



# CENTRAL BOARD OF EXCISE & CUSTOMS



## IT CONSOLIDATION PROGRAMME Local Area Network (LAN) Project



**DIRECTORATE GENERAL OF SYSTEMS & DATA  
MANAGEMENT**

[www.cbec.gov.in](http://www.cbec.gov.in)

[www.icegate.gov.in](http://www.icegate.gov.in)

# About IT Consolidation Programme (ITCP)

## OBJECTIVE :

To provide quality services to all stake holders, including tax payers, by consolidating CBEC's information technology (IT) infrastructure

## SUB-COMPONENTS:

- **Wide Area Networks (WAN) at 584 CBEC locations**
  - (One WAN point per building)
  - using MPLS (Multi Protocol Label Switching) Technology
  - bandwidth on demand
- **Local Area Networks (LAN) at CBEC buildings**, thin clients, peripherals (printers etc), UPS, DG sets
- **Data Centers** – Three data centres - Primary, Business Continuity and Disaster Recovery
- **Project Monitoring and program management** – Inter-Vendor coordination, Service level monitoring (For eg: Monitoring Network Availability, Quality of Service (QoS) etc)

# The IT Consolidation Project will enable

- **Roll out of ICES 1.5** – this upgraded version of ICES would be deployed on Oracle 10g and service all locations, including existing locations
- **Roll out of ACES** – the newly developed Central Excise & Service Tax workflow application
- **Data Warehouse** – Single window data repository of CBEC data for decision support in tax planning, risk management etc
- **Upgraded ICEGATE** facilities
- **Upgraded Risk Management System**
- **Upgraded iCERT** infrastructure
- **Corporate Mail facilities** to all officers
- Other initiatives such as **APIS, Intranet and Knowledge Management** system etc. in due course

# Existing v/s Future Scenario – WAN/ LAN

## AS IS

- Present Wide area network called Indian Customs and Excise Network (ICENET) covering 35 Customs (ICES) locations
- Existing WAN connectivity is through dedicated 64 kbps or 2 Mbps point to point leased lines
- Existing LAN in Customs House based on structured UTP cabling
- Some Central Excise offices have building wide LANs

## TO BE

- Augmented network infrastructure to meet the data, voice and video communication requirements of the Department
- All India Wide Area Network (WAN) for around 584 CBEC buildings (one WAN point in each building) .
- Ranges will be connected through VPN over Broadband
- All buildings connected to central data centre through Multi Protocol Label Switching (MPLS) based network
- All offices of CBEC connected to the Centralised Data Centre

# About LAN

**LAN: A communications network that serves users within a confined geographical area, such as a floor of a building or among the floors of a building or among buildings.**

**To be implemented across India by Hewlett Packard India Sales Pvt. Ltd. (HP)**

## **ROLES OF VENDORS WHO WOULD INTERACT WITH FIELD FORMATIONS:**

- **HP** : LAN Service Provider : Site Survey, Supply & Installation of equipments, Integration with WAN (where WAN already exists) and maintenance for 5 yrs. HP will supported by its national/regional partners in this execution.
- **PwC** :Selected as “ Project Management and Monitoring Agency” (supported in field work by (M/s **CMS Computers Ltd.** )

