

IH Rendezvényközpont
2014. március 24-30.



Felvezető videó

<https://www.youtube.com/watch?v=nltJtzBhz-Q>

Drupal közösség 2008-ban Szegeden

A bemutatás alapján ízelítőt kaphattunk arról, hogy világszerte több millióan használják és fejlesztik a Drupal-t, így hozzájárulnak a rendszer sikeréhez. A Drupal mögött egy rendkívül aktív nemzetközi közösség áll. A világ minden táján tartanak rendezvényeket, amelyek a Drupal-hoz kapcsolódó közösségépítő, üzleti és fejlesztői témákat ölelnek fel.



Drupal Developer Days Szeged

A Drupal Developer Days nemzetközi szoftverfejlesztő vándorkonferencia 2010. óta kerül megrendezésre; München, Brüsszel, Barcelona és Dublin után, 2014. március 24-30. között Szeged adott otthont az eseménynek. A kb. 330 fő részvételével lezajlott rendezvény egy teljes héten keresztül programozói sprinteket, workshopokat és előadásokat foglalt magában. A rendezvényen a Top15 Drupal fejlesztők többsége is jelen volt.



Fotó: TeeCee (Szügyi Tamás)

Igények



How the customer explained it



How the project leader understood it



How the analyst designed it



How the programmer wrote it



What the beta testers received



How the business consultant described it



How the project was documented



What operations installed



How the customer was billed



How it was supported



What marketing advertised



What the customer really needed

Igények

- stabil Internet kapcsolat kialakítása
 - (99.9%-os rendelkezésre állás kevés)
 - több megbízhatatlan vonal
 - load-balancing
- stabil, magas rendelkezésre állású Wi-Fi biztosítása
 - 333 ember
 - 999 kliens
- helyszíni rendszerfelügyelet

Létszám



~~300~~
330

DRUPAL
DEVELOPERS

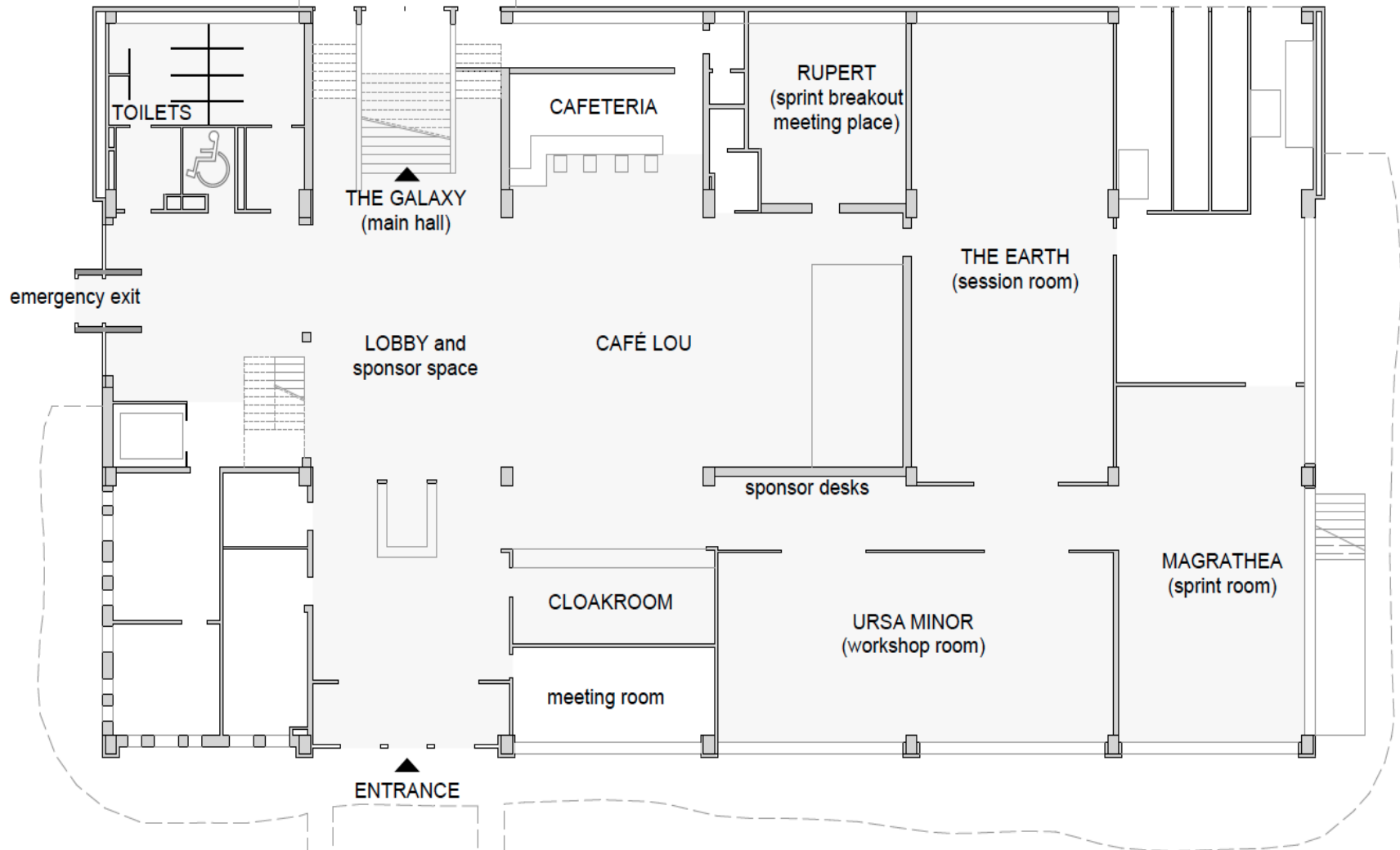
Helyszín - IH Rendezvényközpont

- sprintek: 9:00-23:59 (H-Szo) + V 16 óráig
- előadások: 9:00-17:00 (Cs-P-Szo)
- support időtartam 8:00-20:00
- 2 szint
- 937 m²
- 6 helyiség



