

Business Optimized Networks

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P

Customers



Sogitec



Changing the rules of business



SCANIA



Emin Leydier



france tele.com



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The network is now a business critical infrastructure

Enterprise

Business goals

Applications

Users

Hourly cost of poor application performance:
Brokerage Operations 6.4 M\$
Airline reservations 89.5 K\$
Package shipping 28.0 K\$
(Source: Computer Economics)

Enterprises depend on their application-enabled business processes

Applications are now global over the network

Optimize networks for business value

65% of end-users state application performance has negative impact on productivity
(Network World 8/2003)



Telcos

NETWORK
INFRASTRUCTURE

Business network optimization: a bridge between business applications and network infrastructure

Enterprise

Business goals

Applications

Users

Business Application Management

Business Technology Optimization

Business Optimized Networks

Quality of Experience

Quality of Service

Telcos

NETWORK INFRASTRUCTURE

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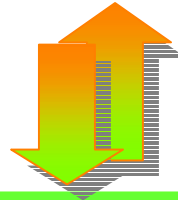
Easy to Deploy, Operate and Maintain

Enterprise

Business goals

Applications

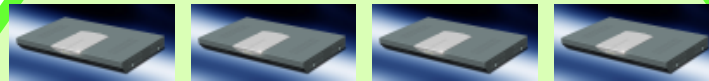
Users



ip|boss



ip|engine



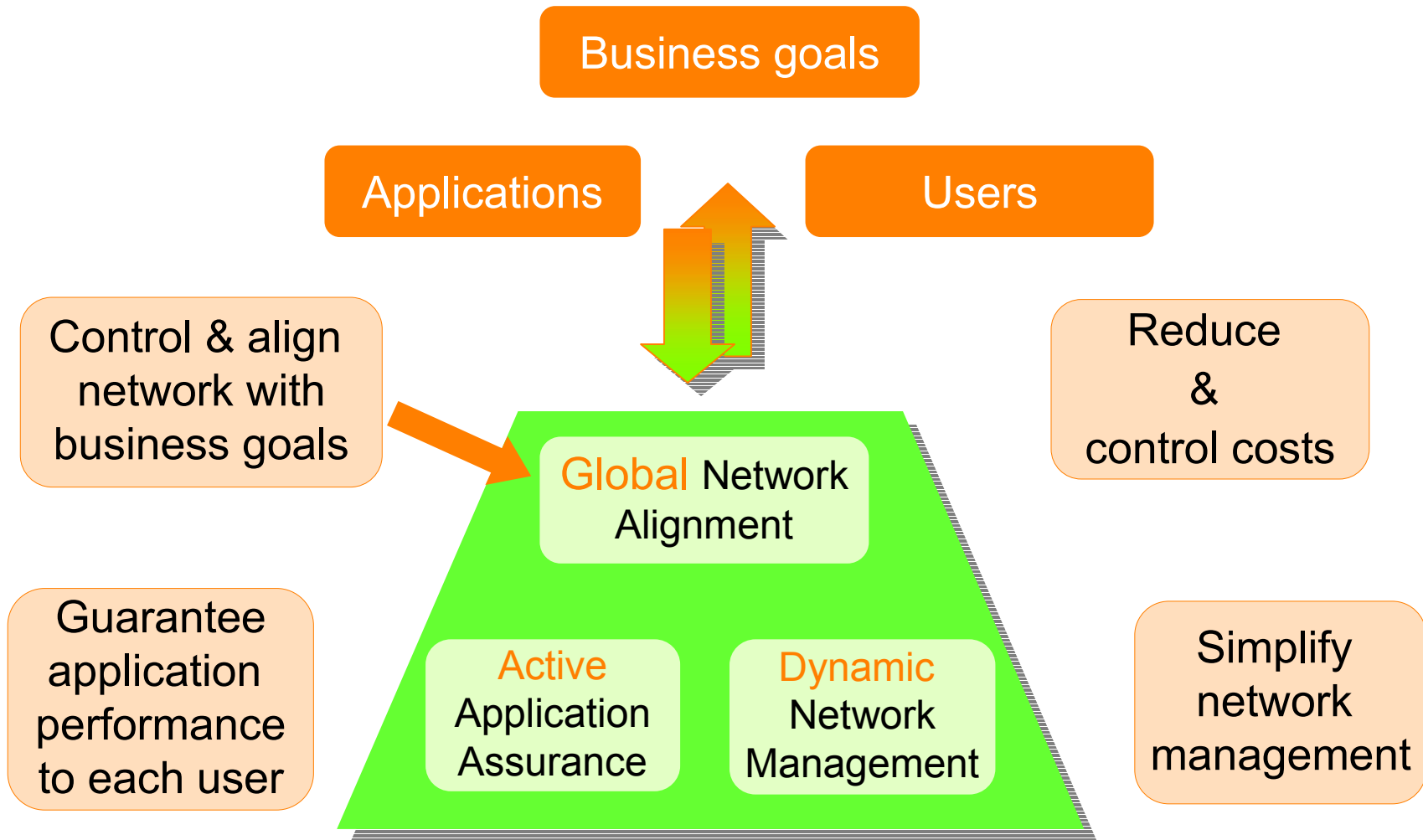
Business
Optimized
Networks

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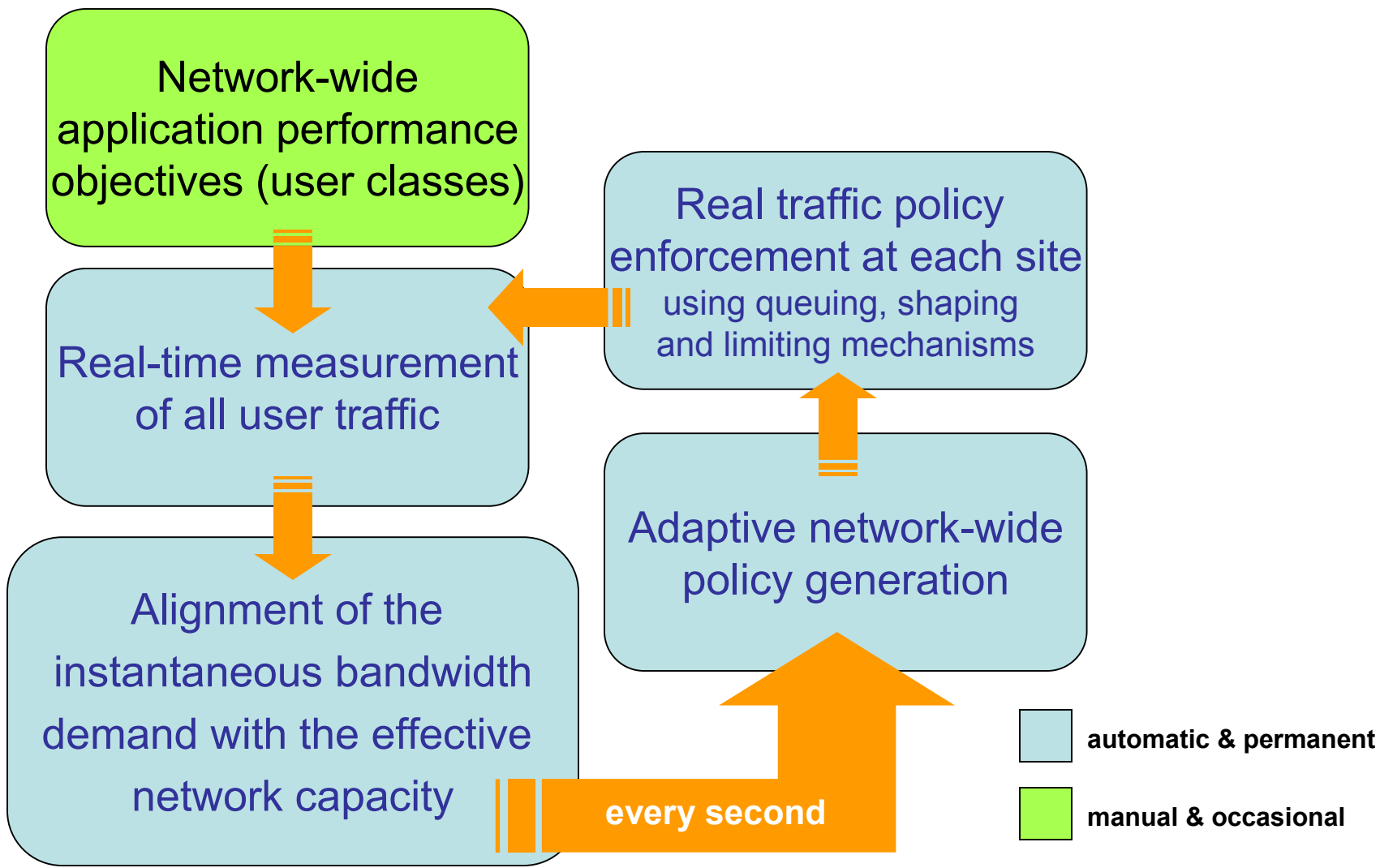


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The 4 issues of Business Network Optimization



