



e-Transaction Aggregation and Analysis Layer

User and Technical Manual

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National Informatics Centre
Department of Electronics & Information Technology
Ministry of Communications and Information Technology
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Acronyms

Abbreviation	Description
B2C	Business to Citizen
DBT	Direct Benefit Transfer
DeitY	Department of Electronics and Information Technology
DCC	Dashboard Client Connector
DSC	Dashboard Server Connector
eTaal	e-Transaction Aggregation and Analysis Layer
HTML	HyperText Markup Language
IE	Internet Explorer
IIS	Internet Information Services
IT	Information Technology
MMP	Mission Mode Project
NeGP	National eGovernance Plan
NIC	National Informatics Centre
NOFN	National Optical Fibre Network
OS	Operating System
PDS	Public Distribution System
PHP	Hypertext Preprocessor
PMC	Project Management Committee
PNR	Passenger Name Record
RoR	Record of Right
RTI	Right To Information
SPMC	State Project Management Committee
SQL	Structured Query Language
URL	Uniform Resource Locator
UT	Union Territory
VAT	Value Added Tax
XML	Extensible Markup Language
WCF	Windows Communication Foundation

1. Introduction

All Ministries and Departments of Central and State/UT Governments have been implementing e-Governance projects for providing e-Services to citizens. An idea about the impact of e-Services can be obtained from the number of e-Transactions taking place under these applications implemented by various Government Ministries/Departments.

With this in mind, National Informatics Centre (NIC), Department of Electronics and Information Technology (DeitY) has developed **eTaal** application. It provides a consolidated view of e-Transactions taking place under various e-Governance applications implemented in Government including Mission Mode Projects (MMPs) under National eGovernance Plan (NeGP) based on the transaction count shared by them in a automated manner through the use of Web Services technology.

eTaal facilitates quick analysis of transaction data shared by various applications in tabular as well as graphical from enabling the user to drill down to the lowest possible level. It will also enable the user Ministry/Department to view the consolidated picture of e-Transaction statistics of various e-Governance projects across the country and to visualize the status of utilization of various e-Governance applications running across the country.

1.1 Purpose of the Document

The purpose of the document is to enable the user to identify e-Transactions, categorize various services and effectively use the application. The user may further view the e-Transaction count for various Central and State projects and MMPs as well as perform various analyses.

The document also aims at providing the users all the necessary information for registration of their respective services and integration of the data from those services with eTaal.

1.2 What is an e-Transaction

A **transaction** in delivering a public service which uses Information Technology (IT) while also satisfying the following four conditions:

- i. Service is requested through electronic means (self-access or assisted access) including mobile devices;
- ii. Workflow/approval process is electronic;
- iii. Database is electronic/digitized;
- iv. Service delivery is electronic.

in order to improve access, enhance transparency and reduce response time is termed as an e-Transaction.

1.3 Across the Counter Services

In several instances, the relevant information is proactively collected, digitised, verified and stored in digital repository and when the citizen requires the service, he/she can avail it immediately across the counter. Since, such cases fulfil all the pre-requisites of an e-Transaction, these can be considered as **Across the Counter** services.

1.4 List of Standard Services

A large number of services are being offered by various Ministries/ Departments/ Organizations at Central and State Governments. However, the name of a particular service may vary across the states. For example, the Record of Right (RoR) is known as Pahani, Khatauni, Patta etc. in different states. For ease of classification, grouping and presentation in a uniform manner, the services have been defined by NIC and DeitY as follows:

Sl.No.	Standard Service	Description
1	Certificates	All type of statutory certificates issued by Government i.e. Caste Certificate, Income Certificate, Birth Certificate etc. come under this category.
2	Licenses and Permits	Services related to licenses & permits like arm licenses, inner line permits, etc. come under this category.
3	Land Records	Services related to land registration come under this category.
4	Integrated Finance Management Services	Integrated Finance Management Services includes services related to finance management like treasuries.
5	Commercial Tax	It includes services like Dealers Registration, VAT Returns, payments etc.
6	Utility Services and Bill Payment	Utility services like electricity, gas, water, telephone etc. and their bill payment come under this category.
7	Social Welfare and Pension	It includes services like Sr. citizen, old age/widow pension, freedom fighter pension etc.
8	Transport	It includes services like Driving License Issue, Registration of Vehicle, Transfer of Ownership etc.
9	Education	Services like backward class scholarship, post metric scholarship etc. are covered.
10	Public Distribution System	It include services like Issue of Ration Card, Modification of details in Ration Card, etc.
11	Agriculture & Allied	The services under this category are: Agriculture Market Information, Agricultural Advisory Service, Animal Disease Alert, etc.
12	Court and Judiciary	It includes services like cause list, case proceedings, certified copy of judgment/daily order, etc.
13	Election	This service includes Electoral Roll Creation etc.
14	Police	This includes services like FIR Lodged, Missing/ Lost persons, etc.
15	Personnel and Admin	This includes services like Employee Training, posting/transfer, ACR status monitoring, etc.
16	Grievance	This includes services like Grievances Received & Redressed.
17	RTI	This group includes any e-transaction related to RTI Act.
18	Information Service	It provides data/knowledge/information on various services offered through dial.gov service, forms download, Govt. Programs and schemes etc.
19	Property Registration	Services related to registration of property acquired or transferred come under this category.

Sl.No.	Standard Service	Description
20	Health	Services like Child Registration, Pregnant Women Registration, Patient Registration, etc. come under this category.
21	Rural Development	Services like Job Card Issued, Job Demanded and Job Provided under MGNREGA are included here.
22	Employment	This includes services related to registration of potential candidates/ unemployed youth etc.
23	e-Procurement	It includes services like No. of Bidders Enrolled, No. of Tenders Created, No. of Bids Received, etc.
24	State Specific Services	There are certain services that are specific to a particular state. Those services are not found in other state. Such services come under this group.
25	Other Services	Services which are not included in any of the above mentioned standard services are covered under this group.

1.5 List of Category of Services

Services being offered by various Ministries/ Departments / Organizations at Central and State Governments have been classified into four categories, namely;

- a. **Category A** comprises:
 - i. All statutory services
 - ii. Payment of taxes by citizens (Income Tax/VAT etc)
 - iii. Payment of subsidies/ Scholarships/ Social benefit transfers (DBT etc.)
 - iv. Non-statutory services
 - v. Services delivered under PDS/Rural development schemes
- b. **Category B** comprises Utility Bill payments (Water bill, telephone bill, electricity bill, etc.)
- c. **Category C** comprises other B2C Transactions (e.g. banking transactions, addition of mobile numbers in Do Not Call registry by Telecom service providers etc.)
- d. **Category D** comprises:
 - i. Information access from various e-Governance Portals/Websites
 - ii. Down loading of forms
 - iii. Enquiry (such as Passport Status, dial.gov.in service, result of an examination etc.)

2. How to Access the Dashboard

The portal may be accessed using the following URL:

<http://etaal.gov.in>

Following Home Page will be displayed:

The screenshot displays the eTaal dashboard home page. At the top, the eTaal logo is on the left, and the Department of Electronics & Information Technology, Ministry of Communications & Information Technology, Government of India is on the right. Below the header, there is a navigation menu with links for Home, e-Transactions View, Analysis, Downloads, and Admin Login. The main content area features a large green box with the title "National e-Transaction Count". Below this title, two statistics are shown: "Since 1st January, 2013" with a count of 48,25,22,792, and "Since 1st June, 2013" with a count of 8,52,19,318. Below the statistics, there is a brief description of eTaal as a web portal for dissemination of e-Transactions statistics. To the right of the description, there is a "Frequently Asked Questions" section with three questions: "What is e-Transaction?", "What are the e-Transaction Categories?", and "What are the Standard Services?". Below the description, there is a "Downloads" section with two links: "eTaal Brief Overview" and "eTaal User & Technical Document". At the bottom of the page, there is a footer with the text "Designed, developed and hosted by National Informatics Centre" and the logo of the National Informatics Centre. On the right side of the footer, there is a logo for the National e-Governance Plan.

3. Functionalities

Major functionalities incorporated in eTaal web portal are as follows:

1. e-Transaction view of Central / State Govt. Projects aggregated at various levels.
2. Viewing e-Transaction count on the basis of standard service.
3. e-Transaction view for MMPs aggregated at various levels.
4. Viewing e-Transaction count on the basis of Across the Counter Service.
5. Viewing e-Transaction count of NOFN Service.
6. Viewing e-Transaction count on the basis of category of services.
7. Drill-down feature to get detailed view of e-Transaction count.
8. Time line analysis of e-Transaction count across time-periods.
9. Graphical and Tabular presentation of e-Transaction count.
10. Service enrolment feature.

4. eTaal Home Page

The screenshot shows the eTaal Home Page. At the top, there is a navigation bar with the eTaal logo and the text 'Electronic Transaction Aggregation & Analysis Layer'. To the right, it says 'Department of Electronics & Information Technology, Ministry of Communications & Information Technology, Government of India'. Below the navigation bar, there are links for 'Home', 'e-Transactions View', 'Analysis', 'Downloads', and 'Admin Login'. The main content area features a large green box with the title 'National e-Transaction Count'. Inside this box, there are two columns of data: 'Since 1st January, 2013' with the value '48,25,22,792' and 'Since 1st June, 2013' with the value '8,52,19,318'. Below the main content, there is a 'Frequently Asked Questions' section with three questions: 'What is e-Transaction?', 'What are the e-Transaction Categories?', and 'What are the Standard Services?'. A 'Read More' link is provided for the last question. There is also a 'Downloads' section with two links: 'eTaal Brief Overview' and 'eTaal User & Technical Document'. At the bottom, there is a footer with the text 'Designed, developed and hosted by National Informatics Centre' and the National Informatics Centre logo.

Home Page

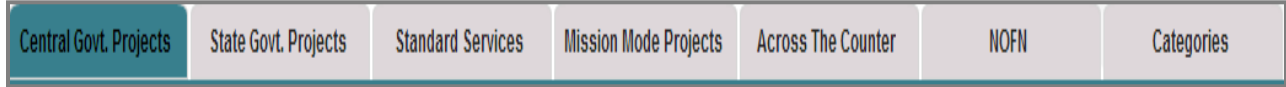
Menu Bar

Home e-Transactions View Analysis Downloads Admin Login

1.	Home	This is the landing page of eTaal.
2.	eTransactions View	It shows the eTransactions of various eServices under Central Govt./State Govt. and Mission Mode Projects.
3.	Analysis	It shows the different type of graphical analysis on e-Transaction data.
4.	Downloads	This section is relevant for the developers. The user can download the technical documents enabling him/her to create the client connector along with sample code in .Net and Java. However, the user may create the client connector using any other platform as well. a) Sample web service in .Net b) Sample web service in Java
5.	Admin Login	Registered users can login to eTaal from here.

5. e-Transactions Menu Tab

5.1 Tabs



Various types of e-Transactions are displayed in each tab, 'Central Govt. Projects' being the default option displaying total number of transactions between two user-defined dates (From Date and To Date). By default, display is in tabular format which can be changed to Bar Chart and Pie Chart by the user.

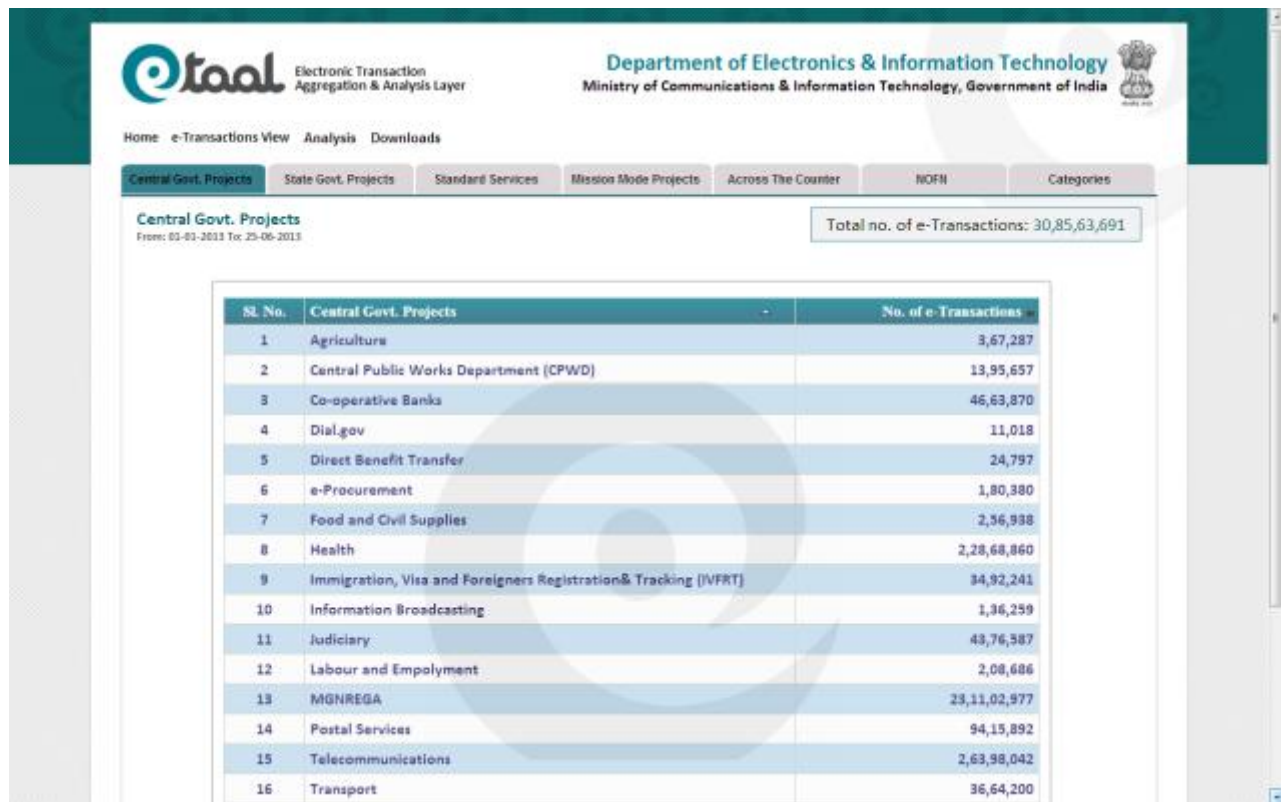
1.	Central Govt. Projects	This tab enables the user to view e-Transaction count of all Central Govt. Projects.
2.	State Govt. Projects	This tab enables the user to view e-Transaction count of State Govt. Projects.
3.	Standard Services	This tab enables the user to view Standard Service wise e-Transaction counts.
4.	Mission Mode Projects	This tab enables the user to view e-Transaction count of various MMPs.
5.	Across The Counter	This tab enables user to view e-Transaction count of services delivered Across the counter.
6.	NOFN	This tab enables user to view e-Transaction count of services delivered on National Optical Fibre Network (NOFN).
7.	Categories	This tab enables the user to view Category-wise e-Transaction count.

