



IBM Tivoli Storage Manager 6.2 and IBM Tivoli Storage Manager FastBack 6.1

Reporting and Monitoring

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Technical Enablement for Tivoli Storage

August 2010

Agenda

- IBM TSM Reporting and Monitoring
- Thoughts on IBM Tivoli Monitoring (ITM)
- IBM TSM FastBack Reporting



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- IBM TSM Reporting and Monitoring
- Thoughts on IBM Tivoli Monitoring (ITM)
- IBM TSM FastBack Reporting



TSM 6: Reporting and Monitoring

- Reporting and Monitoring solution for TSM

- Will report on any TSM server at and later than version 5.3

- Compliments and integrates with TSM Admin Center

- Scalable enough to manage a farm of TSM servers

- Flexible and extensible to allow customers to define their own reports using Eclipse/BIRT development environment

- Integrate with reporting tools from other IBM products

- Integrate with monitoring tools from other IBM products

- Operational Reporting (TSM Versions 4 and 5) is being discontinued



TSM Reporting/Monitoring Components

- **ITM** – IBM Tivoli Monitoring
Provides a framework for collecting and storing real-time metrics
- **TEP** – Tivoli Enterprise Portal
Web-based interface for ITM
- **ITM-TSM Agent** – IBM Tivoli Monitoring Agent for TSM
Specific ITM Agent which queries TSM Servers
- **TSM Admin Center** – TSM Administration Center
Console for TSM Managing/Reporting, plugs into Tivoli Integrated Portal (TIP)
- **DB2** - Data Warehouse Database
Database to keep long term TSM Reporting data
- **WAS** – Websphere Application Server
Transparent underlying middleware

-> All in one Installation Package with Installation Wizard



Tivoli Integrated Portal (TIP)

- New Tivoli integrated Portal
 - Includes former Integrated Systems Console
 - Allows for web-based browser access
- Build to support various products as 'plug-ins'
 - TSM Administration, TSM Reporting, Tivoli Common Reporting, FastBack, IBM Information Archive, FastBack for Workstations, TPC,
 - Products can plug-in into an existing TIP installation on a centralized Server
- Not part of TSM Reporting Monitoring 6.2 Installation Package
 - Must be pre-installed either through the TIP stand-alone package or through the TSM 6.2 Server installation package
- Recommend to be installed on a separate Server
 - Managing and Reporting for TSM



Tivoli Integrated Portal (TIP)

Tivoli Integrated Portal - Mozilla Firefox

File Edit View History Bookmarks Tools Help

https://localhost:16316/ibm/console/login.do?action=secure

Getting Started Latest Headlines

Tivoli Integrated Portal Server Database Details

Tivoli. View: All tasks Welcome tipadmin Help Logout IBM

Manage Servers Health Monitor Health Moni... Common Repo... --- Select Action ---

Reports

Tivoli Common Reporting
<http://www.ibm.com/developerworks/spaces/tcr> About

Navigation Search

- Report Sets
 - Tivoli Products
 - Tivoli Common Reporting
 - Tivoli Storage Manager
 - Client Reports
 - Server Reports

Reports

Title	Description
Server Activity Details	Report provides a short summary of the key details for one specific server activities performed by TSM.
Server Database Details	Server Database Details
Server Resource Usage	Server Resource Usage

Selected: 0, Total: 5

TSM Reporting Monitoring Characteristics

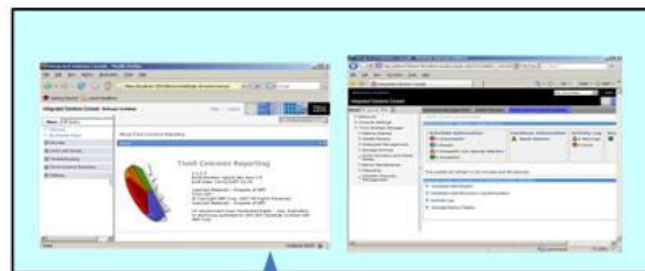
- Reporting and Monitoring for TSM
- **All on one install media** (DVD) separately from the TSM Server
- Can be installed and run independently from the TSM Server
- Can plug into an existing ITM 6.2 installation or run stand-alone
- No additional charge
- Comes with out-of-the-box reports and pre-configured monitors
- Custom Reporting: Reports can be added using BIRT (optional)
- Integrates into TIP
- Integrates with Tivoli Common Reporting and Reporting