# Schematic Diagram – WAN / LAN

## Data Centre (DC)

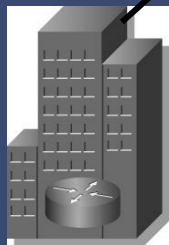
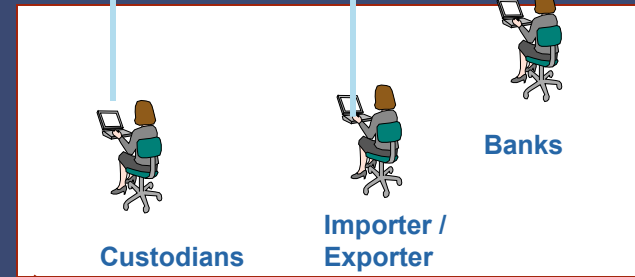
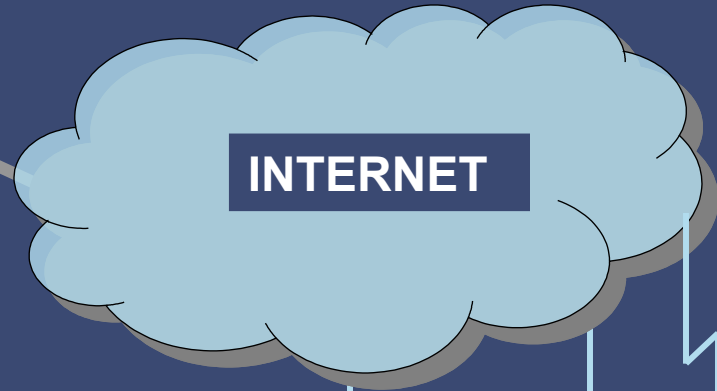
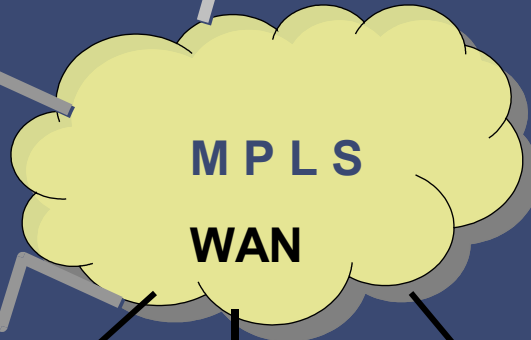
Centrally Hosted Applications  
ICES / ACES



Disaster Recovery (DR)



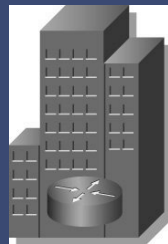
BCP



Central Excise



Customs



Directorates  
& Other  
Offices

LAN

A red arrow points from the 'Banks' group in the previous diagram to the 'LAN' text.

# Scope Brief

Implementing of Local Area Network across Customs, Central Excise and Service Tax buildings spread across the country. The LAN is being setup for officers to access the applications (e.g. ICES and ACES) being hosted in the Datacenter. The environment will adhere to a strict security policy considering the sensitivity of the operations.

*Note: The existing LAN and stand alone PCs performing functions not related to the application will continue as before and will not be part of the new LAN.*

# Brief – LAN Components

## Thin Clients

- Thin clients perform the same functionality as PCs except that there is no local storage
- Used for accessing the applications hosted at the Data center

## Scanners

- The scanning facility will be available in the LAN at the **Utility Area** in specified CBEC offices

## Print servers

- Used for supporting the printing and scanning functions.



# Brief – LAN Components

## Printers

### DeskJet Printers

- To be connected to a Thin client or redeployed PC.

### Network Laser Printers

- Shared by all LAN Users.
- Will be placed in Utility areas, easily accessible for all LAN Users

### Dot Matrix Line Printers

- Heavy duty printers for printing Bills of Entry and shipping bills and other documents at Customs locations.

# Brief – LAN Components

## UPS

- UPS with in-built redundancy.
- 15 min back up.
- Provide interim power between mains power failure and DG set switching on.
- Will power on the equipment on the LAN.

## Diesel Generator (DG) Set

- The Diesel Generator (DG) set (or sets) will be used for powering on the LAN equipment. The ACs, Fans, lights and non LAN equipment will not be connected to the DG set.
- During a power failure, the DG set will switch on automatically within 3 to 4 minutes.

# Brief – LAN Components

## LAN and Electrical cabling

- Provisioning of electrical and network points for all the equipment supplied in the LAN Project.
- For all the buildings with more than four users, in addition to the electrical cabling ,structured LAN cabling provided for connecting equipment.
- Implementation also includes provision of switches, and racks to be placed in the **communication room**.

## Fire Extinguisher

- One fire extinguisher per building

# Benefits – LAN Project

- Standardized Implementation and maintenance of Local Area Network across the country.
- High availability of applications, such as ACES and ICES.
- Onsite resident engineer in locations where no. of users on LAN is more than 25.
- Engineers on- call for other locations.