5.2 Date Wise View

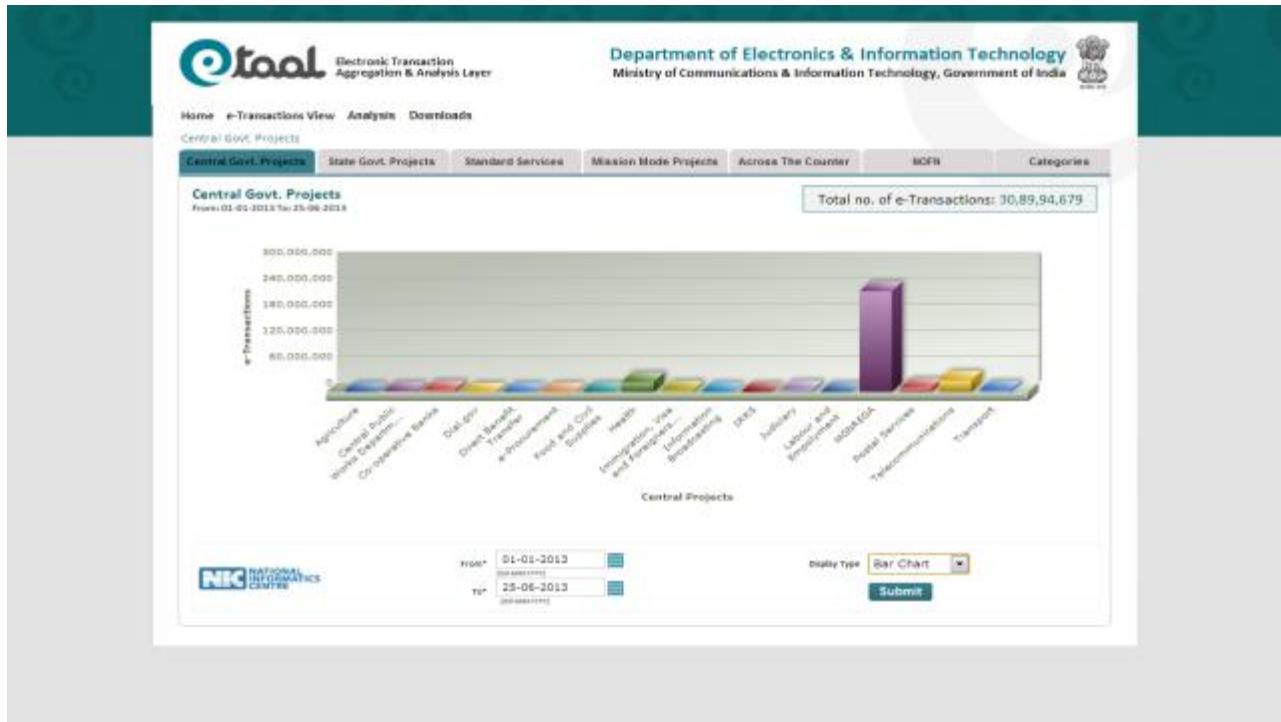
1. Select required tab from home page.
2. Type From-Date & To-Date in text box or select dates from calendar (by clicking on calendar icon).
3. Click submit button.

5.3 Central Govt. Projects

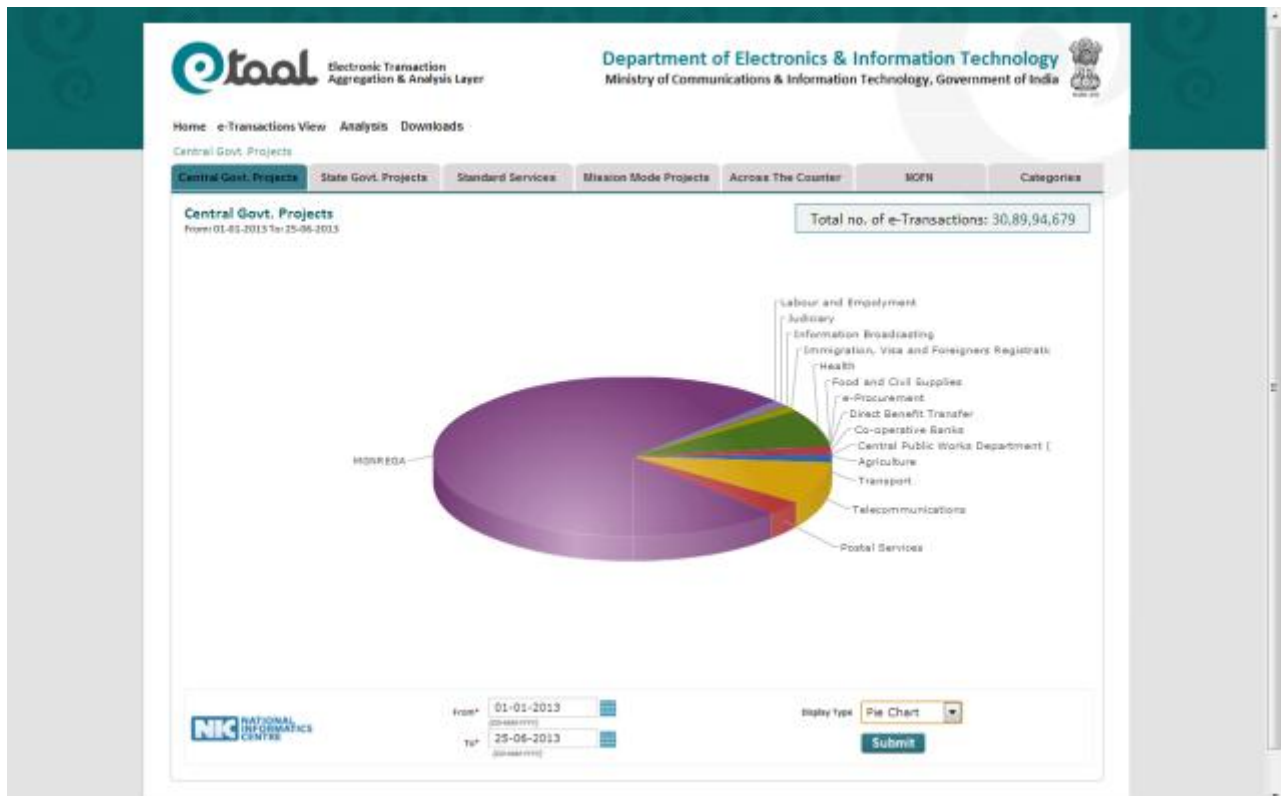
This tab enables the user to view e-Transaction data related to nationwide e-Governance projects.



- Same data can be viewed in bar chart and pie chart, by selecting Display Type in the drop-down list provided below the chart.
- e-Transaction data between two particular dates is filtered out and displayed by selecting the 'From Date' and 'To Date'.
- Each service can be clicked to further drill-down for details.



Bar Chart View of Central Govt. Projects



Pie Chart View of Central Govt. Projects

5.3.1. Drilled-down Central Govt. Projects

Central Govt. Projects can be further drilled-down by clicking on service name. Following is drilled-down view of Health service.

The screenshot shows the eTaal interface for viewing Central Government projects under the Health category. The page title is 'Project(s) under Health' for the period from 01-01-2013 to 25-06-2013. A summary box indicates a total of 2,28,68,860 e-Transactions. The main data is presented in a table with the following content:

Sl. No.	Central Govt. Project	No. of e-Transactions
1	CGHS	40,53,870
2	eHospital	7,83,658
3	MCTS	1,71,99,135
4	Nikshay	8,26,197
Total e-Transactions		2,28,68,860

At the bottom of the interface, there are filters for 'From' (01-01-2013) and 'To' (25-06-2013), a 'Display Type' dropdown menu set to 'Tabular Data', and a 'Submit' button. The NIC National Informatics Centre logo is visible in the bottom left corner.

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Ministry of Communications & Information Technology, Government of India

Home e-Transactions View Analysis Downloads

Central Govt. Projects > Health > eHospital

Central Govt. Projects State Govt. Projects Standard Services Mission Mode Projects Across The Counter NOFI Categories

State(s) under eHospital
From: 01-01-2013 To: 25-06-2013
 State Wise Hospital Wise

Total no. of e-Transactions: 8,01,863

Sl. No.	State Name	Total no. of e-Transactions
1	Delhi	6,61,280
2	Karnataka	52,108
3	Kerala	4,522
4	Maharashtra	922
5	Tripura	83,031
Total e-Transactions		8,01,863

From: 01-01-2013 To: 25-06-2013
 Display Type: Tabular Data
 Submit

State wise View of eHospital project

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Home e-Transactions View Analysis Downloads

Central Govt. Projects > Health > eHospital > Karnataka

Central Govt. Projects State Govt. Projects Standard Services Mission Mode Projects Across The Counter NOFI Categories

Service(s) of Karnataka under eHospital
From: 01-01-2013 To: 25-06-2013

Total no. of e-Transactions: 52,108

Sl. No.	Service Name	Total no. of e-Transactions
1	Admission	4,557
2	Registration	47,551
Total e-Transactions		52,108

From: 01-01-2013 To: 25-06-2013
 Display Type: Tabular Data
 Submit

Service wise View of State Karnataka under eHospital project

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Ministry of Communications & Information Technology, Government of India

Home e-Transactions View Analysis Downloads

Central Govt. Projects > Health > eHospital

Central Govt. Projects State Govt. Projects Standard Services Mission Mode Projects Across The Counter ROPH Categories

Hospital(s) under eHospital
From: 01-01-2013 To: 25-06-2013
 State Wise Hospital Wise

Total no. of e-Transactions: 8,01,863

Sl. No.	Hospital Name	Total no. of e-Transactions
1	AGMC	65,233
2	AIIMS	2,88,866
3	AYJNH	922
4	Ernakulam	4,522
5	IGICH	2,915
6	NIMHANS	49,193
7	RML	4,07,051
8	SIC	15,343
9	TMC	17,758
Total e-Transactions		8,01,863

From: 01-01-2013 To: 25-06-2013
 Display Type: Tabular Data
 Submit

Hospital wise view of eHospital project

5.4 State Govt. Projects

The 'State Govt. Projects' tab enables the user to view the e-Transactions count of eServices in various states. The table can further be drilled down to view the distribution of e-Transactions of e-Governance projects implemented in respective states segregated on the basis of Standard Service types.

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Home e-Transactions View Analysis Downloads

State Govt. Projects

Central Govt. Projects State Govt. Projects Standard Services Mission Mode Projects Across The Counter NOFN Categories

State Govt. Projects
From: 01-01-2013 To: 25-06-2013

Total no. of e-Transactions: 19,65,34,944

Sl. No.	State Govt. Projects	No. of e-Transactions
1	Andaman and Nicobar	7,314
2	Andhra Pradesh	3,68,97,628
3	Arunachal Pradesh	11,163
4	Assam	7,79,527
5	Bihar	23,29,767
6	Chattisgarh	31,80,065
7	Chandigarh	1,54,840
8	Daman and Diu	8,054
9	Delhi	30,34,416
10	Dadar and Nagar Haveli	16,891
11	Goa	1,51,565
12	Gujarat	26,68,954
13	Himachal Pradesh	2,37,780
14	Haryana	2,29,14,664
15	Jharkhand	5,98,417
16	Jammu and Kashmir	9,54,008

From* 01-01-2013 (DD-MM-YYYY)

To* 25-06-2013 (DD-MM-YYYY)

Display Type: Tabular Data

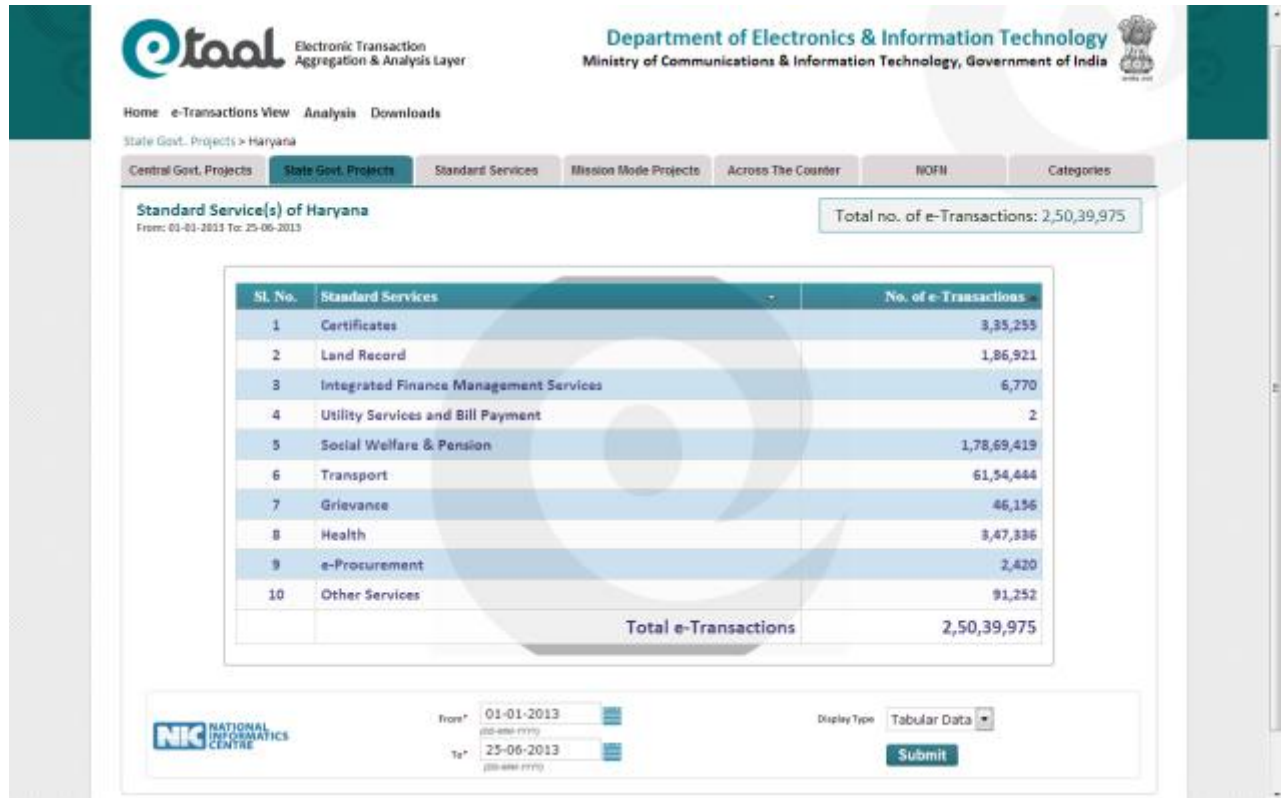
Submit

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- Same data can be viewed in bar chart and pie chart, by selecting Display-type in the drop-down list provided below the chart.
- The user can change time period for displaying data by changing From Date and To Date and clicking on Submit button.
- Each state can be clicked to further drill-down for details.

5.4.1 Drilled-down State Govt. Projects (Standard Service Wise)

Each state can be drilled down to get transaction count of standard services. Following screenshot shows e-Transactions for the state of Haryana, as an example:



- Same data can be viewed in bar chart as well as pie chart, by selecting Display Type in the drop-down list provided below the chart.
- Each standard service can be clicked to further drill-down for details.

5.4.2 Drilled-down Standard Services under State Govt. Projects

Each state can be drilled down to get transaction count of standard services. Following screenshot shows e-Transactions for the state of Haryana, as an example:

The screenshot displays the eTaal web application interface for viewing e-Transactions. The header includes the eTaal logo and the Department of Electronics & Information Technology, Ministry of Communications & Information Technology, Government of India. The navigation menu shows 'Home', 'e-Transactions View', 'Analysis', and 'Downloads'. The current view is 'State Govt. Projects > Haryana > Certificates'. The main content area shows 'Service(s) of Certificates under Haryana' with a date range from 01-01-2013 to 25-06-2013. A box indicates 'Total no. of e-Transactions: 3,35,255'. Below this is a table with the following data:

Sl. No.	Service Name	Total no. of e-Transactions
1	Rural Area Certificate Issuance	62
2	Death Certificate	273
3	Correction of Death Record Detail	667
4	Correction of Birth Record Detail	841
5	Correction of Birth Record Detail	852
6	Death Registration	1,117
7	Birth Certificate	2,523
8	Birth Registration	4,417
9	Income Certificate	13,337
10	Special Backward Class	20,107
11	Resident Certificate	94,112

At the bottom of the interface, there are date range filters: 'From*' (01-01-2013) and 'To*' (25-06-2013), both in DD-MM-YYYY format. A 'Display Type' dropdown is set to 'Tabular Data', and a 'Submit' button is present. The NIC National Informatics Centre logo is visible in the bottom left corner.

- Same data can be viewed in bar chart as well as pie chart, by selecting Display Type in the drop-down list provided below the chart.
- Each standard service can be clicked to further drill-down for details.

5.5 Standard Services

This menu option displays consolidated count of e-Transaction for the Standard services. It shows consolidated e-Transactions count pertaining to both Central and State projects. The user can further drill down to see “State-Wise details of the selected Standard Service”. Following screenshot shows Standard Services.

The screenshot displays the eTaal Standard Services dashboard. At the top, it shows the eTaal logo and the Department of Electronics & Information Technology, Ministry of Communications & Information Technology, Government of India. The dashboard includes navigation links for Home, e-Transactions View, Analysis, and Downloads. Below these, there are tabs for Standard Services, Mission Mode Projects, Across The Counter, NOFN, and Categories. The Standard Services tab is active, showing a table of e-Transaction counts for various services from 01-01-2013 to 25-06-2013. The total number of e-Transactions is 47,91,84,008.

