

# **NATIONAL JUDICIAL ACADEMY INDIA [P-988]**

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## **CONFERENCE**

ON

## **USE OF COURT ROOM TECHNOLOGY IN THE HIGH COURTS**

27<sup>th</sup> - 28<sup>th</sup> August, 2016

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## INTRODUCTION

The National Judicial Academy organized a “Conference on the use of Court Room Technology in the High Courts” from 27<sup>th</sup> – 28<sup>th</sup>, August, 2016. The main aim of conference was to understand the ways in which technology can and is helping the judiciary and the effective ways to implement it, illustrated by the esteem experts themselves. The seminar was divided into 5 sessions during the duration of these two days. The first day consisted of 3 sessions divided by tea and lunch breaks. While, sessions 5 & 6 were hosted on the second & the last day of the conference.

A number of judges from the different High Courts of the country attended this conference. Justice G. Raghuram, Justice Navin Sinha, Justice S.G. Shah, Justice Sanjeev Sachdeva, Ms. N.S.Nappinai and a team of forensic experts from Pricewaterhouse Coopers Private Limited (consisting of Mr. Vishal Narula, Mr. Ravindra Patil, Mr. Sachin Yadav & Mr. Vijay Nair) were the main dignitaries of the conference, who shared their knowledge on the subject with the participant judges.

Other High Court judges that participated in the conference were:

S.No.	Participant Name	Designation	High Court
1.	Hon. Dr. Justice Muralidhar	Judge, High Court of Delhi	Delhi
2.	Hon. Mr. Justice Siddharth Mridul	Judge, High Court of Delhi	Delhi
3.	Hon. Mr. Justice V. Kameswar Rao	Judge, High Court of Delhi	Delhi
4.	Hon. Shri. Justice Ved Prakash Sharma	Judge, High Court of Madhya Pradesh, Indore Bench	Madhya Pradesh
5.	Hon. Mr. Justice Pritinker Diwaker	Judge, High Court of Chhattisgarh, Bilaspur	Chhattisgarh
6.	Hon. Mr. Justice N.M. Jamdar	Judge, High Court of Bombay	Bombay
7.	Hon. Mr. Justice K. Kalyanasundaram	Judge	Madras
8.	Hon. Mr. Justice Chandra Bhushan Bajpai	Judge, High Court of Chhattisgarh, Bilaspur	Chhattisgarh
9.	Hon. Mr. Justice Manmohan	Judge, High Court of Delhi	Delhi
10.	Hon. Mr. Justice Rajiv Sahai Endlaw	Judge, High Court of Delhi	Delhi
11.	Hon. Mr. Justice S.Talapatra	Judge, High Court of Tripura	Tripura
12.	Hon. Mr. Justice Jayant	Judge, High Court of	Karnataka