User's View



TSM Admin Center in TIP

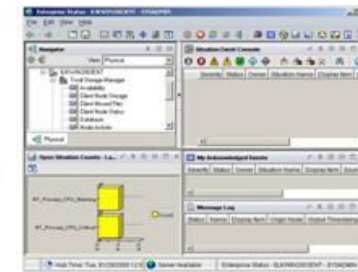


Reports

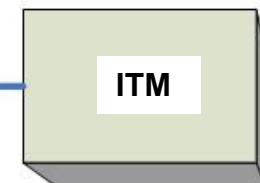


User

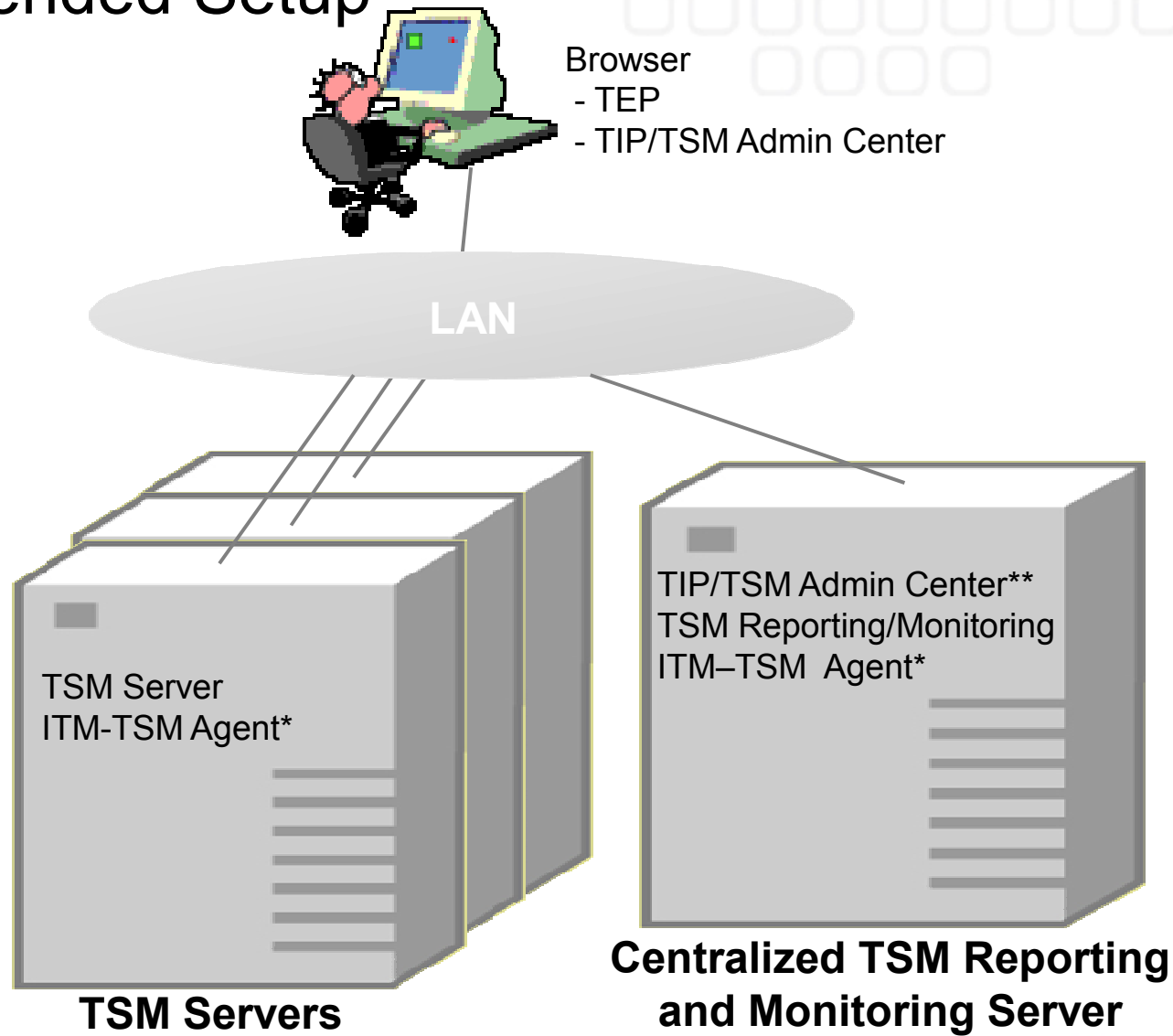
TEP



Monitoring



Recommended Setup

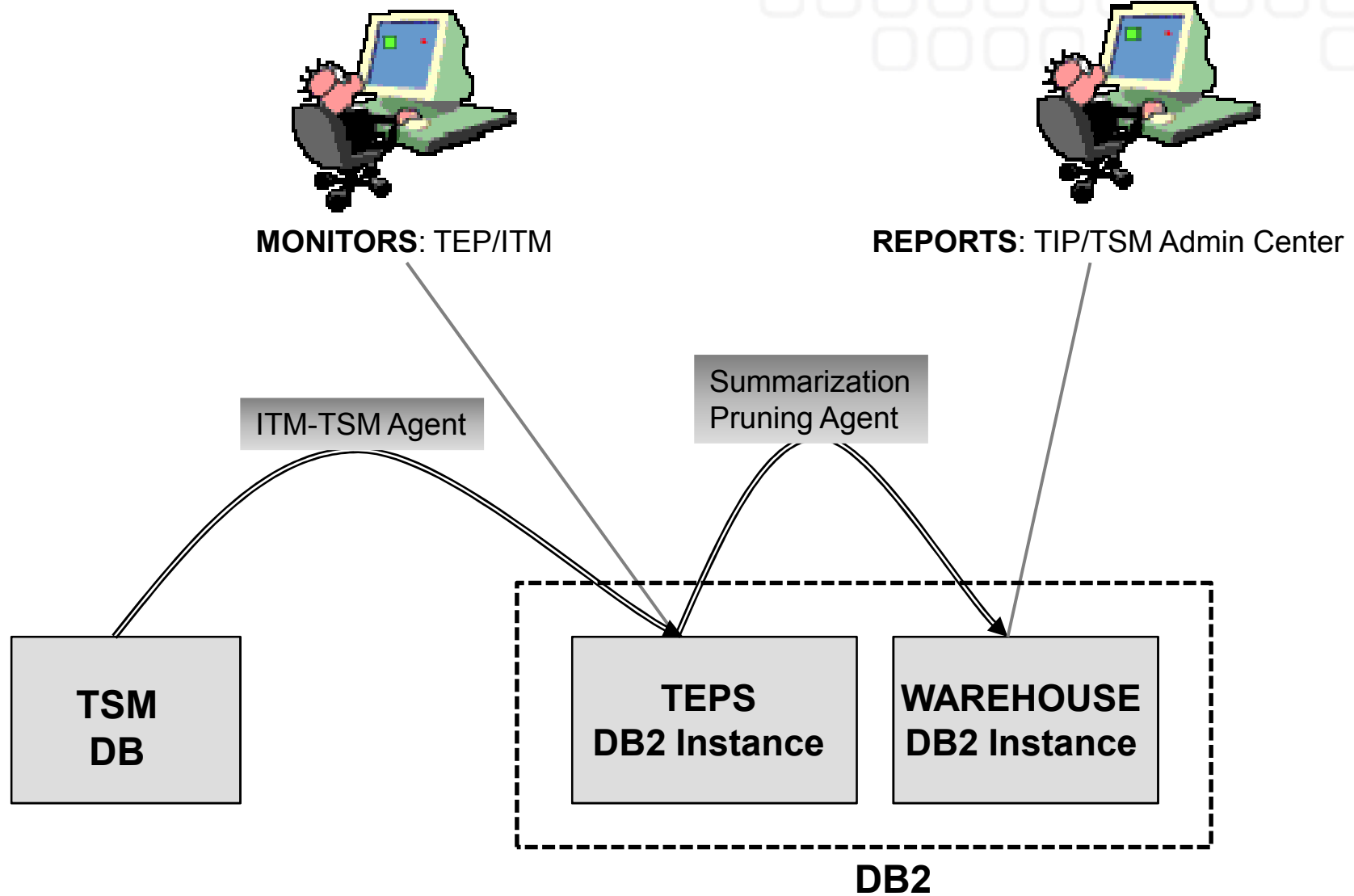


* Administrator can chose where to install

** Can also *manage* TSM Servers



Flow of Data



Installation Options

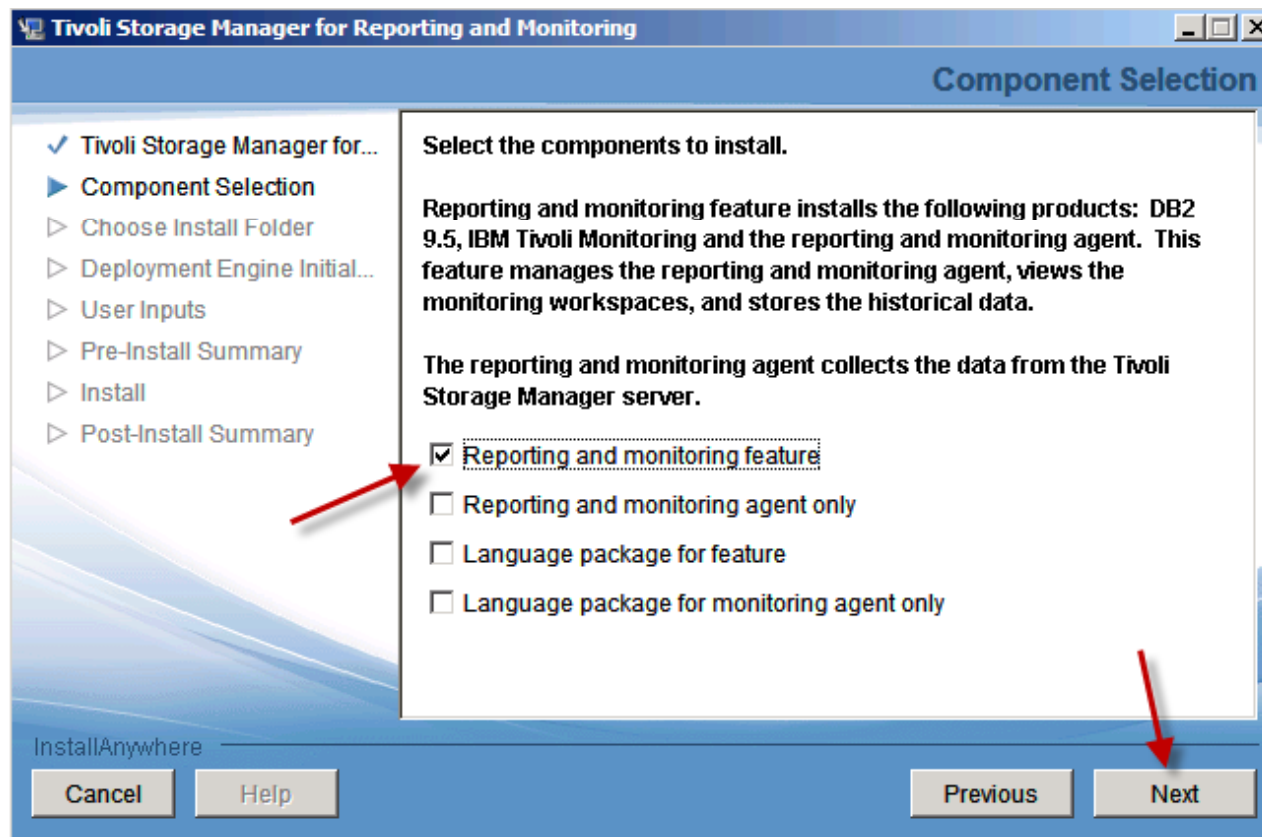
- Small-Medium business
 - TIP and Reporting and Monitoring on a single server
 - Agents installed on the same server remotely talking to TSM servers*
- Large business
 - Monitoring on a single server
 - TIP and Reporting on a separate server
 - Agents installed on the Monitoring server remotely talking to TSM servers*
- Enterprise business
 - Multiple Monitoring servers
 - Clustered Reporting servers
 - Agents installed on the Monitoring servers remotely talking to TSM servers*

*** Alternatively Agents can be installed on the TSM Servers**



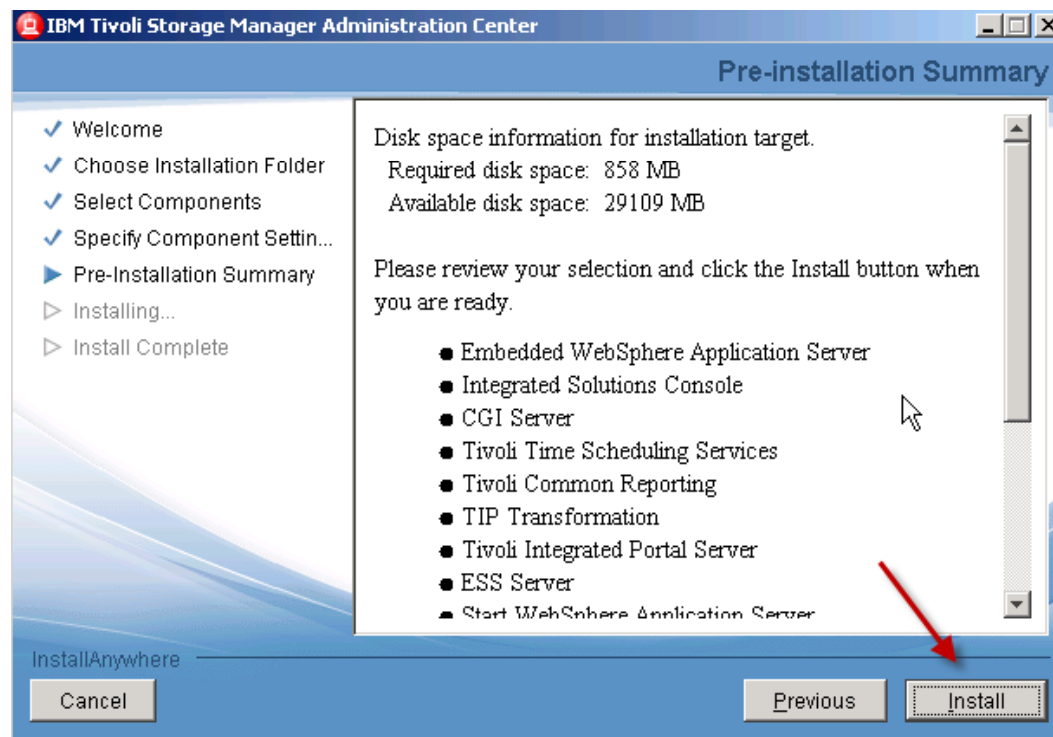
1. Installation Step

- 1. Step: Install TSM 6.2 Reporting/Monitoring Installation Package
 - One package including ITM/TEP/DB2/WAS/ITM-TSM Agent
 - ITM – TSM Agent can be installed separately
 - TSM 6.2 Reporting/Monitoring installation package
 - Does not include TIP and TCR