Sl. No.	Standard Service Name	No. of e-Transactions
1	Certificates	62,24,449
2	Licenses and Permits	8,941
3	Land Record	1,23,94,694
4	Integrated Finance Management Services	1,08,076
5	Commercial Tax	1,52,87,369
6	Utility Services and Bill Payment	6,12,533
7	Social Welfare & Pension	1,77,92,160
8	Transport	1,19,58,997
9	Education	2,06,115
10	Public Distribution System	23,32,337
11	Agriculture & Allied	74,157
12	Court and Judiciary	6,12,676
13	Grievance	1,37,869
14	Property Registration	2,560
15	Health	2,35,78,576
16	Employment	2,913

At the bottom of the dashboard, there are input fields for 'From' (01-01-2013) and 'To' (25-06-2013), a 'Display Type' dropdown menu set to 'Tabular Data', and a 'Submit' button. The NIC National Informatics Centre logo is also visible.

- Same data can be viewed in bar chart and pie chart, by selecting Display-type in the drop-down list provided below the chart.
- The user can change time period for displaying data by changing From Date and To Date and clicking on Submit button.

5.5.1 Drilled-down Standard Services

Standard Services can be drilled down to get the State view. Following screenshot shows Drilled-down Service Classification of the service ‘Land Record’.

The screenshot shows the eTaal interface for 'Standard Services > Land Record'. The page title is 'State(s) under Land Record' with a date range of 'From: 01-01-2013 To: 25-06-2013'. A summary box indicates 'Total no. of e-Transactions: 1,24,52,743'. Below this is a table with columns 'Sl. No.', 'State Name', and 'No. of e-Transactions'. The table lists 7 states: Maharashtra (64,81,728), Rajasthan (24,99,829), Tripura (7,309), Haryana (1,86,921), Odisha (91), Andhra Pradesh (25,15,721), and Madhya Pradesh (8,15,144). A 'Total e-Transactions' row at the bottom shows 1,24,52,743. At the bottom of the interface, there are date filters for 'From*' (01-01-2013) and 'To*' (25-06-2013), a 'Display Type' dropdown set to 'Tabular Data', and a 'Submit' button.

Sl. No.	State Name	No. of e-Transactions
1	Maharashtra	64,81,728
2	Rajasthan	24,99,829
3	Tripura	7,309
4	Haryana	1,86,921
5	Odisha	91
6	Andhra Pradesh	25,15,721
7	Madhya Pradesh	8,15,144
Total e-Transactions		1,24,52,743

Drilled-down Standard Services to show List of Land Record

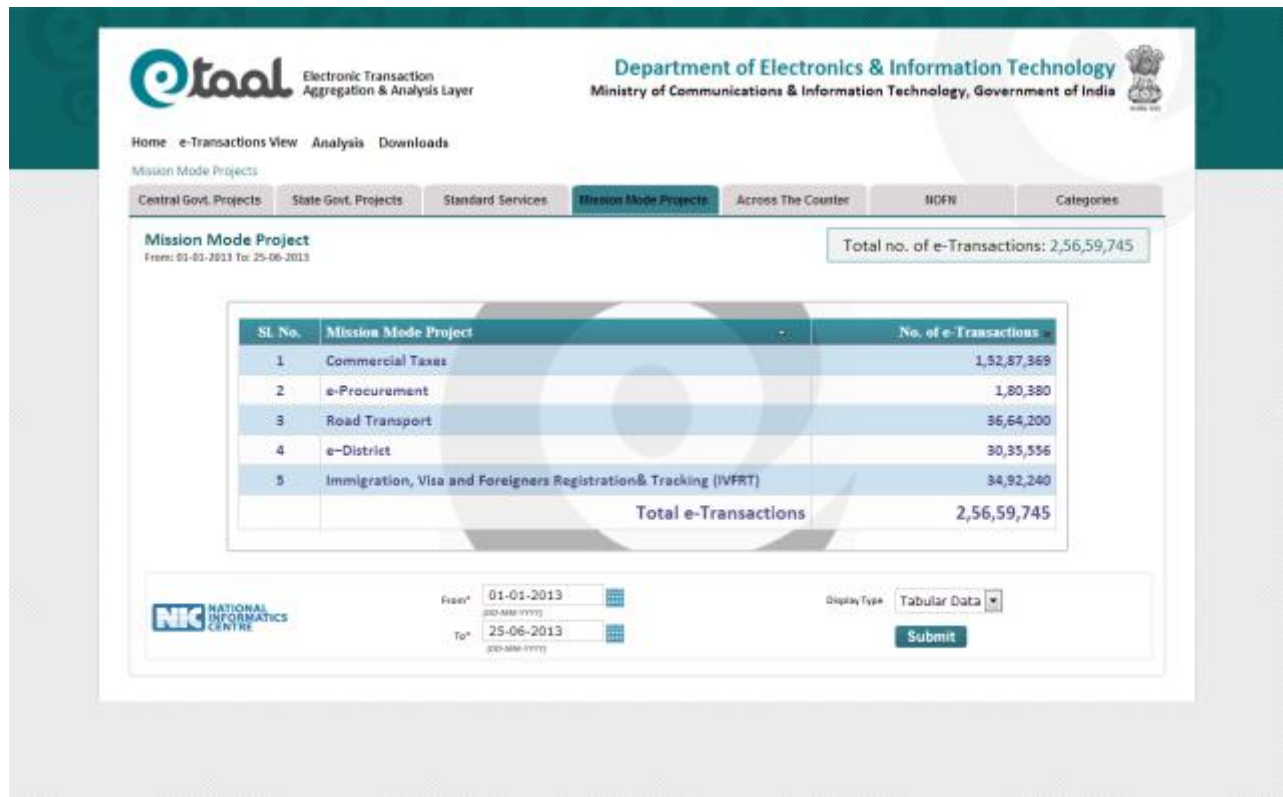
The screenshot shows the eTaal interface for 'Standard Services > Other Services'. The page title is 'State(s) under Other Services' with a date range of 'From: 01-01-2013 To: 25-06-2013'. A summary box indicates 'Total no. of e-Transactions: 10,52,90,129'. Below this is a table with columns 'Sl. No.', 'State Name', and 'No. of e-Transactions'. The table lists 15 states: Maharashtra (7,79,828), Jammu and Kashmir (2,924), Rajasthan (54,80,500), Tripura (5), Haryana (90,486), Gujarat (10,98,716), Odisha (593), Tamil Nadu (2), Chandigarh (34,832), Karnataka (15,43,841), Andhra Pradesh (9,15,01,209), Mizoram (27,108), Himachal Pradesh (13,915), Puducherry (24), and Madhya Pradesh (6,47,16,651). A 'Total e-Transactions' row at the bottom shows 10,52,90,129. At the bottom of the interface, there are date filters for 'From*' (01-01-2013) and 'To*' (25-06-2013), a 'Display Type' dropdown set to 'Tabular Data', and a 'Submit' button.

Sl. No.	State Name	No. of e-Transactions
1	Maharashtra	7,79,828
2	Jammu and Kashmir	2,924
3	Rajasthan	54,80,500
4	Tripura	5
5	Haryana	90,486
6	Gujarat	10,98,716
7	Odisha	593
8	Tamil Nadu	2
9	Chandigarh	34,832
10	Karnataka	15,43,841
11	Andhra Pradesh	9,15,01,209
12	Mizoram	27,108
13	Himachal Pradesh	13,915
14	Puducherry	24
15	Madhya Pradesh	6,47,16,651
Total e-Transactions		10,52,90,129

Drilled-down Standard Services to show Other Services for various States

5.6 Mission Mode Projects (MMPs)

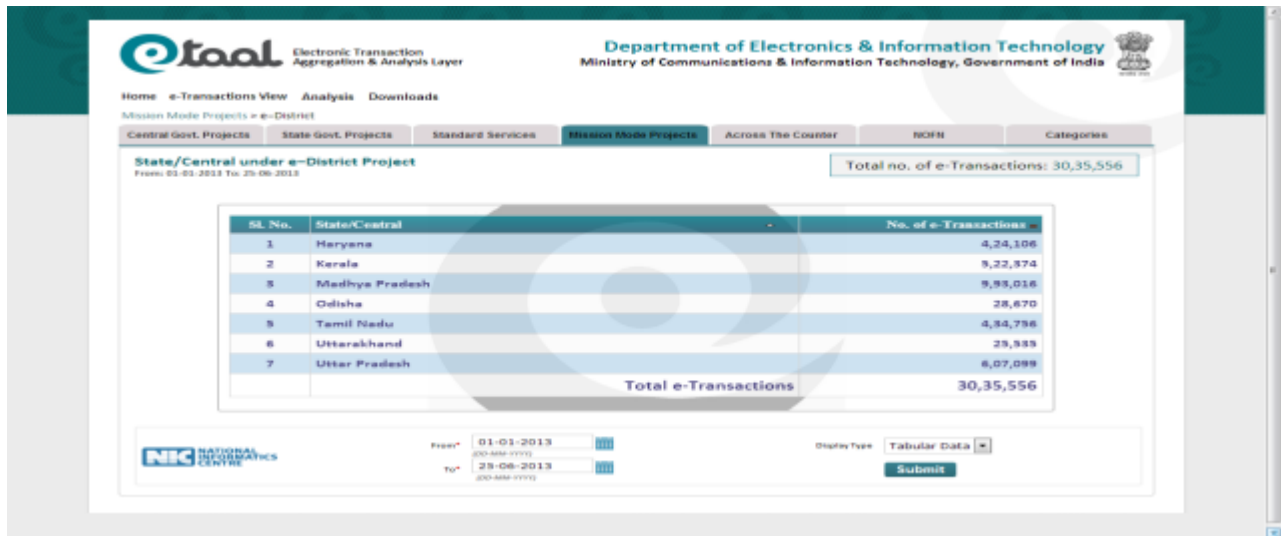
This menu item enables the user to view the e-Transactions count for various National, State and Integrated MMPs across the nation. Following screenshot shows transaction of Mission Mode Projects in tabular form.



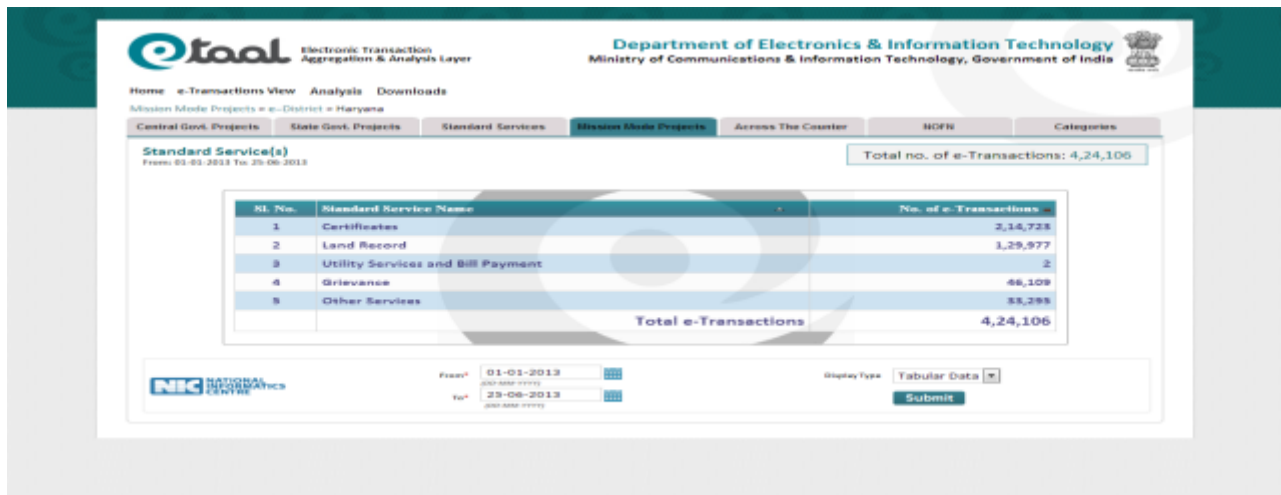
- Same data can be viewed in bar chart and pie chart, by selecting Display-type in the drop-down list provided below the chart.
- The user can change time period for displaying data by changing From Date and To Date and clicking on Submit button.
- It can be clicked to further drill-down for details.

5.6.1 Drilled-down Mission Mode Projects

Mission Mode Projects can be drilled down to get the status of MMPs across various states. Following screenshot shows drilled-down view of e-District MMP.



- Same data can be viewed in bar chart and pie chart, by selecting Display-type in the drop-down list provided below the chart.
- We can change time period for displaying data by changing From Date and To Date and clicking on Submit button.



Service-wise Details of Selected state under Mission Mode Projects

5.7 Across the Counter Services

It includes services meeting the e-Transaction criteria or are assisted services delivered across the counter. Following screenshot shows the states providing across the counter services.

Department of Electronics & Information Technology
Ministry of Communications & Information Technology, Government of India

Home e-Transactions View Analysis Downloads

Across The Counter

Central Govt. Projects State Govt. Projects Standard Services Mission Mode Projects **Across The Counter** NOFI Categories

State(s) providing Across the Counter Services
From: 01-01-2013 To: 25-06-2013

Total no. of e-Transactions: 2,75,48,283

Sl. No.	State Name	No. of e-Transactions
1	Chandigarh	56,336
2	Chattisgarh	27,99,689
3	Karnataka	58,99,320
4	Maharashtra	78,19,004
5	Meghalaya	5,21,327
6	Mizoram	80,519
7	Odisha	29,063
8	Puducherry	3,357
9	Rajasthan	1,03,02,428
10	Tripura	5,04,440
11	Uttar Pradesh	7,265
12	Uttarakhand	25,535
Total e-Transactions		2,75,48,283

From* 01-01-2013 (DD-MM-YYYY)

To* 25-06-2013 (DD-MM-YYYY)

Display Type: Tabular Data

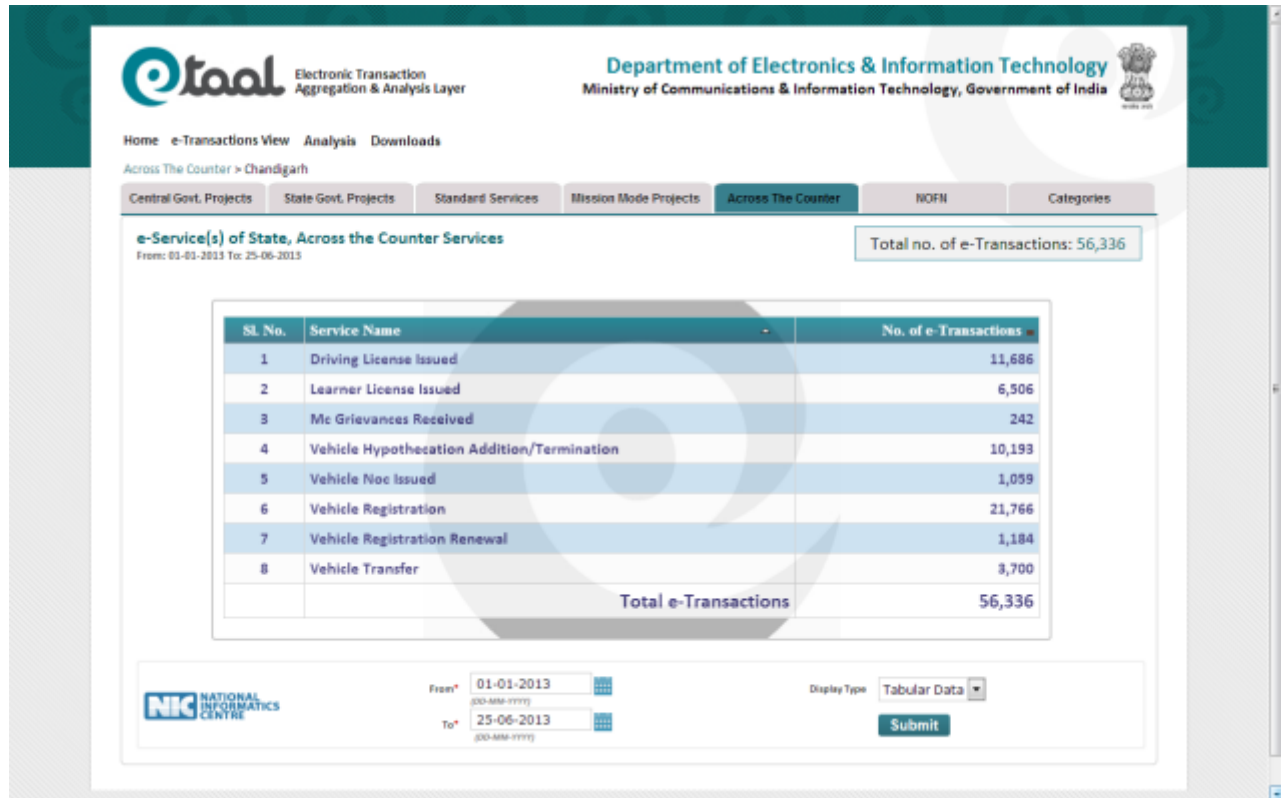
Submit

NIC NATIONAL INFORMATICS CENTRE

- Same data can be viewed in bar chart and pie chart, by selecting Display-type in the drop-down list provided below the chart.
- The user can change time period for displaying data by changing From Date and To Date and clicking on Submit button.
- It can be clicked to further drill-down for details.