Adaptive network-wide top-down optimization

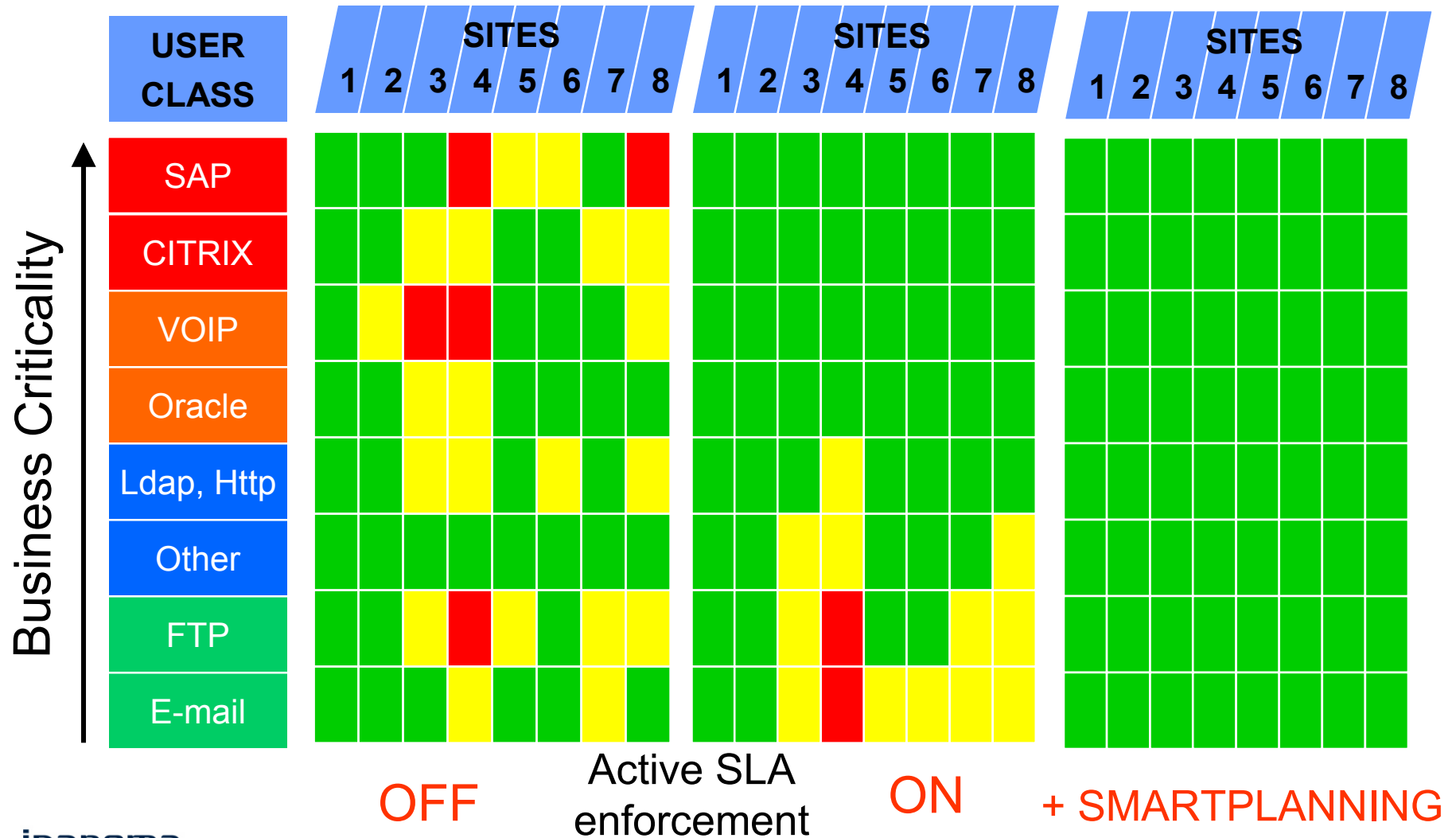


User Classes: network-wide service level objectives

USER CLASS DEFINITION			PER USER SERVICE LEVEL DEFINITION (Per metric: Objective – Maximum)			
APPLICATION	CRITICALITY	TYPE	BW (kpbs)	DELAY (ms)	JITTER (ms)	LOSS (%)
SAP	TOP	Transac.	50	100 - 300	Don't care	1 - 3
CITRIX	TOP	Transac.	20	100 - 300	Don't care	1 - 3
VoIP	HIGH	Real Time	32	50 - 150	40 - 80	0 - 1
ORACLE	HIGH	Transac.	20	100 - 300	Don't care	1 - 5
LDAP	MEDIUM	Other	20	200 - 1000	Don't care	1 - 5
HTTP	MEDIUM	Other	20	200 - 1000	Don't care	1 - 5
OTHER	MEDIUM	Other	10	200 - 1000	Don't care	1 - 5
FTP	LOW	Other	25	Don't care	Don't care	1 - 10
NETBIOS	LOW	Other	50	Don't care	Don't care	1 - 10
EMAIL	LOW	Other	25	Don't care	Don't care	1 - 10

Global

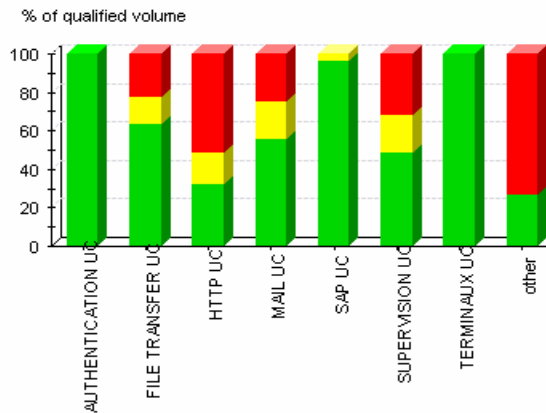
Active SLA enforcement: from uncertainty to guaranteed service levels