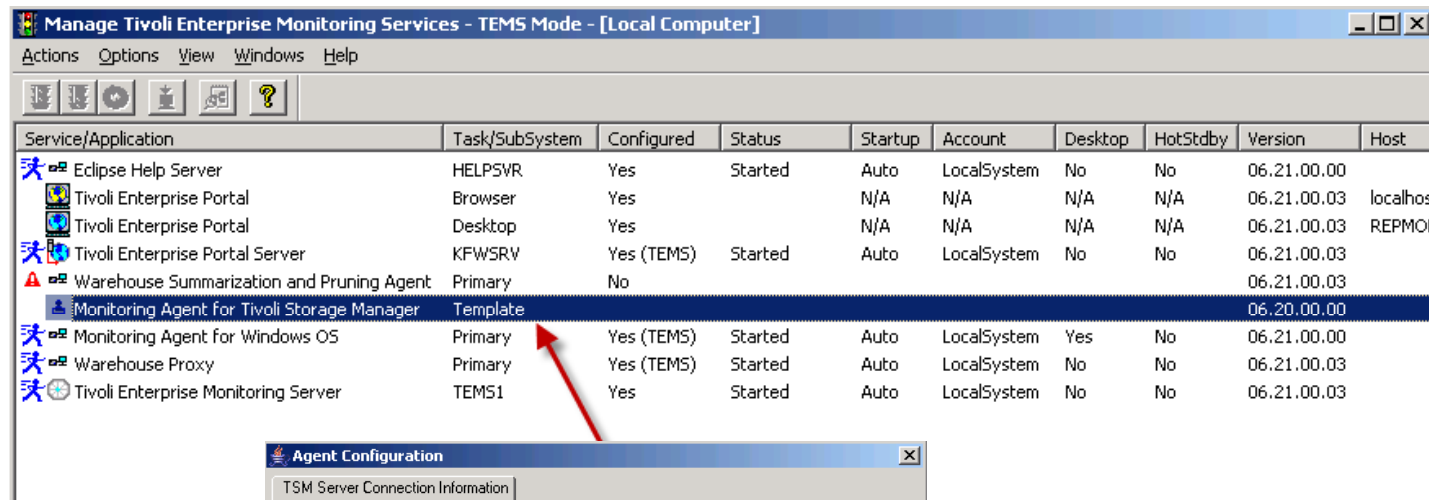
2. Installation Step

- 2. Step: Install TSM 6.2 Admin Center
 - Stand Alone installation package
 - Alternatively part of the TSM 6.2 Installation package
 - Includes TIP and TCR
 - If TIP and TCR are already installed, this step is not required

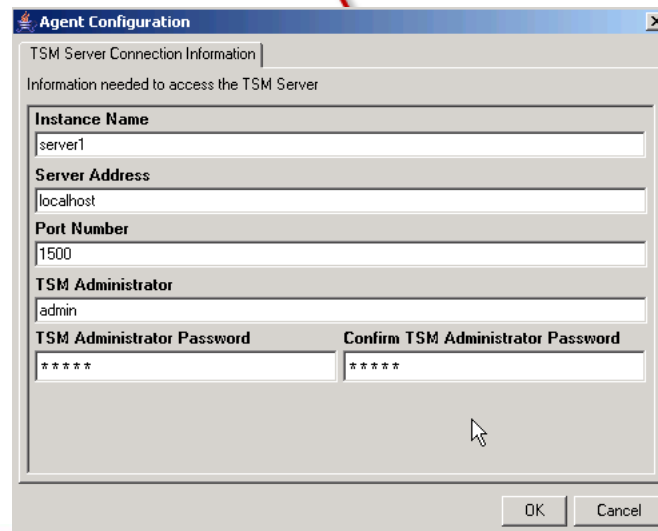


3. Installation Step

- 3. Step: Configure TSM Monitoring in ITM using the ITM-TSM Agent
 - Create TSM Agents using the Service Template



Service/Application	Task/SubSystem	Configured	Status	Startup	Account	Desktop	HotStdby	Version	Host
Eclipse Help Server	HELPSVR	Yes	Started	Auto	LocalSystem	No	No	06.21.00.00	
Tivoli Enterprise Portal	Browser	Yes		N/A	N/A	N/A	N/A	06.21.00.03	localhost
Tivoli Enterprise Portal	Desktop	Yes		N/A	N/A	N/A	N/A	06.21.00.03	REPMO
Tivoli Enterprise Portal Server	KFWSRV	Yes (TEMS)	Started	Auto	LocalSystem	No	No	06.21.00.03	
Warehouse Summarization and Pruning Agent	Primary	No						06.21.00.03	
Monitoring Agent for Tivoli Storage Manager	Template							06.20.00.00	
Monitoring Agent for Windows OS	Primary	Yes (TEMS)	Started	Auto	LocalSystem	Yes	No	06.21.00.00	
Warehouse Proxy	Primary	Yes (TEMS)	Started	Auto	LocalSystem	No	No	06.21.00.03	
Tivoli Enterprise Monitoring Server	TEMS1	Yes	Started	Auto	LocalSystem	No	No	06.21.00.03	



Agent Configuration

TSM Server Connection Information

Information needed to access the TSM Server

Instance Name
server1

Server Address
localhost

Port Number
1500

TSM Administrator
admin

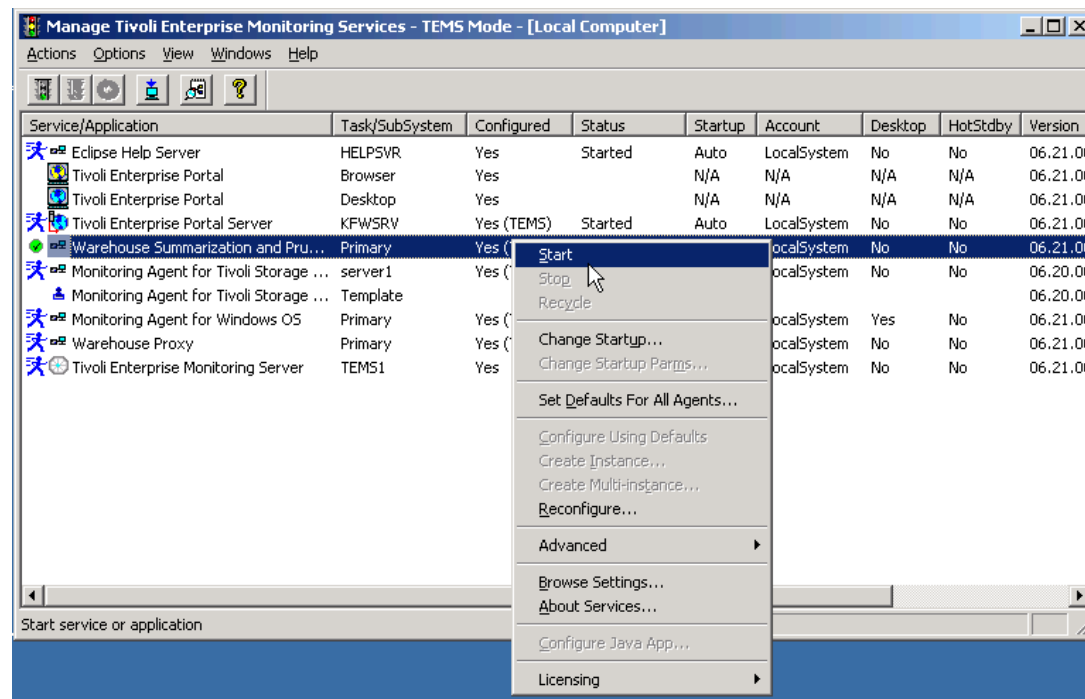
TSM Administrator Password

Confirm TSM Administrator Password

OK Cancel

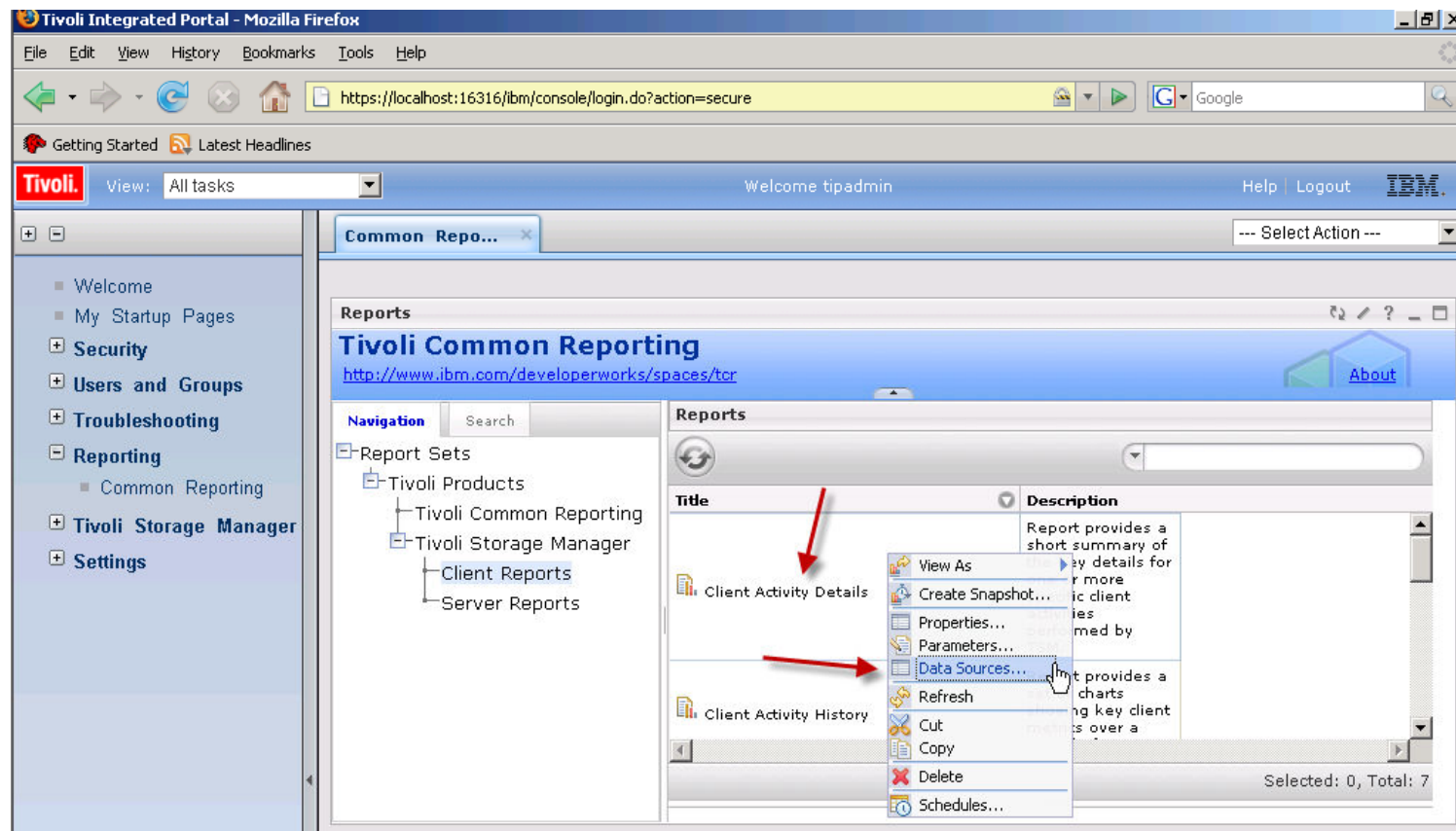
4. Installation Step

- 4. Step: Configure TSM Reporting in ITM
 - Reconfigure TEP Server
 - Configure Warehouse Summarization and Pruning Agent
 - Configure Historical Data Collection in TEP



5. Installation Step

- 5. Step: Configure TSM Reporting in TIP
 - Configure Data Sources for TSM Reports (default is DB2)



Supported TSM Servers

- TSM 5.3 Server
- TSM 5.4 Server
- TSM 5.5 Server
- TSM 6.1 Server
- TSM 6.2 Server

All operating systems for TSM Servers (Windows, Unix, OS/390, ...) are supported for Monitoring and Reporting.



