Ipanema, Ipanema SD-WAN, 5View Training Catalogue

July 2019
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While greater efficiency, better use of network resources, WAN Governance in cloud computing environments, hybrid networks and SD-WANs are regarded as crucial, training should be considered in the same vein.

You chose (or will very soon choose) InfoVista's 5View solution to monitor or troubleshoot your network flows, or one of the Ipanema or Ipanema SD-WAN solutions to align your network or your hybrid networks – or your customers’ networks – with business application performance objectives, but are you properly trained to deploy, support and operate them in the most efficient way?

Although very simple to operate, these solutions require some knowledge and hands-on experience to bring you the greatest benefits: you need training.

Already been trained?… but do you know the latest products and features? (TLS troubleshooting? ip|e4000ax? latest evolutions of DWS and WAN Security? SD-WAN? APT – the Application Performance Troubleshooting feature? Etc.)

This is what Infovista brings you: we provide a number of training courses and workshops so that all your training needs can be successfully satisfied.

Once you have been trained and have acquired some experience, take your chance with our exams: various Certification programs provide you with many advantages!

This document contains most of the information you may be looking for (including the price list – for yes, there is a price for it! But if you think education is expensive, try to estimate the cost of ignorance!)

Yet, should you have any question or comment, please do not hesitate to contact us at:

training@infovista.com

François GUÉRIN
Your Ipanema Training Program

Infovista’s offer brings you the best training according to your profile and needs, whether you are an end-user or a Channel Partner, or working for a Managed Services Provider or a Telco. Tell us who you are, we will tell you what you need!

Your profile

End-users
The five following profiles have been identified for the end-users:

- Network Manager
- Network Architect
- Installer
- Network Administrator
- Support Level 1

Partners
The eight following profiles have been identified for our Partners (Channel Partners / Managed Services Providers / Telcos):

- Network Architect
- Services
  - Service Managers
  - Professional Services
- Installer
- Application performance specialist
- Administrator
  - Technical Consultants
  - System administrators
- Support Level 1
  - Technical Support Level 1
  - Help Desk supervisors
- Support Level 2
  - Technical Support Level 2
  - Application performance analysts
Technical Training and Certification on the Ipanema solution

Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>IFB</td>
<td>Ipanema Features &amp; Benefits</td>
</tr>
<tr>
<td>REP</td>
<td>Reporting</td>
</tr>
<tr>
<td>AAF</td>
<td>Appliances &amp; Advanced Features</td>
</tr>
<tr>
<td>SOP</td>
<td>SALSA Operations</td>
</tr>
<tr>
<td>HYW</td>
<td>Hybrid WAN</td>
</tr>
<tr>
<td>ASU</td>
<td>Advanced Support</td>
</tr>
</tbody>
</table>

Prerequisites: significant experience + ICOS

Also available in e-Learning (light version)

1 = 1 day

Curricula

<table>
<thead>
<tr>
<th>Overview</th>
<th>Reporting</th>
<th>Fundamentals</th>
<th>Operations &amp; Technical Support</th>
<th>Optimisation of Hybrid networks</th>
<th>Master</th>
</tr>
</thead>
<tbody>
<tr>
<td>IFB</td>
<td>IFB</td>
<td>IAF</td>
<td>IFB</td>
<td>OTS</td>
<td>10 or 8</td>
</tr>
<tr>
<td>REP</td>
<td>REP</td>
<td>AAF</td>
<td>REP</td>
<td>OHN*</td>
<td>OTS</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>HYW</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>ASU</td>
</tr>
</tbody>
</table>

Introduction before any other course

(*) OHN leverages the e-Learning to cover OTS + HYW in 5 days

Certification

- After the e-Learning
- Ipanema Certified Entry-level Technician (ICET)
- Ipanema Certified Operations & Support Expert (ICOS)
- Online certification exams
- Ipanema Certified Advanced Support Expert (ICAS)

Path for full Technical Certification: OTS/OHN → ICOS → ASU → ICAS
Your curriculum

Various training curricula allow you to receive the training adapted to you and to access the different certification levels:

<table>
<thead>
<tr>
<th>Certification</th>
<th>IFB</th>
<th>REP</th>
<th>AAF</th>
<th>SOP</th>
<th>ASU</th>
</tr>
</thead>
<tbody>
<tr>
<td>Network Architect</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Services</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Installer</td>
<td>(x)</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Application specialist</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Administrator Support Level 1</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Support Level 2</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

Your e-Learning solution

Ipanema eOTS e-Learning allows you to access IFB, AAF, and REP training courses any time, any place and at your own pace, and to meet your exact needs, depending on your profile (e.g. you can take the whole course, or learn about some features only, taking the corresponding modules).

These three courses are made up of 13 modules, and we provide you with a demo lab to play with, so that you can get more familiar with the system. All modules are interactive and will require your active participation throughout.

Total training takes between 4-6 hours, depending on individual learning pace.

Successful completion of the training and quizzes results in the first tier of technical certification, (Ipanema Certified Entry-Level Technician).

