Tableau Blueprint: Agility and Deployment Best Practices

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Agenda

• Introducing Tableau Blueprint
• An example customer journey from 1,000 → 10,000 users:
  • A tale of two corporations (Goofus & Gallant)
  • Building the team & identifying readiness gaps
  • Deployment (best practices)
  • Monitoring (tools & approaches)
  • Maintenance (patches & upgrades)
• Questions
Tableau Blueprint: The Hammer & Nail Edition
November 13 | 10:30 – 11:30am | Location TBD

Using the Tableau Blueprint Planner
November 13 | 12:30 – 1:30pm | Location TBD
November 13 | 4:00 – 5:00pm | Location TBD
November 14 | 4:00 – 5:00pm | Location TBD
Self-Service & Governance: The Art of Balance
November 13 | 4:00 – 5:00am | Location TBD

Best Practices for Updating Your Analytics Strategy
November 13 | 12:45 – 1:45pm | Location TBD
Introducing Tableau Blueprint
Core capabilities of data-driven organizations

Agility

Proficiency

Community
Agility

Secure and stable from the beginning, but can also scale, evolve, and grow as the organization changes.
+ Establish right-sized, secure deployment environment

+ Be responsive and scalable to use of analytics

+ Develop ongoing change management to continue to upgrade and evolve
Agility: Building the Team & Identifying Readiness Gaps
(Re-)Introducing Goofus & Gallant Corp

Illustrative examples of the wrong & right ways to achieve Agility

Goofus:
❌ Runs with the scissors pointing up
❌ Interrupts others
❌ Eats without washing hands first

Gallant:
✅ Walks with the scissors pointing down
✅ Waits for his turn to speak
✅ Always washing hands before handling food

Don’t be that person!
Both companies are:
- $2B retail enterprises
- 15,000 employees

Their analytics journey:
- Mature data warehouse
- Need scalable data exploration that’s easy to use
- 3 legacy reporting platforms and SQL tools being replaced by Tableau
- Prefer self-managed cloud platforms (AWS, Azure, GCP)

~18 Month Phased Tableau Roll-Out:
- Three waves: 1,000 early adopters; 3,000-5,000 users; 8,000-10,000 users
- Uncertain of growth trajectory, concerned about managing expectations
## Enterprise architecture survey

<table>
<thead>
<tr>
<th>Hardware Platform</th>
<th>Client Software</th>
</tr>
</thead>
<tbody>
<tr>
<td>Security</td>
<td>External Services</td>
</tr>
<tr>
<td>Network</td>
<td>Automation &amp; Extensibility</td>
</tr>
<tr>
<td>Availability</td>
<td>Licensing</td>
</tr>
<tr>
<td>Operations</td>
<td>Data</td>
</tr>
</tbody>
</table>

### Resources:
- [Enterprise Architecture Survey](#)
- [Discovery Process](#)
- [Blueprint Planner](#)
Data & analytics survey

What are the key sources of data?

How is data secured?

How is data distributed?

Who receives data?

How is data consumed?

How is data used in context?

What skills and capabilities need to be developed?

Resources:
Data & Analytics Survey
Discovery Process
Blueprint Planner
## Use cases & data sources

<table>
<thead>
<tr>
<th>Source of Data</th>
<th>Description</th>
<th>Department</th>
<th>Data Steward/Owner</th>
<th>Launch Date</th>
<th>Expected Audience Size</th>
</tr>
</thead>
</table>

**Resources:**
- Use Cases & Data Sources
- Discovery Process
- Blueprint Planner
Project team roles

CEO

CIO
- Enterprise Architect
- Security Admin
- DBA
- Systems Admin
- Network Admin
- Desktop Admin

CDO
- Analytics Director
- Project Manager
- Data Engineer
- Tableau Server Admin
- Community Leader*

COO
- Tableau Site Admin
- Content Authors
- Data Stewards

CFO
- Tableau Site Admin
- Content Authors
- Data Stewards

CMO
- Tableau Site Admin
- Content Authors
- Data Stewards

C.O
- Tableau Site Admin
- Content Authors
- Data Stewards
What choices do they make when building their teams?

