Vel Tech

Rangarajan Dr. Sagunthala
R&D Institute of Science and Technology
(Deemed to be University Estd. u/s 3 of UGC Act, 1956)

School of Computing
Department of Computer Science & Engineering

One day
Workshop
on

Software Defined Network



22nd MAY, 2021

Organized by

Department of CSE,

Vel Tech Rangarajan Dr Sagunthala R & D Institute of Science and Technology, Chennai,

TamilNadu.

Vel Tech

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Event Summary Sheet

Financial Year	**2020-2021**
Name of Program:	**Software Defined Network**
Program Theme:	**Aims to provide a Sound understanding of Software Defined Network**
Program Type:	**Workshop**
Program Category:	**-**
Organizing Department:	**COMPUTER SCIENCE & ENGINEERING**
Program Start Date :	**22.5.21**
Program End Date:	**22.5.21**
Program Duration (in Days)*:	**One day**
Program Location:	**on line**
Internal Participants (Student):	**200**
External Participants (Student):	**Nil**
Had institute spent expenses either from own resource/received fund to organise the program/activity/event? ,	**Spent Expenses from own resources**
Total Expense Amount Incurred by Institute to Organise the Program	**Rs. 5, 500**
Income in terms of registartion fee	**NIL**
Income through sponsor	**NIL**

About FDP:

The workshop enlightened about ***Software-defined networking*** **(SDN)** technology which is an approach for network management that enables dynamic, programmatically efficient network configuration in order to improve ***network*** performance and monitoring.

Major Contents:

- Overview of Computer Network
- Introduction to Software Defined Network
- Converged SDN Networking
- 5G Networking
- Demonstrate on Networking Provisioning through SDN
- Walk through of NetConf

As per the program schedule, the program session is started at 10.30 AM. Prof. Dr.N.R.Rajalakshmi, Computer Science & Engineering welcomes the gathering with warm words. She highlighted the objective of workshop and importance of Software Defined Network to do Network Management. The following contents are delivered during the sessions.

- Overview of Computer Network
- Introduction to Software Defined Network
- Converged SDN Networking
- 5G Networking
- Demonstrate on Networking Provisioning through SDN
- Walk through of NetConf

Certificates are issued those who have actively participated the workshop. Dr.N.R.RAJALAKSHMI, Professor, Department of CSE presented vote of thanks, She conveyed thanks from the bottom of heart to Almighty for giving good environment to complete this workshop in successful manner. She thank the Management, Vice Chancellor for giving support to conduct this workshop. Then, she expressed heartfelt gratitude to honourable Dean& HoD of CSE, for giving an opportunity and endless support in all aspects to conduct this workshop.

She expressed thanks to all the participants for attending the sessions.

Outcome of Workshop:

Student

1. Understand the router and switch role in computer network
2. Understand the role of control plane and data separation plane in Network Management
3. Understand about Network Operating System
4. Understand about Controller Platform and Controller Application

From	To
Dr.N.R.Rajalakshmi Professor Department of CSE Vel Tech Rangarajan Dr. Sagunthala R&D Institute of Science and Technology Avadi, Chennai – 600072.	The Vice Chancellor Vel Tech Rangarajan Dr. Sagunthala R&D, Institute of Science and Technology Avadi, Chennai – 600062

// Through Proper Channel //

Respected Sir,

Sub: Software Defined Network workshop- Regarding

The department of CSE has planned to organize a Software Defined Network workshop on May 22nd , 2021. to enhance knowledge on Network Management. Kindly give approval to conduct the same.

The name of the expert and his affiliation is given hereunder:

Name of the Resource Person	Designation
Mr. SUNIL. E	AGM- Technology, Atria convergence Technologies, Internet service provider, TN

The item of expenditure that would be incurred to organize the above said event is submitted here under:

Estimated Expenditure

S.No	Item of Expenditure	Amount (Rs)	Pay to Whom
1.	Resource Person Renumeration	5000	Dr.N.R.Rajalakshmi
2.	Banner and Invitation	500	Dr.N.R.Rajalakshmi
	Total	5500	

Thanking you,

Yours faithfully,

Sunil E
Sr Soft Engr – (Cisco Systems)
Phone: 9840847386
Email: esunilme@gmail.com

Profile Summary

A results oriented individual! Expertise is broad in scope in networking domain . Possess a high technical aptitude and a high level of analytical ability. Trained in the use and creation of test automation tools and applications customized for proprietary uses. I understand and believe in the integration of techniques, I learn more and do more of the work, add more value to the team. Be able to handle complex situations and time crunch schedules, would create more value for the company and for the customer.