Supported Operating Systems for ITM server :

- Windows 2003 Server
- Windows 2008 Server
- AIX 64 bit
- Linux (x86) 32 and 64 bit



Supported Operating Systems for ITM-TSM Agent

- Windows 2003 Server
- Windows 2008 Server
- AIX 64 bit
- Linux (x86) 32 and 64 bit

For all other operating systems supported by TSM, the agent can run remotely and fully support them.



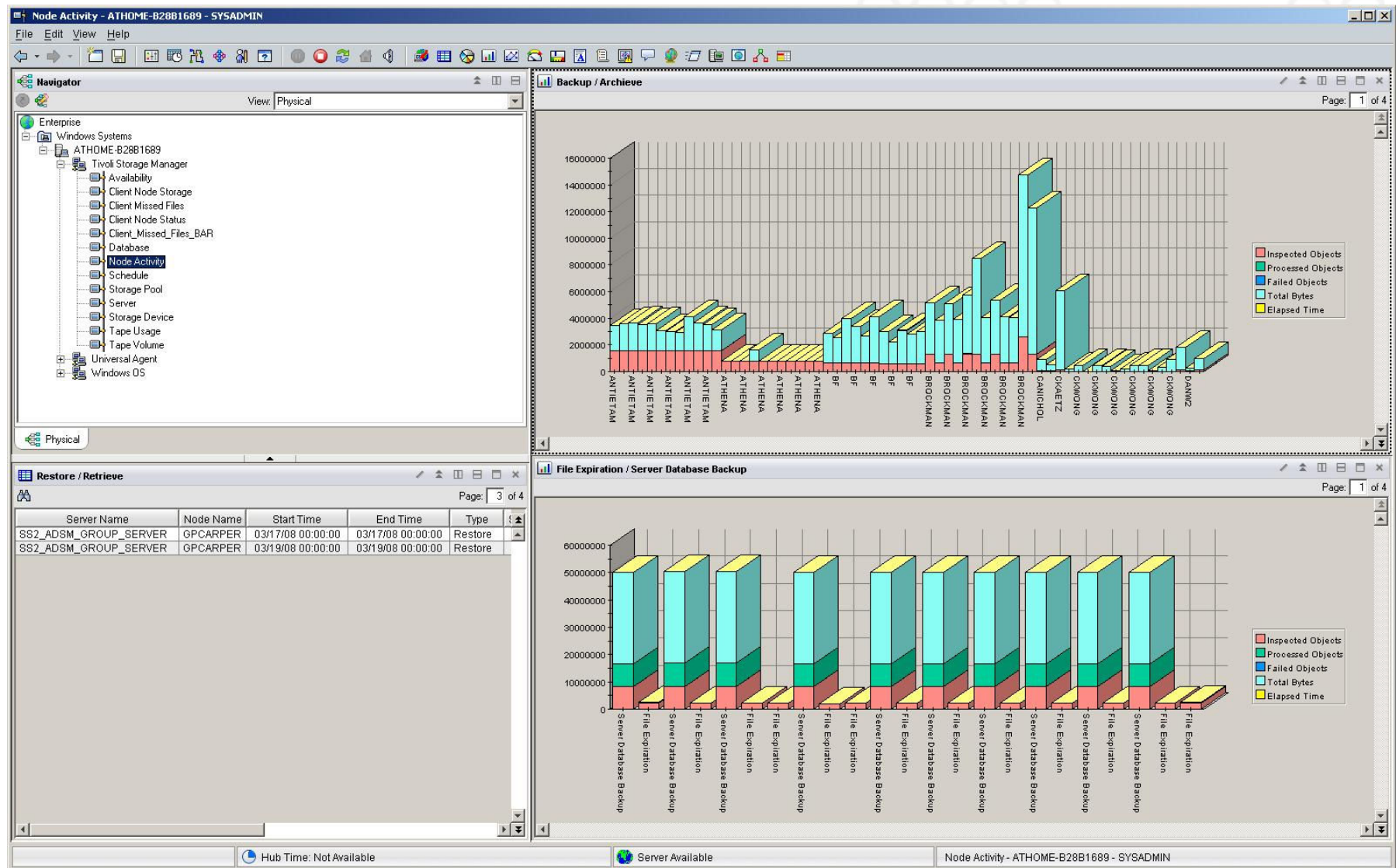
Monitoring Workspaces



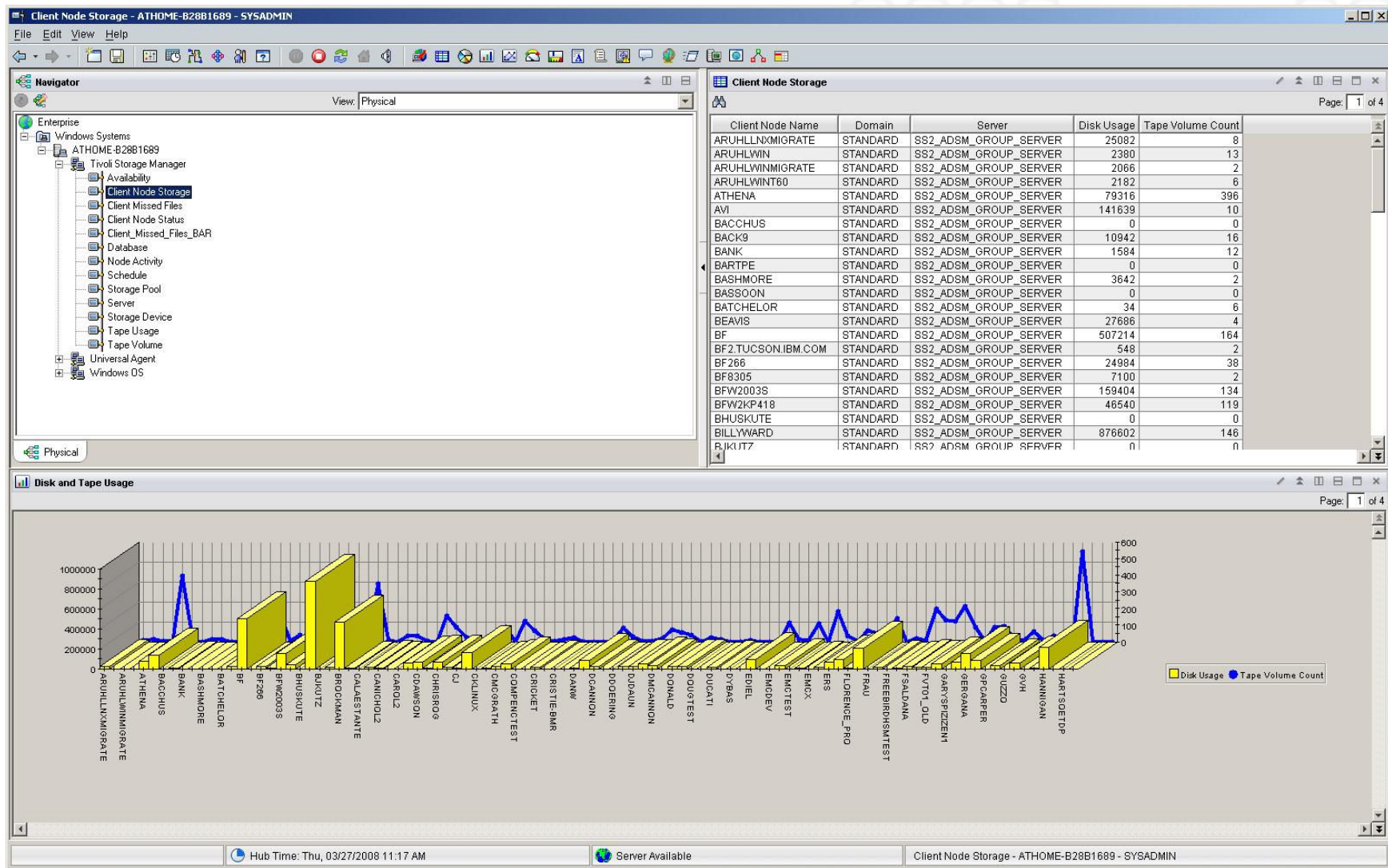
- **Scheduled Client Activity**
Forthcoming scheduled client based activities
- **Scheduled Server Activity**
Forthcoming expiration, migration activities
- **Client Current Activity**
Current client operations, backup/restore etc
- **Server Current Activity**
Current server operations, restoration, migration etc
- **Current Errors**
Recent errors and operation failure details
- **TSM Database Status**
Health and size of database and logs
- **Tape Device Status**
Status of volumes and usage of devices
- **Storage Pool Status**
Capacity used within storage pool
- **Client Backup Status**
Last backup of clients