5.7.1 Drilled-down Across the Counter Services

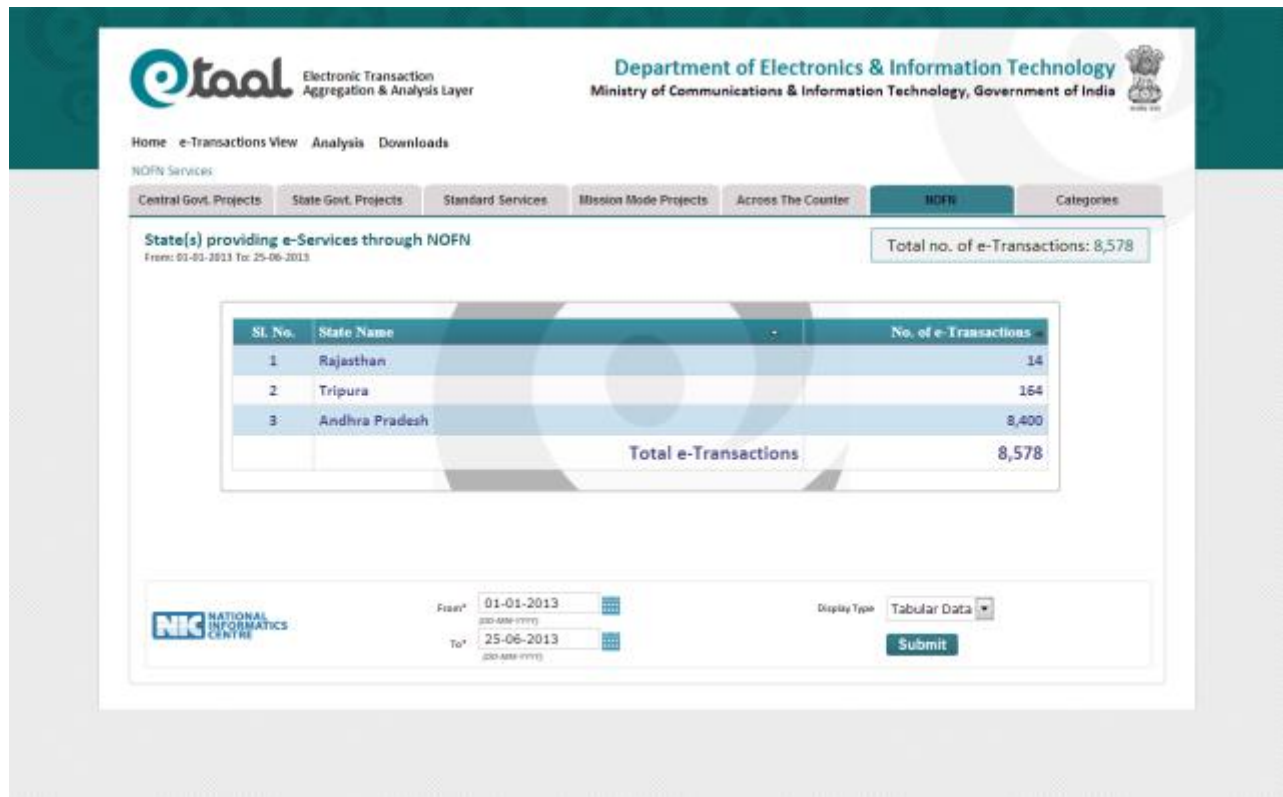
Across the counter services can be drilled down to view services under particular state. Following screenshot shows services of Chandigarh.



- Same data can be viewed in bar chart and pie chart, by selecting Display-type in the drop-down list provided below the chart.
- The user can change time period for displaying data by changing From Date and To Date and clicking on Submit button.

5.8 National Optical Fibre Network (NOFN)

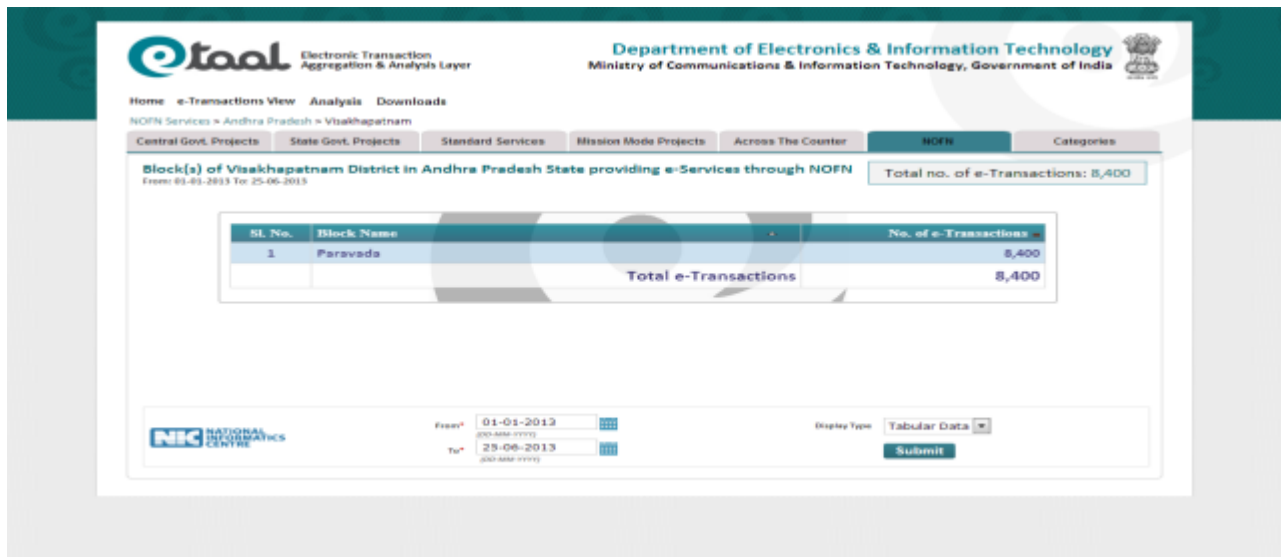
It includes e-Services under National Optical Fiber Network (NOFN). It provides State wise, District wise, Block wise and services wise transaction count of e-Services. Following screenshot shows State wise transaction count:



- Same data can be viewed in bar chart and pie chart, by selecting Display-type in the drop-down list provided below the chart.
- The user can change time period for displaying data by changing From Date and To Date and clicking on Submit button.
- It can be clicked to further drill-down for details.

5.8.1 Drilled-down view of NOFN

User can drill down states providing e-Services through NOFN to view Block wise transactions.



- Same data can be viewed in bar chart and pie chart, by selecting Display-type in the drop-down list provided below the chart.
- The user can change time period for displaying data by changing From Date and To Date and clicking on Submit button.
- It can be clicked to further drill-down for details.



e-Services under NOFN Block

5.9 Categories of Services

Services are classified into four categories i.e. A, B, C and D:

1. **A**-Statutory and Non Statutory Services
2. **B**-Utility Bill payments
3. **C**-Business to Citizen (B2C) Services
4. **D**-Information Services

Following screenshot shows transaction of categories in tabular form.

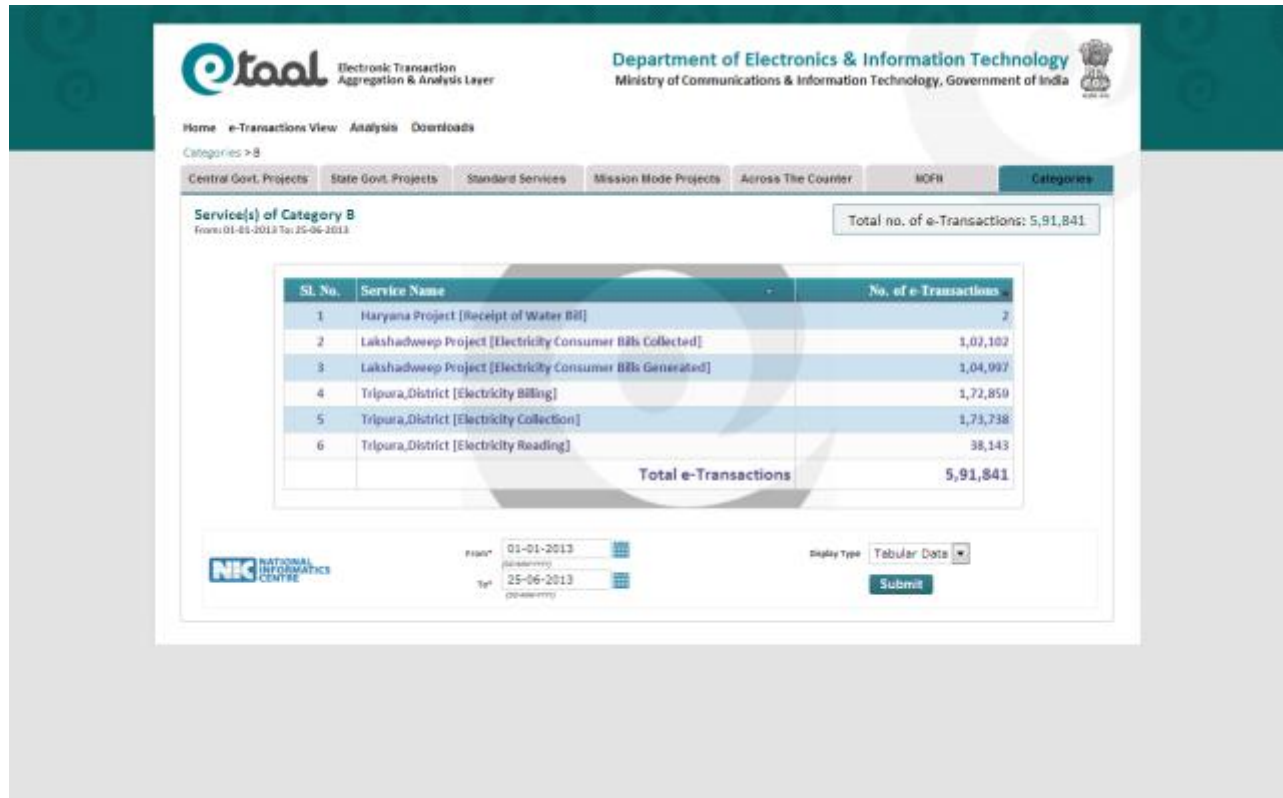
The screenshot displays the eTaal web application interface. At the top, the eTaal logo is on the left, and the Department of Electronics & Information Technology, Ministry of Communications & Information Technology, Government of India is on the right. Below the header, there are navigation tabs: Home, e-Transactions View, Analysis, Downloads, and Categories. The Categories tab is selected, showing a sub-menu with options: Central Govt. Projects, State Govt. Projects, Standard Services, Mission Mode Projects, Across The Counter, NCFN, and Categories. The main content area shows a table titled 'Category(ies)' for the period 'From: 01-01-2013 To: 25-06-2013'. The table has three columns: 'Sl. No.', 'Category', and 'No. of e-Transactions'. The data is as follows:

Sl. No.	Category	No. of e-Transactions
1	Statutory and Non Statutory Services	20,91,97,666
2	Utility Bill payments	5,91,841
3	Business to Citizen (B2C) Services	3,13,45,363
4	Informational Services	24,13,87,920
Total e-Transactions		48,25,22,792

Below the table, there is a date range filter: 'From' 01-01-2013 and 'To' 25-06-2013. A 'Display Type' dropdown is set to 'Tabular Data'. A 'Submit' button is located at the bottom right of the filter area. The NIC National Informatics Centre logo is visible in the bottom left corner of the screenshot.

5.9.1 Drilled-down Categories of Services

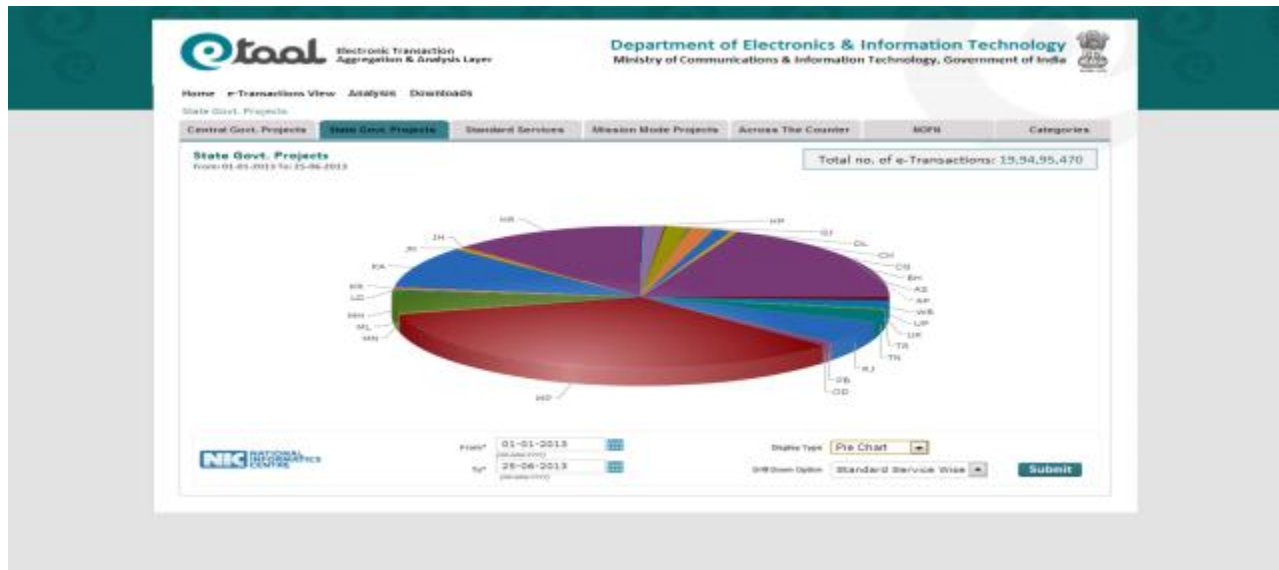
Categories of services can be drilled down to view services under the particular category. Following screenshot shows Drilled-down view of the services under category 'B'.



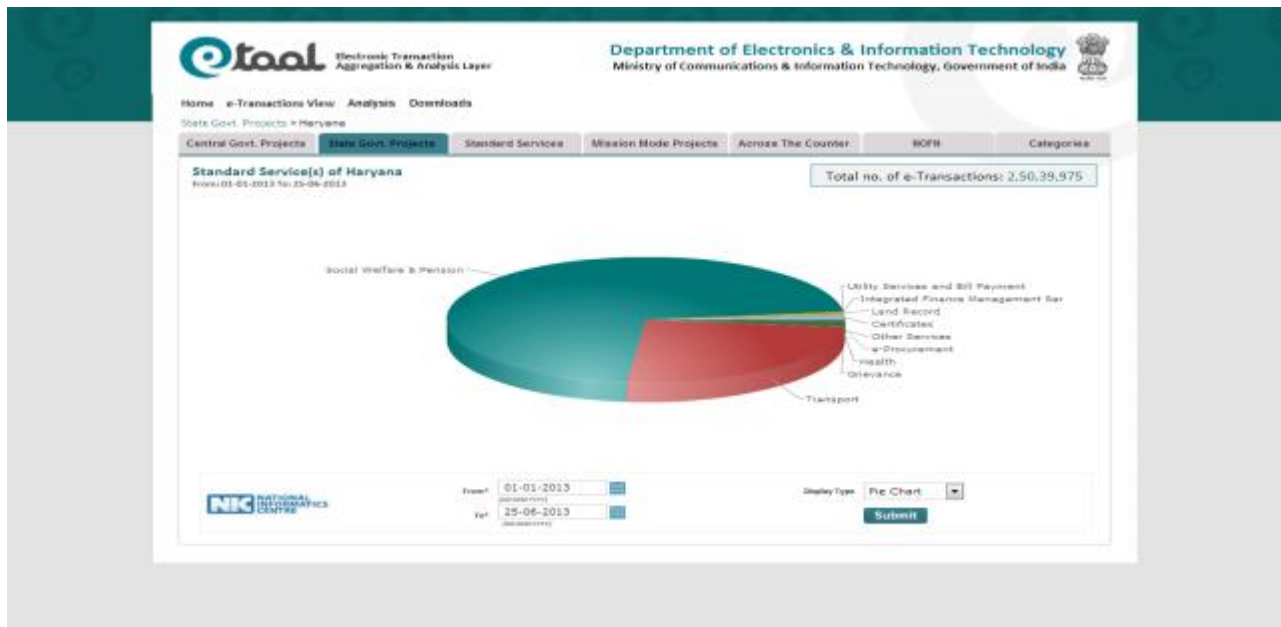
- Same data can be viewed in bar chart as well as pie chart, by selecting Display-type in the drop-down list provided below the chart.

