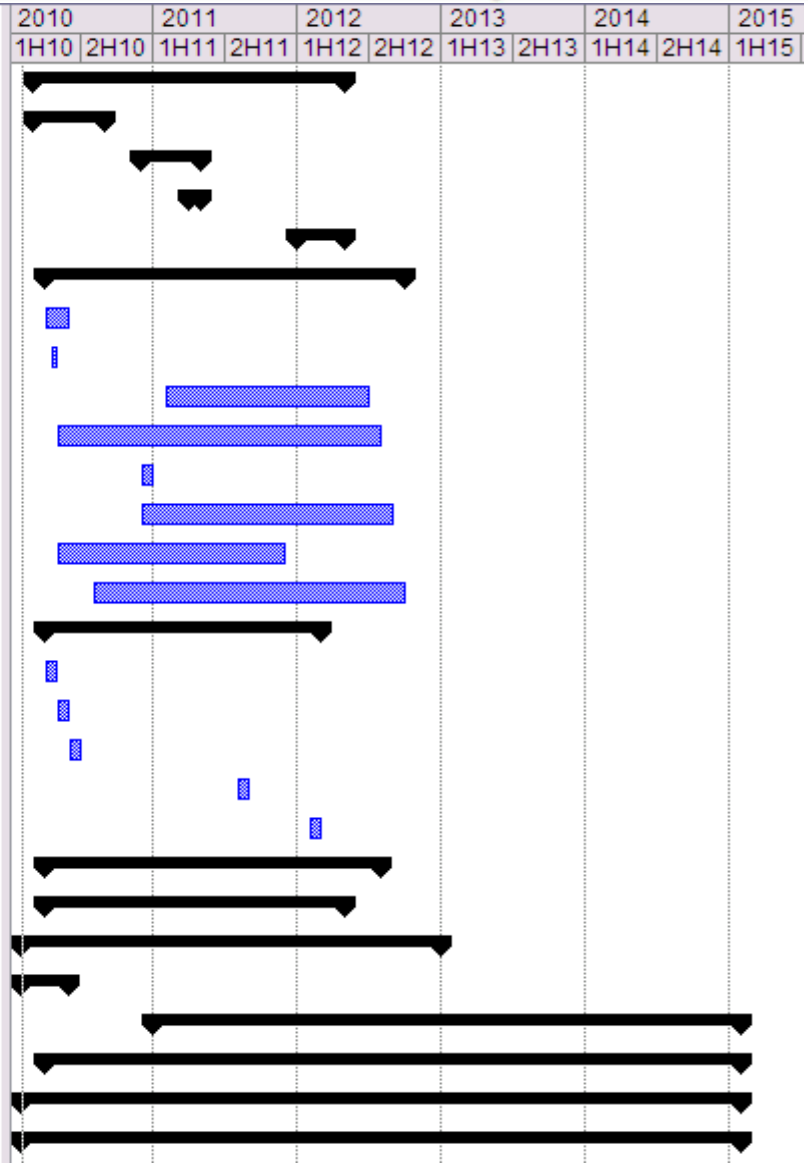
Vendor	US1	US2	US3	US4	UN1	UN2	UN3	UN4	DC	MMS	TSS	Vendor Information
APC											X	Maintenance Svcs
Big Wireless				X								Camera Config & Install Services
DiNi Comm		X	X			X			X			Hub/Camera Config & Install Services
ELS AG				X							X	Field, Warranty, Maintenance Support
Geneteс	X	X	X	X					X		X	Omnicast Install, Maintenance Services
Global							X	X				Fiber, Hub, US4-Camera

Sample, Integrated Process Flow

Assess	Design	HW Order; Stage/Config	Installation	Manage	Enhance / Maintain
IBM	IBM	Anixter	Lexent	Global Cap	MMS
Vexcel	Vexcel	Firetide	TKM		TSS
NYPD	NYPD	Big	Big		
Lexent	Lexent	Cisco			
TKM		IBM			