- **Overall 12+yrs of experience**
- Strong experience in Service Provider Network Design /Solutions/ Technologies
- Expert in Cable/Satellite broadband subscriber Management &Cloud Technologies
- Handled Multiple Access/Edge /Core Protocols Configuration, Validation and Support
- Worked on various automation framework through Java,TCL and Python Codings
- Also worked in EMS/NMS
- Handled Devops, Customer escalations, Provisioning converged SDN transport
- Deploying Service and quality improvement programme
- Strongly self-motivated, willing to assume responsibilities.
- Can work independently, lead or work within a team environment.
- Excellent organizational and communication skills, both oral and written.

Skills Summary

Experience	12Years
Company	Cisco Systems, Inc.
Languages Known	Java & C
OS	Linux & Windows
Scripts	TCL,PhP,Javascript,Python
Database	MySQL
Tools	IXIA,NCIX, Spirent STC, AX4000 , ClearCase, Rational Rose, Eclipse,Netbeans,IXIA,Ethereal,Wireshark ,Jenkins& Protégé
Web Development	Web Servers,XML,JSP & Servlets,JWSDP & Parsers,PHP
Configuration Management Tools	CVS ,ClearCase,Perforce,VSphere
Domain Knowledge	VPWS,VPLS,EVPN,L3VPN,MVPN,Segment Routing,MPLS, LDP,RSVP OSPF,ISIS,BGP,CFM,BFD,VRRP, MLACP,MSTP,PVRST QoS,SDN
Education	Bachelor of Engineering, Electronics & Communication Engineering (RMK ENGG COLLEGE) -2003 Master of Engineering, Software Engineering (ANNA UNIVERSITY)- 2007

Work History

Title	***Converged SDN Transport(Apr 18-Till date)***
Role	Sr Soft Engr G-10
Domain	L2VPN,L3VPN,MCAST Services with core using MPLS and segment Routing IP subscriber Management,BNGAccess /Core Rings
Tools Used	Ixia,N2x , Spirent,Ethereal,Perforce,Jenkins,Jira,,Vpshere,
Languages & Scripts	TCL ,Python
Team Size	200
Description	Designing and validating end to end service provider network profiles by configuring multi services replicating customer Worked on Broadband Network Gateway Features (BNG)
Responsibilities	• Preparing Customer usecase deployment Doc ,White Paper on Features • Customer Support ,In house repro and defect analysis • Test Plan & Strategies • DT Exit Reports on CPS,Scale, Performance & Memory • Manual Validation (Functional,Scale ,Solution /Deployment) • SIT Profile Execution • Automation Coding & Review • Failure Analysis & Bug Reporting

Title	***Residential & Mobility Broadband (Apr 17- Mar 18)***
Role	Tech Lead
Domain	Satellite Broadband (Residential & Commercial Mobility)
Tools Used	Ixia,N2x , Spirent,Ethereal,Perforce,Jenkins,Jira,Grafana,RainMaker,Swarm
Languages & Scripts	TCL ,Python
Team Size	15

Description	User Mobile Terminal team (CPE) Access Network Support Mobility Handovers – Inflight Internet Alpha & beta testing support
Responsibilities	• Preparation & Review design plan • Maintaining CICD Fast/Slow Cat Pipelines & Build Promotion • Sprint Planning & running scrums • Automation backlog creation & project reports • Automation code scripting libraries, tools &review • Failure Analysis & Bug Reporting • Product Devops & First Responder role for our production network • Leading the team and mentoring the new comers

Title	***BNG Features (May11- Mar17)***
Role	Software Engr
Domain	DHCP Proxy ,PPPoE ,AAA and IPoE sessions
Tools Used	Ixia,N2x , Spirent,Ethereal,CVS & various Process tools
Languages & Scripts	TCl ,Python
Team Size	100
Description	• Scalability (IPoE/PPPoE sessions), AAA Accounting & authorization,COA • DHCP Proxy & Relay agent & Server
Responsibilities	• Preparation & Review design plan • DT,SIT • Automation code Scripting libraries,Tools & Review • Failure Analysis & Bug Reporting • Preparing deployment doc,solution doc and white paper on features • Leading the team and mentoring the new comers

Title	***Tellabs Router Features (Aug10- Apr11)***
Role	Software Engineer -III
Domain	Protol termination & Scalability of pwe3s, mpls,rsvp ,ospf and ipvpn and other feature new product 8609
Tools Used	Ethereal , Eclipse , Spirent STC, AX4000,Clearcase,clearquest,Quality center
Languages & Scripts	TCl

Team Size	50
Description	• Scalability features (ATM, TDM,Ethernet,MPLS,IPVPN) • Protocol Termination
Responsibilities	• Preparation & Review of design plan • Automation code Scripting & Review • Automation Issues Support • Failure Analysis & Bug Reporting • Leading the modules • Mentoring freshers