Note that eOTS does not replace Instructor-Led OTS Training (it is not as deep, as comprehensive, as interactive nor as up to date, and there are no workshops – access to the lab is read-only). eOTS is mainly designed for people who just need a global understanding of the Ipanema solution, or who face strong constraints (e.g. travel bans) preventing them from attending an ILT class.

eOTS can also complement OTS in a very flexible and helpful way, before or after the latter, and curricula can be mixed:

- for instance, it is possible to attend eOTS, followed by ILT SOP (workshops), making this combined curriculum a nice alternative to a full 5-day ILT OTS.
- OHN is a mix curriculum that combines eOTS, SOP and HYW, thus allowing an equivalent to OTS + HYW, but in five days instead of seven.
Your Certification program

Various certification programs provide you with many advantages. Although not mandatory for everyone, we strongly recommend each one to take the certification exam that corresponds to their profile:

- Ipanema Certified Operation & Support
- Ipanema Certified Advanced Support

Who should take a Certification exam?

Our Business Partners are requested to have a certain number of Ipanema certified experts (see below).

End-users who want to test or consolidate their knowledge proficiency and professional value with this industry recognised Certification can take the exams too.

Where and when can I take a Certification exam?

Certification exams are on-line. You can take them any time in the year following the end of your course.

How much time does a Certification exam require?

ICOS exam takes about 1 hour (limit is set to 1 hour 20 minutes), ICAS 1 hour and a half.

(When you take an exam, the remaining time is permanently displayed.)

What is the path for full Technical Certification?

The path for full Technical Certification is:

\[ \text{OTS} \rightarrow \text{ICOS} \rightarrow \text{ASU} \rightarrow \text{ICAS} \]

Can I take an exam without attending the corresponding course?

Taking an exam without having been trained does not really make sense.

However, we can grant access to ICOS exam to someone who already justifies significant experience with our solution (it will be charged, in that case – as it is normally included in the price of the course), as a means of validation of acquired experience.

If the candidate fails they will be required to attend the course before taking the exam again.

Which topics are covered? How can I prepare?

Only the topics covered in the courses are covered in the exams; which means that you do not need any further information.

But conversely, covered in the exams will be questions concerning all topics covered in the courses; which means that you need a good knowledge and understanding of all of them, plus practical experience (indeed, courses give very good guidance and knowledge, but true understanding only comes through experience)

Are there practice tests?

There are not thousands of different questions in Ipanema Certification exams, so we do not provide practice tests. The best practice you can get is in the real world anyway!

What is the format of Certification exams?

Certification exams are multi-choice quizzes, mainly.
How many questions will I be asked?
The number of questions is 60 for ICOS, 80 for ICAS.

How many possible answers are there? How is the score computed?

Single-choice questions allow one and only one answer to be chosen by providing radio buttons next to the answers. The grade for such a question can be 0 (bad answer) or 1 (correct answer).

Multiple-choice questions allow one or more (possibly all) answers to be chosen by providing check boxes. The grade can take any value between 0 and 1: partial credit is given for each correct answer, but choosing all options will not necessarily result in good grade.

But more importantly, whatever the question, you should always read them very carefully!

Can I skip questions?
Although not recommended due to the time constraints, it is possible to skip questions: just click on the Next button; then you can come back to these questions at any moment, by clicking on the List button.

Note that not all web browsers / Flash players support these features.

Can I pause the exam?
No, after you start, you cannot pause the quiz, and you cannot take it twice without requesting a renewed access (see below). So you are strongly advised to close your email, switch off your phone and take the test in a location where you will not be disturbed.

What is the Mastery score?
You will pass the exam if you get 70% or more correct answers.

Your overall score and your score for each topic will be displayed at the end of the exam.

Can I see what the exam and questions look like?
If you open the exam and then close its window without clicking Start Test, then you will not have taken the test. So you can read the instructions on the first page and take the exam later on.

Regarding the questions, here is an example of a question you may be asked in an exam:

   When does Application Control trigger?
   ○ Slightly before congestion occurs
   ○ At the exact moment when congestion occurs
   ○ During the next second after congestion has occurred

I have completed a technical training path: am I ready to take ICOS or ICAS Certification exam?

ICOS and ICAS Certification exams are meant to prove that the delegates have acquired a suitable level of expertise on the system, which requires practical experience. So attending a course may not be enough: it is only through practice that you can fully master the Ipanema solution.

I have attended a course on ipanema version X, but the quiz is based on version Y: is it an issue?
The course is always a bit ahead, in terms of versions, so as to show the attendees what's coming soon. This is not a problem, yet, most questions being version-independent (concepts etc. remain the same).

Moreover, a course on ipanema v[X+1] does contain all the information needed for a quiz based on v[X]. There are version-related questions only when a new version brings a new feature (such as WAN Security in v9), but this will only concern people who take the quiz based on v[X+1] a long time after they...
attended a course (still on v[X]), which is not recommended. And even in that case, it should not be a big problem, as the questions on the new feature will only represent a small percentage of the total.

**How can I access a Certification exam?**

Access to **ICOS** Certification exam is granted on demand, after attending the corresponding training curriculum. Registration on **ICAS** Certification exam is automatic, at the end of your **ASU** training.

**Can I take Ipanema Certification exams several times?**

By default you cannot take Certification exams several times; however, should you fail by only a few marks, you will get a second chance: just ask us for another try. This being said, taking the exams over and over again won’t help (the questions are randomly selected from a large pool, so you will not be asked the same questions every time). If you do not yet have the knowledge and experience required, taking the exam again until you pass, eventually, without working on the system, is not recommended.