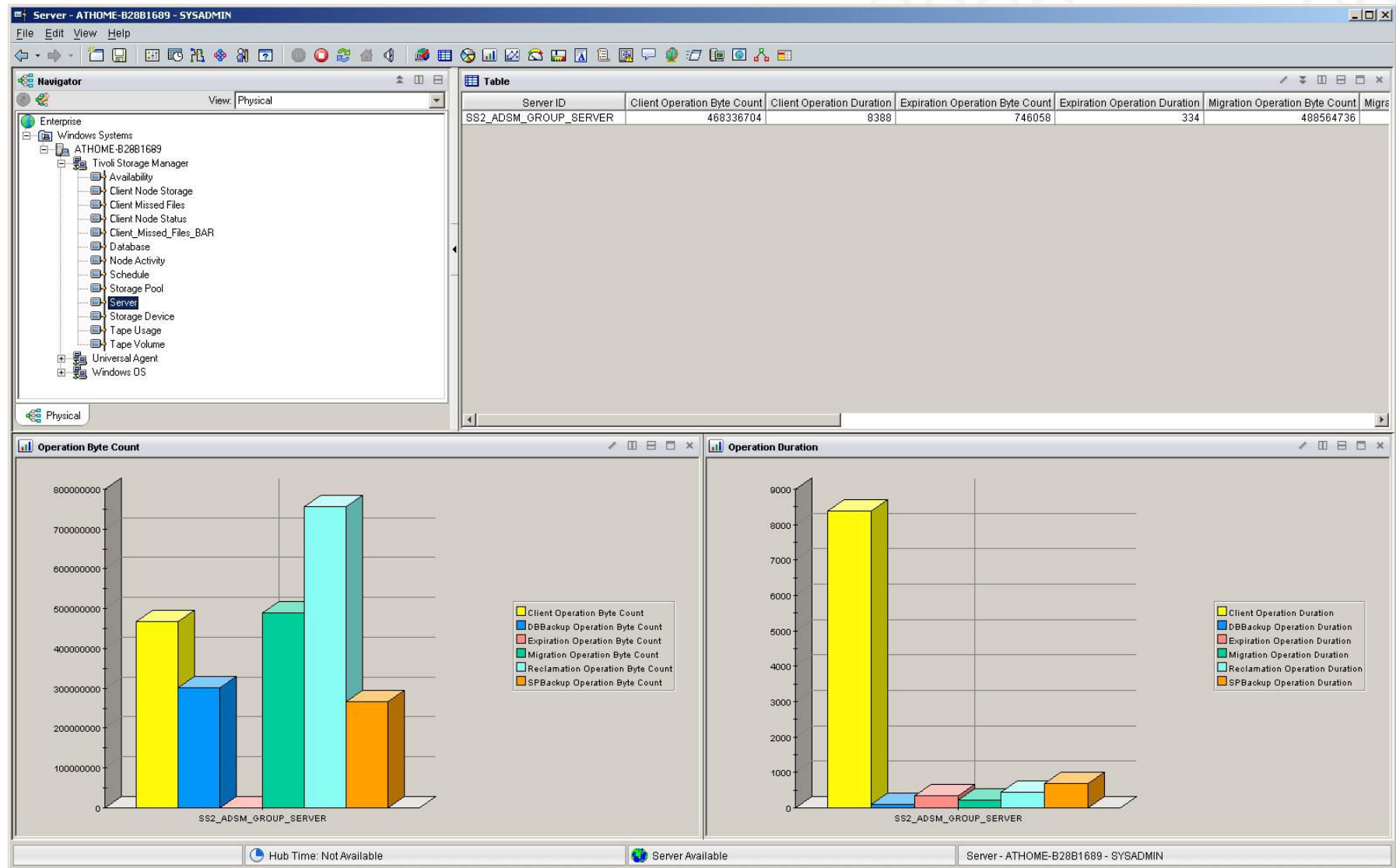
Example – Node Activity Monitor



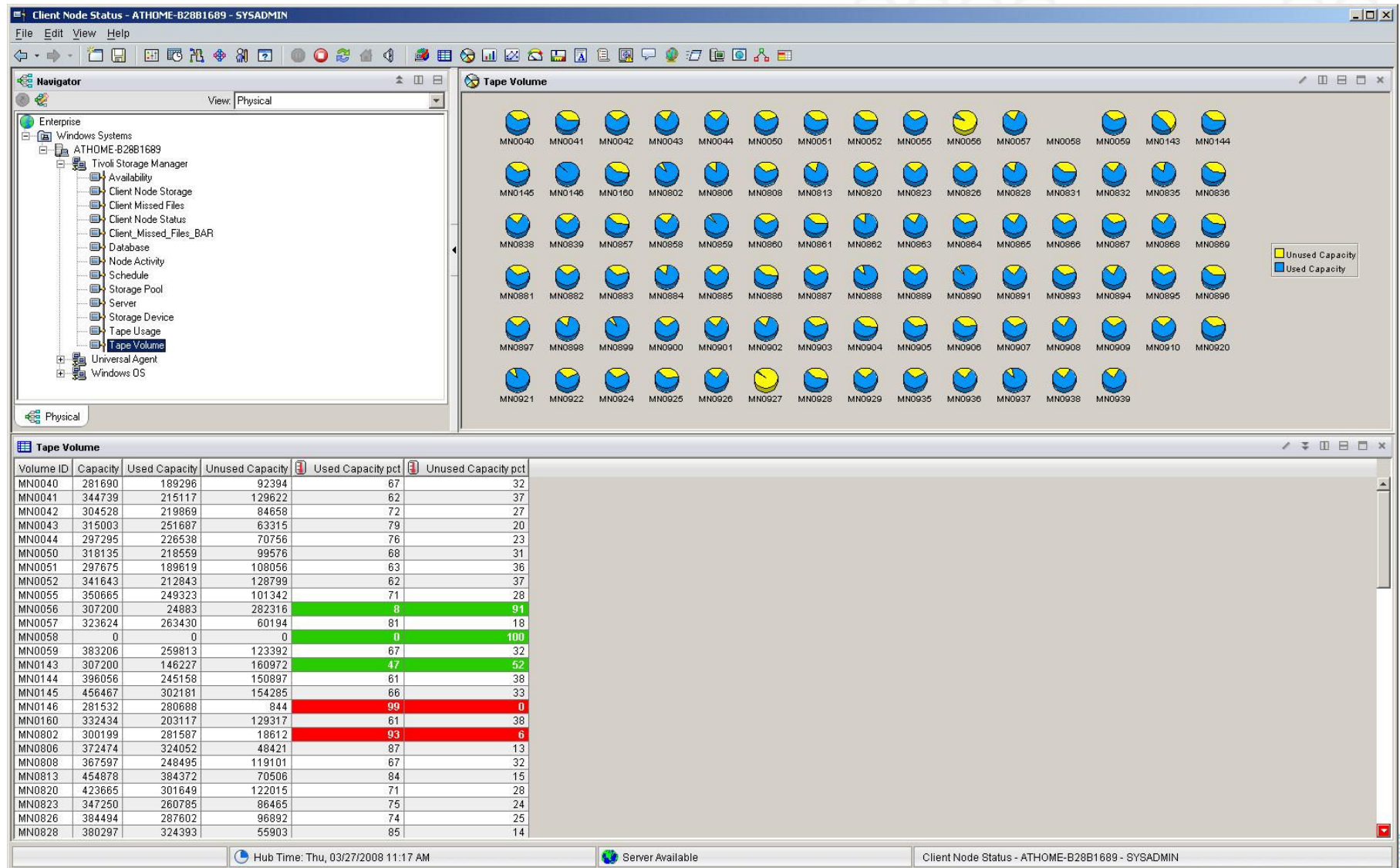
Example: Node Storage Monitor



Example: Server Overview Monitor



Example: Tape Volumes Monitor



Historical Reports

- Client Reports

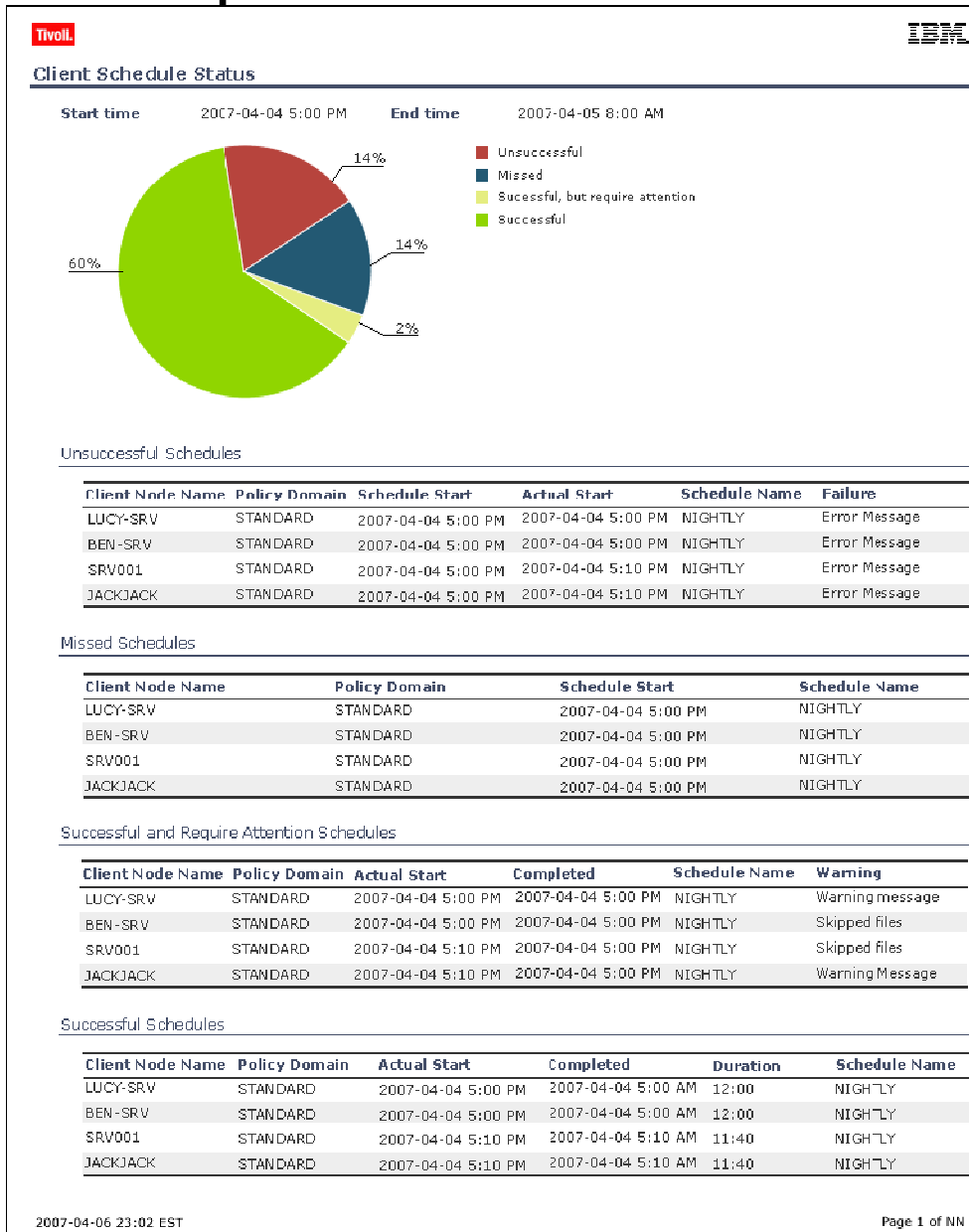
- Job Status
- Backup Currency
- Storage Capacity backed up
- Details of backups
- Top 10 backups
- Missed backup files
- Backup statistics with time
- Details of restores
- Top 10 restores
- Restore statistics with time
- Details of archives
- Top 10 archives
- Archives statistics with time
- Details of retrieves
- Top 10 retrieves
- Retrieve statistics with time