5.10 Other Graphical Views

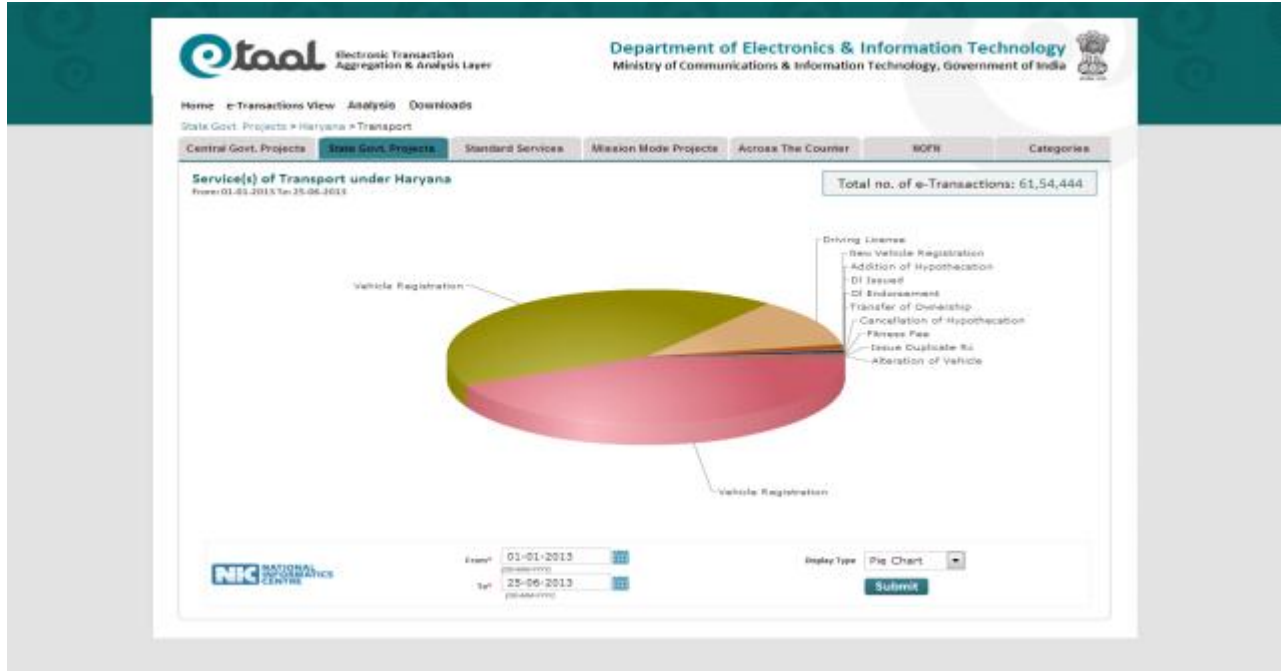
Pie Chart: Following screenshot showstransactions (Sate Govt. Projects) in Pie Chart form.



- Each 3D Pie piece depicts states identified by different color.
- Size of each Pie Piece shows total e-Transactions recorded in that State, as compared to the total number of e-Transactions recorded for all the states during the period specified by user.
- Each Pie Piece can be clicked to further drill-down for details.

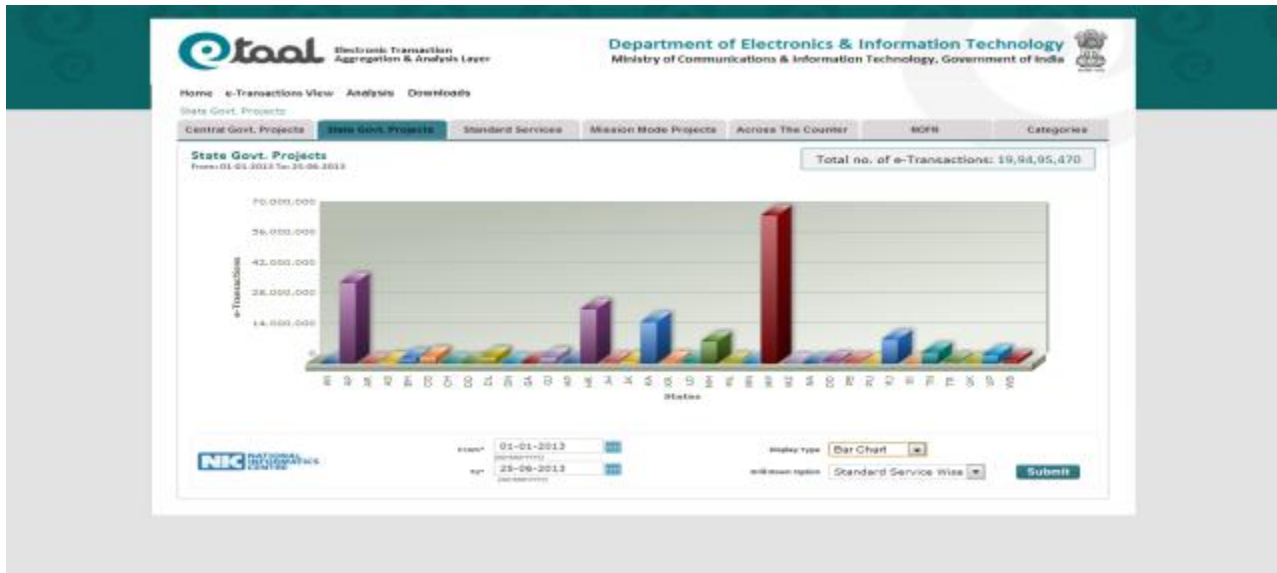


Drilled-down Pie Chart of Standard Services of Haryana

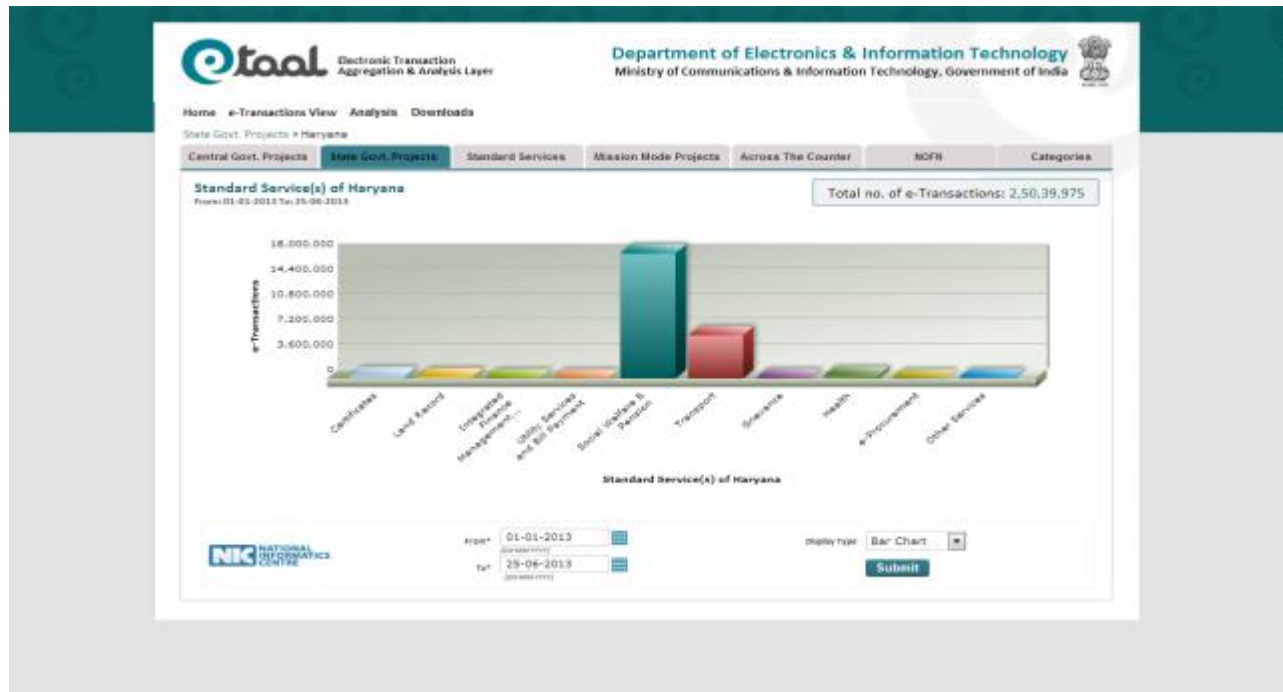


Drilled-down Pie Chart of Services of Transport under Haryana

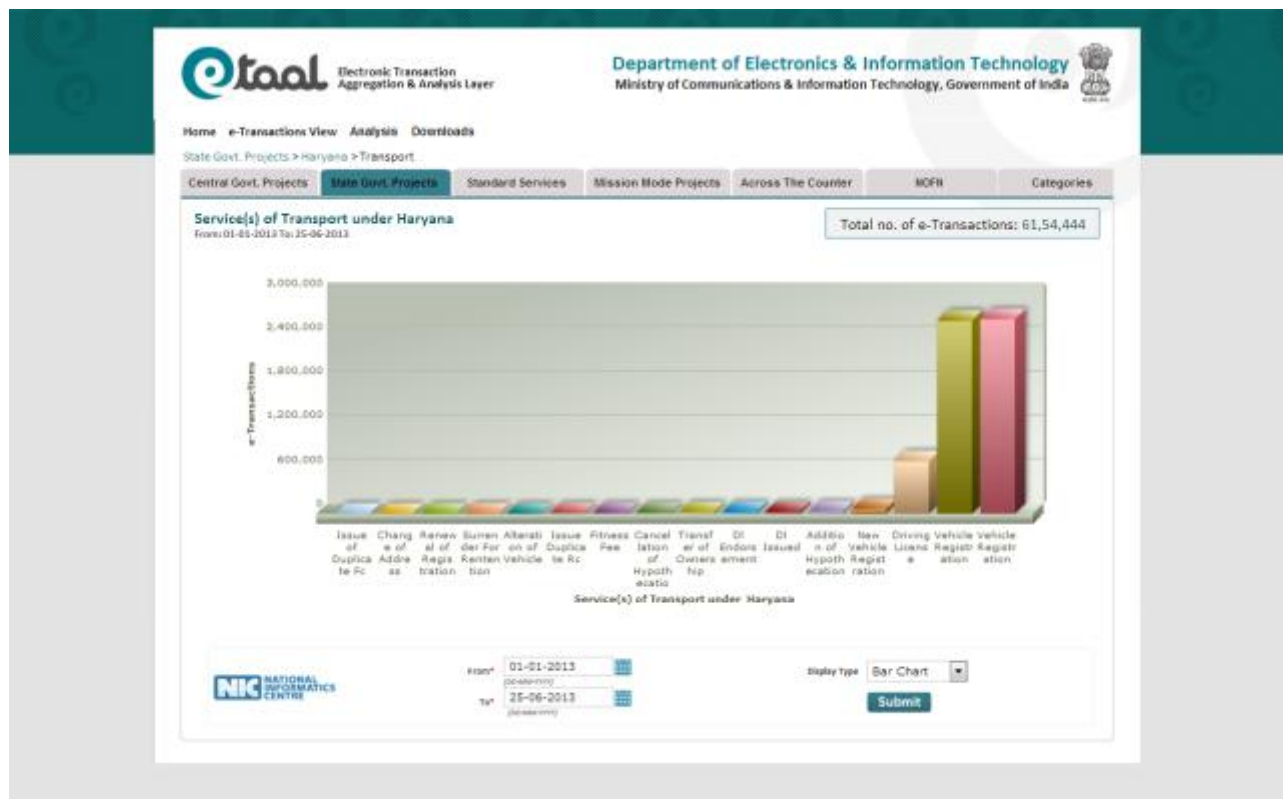
Bar Chart: Following screenshot illustrates the graphical representation of e-transaction count for State Govt. Projects in Bar Chart form.



- Each 3D column bar depicts states identified by different color.
- Height of each column bar shows total transactions occurred in that State, during the period specified by user.
- Each state can be clicked to further drill-down for details.



