



## Google Cloud Connects over 30,000 at India's Birla Institute of Technology & Science



### Birla Institute of Technology & Science

The Birla Institute of Technology & Science, BITS, is one of India's leading private undergraduate universities. Founded in 1964 by Mr. G.D.Birla, a prominent industrialist, BITS is now ranked one of India's top 10 universities with 15 academic departments and a focus in the sciences and engineering. The school hosts over 10,000 students on campus, another 20,000 off-campus, and over 1,000 faculty and 700 non-teaching staff.

### At a Glance

#### *What they wanted to do*

- Connect the university's 3,000+ faculty, students, staff, and alumni through a reliable, secure, and cost-effective communications system
- Increase the storage size to accommodate user needs and eliminate the problem of frequent bounced mail
- Reduce capital and operational IT costs

#### *What they did*

- Moved all of BITS' user accounts over to Google, increasing storage space for teachers and staff
- Gave students, especially those off-campus, new tools for learning and collaboration, including the ability to share video files, recorded lectures, and presentation slides
- Created subdomains for each campus and organized user groups so that school administrators can quickly communicate with targeted segments of the school's population

#### *What they accomplished*

- Saved the university 60-70 lakhs in Opex and INR 2 crores in Capex for storage every year
- Increased flexibility and reliability of communications between professors and their students
- Expanded opportunities for collaboration through the use of Google docs, presentations, and calendar

### Challenges

BITS Pilani had formerly relied on Zimbra as their mail server, but wanted to consider other options that would address the university's issues with limited storage space, high volumes of spam, and frequent, bounced mail. In addition to considering Google, the ICT team led by Professor D.M. Kulkarni, also debated the option of moving to a centralized server with a 2GB mailbox size. After calculating that the capital expenditures for such a server would be INR 2 crores with operational costs of 60-70 Lakhs per year, the team decided on Google -- given a lack of annual costs and server update fees -- as the more cost-effective option. Additionally, Google offered more storage space, a host of collaboration tools, and smartphone access. The final factor the team took into consideration was that Google Apps was low maintenance and required very little technical support.

The decision to move forward with Google created some challenges for the university, such as concerns about privacy and potential abuse by rogue users. These concerns were resolved when Shashank Todwal, an alumni of BITS who now runs UMS Consultants, a Google partner company, met Dr Kulkarni at a CIO conference. Together, they worked to convince BITS Pilani's four directors and Vice Chancellor, that they should pilot Google Apps.

The deployment of Google Apps officially began in October 2012 with a pilot project at BITS Goa campus. In the first two months, the university moved data from the old servers, created a main domain name and four subdomains for each of the campuses, and tested 25 newly created ids and user groups for the Goa campus. Following the first successful transition, over the next six months, the ICT team created new ids for the entire student population, faculty, staff, and alumni.

During the deployment process, the team grappled with 3 key decisions: first, the need to build in a transition period in which emails on the old server would be forwarded to the new addresses, second, the desire to establish a common university brand even if all products were developed by Google, and finally, a decision on whether to allow graduating students to retain their email addresses. On the first decision, the ICT team put into place a 4-6 month transition period which enabled students to download and forward emails from the old server to new accounts, and on the second, users were given the option to choose a university subdomain affiliation in the new system. On the final issue, Dr Kulkarni notes, "we're allowing alums to keep their addresses right now. We think this will make their connection to their alma mater stronger. This way, they'll always be in touch."

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— Dr. Kulkarni, Faculty In-Charge Computer Center (Goa).

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## The Solution

BITS' administrators observed three immediate benefits following the university-wide deployment of Apps: first, cost savings of both capital and operational expenditures, second, increased storage capabilities, and finally, increased collaboration. Choosing Google instead of purchasing their own server saved BITS Pilani 60-70 lakhs per year in Opex, and Capex for storage every year. The old server had a storage capacity of 100 MB for faculty and 100 MB for students, which frequently caused emails to bounce back. "Email bounce backs used to cause disputes about which campus was at fault for communications problems," Dr Kulkarni says. "However, now with the increase in mailbox size, these problems are rare," he observes. Finally, university users – especially off-campus students—have benefited from using Apps to facilitate collaboration, particularly from tools to share video files, recorded lectures, and presentation slides.

## Impact

Google Apps for Education has greatly improved the speed and ease of communication across BITS Pilani's different campuses. By organizing users into different groups according to location or affiliation with the university, administrators have been able to communicate quickly with a large number of users. As Dr Kulkarni says, "We're now sending emails out to entire groups of faculty and staff—around 30,000 people at one time. If we had tried to send an email out to that many people on our old server, it would have been choked up." Not only does Apps provide the university with an easy way to communicate to a large number of users quickly, its capacity to handle traffic volume has reduced server downtime.

In addition to facilitating top-down communications from the school's administrators, Google Apps has positively impacted classroom learning, by making communications between professors and their students more efficient, flexible, and reliable. Prior to the deployment of Apps, professors would communicate with students by posting on noticeboards or distributing papers in hard copy. Now, course materials, problem sets, solution sheets, and grades, are all distributed through email. This has given professors more flexibility in their teaching schedules. As Dr Kulkarni states, "We can now communicate with students anytime, even at night." The miscommunication problems that used to occur with noticeboards – such as having a noticeboard full of announcements or having people remove notices – are now easily avoided. Tools for collaboration, such as Google Docs, Spreadsheet, and Calendar, also help professors collect data from their students, or schedule office hours and disseminate such information in a timely and transparent manner.

