

# IdREN

## Indonesian Research and Education Network

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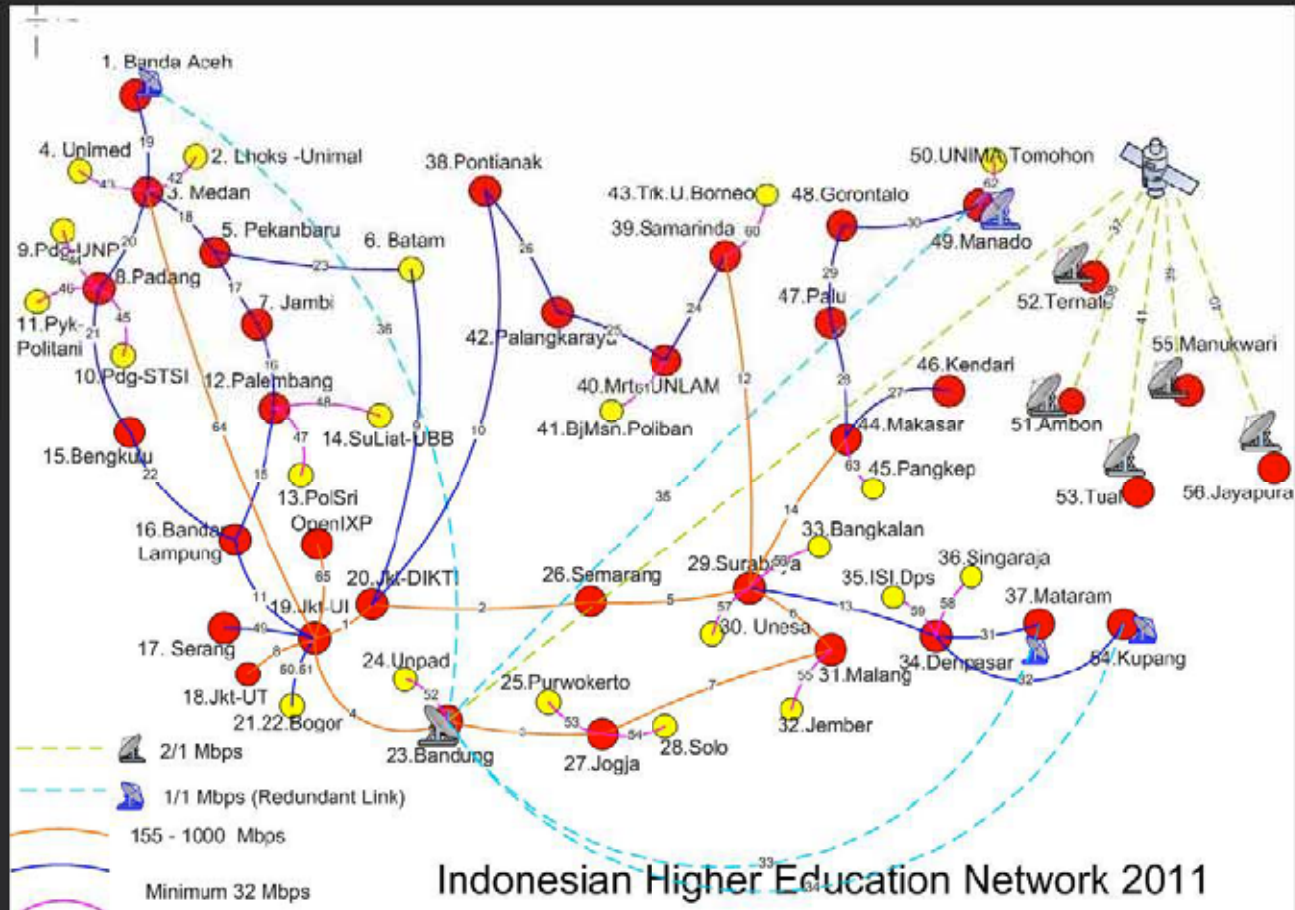
*Indonesian Research and Education Network (IdREN) is one of network clouds dedicated to interconnect research and education institutions in Indonesia.*