Drilled-down Bar chart of Standard Services of Haryana

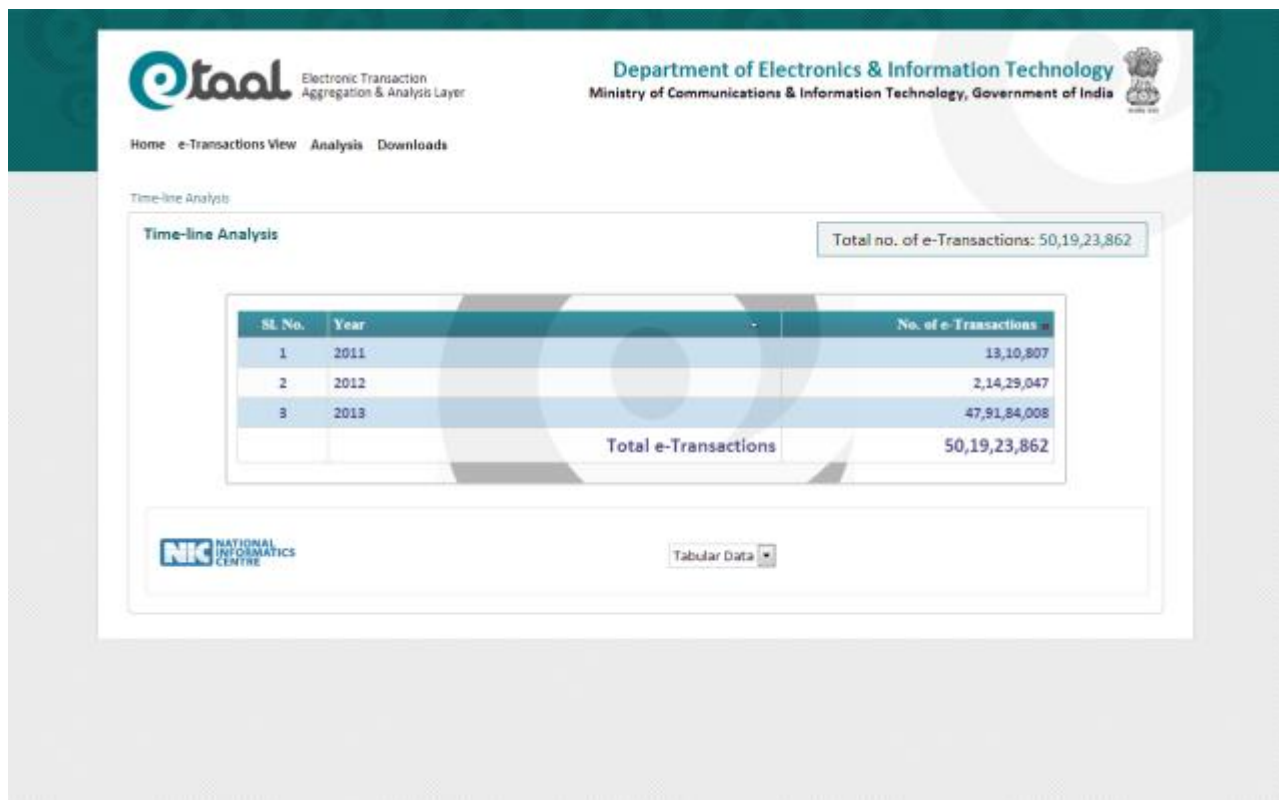


Drilled-down Bar Chart of Transport Services under Haryana

6 Analytical Charts

6.1 Time-line Analysis

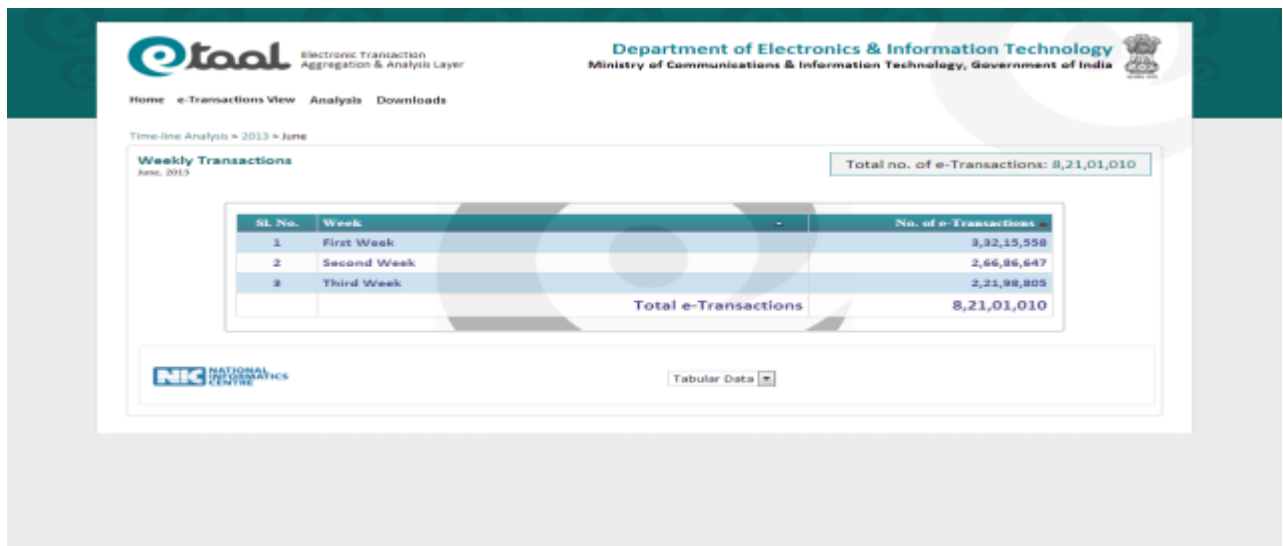
This option enables the user to view the e-Transactions count over a period of time. Following screenshot shows details of e-Transactions in tabular form.



- This table can be further viewed in detail by drilling down as:
 - Months of particular year.
 - Weeks of a particular month.
 - Services in selected week of a particular month of a particular year.
- Same data can be viewed in bar chart and pie chart, by selecting Display-type in the drop-down list provided below the chart.



Drilled-down Time-line Analysis to view Monthly Transactions



Drilled-down Time-line Analysis to view Weekly Transactions



Drilled-down Time-line Analysis to view Standard Service Wise Transactions

6.2 Comparative Analysis

This menu item enables the user to perform an analysis of the variation in e-Transaction count over a period of time e.g. number of e-Transactions in the current year as compared to the number of e-Transactions recorded in a selected year. Or comparison between number of e-transactions recorded in a particular month this year with respect to the number of e-Transactions recorded in the specified year for the same month.



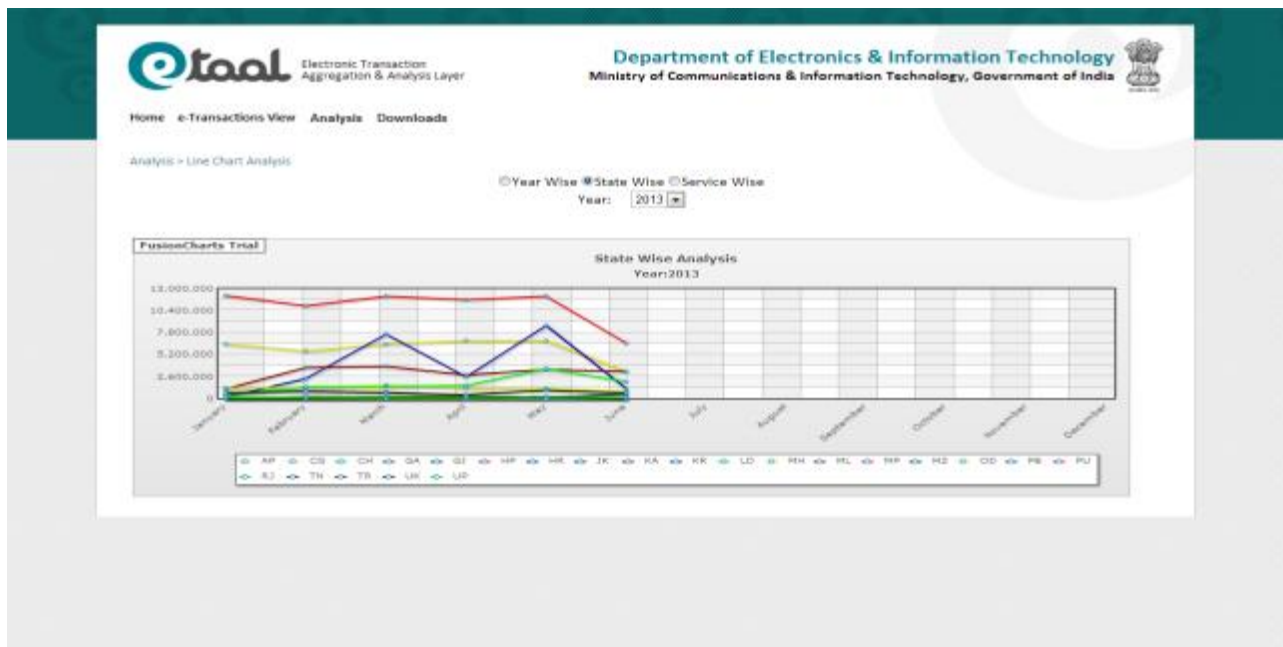
The above graph shows the variation in e-Transactions recorded over months of the year 2013.

The user may perform an analysis of number of e-Transactions recorded between two different years (Month Wise) by selecting the years amongst which the comparison is to be made through the drop down lists.



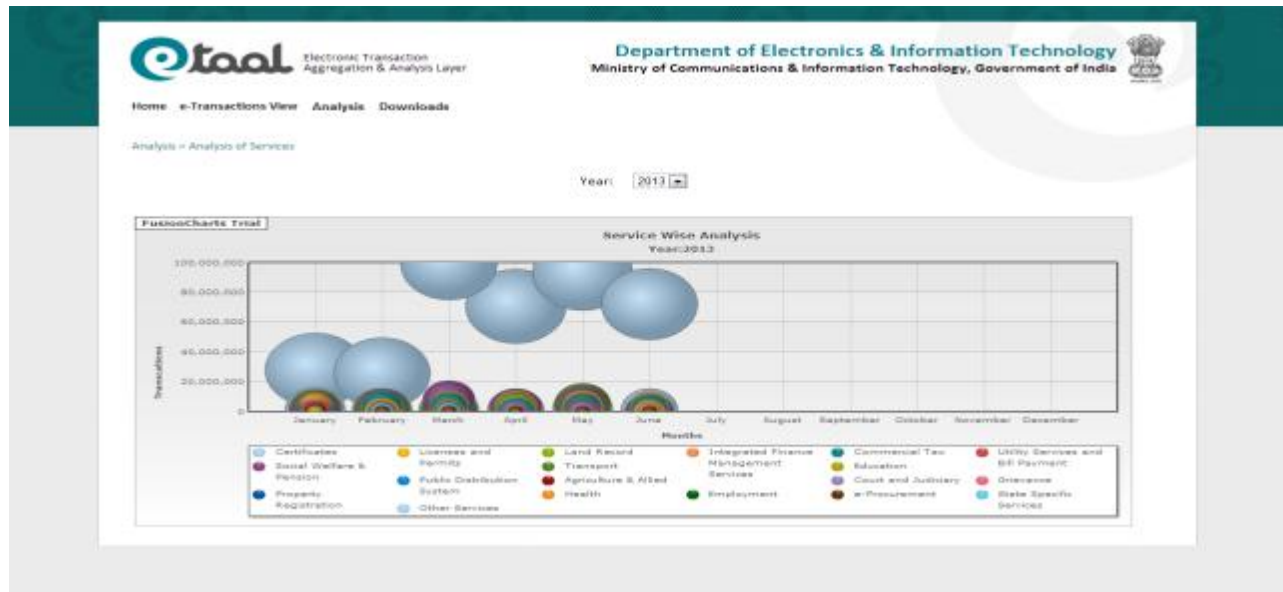
6.3 Line Chart Analysis

User can perform Year Wise, State Wise and Service Wise analysis of no. of e-Transactions by selecting desired year from the drop down list. Following screenshot shows the State Wise analysis for the year 2013.



6.4 Analysis of Services

User can perform Service Wise analysis of no. of e-Transactions by selecting desired year from the drop down list. Following screenshot shows the Service Wise analysis for the year 2013 in the form of bubbles.



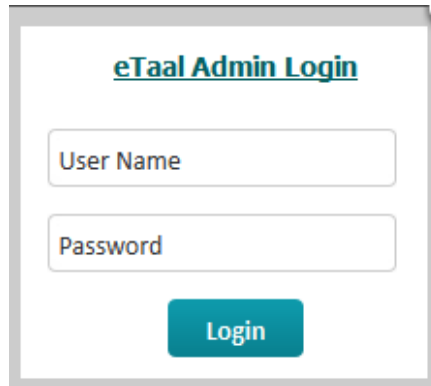
6.5 % Share of Services

User can perform Service Wise analysis of no. of e-Transactions in terms of percentage by selecting desired year from the drop down list. Following screenshot shows the Service Wise analysis for the year 2013 in the form of bubbles.



7. Service Enrolment

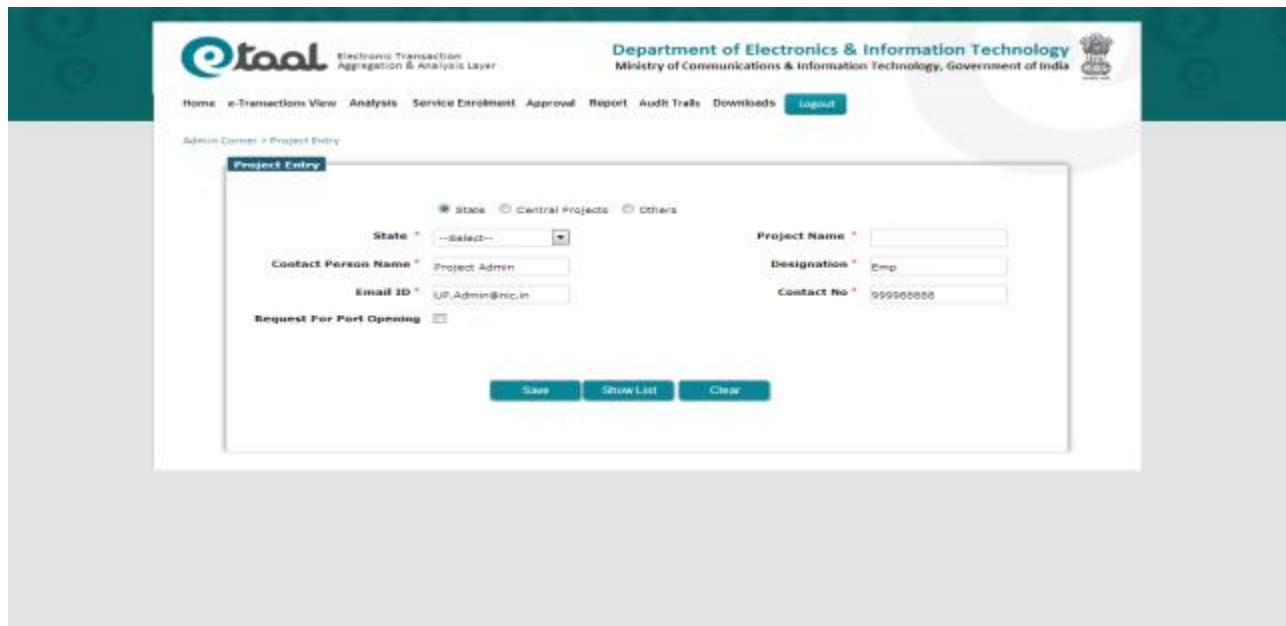
Service Enrolment is reserved for administrator for approving the Project entry, Service entry and Enrolment of web services by owner of the project. This option could be invoked only after login through Admin Login.



The screenshot shows a login form titled "eTaal Admin Login". It contains two input fields: "User Name" and "Password". Below these fields is a blue "Login" button.

7.1 Project Entry

Entry of the project is done by the owner of the project. The owner needs to specify the Project name along with the person who has requested for the entry of it. Screenshot of the project entry page is shown below:



The screenshot displays the "Project Entry" form within the eTaal system. The header includes the eTaal logo, "Electronic Transaction Aggregation & Analysis Layer", and the Department of Electronics & Information Technology, Ministry of Communications & Information Technology, Government of India. The navigation menu includes Home, e-Transactions View, Analysis, Service Enrolment, Approval, Report, Audit Trails, Downloads, and Logout. The form itself has a "Project Entry" tab and a "Request For Port Opening" checkbox. It contains several input fields: "State" (a dropdown menu), "Contact Person Name" (with "Project Admin" entered), "Email ID" (with "UP.Admin@nic.in" entered), "Project Name", "Designation" (with "Emp" entered), and "Contact No" (with "99900000" entered). At the bottom of the form are three buttons: "Save", "Show List", and "Clear".

Once all the details of the person along with the Project name are entered, it can be saved by clicking on the Save Button. Complete list of the projects can be viewed by clicking on the 'Show List' Button. Clear Button is used to clear the details already entered in the current screen. The Approve Button is used to approve the list and save it permanently in the database.

7.2 Service Entry

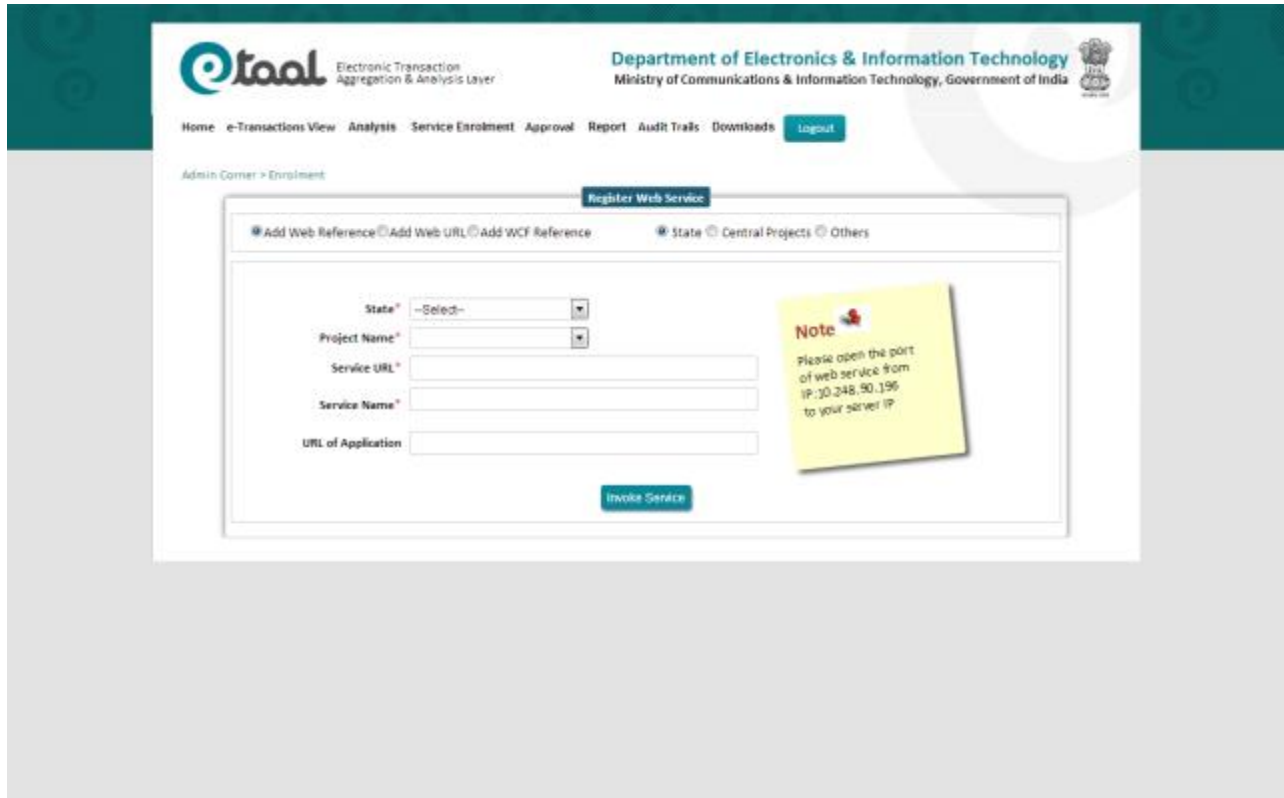
Entry of service is done by the owner of the project. He/she needs to specify the Service name along with the person who has requested for the creation of it. Screenshot of the service creation page is shown below:

Service creation consists of two sub-sections:

1. 'Service Reported By and Service Details' Section: In this section, details of the person who is reporting the service is entered. The name, designation, contact no. and email id is captured.
Also, details of services are entered in following format:
 - a. Select Project, Category (A,B,C,D), Major Service (Standard Service), Minor Service (Sub Standard Service).
 - b. Enter local name of service to be added and brief description of the service.
 - c. Check whether the service is across counter or mission mode project.
2. 'e-Transaction Benchmark' Section: All the benchmark are required to be fulfilled by the e-Service to participate in eTaal which are as follows:
 - a. Service is requested through electronic means including mobile devices.
 - b. Workflow/approval process is electronic.
 - c. Database is electronic/digitized.
 - d. Service delivery is electronic.