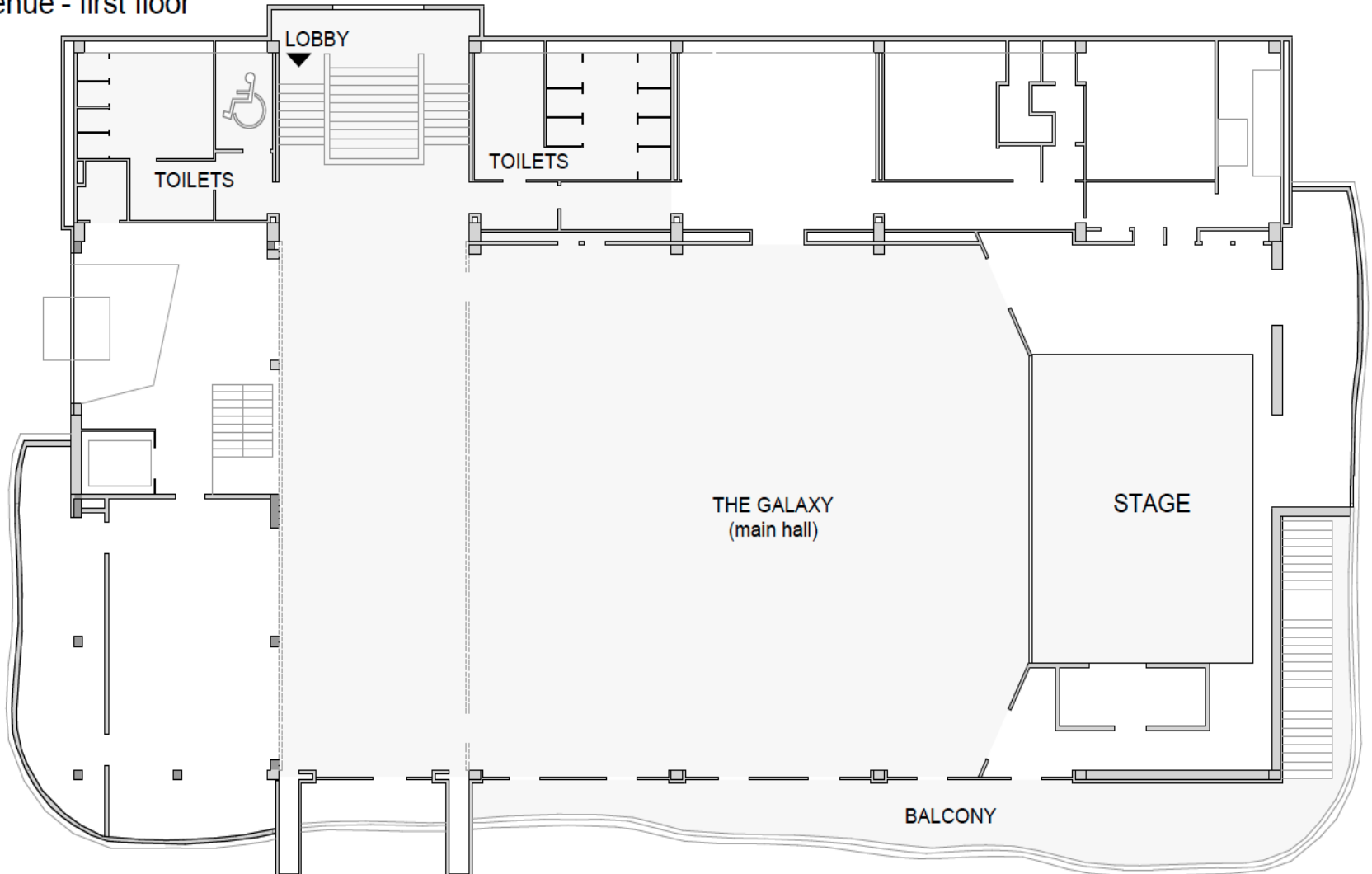
IH Rendezvényközpont földszint

Venue - ground floor



IH Rendezvényközpont emelet

Venue - first floor



Sprintek a gyakorlatban



Internet vonalak - 2n+1 redundancia



2x Invitel

150/60 Mbps

lakossági optika

QoS módosítás után:

160/70 Mbps

1x Digi

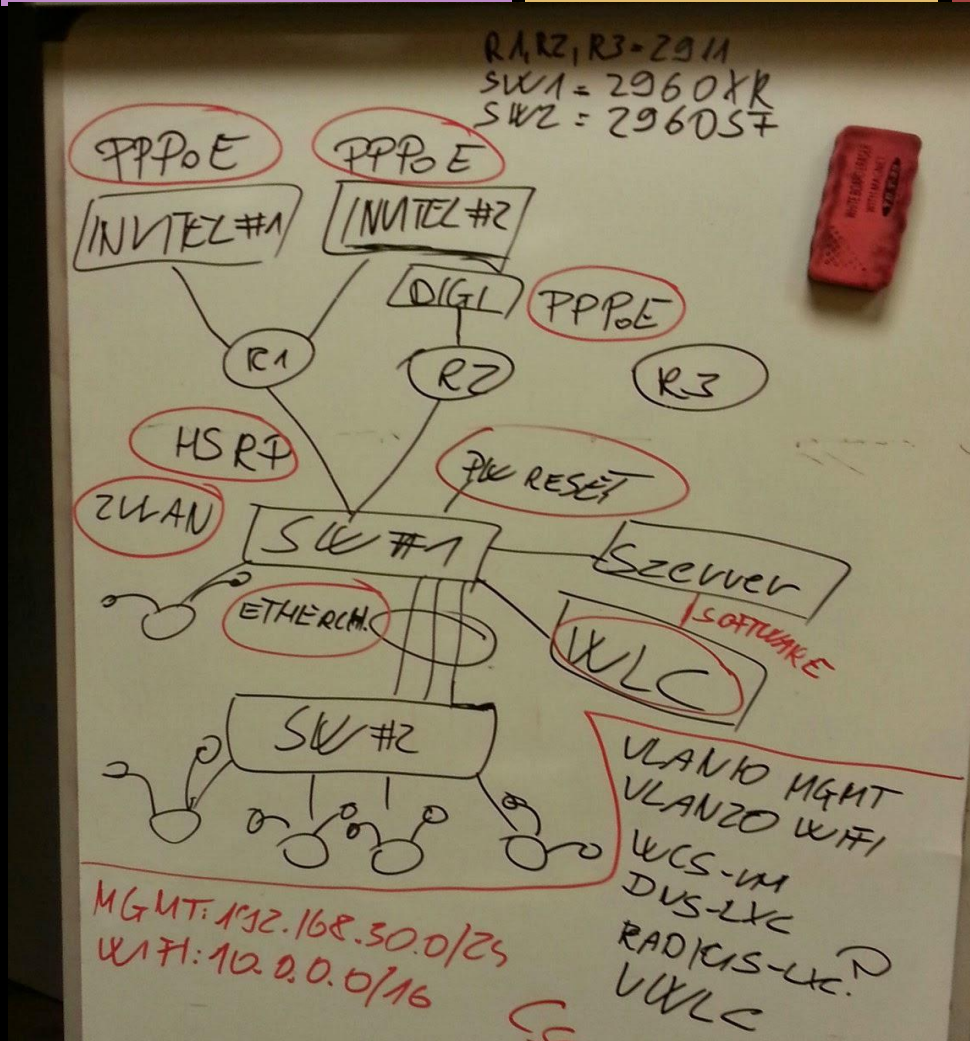
80/40 Mbps

WiFi átlövés

gyakorlatban:

60/25 Mbps

Topológiatervezés



Eszközök

3x 2911 ISR router - (SZTE-CLAB)

1x 2960 XR switch

24x 1Gbps + 4x 1Gbps SFP+, stack-elhető,
dupla táp, PoE+ 730W

1x 2960 SF switch

24x 100 Mbps + 2x 1Gbps SFP+, PoE 370W

1x 3560v2 switch

48x 100 Mbps + 3x 1 Gbps SFP+, PoE 370W

1x 2504 WLC

AP-k

2x 1142i 300 Mbps, a/g/n, 13W (max 16 client)