	Patel	Karnataka	
13.	Hon. Mr. Justice KH. Nobin Singh	Judge	Manipur
14.	Hon. Mr. Justice Raja Vijayaraghavan V	Judge, High Court of Kerala	Kerala
15.	Hon. Mr. Justice A. Ramalingeswara Rao	Judge, High Court of Andhra Pradesh	Andhra Pradesh
16.	Hon. Mr. Justice G.S. Kulkarni	Judge, High Court of Bombay	Bombay
17.	Hon. Smt. Justice Rathnakala	Judge, High Court of Karnataka	Karnataka
18.	Hon. Mr. Justice Yashwant Varma	Judge, High Court of Allahabad	Allahabad
19.	Hon. Mr. Justice Kanwaljit Singh Ahluwalia	Judge, Rajasthan High Court, Bench, Jaipur	Rajasthan
20.	Hon. Mr. Justice R.K. Gauba	Judge, High Court of Delhi	Delhi
21.	Hon. Mr. Justice S.K. Sahoo	Judge, High Court of Orissa	Orissa
22.	Hon. Mr. Justice Ramalingam Sudhakar	Judge, High Court of Jammu & Kashmir	Jammu & Kashmir
23.	Hon. Mr. Justice Jayant Nath	Judge, High Court of Delhi	Delhi
24.	Hon. Mr. Justice Sanjay Karol	Judge, High Court of Himachal Pradesh	Himachal Pradesh
25.	Hon. Mr. Justice V.P. Vaish	Judge, High Court of Meghalaya, Shillong	Meghalaya
26.	Hon. Mr. Justice Manoj Misra	Judge, High Court of Allahabad	Allahabad
27.	Hon. Mr. Justice Manoj Kumar Gupta	Judge, High Court of Allahabad	Allahabad
28.	Hon. Mr. Justice Anjani Kumar Mishra	Judge, High Court of Allahabad	Allahabad
29.	Hon. Mr. Justice Hari Pal Verma	Judge, High Court of Punjab & Haryana	Punjab & Haryana
30.	Hon. Mr. Justice H.C. Mishra	Judge, High Court of Jharkhand	Jharkhand
31.	Hon. Mr. Justice Ananda Sen	Judge, High Court of Jharkhand	Jharkhand
32.	Hon. Mr. Justice Suman Shyam	Judge, Gauhati High Court	Gauhati
33.	Hon. Mr. Justice Hemant Kumar Srivastava	Judge, Patna High Court	Patna
34.	Hon. Mr. Justice C. B. Bajpai	Judge	Chhattisgarh

35.	Hon. Mr. Justice Shivakanth Prasad	Judge, High Court of Calcutta	Calcutta
36.	Hon. Mr. Justice P.D. Naik	Judge, High Court of Bombay	Bombay
37.	Hon. Mr. Justice M.S. Karnik	Judge, High Court of Bombay	Bombay
38.	Hon. Mr. Justice Harish Tandon	Judge, High Court of Calcutta	Calcutta
39.	Hon. Mr. Justice A.S. Supehia	Judge, High Court of Gujarat	Gujarat

DAY-1  
SESSION 1

**Introduction by the Director, NJA**

Hon'ble Mr. Justice G. Raghuram (Retd.), Director, NJA, started the session by welcoming all the participant High Court judges and the dignitaries on the dais. He gave a brief introduction about the National Judicial Academy, its history and its achievements. He mentioned how Academy has conducted about 1000 programmes till now with around 30,000 judges participating in them altogether.

After this, he requested Justice Navin Sinha to take over the baton and commence with the first session of the conference.

**Cadre for Technical Manpower for Implementing E-Court Projects**

Justice Navin Sinha thanked Justice G. Raghuram and talked about how academy is a great learning place for all the judicial officers and would hope that this conference make all the participants think and have something to take away from it at the end of the day. He also requested the participating judges to make note of everything important that will be shared in the conference and share it with their Court Computer Committee.

Justice Navin Sinha went on to share his past experiences in different High Courts and how he faced problems relating to technology and digitization in those courts. He mentioned that there are still type writers being used in the Rajasthan High Court and how Chhattisgarh High Court did not have a CPC. He also mentioned that there is lot to learn from Bombay, Delhi and Gujarat High Courts in this regard.

Justice Navin Sinha at this point, asked the participating judges if the rules for technical manpower are framed in their respective states or not?

Justice Muralidhar from Delhi High Court accepted that technical manpower rules have not been framed in his State yet.

The first and the most important problem with respect to the lack of technical manpower, that was recorded was that the amount of pay that is provided to the technical staff is not sufficient and at par with what the technicians get payed outside.

The Kerala High Court judge also informed that the request for the technical appointments in his state has been lying pending since last 3 years.

Justice Navin Sinha said that the lack of technical manpower in courts is one of the biggest problems in the digitization of courts and the State government should provide with sufficient funds to tackle it.

Justice Navin Sinha now asked Justice Sanjeev Sachdeva to take over the session and shed some light on the topic. Justice Sanjeev Sachdeva mentioned how it is a misconception that investing in e-courts will be very costly because over the years it may end up saving more money for the courts than what they invested. He referred to Maharashtra & Chhattisgarh High Courts as examples for his argument.