# Project Phases

# Site Survey

The Site Survey nearing completion. The information collected includes :

- Data on the Name, Designation and Section of personnel
- Existing IT equipment
- Location of the LAN points and the electrical points
- Location for the DG set in the building
- Location of the UPS and the peripherals, such as printers and scanners
- Site related data, such as input power to the DG set

# Bill of Material Finalisation

Based on the Site Survey inputs, Directorate of Systems (DOS), in consultation with respective Commissionerates, is finalising the following for each building:

- The LAN users who will be provided Thin clients or redeployed PCs .
- Peripherals such as printers and scanners for each building.

The final Bill of Material (BOM) including the position of the DG Set and the UPS, is being prepared by HP.

# Hardware Delivery

- Based on the final Bill of Material (BOM), HP will dispatch the required equipment to the respective buildings after obtaining the requisite local permissions.
- Inform the Lead Nodal Officers/Officer in Charge on the expected dates of arrival of equipment and material. There will be multiple consignments for each building. Only number of boxes to be tallied.
- Storage of equipment would require facilitation, pending installation and commissioning.
- Hardware verification as per consignment by HP representative, at time of implementation.
- Road permits required in some states. Officers already identified for facilitating the process.



# Installation

The Installation activity will involve the following activities:

- Obtaining local permissions eg. from building owner/custodian
- Installation of the DG Set
  - Laying the DG Foundation
  - DG to be connected to the mains distribution board.
  - Digging for preparing Earth Pits
  - Erecting the exhaust pipe routing ( chimney) against the boundary of the building
- Assembly and Installation of UPS
- Connecting the DGset, UPS and the Mains Power.
  - Will require Mains Power switched off for approximately 2 hrs

# Installation

- Installation of equipment such as ,switches and routers in the new racks
- Cabling for providing electrical and LAN points for connecting equipment
  - The activity will involve drilling. Likely to cause some disturbance due to noise.
  - The activity will require extended working hours
  - Cooperation of local officers essential for timely execution of project
- Software changes in redeployed PCs.
  - Some PCs may also require hardware upgrade.
- Installation of equipment.

# Site Handover

The following activities inter alia will be performed:

- Testing Integration of LAN with WAN
- Testing for functionality.
  - Access of applications in the datacenter
  - Printing
  - Scanning

The format for Acceptance Test Process (ATP) and the documentation to be provided at site, will be communicated by Directorate of Systems (DoS).

# Support Required from Local Offices

- Assignment of alternate **Nodal officer** for the delivery and installation phase for ensuring continuity in the implementation phase.
- Assignment of a representative of the Nodal officer in the Stand alone Ranges for the delivery, installation and the ATP phase (ex. Supdt./Inspector).
- The Nodal officer is required to sign off on the Proof of Delivery documents and Copy of Invoice. For standalone Ranges, Nodal officer is required to nominate a consignee who would coordinate locally and would be receiving the equipment and material for the range building.
- Facilitation of safe storage of equipment till the completion of the installation phase.

# Local Office Support

- Facilitation for getting permission for DG set Installations from the respective building landlords. HP issuing letters to these authorities through nodal officers.
- Interface with the building-in-charge and electrician critical for cabling and DG set installation.
- Provision of gate passes for HP personnel.
- Permissions and supervision for working for extended hours in the office.

# Essential Points

- Offices shifting within one year should not be included for LAN implementation
- Location of Communication room not to be shifted unless approved by DoS
- Users would not have the option of seeking shifting of node within a room post installation. Hence, due care to be taken at the time of implementation
- On account of security considerations, any existing LAN must be kept entirely distinct from the new LAN infrastructure
- Extending cooperation to the vendor personnel for timely completion of project, including permission for working during and after office hours, to the extent feasible