5x 2602i 450 Mbps, a/b/g/n, 15,4W

4x 2602e 450 Mbps, a/b/g/n, 15,4W

1x 3502i 450 Mbps, a/b/g/n, 15,4W

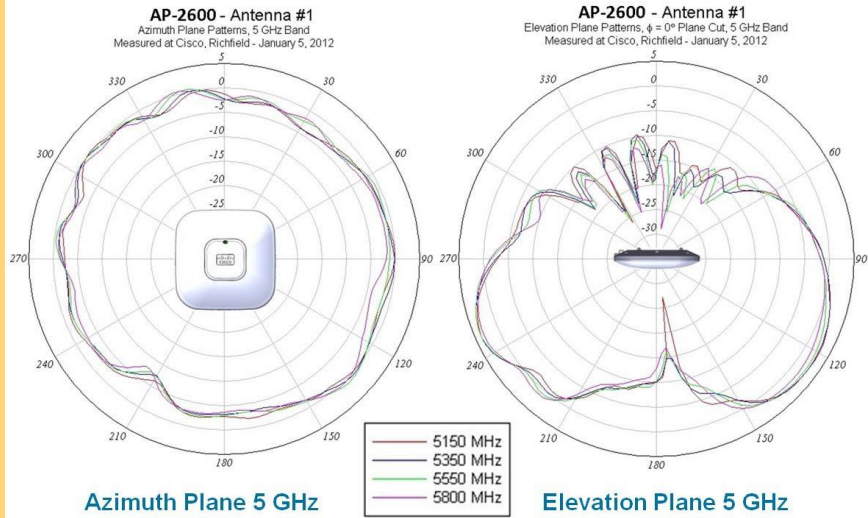
1x 3502e 450 Mbps, a/b/g/n, 15,4W

2x 3602e 450 Mbps+1,3 Gbps, a/b/g/n/ac, 15,4W
+18W

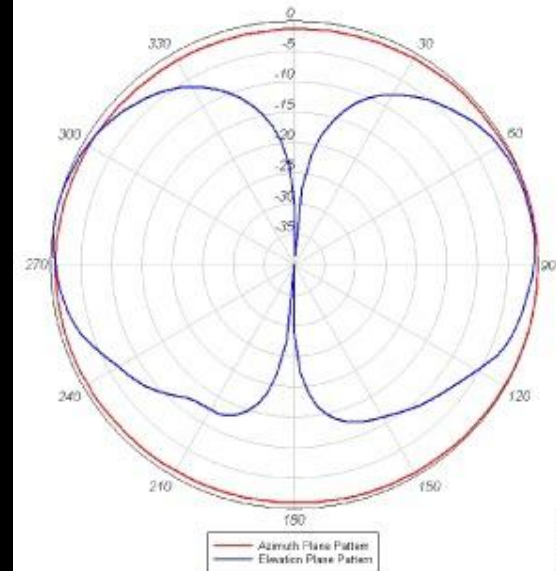
Összesen: 15 db AP, 554,4W PoE-n

Antennák

AP-2600i – Antenna Patterns 5 GHz



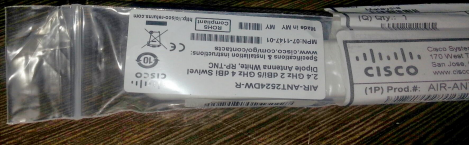
External



Internal



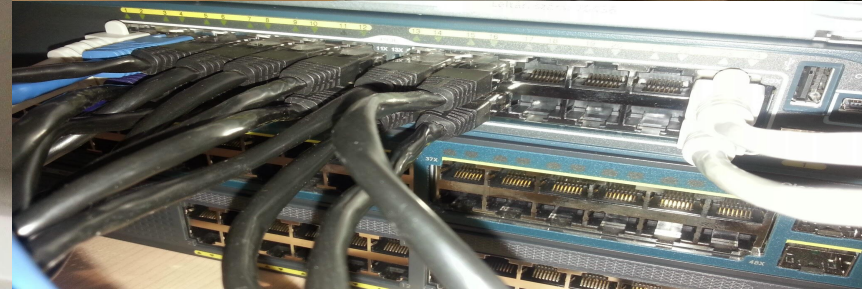
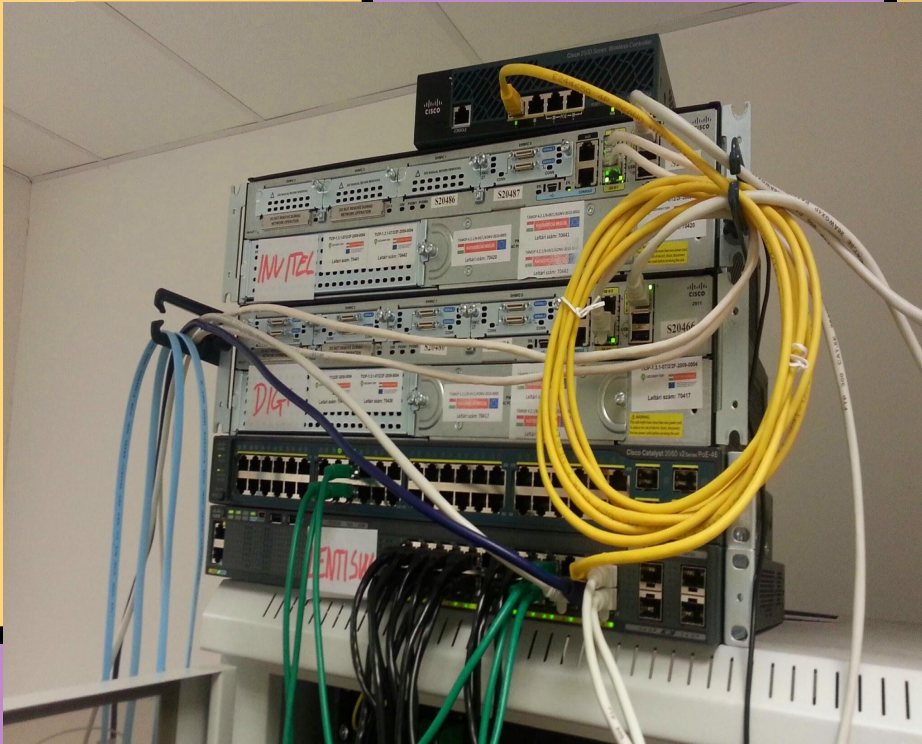
Konzolok, AP-k kiépítése



Szerverek

- Dell Poweredge 1950
 - Intel Xeon X5420
 - 6 GB DDR2-ECC
 - 2x76 GB 10k SCSI, Dell Perc6i+BBU,
 - vmware ESXi 5.5:
 - DHCP @ Ubuntu 12.04.4 LTS,
 - Wireless Control System@ Windows Server 2003
- IBM M3400 M4
 - Intel Xeon E3-1220v2
 - 8 GB DDR3-1600 ECC
 - 3x150GB 10k SCSI, IBM1015
 - vmware ESXi 5.5:
 - Cisco Prime

Eszközök képekben



Főbb technológiák konkrétan

Etherchannel 3x100 Mbps

```
interface Port-channel1
  switchport trunk allowed vlan 10,30
  switchport mode trunk
```

```
interface range FastEthernet1/0/13-16
  switchport trunk allowed vlan 10,30
  switchport mode trunk
  spanning-tree portfast
  channel-group 1 mode on
```

Főbb technológiák konkrétan

PPPoE

```
interface Dialer2
  mtu 1492
  ip address negotiated
  ip nat outside
  ip virtual-reassembly in
  encapsulation ppp
  ip tcp adjust-mss 1452
  dialer pool 2
  ppp authentication pap callin
  ppp pap sent-username drupal password 7 xxxxxxxxxxxxxxxxxxxxxxxx
  ppp ipcp route default
```

Főbb technológiák konkrétan

Multi-WAN NAT

```
interface GigabitEthernet0/1
  no ip address
  pppoe enable group global
  pppoe-client dial-pool-number 1
```

```
route-map fixinvitel permit 10
  match ip address 1
  match interface Dialer1
```

```
route-map drupal permit 10
  match ip address 1
  match interface Dialer2
```

```
ip nat inside source route-map drupal interface Dialer2 overload
ip nat inside source route-map fixinvitel interface Dialer1 overload
```

Főbb technológiák konkrétan

HSRP - link-state

```
interface GigabitEthernet0/0.10
  standby 1 ip 10.0.255.254
  standby 1 priority 110
  standby 1 preempt
```

ip track (SLA)

```
track 1 ip sla 5 state
ip sla 5
icmp-echo 8.8.8.8
frequency 10
ip sla schedule 5 start-time now life forever
```

(ez DATA license hiányában nem valósult meg)

IOS frissítés

- pár téglázott eszköz
 - memória hiba
 - reflash:
 - tftp, xmodem
- lejelszavazott eszköz
 - password recovery procedure
- IOS verziók egységesítése
 - legfrisebb 15-ös image upgrade

Kábelezés, mérések

- CAT5e kábel
 - 1 dob (305m)
 - kábelek krimpelése
 - tesztelése (Fluke, led-es teszter)
- WiFi:
 - Fluke Aircheck
 - Android Wifi analyzer
 - inSSIDer
- Cisco Prime Network Control Software

Wireless Lan Controller

- központi management
 - LWAP-os IOS kell hozzá
- AP terhelés-elosztás
- kliens roaming
- egyszerű WLAN kiajánlás
- teljesítmény adatok grafikonozása

Problémák

- HSRP
 - router kábelhiba
 - switch megzavarodott
 - át kellett terelni a klienseket a tartalék switch-re (tartalék switch-en etherchannel + AP-k mozgatása egyesével)
- Fali csatlakozó hiba
 - Fluke eszközökkel történt mérések
- WPA2-PSK vs. ENT
 - user error (korábban használt drupal ssid)
- Kiakasztottuk a drupal.org és a Freenode IRC DoS védelmét
- Interferencia 2,4Ghz-en
 - monitor AP

Wireless Lan Controller - AP-k

MONITOR WLANs CONTROLLER WIRELESS SECURITY MANAGEMENT COMMANDS HELP FEEDBACK

Wireless

- ▼ Access Points
 - All APs
 - ▼ Radios
 - 802.11a/n/ac
 - 802.11b/g/n
 - Dual-Band Radios
 - Global Configuration
- Advanced
- Mesh
- RF Profiles
- FlexConnect Groups
 - FlexConnect ACLs
- 802.11a/n/ac
- 802.11b/g/n
- Media Stream
- Application
- Visibility And Control
- Country
- Timers
- Netflow
- QoS

All APs

Current Filter None [\[Change Filter\]](#) [\[Clear Filter\]](#)

