
National DSL Rollout Statement Of Work

Prepared for:

Digital Broadband Communications



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Confidentiality

All information contained in this document is confidential and proprietary to REALTECH Systems Corporation, constituting its trade secrets and privileged confidential property. It is furnished with the understanding that it will not, without written permission of REALTECH Systems Corporation, be used for other than evaluation purposes or be disclosed to any third party.

1.0 Executive Summary

REALTECH Systems Corporation (REALTECH) is pleased to respond to Digital Broadband Communications, Inc. (DBC) request to develop and deploy a cost effective and scalable Digital Subscriber Line (DSL) Point of Presence (POP)/Hub installation. Based on discussions with key DBC management and internal technical resources, REALTECH is prepared to plan, coordinate, install, and manage DBC's nationwide DSL rollout through out the year 2000. REALTECH is positioned to provide complete Engineering, Furnishing and Installation (EF&I) services to DBC.

Quality, consistency, reliability, and standards are the cornerstones that bind Digital Broadband Communications and REALTECH Systems Corporation together. We are committed to your success and will make every effort to ensure your complete satisfaction with REALTECH.

2.0 Statement of Objectives

The objective of this project is for REALTECH to work closely with DBC to deploy 89 DSL POP locations in the states of New York and Pennsylvania. These POP locations consist of 78 end-offices, the access point for DBC's customers within a city, and 11 Hub sites, the central location where the end-offices converge to access the ATM backbone.

3.0 Definition of Terms

For the purposes of this Statement of Work and related Proposal, the following words were defined by both DBC and REALTECH to ensure accuracy and clarity.

3.1 Anomaly

Changes to the agreed upon models, configurations, documentations and schedules will be classified as an Anomaly. Any changes to the existing models during the lifecycle of this Statement of Work require the initiation of REALTECH's Change Control Process (see Appendix C). Those changes can be incorporated as new models in future Statements of Work. Any changes to the models prior to acceptance of a Statement of Work do not require use of REALTECH's Change Control Process and will be incorporated in the final pricing of that Statement of Work.

3.2 Monthly Build Cycle

A Monthly Build Cycle is defined as a predetermined grouping of sites within a given geographic area for which a Statement of Work will define the terms of engagement, deliverables, responsibilities and investment.

3.3 Network Elements

Network Elements are all DBC supplied network devices and components, not including data cabinets, for this deployment. A list of all Network Elements, for this Monthly Build Cycle, is included in Appendix A of this document.

3.4 Supplemental Materials

Supplemental Materials refer to all REALTECH supplied items that are used for this project. A list of all Supplemental Materials, for this Monthly Build Cycle, is included in Appendix B of this document.

3.5 Models

Models refer to the grouping of network elements to be installed within a given city. It includes supporting materials (racks, cables, connectors and bolts) that are documented as a Rack Face drawing and material list.

Any changes to the existing models, including adaptation of a model for site specific needs during the lifecycle of the current Statement of Work require initiation of REALTECH's Change Control process. Those changes can be incorporated as new models in future Statements of Work. Any changes to the models prior to acceptance of a Statement Of Work does not require use of REALTECH Change Control Process, as long as the request is made two weeks prior to the targeted Statement of Work agreement. When changes are requested within this time period, they will be incorporated in the final pricing of that Statement Of Work.

3.6 Change Control Process

The introduction of a scope change due to customer request, latent technology discoveries or competitive challenges requires the use of a Change Control Process. The process is not intended to stop or delay modifications to a project within the implementation cycle, but to insure stakeholders are apprised of all known risks, cost increases or schedule implications due to the change. The Engagement Manager is accountable for establishing the team, analyzing the request and providing written feedback on the decisions reached by the project team.

The overall objective of the Change Control Process is to:

- Establishing a consistent method of managing and monitoring project details, i.e., scope creep, scope reduction and or major deployment changes.
- Defining an approval path for changes.
- Controlling changes to project scope and timeline.

3.6.1 Change Control Request

All requests to modify the project from the original agreed upon scope, which is outlined in this REALTECH Statement of Work Document, will be done in writing by DBC and sent to the appropriate Project Manager. The request should contain the reason for the request, preliminary assessment of what segments of the project will be impacted, i.e., projected expense increase, resources, purchase of equipment, etc.

The Project Manager will record the date the request was received and within one day, make contact with the DBC's Single Point of Contact to begin discussions on what will be needed to incorporate the proposed change. If an agreement is reached, the terms of the agreement are noted on the Change Control Request Form and signed by both the PM and the DBC Single Point of Contact. Once this is completed, the change will be incorporated into the project on the terms agreed upon.

Should agreement not be reached at this stage, the request is then escalated to the REALTECH Engagement Manager who will begin discussions with the DBC Single Point of Contact. If an agreement is reached, the terms of the agreement are noted on the Change Request Form and signed by both the Engagement Manager and the DBC Single Point of Contact. Once this is completed, the change will be incorporated into the project on the terms agreed upon.

The entire Change Control Process from initiation to resolution should take no more than 5 business days. Due to the potential impact on deployment completion timelines, it is critical that changes be resolved quickly. Upon acceptance of the change, the Project Manager will revise timelines and project work breakdown package and also notify the other Project Managers of the agreed upon change and the updates needed on the timelines and project work breakdown packages.

3.6.2 Change Control Status Reporting

The Program Manager should prepare a monthly Change Control Summary. The report should be submitted to DBC as well as the REALTECH Engagement Manager.

3.6.3 Change Control Request Form

A copy of the Change Control Request Form is included as Appendix C of this document.

3.7 Project Caution Report

A project should be placed in a status of “Caution” when several major milestones have been missed and mitigation plans are in place to recover the schedule. The project manager must monitor the schedule closely to insure no other dependent milestones are at risk. Cautions should be updated on a weekly basis. A copy of the Project Caution Report is included in Appendix D of this document.

3.8 Project Jeopardy Report

A project should be placed in a status of “Jeopardy” when several milestones have been missed, mitigation plans are in place; however, the schedule completion date may not be met. The project manager must monitor the schedule daily. A jeopardy status is updated based on the agreed upon intervals of the project team (updates could be hourly or daily). A copy of the Project Jeopardy Report is included in Appendix E of this document.

3.9 Action Item Register

An Action Item Register is used to document and track Action Items through the course of an engagement. A copy of the Action Item Register is included in Appendix F of this document.

3.10 Weekly Status Report

The Project Manager in the field uses a Weekly Status Report, developed by DBC. A copy of the Weekly Status Report is included in Appendix G of this document.

4.0 Project Timeline

The following Project Timeline outlines the milestones and critical points needed to meet the targeted in-service dates. This Project Timeline will be updated throughout the Monthly Build Cycle. The Engagement Manager will communicate possible changes in the Project Timeline to DBC.

Description	Milestone Start	Milestone Complete
Begin Site Survey in White Plains	4/10/00	4/28/00
Confirm Installation Start Dates with the selected Installers	4/11/00	4/12/00
Freeze Configurations for all Network Elements	4/17/00	4/17/00
Begin Site Survey in Albany	4/17/00	5/3/00
Begin Site Survey in Syracuse	4/17/00	4/20/00
Begin Site Survey in Buffalo	4/17/00	4/21/00
Begin Site Survey in Pittsburgh	4/17/00	4/25/00
Begin Site Survey in Rochester	4/17/00	4/21/00
All Network Elements Delivered to REALTECH warehouse	4/21/00	4/21/00
All Supporting Material Delivered to REALTECH warehouse	4/21/00	4/21/00
Network Element Configuration	4/24/00	5/5/00
Pick and Pack for shipments	4/28/00	5/25/00
Install 2 sites in PA	5/2/00	5/12/00
Install 1 sites in Buffalo	5/2/00	5/12/00
Install 2 sites in Rochester	5/2/00	5/12/00
Install 8 sites in PA	5/2/00	5/9/00
Install 4 sites in Buffalo	5/2/00	5/9/00
Install 3 sites in Rochester	5/2/00	5/9/00
Install 2 sites in Syracuse	5/3/00	5/15/00
Install 1 site in White Plains	5/3/00	5/15/00
Install 3 sites Syracuse	5/3/00	5/10/00
Install 4 sites in White Plains	5/3/00	5/10/00
Install 3 sites in PA	5/10/00	5/17/00
Install 3 sites in Buffalo	5/10/00	5/17/00
Install 1 sites in Buffalo	5/10/00	5/16/00
Install 3 sites in Rochester	5/10/00	5/17/00
Install 3 sites in Syracuse	5/11/00	5/18/00
Install 4 sites in White Plains	5/11/00	5/18/00
Install 2 sites in PA	5/15/00	5/22/00
Install 2 sites in Rochester	5/15/00	5/22/00
Install 1 site in Buffalo	5/15/00	5/19/00
Install 1 site in Albany	5/16/00	5/26/00
Install 4 sites in Albany	5/16/00	5/22/00
Install 1 site in White Plains	5/16/00	5/26/00
Install 2 sites in Syracuse	5/16/00	5/22/00
Install 1 sites in Buffalo	5/17/00	5/23/00
Install 3 sites in PA	5/18/00	5/25/00
Install 3 sites in Buffalo	5/18/00	5/24/00
Install 3 sites in Rochester	5/18/00	5/25/00 *****
Install 2 sites in Syracuse	5/19/00	5/25/00 *****

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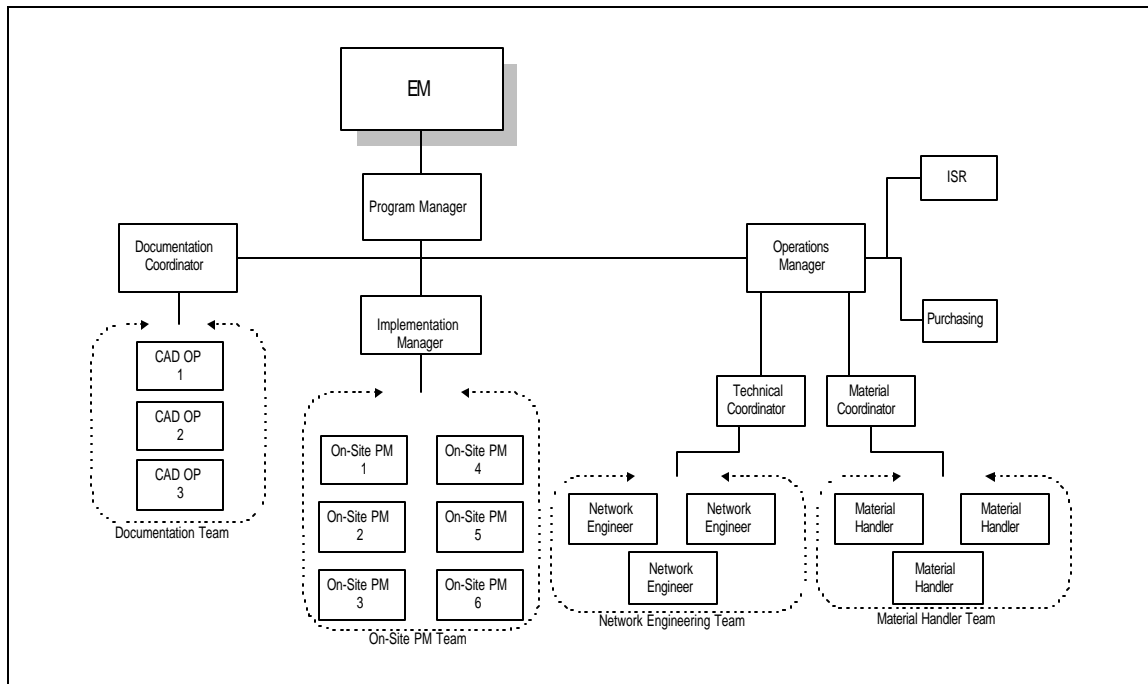
Install 4 sites in White Plains	5/19/00	5/25/00
Install 1 site in Buffalo	5/22/00	5/26/00 *****
Install 2 sites in Albany	5/23/00	5/28/00 *****
Install 1 site in PA	5/23/00	5/28/00
Install 1 site in PA	5/23/00	5/29/00
Install 3 sites in PA	5/26/00	5/31/00
Install 2 sites in White Plains	5/26/00	5/31/00 *****
Install 1 site in PA	5/29/00	6/2/00
Install 1 site in PA	6/1/00	6/7/00 *****

***** Indicates completion of an entire LATA when site is completed.

5.0 REALTECH Responsibilities

5.1 Organizational Chart

The Organizational Chart depicted below identifies key roles in the REALTECH Rollout Team. A detailed description of Engagement Manager, Program Manager and Project Manager roles are outlined below. A detailed outline of all other roles and responsibilities are included in Appendix K of this document.