**Goofus Corp:**
- ❌ Doesn’t surveying their analytics landscape
- ❌ Identifies only one part-time Tableau Server admin
- ❌ Doesn’t assign data stewards
- ❌ Doesn’t put in place community leadership

**Gallant Corp:**
- ✅ Surveys their analytics landscape and gets executive and cross-team buy-in
- ✅ Identifies two part-time Tableau Server admins and arranges training
- ✅ Assigns data stewards in each business unit, position orgs to own and groom their data
- ✅ Identifies community leader who networks and evangelizes Tableau
Deployment
Deployment type

- On-Premises
- Public Cloud
- Tableau Online

- Windows
- Linux
- Mac
- Web
- Mobile
- Embedded
Server architecture

User Tier
- VizPortal
- VizQL Server
- Data Server
- Ask Data
- Metadata Services

Management Tier
- Data Engine
- Backgrounder, Prep Conductor
- Elastic Search, Cache Server, SOLR
- Cluster Controller, Agent, Coordination Service

Storage Tier
- Repository, File Store

Gateway
Client software

Tableau Desktop
Tableau Prep Builder
Content Migration Tool
Variables affecting scalability

Evaluate known factors and estimate unknown factors

**ENVIRONMENT**
- Physical or VM
- Hardware & OS
- Network
- HA & DR

**DATA**
- Size
- Live or Extract
- Refresh Frequency
- Latency

**WORKLOAD**
- Workload Type
- Efficiency
- User Mix
- Peak Traffic

**USAGE**
- Active Users
- Interaction Type
- User Geography
- Internet Scale

New Deployment – Evaluate

New Deployment – Estimate

Existing Deployment – Evaluate
Production & Test Environments

Production Environment

Test Environment

Daily usage for both:
• Production (certified) content
• Sandbox (ad-hoc) content

Restore production backup periodically for:
• Upgrade testing
• Topology changes
• Beta testing
Back to Goofus & Gallant Corp

What architecture do they each deploy?

- Single node on-premise 8 cores
- Basic redundancy of some services but no high availability
What choices do they make when deploying their architectures for wave 1 (1,000 users)?

**Goofus Corp:**

❌ Doesn’t manage client tool installations, setting Creators up to use mismatched versions and patch levels of Desktop & Prep

❌ Doesn’t create a test

**Gallant Corp:**

✅ Packages Tableau Desktop and Prep into managed deployments with strict version control to keep everyone on the same patch and release

✅ Installs Test platform that matches production’s hardware so that confidence can be built around patches and new versions of Tableau
+ Establish right-sized, secure deployment environment

+ Be responsive and scalable to use of analytics

+ Develop ongoing change management to continue to upgrade and evolve
+ Establish right-sized, secure deployment environment

+ **Be responsive** and scalable to use of analytics

+ Develop ongoing change management to continue to upgrade and evolve
Roles

System Administrator
• Hardware and Operating System

Tableau Server Administrator
• Key Application Metrics

Tableau Server Site Administrator
• Adoption and Engagement
Hardware Monitoring
Tools

Infrastructure

• On Premise
  • Perfmon, Top, Splunk, Nagios, Zabbix etc
• Cloud
  • AWS CloudWatch, Azure Portal, GCP Stackdriver
• Tableau Specific
  • Resource Monitoring Tool
  • TabMon
  • Logshark

Content

• Adoption
  • Tableau Server Admin Views
  • Tableau Server Community Data Sources
• Performance
  • Tableau Server Admin Views
  • Resource Monitoring Tool
  • TabJolt and Scout
  • Logshark
System Up

Infrastructure Monitoring
• Is your server or cluster running?

Load Balancer
• Can users access it?

Get Detailed
• Call Tableau server status xml to watch individual services.
• http://<server>/admin/systeminfo.xml
System Up – Next Level

In progress - Scheduled maintenance is currently in progress. We will provide updates as necessary.

Oct 23, 20:00 UTC

Update - The Tableau Online - Europe - Ireland - (DUB01) environment has begun a scheduled maintenance and upgrade to Tableau Online 2019.4.

During this upgrade the system is planned to remain available for all users. Scheduled background tasks such as extract refreshes, email subscriptions and alerts will be paused during the maintenance window for several hours. Scheduled work will resume when maintenance completes. We apologize for any inconvenience caused by the temporary delay of this work and will minimize the time required as much as possible.

To learn more about the features coming in this release, visit the Tableau Online - Coming Soon page. Additional updates regarding this maintenance will be posted to Trust as new information becomes available.

Update - We will be undergoing scheduled maintenance during this time.
CPU Monitoring

Tableau Server goes all in to deliver your insights.