Number of APs 14

AP Name	IP Address	AP Model	AP MAC	AP Up Time	Admin Status	Operational Status	No of Clients
L6-1142-I-Computer	192.168.30.113	AIR-LAP1142N-E-K9	1c:df:0f:95:97:e7	1 d, 16 h 14 m 09 s	Enabled	REG	18
F1-2602-E-Nagyterem	192.168.30.119	AIR-CAP2602E-E-K9	4c:00:82:27:dc:c6	1 d, 16 h 10 m 21 s	Enabled	REG	4
L9-3602-E-Kavezo	192.168.30.114	AIR-CAP3602E-E-K9	44:d3:ca:42:54:09	1 d, 16 h 14 m 41 s	Enabled	REG	22
F3-2602-E-Nagyterem	192.168.30.12	AIR-CAP2602E-E-K9	f8:72:ea:d7:58:fc	1 d, 16 h 10 m 44 s	Enabled	REG	12
L5-3502-I-Szeged	192.168.30.5	AIR-CAP3502I-E-K9	cc:ef:48:c2:68:83	1 d, 16 h 19 m 25 s	Enabled	REG	20
F2-2602-E-Nagyterem	192.168.30.11	AIR-CAP2602E-E-K9	4c:00:82:16:61:52	1 d, 16 h 10 m 36 s	Enabled	REG	5
L7-3502-E-Oszlop	192.168.30.7	AIR-CAP3502E-C-K9	1c:df:0f:66:85:7d	1 d, 16 h 19 m 24 s	Enabled	REG	11
L1-2602-I-Tisza	192.168.30.1	AIR-CAP2602I-E-K9	00:06:f6:89:a1:bd	1 d, 16 h 14 m 31 s	Enabled	REG	13
L8-3602-E-Szeged	192.168.30.8	AIR-CAP3602E-E-K9	44:d3:ca:42:51:3d	1 d, 16 h 14 m 39 s	Enabled	REG	24
L4-2602-I-Maros	192.168.30.4	AIR-CAP2602I-E-K9	00:06:f6:89:a1:db	1 d, 16 h 14 m 25 s	Enabled	REG	21
F4-2602-E-Nagyterem	192.168.30.13	AIR-CAP2602E-E-K9	f8:72:ea:d7:57:e2	1 d, 16 h 10 m 28 s	Enabled	REG	9
L3-2602-I-Maros	192.168.30.126	AIR-CAP2602I-E-K9	f8:72:ea:a6:ff:53	1 d, 16 h 14 m 05 s	Enabled	REG	20
L2-2602-I-Tisza	192.168.30.110	AIR-CAP2602I-E-K9	44:03:a7:f5:f2:18	1 d, 16 h 14 m 27 s	Enabled	REG	13
M-2602-E-Mobil	192.168.30.120	AIR-CAP2602E-E-K9	f8:72:ea:d7:59:a5	0 d, 00 h 29 m 52 s	Enabled	REG	23

M-2602-E-Mobil

Wireless Lan Controller - kliensek

CISCO
Save ConfigMONITOR
WLANs
CONTROLLER
WIRELESS
SECURITY
MANAGEMENT
COMMANDS
HELP
FEEDBACK

Monitor

Summary

▶ Access Points

▶ Cisco CleanAir

▶ Statistics

▶ CDP

▶ Rogues

Clients

Sleeping Clients

Multicast

Applications

Local Profiling

Clients

Current Filter: *None* [\[Change Filter\]](#) [\[Clear Filter\]](#)

Client MAC Addr	IP Address	AP Name	WLAN Profile	WLAN SSID	User Name	Protocol	Status	Auth	Port	Slot Id	WGB	Device Type
00:16:ea:2d:c2:6c	10.0.2.50	L6-1142-I-Computer	drupal	drupal	Unknown	802.11an	Associated	Yes	1	1	No	Unknown <input checked="" type="checkbox"/>
00:16:ea:bd:12:8e	10.0.1.134	F4-2602-E-Nagyterem	drupal	drupal	Unknown	802.11an	Associated	Yes	1	1	No	Unknown <input checked="" type="checkbox"/>
00:16:ea:d8:2b:c6	10.0.1.138	L6-1142-I-Computer	drupal	drupal	Unknown	802.11an	Associated	Yes	1	1	No	Unknown <input checked="" type="checkbox"/>
00:18:60:6a:91:28	10.0.1.218	L9-3602-E-Kavezo	drupal	drupal	Unknown	802.11bn	Associated	Yes	1	0	No	Unknown <input checked="" type="checkbox"/>
00:1c:bf:61:5a:4e	10.0.1.159	L4-2602-I-Maros	drupal	drupal	Unknown	802.11g	Associated	Yes	1	0	No	Unknown <input checked="" type="checkbox"/>

Clients > Detail

General

AVC Statistics

Client Properties

MAC Address: 0c:8b:fd:db:dd:e1

IPv4 Address: 10.0.1.243

IPv6 Address: fe80::e8b:fdff:fedb:dde1,

AP Properties

AP Address: b4:e9:b0:5d:30:70

AP Name: L4-2602-I-Maros

AP Type: 802.11an

AP radio slot Id: 1

WLAN Profile: drupal

Status: Associated

Association ID: 12

Access Point Summary

	Total	Up	Down
802.11a/n/ac Radios	16	● 16	● 0
802.11b/g/n Radios	14	● 14	● 0
Dual-Band Radios	0	● 0	● 0
All APs	14	● 14	● 0

Client Summary

Current Clients	310	Detail
Excluded Clients	0	Detail
Disabled Clients	0	Detail

Ping Test Results ✕

Client MAC Address: 0c:8b:fd:db:dd:e1

Packets Length: 500

Packets Sent: 20

Packets Received: 20

Local Signal Strength (dBm): -83

Local Signal to Noise Ratio (dB): 12

Cisco Wireless Control System

Alarm Summary: 12 (red), 0 (yellow), 53 (green)

Wireless Control System

Monitor | Reports | Configure | Services | Administration | Tools | Help

WCS Home

General | Client | Security | Mesh | CleanAir | ContextAware

Inventory Detail Status

Controllers: 1 | Radios: 30 | MSEs: 0

Client Count

6h | 1d | 1w | 2w | 4w | 3m | 6m | 1y | Custom | View History

Client Count

Associated Client Count | Authenticated Client Count

Coverage Areas

Name	Total APs	a/n Radios	big/n Radios	Critical Radio Alarms	Clients
System_Campus	9	11	9	1	99

View All Maps

Total APs not yet assigned to Maps : 5

Recent Coverage Holes (0)

Access Point	Interface	Failed Clients	Total Clients	Percent
None detected				

Alarm Summary: 12 (red), 0 (yellow), 53 (green)