- Server reports

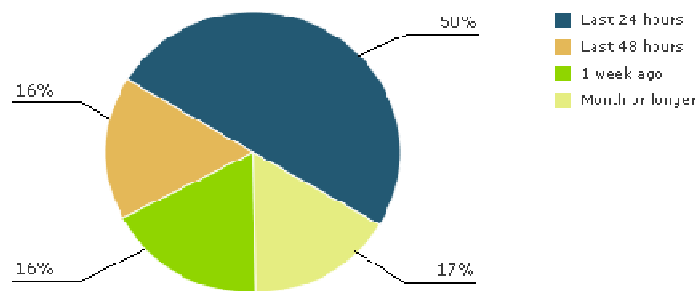
- Job Status
- Server throughput
- Server Resource Usage
- Database Details
- Disk and file usage
- Tape usage
- Other storage usage
- Tape volume usage analysis
- Tape capacity analysis
- Tape device errors
- Device usage history
- Server machine utilization



Example: Client Schedule Report



Client Backup Currency



Client Node Name	Last Successful Backup	Issues
FILESRV01	2007-02-03 4:45 AM	—
FILESRV02	2007-03-28 3:45 AM	✓
ORB	2007-04-01 3:45 AM	—
DB2_SRV	2007-04-29 3:45 AM	—

Example: Client Backup Currency Report



Example: Storage Capacity Projection Report

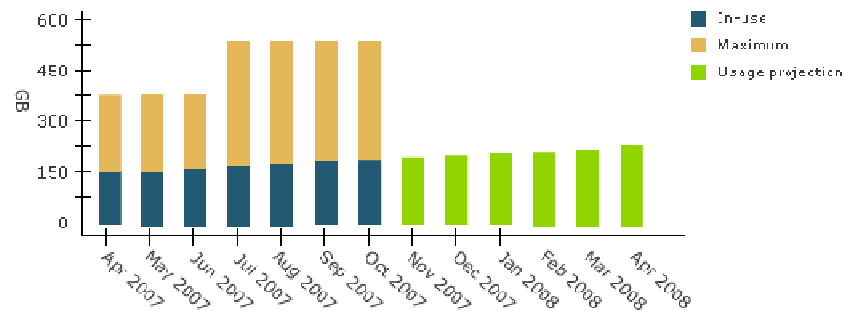
Tivoli

IBM

Storage Capacity Projection

Start Date 2007-04

End Date 2008-04



Client Node Name	Maximum (GB)	In-use (GB)
FILESRV01	100	50
FILESRV02	160	48
DB2_SRV_FIV	160	49
DB2_SRV_DEV	120	3



Updates in TSM 6.2



- Reporting and Monitoring moved into TIP
- Reporting and Monitoring uses TCR 1.2
- Scheduling of Reports
- Support of ITM Agent Builder
 - Drag and Drop data sources using a wizard for custom Data Collection
 - Agent can be packaged and is very configurable
 - Creates a 'Sellable' agent
 - More platform support
 - Support and Enhancements continue



Planned Cognos Support

- Cognos support planned for future version of TSM 6.x for 2011
- *Cognos used as an alternative to BIRT*
- *Cognos can query directly TSM DB2 databases or the DB2 Warehouse*
- Cognos included in TSM 6.x installation
- No additional charges for TSM Reporting with Cognos
- Cognos cannot replace current ITM based Monitoring
- Current Reporting and Cognos will both be supported and coexist



Agenda

- IBM TSM Reporting and Monitoring
- **Thoughts on IBM Tivoli Monitoring (ITM)**
- IBM TSM FastBack Reporting

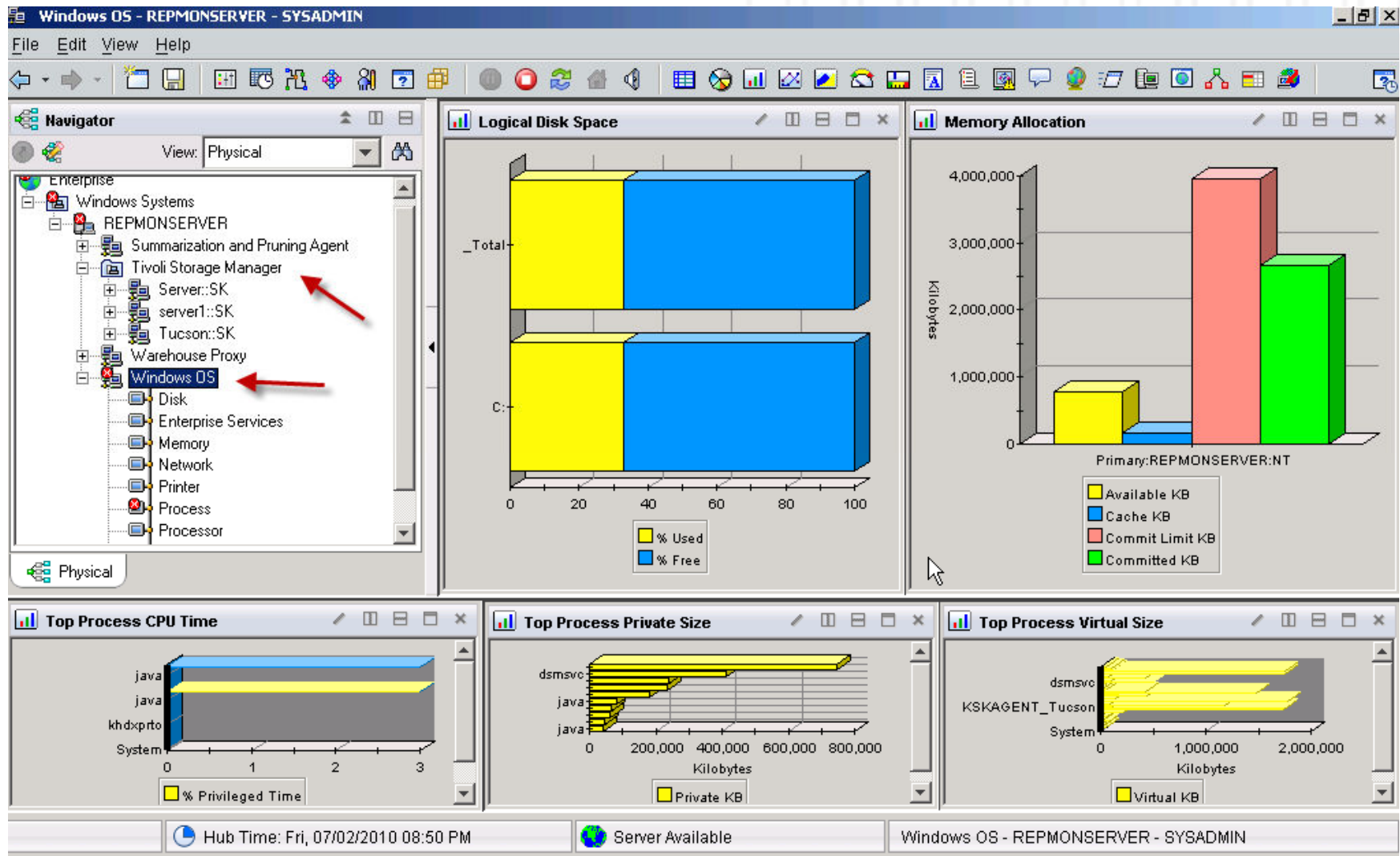


Thoughts on ITM

- TSM Monitoring and ITM complement each other
- Monitoring for complete IT Environments
- Various Agents available, e.g. Windows, AIX, HP-UX, Sun Solaris, MS Exchange, MS SQL Server, DB2, Linux, Energy, ...
- Even TSM Reporting can be integrated into one Portal together with TSM Monitoring and other ITM Agents
- Perfect cross selling opportunity
- Complete sets of ITM enablement material and courses available



ITM Windows OS Agent



Common Portal: TSM Reporting/TSM Monitoring/Windows Monitoring

The screenshot displays the Tivoli Integrated Portal interface. On the left, the 'Navigator' pane shows a tree view of the system hierarchy, with 'Tivoli Storage Manager' selected under 'Enterprise'. The main content area is titled 'Tivoli Integrated Portal' and shows a 'Common Reporting' tab. The 'Reports' section is active, displaying a list of reports. The 'Client Backup Missed Files' report is highlighted, showing its title and description. The status bar at the bottom indicates 'Hub Time: Wed, 07/07/2010 07:38 PM', 'Server Available', and 'myworkspace - REPMONSERVER - SYSADMIN'.

Navigator

- Enterprise
 - Windows Systems
 - REPMONSERVER
 - Summarization and Pruning A...
 - Tivoli Storage Manager
 - Server::SK
 - server1::SK
 - AGENTLOG
 - Availability
 - Client Node Storage
 - Client Missed Files
 - Client Node Status
 - Database
 - Node Activity
 - Schedule
 - Storage Pool
 - Server
 - Storage Device
 - Tape Usage
 - Tape Volume
 - Tucson::SK
 - Warehouse Proxy
 - Windows OS

Tivoli Integrated Portal

Location: <https://localhost:16316/ibm/console/login.do?action=secure>

Welcome tipadmin Help Logout IBM

View: All tasks

Common Repo... --- Select Action ---

Reports

Navigation Search

- Report Sets
 - Tivoli
 - Products
 - Tivoli
 - Common Reporting
 - Tivoli
 - Storage Manager
 - Client Reports
 - Server Reports

Client Backup Missed Files

Title **Description**

Report lists the details and the reasons that files have not been backed up for a specific client.