5.2 Engagement Management

The Engagement Manager for DBC is responsible for all aspects of this project and is the point of contact along with the Account Executive. All

issues and concerns regarding this National Rollout need to be communicated to the Engagement Manager, who is positioned to be more accessible, to ensure a quick and successful resolution.

- Act as sole point of contact for National Rollout
 - Will coordinate internally with REALTECH's Rollout team members to address DBC's issues and concerns
- Participate in the weekly Rollout Status Meeting
 - Will act as a facilitator to take action items identified in this meeting and apply appropriate measures to ensure that the items are addressed
 - Identify issues and questions from REALTECH's Rollout team
- Responsible for all members of the REALTECH Rollout Team and will identify and fulfill needs for additional resources
 - Will address all concerns and issues regarding on-site performance and quality related to REALTECH's Rollout team
- Escalate issues to appropriate parties
- Work in conjunction with Account Executive & Strategic Account Executive
 - Will work along side the Account Team to ensure customer satisfaction
- Negotiate and present Out of Scope items to DBC
- Identify opportunities for improvement within the National Rollout
- Serve in a consultant role with Program Manager regarding issues

5.3 Program Management

The dedicated Program Manager assigned to this project will serve as the Project liaison to REALTECH's Rollout Team managing DBC's multi-site DSL POP deployment. The Program Manager will provide Program level executive status reporting on the initiative, to DBC at regular predetermined intervals.

Because of the breadth of this initiative, the Program Manager will be instrumental in orchestrating cross-project initiatives and addressing common themes and/or critical dependencies. These may include but are not limited to:

- Supplier/vendor management
- Qualification of installation service providers/subcontractors
- Management of subcontractors
- Mitigation of issues having implications across multiple sites
- Information sharing with all Rollout Team members to enhance the quality of the work and improve efficiencies

- Management of Change Control, Caution Report, Status Report, Jeopardy Report and Action Item Register across all sites. Samples of these reports can be found in Appendix C through Appendix G.
- Execution of Escalation process as needed
- Development and maintenance of the overall Project Plan
- Scope Refinement
- Communications Reporting: Executive Reports
- Coordination of Program level Quality Assurance
 - Review site acceptance checklist before initiating a Site Acceptance Walk thru
 - Oversee monitoring of inventory levels and reordering of needed supporting material
 - Continue to enhance Quality Assurance by working with REALTECH's internal Best Practices Group

The Program Manager will utilize additional resources within REALTECH to address specifics such as the ongoing monitoring of Change Control Process and development of documentation, management and fulfillment of material requirements, and development of Program level Financial Reporting.

5.4 Project Management

The Project Managers assigned to this project will work with the site specific installation plans and coordinate all installation resources to ensure the project is completed on-time and within the acceptable budgetary ranges. Due to the complexity and magnitude of this Rollout, off-site Project Managers are included in the Rollout team. The Project Managers' responsibilities may include but are not limited to:

- Site liaison with ILEC
 - Interfaces with ILEC
 - Schedules power-up with ILEC
 - Ensure ILEC operational procedures are observed
 - Ensure ILEC safety procedures are observed
 - Deliver Method of Procedure (MOP) to the ILEC
- Monitor and control of site-specific schedule
- Provide site specific schedule and changes to Program Manager
- Responsible for communicating information to be used as a basis for: Project Status & Executive Reporting
- Change Control, Project Status, Caution and Jeopardy Status Report initiation
 - Ensures that Change Control is adhered to in the field
 - The requested change is implemented when authorized
- Site Risk Assessment

- Assess the Installation delays
- Identifies damaged materials
- Development and execution of Site Mitigation Strategies
- Coordination of Project level Quality Assurance
 - Ensures proper performance of Installation Crews
 - Adherence to ILEC operational procedures
- Management of site-specific Change Control process
- Vendor and Installer coordination
- Execution of Escalation Process as needed
- Coordination of Documentation Requirements and Deliverables
- Lead Site specific Post Project Critique
- Understand and comply with Client Acceptance Criteria
- Deliver final project documentation to client
- Client Satisfaction (Implementation only)

5.5 Planning Process

5.5.1 Development of Engineering Templates

REALTECH will submit Engineering Templates for the following items. Additions to this list will be managed through REALTECH's Change Control Process.

- Cable Run List
- Wiring Template
- Floor Plan
- Boxology
- Overhead Rack Diagram
- Installer Notes
- Material List

5.5.2 ILEC Floor Space Plan

When available DBC will provide REALTECH with the ILEC Floor Space Plans needed for each site survey.

5.5.3 Model Submission

The five models submitted by DBC for this Monthly Build Cycle are as follows:

- Physical Cage Hub – 4 Bay Layout
- Physical Cage – 3 Bay Layout
- Scope – 1 Bay Layout
- Scope – 2 Bay Layout
- Scope – 3 Bay Layout

The models referenced in this Statement of Work are represented as rack face diagrams in Appendix H. The Investment Summary in

this document is based on these five models and associated Cable Run List.

5.5.4 Project Plan

The project plan for this Monthly Build Cycle will be created and maintained by the Program Manager. The project plan included in this Statement of Work was developed based upon the information available. Regularly scheduled Rollout Status Meetings will provide additional information and input to be used to update the project plan.

5.5.5 Rollout Status Meeting

To encourage early detection and resolution of issues during this engagement, REALTECH recommends that DBC chair and coordinate a weekly Rollout Status Meeting. This meeting will include the following stakeholders:

- DBC's Program Manager
- REALTECH's Program Manager
- REALTECH's Engagement Manager
- A Cisco representative currently involved in the project

The meeting facilitates information exchange for both current and future deployments. An agenda for this meeting may include one or more of the following items:

- Status overview of current project and project timeline
- Review outstanding Change Orders and Jeopardy Reports
- Update schedule and receive status on future Monthly Build Cycles
- Discuss schedules for materials
- Review installation nuisances

5.5.6 Site Survey

REALTECH will perform a site survey with the ILEC to ensure site readiness. A copy of the ILEC Space Acceptance form is included in this Statement of Work in Appendix A. All exceptions noted during the site survey is documented and reported through the ILEC Exception Report.

5.5.7 Detailed Engineering

REALTECH will perform engineering in the following areas:

- Ceiling height, door and aisle clearance
- Power

- Other central office layout and design
- Termination of equipment
- Intra-bay cabling
- Inter-bay cabling
- Equipment layout within the cage.
- Measurements within the cage based on DBC requirements
- Overhead cable racking and layout

REALTECH possesses CO engineering expertise to address engineering issues related to varying conditions on a per site basis. Once these engineering issues have been identified, REALTECH will initiate the Change Control Process to ensure the variance is documented and an effective solution is applied. As a part of the Change Control Process any financial impact will be identified to DBC.

5.6 Order Management and Fulfillment Process

5.6.1 Order Placement of Supplemental Material

REALTECH is responsible for providing equipment outlined in the Supplemental Materials List. REALTECH's Supplemental Materials list is included as Appendix B in this document. During the Order Placement Process REALTECH will:

- Ensure timely order placement of supplemental material
- Prepare orders and place with vendor
- Work with vendor to ensure multiple options are available to obtain supplemental material
- Place orders as needed to support 100 sites
- Ensure no stock-outs

5.6.2 Order Delivery

During the Order Delivery Process REALTECH will:

- Ensure orders are completed
- Ensure shipments are released by vendors for delivery either to a warehouse/staging location or client site

5.7 Warehousing and Material Management Process

5.7.1 Warehousing

REALTECH's operational facility for warehousing is located in Schenectady, New York. This environmentally controlled facility has been prepared for securely storing and staging of installation materials. The address and phone information for the warehouse is as follows:

REALTECH Warehousing Facility

Rotterdam Industrial Park
Building #9
Bay 1
Schenectady, NY. 12306
Voice: 518.356.3724

During the Warehousing process REALTECH will:

- Receive shipments of customer and REALTECH provided materials at staging location
- Inspect received materials and coordinate replacement of damaged supplemental material
- Notify DBC of discrepancy in shipments of DBC provided materials
- Resolve any discrepancy in shipments of REALTECH provided materials
- Reconcile any order level line item discrepancies
- Inventory equipment and other parts received as it is unpacked, before storing it
- Secure and store materials
- REALTECH's maximum capacity for storing both DBC and REALTECH supplied materials are for 100 sites

5.7.2 Staging

In staging, multiple components from different sources are aggregated for use on a specific initiative or project and combined in an Installation Kit. During the Staging process REALTECH will:

- Consolidating all network elements and miscellaneous installation materials required per site specific specifications
- Configure network elements as required
- Perform power-up test and coordinate replacement of Dead on Arrival (DOA) network elements
- Kit and Package all components and miscellaneous installation materials per site specific specifications for shipment
- Decrement inventory to reflect change in equipment status from "spare" or "available" to "committed"

5.7.3 Shipping

In shipping, Installation Kits and other movable inventory is channeled into the transportation system used by the Warehousing facility. During this the Shipping process REALTECH will:

- Coordinate with on-site personnel and schedule delivery/receipt of equipment/Installation Kit
- Ship Installation Kits via appropriate carrier to arrive on-site as scheduled
- Decrement inventory as packaging occurs and specify destination to which equipment/materials will be moved for installation.

5.8 Engineering the Installation, Testing and Acceptance (ITA) Process

Prior to the installation REALTECH will meet with the associated Installation Vendors to review the contents of the Installation Package and to answer any questions regarding the package. This will ensure the Installers understand the material they will be receiving prior to arriving on-site. The Installation Packages are provided to installers in the field. The content of the Installation Packages are updated based on field conditions and returned to REALTECH for final review and posting.

The Installation Packages consist of the following:

- Site Inventory Sheet
- Installer Notes
- Rack Face Drawings
- Cable Run List (Excel)
- Cable Wiring Drawing for the Network Elements
- Assignment Sheet
- Floor Plan

In addition each project manager will have in their packet a project plan for installing a site, an Installation Checklist to determine functions are completed and provide DBC with a status of percent complete. An Installation Checklist will be developed for a cage, hub and scope configurations. The Scope Installation Checklist in Appendix I is for all scope installations. A similar checklist is being created for a Physical and a Hub and will be completed prior to the start of the installation.

5.8.1 Testing

During the installation process, REALTECH will test continuity on DS0, DS1 and DS3 cables.

5.8.2 Acceptance Process

To prepare for DBC's Site Acceptance walk thru (refer to Appendix J for sample) REALTECH's project managers will complete REALTECH's Quality Assurance Checklist. This process ensures that REALTECH will review the site, make any necessary

changes and ensure that the site is complete.