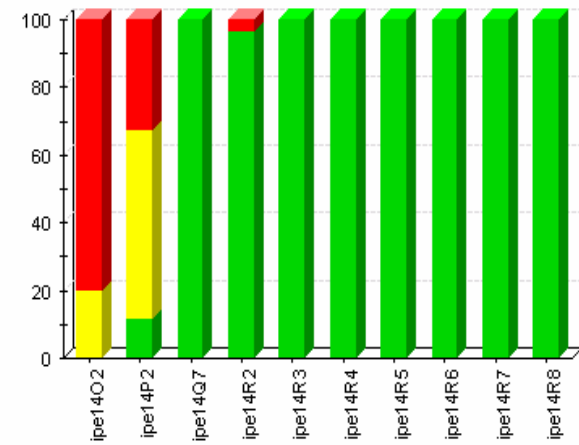
Service Level Management: automatic comparison between objectives and results

Site	Red volume => (%)	Red sess. => (%)	Yellow volume => (%)	Yellow sess. => (%)	D/J/L =>	Qualified Thput => (kbps)	Qualified sess. =>	Total Thput => (kbps)	Total sess. =>	Red volume <= (%)	Red sess. <= (%)	Yellow volume <= (%)	Yellow sess. <= (%)	D/J/L <=	Qualified Thput <= (kbps)	Qualified sess. <=	Total Thput <= (kbps)	Total sess. <=
ipe internet						0.0	0.0	6.8	16.1						0.0	0.0	8.6	16.1
ipe1403						0.0	0.0	0.3	0.7						0.0	0.0	0.3	0.7
ipe1404	46.7	40.5	0.0	0.0	- / + / -													
ipe1405	53.4	52.4	0.0	0.0	- / o / -													
ipe1406	0.0	0.0	0.0	0.0	+ / + / +													
ipe1407	0.0	0.0	0.0	0.0	+ / + / +													
ipe1408	0.0	0.0	0.0	0.0	+ / + / +													
ipe14P2																		
ipe14P3																		
ipe14P4	0.0	0.0	0.0	0.0	+ / + / +													
ipe14P5	0.0	0.0	0.0	0.0	+ / + / +													
ipe14P6	0.0	0.0	0.0	0.0	+ / + / +													
ipe14P7	0.0	0.0	0.0	0.0	+ / + / +													
ipe14P8	0.0	0.0	0.0	0.0	+ / + / +													
ipe14Q2																		
ipe14Q3																		
ipe14Q4	0.0	0.0	0.0	0.0	+ / + / +													
ipe14Q5	0.0	0.0	0.0	0.0	+ / + / +													
ipe14Q6	0.0	0.0	0.0	0.0	+ / + / +													
ipe14Q7	0.0	0.0	0.0	0.0	+ / + / +													
ipe14Q8	0.0	0.0	0.0	0.0	+ / + / +													
ipe14R3																		
ipe14R4	49.3	46.3	0.0	0.0	- / + / -													
ipe14R5	47.7	48.7	0.0	0.0	- / o / -													
ipe14R6	0.0	0.0	0.0	0.0	+ / + / +													
ipe14R7	0.0	0.0	0.0	0.0	+ / + / +													
ipe14R8	0.0	0.0	0.0	0.0	+ / + / +													

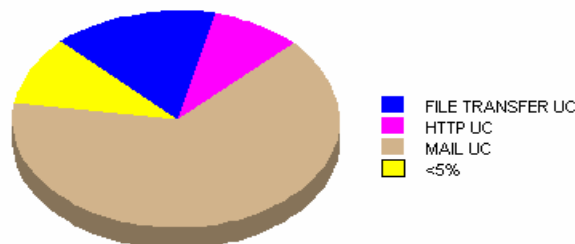
Colors per user class (Top 10)