Report provides summary and

Selected: 0, Total: 7

Done

Hub Time: Wed, 07/07/2010 07:38 PM Server Available myworkspace - REPMONSERVER - SYSADMIN

Agenda

- IBM TSM Reporting and Monitoring
- Thoughts on IBM Tivoli Monitoring (ITM)
- IBM TSM FastBack Reporting



Reporting and Monitoring for FastBack

- Integrated in TIP
- *Includes pre-defined Reports*
- *Custom Reports can be developed using BIRT*
- *Reporting only, no ITM Monitors/Agents included*
- *FastBack Reporting installation package includes all pre-defined Reports*
- Prerequisite: Tivoli Common Reporting 1.2 (includes TIP)
- No additional charges for FastBack Reporting



Reporting and Monitoring for TSM FastBack

The screenshot shows the Tivoli Integrated Portal in a Windows Internet Explorer browser. The address bar displays <https://localhost:16317/ibm/console/login.do?action=secure>. The page title is "Tivoli Integrated Portal - Windows Internet Explorer". The main content area is titled "Tivoli Common Reporting" and includes a navigation pane on the left and a table of reports on the right.

Navigation Pane:

- Welcome
- My Startup Pages
- Security
- Users and Groups
- Troubleshooting
- Reporting (highlighted with a red arrow)
- Common Reporting (highlighted with a red arrow)
- Settings

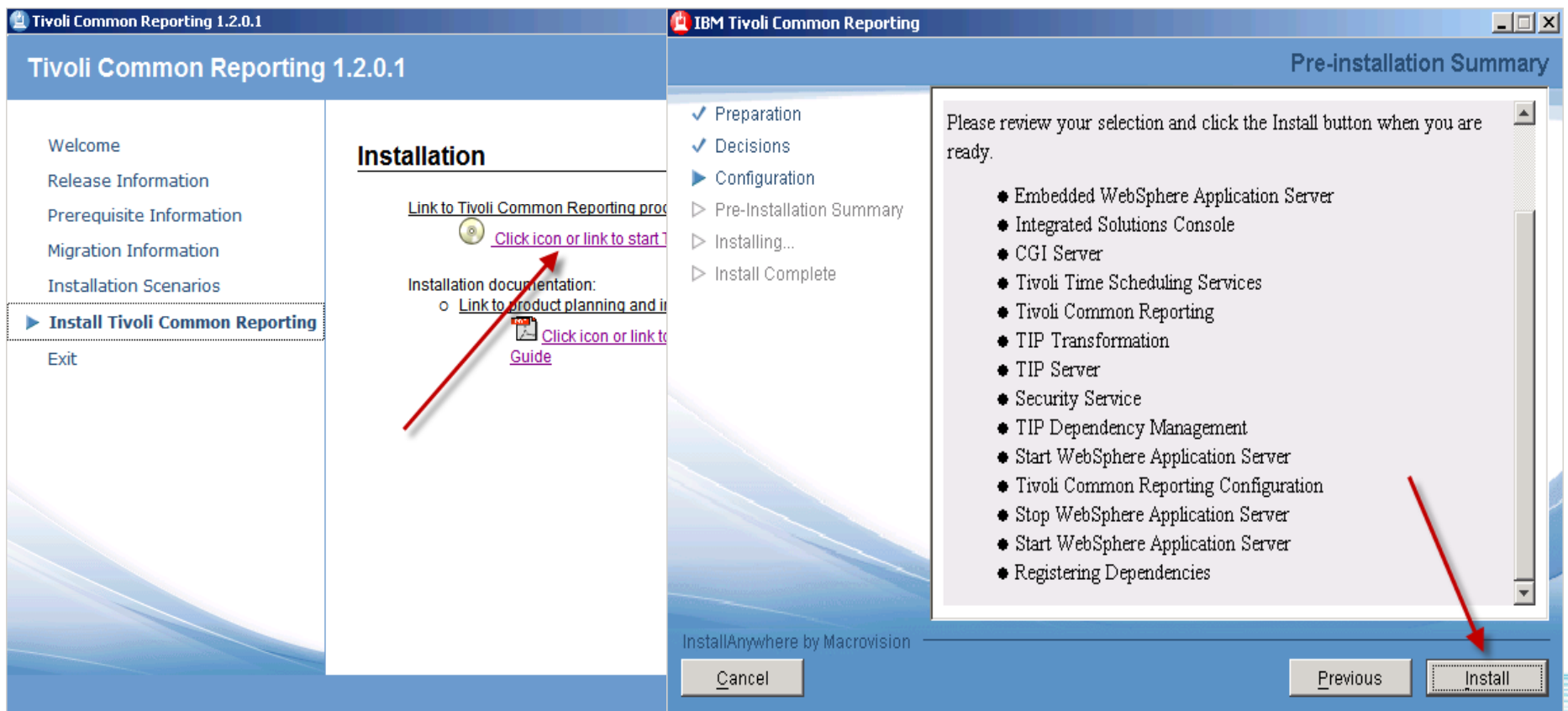
Reports Table:

Title	Description
FastBack Capacity Usage by Protected Server	Shows Capacity Usage by Protected Server
FastBack Detail Failures by Protected Server	Shows Detail Failures by protected server
FastBack Executive Count Summary	Shows executive summary of weekly successful and failed backups.
FastBack Executive Size Summary	Shows Summary of Weekly Backup Size.
FastBack Initial Usage by Protected Server	Shows Initial Usage by Protected Server
FastBack Policy Summary by Protected Server	Shows policy summary by protected server
FastBack Repository Usage by Policy	Shows Repository Usage by Policy
FastBack Snapshot Metrics	Snapshot Metrics
FastBack Snapshot Size Summary by Policy	Shows Snapshot Size Summary Description
FastBack Snapshot Throughput Summary by Policy	Shows Snapshot Throughput Summary
FastBack Storage Usage by Protected	Shows Storage Usage by Protected Server

Selected: 0, Total: 12

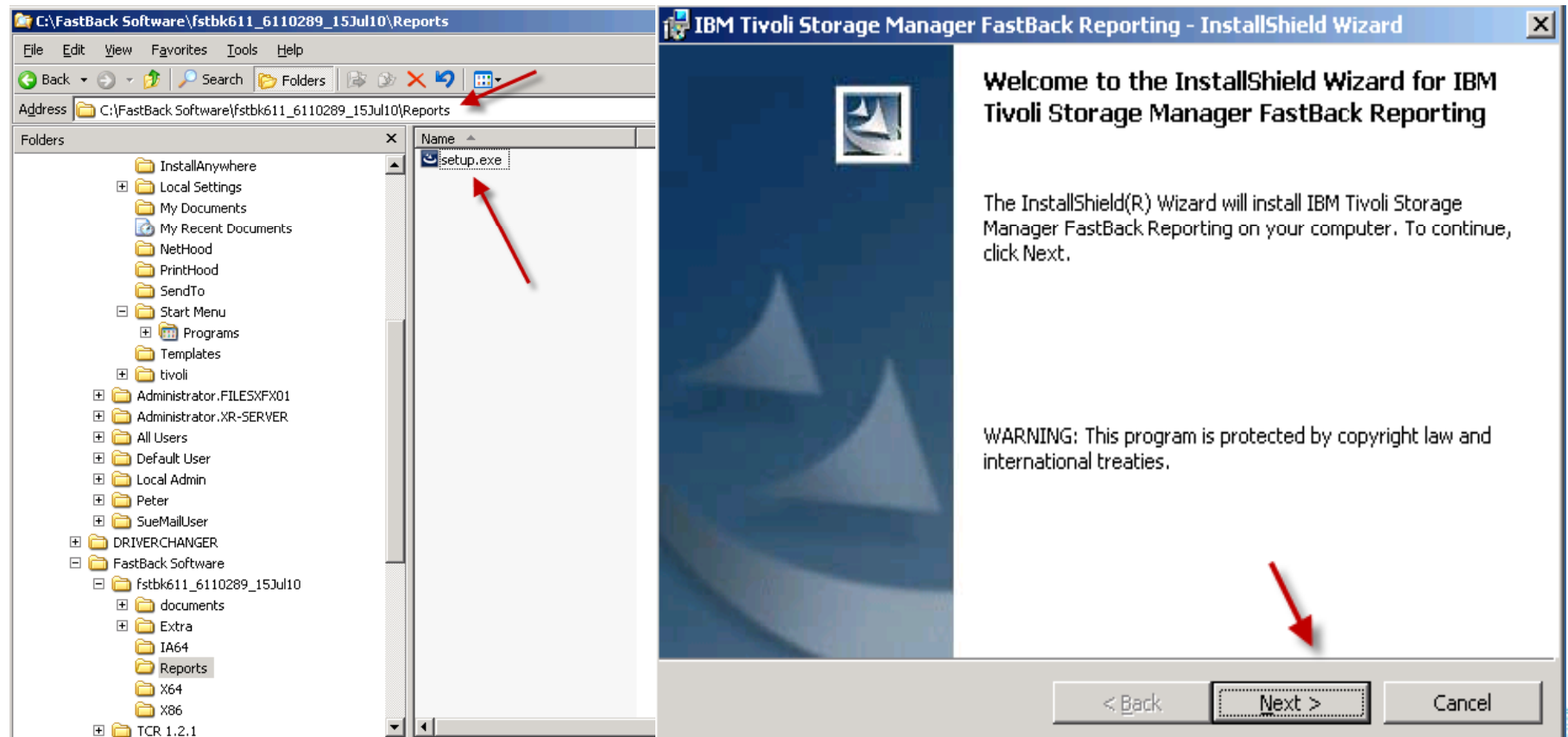
1. Installation Step

- 1. Step: Install TCR 1.2 Installation Package
 - Includes TCR and TIP
 - If TIP or TCR are already installed, this step is not required