5.9 Documentation

After completion of each stage, REALTECH will deliver Final Documentation and an Installation Package as documentation to DBC. The hard copy and electronic format has not yet be determined and will be included as an addendum to this Statement of Work when agreed upon. The documentation turn-over requirements are as follows:

- Two hard copies of the Final Documentation
- Two electronic copies of the Final Documentation
- Two copies of the Installation Package will be delivered to DBC before the installation

The Final Documentation is comprised of the following:

- Completed Cable Run List
- Completed Site Inventory
- Rack Face Drawings
- Site Inventory Sheet
- Installer Notes
- Assignment Sheet
- Overhead Cable Rack Plan
- General Floor Plan
- Cage Specific Floor Plan
- Copy of Site Acceptance Sign-off Sheet

6.0 DBC RESPONSIBILITIES

In order to ensure a successful completion of this project, it will be necessary for REALTECH and DBC to work closely throughout the engagement. Specifically, DBC will be required to provide:

- Determine appropriate cage vendor
- Provide cage acceptance criteria and review with REALTECH
- Petition for location from Incumbent LEC
- Provide the initial cabling requirements of the various installation types. This will include the type of cable, numbers of cables and source and destinations of the cables
- Provide numbering schemes to be used for equipment
- Provide single point of contact to be used by REALTECH's Program Manager
- Provide equipment as outlined in *Appendix C: DBC Supplied Network Elements and Components* and send a copy of the list to REALTECH
- Develop the Network Element configurations and send to REALTECH for use during Staging
- Supply changes made to installation models to the Engagement Manager
- Supply network elements and necessary mounting equipment for said network elements
- Adhere to Change Control Process when requesting changes
- Supply floor plans from ILEC when available
- Update material status sheet for DBC supplied material
- Update Master City trackers with all changes
- Conduct weekly project meetings to include all partners in the project
- Participate in the Site Acceptance walk thru
- Develop all network elements configurations and distribute to REALTECH
- Supply CFA from the ILEC to the Program Manager

7.0 Out of Scope Work

REALTECH's Change Control Process will manage any request for changes to a site that has already passed through the quality assurance and site acceptance, of both REALTECH and DBC. If required, another Statement of Work document will be created to address these changes as necessary.

8.0 System Turnover to Digital Broadband Communications

A mutually agreed to acceptance criteria will be developed between DBC and REALTECH to delineate those items which constitute a successful completion. Once agreed upon, this sheet will serve as the documentation that all agreed upon items have been successfully completed and will be signed by representatives from both companies.

Upon acceptance of project completion, DBC accepts full responsibility for the maintenance and servicing of the DSL POP equipment. REALTECH is certainly available to provide any future services to DBC. This can be discussed further with the Account Executive.

9.0 Investment Summary

Speed to Market" is a critical factor in DBC's success. REALTECH is prepared to plan, program and project manage, stage, and install, DBC's nationwide "Speed to Market" DSL rollout. With REALTECH, DBC will have a partner that can support their aggressive project schedules while delivering the highest quality through development of baseline processes, reduction of learning curves and standardization. Confidence in our processes and methodologies and evidence of our commitment to a long term mutually beneficial relationship REALTECH is prepared to provide to DBC an investment summary that can be used for all site configurations.

THE TOTAL INVESTMENT SUMMARY = \$1,780,000.00 for New York and Pennsylvania (89 sites)

9.1 Configurations

- 1) Scope - 1 Bay Layout will be completed as outlined above at a investment of \$20,000 per site.

- 2) Scope - 2 Bay Layout will be completed as outlined above at a investment of \$20,000 per site.

- 3) Scope - 3 Bay Layout will be completed as outlined above at a investment of \$20,000 per site.

- 4) Physical Cage Hub - 3 Bay Layout will be completed as outlined above at a investment of \$20,000 per site.

- 5) Physical Cage Hub - 4 Bay Layout will be completed as outlined above at a investment of \$20,000 per site.

9.3 Shipping

Shipping changes will be billed as a pass through for the initial site shipment and subsequent shipments to a particular site as a result of delayed Network Element readiness. All other shipments will be billed at REALTECH's expense.

9.4 Travel and Expense

Travel and Expense is based on actual and reasonable expenses for meals, lodging, airfare, and mileage. Please refer to REALTECH Systems Corporation Travel & Expense guidelines.

9.5 Terms and Conditions

The following are terms for the Statement of Work acceptance:

- Signed Addendum to Master Agreement
- Purchase order for all services
- Payment for services rendered is due 50% at inception and 50% upon completion

Appendix A: DBC Supplied Network Elements and Components

	Description		Part #
Router	Cisco 2509-DC	Hdwr'd Shlf	Cisco 2509-DC
	Cisco 2511-DC	Hdwr'd Shf	Cisco 2511-DC
DSLAM	Cisco 6130 DSLAM	Hdwr'd Shf	Cisco6130
	System Controller Card (CPU)	Card	SC-6100-2
	N1 Card	Card	6100NIM-1-DS3-3
	N12 Card	Card	
	ADSL Card	Card	ATUC-2-DMT2-DIR-1
	4 Port SDSL Card	Card	STUC-4-2B1Q-DIR-1
	Cable Kit	cable	CAB-MC128-MDF
Sonet Mux	Cisco 15454 Shelf (SA-NEBS3)	Hdwr'd Shf	Cisco 15454
	Xconn, 576 STS, 1344VT (XC-VT)	Card	15454-XC-VT
	Timing Communications Control (TCC)	Card	15454-TCC
	Shelf Fan tray Assembly	hdwr	15454-FTA
	Elect I/F. 84 SMB B-Side	Card	15454-EIA-SMB-B/84
	Elect I/F. 84 SMB A-Side	Card	15454-EIA-SMB-A/84
	DS1, 1:N,DSX,14Ckt	Card	15454-DS1N-14
	DS3, 1:N,DSX,12Ckt	Card	15454-DS3N-12
	OC12, LR. 1310. 1 CKT, SC	Card	15454-OC121LR1310
	OC48, IR, 1310, 1 CKT, SC	Card	15454-OC481IR1310
	OC48, LR, 1550, 1 CKT, SC	Card	15454-OC481LR1550
	System Documentation Release 2.0	docum	15454-DOC2.0AEPAP=
	Cisco BPX 8620	Hdwr'd Shf	
	Cisco 7204 LSC	Hdwr'd Shf	
	Cisco MGX 8850	Hdwr'd Shf	
	Cisco Catalyst 1924	Hdwr'd Shf	WS-C1924-EN-DC
	Cisco 6400	Hdwr'd Shf	
Turnstone	Copper Xconnect CX100-23, 23"	Hdwr'd Shf	600000
	L140 Xconnect card-pkd out	Card	600003
	P100 Processor Card-pkd out	Card	600004
	M101 Linecard-CO Mgmt Card	Card	600026
Scope Cabinet	Hopewell Cabinet	peripheral	DBC237522
Power	Telect FP Combo Series	peripheral	009-8004-0100
	Telect FP dual feed 10-10	peripheral	009-0014-1001
	Telect C/B FP	peripheral	009-6211-2100
	Long Delay 40 Amp fuse	peripheral	009-0052-0040
	Long Delay 30 Amp fuse	peripheral	009-0052-0030
	GMT Fuses	peripheral	GMT XA

Appendix A: DBC Supplied Network Elements and Components

Modem	WTI Modem	peripheral	RMM-288DC-48VDC RACK MOUNT MODEM
	23 " adapter	peripheral	RMM-23R ADAPTER KITS
DSX	ADCT DSX-3 MPOP CHS 12 POS 35x1	peripheral	MPOP-C
	ADCT DSX-3 MPOP MOD Midsize JckPnl	peripheral	MPOP-2M
	ADCT CHAS. PXPLUS 56 CKT RX 23	peripheral	PXP-312002
	ADCT DSX1 SNG MOD FOR PXPLUS	peripheral	PX1-A10001
	RJ 48 Smart Jack Panel	peripheral	T28-025F

APPENDIX B: Supplemental Materials List

4 Bay Physical Hub Supporting Materials List

Part #	Description	Quantity	Comments
Rack			
0041100010	Anchor Kit, Concrete, 4 Anchors for PR 4098W	4	
0041190110	Cable tie bar for unequal flange- 70" equip.	8	
0041030010	Relay Rack Junction Kit for PR 4098	3	
0040110130	Newton equipment rack- welded stell-7'	4	
0010220530	Aux Framing-10ft N-1022-5	8	
0030310610	Aux Framing Clip- 5/8"	20	
0010580100	Aux Framing End Cap N-1058-C	12	
0020022130	Cable Rack, Bar Type, 12", 2" side bard	6	
0021170100	Cable Rack End Cap, 2" N-2117-C	12	
0030300210	Cable Rack G-clip, 2" sidebar	24	
0020043400	Cable Rack Panning, 12" Gray	2	
0021050710	Cable Rack Retaining Post, 2", Sidebar, 6"	20	
0030140810	HexNut, 5/8"	80	
0020530010	J-Bolt, 2" Sidebar	8	
0020640110	J-Bolt, 2" Sidebar, Spinner	4	
0010420230	Pipe Stand, Aux Framing Support 7"	2	
0020520130	Power Bracket, 1 level, 2" sidebar	12	
0030221110	Threaded Rod, 5/8", 72" long	6	
0020170110	90 degree Corner Clamp	8	
N-3016-8	Washer, Flat, 5/8"	16	
Wire			
	Cable, 4/0, CK spec, Green	25 ft	
	Cable, 1/0, CK spec, Green		
	Cable, 6 AWG, CK Spec, Green	12 ft	
	Cable, 8 AWG Green	3 ft	
	Cable, 14 AWG Green	51 ft	
	Cable, 6 AWG, CK Spec, Gray	400 ft	
	Cable, 6 AWG Red	14 ft	
	Cable, 6 AWG Black	14 ft	
	Cable, 8 AWG Red	14 ft	
	Cable, 8 AWG Black	14 ft	
	Cable, 10 AWG Red	14 ft	
	Cable, 10 AWG Black	14 ft	
	Cable, 12 AWG Red	28 ft	
	Cable, 12 AWG Black	28 ft	
	Cable, 14 AWG Red	91 ft	
	Cable, 14 AWG Black	91 ft	
CMS-73501	Cable, Coaxial, 735A	6486 ft	
	Cable, ABAM, 25 pair, 24 AWG, AMP	2794 ft	
	Cable, ABAM, 30 pair, 24 AWG	1000 ft	
	Wire, 24 AWG, 1 pair	5 ft	
	Wire, CAT5, UTP, PVC	323 ft	
	Wire, 4 conductor telephone wire, silver	40 ft	
Fuses			
	Fuse, GMT, 1/4 Amp	1	
	Fuse, GMT, 1 1/4 Amp	7	

APPENDIX B: Supplemental Materials List

4 Bay Physical Hub Supporting Materials List

Part #	Description	Quantity	Comments
	Fuse, GMT, 2 Amp	2	
	Fuse, GMT, 15 Amp	6	
	Fuse, GMT, 10 Amp	2	
090-0052-0040	Circuit Breaker, 40 Amp	2	
090-0052-0030	Circuit Breaker, 30 Amp	4	
090-0052-0030	Circuit Breaker, 30 Amp (Temporary)	2	
Lugs/Connectors			
YH292C-WC	H-Tap, Burndy, 250-2main w/cover	21	
YA6CL-2TC38	Lug, #6, 2H, 3/8" bolt, 1" ctr	8	
YA8CL-2TC14E1	Lug, #8, 2H, 1/4" bolt, 1"ctr	1	
TP14-10	Lug, Ring Type, #16-14, #10 Bolt	16	
YA6C-L1	Lug, Terminal Type, #6, #10 Bolt	12	
YA8C-L1	Lug, Terminal Type, #8, #10 Bolt	9	
TP14-6Z	Lug, Flanged Fork, #14, #6 Bolt	63	
TP10-6Z	Lug, Flanged Fork, #10-12, #6 Bolt	12	
TP10-10Z	Lug, Flanged Fork, #10-12, #10 Bolt	8	
TP14-10Z	Lug, Flanged Fork, #14, #10 Bolt	24	
2-229912-1	Connector, ABAM, 25 pair, 24AWG	44	
ATT 105-744-585	Connector, Coaxial, BNC, 735A	200	
	Connector, RJ45, Stranded	52	
	Connector, RJ11, Stranded	4	
	Connector, RJ45, F-F, Coupler	13	
	Connector, 25 pair, AMP, M-M, Gender Changer	6	