High Level Project Plan

	Task Name	Start	Finish	Duration
3	− UpSpec 1 - Video Analytics	Mon 3/1/10	Mon 4/30/12	566 days
4	+ Phase I	Mon 3/1/10	Tue 8/31/10	132 days
13	+ Phase II	Wed 12/1/10	Fri 4/29/11	108 days
18	+ Phase III	Fri 4/1/11	Fri 4/29/11	21 days
22	+ Phase IV	Mon 1/2/12	Mon 4/30/12	86 days
27	− UpSpec 2 - Stakeholders	Thu 4/1/10	Fri 9/28/12	652 days
28	Analysis & design	Thu 4/1/10	Mon 5/31/10	43 days
29	Order OEM Hardware	Thu 4/15/10	Fri 4/30/10	12 days
30	MTA -- Bridges & Tunnels	Tue 2/1/11	Fri 6/29/12	369 days
31	MTA -- Transit Station	Mon 5/3/10	Tue 7/31/12	587 days
32	PANYNJ -- WTC	Wed 12/1/10	Fri 12/31/10	23 days
33	PANYNJ – Other	Wed 12/1/10	Fri 8/31/12	458 days
34	LMSI -- Private Stakeholders	Mon 5/3/10	Wed 11/30/11	413 days
35	MMSI -- Private Stakeholders	Mon 8/2/10	Fri 9/28/12	565 days
36	− UpSpec 3 - ARGUS	Thu 4/1/10	Tue 2/28/12	499 days
37	Order OEM Hardware	Thu 4/1/10	Fri 4/30/10	22 days
38	Analysis & design	Mon 5/3/10	Mon 5/31/10	21 days
39	ARGUX Location 1	Tue 6/1/10	Wed 6/30/10	22 days
40	ARGUX Location 2	Mon 8/1/11	Wed 8/31/11	23 days
41	ARGUX Location 3	Wed 2/1/12	Tue 2/28/12	20 days
42	+ UpSpec 4 - CTB Cameras (Courthouse)	Thu 4/1/10	Tue 7/31/12	609 days
84	+ UpDC - Servers, Storage, Migration	Thu 4/1/10	Mon 4/30/12	543 days
93	+ UpNet 1 - Fiber	Mon 2/1/10	Mon 12/31/12	761 days
96	+ UpNet 2 - Edge Devices (Core)	Mon 2/1/10	Mon 5/31/10	86 days
100	+ UpNet 3 - Fiber Monitoring	Mon 1/3/11	Fri 1/30/15	1065 days
102	+ UpNet 4 - Edge (Core) Monitoring	Thu 4/1/10	Fri 1/30/15	1262 days
105	+ MMS - Video Analytics Support	Mon 2/1/10	Fri 1/30/15	1305 days
107	+ TSS - Level 1-2-3 Support	Mon 2/1/10	Fri 1/30/15	1305 days



Deliverables

No.	Program Area	Description	Deliverables
01.	PMO	Monthly PMO Deliverables	Monthly Status Report, Initial Project Plans and updates (UpSpec1-4, UpNet1-4)
02.	PMO	Quarterly PMO Deliverables	Monthly Status Report, Performance and Capacity Reports, Initial Project Plans and updates (UpSpec1-4, UpNet1-4)
03.	UpSpec1	Design Deliverables	Analytics Surveillance Plan, System User Access and Authentication Plan, Design Report, Training Course Materials, SVS DAS Alert Interface Document
04.	UpSpec1	Phase/Instance Deliverables	System Functional Testing Report
05.	UpSpec1	Phase/Instance Deliverables	Operational Architecture, Use Case Document
06.	UpSpec2	Design Deliverables	Stakeholder Connection Template Document
07.	UpSpec2	Phase/Instance Deliverables	Completed Stakeholder Site Survey Template, Stakeholder Equipment As-Built Document, Video Management System Configuration Document (updated)
08.	UpSpec3	Design Deliverables	Argus Connection Template Document
09.	UpSpec3	Phase/Instance Deliverables	Completed Argus Site Survey Template, Argus Equipment As-Built Document, Video Management System Configuration Document (updated)
10.	UpSpec4	Design Deliverables	CTB Cameras Design Document, CTB Camera Site Survey Form

No.	Program Area	Description	Deliverables
11.	UpSpec4	Phase/Instance Deliverables	CTB Cameras Design Document (Updated)
12.	UpDC	Design Deliverables	UpDC Infrastructure Design Document
13.	UpDC	Phase/Instance Deliverables	UpDC Infrastructure Design Document (Updated)
14.	UpNet1	Design Deliverables	Fiber Ring Backbone and Sub-loop Route Maps, Lateral Maps, SOW for Site Work, Materials Invoice
15.	UpNet1	Phase/Instance Deliverables	As applicable: Backbone Pathway Field Verification Reports, Backbone Cable Placement Reports, Backbone fiber Splicing & Testing Reports, Mechanical Completion Report, Substantial Completion Report, Final Completion Report
16.	UpNet2	Design Deliverables	Site Survey Document, Network Requirements Document, Network Design Document
17.	UpNet2	Phase Completion	Network As-Built Document
18.	UpNet3	Monthly Reports	Monthly Performance Report
19.	UpNet3	Outage Reports	As needed
20.	UpNet4	Monthly Reports	Monthly Performace Report
21.	TSS	DAS Business Continuity Plan	DAS Business Continuity Plan