Justice Sanjeev Sachdeva further elaborated on the topic of 'cadre of technical manpower for implementing e-Courts projects' through a presentation.

The presentation started with the objective of the Phase-II of the e-Courts project and made important suggestions like all the files from filing stage onwards should be digitized and the distribution of judicial work and assignment of cases to the judges should be done electronically to avoid large amount of paper work and file movements.

In Phase-III he said Digital system integration is to be done with external entities like police, treasury, jail, Registration office, etc. and judicial system is to be upgraded so that data can flow seamlessly with other government entities.

Further in his presentation, Justice Sanjeev Sachdeva took the participant judges down the memory lane and showed how the technology has changed over the years. He also showed the difference between a conventional court and an e-Court through pictures.



**Figure 1. Conventional court**



**Figure 2. E-Court**

He then highlighted the different Technical teams in this regard and what their strength should be in an ideal scenario. He ended his presentation by giving details about the technical manpower strength of Delhi High Court and in Delhi District Courts.

Justice Navin Sinha asked Justice Sanjeev Sachdeva if there are any errors at the stage of data entry that occur during their processing in the Delhi High Court?

Justice Sanjeev Sachdeva replied that they have appointed people who closely monitor it.

A suggestion came at this point, from the participating judges that NJA should put together the technical team from every High Court and give them a platform to develop a common system for every court.

Justice Navin Sinha now requested Mr. Vishal Narula from PwC Forensic practices team to take over the next part of the session.

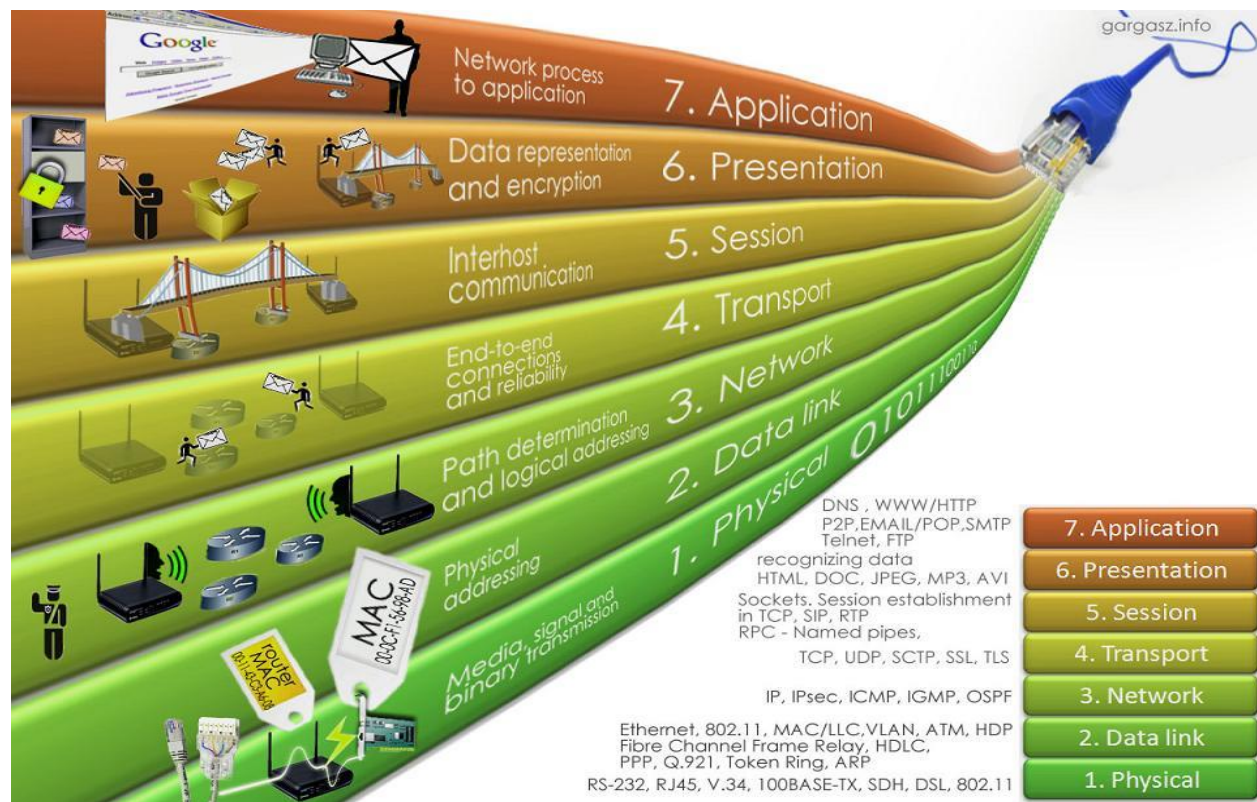
## Technology and Functioning of the Internet