7.3 Enrolment

Web service can be registered by owner of the project. He/she needs to register the Web Service along with the details. This module is smart enough to identify and verify the correctness of the input parameter and output parameter.



Data exchange in eTaal is based on web service. This page is used to add new web services/URLs in following steps:

1. Select type of web service: There are three types of web services:
 - i. Web Reference: It includes only .asmx type web services.
 - ii. Web URL: It includes .php and java type web services.
 - iii. WCF Reference: It includes only .svc type web services.

Select the desired type of web service. Also select whether it is state project or central project or others.

Let us take an example of 'web referenced based' service of state 'Mizoram'. Details of service are:

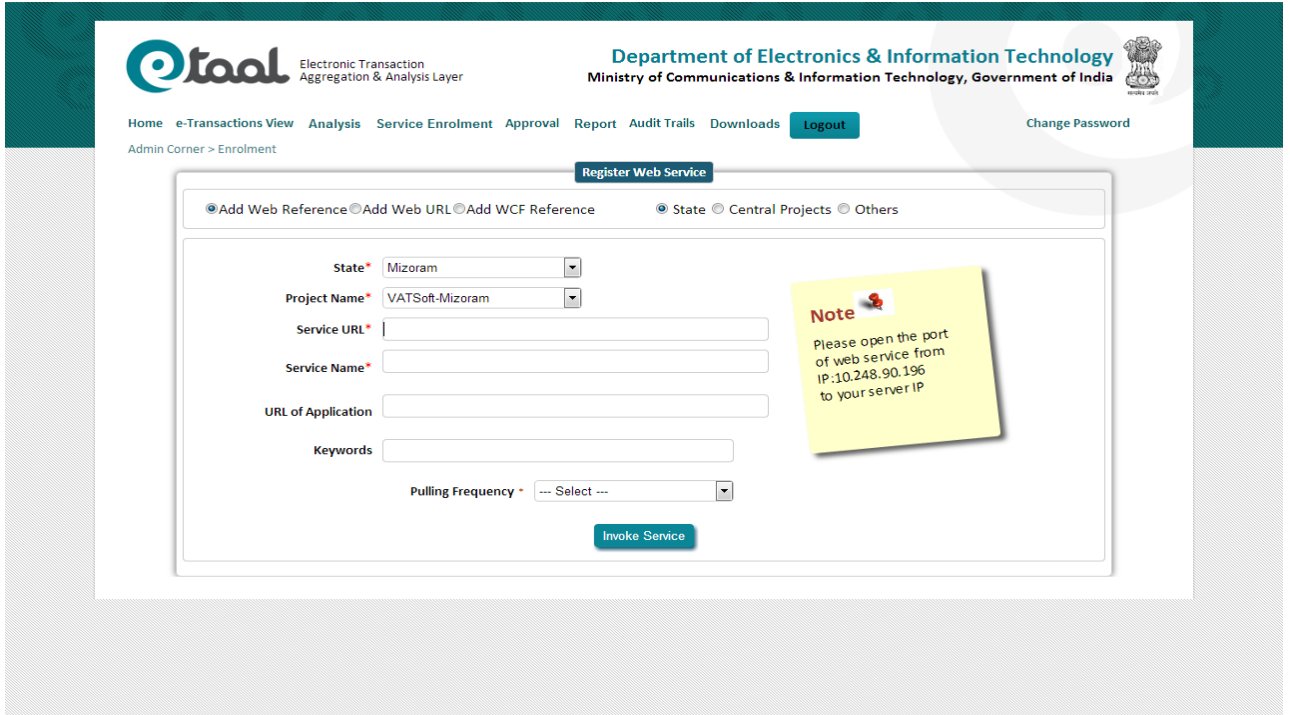
URL: <http://web4.kar.nic.in/mizoramnesd/Service1.asmx>

UserId: vatmizoram

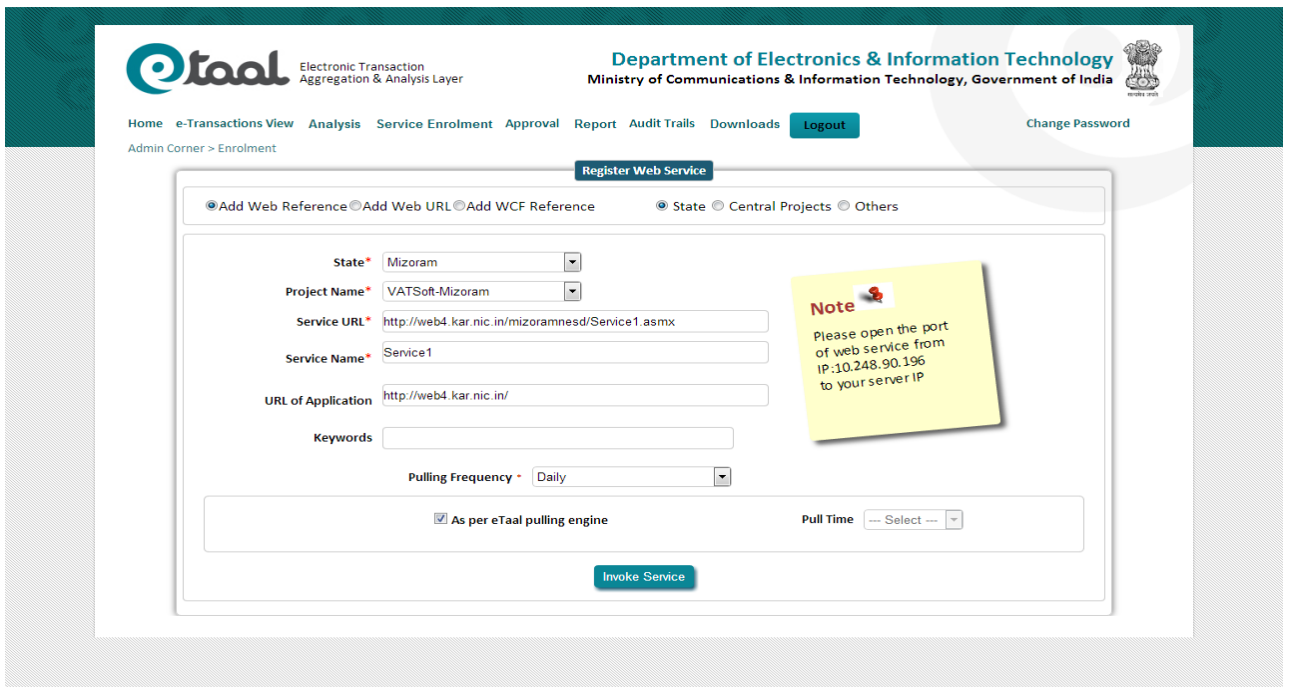
Password :abc%YZ\$4442

Select Add web reference and state as shown in above screenshot.

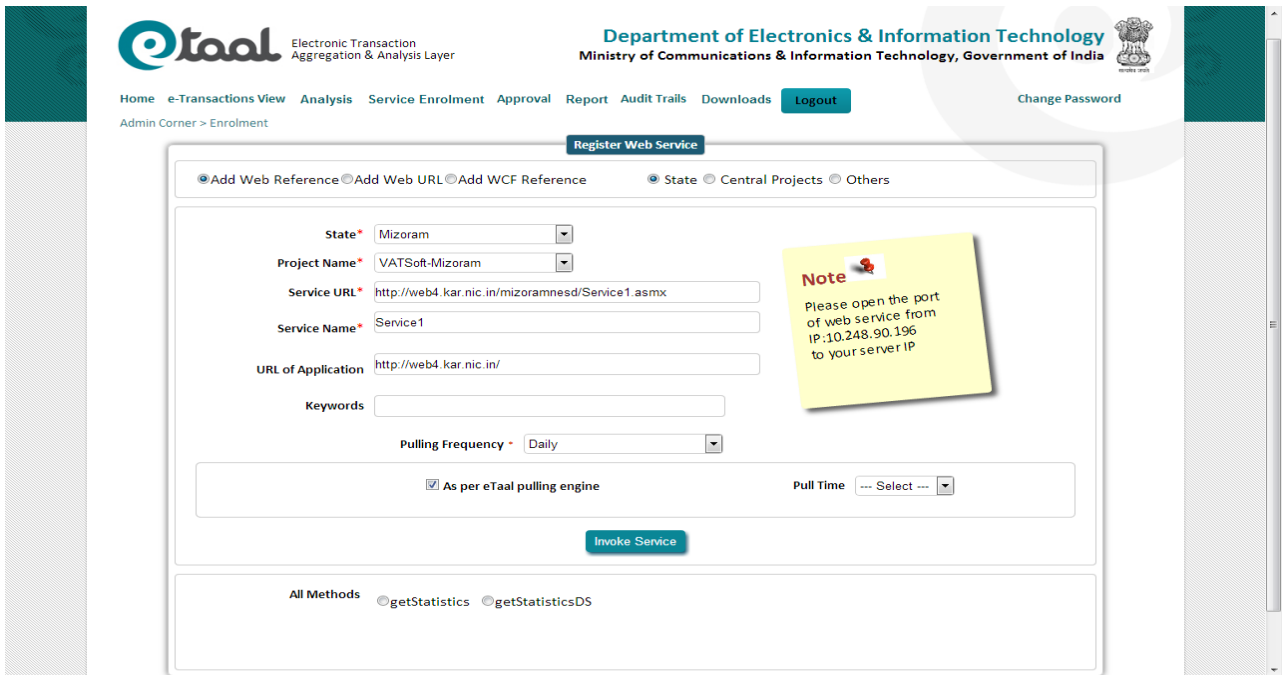
2. Select State and Project Name. Here the state is 'Mizoram' and project is 'VATSoft-Mizoram'.



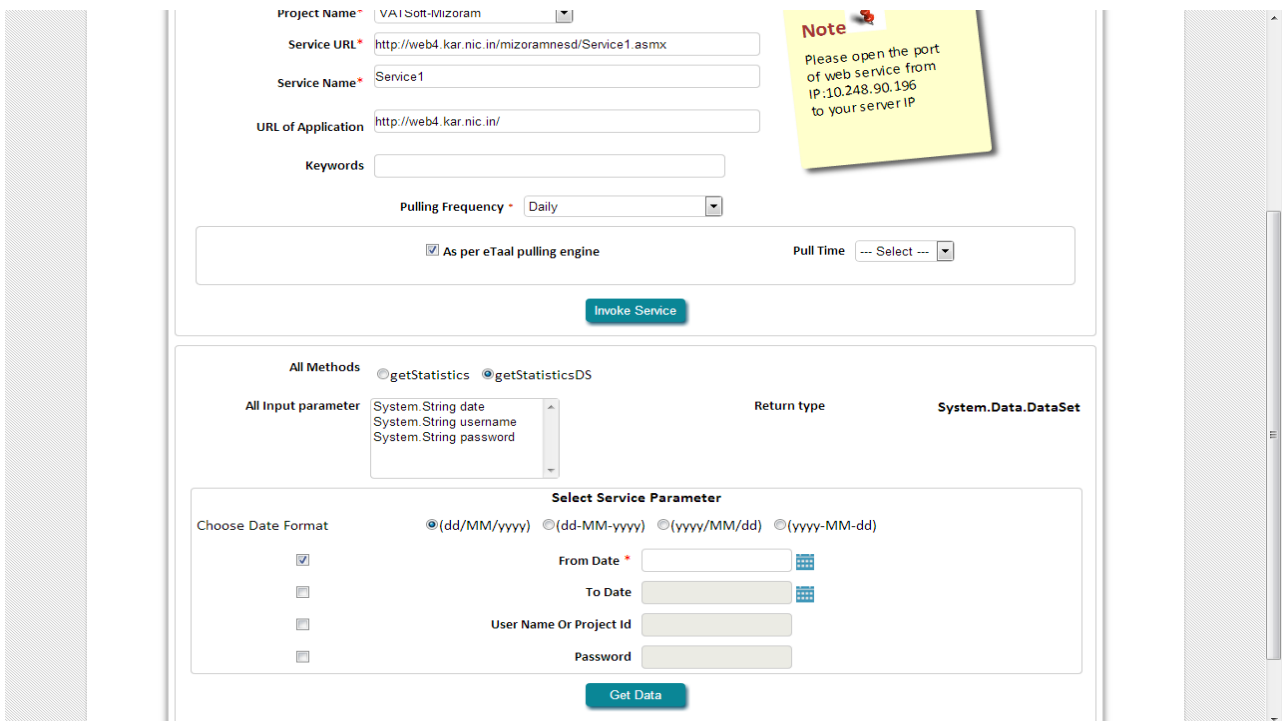
3. Enter 'Web Service Name'. The web service name should be 'Name of the class used in web service'.
4. Enter URL of application and select pulling frequency. Then click on 'Invoke Service' button.



- 5. System will automatically show all the available methods under selected web service. Here two methods are available i.e. getStatistics and getStatisticsDS.

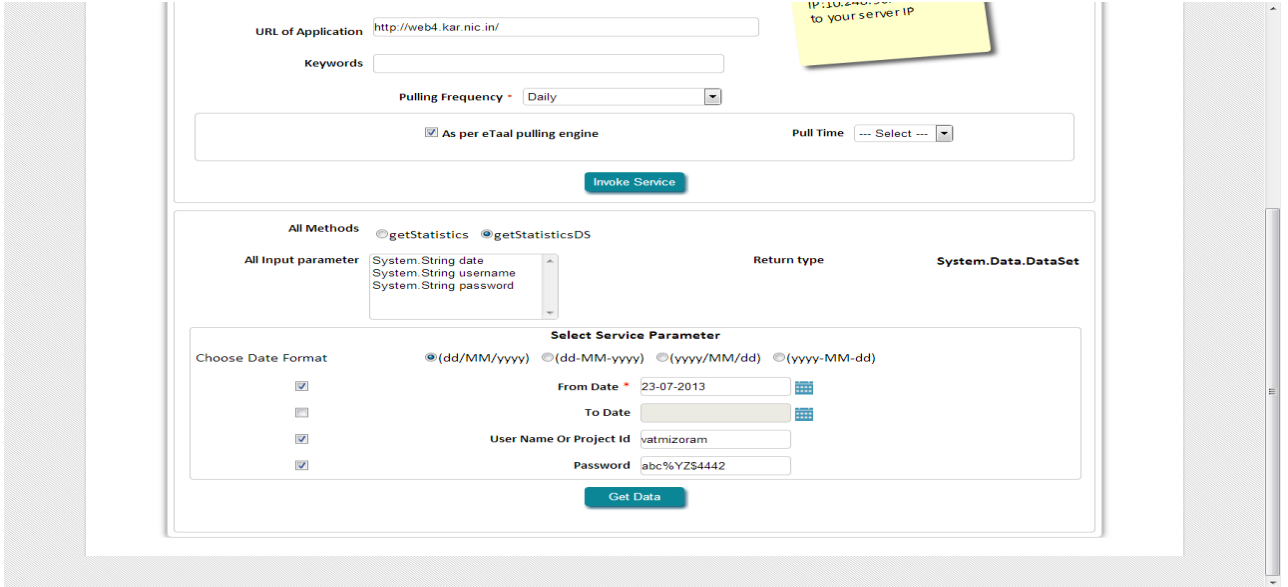


- 6. Select the desired method name. System will automatically show all the input parameters available under that selected web method. At the same time, it shows 'Return type' of the method.