**How expensive are Certification exams?**

Certification exams are included in the price of a course. Should you fail the first time, you can retake your exam once, free of charge. Beyond that, exams are chargeable.

**What is the validity period of Ipanema Certification?**

Every certification is **valid for two years**. In order to ensure that our certified Partners are keeping up to date and current on the latest Ipanema features and software versions, InfoVista requires that you **renew your certification**, ideally prior to your expiration date.

**How can I re-certify?**

All you have to do is passing your certification exam again.

Re-certification is at no charge if it is taken before expiry of the current certification. If it is after expiry, it is chargeable. There is no requirement to retake the course in either case. Yet, if you are unsuccessful in passing the re-certification, then we would recommend you retake the course.
Your Ipanema SD-WAN Training Program

Ipanema SD-WAN solution is very similar in many aspects with the Ipanema solution, hence the similarities in the training modules, most of which are common to both. Only one module, Dynamic Overlay (DOV), is completely and exclusively dedicated to Ipanema SD-WAN.

Courses

<table>
<thead>
<tr>
<th>IFB</th>
<th>DOV</th>
<th>DWS</th>
<th>APP</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

1 = 1 day

- Ipanema Features & Benefits
- Dynamic Overlay
- Dynamic WAN Selection
- Application Control

Excerpt from HYW
Excerpt from SOP (apps, Application Groups)

Curricula

This 4-day course has been designed for new Customers, who do not know the Ipanema solution. It covers Visibility, Control, DWS and the Dynamic Overlay.

Ipanema SD-WAN

Existing Customers who already know the Ipanema solution (Visibility & Control), but not DWS, can attend days 2 and 3, only.

Existing Customers who already know Ipanema, including DWS, can attend the 1-day course on the Dynamic Overlay, only.
Your 5View Training Program

InfoVista offers three training courses on its 5View solution:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Description</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>5VAP</td>
<td>5View Applications</td>
<td>1 day</td>
</tr>
<tr>
<td>5VNF</td>
<td>5View NetFlow</td>
<td>1 day</td>
</tr>
<tr>
<td>5SDM</td>
<td>5View SDM</td>
<td>2 days</td>
</tr>
</tbody>
</table>

1 = 1 day
Courses Syllabus

InfoVista regularly updates the content of the training courses on the Ipanema solution to take into account its evolutions and to constantly improve the quality of the materials.

IFB

Training objectives

“Ipanema Features & Benefits” is a presentation and demonstration of Ipanema’s and Ipanema SD-WAN’s unique autonomic networking solution’s features and benefits in a dynamic one-day session. It also explains the principles of two fundamental features of the solution: Application Visibility and Application Control.

At the end of the session, attendees will understand the application metrics computed by the Ipanema solution and know how to interpret them. They will also know how Control acts on them to protect the critical applications.

This training is also an introduction before any other technical course.

Duration
1 day

Price
see the Price list below

Training methods

Theoretical presentation with the help of video projection and immediate demonstrations (with hands on, when the number of attendees and the location of the course allow for it).

Also available in e-Learning.

Audience

- Anyone, including non-technical people, wishing to discover the Ipanema solution
- Anyone involved in an Ipanema project who needs to know at least the fundamentals of the solution

Pre-requisites

- Global knowledge of IP Wide Area Networks
- Global knowledge of software applications

Contents

- Ipanema solution overview
  - The WAN: its importance, its problems, the Ipanema solution
  - Ipanema features
  - Ipanema ANS (Autonomous Networking System)
  - Architecture and Appliances
- Application Visibility
  - Principles, metrics, notion of quality
  - Monitoring: Dashboard
- Application Control
  - Bandwidth Control, or how to protect the critical applications
- Tele-managed Sites: no need of Appliances on all Sites!
Training objectives

The “Reporting” course explains InfoVista reports in detail, and shows some case studies and examples of audits conducted leveraging these reports. At the end of this training session, attendees will be able to interpret the Ipanema reports and exploit their richness.

Duration

1 day

Price

see the Price list below

Training methods

Theoretical presentations are carried out on video projectors. Attendees have access to real live reports on the training network. Also available in e-Learning.

Audience

● Partners: application performance specialists having to draw up technical audits for their customers
● End-users: anyone having to interpret “raw” Ipanema reports (i.e. reports not already analysed in the framework of a technical audit provided by their MSP/NSP)

Pre-requisites

● Good knowledge in networking and software applications
● Understand the application metrics computed by the Ipanema solution and know how to interpret them (IFB)

Contents

● Using the reports
  ● Access to the reports
  ● Comprehensive multi-layer Reporting, top-down analysis
  ● Temporal aggregation, periodicities
  ● SALSA export

● The reports
  ● high level (SLM, SLA)
  ● technical (PM, AM, CAM, SA)
  ● supervision (FI)
  ● specific (VoIP, SAM)
● Smart planning (Network Rightsizing)
● Case studies, audits
Training objectives

During the first half of the course, “Appliances & Advanced Features” presents the range of Ipanema Appliances and explains how to install them, in multiples deployment cases. During the second half of the course, advanced WAN Optimisation and Hybrid WAN features are introduced (the latter are detailed and configured in a dedicated 2-day course, HYW - see below).