Mr. Vishal Narula after self-introduction, introduced every member of his team that was present at the conference table and also talked about the services and practices of PWC.

They then played a video which explained how the internet works and its basics components.

To elaborate further on the topic Mr. Vijay Nair from the PWC team displayed a presentation.

The presentation started with explaining the underlying network architecture.



After this, the meaning and the difference between the terms IP, TCP, FTP, and HTTP was explained by the speaker. He also explained the difference between a Router & a switch. Basic concepts like Domain name and VPN were also explained.

The speaker also explained how to identify phishing mails and to analyze phishing e-mail header. The speaker finished his presentation by explaining what IP and MAC spoofing is.



As a reply to the hypothetical question raised by Justice Sanjeev Sachdeva about finding the originator of a viral picture that is being circulated, Mr. Ravindra Patil informed about the camera details and even longitudinal and latitudinal number can be found on an image to catch the perpetrator.

Mr. Vijay Nair also informed about MX Record which is a Microsoft tool that can be used to extract logs for email details.

He also explained about the simple difference between HTTP & HTTPS as the 'S' in the latter stands for 'Secured' and is thus used in secured environment like bank transactions.

Justice Navin Sinha asked a very interesting question as to what can be done in a case if the witness in the stand, to prove his point, asks the judge to watch a certain video. Mr. Ravindra Patil clarified that the video will contain data & metadata which can confirm if the video is original or not and to find out if it has been tampered with or not, it has to be sent to the FSL. Justice S.G. Shah added to this and said that the data should be seized immediately and it should be sent to the FSL to check the authenticity after which it can be taken as an evidence on record.

After this, Justice G. Raghuram remarked that the presentation was very informative and we must come back to basics to understand the topic completely as the investigation in Cyber security cases are often very sloppy.

Mr. Sachin Yadav from the PWC asked if anybody has any further questions and also assured that their team will be present for the sessions on the following day too.

With this, the first session of the seminar was concluded.

DAY-1  
SESSION 2  
**E-Justice: Reengineering the Judicial Process through Effective Use of  
Technology**

The session started with Justice Sanjay Karol asking the dignitaries to also ponder upon the topic of e-waste and how to deal with it. Justice Sanjeev Sachdeva said that the government school kids can be given the workable computers but the rules do not allow the court computers to be used by anybody else and thus would request the NJA to forward the request to the government for the same.

Coming back on the topic, Justice Sanjeev Sachdeva, through a presentation, displayed how judicial process can be reengineered through technology and the various practices relating to the same that are being followed by the Delhi High Court.

He started with a picture of the first e-court in Delhi and mentioned that on this very day 11 Benches in the High Court(Including 5 division benches)function as e-Courts. He also said that in Delhi, 3 jurisdictions: Company, Taxation& Arbitration are paperless with only electronic filing. He gave figures explaining how Delhi courts are on the process of becoming completely digitized.



***Figure 3. First e-Court set-up in Delhi High Court***

After this, Justice Navin Sinha asked if there is anything different being done with regard to regular filing as conventional filing is a big problem in most of the High Courts.

Justice Sanjeev Sachdeva told that they have a system with regard to the checking of the cause list. The post master checks and prompts about the number of cause lists that are pending in the courts.