Wireless Control System

Monitor | Reports | Configure | Services | Administration | Tools | Help

Maps Tree View

Floor Settings

- Access Points
- AP Heatmaps
- coverageAreas
- Location Regions
- Rate
- Markers
- Chokepoints
- Web TPOK Receivers

MSE Assignment

Load Status

Refreshing map: Done
Loading heatmaps: Done
Loading Chokepoints: Done
Loading map: Done
Loaded 0 Chokepoints: Done

Floor View

Monitor | Maps | System_Campus | B1 | Foldsizeint

Data may be delayed up to 15 minutes or more depending on background polling interval

Zoom: 100% | -35 | -90 | 48m

Auto Refresh: 5 min

Cisco Prime

The screenshot displays the Cisco Prime Infrastructure interface with several device views. Each view shows the device name, IP address, status, and up-time. Below this, there are two charts for CPU and Memory Utilization, each with a bar chart showing Low, High, and Average values. At the bottom of each view is a table for interfaces or wireless interfaces.

Device 360° Views

- Fenti_Switch.drupal.intra** (Cisco Catalyst 2960S): CPU Utilization 8.00%, Memory Utilization 83.00%. OS Type IOS, OS Version 15.0(2)SE. Last Config Change: March 30, 2014 9:42:56 AM UTC.
- Lenti_Switch.drupal.intra** (Cisco Catalyst 2960S): CPU Utilization 28.00% (+1.00%), Memory Utilization 74.00%. OS Type IOS, OS Version 15.0(2)EX4. Last Config Change: March 30, 2014 9:42:42 AM UTC.
- invitel.drupal.intra** (Cisco 2911 Integrated Services Router G2): CPU Utilization 1.00% (-1.00%), Memory Utilization 47.00%. OS Type IOS, OS Version 15.2(4)M1. Last Config Change: March 30, 2014 9:34:51 AM UTC.
- digi.drupal.intra** (Cisco 2911 Integrated Services Router G2): CPU Utilization 0.00%, Memory Utilization 44.00%. OS Type IOS, OS Version 15.2(4)M1. Last Config Change: March 30, 2014 9:35:48 AM UTC.
- WLC** (Cisco 2504 Wireless LAN Controller): CPU Utilization 0.00%, Memory Utilization 45.00%. Software Version 7.6.100.0. Licence-used/capacity 14/50. Number of Active AP's 14. Number of Active Clients 6.

Interface Tables:

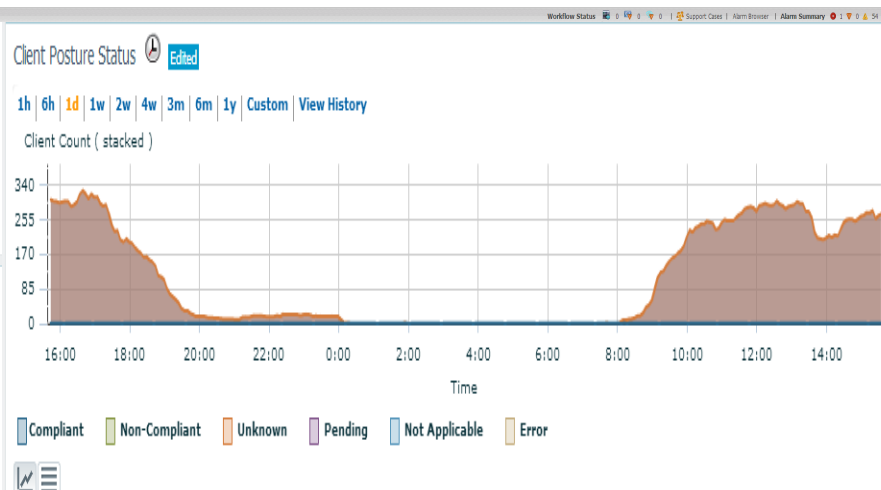
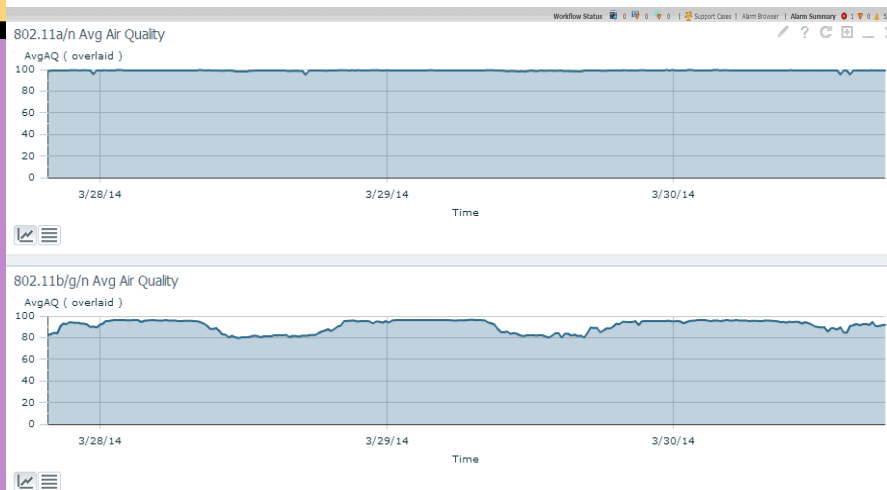
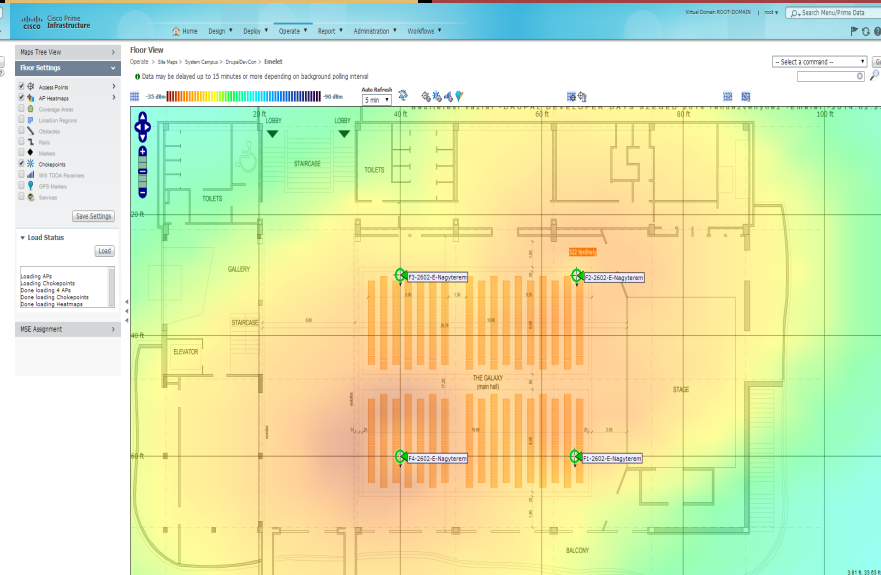
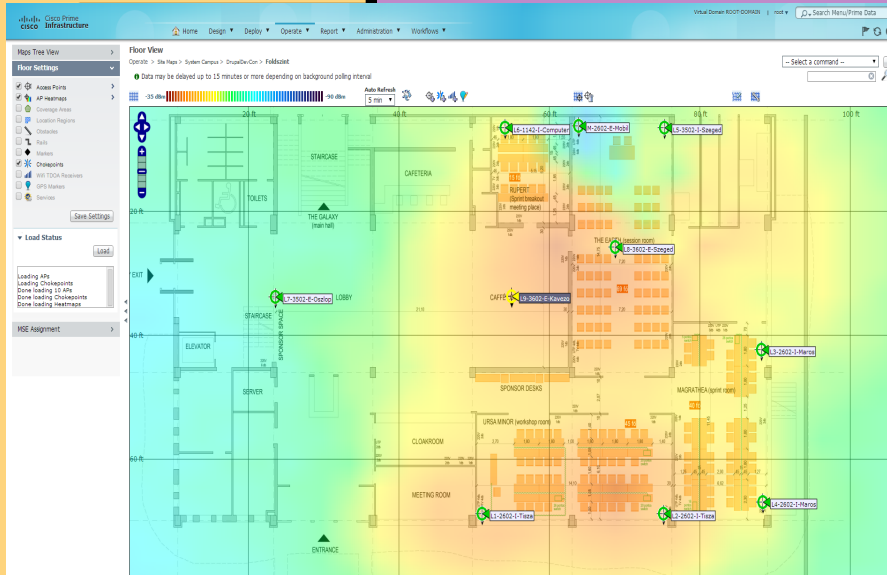
- invitel.drupal.intra:**