Title	***ECI Edge Router Features (Aug08- Aug10)***
Role	Software Engineer-II
Domain	L2/L3 QoS, RSTP,MPLS, OSPF,LDP,L2 Vlan Mapping,LACP,VPLS/L2T (Layer 2 services),RSVP,LDP
Tools Used	Ethereal , Eclipse , Spirent STC, AX4000
Languages & Scripts	Java, Tcl & perl
Team Size	35
Description	• **L2/L3 Qos**- Filtering, Classifying ,Scheduling and Queuing the traffic at the ingress and egress of the edge network • **RSTP**-Convergence, Performance, Scalability and compatibility with STP,BPDU testing • **MPLS**-Tunnel Setup & Session establishment with **LDP/RSVP.** • **LACP**-Link aggregation • Routing protocols such as OSPF & BGP • Creation of Layer 2 services (**VPLS/L2T**) ,Point to point and point to multipoint services (psuedowires)
Responsibilities	• Preparation & Review design plan • Coding Automation • Failure Analysis & Bug Reporting

Title	***KEYMILE Dslam Features (Aug07- Aug08)***
Role	Software Engineer-Fresher
Domain	IP DSLAM, PPP, PPPoE, ATM, STP, VLAN,IGMP



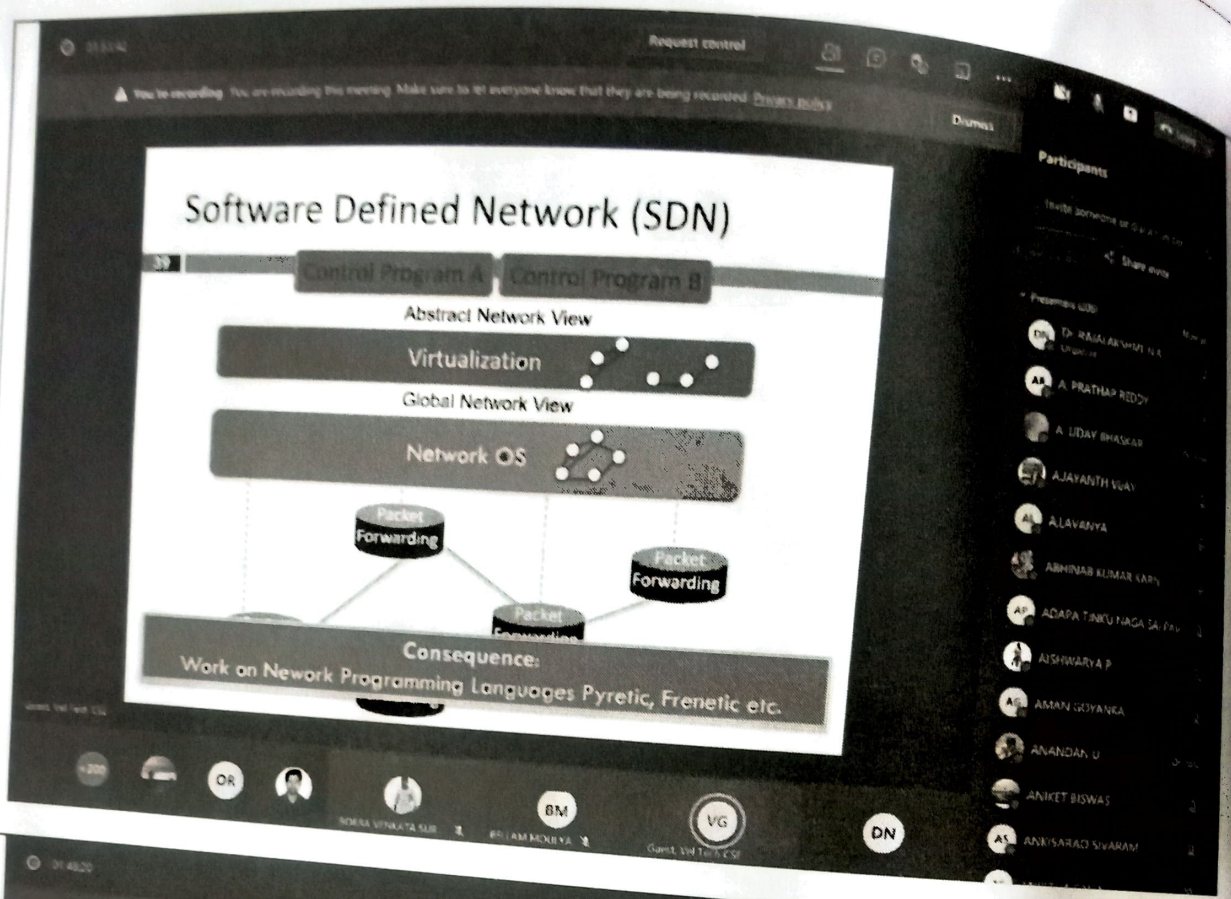
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School of Computing
Department of Computer Science & Engineering
Feedback Workshop
Student's Feedback 22.5.21