He also showed certain pictures of Delhi High Court before and after digitization and mentioned how they have been able to save a lot of space because of digitization. He also included different videos in his presentation that showed the processes like case filing and application filing which suggested how every judicial process has become very simple because of digitization.



**Figure 4. Before digitization**



**Figure 5. After digitization**

He said that it was a difficult process at first but slowly progressed and are today finally where they are. He explained that they asked the lawyers to give the hard copy of the case along with a CD with a copy of the same and when this practice became prevalent they asked them to only give the soft copies.

He said that there is also an SMS service that messages you your filing details after the e-filing. The SMS service will also inform once the date is fixed for listing.

He also explained how you can easily highlight, under line and make notes in an e-file with tampering with the original file.

He also mentioned that they are discontinuing the printed cause list in Delhi High Court from 31<sup>st</sup> Aug, 2016 onwards. The pictures of display boards installed inside Delhi High Court were also shown. He then talked about the Delhi High Court website and how the entire case History of each case has been made available on it. He also talked about the facility of e-Post Office in Delhi. He explained that a counter has been opened in the Despatch Branch of the Court by the Postal Department from where specially designed envelopes with box type jacket have been printed and are available for sale on the counter. After the summons/notices are signed and sealed in these specially designed envelopes, the same are booked at the Extension Counter itself with acknowledgement

i.e. Proof of Delivery (POD) specially designed for Delhi High Court and are dispatched on the same day through speed post across the country.

The last part of his presentation talked about the Prison Management System (proposed) that would contain all the personal details of the convict/accused.

Justice Sanjeev Sachdeva in the end said that, it is the mindset that has to change because contrary to the popular opinion of the older generation, technology is comparatively easier to deal with.

Justice Navin Sinha concluded the session by saying that he totally agrees with Justice Sanjeev Sachdeva and that there are not more than 15% senior lawyers that are using computers today.

**SESSION 3**  
**Uniform Nomenclature for all High Courts under National Court Management System**

Justice Navin Sinha started this session by talking about the difference in the nomenclature of Jodhpur High Court and Jaipur bench and explained that there are inconsistencies across states in terms of the data categories and criteria applied to the data (for example, in some states supplementary matters, or sometimes even each prayer for relief, may be counted as a separate case whereas in other states only the main case may be counted as a case; the nomenclature used for cases varies widely and is not comparable in some cases). This makes it quite difficult to compare data across states. He requested the National Judicial Academy to get everybody on the same platform and also send suggestions on the topic.

Justice S.G. Shah took over the session now and started on the topic by displaying some interesting pictures with proverbs and related them to the topic in present scenario.

Justice S.G. Shah also added that the role of National Judicial Academy in giving a common platform and organizing such conferences on these topics is highly commendable.

He further said that the goal of computerization is not to have any sort of luxury but it is the speedy justice and complete transparency in the judicial process. He said that personal zeal of the judges is required & they should not shy away from asking their State Judicial Academies & libraries for total computerization.

Justice S.G. Shah in his presentation also talked about a resolution that was adopted in the Chief Justice's Conference that was held on 3<sup>rd</sup> & 4<sup>th</sup> April, 2015, for the common nomenclature of High Courts. This conference held that the High Courts will endeavor to evolve a uniform Nomenclature for all categories of cases in coordination with the e-Committee for the entire country.

Justice S.G. Shah stressed that a common nomenclature will help upgrade data on the Nation Grid and would be easier to gather information from everywhere.

Ms. N.S. Nappinai added to this and said that not only for the formation of statistics, it is also good for the transparency in the system.

Justice S.G. Shah recalled that between 1993&1995, the central government wrote a letter to all the High Courts requesting them to computerize their courts and asking them

if they require funds for the same but except for the Patna High Court no other Court gave a positive reply.

At this point Justice Ahluwalia asked about the benefits if would serve to upload the data on National Grid and why should High Courts change their traditional ways? In reply to this question Justice Navin Sinha said that the data if uploaded on the national grid with a common nomenclature system will help in the National Grid getting better and vaster statistics for the judiciary. Adding to this point Ms. N.S. Nappinai said that other than the better quality of data, it will also help in the transparency of the judicial system.