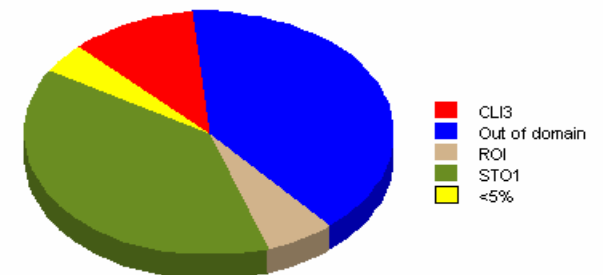
% of qualified volume



MBytes per user class

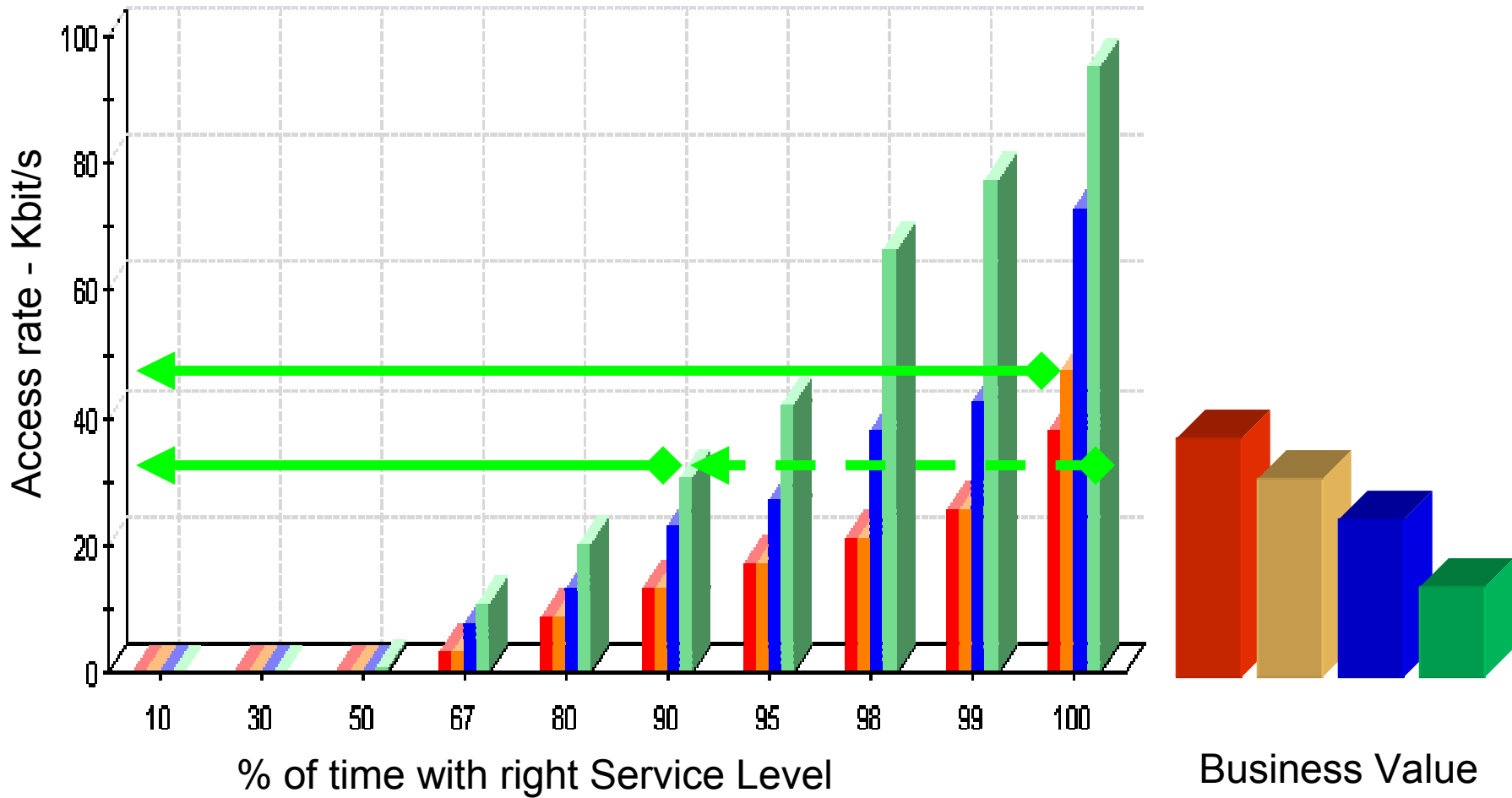


MBytes per site



Global

SmartPlanning: matching network bandwidth to performance objectives and business value



Criticality →

top

high

medium

low

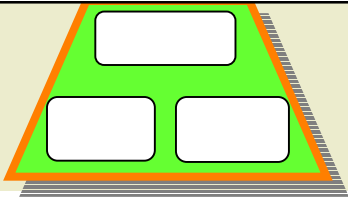
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SmartBilling

- Billing rates vary according to application business criticality
- Real delivered quality impacts actual cost breakdown

Department	Volume (Gbytes)	Criticality Index	Quality Index	Cost Index	(K€)
Finances	4 351	0,55	0,88	0,48	283
Sales & Marketing	1 211	0,43	0,92	0,39	64
R&D	5 933	0,28	0,77	0,22	173
Manufacturing Europe	18 285	0,32	0,93	0,30	736
Manufacturing RoW	23 335	0,40	0,92	0,37	1 154
Common services	17 733	0,72	0,69	0,50	1 190
Total	70 848	0,46	0,85		3 600

Area	Volume (Gbytes)	Criticality Index	Quality Index	Cost Index	(K€)
Asia	22 412	0,51	0,91	0,46	1 296
Europe	25 603	0,54	0,74	0,40	1 269
North America	22 832	0,40	0,91	0,36	1 035
Total	70 848	0,46	0,85		3 600