Duration

1 day

Someone who would only want to learn about Ipanema Appliances (typically an Installer) can attend only the first half of the course (i.e. the morning).

On the opposite, we do not recommend someone who only wants to learn about advanced features to only attend the second half: indeed, it is necessary to know the range of Appliances and the features they support to deploy these features.

Price

see the Price list below

Training methods

Theoretical presentation with the help of a video projector and immediate practical application by the attendees taking part in workshops on the training platforms (2 attendees per platform).

Also available in e-Learning.

Audience

- Installer
- Anyone who needs to know about the advanced features

Pre-requisites

- Good knowledge in networking and software applications
- Good knowledge of Application Control (leveraged by all the advanced features; IFB)

Contents

- Product range
- Installation of Ipanema Appliances
- Deployment cases
- WAN Optimisation
  - Compression
  - SSL Optimisation
  - Ipanema Mobile Agent
- Hybrid WAN (overview)
  - Dynamic WAN Selection
  - WAN Security
Training objectives

“SALSA Operations” training teaches Ipanema administrators how to configure and manage the Ipanema solution thanks to SALSA Central Management System.

Contents

- SALSA Architecture
- Domains, Users and License management (SALSA platform configuration)
- Domain configuration: Application Visibility
  - Configuration & activation
  - Monitoring workshop (Dashboard)
  - Creating Applications
  - Reports & alarms config.
- Application Control
  - Configuration & activation
- WAN Optimisation
  - Configuration & activation of Compression
  - Configuration of SSL Optimisation
  - Configuration of Ipanema Mobile Agent
- Supervision & Maintenance
- Important reminders, advice

Training methods

Theoretical presentation with the help of video projection and immediate practical application by the attendees taking part in workshops on the training platforms (2 attendees per platform); the workshops represent most of this training.

Audience

- Support engineers
- Pre-sales
- Network administrators
- Network architects
- Project managers

Pre-requisites

- Knowledge of IP networks (TCP/IP stack)
- Global knowledge of software apps
- Good knowledge of the two fundamental features of the solution: Application Visibility and Control
- Knowledge of the advanced features

Training objectives

“Application Control” is the part of common to Ipanema and Ipanema SD-WAN, that is: covering the configuration of apps and Application Groups for Application Control and WAN Optimisation.

Duration

2 days

Price

see the Price list below
Training objectives
At the end of “Hybrid WAN” course, attendees will know how to configure Dynamic WAN Selection and WAN Security features to deploy their Application-aware SD WAN networks.

Duration
2 days (1 day only without workshops nor the troubleshooting section)

Price
see the Price list below

Training methods
Theoretical presentation with the help of video projection and immediate practical application by the attendees taking part in workshops on the training platforms (2 attendees per platform).

Audience
- Network engineers having to deploy or optimise hybrid WANs

Pre-requisites
- Knowledge of IP networks (TCP/IP stack)
- Global knowledge of software apps
- Good knowledge of the Ipanema solution, namely of Visibility and Control (IFB minimum; OTS strongly recommended)
- Significant experience with Ipanema

Contents
- Dynamic WAN Selection
  - Objective
  - DWS TOS & DWS CPE
  - Principles
  - Decision algorithm
  - Notes on Probing
  - Decision Level
  - Return path
  - Visibility
- Appliances’ configuration
  - ip|engines, virtual|engines
  - Multi-WAN, Multi-path, Dual-path
  - ASR
  - High Availability
  - WAN Security
- DWS configuration
  - WANs and WAN accesses
  - Appliances (TOS & CPE)
  - Application Groups
- DWS Workshop
- WAN Security
  - Evolutions 9.0 > 9.1 > 9.2 > 9.2.1
  - Configuration and Filtering rules (IPsec > DTI > WSG)
  - Appliances’ configuration
  - Internet-only deployment cases
- Deployment cases
  - Standard case: DWS on MPLS + Internet
  - WAN security on Internet-only BOs
  - Different types of Internet accesses
  - Large Datacentre (up to two 10G links)
  - DWS and HSRP
  - Customer case study
  - High Availability
- Troubleshooting
  - BW Effective Density of Demand (EDD)
  - DWS CPE: a very typical problem
  - Check configuration, Broken NAPs, connectivity, the selected path, the reason for each decision, the probing packets
  - WAN Security: most frequent errors

“Dynamic WAN Selection” is the part of HYW covering DWS.

Duration
1 day
Training objectives
At the end of the “Dynamic Overlay” course, attendees will know how to configure the network part of ipanema SD-WAN.

Duration
1 day

Price
see the Price list below

Training methods
Theoretical presentation with the help of video projection and immediate practical application by the attendees taking part in workshops on the training platforms (2 attendees per platform).

Audience
- Network engineers having to deploy ipanema SD-WAN

Pre-requisites
- Knowledge of IP networks (IPsec, BGP)

Contents
- Currently updated
Training objectives

“Advanced Support” course shows the Ipanema System administrators how to customize the System through the use of the advanced parameters of the different components, to exploit the richness of reporting and to resolve any incident thanks to the debug commands.

Duration

3 days

Note: this course is reasonably intensive and requires the presence and attention of the attendees for the duration of the class.