Op. Sta...	Admin S...	Interface	Top 3 Applications
●	🟢	Dialer1	Not Available
●	🟢	Dialer2	Not Available
●	🟢	GigabitEthernet0/0	Not Available
●	🟢	GigabitEthernet0/0.10	Not Available
●	🟢	GigabitEthernet0/0.30	Not Available
●	🟢	GigabitEthernet0/1	Not Available
- digi.drupal.intra:**

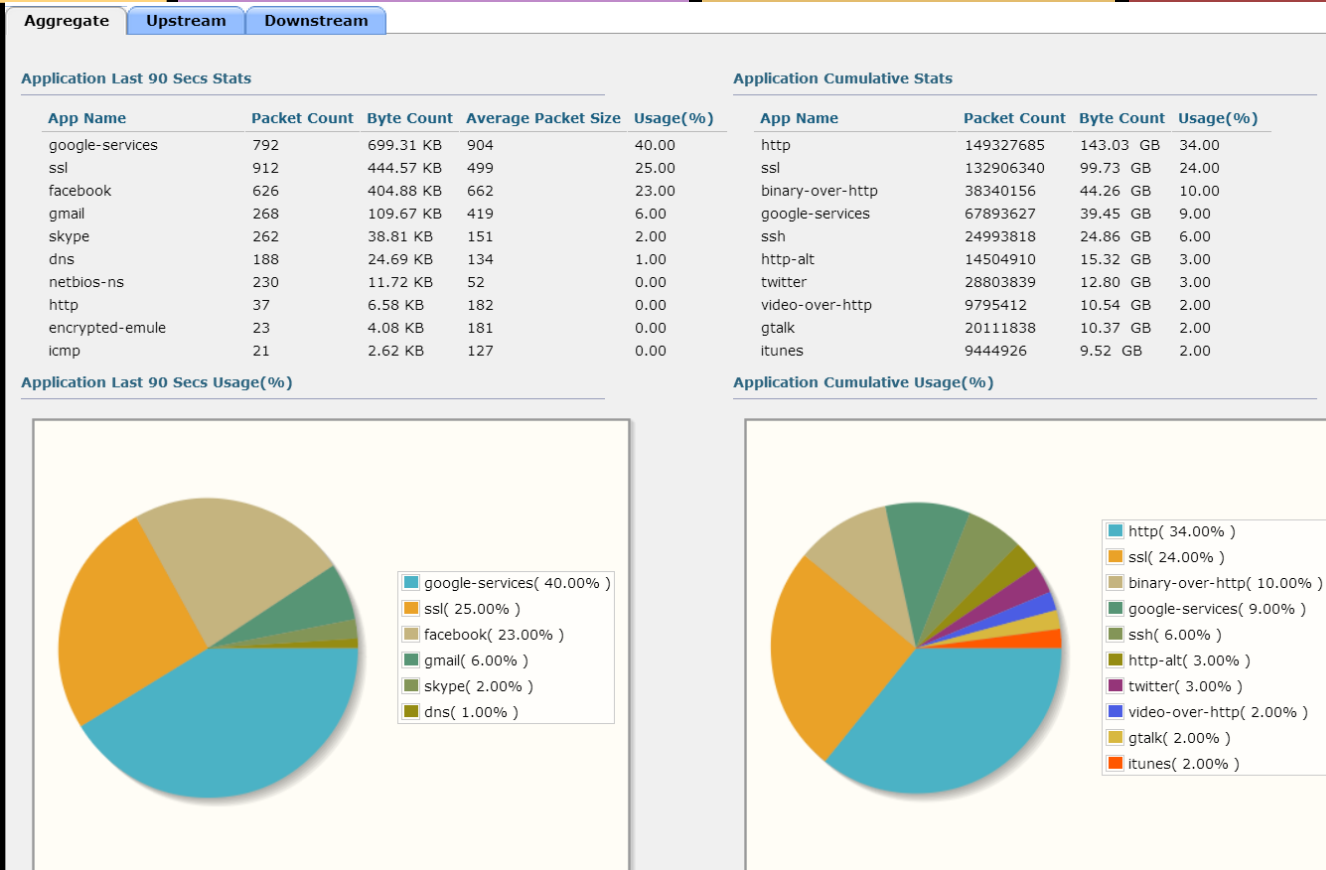
Op. Sta...	Admin S...	Interface	Top 3 Applications
●	🟢	Dialer1	Not Available
●	🟢	GigabitEthernet0/0	Not Available
●	🟢	GigabitEthernet0/0.10	Not Available
●	🟢	GigabitEthernet0/0.30	Not Available
●	🟢	GigabitEthernet0/1	Not Available
●	🟢	GigabitEthernet0/2	Not Available
- WLC:**