# CBEC Project Team

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# Previous Communications

**CBEC LAN Project**



Adobe Acrobat 7.0  
Document

**Final Site Survey Format**



Microsoft Office  
Excel Worksheet

**Communication on Changes in Site Survey Format**



Microsoft Word  
Document

**Budgetary Outlay for provisioning of Diesel Generator(DG) Sets,&  
other items in the LAN Project, LAN Implementation**



Microsoft Word  
Document

Thank You

# Thin Client – It Looks Like This



# The Difference

Thin Client

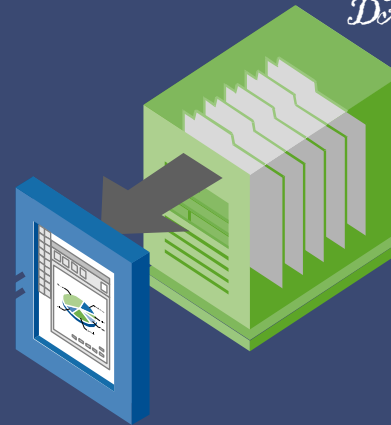


# Thin Client – How Does it work

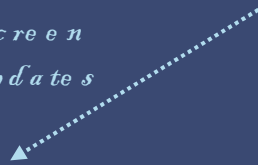
Access to the Datacenter will be through the WAN Point /leased line/ Broadband/ISDN/VSAT

*DATA CENTER AT DELHI*

*Applications & data reside in the Data center in Delhi*



*Screen updates*



*Keyboard & mouse events*



*Applications seen on the screen*



*Thin client*

# Benefit to the User



- In case the Thin Client becomes faulty during application access, user can go to another thin client and log in again to resume work at the last point of work
- Updates on the thin client will be managed centrally
- More durable than a PC



# Communication and Utility Rooms



# Specifications of Communication Room

A dedicated room is preferred for the purpose. However, in case a dedicated room of appropriate size is not available then following rooms may be used, provided sufficient space is available for accommodating the required equipment.

<b>Formation</b>	<b>Suggested Communication room</b>
Customs	Server room housing the ICES servers
Central Excise	Room housing the SERMON servers
Other Formations	Air conditioned room housing PC's or servers
If no separate room is available	The room of AC / JC

As an exceptional scenario, if no room is available at all, then a segregated area in the common hall/room should be designated as the WAN / LAN point. Care is to be exercised to ensure that sufficient area is delimited in order to securely accommodate the required installation.

# Specifications of Communication Room

The room will contain :

- Rack with router and modems installed as part of WAN Project
- Telecom Multiplexer installed as part of WAN project
- 15U/42U rack with LAN equipment
- UPS

*Note : Where all equipment cannot fit into the communication room, some equipment, eg. UPS, will be installed in an alternate room.*

The Room/Space Conditions:

- Area should be **8' x 6'**. It will be desirable if the room size of **10' X 15'** is made available
- Air Conditioning to keep the temperature between 22–25deg C
- Dust free
- Pest control measures required to prevent damage
- No water seepage
- Secure room with restricted access

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# Utility Room

The room will contain :

- Network Printer
- Scanner
- Print server

The Room/Space Conditions:

- Should be easily accessible from the work place.
- Air-conditioned to maintain temperature between 22–25 degree C
- Dust free
- Pest control to be implemented
- Should not have water seepage

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# LAN Locations Nodal Officer Details