Price

see the Price list below

Training methods

Theoretical presentation with the help of a video projector and immediate practical application by the attendees taking part in workshops on the training platforms (2 attendees per platform)

Audience

● Support engineers
● Network administrators

Pre-requisites

● A good knowledge of networks, mainly in TCP/IP protocols, is required
● Having attended OTS or OHN training and having successfully passed ICOS certification exam
● Having first-hand practical experience of the Ipanema system (several months)

Certification

You shall automatically be enrolled on ICAS certification exam after the end of the course; then you shall have one month to take it.

Contents

● Refresh
● Latest Products & Features (all new features and enhancements brought to the solution (both software and hardware) in the latest two major releases (covering approx. two years))
● Advanced configuration
  ● Manual changes in the configuration file
  ● SALSA reporting
  ● Clusters, HSRP
  ● ip|engines: ASR, Twin
● Command Line Interface
● Helpdesk flowcharts
  ● Check Ethernet / Topology / Apps
  ● Check a QoS profile (BW objective)
  ● User Call
  ● Check an equipped Site
  ● Appliance supervision
● Reports
  ● Advanced case studies
● Troubleshooting
  ● Read the commands
  ● Make a dump
  ● Problems of physical / IP / App connectivity
  ● Sniffing traffic
● Advanced principles & debugging
  ● Visibility: ip|true, ip|sync, RTG, reporting
  ● Control: ip|fast
  ● WAN opt.: ip|xcomp, ip|ma, SSL opt.
Training objectives

5VAP presents InfoVista’s 5View Applications solution. At the end of the course, attendees will have understood the metrics measured by 5View Applications and how to use the solution efficiently, based on real use cases, they will know how to configure the system, and they will know 5View Application appliances and how to configure them.

Duration
1 day

Price
see the Price list below

Training methods
Theoretical presentation with the help of video projection and immediate demonstrations and hands on.

Audience
● Anyone having to use or configure 5View Applications

Pre-requisites
● Global knowledge of LAN and WAN technologies
● Global knowledge of TCP/IP and software applications

Contents
● Introduction
● Concepts
  ● InfoVista’s solution and offer
  ● 5View Applications Appliances
  ● Integrating 5View Applications with other InfoVista solutions
  ● Definitions, metrics
● Use cases
  ● Discovering your web traffic
  ● Monitoring a Cloud app
  ● Abnormal behaviours
  ● VoIP analysis
  ● Oracle SQL
  ● Traffic Capture (TeraCap)
● The Graphical User Interface
  ● User interface
  ● Reports generation (context, filters…)
  ● Reports navigation (drill downs…)
  ● Applications
● Reports etc.
  ● Reports
  ● Dashboards
  ● Events
  ● Captures, Transaction Expert
  ● Alarms
● TeraCap
  ● Drill IP Communications
  ● Transaction Expert
  ● Use cases
● Configuration, administration, supervision
  ● License key
  ● Contexts
  ● Settings
  ● Importing objects
  ● Administration
● Appliances
  ● Range
  ● Physical & Virtual appliances
  ● Connections, data storage
  ● Local config.: limited User shell
● Workshops
Training objectives

5VNF presents InfoVista’s 5View NetFlow solution. At the end of the course, attendees will have understood the metrics measured by 5View NetFlow and how to use the solution efficiently, based on real use cases, they will know how to configure the system, and they will know 5View NetFlow appliances and how to configure them.

Duration
1 day

Price
see the Price list below

Training methods
Theoretical presentation with the help of video projection and immediate demonstrations and hands on.

Audience
● Anyone having to use or configure 5View NetFlow

Pre-requisites
● Global knowledge of LAN and WAN technologies
● Global knowledge of TCP/IP and software applications

Contents
● Introduction
● Concepts
  ● InfoVista’s solution and offer
  ● NetFlow
● 5View NetFlow
  ● Presentation
  ● 5View NetFlow Appliances
  ● IP Data Records
  ● Deployment
● Use cases
  ● Most common questions
  ● Reporting, Dashboards
  ● Application recognition and classification with Cisco AVC and NBAR2
  ● Performance Reports with Cisco AVC
  ● Detect Misbehaving Traffic
  ● Abnormal behaviours
● The Graphical User Interface
  ● User interface
  ● Reports generation (context, filters…)
  ● Reports navigation (drill downs…)
  ● Applications
● Reports etc.
  ● Reports
  ● Dashboards
  ● Forensics
  ● Counters
  ● Alarms
● Configuration, administration, supervision
  ● License key
  ● Contexts
  ● Settings
  ● Importing objects
  ● Administration
● Appliances
  ● Range
  ● Physical and Virtual appliances
  ● Hardware: connections, storage
  ● Local config.: Limited User shell
● Workshops
Courses Curricula

Training objectives

"Operations & Technical Support" is a curriculum made of several courses that teaches Ipanema System administrators the concepts of the Ipanema solution and how to configure and manage its different components. At the end of the course, attendees will be able to:

- understand the goals, concepts and principles of Ipanema features
- understand the application metrics measured by Ipanema
- competently discuss Ipanema reports and exploit their richness to conduct network audits and troubleshoot application quality issues
- choose and install Ipanema Appliances
- use SALSA and set all the parameters necessary to deliver the Service

Attendees will be able to autonomously configure and use the following features:

- Application Visibility
- Application Control
- WAN Optimization (Compression and TLS optimisation)

Duration
5 days

Price
see the Price list below

Training methods
Theoretical presentation with the help of video projection and immediate practical application by the attendees taking part in workshops on the training platforms (2 attendees per platform). The workshops represent approximately a third of the training.