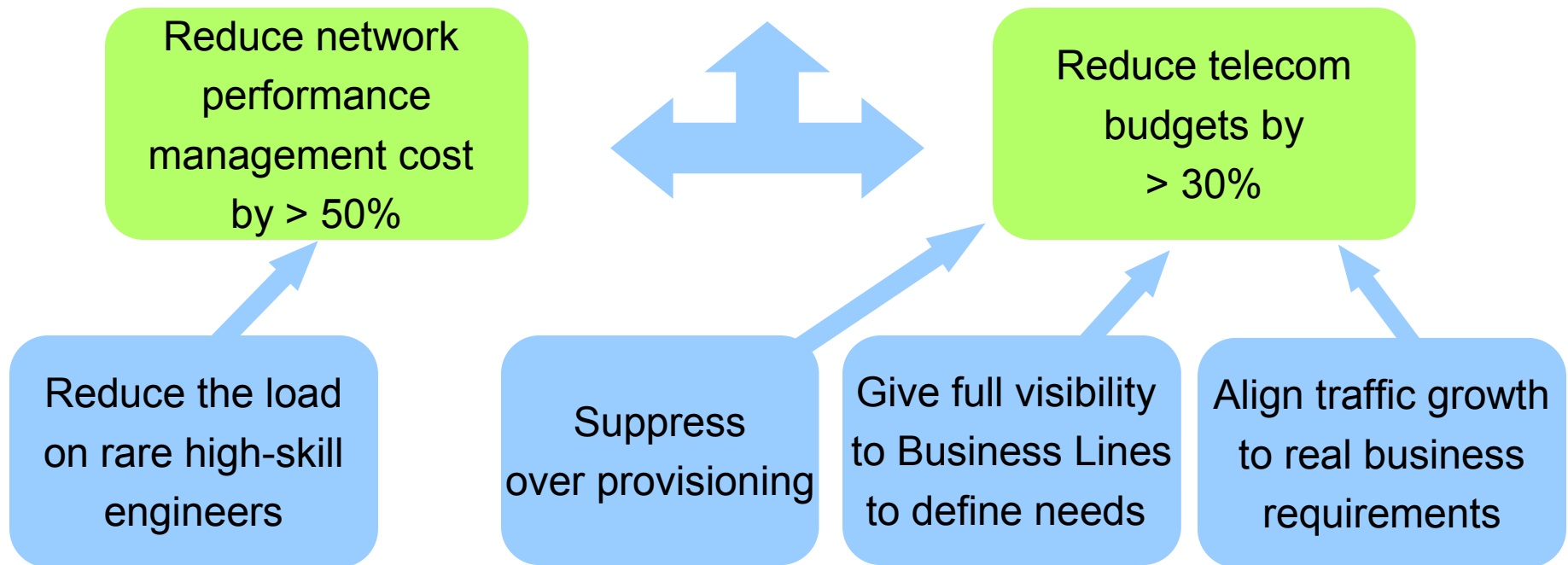


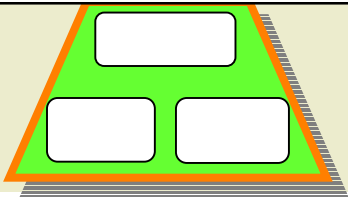
IV. Ipanema Business Value Optimization

Avoid the pain and cost of poor application performance:

- increase revenues by up to 5%
- increase employee productivity by up to 15%

(Sources Gartner, Zeta Research)





ROI evaluation : direct savings only

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2/21/2004

ROI study for: **AZERTY**

(Release V3.4.1)

Currency **€**

This ROI model is based on network savings only. It is the property of Ipanema Technologies, and is reserved for its own usage and authorized partners usage. Results are indicative only.

Monthly price of the reference access rate - k€	0,8
Reference access rate - kbps	256
Price inflation rate (per year) (%)	-10%
Price sensitivity (per bw ²) (%)	50%

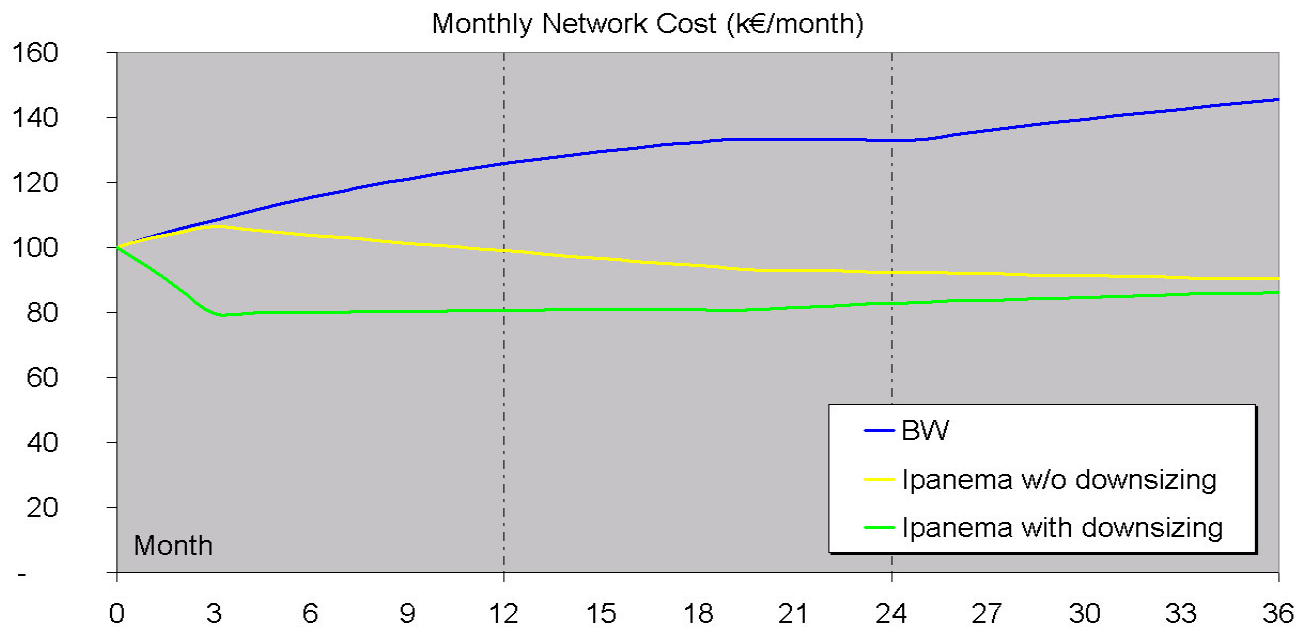
Access rate (kbit/s)	k€/month		Access breakdown	Monthly - k€
	Auto	Manual		
64	0,4			0
128	0,5			0
256	0,8		16	13
512	1,2		12	15
1 024	1,9		10	19
2 048	2,8		7	19
4 096	4,2		3	13
10 000	7,0		1	7
20 000	10,6			0
34 000	14,4		1	14
155 000	35,0			0
310 000	52,4			0
TOTAL			50	100

