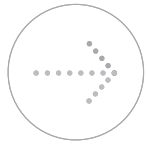

MAHARASHTRA'S STATE DATA CENTER

Over 150 applications in production are hosted in the SDC running on a cloud infrastructure based on both VMware and Microsoft HyperV technologies

The Maharashtra State Government has setup a fully functional Tier 2 State Data Center (SDC). It also the first SDC in the country to host a fully operational Government Cloud.

Housing a server farm spread across 1450 sq. ft., the SDC has a 39 rack server capacity and offers storage capacities of upto 86 TB. Over 150 applications in production are hosted in the SDC running on a cloud infrastructure based on both VMware and Microsoft HyperV technologies. The data center is a Tier 2 data center as per the TIA-942 standard and is also IPv6 ready.

The SDC offers three types of services to the State departments. Departments can either choose a cloud service, or opt for managed hosting or co-location service. As a cloud service, the department will be provided a virtual instance wherein it can host its applications or websites along with the data alongwith the necessary infrastructure, including bandwidth. The cloud service includes infrastructure-as-a-service (IaaS) and platform-as-a-service (PaaS).

With managed hosting, dedicated servers are provided to the department to host their applications or web portals along with the required bandwidth. Under the co-location service, the department brings all the applications or website and the supporting hardware required which is then hosted and managed at the SDC.

As the State Government was looking at setting up the SDC it decided to adopt virtualization to ensure efficient utilization of the IT infrastructure in the SDC. The aim was the reduce the IT cost while increasing its efficiency and flexibility. A Proof of Concept (PoC) was initiated in November 2011 to setup a cloud infrastructure based on both VMware and Microsoft's Hyper-V environments. It was followed by the fully operational cloud going live in July 2012.

The Microsoft Hyper-V environment consists of 25 virtual machines running on six physical servers hosting seven production applications. The VMware cloud has over 400 virtual machines spread across 34 physical servers hosting over 150 production applications.

As a part of the BCP / DR, Government of Maharashtra has created a facility at BSNL IDC fort as an extension to Maharashtra SDC for storing the critical data and also providing co-location services to the user departments

Following are some of the services that the MahaGov Cloud offers: Infrastructure-as-a-service (Iaas), Platform-as-a-Service (PaaS), Software-as-a-Service (SaaS), BI-as-a-Service (BiaaS), GIS-as-a-Service (GiaaS), API-as-a-Service (APIaaS) and Survey-as-a-Service (SyaaS).

Adopting the cloud approach has helped the State government ensure lower costs and greater agility for the IT infra-structure in the SDC. Furthermore, it has enabled universal resource access for the various state departments to IT and updates can be made continuosly and the cloud infrastructure has enabled better collaboration among the cloud infrastruc-ture using departments.

Furthermore, the Maharashtra SDC is a member of APNIC and is the only SDC in the country to have its own pool of APNIC/IRINN IPv4 & IPv6 addresses. With the world running out of IPv4 addresses, there was a mandate from the Department of Telecommunication (DoT) for enabling IPv6 addresses. To ensure that it adheres to this mandate, the Maharashtra SDC has successfully deployed end-to-end IPv6 along with IPv4 becoming the first in India to enable IPv6 at the SDC.

As a part of the BCP / DR, Government of Maharashtra has created a facility at BSNL IDC fort as an extension to Maharashtra SDC for storing the critical data and also providing co-location services to the user departments.

BSNL has recently launched it's cloud services within India at few of their locations. To take the maximum advantage of the Cloud technology, Maharashtra SDC has hosted few websites on the BSNL Cloud. This has resulted into successful usage of Hybrid Cloud at Maharashtra SDC. In order to pursue more advanced technology, presently, Maharashtra SDC is testing the feasibility of Cloud burst wherein in case of capacity exhaustion for a particular application/web at the SDC shall automatically switch to BSNL cloud.