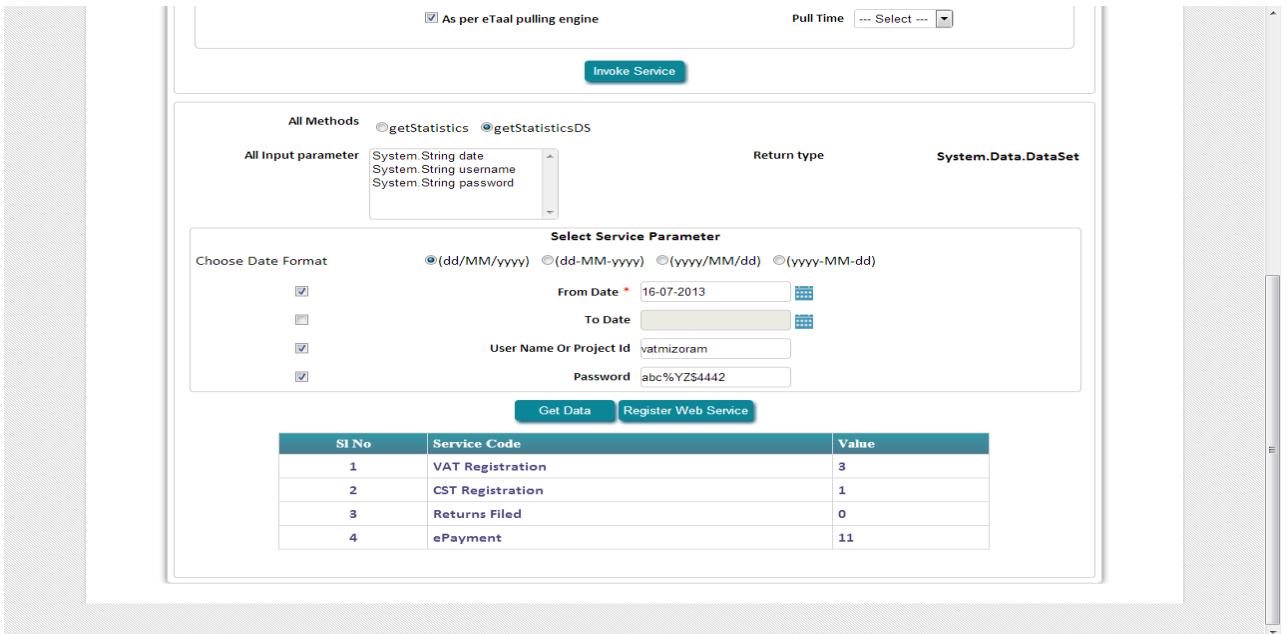


In this service the desired method is getStatisticsDS. It shows three parameters i.e. date, username and password. It also shows Return type which is DataSet in this example.

7. It provides Test Area which accepts the value of the input parameter.



8. After inserting value of parameters and clicking on Get Data button we get the output.



9. Click on 'Register web service' button to save the web service in eTaal application.

Once the entire process as stated above is complete, the service is ready for integration with eTaal. Before integration, the e-Service is subject to validation and approval by the National Level Project Management Committee (PMC). Similar Committees exist at the level of States and UTs.

8. Technical Specifications of eTaal

Technical Specifications	Description
Technology	Microsoft Technologies with WCF
Browser Supported	IE 7.0 or above, Mozilla Firefox 3.6 or above, Chrome 15.0 or above
Reporting	HTML Reporting
Minimum System Specification for running eTaal	Any OS having any browser with internet
Unicode Compliant	Yes
Concurrent Access	Yes

9. Architecture

eTaal is broadly categorized into following three components:

1. Dashboard Server Connector (DSC)

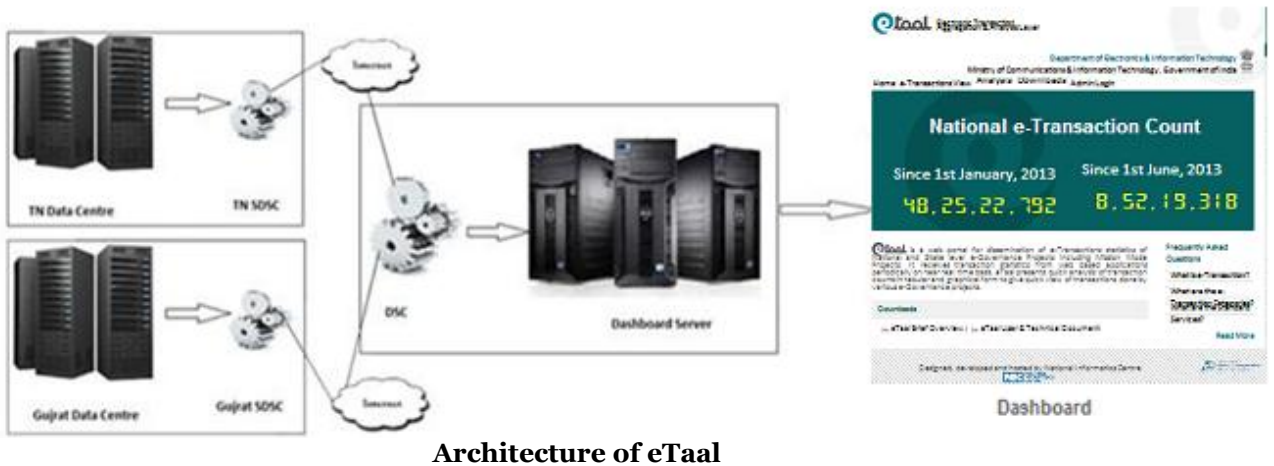
Dashboard Server Connector (DSC) runs as a service on Central Server and acts as watchdog to pull the e-Transaction count from various servers located at State and Centre.

2. Dashboard Client Connector (DCC)

Dashboard Client Connector (DCC) runs as a service on the Servers which are providing the e-Transaction count details.

3. eTaal Portal

eTaal Portal is a web portal to give view of dashboard.



In the architecture of eTaal drawn above, one DSC and multiple DCCs exists. One DCC is for each application.

10. Guidelines

This section provides guidelines for application administrator / developer to create Client Connector and deploy on their servers.

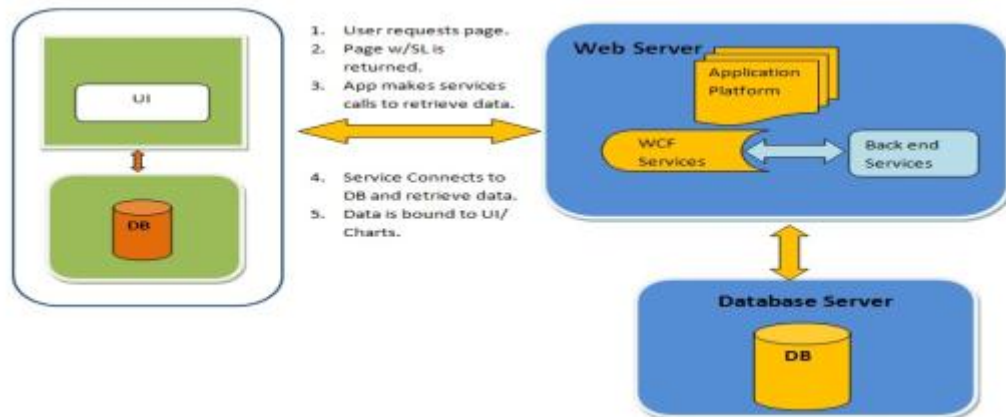
10.1 Prerequisites for participation in eTaal

1. Server on which the data that needs to be integrated with eTaal resides must be on Internet.
2. The application whose data needs to be integrated with eTaal may be on any operating environment (Windows/Linux; SQL Server/Oracle/MySQL/PostgreSQL; .Net /Java/PHP etc.)

10.2 Steps for creation of Client Connector

Client Connector may be Web Service, WCF service or URL based data sharing application. Client Connector may be written in any language(C#, VB.Net, Java, PHP etc.). Creation of Client Connector will consist of following steps:

1. Creation of Web Service or WCF service or URL based data sharing application
2. Creation of 'Stored Procedure' in the database which will give count of e-Transaction to web connector
3. Writing of the code to access stored procedure created to get the e-Transaction count.



10.3 Specifications of Client Connector

The **specifications** of Client Connector are given below:

Web Method Name: e-TransactionCount

Input Parameters: The web method created for the purpose will have following parameters:

S.No.	Parameter Name	Format	Example
1	Transaction Date	DD/MM/YYYY	23/11/2012
2	User Name	String	Deity
3	Password	String	xYz#\$36F

Response Type:The web method will return either XML or dataset.

Format of XML:

```
<?xml version="1.0" encoding="utf-8" ?>
<eTaal_State>
  <response ServiceCode="A001102200002" Count="23" LocationCode="08"/>
  <response ServiceCode="C008104800004" Count="56" LocationCode="09" />
  <response ServiceCode="B005104200005" Count="92" LocationCode="13" />
  <response ServiceCode="A016105900007" Count="31" LocationCode="31" />
</eTaal_State>
```

Format of dataset:

This will have following set of data: ServiceCode, ServiceCount, LocationCode

Error Code Returned by Service

S.No.	Error Code	Error Description
1	-1	Transaction Date parameter is missing
2	-2	Wrong credentials
3	-3	Data is not available on this date

Format of XML having Error Code:

```
<?xml version="1.0" encoding="utf-8" ?>
<eTaal>
  <response ServiceCode="-1" Count="-1" />
</eTaal>
```

10.4 Development and hosting environment

1. Client Connector can be created in any of the programming language i.e. Java, C#, VB.Net, PHP etc.
2. It can be hosted on any web server i.e. IIS, Apache Tomcat etc.

10.5 Post deployment steps

1. The port on which the service is running is required to be opened for eTaal Server Connector.
2. Share the URL of **Web Service** with UserName and Password to eTaal Administrator.

10.6 Data pulling mechanism and assumptions

Enrolment of web service by user

1. Web service is created by user and hosted on server where project (State/Central) related data resides.
2. Port opening request is made to provide communication between servers (i.e. from Project server to eTaal server).
3. Enrolment of web service is done from enrolment page (in Admin Corner) of eTaal.

eTaal Process of data pulling from a project

1. Port opening request is made to provide communication between servers (i.e. from eTaal server to the project server).
2. Approval of registration by Project Management Committee (PMC).
3. eTaal fetches data on daily basis by invoking web service with current date as parameter and following data is obtained:
 - a. List of services provided by project on given date.
 - b. Transaction count.
 - c. Date of transaction.
 - d. Location Code as per census (if any).
4. The Process of invoking web service is done as per schedule determined by the user during enrolment and data is updated (in case of zero transaction of service, no data is updated) in eTaal.
5. For projects having irregular data updating services, web service is invoked by eTaal, it will check for last update (date/time) and pull data from that date.
6. Reconciliation of data between eTaal and project server to be combined once a week.

Assumptions

1. The web service could be hosted on live server or on intermediate server, as defined during enrolment.
2. Data updated on the project server is accumulative during the day and is reset to zero at 00:00 hrs.

10.7 Sample Codes

Sample Code in .Net

Interface

```
[ServiceContract]
public interface IeTaalService
{
    [OperationContract]
    [FaultContract(typeof(InvalidCodeFault))]
    int eTransactionCount(DateTime TransactionDate, String UserName, String Password);
}
```

Implementation of Interface

```
public class eTaalService : IetaalService
{
    #region Call StoreProcedure and Fetch Transaction

    string ConnectionString = System.Configuration.ConfigurationSettings.AppSettings["connectionstring"];
    public DataSet eTransactionCount(DateTime TransactionDate, String UserName, String Password)
    {
        try
        {
            var parms = new SqlParameter[3];
            parms[0] = new SqlParameter("@TransactionDate ", TransactionDate);
            parms[1] = new SqlParameter("@UserName", UserName);
            parms[2] = new SqlParameter("@Password", Password);
            return (SqlHelper.ExecuteDataset(ConnectionString, CommandType.StoredProcedure, "SP_eTransactionCount", parms));
        }
        catch (Exception ex)
        {
            throw new FaultException<InvalidCodeFault>(new InvalidCodeFault(ex.Message), new FaultReason(ex.Message));
        }
    }
}
```

Sample Code in Java

```

package in.nic.exchange.action;

import in.nic.exchange.db.DBConnection;

import java.sql.Connection;
import java.sql.PreparedStatement;
import java.sql.ResultSet;
import java.sql.SQLException;
import java.sql.Statement;
import java.text.SimpleDateFormat;
import java.util.ArrayList;
import java.util.Date;
import java.util.HashMap;

public class ExchangeWebService {

public ArrayList<HashMap<String, Float>> countRegistrationsActivityWise(Date date) {

    Connection con = null;
    PreparedStatement pstmt = null;
    ResultSet rs = null;
    System.out.println("date = " + date);
    String query = "select name, sum(transactions) as total_trns from reactivity ra left join
(select * from dashboard where trndate = ?) db on db.activity=ra.code group by ra.code,ra.name order by
ra.code;";

    SimpleDateFormat formatter = new SimpleDateFormat("yyyy-MM-dd");
    String d = formatter.format(date);
    ArrayList<HashMap<String, Float>> result = new ArrayList<HashMap<String, Float>>();
    HashMap<String, Float> map = null;
    try {
        con = DBConnection.getConnection("", "");
        pstmt = con.prepareStatement(query,
ResultSet.TYPE_SCROLL_INSENSITIVE,ResultSet.CONCUR_UPDATABLE);
        pstmt.setString(1, d);
        rs = pstmt.executeQuery(query);
        System.out.println("query = " + query);
        while(rs.next()) {
            map = new HashMap<String, Float>();
            map.put(rs.getString("name"), rs.getFloat("total_trns"));
            result.add(map);
        }
    } catch(SQLException sqle) {
        sqle.printStackTrace();
    } catch(Exception e) {
        e.printStackTrace();
    } finally {
        try {
            rs.close();
            pstmt.close();
            con.close();
        } catch (SQLException e) {
            // TODO Auto-generated catch block
            e.printStackTrace();
        }
    }
}
}

```

```

        map = new HashMap<String, Float>();
        map.put(rs.getString("name"), rs.getFloat("total_trns"));
        result.add(map);
    }
} catch(SQLException sqle) {
    sqle.printStackTrace();
} catch(Exception e) {
    e.printStackTrace();
} finally {
    try {
        rs.close();
        pstmt.close();
        con.close();
    } catch (SQLException e) {
        // TODO Auto-generated catch block
        e.printStackTrace();
    }
}
return null;
}

public float countRegistrations(Date date) {
    Connection con = null;

    Statement stmt = null;
    ResultSet rs = null;
    System.out.println("date = " + date);
    String query = "select sum(transactions) as trns from dashboard where trndate='";
    SimpleDateFormat formatter = new SimpleDateFormat("yyyy-MM-dd");
    String d = formatter.format(date);
    System.out.println("date = " + date);

    try {
        con = DBConnection.getConnection("", "");
        stmt =
con.createStatement(ResultSet.TYPE_SCROLL_INSENSITIVE,ResultSet.CONCUR_UPDATABLE);
        query += d + "'";
        rs = stmt.executeQuery(query);
        System.out.println("query = " + query);
        if(rs.next()) {
            return rs.getFloat("trns");
        } else {
            return 0;
        }
    }

    } catch(SQLException sqle) {
        sqle.printStackTrace();
    } catch(Exception e) {
        e.printStackTrace();
    } finally {
        try {
            rs.close();
            stmt.close();
            con.close();
        } catch (SQLException e) {
            // TODO Auto-generated catch block
            e.printStackTrace();
        }
    }

    return 0;
}
}
}

```

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