CSC E-Governance Services India

Massive Scalability Capability of CloudStack
Supports More Than 10 Times Growth

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Massive Scalability Capability of CloudStack Supports More Than 10 Times Growth for CSC E-Governance Services India

India is the most populous democracy in the world with a population in 2022 of 1.38 billion. Of this, some 65% (900 million) live in remote and rural locations. When Digital India, a flagship program of the Indian Government designed to transform the country into a digitally empowered society and knowledge economy, was launched in 2015 this population distribution was recognised as a potential problem for access to the scheme's benefits.

One of the key parts of Digital India are the Common Service Centres (CSC). These are the access points for delivering essential public utility services, social welfare schemes, healthcare, financial, education and agricultural services in rural and remote regions of the country. Additionally, it would also deliver key G2B services.

Government Services
Citizens can conveniently avail G2C services from nearby CSC Kiosk like Passport, Pan, Birth, Death, Land, Transport, Elections, UID

Business Services
Multiple business services including utility bill payments, Insurance, Travel, Telecom etc.

Financial Inclusion
Connecting citizens in rural and remote areas, particularly women and marginalized communities, with mainstream financial services like banking, pension

Healthcare
Healthcare solutions like tele-medicine, diagnostic services and generic medicine services to the masses in rural and remote areas of the country

Education
Uses ICT to create awareness and empowers citizens on digital technologies, financial management, legal rights & education services

E-Commerce
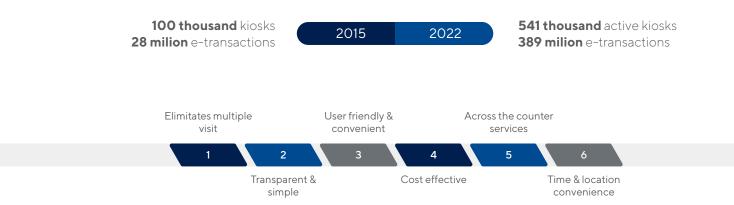Enables a platform for rural products & services to be made accessible to the urban markets

With more than 670K villages, bringing G2C and B2C services across the nation on a digital marketplace would enable citizens to avail services from the comfort of their neighbourhood CSC (also called kiosks) and empower the lives of millions of Indians, ensuring the country becomes a digital powerhouse into the 22nd Century.

CloudStack infrastructure supports 5X growth in 7 years

To access such services in the modern digital world, CSC E-Governance India chose CloudStack to underpin the delivery and build a government community cloud for powering applications which aid in creating a digitally inclusive ecosystem.

100 thousand kiosks
28 milion e-transactions

2015 **2022**

541 thousand active kiosks
389 milion e-transactions

Elimitates multiple visit

User friendly & convenient

Across the counter services

1   2   3   4   5   6

Transparent & simple

Cost effective

Time & location convenience

Abhishek Ranjan, CTO of CSC E-Governance India, explained. *"When I joined the program in 2015, there were 100 000+ kiosks and 28 million e-transactions. Now, thanks to the scalability of CloudStack there are 541 000+ active kiosks and 389 million e-transactions. This is an incredible growth rate and has been possible due to the scalability and reliability of CloudStack."*

"

I was impressed from the outset with CloudStack due to its ease-of-use, particularly with regard to implementation. We were able to install and configure the solution in one go and since 2015 it has been running successfully for 7 years to date.

Abhishek Ranjan
CTO of CSC
E-Governance India

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Use of CloudStack likely to spread to other Government departments

The CloudStack infrastructure is set up over two distributed data centres to provide resilience and disaster recovery capability. Within this setup there are 62 dedicated Compute instances with 20K Ghz of CPU and 20TB of Ram. Supported by 29 dedicated storage nodes that between them add some 600 TB of storage to the system. Perimeter security is provided by six dedicated Next Gen UTM and four dedicated WAF. Finally, the entire network has multiple private links and multi-tier uplink.

In 2022, the system caters to an average of more than 200 million citizens every month across the country. All this is looked after by a team of just 20 staff.

Infrastructure
Setup distributed across two
Data centre
01

Compute Instances
62 dedicated compute machines
20k Ghz of CPU & 20 TB Ram
02

Storage instances
29 dedicated storage nodes adding
600 TB of storage
03

Perimeter Security
6 dedicated Next Gen UTM6
4 dedicated WAF
04

Network
Multiple private links and
multi tier uplink
05

"CloudStack has been the ideal solution for us to build the CSC solution on," concluded Abhishek. *"Its scalability and stability have been vital in enabling us to grow the program so quickly. I particularly like the way it handles storage drivers and devices."*

"We now have a robust and growing system built on the CloudStack platform that is capable of supporting our requirements for many years to come. As a result of our success the use of CloudStack is now likely to spread to other departments within the Indian Government as they can see the resilience, scalability and benefits it brings and so is more than capable of handling their present and future needs."

About CSC e-Governance Services India

Common Services Centres (CSC) scheme is one of the mission mode projects under the Digital India Programme.

Common Services Centres are the access points of essential public utility services, social welfare schemes, healthcare, financial, education and agricultural services, apart from host of B2C services to citizens in rural and remote areas of the country. It is a pan-India network catering to regional, geographic, and cultural diversity of the country, thus enabling the Government's mandate of socially, financially and digitally inclusive society.

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