APPENDIX B: Supplemental Materials List

4 Bay Physical Hub Supporting Materials List

Part #	Description	Quantity	Comments
Heat Shrink			
075592	Fiber Insulating,Cable Rack	8	
	Fiber Tubing,6'	1	
HS1C4-40FR	Heat Shrink End Cap, Burndy, #4-4/0	4	
HSB12FR	Heat Shrink, 25/24 ABAM Cable	11 ft	
	Heat Shrink, 25/22 ABAM Cable,3/4" I.D.	6	
HSC38FR	Heat Shrink, Burndy, #4-#6	4	
	Heat Shrink Tubing, 1/16"	1	
R0113635	Fiber Paper, NOMAX Insulator	1	
Hardware			
PO99L952	Hex Nut, Copper, 3/8"	4	
	Bolt,copper, 3/8" x 1	4	
0040400312	Mounting Screw, #12-24, 1/2"	118	
	Washer, Copper, Flat, 3/8"	12	
	Washer, Copper, Lock, 3/8"	10	
	Washer, Star, 12/24	84	
Misc.			
10544-001	Do Not Disconnect Tag, non-metallic	2	
100-393-156	Power Designation Cable??	30	
D1006#9	Lacing Cord, 9Ply	2	
1700C-3/4"x66',Blk	Tape,Electrical,Black	2	
1700C-3/4"x66',Gr	Tape,Electrical,Gray	2	
145C	Power Cable Designation Tag	30	
30-030	NO OX	1	
PLL-12-Y3-2.5	Panduit, Communication Labels	?	
	Sign, DBC Cage Door	1	
Data/Adapters			
	SC-SC,SMF, Duplex 3'	1	
	SC-SC,SMF, Duplex 10'	1	
504649-4	Fiber cable termination, FC-PC connector,???	4	
	AUI Ethernet Transceiver, RJ45	3	
210-BK	AT&T Trimline Phone, Black	1	
	Cisco RJ45-DB9	1	
	Cisco RJ45-DB25 DTE	3	
	Cisco RJ45-DB25 Modem	1	

APPENDIX B: Supplemental Materials List

3 Bay Physical Hub Supporting Materials List

Part #	Description	Quantity	Comments
Rack			
0041100010	Anchor Kit, Concrete, 4 Anchors for PR 4098W	3	
0041190110	Cable tie bar for unequal flange- 70" equip.	8	
0041030010	Relay Rack Junction Kit for PR 4098	2	
0040110130	Newton equipment rack- welded stell-7'	3	
0010220530	Aux Framing-10ft N-1022-5	8	
0030310610	Aux Framing Clip- 5/8"	20	
0010580100	Aux Framing End Cap N-1058-C	12	
0020022130	Cable Rack, Bar Type, 12", 2" side bard	6	
0021170100	Cable Rack End Cap, 2" N-2117-C	12	
0030300210	Cable Rack G-clip, 2" sidebar	24	
0020043400	Cable Rack Panning, 12" Gray	2	
0021050710	Cable Rack Retaining Post, 2", Sidebar, 6"	20	
0030140810	HexNut, 5/8"	80	
0020530010	J-Bolt, 2" Sidebar	8	
0020640110	J-Bolt, 2" Sidebar, Spinner	4	
0010420230	Pipe Stand, Aux Framing Support 7"	2	
0020520130	Power Bracket, 1 level, 2" sidebar	12	
0030221110	Threaded Rod, 5/8", 72" long	6	
0020170110	90 degree Corner Clamp	8	
N-3016-8	Washer, Flat, 5/8"	16	
Wire			
	Cable, 4/0, CK spec, Green	20 ft	
	Cable, 1/0, CK spec, Green		
	Cable, 6 AWG, CK Spec, Green	9 ft	
	Cable, 8 AWG Green	3 ft	
	Cable, 14 AWG Green	27 ft	
	Cable, 6 AWG, CK Spec, Gray	200 ft	
	Cable, 12 AWG Red	14 ft	
	Cable, 12 AWG Black	14 ft	
	Cable, 14 AWG Red	70 ft	
	Cable, 14 AWG Black	70 ft	
CMS-73501	Cable, Coaxial, 735A	522 ft	
	Cable, ABAM, 25 pair, 24 AWG	2794 ft	
	Cable, ABAM, 30 pair, 24 AWG	508 ft	
	Wire, 24 AWG, 1 pair	5 ft	
	Wire, CAT5, UTP, PVC	14 ft	
	Wire, 4 conductor telephone wire, silver	30 ft	
Lugs/Connectors			
YH292C-WC	H-Tap, Burndy, 250-2main w/cover	12	
	H-Tap, Burndy, 350-?? W/cover		
YA8CL-2TC14E1	Lug, #8, 2H, 1/4" bolt, 1"ctr	1	
TP14-10	Lug, Ring Type, #16-14, #10 Bolt	9	
YA6C-L1	Lug, Terminal Type, #6, #10 Bolt	3	
YA8C-L1	Lug, Terminal Type, #8, #10 Bolt	1	
TP14-6Z	Lug, Flanged Fork, #16-14, #6 Bolt	44	
TP10-6Z	Lug, Flanged Fork, #10-12, #6 Bolt	4	

APPENDIX B: Supplemental Materials List

3 Bay Physical Hub Supporting Materials List

Part #	Description	Quantity	Comments
TP10-10Z	Lug, Flanged Fork,#10-12, #10 Bolt	4	
2-229912-1	Connector, ABAM, 25 pair, 24AWG	44	
ATT 105-744-585	Connector,Coaxial, BNC,735A	12	
	Connector, 25Pair, AMP, M-M Gender Changer	6	
	Connector, RJ45, Stranded	4	
	Connector, RJ11, Stranded	4	
	Connector, RJ45, F-F, Coupler	2	
Fuses			
	Fuse, GMT, 1/4 Amp	1	
	Fuse, GMT, 1 1/4 Amp	4	
	Fuse, GMT, 2 Amp	2	
	Fuse, GMT, 15 Amp	4	
Heat Shrink			
075592	Fiber Insulating,Cable Rack	6	
	Fiber Tubing,6'	1	
HS1C4-40FR	Heat Shrink End Cap, Burndy, #4-4/0	4	
HSB12FR	Heat Shrink, 25/24 ABAM Cable	11 ft	
HSC38FR	Heat Shrink, Burndy, #4-#6	4	
	Heat Shrink Tubing, 1/16"	1	
R0113635	Fiber Paper, NOMAX Insulator	1	

APPENDIX B: Supplemental Materials List

3 Bay Physical Hub Supporting Materials List

Part #	Description	Quantity	Comments
Hardware			
PO99L952	Hex Nut, Copper, 3/8"	4	
	Bolt,copper, 3/8" x 1	4	
0040400312	Mounting Screw, #12-24, 1/2"	50	
	Washer, Copper, Flat, 3/8"	12	
	Washer, Copper, Lock, 3/8"	10	
	Washer, Star, 12/24	84	
Misc.			
10544-001	Do Not Disconnect Tag, non-metallic	2	
100-393-156	Power Designation Cable??	30	
D1006#9	Lacing Cord, 9Ply	2	
1700C-3/4"x66',Bla	Tape,Electrical,Black	2	
1700C-3/4"x66',Gra	Tape,Electrical,Gray	2	
145C	Power Cable Designation Tag	30	
30-030	NO OX	1	
PLL-12-Y3-2.5	Panduit, Communication Labels	?	
	Sign, DBC Cage Door	1	
Data/Adapters			
504649-4	Fiber cable termination, FC-PC connector,???	4	
210-BK	AT&T Trimline Phone, Black	1	
	Cisco RJ45-DB9	1	
	Cisco RJ45-DB25 Modem	1	

APPENDIX B: Supplemental Materials List

3 Bay Scope Supporting Materials List

Part #	Description	Quantity	Comments
Wire			
	Cable, 6 AWG, CK Spec, Green	21 ft	
	Cable, 8 AWG Green	3 ft	
	Cable, 14 AWG Green	30 ft	
	Cable, 6 AWG, CK Spec, Gray	84 ft	
	Cable, 12 AWG Red	14 ft	
	Cable, 12 AWG Black	14 ft	
	Cable, 14 AWG Red	70 ft	
	Cable, 14 AWG Black	70 ft	
CMS-73501	Cable, Coaxial, 735A	468 ft	
	Cable, ABAM, 25 pair, 24 AWG	2354 ft	
	Cable, ABAM, 30 pair, 24 AWG	428 ft	
	Wire, 24 AWG, 1 pair	5 ft	
	Wire, CAT5, UTP, PVC	40 ft	
	Wire, 4 conductor telephone wire, silver	10 ft	
Lugs/Connectors			
YH292C-WC	H-Tap, Burndy, 250-2main w/cover	15	
	H-Tap, Burndy, 350-?? W/cover		
YA8CL-2TC14E1	Lug, #8, 2H, 1/4" bolt, 1"ctr	1	
TP14-10	Lug, Ring Type, #16-14, #10 Bolt	10	
YA6C-L1	Lug, Terminal Type, #6, #10 Bolt	3	
YA8C-L1	Lug, Terminal Type, #8, #10 Bolt	1	
TP14-6Z	Lug, Flanged Fork,#16-14, #6 Bolt	56	
TP10-6Z	Lug, Flanged Fork,#10-12, #6 Bolt	4	
TP10-10Z	Lug, Flanged Fork,#10-12, #10 Bolt	4	
2-229912-1	Connector, ABAM, 25 pair, 24AWG	44	
ATT 105-744-585	Connector,Coaxial, BNC,735A	12	
	Connector, 25Pair, AMP, M-M Gender Changer	6	
	Connector, RJ45, Stranded	4	
	Connector, RJ11, Stranded	4	
	Connector, RJ45, F-F, Coupler	2	
Fuses			
	Fuse, GMT, 1/4 Amp	1	
	Fuse, GMT, 1 1/4 Amp	4	
	Fuse, GMT, 2 Amp	2	
	Fuse, GMT, 15 Amp	4	
	Fuse, GMT, 3/4 Amp	6	
Heat Shrink			
075592	Fiber Insulating,Cable Rack	4	
	Fiber Tubing,6'	1	
HS1C4-40FR	Heat Shrink End Cap, Burndy, #4-4/0	4	
HSB12FR	Heat Shrink, 25/24 ABAM Cable	11 ft	
HSC38FR	Heat Shrink, Burndy, #4-#6	4	
	Heat Shrink Tubing, 1/16"	1	
R0113635	Fiber Paper, NOMAX Insulator	1	

APPENDIX B: Supplemental Materials List

3 Bay Scope Supporting Materials List

Part #	Description	Quantity	Comments
Hardware			
PO99L952	Hex Nut, Copper, 3/8"	4	
	Bolt,copper, 3/8" x 1	4	
0040400312	Mounting Screw, #12-24, 1/2"	54	
	Washer, Copper, Flat, 3/8"	12	
	Washer, Copper, Lock, 3/8"	10	
	Washer, Star, 12/24	84	
Misc.			
10544-001	Do Not Disconnect Tag, non-metallic	2	
100-393-156	Power Designation Cable??	30	
D1006#9	Lacing Cord, 9Ply	2	
1700C-3/4"x66',Bla	Tape,Electrical,Black	2	
1700C-3/4"x66',Gra	Tape,Electrical,Gray	2	
145C	Power Cable Designation Tag	30	
30-030	NO OX	1	
PLL-12-Y3-2.5	Panduit, Communication Labels	?	
Data/Adapters			
504649-4	Fiber cable termination, FC-PC connector,???	4	
210-BK	AT&T Trimline Phone, Black	1	
	Cisco RJ45-DB9	1	
	Cisco RJ45-DB25 Modem	1	