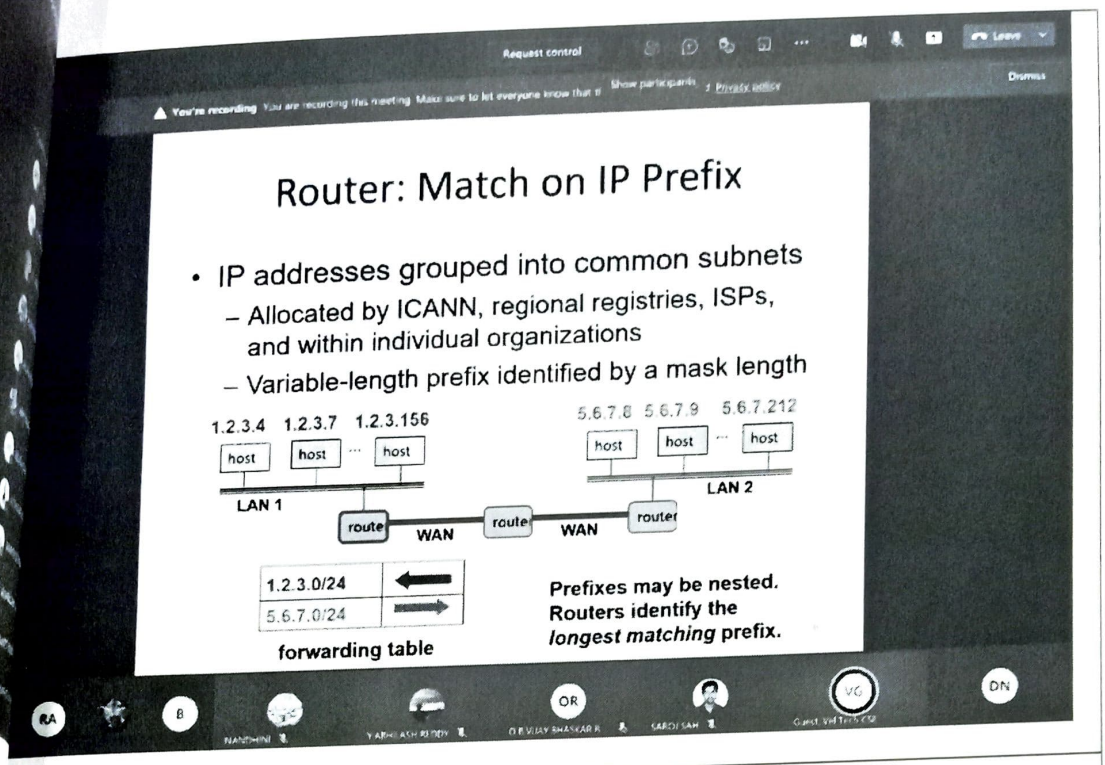
Timestamp	Email Address	NAME (Certificate Name)	NAME (Certificate Name)	VTU NO	Are you satisfied with the content delivered during the workshop?	Do you think the pace of the lectures was alright?	Did the resource person solve all your queries/doubts?	Did the resource person discuss the topics with examples and explanations? *	Did the resource person engage the participants during the workshop?	Do you think this workshop has helped you learn something additional and productive?	Were all topics completed in the workshop as per the workshop content?	How is your overall experience with the training?	Overall how will you rate this workshop?
5/22/2021 12:49	vtu13484@veltech.edu.in	Veeramalla laksh	Veeramalla laksh	13484	YES	YES	YES	YES	YES	YES	YES	Very good	As Expected
5/22/2021 12:50	vtu11843@veltech.edu.in	swapna siripred	swapna siripred	11843	YES	YES	YES	YES	YES	YES	YES	Excellent	Better than expected
5/22/2021 12:50	vtu14671@veltech.edu.in	Sivaram ankisar	Sivaram ankisar	Vtu14671	YES	YES	YES	YES	YES	YES	YES	Good	As Expected
5/22/2021 12:52	vtu11066@veltech.edu.in	Eswar k	Eswar k	11066	YES	YES	YES	YES	YES	YES	YES	Good	As Expected
5/22/2021 12:52	vtu13094@veltech.edu.in	Naguru Roshini	Naguru Roshini	Vtu13094	YES	YES	YES	YES	YES	YES	YES	Excellent	Better than expected
5/22/2021 12:52	vtu13836@veltech.edu.in	Padmasri Abburi	Padmasri Abburi	13836	YES	YES	YES	YES	YES	YES	YES	Excellent	As Expected
5/22/2021 12:53	vtu18837@veltech.edu.in	sanjay kumar k	sanjay kumar k	vtu18837	YES	YES	YES	YES	YES	YES	YES	Excellent	Better than expected
5/22/2021 12:53	vtu13847@veltech.edu.in	M PRAMODH K	M PRAMODH K	13847	YES	YES	YES	YES	YES	YES	YES	Excellent	Better than expected
5/22/2021 12:53	vtu13833@veltech.edu.in	Noudu Hari Shar	Noudu Hari Shar	Vtu13833	YES	YES	YES	YES	YES	YES	YES	Excellent	Better than expected
5/22/2021 12:53	vtu13861@veltech.edu.in	Bellam Moulya	Bellam Moulya	13861	YES	YES	YES	YES	YES	YES	YES	Very good	As Expected
5/22/2021 12:53	vtu14175@veltech.edu.in	K Lasya nandini	K Lasya nandini	14175	YES	YES	YES	YES	YES	YES	YES	Excellent	Better than expected
5/22/2021 12:54	vtu13856@veltech.edu.in	M Chandana	M Chandana	13856	YES	YES	YES	YES	YES	YES	YES	Very good	As Expected
5/22/2021 12:54	vtu13854@veltech.edu.in	Y pavankumaru	Y pavankumaru	13854	YES	YES	YES	YES	YES	YES	YES	Very good	As Expected
5/22/2021 12:55	vtu14174@veltech.edu.in	G madhu sudhar	G madhu sudhar	Vtu14174	YES	YES	YES	YES	YES	YES	YES	Excellent	Better than expected
5/22/2021 12:56	vtu11014@veltech.edu.in	Somya sinha	Somya sinha	11014	YES	YES	YES	YES	YES	YES	YES	Very good	Better than expected
5/22/2021 12:56	vtu15265@veltech.edu.in	B Ajaykumar	B Ajaykumar	Vtu15265	YES	YES	YES	YES	YES	YES	YES	Excellent	As Expected
5/22/2021 12:56	vtu11068@veltech.edu.in	Anandhan U	Anandhan U	11068	YES	YES	YES	YES	YES	YES	YES	Very good	As Expected
