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Public room in KL soon, says Tata Communications

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Tata Communication's public room in Singapore

A public room is due to be operational in a major hotel in Kuala Lumpur this first quarter, Christopher Steffens, Tata Communications director for Telepresence Public Room Services told the media in Singapore last November.

Not to be confused with a public toilet, “public room” is its industry's term for a public telepresence centre which can be booked for use by the public.

On June 30, 2009, Starwood Hotels & Resorts Worldwide and Tata Communications had announced a partnership to roll out public telepresence rooms worldwide, with 10 new facilities opening in Starwood hotels by the end of 2009.

The first telepresence suites were planned for Sheraton New York Hotel & Towers, Sheraton on the Park in Sydney, Sheraton Centre Toronto Hotel, The Westin Los Angeles Airport and W Chicago-City Centre, with the intention to expand the offering to hotels in key international business locations like Brussels, Paris, Hong Kong, Singapore and Tokyo, to provide Starwood and its guests with an “in person” meeting experience with participants in rooms around the world.

“We have also tied up on public rooms with business executive travel agencies, Carlson Wagonlit and American Express Travel and they will advise their clients as to whether it's more economical to conduct a meeting from the public room or to actually travel to attend the meeting,” said Steffens.

A college in the United States has five public rooms for distance learning.

There currently are 10 such public rooms in operation worldwide, including at the Taj Hotel in Mumbai, in Chicago, Toronto, Moscow, Khazakstan and other cities, as well as seven public rooms under construction and many more planned in North and South America, Europe, Africa, the Middle East and Asia.

A part of India's Tata group of companies, Tata Communications is an information and communications technology solutions provider which builds public rooms based upon Cisco's technology and Tata was in the final stages of concluding the deal to build this public telepresence room.

A similar public room is already operational in Cisco's office in Kuala Lumpur but only for internal corporate use, while the one in the hotel will be available for public booking.

“For example, Tata in partnership with the Philippines Long Distance Telephone Company (PLDT) operate a public room for communication with the rest of the world and its key benefit, especially with an increasingly mobile and distributed workforce, is that it lets colleagues communicate more personally and efficiently, than just a voice over the phone,” said Steffens.

“Also, while it may never completely replace face-to-face meetings, it allows participants to conduct all the related preliminary business which enhances the quality of the actual meeting. Moreover, it also lets participants conduct routine meetings without having to travel, which saves both executive time and cost,” he added.

Tata also currently has three telepresence exchanges operational worldwide.

Public room rental charges are around US$500/hr per endpoint and a typical call between Manila and New York could costs around US$1,500/hr.

The key feature of Cisco's public rooms not only lies in their use of multiple life-sized screens and a screen for sharing of presentations between multiple sites but also that it maintains identical furnishings and decor to create a sense in participants of being at the same conference table.

The system supports interaction between up to 48 segments or sites worldwide, displayed three segments at a time on each of its up to three screens respectively. The dominant speaker causes their segment to appear on a screen at the remote locations and privacy is ensured by encryption of the media from end-to-end.

A typical three segment room requires 20Mb/s of 8Mb/s per screen and worldwide communications employs Multi-Protocol Label Switching (MPLS), a highly scalable, protocol-agnostic data carrying mechanism, where packet forwarding decisions are made according to the contents of its label without having to examine the contents of the packet itself, which lets users create end-to-end circuits across any type of transport medium using ant type of protocol. MPLS also has fast recovery times from network element failure comparable to SONET rings – ie about 50ms.

High delivery of high definition content

The nature of online content has changed dramatically since the days of small image files in the 1990s, through standard videos, Flash applications and large image files and audio streaming from early in the 2000s, Ajax apps, high-definition video and music downloads by around 2009 and live broadcasts, interactive applications and interactive games in 2010.

At the same times the problems service providers faced changed from shortening the traverses and saving on bandwidth costs in the 1990s to having to deliver a high-quality and interactive user experience in 2009 and 2010.