APPENDIX B: Supplemental Materials List

2 Bay Scope Supporting Materials List

Part #	Description	Quantity	Comments
Wire			
	Cable, 6 AWG, CK Spec, Green	14 ft	
	Cable, 8 AWG Green	3 ft	
	Cable, 14 AWG Green	27 ft	
	Cable, 6 AWG, CK Spec, Gray	56 ft	
	Cable, 12 AWG Red	14 ft	
	Cable, 12 AWG Black	14 ft	
	Cable, 14 AWG Red	70 ft	
	Cable, 14 AWG Black	70 ft	
CMS-73501	Cable, Coaxial, 735A	468 ft	
	Cable, ABAM, 25 pair, 24 AWG	2354 ft	
	Cable, ABAM, 30 pair, 24 AWG	428 ft	
	Wire, 24 AWG, 1 pair	5 ft	
	Wire, CAT5, UTP, PVC	40 ft	
	Wire, 4 conductor telephone wire, silver	10 ft	
Lugs/Connectors			
YH292C-WC	H-Tap, Burndy, 250-2main w/cover	10	
	H-Tap, Burndy, 350-?? W/cover		
YA8CL-2TC14E1	Lug, #8, 2H, 1/4" bolt, 1"ctr	1	
TP14-10	Lug, Ring Type, #16-14, #10 Bolt	9	
YA6C-L1	Lug, Terminal Type, #6, #10 Bolt	2	
YA8C-L1	Lug, Terminal Type, #8, #10 Bolt	1	
TP14-6Z	Lug, Flanged Fork,#16-14, #6 Bolt	52	
TP10-6Z	Lug, Flanged Fork,#10-12, #6 Bolt	4	
TP10-10Z	Lug, Flanged Fork,#10-12, #10 Bolt	4	
2-229912-1	Connector, ABAM, 25 pair, 24AWG	44	
ATT 105-744-585	Connector,Coaxial, BNC,735A	12	
	Connector, 25Pair, AMP, M-M Gender Changer	6	
	Connector, RJ45, Stranded	4	
	Connector, RJ11, Stranded	4	
	Connector, RJ45, F-F, Coupler	2	
Fuses			
	Fuse, GMT, 1/4 Amp	1	
	Fuse, GMT, 1 1/4 Amp	4	
	Fuse, GMT, 2 Amp	2	
	Fuse, GMT, 15 Amp	4	
	Fuse, GMT, 3/4 Amp	4	
Heat Shrink			
075592	Fiber Insulating,Cable Rack	4	
	Fiber Tubing,6'	1	
HS1C4-40FR	Heat Shrink End Cap, Burndy, #4-4/0	4	
HSB12FR	Heat Shrink, 25/24 ABAM Cable	11 ft	
HSC38FR	Heat Shrink, Burndy, #4-#6	4	
	Heat Shrink Tubing, 1/16"	1	
R0113635	Fiber Paper, NOMAX Insulator	1	

APPENDIX B: Supplemental Materials List

2 Bay Scope Supporting Materials List

Part #	Description	Quantity	Comments
Hardware			
PO99L952	Hex Nut, Copper, 3/8"	4	
	Bolt, copper, 3/8" x 1	4	
0040400312	Mounting Screw, #12-24, 1/2"	50	
	Washer, Copper, Flat, 3/8"	12	
	Washer, Copper, Lock, 3/8"	10	
	Washer, Star, 12/24	84	
Misc.			
10544-001	Do Not Disconnect Tag, non-metallic	2	
100-393-156	Power Designation Cable??	30	
D1006#9	Lacing Cord, 9Ply	2	
1700C-3/4"x66', Bla	Tape, Electrical, Black	2	
1700C-3/4"x66', Gr	Tape, Electrical, Gray	2	
145C	Power Cable Designation Tag	30	
30-030	NO OX	1	
PLL-12-Y3-2.5	Panduit, Communication Labels	?	
Data/Adapters			
504649-4	Fiber cable termination, FC-PC connector, ???	4	
210-BK	AT&T Trimline Phone, Black	1	
	Cisco RJ45-DB9	1	
	Cisco RJ45-DB25 Modem	1	

APPENDIX B: Supplemental Materials List

1 Bay Scope Supporting Materials List		
Part #	Description	Quantity
Wire		
	Cable, 6 AWG, CK Spec, Green	7 ft
	Cable, 8 AWG Green	3 ft
	Cable, 14 AWG Green	21 ft
	Cable, 6 AWG, CK Spec, Gray	28 ft
	Cable, 12 AWG Red	14 ft
	Cable, 12 AWG Black	14 ft
	Cable, 14 AWG Red	63 ft
	Cable, 14 AWG Black	63 ft
CMS-73501	Cable, Coaxial, 735A	442 ft
	Cable, ABAM, 25 pair, 24 AWG	1284 ft
	Cable, ABAM, 30 pair, 24 AWG	428 ft
	Wire, 24 AWG, 1 pair	5 ft
	Wire, CAT5, UTP, PVC	14 ft
	Wire, 4 conductor telephone wire, silver	10 ft
Lugs/Connectors		
YH292C-WC	H-Tap, Burndy, 250-2main w/cover	5
	H-Tap, Burndy, 350-?? W/cover	
YA8CL-2TC14E1	Lug, #8, 2H, 1/4" bolt, 1"ctr	1
TP14-10	Lug, Ring Type, #16-14, #10 Bolt	7
YA6C-L1	Lug, Terminal Type, #6, #10 Bolt	1
YA8C-L1	Lug, Terminal Type, #8, #10 Bolt	1
TP14-6Z	Lug, Flanged Fork,#16-14, #6 Bolt	43
TP10-6Z	Lug, Flanged Fork,#10-12, #6 Bolt	4
TP10-10Z	Lug, Flanged Fork,#10-12, #10 Bolt	4
2-229912-1	Connector, ABAM, 25 pair, 24AWG	24
ATT 105-744-585	Connector,Coaxial, BNC,735A	12
	Connector, 25Pair, AMP, M-M Gender Changer	6
	Connector, RJ45, Stranded	4
	Connector, RJ11, Stranded	4
	Connector, RJ45, F-F, Coupler	2
Fuses		
	Fuse, GMT, 1/4 Amp	1
	Fuse, GMT, 1 1/4 Amp	4
	Fuse, GMT, 2 Amp	2
	Fuse, GMT, 15 Amp	4
	Fuse, GMT, 3/4 Amp	2
Heat Shrink		
075592	Fiber Insulating,Cable Rack	4
	Fiber Tubing,6'	1
HS1C4-40FR	Heat Shrink End Cap, Burndy, #4-4/0	4
HSB12FR	Heat Shrink, 25/24 ABAM Cable	6 ft
HSC38FR	Heat Shrink, Burndy, #4-#6	4
	Heat Shrink Tubing, 1/16"	1
R0113635	Fiber Paper, NOMAX Insulator	1

APPENDIX B: Supplemental Materials List

1 Bay Scope Supporting Materials List		
Part #	Description	Quantity
Hardware		
PO99L952	Hex Nut, Copper, 3/8"	4
	Bolt, copper, 3/8" x 1	4
0040400312	Mounting Screw, #12-24, 1/2"	46
	Washer, Copper, Flat, 3/8"	12
	Washer, Copper, Lock, 3/8"	10
	Washer, Star, 12/24	84
Misc.		
10544-001	Do Not Disconnect Tag, non-metallic	2
100-393-156	Power Designation Cable??	30
D1006#9	Lacing Cord, 9Ply	2
1700C-3/4"x66',Black	Tape,Electrical,Black	2
1700C-3/4"x66',Gray	Tape,Electrical,Gray	2
145C	Power Cable Designation Tag	30
30-030	NO OX	1
PLL-12-Y3-2.5	Panduit, Communication Labels	?
Data/Adapters		
504649-4	Fiber cable termination, FC-PC connector,???	4
210-BK	AT&T Trimline Phone, Black	1
	Cisco RJ45-DB9	1
	Cisco RJ45-DB25 Modem	1

12.0 Appendix C: Change Control Request Form

REALTECH Change Control Request Form

Project Name: _____ Project Manager: _____
Change Control No. _____ Phone Number: _____
Change Submitted by: _____ Date: _____

1. Present Project Scope: (Provide written summary of current implementation plan)

2. Proposed Project Scope Change: (Provide written summary of desired changes)

3. Define impact to project: (Critical areas i.e.: Financial, Resource, Engineering, Vendor, or Schedule)

4. Approval Section: _____ Project Manager (date) _____
_____ Team Leader (date) _____
_____ Regional Sales Manager (date) _____

Approved: _____ (date) Conditional Approval: _____ (date) Rejected _____ (date)*

*Detailed status on all rejected request for modification must be summarized.

13.0 Appendix D: Project Caution Report

REALTECH Project Caution Report

Project Name: _____ Project Manager _____

Date: _____ Next Update: _____

Project Caution Description:

Project Impact: (Resources, Customer Commitment Date, Funding, Vendor, etc.)

Executive Intervention Requested: (What is required by when)

Target Date for Resolution:

14.0 Appendix E: Project Jeopardy Report

REALTECH Project Jeopardy Report

Project Name: _____ Project Manager _____

Date: _____ Next Update: _____

Project Jeopardy Description:

Project Impact: (Resources, Customer Commitment Date, Funding, Vendor, etc.)

Executive Intervention Requested: (What is required by when)

Target Date for Resolution:

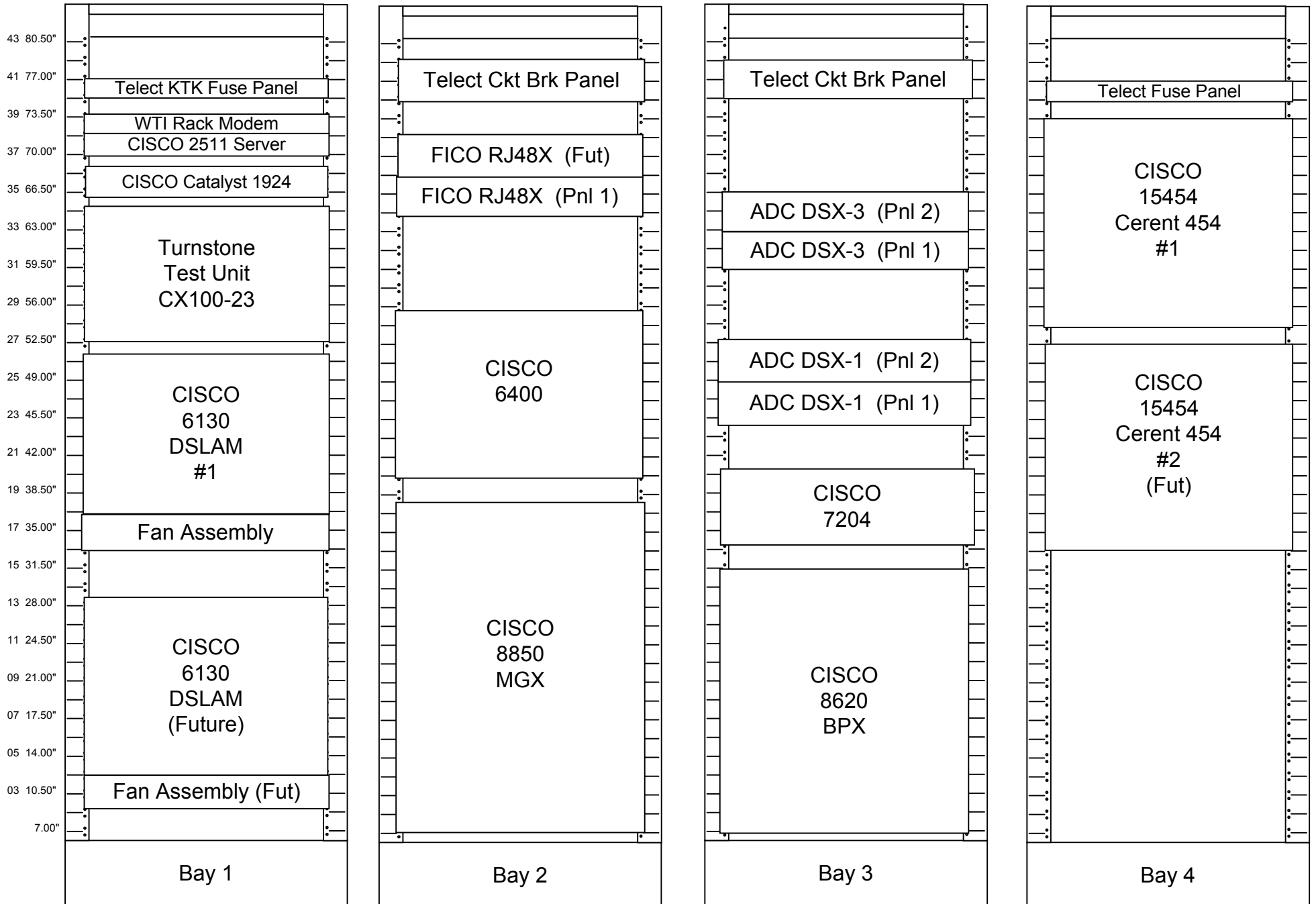
Appendix G: Weekly Status Report

State :		Area :			Lata :		ILEC :			Report Date :		
RTS Project Mgr							Mobile Tel#			Beeper #		
	City / Town	Street	Type S or P	Actual ILEC Space acceptance date	ILEC Punch list Y/N	RTS Installation Start (sch) or (act)	Sceduled RTS complete Date	Percent Complete %	Actual RTS Complete Date	ILEC Pwr-Up Mtg Scheduled	DBC Turnover Mtg Scheduled	POTS Line Installed Y/N
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												
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Appendix H: Physical Cage Layout - 4 Bay Configuration

Digital Broadband Communications: Physical Cage Layout - 4 Bay Configuration

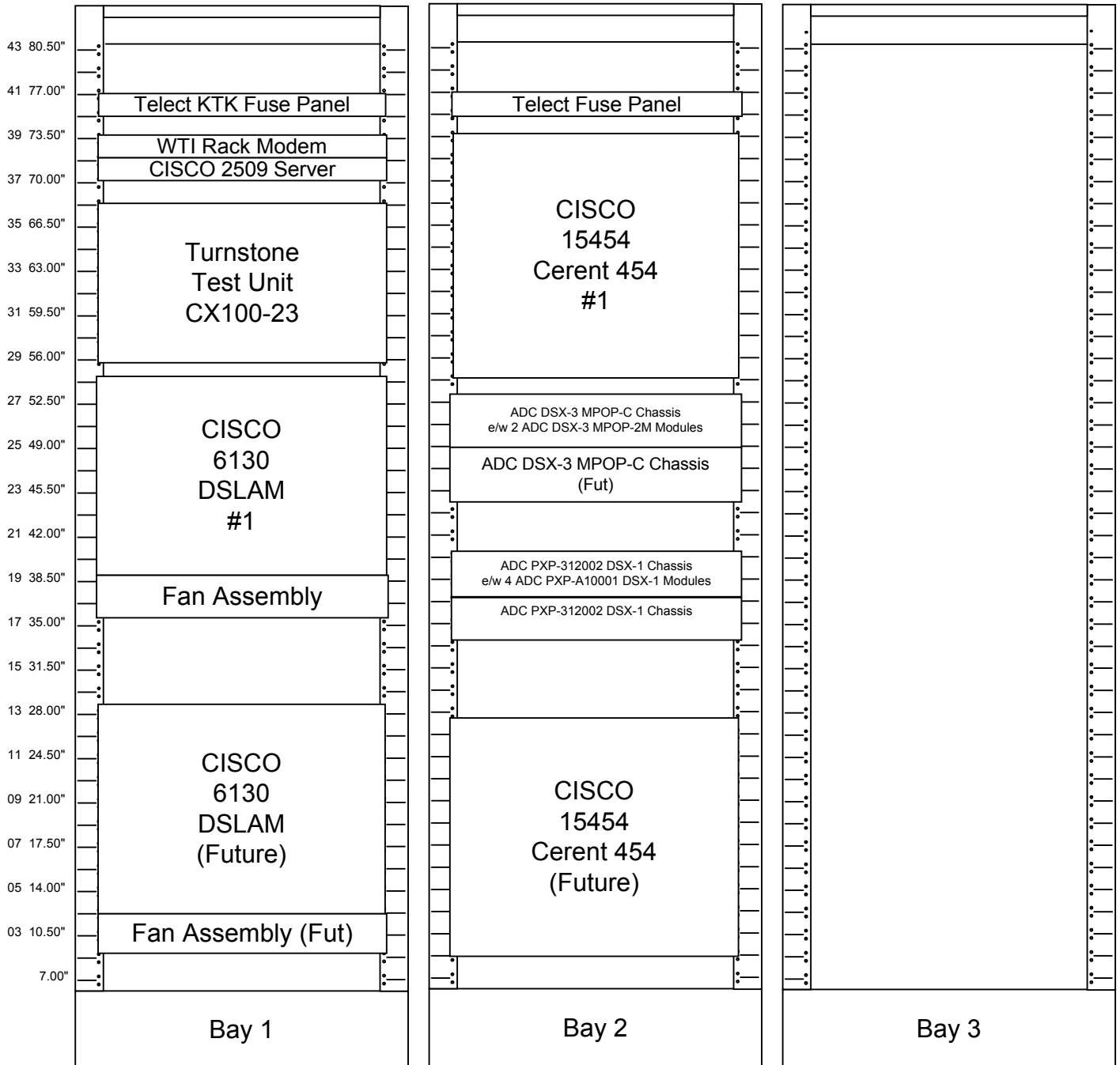
3-30-00



Appendix H: Physical Cage - 3 Bay Configuration

Digital Broadband Communications: 3 Bay Layout - Physical Cage

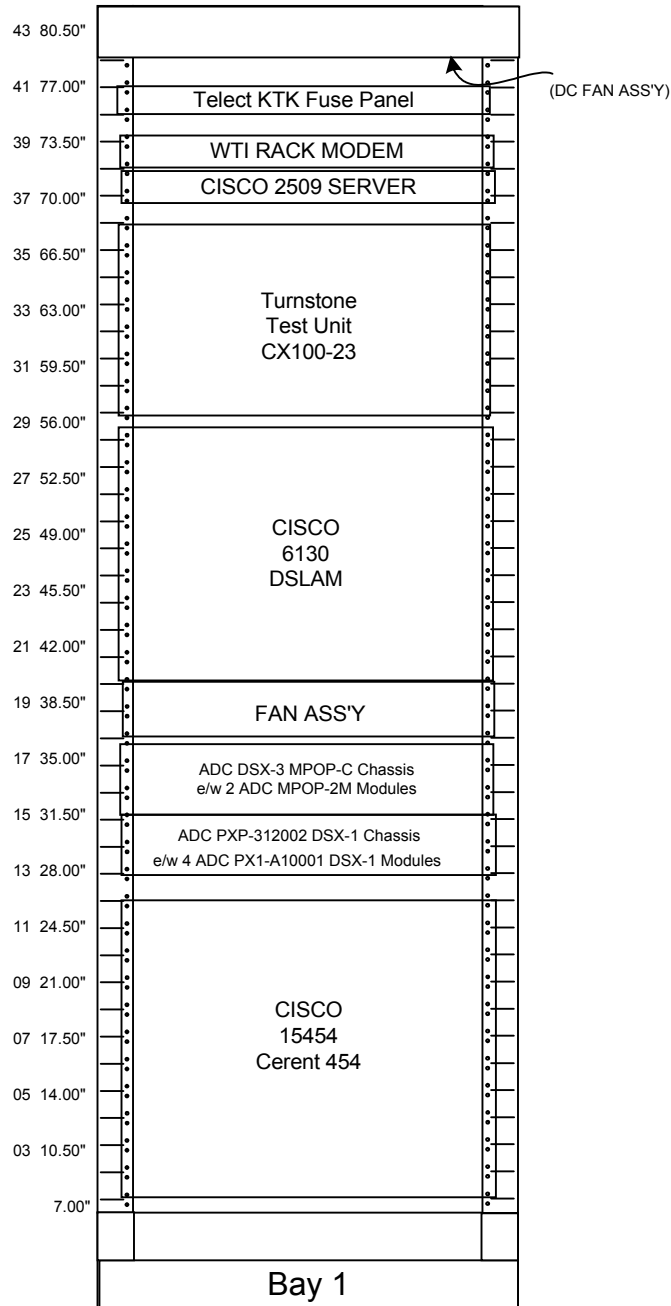
3-30-00



Appendix H: Scope Layout - 1 Bay Configuration

Digital Broadband Communications: Scope Layout - 1 Bay Configuration

3-30-00

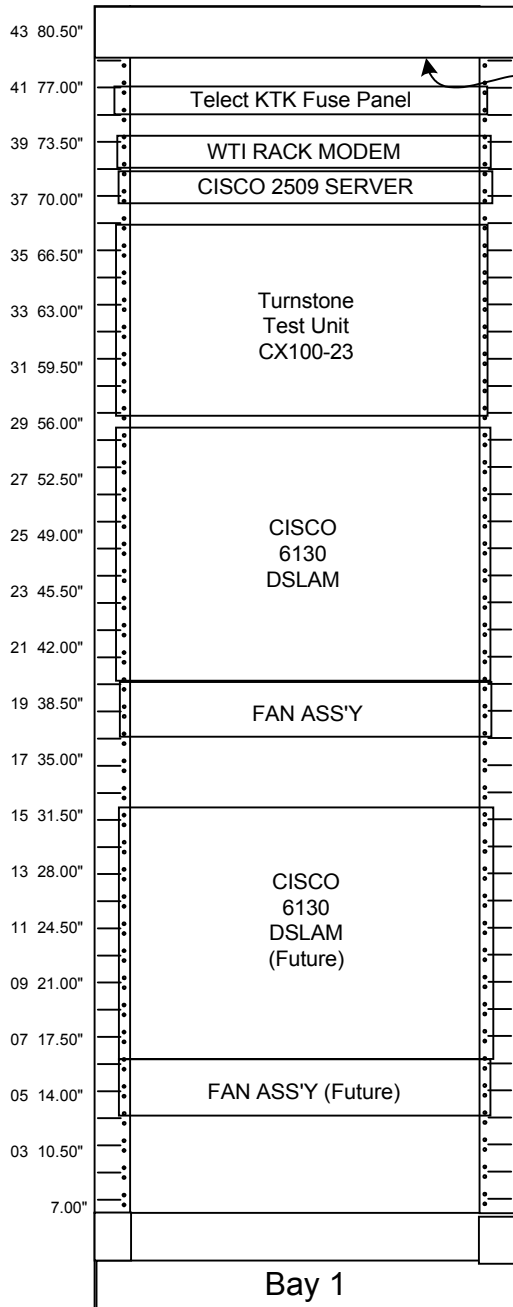


Cabinet is 26" x 22"