IdREN is NOT INTERNET

# IdREN





Indonesian Higher Education Network 2011

## IdREN Background & Objective

- 2006 – 2012 → INHERENT
  - Dedicated Infrastructure supported by Government
  - Interconnecting among 32 State Universities
- 2013 – .....(not active)
- UU no. 12 Tahun 2012 Pendidikan Tinggi
  - Pasal 79
  - (5) Pemerintah mengembangkan jejaring antar perguruan tinggi dengan memanfaatkan teknologi Informasi
- Developing interconnected networks amongst Universities/Research Institutions
- Collaborating in Research & Education
- Facilitating the development of Open Learning Resources and Information System amongst members
- Bridging the gaps by connecting islands of knowledge

## Efforts in Reviving REN in Indonesia



Malang, 17 Juni 2015. Pengelola IT di PTN bertemu. Ide untuk menghidupkan Inherent mulai muncul



Jakarta, 2 Juli 2015. Penandatanganan piagam komitmen bersama untuk pengembangan IdREN



ITS, 5 Agustus 2015. Membahas aktivasi jaringan IdREN.



10 September 2015. Video Conference menggunakan jaringan IdREN



## Efforts in Reviving REN in Indonesia



UGM Yogyakarta  
2015

UGM, 26 September 2015.  
Membahas arsitektur jaringan & aplikasi IdREN. Pusdatin mulai dilibatkan.



ITB, Bandung  
2015

ITB, 8 Oktober 2015.  
Infrastruktur, aplikasi dan tatakelola IDREN.



UB, Malang  
2016

UB, 23 Januari 2016.  
Membahas tata kelola dan proposal IdREN.