“New content and consumption patterns are changing the new content delivery landscape, there's an explosion in the media, entertainment gaming and other industries, and the complexity of video applications will continue to increase,” said Lam Hon Kit, Tata Communications senior director for IP Product Management and Development, Global IP and VPN Services.

The challenges facing content delivery include an increase in application complexity, video as the limiting factor

due to its intensity, larger file sizes and inevitable interactivity, legacy content delivery networks (CDN) which are sub-optimal and general purpose. The need to support multiple content types such as live broadcasts, high-definition video, gaming, software updates and mobile content. The need to address Digital Rights Management. The need to provide on-demand and uninterrupted delivery.

Tata's high definition, high delivery network provides fast delivery of online live broadcast, live online streaming of TV channels, events & conferences, is a highly scalable, cost-effective solution to deliver live videos online, high-definition videos on demand.

It's the world's first and only storage and delivery platform architected specifically for high-quality video delivery, delivery of TV-like experiences, simply and affordably without proprietary transcoding or client downloads. high delivery on a truly global network, with over points of presence worldwide, delivery of content using the first truly global content delivery service built on a tier1 global IP backbone offering unmatched user experience, performance, quality, and reach around the world.

"Its high-delivery architecture has a distributed origin, unlike traditional proxy cache CDN's. Our CDN architecture has no cache misses which significantly reduces the total cost of video delivery and ensures high performance, scalability, reliability, and affordability for all our customers," said Lam.

Tata's CDN has a distributed origin architecture over wholly owned global tier-1 IP network. Concentrated distributed nodes at major peering nodes. Content delivered from fewer high capacity origin servers--clustered regionally--to the end user. Replicated origins for fault tolerance, guaranteed quality of service and eliminate cache misses. Tata partnered with BitGravity on use of this technology.

Direct path routing delivers the user's request via its ISP straight to Tata's distributed origin over the Internet and the file is retrieved and sent back directly via the user's ISP.

Its benefits are less chatter with BitCast, anycast network addressing and routing scheme, Data-multicast-replication technology, stream tracking racks and rebuilds connections, end-to-end control over platform and it's carrier friendly.

Its LiveBroadcast service provides breaking news, sports events, concerts, conferences and live television broadcast live over the internet. Is the first carrier-grade high quality, flash-based streaming service for broadcasting live video content over the Internet by minimizing latency and packet loss to create a superior experience.

No client download is required. It has a source to- display delay of less than five seconds, a significant advantage over traditional live products. Is simple set-up with no expensive hardware. Content loads quickly, users can visit any point in the streamed broadcast and the stream is optimized for each user's connection. Since no proprietary live server-based solution is used, the LiveBroadcast service can easily scale to handle any live event

A case study is TV5Monde, which had to be up and running in less than a week with an end-to-end live video broadcast solution. Had to be quickly deployed to meet the customer's requirement to broadcast the U.S. presidential debate.

The solution was to use Tata's LiveBroadcast service. The use of HTTP allowed Live Broadcast to stream in all environments in high quality video with the shortest delay to the viewer and optimal routing delivered high performance, TV-quality broadcasts instantly.

Another case was to let NDTV broadcast three news channels live over the internet, It has to be easily setup, quickly deployed, highly scalable, able to handle large volumes of traffic and required a global tier-1 network to ensure high-speed, high-performance, TV-quality broadcasts worldwide, help to quickly monetise TV content online without requiring expensive hardware, or special media players to view live content.

Tata also provided the live broadcast for the NetEvents Service provider VIP Summit in Singapore at the same time last November. The videos were fed into a Apple Mac Mini where it was encoded and fed into the data centre in Singapore where it was replicated stream for stream over the content delivery network.

Global transmission service

Consumer and enterprise services are becoming increasingly web based, especially with collaboration, social networking, content sharing and communications, thus resulting in an emphasis on new business models such as Web 2.0, managed services, cloud computing and software-as-a-service, according to Simon Cooper, Tata vice-president for Network Strategy, Architecture and Optimisation.

Internet bandwidth is growing at 30% worldwide, from around 17 terabits/sec in 2007 to around 36 terabits/sec in 2010, while bandwidth in Asia its growth is double that at 60%.