5/22/2021 12:57	vtu13842@veltech.edu.in	P Premchandu	P Premchandu	13842	YES	YES	YES	YES	YES	YES	YES	Good	As Expected
5/22/2021 12:58	vtu14663@veltech.edu.in	Adapa uday Bha	Adapa uday Bha	Vtu14663	YES	YES	YES	YES	YES	YES	YES	Good	As Expected
5/22/2021 12:58	vtu11834@veltech.edu.in	Rishu Raj	Rishu Raj	11834	YES	YES	YES	YES	NO	YES	YES	Very good	Better than expected
5/22/2021 12:59	vtu10846@veltechuniv.edu	Priyanshu Jyoti	Priyanshu Jyoti	10846	YES	YES	YES	YES	YES	YES	YES	Very good	As Expected
5/22/2021 12:59	vtu14643@veltech.edu.in	MALLAREDDI B	MALLAREDDI B	14643	YES	YES	YES	YES	YES	YES	YES	Excellent	Better than expected
5/22/2021 12:59	vtu15286@veltech.edu.in	Thangella Venka	Thangella Venka	15286	YES	YES	YES	YES	YES	YES	YES	Very good	As Expected
5/22/2021 13:00	vtu13305@veltech.edu.in	Pitta ganesh sai	Pitta ganesh sai	13305	YES	YES	YES	YES	YES	YES	YES	Excellent	Better than expected
5/22/2021 13:00	vtu13843@veltech.edu.in	Sai Kamalesh An	Sai Kamalesh An	13843	YES	YES	YES	YES	YES	YES	YES	Very good	As Expected
5/22/2021 13:00	vtu13280@veltech.edu.in	Kondreddy Bhav	Kondreddy Bhav	13280	YES	YES	YES	YES	YES	YES	YES	Very good	Better than expected
5/22/2021 13:00	vtu11500@veltech.edu.in	M KOUSHIK KU	M KOUSHIK KU	11500	YES	YES	YES	YES	YES	YES	YES	Excellent	As Expected
5/22/2021 13:00	vtu11858@veltech.edu.in	Kothuri jaya sai	Kothuri jaya sai	11858	YES	YES	YES	YES	YES	YES	YES	Very good	As Expected
5/22/2021 13:02	vtu12648@veltech.edu.in	Viti jelane B	Viti jelane B	Vtu12648	YES	YES	YES	YES	YES	YES	YES	Excellent	Better than expected
5/22/2021 13:03	vtu10942@veltech.edu.in	Mukundan B	Mukundan B	10942	YES	YES	YES	YES	YES	YES	YES	Excellent	Better than expected
5/22/2021 13:04	vtu11991@veltech.edu.in	Dhivya M	Dhivya M	VTU11991	YES	YES	YES	YES	YES	YES	YES	Excellent	As Expected
5/22/2021 13:04	vtu15286@veltech.edu.in	Rakesh Ummed	Rakesh Ummed	15286	YES	YES	YES	YES	YES	YES	YES	Very good	As Expected
5/22/2021 13:05	vtu13280@veltech.edu.in	K Bhavyasree	K Bhavyasree	Vtu13280	YES	YES	YES	YES	YES	YES	YES	Very good	As Expected
5/22/2021 13:06	vtu12441@veltech.edu.in	V Ramya Reddy	V Ramya Reddy	12441	YES	YES	YES	YES	YES	YES	YES	Very good	As Expected
5/22/2021 13:09	vtu11680@veltech.edu.in	Sourabh Mishra	Sourabh Mishra	11680	YES	YES	YES	YES	YES	YES	YES	Excellent	Better than expected
5/22/2021 13:11	vtu13618@veltech.edu.in	Anup Kapali	Anup Kapali	13618	YES	YES	YES	YES	YES	YES	YES	Excellent	As Expected
5/22/2021 13:14	vtu12164@veltech.edu.in	R Sathish reddy	R Sathish reddy	12164	YES	YES	YES	YES	YES	YES	YES	Excellent	Better than expected
5/22/2021 13:15	vtu11848@veltech.edu.in	Anshu Saha	Anshu Saha	11848	YES	YES	YES	YES	YES	YES	YES	Excellent	As Expected
5/22/2021 13:16	vtu13673@veltech.edu.in	Harshitha reddy	Harshitha reddy	13673	YES	YES	YES	YES	YES	YES	YES	Excellent	Better than expected