Kemristek Dikti, 22 Jan 2016.  
Audiensi dan pengajuan proposal IdREN

# VICON UB with ITS (FULL HD)

175.45.186.132

idran.its.mov

CISCO

Sep 10

LAYOUT CONTROL

Show selfview

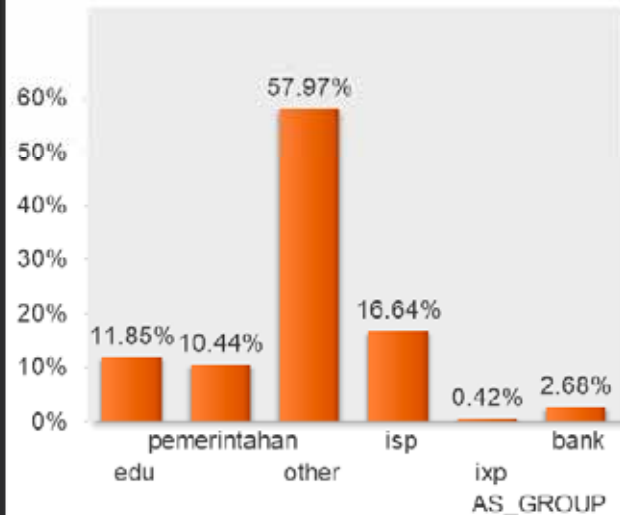
Full screen participant

Remote layout



## Group ASN by Provider

AS GROUP



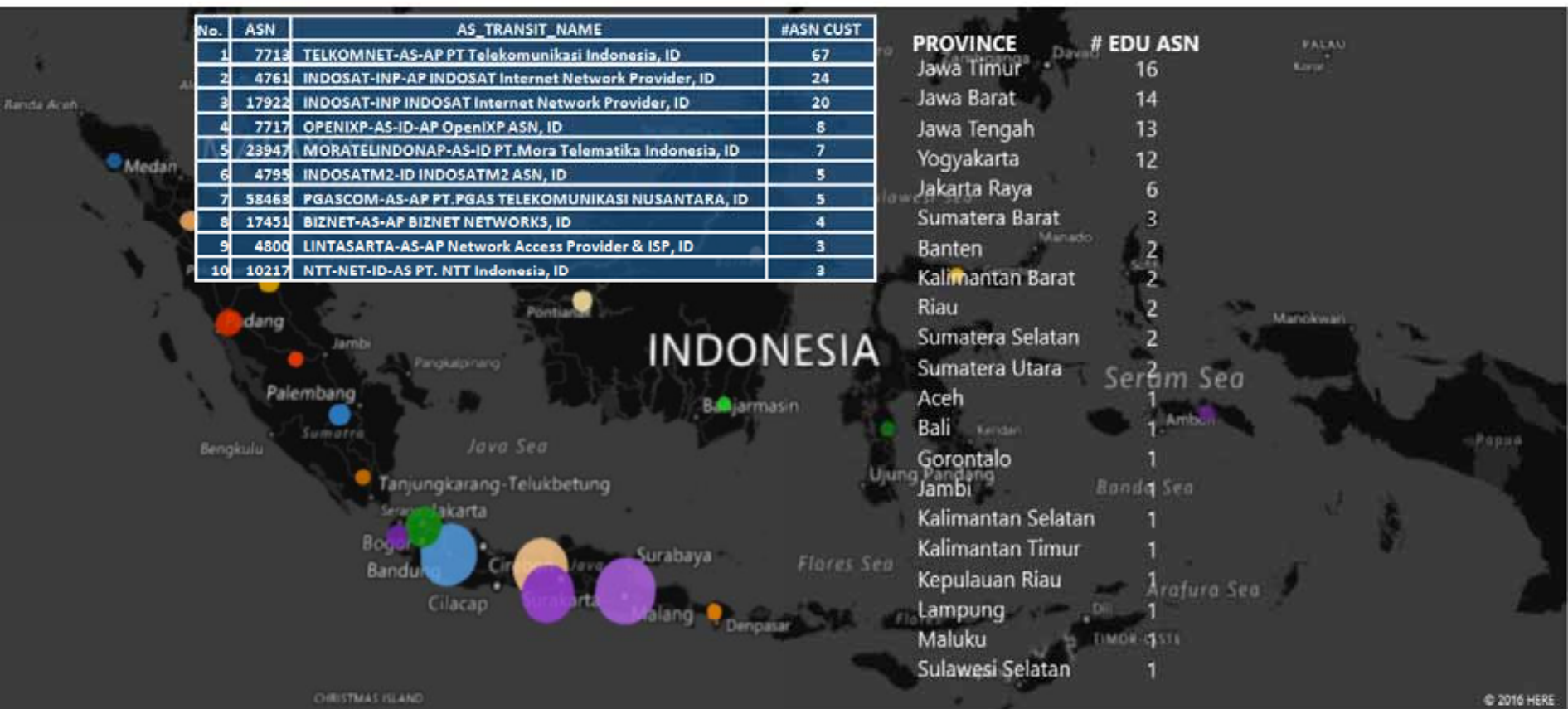
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7713	15.69%	221	TELKOMNET-AS-AP PT Telekomunikasi Indonesia, ID
4761	10.83%	178	INDOSAT-INP-AP INDOSAT Internet Network Provider, ID
23947	9.01%	139	MORATELINDONAP-AS-ID PT.Mora Telematika Indonesia, ID
45147	7.34%	103	NAPINFO-TRANSIT-AS-AP PT. NAP Info Lintas Nusa, ID
58463	6.53%	121	PGASCOM-AS-AP PT.PGAS TELEKOMUNIKASI NUSANTARA, ID
58552	3.76%	48	MULTIDATA-ID-AP PT Multidata Rencana Prima, ID