Key Dependencies

- Completion of Core locations – New Data Centers; JOC
- Access to key NYPD locations for surveying, installation
- Completion of Core locations – New Data Centers; JOC
- Integration of various hand-offs between vendors
- Resource availability at specified time within planning
- Equipment availability (Cisco lead times)
- Terrorist trials out of NYC?

Initial Project Risks

#	Title	Description	Tech	Fin	Sch	Rsrc	Impact (max = 20)
1	IP Plan	We don't know total device counts	H	-	M	L	9
2	Lexent Fiber	Unkown distances / optics could change original quotes	L	H	L	-	7
3	BoM	Purchcasing HW ahead of Design	-	H	H	-	10
4	Device Connection Reqs	MM vs SM	-	M	L	-	4
5	Courthouse Rapid Design/Deploy	Early start for resources; limited planning and design time	H	M	H	H	18
6	PMO	Resources, Schedules	-	L	H	H	11
7	Camera high availability	NYC terrain limits/eliminates mesh-based approach, forcing us into in-line approach.	H	M	H	M	16
8	2010 NYC Travel funding	Upfront resource needs may drive higher travel expenses in year-1.	-	M	-	-	3
9	Vexcel as lead PMO	Vexcel has had numerous leadership changes / staff turnover. At project start, 2/1, many key staff positions unfilled.	-	M	L	M	7
10	Change Mgmt	NYPD appears to operate within a set budget, and not necessarily in a set scope. Example: since SOW signing, numerous changes to design / deployment have been requested.	M	M	M	L	10
11	Pay when paid	IBM is paid when Vexcel is paid by NYPD.	-	H	-	-	5
12	Bucket trucks	Use of 2 trucks for camera installation, vs originally scoped 1 truck. Deployment may require 2 trucks to align pole-to-pole connectivity.	L	M	L	-	5

PMO Risk Information

Description	Mth 1	Mth 2	Mth 3
Program Management Office			
Project Executive - B10 HU + PMR	165	165	165
Integration Architect - B9 HU	165	165	165
CPST Support	165	165	165
B10 Engagement Oversight @ 2% PMO			
B8 Engagement MGMT @ 2% PMO			
UpSpec 2-4 PM - B8 HU then lead PE			165
UpNet1-2 PM - B8 HU		165	165

- No PM's until week 5 per WBS
- Project Plan Deliverable Due week 6

Key Pricing Assumptions

- IBM assumes there are **no incentives/penalties for meeting/missing SLA objectives** stated in this Statement of Work.
- Pricing is based upon a **contiguous series of project activities** as indicated in the proposed project schedule in Appendix F
- IBM fulltime hourly resources are based upon **working at minimum, 1980 hours per year**. Any reduction in the number of hours engaged will result in a price change.
- A Full Time Resource is based on 1980 hours per year based on a maximum of 40 hours per work week. Overtime is not included, and overtime requests will be handled via the PCR process. **Planned absences will be backfilled for Full Time Resources** as needed. Backfill for unplanned absences will be on a best effort basis.
- **IBM will invoice for HW and SW (both IBM and OEM) upon confirmation of receipt** in accordance with the MSA.

Financials, Annual

SOW Pricing:

Category	2010	2011	2012	2013	2014	2015	2016	Total
Services	$12,937,054	$8,570,481	$7,556,463	$3,872,294	$4,113,074	$4,221,569	$339,025	$41,609,960
HW & MA	$13,055,564	$3,052,494	$3,088,651	$1,117,379	$1,123,912	$1,126,914	$0	$22,564,914
SW & MA	$2,210,557	$660,354	$350,509	$62,048	$208,985	$393,305	$0	$3,885,758
Total	$28,203,175	$12,283,329	$10,995,623	$5,051,721	$5,445,971	$5,741,788	$339,025	$68,060,632

Grand Total: $68,060,632
5-Year Total: $55,225,900

- PE proposes **re-baseline** by 2Q2010:
  - Adjust for POC-based revenue recognition
  - Take early Courthouse work & impact to remainder of UpSpec 4 into account