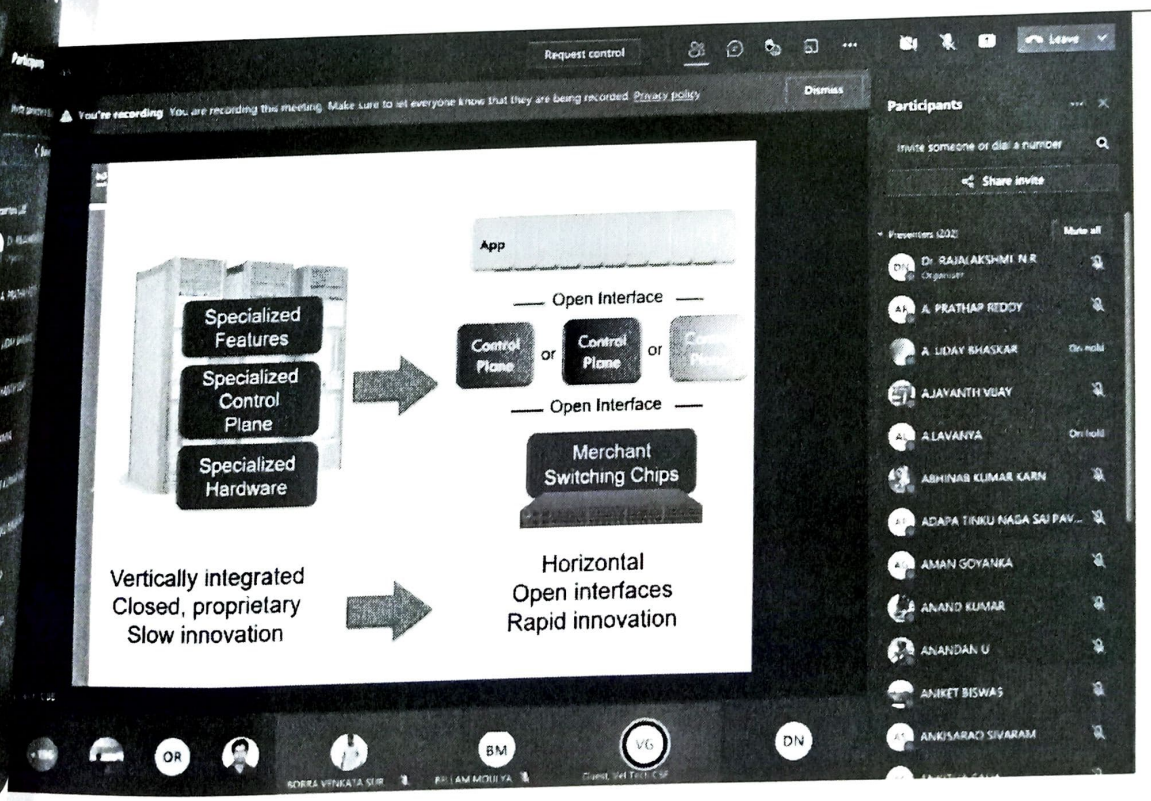
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Request control
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Dismiss
Software Defined Network (SDN)
39
Control Program A
Control Program B
Abstract Network View
Virtualization
Global Network View
Network OS
Packet Forwarding
Packet Forwarding
Packet Forwarding
Consequence:
Work on Nework Programming Languages Pyretic, Frenetic etc.
Participants
Dr. RAJALAKSHMI N.R
A. PRATHAP REDDY
A. UDAY BHASKAR
AJAYANTH VIJAY
A.LAVANYA
ABHINAB KUMAR KARN
ADAPA TINKU NAGA SAI PAV...
AISHWARYA P
AMAN GOYANKA
ANANDAN U
ANIKET BISWAS
ANISARAO SIVARAM
OR
BM
VG
DN

