Infrastructure Monitoring

Description

Infrastructure Monitoring

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Infrastructure Monitoring

What Is It Infrastructure Monitoring?

It Infrastructure Monitoring Is The Process Of Continuously Collecting Health And Performance Data About Servers, Virtual Machines, Networks, Iaas/Paas Entities And Other Backend It Resources In An Organization. It Operations Use Infrastructure Monitoring Tools To Visualize, Analyze And Act On Specific Alerts Raised By These Tools.

In This Post, We Will Cover How It Infrastructure Monitoring Tools Work, The Benefits They Are Expected To Bring To Every Organization, And How To Go About Selecting The It Infrastructure Tool For Your Organization.

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It Infrastructure Monitoring Overview

Why Is It Infrastructure Monitoring Important?

Since It Infrastructure Is An Important Part Of Any Organization's Operation, It Is Vital To Monitor Their Health And Performance. For Example, If An Application Server Is Performing Poorly Or Experiencing Outages It Could Result In Employees Not Being Able To Perform Their Work. Or If A Server Is Encountering Disk Errors, Data May Be Getting Corrupted Or Lost.

The Purpose Of Infrastructure Monitoring Is To Observe All The Infrastructure Entities, So As To Provide Key Metrics To It Operation Teams About How They Are Performing. This Would Involve Checks To Verify Availability (Verifying Whether The Entities Are Alive And Reachable) And Measure Response Time (Ensuring That It Is Within Acceptable Limits), While Checking Other Parameters To Determine Whether Errors Are Occurring In Any Of Its Resources (Say In A Physical Server Whether There Are Too Many Disk Errors, Or The Cpu Temperature Is Going Too High). In The Process, Infrastructure Monitoring Can Also Help Predict Problems And Alert It Operations When Specific Parameters Are Exceeding Allowable Thresholds And Provide Alerts, For Example, When The Disk Is More Than 80% Full Or If Cpu Utilization Is Consistently Very High (Say Above 70%).

Since Infrastructure Monitoring Is Being Done On A Continuous Basis, It Is Also Feasible To Store Monitored Data, So That It Operations Can Go Back To Specific Periods To Time To Know When And How The Problem First Occurred. It Would Also Be Possible To Provide Analytics Of The Health And Performance Of Infrastructure Over A Given Period Of Time.

Infrastructure Performance Monitoring Enables It Operations To Predict Degradations And Other Performance Issues And Respond Quickly, In Order To Ensure That End User Experience Is Not Adversely Affected. Resource Utilization Monitoring Can Be Useful In Showing Where Upgrades Are Needed Enabling Better Capacity Management.

In Specific Industries Such As Financial Services And Healthcare, Governance And Compliance Are Important Concerns Since They Are Required To Commit To Providing An Agreed Level Of Uptime And Performance. There Could Be Contractual Penalties For Failures And Performance Issues.

It Infrastructure Monitoring: What Should You Monitor?

Server Monitoring Tools Essentially Collect Data From The Server Operating System Regarding Cpu, Memory, Hard-Disk, Etc. Abnormally High Cpu Temperature For Instance May Help Identify A Malfunctioning Fan That Is Causing A Server Or Computer To Overheat. In Case Of Virtual Machines And Public Cloud Based Virtual Machines, Which Are Software-Based The Parameters To Track Will Vary, But Include Metrics Related To The Virtual Cpu, Virtual Memory, Network Connectivity, Database Etc.

Network Monitoring Helps To Verify The Health And Performance Of An Organization'S Network (Lan And Wan). With It Infrastructure Monitoring Tools, The It Team Can Know The Data Transfer Rates And Other Quality Of Service Parameters (Delay, Delay Variation And Loss) That Are Being Experienced On The Network. Though All Tools Do Not Support Monitoring Of Wan Connections As Well, This Could Be Essential Requirements In Typical Organizations That Operate From Multiple Locations And Are Having A Remote Workforce.

Application Health Monitoring Is Another Important Requirement Of It Infrastructure Monitoring. Software Applications Whether Deployed On Cloud Or On Servers On-Premise, May Be Used By Employees Or By Customers Of The Business And Will Be Often Considered Business Critical.

Remote User Device Monitoring Has Become Relatively Important In The Post-Covid Era, Since A Large Majority Of Organizations' Workforce Is Working From Remote Locations Or Working From Home. Though Traditional View Of It Organizations May Not Be To Treat User Workstations As Part Of The It Infrastructure, It Has Become Essential In Today's Distributed Environment To Ensure Productivity Of The Remote Workforce.

What Are The Challenges In Infrastructure Monitoring?

It Operations In Most Organizations Are Typically Occupied With Day-To-Day Activities Required To Administer And Keep All Their Servers And Applications Running. Their Key Focus Would Primarily Be To Ensure Uninterrupted Availability Of Resources Required For Optimal User Experience. This Involves Ensuring Uptime And Reliability, Reliable Performance, And Error-Free Operation.

At A Typical Organization Therefore, It Operations Would Be Involved In Periodic Monitoring Of Infrastructure, Apart From Installation Of Software Updates, Setup Of New Systems, As Well As Problem Troubleshooting. It Typically Also Includes Provisioning And Capacity Planning To Ensure There Are Sufficient Resources To Meet Upcoming User Requirements.

Thus, Typical Challenges In Performing The Above Tasks Include:

- Diversity of platforms and environment –hardware platforms, operating systems and

applications, means that expertise is distributed and teams are leaner
- Managing hybrid environments – on-premises and cloud-based
- Digital transformation and migration support can take up a large chunk of effort and time
- IT teams may have minimal or no bandwidth to monitor the performance of infrastructure and have to use multiple tools with increased reliance on automation
- IT teams lack expertise for troubleshooting and performing root cause analysis (RCA)

How To Choose The Best Infrastructure Monitoring Tool

Ease Of Use: Does The Tool Provide An Intuitive User Interface That Makes It Easy To Monitor Events, Perform Triage, And React To Problems Quickly?

Breadth Of Coverage: Does The Tool Have An Out-The-Box Support For All Infrastructure Types – Hardware, Software, Network Etc. On-Premises And In Cloud) That Your Organization Uses Or Will Plan To Use In Future?

Intelligent Alert Management: Is It Possible To Set Up Thresholds Such That Multiple Alerts Are Avoided? How Are Alerts Delivered? Can The Alerts Be Received On Itsm Tools Deployed In The Organization?

Critical Server Monitoring: Is It Possible To Monitor Specific Servers Or Applications Which Are Considered Mission-Critical, At Higher Granularity And Accord Higher Priority While Triaging.

Root Cause Analysis (Rca) Capabilities: Does The Tool Automatically Include Context And Provide Correlation Capabilities (With Ai/Ml Or Without) To Help Trouble-Shoot Problems Quickly?

Flexibility For On-Premises Or Cloud Licensing: Does The Tool Provide Support For The Type Of Deployment That Your Organization Needs?

Support Policy: What Types Of Support Options Are Available And Are They Aligned To Your Organizational Needs And Expectations?

Conclusion

It Infrastructure Monitoring Is Fundamental To The It Operations Of Any Organization. While There May Be Specific Compliance Requirements For Specific Market Segments Such As Financial, Healthcare Etc., Ensuring Effective It Governance Becomes Key To Any Forward-Thinking Organization. Today's Digital Businesses Encounter A Rapidly Changing Technology Landscape. Hence They Will Need To Rely On It Operations Teams Who Are Equipped With The Best Possible Tools To Proactively Ensure That The It

Infrastructure Is In Good Health And Performing Well, And Who Are Able To Act Swiftly To Resolve Problems Before They Affect Application Users.

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