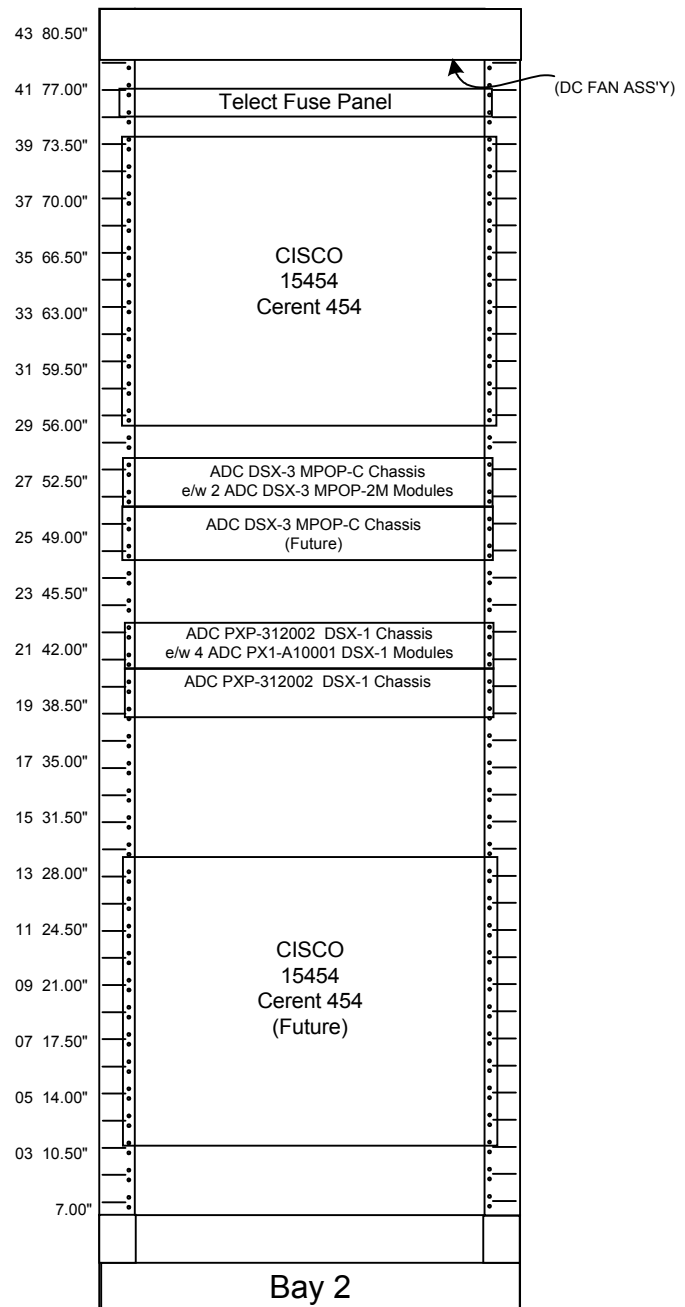
Appendix H: Scope Layout - 2 Bay Configuration

Digital Broadband Communications: Scope Layout - 2 Bay Configuration

3-30-00



Cabinet is 26" x 22"

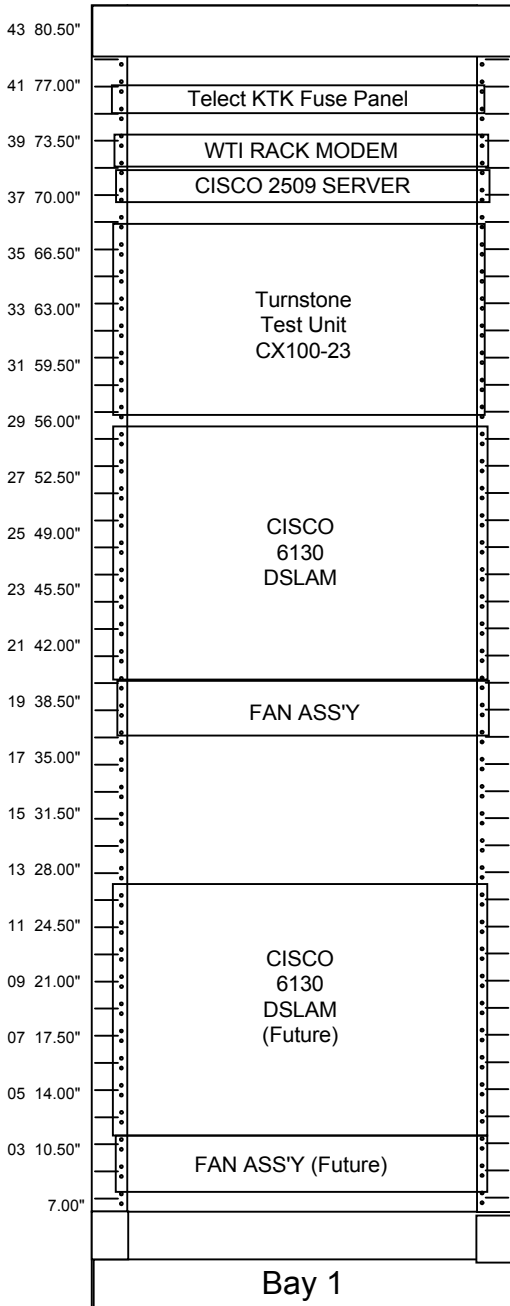


Cabinet is 26" x 22"

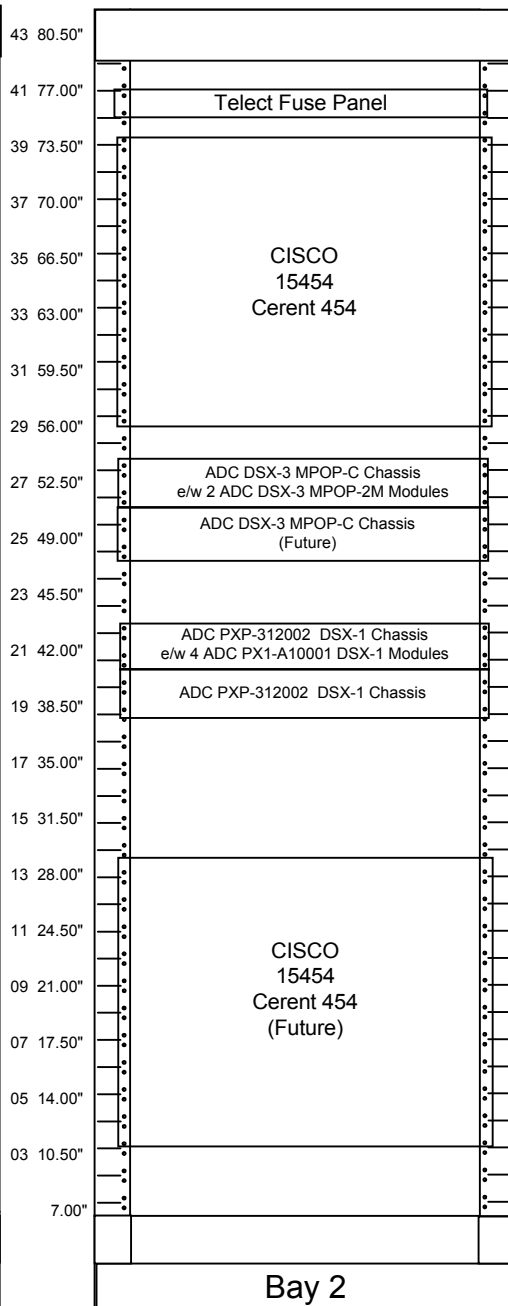
Appendix H: Scope Layout - 3 Bay Configuration

Digital Broadband Communications: Scope Layout - 3 Bay Configuration

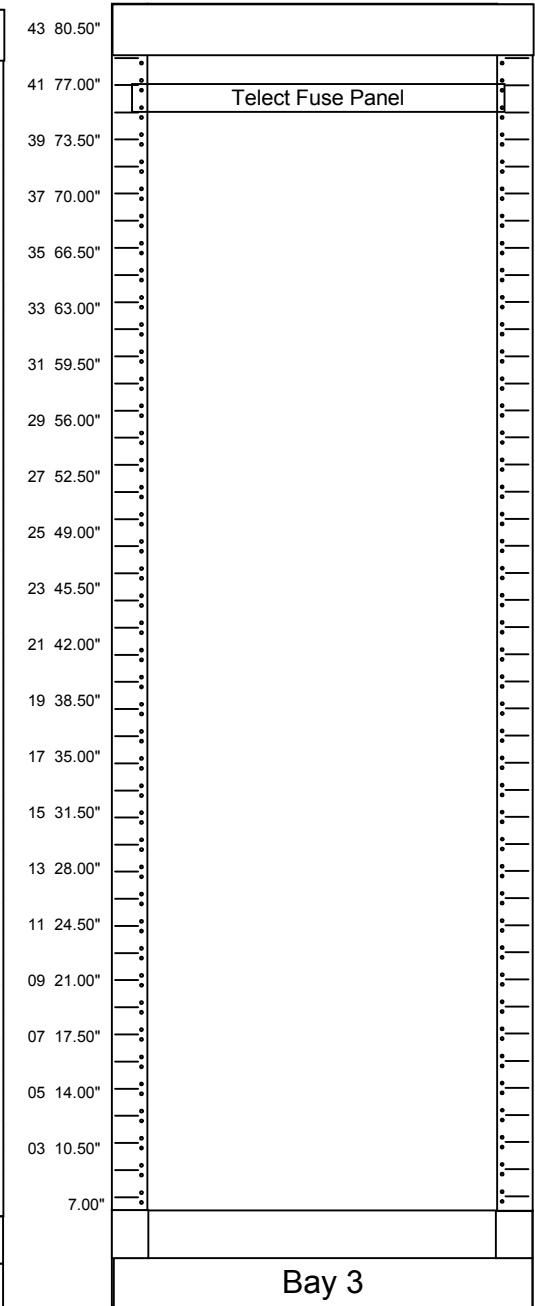
3/20/00



Cabinet is 26" x 22"



Cabinet is 26" x 22"



Cabinet is 26" x 22"

Appendix I: Scope Installation Checklist

Site _____

Start Date _____

1. Cabinet

- Inventory equipment
- Inventory material supplies
- Install and level cabinet
- Check cabinet rails for proper spacing starting from front door panel
- 5%

2. Equipment Installation

- Install Fuse Panel
- Install WTI Modem
- Install Cisco 2509
- Install Turnstone
- Install Cisco 6130
- Install Cisco fan assembly
- Install DSX3 Panel
- Install DSX1 Panel
- 10%

3. Data Cabling

- Check DS0 POTs assignments against site survey
- Check DS1 POTs assignments against site survey
- Check DS3 POTs assignments against site survey

- Measure DS0 Cables lengths
- Measure DS1 Cables lengths
- Measure DS3 Cables lengths
- 20%

- Cut DS0 Cables to proper lengths
- Cut DS1 Cables to proper lengths
- Cut DS3 Cables to proper lengths
- 25%

- Terminate DS0 Cables on cabinet side
- Terminate DS1 Cables on cabinet side
- Terminate DS3 Cables on cabinet side

- Terminate DS0 Cables on POTS side
- Terminate DS1 Cables on POTS side
- Terminate DS3 Cables on POTS side
- 45%

- Test DS0 Cables
- Test DS1 Cables
- Test DS3 Cables
- 50%

Appendix I: Scope Installation Checklist

- Install, dress and label DS0 Cables to appropriate designation
- Install dress and label DS1 Cables to DSX chassis
- Install dress and label DS3 Cables to DSX modules
- Dress BA POTs line (if installed)
65%

- Install dress and label DS0 Cables to BA krone block
- Install dress and label DS1 Cables to BA DSX-1 panel
- Install dress and label DS3 Cables to BA DSX-3 panel
80%

4. DC Power and Grounding Cabling

- Run and dress main DC power cables from H tap to fuse panel
- Label power cables with BA BDF destination
- Run main Ground from H tap to cabinet top
85%

- Run and terminate ground to rack and DC Fan power cabling to FP 1A &1B
- Run and terminate ground to rack and WTI Modem power cabling to FP 2A
- Run and terminate ground to rack and Cisco 2509 power cabling to FP 3A
- Run and terminate ground to rack and Turnstone power cabling to FP 4A &4B
- Run and terminate ground to rack and Cisco 6130 power cabling to FP 5A & 5B
- Run and terminate ground to rack and Cisco fan assembly power cabling to FP 6A & 6B
- Run and terminate ground to rack and DSX1 power cabling to FP 7A
- Run and terminate ground to rack and Cisco 6130 power cabling to FP 8A & 8B
- Run and terminate ground to rack and Cisco fan assembly power cabling to FP 9A & 9B
- Apply fuse panel equipment designation label with appropriate information
95%