17451	3.56%	57	BIZNET-AS-AP BIZNET NETWORKS, ID
10217	2.40%	36	NTT-NET-ID-AS PT. NTT Indonesia, ID
4800	2.24%	33	LINTASARTA-AS-AP Network Access Provider and Internet Service Provider, ID
18351	2.21%	34	MEDIAAKSES-AS PT Media Akses Global Indo, Internet Provider Jakarta, ID
7632	2.17%	36	LINKNET-EXCHANGE-AS-ID Linknet-Exchange ASN, ID
24534	2.11%	34	TRANSYBRID-AS-ID PT. Transhybrid Communication, ID
24538	1.72%	25	DIGISATNET-AS-ID DIGITAL SATELLITE INDONESIA PT., ID
38496	1.45%	18	CNI-AS-ID PT Cyber Network Indonesia, ID
55818	1.29%	56	MCIX-AS-AP MC-IX Matrix Internet Exchange RS-1, ID
38158	1.25%	12	CBN-NETWORKS-AS-ID PT. Cyberindo Aditama, ID
38757	1.14%	15	ICONPLN-ID-AP PT. Indonesia Comnets Plus, ID
9905	0.99%	19	LINKNET-ID-AP Linknet ASN, ID
18059	0.99%	12	DTPNET-AS-AP DTPNET NAP, ID