S#	State	City	Loc as per CBEC	Type	Formation	Building Address	Build ing	WAN Old Site Code	WAN New Site Code	LAN Site Code
1	Assam & North East	Barsoor	Commissioner of Customs Custom House 110 Mahatma Gandhi Road, Shillong-793001	LCS	Customs	D/o The Superintendent, Land Customs Station, Barsoor, P.O. Borosora via Balari, Dist: West Khasi Hills, Meghalaya. Pin-793104	1	AS/BSR01_C04	AS/BSR01_C04	AS/BSR01/C/CS/L/LCS
2	Assam & North East	Dawki	Commissioner of Customs Custom House 110 Mahatma Gandhi Road, Shillong-793001	LCS	Customs	D/o The Superintendent Land Customs Station, Dawki, P.O. Dawki Dist: West Khasi Hills, Meghalaya. Pin:793109	1	AS/DWK01_C04	AS/DWK01_C04	AS/DWK01/C/SH/L/LCS
3	Assam & North East	Ghasuar para	Commissioner of Customs Custom House 110 Mahatma Gandhi Road, Shillong-793001	LCS	Customs	D/o The Superintendent Land Customs Station, Village: Gandhibor, Dist: South Cano Hills, Meghalaya. Pin:-793104	1	AS/GSP01_C04	AS/GHP01_C04	AS/GHP01/C/SH/L/LCS
4	Assam & North East	Sutar Kandi	Commissioner of Customs (Preventive), Custom House, MG Road, Shillong-793001	LCS	Customs	D/o The Superintendent Land Customs Station, Sutarkandi, P.O. Sutarkandi, Dist: Karimganj, Assam. Pin:-788112	1	AS/STK01_C04	AS/STR01_C04	AS/STR01/C/SH/L/LCS
5	Bihar	Jaynagar	Commissioner of Customs, CR Building, B.C. Patel Path, Patna-800001	LCS	Customs	Jaya Nagar, LCS, Bihar	1	BR/JYN01_C04	BR/JAY01_C04	BR/JAY01/C/PAT/L/LCS
6	Bihar	Jogbani	Commissioner of Customs, CR Building, B.C. Patel Path, Patna-800001	LCS	Customs	Jogbani, LCS*	1	BR/JGB01_C01	BR/JBN01_C01	BR/JBN01/C/PA/T/LCS
7	Delhi	Delhi	Directorate General of Audit, Delhi Zonal Unit	Directorate	Directorate	D' Block, I.P. Bhawan, 6th Floor, I.P. Estate, New Delhi	1	DL/DLH01_A06	DL/DEL01_A06	DL/DEL01/D/DEL/Aud
11	Delhi	Delhi	Directorate General of Vigilance	Directorate	Directorate	1st & 2nd floor, Hotel Samrat, Kauliya Marg, Chhaya Vihar, New Delhi	1	DL/DLH02_A05	DL/DEL02_A05	DL/DEL02/D/DEL/Vig
13	Delhi	Delhi	Central Excise Div-4	Division	Central Excise	1st Floor, 37 Netaji Place, Kalkaji	1	DL/DLH03_C01	DL/DEL03_C01	DL/DEL03/E/DEL/IDiv-VI
26	Delhi	Delhi	Central Excise Div-1	Division	Central Excise	B, Deepshaha building, 2nd floor, Rajendra Place	1	DL/DLH04_B03	DL/DEL04_B03	DL/DEL04/E/DEL/IDiv-I
32	Delhi	Delhi	Central Excise Div-4	Division	Central Excise	G-80, Preet vihar, Laxmi Nagar, East Delhi	1	DL/DLH05_C01	DL/DEL05_C01	DL/DEL05/E/DEL/IDiv-VIII
38	Delhi	Delhi	Directorate of Logistics	Directorate	Directorate	6th Floor, Laxi Nayak Bhawan, Khan Market, New Delhi	1	DL/DLH06_B04	DL/DEL06_B04	DL/DEL06/D/DEL/Log
39	Delhi	Delhi	Directorate of Legal Affairs	Directorate	Directorate	6th Floor, Rajendra Bhawan, 210, Deen Dayal Upadhyay Marg, New Delhi	1	DL/DLH07_C02	DL/DEL07_C02	DL/DEL07/D/DEL/Log
40	Delhi	Delhi	Directorate of Logistics, Communication Division	Directorate	Directorate	7th Street, Shopping Centre, Shanti Niketan, New Delhi	1	DL/DLH08_B02	DL/DEL08_B02	DL/DEL08/D/DEL/Log-Com
42	Delhi	Delhi	Director General of Safeguards	Directorate	Directorate	Bhal vir Singh sahitya sadan, Bhal V S Marg, Gole Market, New Delhi.	1	DL/DLH11_B02	DL/DEL11_B02	DL/DEL11/D/DEL/Isaf

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