### **Issue of Connectivity and National Judicial Data Grid**

Justice S.G. Shah asked the Participant High Court Judges to one-by-one tell him about the technical problems that their district and taluka courts are facing. The problems that most of the Judges reported were that of: lack of infrastructure and connectivity.

Justice Navin Sinha observed that BSNL is a common problem in every state. The private players in the field should be explored but there are policy problems and Government should take a look in this matter.

On the issue of Gujarat, Justice S.G. Shah said that there are problems in uploading the data timely as Gujarat has old state network which is not supported by the NIC network. He said that unless there is a better network and better bandwidth, there will be problems. He suggested that the officials should try to upload data either on NIC network or in the High Court itself.

Justice Muralidhar pointed out that there is often mismatch between the entered data and actual data and many High Courts show IA's as different cases just to show that they have disposed more cases, are also some of the problems that should be looked into.

Justice Navin Sinha now asked Ms. N.S. Nappinai to take the session forward. Ms. N.S. Nappinai said that most of the things have been already discussed and she doesn't have much to add. She said that she personally know certain cases in which the clients report that they have been billed by their lawyers even for the dates on which their case was not lot listed. Therefore, transparency is really needed. She said if there is simplicity in nomenclature, it would be better for the people for which the system is originated, the litigants.

She said it will also help lawyers because as of now, lawyers cannot practically go to different Courts of the country as they don't know the system there.



She said that at this time, when the world is becoming global, we must also change and adapt because as the time grows this change will become a part of our DNA.

Justice S.G. Shah now explained the concept of digital signature through a presentation. The presentation extensively explained what a digital signature is and the need for it.

The presentation also explained the concept of cryptography and the difference between symmetric and asymmetric cryptography. He also explained the concepts of encryption, decryption and hash function in detail.

Also highlighted were the primary legal issues surrounding e-governance and some sections relating to electronic governance, rights, and digital signature. At the end of his presentation, he also addressed the issue of privacy and the role of Computer Emergency Response Team in India.

Justice Navin Sinha concluded by congratulating the participants for this very interactive session and asked them to join again tomorrow for the technical sessions.

DAY-2  
SESSION 4  
**Information Technology and Computer Forensics**

At the beginning of this session Justice Navin Sinha requested the team of PWC to not to use a very technical language for this session and explain it in a manner that even the participant judges who are not in their computer committees can understand it.

Mr. Ravindra Patil assured the judges that they will try to keep the session more practical and linked with day-to-day scenarios for easy understanding. He further discussed on the topic with an elaborated presentation.

In his presentation he highlighted cyber forensic life cycle which was divided into three parts: (i) Acquisition; (ii) Analysis; & (iv) Presentation.

He further clarified the three by giving examples of real life cases. His presentation also took the example of 26/11 terror attack and explained how the investigation with regards to electronic evidences was carried out in it. The process of Digital Forensic Analysis was explained after this and a practical demo on using forensic tools was shown. In the last part he talked about frequent errors in submission/review of electronic data.

Mr. Ravindra Patil also suggested that judiciary should look at two things in FSL tests while dealing with such cases:

1. The last time windows was shut down
- &
2. Whether the metadata shows any change or not as that would suggest that the file has been opened or not.

One of the question that was posed was 'what if the file was seized at 1700 hours and the last opened time is 1800 hours. Should it be assumed that the file has been tampered with?'. Mr. Sachin Yadav replied that it would be wrong to assume the same and the hash value of the file should be looked into. If the hash value is altered, it may be assumed that the file has been tampered with.

'The lawyers of the accused often accuse that the file has been tampered with, when the file is opened to check by the authorities too', was also the question that was raised. Justice S.G. Shah suggested a solution to this by saying that according to Section 45 of IPC, the file should be checked in front of the accused and another punchnama for the same should be done. So that he cannot say later that it has been altered.