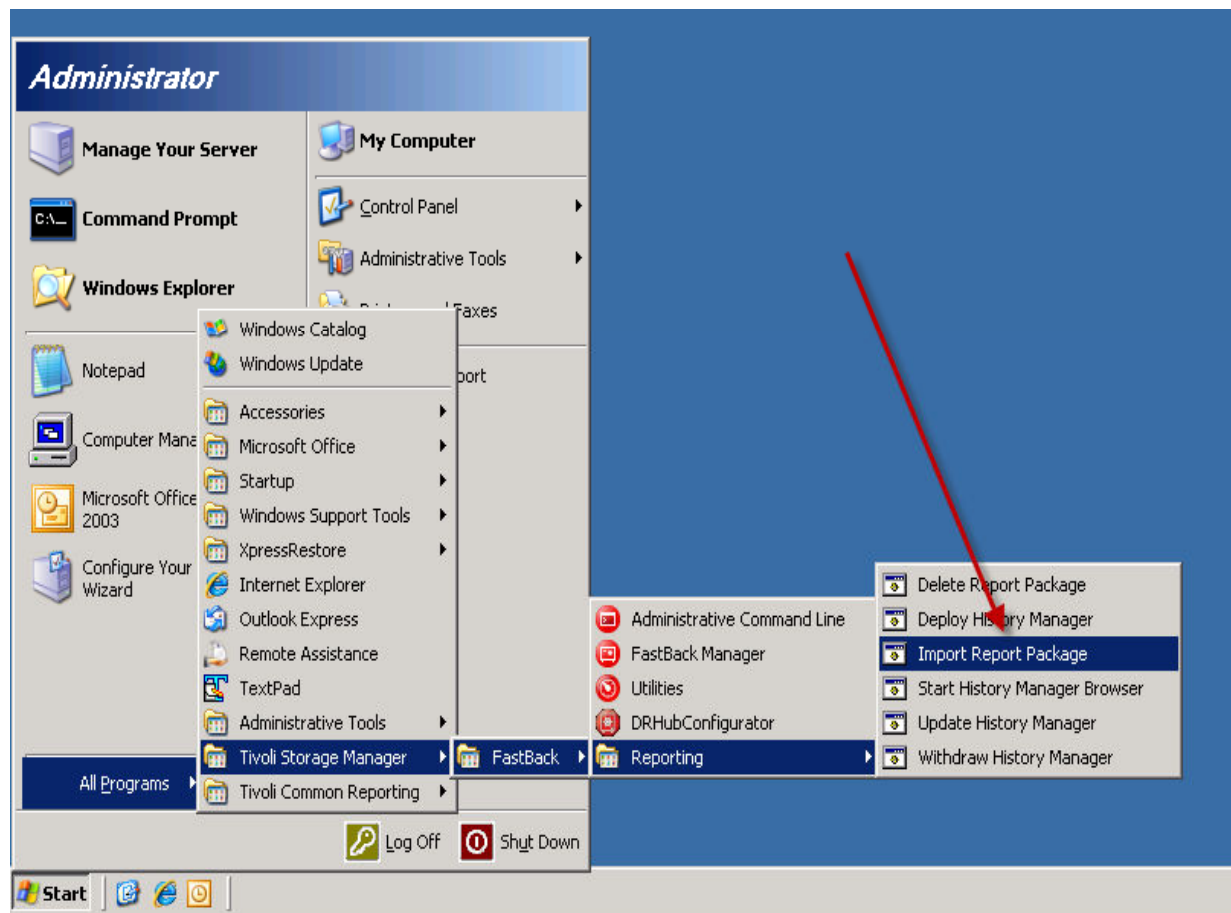
2. Installation Step

- 2. Step: Install TSM FastBack Reporting Package
 - Includes pre-defined Reports
 - Does not include TCR or TIP



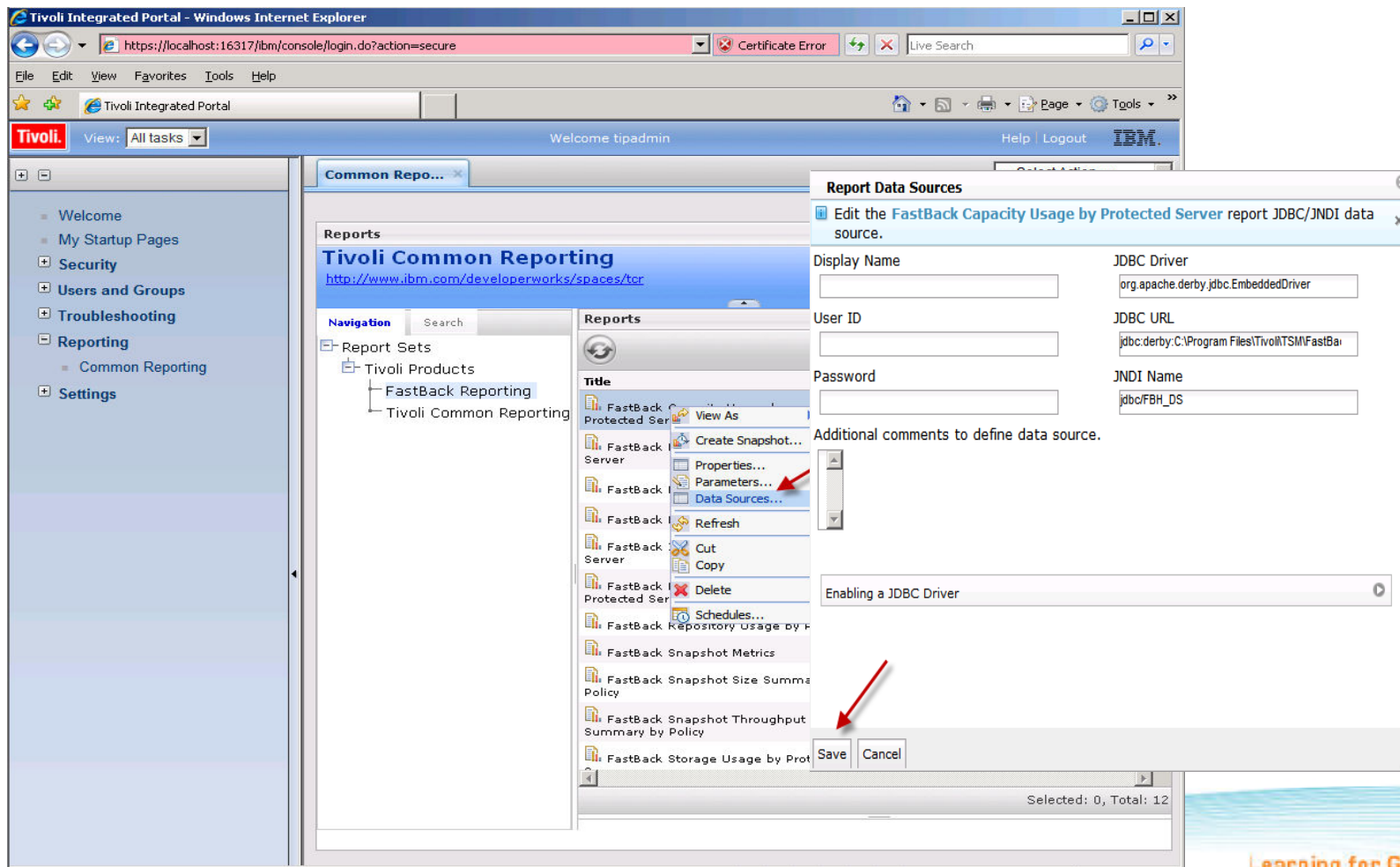
3. Installation Step

- 3. Step: Import Reporting Package
 - Unlike TSM, the Reports need to be imported



4. Installation Step

- 4. Step: Configure TSM FastBack Reporting in TIP
 - Configure the Data Source
 - Default Data Source is a Derby Database



FAQ's

- How does a user see Reporting and Monitoring?
 - Reporting GUI is the TSM Admin Center (TIP)
 - Monitoring GUI is TEP
- Can Monitoring be installed without Reporting?
 - Yes
- Can Reporting be installed without Monitoring?
 - No
- Is it supported and downloadable for TSM 5.x Servers ?
 - Yes
- Can it be installed on the TSM Server ?
 - For TSM 5.x: Yes, but not recommended, due to resource consumption
 - For TSM 6: No, not supported, due to conflicting DB2 Versions
 - We recommend to install the standard TSM Admin Center and Reporting/Monitoring on the same server to manage multiple mixed TSM Servers
- Is it all in one installation package?
 - Yes, all required components (ITM,TEP,DB2, TSM Admin Center...) will automatically install
- What about the old TSM 'Operational Reporting'?
 - It will be discontinued – changes to TSM 6 are not compatible with Operational Reporting
- Is e-mailing build-into the product?
 - Not yet, it is under consideration for future releases



FAQ's

- Do I need extra licenses?
 - No, it is part of TSM Base/EE
- Do I need to write my own Monitors or Reports?
 - No, we deliver pre-configured Monitors and pre-defined Reports
- Can I write my own reports?
 - Yes, they can be developed with BIRT using Eclipse 3.3.1.1
- Can customers write their own reports?
 - Yes, but we recommend a service engagement, since BIRT is not trivial
- Can customers customize their own Monitors?
 - Yes, it's very easy in TEP
- Does it plug-into an existing ITM installation?
 - Yes, you can see TSM Monitoring as well as all other ITM Monitors (licensing required)
- Does it plug into an existing TSM Admin Center Installation?
 - Yes, we recommend to use one server for managing/reporting/monitoring TSM. It plugs into
- Can I monitor and report on multiple TSM Servers?
 - Yes, you can even monitor and report on different TSM versions



Where to get more information

- ERL: Storage related collection of links
<http://pokgsa.ibm.com/projects/e/erl/>
- Xtreme Leverage: All sales related resources
<http://w3.ibm.com/software/xl/portal>
- IBM Tivoli Demo Library
http://depot.tivlab.raleigh.ibm.com/DemoLib.nsf/DemoIndexCat_w3
- IBM Tivoli Storage Manager Website
<http://www.ibm.com/software/tivoli/products/>
- PartnerWorld: For Business Partners
<http://www-1.ibm.com/partnerworld/pwhome.nsf/weblook/index.html>
- System Sales Site
<http://w3-1.ibm.com/sales/systems/portal/>





THANK YOU ...



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| ▪ BladeCenter | ▪ FlashCopy | ▪ OnForever | ▪ System p5 |
| ▪ Chipkill | ▪ GDPS | ▪ OpenPower | ▪ System Storage |
| ▪ DB2 | ▪ Geographically Dispersed | ▪ OS/390 | ▪ Tivoli |
| ▪ DB2 Universal Database | Parallel Sysplex | ▪ OS/400 | ▪ TotalStorage |
| ▪ DFSMSdss | ▪ HyperSockets | ▪ Parallel Sysplex | ▪ TotalStorage Proven |
| ▪ DFSMSHsm | ▪ i5/OS | ▪ POWER | ▪ TPF |
| ▪ DFSMSrmm | ▪ IBM | ▪ POWER5 | ▪ Virtualization Engine |
| ▪ Domino | ▪ IBM eServer | ▪ Predictive Failure Analysis | ▪ X-Architecture |
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| ▪ Enterprise Storage Server | ▪ iSeries | ▪ S/390 | ▪ z/OS |
| ▪ ESCON | ▪ Lotus | ▪ Seascape | ▪ z/VM |
| | | | ▪ zSeries |

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