# EDU ASN in ID

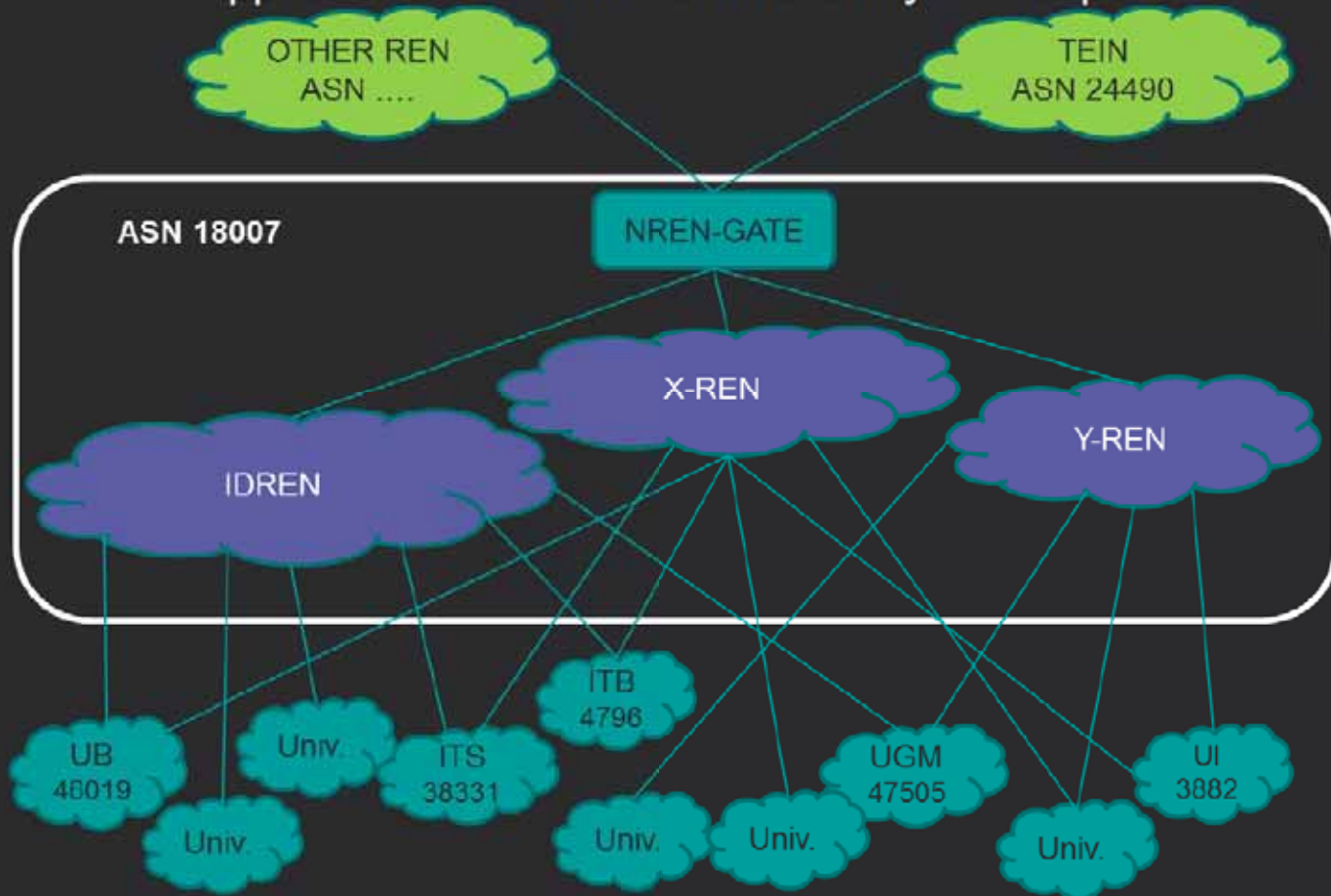
No.	ASN	AS_TRANSIT_NAME	#ASN CUST
1	7713	TELKOMNET-AS-AP PT Telekomunikasi Indonesia, ID	67
2	4761	INDOSAT-INP-AP INDOSAT Internet Network Provider, ID	24
3	17922	INDOSAT-INP INDOSAT Internet Network Provider, ID	20
4	7717	OPENIXP-AS-ID-AP OpenIXP ASN, ID	8
5	23947	MORATELINDONAP-AS-ID PT.Mora Telematika Indonesia, ID	7
6	4795	INDOSATM2-ID INDOATM2 ASN, ID	5
7	58468	PGASCOM-AS-AP PT.PGAS TELEKOMUNIKASI NUSANTARA, ID	5
8	17451	BIZNET-AS-AP BIZNET NETWORKS, ID	4
9	4800	LINTASARTA-AS-AP Network Access Provider & ISP, ID	3
10	10217	NTT-NET-ID-AS PT. NTT Indonesia, ID	3