Audience
- Network engineers having to deploy, manage or use the Ipanema solution.

Pre-requisites
- Global knowledge of IP networks
- Global knowledge of software apps

Contents
"Operations & Technical Support" is a made up of four courses: [IFB], [AAF], [REP] and [SOP], described here above.

UTD
1-day sessions allow you to stay “Up To Date”, explaining the latest features, the significant changes and enhancements in the product over the last two major releases (corresponding to approx. one year). This update is included in [ASU] training.
Training objectives

“Optimisation of Hybrid networks” is a mix curriculum that leverages the e-Learning solution and contains several courses to teach Ipanema System administrators the concepts of the Ipanema system and how to configure and manage its different components.

It is **equivalent to OTS + HYW**, but in **five days** (instead of seven) + five hours of **e-Learning**.

At the end of the course, attendees will be able to:

- understand the goals, concepts and principles of Ipanema features
- understand the application metrics measured by Ipanema
- competently discuss Ipanema reports and exploit their richness to conduct network audits and troubleshoot application quality issues
- choose and install Ipanema Appliances
- use SALSA and set all the parameters necessary to deliver the Service

Attendees will be able to autonomously configure and use the following features:

- Application Visibility
- Application Control
- WAN Optimization (Compression and TLS optimisation)
- Hybrid WAN (Dynamic WAN Selection and WAN Security)

**Duration**

5 days (after 5 hours of e-Learning)

**Price**

see the Price list below

**Training methods**

E-Learning course followed by an Instructor-led training session, with theoretical presentation with the help of video projection and immediate practical application by the attendees taking part in workshops on the training platforms (2 attendees per platform). The workshops represent approximately a quarter of the training.

**Audience**

- Network engineers having to deploy, manage or use the ipanema solution, namely the Dynamic WAN Selection and WAN Security features.

**Pre-requisites**

- Global knowledge of IP networks
- Global knowledge of software apps
- **eOTS: mandatory**, as it is **part of OHN**; this e-Learning course covers **IFB**, **AAF** and **REP**, which are only briefly summarised in the classroom.

**Contents**

“Optimisation of Hybrid networks” is a made up of **eOTS** (e-Learning) followed by five ILT courses:

- **IFB**, **AAF**, **REP** summarised in one day (they have been covered in e-Learning prior to the course),
- **SOP** (2-day workshops)
- and **HYW** (2 days), described here above.
Training objectives

“SD-WAN” is a curriculum made of several courses that teaches administrators the concepts, configuration and operation of Ipanema SD-WAN.

At the end of the course, attendees will be able to:

- understand the goals, concepts and principles of Ipanema SD-WAN
- understand the application metrics measured by Ipanema
- use the Orchestrator and set all the parameters necessary to deliver the Service

Attendees will be able to autonomously configure and use the following features:

- Application Visibility
- Application Control
- WAN Optimization (Compression and TLS optimisation)
- Dynamic WAN Selection
- Dynamic Overlay

Duration

4 days

Price

see the Price list below

Training methods

Theoretical presentation with the help of video projection and immediate practical application by the attendees taking part in workshops on the training platforms (2 attendees per platform).

The workshops represent approximately a third of the training.

Audience

- Network engineers having to deploy, manage or use the Ipanema SD-WAN solution.

Pre-requisites

- Global knowledge of IP networks
- Global knowledge of software apps

Contents

“SD-WAN” is made up of four courses: IFB, DOV, DWS and APP, described here above.
Global InfoVista Partner Program

The InfoVista Partner Program defines the framework for collaboration between InfoVista and our Partners to ensure mutual success by creating value, ensuring quality and increasing profitability.

The Program provides our Partners with various advantages:

- Discounts,
- Deal registration,
- Marketing support,
- Technical support,
- MDF (Market Development Fund)

To benefit from these advantages, our Partners are required to:

- Provide certified Sales, Pre-sales and Technical experts,
- Own demonstration capabilities,
- Agree on business objectives,
- Deliver high quality Support to Customers.

The program consists of four tiers that provide incremental benefits and rewards based on training, certification, and revenue achievements.

<table>
<thead>
<tr>
<th>Benefit (one example)</th>
<th>Requirements (Certif.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>25% Product Discount</td>
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</tr>
<tr>
<td>30% Product Discount</td>
<td>2 ICPS 2 ICAS</td>
</tr>
<tr>
<td>35% Product Discount</td>
<td>4 ICSA 2 ICPS 2 ICAS</td>
</tr>
<tr>
<td>40% Product Discount</td>
<td>4+ ICSA 4+ ICPS 4 ICAS</td>
</tr>
</tbody>
</table>

The Authorized entry-level tier requires Partners to complete basic sales training. In return, they are eligible to earn discounts and access basic sales support.

The next tier, Silver, requires Partners to complete basic training in sales and systems engineering, as well as achieve a minimum threshold of revenue. In return, they are eligible to earn further discounts and access basic marketing and enablement support.