Set Default parameters Solve to target > 100

Network characteristics	Bw	Ipanema
Yearly non restrainable traffic increase:	40%	20%
The network is rather:	normally	loaded
Time to deploy Ipanema:	3	month period

Money Rate of Return **0%**

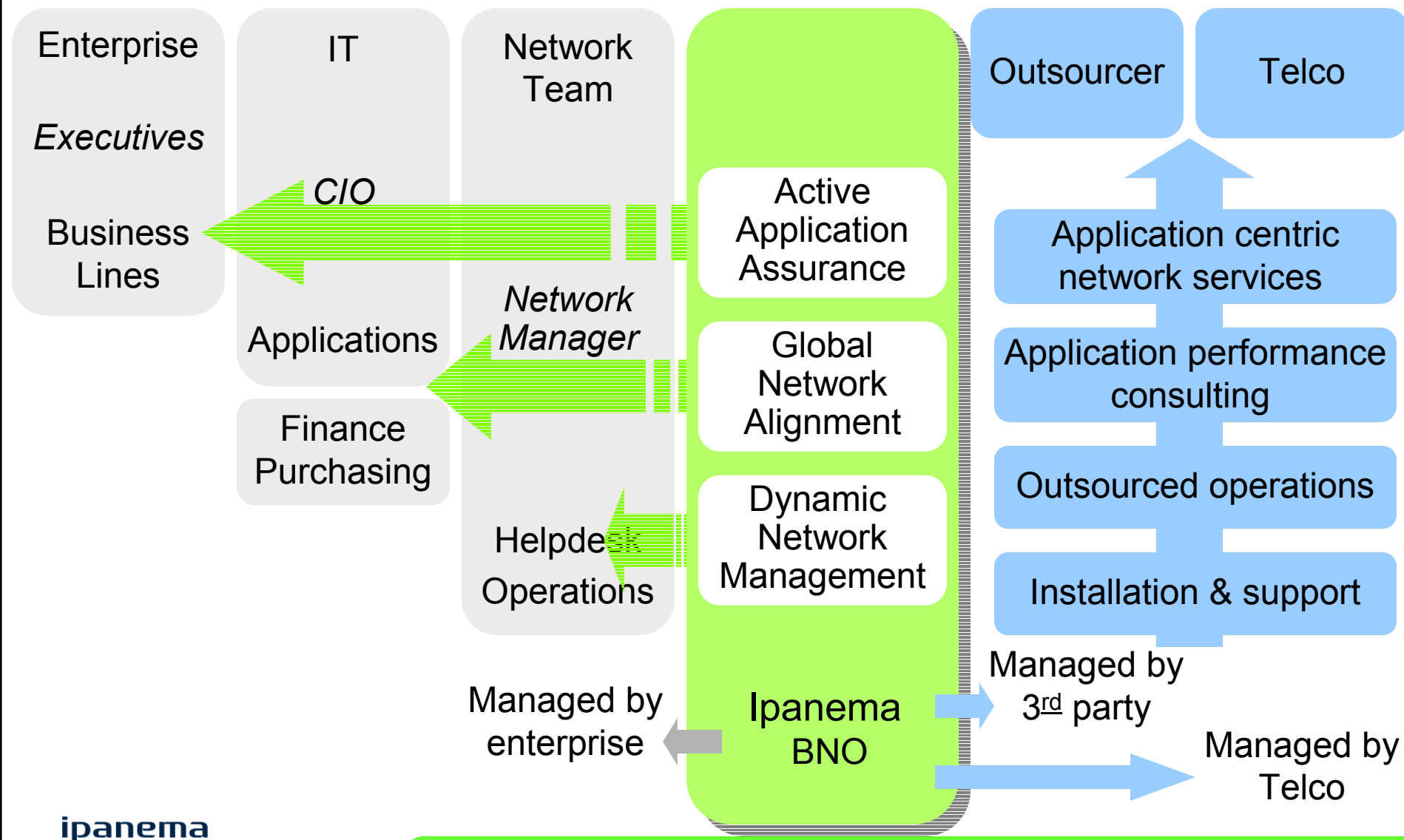
Comments:



CUMULATED COST and NET SAVINGS % plain BW - k€							
(Cost : Network / Ipanema / Total)		Y1		From Y1 to Y2		From Y1 to Y3	
BW	<input checked="" type="checkbox"/> Cost	1387 / 0 / 1387		2966 / 0 / 2966		4643 / 0 / 4643	
	<input checked="" type="checkbox"/> Savings	0 0%		0 0%		0 0%	
Ipanema w/o downsizing	<input checked="" type="checkbox"/> Cost	1134 / 99 / 1233		2161 / 207 / 2368		3146 / 317 / 3463	
	<input checked="" type="checkbox"/> Savings	154 11%		598 20%		1 180 25%	
Ipanema with downsizing	<input checked="" type="checkbox"/> Cost	895 / 87 / 982		1772 / 185 / 1957		2684 / 291 / 2975	
	<input checked="" type="checkbox"/> Savings	405 29%		1 009 34%		1 668 36%	

AVERAGE OVER THE 3-YEAR PERIOD		Without downsizing	With downsizing
Per month - k€	Network cost (BW) without Ipanema	129	129
	Network cost with Ipanema	87	75
	Optimization cost	9	8
	Net Savings	33	46
Average over 3 year - k€	Net Present Value (NPV)	1 180	1 668
	Return on Investment (ROI)	372%	573%

Stakeholders



Conclusion

Companies comprising numerous branch offices with a shared network infrastructure benefit from:



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Optimization

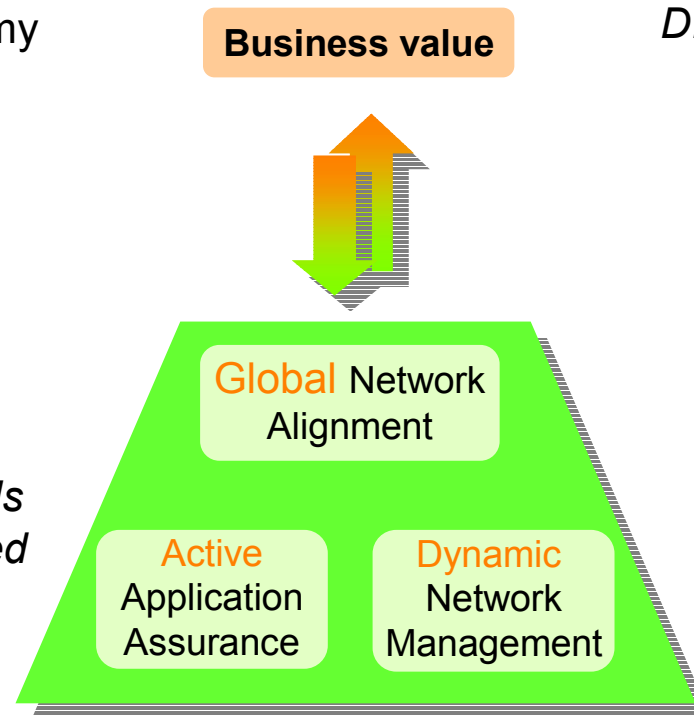
- a dynamic network optimization aligned with the business goals and the requirements of applications and their users
- an optimized use of the global network capacity with guaranteed performance levels for business critical applications (QoS)
- a centralized configuration of the whole system with simplified administration requirements
- an enormous reduction of capital and operating expenses and therefore a swift RoI
- concise real-time reports which are basis for the fast and sound implementation of strategic decision processes
- direct support of application-service-contracts and accounting
- an ITIL-compliant SLA management

Ipanema Business Network Optimization

We chose Ipanema as their solution is the only one that addresses the network service issue as a whole, while requiring a smaller investment than the other solutions we analyzed.
Col. Le Thiec, French Army

The performance of our business process applications plays a vital role in company productivity and earning capacity and it is therefore crucial that we obtain optimal functionality.
D. de Meme, ATAC (Auchan Group)
(Retail)

What's great about their system is its set of high-performance measuring tools and its simple and centralized administration.
P. Danière, Pierre Fabre
(Pharmaceutical)



With the global and dynamic control offered by Ipanema, we have been able to reduce the bandwidth on the sites and as a result our network bill.
S. Nohannic, STEF/TFE
(Supply Chain)

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Solutions for QoS / bandwidth management

	Ipanema	CoS enabled Routers	“Shapers”	Measurement systems	Compression systems
Visibility	Perfect per Application	Global volume	Incomplete	Rarely on real flows	No
Protection of critical Applications	Optimum (per Session) whatever the congestion	Local Static Per Class Aggregate	Point to Point Static Per Class Aggregate	No	Point to Point Static Per Class Aggregate
Service Level Optimisation	Network-wide Dynamic	Local Static	Point to Point Static	No	No
Integrated Reporting	Templates for SLM, PM Easy to customize Real-Time & History	No	per device	Rarely on End-2-End	per device reports on BW savings only
Application Service Level Monitoring	Network-wide, Based on End-2-End Qualimetry	No	per device Based on RTT	Rarely on End-2-End	No
Network productivity	Optimal Eradicates over provisioning	No	Random Local	No	apparent bandwidth Increase
Management	Simple, network-wide through high-level objectives	Local through complex Rules	Local through complex Rules	per network element	No
Network Sizing Tool	Optimal according to objectives	No Tendency to over-provisioning as based on historical usage only			No