Name	SSID	Security Policy	Number Of Clients
drupal	drupal	[WPA2] [Auth(PSK)]	5

Cisco Prime



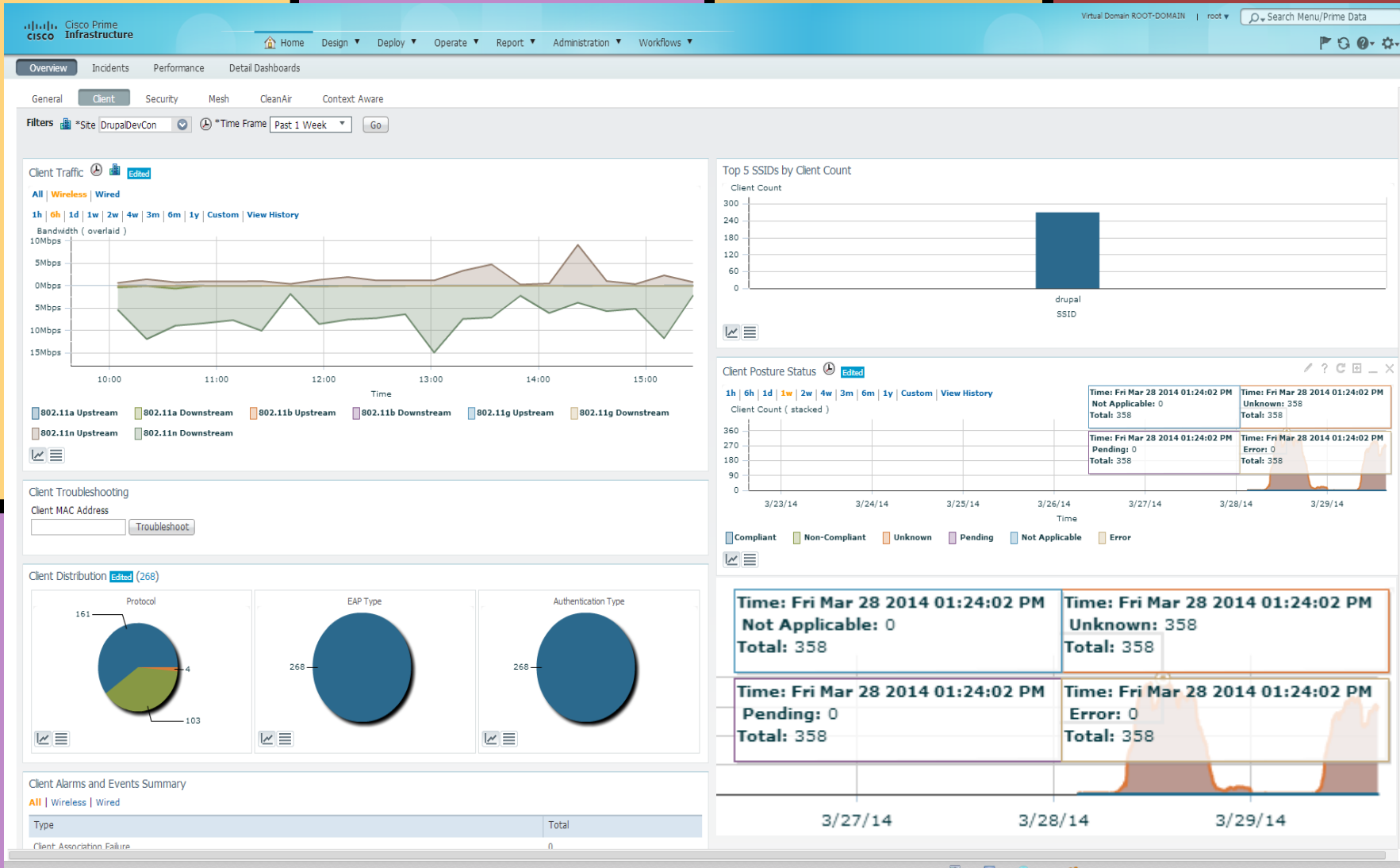
Adatforgalmi statisztika



PING **7 ms**
 DOWNLOAD SPEED **146.95 Mbps**
 UPLOAD SPEED **65.22 Mbps**

[SHARE THIS RESULT](#)

Adatforgalmi statisztika



NAT statisztika

```
global    Display entries in Global/Dest Table - NVI
icmp      Show ICMP entries
pptp      Show PPTP entries
rsvp      RSVP Translation entries
tcp        Show TCP entries
udp        Show UDP entries
verbose   Show extra information
vrf       Display entries of VRF instance
|         Output modifiers
<cr>
```

```
invitel#sh ip nat st
invitel#sh ip nat statistics
Total active translations: 37193 (0 static, 37193 dynamic; 37193 extended)
Peak translations: 60714, occurred 02:03:15 ago
Outside interfaces:
  Dialer1, Dialer2, Virtual-Access2, Virtual-Access3
Inside interfaces:
  GigabitEthernet0/0.10, GigabitEthernet0/0.30
Hits: 384357995  Misses: 0
CEF Translated packets: 378091070, CEF Punted packets: 5657138
Expired translations: 6936962
Dynamic mappings:
-- Inside Source
[Id: 1] route-map drupal interface Dialer2 refcount 13413
[Id: 2] route-map fixinvitel interface Dialer1 refcount 23787

Total doors: 7
Appl doors: 4
Normal doors: 3
Queued Packets: 0
invitel#
```

KALI LINUX

The quieter you become, the more you are able to hear.

Köszönjük a figyelmet!



Cseh Péter



Janurik Viktor