- Install Cisco 2509 transceiver and associated cross connect cabling to WTI modem
100%

Appendix J: Site Acceptance Checklist



Site Address: _____
City: _____
CLLI: _____
Date: _____

REALTECH Project Manager *(please print)* :

DBC Representative: *(please print)* :

DBC Representative Site Acceptance:

(signature of official turnover) *(date)*

REALTECH Project Manager Site Turnover:

(signature of official turnover) *(date)*

Appendix J: Site Acceptance Checklist

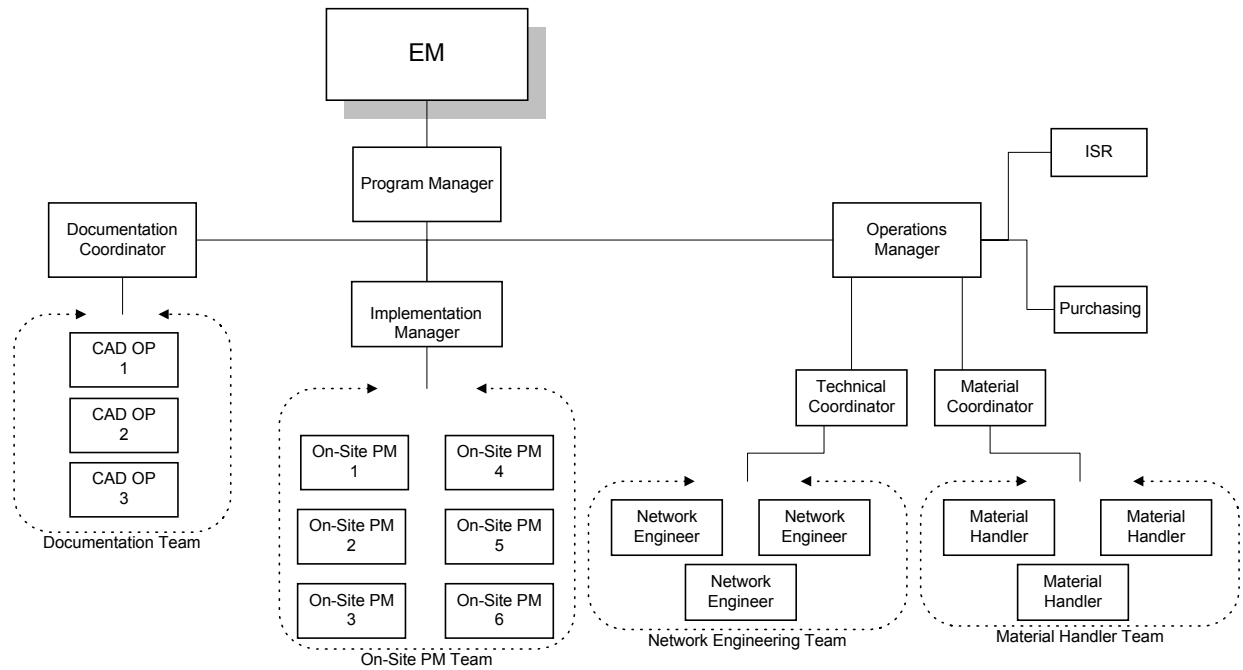
		ACCEPT	DECLINE	COMMENTS
1.	CAGE			
	a. Door works properly			
	b. AC outlets installed			
	c. Mesh cage grounded			
	d. DBC signage in place			
	e. Keys turned over equipped with DBC core			
2.	LADDER RACKING			
	a. Installed securely and properly			
3.	EQUIPMENT RACKS			
	a. Four (4) equipment racks installed			
	b. Equipment racks installed securely and properly			
4.	EQUIPMENT INSTALLATION			
	RR 00.001.01			
	a. Telect fuse panel			
	b. Cisco 1924			
	c. WTI Modem			
	d. Cisco 2511			
	e. Turnstone			
	f. Cisco 6130			
	g. Cisco fan assembly			
	h. Cisco 6130			
	i. Cisco fan assembly			
	RR 00.001.02			
	a. Telect C/B fuse panel			
	b. FICO RJ48X			
	c. FICO RJ48X			
	c. Cisco 6400			
	d. Cisco 8850 MGX			
	RR 00.001.03			
	a. Telect C/B fuse panel			
	b. ADC DS3 chassis, 2 modules installed, left hand side, front view			
	c. ADC DS3 chassis, 2 modules installed, left hand side, front view			
	d. ADC DS1 chassis, 4 modules installed, left hand side, front view			
	e. ADC DS1 chassis, 4 modules installed, left hand side, front view			
	f. Cisco 7204			
	g. Cisco 8620 BPX			
	RR 00.001.04			
	a. Telect fuse panel			
	b. Cisco 15454 Cerent 454			

Appendix J: Site Acceptance Checklist

		ACCEPT	DECLINE	COMMENTS
1.	CABINET			
	a. Proper cabinet placement as per BA floor plan or floor markings			
	b. Cabinet facing proper direction			
	c. Plastic flange in access holes in cabinet top for cable protection			
	d. Doors, proper fit and closure, front and rear			
	e. DC cabinet fans properly working			
2.	EQUIPMENT INSTALLATION			
	a. Telect fuse panel			
	b. WTI Modem			
	c. Cisco 2509			
	d. Turnstone			
	e. Cisco 6130			
	f. Cisco fan assembly			
	g. ADC DS3 chassis, 2 modules installed, left hand side, front view			
	h. ADC DS1 chassis, 4 modules installed, left hand side, front view			
3.	BELL ATLANTIC POTS			
	a. BA analogy line installation and correct number			
	b. Bell Atlantic POTS #			
4.	DC WIRING			
	a. H-Taps off BA power secure, properly laced and routed			
	b. All power cables neatly laced and secured in cabinet			
	c. BDFB designations tag A&B power cables on fuse panel			
5.	GROUNDING			
	a. Grounding off BA is routed and secured			
	b. All ground cables neatly laced and secured in cabinet			
6.	DS0			
	a. Connectors both cabinet and BA Pots side properly installed			
	b. Cables labeled both sides			
7.	DS1			
	a. Connections both cabinet and BA side properly installed			
	b. Cables labeled both sides			
8.	DS3			
	a. BNC connectors both cabinet and BA side properly installed			
	b. Cables labeled both sides			
	EQUIPMENT INTERCONNECTION			
9.	WTI Modem			
	a. Asyn Octel cable installed and secured properly			
	b. BA analogy jack installed in the line jack			
	c. Phone installed in the phone jack			
10.	Cisco 2509			
	a. Transceiver installed			
	b. CAT5 RJ45 cross connect cable installed			
	c. Asyn Octel cable installed, laced and secured properly			
	d. Asyn Octel cabling laced to the left side rail			
11.	Turnstone			
	a. MDF cable kit installed from Turnstone to Cisco 6130			
	b. CAT5 RJ45 cross connect cables installed			
12.	Cisco 6130			
	a. CAT5 RJ45 cross connect cables installed			
	b. BNC connectors installed			

Appendix K: Organizational Chart

Last Rev: Thursday, April 06, 2000



Job Name

Job Description

Network Engineer

- Power up and configure network elements
- Identify areas of improvement to the Tech Coordinator
- Initiate Return Materials process for DOA
- Adhere to configuration methods

Technical Coordinator

- Coordinate the network client configuration
- Ensure adherence to configuration methods
- Identify areas of improvement to the Program Manager
- Client focal point for exchange of configuration
- Work with DBC when changes are initiated to ensure material is identified and configuration changes are identified and any other engineering matters

Project Manager

- Ensure proper material is received, work with project leader to determine whether to source locally or through our stock
- Conduct Site Surveys

- Update engineering package with info from site survey
- Engineer cage build to include equipment rack placement and overhead cable rack placement
- Verify time sheets when appropriate
- Coordinate receipt of shipments from Albany
- Evaluate contractors
- Provide reports to DBC twice a week
- Complete MOP's
- Ensure completed "as built's" are sent to Documentation Coordinator

Implementation Manager

- Interface daily with PM's to provide direction on material sourcing
- Serve as consultant, technical advisor to the PM's
- Identify areas for improvement to the Program Manager
- Coordinate power ups
- Coordinate QA walk throughs
- Work with PM on decisions regarding OT, extra crews generally cost adds. Have solutions ready to discuss
- Request additional or replacement PM's through EM and Program Manager
- Coordinate cage builds

Operations Manager

- Coordinate configuration of equipment with Tech Coordinator
- Request engineers needed for configurations through EM/Program Manager
- Ensure ordering, purchasing, processes are adhered to
- Monitor inventory levels and shipments
- Coordinate shipments with the shipping company
- Interface with suppliers, shippers regarding changes deficiencies and escalations
- Work with PM to ensure material logistics are in synch with rollout schedule
- Identify areas for improvement or alternative areas of conducting the operation with the PM

Document Coordinator

- Develop initial documentation templates at the client's request
- Distribute final documentation to the client
- Supply installation/engineering packages to the PM's
- Receive updates from the field in the form of an as-built and update templates

Program Manager

- Constantly update schedules for resource deployment and work with Operations Manager regarding shipping and material schedules
- Work with Best Practices on implementation
- Coordinate the shipping schedule
- Interface with the installation vendors to coordinate number of crews – where, when and for how long

- Work with Implementation Manager on decisions regarding OT, extra crews, generally cost adds
- Identify any and all resource needs and forward to the EM
- Responsible for efficient implementation of changes to current processes and procedures
- Updates the EM on project status weekly and with escalations
- Works with Documentation Coordinator to ensure documentation is correct
- Ensure processes are adhered to for an efficient operation

Engagement Manager

- Act as sole point of contact for National Roll Out, current project client
- Meet with and provide routine project status updates to client
- Find resources necessary to fulfill all aspects of projects organizational chart
- Require input from key roles for information and updates on project
- Disseminate information to appropriate roles
- Negotiate / Present out of scopes items to client
- Identify areas for improvements
- Serve in a consultant role with PM regarding issues
- Ultimately responsible for all aspects of project

Material Coordinator

- Primarily responsible for reconciling newly received and on hand inventory, inventory site bundles and the data entry associated with these activities.
- Monitoring model quantities and initiating orders for stock replenishment
- Augments material handlers as needed

Material Handler

- Physical receiving, bundling and loading of all inventory items
- Picking of supporting materials including cable cutting
- Packaging of supporting materials and site bundle preparation for shipment
- Manipulating inventory involved in technical staging process

Inside Sales Rep

- Once PO is in place ISR will generate the sales order to order the material
- Correction of any incorrect part numbers, quantities, additions or subtractions to sales order
- Issuance of RMA's (Return Material Authorizations)
- Inventory spreadsheet will be created to track material ordered and used (detailed)

Purchasing Coordinator

- Reviews sales orders and confers with vendors to obtain competitive pricing and availability

- Establishes, selects and maintains a reliable supplier base
- Searches inventory records or warehouse to determine if material on hand is in sufficient quantity
- Generates appropriate purchase order and change notices and distributes
- Maintains relationships with vendors and has knowledge of their policies/procedures
- Order warranty claims and receives appropriate return authorization from vendors
- Confers with suppliers and freight carriers concerned late deliveries
- Communicates expected arrival dates with appropriate personnel/departments
- Revises shipping methods concerning late shipments and communicates to proper departments
- Generates, reviews and submits purchase requisition reports
- Calculates and tracks total dollar spent with each distributor/vendor
- Maintains purchasing filing system
- Updates and maintains inventory database with current products and prices
- Tracks fixed assets – includes purchasing, deployment and financial statement reconciliation
- Maintains library of current vendor catalogs