As Partners achieve certain level of bookings, they may move up to Gold, which entitles them to higher financial rewards and other benefits such as bi-annual roadmap reviews allowing them to have deeper engagement with InfoVista and customers. This tier requires Partners to add more sales-certified resources further helping grow the joint business.

As top tier of the program, Platinum status recognizes InfoVista’s most accomplished Partners, with the highest level of certifications and the best prepared to address any market opportunity. They have access to a whole set of additional benefits, such as highest discounts, regular roadmap reviews, InfoVista exec sponsor and potentially dedicated channel manager depending upon business volume.

Thanks to this program, InfoVista end-customers have the guarantee that their Service Providers have acquired all the mandatory skills and resources to deliver a best-in-class Ipanema solution.

For more information please consult our brochure.
**InfoVista Training Centre**

InfoVista regularly organises public courses in its dedicated Training Centre, in its Headquarters (as well as many other courses all across the world, either in its premises or in its customer premises, wherever they are located – see the On-site training section below).

**Address**

The Training centre is located in the south of Paris (geolocation), easily reachable from the centre of the capital city by train (RER):

3 rue Christophe Colomb, 91300 Massy, FRANCE
Tel.: + 33 / 1 64 86 79 00. E-mail: training@infovista.com

**How to get there**

**Public transport from Paris or Roissy-Charles de Gaulle airport**

RER line B direction Massy-Palaiseau or Saint-Rémy-lès-Chevreuse (a train every 6 min during peak hours), call at Massy-Palaiseau station (35 min from Châtelet-les-Halles, 1 hour 10 min from Roissy).

Then refer to the map below.

**Public transport from Orly airport**

Take the Orlyval (1 call, Anthony, 6 min), then RER B (see above; 1 call, 5 min).

**If you come by car: where to park**

If you come by car, please let us know in advance so that we can grant you access to our visitors’ car park in our building. Alternatively, you can park in Massy TGV car park, facing InfoVista in Carnot Av.

**Hotels**

We recommend one of the two following hotels, less than a 2-min walk away from our offices:

- **Mercure Paris Massy Gare TGV ****** (between 90 and 160 € per night)
  21 avenue Carnot; tel. +33 / 1 69 32 80 20; H1176@accor.com; web site
- **Residhome Apparthotel Massy** (between 90 and 160 € per night)
  7 rue Christophe Colomb; tel. +33 / 1 69 81 62 62; paris.massy@residhome.com; web site
When you exit the RER station (or Massy TGV car park), turn left in Carnot avenue then walk 350 m (150 m from the car park): InfoVista’s main entry (23 avenue Carnot) and our Training centre (3 rue Christophe Colomb) stand in front of you, across the street (5-min walk from the RER station, 2 min from the car park).

**Hours - Meals**

Attendees are welcome as of 8:45 am, and the training courses begin at 9:00 am and conclude at approximately 5:00 pm (before 4 pm the last day of multiple-day courses). Lunch and coffee during breaks are included in the cost of the training when conducted in InfoVista facilities.
Training calendar

Training sessions are regularly scheduled (minimum once a month). The calendar is available on our web site (www.infovista.com), under SERVICES > TRAINING > Application Performance. Courses can also be scheduled on demand: please do not hesitate to contact us.

Training labs

Most courses are made up of both theoretical and practical parts. To achieve practical exercises, InfoVista provides a fully equipped training infrastructure (Ipanema Appliances and software, servers, routers, traffic generators…) comprising 5 independent labs, each one including 3 interconnected LANs. Up to two attendees can use each lab.

For remote courses, the training labs are usually accessed over the Internet through SSL connections (see On-Site Training and Remote access to our training labs below).

Training materials

Our training materials are provided on USB sticks, so attendees are kindly requested to bring their own laptops to follow the presentation. For remote courses, their laptops will also be used to run the exercises on our training labs.

Our training materials are only available to trainees and are not for sale.
On-Site Training

Dedicated courses

Training courses can also be dedicated to a Customer, in their own premises, for 5 attendees or more (up to a maximum of 10). In this case, the training date and location are jointly agreed according to Customer requirements and to InfoVista availability.

When dates and location are decided for a session, the Customer places a purchase order indicating the number of attendees, language, date and location of such session.

InfoVista then confirms to the Customer reception and acceptance of the order.

Customisation

Dedicated courses can be customised to satisfy the exact Customer’s needs. Precise contents and duration of such courses is to be agreed jointly by the Customer and InfoVista.

Languages

We deliver the courses in English, in French, in Spanish and in Portuguese.

Requirements

To conduct on-site training in the best conditions, the class will need 5 PCs for 10 delegates (we have five training labs, where the delegates can work in twos), with admin level access and with access to SALSA server through an Internet connection (see Remote access to our training labs below). The bigger the screen resolution, the better (1280 * 800 as a minimum).

Your Firewalls must allow HTTPS and scripts.

Note also that in some cases, when using shared wireless LAN connections, our students have experienced increased access delays to SALSA. So we recommend that a wired connection be provided.

The instructor will also need an Internet connection to SALSA, and a video projector and a whiteboard (not a flip chart) plus pens.

Note: we would like to let you know about a problem we often come across with on-site training: as the attendees are at their office with their laptops, they often access their emails during the course. As they are not listening 100% they ask questions that the instructor has already gone over, which can lead to the course being a lot longer than was scheduled, and they sometimes miss key content. We therefore politely request that they be advised not to do so to enable them to concentrate on the course for the benefit of all.