## PROVINCE # EDU ASN

Jawa Timur	16
Jawa Barat	14
Jawa Tengah	13
Yogyakarta	12
Jakarta Raya	6
Sumatera Barat	3
Banten	2
Kalimantan Barat	2
Riau	2
Sumatera Selatan	2
Sumatera Utara	2
Aceh	1
Bali	1
Gorontalo	1
Jambi	1
Kalimantan Selatan	1
Kalimantan Timur	1
Kepulauan Riau	1
Lampung	1
Maluku	1
Sulawesi Selatan	1



# Approach – REN Interconnectivity Concept



## Approach – IdREN Interconnectivity Concept

- IDREN != INTERNET

- No transit to Internet
- Provide transit to other RENs:
  - Currently via TEIN (ASN 24490)

- IDREN-GATE

- Distribution Node
- IDREN ASN (ASN 18007)
- Transit AS

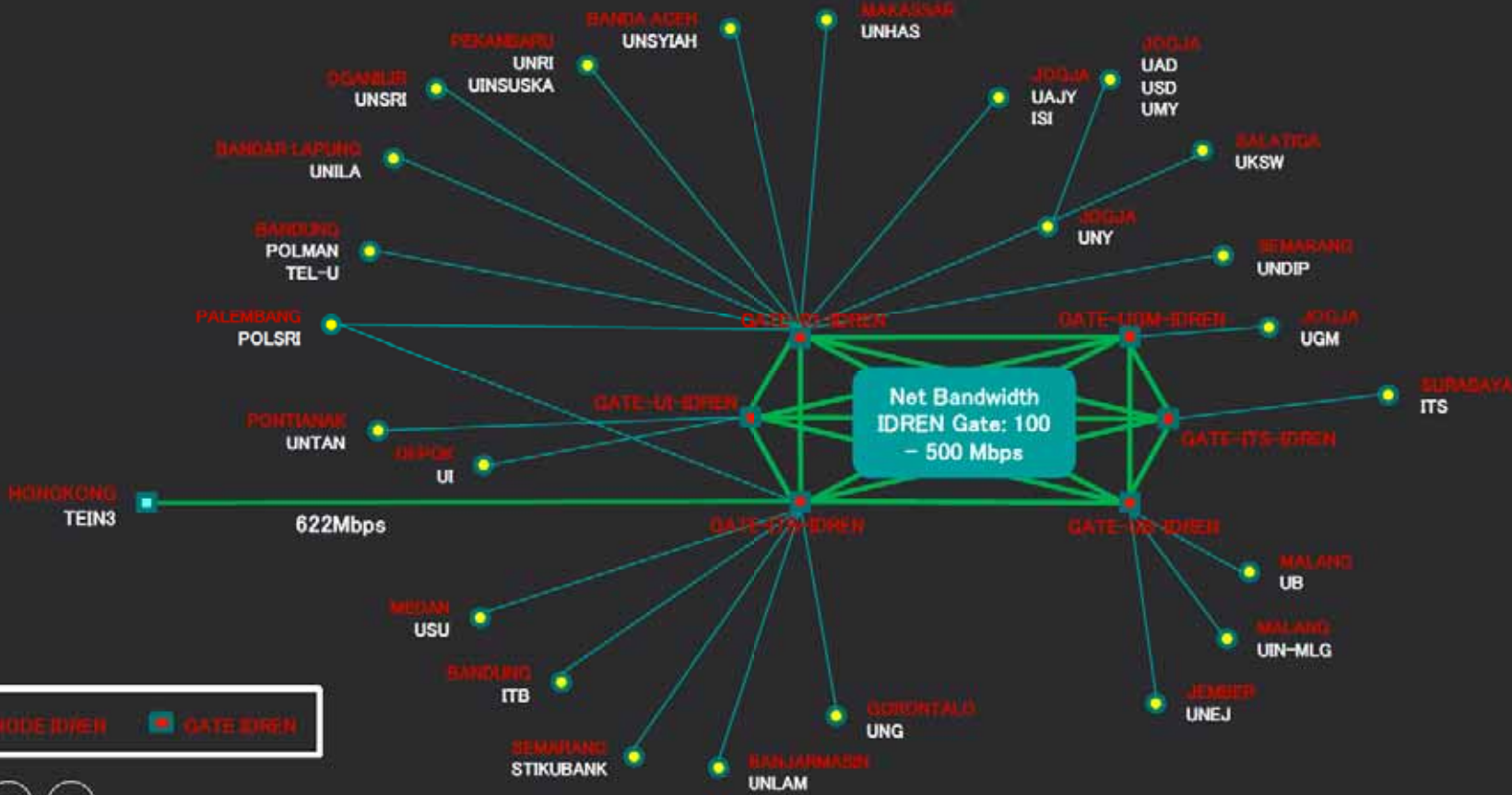
- IDREN-NODE

- Access Node
- Stub AS, should never be a transit
- Univ./Research Institution ASN

- IDREN NET CLOUD

- ISP/Government supports L2 connectivity
- R&E Institutions manage & operate L3 Connectivity

# IDREN GATE & NODE – 2016



● NODE IDREN   
 ■ GATE IDREN





# IDREN NODE & GATE IN MAP

## Number of Connected ASN in June 2016, Visible in other RENs

No	Node (ASN)	Province
1	UNY (55674)	Yogyakarta
2	POLSRI (46047)	Sumatera Selatan
3	UNSRI (132676)	Sumatera Selatan
4	UNEJ (132678)	Jawa Timur
5	UI (3382)	Jawa Barat
6	ITB (4796)	Jawa Barat
7	UB (46019)	Jawa Timur
8	UGM (45705)	Yogyakarta
9	ITS (33831)	Jawa Timur
10	UNTAN (55687)	Kalimantan Barat
11	UNG (132660)	Gorontalo
12	USU (55697)	Sumatera Utara
13	UAD (132642)	Yogyakarta
14	UMY (58818)	Yogyakarta
15	UAJY (55680)	Yogyakarta

No	Node (ASN)	Province
16	USD (55672)	Yogyakarta
17	STIKUBANK (59138)	Jawa Tengah
18	POLMAN (133805)	Jawa Barat
19	TELKOM Univ. (133357)	Jawa Barat
20	UNSYAH (63510)	Aceh
21	ISI (63876)	Yogyakarta
22	UINSUSKA (133844)	Riau
23	UNRI (56254)	Riau
24	UNDIP (46049)	Jawa Tengah
25	UIN-Malang (131781)	Jawa Timur
26	UKSW (134627)	Jawa Tengah
27	UNLAM (58475)	Kalimantan Selatan
28	UNHAS (134614)	Sulawesi Selatan
29	UNILA (56237)	Lampung