Justice Ahluwalia suggested that in many cases the investigator is in a hurry to open the file so that he can collect the evidence to further progress in the case and therefore, this should not be treated as tampering. Mr. Ravindra Patil agreed with him and said that it will be really good if judiciary can take such a liberal view.

Justice Sanjay Karol at this point suggested that National Judicial Academy should come up with a study of how the recent changes in the law are made on this issue all over the world and how the other countries are dealing with it.

Justice Sanjay Karol also requested Justice Sanjeev Sachdeva to suggest if it is safe to type a judgement on a particular computer and whether there are any security concerns? Justice Sanjeev Sachdeva replied that it may be based on your personal habits and care but the possibilities of leak are still there. Justice Muralidharan suggested that to do it on a password protected pen drive may be a better option. Justice S.G. Shah added to this and said that this should be made a protocol and forwarded to all the judges.

Continuing with the session Mr. Ravindra Patil said that often times the file format are changed to hide its nature. For example, a word file can be changed to a JPEG image. But, this can be identified with the file signature as its hash value remains the same.

Before concluding the session Mr. Vijay Nair also demonstrated the method to retrieve deleted messages from WhatsApp & i-messages and answered some small technical questions of the participant judges.

DAY-2  
SESSION 5

**Information Technology in Law with Focus on Cyber Security and IPR**

Ms. N.S.Nappinai, the speaker for this topic, showed a very elaborate presentation on this topic.

**Technology And Security related Issues**

Mr. Ravindra Patil started this session by showing a short video on the topic. After this, he started with his presentation, highlighting the human aspects of typical issues relating to cyber security. He described 'process', 'people' and 'culture' as the three pillars of cyber security. He then went on to address key cyber security issues on each of these pillars.

The issues he covered under 'process' header were:

1. Data access & encryption
2. Access to external drives
3. Backward compatibility of software
4. Data storage & retrieval system && Evidence management
5. Connection of systems to internet
6. Enterprise anti-virus solutions
7. Scalability of systems
8. IT Security Audits

Key issues under 'people' were:

1. Hiring of professionals
2. Cost of training
3. Public-private partnership
4. Benchmarking

And the issues he explained under 'culture' were:

1. Use of personal computers/ PDAs for official work
2. Use of personal emails/social media for official work
3. Access of pornographic websites from official computers
4. Handover of Private Key during official transfers
5. Change of passwords/ other access control mechanisms during official transfers
6. Exceptions to protocols
7. IT security of external vendors/ contractors
8. Rewards/ recognition/ penalty

Mr. Ravindra Patil also explained that there are a lot of companies that provide with the technology where the data can be put into your system but cannot be taken out of it. He quoted that "the solution to technology is not no technology. But, better technology."

He also suggested that government computers must have multiple layers of security of privilege for better protection. It was also suggested that all the High Courts should make it a point that all their computers are 2017 certified in upcoming time.

At the end of the discussion Justice S.G. Shah said that this conference will be of great value for trial court judges but communication may be a big problem for them. Thus, he requested the National Judicial Academy to provide them with the reading material for this conference in Hindi and other local languages too.

Justice Muralidhar added to the suggestions and said that there should be a separate session on this topic for the trial court judges and it may also be commendable if National Judicial Academy can beam such sessions to the State Judicial Academies.

Justice Navin Sinha now asked Justice G. Raghuram to conclude the session. Justice G. Raghuram said that he regrets not being a participant for such an informative session and missing out on such important information that has been provided. He thanked the PwC team for taking out time and doing this conference pro-bono. He also complimented them on the presentations and requested them to make a more spread out presentation next time so that the participants get some time to understand it more clearly. He also requested the PwC team to make the sessions more demonstrative next time and familiarize the judges with different forensic equipments.

He then went on to thank all the participant High Court Judges for participating in the conference and providing their suggestions. He finally concluded the conference by thanking Justice Navin Sinha and Justice S.G. Shah for taking out time from their busy schedule and gracing the conference with their presence & making the conference a success.