It the same time, opportunity in the hosting business was worth around US$30 billion worldwide in 2009 and is expected to grow to US$35 billion in 2010, while the opportunity in Asia is around US$4 billion.

Despite the recession, Asia experienced positive growth in Gross Domestic Product (GDP) in 2009 which will increase in 2010 according to the International Monetary Fund and as of December 2008, Asia had 41% of the world's Internet subscribers, according to InternetWorldStats.

To tap into this opportunity, Tata Global Network (TGN) invested US$430 million in the 6,700 km long, 3.84 terabits/sec TGN-Intra Asia Cable System and the Tata Communications Exchange.

The TGN-Intra Asia cable links Singapore, Vietnam, Hong Kong, the Philippines, Tokyo and Guam, bypassing earthquake-prone zones south and east of Taiwan. Onward connection to the United States is via the TGN-Pacific cable and to India via the TGN-India Asia cable, with onwards connections to Europe, the Middle East and Africa.

TGN-Intra Asia's key benefit is its express route between Singapore and Japan, which Tata claims provides the shortest latency between these two countries, with branches connecting Hong Kong, Vietnam and Philippines to the main trunk and two additional branching units which allow for future
cable extensions to other Asian counties.

“The conventional cable consortium approach is only cable station-to-cable station, while our city-to-city approach enables ease of maintenance, cost effective and faster time-to-market delivery and when connected with our other cables, the system provides a wholly-owned Tata communications route from India, and Singapore to the United States with interconnections to Guam and Tokyo which creates new opportunities,” said Cooper.

However, the TGN Intra-Asia cable also complements existing submarine cable systems in the Asia-Pacific, such as IAC, C2C, EAC, APCN2 and others.

Tata claims to have the world's largest submarine cable network. both wholly-owned or in consortium with others.

Besides TGN-Intra Asia, TGN India Asia and TGN-Pacific, Tata wholly owns the TGN-Atlantic, TGN-Western Europe and TGN-Northern Europe cables; is a member of the SWM-3, SWM-4, SAFE SAT-3 and APCN-2 consortia; with new cables TGN-Eurasia, IMEWE, SEACOM and Other Africa cables being laid.

Tata's expansion in emerging markets include broadband (WiMAX) expansion in India, joint venture in China on virtual private network and value-added services, a 56% stake in South Africa's first converged services operator, Neotel, submarine cable projects in India, the Middle East & Africa and strategic Alliances in the Middle East.

Its managed telepresence services include the world's first public rooms, global CDN solution, managed security solutions, custom solutions for select verticals – ie. IT, media & banking, expansion of global MPLS & Ethernet, connecting over 50 countries.

End-to-end security

"Tata's approach to end-to-end security is based upon putting people first, followed by process and lastly technology," said Benet Toh, Tata Communications director for Business Development, Managed Security Services.

It begins with ensuring IT security certified and experienced staff who are focused on process security and technology solution implementations, and who have expertise with traditional network security, authentication, threats assessment, encryption and so on.

Process include SAS 70 Type I and II, ISO 27001 Certification, Cisco MSCP, continuous process enhancements for certification compliance. The technology aspect includes to design and implement technology solutions to enable technology risk compliance and world class distributed denial of service (DDOS) attack protection.

Its global managed security services portfolio includes firewalls, unified threat management (UTM), intrusion detection and prevention in customer premises equipment; DDOS detection and mitigation, virtual UTM, ReadyMail Secure, vulnerability management and managed authentication in cloud-based solutions; and its professional services include penetration testing and consulting services. Supported platforms include Cisco, Juniper, 3Com, Fortinet, McAfee, RSA Secure ID, IBM, Google, Arbor, Check Point and Qualsys.

Business benefits of DDOS protection include real-time attack visibility - DDOS threat identified at its earliest stages, knowing what is under attack, business continuity, mitigating the DDOS attacks from within the Tata Communications cloud, ensuring maximum computer resource availability, business productivity and continuity during a DDOS and delivery of the most efficient and effective DDOS protection service.