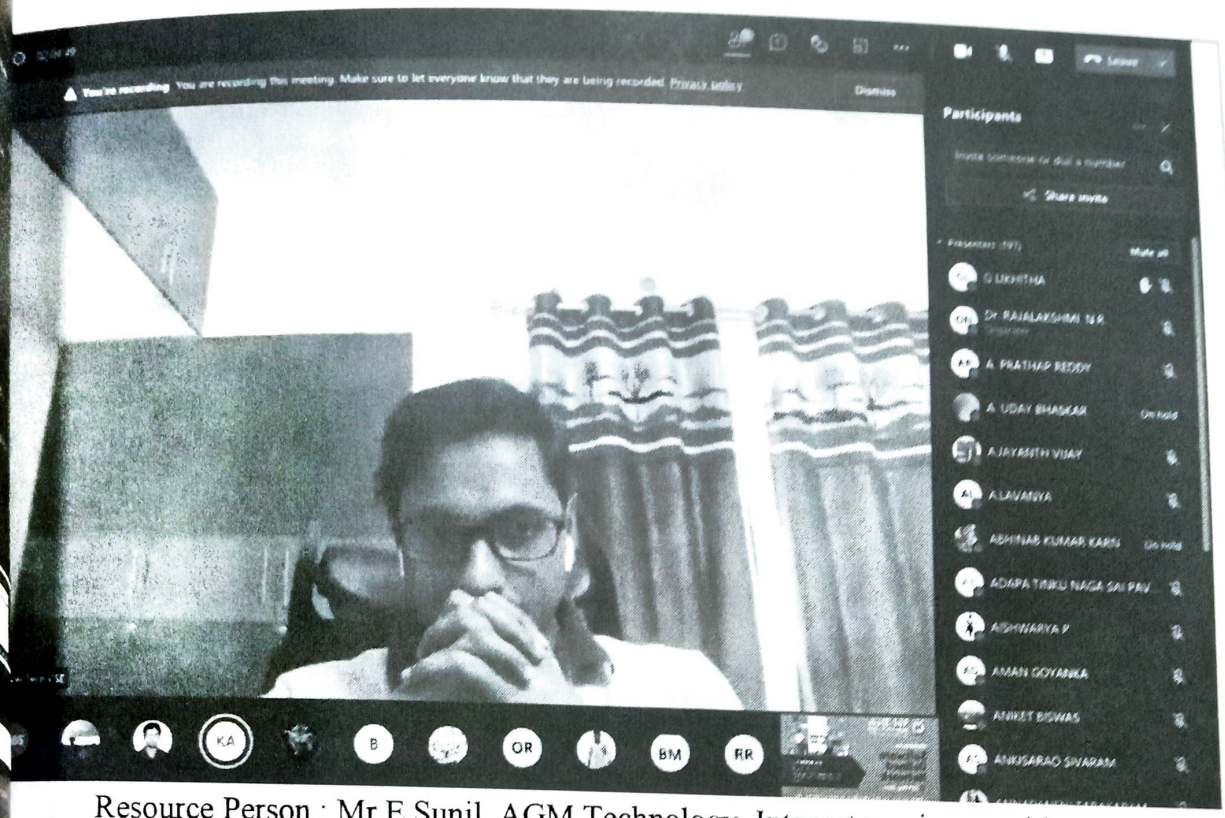

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Example
33
OSPF
Distributed System
IS-IS
Distributed System
OS
Custom Hardware
OSPF = Dijkstra
IS-IS
Distributed System
Network OS
Packet Forwarding
Packet Forwarding
Packet Forwarding
Packet Forwarding
Participants
Dr. RAJALAKSHMI N.R
A. PRATHAP REDDY
A. UDAY BHASKAR
AJAYANTH VIJAY
A.LAVANYA
ABHINAB KUMAR KARN
ADAPA TINKU NAGA SAI PAV...
AISHWARYA P
AMAN GOYANKA
ANAND KUMAR
ANANDAN U
ANIKET BISWAS
OR
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Request control
Leave
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Show participants
Privacy policy
Dismiss
Router: Match on IP Prefix
• IP addresses grouped into common subnets
– Allocated by ICANN, regional registries, ISPs, and within individual organizations
– Variable-length prefix identified by a mask length
1.2.3.4 1.2.3.7 1.2.3.156
host host host
LAN 1
5.6.7.8 5.6.7.9 5.6.7.212
host host host
LAN 2
route WAN route WAN router
1.2.3.0/24
5.6.7.0/24
forwarding table
Prefixes may be nested. Routers identify the longest matching prefix.