Very near future, it is going to be 71 universities

# Service & Application IdREN

## [Long Term]

Lapak IdREN, Open  
Data, Teleradiologi,  
DCN, **IM**



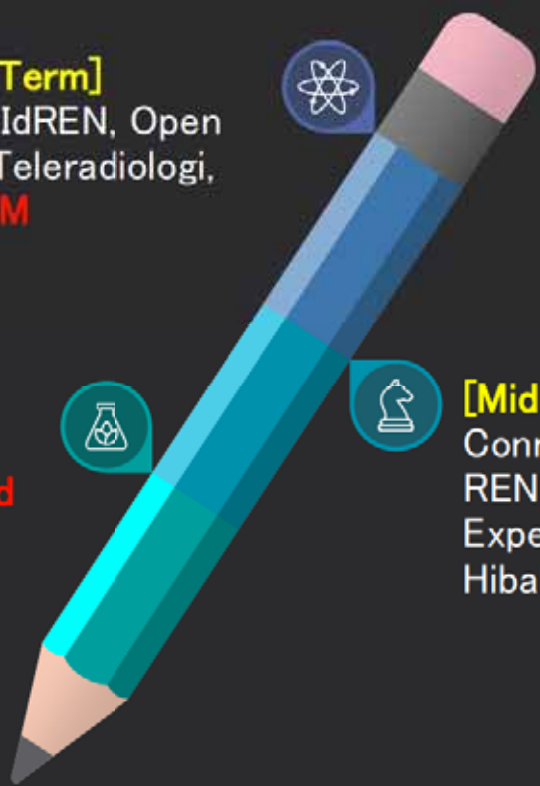
## [Short Term]

**HD Vicon**  
**(Telemedicine), Cloud**  
**Federation, ID**  
**Federation**, PDDikti,  
PDITT



## [Mid Term]

Connectivity to other  
REN, Online  
Experiment, GGC,  
Hibah Penelitian



# Milestone



2015: IdREN is active



# SK DIRJEN BELMAWA KEMRISTEKDIKTI

No. 012/B1/KP/2016, 29 April 2016



## KEMENTERIAN RISET, TEKNOLOGI, DAN PENDIDIKAN TINGGI

DIREKTORAT JENDERAL PEMBELAJARAN DAN KEMAHASISWAAN

Gedung D lantai 7, Jalan Jenderal Sudirman, Pintu 1 Senayan, Jakarta 10270

Telepon: 021-57946072

Laman : <http://www.belmawa.ristekdikti.go.id>

### SALINAN

KEPUTUSAN DIREKTUR JENDERAL PEMBELAJARAN DAN KEMAHASISWAAN  
KEMENTERIAN RISET, TEKNOLOGI, DAN PENDIDIKAN TINGGI

NOMOR 012/B1/KP/2016

TENTANG

TIM PENGEMBANGAN *INDONESIAN RESEARCH AND EDUCATION NETWORK (IdREN)*

DIREKTUR JENDERAL PEMBELAJARAN DAN KEMAHASISWAAN ,



## Conclusion

1. Revival of INHERENT, IdREN has been actively running since September 2015.
2. IdREN empower collaboration in online learning and research activities
3. Needs supports from Gov. & Industry for sustainable operation
4. IdREN members is getting bigger (growing)

# Discussion on Network issues for TELEMEDICINE

- Issues:
  - Member of REN:
    - Organization:
      - University
      - Research Institution
    - Organizational specific network requirements:
      - Organization must have at least IP addresses min. /24
      - Organization must have 1 Autonomous System Number (ASN)
- Facts:
  - Networks in the Hospital is *separated* from the University's Network
    - Different management, different technical supports
  - Many University/Institution does not have
    - Autonomous System Number
    - Enough IP Addresses