- 80% for 5 minutes or more frequent polling
- VizQL and Data Engine (Hyper) are most sensitive to CPU contention.
- Postgres will consume more as you scale
Memory

- 25% free
- Tableau processes hold memory, expect it to grow over time
- Backgrounders need more for larger workloads.
Storage

- I/O and Disk Queues
- Available Space at 20%+
- Room for Backups on Initial Node
- Plenty of temp space on backgrounders
Tools

Infrastructure
- On Premise
  - Perfmon, Top, Splunk, Nagios, Zabbix, etc.
- Cloud
  - AWS CloudWatch, Azure Portal, GCP Stackdriver
- Tableau Specific
  - Resource Management Tool
  - TabMon
  - Logshark

Content
- Adoption
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- Performance
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  - Logshark
Built in Admin Dashboards

- Download, customize, share and set alert thresholds!
Built in Admin Dashboards

- Are extracts running in a timely manner?
- Do I need more or larger backgrounder nodes?
Built in Alerts

- Services Up and Down
- Extract Refresh Failures
- Disk Space Warnings
Community Datasources

Tableau Community Forums

Shareable Data Sources for Tableau Server

What is this?

Getting real, useful data out of Tableau Server is difficult. More difficult than it should be. The PostgreSQL repository database that powers Server is a maze of confusing tables and cryptic, often incomplete, data. Don’t go mucking about in there if you can avoid it!

Instead, use these pre-built, impeccably accurate set of data sources! All the hard work has been done for you! All you need to do is download the workbooks, point them at your Tableau Server’s repository database, and publish them as data sources. You can decide to keep them accessible to just Admins, or use row-level security and share them with all your users, so they can see how their workbooks perform, when their subscriptions go out, and what content is being used by who—all without asking for your help!

• Build your own admin views
• Share these with your content creators
How do they approach monitoring?

**Goofus Corp:**
- ❌ Uses only the built-in admin views
- ❌ Averages CPU usage over 1 hour
- ❌ Relies exclusively on home-grown methods

**Gallant Corp:**
- ✅ Builds custom admin views with alerts
- ✅ Monitors CPU in <=5 minute intervals
- ✅ Watches Tableau specific processes
Server Monitoring Tool
This site can’t be reached

myanalyticsplatform.org’s server IP address could not be found.

Search Google for my analytics platform org

ERR_NAME_NOT_RESOLVED
Resource Management

Clean up stale content

Also tsm maintence cleanup to keep the repository tidy
Planning and upgrades

Maintenance is informed by monitoring and feedback from the community.

The system admin and server admin work with the site admins to understand how content is used on the platform. – its informed by DATA

While hardware might be adequate for now, Tableau used tends to accelerate rapidly. Keeping an eye on popular dashboards, data sources and users can help you determine when to scale up or out.
Load Testing

TabJolt allows you to make a data driven decisions about new hardware, new architectures and scalability.

Use it to compare your current environment to a new one.
Planning and upgrades

Maintenance releases get trigger by feedback from the community or security concerns. While monthly updates are ideal, they’re not commonplace in most enterprises.

Goofus updates every other year. His users have to put in challenging workarounds for data connections that are now supported and they’re missing out on features like ask data.
Unplanned maintenance

Also known as troubleshooting

The resource Monitoring Tool brings all of your logs to a single server for easy diagnosis.

Use tools like Logshark and TLV to explore what went wrong.

Engage support early and have details ready.
Scale up vs Out

More complex data sources and large datasets point to scaling up.

More users and use cases means its time to scale out.
Gallant Corp has setup a series of triggers to start the next evaluation cycle and to re-run the blueprint assessment.

User growth is accelerating faster then expected and now there are 5 new use cases and champions in the pipeline. Time to add more resources.
The next 10000

Compare Goofus and Galant Corp

Goofus is reactive and users have trouble trusting the platform

Galant is in an agile cycle, things just happen naturally and users love the platform and consistent flow of new features.

Call to ACTION: Go get the assessment.
Build a Data Culture for your organization

• Take the assessment
• Chat about your results with our experts
• Explore Learning Paths and earn a badge to show off your Tableau skills

Look for Tableau Blueprint under Activities in the app to learn more or visit the booth in Data Village
Please complete the session survey in the mobile app

View ‘My Evaluations’ in the menu or find your session under ‘Schedule’
Thank You

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