RA B NANDHINI YAPPALAKSH REDDY OR O B VIJAY BHASKAR R SAROJ SAH VC Guest_VIT Tech CSE DN

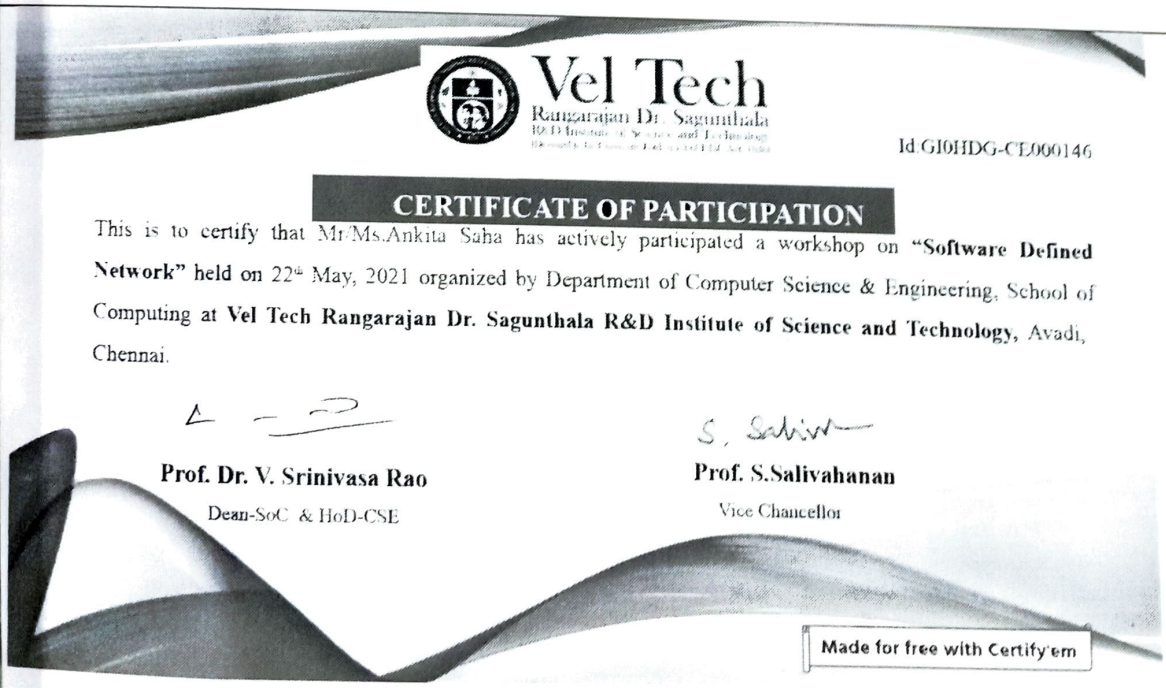

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Leave
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Dismiss
Participants
Invite someone or dial a number
Share invite
Mute all
Dr. RAJA(AKSHMI N R
A. PRATHAP REDDY
A. LIDAY BHASKAR
AJAYANTH VIJAY
A LAVANYA
ABHINAB KUMAR KARN
ADAPA TINKU NAGA SAI PAV...
AMAN GOYANKA
ANAND KUMAR
ANANDAN U
ANIKET BISWAS
ANKISARAO SIVARAM
App
Open Interface
Control Plane
or
Control Plane
or
Open Interface
Specialized Features
Specialized Control Plane
Specialized Hardware
Merchant Switching Chips
Vertically integrated
Closed, proprietary
Slow innovation
Horizontal
Open interfaces
Rapid innovation
OR BM VG DN
SOBRA VENKATA SIR ABDULAM MOULIYA Guest_VIT Tech CSE

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Resource Person : Mr.E.Sunil, AGM Technology, Internet service provider,

Atria convergence Technologies



Certificate Design for Software Defined Network workshop