Thanks for your understanding.
Remote access to our training labs

Training labs are important for practical courses to reinforce the theory. **NB: the procedure below**, describing how to access our Training labs remotely, **should be tested by the delegates BEFORE the training course**, on the laptops or PCs they’ll be using during the course (admin level access is required) and with the same Internet access as they will have in the training room, so as to make sure everything is working fine (firewall settings, etc., may need to be changed).

1. **Install and configure FortiClient VPN SSL client (only during the 1st connection)**

   Connect to [https://vpntraining.infovista.com](https://vpntraining.infovista.com) with a web browser and authenticate (credentials will be provided to you before the course):

   ![Login page](image)

   **Download FortiClient 6.0** (version 6.2 surely works just as well, but we have not tested it yet): and install it (launch FortiClientOnlineInstaller.exe then follow the online instructions; you only need the VPN component).

   ![FortiClient installation](image)

   Launch **FortiClient** from the Start menu. In Remote access, click **Add a new connection**:
In the **SSL-VPN** tab in the **VPN connection** page, type:

- **Connection name:** *the name you wish to see in the Console after that*
- **Description:** *whatever you wish (optional)*
- **Remote gateway:** *vpntraining.infovista.com*

Click **Apply**, then **Close**.

**2. Establish an SSL VPN to our SSL gateway**

Now you can connect with the **Console** (same credentials as before):
An icon confirms the connection on your Taskbar:

FortiClient informs you about the IP address you were allocated and the traffic through the VPN tunnel:

The **Disconnect** button allows you to close the tunnel, at the end of the training.

3. **Open SALSA client in your web browser:**

   [https://10.10.0.10/salsa/](https://10.10.0.10/salsa/)

   (all “standard” browsers are supported)

   Username / password: test / test
   
   (new credentials will be provided to you during the course)
Check that you have access to all components of SALSA:

- Select any Domain and click Go (if you see no traffic, try another one),
- play with the Dashboard’s interactive graphs etc. to check it’s working fine (it will also help you get familiar with it before the course!):
- select the Reporting menu, browse the folder structure on the left till the last level, click a report’s name and check it’s correctly displayed,
- select the Configuration menu and check that the main page is correctly displayed.

You can now close all SALSA windows and the SSL tunnel.

Once you have completed this, or should you have any issue, please send us an email at: training@infovista.com.
Price and Conditions

Ipanema’s price list

Instructor-Led Training

The price of the courses depends on their types:

- **public**: open sessions where multiple companies can book individual places; price per attendee (**pa**) per attendee
- **private**: dedicated sessions for a single company; price per session (**ps**), fix for up to 10 attendees

### Overview

<table>
<thead>
<tr>
<th>Course</th>
<th>IFB</th>
<th>REP</th>
<th>AAF</th>
<th>SOP</th>
<th>HYW</th>
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</table>

1 = 1 day

- **“pa”**: per attendee (public course)
- **“ps”**: per session (private course)

### e-Learning

Our e-Learning courses are free of charge.

- **IFB**
  - Ipanema Features & Benefits
- **REP**
  - Reporting
- **AAF**
  - Appliances & Advanced Features

Also available in e-Learning (light version)

### Certification

Certification exams are included in the price of courses.

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### Ipanema SD-WAN’s price list

<table>
<thead>
<tr>
<th></th>
<th>IFB</th>
<th>DOV</th>
<th>DWS</th>
<th>APP</th>
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</tbody>
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1 = 1 day

### 5View’s price list

<table>
<thead>
<tr>
<th></th>
<th>5VAP</th>
<th>5VNF</th>
<th>5SDM</th>
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<td>3,600 € / US$ 4,032</td>
<td></td>
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</tr>
</tbody>
</table>

1 = 1 day

### On-site dedicated training

For on-site dedicated training, travel expenses can be added. Please contact us.
Conditions
Prices are in Euros and US dollars, taxes and duties excluded.
Payments are due 30 days after training completion.

Registration
Registration can be made through our web site or by e-mail (training@infovista.com).
Your registration becomes effective and is confirmed on reception of your purchase order; we kindly request that you send us the latter no later than two weeks before the start of the course.
Please note that a training session can be cancelled if the number of participants does not meet the minimum required. If the session is not confirmed yet when your booking is received, then you are informed about this possibility. Confirmation or cancellation occurs two weeks before the start of the course at the latest; you are immediately informed by email in either case.

Cancellation policy
In case of cancellation of a confirmed training session or attendance, the following conditions will apply:
● 15 days' notice or more: no charge
● 8 days to 14 days' notice: InfoVista will charge 50% of the price
● Less than 8 days' notice or no-show: InfoVista will charge 100% of the price
Infovista, the leader in modern network performance, provides complete visibility and unprecedented control to deliver brilliant experiences and maximum value with your network and applications. At the core of our approach are data and analytics, to give you real-time insights and make critical business decisions. InfoVista offers a comprehensive line of solutions from radio network to enterprise to device throughout the lifecycle of your network. No other provider has this completeness of vision. Network operators worldwide depend on InfoVista to deliver on the potential of their networks and applications to exceed user expectations every day. Know your network with Infovista.

Contact

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